



Ten Year Capital Improvement Program

For Fiscal Years 2013 - 2022



Contra Costa Water District

Ten-Year Capital Improvement Program

For Fiscal Years 2013-2022

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Section I: Executive Summary

The Ten-Year Capital Improvement Program (CIP) and Financial Plan identifies and prioritizes the capital assets and financial tools required over the next ten years for Contra Costa Water District (CCWD or District) to successfully carry out the District's mission to "...strategically provide a reliable supply of high quality water at the lowest cost possible, in an environmentally responsible manner." The CIP includes the Ten-Year Financial Plan that projects revenue requirements to fund the proposed projects and anticipated operating costs. The CIP and Financial Plan are updated annually as part of an ongoing financial planning cycle that includes bi-annual budgets and annual rate reviews.

2013 – 2022 CIP Update

The proposed CIP for fiscal years 2013 - 2022 (2013 CIP) includes 48 projects with a total estimated cost of approximately \$477.6 million. CIP projects are ranked in three priority levels. The Financial Plan assumes that priority level 1 and 2 projects totaling \$287.4 million are funded. This funded level is \$39.8 million lower than the 2012 CIP funded level of \$327.2 million. The primary driver for the decrease is completion of the Rock Slough Fish Screen and progress on the Los Vaqueros Reservoir Expansion Project (LVE). The Rock Slough Fish Screen was constructed in partnership with the Bureau of Reclamation to protect the environment and ensure the District's reliable supply of water by preventing Delta fish from entering the Canal. All four of the District's Delta intakes are now screened. The District moved forward this year with the Phase 1 expansion of the Los Vaqueros Reservoir from 100,000 to 160,000 acre-feet (Phase 2 expansion studies will continue). Construction began in Spring 2011 and remains on schedule to be completed in 2012. Upon completion, the Phase 1 expansion will help ensure high-quality water deliveries, improve reliability during droughts, and provide additional protections for Delta fisheries and the environment.

The pace of economic recovery and rebound in water sales and new connections has been re-evaluated in this CIP based on current conditions. Near-term water sales projections are unchanged from those assumed in the 2012 CIP, with the exception of minor adjustments to account for the closure of an industrial customer. Water sales projections continue to reflect the impacts of the economy and weather, with recovery from drought/recession levels (taking into account estimated permanent conservation and other reductions) by 2017 based on current economic growth projections (the current reduction in water sales has been shown to be influenced by economic conditions). Significant changes were made to the number of new connections assumed in the Financial Plan. The first year of the CIP is assumed to be similar to recent new connection levels with slight growth until 2017. The projected recovery has been delayed three years in this CIP (2017 instead of 2014).

This CIP puts into place the actions needed to comply with the historic Senate Bill (SB) X7-7 (20% by 2020), which was enacted in November 2009 and requires all water suppliers to increase water use efficiency. The legislation sets an overall requirement of reducing per capita urban water use 20% by December 31, 2020. The reduction requirements apply to the District's wholesale customers as well. Specific water use targets for the District were evaluated in an Appendix in the 2012 CIP and were adopted in the 2010 Urban Water Management Plan. The projected water sales in this CIP were reduced beginning in 2017 to account for the

implementation of SBX7-7. Implementation of additional conservation begins in 2017 in order to meet the 2020 reduction target. By 2020, annual retail and wholesale water sales are assumed to be approximately 7% lower than the water sales projections found in the 2012 CIP. The 7% reduction target reflects the District's past and planned investments in water use efficiency and is the additional amount of water savings needed to achieve the 20% by 2020 requirements.

The combination of reduced water sales and new connections reduce revenue projections over the ten-year planning horizon by \$80 million. This CIP addresses these newly incorporated revenue impacts primarily with operating expenditure reductions that are created by a combination of reduced cost due to serving less water and productivity gains associated with prior capital investment. These reductions can be accomplished without impacting service levels and while keeping rates and reserves consistent with Board policy. Other ongoing efforts to acquire grant revenue despite a challenging State and Federal fiscal environment, and expansion of District services continue but are reflected conservatively in this CIP.

All of the priority level 1 and 2 projects in the 2013 CIP can be funded and all operating costs and debt service obligations met with revenue increases over the ten-year CIP planning period that are within the Board's rate policy. The CIP assumes a maximum allowable annual revenue increase of 4% for planning purposes. The projected annual revenue increases over ten years ranges between 3.5% and 3.75%. The District is able to achieve these consistently modest increases by reducing controllable operating costs, increasing competitiveness through expansion of service, obtaining outside sources of funding such as federal and state grants, productivity gains, improved support facilities and equipment, and use of reserves to meet the Board's reserve policy levels over the ten-year CIP.

CIP Structure

The CIP is organized into ten separate program areas, each representing a different function of the District. Organizing projects by function allows the CIP to be viewed as a series of programs for improvements in specific areas of District responsibility. The ten programs are:

- Administrative, Support and Maintenance Facility Improvement
- Delta Projects
- Equipment and Other Capital Purchases
- Expansion of Services
- Future Water Supplies
- Los Vaqueros Watershed and Recreation
- Treated Water Distribution and Storage Facilities
- Untreated Water Supply and Transport
- Water/Energy Demand Reduction
- Water Treatment Facility Improvements

Significant elements of each of the ten program areas are summarized in the Program Highlights section later in this Executive Summary. A more detailed description of the programs is included in Section IV: Program Summary.

Within each program area, projects are prioritized according to a standard set of criteria that measure the relative importance of a project based upon factors such as protection of health and safety, legal requirements, relationship to District goals, and rate of return on the District's investment. The priority levels provide a basis for deciding which projects should be done in any given year. They also provide a basis for scheduling projects over the ten-year span of the CIP. The following three levels are used to reflect a range of priorities from high to low:

Priority Level 1 -- These are the highest priority capital projects. They include projects already under construction and those required by legislation, regulation, contract, or for protecting health and safety. Priority level 1 also includes applicant and grant-funded projects.

Priority Level 2 -- These are projects that provide measurable progress toward achieving the District's goals, but over which the District has a moderate level of control as to when they should be performed. Where return on investment is a determining factor, projects in this priority level will have a payback of less than five years.

Priority Level 3 -- These are projects that are projected to be needed, but over which the District has a significant level of control as to when they should be performed or the District is awaiting response to a grant application. Where return on investment is a determining factor, projects in this priority level will generally have a payback of greater than five years.

A more detailed description of the prioritization system is provided in Section III: CIP Context and Structure.

Program Highlights

Each of the ten programs addresses a specific area of capital investment. Highlights of each program, including the planning basis, significant projects or capital improvements, and expected contributions to meeting the District's goals, are presented below.

Administrative, Support and Maintenance Facility Improvement -- Buildings and facilities not directly involved in the treatment, transmission, or storage of water are organized within this program. The planning basis is the Facilities Master Plan. Estimated funding for this program is \$11.4 million over the ten-year CIP period. The Annual Building and Facility Improvements (priority level 1) project provides for capital replacement of and improvements to existing District buildings and grounds with an estimated funding requirement of \$4.4 million over the ten-year CIP period. This program also includes \$7 million for construction of seismic improvements at the District Center, which is a \$2.4 million increase over the 2012 CIP.

Delta Projects -- This program includes water quality and reliability improvement projects being managed by the District under contract with State/Federal agencies, or projects that implement Delta improvement objectives. Estimated funding for this program is \$22 million over the ten-year CIP period. Sources of funding include State and Federal agencies, District debt and revenues, and other local agencies. The two significant projects within this program are:

- Los Vaqueros Expansion Implementation (priority level 1, \$5.4 million; level 3, \$8.4 million)
- Los Vaqueros Reservoir Federal/State Studies (Phase 2 expansion) (priority level 2, \$8.2 million)

The LVE project is currently under construction and will expand the reservoir to 160,000 acre-feet. The project is on schedule to be completed in 2012. A portion of the project scope to replace the Transfer Station pumping units has been shifted to Priority 3 as a more cost-effective approach to recondition and extend the useful life of the existing pumps has been identified. The Financial Plan includes \$400,000 per year for operating and maintenance costs associated with the mitigation lands for the project. The Los Vaqueros Reservoir Federal/State Studies continue to evaluate a next phase of expansion and would be fully funded by Federal/State grants.

Equipment and Other Capital Purchases -- The District has an ongoing need to invest in new or replacement capital equipment. Equipment replacement schedules are based on useful life, or when it is most cost-effective, on anticipated future operating and repair costs. This program includes nine projects for purchases of capital equipment totaling \$16.4 million. Significant projects include:

- Fleet Vehicles and Heavy Equipment Replacement (priority level 2, \$8.5 million)
- Replacement/Upgrade of Computer Systems (priority level 2, \$3.2 million)
- Replacement/Upgrade of Lab Equipment (priority level 2, \$1.0 million)
- Replacement/Upgrade of Network Systems and Hardware (priority level 2, \$1.4 million)
- Replacement/Upgrade of SCADA Equipment (priority level 2, \$1 million)
- Replacement/Upgrade of Telecommunications Equipment (priority level 2, \$0.8 million)

The Fleet Vehicle and Heavy Equipment Replacement Program is funded from the Vehicle Replacement Fund. The Vehicle Replacement Fund is a reserve fund with consistent annual contributions reflected in the ten-year Financial Plan. The Replacement/Upgrade of Computer Systems (Financial, Customer Information, and Human Resources Information Systems) is scheduled to be completed every seven to eight years based on hardware and software life cycles. The next replacement is scheduled for FY2014.

Expansion of Services -- The purpose of this program is to increase the competitiveness of the District through expanding services. Service expansion diversifies revenue sources and increases efficiencies through improved utilization of existing assets (e.g., sharing water treatment plant [WTP] facilities). This program currently includes the following projects:

- Brentwood WTP Expansion (priority level 1, \$35 million)
- Randall-Bold WTP Expansion (priority level 1, \$27 million)
- Regional Capacity Evaluation (priority level 2, \$0.2 million, level 3, \$80 million)

The City of Brentwood WTP expansion will serve the ultimate needs of the City of Brentwood and will be fully paid for by the City. A new \$27 million placeholder project was added to expand the Randall-Bold WTP on behalf of Diablo Water District (DWD). The schedule and costs of the expansion are based on DWD planning studies and the project will be fully paid for

by DWD. The Regional Capacity Evaluation will evaluate regional opportunities to share treatment and conveyance resources with wholesale customers and possibly other Bay Area agencies. The project includes an \$80 million priority 3 placeholder for potential implementation of recommendations from the study.

Future Water Supplies -- This program includes \$11.3 million in projects related to meeting future water supply requirements except conservation projects, which are in the Water/Energy Demand Reduction Program. These projects help meet the District's goals for improved water supply reliability at the lowest possible cost. The program includes periodic updates to the Future Water Supply Study (\$0.6 million with next update in FY2014), and a placeholder for water supply projects (\$10.5 million). The water supply projects in this program will serve future growth and are fully funded from Facility Reserve Charge (FRC) revenues. A new project was added this year for the Regional Desalination Studies (\$0.3 million). The District is partnering with other Bay Area Agencies in evaluating the feasibility of a regional desalination facility to improve drought reliability and emergency supplies.

Los Vaqueros Watershed and Recreation -- The projects in this program total \$6.1 million and provide for renewal and replacement of recreation equipment and facilities (Recreation Facilities and Equipment, priority level 2, \$1 million) and Watershed Improvements (priority level 2, \$5.1 million). Projects within this program are based on original Resource Management Plan and Recreation Plan for the Watershed. The marina and several recreation facilities are being rehabilitated as part of the Los Vaqueros Expansion Project. Future projects include trail and road maintenance, fencing, and buildings and recreation improvements. A Master Plan has been added in this CIP during FY2013-2014 to identify and prioritize capital projects within the watershed. The Watershed projects are predominantly focused on meeting regulatory permit requirements and helping to maintain water quality in the reservoir and providing recreational opportunities. This program also includes funding for projects that may increase revenues through leases of District lands for grazing or other enterprises.

Treated Water Distribution and Storage Facilities -- This program is vital to maintaining the level of service, quality, and safety of the District's existing treated water system, as well as providing for expansion to meet future needs. The program relies on the following planning studies: 1) the Treated Water Master Plan (TWMP), approved in 2007 with next update planned for FY2013; and 2) the Treated Water Renewal and Replacement Study, which was completed in FY2011. Investments of \$71.3 million over the ten-year CIP period are projected for this program. Of this, approximately \$50 million is to upgrade existing facilities – investments that directly advance the goals of increasing system reliability and improving delivered water quality. These projects also improve efficiencies and customer satisfaction. The program includes \$4 million in new treated water facilities required for growth. This amount has been reduced from \$10 million in the 2012 CIP reflecting the delay in capacity related projects due to lower anticipated future water demands. This program also includes \$17.5 million for applicant-funded projects including \$5.2 million for water service to the Clayton Regency Mobile Home Park as per the existing agreement. Significant projects within this program include the following:

- Pipeline Renewal/Replacement (Main Replacements) (priority level 2, \$23.6 million)
- Distribution Facilities - Developer Projects (priority level 1, \$17.5 million)
- Treated Water Facilities Improvement Program (priority level 2, \$11.9 million)
- Treated Water Reservoir Rehabilitation Program (priority level 2, \$10.2 million)

Funding for rehabilitation projects is from treated water rate revenues. Funding for new facilities is split between treated water FRCs and water rate revenues, depending on whether the facility is for growth or to improve efficiencies.

Untreated Water Supply and Transport -- The projects in this program serve to improve source water quality and to replace, expand, and improve the District's untreated water facilities. The planning bases are diverse and include the Untreated Water Facilities Improvement Plan and the Seismic Reliability Improvement Plan. The funding estimate for this program is \$117.6 million. Significant projects within this program include the following:

- Canal Replacement Project (priority level 1, \$19.2 million; level 3, \$49.4 million)
- Los Vaqueros Pipeline Relocation – Balfour Road (priority level 1, \$8.6 million)
- Shortcut Pipeline Refurbishments (priority level 2, \$9.5 million)
- Untreated Water Facilities Improvement Program (priority level 2, \$21.4 million)
- Untreated Water Pipeline (priority level 2, \$0.7 million)

This program includes the Canal Replacement Project that improves source water quality, improves flood protection, and enhances public safety in areas adjacent to the unlined canal. The District was recently awarded a \$10 million grant under the State of California Proposition 1E to complete the next phase of the project. The Untreated Water Facilities Improvement Program (UWFIP) funds renewal and replacement of pumping and conveyance facilities and includes such activities as canal lining replacement and pump station rehabilitation. The Untreated Water Facilities Improvement Plan Update will be completed in FY2013 and will reassess the capital needs of the UWFIP. Construction of the Untreated Water Pipeline (the “Green Line”) is included in the latter portion of the ten-year CIP window and has been delayed by four years based on the lower demand projections anticipated under the requirements of SBX7-7.

Water/Energy Demand Reduction -- This program includes activities related to planning and implementation of water conservation and energy demand reduction projects in recognition of the significant linkages between water conservation and energy demand reduction. Energy is needed to pump, treat, transport, use (heat, cool, or pump) and to treat water again as wastewater. Water conservation programs result in significant energy savings and environmental benefits, including reductions of greenhouse gases such as carbon dioxide. Water conservation projects are being implemented to meet future water needs and the Best Management Practices (BMPs) required by the Central Valley Project Improvement Act (CVPIA) and the State Memorandum of Understanding regarding urban water conservation, and the requirements of SBX7-7. Conservation activities are expected to produce cumulative water savings of over 20,000 acre-feet over the ten-year CIP period. Other water conservation activities are funded through the District’s operating budget. Operating conservation expenditures were increased by \$6 million in this CIP to meet the 20x2020 requirements. This program also includes completion of the District’s first hydropower project (Los Vaqueros Energy Recovery) and a \$4 million priority 3 placeholder to implement projects that reduce the District’s energy use. The funding estimate for this program is \$14.1 million. Projects within this program include the following:

- Water Conservation Incentives (priority level 1, \$10 million)
- Los Vaqueros Energy Recovery (priority level 1, \$0.1 million)
- Energy Master Plan and Implementation Placeholder (priority level 3, \$4 million)

Water Treatment Facility Improvements -- This program contains capital improvements related to the District's water treatment facilities. The projects were identified in the 2011 WTP Master Plan update. Estimated costs for the program are \$65.1 million, including \$24 million in priority level 2 projects to renew, replace, and enhance existing treatment facilities. These projects result in improved drinking water quality and increased system reliability.

- Bollman WTP Improvements (priority level 2, \$14.2 million; level 3, \$24.9 million)
- Brentwood WTP Improvements (priority level 2, \$1.7 million)
- Randall-Bold WTP Improvements (priority level 2, \$8.1 million; priority level 3, \$15.7 million)

Operation and Maintenance Costs

The Financial Plan considers total District operating costs in its analysis, including current operating costs inflated over time, as well as future costs related to implementing the CIP projects. Projected operating costs for the first year (2013) of the 2013 CIP are \$82.4 million, compared to \$83.5 million for operating costs for 2013 in the 2012 CIP. The \$1.1 million reduction reflects the District's continued productivity gains associated with prior capital investment. The actual operating budget for FY2013 and FY2014 will be determined through the District's budget process. Future operating costs are assumed to increase by 4% annually beginning in FY2015. Operating costs have been increased by \$6 million (\$1 million a year from 2017 to 2022) in consideration of the additional conservation measures that will be required to meet the requirements of 20x2020. Central Valley Project (CVP) water costs are assumed to increase by 7% annually beginning in FY2014. Operating cost impacts resulting from capital projects are incorporated into the operating cost projections in the year the facility comes on line. Estimates of operating costs for each project are documented in the project summaries. CIP Section V: Operating Impacts of the Capital Improvement Program, includes an analysis of operating costs, including labor, related to implementing the CIP. In the tenth year of the CIP, the annual impact in operating costs related to implementing all of the priority level 1 and 2 projects in the CIP is estimated to be a net increase of approximately \$330,000.

Financial Plan Highlights

The financial information in the CIP has been updated to include operating and capital expenditures and reserve balance projections through FY2012, and revised revenue projections and anticipated costs projected for the ten-year CIP period. The 2013 CIP also incorporates the anticipated revenue impacts of the SBX7-7 legislation. The Financial Plan reflects the District's continued commitment to provide outstanding customer service while controlling costs consistent with Board policies on reserves and rates. It also reflects continued compliance with the District's bond covenants including maintaining a debt service coverage ratio of at least 1.25 times annual debt service. The coverage ratio during the ten-year period varies between 1.39 and 3.0 which is consistent with last year's CIP. All of the priority level 1 and 2 projects can be funded and all operating costs and debt service obligations will be met with minimal, orderly revenue increases over the ten-year CIP planning period. The proposed revenue increases meet the Board's rate policy. The CIP assumes a maximum allowable revenue increase of 4% for planning purposes and the highest projected revenue increase is 3.75%, so that the Board policy of maintaining revenue increases below inflation is met. Highlights of the Ten-Year Financial Plan follow.

Capital Projects and Funding Sources

The total cost of projects in the CIP is approximately \$477.6 million, a decrease of \$32.8 million from the 2012 CIP. The decrease in total CIP costs is the net result of inflation, adjusting cost estimates and schedules to reflect new information, and progress towards completion. The Financial Plan assumes priority level 1 and priority level 2 projects are funded. Priority level 1 and priority level 2 projects total approximately \$287.4 million in the 2013 CIP. As shown in Table I-1, this total is \$39.8 million lower than the priority level 1 and 2 totals in the 2012 CIP. The primary drivers for the reduction in funded projects is progress on the Rock Slough Fish Screen (\$5.2 million) and Los Vaqueros Reservoir Expansion (\$47 million) Projects, and delay to the schedule for the Untreated Water Pipeline (\$21.3 million). The next phase of the Canal Replacement Project is funded in this CIP, shifting \$19.2 million from priority 3. These costs are partially offset with a \$10 million grant from the State. A new \$27 million project was also added to expand the Randall-Bold WTP for DWD based on DWD's updated planning studies. This project will be fully funded by DWD. The increase in priority level 3 projects is the net result of funding the next phase of Canal Replacement Project and the addition of new priority 3 project recommendations from the 2011 Water Treatment Plant Master Plan Update.

**Table I-1 CIP Project Cost Comparison
by Priority**

Priority Level	2013 CIP Costs	2012 CIP Costs	Change
1	\$130.8 million	\$144.0 million	(\$13.2 million)
2	\$156.6 million	\$183.2 million	(\$26.6 million)
Subtotal	\$287.4 million	\$327.2 million	(\$39.8 million)
3	\$190.2 million	\$183.2 million	\$7 million
Total	\$477.6 million	\$510.4 million	(\$32.8 million)

As shown in Table I-2, of the \$287.4 million in funded project costs, \$142.2 million is revenue funded (49.5%), \$106.6 million is funded by others (37.1%), and \$38.6 million (13.4%) is debt-funded. For comparison purposes, the funding sources for the 2012 CIP are also shown.

**Table I-2 CIP Priority Level 1 and 2 Project Cost Comparison
by Funding Source**

Funding Source	2013 CIP Costs	2012 CIP Costs	Change
Debt-funded	\$38.6 million	\$103.6 million	(\$65.0 million)
Funded by others	\$106.6 million	\$77.6 million	\$29.0 million
Revenue-funded	\$142.2 million	\$146.0 million	(\$3.8 million)
Total	\$287.4 million	\$327.2 million	(\$39.8 million)

Debt-funding of projects has decreased by \$65 million reflecting progress on the Los Vaqueros Reservoir Expansion and the delay in the Untreated Water Pipeline schedule. Project funding by

others has increased by \$29 million driven by the addition of a new project to expand the Randall-Bold WTP on behalf of DWD. Costs for revenue-funded projects have decreased by \$3.8 million due to adjustments for inflation, cost estimate and schedule updates, and progress towards completion.

CIP funding by fiscal year for priority levels 1 and 2 projects is shown in Table I-3. For comparison purposes, the estimated costs from the 2012 CIP are also shown. The lower projected expenditures for FY2019 through FY2021 reflect the delay in capacity-related projects (Untreated Water Pipeline, Port Chicago Pipeline Phase II, and Subzone 34 Reservoir) based on updated demand projections.

Table I-3 Priority Level 1 and 2 Project Costs by Fiscal Year
(in millions of dollars, current dollars)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	TOTAL
2013 CIP	NA	37.2	43.9	29.2	18.1	17.3	13.9	13.7	19.3	35.5	59.4	287.4
2012 CIP	95.0	20.8	27.4	29.7	17.1	12.9	15.0	19.8	35.4	54.1	NA	327.2

Projected Capital and Debt Service Expenditures

The District’s annual investment in capital facilities is the sum of revenue-funded capital costs and existing and future debt service costs. The District currently pays debt service for the Los Vaqueros Project, Randall-Bold Water Treatment Plant, the Bisso Administration Building, the Multi-Purpose Pipeline, LVE, Middle River Intake Project, and other seismic projects. The District also has low interest State Revolving Fund (SRF) loans for the Bollman Safety and Water Quality (SWQ) Project, the Contra Loma Swim Lagoon, and the Bollman Sedimentation Basin Project. Rates are set to meet capital and debt service costs as well as District operating costs. Table I-4 shows a comparison of District-funded untreated and treated water capital and debt service costs by fiscal year between the 2013 CIP and the 2012 CIP for priority level 1 and 2 projects.

**Table I-4 Projected Capital and Debt Service Expenditures
Comparison by Fiscal Year for Untreated and Treated Water
Priority Level 1 and 2 Projects**
(in millions of dollars, inflated dollars)

a) Untreated Water

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	TOTAL
2013 CIP	NA	44.6	49.2	53.1	51.0	48.2	49.7	49.1	45.1	45.6	62.8	498.5
2012 CIP	78.2	48.4	49.4	51.7	48.5	49.1	50.1	50.0	59.3	47.5	NA	532.1

Note: Does not include projects funded by applicants or other agencies

Projected untreated water capital and debt service expenditures have decreased by \$33.6 million compared to the 2012 CIP. The decrease is driven by the planned payment of debt using the \$28.9 million in Proposition 84 funding received for the Middle River Intake. The planned purchase of long-term water supplies was delayed two years in this CIP from 2020 to 2022.

b) Treated Water

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	TOTAL
2013 CIP	NA	13.7	18.1	13.2	13.6	16.5	15.5	15.6	16.8	16.7	16.4	156.1
2012 CIP	14.2	12.8	14.4	13.7	14.4	14.6	16.0	16.1	20.7	30.5	NA	167.3

Note: Does not include projects funded by applicants or other agencies

There was a decrease in treated water revenue-funded projects and debt service of \$11.2 million compared to last year’s CIP. The reduction reflects the delay in the schedule for capacity projects due to the lower anticipated demands and a reduction in long-term debt service for the Randall-Bold Water Treatment Plant. The final debt service payment for the Randall-Bold facility will be made in 2021.

Revenue Increase Projections

The projected untreated and treated water revenue increases required to fund priority level 1 and level 2 projects, while covering operating costs and debt service and maintaining required reserve balances, are shown on Tables I-5 (a) and (b), respectively. For comparison purposes, projected water revenue increases from the 2012 CIP are also shown. These are preliminary projections only. The Board of Directors determines actual revenue increases at the time of each annual rate study.

**Table I-5(a) Projected Untreated Water Revenue Increases Comparison
Priority Levels 1 and 2 Projects**

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2013 CIP	3.5%*	3.5%	3.5%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%
2012 CIP	3.5%	3.5%	3.5%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%	NA

* Adopted by the Board in January 2012

**Table I-5(b) Projected Treated Water Revenue Increases Comparison
Priority Levels 1 and 2 Projects**

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2013 CIP	3.5%	3.5%	3.5%	3.5%	3.5%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%
2012 CIP	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	NA

* Adopted by the Board in January 2012

Implementing the 2013 CIP will require annual untreated and treated water revenue increases ranging from 3.5% to 3.75%. The untreated water revenue increase projections are consistent with the 2012 CIP and the treated water revenue increase projections are consistent through 2016. A treated water rate change of 0.25% is projected to be added beginning in 2017, driven by implementation of SBX7-7.

Section II: Background

The Ten-Year Capital Improvement Program (CIP) and Financial Plan are annually updated as authorized under Contra Costa Water District (District) Code of Regulations Chapter 7.16.030.B. The CIP provides a comprehensive view of the asset investments required over the next ten years to meet the mission and goals of the District. The Financial Plan projects operating costs and reserve balances, and estimates revenue requirements necessary to fund the required projects and operate the District. This comprehensive approach provides an opportunity for the District to prioritize capital investments, monitor progress toward meeting its goals, manage cash flow, diversify revenue sources, and project rates and charges over ten years.

The 2013-2022 CIP is an update of the previous CIP covering fiscal years 2012-2021, adopted by the Board on February 16, 2011. Board adoption of the CIP establishes the scope and estimated costs of various capital projects designed to meet the long-term needs of the District. Adoption does not commit funds or authorize projects. Project approvals and funding are obtained through the budget process.

The District's mission and goals are set forth below. Also included is an overview of existing facilities and operations to provide context for the projects and programs in the CIP.

District Mission and Goals

The Mission Statement represents the District's statement of purpose. The statement includes a set of seven values that govern how the District will conduct itself in meeting its mission. Ten major goals were developed to measure the success of meeting the purpose as defined by the Mission Statement, and Key Performance Measures have been developed to assess the District's progress in meeting those goals. The Mission Statement and District Goals were established by the Board and guide the development of the CIP and Financial Plan and are explained in more detail below.

Mission Statement

The mission of the Contra Costa Water District is to strategically provide a reliable supply of high quality water at the lowest cost possible, in an environmentally responsible manner.

In fulfilling this mission, the District will:

- Responsibly serve the public
- Provide District employees a safe and healthy work environment
- Ensure fair and equitable rates and charges
- Work cooperatively with local, regional, state, and federal agencies
- Practice ethical behavior
- Ensure an open process
- Ensure equal opportunity and diversity in personnel matters and contracting

District Goals

The goals of the Contra Costa Water District are:

1. Ensure that the District delivers high quality and reliable water supplies for current and future needs.
2. Provide excellent customer service and high levels of customer satisfaction.
3. Plan, design, and construct high quality facilities consistent with District needs and industry standards.
4. Effectively manage the District's financial resources in conformance with Board policies.
5. Ensure that all District activities surpass all applicable laws and regulations.
6. Operate, maintain, and protect District facilities in a safe and cost-effective manner.
7. Provide leadership in water affairs.
8. Actively enhance effective community relations and public information.
9. Create and maintain a work environment that fosters teamwork and individual excellence.
10. Manage and maintain Reclamation and District natural and recreation resources, and protect public safety and water quality.

Key Performance Measures

The purpose of the Key Performance Measures is to provide the Board with a summary tool for assessing the District's progress in meeting its goals. The six measures are:

- *Employee Safety:* Reduce the number of calendar year recordable accidents and lost workdays to achieve frequency and severity rates for industrial injuries below the District's five-year rolling average.
- *Customer Service:* Achieve sustained improvement in customer ratings of their satisfaction levels for contacts with District employees on a satisfaction scale from poor to excellent.
- *Water Production:* Hold increases in operating labor costs per equivalent connection at less than annual inflation.
- *Water Quality/Reliability:* Have no reportable California Department of Public Health violations and ensure operations are conducted in a manner that does not result in environmental regulatory citations or violations.
- *Capital Projects:* Ensure all District costs for administration, planning, design and construction management on completed projects be less than the District's five-year rolling average without reducing quality or performance
- *Productivity:* Maintain increases in the average cost per operating labor hour at a level less than annual inflation.

Existing Facilities and Operations

The District provides water to approximately 500,000 people in Contra Costa County. In performing this service, the District operates and maintains a complex system of water transmission, treatment, and storage facilities to supply both treated and untreated (raw) water to its customers.

The Contra Costa County Water District was approved by the voters in 1936 as the legal entity to contract, purchase, and distribute water provided by the U.S. Bureau of Reclamation through the

Contra Costa Canal. (In 1981, "County" was dropped from the name, leaving Contra Costa Water District.) The 48-mile canal conveys water from the Sacramento-San Joaquin Delta, through Rock Slough and Old River, to eastern and central Contra Costa County.

The District's service area encompasses most of central and northeastern Contra Costa County, a total area of more than 140,000 acres (including the Los Vaqueros watershed area of approximately 19,100 acres). Water is provided to municipal, residential, commercial, industrial, landscape irrigation, and agricultural customers. Major untreated water municipal customers are the Cities of Antioch, Pittsburg, and Martinez. Treated water is distributed to customers living in the following communities: Clayton, Clyde, Concord, Pacheco, Port Costa, and parts of Martinez, Pleasant Hill, and Walnut Creek. In addition, the District treats and delivers water to the City of Brentwood, Golden State Water Company (serving Bay Point), Diablo Water District (DWD), and the City of Antioch. In 2008, the District entered into an agreement with the Golden State Water Company to meet 100% of the demands in the Community of Bay Point through a treated water interconnection on the Multi-Purpose Pipeline.

