



Ten Year Capital Improvement Program

For Fiscal Years 2010 - 2019



Contra Costa Water District

**Ten-Year Capital Improvement Program
For Fiscal Years 2010-2019**

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Section I

EXECUTIVE SUMMARY

Section I: Executive Summary

The Ten-Year Capital Improvement Program and Financial Plan (CIP) 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 contains the Ten-Year Financial Plan that projects revenue requirements and long-term rate impacts 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.

2010 – 2019 CIP Update

The proposed CIP for fiscal years 2010 - 2019 (2010 CIP) includes 53 projects with a total estimated cost of approximately \$583.1 million. CIP projects are ranked in three priority levels. The Financial Plan assumes that priority level 1 and 2 projects totaling \$380.5 million are funded. This funded level is \$17.6 million higher than the 2009 CIP funded level (\$362.9 million) and is the net result of progress on key District projects and the addition of new projects for water quality, supply reliability, and energy reduction. This CIP reflects completion of the \$50.4 million water treatment plant for the City of Brentwood, which began delivering water to the City in July 2008 and substantial construction progress on the \$100.9 million Alternative Intake Project. In addition, this CIP contains a new \$90 million placeholder project for implementation of an expanded Los Vaqueros Reservoir.

The CIP and Financial Plan identify a potential \$100 million financial impact associated with the drought and economic downturn being experienced throughout the State. The District anticipates that the dry conditions being experienced in California will continue and there will be a significant impact on water sales for the next two years. The economic downturn and slow housing market, as well as the rebound from the drought will have a longer term effect on water sales growth and new connections. Alternatives for bridging this potential funding gap were evaluated and the Financial Plan assumes financing of the Alternative Intake Project (AIP) using long-term debt (Capital Appreciation Bonds). This allows the District to maintain rate increases at or below the rate of inflation. The decision to actually issue the debt would not be made until the completion of the AIP construction in 2011, preserving the District's flexibility to react to further changes in financial conditions.

The CIP and Financial Plan continue progress on the Los Vaqueros Reservoir Expansion Project. The environmental and planning studies are nearing completion and a placeholder project has been included for design and construction of an expanded reservoir. The current placeholder considers an expansion of the reservoir from the existing 100,000 acre-feet up to 160,000 acre-feet at a cost of approximately \$90 million, with \$25.8 million funded by the District and the remainder funded by others. The scope and timing of the project is dependent on the alternative selected and regional, federal, or state partnership agreements.

All of the priority level 1 and 2 projects in the 2010 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 less than the assumed inflation rate. The proposed rate increases and reserve balances

meet the Board's policies. Projected untreated water and treated water revenue increases do not exceed assumed inflation in any year, and the highest projected annual revenue increase over ten years is 3.75 percent. The District is able to achieve these consistently modest increases by reducing controllable operating costs, increasing competitiveness through expansion of service, investing in employee productivity through training, improved support facilities and equipment, and use of reserves to reach 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 CCWD'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. 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 \$4.3 million over the ten-year CIP period.

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 water quality objectives. Estimated funding for this program is \$131.1 million over the ten-year CIP period. Sources of funding include State and Federal agencies, CCWD revenues, and other local agencies. There are four projects in this program:

- Alternative Intake Project (priority level 1, \$33.5 million)
- Los Vaqueros Reservoir Expansion Studies (priority level 2, \$4.5 million)
- Los Vaqueros Operational Improvements (priority level 2, \$3.2 million)
- Los Vaqueros Reservoir Expansion Implementation Placeholder (priority level 2, \$90 million)

This CIP reflects significant construction progress on the Alternative Intake Project, which is scheduled to come online by Spring 2010. Total project costs are approximately \$100.9 million, down \$10 million from the last CIP due to lower construction bids. Approximately \$67.4 million is projected to be spent through FY2009 and \$33.5 million is included in this CIP. The Alternative Intake Project is a pivotal initiative in meeting the District's goal of improving drinking water quality. Chloride levels in Victoria Canal during the summer and fall are lower than the District's other Delta intakes, thereby reducing the need for Los Vaqueros blending and saving more water in the reservoir.

The Los Vaqueros Reservoir Expansion Studies is nearing completion of the environmental and engineering studies. The Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) will be out for public review soon. This CIP prepares for the next phase of the project which is design and construction of an expanded Los Vaqueros Reservoir. As an initial stage,

the CIP assumes a project to add a structure to the top of the existing dam which would increase the Reservoir capacity by 7,500 acre-feet. This \$3.2 million Los Vaqueros Operational Improvements project is funded by the District. The CIP also includes a Los Vaqueros Reservoir Expansion Implementation Placeholder project which assumes an expansion up to 160,000 acre-feet with District funding of \$25.8 million and the remainder outside funded. The scope and timing of a project to expand the Reservoir is dependent on regional, federal, or state partnership agreements.

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 based on anticipated future operating and repair costs. This program includes nine projects for purchases of capital equipment totaling approximately \$16.4 million. Significant projects include:

- Fleet Vehicles and Heavy Equipment Replacement (priority level 2, \$7.9 million)
- Replacement/Upgrade of Computer Systems (priority level 2, \$3 million)
- Replacement/Upgrade of Network Systems and Hardware (priority level 2, \$1.2 million)
- Replacement/Upgrade of SCADA Equipment (priority level 2, \$1.2 million)
- Replacement/Upgrade of Telecommunications Equipment (priority level 2, \$1.1 million)
- Replacement of Lab Equipment (priority level 2, \$0.9 million)

The fleet vehicle and heavy equipment replacement program is funded from the Vehicle Replacement Fund. The Vehicle Replacement Fund, established in 1989, is a sinking 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; formerly referred to as the Mainframe Computer) needs to be completed every seven to eight years based on hardware and software life cycles. The next replacement is scheduled for FY2014. This program also includes a new \$0.9 million project for the replacement of laboratory equipment. The schedule of the replacement of lab equipment is based on projected useful equipment lives, beyond which repairs become more costly and the availability of parts and services become limited.

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 treatment plant facilities). This program currently includes one project, a 15 MGD planned expansion of the CCWD/Brentwood Water treatment Plant (priority level 1, \$45 million) in the later years of the CIP. The expansion will serve the ultimate needs of the City of Brentwood and will be fully paid for by the City.

Future Water Supplies -- This program includes \$10.1 million in projects related to meeting future water supply requirements except conservation projects, which are in the Water/Energy Demand Reduction program. The program includes two projects: 1) periodic updates to the Future Water Supply Study (\$0.4 million), and 2) a placeholder for water supply projects (\$9.7 million). The water supply projects in this program will serve future growth and are fully funded from Facility Reserve Charge (FRC) revenues. These projects help meet CCWD's goals of increasing water supply reliability.

Los Vaqueros Watershed and Recreation -- The projects in this program total \$7.4 million and provide for renewal and replacement of recreation equipment and facilities (Recreation Facilities and Equipment, priority level 2, \$0.9 million), Watershed Improvements (priority level 2, \$5 million), and Land Acquisition and Real Property Management (priority level 2, \$1.5 million). Projects within this program are based on the Resource Management Plan and Recreation Plan for the Watershed. The Watershed projects are predominantly focused on meeting regulatory permit requirements and helping to maintain water quality in the reservoir. Watershed projects in this CIP include a new project to rehabilitate several roads in the watershed. This program also includes funding for projects that may increase revenues through leases of District lands for grazing, wind power, 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; and 2) the Treated Water Renewal and Replacement Study (2005). Investments of \$69.8 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 also includes \$1.4 million in new treated water facilities and an additional \$14.7 million is estimated for applicant-funded projects. Significant projects within this program include the following:

- Distribution Facilities (applicant projects) (priority level 1, \$14.7 million)
- Pipeline Renewal/Replacement (priority level 2, \$22.7 million)
- Port Chicago Pipeline Phase II (priority level 1 \$1.2 million)
- TW Facilities Improvement Program (priority level 2, \$16.6 million)
- TW Reservoir Rehabilitation (priority level 2, \$7.4 million)

Funding for rehabilitation projects is from treated water rate revenues. Funding for new facilities is split between treated water rate revenues and FRC 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 \$161.8 million. Significant projects within this program include the following:

- Canal Replacement Project (priority level 1 and 2, \$5.0 million; level 3, \$72.9 million)
- Rock Slough Fish Screen (priority level 1, \$5,000; level 3 \$24.3 million)
- Untreated Water Data Logger Replacements (priority level 2, \$1.9 million)
- Untreated Water Facilities Improvement Program (priority level 2, \$27.5 million)
- Untreated Water Pipeline (priority level 2, \$20.7 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. Much of this project will be funded by others, including Reclamation, developers, State bond funds, and other State and federal funding programs. This project helps the District achieve its goal of improving water quality. The Untreated Water Facilities Improvement Program funds renewal and replacement of pumping and conveyance facilities and includes such activities as canal lining replacement and pump station rehabilitation. Overall, the Untreated Water Supply and Transport program contains approximately \$38 million for renewal and replacement of existing untreated water facilities. This investment directly advances the goal of increasing system reliability. Construction of the Untreated Water Pipeline (the “Green Line”) is included in the latter portion of the ten-year CIP window. This project is scheduled to begin in FY2014 and will include a 36 MGD pump station and a four-mile untreated water pipeline to parallel the existing Canal and increase conveyance capacity and improve system reliability. The estimated costs for the Rock Slough Fish Screen have been increased by \$24.3 million to reflect the addition of a priority level 3 placeholder for construction, with the District taking the lead for immediate implementation upon funding. The District has proposed that it would complete the project on a contract basis, subject to the availability of federal funds.

Water/Energy Demand Reduction – This program has been expanded since the last CIP to include 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 results 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 conservation. Conservation incentives are expected to produce cumulative water savings of over 16,000 acre-feet over the ten-year CIP period.

The District is preparing an energy master plan that will identify and prioritize projects to reduce energy demand including solar, hydropower, and pump efficiency replacements. A placeholder project for the results of the master plan has been added to this CIP but as a priority level 3 (unfunded) because none of the projects identified meet the Board’s investment criteria. The District is continuing its development of renewable energy sources for its operations, with a hydroelectric generation facility for the Los Vaqueros Pipeline and the recently completed Ygnacio Pump Station Solar Energy Project that provides electricity to deliver treated water.

The funding estimate for this program is \$18.4 million. Significant projects within this program include the following:

- Water Conservation Incentives (priority level 1, \$9 million)
- Los Vaqueros Energy Recovery (priority level 2, \$5.3 million)
- Energy Master Plan and Implementation Placeholder (priority level 2, \$35,000; 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 Water

Treatment Plant (WTP) Master Plan (2003). Estimated costs for the program are \$118.5 million, including \$17 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. The priority level 3 costs are primarily related to the Membrane Filtration Placeholder (\$80 million), a water quality improvement project that may be necessary if Delta water quality degrades or if future new regulations require advanced treatment. Significant projects in this program include:

- Bollman WTP Improvements (priority level 2, \$10.2 million; priority level 3, \$4.8 million)
- City of Brentwood WTP Improvements (priority level 2, \$2.1 million; priority level 3, \$0.6 million)
- Membrane Filtration Placeholder (priority level 3, \$80 million)
- Randall-Bold WTP Improvements (priority level 2, \$5.6 million; priority level 3, \$5 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 of the 2010 CIP are \$70.5 million and are based on the adopted two-year budget with the exception that water costs have been adjusted to reflect reduced water sales associated with the dry conditions. Future operating costs are assumed to increase by 4% annually, with the exception of CVP water costs that increase at approximately twice the rate of inflation. Operating cost impacts resulting from capital projects are incorporated into the operating cost projections in the year the facility comes on line. In addition, the Financial Plan anticipates an increase in water costs of \$18 million (escalated dollars) between FY2011 and FY2019 as a result of the implementation of a water surcharge by the state to fund activities such as the Delta Vision and Bay Delta Conservation Plan process or the AB32 public goods charge.

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 increase in operating costs related to implementing all of the priority level 1 and 2 projects in the CIP is estimated to be approximately \$560,000, including three additional full time employees.

Financial Plan Highlights

The financial information in the CIP has been updated to include actual operating and capital expenditures and reserve balances through FY2009, and revised revenue projections and anticipated costs projected for the ten-year CIP period. The Financial Plan reflects the District's continued commitment to provide outstanding customer service while controlling costs that impact water rates 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 average coverage ratio during the ten-year planning period is 1.6. All of the priority level 1 and 2 projects can be funded and all operating

costs and debt service obligations met with minimal, orderly revenue increases over the ten-year CIP planning period. The proposed rate increases meet the Board’s rate policy that all projected rate increases must be at or below the assumed annual rate of inflation. Projected untreated water and treated water revenue increases do not exceed assumed inflation in any year, and the highest projected revenue increase is three percent. Highlights of the ten-year Financial Plan follow.

Capital Projects and Funding Sources

The total cost of projects in the CIP is approximately \$583.1 million, an increase of \$57.9 million from the 2009 CIP. The increase in total CIP costs is the net result of inflation, adding new projects, and adjusting cost estimates 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 \$380.5 million in the 2010 CIP.

Priority Level	2010 CIP Costs	2009 CIP Costs
1	\$ 118.7 million	\$ 100.2 million
2	\$ 261.8 million	\$ 262.7 million
Subtotal	\$ 380.5 million	\$ 362.9 million
3	\$ 202.6 million	\$ 162.3 million
Total	\$ 583.1 million	\$ 525.2 million

Table I-1 CIP Project Cost Comparison by Priority

As shown in Table I-1, this total is \$17.6 million higher than the priority level 1 and 2 totals in the 2009 CIP. Priority level 3 projects have increased by approximately \$40.3 million over the 2010 CIP. The primary driver of the increase is the conversion of a portion of the Canal Replacement Project from priority level 2 to level 3 due to uncertainty in outside funding and the addition of a \$24.3 million placeholder project for construction of the Rock Slough Fish Screen.

As shown in Table I-2, of the \$380.5 million in funded project costs, \$170.5 million are revenue funded (45%), \$148.6 million are funded by others (39%), and \$61.4 million (16%) are debt-funded. For comparison purposes, the funding sources for the 2009 CIP are also shown.

The increase in debt-funded CCWD reflects the assumption that the commercial paper debt on the Alternative Intake Project will be refinanced through the use of Capital Appreciation Bonds (CABs).

Funding Source	2010 CIP Costs	2009 CIP Costs
Debt-funded CCWD	\$ 61.4 million	\$ 20.1 million
Funded by others	\$148.6 million	\$146.3 million
Revenue-funded	\$170.5 million	\$196.5 million
Total	\$380.5 million	\$362.9 million

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

The use of CABs has been assumed to minimize the financial impacts of the economic downturn and drought to keep rate increases at or below the rate of inflation. CABs are similar to the other long-term bonds issued by the District 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. The use of CABs provides a financial mechanism for the District to keep reserve funds in the fund balance and schedule debt payments to coincide with debt retirement on other bonds, and shifts the payments to customers that

benefit from the project. Funded by others has increased slightly compared to the last CIP. However, the \$30 million for the AIP that was identified in SBXX1 and Proposition 84 is no longer included because the timing of the District receiving these funds is uncertain due to current economic conditions. The District is moving forward with the AIP and will continue to aggressively pursue this outside funding. Additional decreases in funded by others due to progress on projects and the economic downturn are offset by the new project for the Los Vaqueros Reservoir Expansion, which assumes \$64.2 million or approximately 70% of the project will be funded by others. Revenue-funded projects have decreased by \$25.9 million, primarily driven by the assumption that the AIP will be financed with the use of CABs.