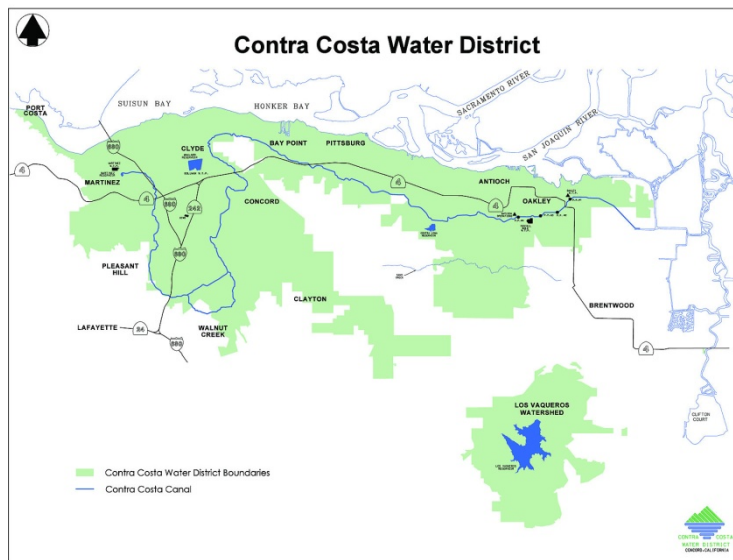


Figure II-1 District Service Area

For the first 25 years of its existence, the District's main responsibility was the purchase and distribution of untreated water through the Contra Costa Canal. The cities and other water utilities within the District were responsible for treating water used by their customers. However, in the late 1950s, many citizens and public officials became concerned about the quality and cost of the water in the central county area. To solve this problem, the District purchased the California Water Service Company's Concord-area treatment, pumping, storage, and distribution facilities. In 1968, the District replaced the old treatment facilities with the construction of its own Ralph D. Bollman Water Treatment Plant in Concord. The Bollman plant and the Randall-Bold Plant built in 1992 now provide treated water to approximately 200,000 people in the central county area and by contract to Bay Point. The Randall-Bold Water Treatment Plant in Oakley is jointly owned with DWD. The Randall-Bold plant provides treated water to DWD, to new growth in Central County, and by contract, to the Cities of Antioch and Brentwood, and the Golden State Water Company (Bay Point). The Multi-Purpose Pipeline, constructed in 2003, transports treated water to new customers in Central County from the Randall-Bold plant.

Water Supply

The District is a Central Valley Project (CVP) contractor, historically relying almost entirely on the federal government (the United States Bureau of Reclamation) to supply its water through the Sacramento-San Joaquin Delta. The 2005 Long-Term Renewal Contract with Reclamation provides for the operation of the Los Vaqueros Project, and for a maximum delivery of 195,000 acre-feet per year from the CVP, with a reduction in deliveries during water shortages including

regulatory restricted and drought years. The Long-Term Renewal Contract was executed in May 2005 and is consistent with the Central Valley Project Improvement Act of 1992.

Other District supplies include water rights at Mallard Slough (License No. 10514 and Permit No. 19856) for a maximum diversion of Delta water of up to 26,700 acre-feet per year. This water is subject to quality degradation and can only be used intermittently. On June 2, 1994, the State Water Resources Control Board issued Water Rights Decision 1629 that gives the District additional rights to divert and store water for beneficial uses. The State Board subsequently issued Water Rights Permits No. 20749 and 20750 for filling Los Vaqueros Reservoir from the new intake at Old River near Highway 4 and diversion and storage of the water of Kellogg Creek. These rights are in addition to the contractual rights to divert and store water furnished through the CVP. Construction of the reservoir began in September 1994 and was completed in January 1998. Diversion from the Old River intake for delivery to the District's service area began in the summer of 1997. Up to 95,850 acre-feet annually may be diverted for storage between November 1 of each year to June 30 of the succeeding year under Water Rights Permit No. 20749. On January 28, 1999, the Los Vaqueros Reservoir was filled to 100,000 acre-feet for the first time. In February 1999, the District released water from the reservoir for the first time for use in the District's service area. Releases were scheduled in compliance with the project's Biological Opinions to allow the District to cease all diversions from the Delta and provide benefits to Delta fisheries. Additionally, releases of high quality reservoir water have been used to blend with Delta water to improve delivered water quality as needed. The District began construction earlier this year to expand the capacity of the Los Vaqueros Reservoir to 160,000 acre-feet. Completion of this project is expected in early 2012. Refilling of the reservoir began on November 1, 2011 and is anticipated to reach approximately 90,000 acre-feet by the end of FY2012 provided there is sufficient water quality and supply. Assuming favorable hydrologic conditions, refilling operations are anticipated to continue through FY2013 with final filling in FY2014.

Additionally, the District has a contract with the East Contra Costa Irrigation District (ECCID) for untreated water that can be used in areas in East County within the boundaries of both the District and ECCID, and for additional drought supplies available through groundwater exchange. The District has an ongoing program to obtain additional sources for use during drought and to provide for future demands.

An intertie connecting the Los Vaqueros Pipeline with East Bay Municipal Utility District's (EBMUD) Mokelumne Aqueducts in Brentwood has been completed and enables the wheeling of a portion of the District's CVP water via the Freeport project and the Mokelumne Aqueducts. The intertie also functions as an emergency connection between EBMUD and the District, enabling the districts to share water resources in an emergency.

In addition, the District is partnering with the East Bay Municipal Utility District, the San Francisco Public Utilities Commission, the Santa Clara Valley Water District, and the Zone 7 Water Agency to jointly explore the development of regional desalination facilities that would benefit over 5.6 million Bay Area residents and businesses served by these agencies. The Bay Area Regional Desalination Project could consist of one or more desalination facilities, with an ultimate total capacity of up to 71 million gallons per day. The project could potentially provide an additional source of water during emergencies such as earthquakes or levee failures and supplemental water supplies during extended droughts. A pilot project was completed in 2010 at the District's Mallard Slough Pump Station site to collect data on technical feasibility

(pretreatment options, membrane performance, design parameters) and the environmental impacts (brine disposal, marine life).

Water Quality

The District's mission is to "strategically provide a reliable supply of high-quality water at the lowest cost possible, in an environmentally responsible manner." The District obtains its water supply exclusively from the Sacramento-San Joaquin Delta (Delta) and serves treated and raw (untreated) water to approximately 500,000 people in central and eastern Contra Costa County. All of the District's intakes are subject to variations in water quality caused by salinity intrusion, Delta hydrodynamics, and discharges into the Delta and its tributary streams from both point and non-point sources. Since 1992, the District has spent over \$1 billion on capital improvements, including \$450 million on the Los Vaqueros Project, as well as over \$400 million on projects directly related to improving water quality and the security of the District's water delivery system (such as improvements at both Bollman and Randall-Bold Water Treatment Plants, construction of the Multi-Purpose Pipeline, improvements at Contra Loma Reservoir, and other District projects). Notwithstanding these efforts, Delta water quality at the District's intakes (as measured by chlorides) has declined significantly over the last twenty years, affecting the reliability of the District's supplies and its ability to consistently provide high-quality water to its customers. In addition, judicially-imposed restrictions on diversions from the Sacramento-San Joaquin Delta that started in 2007, and actions by regulatory agencies affecting such diversions in the future have the potential to further degrade water quality in the Delta. The increase in chlorides directly impacts the performance of the Los Vaqueros project by requiring additional blending releases from the reservoir to meet the District's water quality objectives.

Untreated Water System

The Contra Costa Canal is the District's major water supply facility, with a four-mile earth lined channel starting at Rock Slough leading into the 44-mile concrete-lined facility. In 2009, the District completed Phase 1 of the Canal Replacement Project, enclosing approximately 2,000 feet of the unlined Canal in a pipe, extending east from Pumping Plant 1. The canal passes through many of the cities and communities in the northeastern and central county areas before ending at the Martinez Reservoir. Water is supplied to the canal from Old and Middle River via the Los Vaqueros and Middle River pipelines and from Mallard Slough and Rock Slough. The Middle River Intake Project began operation in July 2010. A series of four pump stations (Pumping Plants One through Four) lift the water from Rock Slough to a height of 126 feet above sea level, after which gravity propels the water to its terminus in Martinez. Four reservoirs - Contra Loma Reservoir, Martinez Reservoir, Mallard Reservoir, and Los Vaqueros Reservoir - provide approximately 110,000 acre-feet of storage capacity, and will provide approximately 170,000 acre-feet when the Los Vaqueros Reservoir expansion is completed in 2012. Contra Loma Reservoir is used to provide emergency storage, to regulate flows in the Canal, to meet peak flows, and to provide back up during canal maintenance. Mallard Reservoir and Martinez Reservoir serve as terminal storage for flow regulation and emergency use.

The Los Vaqueros Project was completed in 1998 and includes a 100,000 acre-foot reservoir, intake and pump station at Old River, and transmission facilities. Water diverted from Old River and Middle River can be stored in the Los Vaqueros Reservoir or conveyed by pipeline to the canal system. In addition to emergency storage, the Los Vaqueros Reservoir provides high quality water for blending when Delta quality is degraded. The District's Board of Directors

approved the Los Vaqueros Reservoir Expansion Project on March 31, 2010. The project includes expanding the current reservoir from 100,000 acre-feet to 160,000 acre-feet and will provide improved water supply reliability in drought periods, improve water quality, and help the environment.

An automated computer system called SCADA monitors and controls both the untreated and treated water systems, turning pump stations on and off, opening and closing valves, and regulating reservoir levels. The system uses microwave radio signals to communicate with instrumentation located throughout the untreated and treated water systems.

Treated Water System

The District operates three water treatment facilities, the 75 million gallons per day (MGD) Bollman Water Treatment Plant, the 50 MGD Randall-Bold Water Treatment Plant, and the 16.5 MGD City of Brentwood Water Treatment Plant. The Bollman plant serves the District's treated water customers in Central County, and under special agreement, provides treated water to Bay Point. The Randall-Bold Plant in Oakley, which came on line in July 1992, currently provides treated water to the Diablo Water District, Golden State Water Company (Bay Point), and the Cities of Brentwood and Antioch. The Randall-Bold plant also serves new growth in Central County. The Multi-Purpose Pipeline, constructed in 2003, is primarily intended to transport treated water from Randall-Bold to new customers in Central County, but can also transport treated water from Central County to Randall-Bold. In the event of a major emergency, the Multi-Purpose Pipeline can also pump untreated water for fire suppression.

Treated water distribution facilities include more than 800 miles of pipeline and 41 active storage reservoirs. Total treated water storage capacity is approximately 72 million gallons. Thirty pump stations are used to deliver the water and maintain water pressure within the distribution system. There are approximately 61,005 active service connections to the treated water system, servicing approximately 138,756 equivalent 5/8-inch connections. New facilities are regularly added to the treated water system to meet new demands, increase reliability, improve operating efficiencies, and ensure service standards are met. These new facilities are identified and prioritized in a Treated Water Master Plan (TWMP), which forms the planning basis for many of the treated water projects in the CIP.

In addition, the District has entered into an agreement with the City of Brentwood to serve the long-term treated water needs of the City for use in the part of Brentwood that is outside the District's service area. A separate treatment facility on the Randall-Bold site was constructed and is operated by the District for the City of Brentwood. The new treatment plant began delivering water to the City of Brentwood in July 2008. All costs related to this facility are paid by the City.

Section III: CIP Context and Structure

The CIP is part of the District's long-range capital investment and financial planning process. This section describes the CIP in relationship to other District planning efforts, the most important of which is the ten-year financial plan and rate model. This section also discusses CIP structure, how the CIP is developed, and key assumptions.

Financial Planning Context

The District undertakes three principal financial planning efforts starting with the annual CIP Update and ten-year financial plan, a two-year capital and operating budget, and an annual review of rates, fees, and charges. These processes are separate but inter-related. The District's need to construct new facilities and reinvest in existing infrastructure within a ten-year period is forecasted in the CIP. The CIP includes a ten-year financial plan that estimates ten years of capital and operating expenditures and the revenue requirements to meet the expenditures. This provides the basis for projecting ten-year rate impacts. The CIP is presented to the Board in February of each year. The budget is presented to the Board in May and June, every other year. Budget status is reviewed at approximately six-month intervals until the next two-year budget. Rates, fees, and charges are brought to the Board in November and December of each year, and adjustments are typically considered for Board action in January. This CIP will form the basis of the next two-year budget. The District's financial planning process is shown in the following figure.

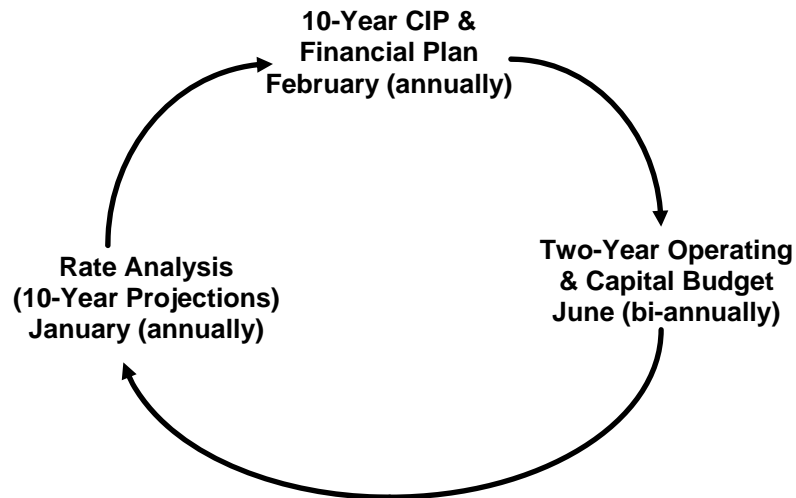


Figure III-1 District Financial Planning Process

All three financial planning efforts are integral to the overall financial integrity of the District. This integrated process ensures near-term financial decisions are made with an understanding of the long-term implications. Planning capital improvements over a ten-year period through the CIP provides flexibility to optimize capital investments while consistently adhering to the Board's rate policies. The approval and funding of projects through the two-year budget minimizes uncertainty in financial decision-making and maximizes control over financial resources.

CIP Structure

Two structural elements provide the framework for analysis and review of the CIP: the program configuration and the project priority system. Each element is described below.

Program Configuration

The basic unit of the CIP is the project. Projects are grouped by program and sub-program. There are ten program areas, each representing a different function of the District. Organizing projects by functional group allows the CIP to be viewed as a series of programs for improvements in specific areas of District responsibility. Sub-programs are groups of related projects within a program. The allocation of project costs between untreated and treated water funds also follows program divisions. Programs, sub-programs, and cost allocations in the 2013 CIP are listed on Table III-1 on the following page.

The untreated/treated allocations listed in Table III-1 are based primarily on the assessment of who benefits from a particular project. This assessment is usually done during master plan development or by financial audit. Allocation of costs between untreated and treated customers is used in the Financial Plan to project the rates and charges needed to fund the CIP.

Project Priority System

Each CIP project is assigned a priority level according to prioritization criteria. The priority system provides a method to rank or rate the relative importance of a project based on factors such as protection of health and safety, legal requirements, and rate of return on the District's investment. The priority levels provide a basis for determining which projects should be done in any given year, and how projects should be scheduled over the ten-year span of the CIP. Only those projects with a priority level 1 or 2 ranking are included in the ten-year Financial Plan and Rate Model.

A description of the three priority levels and the prioritization criteria used to rank projects in the CIP is provided on Page III-4.

Table III-1 PROGRAMS and SUB-PROGRAMS
Allocation of District Costs Between Untreated and Treated Water Funds¹

	Untreated/Treated
	(%)
Administrative, Support and Maintenance Facility Improvement Program	(34/66)
Sub-programs: Facilities Expansion Facilities Upgrades	
Delta Projects	(100/0)
Equipment and Other Capital Purchases Program	(34/66)
Sub-programs: Equity Funded Equipment Vehicle Replacement Fund	
Expansion of Services Program²	(N/A)
Sub-program: Wholesale Treated Water	
Future Water Supplies Program	(100/0)
Sub-programs: Water Supplies Planning	
Los Vaqueros Watershed and Recreation Program	(100/0)
Sub-programs: Recreation Watershed	
Treated Water Distribution and Storage Facilities Program	(0/100)
Sub-programs: Corrosion Control Non-District Funded Projects Pipe Upgrades Pipes - New Pump Upgrades Pumps - New Site Upgrades Storage - New Facilities Storage Upgrades TWSA Planning	
Untreated Water Supply and Transport Program	(100/0)
Sub-programs: Untreated Water Facilities – SRIP Non-District Funded Projects Untreated Water Facilities - New Untreated Water Facilities - Planning Untreated Water Facilities - Upgrades	
Water/Energy Demand Reduction Program	(100/0)
Sub-program: Best Management Practices Implementation Sub-program: Energy Demand Reduction Program	
Water Treatment Facility Improvements Program	(0/100)
Sub-programs: Expansion Planning Upgrades	

1. A portion of untreated water costs is allocated to treated water customers based on consumption. Grant funds for projects affect District costs in the proportion shown.
2. Allocations in this program are project specific.

Priority Level 1

These are the highest priority of all capital projects. Projects are ranked priority level 1 if they meet one or more of the following criteria:

- **Project is required for health and safety.** This includes projects needed to protect and preserve the health and safety of customers, employees, and the public.
- **Project is required by law, regulation, or contract.** This includes projects required to meet requirements imposed by federal, State, or local governments.
- **Project is under construction.**
- **Project is funded by applicants or outside funding source.**

As an example, an Untreated Water Reservoir Rehabilitation project would be ranked level 1 if it was required by the California Department of Safety of Dams or Reclamation to ensure dam safety.

Priority Level 2

Priority level 2 projects are those that provide measurable progress toward achieving the District's goals, but the District has a moderate level of control as to when these projects should be accomplished. Projects are ranked priority level 2 if they meet all of the following criteria:

- **Project has a defined scope and provides measurable progress toward achieving the District's goals.**
- **The District has a moderate level of control over the schedule.**
- **Funding is available such that rate increases are at or below inflation.**
- **When return on investment is a determining factor, projects have a payback period of less than five years.**

New reservoirs as recommended in the Treated Water Master Plan are examples of projects in priority level 2. Treated water reservoirs help achieve the strategic goals of improving water system reliability and increasing operational flexibility.

Priority Level 3

Projects not meeting the criteria for priority level 1 or 2 are ranked as priority level 3. These are projects that are anticipated to be needed, but may not yet have defined scopes, schedules, or funding sources. In some cases where a project is defined but only a portion of the funding is available, the project will be phased with the funded portion in priority level 1 or 2 and the unfunded portion in priority level 3. Where return on investment is a determining factor, projects with a long-term payback of greater than five years are priority level 3 projects.

The three priority levels are consistent with those used in previous ten-year CIPs. Project priority rankings were re-evaluated during the project review process and changes were made where necessary to reflect changed circumstances.

Project Summaries

A project summary has been prepared for each project in the CIP. These are presented in program order in Section VII. The project summary form is similar to that used in previous CIPs. Each summary includes a project description, justification, benefits, estimates of cash flow and O&M impacts, and funding source information. Schedules in time line form are provided for all projects. The schedules show the relative duration of planning, design, and construction activities. A category called "Other" is used for projects that do not fit this traditional pattern such as some capital equipment purchases. The schedules are plus or minus three months. A comparison to the 2012 CIP is provided for all continuing projects.

Development of the CIP and Financial Plan

Assumptions

Long-range financial planning is dependent on the ability to forecast future expenditures and revenues. Assumptions are made where necessary to proceed with the planning process. The assumptions used in the 2013 CIP are listed on Figure III-2. The assumptions have been organized so that related assumptions, such as those referring to water consumption, are grouped together. Revenue assumptions for this update incorporate the impacts from the drought program and assume continuing drought and economic impacts. Assumptions specific to the rate model are described further in Section VI: Financial Plan.

There are many ways to project growth and many sources of information. Growth projections will vary depending on the methodology chosen and the base data used, which in turn depend on the purpose of the projections. Water sales projections for financial planning are used in predicting future revenues and are therefore usually conservative or at the lower end of an acceptable range. In contrast, demand projections for capacity planning (maximum day or dry-year) are used for sizing and scheduling facilities, and are more appropriately at the high end of a range.

Growth projections are refined and modified as necessary to meet the needs for the projects using information from the Future Water Supply Study (FWSS) and the Seismic and Reliability Improvements Project (SRIP). The FWSS projected annual demands for dry years regardless of source of supply. The goal of the projections was to determine how much water would be needed on an annual basis. The SRIP, on the other hand, started with FWSS demands, and then analyzed them to project peak demands on the untreated water conveyance system. Its purpose was to design facilities that will meet the maximum required conditions. These and other differences in assumptions are documented in each study. The projections in the two studies use the same base, but are modified as appropriate for their respective purposes.

For this CIP, the growth and revenue assumptions continue to account for the impacts of the 2007-2009 drought and the economic downturn being experienced across the State. The economic downturn, slow housing market, and rebound from the drought will have a longer term effect on water sales growth and new connections. In addition, the provisions of Senate Bill X7-7 requiring a 20% reduction in per capita use by 2020 have been incorporated in this CIP. Key assumptions for this CIP are shown below.

Figure III-2 Key Assumptions

General

1. The ten-year CIP is a dynamic capital planning document that will be reviewed and revised annually.
2. CIP untreated and treated water costs for priority level 1 and level 2 projects will be held to a level that results in rate impacts at or below inflation. Cost containment is to be accomplished without impacting service levels.
3. Appropriations for capital improvements will be authorized by the Board as part of the budget process.
4. Facility reserve charges (FRCs) are a funding source for capital projects. A portion of the FRC will fund CIP projects related to growth or future water supplies. Allocations between existing and future customers will be consistent with the findings of the February 1998 FRC Report. The FRC methodology is used in the Financial Plan.
5. Capital projects with non-District funding sources (such as applicant funds and grants) are included in CIP cost estimate totals and the outside funding is included in revenue projections.
6. The Los Vaqueros Expansion, Canal Replacement Project, Middle River Intake Project, and the Shortcut Pipeline project are funded with short-term financing during the ten-year planning period with conversion to long-term bonds as debt capacity becomes available and refinancing opportunities arise. The short-term financing is assumed to be provided by either Water Revenue Notes or commercial paper depending on overall lowest cost of financing.
7. Short-term financing is also assumed for select other District-funded capital projects, including: Los Vaqueros Pipeline Relocation at Balfour, the Bollman Water Treatment Plant Improvements and the District Center Seismic and Energy Improvements. The short-term financing is used for these projects to manage cash flow during the ten-year financial plan window, and is returned with reserves in 2017 through 2021.
8. District policy and bond covenants require maintaining a debt coverage ratio of at least 1.25:1.

Revenue Forecasting

9. Consumption and water sales projections were re-evaluated based on current conditions. Municipal and retail treated water consumption in 2013 is estimated to remain at levels similar to 2012, reflecting continuing effects of the District's drought program and the economy. Industrial untreated water consumption was adjusted based on projected 2012 sales and the anticipated closure of a major industrial customer. Rebound to pre-drought levels occurs gradually over the subsequent three years. Water sales beginning in 2017 were reduced from the previous CIP to account for the implementation of SBX7-7. By

2020, annual retail and wholesale water sales are assumed to be approximately 7% lower than the water sales projections found in the 2012 CIP.

10. The estimated number of new connections has been decreased in this CIP based on an updated assessment of housing conditions. The 2013 projection is assumed to be similar to 2012 actuals with slight growth until 2017. Post-recovery number of new connections is assumed to be the same as the previous CIP but recovery is delayed by three years (recovery in 2017 instead of 2014).
11. Interest income on the District's investments has been reduced in this CIP due to current economic conditions and is projected to be 2.5% in 2013, 3.5% through 2016, and return to 5% annually for the remaining six years of the plan.

Inflation

12. The operating budget is based on the adopted 2012 budget with an assumed 3% inflationary adjustment in 2013 and 2014, and 4% for the remaining years of the ten-year planning period. Assumed operating costs during the first two years of the CIP (2013 and 2014) are lower than the previous CIP, reflecting the District's productivity gains from previous capital investment.
13. Inflation is projected at 4% per year for all capital costs in the Financial Plan.
14. CVP water costs are estimated to increase at 7% per year, beginning in 2014.

Capacity Planning

15. Demand projections from the Future Water Supply Study update (2002) are used as the basis for sizing and scheduling construction of capital facilities.
16. Future Water Supply Study demands are adjusted to account for drought recovery trends, economic factors, peak period demands, sources of supply, and other project-specific conditions as appropriate. All such adjustments are noted as appropriate.

Cost Estimating

17. Project costs (capital and O&M) are expressed in current (FY2013) dollars unless otherwise noted. Costs in the Financial Plan are escalated by the appropriate inflation rates, as described above.
18. Cost estimates in the first year of the CIP do not include funds that could be re-budgeted to match cash flow from the current fiscal year's approved budget. For purposes of the CIP, it is assumed that budgeted funds are fully expended unless otherwise stated.
19. Components of capital cost estimates include land acquisition; construction; engineering services (planning, design, and construction management); labor and benefit costs including payroll taxes, medical insurance, retirement plan benefits, etc.; direct costs (including legal fees and administrative support); indirect costs (such as office maintenance and utilities,

accounting and other support services); and construction contingencies. Cost estimates include an allowance of 35% for engineering services and administrative support and up to 30% for construction contingencies depending on the characteristics of the project.

20. Estimates of O&M costs include labor and benefit costs including payroll taxes, medical insurance, retirement plan benefits, etc.; materials, equipment, and other expenses (such as power) required for all District operations, including operating and maintaining property and facilities.
21. Cost estimates for capital projects are accurate within plus and minus ranges that vary depending on project stage as follows:
 - a. Preliminary planning estimates (+50% to -30%)
 - b. Completion-of-planning estimates (+30% to -15%)
 - c. Design-level estimates (+15% to -5%)
22. Accuracy ranges provide guidelines for interpreting cost estimates. They do not represent project contingencies. Projects under construction do not have an accuracy range because it is assumed the project will be completed for the contract amount, which includes allowances for change orders and unforeseen circumstances consistent with District policy.
23. All cost estimates have been rounded to three significant figures, but in no case more refined than to the nearest thousand.

Identifying Capital Projects

Most of the projects in the CIP are identified in master planning documents, such as the Treated Water Master Plan. Most of these planning documents are periodically updated to ensure that project planning is based on current and reliable information. Table III-2 lists major master plans and studies and the next scheduled update, if applicable. Some CIP projects are based on maintenance reports, field inspection records, and customer complaints; others are required by legislation, regulation, agreement, or Board policy. The CIP update team also meets with staff responsible for specific District functions, such as water treatment, to facilitate identification of capital project needs.

Table III-2 – Master Plans and Planning Documents

Document	Completed	Next Update
Canal Drainage Study	1995/1998	(a)
Delta Region Drinking Water Quality Management Plan	2005	(a)
Facilities Master Plan	1999	(a)
Facility Reserve Charge Analysis	1998/2002	(b)
Future Water Supply Study	1996/2002	2014
Property Management Plan	2000	2012
Seismic and Reliability Improvements Project	1997	(a)
Treated Water Master Plan Update	2007	2013
Treated Water Renewal/Replacement Study	2011	2017
Untreated Water Renewal/Replacement Study	2006	2013
Urban Water Management Plan	2010	2015
Water Treatment Plant Master Plan	2011	2021
Watershed Management Program	1997	(a)

(a) An update is not necessary or is not currently scheduled.

(b) Annual inflation adjustments are incorporated in construction-related elements of the FRC. An update has not been scheduled but is anticipated to occur after 2014.

Estimating Costs

Capital costs are estimated for each project according to industry data and District experience, and are expressed in current dollars. Each cost estimate has a plus and minus accuracy range that varies depending on project planning stage. The accuracy of each cost estimate is noted as a dollar range on the project summary sheet. Unless stated otherwise, estimates include land acquisition, engineering services (planning, design, and construction management), construction, direct costs (including legal fees and administrative support), indirect costs (such as office maintenance and utilities, accounting, and other support services), and contingencies.

Cost estimates are expressed in current dollars, unless otherwise noted. The basis of the capital cost estimates is the *Engineering News Record* (ENR) Construction Cost Index for the Bay Area for October 2011 (10,199.29). This represents a 3.1% increase from the 2012 CIP. Estimates of annual costs associated with operating and maintaining new capital facilities are based on unit costs developed in cooperation with the Operations & Maintenance Department. Estimates for costs related to maintaining land owned by the District are based on preliminary dollar per acre figures provided by the Watershed and Lands Division.

Capital, operating, and debt cost estimates are factored into the Financial Plan. The Financial Plan accounts for inflation over the ten-year CIP period for all costs except projected debt service, by escalating costs for each project year by year. Debt service for long-term debt is based on fixed payment schedules for each debt issue. Debt service for short-term is assumed at 2%. Starting in 2014, CVP water costs are increased at 7% annually due to the volatility of Reclamation’s rate setting methodology.

Sources of Funding

The CIP Financial Plan includes a ten-year analysis of revenues and reserves necessary to fund CIP projects and the operating costs of the District including debt service. In order to perform the analysis, the relative benefits to the untreated and treated water systems and to existing and future customers have to be determined for each project.

Project benefits to the treated and untreated water systems have been defined by program as indicated on Table III-1 found on page III-3. Projects related to water supply or components of the untreated water system, such as the canal, are funded from untreated water revenues and/or reserves. Untreated water revenues include the untreated water portion of the treated water rate; treated water customers currently account for approximately 35% of untreated water revenues. Projects related to facilities in the Treated Water Service Area are funded from treated water revenues and/or reserves. The benefits of facilities and equipment required for administrative purposes are allocated according to the proportion of District operating costs funded from untreated and treated water revenues, 34% and 66%, respectively.

The threshold question in allocating benefits between existing and future customers is whether a project is required irrespective of future development and growth, or only because of future development and growth. Once this has been established, it is necessary to determine whether a project directly or indirectly benefits the other category of customers. For example, an eight million gallon reservoir may be needed to meet current storage deficits, but in order to accommodate future growth; a twelve million gallon facility is built. Costs would be apportioned two-thirds to existing customers and one-third to future customers. The FRC is used to fund the portion of projects required for growth; rate revenues, including reserves, are used to fund the portion benefiting existing customers. Allocations are determined in the plans and studies identifying capital projects, not in the CIP.

It is assumed for purposes of this CIP that allocations between existing and future customers will be consistent with those in the final February 1998 FRC analysis (Montgomery Watson, Facility Reserve Charge Analysis, February 1998). Funding information is provided for each project in the project summary section.

Section IV: Program Summary

This section provides a summary of each of the ten program areas of the 2013 CIP. Each summary contains a discussion of significant sub-programs and projects, the estimated funding required to accomplish the projects, and a comparison to the program costs estimated in the 2012 CIP. A table showing proposed annual funding levels for each project is included for each program. A separate Project Summary for each of the projects is included in Section VII: Project Summaries.

Table IV-1 provides a summary of total CIP expenditures by program over the ten-year period, along with a comparison to the 2012 CIP.

Table IV-1 2013 CIP by Program
(In millions of dollars, current dollars)

Program	2013 CIP	2012 CIP
Administrative, Support, and Maintenance Facility Improvements	11.4	9.2
Delta Projects	22.0	70.7
Equipment & Other Capital Purchases	16.4	16.9
Expansion of Services	142.3	115.3
Future Water Supplies	11.3	11.1
Los Vaqueros Watershed and Recreation	6.1	6.6
TW Distribution and Storage	71.3	85.5
Untreated Water Supply & Transport	117.6	147.2
Water/Energy Demand Reduction	14.1	14.3
Water Treatment Facilities	65.1	33.9
TOTAL	477.6	510.4

Though projects are organized by program, funding is determined by priority level. For reference while reviewing program expenditures, Tables IV-2 and IV-3 show funding by priority and by fiscal year for the 2013 CIP and 2012 CIP, respectively.

Table IV-2 2013 CIP by Fiscal Year and Priority

(In millions of dollars, current dollars)

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
Priority Level 1*	13.2	11.1	10.2	2.8	3.0	3.0	3.2	9.2	25.3	36.3	117.2
Priority Level 2*	14.4	18.8	10.0	12.6	11.8	11.0	10.5	10.1	10.2	22.4	131.6
Priority Level 3	0.0	0.0	3.4	9.9	10.0	47.7	49.4	32.1	17.4	20.2	190.2
Total	27.5	29.9	23.6	25.4	24.8	61.6	63.1	51.4	52.9	78.9	439.0
Debt-funded	9.7	14.0	9.0	2.6	2.5	0.0	0.0	0.0	0.0	0.7	38.6
Grand Total	37.2	43.9	32.6	28.0	27.3	61.6	63.1	51.4	52.9	79.6	477.6

* Excluding debt-funded projects

Table IV-3 2012 CIP by Fiscal Year and Priority

(In millions of dollars, current dollars)

	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	TOTAL
Priority Level 1*	14.3	3.1	3.9	8.0	3.1	3.1	3.3	6.8	13.1	24.1	82.8
Priority Level 2*	16.9	13.7	15.1	18.6	11.6	9.8	11.1	11.3	12.9	19.9	140.7
Priority Level 3	7.7	25.8	12.3	7.2	46.2	25.0	13.4	22.6	22.8	0.1	183.2
Total	39.0	42.5	31.3	33.9	60.9	37.9	27.8	40.6	48.8	44.1	406.7
Debt-funded	63.7	4.1	8.4	3.0	2.4	0.0	0.7	1.8	9.4	10.1	103.6
Grand Total	102.7	46.6	39.7	36.9	63.3	37.9	28.4	42.4	58.2	54.2	510.4

* Excluding debt-funded projects

Administrative, Support, and Maintenance Facility Improvement Program

In addition to water transmission, treatment, and storage facilities, the District operates a variety of buildings and facilities that support operation of the system and services to customers. The projects in this program provide capital improvements to these facilities, including maintenance shops and offices, the District Center, the Antioch Service Center buildings, and others. As District services expand, so must the infrastructure of facilities that support those services. The District must also continue to reinvest in its existing buildings and facilities to protect and maintain its capital investment.

The District Facilities Master Plan (FY1999) has been the key document guiding development of new facilities. The Master Plan assessed space requirements based on current and future personnel, equipment, and operational needs. With the completion of the O&M Building Upgrade in FY2004, the Bisso Administration Building in FY2003, and new maintenance facilities in Concord and Antioch in FY2002, the high priority projects identified in the plan have been constructed. There are no additional new administrative facilities included in this CIP.

The Annual Building and Facility Improvements project provides for renewal and replacement of existing District buildings and grounds. Typical improvements funded under this project include re-roofing, replacement or upgrading of heating, cooling and electrical systems, and structural upgrades.

Estimated expenditures in this program for the 2013 CIP are \$11.4 million. Estimated funding for this program, by fiscal year, is shown in Table IV-4. For comparison, 2012 CIP funding levels are also shown.

**Table IV-4 Administrative, Support and Maintenance Facility Improvement Program
By Fiscal Year**

(In millions of dollars, current dollars)

CIP	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	10-YR. TOTAL
2013	NA	1.13	6.30	0.85	0.44	0.44	0.44	0.44	0.44	0.44	0.44	11.4
2012	0.83	1.01	4.32	0.43	0.43	0.43	0.43	0.43	0.43	0.43	NA	9.2

There are two projects within this program:

- Annual Building and Facility Improvements (priority level 1, \$4.7 million)
- District Center Seismic and Energy Improvements (priority level 2, \$6.7 million)

Table IV-5 shows a comprehensive listing of projects within this program. The projects are grouped by sub-program and by priority within the sub-program. For comparison purposes, project costs as estimated in the 2012 CIP are also shown.

Comparison to 2012 CIP

Total costs within this program have increased \$2.2 million compared to the 2012 CIP. The increase is driven primarily by an updated cost estimate for the District Center Seismic and Energy Improvements Project that was developed during preliminary design studies. A planned project to rewire the District Center’s communications systems in FY2014 was moved from the Annual Building and Facility Improvements project to the District Center Seismic and Energy Improvements Project.

Table IV-5 Projects within the Administrative, Support, and Maintenance Facility Improvement Program

A. 2013 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY13	TOTAL
Facilities Upgrades	Annual Bldg. & Facility Imp.	1	441	441	441	441	441	441	441	441	441	441	4,410
Facilities Upgrades	District Center Seismic and Energy Improvements	2	687	5,858	405								6,950
	PROGRAM TOTAL		1,128	6,299	846	441	441	441	441	441	441	441	11,360

B. 2012 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	TOTAL
Facilities Upgrades	Annual Bldg. & Facility Imp.	1	459	428	708	428	428	428	428	428	428	428	4,591
Facilities Upgrades	District Center Seismic and Energy Improvements	2	371	586	3,609								4,566
	PROGRAM TOTAL		830	1,014	4,317	428	428	428	428	428	428	428	9,157

Delta Projects

This program includes Delta projects that improve the District’s source water quality and supply reliability. Sources of funding include outside agencies, District revenues, and other local agencies.

Estimated expenditures within this program over the next ten years are \$22 million and include two projects. The Los Vaqueros Reservoir Expansion project includes design and construction of a 160,000 acre-feet expansion to the reservoir to increase water quality, supply reliability, and emergency storage. The Los Vaqueros Reservoir Federal/State Studies continue to evaluate a next phase of expansion and would be fully funded by Federal/State grants.

Estimated funding for this program, by fiscal year, is shown in Table IV-6. For comparison, program costs from the 2012 CIP are also shown.

**Table IV-6 Delta Projects Program
By Fiscal Year**
(In millions of dollars, current dollars)

CIP	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	10-YR. TOTAL
2013	NA	6.7	3.5	3.4				0.2	0.7	5.2	2.4	22.0
2012	63.6	3.9	3.2									70.7

The two significant projects proposed within this program are:

- Los Vaqueros Reservoir Expansion Implementation (priority level 1, \$5.4 million; level 3, \$8.4 million)
- Los Vaqueros Reservoir Federal/State Studies (priority level 2, \$8.2 million)

Table IV-7 shows a comprehensive listing of projects within this program. For comparison purposes, project costs as estimated in the 2012 CIP are also shown.

Comparison to 2012 CIP

Estimated program costs have decreased by \$48.7 million compared to the 2012 CIP. The primary driver for the decrease is construction progress on the Los Vaqueros Reservoir Expansion project. Progress to date is ahead of schedule and all work is anticipated to be substantially complete by September 2012. An updated reservoir filling analysis has been completed that incorporates the latest Delta modeling information, energy and water costs, and pump station final design. District staff has confirmed the existing pumps can continue to be used without significant impacts to delivered water quality or supply reliability, and they will be reconditioned to extend their useful life. A priority 3 project has been added for the eventual replacement of the Transfer Pump Station.

Table IV-7 Projects within the Delta Projects Program

A. 2013 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
Delta Projects	Los Vaqueros Expansion Implementation	1,3	4,683	740					165	703	5,176	2,356	13,823
Delta Projects	Los Vaqueros Reservoir Federal/State Studies	2	1,995	2,795	3,435								8,225
	PROGRAM TOTAL		6,678	3,535	3,435				165	703	5,176	2,356	22,048

B. 2012 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	TOTAL
Delta Projects	Middle River Intake Project	1	4										4
Delta Projects	Los Vaqueros Expansion Implementation	1	60,217	1,039									61,256
Delta Projects	Los Vaqueros Reservoir Federal/State Studies	2	3,354	2,881	3,238								9,473
	PROGRAM TOTAL		63,575	3,920	3,238								70,733

Equipment and Other Capital Purchases Program

Prudent planning requires that the District consider its long-term capital equipment needs as part of its overall financial planning. This program provides a category within which to recognize these capital expenditures. Specific capital equipment designated for replacement is generally included in the two-year budget. Capital equipment expenditures for larger items with a long life are included within the context of the ten-year CIP.

This program includes two sub-programs, Equity Funded Equipment and Vehicle Replacement Fund. Replacement of and upgrades to the District’s computer systems, telecommunications equipment, and SCADA are included in the first sub-program; replacement of the District’s fleet vehicles and heavy equipment are included in the second. Vehicles and heavy equipment are replaced when it is determined that they have reached the end of their serviceable life or when it is most cost-effective to replace based on anticipated future operating and repair costs. Replacements are funded from the Vehicle Replacement Fund, which is a reserve fund established by the Board for this purpose. New vehicles require a business justification before they are added to the fleet.

Estimated expenditures in this program over the ten-year CIP period are \$16.4 million. Estimated funding for this program, by fiscal year, is shown in Table IV-8. For comparison, 2012 CIP funding levels are also shown.

Table IV-8 Equipment and Other Capital Purchases Program by Fiscal Year
(In millions of dollars, current dollars)

CIP	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	10-YR. TOTAL
2013	NA	1.5	1.9	1.5	1.4	1.5	2.1	1.6	1.4	1.9	1.8	16.4
2012	1.9	1.4	2.6	1.2	1.9	1.4	1.5	1.2	1.5	2.2	NA	16.9

Significant projects proposed in this program include the following:

- Fleet Vehicles & Heavy Equipment (priority level 2, \$8.2 million)
- Replacement/Upgrade of Computer Systems (priority level 2, \$3.4 million)
- Replacement/Upgrade of Network Equipment (priority level 2, \$1.4 million)
- Replacement/Upgrade of SCADA Equipment (priority level 2, \$0.7 million)
- Replacement of Lab Equipment (priority level 2, \$1.2 million)

Table IV-9 shows a comprehensive listing of projects included in this program. The projects are grouped by sub-program, and by priority level within the sub-program. For comparison purposes, project costs as estimated in the 2012 CIP are also shown.

Comparison to 2012 CIP

Total program costs have decreased by \$0.5 million from the 2012 CIP. The primary driver for the decrease is a reduction of \$0.3 million in Fleet Vehicles & Heavy Equipment based on the anticipated replacement cycle for the next ten years. Other changes reflect inflation and progress on the current SCADA upgrade project. Scope for a priority 2 GIS project (\$135,000) has been included for system upgrades and GIS project enhancements in FY2013 and FY2014.

Table IV-9 Projects within the Equipment and Other Capital Purchases Program

A. 2013 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
Equity Funded	GIS	2,3	60	75	60	60	60	60	75	60	60	60	630
Equity Funded	Repl/Upgrade of Radio Equipment	2							158	158			316
Equity Funded	Repl/Upgrade of Comp Systems	2	198	530	140	140	186	805	530	198	455	186	3,368
Equity Funded	Repl/Upgrade of Network Systems and Hardware	2	15	62	108	242	263	15	62	108	242	263	1,380
Equity Funded	Repl/Upgrade of SCADA	2	155	155	155							250	715
Equity Funded	Repl/Upgrade of Telecomm. Equip.	2	93				57	433		93			676
Equity Funded	Replacement of Lab Equipment	2	204	218	109	55		5	38	22	333	180	1,164
Vehicle Repl. Fund	Fleet Vehicles & Heavy Equipment	2	755	845	885	885	895	765	780	780	780	830	8,200
PROGRAM TOTAL			1,420	1,810	1,397	1,322	1,401	2,023	1,643	1,419	1,113	1,010	16,449

B. 2012 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	TOTAL
Equity Funded	GIS	3		240	460								700
Equity Funded	Repl/Upgrade of Radio Equipment	2								153	153		306
Equity Funded	Repl/Upgrade of Comp Systems	2	153	140	1,010	140	755	166	140	205	150	315	3,174
Equity Funded	Repl/Upgrade of Network Systems and Hardware	2	273	15	60	105	235	255	15	60	105	235	1,358
Equity Funded	Repl/Upgrade of SCADA	2	491								250	250	991
Equity Funded	Repl/Upgrade of Telecomm. Equip.	2		90				55	595		90		830
Equity Funded	Replacement of Lab Equipment	2	175	111	212	106	53			42	11	323	1,033
Vehicle Repl. Fund	Fleet Vehicles & Heavy Equipment	2	830	755	845	885	885	895	765	780	780	1,080	8,500
PROGRAM TOTAL			1,922	1,351	2,587	1,236	1,928	1,371	1,515	1,240	1,539	2,203	16,892

Expansion of Services Program

The purpose of this program is to improve and expand services, increase the competitiveness of the District, diversify revenue, and increase efficiencies (through, for example, sharing treatment plant facilities). This program includes water treatment facilities constructed on behalf of the City of Brentwood. The Brentwood WTP was completed by the District and began to serve water to the City in July 2008, and a planned expansion of this facility is included in the latter years of the CIP. An example of other projects to expand the District's services includes buy-in or construction of new capacity at the Randall-Bold WTP. Estimated funding for this program is shown in Table IV-10.

Table IV-10 Expansion of Services Program by Fiscal Year
(In millions of dollars, current dollars)

CIP	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	10-YR. TOTAL
2013	NA	0.2				4.3	39.4	25.1	17.6	22.3	33.3	142.3
2012	0.3			4.3	39.4	24.9	11.6	3.7	10.0	21.0	NA	115.3

Projects proposed in this program are the following:

- Brentwood WTP Expansion (priority level 1, \$35 million)
- Randall-Bold WTP Expansion (priority level 1, \$27 million)
- Regional Capacity Evaluation (priority level 2, \$0.2 million, level 3, \$80 million)

Table IV-11 shows a comprehensive listing of the projects included in this program. For comparison purposes, project costs estimated in the 2012 CIP are also shown.

Comparison to 2012 CIP

Program costs have increased from the 2012 CIP by \$27 million due to a new project to expand capacity at the Randall-Bold WTP on behalf of DWD. DWD has indicated an expansion may be required as early as 2020 and a placeholder project has been added to the CIP. Actual timing will depend on the needs of DWD and/or other Randall-Bold WTP partners. The Peak Water Treatment Capacity Evaluation project was renamed to the Regional Capacity Evaluation and the District was successful in acquiring a \$150,000 federal grant to complete the evaluation in FY2013.

Table IV-11 Projects within the Expansion of Services Program

A. 2013 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
Wholesale TW	Brentwood WTP Expansion	1							235	3,700	10,050	21,075	35,060
Wholesale TW	Randall-Bold Expansion	1								2,485	12,280	12,235	27,000
Wholesale TW	Regional Capacity Evaluation	2,3	207				4,300	39,400	24,900	11,400			80,207
PROGRAM TOTAL			207				4,300	39,400	25,135	17,585	22,330	33,310	142,267

B. 2012 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	TOTAL
Wholesale TW	Brentwood WTP Expansion	1							230	3,700	10,030	21,045	35,005
Wholesale TW	Peak Water Treatment Capacity Evaluation	2,3	300			4,300	39,400	24,900	11,400				80,300
PROGRAM TOTAL			300			4,300	39,400	24,900	11,630	3,700	10,030	21,045	115,305

Future Water Supplies Program

This program includes projects related to meeting future water supply requirements. These projects help meet the District’s goals of increasing water supply reliability. The program currently has two primary projects, the Future Water Supply Study (FWSS) Updates and a placeholder for water supply projects identified in the FWSS. The FWSS was adopted by the Board in August 1996 and updated in 2002. A new project was added this year for the Regional Desalination Studies, which are evaluating the feasibility of a regional facility to increase drought and emergency supply reliability for Bay Area water agencies.

The FWSS resulted in a long-range plan to ensure a reliable supply of high quality water for service to District customers. The Future Water Supplies Placeholder provides funding for projects, including purchases of water rights or other long-term supplies, required to implement this plan. The FWSS examines both water supply and demand reduction alternatives for meeting future water supply requirements. Funding to implement demand reduction recommendations is included in the Water Demand Reduction Sub-Program. The 2002 FWSS update did not result in a shift in the priorities among new supplies, demand reduction, and recycling, all of which combine to meet future demand.

The Future Water Supplies Placeholder includes annual funding for new supplies for growth. Water purchases for future growth will be made only as funds are available. This project is fully funded by FRC revenues consistent with the projection used in the Financial Plan.

Estimated funding for this program, \$11.3 million, is shown by fiscal year in Table IV-12. For comparison, the 2012 CIP cost estimates are also shown.

Table IV-12 Future Water Supplies Program by Fiscal Year
(In millions of dollars, current dollars)

CIP	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	10-YR. TOTAL
2013	NA	0.4	0.6	0.2	0.2	0.2	0.2	0.4	0.2	0.2	9.2	11.3
2012	0.1	0.2	0.5	0.2	0.2	0.2	0.2	0.4	9.2	0.2	NA	11.1

The two projects within this program are:

- Future Water Supplies Placeholder (priority level 2, \$10.5 million)
- Future Water Supply Study Updates (priority level 2, \$0.6 million)
- Regional Desalination Studies (priority level 2, \$0.3 million)

Table IV-13 on page IV-12 shows a comprehensive listing of projects within this program. For comparison, 2012 CIP funding levels are also shown.

Comparison to 2012 CIP

Program costs have increased by approximately \$0.2 million due to the addition of the Regional Desalination Studies. The timing for the future water purchase has been delayed two years to FY2022 based on an updated assessment of the District’s supply reliability and anticipated supplemental water needs.

Table IV-13 Projects within the Future Water Supplies Program

A. 2013 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
Planning	Future Water Supply Study Updates	2		380					200				580
Water Supplies	Future Water Supplies Placeholder	1,2	135	150	150	150	150	150	150	150	150	9,150	10,485
Water Supplies	Regional Desalination Studies	2	224	56									280
	PROGRAM TOTAL		359	586	150	150	150	150	350	150	150	9,150	11,345

B. 2012 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	TOTAL
Planning	Future Water Supply Study Updates	2			360					200			560
Water Supplies	Future Water Supplies Placeholder	1,2	119	153	153	153	153	153	153	153	9,153	153	10,496
	PROGRAM TOTAL		119	153	513	153	153	153	153	353	9,153	153	11,056

Los Vaqueros Watershed and Recreation Program

Projects within the Los Vaqueros Watershed and Recreation Program cover capital costs associated with owning and managing the Los Vaqueros watershed and related facilities. There are three projects in this program. The Los Vaqueros Recreation Facilities and Equipment Project provides for the renewal and replacement of Los Vaqueros recreation facilities and equipment, including docks, rental boats, picnic tables and benches, and other miscellaneous recreational improvements. Improvements are identified and prioritized in the Watershed and Recreation Master Plan which is scheduled to be completed in FY2014. The Watershed projects are predominantly focused on meeting permit requirements but do help maintain water quality in the reservoir and may increase revenues through leases of District lands for grazing, wind power, or other enterprises. The Recreation projects contribute to competitiveness by maintaining customer satisfaction with the recreation program.

Estimated expenditures for the program are shown in Table IV-14. The program total is \$6.1 million. For comparison, 2012 CIP funding levels are also shown.

Table IV-14 Los Vaqueros Watershed and Recreation Program by Fiscal Year
(In millions of dollars, current dollars)

CIP	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	10-YR. TOTAL
2013	NA	0.7	0.6	0.5	0.4	0.4	1.1	1.1	0.4	0.4	0.6	6.1
2012	0.6	0.7	0.5	0.5	0.4	0.4	1.2	1.3	0.4	0.7	NA	6.6

The three projects proposed in this program are the following:

- Los Vaqueros Recreation Facilities & Equipment (priority level 2, \$1.0 million)
- Los Vaqueros Watershed Improvements (priority level 2, \$5.1 million)

Table IV-15 shows a comprehensive listing of the projects in this program. For comparison purposes, project costs as estimated in the 2012 CIP are also shown.

Comparison to 2012 CIP

Project costs are projected to decrease by \$0.5 million versus the 2012 CIP. This is the net result of inflation, a new project, and the elimination of the Land Acquisition project. This Land Acquisition project was established after completion of the original Los Vaqueros Project to finalize all land transactions, which have been completed. A Recreation and Watershed Master Plan was added in FY2014 to identify and prioritize the capital improvements for these projects.

Table IV-15 Projects within the Los Vaqueros Watershed and Recreation Program

A. 2013 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
Recreation	LV Rec Facilities and Equipment	2	240	150	125	70	70	70	70	70	70	70	1,005
Watershed	LV W/S Improvements	2	440	460	330	300	300	1,050	1,050	300	300	525	5,055
	PROGRAM TOTAL		680	610	455	370	370	1,120	1,120	370	370	595	6,060

B. 2012 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	TOTAL
Recreation	LV Rec Facilities and Equipment	2	110	145	90	105	90	75	75	75	60	150	975
Watershed	Land Acquisition	2	76	71	71	71	71	71	71	71	158	158	889
Watershed	LV W/S Improvements	2	371	490	315	355	255	255	1,050	1,130	195	350	4,766
	PROGRAM TOTAL		557	706	476	531	416	401	1,196	1,276	413	658	6,630

Treated Water Distribution and Storage Facilities Program

The objective of this program is to maintain and improve the level of service, quality, and safety of the District's existing treated water system. Facilities organized under this program include treated water pipelines, reservoirs, and pump stations. Projects within this program provide for expansion of treated water facilities to meet future needs as well as replacement of water mains and other components of the treated water infrastructure. Investments identified within this program directly advance the District's goals of increasing system reliability and improving delivered water quality and indirectly help increase competitiveness by improving efficiencies and customer satisfaction. A key component of this program is the Treated Water Service Area Master Plan (TWMP), which was last updated in FY2008. The TWMP provides the planning basis for many significant projects proposed in the CIP, including new pipelines, pump stations, and reservoirs. The Treated Water Renewal and Replacement Study provides a schedule for renewal, replacement, and upgrades to existing pump stations, pipelines, and reservoirs.

In the past five years, the District has invested \$45 million in capital improvements within this program, including approximately \$2.3 million annually in main replacements, two new treated water reservoirs, and rehabilitation of five existing reservoirs and seven treated water pump stations. New storage facilities increase system reliability for existing customers and provide storage capacity necessary to accommodate future growth. Pump station rehabilitations ensure continued reliable service and improve operational efficiencies by replacing older pumps and motors with more efficient models.

Future expenditures of approximately \$71 million are projected for this program over the next ten years. Significant investments are proposed for upgrades to existing facilities (approximately \$50 million) and installation of new facilities (\$4 million). The growth-related portion of new facilities is funded through the treated water FRC. The program also includes \$17.5 million in developer-funded projects.

Proposed funding for this program, by fiscal year, is shown in Table IV-16. For comparison, 2012 CIP funding levels are also shown.

Table IV-16 Treated Water Distribution and Storage Facilities Program by Fiscal Year

(In millions of dollars, current dollars)

CIP	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	10-YR. TOTAL
2013	NA	12.4	5.9	5.8	8.9	6.9	5.9	5.1	5.9	5.3	9.2	71.3
2012	13.2	6.4	7.2	6.3	9.3	5.8	7.1	6.4	9.2	14.5	NA	85.5

Significant projects proposed within this program include the following:

- Pipeline Renewal/Replacement (Main Replacements) (priority level 2, \$23.6 million)
- Distribution Facilities - Developer Projects (priority level 1, \$17.5 million)
- Treated Water Facilities Improvement Program (priority level 2, \$11.9 million)
- Treated Water Reservoir Rehabilitation Program (priority level 2, \$10.2 million)
- Port Chicago Pipeline Phase II (priority level 2, \$1.4 million)

Table IV-17 shows a comprehensive listing of projects proposed for this program. The projects are grouped by sub-program, and by priority level within the sub-program. For comparison purposes, project costs from the 2012 CIP are also shown.

Comparison to 2012 CIP

Total program costs have decreased by \$14.2 million from the 2012 CIP. Funding for the Treated Water Facilities Improvement Program has been decreased by \$6.9 million, reflecting the recommendations of the 2011 Treated Water Renewal/Replacement Study. Funding for the Treated Water Reservoir Rehabilitation Program has been increased by \$1.4 million based on the same study. Developer Projects have been decreased by \$1.3 million due to slower anticipated growth. Capacity projects (Port Chicago Pipeline Phase II and Subzone 34 Reservoir) have been reduced by \$7.4 million due to schedule delays resulting from lower future water demand projections and the implementation of 20x2020. Other changes reflect minor scope updates and inflation.

Table IV-17 Projects within the Treated Water Distribution and Storage Facilities Program

A. 2013 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
Non-Dist Funded	Distribution Facilities - Developer Projects	1	6,820	891	1,021	1,149	1,277	1,277	1,277	1,277	1,277	1,277	17,543
Pipe Upgrades	Pipeline Renewal / Replacement	2	2,767	2,605	1,985	2,343	2,322	2,322	2,322	2,322	2,322	2,322	23,632
Pipes - New	MPP Pressure Sustaining Valve	2									170	853	1,023
Pipes - New	Port Chicago Pipeline - Phase II	2									185	1,218	1,403
Pipes - New	Treated Water Emergency Service Connections	3			105	395							500
Site Upgrades	TW Facilities Improvement Program	2	2,074	732	1,832	1,039	2,788	568	1,064	568	751	501	11,917
Storage - New	Subzone 34 Reservoir	2									217	1,248	1,465
Storage - Upgrades	TW Reliability Improvements	3			475	2,325							2,800
Storage - Upgrades	TW Reservoir Rehabilitation Program	2	344	1,694	344	1,694	344	1,694	344	1,694	344	1,694	10,190
TWSA Planning	TW Renewal/ Replacement Study	2					135					135	270
TWSA Planning	TWSA Master Plan Updates	2	410						140				550
	PROGRAM TOTAL		12,415	5,922	5,762	8,945	6,866	5,861	5,147	5,861	5,266	9,248	71,293

B. 2012 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	TOTAL
Corrosion	Corrosion Control	2	88										88
Non-Dist Funded	Distribution Facilities - Developer Projects	1	6,608	1,120	1,261	1,404	1,404	1,404	1,404	1,404	1,404	1,404	18,817
Pipe Upgrades	Pipeline Renewal / Replacement	2	3,058	2,548	2,273	2,288	2,273	2,288	2,273	2,288	2,273	2,288	23,850
Pipes - New	MPP Pressure Sustaining Valve	2								165	827		992
Pipes - New	Port Chicago Pipeline - Phase II	2								180	1,181	7,487	8,848
Pipes - New	Treated Water Emergency Service Connections	3		105	395								500
Site Upgrades	TW Facilities Improvement Program	3	1,884	1,966	1,831	1,801	1,886	1,836	1,896	1,966	1,926	1,806	18,798
Storage - New	Subzone 34 Reservoir	2									210	1,210	1,420
Storage - Upgrades	TW Reliability Improvements	2				472	2,272						2,744
Storage - Upgrades	TW Reservoir Rehabilitation Program	3	1,555	305	1,420	305	1,420	305	1,420	305	1,420	305	8,760
TWSA Planning	TW Renewal/ Replacement Study	2	3						130				133
TWSA Planning	TWSA Master Plan Updates	2		360						140			500
	PROGRAM TOTAL		13,196	6,404	7,180	6,270	9,255	5,833	7,123	6,448	9,241	14,500	85,450

Untreated Water Supply and Transport Program

This program includes projects to improve source water quality and to enhance, renew, and expand the District's untreated water facilities. Facilities included in this program are diversion facilities, the Multi-Purpose Pipeline (MPP), the Los Vaqueros pipelines, the Contra Costa Canal, and improvements within the canal right-of-way such as fencing, bridges, drainage facilities, service roads, and other features. The program has been divided into five sub-programs including Untreated Water Facilities-Seismic Reliability Improvement Project (UWF-SRIP), Untreated Water Facilities-New (UWF-New), Untreated Water Facilities-Planning (UWF-Planning), Untreated Water Facilities-Upgrades (UWF-Upgrades), and Non-District Funded. The program directly advances the District's goal of increasing system reliability and increases competitiveness by ensuring capacity is available to meet the needs of new customers.

The District has invested approximately \$120 million under this program in the past five years to maintain and enhance the reliability and capacity of the untreated water conveyance facilities. Implementation of the capacity and reliability projects recommended in the SRIP study has been the focus of this program for several years, which included construction of the MPP and rehabilitation of the Mallard Slough Pump Station. These projects assist in meeting near-term and long-term demands and significantly improved the District's ability to continue water deliveries after a major earthquake. Other improvements completed include structural, electrical, and mechanical upgrades to the Rock Slough pumping plants and relining of high priority sections of the canal. The pump station rehabilitations improve the District's ability to reliably provide water service and improve operational efficiencies by replacing older, less efficient equipment. Canal lining repairs improved operational efficiencies by reducing water losses. The Untreated Water Facility Improvement Plan update is scheduled for FY2013 and will update and prioritize the capital improvements for the untreated water system. The Canal Replacement Project, which will protect source water quality as well as provide flood protection and enhance public safety, is included in this program. The other area of significant investment is the Untreated Water Facilities-Upgrades sub-program. It contains six projects in addition to the Canal Replacement Project to renew, replace, and upgrade existing untreated water facilities for a total of approximately \$46 million.

Projects totaling approximately \$117.6 million for the ten-year CIP period are proposed for this program. Estimated funding for this program, by fiscal year, is shown in Table IV-18. For comparison, 2012 CIP funding estimates are also shown.

Table IV-18 Untreated Water Supply and Transport Program by Fiscal Year
(In millions of dollars, current dollars)

CIP	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	10-YR. TOTAL
2013	NA	11.5	18.5	14.3	5.2	4.9	6.6	23.3	19.4	10.8	3.2	117.6
2012	19.0	27.2	8.1	8.4	5.2	2.3	4.6	26.3	34.1	12.1	NA	147.2

Significant projects proposed within this program include the following:

- Canal Replacement Project (priority level 2, \$19.2 million; level 3, \$49.4 million)
- Los Vaqueros Pipeline Relocation – Balfour Road (priority level 1, \$8.6 million)
- Shortcut Pipeline Refurbishments (priority level 2, \$9.5 million)
- Untreated Water Facilities Improvement Program (priority level 2, \$21.4 million)

Table IV-19 shows a comprehensive listing of projects within this program. The projects are grouped by sub-program and by priority level within the sub-program. For comparison purposes, project costs as estimated in the 2012 CIP are also shown.

Comparison to 2012 CIP

Total program costs in the 2012 CIP have decreased by \$29.6 million from the 2012 CIP driven primarily by the Untreated Water Pipeline, which was delayed four years due to lower anticipated future water demands. The decrease in program costs also reflects the completion of the Rock Slough Fish Screen in 2012. The costs for the LVP relocation at Balfour Road was increased by \$2.7 million based on an updated alignment and the Untreated Water Facilities Program was increased to account for inflation and the reconditioning of the Transfer Pump Station. The next phase of the Canal Replacement (\$19.2 million) has been funded in this CIP. The District was successful in acquiring \$10 million towards this project from California’s Proposition 1E grant program. The cost for the remaining segments (priority 3) of the Canal Replacement Project has been reduced based on updated cost information from completion of the first segment and elimination of interim Pumping Plant No. 1 improvements which were determined to be no longer necessary. The Mallard Slough Channel Rehabilitation project was also funded in this CIP, shifting approximately \$2.5 million from Priority 3 to Priority 2.