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 2009 CIP are also shown. Projected expenditures over the first five years of the 2010 CIP have decreased by approximately \$72 million compared to projected expenditures over the first five years of the 2009 CIP. The decrease is primarily the result of work completed in 2009 on the City of Brentwood Water Treatment Plant and the Alternative Intake Project. Projected expenditures in the last 5 years of the 2010 CIP have increased by approximately \$90 million over the prior CIP, driven primarily by the addition of the new placeholder project for design and construction of an expanded Los Vaqueros Reservoir.

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

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
2010 CIP	NA	60.4	25.6	17.4	21.6	28.0	55.0	69.7	55.6	31.2	15.9	380.5
2009 CIP	77.0	66.8	29.5	25.2	26.1	26.1	42.8	33.5	21.4	14.7	NA	362.9

Revenue-Funded Capital and Debt Service Costs

The District’s annual investment in capital facilities is the sum of revenue-funded capital costs and existing and future debt service costs. CCWD currently pays debt service for Los Vaqueros, Randall-Bold, the Bisso Administration Building, the Multi-Purpose Pipeline 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 untreated and treated water capital and debt service costs by fiscal year between the 2010 CIP and the 2009 CIP for priority level 1 and 2 projects.

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

a) Untreated Water

CIP	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
2010	N/A	50.9	50.4	43.7	46.1	44.9	58.8	45.4	46.3	48.1	86.8	521.4
2009	44.1	71.1	52.4	66.6	64.9	64.4	57.4	44.4	44.5	45.3	N/A	555.2

The 2010 CIP reflects a decrease in untreated water revenue funded projects of \$33.8 million (inflated) dollars compared to the 2009 CIP. The decrease is driven by the decision to fund the AIP with commercial paper and eventually CABs.

b) Treated Water

CIP	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
2010	N/A	17.0	16.8	14.9	13.0	14.5	13.7	14.7	14.3	15.1	17.7	151.7
2009	16.3	18.2	14.9	13.3	12.6	14.8	13.3	15.6	13.7	17.9	N/A	150.6

There was a slight increase in treated water revenue funded projects of \$1.1 million compared to last year's CIP.

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 2009 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**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
2010 CIP	N/A	3.25%	3.5%	3.5%	3.5%	3.5%	3.75%	3.75%	3.75%	3.75%	3.75%
2009 CIP	3.0%	3.25%	3.5%	3.5%	3.5%	3.5%	3.75%	3.75%	3.75%	3.75%	N/A

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

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
2010 CIP	N/A	3.25%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
2009 CIP	3.0%	3.25%	3.3%	3.3%	3.3%	3.3%	3.5%	3.5%	3.5%	3.5%	N/A

The 2010 CIP and Financial Plan meets the Board’s rate and reserve policies while anticipating significant water sales revenue reductions. Projected untreated water and treated water revenue increases do not exceed assumed inflation in any year. Implementing the 2010 CIP will require annual untreated revenue increases ranging from 3.25% to 3.75%. Projected treated water revenue increases range from 3.25% to 3.5%. These revenue increases are consistent with those projected in the 2009 CIP, with modest increases in treated water revenue increases for 2011 to 2014. The District is able to achieve these consistently modest increases by reducing controllable operating costs, increasing competitiveness through expansion of service, investing in employee productivity through training, improving support facilities and equipment, and using reserves to reach the Board’s reserve policy levels over the ten-year CIP.

Section II

BACKGROUND

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 2010-2019 CIP is an update of the previous CIP covering fiscal years 2009-2018, adopted by the Board on February 20, 2008. 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:

- 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.
- 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.
- Water Quality/Reliability – Have no reportable Department of Health Services violations and no excesses of the Maximum Contaminant Level for substances listed in the Annual Water Report.
- 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 550,000 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 137,127 acres (including the Los Vaqueros watershed area of approximately 19,100 acres). Water is provided to a combination of municipal, residential, commercial, industrial, landscape irrigation, and agricultural customers. Major untreated water municipal customers include the Golden State Water Company (Bay Point), Diablo Water District (Oakley), and 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, CCWD treats and delivers water to the City of Brentwood, Golden State Water Company (Bay Point), Diablo Water District (DWD), and the City of Antioch. CCWD has recently entered into an agreement with the Golden State Water Company to meet 100% of the demands in the Community of Bay Point through a new interconnection on the Multi-Purpose Pipeline.

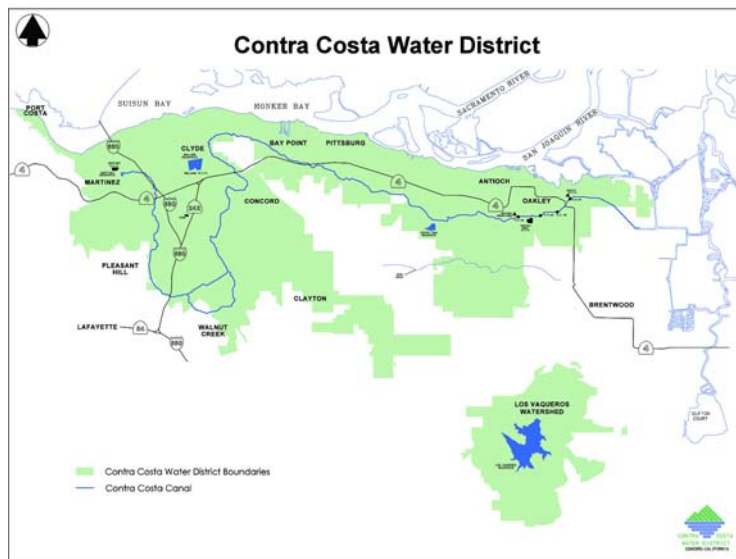


Figure II-1 District Service Area

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 265,000 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, and by contract, to the Cities of Antioch and Brentwood, Golden State Water Company (Bay Point), and new growth in Central County. 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 CCWD 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 CCWD'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, CCWD 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 CCWD 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.

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. EBMUD has requested CCWD's assistance to wheel water from the Delta to EBMUD's Mokelumne Aqueduct if EBMUD's storage is below their drought target levels and until EBMUD's Freeport project comes on line. Up to 15,000 acre feet per year of EBMUD's Central Valley Project water would be pumped from the Delta at Old River through CCWD's Los Vaqueros Pipeline to EBMUD's Mokelumne Aqueduct.

In addition, CCWD is partnering with the East Bay Municipal Utility District, the San Francisco Public Utilities Commission, and the Santa Clara Valley Water District to jointly explore the development of regional desalination facilities that would benefit over 5.4 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 additional source of water during emergencies such as earthquakes or levee failures and supplemental water supplies during extended droughts. A pilot test is currently underway at CCWD'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

CCWD's mission is to "strategically provide a reliable supply of high-quality water at the lowest cost possible, in an environmentally responsible manner." CCWD obtains its water supply exclusively from the Sacramento-San Joaquin Delta (Delta) and serves treated and raw (untreated) water to approximately 550,000 people in central and eastern Contra Costa County. All of CCWD'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, CCWD has spent over \$1 billion on capital improvements, including \$450 million on the Los Vaqueros Project, as well as over \$200 million on projects directly related to improving water quality and the security of CCWD'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 CCWD projects). Notwithstanding these efforts, Delta water quality at CCWD's intakes (as measured by chlorides) has declined significantly over the last twenty years, affecting the reliability of CCWD'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 delivered chloride goal of 65 milligrams per liter.

CCWD is implementing a comprehensive water quality strategy to protect and improve source and treated water quality for its customers. CCWD's multi-pronged approach includes seeking improved water quality sources, reducing impacts of Delta agricultural drainage on source water quality, participating in collaborative research on advanced water treatment of Delta water, and supporting regulatory and legislative initiatives for improving drinking water quality and source water protection. Specific actions taken by CCWD include:

Frank's Tract 2 Gate Barrier Plan: A Franks Tract project (barriers) will improve Delta water quality by reducing Delta salinity intrusion in the fall and will provide substantial fish benefits in winter and spring. The 2-Gate Plan works by preventing the movement of delta smelt congregating in the vicinity of Franks Tract into the Central Delta. The Metropolitan Water District of Southern California, the State Water Contractors, CCWD, San Luis & Delta Mendota Water Authority, DWR and Reclamation are working in cooperative fashion to develop and implement the 2-Gate Plan, which will offer fisheries protection and water supply reliability benefits.

Alternative Intake Project: This CCWD water quality project provides Delta fishery benefits by reducing Delta diversions in the fish sensitive period from January through June, increasing screened diversion capacity and by allowing operational flexibility in pumping locations when sensitive fish species are present in the Delta. The additional intake improves water quality for CCWD's customers and improves water supply reliability for up to 6 million Bay Area residents through existing, permitted interties with other Bay Area water agencies.

Advanced Treatment Project: CCWD is leading a research effort to assess the effectiveness of water treatment processes in removing contaminants in Delta water. The contaminants being tested include endocrine disrupting compounds and pharmaceutical and personal care products. The work is also evaluating advanced methods of reducing formation of disinfection by-products.

Canal Replacement Project: The project will eliminate eight miles of levees and replace the unlined portion of the federally-owned Contra Costa Canal with a buried pipeline. This project will provide immediate action and benefit to 550,000 customers in CCWD's service area, residents of Brentwood and Oakley that live near the levees, and would help the Central Valley Project (CVP) meet water quality standards in the Canal while reducing water releases from upstream reservoirs.

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. 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 River via the Los Vaqueros Project pipelines and from Mallard and Rock Slough. A fourth Delta intake (Alternative Intake Project) is currently under construction and is scheduled to begin operation by 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.

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 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. 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.

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 40 MGD Randall-Bold Water Treatment Plant, and the 15 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 60,636 active service connections to the treated water system, servicing approximately 137,672 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 through treatment of non-Los Vaqueros water, 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

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 principle 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. The next CIP update will form the basis of the next two-year budget, and the cycle repeats. The District's financial planning process is shown in the following figure.

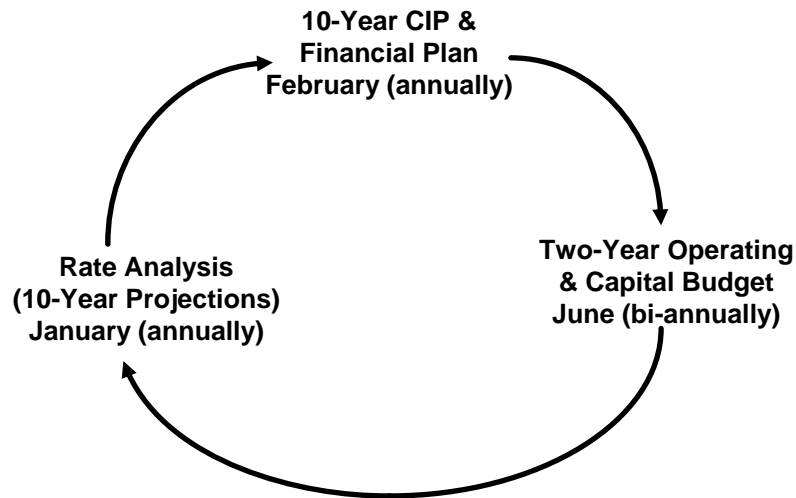


Figure III-1 District Financial Planning Process

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 2009 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	(38/62)
Sub-programs: Facilities Expansion	
Facilities Upgrades	
Delta Projects	(100/0)
Equipment and Other Capital Purchases Program²	(38/62)
Sub-programs: Equity Funded Equipment	
Vehicle Replacement Fund	
Expansion of Services Program³	(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. The SCADA project is allocated 45% untreated / 55% treated per distribution of system components.
3. 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, the Untreated Water Reservoir Rehabilitation project is ranked level 1 because it is required by the California Department of Safety of Dams and USBR 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 competitiveness.

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 (except annual 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 2009 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 2010 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 have changed significantly from the 2009 CIP and incorporate the anticipated impacts from the drought and economic downturn being experienced across the State. 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. Growth projections for financial planning are used in projecting revenues and are therefore usually conservative or at the lower end of an acceptable range. In contrast, growth projections for capacity planning 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 an average year 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 have been modified to account for the potential impacts of the dry conditions and the economic downturn being experienced across the State. The District anticipates that the dry conditions will continue and there will be an impact on water sales in the near term. The economic downturn, slow housing market, and rebound from the drought will have a longer term effect on water sales growth and new connections. Key assumptions for this CIP are shown below. Assumptions that represent a significant change from the previous CIP have been shown in bold.

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 Alternative Intake Project, MPP-Untreated Water Pipeline and the Los Vaqueros Reservoir Expansion Placeholder are assumed to be debt-funded.
7. The District will utilize commercial paper to provide short-term financing consistent with District policy. Commercial paper, other than that eligible for refinancing with low interest State Revolving Fund loans, will be converted to 30-year fixed bonds in the future, or paid off from reserves. Capital Appreciation Bonds are used to debt finance the Alternative Intake Project after the completion of construction in 2011.
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 reduced to reflect continued dry conditions. Municipal and retail treated water consumption is estimated to decline 25% in 2010 in anticipation of a potential rationing program being required. Industrial untreated water consumption reductions due to the drought are limited to no more than 5%, returning to historic consumption levels by 2013. Rebound to pre-drought levels occurs gradually over the subsequent three years through 2013.**
10. **Economic downturn reduces the estimated number of new connections in 2010 to 520 untreated water and 140 treated water connections, significantly reducing Facility Reserve Charge revenues. Connections and FRC revenues gradually recover to the to five year average by 2013.**

Inflation

11. Inflation is projected at 4% per year for operating and maintenance expenditures (excluding purchased water) based on the historical average.
12. Inflation is projected at 4% per year for all capital costs in the Financial Plan.
13. CVP water costs are estimated to increase by approximately twice the rate of inflation per year, beginning in FY2011.

Capacity Planning

14. Demand projections from the Future Water Supply Study update (2002) are used as the basis for sizing and scheduling construction of capital facilities.
15. 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

16. Project costs (capital and O&M) are expressed in current (FY2010) dollars unless otherwise noted. Costs in the Financial Plan are escalated by the appropriate inflation rates, as described above.
17. 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.

18. Components of capital cost estimates include land acquisition; construction; engineering services (planning, design, and construction management); 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.
 19. Estimates of O&M costs include labor, materials, equipment, and other expenses (such as power) required for all District operations, including operating and maintaining property and facilities.
 20. 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%)
 21. 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.
 22. 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	(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	2010
Seismic and Reliability Improvements Project	1997	(a)
Treated Water Master Plan Update	2007	2012
Treated Water Renewal/Replacement Study	2005	2011
Untreated Water Renewal/Replacement Study	2006	2011
Water Treatment Plant Master Plan	2003	2011
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.

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 as described in Assumption 20. 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. According to the *Engineering News Record* (ENR), the Construction Cost Index for the Bay Area increased 2.9% from September 2007 to September 2008. Costs for projects in the previous CIP have also been adjusted as appropriate to reflect recent price increases for concrete, steel, and electrical work.

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 commercial paper is assumed at 3.5%. Starting in 2010, CVP water costs are

increased at approximately twice the rate of inflation 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, 38% and 62%, 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

Section IV: Program Summary

This section provides a summary of each of the ten program areas of the 2010 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 2009 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 2009 CIP.

Table IV-1 2010 CIP by Program

(In millions of dollars, current dollars)

Program	2010 CIP	2009 CIP
Administrative, Support, and Maintenance Facility Improvements	4.3	4.3
Delta Projects	131.1	96.3
Equipment & Other Capital Purchases	16.4	14.8
Expansion of Services	45.3	49.5
Future Water Supplies	10.1	10.0
Los Vaqueros Watershed and Recreation	7.4	5.1
TW Distribution and Storage	69.8	74.6
Untreated Water Supply & Transport	161.8	140.6
Water/Energy Demand Reduction	18.4	16.2
Water Treatment Facilities	118.5	113.9
TOTAL	583.1	525.2

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 2010 CIP and 2009 CIP, respectively.