Table IV-19 Projects within the Untreated Water Supply and Transport Program

A. 2013 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
Non-District Funded	Untreated Water Applicant Funded Projects	1	86	94	104	112	120	120	120	120	120	120	1,116
UWF – Planning	Untreated Water Facility Imp Plan Updates	2	334					259					593
UWF - SRIP	Untreated Water Pipeline	2										690	690
UWF - Upgrades	Canal Replacement Project	2,3	5,038	14,142			54	3,338	20,993	16,421	8,627		68,613
UWF - Upgrades	LVP Relocation @ Balfour	1	252	889	7,452								8,593
UWF - Upgrades	Mallard Slough Channel Rehabilitation	2			490	1,970							2,460
UWF - Upgrades	Shortcut Pipeline Refurbishments	2	2,958	564	3,068	431	2,521						9,542
UWF - Upgrades	Untreated Water Facilities Improvement Program	2	2,642	2,278	2,988	1,914	1,977	1,921	1,922	1,921	1,922	1,921	21,406
UWF - Upgrades	Untreated Water Reservoir Rehab	2,3	145	498	182	761	232	972	247	905	162	506	4,610
	PROGRAM TOTAL		11,455	18,465	14,284	5,188	4,904	6,610	23,282	19,367	10,831	3,237	117,623

B. 2012 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	TOTAL
Non-District Funded	Untreated Water Applicant Funded Projects	1	158	120	120	120	120	120	120	120	120	120	1,238
UWF - Planning	Untreated Water Facility Imp Plan Updates	2	431					255					686
UWF - SRIP	Untreated Water Pipeline	2							670	1,810	9,415	10,070	21,965
UWF - Upgrades	Canal Replacement Project	3	7,842	23,000					1,530	22,415	22,355		77,142
UWF - Upgrades	LVP Relocation @ Balfour	1		240	687	4,983							5,910
UWF - Upgrades	Mallard Slough Channel Rehabilitation	2,3	42	659	1,756								2,457
UWF - Upgrades	Rock Slough Fish Screen	1	5,193										5,193
UWF - Upgrades	Shortcut Pipeline Refurbishments	2	3,025	622	2,967	518	2,419						9,551
UWF - Upgrades	Untreated Water Facilities Improvement Program	2	2,096	2,321	1,821	2,511	1,761	1,821	1,776	1,776	1,776	1,776	19,435
UWF - Upgrades	Untreated Water Reservoir Rehab	2,3	182	200	700	260	900	145	470	145	470	145	3,617
	PROGRAM TOTAL		18,969	27,162	8,051	8,392	5,200	2,341	4,566	26,266	34,136	12,111	147,194

Water/Energy Demand Reduction Program

This program includes the District’s water and energy conservation programs and is split into two sub-programs to reflect each function. Water conservation and energy demand reduction projects are grouped together in the same program in recognition of the significant linkages between water conservation and energy demand reduction. The Water Demand Reduction Program includes four projects including: 1) Residential Water Audits/Plumbing Retrofit, 2) Landscape Water Conservation Audits, 3) Commercial/Industrial and Institutional (CII) Water Conservation Audits, and 4) Water Conservation Incentives. The program meets the goals of the District’s Future Water Supply Study (FWSS) and conforms to the requirements of the U.S. Bureau of Reclamation (Reclamation) water supply contract.

The Energy Demand Reduction Program currently includes two projects aimed at reducing the District’s overall energy use and resulting carbon footprint. Energy is needed to pump, treat, transport, use (heat, cool, or pump) and to treat water again as wastewater. Energy and water conservation projects are grouped together in the CIP because water conservation programs also result in significant energy savings and environmental benefits, including reductions of greenhouse gases such as carbon dioxide.

Estimated funding for the capital portion of the program, by fiscal year, is shown in Table IV-20. For comparison, 2012 CIP funding levels are also shown.

Table IV-20 Water Demand Reduction Program by Fiscal Year

(In millions of dollars, current dollars)

CIP	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	10-YR. TOTAL
2013	NA	1.2	1.0	1.3	2.7	1.3	2.7	1.0	1.0	1.0	1.0	14.1
2012	1.6	1.4	2.6	1.3	2.6	1.0	1.0	1.0	1.0	1.0	NA	14.3

The significant capital projects proposed in this program are the following:

- Water Conservation Incentives (priority level 1, \$10 million)
- Energy Master Plan and Implementation Placeholder (priority level 3, \$4 million)

Table IV-21 shows a comprehensive listing of projects within this program. For comparison purposes, project costs as estimated in the 2012 CIP are also shown.

Comparison to 2012 CIP

Project costs have decreased by \$0.2 million compared to the 2012 CIP. The change is driven by progress on the Los Vaqueros Energy Recovery Project which is scheduled to come online in FY2012. The schedule for the priority 3 placeholder for implementation of energy reduction projects was delayed two years. These projects would be implemented if grants or other outside funding sources become available.

Table IV-21 Projects within the Water Demand Reduction Program

A. 2013 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
Water Conservation	Water Conservation Incentives	1	1,090	990	990	990	990	990	990	990	990	990	10,000
Energy Demand Reduction	Energy Master Plan and Implementation	3			330	1,670	330	1,670					4,000
Energy Demand Reduction	Los Vaqueros Energy Recovery Project	1	77										77
	PROGRAM TOTAL		1,167	990	1,320	2,660	1,320	2,660	990	990	990	990	14,077

B. 2012 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	TOTAL
Water Conservation	Water Conservation Incentives	1	1,389	960	960	960	960	960	960	960	960	960	10,029
Energy Demand Reduction	Energy Master Plan and Implementation	3		330	1,670	330	1,670						4,000
Energy Demand Reduction	Los Vaqueros Energy Recovery Project	1	204	60									264
	PROGRAM TOTAL		1,593	1,350	2,630	1,290	2,630	960	960	960	960	960	14,293

Water Treatment Facility Improvements Program

The District's water treatment facilities are an essential element in providing high-quality water to its treated water customers. This program involves projects for replacing, improving, and enhancing these facilities to maintain and enhance water quality and system reliability. The projects are organized into three sub-programs: Treatment Plant Upgrades, Treatment Plant Expansion, and Planning. The Water Treatment Plant (WTP) Master Plan, completed in FY2011, provides the planning basis for both renewal and replacement projects and new facilities related to reliability and regulatory requirements at the treatment plants.

The District has invested over \$20 million dollars in the last five years to improve and maintain water treatment facilities, including completion of a third sedimentation basin at the Bollman Water Treatment Plant. Other upgrades to the plant include enhanced electrical power systems, seismic improvements, a new ozone generator, and safer facilities for the storage and use of chemicals.

Program funding for the next ten years is estimated at \$33.9 million and includes \$6.3 million, \$4.5 million, and \$1.7 million in priority level 2 WTP improvements at the Bollman, Randall-Bold, and City of Brentwood treatment facilities, respectively. These improvements include renewal and replacement of WTP facilities, media replacement, ozone generator replacement, and treatment plant restoration activities. Estimated funding for this program, by fiscal year, is shown in Table IV-22. For comparison, 2012 CIP funding levels are also shown.

Table IV-22 Water Treatment Facility Improvements Program by Fiscal Year

(In millions of dollars, current dollars)

CIP	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	10-YR. TOTAL
2013	NA	1.6	5.6	4.9	8.9	7.5	3.3	4.8	4.5	5.5	18.5	65.1
2012	1.8	4.6	10.7	5.3	3.9	1.5	0.9	1.7	1.3	2.1	NA	33.9

Significant projects proposed in this program include the following:

- Water Treatment Plant Improvements - Bollman (priority level 2, \$14.2 million; level 3, \$24.9 million)
- Water Treatment Plant Improvements - Randall-Bold (priority level 2, \$8.1 million; level 3, \$15.7 million)
- Water Treatment Plant Improvements - City of Brentwood (priority level 2, \$1.7 million)

Table IV-23 shows a comprehensive listing of projects within this program. The projects are grouped by sub-programs and by priority level within sub-program. For comparison purposes, project costs as estimated in the 2012 CIP are also shown.

Comparison to 2012 CIP

Total funding for this program has increased by approximately \$31.2 million from the 2012 CIP. Approximately \$28 million of the increase is related to Priority 3 projects identified in the WTP Master Plan that are not funded in the Financial Plan. This includes projects such as advanced treatment technologies that may be required if source water degrades or new regulations are enacted.

Priority levels 1 and 2 projects have increased approximately \$3 million from the previous CIP and reflect the recommendations of the 2011 WTP Master Plan.

Table IV-23 Projects within the Water Treatment Facility Improvements Program

A. 2013 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
Planning	WTPMP Updates and Placeholder	2									400	180	580
Upgrades	WTP Improvements - Bollman	2,3	995	3,472	2,716	4,916	4,633	1,863	3,574	3,368	3,226	10,346	39,109
Upgrades	WTP Improvements - City of Brentwood	2	57	540	608	93	88	57	57	57	57	57	1,671
Upgrades	WTP Improvements - Randall-Bold	2,3	566	2,072	2,114	3,411	2,291	1,333	1,183	1,043	1,808	7,908	23,729
	PROGRAM TOTAL		1,618	6,084	5,438	8,420	7,012	3,253	4,814	4,468	5,491	18,491	65,089

B. 2012 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	TOTAL
Planning	WTPMP Updates and Placeholder	2	462	1,840	2,015	1,030	180	1,030	180	1,030	180	1,030	8,977
Upgrades	WTP Improvements - Bollman	2,3	793	1,427	3,867	2,412	239	239	239	239	902	902	11,259
Upgrades	WTP Improvements - City of Brentwood	2,3	76	56	56	683	1,163	122	91	86	56	56	2,445
Upgrades	WTP Improvements - Randall-Bold	2,3	424	1,235	4,784	1,190	2,344	158	368	368	158	158	11,187
	PROGRAM TOTAL		1755	4,558	10,722	5,315	3,926	1,549	878	1,723	1296	2,146	33,868

Section V: Operating Cost Impacts of the Capital Improvement Program

Implementation of the CIP affects District operating costs. Adding new facilities can result in increases in operating costs as additional labor or materials are needed to operate and maintain the facilities. Other capital facilities, such as the Brentwood Water Treatment Plant, generate payments from the City of Brentwood, which will completely offset the District's costs to operate and maintain the plant. Some capital projects yield improved efficiency and productivity resulting in reduced operating costs. To be an effective long-range financial planning tool, the CIP must consider the capital costs of constructing facilities, income generated by facilities, and the resulting impacts on operating costs.

This section provides background on District operating costs, an overview of the operating impacts of the CIP, and a discussion of specific impacts on labor and energy. The operating impacts are factored into the Financial Plan along with capital costs, debt-service, and overall operating costs. The operating impacts of individual projects are described in Section VII: Project Summaries.

Background

Current Operating Costs

Projected operating costs for the first year of the 2013 CIP are \$82.4 million and are based on the adopted 2012 budget. Significant operating costs include labor, power, purchased water, and chemicals. In the Financial Plan, operating costs are assumed to increase by 3% in 2013 and 2014, then 4% annually thereafter. CVP water costs are assumed to increase at 7% annually due to the volatility of the Bureau of Reclamation's rate setting policies. In addition, operating costs have been increased by \$6 million (\$1 million a year from 2017 to 2022) in consideration of the additional conservation measures that will be required to meet the requirements of 20x2020. Operating cost impacts resulting from capital projects are incorporated into the operating cost projections in the year the facility comes on line. Estimated total operating costs are lower than the previous CIP due to the District's efforts to control costs.

Operating Cost Impacts Assumptions

Operating cost impacts are determined for each project based on current costs to operate similar facilities, industry standards, or market trends. Operating costs include labor, materials, supplies, equipment, and administrative costs. Total operating cost impacts as shown are net of savings that might also result from the project. The two operating cost components most affected by capital projects are labor and energy, both of which are discussed later in this section. Impacts on labor operating costs are net of labor savings and not savings in other operating costs to ensure the full impact on labor is identified. For example, savings in energy or chemicals due to a more efficient facility would not reduce the need for staff to maintain the facility. Energy impacts presented are net increases or savings in energy usage for each project. Operating costs are assumed to start in the year scheduled for the project's completion, and are pro-rated by half-year.

The impact of capital projects on operating labor costs differs by type of facility. Operating labor costs reflect current proportions of labor to total operating costs by type of facility or activity. To estimate full time equivalent employees, the operating labor cost is divided by an assumed cost of employment. For purposes of the CIP, the assumed cost of employment is set at \$100,000 per year per new employee, reflecting salaries and benefits, plus equipment, supplies, training, administrative support, and other District costs of support. Other costs of employment may be used if specific staffing plans have been completed. Actual salaries would vary depending on classification, hours worked, etc. Because of the uncertainty surrounding this assumption, the number of full time equivalents related to implementation of this CIP is presented as a range of plus or minus 25 percent.

Summary of Operating Cost Impacts

The following tables show the increase in total operating costs (Table V-1), labor costs (Table V-2) and energy costs (Tables V-3) resulting from CIP projects by fiscal year. Projects and sub-programs with significant impacts have been individually listed. A discussion of the significance of the increase to rates or staffing needs follows each table as appropriate. Significant operating impacts from priority level 3 projects are shown separately because they are not included in the CIP Financial Plan.

Annual Total Operating Cost Increases - The net increase in total operating costs related to capital projects is shown in the following tables.

Table V-1 Net Increase in Total O&M by Fiscal Year
(In thousands of dollars, current dollars)

PROJECT	PROG	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
Applicant Funded	TW	3	5	7	10	13	16	19	22	25	28	148
LV Energy Recovery	UW	(350)	(350)	(350)	(350)	(350)	(350)	(350)	(350)	(350)	(350)	(3,500)
Los Vaqueros Expansion	UW	2,900	900	500	500	500	500	500	500	500	500	7,800
Rock Slough Fish Screen	UW	150	150	150	150	150	150	150	150	150	150	1,500
TOTAL PRIORITY 1 & 2		2,703	705	307	310	313	316	319	322	325	328	5,948
Regional Capacity	WTP							3,300	6,600	6,600	6,600	23,100
Energy Reduction Projects	ADM			(55)	(110)	(110)	(110)	(110)	(110)	(110)	(110)	(825)
TOTAL PRIORITY 3				(55)	(110)	(110)	(110)	3,190	6,490	6,490	6,490	22,275

A measure of the potential impact on rates is the increase in annual operating costs as a result of bringing new capital facilities online. By FY2021, the annual increase reaches approximately \$330,000. As shown in Table V-1, annual operating costs for individual projects tend to be consistent from year to year while costs for sub-programs increase over time. This increase is a result of new facilities being added on a continuous basis throughout the CIP period.

The projects with the most significant operating impacts are the Los Vaqueros Energy Recovery Project, Los Vaqueros Reservoir Expansion, and the Rock Slough Fish Screen project, all of which are more fully described below. The cumulative total operating impact of applicant-

funded projects adds approximately \$30,000 per year by the last year of the CIP. Applicants pay only for capital costs; however, because applicant projects result in growth to the system, these additional operating costs are generally covered by the rates paid by the added customers.

Los Vaqueros Energy Recovery Project (FY2013):

Power generated from this facility will reduce the District’s purchases of energy by approximately \$400,000 per year beginning in FY2013. Operating expenditures are estimated to increase by \$50,000 per year for maintenance of the new facility.

Los Vaqueros Reservoir Expansion Implementation (FY2013):

Water and power costs are estimated to increase by \$2.5 million in FY2013 and \$0.5 million in FY2014 as the reservoir is refilled to its new capacity of 160 thousand acre-feet. Annual costs for property taxes, biological monitoring for mitigation lands, and environmental services are estimated to be \$400,000 per year. Incremental power costs are estimated to be \$100,000 per year beginning in FY2015.

Rock Slough Fish Screen Project (FY2012):

Operating costs associated with the fish screen include power, fish monitoring activities, and maintenance. Of the total operating costs, approximately \$50,000 is for labor and \$100,000 is for energy costs related to screen cleaning, fish monitoring, and other operational activities. The additional labor costs are included in the FY2012 adopted budget.

The potential future impact on operating costs related to the priority level 3 projects, if implemented, is significant. By FY2022, the annual increase reaches approximately \$6.5 million.

Annual Operating Labor Cost Impacts

The portion of the projected increase in operating costs related to labor is presented in Table V-2.

Table V-2 Net Increase in Operating Labor by Fiscal Year
(in thousands of dollars, current dollars)

PROJECT	PROG	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
Applicant Funded	TW	3	5	7	10	13	16	19	22	25	28	148
LV Energy Recovery	UW											
Los Vaqueros Expansion	UW											
Rock Slough Fish Screen	UW											
TOTAL PRIORITY 1&2		3	5	7	10	13	16	19	22	25	28	148
Additional Staff												0
Regional Capacity	WTP								80	160	160	400
Energy Reduction Projects	ADM											
TOTAL PRIORITY 3									80	160	160	400
Additional Staff									1			1

By the tenth year of the CIP, operating and maintaining District facilities will require an increase in annual labor expenditures of approximately \$28,000. The analysis of impact on labor assumes current operating parameters such as frequency and standard of maintenance are maintained. If all the priority level 1 and 2 projects were built as described, based on the assumptions noted

above, the District would not need to add additional full-time employees (+/- 25%) over the ten-year CIP period.

If all priority level 3 projects identified within the ten-year CIP schedule were implemented, the increase in annual operating labor expenditures by FY2021 would be approximately \$160,000. This equates to one additional employee by year ten of this CIP.

Energy Impacts

The portion of the projected increase in operating costs related to energy is presented in Table V-3. By the tenth year in the CIP, operating District facilities is projected to result in a net decrease in energy costs of approximately \$200,000 per year. Projects with significant energy impacts include the Los Vaqueros Energy Recovery Project and the Los Vaqueros Reservoir Expansion.

There are two priority level 3 projects that would have impacts to the District’s energy costs, if implemented. The Energy Demand Reduction projects are estimated to lower energy costs by approximately \$110,000 per year by installing alternative energy generation facilities or through the completion of energy efficiency projects. The Regional Capacity placeholder would increase the District’s energy costs by approximately \$6.4 million.

Table V-3 Net Increase in Energy Costs by Fiscal Year
(in thousands of dollars, current dollars)

PROJECT	PROG	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
Applicant Funded	TW											
LV Energy Recovery	UW	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(4,000)
Los Vaqueros Expansion	UW	1,500	300	100	100	100	100	100	100	100	100	2,600
Rock Slough Fish Screen	UW	100	100	100	100	100	100	100	100	100	100	1,000
TOTAL PRIORITY 1&2		1,200	0	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(400)
Regional Capacity	WTP							3,220	6,440	6,440	6,440	22,540
Energy Reduction Projections	ADM			(55)	(110)	(110)	(110)	(110)	(110)	(110)	(110)	(825)
TOTAL PRIORITY 3				(55)	(110)	(110)	(110)	3,110	6,330	6,330	6,330	21,715

Section VI: Financial Plan

The CIP and Ten-Year Financial Plan estimates operating and capital expenditures, projects revenues from sources other than rates, and estimates future revenue increases from rates to fund ten years of capital and operating costs, while remaining in compliance with Board policies on rate increases, reserve balances, and bond coverage ratios. The 2013 CIP and Financial Plan provides a funding plan that supports the District's focus on maintaining excellent customer service while operating as a sustainable utility. Funding and expenditures are projected at \$1.8 billion over the ten-year planning period of 2013-2022. A summary of the sources and uses of funds in the 2013 CIP are shown in Table VI-1 and the summary of the sources and uses of funds in the 2012 CIP are shown in Table VI-2. Highlights of the Ten-Year Financial Plan include funding for completion of the 160,000 acre-foot Los Vaqueros Expansion (LVE), a plan to address the reduced revenues created by the estimated pace of the economic recovery and rebound in water sales and new connections (both of which are re-evaluated in this Financial Plan update), as well as the incorporation of the anticipated impact of SBx7-7, which requires a 20% reduction in per capita water use by 2020.

In re-evaluating the pace of economic recovery, the CIP anticipates that water sales and FRCs will not return to normal projection levels until 2017. The rebound in water sales is consistent with the 2012 CIP. However the rebound in FRCs is three years beyond the assumed recovery in the 2012 CIP. The 2013 CIP is funded within the Board's rate and reserve policies and leaves future flexibility to address longer term obligations and other future requirements. The Financial Plan concludes that all CIP priority level 1 and 2 projects and all operating and debt service expenditures can be funded while keeping annual revenue increases within the Board's rate policy. The CIP assumes a maximum allowable revenue increase of 4% for planning purposes.

Table VI-1 2013 CIP Projected Revenues and Uses of Funds
(in millions of dollars)

Source of Funding	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
Water Sales Revenues	101.6	110.3	119.6	129.5	132.7	137.3	141.9	146.8	151.7	158.3	1,329.7
Revenue Increases	3.6	3.9	4.3	4.6	5.0	5.1	5.3	5.5	5.7	5.9	48.8
Facility Reserve Charges	3.8	5.8	7.9	10.0	12.1	12.2	12.4	12.5	12.6	12.8	102.2
City of Brentwood	3.7	3.8	3.9	4.1	4.2	4.4	4.6	4.7	4.9	5.1	43.5
DWD Revenue	2.3	2.4	2.4	2.5	2.5	2.6	2.7	2.7	2.8	2.9	25.9
Other Revenues	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.5	13.0
Interest Income	3.5	4.4	4.0	3.8	5.4	5.2	5.2	5.0	5.1	5.2	46.8
Property Taxes	2.2	2.2	2.3	2.3	2.4	2.4	2.5	2.5	2.5	2.5	24.0
Land Levy Taxes	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	7.0
Capital Funded by Others	13.1	11.6	5.6	3.1	3.4	2.4	2.7	11.1	35.1	52.8	140.9
Reserve Use **	18.2	17.2	10.3	2.2	(1.6)	(2.0)	(3.6)	(7.0)	(7.5)	7.6	33.8
Total	153.8	163.5	162.3	164.0	168.2	171.6	175.8	185.9	215.2	255.3	1,815.6
Uses of Funds	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
Operating & Maintenance	82.4	84.6	90.4	96.3	100.0	104.0	108.4	112.9	117.8	123.3	1,020.1
Capital Funded by Others	13.1	11.6	5.6	3.1	3.4	2.4	2.7	11.1	35.1	52.8	140.9
District Funded Capital	15.5	20.1	16.8	15.2	14.8	15.5	15.5	15.6	16.0	35.0	180.2
Debt Service Short-Term *	3.2	3.3	5.7	5.3	6.0	5.7	5.7	5.7	5.7	3.7	49.9
Debt Service Long-Term	39.6	43.8	43.8	44.0	44.0	44.0	43.5	40.6	40.6	40.5	424.5
Total	153.8	163.5	162.3	164.0	168.2	171.6	175.8	185.9	215.2	255.3	1,815.6

* Short-term Debt service for Middle River Intake Project, Los Vaqueros Expansion, Shortcut Pipeline, UW Pipeline Improvements Program, Canal Replacement, DC Seismic Improvements, LV Pipeline at Balfour and Bollman Ozone project. 2012 includes \$28.9 million funding for teh Middle River Intake, offset by a like amount of principal balance reduction in short-term debt.

** Includes all District reserves including Resericted and Unrestricted

Table VI-2 2012 CIP Projected Revenues and Uses of Funds

(in millions of dollars)

Source of Funding	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Rate Revenues	96.3	102.7	111.5	120.8	130.8	141.3	147.2	153.2	159.5	166.2	1,329.6
Rate Increases	3.4	3.6	3.9	4.3	4.7	5.0	5.2	5.4	5.7	6.0	47.1
Facility Reserve Charges	7.3	9.6	11.8	11.9	12.1	12.2	12.3	12.5	12.6	12.8	115.1
City of Brentwood	3.7	3.8	3.9	4.0	4.1	4.2	4.4	4.5	4.6	4.8	42.0
DWD Revenue	2.2	2.2	2.3	2.4	2.4	2.5	2.5	2.5	2.8	2.9	24.7
Other Revenues	30.5	2.6	2.7	1.7	1.7	1.8	1.9	1.9	2.0	1.5	48.3
Interest Income	5.0	5.9	5.3	5.4	5.2	5.2	5.4	5.6	5.8	6.3	55.1
Property Taxes	2.1	2.2	2.2	2.3	2.3	2.4	2.5	2.5	2.5	2.5	23.6
Land Levy Taxes	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	7.0
Capital Funded by Others	15.8	4.9	5.5	3.7	3.6	2.9	3.1	8.3	17.2	34.7	99.7
Reserve Use **	15.1	11.3	8.9	4.1	(2.8)	(6.9)	(6.5)	(7.7)	3.9	0.2	19.6
Total	182.1	149.5	158.7	161.3	164.9	171.3	178.6	189.4	217.4	238.6	1,811.8

Uses of Funds	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Operating & Maintenance	73.9	83.5	89.4	92.3	98.4	104.8	109.5	114.9	120.2	125.9	1,012.8
Capital Funded by Others	15.8	4.9	5.5	3.7	3.6	2.9	3.1	8.3	17.2	34.7	99.7
District Funded Capital	15.5	13.1	15.7	17.1	14.5	13.6	16.0	16.6	33.0	31.0	186.1
Debt Service Short-Term *	33.1	4.2	4.3	4.4	4.4	6.0	6.0	6.1	6.4	6.4	81.3
Debt Service Long-Term	43.8	43.8	43.8	43.8	44.0	44.0	44.0	43.5	40.6	40.6	431.9
Total	182.1	149.5	158.7	161.3	164.9	171.3	178.6	189.4	217.4	238.6	1,811.8

* Short-term Debt service for Middle River Intake Project, Los Vaqueros Expansion, Shortcut Pipeline and UW Pipeline Improvements Program, DC Seismic Improvements, LV Pipeline at Balfour and Bollman Ozone Project. 2012 includes \$28.9 million funding for the Middle River Intake, offset by a like amount of principal balance reduction in short-term debt.

** Includes all District reserves including Restricted and Unrestricted.

Key Planning Assumptions

The CIP and Ten-Year Financial Plan serves as the District's primary planning document for funding capital projects, operating costs and debt service and, together with the adopted budget, provides the basis for the ten-year revenue projections in support of the annual rate review.

The following key planning assumptions identified in Section III were used in the Financial Plan analysis.

Consumption

Consumption estimates are updated annually by the Planning Department for each customer class based on current conditions. Total consumption levels are slightly lower than the 2012 CIP due to the GWF plant closings, which is projected to impact untreated water industrial customer water sales by \$600,000 annually. Consumption estimates for municipal and retail treated water in 2013 are estimated to rebound slightly from 2012 levels, reflecting the continuing effects of the recent drought and the economy.

California water agencies, including the District, continue to be impacted by a declining housing market and weak business environment resulting in lower than planned growth in water sales and fewer new connection fees.

The 2013 CIP projects a rate of recovery to pre-drought levels gradually by 2017, consistent with the 2012 CIP. Projected water sales in this CIP were reduced beginning in 2017 to account for the implementation of SBX7-7. By 2020, annual treated and untreated water sales are assumed to be approximately 7% lower than the water sales projections for 2020 found in the 2012 CIP. The assumed reduction is split evenly between treated and untreated water and assumed to occur primarily in residential and wholesale municipal water sales.

Total annual consumption levels assumed in the 2013 CIP compared to the 2012 CIP are shown below in Table VI-3.

Table VI-3 Assumed Annual Consumption (1)
(000's) Acre-feet

CIP	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2013	NA (2)	94.7	99.2	103.6	108.1	107.4	107.3	107.1	106.9	106.6	107.3
2012	93.0	95.0	99.4	103.8	108.2	112.6	113.3	113.9	114.6	115.3	
Difference		(0.3)	(0.2)	(0.2)	(0.1)	(5.2)	(6.0)	(6.8)	(7.7)	(8.7)	107.3

(1) Does not include consumption wheeled on behalf of the City of Brentwood, estimated at 7,300 acre-feet in 2012

(2) Current estimate for 2012 is 83,800 due primarily to wet, cool weather conditions through the year

Debt/Bond Financing

Short-Term Financing – The Financial Plan assumes the continued use of Water Revenue (WR) Notes for short-term financing needs based on their overall cost effectiveness and debt service certainty relative to interest rate fluctuations under current market conditions. With the recent improvements in the municipal credit markets, the District will be evaluating forms of short-term financing over the coming months, including commercial paper and variable rate demand obligations in order to ensure the District achieves a balance between low cost financing and Financial Plan certainty. Consistent with the adopted 2012-2021 CIP, short-term debt is used to finance the MRIP, the LVE, Canal Replacement and the Shortcut Pipeline Refurbishment projects. The short-term financing for these projects will be retired with reserves or refinanced with long-term debt beginning in 2022 as the original long-term debt for Los Vaqueros and the Randall-Bold Water Treatment Plant begins to drop off and frees up annual debt service capacity.

Short-term financing will also be used to cash flow select District-funded capital projects within the Ten-Year Financial Plan. Projects include: Los Vaqueros Pipeline Relocation at Balfour, the Bollman Water Treatment Plant Improvements, and the District Center Seismic Improvements Project. The short-term debt on these three projects is retired with reserves in 2017 through 2021.

Long-Term Financing – The District traditionally uses revenue bonds to provide long-term financing for debt-funded capital projects. The District anticipates using revenue bonds to meet the long-term financing requirements of the MRIP, LVE, Canal Replacement and Shortcut Pipeline Refurbishment projects. The refinancing of the short-term debt issued for these projects reflected in the current Ten-Year Financial Plan is projected to begin occurring in 2022 as the District regains debt capacity with the retirement of long-term debt issued for the original Los Vaqueros Reservoir Project. The District will continue to evaluate other forms of long-term debt such as Capital Appreciation Bonds in order to ensure the District's long-term financing needs are effectively managed.

Debt Ratings

The District has debt credit ratings of AA+ from both Standard and Poors (S&P) and Fitch, and Aa2 from Moody's. The District's credit ratings are viewed favorably by the investment markets and regarded as a desirable investment holding.

Debt Service Coverage

The District's bond covenants as well as Board policy require the District to maintain a debt service coverage ratio of 1.25 on water revenue bonds and other parity debt. The 2012 CIP and Ten-Year Financial Plan meets this requirement and provides for coverage ratios that vary between 1.39 to 3.0 over the ten-year planning period excluding the application of the \$56.0 million Rate Stabilization Fund. The Rate Stabilization Fund provides adequate flexibility when meeting coverage requirements. The revenue projections included in Financial Plan are driven by planned expenditures adjusted for inflation. The District does not need to raise rates beyond projected levels to meet coverage requirements.

Reserve Funds

The District's reserve funds include a combination of restricted and unrestricted reserves. Restricted reserves are by contractual or legal requirements, or those that are Board restricted to limit their usage to specific purposes. A breakdown of the District's reserves as of December 31, 2011, including those reserves used to smooth rate increases, is provided on Table VI-4.

Table VI-4

Reserve Fund Balances - December 30, 2011				
(\$ in thousands)	Untreated	Treated	Other	TOTAL
Legally Restricted Funds				
Los Vaqueros Bond Reserves			34,143	34,143
Randall-Bold Bond Reserves			3,797	3,797
State Revolving Loan Reserves			2,037	2,037
Debt Proceeds 1)	36,276		-	36,276
Canal Replacement			1,407	1,407
Wetlands Mitigation Endowment	1,182			1,182
USBR Reserve - Facility Refurbishment	111			111
USBR Reserve - CVP Operations Agreement	1,000			1,000
<i>Subtotal</i>	<i>38,569</i>	<i>-</i>	<i>41,384</i>	<i>79,953</i>
Board Restricted Reserves				
Capital Improvement Fund	13,095	15,666		28,761
Rate Stabilization Fund *	38,678	18,202		56,880
MPP/FWSS Reserve 2)	20,805			20,805
Sacramento/EBMUD Mitigation Reserve 3)	5,803			5,803
Vehicle Replacement Fund			2,973	2,973
Self Insurance Reserve		1,250		1,250
Workers' Compensation Deductible Reserve			671	671
Clean Water Act Funds *		468		468
OPEB Reimbursement Reserve		100		100
Water Revenue Notes Capitalized Interest 4)	6,589			6,589
Drought Relief Fund			4,360	4,360
Los Vaqueros Commitment Reserve	3,314			3,314
<i>Subtotal</i>	<i>88,284</i>	<i>35,686</i>	<i>8,003</i>	<i>131,974</i>
Unrestricted Funds				
Unrestricted Reserves *	12,635	18,908	-	31,543
<i>Subtotal</i>	<i>12,635</i>	<i>18,908</i>	<i>-</i>	<i>31,543</i>
TOTAL	139,488	54,594	49,387	243,470

* Reserve Funds drawn down to smooth rate increases

1) Series B Water Revenue Notes for LVE, MRIP and Shortcut Pipeline

2) Applied to growth's share of MPP-SRIP debt service

3) Applied to wheeling cost for the District's CVP water supply through Freeport / EBMUD facilities

4) Capitalized interest on Water Revenue Notes for Los Vaqueros Expansion and Middle River Intake projects. Used to offset interest payments in 2012-2014.

Projected Revenues

The District generates revenue from multiple sources, including water sales, Facility Reserve Charges, interest earnings, property taxes, state and federal funding, grants and miscellaneous other sources. The primary sources of revenue are described below.

Water Sales

Water sales, on average, generate approximately 75% of the District's total revenue during the Ten-Year Financial Plan, based on conservative estimates of outside funding. Based on actual results over the past decade, water sales have comprised 68% of total revenue. For the 2013 CIP and Financial Plan, the projected treated water sales, including wholesale treated water and the untreated water component of the treated water rate, will provide approximately 63% of the total water sales revenue during the ten-year planning period, with the remaining 37% generated by the sale of untreated water to untreated water only customers.

Projected Revenue Increases

Table VI-5 compares the projected untreated water revenue increases necessary to fund untreated water only customers' share of all revenue funded priority level 1 and 2 projects in the 2013 CIP, as well as projected operating costs and debt service. These revenue increase projections are consistent with the 2012 CIP, and are within the Board's rate policy. The CIP assumes a maximum allowable revenue increase of 4% for planning purposes. An increase of 3.75% for untreated water is projected for the newly added CIP year of 2022.

Table VI-6 compares the projected treated water revenue increases necessary to fund all revenue funded priority level 1 and 2 projects in the 2013 CIP, as well as treated water operating costs, debt service and treated water's share of untreated water costs. The revenue increase projections are consistent with the 2012 CIP through 2016. A small increase of 0.25% in each of the following years is driven by costs related to Senate Bill x7-7 (SBx7-7), which requires a 20% reduction in per capita urban water use by 2020. These projected increases provide funding for new or increased treated water projects as well as treated water customers' share of the source water quality improvement projects. An increase of 3.75% for treated water is projected for the newly added CIP year of 2022.

**Table VI-5 Projected Untreated Water Revenue Increases - Priority Level 1 and 2 Projects
Comparison of 2013 and 2012 CIPs**

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2013 CIP	3.5%	3.5%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%
2012 CIP	3.5%	3.5%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%	NA

**Table VI-6 Projected Treated Water Revenue Increases - Priority Level 1 and 2 Projects
Comparison of 2013 and 2012 CIPs**

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2013 CIP	3.5%	3.5%	3.5%	3.5%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%
2012 CIP	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	N/A

Debt service expenditures for long-term debt associated with the original Los Vaqueros Reservoir (LV) begins to drop off in 2021 as portions of the debt are fully repaid. The 2013 CIP assumes that the drop off in 2021 and 2022 related to the repayment of original LV debt will be replaced with long-term debt related to LVE, the Middle River Intake, or Canal Elimination projects as the associated short-term debt is termed-out.

Facility Reserve Charges

The Facility Reserve Charge (FRC) is a one-time charge for system capacity paid prior to a customer connecting to the District's water system. All new connections pay the untreated water FRC, and new connections in the Treated Water Service Area (TWSA) also pay the treated water FRC. Both the untreated and treated water FRCs include a “reimbursement” component and a “future facilities” component. The reimbursement component is based on the value and remaining capacity of existing facilities. This component reimburses existing customers for the portion of the costs of "oversizing" facilities to accommodate future growth. The future facilities component recognizes the cost of future water supply and facilities that are necessary to serve new connections. As FRC revenue is received the reimbursement component is used to fund costs in the year received and the future facilities component is apportioned to the appropriate reserve accounts for application to future and existing capital projects, consistent with the FRC methodology.

The estimated FRC reserve balances at the end of each fiscal year, summarized by major component, are identified in Table VI-7. The reimbursement component of the FRCs accumulates in the unrestricted reserve accounts. It is assumed that the reimbursement component of the untreated and treated water facility reserve charges will be expended in the year received, so no balances are included on the chart below. The negative balances identified in Table VI-7 represent those years where projected expenditures exceed accumulated projected revenues. FRC revenues will continue to accrue over a longer period than the ten-year CIP planning period. The balances in the Untreated Water Future Supply Component continue to grow in anticipation of a large water right purchase projected in 2022. The balances in the Untreated Water Future Capacity component reflect the difference between collected amounts and debt service for growth’s share of the Multi-Purpose Pipeline Project. The slow growth assumed in this CIP drives the reserve to negative balances in the outer years with funding sufficient to cover Multi-Purpose Pipeline debt service through 2019. The funding shortfall in 2020 will be addressed in an upcoming FRC study.

Table VI-7 Projected FRC Reserve Balances (cumulative)

(\$ in thousands)	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Untreated Water										
- Future Supply Component ¹⁾	7,544	7,656	8,453	9,561	10,979	12,706	14,188	15,900	17,603	5,848
- Future Capacity Component ²⁾	10,339	6,966	4,320	2,408	1,226	773	319	(133)	(585)	(1,036)
Treated Water										
- Future Facilities Component	(4,565)	(3,756)	(3,274)	(2,741)	(1,883)	(678)	696	2,752	4,417	4,338
1) Funds used for Middle River Intake Project and Long-term Future Water Purchases										
2) Funds used for qualified amount of Multi-Purpose Pipeline Project debt										

The Future Facilities Component of the Treated Water FRC reflects how continued collections over time reduce the negative balance resulting from prior years’ expenditures for growth

exceeding FRC collections. Current projects identified to serve “future” facility needs, or a percentage of current projects applicable to “future” needs, are projected to be fully FRC funded by 2019.

Table VI-8 shows the last ten years of new connections. The 2013 CIP assumes the housing downturn and slumping economy will delay a return to normal growth until 2017, three years later than assumed in the 2012 CIP. The CIP assumes a ten-year average from 2001 through 2010 of new connections once normal growth returns. The ten-year average does not include results from 2011, which is considered an anomaly driven by the downturn in the real estate market. The 2013 CIP projects FRC connections of 1,455 untreated water connections and 245 treated water connections annually beginning in 2017 after the rebound.

Table VI-8 New Connections

Annual New Connections	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012 Projection
Untreated Water	1,797	1,463	1,703	1,502	2,236	1,547	1,076	470	651	463	490
Treated Water	391	279	226	270	236	376	139	82	109	121	70
<hr/>											
2013 CIP Projections	2013	2014	2015	2016	2017 - 2022 *						
Untreated Water	500	739	978	1,216	1,455						
Treated Water	75	118	160	203	245						

* Based on 2001-2010 Average

Revenue Projections

Table VI-9 projected revenues in the 2013 CIP for the period 2013 through 2022. These projections are based on the required funding of all priority level 1 and 2 projects; funding for discretionary projects (priority level 3) is not included. Water sales revenues are adjusted for projected growth and assumed revenue increases. FRC revenues are computed by multiplying the FRC rate by the projected growth in connections. It has been assumed that the FRC components subject to inflation will be increased by the Engineering News Record (ENR) index on an annual basis consistent with Board direction. Other revenues and property taxes are adjusted for inflation. Land Levy taxes are assumed to continue through the ten-year period to fund the District’s obligation to the Bureau of Reclamation under its Central Valley Project (CVP) water supply contract to refurbish the Shortcut Pipeline. Interest income is computed on fund balances (including debt reserve funds whose interest is used to pay related debt service) at 2.5% in 2013, 3.5% through 2016, and a return to 5% annually for the remaining six years of the plan, consistent with the long-term historical average.

This CIP breaks out the estimated revenue from Brentwood related to the long-term treated water service agreements. The revenues from Brentwood include all estimated costs related to treated water delivered from the Randall-Bold Water Treatment Plant and treated water delivered from the Brentwood Water Treatment Plant. This CIP assumes Brentwood will use approximately 6,700 acre feet in 2013 treated in the Brentwood Plant and an additional 1,800 acre feet from the Randall-Bold Plant consistent with the previous CIP. Diablo Water District (DWD) revenue includes DWD's contractual share of debt service, and DWD’s share of projected operating expenditures for the Randall-Bold Plant. The assumed rate of return on investments is below the 4% rate of inflation for 2013-2016; however, the negative Financial Plan impacts of these abnormally low returns is offset by the historically low 2% interest rate assumed for short-term debt as discussed on page VI-10.

In comparison, Table VI-10 shows the revenues projected in the 2012 CIP. Changes in water sales and FRCs revenue reflect the slower pace in the recovery from the economic downturn, as previously discussed, offset by the dropping of 2012 revenue and the addition of 2022 to the ten-year planning period. Other revenues are lower in the 2013 CIP primarily due to the recent one-time receipt of \$28.9 million of State funding identified in Proposition 84 for the Middle River Intake Project. Interest income is lower over the ten-year period due to projected lower investment returns tied to a slower economic recovery than assumed in the 2012 CIP. The Land Levy taxes are assumed to be renewed and collected throughout the ten-year planning period to be used to cover annual payment obligations for the refurbishment of the Shortcut Pipeline under the District's CVP water service contract.

Revenue from capital projects funded by others is higher over the ten-year period due primarily to the \$39 million addition of a Randall-Bold Plant expansion for the benefit of DWD, and a \$10 million Proposition 1E grant received for canal replacement partially offset by projects completed in 2012 such as the Rock Slough Fish Screen funded by the U.S. Bureau of Reclamation (Reclamation). The 2013 CIP anticipates a delay of two years in the expansion of the Brentwood Plant based on the City of Brentwood's assessment of when capacity will be needed. Applicant funded projects are projected lower due to the ongoing slowdown in the economy and its effects on the construction of new housing.

Table VI-9 2013 CIP Projected Revenues

(in millions of dollars)

Source of Funding	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
Water Sales Revenues	101.6	110.3	119.6	129.5	132.7	137.3	141.9	146.8	151.7	158.3	1,329.7
Revenue Increases	3.6	3.9	4.3	4.6	5.0	5.1	5.3	5.5	5.7	5.9	48.8
Facility Reserve Charges	3.8	5.8	7.9	10.0	12.1	12.2	12.4	12.5	12.6	12.8	102.2
City of Brentwood	3.7	3.8	3.9	4.1	4.2	4.4	4.6	4.7	4.9	5.1	43.5
DWD Revenue	2.3	2.4	2.4	2.5	2.5	2.6	2.7	2.7	2.8	2.9	25.9
Other Revenues	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.5	13.0
Interest Income	3.5	4.4	4.0	3.8	5.4	5.2	5.2	5.0	5.1	5.2	46.8
Property Taxes	2.2	2.2	2.3	2.3	2.4	2.4	2.5	2.5	2.5	2.5	24.0
Land Levy Taxes	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	7.0
Capital Funded by Others	13.1	11.6	5.6	3.1	3.4	2.4	2.7	11.1	35.1	52.8	140.9
Total	135.6	146.3	152.0	161.8	169.8	173.6	179.4	192.9	222.7	247.7	1,781.6

Table VI-10 2012 CIP Projected Revenues

(in millions of dollars)

Source of Funding	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Water Sales Revenues	96.3	102.7	111.5	120.8	130.8	141.3	147.2	153.2	159.5	166.2	1,329.6
Revenue Increases	3.4	3.6	3.9	4.3	4.7	5.0	5.2	5.4	5.7	6.0	47.1
Facility Reserve Charges	7.3	9.6	11.8	11.9	12.1	12.2	12.3	12.5	12.6	12.8	115.1
City of Brentwood	3.7	3.8	3.9	4.0	4.1	4.2	4.4	4.5	4.6	4.8	42.0
DWD Revenue	2.2	2.2	2.3	2.4	2.4	2.5	2.5	2.5	2.8	2.9	24.7
Other Revenues	30.5	2.6	2.7	1.7	1.7	1.8	1.9	1.9	2.0	1.5	48.3
Interest Income	5.0	5.9	5.3	5.4	5.2	5.2	5.4	5.6	5.8	6.3	55.1
Property Taxes	2.1	2.2	2.2	2.3	2.3	2.4	2.5	2.5	2.5	2.5	23.6
Land Levy Taxes	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	7.0
Capital Funded by Others	15.8	4.9	5.5	3.7	3.6	2.9	3.1	8.3	17.2	34.7	99.7
Total	167.0	138.2	149.8	157.2	167.7	178.2	185.1	197.1	213.5	238.4	1,792.2

Projected Expenditures

The Financial Plan considers estimated expenditures for District-wide operations and maintenance activities as well as completion of the priority level 1 and 2 capital projects included in the CIP. Estimates are presented both in current and inflated dollars at 4% for the ten-year planning period.

Operations and Maintenance Expenditures

Estimated operating and maintenance (O&M) costs are lower than the previous CIP primarily due to a change in the timing of the filling of Los Vaqueros Reservoir ahead of schedule as the expansion is completed, and the estimated variable cost savings associated with lower water sales driven by the effects of the downturn in the economy and the implementation of SBx7-7. Other costs, such as general and administrative costs are reduced to show cost reductions planned in the first two years as part of the District's cost control focus. The O&M impacts of planned improvements included in the 2013 CIP are detailed in Section V.

Table VI-11 incorporates O&M impacts identified in Section V and summarizes O&M expenses in inflated dollars assuming a 3% inflation rate for 2013 and 2014 and 4% inflation rate annually for the balance of the ten-year planning period based on the assumed long-term rate of inflation for planning purposes. The 2012 CIP assumed an inflation rate of 4% in each of the ten-years in the planning period.

Table VI-11 Total District Operating & Maintenance Expense
(in millions of dollars, inflated dollars)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2013 CIP	82.4	84.6	90.4	96.3	100.0	104.0	108.4	112.9	117.8	123.3
2012 CIP	83.5	89.4	92.3	98.4	104.8	109.5	114.9	120.2	125.9	-

Capital Projects

The Financial Plan assumes that all priority level 1 & 2 projects are funded for a ten-year total of approximately \$287.4 million in current dollars and \$363.1 million in inflated dollars. Priority level 3 projects are assumed to be unfunded. Only the capital costs of priority level 1 and 2 projects have been included for the purpose of developing projected adjustments.

Capital Funding Sources

The District's primary revenue source is the sale of untreated and treated water. Rate revenues, along with other District revenues and reserves, cover the costs of O&M expenses, debt service and revenue funded capital expenditures. The 2013 CIP and Financial Plan assumes the use of short-term financing for construction of the MRIP, LVE, Canal Replacement and Shortcut Pipeline Refurbishment projects over the ten-year planning period at an interest rate of 2% annually, which is a historically low cost of debt. The short-term financing for the MRIP, LVE, and Canal Replacement projects are assumed to be retired with long-term revenue bonds beginning in 2022, with other outside sources of revenue, or with District reserves as applicable. The short-term financing for the Shortcut Pipeline Refurbishment Project will be retired using Land Levy Tax revenues. Short-term financing is also assumed for the District Center Seismic Improvement Project, the LV Pipeline relocation at Balfour, and the Bollman Ozone Generator;

however the debt for these projects is assumed to be fully paid by the end of the ten-year planning period.

Another significant revenue source comes from funding by others as shown in Table VI-14a. Projects funded by other agencies or applicants total \$140.9 million which is higher than the prior CIP by \$41.2 million. The majority of the change in funded by others is made up of the next phase of the Canal Replacement Project, partially funded in this CIP with a \$10 million grant from the State. A new \$39 million project was also added to expand the Randall-Bold WTP on behalf of DWD, which will be fully funded by DWD. These project increases are partially offset by the completion of the Rock Slough Fish Screen Project, funded by the U.S. Bureau of Reclamation. Total revenue funded projects in the 2013 CIP decreased by \$5.9 million (inflated dollars) compared to last year's CIP due to reduced treated water project cost primarily driven by the delay of the construction phase of the Port Chicago Highway Pipeline beyond the ten-year planning period, and a reduction in the Treated Water Facility Improvement Program. These reductions are partially offset by an increase in untreated water project cost driven by the addition of the Mallard Slough Channel Rehabilitation Project and an increase in the Untreated Water Facilities Improvement Program.

The Rate Stabilization Fund, Capital Improvement Fund, and Unrestricted Reserves are projected for use in the 2013 CIP to partially fund the proposed priority level 1 and 2 capital expenditures as well as debt service for previously completed debt-funded capital projects. The Rate Stabilization fund balance was established in accordance with the Master Bond Resolution adopted by the Board in October 1987. The purpose of the fund is to assist in smoothing rates to pay debt service and to assure that minimum debt service coverage ratios required by the District's bond covenants are met. Funds deposited into this reserve were treated as operating costs in the year of deposit and will be treated as revenue in years of use for the purpose of computing the District's debt service coverage ratio. This reserve is projected to be fully used by the end of the ten-year planning period, consistent with the District's reserve policy.

Other reserve balances are used to smooth the District's cash flow needs from year to year. This allows an orderly progression of single-digit rate increases at less than the 4% rate of assumed inflation. However, as minimum reserve balances and debt coverage levels are approached, it will be necessary to plan for water rates that, when combined with other revenue sources, will fully cover annual costs. Reserve balance projections are provided on page VI-16 and VI-17.

This financial plan reflects a conservative view of revenues and expenditures, and it assumes all of the capital expenditures in the FY12 budget occur on schedule. This assumption sets the beginning reserve balances consistent with the recently completed rate review, and adds a year (2022) of additional capital expenditures and other costs to the Financial Plan analysis.

Capital Project Impacts on Revenue Requirements

Priority Level 1 and 2 Projects (Revenue Funded)

The following two tables show how the priority level 1 and 2 Projects impact District funded capital expenditures by program. Revenue funded projects are funded by water rates, FRC revenues, and reserves. Tables VI-12 and VI-13 include all projects designated as priority level 1 and 2 that are not debt, developer or grant funded, such as funds received by outside agencies. Tables VI-12a and VI-12b show program estimates in current dollars for the 2013 CIP and 2012 CIP, respectively, while Tables VI-13a and VI-13b display the estimates for both CIPs in inflated dollars. During the common years of the 2012 and 2013 CIPs (2013 through 2021), the revenue funded portion is \$12.0 million lower in the 2013 CIP in current dollars. This is result of primarily the result of the delay of the Port Chicago Highway Pipeline project to 2022 and beyond. The change during the common years of the 2012 and 2013 CIPs in inflated dollars total approximately \$26.3 million, representing the approximate increase in the common year's cash flows plus the applicable inflation.

Table VI-12a Revenue Funded Capital Expenditures by Program - Current dollars

Priority Level 1 and 2 Projects

2013 CIP (in millions of dollars)

Program	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	TOTAL
Administrative Support Facilities	0.4	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	4.3
Delta Projects	-	-	-	-	-	-	-	-	-	-	-
Equipment & Capital Purchases	1.5	1.9	1.4	1.3	1.4	2.0	1.6	1.4	1.8	1.7	16.0
Expansion of Services	0.1	-	-	-	-	-	-	-	-	-	0.1
Future Water Supplies	0.2	0.6	0.2	0.2	0.2	0.2	0.4	0.2	0.2	9.2	11.6
Los Vaqueros Watershed & Recreation	0.7	0.6	0.4	0.4	0.4	1.1	1.1	0.4	0.4	0.6	6.1
Treated Water Distribution & Storage	5.6	5.0	4.2	5.1	5.6	4.6	3.9	4.6	4.0	8.0	50.6
Untreated Water Supply & Transport	4.3	3.7	5.7	3.9	2.0	2.2	1.9	1.9	1.9	1.9	29.4
Water/Energy Demand Reduction	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	8.0
Water Treatment Facilities	1.3	5.1	1.6	0.8	1.2	0.8	1.5	1.6	1.5	0.7	16.1
Total	14.9	18.4	14.7	12.9	12.0	12.1	11.6	11.3	11.0	23.3	142.2

Note: Does not include projects funded by applicants, debt, or other agencies

Table VI-12b Revenue Funded Capital Expenditures by Program - Current dollars

Priority Level 1 and 2 Projects

2012 CIP (in millions of dollars)

Program	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	TOTAL
Administrative Support Facilities	0.8	0.4	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.4	4.7
Delta Projects	-	-	-	-	-	-	-	-	-	-	-
Equipment & Capital Purchases	1.9	1.1	2.1	1.2	1.9	1.4	1.5	1.2	1.5	2.2	16.0
Expansion of Services	0.2	-	-	-	-	-	-	-	-	-	0.2
Future Water Supplies	0.1	0.2	0.5	0.2	0.2	0.2	0.2	0.4	9.2	0.2	11.4
Los Vaqueros Watershed & Recreation	0.6	0.7	0.5	0.5	0.4	0.4	1.2	1.3	0.4	0.7	6.7
Treated Water Distribution & Storage	6.6	5.2	5.5	4.4	5.6	4.4	5.7	5.0	7.8	13.1	63.3
Untreated Water Supply & Transport	2.9	2.6	2.5	5.0	1.8	2.1	1.8	1.8	1.8	1.8	24.1
Water/Energy Demand Reduction	1.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	8.6
Water Treatment Facilities	0.9	1.1	1.2	2.0	0.8	1.0	0.5	1.1	1.1	1.7	11.4
Total	15.4	12.1	13.8	14.5	11.9	10.7	12.1	12.0	23.0	20.9	146.4

Note: Does not include projects funded by applicants, debt, or other agencies

Table VI-13a Revenue Funded Capital Expenditures by Program - Inflated dollars
Priority Level 1 and 2 Projects
2013 CIP (in millions of dollars)

Program	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	TOTAL
Administrative Support Facilities	0.5	0.8	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	5.9
Delta Projects	-	-	-	-	-	-	-	-	-	-	-
Equipment & Capital Purchases	1.6	2.1	1.6	1.6	1.7	2.6	2.1	1.9	2.6	2.6	20.4
Expansion of Services	0.1	-	-	-	-	-	-	-	-	-	0.1
Future Water Supplies	0.2	0.6	0.2	0.2	0.2	0.2	0.5	0.2	0.2	13.7	16.2
Los Vaqueros Watershed & Recreation	0.7	0.7	0.5	0.4	0.5	1.4	1.5	0.5	0.5	0.9	7.6
Treated Water Distribution & Storage	5.9	5.5	4.7	6.0	6.9	5.9	5.1	6.3	5.7	11.9	63.9
Untreated Water Supply & Transport	4.5	4.0	6.4	4.6	2.4	2.8	2.6	2.7	2.8	2.9	35.7
Water/Energy Demand Reduction	0.8	0.9	1.0	1.0	1.0	1.1	1.1	1.2	1.2	1.3	10.6
Water Treatment Facilities	1.4	5.6	1.9	0.9	1.5	1.0	2.0	2.2	2.2	1.1	19.8
Total	15.7	20.2	16.8	15.2	14.7	15.6	15.5	15.6	15.8	35.1	180.2

Note: Does not include projects funded by applicants, debt, or other agencies

Table VI-13b Revenue Funded Capital Expenditures by Program - Inflated dollars
Priority Level 1 and 2 Projects
2012 CIP (in millions of dollars)

Program	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	TOTAL
Administrative Support Facilities	0.8	0.5	0.8	0.5	0.5	0.5	0.6	0.6	0.6	0.6	6.0
Delta Projects	-	-	-	-	-	-	-	-	-	-	-
Equipment & Capital Purchases	1.9	1.2	2.4	1.5	2.4	1.8	2.0	1.7	2.2	3.3	20.4
Expansion of Services	0.3	-	-	-	-	-	-	-	-	-	0.3
Future Water Supplies	0.1	0.2	0.6	0.2	0.2	0.2	0.2	0.5	13.2	0.2	15.6
Los Vaqueros Watershed & Recreation	0.6	0.8	0.5	0.6	0.5	0.5	1.6	1.8	0.6	1.0	8.5
Treated Water Distribution & Storage	6.6	5.7	6.3	5.2	6.9	5.7	7.6	7.0	11.3	19.6	81.9
Untreated Water Supply & Transport	2.9	2.8	2.8	5.9	2.2	2.7	2.4	2.5	2.6	2.7	29.5
Water/Energy Demand Reduction	1.4	0.9	0.9	0.9	0.9	1.0	1.0	1.1	1.1	1.1	10.3
Water Treatment Facilities	0.9	1.2	1.4	2.4	0.9	1.3	0.7	1.5	1.6	2.5	14.4
Total	15.5	13.3	15.7	17.2	14.5	13.7	16.1	16.7	33.2	31.0	186.9

Note: Does not include projects funded by applicants, debt, or other agencies

Revenue and Debt Funded, Priority Level 1 and 2 Projects

Comparison of the 2013 CIP (Table VI-14a) and 2012 CIP (Table VI-14b) identifying the projected capital expenditures by their untreated and treated water funding sources shows the overall impacts of the adjustments discussed in this document. Specifically, the changes are as follows:

Untreated Water Revenue Funded Projects - The untreated water revenue funded projects in the 2013 CIP are higher than the prior CIP, with an increase of \$3.3 million (inflated) dollars. The common years of the 2013 CIP are lower by \$10.3 million with the shift of the Future Water Supplies Placeholder from 2021 to 2022. This shift is also the primary driver of the increase of \$14.4 million in the non-common years. The change in the non-common years is the result of the elimination of 2012 of \$6.4 million and the addition of \$19.9 million dollars for the additional year in this analysis, 2022.

Untreated Water Debt Funded Projects – Untreated water debt funding is the result of five projects: LV Reservoir Expansion (\$5.4 M), Canal Replacement (\$8.4 M), LV Pipeline

Relocation at Balfour (\$5.9M), Shortcut Pipeline (\$10.8 M) and the Untreated Water Pipeline Program. Progress on the MRIP and LVE Projects drives the reduction in debt funded projects. It is assumed that these projects will be funded with short-term financing through 2021 and then retired with long-term revenue bonds in 2022, with outside funding sources, or with District reserves as applicable.

Untreated water debt service decreased by approximately \$36.8 million compared to the prior CIP. This decrease is primarily the result of the planned \$28.9 million repayment of MRIP debt with the receipt of State and Federal fund in 2012. A long-term bond refunding issue in 2012 (Series P) lowered debt service in the early years of the CIP with savings from a more favorable interest rate.

Treated Water Revenue Funded Projects - The 2013 CIP shows an decrease of \$9.2 million in treated water revenue funded projects with a \$15.1 million decrease in the common years. The decrease in the common years is driven by the delaying of the Point Chicago Pipeline Phase II from 2021, a common year of the two CIPs, to future years outside of the ten-year plan and by lower Treated Water Facility Improvement Program expenditures. The additional \$15.0 million in 2022 is primarily the result of continued funding for the Pipeline Renewal and Replacement Program and the Treated Water Reservoir Rehabilitation Program.

Treated water short-term debt service increases by \$1.3 million due to adjustments made to the Bollman Ozone Generator and the Treated Water share of the District Center Seismic Upgrade. Long-term debt is lower by \$3.3 million as the final debt payment for the Randall-Bold Plant's original bonds are paid in 2021.

Untreated and Treated Projects Funded by Others - The 2013 CIP shows an increase of \$41.2 million. This increase is primarily driven by the addition of a \$39 million expansion of the Randall-Bold Plant for the benefit of DWD in 2021 and 2022. Applicant funded projects are lower because of the continued downturn in the economy and its impact on new housing starts.

**Table VI-14a Projected Capital and Debt Service Expenditures
- Priority Level 1 and 2 Projects
(in millions of dollars, inflated dollars)**

2013 CIP	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
Untreated Water (a)											
Revenue Funded Projects	6.9	7.3	8.9	7.0	5.0	6.7	6.7	5.5	6.0	19.9	80.0
Debt Service (b)	3.2	3.2	5.5	5.1	4.4	4.1	4.1	4.1	4.1	3.7	41.7
Debt Service (c)	34.4	38.7	38.7	38.9	38.8	38.8	38.3	35.5	35.5	39.2	376.8
Total Untreated Water	44.6	49.2	53.1	51.0	48.2	49.7	49.1	45.1	45.6	62.8	498.5
Treated Water (a)											
Revenue Funded Projects	8.5	12.8	7.9	8.2	9.8	8.8	8.9	10.1	10.0	15.0	100.2
Debt Service (b)	0.01	0.14	0.15	0.21	1.54	1.54	1.54	1.54	1.54	-	8.2
Debt Service (c)	5.1	5.1	5.1	5.1	5.1	5.2	5.1	5.2	5.2	1.4	47.7
Total Treated Water	13.7	18.1	13.2	13.6	16.5	15.5	15.6	16.8	16.7	16.4	156.1
Funded by Others											
Delta Projects	2.0	2.8	3.4								8.2
Funded by Other Agencies (d)	3.9	7.7	0.9	1.6	1.7	0.6	0.9	9.1	33.1	50.7	110.2
Funded by Applicants	7.3	1.1	1.3	1.5	1.7	1.8	1.9	1.9	2.0	2.1	22.5
Total Funded by Others	13.1	11.6	5.6	3.1	3.4	2.4	2.7	11.1	35.1	52.8	140.9
Total District	71.4	78.9	71.9	67.7	68.2	67.6	67.4	73.0	97.4	132.0	795.5

(a) Approximately 38% of Untreated Water Expenditures are paid by Treated Water Rates (as the Treated Water Service Area is also an Untreated Water Customer)

(b) Debt Service, Short-term - Seismic and Reliability Improvement and Middle River Intake Projects, Los Vaqueros Reservoir Expansion, Shortcut Pipeline Refurbishment, District Center Seismic Improvements, Pipeline Replacement at Balfour, Bollman Ozone Generators

(c) Existing debt service (Los Vaqueros, Randall-Bold, Canal, Bollman, and issued SRIP long term debt)

(d) Funded by other agencies, includes estimated funds for Canal Replacment from a Prop 84 grant and from RB partners and the City of Brentwood

**Table VI-14b Projected Capital and Debt Service Expenditures
- Priority Level 1 and 2 Projects
(in millions of dollars, inflated dollars)**

2012 CIP	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Untreated Water (a)											
Revenue Funded Projects	6.4	5.5	6.4	8.6	5.2	5.5	6.5	6.9	18.8	7.0	76.7
Debt Service (b)	33.1	4.2	4.3	4.4	4.4	4.7	4.7	4.7	5.0	5.0	74.3
Debt Service (c)	38.7	38.7	38.7	38.7	38.9	38.9	38.9	38.4	35.5	35.5	381.0
Total Untreated Water	78.1	48.4	49.4	51.7	48.5	49.0	50.0	50.0	59.3	47.5	532.1
Treated Water (a)											
Revenue Funded Projects	9.1	7.7	9.3	8.5	9.2	8.1	9.6	9.7	14.2	24.1	109.4
Debt Service (b)	-	0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.4	1.4	6.9
Debt Service (c)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	51.0
Total Treated Water	14.2	12.8	14.4	13.7	14.4	14.6	16.0	16.1	20.7	30.5	167.3
Funded by Others											
Delta Projects	3.4	2.9	3.2								9.5
Funded by Other Agencies (d)	5.7	0.7	0.6	1.9	1.7	0.9	1.1	6.2	15.0	32.4	66.3
Funded by Applicants	6.8	1.4	1.6	1.8	1.9	1.9	2.0	2.1	2.2	2.3	23.9
Total Funded by Others	15.8	4.9	5.5	3.7	3.6	2.9	3.1	8.3	17.2	34.7	99.7
Total District	108.2	66.1	69.3	69.1	66.5	66.5	69.1	74.4	97.2	112.7	799.1

(a) Approximately 38% of Untreated Water Expenditures are paid by Treated Water Rates (as the Treated Water Service Area is also an Untreated Water Customer)

(b) Debt Service, Short-term - Seismic and Reliability Improvement and Middle River Intake Projects, Los Vaqueros Reservoir Expansion, Shortcut Pipeline Refurbishment

(c) Existing debt service (Los Vaqueros, Randall-Bold, Canal, Bollman, and issued SRIP long term debt)

Reserve Balances – Reserves are utilized as necessary through the ten-year rate projection period to enable small and consistent revenue increases for both untreated and treated water customers. Reserve balances used to smooth rates will be drawn down to the Board-established minimum level of six months of projected operating expense by the end of the ten-year rate analysis.