Table IV-2 2010 CIP by Fiscal Year and Priority
(In millions of dollars, current dollars)

	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	TOTAL
Priority Level 1*	11.2	3.2	3.0	6.8	13.6	27.6	13.4	3.1	3.1	3.1	88.1
Priority Level 2*	20.1	19.7	12.5	14.3	11.5	23.9	39.8	34.7	16.0	12.9	205.3
Priority Level 3	0.6	5.4	33.6	45.3	47.4	27.8	27.0	15.6	0.0	0.0	202.6
Total	31.9	28.3	49.1	66.3	72.5	79.3	80.3	53.4	19.1	15.9	495.9
Debt-funded CCWD	29.2	2.7	1.9	0.5	3.0	3.5	16.5	17.8	12.1	0.0	87.2
Debt-funded Brentwood	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grand Total	61.0	31.0	51.0	66.8	75.4	82.8	96.8	71.2	31.2	15.9	583.1

* Excluding debt-funded projects

Table IV-3 2009 CIP by Fiscal Year and Priority
(In millions of dollars, current dollars)

	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
Priority Level 1*	8.5	8.4	11.1	3.2	6.8	14.6	24.4	13.0	3.0	3.0	96.0
Priority Level 2*	23.3	43.2	17.6	21.8	19.1	11.0	16.9	11.1	9.2	11.6	184.8
Priority Level 3	0.8	9.4	11.4	53.0	36.1	22.8	1.6	13.6	13.5	0.0	162.2
Total	32.7	61.0	40.1	78.0	62.0	48.3	42.8	37.7	25.6	14.5	442.7
Debt-funded CCWD	42.3	15.7	0.0	0.0	0.0	0.3	1.3	9.3	9.2	0.0	78.1
Debt-funded Brentwood	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3
Grand Total	79.2	76.8	40.1	78.0	62.0	48.7	44.2	47.0	34.8	14.5	525.3

* 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 (priority level 1, \$4.3 million) 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. A project to rewire the District Center’s communications systems is planned for FY2011.

Estimated expenditures in this program for the 2010 CIP are \$4.3 million. Estimated funding for this program, by fiscal year, is shown in Table IV-4. For comparison, 2009 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	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	10-YR. TOTAL
2010	NA	0.4	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	4.3
2009	0.5	0.4	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.4	NA	4.3

The Annual Building and Facility Improvements (priority level 1, \$4.3 million) is currently the only project within this program.

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 2009 CIP are also shown. The District’s energy demand projects were formerly in this program but have been transferred to the new Water/Energy Demand Reduction Program. CIP totals for both the 2010 and 2009 CIP have been adjusted to reflect this organizational change.

Comparison to 2009 CIP

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

A. 2010 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	TOTAL
Facilities Upgrades	Annual Bldg. & Facility Imp.	1	435	723	398	398	398	398	398	398	398	398	4,342
	PROGRAM TOTAL		435	723	398	398	398	398	398	398	398	398	4,342

B. 2009 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
Facilities Upgrades	Annual Bldg. & Facility Imp.	1	533	398	613	398	398	398	398	398	398	398	4,330
	PROGRAM TOTAL		533	398	613	398	398	398	398	398	398	398	4,330

Delta Projects

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

Estimated expenditures within this program over the next ten years are \$131.1 million and include four projects. The Alternative Intake Project is a pivotal initiative in meeting the District’s goal of improving water quality. Water quality objectives will be met 95% of the time with this project on line and both average and maximum delivered chlorides would be lower. The Los Vaqueros Reservoir Expansion Studies is a CALFED project being managed by the District and would help meet CCWD’s goals of increasing water quality, supply reliability, and emergency storage. The Los Vaqueros Reservoir Expansion Project Implementation Placeholder considers an expansion of the existing reservoir up to 160,000 acre-feet. The scope and timing of this project will depend on the alternative selected and regional, federal, or state partnership agreements.

Estimated funding for this program, by fiscal year, is shown in Table IV-6. For comparison, program costs from the 2009 CIP are also shown.

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

CIP	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	10-YR. TOTAL
2010	NA	34.0	4.5	0.5	2.2		8.2	41.0	33.6	7.2		131.1
2009	51.8	41.3	3.1									96.3

The four projects proposed within this program are:

- Alternative Intake Project (priority level 1, \$33.5 million, escalated dollars)
- Los Vaqueros Reservoir Expansion Studies (priority level 2, \$4.5 million)
- Los Vaqueros Operational Improvements (priority level 2, \$3.2 million)
- Los Vaqueros Reservoir Expansion Implementation Placeholder (priority level 2, \$90 million)

Table IV-7 shows a comprehensive listing of projects within this program. For comparison purposes, project costs as estimated in the 2009 CIP are also shown.

Comparison to 2009 CIP

Estimated program costs have increased by \$34.9 million compared to the 2009 CIP. This is the net result of progress on projects and the addition of new projects for water quality and water supply reliability. Total costs for the Alternative Intake Project have decreased by approximately \$10 million compared to the last CIP because of favorable construction bids. The District has made substantial construction progress on this project, which is scheduled to come online before July 2010. The Los Vaqueros Reservoir Expansion Studies, which has focused on completing environmental and planning studies is down \$3.3 million as these studies are nearing completion. Remaining funding within this project includes completion of the Environmental Impact Statement/Environmental Impact Report and state and federal feasibility studies. As an initial stage, the CIP assumes a project to add a structure to the top of the existing dam which would increase the Reservoir capacity by about 10,000 acre-feet. This \$3.2 million Los Vaqueros Operational Improvements project is funded by the District. This CIP also includes a Los Vaqueros Reservoir Expansion Implementation Placeholder project which assumes an expansion up to 160,000 acre-feet with District funding of \$25 million and the remainder outside funded. The final scope and timing of an expanded reservoir will depend on regional, federal, or state partnership agreements.

Table IV-7 Projects within the Delta Projects Program

A. 2010 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	TOTAL
Delta Projects	Los Vaqueros Expansion Studies	2	2,012	2,445									4,457
Delta Projects	Alternative Intake Project	1	31,955	1,511									33,466
Delta Projects	Los Vaqueros Expansion Project Implementation Placeholder	2						8,200	41,000	33,600	7,200		90,000
Delta Projects	Los Vaqueros Operational Improvements	2		500	500	2,200							3,200
	PROGRAM TOTAL		33,967	4,456	500	2,200		8,200	41,000	33,600	7,200		131,123

B. 2009 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
Delta Projects	Los Vaqueros Expansion Studies	2	4,225	3,520									7,745
Delta Projects	Alternative Intake Project	2	47,619	37,765	3,123								88,507
	PROGRAM TOTAL		51,844	41,285	3,123								96,252

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 (\$8.4 million) and Vehicle Replacement Fund (\$7.9 million). 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 sinking 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 approximately \$16.4 million. Estimated funding for this program, by fiscal year, is shown in Table IV-8. For comparison, 2009 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	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	10-YR. TOTAL
2010	NA	2.4	2.6	1.4	1.2	2.2	1.2	1.8	1.2	0.9	1.5	16.4
2009	2.0	1.9	1.8	1.3	1.0	2.0	1.0	1.7	1.2	0.9	NA	14.8

Significant projects proposed in this program include the following:

- Fleet Vehicles & Heavy Equipment (priority level 2, \$7.9 million)
- Replacement/Upgrade of Computer Systems (priority level 2, \$3 million)
- Replacement/Upgrade of Network Equipment (priority level 2, \$1.2 million)
- Replacement/Upgrade of SCADA Equipment (priority level 2, \$1.2 million)
- Replacement of Lab Equipment (priority level 2, \$0.9 million)
- Heavy Diesel Engine Retrofits (priority level 2, \$0.5 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 2009 CIP are also shown.

Comparison to 2009 CIP

Total program costs have increased by approximately \$1.4 million from the 2009 CIP. The primary driver for this increase is the addition of two new projects. The Replacement of Lab Equipment (priority level 2, \$0.9 million) has been added for lab equipment based on projected useful equipment lives, beyond which repairs become more costly and the availability of parts and services become limited. A new project has also been added to retrofit the District's heavy diesel engine vehicles (priority level 1, \$450,000), which is a regulatory requirement.

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

A. 2010 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	TOTAL
Equity Funded	GIS	2/3	303	60	60								423
Equity Funded	Repl/Upgrade of Radio Equipment	2	55									150	205
Equity Funded	Repl/Upgrade of Comp Systems	2	135	405	89	127	999	127	711	89	127	190	2,999
Equity Funded	Repl/Upgrade of Network Systems and Hardware	2	94	221	237	12	51	94	221	237	12	51	1,230
Equity Funded	Repl/Upgrade of SCADA	2	699	103	103	138	138						1,181
Equity Funded	Repl/Upgrade of Telecomm. Equip.	2	49	460		80				31	46	460	1,126
Equity Funded	Replacement of Lab Equipment	2		280	150	105	200	100	50			40	925
Equity Funded	Heavy Diesel Engine Retrofits	2	210	240									450
Vehicle Repl. Fund	Fleet Vehicles & Heavy Equipment	1	819	846	732	710	794	836	839	842	720	735	7,873
PROGRAM TOTAL			2,364	2,615	1,371	1,172	2,182	1,157	1,821	1,199	905	1,626	16,412

B. 2009 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
Equity Funded	GIS	2/3	452	213	128	193							986
Equity Funded	Lindsey Basin Communications Reloc.	2	374										374
Equity Funded	Repl/Upgrade of Radio Equipment	2	50	50									100
Equity Funded	Repl/Upgrade of Comp Systems	2	86	123	86	86	123	971	123	691	86	123	2,498
Equity Funded	Repl/Upgrade of Network Systems and Hardware	2	49	86	215	230	11	49	86	215	230	11	1,182
Equity Funded	Repl/Upgrade of SCADA	2	200	640	100	100	134	134					1,308
Equity Funded	Repl/Upgrade of Telecomm. Equip.	2	30	45	447		78				30	45	675
Vehicle Repl. Fund	Fleet Vehicles & Heavy Equipment	2	750	750	822	661	640	871	812	815	818	700	7,639
PROGRAM TOTAL			1,991	1,907	1,798	1,270	986	2,025	1,021	1,721	1,164	879	14,762

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). There is currently one project in this program related to the City of Brentwood. The CCWD/Brentwood WTP was recently completed by the District and began to serve water to the City in July 2008. There is a planned expansion of this facility in the latter portion of the CIP which will be sized to serve the ultimate demands of the City. 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	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	10-YR. TOTAL
2010	NA			0.2	3.7	10.0	21.1	10.3				45.3
2009	5.4			0.2	3.8	11.1	18.9	10.0			NA	49.5

Table IV-11 shows a comprehensive listing of the projects included in this program. For comparison purposes, project costs estimated in the 2009 CIP are also shown.

Comparison to 2009 CIP

Program costs are approximately \$4 million lower than the 2009 CIP. The primary driver for the decrease is the completion of the CCWD/Brentwood WTP. The construction schedule for the CCWD/Brentwood WTP was accelerated and the plant came online six months early with substantial completion July 2008. A potential expansion of this facility is planned for in the latter part of the CIP. The actual timing of the expansion project will depend on growth and the needs of the City.

Table IV-11 Projects within the Expansion of Services Program

A. 2010 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	TOTAL
Wholesale TW	CCWD/Brentwood WTP Expansion	1			210	3,670	10,030	21,075	10,315				45,300
PROGRAM TOTAL					210	3,670	10,030	21,075	10,315				45,300

B. 2009 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
Wholesale TW	CCWD/Brentwood WTP	1	5,424										5,424
Wholesale TW	CCWD/Brentwood WTP Expansion	1				176	3,821	11,141	18,876	10,024			44,038
PROGRAM TOTAL			5,424			176	3,821	11,141	18,876	10,024			49,462

Future Water Supplies Program

This program includes projects related to meeting future water supply requirements. These projects help meet CCWD’s goals of increasing water supply reliability. The program currently has two 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.

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. An update to the FWSS has begun and is scheduled to be completed in FY2010.

The Future Water Supplies Placeholder includes annual funding for new supplies for growth (\$9.7 million). 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, \$10.1 million, is shown by fiscal year in Table IV-12. For comparison, the 2009 CIP cost estimates are also shown.

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

CIP	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	10-YR. TOTAL
2010	NA	0.10	0.09	0.12	0.15	0.33	8.47	0.15	0.15	0.15	0.43	10.1
2009	0.15	0.15	0.15	0.15	0.30	0.15	8.24	0.15	0.15	0.43	NA	10.0

The two projects within this program are:

- Future Water Supplies Placeholder (priority level 2, \$9.7 million)
- Future Water Supply Study Updates (priority level 2, \$0.45 million)

Table IV-13 on page IV-12 shows a comprehensive listing of projects within this program. For comparison, 2009 CIP funding levels are also shown.

Comparison to 2009 CIP

Program costs are essentially the same as the 2009 CIP. There have been no significant changes to this program, other than adjustments for inflation.

Table IV-13 Projects within the Future Water Supplies Program

A. 2010 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	TOTAL
Planning	Future Water Supply Study Updates	2	2				175					275	452
Water Supplies	Future Water Supplies Placeholder	1/2	94	94	123	150	150	8,473	150	150	150	150	9,684
	PROGRAM TOTAL		96	94	123	150	325	8,473	150	150	150	425	10,136

B. 2009 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
Planning	Future Water Supply Study Updates	2					150					275	425
Water Supplies	Future Water Supplies Placeholder	1/2	153	153	153	153	153	153	8,241	153	153	153	9,618
	PROGRAM TOTAL		153	153	153	153	303	153	8,241	153	153	428	10,043

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. 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. The Land Acquisition project is also included in this program.

Estimated expenditures for the program are shown in Table IV-14. The program total is \$7.4 million. For comparison, 2009 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	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	10-YR. TOTAL
2010	NA	0.6	1.1	0.6	0.7	0.5	0.5	0.4	0.4	1.2	1.3	7.4
2009	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	NA	5.1

The three projects proposed in this program are the following:

- Los Vaqueros Recreation Facilities & Equipment (priority level 2, \$0.9 million)
- Land Acquisition (priority level 2, \$1.5 million)
- Los Vaqueros Watershed Improvements (priority level 2, \$5 million)

Table IV-15 shows a comprehensive listing of the projects in this program. For comparison purposes, project costs as estimated in the 2009 CIP are also shown.

Comparison to 2009 CIP

Project costs are projected to be higher by \$2.2 million versus the 2009 CIP. The primary driver for the overall increase was a \$2.6 million increase in the Los Vaqueros Watershed Improvements projects which was increased to reflect several road rehabilitation projects in the watershed.

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

A. 2010 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	TOTAL
Recreation	LV Rec Facilities and Equipment	2	143	187	117	107	77	62	52	62	62	62	931
Watershed	Land Acquisition	2	168	148	148	148	148	148	148	148	148	148	1,500
Watershed	LV W/S Improvements	1/2	254	754	324	459	299	334	234	239	984	1,069	4,950
	PROGRAM TOTAL		565	1,089	589	714	524	544	434	449	1,194	1,279	7,381

B. 2009 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
Recreation	LV Rec Facilities and Equipment	2	131	131	131	131	131	131	131	131	131	131	1,310
Watershed	Land Acquisition	2	144	144	144	144	144	144	144	144	144	144	1,440
Watershed	LV W/S Improvements	1/2	234	234	234	234	234	234	234	234	234	234	2,340
	PROGRAM TOTAL		509	509	509	509	509	509	509	509	509	509	5,090

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 (updated in FY2005) provides a schedule for renewal, replacement, and upgrades to existing pump stations, pipelines, and reservoirs.