The reserves shown in Table VI-15 and Figures VI-1 and VI-2 primarily consist of untreated and treated water unrestricted reserves, the Capital Improvement Reserve Fund and the Rate Stabilization Reserve Fund. The minimum balance requirements reflect six months of projected operating expense consistent with Board Policy. The District also maintains twelve months of debt service obligation in the bond reserve funds. However, because the bond reserve funds are restricted, they are not included in the reserve balances to offset revenue increases.

Table VI-15 Treated and Untreated Water Reserve Balances by Fiscal Year

\$ in Millions	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Untreated Water	52.8	44.0	35.2	28.0	22.7	21.0	19.4	18.7	18.1	19.4
Minimum Required	13.1	13.0	14.0	14.9	15.5	16.2	16.9	17.6	18.4	19.3
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Treated Water	38.3	32.2	33.4	36.4	38.3	37.1	37.7	40.2	43.3	42.4
Minimum Required	28.1	29.3	31.2	33.3	34.5	35.8	37.3	38.8	40.5	42.4

Note: Includes Unrestricted and Board Restricted Capital Improvement and Rate Stabilization Funds. Does not include legally restricted and othe Board restricted reserves.

Figure VI-1

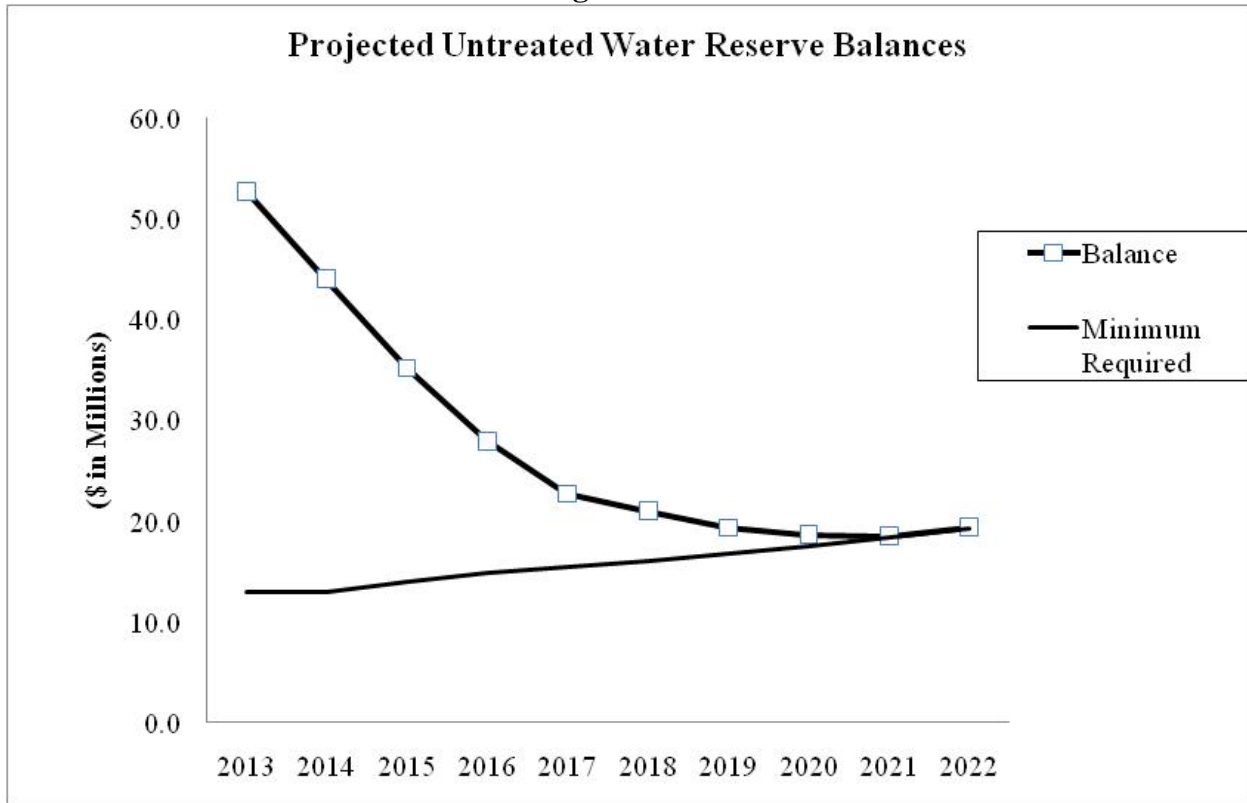
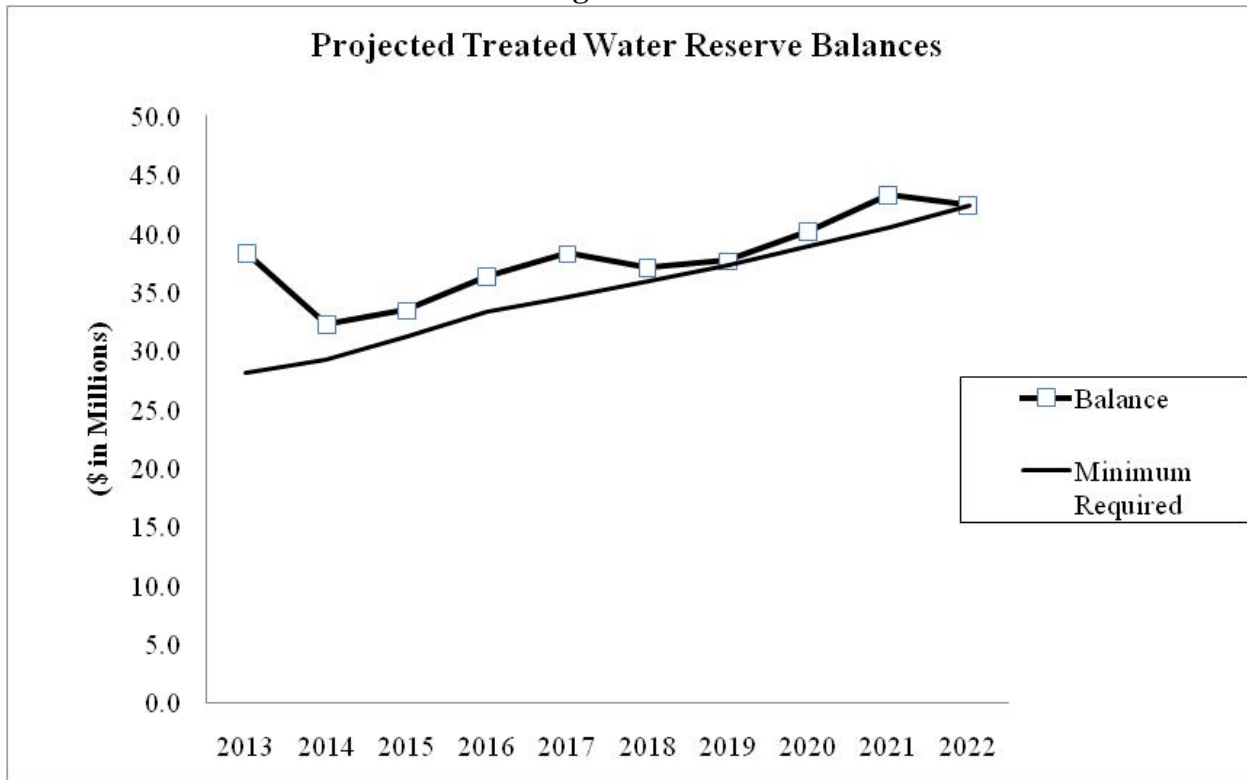


Figure VI-2



CONTRA COSTA WATER DISTRICT
**TEN-YEAR CAPITAL IMPROVEMENT PLAN
 PROJECT SUMMARY**

Program: Administrative, Support and Maintenance Facility Improvement
Sub-Program: Facilities Upgrades
Project: Annual Building and Facility Improvements
Priority: 1

The purpose of this project is to protect the health and safety of employees and customers and to comply with codes and regulations related to building health and safety through capital improvements to existing District buildings and grounds.

Examples of types of improvements include roof replacement; replacement or upgrading of heating and cooling systems; electrical systems or equipment; plumbing and other mechanical components; and major structural, interior, and site improvements. Improvement projects are initiated based on findings reported on maintenance and field inspection reports.

This program was included in the FY2012 CIP at a ten-year cost of \$4,591,000. The cost has been reduced to reflect the combining of a District Center communications re-wiring project with the District Center Seismic and Energy Improvements Project.

Total Project: N/A
Cost to Date through FY2012: N/A
CIP Total: \$4,410,000
Cost Estimate Accuracy Range: \$6,615,000 to \$3,087,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$441	\$441	\$441	\$441	\$441	\$441	\$441	\$441	\$441	\$441
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning D = Design C = Construction O = Other

Project Funding: 38% of the cost of this project will be funded by untreated water rates and 62% by treated water rates as described in Section III, Table III-1.

Operational Impacts: These improvements will serve to reduce operation and maintenance costs or to keep these costs from rising through replacement or upgrades to facility systems and components. Improvements will also serve to extend the useful life of facilities.

Basis for Priority: This project is ranked as Priority Level 1 based on the need to continually reinvest in the District's support facilities and buildings in order to protect the health and safety of employees and customers and to comply with codes and regulations related to building health and safety.

Lead Department: Operations and Maintenance

CONTRA COSTA WATER DISTRICT
**TEN-YEAR CAPITAL IMPROVEMENT PLAN
 PROJECT SUMMARY**

Program: Administrative, Support and Maintenance Facility Improvement
Sub-Program: Facilities Upgrades
Project: District Center Seismic and Energy Improvements
Priority: 2

The purpose of this project is to protect the health and safety of employees and customers and to reduce consumption of energy and associated greenhouse gas emissions. Addressing these separate needs at the 40-year old District Center building together provides administrative economy and implementation efficiencies.

A FY2009 seismic assessment and energy efficiency evaluation of District Center identified building improvements and energy savings measures. Immediate concerns with the portico and carport were addressed in 2010. In 2012, a detailed building assessment evaluated alternative improvement concepts and construction approaches, with a goal of minimizing cost and impact to operations during construction. The recommended alternative includes seismic structural upgrades to the exterior and interior of the building, life-safety system improvements, code required accessibility enhancements and upgrading aging and inefficient mechanical systems.

Preliminary design started in FY2012, with final design in FY2013 and construction in FY2014 and FY2015.

This project was included in the FY2012 CIP at a total project cost of \$4,918,000. The cost has been adjusted for inflation, the addition of the District Center re-wiring project, and a refined study estimate.

Total Project: \$7,613,000
Cost to Date through FY2012: \$663,000
CIP Total: \$6,950,000
Cost Estimate Accuracy Range: \$11,088,000 to \$5,528,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$687	\$5,858	\$405							
D D D D	C C C C	C C C C							

P = Planning D = Design C = Construction O = Other

Project Funding: The project will be funded with short-term debt that will be retired with untreated water rates (38%) and treated water rates (62%) by treated water rates, as described in Section III, Table III-1.

Operational Impacts: Project implementation may require temporary displacement of staff. Relocation costs are included in the project cost estimate.

Basis for Priority: The design phase is ranked as a Priority Level 2 because the District has a moderate level of control over its schedule.

Lead Department: Engineering

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Delta Projects
Sub-Program:
Project: Los Vaqueros Reservoir Federal/State Studies
Priority: 2

The purpose of this project is to enhance the Delta environment and improve Bay Area water supply reliability and water quality

Completion of the Draft Federal Feasibility Report is planned for FY2014 and a Final Report in FY2015. A final decision on further expansion of the reservoir beyond 160,000 acre-feet is expected to occur in FY2016, depending on the level of participation by other Bay Area water agencies, Reclamation and the Department of Water Resources. Project implementation will also consider the CCWD Board Principles and the additional assurances, commitments, and requirements adopted by the Board on June 25, 2003.

The scope and timing of the planning studies are dependent on future federal and state funding. Activity in FY2013 and beyond will include updates as required to the environmental and engineering studies previously completed.

This project was included in the FY2012 CIP at a total cost of \$36,458,000. The cash flow has been adjusted to reflect the updated project schedule and current and projected future federal and state funding.

Total Project: \$37,061,000
Cost to Date through FY2012: \$28,836,000
CIP Total: \$8,225,000
Cost Estimate Accuracy Range: \$39,529,000 to \$35,827,000 (+30%/-15%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$1,995	\$2,795	\$3,435							
P P P P	P P P P	P P P P							

P = Planning D = Design C = Construction O = Other

Project Funding: The planning phase of this project is funded entirely by the California Department of Water Resources and the United States Department of the Interior, Bureau of Reclamation, including CCWD staff labor and overhead.

Operational Impacts: These planning activities will not result in O&M impacts. The extent of O&M impacts of an enlarged Los Vaqueros Reservoir will be dependent on the scale of the project.

Basis for Priority: This project is ranked as Priority Level 2 because the District has flexibility in conducting and implementing recommendations from the studies, and funding is provided by outside sources.

Lead Department: Planning

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Delta Projects

Sub-Program:

Project: Los Vaqueros Reservoir Expansion Implementation

Priority: 1/3

The purpose of this project is to enhance the Delta environment and improve District water supply reliability and water quality. The project consists of an expansion of the reservoir from 100,000 acre-feet to 160,000 acre-feet, requiring raising of the dam, relocation of recreation facilities and an upgrade of the pumps at the Transfer Pump Station.

Preliminary design activities commenced in FY2010 and the first construction contract was awarded in 2010. Dam and recreation facility relocation will be completed in 2012. Mitigation activities are scheduled to be completed in FY2013.

This project was included in the FY2012 CIP at a total cost of \$117,974,000.

Total Project: \$118,000,000
Cost to Date through FY2012: \$104,177,000
CIP Total: \$13,823,000

Annual Cost Distribution (in 000's) and Schedule: Priority 1

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$4,683	\$740								
C C C C	C C C C								

Annual Cost Distribution (in 000's) and Schedule: Priority 3

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
						\$165	\$703	\$5,176	\$2,356
						P P P P	D D D D	C C C C	C C C C

P = Planning D = Design C = Construction O = Other

Project Funding: This project is 100% District funded using short-term financing until debt capacity becomes available in 2021 with the retirement of Los Vaqueros Revenue Bonds, when long-term conventional bonds will be issued to pay off the short-term debt. This approach allows the project to move forward without raising rates by taking advantage of debt capacity that will become available with retirement of other bonds

Operational Impacts: The District's operations and maintenance costs are estimated to increase by \$500,000 per year starting in FY2015, after initial re-filling. Costs include property taxes, mitigation monitoring and pumping costs.

Basis for Priority: This project is ranked as Priority Level 2 because the District has flexibility in implementing recommendations from the studies.

Lead Department: Planning

CONTRA COSTA WATER DISTRICT

TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY

Program: Equipment and Other Capital Purchases
Sub-Program: Equity Funded Equipment
Project: District-Wide Geographic Information System
Priority: 2/3

The purpose of this project is to improve operating efficiencies by establishing a centralized data source for the District’s drawings, maps, and other operational and planning data. A Geographic Information System (GIS) ensures data consistency and integrity by avoiding errors and eliminating duplication of effort and improves the sharing of planning information with other agencies and utilities.

Implementation of the District’s GIS was completed in FY2009. FY2013 and FY2014 activities include standardization of various site valve numbering conventions, development of a flushing application, mapping of critical valves and backbone system to ensure operational continuity, and development of GIS analytical tools leveraging field and data to improve facility planning, emergency response and increase operational and maintenance productivity. Future phases such as field deployment and custom application enhancements are included as a Priority Level 3 placeholder, subject to funding availability.

This project was included in the FY2012 CIP at a total cost of \$2,549,000.

Total Project: \$2,514,000
Cost to Date through FY2012: \$1,884,000
CIP Total: \$630,000
Cost Estimate Accuracy Range: \$2,830,000 to \$2,326,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule: Priority 2

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$60	\$75								
o o o o	o o o o								

Annual Cost Distribution (in 000's) and Schedule: Priority 3

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
		\$60	\$60	\$60	\$60	\$75	\$60	\$60	\$60
		o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning D = Design C = Construction O = Other

Project Funding: 38% of the cost of this project is funded by untreated water rates and 62% by treated water rates.

Operational Impacts: Emergency response maps will improve the overall response time during an emergency and the site facility maps will improve District facilities management by using one comprehensive mapping system.

Basis for Priority: Future activities have been ranked as Priority Level 3 because the District has a significant level of control over the scope and implementation of these activities.

Lead Department: Engineering

CONTRA COSTA WATER DISTRICT
**TEN-YEAR CAPITAL IMPROVEMENT PLAN
 PROJECT SUMMARY**

Program: Equipment and Other Capital Purchases
Sub-Program: Equity Funded Equipment
Project: Replacement/Upgrade of Computer Systems
Priority: 2

The purpose of this annual program is to ensure that the District’s information technology-based business systems, which include financial (FIS), customer billing (CBIS), human resources (HRIS) and geographic (GIS) information systems, needs continue to be met in an efficient manner by replacing or enhancing these systems per their stated lifecycles.

The largest contributor of cost to this program is the complete cyclical replacement of the District’s FIS. In addition to systems replacements and upgrades, the program also includes annual software and hardware upgrades, as determined by the systems program manager.

This program was included in the FY2012 CIP at a ten-year cost of \$3,174,000. The cost has been adjusted for inflation.

Total Project: NA
Cost to Date through FY2012: NA
CIP Total: \$3,368,000
Cost Estimate Accuracy Range: \$4,378,000 to \$2,863,000 (+30%/-15%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$198	\$530	\$140	\$140	\$186	\$805	\$530	\$198	\$455	\$186
o o o o o	o o o o o	o o o o o	o o o o o	o o o o o	o o o o o	o o o o o	o o o o o	o o o o o	o o o o o

P = Planning D = Design C = Construction O = Other

Project Funding: 38% of the cost of this project will be funded by untreated water rates and 62% by treated water rates as described in Section III, Table III-1.

Operational Impacts: Operating efficiencies are anticipated to increase as the new enhancements are implemented.

Basis for Priority: The District’s computer systems are required for efficient operation of the District, and must be replaced periodically to ensure that the District’s financial and customer billing information systems needs continue to be met in an efficient manner. The project is ranked as Priority Level 2 because the District has a moderate level of control as to when upgrades need to occur.

Lead Department: Finance

CONTRA COSTA WATER DISTRICT
**TEN-YEAR CAPITAL IMPROVEMENT PLAN
 PROJECT SUMMARY**

Program: Equipment and Other Capital Purchases
Sub-Program: Equity Funded Equipment
Project: Replacement of Laboratory Equipment
Priority: 2

The purpose of this project is to ensure the District’s laboratory is equipped with well-maintained laboratory equipment that is capable of providing reliable test results for regulatory compliance and process control.

The water quality laboratory requires sophisticated instruments to maintain the analytical capabilities needed to meet regulatory requirements. The laboratory also provides services to outside agencies under contract, which requires a high degree of accuracy and reliability from the equipment.

Equipment is replaced as it reaches the end of its useful life, or spare parts are no longer available because of obsolescence. Current plans include the replacement of chromatographs, microscopes, spectrometers, analyzers, incubators, ovens and lab refrigerators.

This project was included in the FY2012 CIP at a ten-year cost of \$1,033,000. Costs have been adjusted for inflation

Total Project: NA
Cost to Date through FY2012: NA
CIP Total: \$1,164,000
Cost Estimate Accuracy Range: \$1,886,000 to \$1,392,000 (+30%/-15%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$204	\$218	\$109	\$55		\$5	\$38	\$22	\$333	\$180
o o o o	o o o o	o o o o	o o o o		o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning D = Design C = Construction O = Other

Project Funding: 38% of the cost of this project will be funded by untreated water rates and 62% by treated water rates as described in Section III, Table III-1.

Operational Impacts: This project will not increase operating and maintenance costs. As replacements occur, the District will evaluate opportunities for efficiencies and cost reduction

Basis for Priority: The project is ranked as Priority Level 2 because the District has a moderate level of control as to when upgrades need to occur.

Lead Department: Operations & Maintenance

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Equipment and Other Capital Purchases
Sub-Program: Equity Funded Equipment
Project: Replacement/Upgrade of Network Systems and Hardware
Priority: 2

The purpose of this annual program is to ensure that the District’s computer network hardware is replaced or updated to support District operations in an efficient and reliable manner.

Computer network hardware includes switch-hubs, routers and firewalls that provide for transmission of email, access to electronic data files, and staff access to key business systems including the Financial Information System, Customer Billing Information System and Geographic Information System. Upgrades are scheduled on a five-year cycle to ensure network reliability.

This program was included in the FY2012 CIP at a ten-year cost of \$1,358,000. The cost has been adjusted for inflation.

Total Project: NA
Cost to Date through FY2012: NA
CIP Total: \$1,380,000
Cost Estimate Accuracy Range: \$1,794,000 to \$1,173,000 (+30%/-15%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$15	\$62	\$108	\$242	\$263	\$15	\$62	\$108	\$242	\$263
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning D = Design C = Construction O = Other

Project Funding: 38% of the cost of this project will be funded by untreated water rates and 62% by treated water rates as described in Section III, Table III-1.

Operational Impacts: This project reduces operating and maintenance costs by replacing equipment when it is most cost-effective to do so.

Basis for Priority: The District’s network hardware systems are required for efficient operation of the District, and must be replaced periodically to ensure that the District’s financial and customer billing information systems needs continue to be met in an efficient manner. The project is ranked as Priority Level 2 because the District has a moderate level of control as to when upgrades need to occur.

Lead Department: Finance

CONTRA COSTA WATER DISTRICT
**TEN-YEAR CAPITAL IMPROVEMENT PLAN
 PROJECT SUMMARY**

Program: Equipment and Other Capital Purchases
Sub-Program: Equity Funded Equipment
Project: Replacement/Upgrade of Radio System Equipment
Priority: 2

The purpose of this project is to ensure effective and reliable communications among District’s personnel. Replacement of the radio system entails the purchase of new communication equipment for District vehicles, base stations, and portable units. Replacement of the District’s previous 40-year old radio system was completed in FY2010.

Future upgrades or system replacements will ensure reliability of the critical communication system and could allow the District to establish networks allowing interfacing with other local agencies, including police and fire departments. It is anticipated that the next system upgrade will occur in FY2019 and FY2020.

This future replacement cycle was included in the FY2012 CIP at a total cost of \$306,000. The cost has been adjusted for inflation.

Total Project: NA
Cost to Date through FY2012: NA
CIP Total: \$316,000
Cost Estimate Accuracy Range: \$411,000 to \$287,000 (+30%/-15%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
						\$158	\$158		
						o o o o	o o o o		

P = Planning D = Design C = Construction O = Other

Project Funding: 38% of the cost of this project will be funded by Untreated Water funds and 62% by treated water funds as described in Section III, Table III-1.

Operational Impacts: No significant change in operating cost is anticipated.

Basis for Priority: This project is ranked as Priority Level 2 because the District has a moderate level of control as to when upgrades need to occur.

Lead Department: Operations and Maintenance

CONTRA COSTA WATER DISTRICT
**TEN-YEAR CAPITAL IMPROVEMENT PLAN
 PROJECT SUMMARY**

Program: Equipment and Other Capital Purchases
Sub-Program: Equity Funded Equipment
Project: Replacement/Upgrade of SCADA Equipment
Priority: 2

The purpose of this project is to ensure continued capability to remotely monitor and control the District's operational system. Supervisory Control and Data Acquisition (SCADA) system hardware and software manufacturers continually upgrade their products, making older systems obsolete and expensive to maintain. In addition, system capacity is expanded as the District grows.

This project provides for the upgrade and replacement of the District's SCADA system, including hardware and software approximately every 10 years and will extend the life of the system while allowing for anticipated expansion.

The current upgrade work started in FY2010 and is based on a phased approach. The workstation and host computers were replaced in FY2010 and the master radio in FY2011. Upgrades at the remote sites will be completed by FY2012. The 12-year old remote controllers and associated software are anticipated to be phased out by the manufacturer in the next 3-5 years. Therefore, replacements have been planned for FY2013 through FY2015.

This project was included in the FY2012 CIP with a total project cost of \$2,934,000. The cost has been adjusted for inflation and the inclusion of the additional remote controllers.

Total Project: \$3,202,000
Cost to Date through FY2012: \$1,837,000
CIP Total: \$715,000
Cost Estimate Accuracy Range: \$3,872,000 to \$3,167,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$155	\$155	\$155							\$250
o o o o	o o o o	o o o o							o o o o

P = Planning

D = Design

C = Construction

O = Other

Project Funding: 38% of the cost of this project will be funded by untreated water funds and 62% by treated water funds as described in Section III, Table III-1.

Operational Impacts: This project has no operational impacts.

Basis for Priority: This project is ranked as Priority Level 2 because the District has a moderate level of control as to when upgrades need to occur.

Lead Department: Operations and Maintenance

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Equipment and Other Capital Purchases
Sub-Program: Equity Funded Equipment
Project: Replacement/Upgrade of Telecommunications Equipment
Priority: 2

The purpose of this project is to ensure that the District’s telecommunications needs are being met by following the recommended life cycle replacement and enhancement of the District’s telecommunications system every seven years, including telephones services, PBX and peripherals such as voice mail and telephone station sets. The initial master plan was completed in FY2004 and its recommendations have been implemented through FY2011. The next re-assessment is scheduled for FY2013, and subsequently in FY2017, 2018 and 2020.

This project was included in the FY2012 CIP at a ten-year cost of \$830,000. The cost has been adjusted for inflation and for the passing of FY2012.

Total Project: N/A
Cost to Date through FY2012: N/A
CIP Total: \$676,000
Cost Estimate Accuracy Range: \$879,000 to \$575,000 (+30%/-15%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$93				\$57	\$433		\$93		
o o o o				o o o o	o o o o		o o o o		

P = Planning D = Design C = Construction O = Other

Project Funding: 38% of the cost of this project will be funded by untreated water rates and 62% by treated water rates as described in Section III, Table III-1.

Operational Impacts: This project is not anticipated to have any operational impacts.

Basis for Priority: This project is ranked as Priority Level 2 because the District has a moderate level of control as to when upgrades need to occur.

Lead Department: Finance

CONTRA COSTA WATER DISTRICT
**TEN-YEAR CAPITAL IMPROVEMENT PLAN
 PROJECT SUMMARY**

Program: Equipment and Other Capital Purchases
Sub-Program: Vehicle Replacement
Project: Replacement of Fleet Vehicles & Heavy Equipment
Priority: 2

The purpose of this project is to provide safe, reliable, and cost-efficient operations and transportation for employees in the performance of their duties.

When each vehicle or piece of equipment reaches a specified level of mileage or years of service, it is reviewed for replacement. Each is evaluated based on current condition, maintenance and repair history, and other factors. Vehicles or equipment are recommended for replacement when it is determined that they have reached the end of their serviceable life, or when it is more cost-effective to replace them based on anticipated future operating and repair costs.

This program was included in the FY2012 CIP at a ten-year cost of \$8,500,000. The cost has been adjusted for inflation, the passing of FY2012 and the addition of FY2022.

Total Project: N/A
Cost to Date through FY2012: N/A
CIP Total: \$8,200,000
Cost Estimate Accuracy Range: \$10,660,000 to \$6,970,000 (+30%/-15%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$755	\$845	\$885	\$885	\$895	\$765	\$780	\$780	\$780	\$830
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning D = Design C = Construction O = Other

Project Funding: This project is funded by the Vehicle Replacement Fund.

Operational Impacts: This project reduces operating and maintenance costs by replacing vehicles when it is most cost-effective to do so. For purposes of the CIP, operational impacts are assumed negligible.

Basis for Priority: This project is ranked as Priority Level 2 because it maintains and enhances existing assets.

Lead Department: Finance

CONTRA COSTA WATER DISTRICT
**TEN-YEAR CAPITAL IMPROVEMENT PLAN
 PROJECT SUMMARY**

Program: Expansion of Services
Sub-Program: Wholesale Treated Water
Project: Brentwood Water Treatment Plant Expansion
Priority: 1

The purpose of this project is to meet the anticipated water demands of the City of Brentwood’s customers by expanding the CCWD/City of Brentwood Water Treatment Plant to meet the ultimate needs of the City.

Expansion of the treatment plant is anticipated to begin in FY2020 and be completed in FY2022. The expansion schedule depends on the pace of development within the City of Brentwood, which may modify the schedule.

This project was included in the FY2012 CIP at a total project cost of \$45,300,000. The project has been delayed one year due to lower than anticipated usage of the existing plant capacity

Total Project: \$45,315,000
Cost to Date through FY2012: \$0
CIP Total: \$35,060,000
Cost Estimate Accuracy Range: \$67,973,000 to \$31,721,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22										
						\$235	\$3,700	\$10,050	\$21,075										
						P	P	D	D	D	D	C	C	C	C	C	C	C	C

P = Planning D = Design C = Construction O = Other

Project Funding: This project would be entirely funded by the City of Brentwood.

Operational Impacts: Operating impacts for the future expansion of the CCWD/Brentwood Water Treatment Plant have not been included in the CIP due to the uncertainty in the timing of the project. Operational costs will be paid by the City of Brentwood.

Basis for Priority: This project is ranked as Priority Level 1 because it is funded by others.

Lead Department: Planning

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Expansion of Services
Sub-Program: Wholesale Treated Water
Project: Randall-Bold Water Treatment Plant Expansion for Diablo Water District
Priority: 1

The purpose of this project is to meet the anticipated water demands of the Diablo Water District’s customers by expanding Randall-Bold Water Treatment Plant (RBWTP). The Diablo Water District (DWD) has indicated that the expansion will be required between 2020 and 2025.

This project includes a placeholder for design and construction of treatment facilities to expand the capacity of the RBWTP. The project cost is based on a preliminary estimate prepared by DWD. The scope and schedule for the expansion depends on the pace of development within DWD, as well as treatment requirements of other RBWTP partners.

This project is new to the CIP.

Total Project: \$27,000,000
Cost to Date through FY2012: \$0
CIP Total: \$27,000,000
Cost Estimate Accuracy Range: \$40,500,000 to \$18,900,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
							\$2,485	\$12,280	\$12,235
							D D D D	C C C C	C C C C

P = Planning D = Design C = Construction O = Other

Project Funding: This project would be entirely funded by the Diablo Water District.

Operational Impacts: Operating impacts for the future expansion of the Randall-Bold Water Treatment Plant have not been included in the CIP due to the uncertainty in the timing of the project. Operational costs will be paid by the Diablo Water District.

Basis for Priority: This project is ranked as Priority Level 1 because it is funded by others.

Lead Department: Planning

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Expansion of Services
Sub-Program: Wholesale Treated Water
Project: Regional Capacity Evaluation
Priority: 2/3

The purpose of this project is to determine operational synergies and capital improvements necessary to meet future regional water treatment needs through an assessment of existing and future regional water treatment requirements.

The study will develop optimum water treatment and delivery schedules considering seasonal demands and will identify opportunities to reduce operating costs while maintaining or improving treated water reliability within the region. It will also include a conceptual plan for developing water treatment capability to either meet peak demands, potentially by expanding the District’s treated water services to wholesale customers and possibly other Bay Area water agencies, or to provide pre-treatment upstream of other advanced treatment processes.

The project includes a placeholder for design and construction of treatment facilities recommended from the study. If implementation were deemed necessary and cost-effective, this project would be potentially initiated in FY2017 with an estimated completion date in FY2020.