In the past five years, the District has invested \$40 million in capital improvements within this program, including approximately \$2.2 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 \$69.8 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 (\$5.1 million). The growth-related portion of new facilities is funded through the treated water FRC. The program also includes \$14.7 million in developer-funded projects. These investments 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.

Proposed funding for this program, by fiscal year, is shown in Table IV-16. For comparison, 2009 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	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	10-YR. TOTAL
2010	NA	9.0	8.8	9.9	5.3	6.3	5.3	6.3	5.6	6.5	6.8	69.8
2009	13.0	10.9	7.7	6.6	5.5	6.2	5.2	6.2	5.5	7.7	NA	74.6

Significant projects proposed within this program include the following:

- Pipeline Renewal/Replacement (Main Replacements) (priority level 2, \$22.7 million)
- Distribution Facilities - Developer Projects (priority level 1, \$14.7 million)
- Treated Water Facilities Improvement Program (priority level, 2 \$16.6 million)

- Treated Water Reservoir Rehabilitation Program (priority level 2, \$7.4 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 2009 CIP are also shown.

Comparison to 2009 CIP

Total program costs have decreased by \$4.8 million from the 2009 CIP. The primary drivers for the decrease are a \$3.8 million reduction in Distribution Facilities – Developer Projects due to slower anticipated development and completion of the Country Club Pump Station Expansion project. A new priority level 3 project has been added to develop additional emergency treated water connections with the City of Martinez. Other projects have been adjusted for inflation.

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

A. 2010 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	TOTAL
Corrosion	Corrosion Control	2	88	80	80	80	80	80	80	80	80	80	808
Non-Dist Funded	Distribution Facilities - Developer Projects	1	1,650	1,098	1,294	1,520	1,520	1,520	1,520	1,520	1,520	1,520	14,682
Pipe Upgrades	Pipeline Renewal / Replacement	2	2,683	2,868	2,433	2,105	2,090	2,105	2,090	2,105	2,090	2,105	22,674
Pipes - New	MPP Pressure Sustaining Valve	2										139	139
Pipes - New	Port Chicago Pipeline - Phase II	2									130	1,064	1,194
Pipes - New	Emergency Service Connections with City of Martinez	3		100	400								500
Site Upgrades	Paso Nogal Pipe Relocation	3	180	1,720									1,900
Site Upgrades	TW Facilities Improvement Program	2	2,188	2,120	2,251	1,416	1,416	1,416	1,416	1,456	1,456	1,456	16,591
Storage – New	Subzone 34 Reservoir	2										200	200
Storage – Upgrades	TW Reliability Improvements	2/3	559	430	2,070								3,059
Storage - Upgrades	TW Reservoir Rehabilitation Program	2	1,625	215	1,185	215	1,185	215	1,185	215	1,185	215	7,440
TWSA Planning	TW Renewal/ Replacement Study	2		135						125			260
TWSA Planning	TWSA Master Plan Updates	2			215					140			355
	PROGRAM TOTAL		8,973	8,766	9,928	5,336	6,291	5,336	6,291	5,641	6,461	6,779	69,802

B. 2009 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
Corrosion	Corrosion Control	2	80	80	80	80	80	80	80	80	80	80	800
Non-Dist Funded	Distribution Facilities - Developer Projects	1	5,645	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	18,497
Pipe Upgrades	Pipeline Renewal / Replacement	2	2,667	2,367	2,367	2,367	2,033	2,033	2,033	2,033	2,033	2,033	21,966
Pipes - New	MPP Pressure Sustaining Valve	2										125	125
Pipes - New	Port Chicago Pipeline - Phase II	2									125	1,034	1,159
Site Upgrades	Country Club Expansion	2/3	2,688	2,712									5,400
Site Upgrades	TW Facilities Improvement Program	2	1,709	2,091	1,500	1,550	1,500	1,550	1,500	1,550	1,500	1,550	16,000
Storage - New	Subzone 34 Reservoir	2										195	195
Storage - Upgrades	TW Reliability Improvements	2/3		857	1,988								2,845
Storage - Upgrades	TW Reservoir Rehabilitation Program	2	256	1,388	206	1,138	206	1,138	206	1,138	206	1,138	7,020
TWSA Planning	TW Renewal/ Replacement Study	2			130							120	250
TWSA Planning	TWSA Master Plan Updates	2					215					135	350
	PROGRAM TOTAL		13,045	10,923	7,699	6,563	5,462	6,229	5,247	6,229	5,492	7,718	74,607

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 \$110 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.

With completion of Phase 1 of the MPP, an increased emphasis is being placed on protecting source water quality. 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. Additional source water quality improvement projects are in the Delta Projects Program. The Canal Replacement Project (priority level 1, \$5 million; priority level 3, \$72.9 million) will improve source water quality at the Rock Slough Intake by hydraulically isolating the saline groundwater from the canal. The project also improves flood protection and enhances public safety and security by replacing the unlined canal with a buried pipeline. Much of this project will be funded by others, including US Corps of Engineers, Reclamation, developers, State bond funds, and other State and federal funding programs.

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 \$37 million. The largest of the six projects is the Untreated Water Facilities Improvement Program (priority level 2, \$27.5 million), which funds projects identified in the Untreated Water Facilities Improvement Plan such as pumping plant improvements, replacement of canal lining, and rehabilitation of the Shortcut Pipeline. This program also includes a \$3.9 million project to relocate the Los Vaqueros Pipeline near Balfour Road in Brentwood.

Projects totaling approximately \$137.6 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, 2009 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	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	10-YR. TOTAL
2010	NA	8.6	6.5	31.8	37.5	7.3	7.8	22.5	25.8	12.1	2.0	161.8
2009	3.2	10.8	12.8	20.2	21.6	12.8	7.3	25.0	24.7	2.1	NA	140.6

Significant projects proposed within this program include the following:

- Canal Replacement Project (priority level 1, \$5 million; level 3, \$72.9 million)
- Los Vaqueros Pipeline Relocation – Balfour Road (priority level 1, \$3.9 million)
- Rock Slough Fish Screen (priority level 1, \$15,000; level 3, \$24.3 million)
- Untreated Water Facilities Improvement Program (priority level 2, \$27.5 million)
- Untreated Water Pipeline (priority level 2, \$20.7 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 2009 CIP are also shown.

Comparison to 2009 CIP

Program costs in the 2010 CIP are \$21.2 million higher than in the 2009 CIP. This is net result of inflation, adding new projects, and adjusting cost estimates to reflect new information and progress towards completion. Costs for the Canal Replacement Project have decreased by \$3.9 million based on lower construction bids for Phase 1 and progress towards completion. The \$6.5 million Rock Slough Flood Improvements project has been eliminated from the CIP as the benefits of the proposed project will be achieved through the Canal Replacement Project. Project costs for the Untreated Water Facility Improvements project have increased by \$7.9 million driven primarily by the addition of placeholder project for rehabilitation of the Shortcut Pipeline. The estimated costs for the Rock Slough Fish Screen have been increased by \$24.3 million to reflect the addition of a priority level 3 placeholder for construction, with the District taking the lead for immediate implementation upon funding. The District has proposed that it would complete the project on a contract basis, subject to the availability of federal funds.

The Los Vaqueros Energy Recovery project was formerly within this program. It has been moved to the new Water/Energy Demand Reduction Program and totals from the 2010 and 2009 CIP have been adjusted to reflect this organizational change.

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

A. 2010 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	TOTAL
Non-District Funded	Applicant Funded Projects	1	229	120	120	120	120	120	120	120	120	120	1,309
UWF - Planning	Untreated Water Facility Imp Plan Updates	2		375					225				600
UWF - SRIP	Untreated Water Pipeline	2						650	1,810	8,220	10,020		20,700
UWF - Upgrades	Canal Replacement Project	1/2/3	4,998	1,422	19,499	19,296	0	1,422	15,649	15,579			77,865
UWF - Upgrades	LVP Relocation @ Balfour	1					483	3,417					3,900
UWF - Upgrades	Mallard Slough Channel Rehabilitation	2/3	127		280	2,820							3,227
UWF - Upgrades	Rock Slough Fish Screen	1/3	460	1,005	8,040	12,930	1,870						24,305
UWF - Upgrades	Untreated Water Facilities Improvement Program	2	801	3,405	3,692	2,363	4,813	2,209	4,659	1,863	1,863	1,863	27,531
UWF - Upgrades	Untreated Water Reservoir Rehab	1/3		205	195								400
UWF - Upgrades	Untreated water Revenue Meter Upgrades	2	1,949										1,949
	PROGRAM TOTAL		8,564	6,532	31,826	37,529	7,286	7,818	22,463	25,782	12,003	1,983	161,786

B. 2009 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
Non-District Funded	Applicant Funded Projects	1	185	185	185	185	185	185	185	185	185	185	1,850
UWF - Planning	Untreated Water Facility Imp Plan Updates	2			375					210			585
UWF - SRIP	Untreated Water Pipeline	2						333	1,325	9,260	9,164		20,082
UWF - Upgrades	Canal Replacement Project	1/2/3	60	5,455	8,616	12,424	16,595	9,921	1,556	13,637	13,507		81,771
UWF - Upgrades	LVP Relocation @ Balfour	1						466	2,534				3,000
UWF - Upgrades	Mallard Slough Channel Rehabilitation	2/3	150	130	253	2,767							3,300
UWF - Upgrades	Rock Slough Fish Screen	1	10	10	10	10	10						50
UWF - Upgrades	Rock Slough Improvements	2	120	165	335	2,987	2,975						6,582
UWF - Upgrades	Untreated Water Facilities Improvement Program	2	2,220	2,665	1,930	1,830	1,880	1,880	1,730	1,730	1,880	1,880	19,625
UWF - Upgrades	Untreated Water Reservoir Rehab	1/3	202	439	1,093								1,734
UWF - Upgrades	Untreated water Revenue Meter Upgrades	2	230	1,780									2,010
	PROGRAM TOTAL		3,177	10,829	12,797	20,203	21,645	12,785	7,330	25,022	24,736	2,065	140,589

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. This program has been expanded since the last CIP to include 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. 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, 2009 CIP funding levels are also shown.

Table IV-20 Water Demand Reduction Program by Fiscal Year

(In millions of dollars, current dollars)

CIP	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	10-YR. TOTAL
2010	NA	4.2	3.3	2.6	1.2	2.6	0.9	0.9	0.9	0.9	0.9	18.4
2009	1.3	4.6	2.6	2.8	0.8	0.8	0.8	0.8	0.8	0.8	NA	16.2

The only capital project proposed in this program is the following:

- Water Conservation Incentives (priority level 1, \$9 million)
- Energy Master Plan and Implementation Placeholder (Priority level 2, \$35,000; level 3, \$4 million)
- Los Vaqueros Energy Recovery Project (priority level 2, \$5.3 million)

Table IV-21 shows a comprehensive listing of projects within this program. For comparison purposes, project costs as estimated in the 2009 CIP are also shown.

Comparison to 2009 CIP

Project costs have increased by approximately \$2.2 million compared to the 2009 CIP. This is primarily the result of increased conservation program activity and an updated cost estimates. The District has been successful in obtaining grants for conservation activities. Of the \$9 million costs indicated in the CIP for conservation incentives, approximately \$2 million is anticipated to come

from grants and other outside sources. The four additional operating budget conservation projects are included to give an overview of the cost of the Water Conservation Sub-Program but they are not included in the total CIP cost. A new priority level 3 Greywater Demonstration Project has been added to the CIP to explore the use of greywater in meeting the District’s conservation goals.

The schedule for the Los Vaqueros Energy Recovery Project has been accelerated from the last CIP and is now scheduled to come online in FY2011. The estimated costs for this project have been increased by approximately \$1 million based on an updated cost estimate. Also, a priority level 3 implementation placeholder for energy projects has been included in this CIP as part of the District’s Energy Master Plan. Potential projects including solar, hydropower, pump replacements, and operational changes. The implementation placeholder replaced the solar project placeholder in the 2009 CIP.

Table IV-21 Projects within the Water Demand Reduction Program

A. 2010 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	TOTAL
Water Conservation	Water Conservation Incentives	1	875	900	900	900	900	900	900	900	900	900	8,975
Energy Demand Reduction	Energy Master Plan and Implementation	2/3	35	330	1,670	330	1,670						4,035
Energy Demand Reduction	Los Vaqueros Energy Recovery Project	2	3,306	2,038									5,344
	PROGRAM TOTAL	4,216	3,268	2,570	1,230	2,570	900	900	900	900	900	4,216	18,354
Water Conservation	Commercial/Indust. Conservation	NA	200	200	200	200	200	200	200	200	200	200	2,000
Water Conservation	Landscape Conservation	NA	250	250	250	250	250	250	250	250	250	250	2,500
Water Conservation	Res. Audits/Plumbing Retrofit	NA	450	450	450	450	450	450	450	450	450	450	4,500
Water Conservation	Greywater Demonstration Project	NA	300										300
	OPERATING BUDGET TOTAL*		1200	900	900	900	900	900	900	900	900	900	9,300

B. 2009 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
Water Conservation	Water Conservation Incentives	1	801	801	801	801	801	801	801	801	801	801	8,010
Energy Demand Reduction	Energy Demand Reduction	2	150										150
Energy Demand Reduction	Solar Project	3	313	3,187									3,500
Energy Demand Reduction	Los Vaqueros Energy Recovery Project	2	50	645	1,825	2,030							4,550
	PROGRAM TOTAL		1,314	4,633	2,626	2,831	801	801	801	801	801	801	16,210
Water Conservation	Commercial/Indust. Conservation	NA	155	155	155	155	155	155	155	155	155	155	1,550
Water Conservation	Landscape Conservation	NA	202	202	202	202	202	202	202	202	202	202	2,020
Water Conservation	Res. Audits/Plumbing Retrofit	NA	350	350	350	350	350	350	350	350	350	350	3,500
	OPERATING BUDGET TOTAL*		707	707	707	707	707	707	707	707	707	707	7,070

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 FY2004, provides the planning basis for both renewal and replacement projects and new facilities related to reliability and regulatory requirements at both treatment plants. The WTP Master Plan will be updated in FY2011 to re-assess needs and priorities for capital improvements at the District's water 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, and safer facilities for the storage and use of chemicals.

The District has also completed construction of treatment facilities for the City of Brentwood to serve the City's customers outside of the Los Vaqueros service area under the Expansion of Services program. That project was substantially completed in July 2008, six months ahead of schedule. An expansion of the plant to up to 30 MGD is scheduled to begin as early as FY2012. The actual timing will depend on growth in the City.

Program funding for the next ten years is estimated at \$118.5 million and includes \$10.2 million, \$5.6 million, and \$2.1 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. Additionally, the program includes an \$80 million priority level 3 membrane filtration project that could be necessary to meet increasingly stringent treatment regulations with increasingly degraded source water. This is a priority level 3 project because the scope and timing is uncertain at this time. Estimated funding for this program, by fiscal year, is shown in Table IV-22. For comparison, 2009 CIP funding levels are also shown.

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

(In millions of dollars, current dollars)

CIP	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	10-YR. TOTAL
2010	NA	1.9	3.5	3.5	14.4	45.8	28.9	13.0	3.1	2.0	2.6	118.5
2009	1.3	6.1	10.8	45.9	28.1	14.6	1.7	2.1	1.5	1.7	NA	113.9

Significant projects proposed in this program include the following:

- Bollman WTP Improvements (priority level 2, \$10.2 million; level 3, \$4.8 million)
- Randall-Bold WTP Improvements (priority level 2, \$5.6 million; level 3, \$5 million)
- City of Brentwood WTP Improvements (priority level 2, \$2.1 million; level 3, \$0.6 million)
- Membrane Filtration Placeholder (priority level 3, \$80 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 2009 CIP are also shown.

Comparison to 2009 CIP

Total funding for this program has increased by approximately \$4.6 million from the 2009 CIP. The primary driver for the increase in this program is a \$3.6 million increase in the WTPMP Updates and Implementation Placeholder due to the acceleration of the master plan update and the addition of another cycle of design and construction projects. Funds within the Bollman Water Treatment Plant Improvements Project were accelerated in this CIP to fund replacement of ozone generators in FY10. Randall-Bold WTP Improvements have increased by \$1.6 million over the 2009 CIP driven by the change in the media replacement cycle from six years to four years, consistent with the District's other water treatment plants. The actual schedule for media replacement will be based on performance data. Other adjustments were made to project costs to reflect inflation and progress to date.

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

A. 2010 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	TOTAL
Expansion	Drinking Water Lab	3			400	1,600							2,000
Planning	WTPMP Updates and Placeholder	2		230	280	1,570	280	1,570	280	1,570	280	1,570	7,630
Upgrades	Bollman WTP Improvements	2/3	1,677	2,903	1,133	718	3,653	2,253	803	218	803	803	14,964
Upgrades	City of Brentwood WTP Improvements	2/3		50	535	975	50	50	435	500	85	80	2,760
Upgrades	Membrane Filtration	3				4,300	39,400	24,900	11,400				80,000
Upgrades	Randall-Bold WTP Improvements	2/3	190	168	708	5,258	2,418	98	98	783	783	98	10,602
Upgrades	Randall-Bold Capacity Upgrades	3		100	400								500
	PROGRAM TOTAL		1,867	3,451	3,456	14,421	45,801	28,871	13,016	3,071	1,951	2,551	118,456

B. 2009 CIP

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
Expansion	Drinking Water Lab	3			400	1,600							2,000
Planning	WTPMP Updates and Placeholder	2					210	245	882	882	882	882	3,983
Upgrades	Bollman WTP Improvements	2/3	821	5,582	5,288	755	202	755	755	755	202	755	15,870
Upgrades	City of Brentwood WTP Improvements	2/3	110	374	96	889	363			363	363		2,558
Upgrades	Membrane Filtration	3			4,295	39,529	24,839	11,337					80,000
Upgrades	Randall-Bold WTP Improvements	2/3	322	166	629	2,719	2,482	2,289	96	96	96	96	8,991
Upgrades	Randall-Bold Capacity Upgrades	3			93	407							500
	PROGRAM TOTAL		1,253	6,122	10,801	45,899	28,096	14,626	1,733	2,096	1,543	1,733	113,902

Section V

OPERATING COST IMPACTS OF THE CAPITAL IMPROVEMENT PROGRAM

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 CCWD/Brentwood Water Treatment Plant, will 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 2010 CIP are \$70.5 million and are based on the adopted two-year budget. Significant operating costs include labor, power, purchased water, and chemicals. In the Financial Plan, operating costs are assumed to increase by 4% annually, with the exception of CVP water costs that increase at approximately twice the rate of inflation. Operating cost impacts resulting from capital projects are incorporated into the operating cost projections in the year the facility comes on line. In addition, the Financial Plan anticipates an increase in operating costs resulting from fees assessed by State and Federal agencies to implement Delta improvements that result from the Delta Vision process. It is anticipated that the District may be required to contribute to the funding of projects and programs aimed at fixing the Delta. As a proactive measure to ensure the financial impacts of this additional expense are minimized, this CIP includes approximately \$2 million in annual revenues beginning in FY2011 to cover these 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 only 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	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	TOTAL
Applicant Funded	TW	70	70	80	90	100	110	120	130	140	150	1,060
Alternative Intake Project	UW	150	300	300	300	300	300	300	300	300	300	2,850
Applicant Funded	UW	10	10	15	17	19	21	23	25	27	29	196
EBMUD Intertie	UW		150	300	300	300	300	300	300	300	300	2,550
LV Energy Recovery	UW		(185)	(370)	(370)	(370)	(370)	(370)	(370)	(370)	(370)	(3,145)
Rock Slough Fish Screen	UW					75	150	150	150	150	150	825
TOTAL PRIORITY 1&2		230	345	325	337	424	511	523	535	547	559	4,336
Membrane Filtration	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 FY2019, the annual increase reaches approximately \$560,000. 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 Alternative Intake, EBMUD Intertie, and the Los Vaqueros Energy Recovery Project, all of which are more fully described below. The cumulative total operating impact of applicant-funded projects (untreated and treated water) is also significant, adding \$180,000 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.

Alternative Intake Project (FY2010): \$300,000/year

Operating costs associated with this project are predominantly related to new pumping and conveyance facilities and include incremental power (\$50,000), labor (\$100,000), levee maintenance (\$100,000), and other miscellaneous activities such as fish monitoring and site maintenance.

EBMUD Intertie Project (FY2011): \$300,000/year

Although construction of the intertie has been completed, the District will not incur additional operational costs until the Freeport Regional Water Authority Project comes online in December 2010. The estimated costs to wheel water through the intertie are \$300,000 per year beginning in FY2011. EBMUD wheeling charges will be funded by rates and from reserves dedicated for this purpose. For the purposes of the District's Financial Plan, it is assumed that the District's operational impact is \$100,000 per year.

Los Vaqueros Energy Recovery Project (FY2011): (\$370,000/year)

Power generated from this facility will reduce the District's purchases of energy by approximately \$370,000 per year beginning in FY2011.

The potential future impact on operating costs related to the priority level 3 projects, if implemented, is significant. By FY2019, 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	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	TOTAL
Applicant Funded	TW	35	35	40	45	50	55	60	65	70	75	530
Alternative Intake Project	UW	50	100	100	100	100	100	100	100	100	100	950
Applicant Funded	UW	5	5	8	9	10	11	12	13	14	15	102
EBMUD Intertie	UW		3	5	5	5	5	5	5	5	5	43
LV Energy Recovery	UW		25	50	50	50	50	50	50	50	50	425
Rock Slough Fish Screen	UW					50	100	100	100	100	100	550
TOTAL PRIORITY 1&2		90	168	203	209	265	321	327	333	339	345	2,600
Additional Staff		1*		1							1	3
Membrane Filtration	WTP							80	160	160	160	560
Energy Reduction Projects	ADM											
TOTAL PRIORITY 3								80	160	160	160	560
Additional Staff									1			1

* Included in O&M's FY10 adopted budget

By the tenth year of the CIP, operating and maintaining District facilities will require an increase in annual labor expenditures of approximately \$345,000. 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 need approximately three additional full-time employees (+/- 25%) over the ten-year CIP period. The distribution of these staff needs is shown on the bottom line of Table V-2.

If all priority level 3 projects identified within the ten-year CIP schedule were implemented, the increase in annual operating labor expenditures by FY2019 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 Tables 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 \$25,000 per year. Projects with significant energy impacts include the Alternative Intake Project and the Los Vaqueros Energy Recovery Project.

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 Membrane Filtration placeholder would increase the District's energy costs by

approximately \$6 million if new regulations or further degradation of Delta water quality require the installation of membranes at the District's water treatment plants.

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

PROJECT	PROG	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	TOTAL
Applicant Funded	TW											
Alternative Intake Project	UW	25	50	50	50	50	50	50	50	50	50	475
Applicant Funded	UW											
EBMUD Intertie	UW		97	295	295	295	295	295	295	295	295	2,457
LV Energy Recovery	UW		(210)	(420)	(420)	(420)	(420)	(420)	(420)	(420)	(420)	(3,570)
Rock Slough Fish Screen	UW					25	50	50	50	50	50	275
TOTAL PRIORITY 1&2		25	(63)	(75)	(75)	(50)	(25)	(25)	(25)	(25)	(25)	(363)
Membrane Filtration	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

Section VI: Financial Plan

The Ten Year CIP and Financial Plan estimates operating and capital expenditures, revenue requirements, and rate/revenue increases 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 2010-2019 Financial Plan identifies a potential \$100 million financial impact associated with the drought and economic downturn being experienced throughout the State. The District anticipates that dry conditions will continue and impact water sales significantly. It also anticipates slower water sales growth and fewer new connection fees associated with the slow housing market. The District will use a variety of financial tools to offset the potential funding shortfall, including cost control and the use of a specific \$4.7 million water sales contingency reserve. The Financial Plan also assumes the use of Capital Appreciation Bonds (CABs) to finance the Alternative Intake Project. The use of CABs creates financial flexibility with regard to the use of District reserves. The decision to actually issue the CABs would not be made until the completion of the AIP construction in 2011, preserving the District's flexibility to react to further changes in financial conditions. The Financial Plan concludes that CIP priority level 1 and 2 projects can be funded and all operating costs and debt service obligations met with annual revenue increases that meet the Board's rate policy of keeping rate increases at or below assumed inflation.

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 rate projections.

The following key planning assumptions were used in the preparation of the Ten-Year Financial Plan for the 2010-2019 CIP

Cost and Revenues

- Consumption and water sales reflect continued drought conditions and mandatory rationing. Consumption is estimated to decline 25% in 2010 and rebound gradually to pre-drought levels over the subsequent three years through 2013.
- Economic downturn reduces the estimated number of new connections in 2010 to 520 untreated water and 140 treated water connections, significantly reducing Facility Reserve Charge revenues. Connections and FRC revenues gradually recover to the five-year average by 2013.
- \$18.0 million increase in the cost of water from 2011 to 2019 as a result of the Delta Vision process and the Delta Habitat Conservation Plan (HCP) process. These costs are revenue funded.
- The operating budgets are based on the adopted FY09/FY10 two-year budget with assumed 4% inflationary adjustments for the balance of the ten-year period

- Capital Appreciation Bonds (CABs) are used as long-term financing for the Alternative Intake Project after the completion of construction in 2011.
- Revenue generated by the long-term treated water service agreements with Golden State Water Company (Bay Point) is included in the CIP.
- Revenue anticipated from the long-term agreement with the City of Brentwood has been incorporated in this analysis, accounting for a capacity rights purchase of shared facilities at the Randall-Bold Water Treatment Plant and full funding of operations of the new treatment plant by the City.
- Because of the uncertainty surrounding the extent and timing of State and Federal funding, this CIP does not include funding identified in SBXX1 and Proposition 84 for the AIP. The District is moving ahead with the AIP project, while continuing to aggressively pursue outside funding.

Account Growth and Consumption

Consumption estimates are updated annually by the Planning Department for each customer class. Consumption estimates have generally represented the average actual usage for the prior three years with 2010 as the base-year in the rate analysis.

California is in the midst of both a severe drought and an economic downturn. California is facing a significant water crises after two dry years and the driest spring on record in 2008. On June 5, 2008, the Governor declared a statewide drought. The severity of the water shortage will depend on the amount of precipitation and snow pack levels this winter, however, the Financial Plan projects a significant reduction in water use, whether through voluntary conservation or mandatory rationing. California water agencies are particularly impacted because a declining housing market has also resulted in lower than planned growth in water sales and fewer new connection fees.

The 2010 consumption estimate has incorporated impacts of the extended drought condition as well as the declining housing market. The Financial Plan projects an overall reduction in water consumption in 2010 of 25% from the prior three-year average. Reductions of approximately 23% are expected from the untreated water municipal customers, with lower reductions (5%) from the untreated water industrial customer. Treated water customers are projected to reduce consumption in 2010 by approximately 25% from the prior three-year average. The growth rates assumed in this CIP are based on historical consumption trends with adjustments to account for the economic downturn and continuing dry conditions. Growth includes a balanced three-year rebound from the drought, with a return to the three-year consumption average by 2014. Growth in the untreated water municipal customer service areas are projected to increase by an average of 1.1% per year through the remainder of the ten-year CIP period. Industrial and irrigation consumption is expected to remain at historical levels. Table VI-1a presents the assumed growth rates for the 2010 CIP, and Table VI-1b shows the 2009 CIP assumed growth rates.

Consumption in the Treated Water Service Area are projected to rebound from drought levels to the three-year consumption average by 2014 with growth projected to increase by an average of 0.7% per year through the balance of the ten-year CIP period. Specifically, the growth assumption per year by major customer class is shown in Tables VI-1a and VI-1b.

**Table VI-1a Growth Assumption Per Year by Major Customer Class
2010 CIP**

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Untreated Water										
- Municipal	-23.1%	7.0%	7.2%	13.0%	6.5%	1.1%	1.1%	1.1%	1.1%	1.1%
- Industrial	-5.0%	1.1%	1.0%	2.1%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%
- Irrigation	-35.0%	10.8%	9.7%	17.7%	7.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Treated Water										
- Residential	-25%	6.9%	6.9%	12.5%	6.2%	0.7%	0.7%	0.7%	0.7%	0.7%
- Commercial	-15%	8.4%	8.4%	12.7%	5.3%	0.7%	0.7%	0.7%	0.7%	0.7%
- Industrial	-5%	5.3%	5.3%	8.4%	3.6%	0.7%	0.7%	0.7%	0.7%	0.7%

**Table VI-1b Growth Assumption Per Year by Major Customer Class
2009 CIP**

	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
Untreated Water										
- Municipal	0.8%	0.8%	0.8%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%
- Industrial	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
- Irrigation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Treated Water										
- Residential	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
- Commercial	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
- Industrial	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%

Although consumption is projected to have rebounded by 2014, the base year consumption estimate has been decreased relative to the 2009 CIP projection. This is based on reevaluation of actual consumption levels in the untreated water service area, including FY08 results. Total annual consumption levels assumed in the current and the 2009 CIP are shown in Table VI-2. The decrease in the base year estimate, the impact of the drought and the assumed growth rates translate to water consumption that is lower than the prior CIP over the ten-year planning period.

Table VI-2 – Assumed Annual Consumption (000’s Acre-feet) 1)

<u>CIP</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
2010	NA 2)	87.6	92.0	96.6	105.6	110.5	111.2	111.9	112.6	113.3	113.9
2009	108.5	109.1	109.7	110.4	111.1	111.8	112.5	113.1	113.8	114.5	NA
Difference		-21.5	-17.7	-13.8	-5.5	-1.3	-1.3	-1.2	-1.2	-1.2	

1) Does not include City of Brentwood consumption, estimated at 8,248 acre feet in 2009

2) Current estimate for 2009 is 97,900 acre feet

Inflation

Inflation is projected at 4% per year for operating and maintenance expenditures and capital improvement projects consistent with the long-term historical average. Central Valley Project (CVP) water costs are estimated to increase by approximately 7.0% annually beginning in 2011 given historical increases and continued cost volatility.

Debt/Bond Financing

The District has explored options for dealing with the financial impacts of the economic downturn and drought to keep rate increases at or below the rate of inflation. This CIP assumes the use of Capital Appreciation Bonds (CABs) to debt finance the Alternative Intake Project (AIP). The AIP was previously identified as funded by commercial paper, rates and revenue in the 2009 CIP. CABs are similar to the long-term bonds traditionally issued by the District 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. The use of CABs provides a financial mechanism for the District to keep reserve funds in the fund balance and schedule debt payments to coincide with debt retirement on other bonds. This allows rate increases to stay at or below inflation. To minimize rate impacts and optimize cash flows during construction of projects, the District uses short term commercial paper when appropriate. This CIP’s rate analysis assumes the use of commercial paper to fund the Los Vaqueros Expansion Project during construction, retiring the balance in 2019. Commercial Paper is also assumed to fund a portion of the Untreated Water Facilities Program with a conversion to long-term debt upon completion of the project. These debt payments are assumed to be made with the continued collection of the Land Levy tax.