This project was included in the FY2012 CIP at a total cost of \$80,300,000.

Total Project: \$80,586,000
Cost to Date through FY2012: \$379,000
CIP Total: \$80,207,000
Cost Estimate Accuracy Range: \$120,690,000 to \$56,524,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule: Priority 2

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$207									
P P P P									

Annual Cost Distribution (in 000's) and Schedule: Priority 3

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
				\$4,300	\$39,400	\$24,900	\$11,400		
				D D D D	C C C C	C C C C	C C C C		

P = Planning D = Design C = Construction O = Other

Project Funding: This project is funded by treated water rates and a \$150,000 USBR grant.

Operational Impacts: As a study, there are no direct operations and maintenance costs associated with this project. Operational impacts for each project recommended in the study would be evaluated as projects are implemented.

Basis for Priority: The study is ranked as Priority Level 2 because the District has moderate control of the project schedule. Implementation is ranked a priority level 3 project because the scope and timing is uncertain at this time.

Lead Department: Planning

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Future Water Supplies
Sub-Program: Planning
Project: Future Water Supply Study Updates
Priority: 2

The purpose of this project is to enable the District to implement economically and environmentally sound options to ensure high quality, reliable water supplies for the next fifty years.

The Future Water Supply Study (FWSS) is the District’s long-term water supply plan, and was first completed in August 1996. Updates are needed to ensure the action plan accurately reflects current demand and supply conditions, technological advances, and regulatory changes.

This project was included in the FY2012 CIP at a total cost of \$560,000. The cost has been adjusted for inflation.

Total Project: N/A
Cost to Date through FY2012: N/A
CIP Total: \$580,000
Cost Estimate Accuracy Range: \$754,000 to \$493,000 (+30%/-15%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
	\$380					\$200			
	P P P P					P P P P			

P = Planning

D = Design

C = Construction

O = Other

Project Funding: Updates of the FWSS have been allocated entirely to untreated water with 10% to existing customers and 90% to future customers, based on the allocation of implementation costs for the Future Water Supply Program. The share allocated to existing customers is sub-allocated to untreated water and treated water rates based on consumption.

Operational Impacts: As a study, there are no direct operations and maintenance costs associated with this project. Operational impacts for each project recommended in the study would be evaluated as projects are implemented.

Basis for Priority: This project is ranked as Priority Level 2 because the District has a moderate level of control over scope and timing. This study is necessary to determine water supply needs of existing and future customers during times of increasing supply uncertainty.

Lead Department: Planning

CONTRA COSTA WATER DISTRICT
**TEN-YEAR CAPITAL IMPROVEMENT PLAN
 PROJECT SUMMARY**

Program: Future Water Supplies
Sub-Program: Water Supplies
Project: Future Water Supplies Placeholder
Priority: 2

The purpose of this placeholder is to help the District meet water supply reliability criteria and future service obligations, as recommended in the Future Water Supply Study (FWSS).

The project consists of investments from FY2013 through FY2022 consistent with the FWSS recommendations of securing water for shortages (as a first priority) and for future growth. Purchases for growth are funded from the untreated water Facility Reserve Charge (FRC). Increased conservation efforts from the FWSS are assumed in all years and are included in the Water Demand Reduction Program in the CIP.

Purchases for drought reliability (and a fraction for growth) commenced in FY1999 (ECCID purchase). This project includes the annual buy-in for ECCID water and a placeholder for additional supplies in FY2022. The focus is on identifying sustainable solutions to mitigate future water supply needs including reducing water use as opposed to just replacing one source of water with another. This approach provides multiple benefits and serves to advance the State’s water conservation target (20% by 2020), greenhouse gas reduction targets (AB32 climate change), and wastewater discharges to the Delta, and can be achieved within the District’s investment criteria. The water purchase plan for the CIP follows the approved FWSS, but is adjusted to the actual demand growth. Water purchases for future growth will not affect rates.

This program was included in the FY2012 CIP at a ten-year cost of \$10,496,000.

Total Project: N/A
Cost to Date through FY2012: N/A
CIP Total: \$10,485,000
Cost Estimate Accuracy Range: \$12,058,000 to \$9,961,000 (+15%/-5%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$135	\$150	\$150	\$150	\$150	\$150	\$150	\$150	\$150	\$9,150
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning D = Design C = Construction O = Other

Project Funding: Water supplies acquired under this project are necessary to serve the needs of future customers and are fully funded from the untreated water FRC.

Operational Impacts: None. Costs for pumping water for future growth are included in the Financial Plan.

Basis for Priority: This project is ranked as Priority Level 2 because it is required to meet future service obligations and the District has some control over the timing.

Lead Department: Planning

CONTRA COSTA WATER DISTRICT
**TEN-YEAR CAPITAL IMPROVEMENT PLAN
 PROJECT SUMMARY**

Program: Future Water Supplies
Sub-Program: Planning
Project: Regional Desalination Study
Priority: 2

The purpose of this project is to increase regional supply reliability by developing an additional source of water for emergencies, extended droughts and times when major facilities are taken out of service for upgrades and maintenance.

The study will evaluate the potential for a 20 million gallons per day desalination facility at the District’s Mallard Slough Pump station. The study will be conducted with the Bay Area Regional Desalination Project partners, which include the East Bay Municipal Utility District, the City and County of San Francisco Public Utilities Commission, Santa Clara Valley Water District, and the Alameda County Flood Control and Water Conservation District – Zone 7.

The District will lead an effort modeling potential project impacts on the Sacramento-San Joaquin Delta, including potential fishery impacts. The analysis is necessary before a decision can be made to proceed with project design and permitting.

This project is new to the CIP.

Total Project: \$579,000
Cost to Date through FY2012: \$299,000
CIP Total: \$280,000
Cost Estimate Accuracy Range: \$621,000 to \$565,000 (+15%/-5%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$280									
o o o o									

P = Planning D = Design C = Construction O = Other

Project Funding: This project is funded by untreated water rates and by a contribution from the Bay Area Regional Desalination Partnership.

Operational Impacts: As a study, there are no direct operations and maintenance costs associated with this project. Operational impacts for each project recommended in the study would be evaluated as projects are implemented.

Basis for Priority: This project is ranked as Priority Level 2 because the District has a moderate level of control over scope and timing and has committed to participate with partner agencies.

Lead Department: Planning

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Los Vaqueros
Sub-Program: Recreation
Project: Los Vaqueros Recreation Facilities and Equipment
Priority: 2

The purpose of this program is to provide rehabilitation of, and upgrades to, existing and future recreation facilities and infrastructure necessary to meet the District’s commitments to operating the Los Vaqueros Recreation Program. Over time, public use of the facilities will result in routine deterioration and incidental vandalism of the facilities. Prompt and timely replacement or restoration of the facilities will insure that they are safe for public use and maintain a positive image to the public, which helps to minimize future vandalism. In addition, upgrades are required from time to time to adapt to changing circumstances.

Facilities included are public buildings and bathrooms, marina structures, fishing docks, rental boats and boat motors, interpretive resources, fishery habitat, paved and unpaved internal site access roads and parking areas, internal site trails and staging areas, water supply and waste water systems, emergency communications facilities, electrical power and telephone utilities, and other related facilities and equipment for public access and use.

FY2013 and FY2014 activities include rental boat replacement and the design and start of construction of the 17,000 foot Lower Kellogg Creek Interpretive Trail.

This program was included in the FY2012 CIP at a ten-year cost of \$975,000. The cost has been adjusted for inflation.

Total Project: N/A
Cost to Date through FY2012: N/A
CIP Total \$1,005,000
Cost Estimate Accuracy Range: \$1,508,000 to \$704,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$240	\$150	\$125	\$70	\$70	\$70	\$70	\$70	\$70	\$70
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning D = Design C = Construction O = Other

Project Funding: The Kellogg Creek Trail Project is partially grant funded. The remainder of the program is funded by untreated water rates.

Operational Impacts: The operational impacts of this project are anticipated to be negligible. These improvements will extend the useful life of facilities, help deter vandalism and improve the appearance and functioning of the recreational resources.

Basis for Priority: This project is ranked as Priority Level 2 in order to maintain the recreation functions and a positive public image of the Los Vaqueros Recreation Program.

Lead Department: Watershed and Lands

CONTRA COSTA WATER DISTRICT
**TEN-YEAR CAPITAL IMPROVEMENT PLAN
 PROJECT SUMMARY**

Program: Los Vaqueros
Sub-Program: Watershed
Project: Los Vaqueros Watershed Improvements
Priority: 2

The purpose of this program is to improve the District’s capability to protect, manage, and maintain the Los Vaqueros watershed area for its primary water quality and natural resource management purposes and to meet the District’s commitments for Los Vaqueros project-related environmental mitigation.

The watershed improvements include management plans, roads and trails, fences, oak tree plantations, sediment control basins, project-related replacement ponds and wetlands, remote water resource facilities for project-related replacement, wetland and pond maintenance, fire prevention and suppression, public safety, communications equipment and facility improvements, and renovation or demolition and removal of unsafe structures.

FY2013 and FY2014 activities include a Watershed Master Plan and fencing, paving and pond improvements.

This program was included in the FY2012 CIP at a ten-year total of \$4,766,000. The cost has been adjusted for inflation and the addition of the Watershed Master Plan.

Total Project: N/A
Cost to Date through FY2012: N/A
CIP Total: \$5,055,000
Cost Estimate Accuracy Range: \$7,583,000 to \$3,539,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$440	\$460	\$330	\$300	\$300	\$1,050	\$1,050	\$300	\$300	\$525
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning D = Design C = Construction O = Other

Project Funding: The program is funded by untreated water rates.

Operational Impacts: The operational impacts of this project are anticipated to be minimal.

Basis for Priority: The project is ranked as Priority Level 2 because it is a Los Vaqueros Project requirement to effectively maintain District watershed lands and comply with the terms and conditions of the *LVP Biological Opinions*.

Lead Department: Watershed and Lands

CONTRA COSTA WATER DISTRICT
**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Treated Water Distribution and Storage Facilities
Sub-Program: Non-District Funded Projects
Project: Distribution Facilities
Priority: 1

The purpose of this program is to install water service and distribution facilities, as requested and funded by developers and other applicants. The facilities typically include service requests and main extensions, but may include pipelines, pump stations, and storage reservoirs. These projects are usually handled jointly between the District and the applicant.

Specific projects generally cannot be identified until an applicant presents development plans and requests service. The cost estimates are based on experience, but may be significantly lower or higher in any given year depending upon applicant requests. Projects planned for FY2013 include the completion of the Clayton Regency Emergency Pipeline Extension and construction of the Golf Club Bridge 24-in Pipeline Relocation project.

This program was included in the FY2012 CIP at a ten-year cost of \$18,817,000. The cost has been adjusted to reflect the current economic downturn

Total Project: N/A
Cost to Date through FY2012: N/A
CIP Total: \$17,543,000
Cost Estimate Accuracy Range: \$26,315,000 to \$12,280,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$6,820	\$891	\$1,021	\$1,149	\$1,277	\$1,277	\$1,277	\$1,277	\$1,277	\$1,277
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning D = Design C = Construction O = Other

Project Funding: This project is fully applicant funded.

Operational Impacts: The operational impact of this project depends on the actual facilities built.

Basis for Priority: This project is ranked as Priority Level 1 as it is applicant funded. This could include funding from applicants requesting water service, other governmental agencies, special loan arrangements, governmental grants, or assessment districts. The relocation of pipelines and other District facilities must be performed to avoid conflicts with new construction.

Lead Department: Engineering

CONTRA COSTA WATER DISTRICT
**TEN-YEAR CAPITAL IMPROVEMENT PLAN
 PROJECT SUMMARY**

Program: Treated Water Distribution and Storage Facilities
Sub-Program: Pipe Upgrades
Project: Pipeline Renewal and Replacements
Priority: 2

The purposes of this program are to: 1) ensure reliable, cost efficient delivery of treated water through replacement of pipelines that have experienced significant leak repair incidents or are undersized for fire flow and distribution capacity, 2) improve water quality circulation by creating interties between existing pipelines, and 3) relocate existing pipelines as legally required.

The Treated Water Master Plan updates prioritize pipeline replacements. In addition, pipelines are relocated as requested by agencies or property owners, or when pipeline location conflicts with the construction work of other agencies.

Projects planned for construction in FY2013 include main replacements in Concord and Pleasant Hill, installation of transmission valves at critical locations and construction of a new main in conjunction with the City of Concord’s Commerce Avenue extension project.

This program was included in the FY2012 CIP at a ten-year cost of \$23,850,000. The cost has been adjusted for inflation, the passing of FY2012 and the addition of FY2022.

Total Project: N/A
Cost to Date through FY2012: N/A
CIP Total: \$23,632,000
Cost Estimate Accuracy Range: \$35,448,000 to \$16,542,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$2767	\$2,605	\$1985	\$2343	\$2,322	\$2,322	\$2,322	\$2,322	\$2,322	\$2,322
C C D D	C C D D	C C D D	C C D D	C C D D	C C D D	C C D D	C C D D	C C D D	C C D D

P = Planning D = Design C = Construction O = Other

Project Funding: This project is entirely treated water rate funded.

Operational Impacts: These projects provide increased reliability and improved circulation, and eliminate conflicts with other utilities. Failure to replace aging pipelines would increase operating costs. For the purpose of the CIP, operating cost impacts are assumed negligible.

Basis for Priority: This project is ranked as Priority Level 2 because pipeline upgrades are necessary to ensure reliable treated water system performance and minimize a source of unscheduled maintenance demands upon the Operations and Maintenance Department.

Lead Department: Engineering

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Treated Water Distribution and Storage Facilities
Sub-Program: Pipes - New
Project: Port Chicago Pipeline Phase II
Priority: 2

The purpose of this project is to ensure reliable service to the District’s existing and future treated water customers by providing a new backbone transmission main recommended in the Seismic Reliability Improvement Project (SRIP) Study and identified in the 2007 Treated Water Master Plan update.

This project consists of the design and construction of approximately 10,400 feet of 24 to 36 inch diameter pipeline extending from the Port Chicago Phase I pipeline near Willow Pass Road to Cowell Road. Planning/design is scheduled to start in FY2021 and construction will be completed outside of the current CIP window.

This project was included in the FY2012 CIP at a total project cost of \$8,848,000. The cost has been adjusted for inflation and the project has been delayed two years, based on updated demand projections.

Total Project: \$9,122,000
Cost to Date through FY2012: \$0
CIP Total: \$1,403,000
Cost Estimate Accuracy Range: \$13,683,000 to \$6,385,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
								\$185	\$1,218
								P P P P	D D D D

P = Planning D = Design C = Construction O = Other

Project Funding: This project is funded by treated water rates (49.6%) and treated water FRCs (50.4%) per the 2007 Treated Water Master Plan update.

Operational Impacts: The operational impact of this project is estimated to be \$5,000 per year beginning in FY2024, which is outside of the current CIP window, and includes valve exercising, corrosion protection, monitoring and maintenance, and occasional flushing.

Basis for Priority: This project is ranked as Priority Level 2 because it will enable the District to maintain water pressure and flow standards for the entire system as demands grow.

Lead Department: Planning

CONTRA COSTA WATER DISTRICT
**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Treated Water Distribution and Storage Facilities
Sub-Program: Site Upgrades
Project: Treated Water Facilities Improvements Program
Priority: 2

The purpose of this program is to ensure reliable operation of the District’s treated water facilities, some of which are nearing the end of their useful life.

The project consists of the rehabilitation of pump stations, improvements to site drainage, installation of water quality equipment, flow meters, fencing, landscaping, pavement, pump station roofing, and demolition of permanently inactive pump stations and reservoirs, as identified in the District’s Treated Water Renewal and Replacement Study. Improvements will be performed in order of priority based on criteria that include health and safety, facility’s ability to meet critical demands, impacts to operations, damage, estimated remaining useful life, and appearance.

Planned FY2013 projects include capacity improvements at Northgate Pump station, installation of a flow meter and replacement of low voltage electrical equipment at Bollman High Lift Pump Station, and completion of a treated water pump and motor efficiency study.

This program was included in the FY2012 CIP at a ten-year cost of \$18,798,000. The cost has been reduced to reflect recommendations made in the recently completed Treated Water Renewal and Replacement Study

Total Project: N/A
Cost to Date through FY2012: N/A
CIP Total: \$11,917,000
Cost Estimate Accuracy Range: \$17,876,000 to \$8,342,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$2,074	\$732	\$1,832	\$1,039	\$2,788	\$568	\$1,064	\$568	\$751	\$501
C C C C	D D D D	C C C C	D D D D	C C C C	D D D D	C C C C	D D D D	C C C C	D D D D

P = Planning D = Design C = Construction O = Other

Project Funding: This program is entirely funded by treated water rates.

Operational Impacts: The impact of this project on operations and maintenance costs is expected to be minimal.

Basis for Priority: This project is ranked as Priority Level 2 because treated water site upgrades are necessary to maintain and enhance existing assets.

Lead Department: Engineering

CONTRA COSTA WATER DISTRICT
**TEN-YEAR CAPITAL IMPROVEMENT PLAN
 PROJECT SUMMARY**

Program: Treated Water Distribution and Storage Facilities
Sub-Program: Storage – New Facilities
Project: Subzone 34 Reservoir
Priority: 2

The purpose of this project is to ensure reliable service to the District’s existing and future treated water customers by providing a new water storage facility to alleviate emergency storage and operational deficiencies in Subzone 34, as identified and prioritized in the 2007 Treated Water Master Plan update.

This project consists of the design and construction of a 1.0 million gallon buried concrete reservoir at an undetermined site in Subzone 34 in the Northgate area of Walnut Creek and an interconnection between subzones 34 and 35. The reservoir is sized to mitigate existing storage deficiencies in subzones 34 and 35, and to accommodate future growth.

Design of the reservoir is scheduled to begin in FY2021 and construction will be completed outside of the current CIP window.

This project was included in the FY2012 CIP at a cost of \$5,085,000. The cost has been adjusted for inflation and the project has been delayed one year, based on updated demand projections

Total Project: \$5,243,000
Cost to Date through FY2012: \$0
CIP Total: \$1,465,000
Cost Estimate Accuracy Range: \$7,865,000 to \$3,670,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
								\$217	\$1,248
								P P	D D D D

P = Planning D = Design C = Construction O = Other

Project Funding: This project is funded by treated water rates (86.7%) and treated water FRCs (13.3%) per the 2007 TWSA Master Plan update.

Operational Impacts: The operational impact of this project is estimated to be \$14,000 per year and will begin in FY2024, which is outside of the current CIP window. The costs include routine inspection of instrumentation, exercising of valves, response to alarms, and periodic cleaning and inspection of the interior.

Basis for Priority: This project is ranked as Priority Level 2 because its completion is needed to satisfy the District’s emergency storage criteria. Adhering to these criteria will increase or maintain the reliability of the TWSA system.

Lead Department: Planning

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Treated Water Distribution and Storage Facilities
Sub-Program: Storage - Upgrades
Project: Treated Water Reliability Improvements
Priority: 3

The purpose of this project is to improve the emergency response capability of the Treated Water Service Area (TWSA) to ensure reliable service to the District’s existing and future treated water customers. The 2002 TWSA Master Plan update recommended a combination of pumping, pipeline, and storage improvements as a cost-effective means to achieve an equivalent level of reliability to a storage-only alternative.

Installation of standby generators and seismic valves at key backbone facilities was completed in FY2010. Pipeline seismic improvements at Concord Fault Crossings (Priority Level 2) were constructed in FY2007. The second phase of the seismic improvements and purchase of additional fault crossing hose and deployment and retrieval equipment (Priority Level 3) would be designed in FY2015 and implemented in FY2016, subject to receipt of grant funding.

This project was included in the FY2012 CIP at a total project cost of \$7,213,000. The cost has been adjusted for inflation.

Total Project: \$7,269,000
Cost to Date through FY2012: \$4,469,000
CIP Total: \$2,800,000

Cost Estimate Accuracy Range: \$8,669,000 to \$6,429,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
		\$475	\$2,325						
		D D D D	C C C C						

P = Planning

D = Design

C = Construction

O = Other

Project Funding: The Priority Level 3 activities would be funded by grant funds.

Operational Impacts: The operational impacts of this project are assumed negligible.

Basis for Priority: The remaining phase of the project is ranked as Priority Level 3 because it is dependent upon outside funding sources.

Lead Department: Engineering

CONTRA COSTA WATER DISTRICT
**TEN-YEAR CAPITAL IMPROVEMENT PLAN
 PROJECT SUMMARY**

Program: Treated Water Distribution and Storage Facilities
Sub-Program: Storage Upgrades
Project: Treated Water Reservoir Rehabilitation Program
Priority: 2

The purpose of this program is to ensure reliable operation of the District’s treated water storage reservoirs (steel tanks and concrete reservoirs). Previous inspections of interiors and exteriors have identified significant corrosion and structural degradation in some reservoirs, and these reservoirs have been prioritized for repair. Additionally, water quality impacts experienced in the distribution system have identified operational constraints inherent in the older tank and reservoir designs.

With the completion of the Canterbury Reservoir project in FY2012, all twelve high priority steel tanks have been recoated and rehabilitated since the program was initiated in FY2002. Recoating of these tanks is not expected to be needed for the next ten years. The focus of the program will shift in FY2013 to concrete reservoir rehabilitation water quality improvements structural evaluations and site improvements recommended in the 2011 Treated Water Renewal and Replacement Study

FY2013 and FY2014 efforts include the design and construction of improvements at Diablo Hills, Country Club and Oakhurst reservoirs. In addition, new mixing systems and monitoring equipment will be installed to improve water quality in several reservoirs.

This program was included in the FY2012 CIP at a ten-year cost of \$8,760,000. The cost has been adjusted for inflation and to reflect recommendations made in the recently completed Treated Water Renewal and Replacement Study.

Total Project: NA
Cost to Date through FY2012: NA
CIP Total: \$10,190,000
Cost Estimate Accuracy Range: \$15,285,000 to \$7,133,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$344	\$1,694	\$344	\$1,694	\$344	\$1,694	\$344	\$1,694	\$344	\$1,694
D D D D	C C C C	D D D D	C C C C	D D D D	C C C C	D D D D	C C C C	D D D D	C C C C

P = Planning D = Design C = Construction O = Other

Project Funding: This project is funded entirely by treated water rates.

Operational Impacts: This program will help to reduce the amount of maintenance required to keep the current reservoirs operational. For purposes of the CIP, the operational impact is assumed negligible.

Basis for Priority: This project is ranked as Priority Level 2 because upgrades are required to maintain operation of the existing treated water reservoirs.

Lead Department: Engineering

CONTRA COSTA WATER DISTRICT
**TEN-YEAR CAPITAL IMPROVEMENT PLAN
 PROJECT SUMMARY**

Program: Treated Water Distribution and Storage Facilities
Sub-Program: TWSA Planning
Project: Treated Water Renewal/Replacement Study Update
Priority: 2

The purpose of this project is to ensure timely, cost effective, and environmentally sound improvement to the District’s treated water service area through periodic updates of the Treated Water Renewal/Replacement Study.

The Study presents the technical planning basis for many of the projects included in the CIP’s Treated Water Distribution and Storage Facilities Program. An update was completed in FY2011. This project will update the study in FY2017 and FY2022 to reflect changes in the condition of the treated water facilities including pumping stations, concrete reservoirs, and steel tanks.

This project was included in the FY2012 CIP at a ten-year cost of \$133,000. The cost has been adjusted for inflation and to reflect the addition of the FY2022 update.

Total Project: \$270,000
Cost to Date through FY2012: \$0
CIP Total: \$270,000
Cost Estimate Accuracy Range: \$488,000 to \$367,000 (+30%/-15%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
				\$135					\$135
				P P P P					P P P P

P = Planning D = Design C = Construction O = Other

Project Funding: This project is funded by treated water rates.

Operational Impacts: There are no operations and maintenance costs associated with the plan. Operational impacts for each capital improvement recommended in the plan will be evaluated as the improvements are implemented.

Basis for Priority: This project is ranked as Priority Level 2 because it ensures that the District will meet water service and reliability commitments.

Lead Department: Planning

CONTRA COSTA WATER DISTRICT

TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY

Program: Treated Water Distribution and Storage Facilities

Sub-Program:

Project: Treated Water Emergency Service Connections

Priority: 3

Description: The purpose of this project is to provide enhanced reliability for the City of Martinez and to provide the City with alternative sources of water in the event of a disruption in service of the city’s water system or the Martinez Reservoir.

The project includes the design and installation of emergency connections between the District’s distribution system and the City of Martinez. The new emergency interconnections would allow the agencies to share water resources in the event of an emergency.

This project was included in the FY2012 CIP at a ten-year cost of \$500,000.

Total Project: \$500,000
Cost to Date through FY2012: \$0
CIP Total: \$500,000
Cost Estimate Accuracy Range: \$750,000 to \$350,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
		\$105	\$395						
		D D D D	C C C C						

P = Planning

D = Design

C = Construction

O = Other

Project Funding: Potential funding sources for this project are treated water rates, the City of Martinez and grants.

Operational Impacts: Operational impacts are expected to be minimal.

Basis for Priority: This project is ranked as Priority Level 3 because it is dependent upon outside funding sources.

Lead Department: Planning/Engineering

CONTRA COSTA WATER DISTRICT
**TEN-YEAR CAPITAL IMPROVEMENT PLAN
 PROJECT SUMMARY**

Program: Untreated Water Supply and Transport
Sub-Program: Non-District Funded Projects
Project: Untreated Water Applicant Funded Projects
Priority: 1

The purpose of this program is to relocate untreated water facilities as requested and funded by developers and other applicants. Specific projects cannot be identified until an applicant presents development plans and requests service. The cost estimates are based on experience, but may be significantly lower or higher in any given year depending upon applicant requests.

Development in East County has slowed, but there continues to be a need for the type of untreated water facility relocations and modifications provided by this project. Anticipated future projects include relocation of portions of laterals.

This program was included in the FY2012 CIP at a ten-year cost of \$1,238,000. The cost has been adjusted to reflect the current economic downturn

Total Project: N/A
Cost to Date through FY2012: N/A
CIP Total: \$1,116,000
Cost Estimate Accuracy Range: \$1,674,000 to \$781,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$86	\$94	\$104	\$112	\$120	\$120	\$120	\$120	\$120	\$120
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning D = Design C = Construction O = Other

Project Funding: The project is fully applicant funded.

Operational Impacts: The operational impact of this project depends on the actual facilities built.

Basis for Priority: This project is ranked as Priority Level 1 as the funding is from non-District sources. The relocation of pipelines and other District facilities must be performed to avoid conflicts with new construction.

Lead Department: Engineering

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Untreated Water Supply and Transport
Sub-Program: Untreated Water Facilities - Planning
Project: Untreated Water Facility Improvement Plan Update
Priority: 2

The purpose of this project is to ensure timely, cost effective, and environmentally sound improvements to the District's untreated water facilities. The Untreated Water Facilities Improvement Plan (UWFIP) evaluates future needs of the untreated water facilities including such items as required capacity improvements, structural upgrades, renewal/replacement needs, and evaluation of alternatives to reduce canal loop maintenance costs.

Periodic updates are needed to ensure that the plan accurately reflects current improvement priorities and long-term facility reliability. The plan was last updated in FY2006. Future updates of the UWFIP will be completed in FY2013 and FY2018. The FY2013 update will include evaluation and development of canal improvements to address recommendations in the 2011 Urban Canal Assessment, conducted by the United States Bureau of Reclamation, and a structural and coating evaluation of the Transfer Tank.

This project was included in the FY2012 CIP at a cost of \$686,000.

Total Project: \$593,000
Cost to Date through FY2012: \$0
CIP Total: \$593,000
Cost Estimate Accuracy Range: \$773,000 to \$583,000 (+30%/-15%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$334					\$259				
P P P P					P P P P				

P = Planning

D = Design

C = Construction

O = Other

Project Funding: The project is funded by untreated water rates.

Operational Impacts: As a study, there are no direct operations and maintenance costs associated with this project. Operational impacts for each project recommended in the study would be evaluated as projects are implemented.

Basis for Priority: This project is ranked as Priority Level 2 because the integrity of the untreated water system depends on a comprehensive plan to ensure timely and cost effective improvements. The Untreated Water Facility Improvement Plan will prioritize projects necessary to meet future needs of the District.

Lead Department: Engineering

CONTRA COSTA WATER DISTRICT
**TEN-YEAR CAPITAL IMPROVEMENT PLAN
 PROJECT SUMMARY**

Program: Untreated Water Supply and Transport
Sub-Program: Untreated Water Facilities - New
Project: Untreated Water Pipeline Placeholder
Priority: 2

The purpose of this project is to supplement the District’s untreated water conveyance system, to meet near-term and long-term water demands, and to improve fire-fighting flows after a major earthquake. The project was identified in the Seismic and Reliability Improvements Project (SRIP), which was adopted by the Board on January 8, 1997.

The project, tentatively scheduled to be started in FY2022 and completed in FY2025, includes a 4-mile long untreated water pipeline and a 36 million gallon per day untreated water pump station in Antioch. The timing for the project will depend on demand growth in the service area. Canal demands are analyzed as part of the Future Water Supply Study.

This project was included in the FY2012 CIP at a total project cost of \$21,695,000. The cost has been adjusted for inflation and the schedule has been delayed based on updated demand projections.

Total Project: \$22,370,000
Cost to Date through FY2012: NA
CIP Total: \$690,000
Cost Estimate Accuracy Range: \$33,555,000 to \$15,659,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
									\$690
									P P P P

P = Planning D = Design C= Construction O = Other

Project Funding: The project would be debt-funded with debt service being funded by untreated and treated water rates and untreated water FRCs.

Operational Impacts: The additional cost of operating the untreated water pump station will be determined during project design. Operating impacts will begin after project completion in FY2025.

Basis for Priority: This project is ranked as Priority Level 2 because the District has a moderate level of control over the scope and implementation of this project.

Lead Department: Planning

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Untreated Water Supply and Transport
Sub-Program: Untreated Water Facilities -Upgrades
Project: Canal Replacement Project
Priority: 1/3

The purpose of this project is to improve source water quality at the District’s Rock Slough Intake by hydraulically isolating the high saline groundwater from the Canal. The project will also increase public safety, flood control, and reduce District liability by eliminating an open canal adjacent to planned urban development.

The project consists of replacing approximately four miles of canal from Pumping Plant No. 1 to Rock Slough with a buried pipeline within the USBR right-of-way, and ultimately replacement of Pumping Plant No. 1. The project will be phased, with each phase of the project spanning a specific reach of the canal with unique project partners, funding sources, and benefits. The phased approach allows the District to focus on areas of the canal exhibiting the greatest water quality degradation and the highest liability relating to development of the adjacent lands in the short term with funding that is being secured from a variety of sources. All major permitting and mitigation requirements for the five segments have been satisfied.

Construction of the 1,900-foot initial segment was completed in FY2010. In FY2012, the District received a \$10 million grant from the California Department of Water Resources to construct an isolation structure at the headworks and the easternmost pipeline Segment 5. Final design of these elements started in FY2012, in preparation for construction in FY2013 and FY2014.

The District has a Project Partnership Agreement with the U.S. Department of the Army for implementation of the additional segments (2, 3 and 4), once federal funding is secured.

This project was included in the FY2012 CIP at a total cost of \$95,642,000. The cost has been adjusted to reflect an updated estimate, based on Segment 1 experience and the deletion of interim improvements to Pumping Plant 1, which have been determined to not be necessary.