Debt Ratings

The District’s long-term debt rating is Aa3 from Moody’s and AA+ from Standard and Poor’s (S&P). The District received a ratings upgrade from S&P in FY08 from AA to AA+ due to its continued strong financial performance. The District’s commercial paper ratings were reaffirmed during FY08 at the highest quality levels of P-1 from Moody’s and A-1 from S&P. This CIP assumes that the current ratings will be maintained.

Debt Service Coverage

The current Los Vaqueros and Randall-Bold 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. For purposes of this Financial Plan, a minimum coverage ratio of 1.25 is assumed for the ten-year period. The average coverage ratio during the ten-year planning period is 1.6. The rate projections included in this Financial Plan are driven by planned revenue funded capital expenditures not by the debt service coverage requirement, although the coverage requirement is met throughout the ten-year CIP period.

Reserve Funds

The District's reserve funds include a combination of unrestricted, legally restricted and Board restricted. Those reserves that are restricted by contractual or legal requirements are considered to be *legally restricted*; those that are Board restricted require previous action by the Board to limit their usage to specific purposes.

The District has a Board policy setting the minimum reserve balance at the total of six months' debt service and operating expense. The six months' operating expense requirement will be met by a combination of unrestricted reserves and the Board restricted Rate Stabilization Fund. The six months of debt service requirement will be met by the legally restricted Bond Reserve Funds. A breakdown of the District's reserves as of December 31, 2008, including those reserves used to smooth rate increases, is provided on Table VI-3. Earnings from interest are assigned to the reserve balances that earn the interest, both restricted and unrestricted, and are used for the purposes of those reserves.

Table VI-3		Reserve Fund Balances - December, 13 ,2008		
(\$000)	Untreated	Treated	Other	TOTAL
Legally Restricted Funds				
Los Vaqueros Bond Reserves			39,033	39,033
Randall-Bold Bond Reserves			4,018	4,018
State Revolving Loan Reserves			861	861
Commercial Paper	14,326		-	14,326
Canal Replacement Project Mitigation	1,143			1,143
Canal Replacement Funds	1,703			1,703
USBR Reserve	1,160			1,160
<i>Subtotal</i>	<i>18,333</i>	<i>-</i>	<i>43,912</i>	<i>62,244</i>
Board Restricted Reserves				
Capital Improvement Fund 1)	18,904	24,679		43,583
Rate Stabilization Fund 1)			56,903	56,903
Sacramento/EBMUD Mitigation Reserve	5,641			5,641
Vehicle Replacement Fund			2,100	2,100
Self Insurance Reserve			1,321	1,321
Workers' Compensation Fund	483	538		1,021
Clean Water Act Funds 1)		468		468
MPP/FWSS Reserve 2)	28,377			28,377
Drought Relief Fund			4,658	4,658
Las Vaqueros Commitment Reserve	3,459			3,459
<i>Subtotal</i>	<i>56,864</i>	<i>25,685</i>	<i>64,981</i>	<i>147,531</i>
Unrestricted Funds				
Unrestricted Reserves 1)	20,660	28,013	-	48,674
<i>Subtotal</i>	<i>20,660</i>	<i>28,013</i>	<i>-</i>	<i>48,674</i>
TOTAL	95,857	53,698	108,893	258,449

1) Reserve Funds drawn down to Smooth Rate Increases

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

Projected Revenues

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

Water Sales

Water sales generate approximately 70% of the District's total revenue. 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 anticipated during the ten-year period of the Capital Improvement Program, with the remaining 37% generated by the sale of untreated water to untreated water only customers.

Projected Revenue Increases

Table VI-4 compares the projected untreated water revenue increases necessary to fund untreated water only customers' share of all priority level 1 and 2 projects in the 2010 CIP, as well as projected operating costs and debt service. Virtually all of the revenue increases will result from increased untreated water rates and assumed growth. As with the prior CIP, no annual increase exceeds the assumed rate of annual inflation in the ten-year planning period. The revenue increase projections shown in Table VI-4 for this CIP are consistent with the 2009 CIP.

Table VI-5 compares the projected treated water revenue increases necessary to fund all priority level 1 and 2 projects in the 2010 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 2009 CIP. 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 3.5% is projected for the newly added year of 2019.

Table VI-4 Projected Untreated Water Revenue Increases - Priority Level 1 and 2 Projects
Comparison of 2010 and 2009 CIPs

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
2010 CIP	3.25%	3.5%	3.5%	3.5%	3.5%	3.75%	3.75%	3.75%	3.75%	3.75%
2009 CIP	3.25%	3.5%	3.5%	3.5%	3.5%	3.75%	3.75%	3.75%	3.75%	NA

Table VI-5 Projected Treated Water Revenue Increases - Priority Level 1 and 2 Projects
Comparison of 2010 and 2009 CIPs

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
2010 CIP	3.25%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
2009 CIP	3.25%	3.3%	3.3%	3.3%	3.3%	3.5%	3.5%	3.5%	3.5%	N/A

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. FRCs include the increase to 95% of the calculated value, fully implemented in 2009, to reduce the amount of a prior subsidy.

The estimated FRC reserve balances at the end of each fiscal year, summarized by major component, are identified in Table VI-6. 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-6 represent those years where expenditures exceed accumulated 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 until a large water right purchase projected in 2015. 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 continued use of the balances reflects the impact of the lower number of new connections driven by the housing downturn. Current projections show sufficient fund balances to pay for growth’s share of Multi-Purpose Pipeline debt service through 2019.

Table VI-6 Projected FRC Reserve Balances (cumulative)

(\$ in millions)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Untreated Water										
- Future Supply Component 1)	5.4	6.5	8.0	9.9	11.8	3.1	5.1	7.0	9.0	10.9
- Future Capacity Component 2)	16.4	13.7	11.9	11.0	10.1	9.2	8.4	7.5	6.6	6.3
Treated Water										
- Future Facilities Component	(5.6)	(4.5)	(3.1)	(1.4)	0.3	2.1	3.9	5.7	7.6	9.6

1) Funds used for 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, should be fully FRC funded by 2014. Until that time, the FRC balances will be negative.

In recent years, projections used by the District have been lower and on average, more reflective of actual growth than the Association of Bay Area Governments (ABAG) projections. Table VI-7 shows the last five years of new connections as compared with the assumption used in the 2009 CIP. The number of new connections assumed in this ten-year period reflects the housing downturn driven by the slumping economy. The five-year average has dropped and the 2010 CIP assumes the number of new connections will remain lower than the current five-year average until 2013. The lower number of new connections, based on the new five-year average are assumed from 2013 through the remainder of the ten-year CIP period.

Table VI-7 New Connections

Annual New Connections	Five Year Historical Results					5 Year Average	Annual Projection 2009 CIP
	2004	2005	2006	2007	2008		
Untreated Water	1,463	1,703	1,502	2,242	1,562	1,623	2,000
Treated Water	279	226	270	239	394	254	290
2010 CIP Projections	2010	2011	2012	2013-2019			
Untreated Water	520	885	1,250	1,620			
Treated Water	140	175	210	250			

Revenue Projections

Table VI-8 below shows projected revenues for the period 2010 through 2019. 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. Rate revenues are adjusted for projected growth and estimated revenue increases. FRC revenues are computed by multiplying the FRC rate by the projected growth in connections. FRCs were fully adjusted to 95% of the calculated amount by the Board 2009. This increase is reflected in the 2010 CIP. 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. The Other Revenues category in the 2010 CIP includes a one-time payment from the City of Brentwood (Brentwood) for the purchase of infrastructure and lands at the new treatment plant site. Land Levy taxes are assumed to continue through the ten-year period to fund annual payment obligations created for portions of the Untreated Water Facility Improvements Program. Interest income is computed on fund balances (including debt reserve funds whose interest is used to pay related debt service) at 4% for the first year of the ten-year analysis and at 5% thereafter, consistent with the long-term historical average. Interest income declines in the later years as reserve balances are drawn down.

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 treatment plant and treated water delivered from the new CCWD/Brentwood treatment plant. This CIP assumes Brentwood will use approximately 6,500 acre feet in 2010 treated in the new treatment plant and an additional

1,770 acre feet from the Randall-Bold treatment plant. Total revenues from the City of Brentwood were revised as better information was available on the operating costs of the new plant. Revenues from Brentwood over the ten-year planning period total \$48.5 million, slightly lower than in the previous CIP. Finally, Diablo Water District (DWD) revenue includes DWD's contractual share of debt service, and DWD's share of projected inflated operating expenses for the Randall-Bold water treatment plant.

Table VI-8 shows the revenue projected in this CIP, and Table VI-9 shows the revenue projected in the 2009 CIP. Changes in the revenue estimates in the 2010 CIP include lower estimates in cumulative rate revenues related to slower growth and the impact of the continued drought. FRC revenues are also projected lower than in the previous CIP driven by the downturn in the economy and its impact on housing starts. Other revenues are higher in the 2010 CIP driven by the impact of the new long-term treated water agreement with Golden State Water Company. Even though there is no change in the total interest income projected, there is a larger amount collected in the early years of this ten-year plan, the impact of the CABs influence on reserve balances. The Land Levy taxes are assumed to be renewed and collected throughout the ten-year period to be used to cover annual payment obligations created by the Untreated Water Facilities Improvement Program.

Source	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Rate Revenues	83.8	91.2	99.5	113.4	122.6	126.9	131.4	136.2	141.2	146.9	1,193.1
Rate Increases	2.7	3.1	3.3	3.2	3.5	3.7	4.1	4.1	4.9	4.9	37.5
FRC	5.0	7.5	10.0	12.7	12.8	13.0	13.1	13.2	13.4	13.4	114.1
City of Brentwood	4.2	4.3	4.5	4.6	4.8	4.9	5.1	5.2	5.4	5.5	48.5
Other Revenues	2.9	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	13.8
Interest Income	8.4	8.7	7.4	7.1	6.1	5.2	4.8	4.8	4.8	4.8	62.1
Property Taxes	2.3	2.4	2.4	2.4	2.4	2.5	2.5	2.6	2.6	2.6	24.7
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
DWD Revenue	2.4	2.4	2.4	2.4	2.5	2.5	2.6	2.6	2.6	2.6	25.0
Total	112.4	121.5	131.4	147.7	156.6	160.6	165.5	170.6	176.8	182.7	1,525.8

Source	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Rate Revenues	101.4	103.9	107.9	112.3	117.3	123.1	129.1	136.6	145.0	154.6	1,231.2
Rate Increases	2.3	3.1	3.2	3.3	3.4	3.5	3.6	3.8	3.7	4.1	34.0
FRC	13.6	13.7	13.8	14.0	14.1	14.2	14.4	14.5	14.6	14.8	141.7
City of Brentwood	3.5	4.6	4.8	5.1	5.4	5.6	5.9	6.2	6.5	6.7	54.3
Other Revenues	1.0	2.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	11.9
Interest Income	8.4	8.7	7.4	7.1	6.1	5.2	4.8	4.8	4.8	4.8	62.1
Property Taxes	2.3	2.4	2.4	2.4	2.4	2.5	2.5	2.6	2.6	2.6	24.7
Land Levy Taxes	0.7	0.7	-	-	-	-	-	-	-	-	1.4
DWD Revenue	2.4	2.4	2.4	2.4	2.5	2.5	2.6	2.6	2.6	2.6	25.0
Total	135.6	142.4	142.9	147.6	152.2	157.6	163.9	172.1	180.8	191.2	1,586.3

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 in 2010 than the previous CIP due primarily to lower than anticipated cost of CVP water, based on projected lower consumption primarily due to drought driven conservation. Other costs, such as general and administrative costs are slightly higher in 2010, but do not offset the lower variable costs associated with consumption in the early years. These other costs are driven more by inflation and growth than by consumption. By 2012, the lower cost of water is offset by other costs and total operating and maintenance costs are approximately the same. The O&M impacts of planned improvements are detailed in Section V: Operating Impacts of the Capital Improvement Program are shown in Table V-1 (current dollars) and Table V-2 (inflated dollars). These are also included in the projections below. The new Brentwood long-term agreement includes the operating cost of the new treatment plant, fully paid by the City, plus a component for District overhead. These operating cost estimates include maintenance costs for the Alternative Intake project, assumed to be operational by 2011.

Table VI-10 summarizes projected total District O&M expenses in current dollars compared to the estimates in the 2009 CIP. Table VI-11 summarizes O&M expenses in inflated dollars at 4% annually for the ten-year planning period.

**Table VI-10 Total District Operating & Maintenance Expenses
(in millions of dollars, current dollars)**

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
2010 CIP	70.5	72.1	74.5	77.7	79.7	80.1	80.4	80.6	80.5	80.6
2009 CIP	68.9	70.6	72.1	72.5	72.9	73.5	73.8	74.0	74.8	N/A

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

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
2010 CIP	70.5	74.3	79.3	85.4	91.6	96.6	101.7	107.5	113.4	114.4
2009 CIP	71.0	75.1	79.2	83.3	87.8	93.0	98.4	104.2	104.8	N/A

Capital Projects

The Financial Plan assumes that all priority level 1 & 2 projects are funded for a ten-year total of approximately \$378.0 million in current dollars and \$473.3 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 equity funded (pay-as-you-go) capital expenditures. Commercial paper is available to meet short-term cash flow requirements if needed and is generally used during the construction phase of capital projects. Commercial paper is used to fund the accelerated construction schedule of the AIP. The commercial paper for the AIP will be retired with Capital Appreciation Bonds in 2012.

Another significant revenue source comes from funding by others as shown in Table VI-14a. Projects funded by other agencies or applicants total \$190.7 million, higher than in the prior CIP by \$49.2 million. The majority of the change in funded by others is the anticipated outside funding for the Los Vaqueros Reservoir Expansion which is approximately \$86.8 million that was not included in the prior CIP. This is partially offset by the funding for the Canal Replacement Project which was expected to have approximately \$28.1 million from outside funding in the prior CIP and only \$5.0 million of outside funding in this CIP with a substantial amount of this project now unfunded. The primary drivers for this change are uncertainties in the timing of developer funds and continued delays in federal funding appropriations. Changes to the projected debt service for the District during the ten-year

planning period include a significant reduction in the untreated water debt service as a result of the projected use of CABs to fund the AIP. Smaller increases in untreated water debt service are the result of short term (commercial paper) funding of the Los Vaqueros Expansion Project and funding of a portion of the Untreated Water Facilities Improvement Program paid for with the continuation of the Land Levy Tax. Total revenue funded projects in this CIP decreased by \$17.6 million (inflated dollars) driven primarily by the decision to fund the remaining construction costs of the AIP with commercial paper and eventually with CABs, rather than with revenues.

The Board restricted Rate Stabilization Fund, Capital Improvement Fund and Unrestricted Reserves will also be used during this ten-year period 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 Los Vaqueros Project 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. Initial use of this reserve is projected to occur in 2011 with the entire reserve 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 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-18.

This financial plan reflects a conservative view of required revenues, it assumes all of the capital expenditures in the FY09 budget occur. This assumption sets the beginning reserve balances consistent with the recently completed rate review, and adds a year (FY19) of additional capital expenditures and other costs to this analysis.

Capital Project Impacts on Revenue Requirements

Priority Level 1 and 2 Projects (Non-Debt Funded)

The following two tables show how the priority level 1 and 2 Projects impact equity funded capital expenditures by program. Equity 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 2010 CIP and 2009 CIP, respectively, while Tables VI-13a and VI-13b display the estimates for both CIPs in inflated dollars. During the common years of the 2009 and 2010 CIPs (2010 through 2018), the equity funded portion is \$17.5 million lower in the 2010 CIP in current dollars. This is primarily the result of the decision to use commercial paper to fund \$58.5

million dollars of the AIP cash flows scheduled for 2010 and 2011 in the 2009 CIP. The projects in both Untreated Water and Treated Water were reevaluated for the impact of inflation on current dollar estimates.

Table VI-12a Equity Funded Capital Expenditures by Program ^[1]
- Priority Level 1 and 2 Projects
2010 CIP (in millions of dollars, current dollars)

Program	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	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	0.0	0.5	0.5	2.2	0.0	0.0	0.0	0.0	0.0	0.0	3.2
Equipment & Capital Purchases	2.4	2.6	1.3	1.2	2.2	1.2	1.8	1.2	0.9	1.6	16.4
Expansion of Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Future Water Supplies	0.1	0.1	0.1	0.1	0.3	8.5	0.2	0.2	0.2	0.4	10.2
Los Vaqueros Watershed	0.6	1.1	0.6	0.7	0.5	0.5	0.4	0.4	1.2	1.3	7.3
Treated Water Distribution & Storage	7.1	5.4	6.2	3.8	4.8	3.8	4.8	4.1	4.9	5.3	50.2
Untreated Water Supply & Transport	2.9	2.6	1.8	1.9	2.3	5.1	1.9	1.9	1.9	1.9	24.2
Water/Energy Demand Reduction	4.0	2.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	12.3
Water Treatment Facilities	1.7	3.1	1.4	1.9	1.2	1.9	1.0	1.5	1.2	1.9	16.8
Total	19.2	18.8	13.0	12.9	12.4	22.1	11.2	10.4	11.4	13.5	144.9

[1] Does not include projects funded by applicants, debt or other agencies

Table VI-12b Equity Funded Capital Expenditures by Program ^[1]
- Priority Level 1 and 2 Projects
2009 CIP (in millions of dollars, current dollars)

Program	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Administrative Support Facilities	0.5	0.4	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.4	4.3
Delta Projects	0.0	22.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.1
Equipment & Capital Purchases	2.0	1.9	1.7	1.1	1.0	2.0	1.0	1.7	1.2	0.9	14.5
Expansion of Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Future Water Supplies	0.2	0.2	0.2	0.2	0.3	0.2	8.2	0.2	0.2	0.4	10.3
Los Vaqueros Watershed	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5.0
Treated Water Distribution & Storage	6.9	6.4	4.3	5.1	4.0	4.8	3.8	4.8	4.1	6.3	50.5
Untreated Water Supply & Transport	2.9	4.6	4.9	2.9	2.9	2.3	4.3	1.9	1.9	1.9	30.5
Water/Energy Demand Reduction	0.8	0.9	1.5	1.6	0.6	0.6	0.6	0.6	0.6	0.6	8.4
Water Treatment Facilities	0.9	2.9	2.9	0.8	1.2	1.2	1.4	1.4	0.9	1.4	15.0
Total	14.7	39.8	19.7	12.6	10.9	12.0	20.2	11.5	9.8	12.4	163.6

[1] Does not include projects funded by applicants, debt or other agencies

Table VI-13a Equity Funded Capital Expenditures by Program ^[1]
-Priority Level 1 and 2 Projects
2010 CIP (in millions of dollars, inflated dollars)

Program	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Administrative Support Facilities	0.4	0.8	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	5.5
Delta Projects	0.0	0.5	0.6	2.6	0.0	0.0	0.0	0.0	0.0	0.0	3.7
Equipment & Capital Purchases	2.4	2.8	1.5	1.4	2.7	1.5	2.4	1.7	1.3	2.4	20.1
Expansion of Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Future Water Supplies	0.1	0.1	0.1	0.2	0.4	10.8	0.2	0.2	0.2	0.6	12.9
Los Vaqueros Watershed	0.6	1.2	0.7	0.8	0.6	0.7	0.6	0.6	1.7	1.9	9.4
Treated Water Distribution & Storage	7.1	5.9	7.0	4.5	5.9	4.9	6.3	5.7	7.1	7.9	62.3
Untreated Water Supply & Transport	2.9	2.8	2.1	2.2	2.9	6.5	2.6	2.6	2.7	2.8	30.1
Water/Energy Demand Reduction	4.0	3.0	0.8	0.8	0.9	0.9	0.9	1.0	1.0	1.0	14.3
Water Treatment Facilities	1.7	3.4	1.6	2.2	1.5	2.4	1.3	2.0	1.7	2.8	20.6
Total	19.2	20.5	14.9	15.2	15.4	28.2	14.8	14.4	16.3	20.0	178.9

1] Does not include projects funded by applicants, debt or other agencies

Table VI-13b Equity Funded Capital Expenditures by Program ^[1]
- Priority Level 1 and 2 Projects
2009 CIP (in millions of dollars, inflated dollars)

Program	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Administrative Support Facilities	0.6	0.4	0.7	0.5	0.5	0.5	0.5	0.6	0.6	0.6	5.5
Delta Projects	0.0	22.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.1
Equipment & Capital Purchases	2.1	2.1	1.9	1.3	1.2	2.6	1.4	2.4	1.7	1.3	18.0
Expansion of Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Future Water Supplies	0.2	0.2	0.2	0.2	0.4	0.2	10.9	0.2	0.2	0.6	13.3
Los Vaqueros Watershed	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.8	6.5
Treated Water Distribution & Storage	7.2	7.0	4.9	6.1	5.0	6.1	5.1	6.6	5.8	9.4	63.2
Untreated Water Supply & Transport	3.0	5.1	5.2	3.2	3.4	3.0	5.7	2.7	2.7	2.8	36.8
Water/Energy Demand Reduction	0.8	1.0	1.7	1.9	0.7	0.8	0.8	0.8	0.9	0.9	10.3
Water Treatment Facilities	1.0	3.2	3.3	1.0	1.5	1.6	1.9	2.0	1.3	2.2	19.0
Total	15.4	41.6	21.6	14.8	13.3	15.5	27.0	16.0	13.9	18.6	197.7

[1] Does not include projects funded by applicants, debt or other agencies

Revenue and Debt Funded, Priority Level 1 and 2 Projects

Comparison of the 2010 CIP (Table VI-14a) and 2009 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 2010 CIP reflects a decrease in untreated water revenue funded projects of \$22.5 million (inflated) dollars in the first nine years, the years in common with the prior CIP and increased an additional \$7.4 million (inflated) dollars for the additional year in this analysis, 2019. The decrease of \$20.5 million over the ten-year period is almost entirely the result of the decision to fund the remaining \$25.2 million of the accelerated AIP construction schedule with commercial paper and eventually CABs. Other changes in projects offset each other for little net change from the prior CIP. A decrease in untreated water debt service is primarily the result of replacing the long-term conventional bond funding of the AIP with the CABs, partially offset by short term financing of the Los Vaqueros Expansion Project and the retiring of that debt in 2019. Other debt service is added to fund a portion of the Untreated Water Facilities Improvement Program.

Treated Water Revenue Funded Projects - The 2010 CIP shows no change over the common years of the two CIPs and the addition of \$12.6 million in the final year of this 2010 CIP. Various treated water programs have been reprioritized but have no net impact in the common years. The addition of \$12.6 million in 2019 is the result of continuing treated water programs.

Projects Funded by Others - The 2010 CIP shows an increase of \$77.8 million (inflated) in Delta Projects primarily in anticipation of outside funding for the Los Vaqueros Expansion Project. Funded by Others decreases by approximately \$24.3 million as a portion of the Canal Replacement Project is moved to a level 3 project, an unfounded project at this time.

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

2010 CIP	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Untreated Water(a)											
Revenue-Funded Projects	8.5	8.9	4.9	7.3	5.9	19.7	5.3	5.2	6.3	7.4	79.4
Debt-Service (b)	2.8	2.9	0.1	0.1	0.3	0.4	1.2	2.3	3.0	41.1	54.2
Debt-Service (c)	39.6	38.6	38.7	38.7	38.7	38.7	38.9	38.8	38.8	38.3	387.8
Total Untreated	50.9	50.4	43.7	46.1	44.9	58.8	45.4	46.3	48.1	86.8	521.4
Treated Water											
Revenue-Funded Projects	10.7	11.7	9.8	7.9	9.4	8.6	9.6	9.2	10.0	12.6	99.5
Debt-Service (b)	1.2										1.2
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	17.0	16.8	14.9	13.0	14.5	13.7	14.7	14.3	15.1	17.7	151.7
Funded by Others											
Delta Projects (d)	9.0	2.4				7.5	38.8	33.1	7.4		98.2
Funded by Other Agencies	1.1	0.5	1.3	7.7	13.5	28.0	14.8	2.5	1.4	1.3	72.1
Funded by Applicants	1.9	1.3	1.6	1.9	2.0	2.1	2.2	2.3	2.4	2.5	20.2
Total Funded by Others	12.0	4.2	2.9	9.6	15.5	37.6	55.8	37.9	11.2	3.8	190.7
Total District	79.9	71.4	61.5	68.7	74.9	110.1	115.9	98.5	74.4	108.3	863.6

- (a) Approximately 38% of Untreated Water Expenditures are paid by Treated Water Rates (as the Treated Water Service Area is also a Untreated Water Customer)
- (b) Debt service – Commercial Paper and future Long Term Debt - Seismic and Reliability Improvement Projects, Alternative Intake Project, Los Vaqueros Expansion, Untreated Water Facilities Improvements. 2019 includes retiring the Commercial Paper balance for Los Vaqueros Expansion in 2019
- (c) Existing debt service (Los Vaqueros, Randall-Bold, Canal, Bollman, and Issued SRIP long term debt)
- (d) Funded by CALFED agencies, includes estimated funds from others for Los Vaqueros Expansion Project

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

2009 CIP	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Untreated Water(a)											
Revenue-Funded Projects	5.4	29.7	11.7	6.5	5.7	5.7	18.7	5.4	5.3	5.8	99.9
Debt-Service (b)	0.8	1.8	2.1	21.4	20.7	20.0	0.0	0.1	0.4	0.7	68.0
Debt-Service (c)	37.9	39.6	38.6	38.7	38.7	38.7	38.7	38.9	38.8	38.8	387.4
Total Untreated	44.1	71.1	52.4	66.6	65.1	64.4	57.4	44.4	44.5	45.3	555.3
Treated Water											
Revenue-Funded Projects	9.7	11.8	9.8	8.2	7.4	9.7	8.2	10.5	8.6	12.7	96.6
Debt-Service (b)	1.2	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5
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	16.0	18.2	14.9	13.3	12.5	14.8	13.3	15.6	13.7	17.8	150.1
Funded by Others											
Delta Projects (e)	9.5	8.8	2.1								20.4
Funded by Other Agencies	1.7	2.3	6.3	12.4	15.9	15.2	25.7	15.0	1.2	0.7	96.4
Funded by Applicants	6.1	1.8	1.8	1.9	2.0	2.1	2.1	2.2	2.3	2.4	24.7
Total Funded by Others	17.3	12.9	10.2	14.3	17.9	17.3	27.8	17.2	3.5	3.1	141.5
Total District	77.4	102.2	77.5	94.2	95.3	96.5	98.5	77.2	61.7	66.2	846.9

- (a) Approximately 38% of Untreated Water Expenditures are paid by Treated Water Rates (as the Treated Water Service Area is also a Untreated Water Customer)
- (b) Debt service – Commercial Paper and future Long Term Debt - Seismic and Reliability Improvement Projects , CCWD/Brentwood WTP (Fully paid by the City of Brentwood)
- (c) Existing debt service (Los Vaqueros, Randall Bold, Canal)

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 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 six 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)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Untreated Water Reserves	69.7	59.4	54.9	51.7	50.7	49.3	47.7	45.7	42.7	18.9
Minimum Balance	11.0	11.7	12.6	13.8	14.9	15.9	17.0	18.1	19.3	18.7
Treated Water Reserves	40.4	28.0	27.0	28.9	30.8	35.7	40.0	44.4	47.1	38.6
Minimum Balance	24.3	25.5	27.0	28.9	30.8	32.4	33.9	35.6	37.4	38.4

* Includes Unrestricted and Board restricted Capital Improvement and Rate Stabilization Funds. Does not include legally restricted and other Board restricted reserves.

Figure VI-1

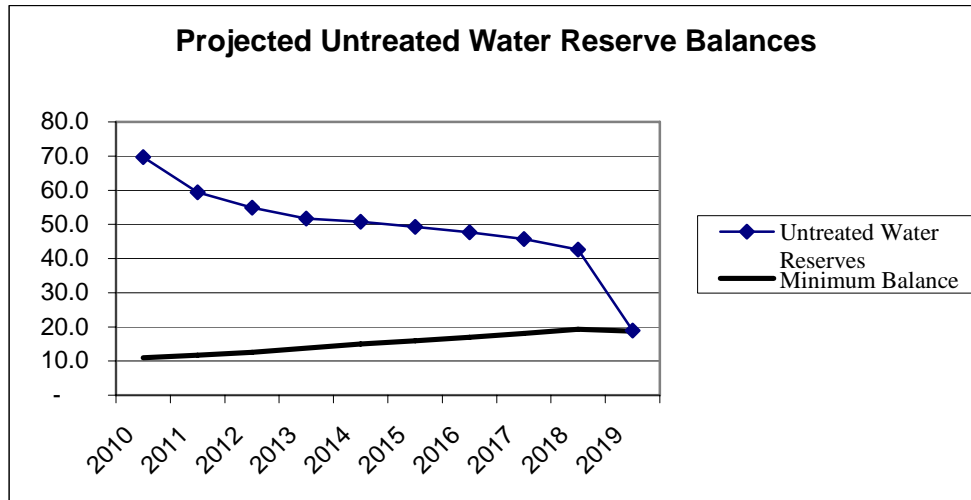
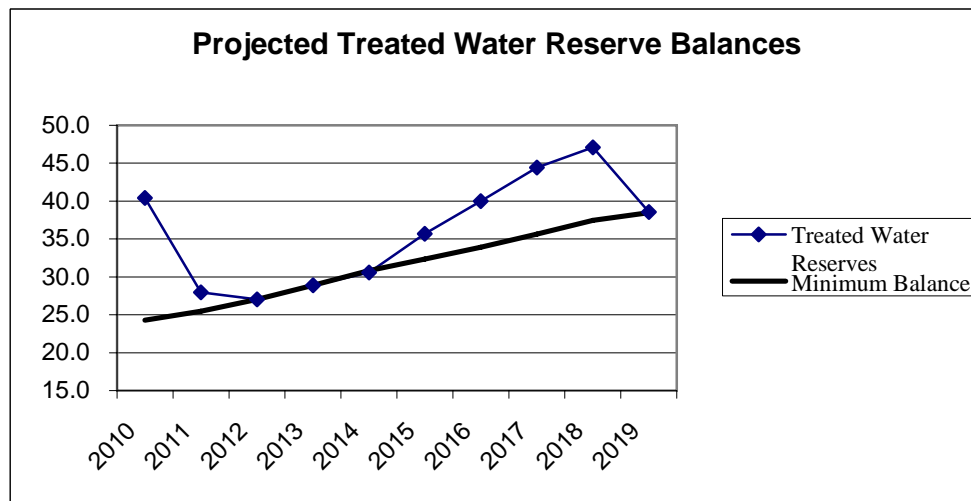


Figure VI-2



Revenue Increase Projections

Table VI-16 provides the projected increases on the untreated water revenues necessary to meet the projected expenditures in the 2010 CIP as compared with the 2009 CIP. Table VI-

17 shows the treated water projections from the 2010 CIP and the 2009 CIP. These revenue increases are consistent with those projected in the 2009.