Total Project: \$87,595,000
Cost to Date through FY2012: \$18,982,000
CIP Total: \$68,613,000
Cost Estimate Accuracy Range: \$121,903,000 to \$67,012,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule: *Priority 1*

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$5,038	14,142								
c c c c	c c c c								

Annual Cost Distribution (in 000's) and Schedule: *Priority 3*

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
				\$54	\$3,338	\$20,993	\$16,421	\$8,627	
				P P P P	D D D D	C C C C	C C C C	C C C C	

P = Planning

D = Design

C = Construction

O = Other

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Untreated Water Supply and Transport
Sub-Program: Untreated Water Facilities -Upgrades
Project: Canal Replacement Project - *continued*
Priority: 1/3

Project Funding: The initial segment was funded with a combination of untreated water rates, developers' contributions and grants. The District's share for implementation of the Segment 5 of the project is anticipated to be up to \$10 million, which is needed to satisfy cost-sharing requirements for the grants. The balance of the project cost would be funded by developers' contributions and various State and Federal grants, including 2007 WRDA 219.

Operational Impacts: The operational costs of this project are anticipated to be significant due to new activities required to maintain and clear debris from the new pipeline. However, these costs will be offset by a reduction of activities associated with the open waterway (such as levee maintenance, application of herbicides, dredging, etc.) that will no longer be needed. Therefore, net operating impacts are assumed negligible.

Basis for Priority: Segment 5 of the project is ranked as Priority Level 1 because it is partially funded by others. The final segments of the project are ranked as Priority Level 3 because the District has significant control as to when to implement these portions of this project, and developer and federal funding sources are uncertain at this time.

Lead Department: Engineering

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Untreated Water Supply and Transport
Sub-Program: Untreated Water Facilities - Upgrades
Project: Los Vaqueros Pipeline Relocation – Balfour Road
Priority: 1

The purpose of this project is to comply with the 1994 Agreement between the District and the State Route 4 Bypass Authority (Authority) for construction of the original Los Vaqueros Pipeline (LVP) at Balfour Road in Brentwood, by relocating the pipeline to accommodate State Route 4 Bypass (Bypass) construction at this location.

To accommodate original construction of the LVP and avoid possible unnecessary costs for accommodating a then proposed Bypass interchange at Balfour Road, the District entered into an agreement with the Authority to allow the LVP to be constructed straight through the future proposed interchange that connects Balfour to the Bypass. This approach saved initial construction costs, while avoiding expending LVP project funds for a future Bypass project that might not occur.

The Authority initiated design in FY2012, indicating the LVP will be required to be relocated to allow for Bypass construction. This project provides the design and construction funding necessary to meet the District’s obligation to relocate the LVP at this location in 2015.

This project was included in the FY2012 CIP at a cost of \$5,910,000. The cost has been adjusted for inflation and updated cost projections.

Total Project: \$8,593,000
Cost to Date through FY2012: \$0
CIP Total: \$8,593,000
Cost Estimate Accuracy Range: \$12,890,000 to \$6,015,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$252	\$889	\$7,452							
P P P P	D D D D	C C C C							

P = Planning D = Design C = Construction O = Other

Project Funding: If the Authority awards construction for the interchange prior to June 2015, the relocation will be funded from the Los Vaqueros Commitments Reserve Fund and untreated water rates; otherwise the Authority will fund it.

Operational Impacts: Operational impacts of the relocation are expected to be minimal.

Basis for Priority: This project is ranked a Priority Level 1 because it is a contractual obligation of the District.

Lead Department: Engineering

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Untreated Water Supply and Transport
Sub-Program: Untreated Water Facilities - Upgrades
Project: Mallard Slough Channel Rehabilitation
Priority: 2

The purpose of this program is to enable the District to operate the Mallard Slough Pump Station as originally designed without operational restrictions due to suction water re-charge issues.

The Mallard Slough intake channel is 40 feet wide and 3,000 feet long and was acquired by CCWD in 1961 to draw water from Suisun Bay to the Mallard Slough Pump Station in Bay Point. The District performed a bathymetric survey of the channel in October 2006 and determined there is five feet of sediment buildup since 1987, when the bottom of the slough was last dredged. The buildup of sediment can reduce the capacity of the pump station by up to 15 percent.

This project will dredge the channel to its original design depth and remove the sediment spoils to a designated disposal site. The permitting phase of the project occurred in FY2010 through FY2012. Design and construction are scheduled for FY2015 and FY2016, respectively.

This project was included in the FY2012 CIP at a cost of \$2,675,000.

Total Project: \$2,685,000
Cost to Date through FY2012: \$225,000
CIP Total: \$2,460,000
Cost Estimate Accuracy Range: \$3,915,000 to \$1,947,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule: *Priority 2*

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
		\$490	\$1,970						
		D D D D	C C C C						

Project Funding: This project would be funded entirely by untreated water rates.

Operational Impacts: Operational impacts for this project are expected to be minimal.

Basis for Priority: The project is ranked as Priority Level 2, because the District has a moderate level of control over the scope and implementation.

Lead Department: Planning/Engineering

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Untreated Water Supply and Transport
Sub-Program: Untreated Water Facilities - Upgrades
Project: Shortcut Pipeline Refurbishment
Priority: 2

The purpose of this project is to ensure reliable long-term water supply to the City of Martinez and the Shell Refinery. The Shortcut Pipeline is a 42 to 60-inch pipeline that is approximately 5 miles long and is the main source of water supply for Martinez and Shell. The pipeline was constructed in 1971 and is in need of immediate refurbishment, in particular the portion in the vicinity of Pacheco Slough, which is experiencing differential settlement and leaks.

An initial Shortcut Pipeline evaluation that was completed in FY2009 included a risk assessment of the entire pipeline to confirm where immediate repairs are needed. The risk assessment included evaluations of geotechnical and structural conditions, corrosion protection, and valves that are needed to isolate and maintain the pipeline.

A phased approach to design, permitting, providing access and rehabilitating the pipeline was started in FY2010 with the replacement of air relief valves, blow off valves, and isolation valves. Additional valves and construction of access roads to the pipeline to allow an interior inspection will follow in FY2013 after environmental permits are obtained. The inspection will determine the physical condition of the pipeline interior and identify necessary repairs, which will be designed and implemented during the FY2014 to 2017 timeframe.

This project was included in the FY2012 CIP at a cost of \$11,203,000. The cost has been adjusted for inflation.

Total Project: \$11,313,000
Cost to Date through FY2012: \$1,771,000
CIP Total: \$9,542,000
Cost Estimate Accuracy Range: \$16,084,000 to \$8,450,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$2,958	\$564	\$3,068	\$431	\$2,521					
C C C C	D D D D	C C C C	D D D D	C C C C					

P = Planning

D = Design

C = Construction

O = Other

Project Funding: This project is debt-funded, with the debt being retired using canal land levy tax revenues.

Operational Impacts: This project will require several shutdowns of the Shortcut Pipeline during construction of improvements. The Loop Canal will be used during these shutdowns. There will be long-term benefits for operation and maintenance as a result of the project.

Basis for Priority: This project is ranked as Priority Level 2 because the District has a moderate level of control over the scope and implementation of this project.

Lead Department: Engineering

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Untreated Water Supply and Transport
Sub-Program: Untreated Water Facilities - Upgrades
Project: Untreated Water Reservoir Rehabilitation Program
Priority: 2/3

The purpose of this program is to improve operational reliability of the District’s untreated water reservoirs, some of which are over 60 years old, by implementing improvements identified and prioritized in the 2009 Untreated Water Reservoir Master Plan and the 2011 Reservoir Valve and Pipeline Assessment.

FY2013 activities include rehabilitation of corroded inlet/outlet pipelines and valves and inspection of an obsolete pipeline through the dam embankment at Mallard Reservoir. Future Priority Level 3 projects include replacing aging access roads, reservoir instrumentation and valves and enhancing reservoir safety and security.

This project was included in the FY2012 CIP at a ten-year cost of \$3,617,000. The cost has been adjusted to reflect the recently completed Reservoir Valve and Pipeline Assessment.

Total Project: N/A
Cost to Date through FY2012: N/A
CIP Total: \$4,610,000
Cost Estimate Accuracy Range: \$6,916,000 to \$3,227,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule: Priority Level 2

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$145	\$498								
D D D D	C C C C								

Annual Cost Distribution (in 000's) and Schedule: Priority Level 3

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
		\$182	\$761	\$232	\$972	\$247	\$905	\$162	\$506
		D D D D	C C C C	D D D D	C C C C	D D D D	C C C C	D D D D	C C C C

P = Planning D = Design C = Construction O = Other

Project Funding: This project is funded by untreated water rates.

Operational Impacts: Operational impacts of this project are anticipated to be minimal. Increasing automated dam monitoring instrumentation will decrease the cost of dam monitoring, and increase the level of dam oversight through higher quality, faster data.

Basis for Priority: FY2013 and FY2014 activities have been ranked as Priority Level 2, because the District has a moderate level of control over the scope and implementation. Subsequent activities have been ranked as Priority Level 3 because the District has a significant level of control over the scope and implementation of these activities.

Lead Department: Engineering

CONTRA COSTA WATER DISTRICT
**TEN-YEAR CAPITAL IMPROVEMENT PLAN
 PROJECT SUMMARY**

Program: Water/Energy Demand Reduction
Sub-Program: Best Management Practices Implementation
Project: Water Conservation Incentives
Priority: 1

The purpose of this program is to reduce water demands by providing water conservation rebate incentives to customer to purchase and install water efficient fixtures, devices and equipment. The program is available to all customer classes in the District’s service area. Incentives are consistent with the Future Water Supply Study (FWSS) and the Best Management Practices (BMPs), and will assist the District in meeting its 2020 water use reduction goals.

The program includes incentives for the installation of efficiency toilets, clothes washers, smart irrigation timers, lawn to landscape conversions and various commercial devices and irrigation equipment.

This program was included in the FY2012 CIP at a ten-year cost of \$10,029,000.

Total Project: N/A
Cost to Date through FY2012: N/A
CIP Total: \$10,000,000
Cost Estimate Accuracy Range: \$11,533,000 to \$9,528,000 (+15%/-5%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$1090	\$990	\$990	\$990	\$990	\$990	\$990	\$990	\$990	\$990
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning D = Design C = Construction O = Other

Project Funding: This project is funded by untreated water rates and supplemented with grant funds. Annual grant income is estimated to be \$400,000 in FY13 and \$150,000 in subsequent years.

Operational Impacts: This project has no operational impact.

Basis for Priority: This project is ranked as Priority Level 1 because it is a BMP program required to be implemented in the Conservation Section of the District's USBR Contract.

Lead Department: Finance

CONTRA COSTA WATER DISTRICT
**TEN-YEAR CAPITAL IMPROVEMENT PLAN
 PROJECT SUMMARY**

Program: Water/Energy Demand Reduction
Sub-Program: Energy Demand Reduction
Project: Energy Master Plan and Implementation Placeholder
Priority: 3

The purpose of this project is to identify and implement strategies to reduce consumption of energy and associated greenhouse gas emissions, ensure the District is well positioned to meet future regulations, and to conform to the District’s mission of delivering service in an environmentally responsible manner.

A master plan completed in FY2010, identified energy use reduction projects in the areas of fleet management, water conservation, buildings and facilities, and capital projects. A study has been conducted and a prioritized list of capital projects, including solar, energy recovery at Flow Control Station 1, pump replacements, and facility improvements has been developed. However, these projects currently do not meet the District’s investment criteria and outside sources of funds are being sought. The project includes \$4 million as a Priority Level 3 placeholder for the implementation of these projects.

This program was included in the FY2012 CIP at a project cost of \$4,098,000.

Total Project: \$4,098,000
Cost to Date through FY2012: \$98,000
CIP Total: \$4,000,000
Cost Estimate Accuracy Range: \$6,098,000 to \$2,898,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
		\$330	\$1,670	\$330	\$1,670				
		D D D D	C C C C	D D D D	C C C C				

P = Planning D = Design C = Construction O = Other

Project Funding: Funding for the Priority Level 3 implementation phase is undetermined at this time. The District will pursue grants as they become available.

Operational Impacts: The master plan does not have an operational impact. Operational impacts for projects recommended in the plan will be evaluated as they are developed.

Basis for Priority: Implementation is ranked Priority Level 3 because the District has a significant level of control over the scope and schedule.

Lead Department: Planning

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Water/Energy Demand Reduction
Sub-Program: Energy Demand Reduction
Project: Los Vaqueros Energy Recovery
Priority: 1

The purpose of this project is to reduce energy costs by implementing a hydroelectric generation facility capable of producing approximately 1,000 kilowatts of electricity to offset energy purchased from outside sources.

Water with high hydraulic energy potential will be diverted from the Los Vaqueros Pipeline to the generation facility, to be located near Pumping Plant 4. That water currently passes through energy dissipation valves before it enters the Contra Costa Canal.

Preliminary design and cost estimates completed to date conclude that constructing a hydropower generation facility at the Los Vaqueros Pipeline has a payback of approximately fifteen to twenty years, based on current costs of power.

The project is scheduled to be completed in early FY2013.

This project was included in the FY2012 CIP at a total project cost of \$8,592,000.

Total Project: \$8,485,000
Cost to Date through FY2012: \$8,408,000
CIP Total: \$77,000

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$77									
c c c c									

P = Planning

D = Design

C = Construction

O = Other

Project Funding: The project is funded by untreated water rates. The District will pursue grants as they become available.

Operational Impacts: Annual operating cost savings are estimated to be approximately \$350,000 beginning in FY2013.

Basis for Priority: This project is ranked as Priority Level 1 because it is under construction

Lead Department: Construction

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Water Treatment Facility Improvements
Sub-Program: Planning
Project: Water Treatment Plant Master Plan Update and Implementation Placeholder
Priority: 2

The purpose of this project is to ensure timely, cost effective and environmentally sound improvements to the District’s water treatment facilities through periodic updates of the FY2004 Water Treatment Plant Master Plan (WTPMP). The WTPMP also provides a review of upcoming regulatory requirements possibly affecting the water treatment plants so the District can continue to be proactive on regulatory compliance.

The plan was last updated in FY2011. The next plan update will be completed in FY2021. Projects recommended in this next plan will be implemented outside of the current CIP window.

This project was included in the FY2012 CIP at a cost of \$9,397,000. The \$9 million implementation placeholder has been moved to the WTP Improvements programs, consistent with the 2011 master plan.

Total Project: \$580,000
Cost to Date through FY2012: \$0
CIP Total: \$580,000
Cost Estimate Accuracy Range: \$13,886,000 to \$6,703,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
								\$400	\$180
								P P P P	D D D D

P = Planning D = Design C = Construction O = Other

Project Funding: This District’s share of the project is funded by treated water rates. Partners in the Randall-Bold facility pay a share based on capacity rights.

Operational Impacts: Plan updates do not have operational impact. Operational impacts for projects recommended in the plan will be evaluated as they are developed.

Basis for Priority: This project is ranked as Priority Level 2 because master plan updates are required to ensure that new regulations, capacity requirements, and other factors are addressed in a timely manner.

Lead Department: Planning

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Water Treatment Facility Improvements
Sub-Program: Upgrades
Project: Water Treatment Plant Improvements - Bollman
Priority: 1/2/3

The purpose of this program is to continue meeting District water quality objectives by providing a programmatic approach to addressing water quality, renewal and replacement and solids handling needs at the District’s Bollman Water Treatment Plant (WTP). Bollman WTP was constructed in 1968 and has facilities and equipment that are in need of renewal and replacement due to age and normal wear and tear. Recommended improvements were identified in the FY2011 Water Treatment Plant Master Plan (WTPMP).

FY2013 and FY2014 projects include filter valve replacement, clearwell roof repair, safety improvements, and smaller rehabilitation projects.

The projects identified in this program were included in the FY2012 CIP at a ten-year cost of \$11,259,000. The costs have been adjusted for inflation and to reflect recommendations from the WTPMP.

Total Project: NA
Cost to Date through FY2012: NA
CIP Total: \$39,109,000
Cost Estimate Accuracy Range: \$58,665,000 to \$27,377,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule: *Priority 1*

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$461									
c c c c									

Annual Cost Distribution (in 000's) and Schedule: *Priority 2*

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$534	\$3,472	\$1,556	\$2,516	\$833	\$623	\$1,384	\$1,438	\$1,026	\$346
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

Annual Cost Distribution (in 000's) and Schedule: *Priority 3*

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
		\$1,160	\$2,400	\$3,800	\$1,240	\$2,190	\$1,930	\$2,200	\$10,000
		o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning D = Design C = Construction O = Other

Project Funding: This program is funded by treated water rates.

Operational Impacts: The total operational impacts for this program are minimal.

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Water Treatment Facility Improvements
Sub-Program: Upgrades
Project: Water Treatment Plant Improvements – Bollman - *continued*
Priority: 1/2/3

Basis for Priority: The safety components of the program have been ranked as Priority Level 1, as they protect employee health and safety. The remainder of the program is ranked as Priority Level 2 for components for which the District has a moderate level of control over the scope and implementation and Priority Level 3 for components for which the District has a significant level of control over the scope and schedule.

Lead Department: Planning/Engineering/Operations & Maintenance

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Water Treatment Facility Improvements
Sub-Program: Upgrades
Project: Water Treatment Plant Improvements - City of Brentwood
Priority: 2

The purpose of this program is to provide a programmatic approach to addressing water quality, renewal and replacement, and solids handling needs at the City of Brentwood’s Water Treatment Plant (CBWTP). Construction of the CBWTP was completed in FY2010. Per the agreement with the City of Brentwood for the design, construction, and operation of CBWTP, the District has developed a capital improvement program for the new facilities.

FY2013 and FY2014 projects include various small upgrade projects. Future projects include filter media and pump re-builds. In FY2011, the District completed a Groundwater Monitoring Study that determined that lining of the wash water lagoons is not required.

The projects identified in this program were included in the FY2012 CIP at a ten-year cost of \$2,445,000. The cost has been adjusted to reflect the deletion of the lagoon lining project.

Total Project: NA
Cost to Date through FY2012: NA
CIP Total: \$1,671,000
Cost Estimate Accuracy Range: \$2,507,000 to \$1,170,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule:

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$57	\$57	\$57	\$540	\$608	\$93	\$88	\$57	\$57	\$57
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning D = Design C = Construction O = Other

Project Funding: This program is funded by the City of Brentwood.

Operational Impacts: The total operational impacts for this program are minimal.

Basis for Priority: This project is ranked as Priority Level 2 because the District has a moderate level of control over its scope and implementation.

Lead Department: Planning/Engineering/Operations & Maintenance

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Water Treatment Facility Improvements
Sub-Program: Upgrades
Project: Water Treatment Plant Improvements – Randall-Bold
Priority: 1/2/3

The purpose of this program is to continue meeting District water quality objectives by providing a programmatic approach to addressing water quality, renewal and replacement and solids handling needs at the District’s Randall-Bold Water Treatment Plant (WTP). Randall-Bold WTP was constructed in 1992 and has facilities and equipment that are in need of renewal and replacement due to age and normal wear and tear. Recommended improvements were identified in the FY2011 Water Treatment Plant Master Plan (WTPMP).

FY2013 and FY2014 Priority Level 1 projects include seismic improvements identified on the 2009 Seismic Assessment as well as safety improvements required to meet OSHA standards. Priority Level 2 projects include Distributed Control System and solids handling.

The projects identified in this program were included in FY2012 CIP at a 10-year cost of \$11,187,000. The costs have been adjusted for inflation and to reflect recommendations from the WTPMP.

Total Project: NA
Cost to Date through FY2012: NA
CIP Total: \$23,729,000
Cost Estimate Accuracy Range: \$35,598,000 to \$16,613,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule: Priority 1

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$104	\$323								
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Annual Cost Distribution (in 000's) and Schedule: Priority 2

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
\$462	\$1,749	\$1,004	\$1,131	\$1,031	\$333	\$323	\$383	\$608	\$608
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Annual Cost Distribution (in 000's) and Schedule: Priority 3

FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
		\$1,110	\$2,280	\$1,260	\$1,000	\$860	\$660	\$1,200	\$7,300
		O O O O	O O O O	O O O O	O O O O	O O O O	O O O O	O O O O	O O O O

P = Planning D = Design C = Construction O = Other

Project Funding: A portion of this program is funded by Diablo Water District, the cities of Brentwood and Antioch, and Golden State Water Company. The remainder of the program is funded by treated water rates.

Operational Impacts: The total operational impacts for this program are minimal.

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN
PROJECT SUMMARY**

Program: Water Treatment Facility Improvements
Sub-Program: Upgrades
Project: Water Treatment Plant Improvements – Randall-Bold - *continued*
Priority: 1/2/3

Basis for Priority: The seismic and safety components of the program have been ranked as Priority Level 1, as they protect employee health and safety. The remainder of the program is ranked as Priority Level 2 for components for which the District has a moderate level of control over the scope and implementation and Priority Level 3 for components for which the District has a significant level of control over the scope and schedule.

Lead Department: Planning/Engineering/Operations & Maintenance

List of Abbreviations

ABAG	Association of Bay Area Governments
AB32	Assembly Bill 32, Global Warming Solutions Act of 2006
ARRA	American Recovery and Reinvestment Act
BANs	Bond Anticipation Notes
BARDP	Bay Area Regional Desalination Project
BDCP	Bay Delta Conservation Plan
BMP	Best Management Practice
CABs	Capital Appreciation Bonds
CCWD	Contra Costa Water District
CEQA	California Environmental Quality Act
CII	Commercial, Industrial, and Institutional
CIP	Capital Improvement Program
COE	United States Army Corps of Engineers
CTC	Competitive Transition Charges
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
CUWCC	California Urban Water Conservation Council
DCS	Distributed Control System
DOHS	California Department of Health Services
DSOD	California Division of Safety of Dams
DWD	Diablo Water District
DWR	California Department of Water Resources
EBMUD	East Bay Municipal Utility District
ECCID	East Contra Costa Irrigation District
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ENR	Engineering News Record
EOC	Emergency Operations Center
ERAF	Education Revenue Augmentation Fund
ET	Evapo-transpiration
FMP	Facilities Master Plan
FRC	Facilities Reserve Charge
FTE	Full-Time Equivalent
FWSS	Future Water Supply Study
FY	Fiscal Year
GAC	Granular Activated Carbon
GIS	Geographic Information System
JPA	Joint Powers Authority
LVP	Los Vaqueros Project
MGD	Million Gallons per Day
M&I	Municipal and Industrial
MOU	Memorandum of Understanding
MPP	Multi-Purpose Pipeline
NEPA	National Environmental Protection Act

List of Abbreviations

(continued)

O&M	Operations and Maintenance
OCAP	Operations Criteria and Plan
POE/POU	Point of Entry/Point of Use
PUC	Public Utilities Commission
RBWTP	Randall-Bold Water Treatment Plant
ROD	Record of Decision
SBX7-7	Senate Bill X7-7, Water Conservation Act of 2009
SCADA	Supervisory Control and Data Acquisition
SRIP	Seismic Reliability Improvement Project
SWQ	Safety and Water Quality
TAF	Thousand acre-feet
TW	Treated Water
TWFIP	Treated Water Facility Improvement Program
TWMP	Treated Water Master Plan
TWSA	Treated Water Service Area
ULFT	Ultra-Low Flush Toilet
USBR	United States Bureau of Reclamation
UV	Ultra-violet
UW	Untreated water
UWFIP	Untreated Water Facility Improvement Program
WQ	Water Quality
WRDA	Water Resources Development Act
WRIF	Water Resources Investment Fund
WRN	Water Revenue Note
WTP	Water Treatment Plant
WTPMP	Water Treatment Plant Master Plan

Glossary

Acre-Foot - The volume of water that will cover one acre to a depth of one foot. One acre-foot of water equals 325,828.8 gallons.

Annual Rate Analysis - Rates, fees, and charges are examined annually and are brought to the Board in November and December of each year, and adjustments are typically considered for Board approval in January. CIP cost estimates are among several factors used in the annual rate analysis.

Assembly Bill 32 - In 2006, California enacted AB32, the Global Warming Solutions Act of 2006, which established a statewide level of greenhouse gas emissions equal to 1990 levels to serve as the emissions limit to be achieved by 2020. It directed the California Air Resources Board to begin developing discrete early actions to reduce greenhouse gases while also preparing a scoping plan to identify how best to reach the 2020 limit. The reduction measures to meet the 2020 target are to be adopted by the start of 2011.

Bay Delta Conservation Plan - An applicant-driven effort to provide for the conservation and management of Delta aquatic species and regulatory assurances related to water supply reliability and water quality. It is a voluntary mechanism to provide Delta water users compliance with Federal Endangered Species Act, California Endangered Species Act, and/or the Natural Community's Conservation Plan Act.

Bond Anticipation Notes - Promissory notes with maturities ranging from one to five years. BANs rely solely on the issuer's underlying credit rating and are not guaranteed by a line of credit.

CALFED - The California Bay-Delta Authority (formerly CALFED) oversees the 25 state and federal agencies working cooperatively to improve the quality and reliability of California's water supplies while restoring the Bay-Delta ecosystem.

Capital Appreciation Bonds - CABs are similar to the long-term bonds with the exception that the payment of principal and interest does not begin at the time the bonds are issued, but is deferred to a future date.

Central Valley Project - California water project owned by the United States and managed by the Bureau of Reclamation for diversion, storage, carriage, distribution and beneficial use of waters of the Sacramento River, the American River, the Trinity River, and the San Joaquin River and their tributaries. The CVP is composed of some 20 reservoirs with a combined capacity of more than 11 million acre-feet, 11 power plants, and more than 500 miles of major canals and aqueducts. The CVP delivers about 7 million acre-feet of water annually for agricultural, urban, and wildlife use. The Contra Costa Canal is a CVP facility. CCWD's CVP water service contract is for 195,000 acre-feet annually.

Central Valley Project Improvement Act - Multi-purpose water legislation that was signed into law October 30, 1992. The Central Valley Project Improvement Act mandated changes in management of the Central Valley Project, particularly for the protection, restoration, and enhancement of fish and wildlife. The Rock Slough Fish Screen is a requirement of the CVPIA.

CIP Programs - Projects in the CIP are organized by program and sub-program. There are ten program areas, each representing a different function of the District. Sub-programs are groups of related projects within a program.

Debt Service - The obligation to pay the principal and interest of bonds and other debt instruments according to a predetermined payment schedule.

Debt Service Coverage Ratio - Revenues net of operating costs divided by maximum annual debt service.

Delta - The Delta is the largest estuary on the west coast and the hub of California's water system. It is formed by California's two largest rivers, the Sacramento and San Joaquin. The Delta has increasingly become a center of controversy as federal, state, and local governments and private entities have sought to make use of its resources.

Delta Vision - Governor Arnold Schwarzenegger appointed the Delta Vision Blue Ribbon Task Force to develop a long-term sustainable vision for the Delta by December 2007 and an implementation plan by October 2008. The task force recommended a significant increase in conservation and water system efficiency, new facilities to move and store water, and likely reductions in the amount of water taken out of the Delta watershed. The task force also recommended a new governing structure for the Delta that would have secure funding and the ability to approve spending, planning and water export levels.

Facility Reserve Charge - A one-time up-front fee paid by each new customer when they connect to the system. The fee covers the new customer's share of the facilities required to provide service. Such fees are commonly referred to as connection fees, capacity fees, system development fees, or impact fees. There are separate Facility Reserve Charges for untreated and treated water customers. The current fees are contained in Chapters 5.12 and 5.16 of the District Code of Regulations.

Fiscal Year - The period from and including July 1 of each calendar year through June 30 of the following calendar year.

Funded by Others - Funding received from non-District agencies or entities. Other sources of funding include CALFED, Proposition 50 and 84, grants, Brentwood, developers, and other entities either benefiting from District actions or mitigating for impacts to the District.

M&I Deficit - This M&I deficit was largely comprised of compound interest on capital costs computed retroactively back to 1949. A large component of the deficit was eliminated by the passage of two pieces of Federal legislation that resulted in the transfer of the Sly Park and Sugar Pine dams and reservoirs to the respective local beneficiary agencies.

Minimum Reserve Balances - The District has a minimum reserve balance policy of the total of six months of debt service and operating expenses.

Operations Criteria and Plan - Plan developed by the Bureau of Reclamation for operation of the Central Valley Project in conjunction with the State Water Project. The plan includes numeric and nonnumeric operating criteria and strategies for all CVP divisions, including the Trinity River Division, Shasta and Sacramento County Divisions, American River Division, Delta Division, West San Joaquin Division, and Friant Division.

Prioritization System - A method to rank or rate the relative importance of a project in the CIP based upon factors such as protection of health and safety, legal requirements and rate of return on the District's investment. The priority levels provide a basis for deciding which projects should be done in any given year.

Priority Level 1 - Projects in this priority level are the highest priority of all capital projects. They include projects already under construction and those required by legislation, regulation, contract or for protecting health and safety. Priority level 1 also includes applicant funded projects.

Priority Level 2 - Projects in this priority level need to be done, but the District has a moderate level of control as to when they should be performed. Where return on investment is a determining factor, projects in this priority level will have a short-term payback of less than five years.

Priority Level 3 - Projects in this priority level are needed, but the District has a significant level of control as to when they should be performed. Where return on investment is a determining factor, projects in this priority level will have a long-term payback of greater than five years.

Proposition 50 - Authorized general obligation bonds, to be repaid from state's General Fund, to fund a variety of water projects including: specified Bay-Delta Program projects including urban and agricultural water use efficiency projects; grants and loans to reduce Colorado River water use; purchasing, protecting and restoring coastal wetlands near urban areas; competitive grants for water management and water quality improvement projects; development of river parkways; improved security for state, local and regional water systems; and grants for desalination and drinking water disinfecting projects.

Proposition 84 - Authorized \$5.4 billion in general obligation bonds to fund projects to provide safe drinking water, improve local water supply reliability, strengthen flood protection, and preserve California's natural landscapes, including parks, lakes, rivers, beaches, bays, ocean and coastline.

Rate Policy - The Board's rate policy limits annual rate increases to levels at or below inflation.

Restricted Reserves - Reserve funds whose use is constrained by Board action or by contractual or legal requirements.

Revenue - Moneys that the District receives as income. It includes such items as water sales, fees for services, contributions, interest income and other miscellaneous receipts. Estimated revenues are those expected to be collected over the panning period.

Senate Bill X7-7 – The Water Conservation Act was enacted in November 2009 and requires all water suppliers to increase water use efficiency. The legislation sets an overall goal of reducing per capita urban water use by 20% by December 31, 2020. The state shall make incremental progress towards this goal by reducing per capita water use by at least 10% by December 31, 2015. Effective 2016, urban retail water suppliers who do not meet the water conservation requirements established by this bill are not eligible for state water grants or loans.

Ten-Year Capital Improvement Program - The Ten-Year Capital Improvement Program and Financial Plan (CIP) provides a comprehensive view of the asset investments required over the next ten years to ensure adequate water resources, maintain high quality water, and meet the service needs of present and future customers.

Treated Water Service Area - Portion of the service area that receives treated water from the District's Bollman Water Treatment Plant in Concord and supplemental supply from Randall-Bold Treatment Plant via the Multi-Purpose Pipeline. The treated water service area encompasses all or part of the cities and communities of Concord, Clayton, Clyde, Pleasant Hill, Walnut Creek, Martinez, and Port Costa.

Two-Year Budget - The District's budget is presented to the Board in May and June every other year. Budget status is reviewed at approximately six-month intervals until the next two-year budget.

Unrestricted Reserves - Reserve funds that are not constrained by Board action or by contractual or legal requirements.

Untreated Water Service Area - Portion of the District's service area that receives untreated water from the Contra Costa Canal for municipal, industrial, landscape irrigation, and agricultural purposes. The District's municipal customers include the Diablo Water District; Cities of Antioch, Pittsburg, and Martinez; and the Golden State Water Company (Bay Point).

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