Table VI-16 Untreated Water Projected Rate Impacts – Priority Level 1 and 2 Projects

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
2010 CIP	3.25%	3.5%	3.5%	3.5%	3.5%	3.75%	3.75%	3.75%	3.75%	3.75%
2009 CIP	3.25%	3.5%	3.5%	3.5%	3.5%	3.75%	3.75%	3.75%	3.75%	N/A

Table VI-17 Treated Water Projected Rate Impacts – Priority Level 1 and 2 Projects

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
2010 CIP	3.25%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
2009 CIP	3.25%	3.3%	3.3%	3.3%	3.3%	3.5%	3.5%	3.5%	3.5%	N/A

If rates were set to fund all projects identified in the three CIP priority categories, rather than just priority level 1 and 2, an additional \$221.0 million in revenue would be required in the 2010 CIP over the ten-year period. Included in the unfunded priority level 3 projects are \$100.4 million for a membrane filtration water quality project and \$90.6 million for a larger portion of the Canal Replacement Project.

Section VII

PROJECT SUMMARIES

**Administrative, Support and Maintenance Facility
Improvement Program**

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. A District Center communications rewiring project and re-keying of District buildings have been identified for FY2011.

This program was included in the FY2009 CIP at a ten-year cost of \$4,330,000. The cost has been adjusted for inflation.

Total Project: N/A
Cost to Date through FY2009: N/A
CIP Total: \$4,342,000
Cost Estimate Accuracy Range: \$6,513,000 to \$3,039,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$435	\$723	\$398	\$398	\$398	\$398	\$398	\$398	\$398	\$398
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 has been 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.

Budgeting Department/Division: Operations and Maintenance

Delta Projects Program

CONTRA COSTA WATER DISTRICT

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

Program: Delta Projects

Sub-Program:

Project: Alternative Intake Project

Priority: 1

The purpose of this project is to protect and improve water quality delivered to the District’s customers. The project includes the planning, design, and construction of a new intake on Victoria Canal where higher quality source water is available. Because of water quality degradation in the Delta and increasingly stringent drinking water regulations, the District needs this alternative intake to continue meeting its water quality objectives. This project is key to ensuring CCWD’s Board-adopted water quality objectives continue to be met.

Major features of the project include a 72-inch diameter pipeline, a tunnel beneath Old River connecting to the existing Old River Pipeline on Byron Tract, and a new pump station with a capacity of 250 cubic feet per second. Construction began in FY2008, and is anticipated to be completed in early FY2011. An acceleration of the construction schedule to allow operational completion prior to June 2010 is being considered.

This project was included in the FY2009 CIP at a total project cost of \$111,207,000. The cost has been adjusted to reflect construction bids received in 2008.

Total Project: \$100,880,000 (Escalated)
Cost to Date through FY2009: \$67,414,000
CIP Total: \$33,466,000 (Escalated)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$31,955	\$1,511								
c c c c c									

P = Planning

D = Design

C = Construction

O = Other

Project Funding: The District’s share of project costs is anticipated to be \$70 million (funded from untreated water FRCs and commercial paper to be serviced with untreated water rates). The District is seeking \$30 to \$50 million in funding from various State and federal agencies.

Operational Impacts: The District’s operations and maintenance costs are estimated to increase by \$300,000 per year starting in FY2011. Included in this estimate are labor (new maintenance mechanic in late FY2010), additional power cost and levee maintenance for the new facility.

Basis for Priority: This project has been ranked as priority level 1 because it is currently under construction.

Budgeting Department/Division: Construction

CONTRA COSTA WATER DISTRICT

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

Program: Delta Projects

Sub-Program:

Project: Los Vaqueros Reservoir Expansion 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 EIS/EIR is planned for FY2009. A final decision on the staging of the expansion of the reservoir is expected to occur in FY2010, 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.

FY2010 and FY2011 activity will include completion of permitting, engineering studies, including a Final EIS/EIR, a Federal Feasibility Study, a State Feasibility Study, and a public outreach program.

This project was included in the FY2009 CIP at a total cost of \$28,437,000. The cashflow has been adjusted to reflect current and projected future funding.

Total Project: \$28,437,000
Cost to Date through FY2009: \$23,980,000
CIP Total: \$4,457,000
Cost Estimate Accuracy Range: \$29,774,000 to \$27,768,000 (+30%/-15%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$2,012	2,445								
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.

Budgeting Department/Division: Delta Projects

CONTRA COSTA WATER DISTRICT

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

Program: Delta Projects
Sub-Program:
Project: Los Vaqueros Reservoir Expansion Implementation
Priority: 2

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

The Los Vaqueros Reservoir expansion environmental and planning studies are nearing completion and this placeholder project has been included for design and construction of an expanded reservoir. The placeholder considers an expansion of the reservoir from 100,000 acre-feet to up to 160,000 acre-feet.

The scope and timing of the project is dependent on the alternative selected and regional, federal, and/or state partnership agreements.

This project is new to the CIP

Total Project: \$90,000,000
Cost to Date through FY2009: \$0
CIP Total: \$90,000,000
Cost Estimate Accuracy Range: \$135,000,000 to \$63,000,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
					\$8,200	\$41,000	\$33,600	\$7,200	
					D D D D	C C C C	C C C C	C C	

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

Project Funding: The District’s share of project costs is currently anticipated to be \$25 million. The District is seeking regional, federal, or state partnership agreements to fund the balance of the project cost.

Operational Impacts: The extent of O&M impacts of an expanded reservoir are unknown at this time, and will depend on the alternative selected at the conclusion of the ongoing environmental and planning studies.

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

Budgeting Department/Division: Delta Projects

CONTRA COSTA WATER DISTRICT

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

Program: Delta Projects

Sub-Program:

Project: Los Vaqueros Operational Improvements

Priority: 2

The purpose of this project is to implement low cost, low impact modifications to the Los Vaqueros Reservoir to provide operational flexibility during times of poor water quality or drought by increasing the operating storage by 7,500 acre-feet.

The project would consist of installing hydraulic gates on the spillway of the existing dam to enable the District to better react and adjust to changing Delta water quality.

This project is new to the CIP

Total Project: \$3,200,000
Cost to Date through FY2009: \$0
CIP Total: \$3,200,000
Cost Estimate Accuracy Range: \$4,800,000 to \$2,240,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
	\$500	\$500	\$2,200						
	P P P P	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: The District's O&M costs are estimated to increase by approximately \$30,000 per year starting in FY2014 (first full year of operation). Labor costs account for two-thirds (\$20,000) of this estimate.

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

Budgeting Department/Division: Engineering

Equipment and Other Capital Purchases Program

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. Implementing 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. The system will also track potential hazard information.

The initial phase of the project was a master plan that was completed in FY2006. Implementation of the GIS is being conducted in phases. The first phase includes acquiring all necessary software licenses, developing the database, converting existing data into the new database format, and developing several key GIS applications including a record drawing and mapping library viewer, shutdown optimization, and customer notification tools. Work will be completed by District staff and consultants with specialized experience. Future phases for custom application updates are included as a priority level 3 placeholder, subject to funding availability.

This project was included in the FY2009 CIP at a total cost of \$1,692,000. Costs have been adjusted for inflation and additional District staff project support efforts.

Total Project: \$1,842,000
Cost to Date through FY2009: \$1,419,000
CIP Total: \$423,000
Cost Estimate Accuracy Range: \$1,969,000 to \$1,779,000 (+30%/-15%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$303									
o o o o									

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
	\$60	\$60							
	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.

Operational Impacts: This project is expected to result in net annual productivity benefits of \$200,000 from streamlined mapping, record management and maintenance, and customer service.

Basis for Priority: The implementation has been ranked as a priority level 2 because the District has a significant level of control over its schedule.

Budgeting Department/Division: 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 financial, customer billing, and Human Resources information system needs continue to be met in an efficient manner.

New hardware was acquired and installed in FY2001 and a new, Oracle-based financial information system was brought on line in FY2002. An upgraded customer billing system and a new Human Resources Information System were implemented during FY2005. These systems are scheduled for replacement in FY2014 and FY2016. The program also includes annual software and hardware upgrades and a master plan, scheduled for FY2011.

This program was included in the FY2009 CIP at a ten-year cost of \$2,498,000. The cost of the annual upgrades has been adjusted for inflation and to reflect the addition of the master plan.

Total Project: NA
Cost to Date through FY2009: NA
CIP Total: \$2,999,000
Cost Estimate Accuracy Range: \$4,499,000 to \$2,100,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$135	\$405	\$89	\$127	\$999	\$127	\$711	\$89	\$127	\$190
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 has been ranked as priority level 2 because the District has a moderate level of control as to when upgrades need to occur.

Budgeting 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 program is new in the FY2010 CIP.

Total Project: \$925,000
Cost to Date through FY2009: NA
CIP Total: \$925,000
Cost Estimate Accuracy Range: \$1,064,000 to \$879,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
	\$280	\$150	\$105	\$200	\$100	\$50			\$40
	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 has been ranked as priority level 2 because the District has a moderate level of control as to when upgrades need to occur.

Budgeting 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 core network hardware, which is essential to supporting District operations, continues to be replaced or updated in an efficient manner.

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

This program was included in the FY2009 CIP at a ten-year cost of \$1,182,000. The cost has been adjusted for inflation.

Total Project: NA
Cost to Date through FY2009: NA
CIP Total: \$1,230,000
Cost Estimate Accuracy Range: \$1,896,000 to \$912,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$94	\$221	\$237	\$12	\$51	\$94	\$221	\$237	\$12	\$51
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 has been ranked as priority level 2 because the District has a moderate level of control as to when upgrades need to occur.

Budgeting 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 initiated in FY2006 and is projected to be completed in FY2010

Future upgrades or system replacements will ensure reliability of the critical communication system and could also 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 project was included in the FY2009 CIP at a total cost of \$300,000. The cost has been adjusted to add the FY2019 & FY2020 replacements.

Total Project: \$612,000
Cost to Date through FY2005: \$232,000
CIP Total: \$205,000
Cost Estimate Accuracy Range: \$669,000 to \$593,000 (+15%/-5%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$55									\$150
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 has been ranked as priority level 2 because the District has a moderate level of control as to when upgrades need to occur.

Budgeting Department/Division: 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.

Installation of a new digital radio system, new control center equipment, new remote site computer equipment at all District facilities, and control room modifications to allow the relocation of the SCADA controls to the Bollman Water Treatment Plant were completed in FY2002. The upgrade work started in FY2009 and will be based on a phased approach. The work station and host computers will be replaced by FY2010. Upgrades at the remote sites will be completed by FY2015.

This project was included in the FY2009 CIP with a total project cost of \$1,308,000. The cost has been adjusted for inflation.

Total Project: \$1,392,000
Cost to Date through FY2009: \$211,000
CIP Total: \$1,181,000
Cost Estimate Accuracy Range: \$1,983,000 to \$1,038,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$699	\$103	\$103	\$138	\$138					
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 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 has been ranked as priority level 2 because the District has a moderate level of control as to when upgrades need to occur.

Budgeting 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 in an efficient and cost-effective manner by periodically re-assessing and upgrading the District’s telecommunications system, including telephones services, the Internet, and computer network. The initial master plan was completed in FY2004 and its recommendations are being implemented through FY2010. The next re-assessment is scheduled for FY2011, and subsequently in FY2019.

This project was included in the FY2009 CIP at a ten-year cost of \$617,000. The cost has been adjusted for inflation and to reflect the completion of FY2009 and the addition of FY2019.

Total Project: N/A
Cost to Date through FY2009: N/A
CIP Total: \$1,126,000
Cost Estimate Accuracy Range: \$1,689,000 to \$788,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$49	\$460		\$80				\$31	\$46	\$460
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 is not anticipated to have any operational impacts.

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

Budgeting Department/Division: 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 FY2009 CIP at a ten-year cost of \$7,639,000. The cost has been adjusted based on a needs assessment.

Total Project: N/A
Cost to Date through FY2009: N/A
CIP Total: \$7,873,000
Cost Estimate Accuracy Range: \$10,235,000 to \$6,692,000 (+30%/-15%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$819	\$846	\$732	\$710	\$794	\$836	\$839	\$842	\$720	\$735
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 to be negligible.

Basis for Priority: This project has been ranked as priority level 2 because it maintains and enhances existing assets.

Budgeting Division: Finance

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

Program: Equipment and Other Capital Purchases
Sub-Program: Equity Funded Equipment
Project: Heavy Diesel Engine Retrofits
Priority: 1

The purpose of this project is to comply with the December 8, 2005 State of California regulations to decrease diesel engine emissions by requiring diesel engines to have control devices for emissions of particles by December 2010. The District has thirty large diesel engines that are subject to this regulation.

Engine retrofits began in FY2008 and will be completed by the December 2010 deadline.

This program is new in the FY2010

Total Project: \$710,000
Cost to Date through FY2009: \$260,000
CIP Total: \$450,000
Cost Estimate Accuracy Range: \$935,000 to \$575,000 (+30%/-15%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$210	\$240								
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 and treated water rates.

Operational Impacts: This project has no operational impacts.

Basis for Priority: This project has been ranked as priority level 1 because it is a regulatory requirement.

Budgeting Division: Operations & Maintenance

Expansion of Services Program

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

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

The purpose of this project is to expand the City of Brentwood’s Water Treatment Plant to meet the anticipated water demands of its growing population. The District has recently completed constructing a treatment plant for the City on the Randall-Bold campus.

Expansion of the treatment plant is anticipated to begin in FY2012 and be completed in FY2016. This project includes costs to expand the City of Brentwood Water Treatment Plant from its initial capacity to 30 MGD. 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 FY2009 CIP at a total project cost of \$44,038,000. The cost has been adjusted for inflation.

Total Project: \$45,300,000
Cost to Date through FY2009: \$0
CIP Total: \$45,300,000
Cost Estimate Accuracy Range: \$67,950,000 to \$31,710,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
		210	\$3,670	\$10,030	\$21,075	\$10,315			
		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

Project Funding: This project is 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 has been ranked as priority level 1 because it is funded by others.

Budgeting Department/Division: Engineering

Future Water Supplies Program

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 FY2009 CIP at a total cost of \$425,000. The cost has been adjusted for inflation.

Total Project: N/A
Cost to Date through FY2009: N/A
CIP Total: \$452,000
Cost Estimate Accuracy Range: \$953,000 to \$749,000 (+30%/-15%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$2				\$175					\$275
P P P P				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 has been 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.

Budgeting Department/Division: 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 FY2010 through FY2019 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.

New supplies for both growth and shortage are assumed. 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 FY2015. The water purchase plan for the CIP follows the approved FWSS, but is adjusted to the actual demand growth. Under this schedule, the amount of future water purchased would be limited to the amount collected through the FRC. Water purchases for future growth will not affect rates.

This program was included in the FY2009 CIP at a ten-year cost of \$9,618,000. The cost has been adjusted to reflect an anticipated slowdown of growth in the ECCID area.

Total Project: N/A
Cost to Date through FY2009: N/A
CIP Total: \$9,684,000
Cost Estimate Accuracy Range: \$11,136,000 to \$9,200,000 (+15%/-5%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$94	\$94	\$123	\$150	\$150	\$8,473	\$150	\$150	\$150	\$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 has been ranked as priority level 2 because it is required to meet future service obligations and the District has some control over the timing.

Budgeting Department/Division: Planning

Los Vaqueros Program

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 existing and future recreation facilities and infrastructure necessary to meet the District’s commitments to operating the Los Vaqueros Recreation Program. The first recreation facilities were completed and opened for public use in 1999. Subsequent public use 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.

Facilities included are public buildings and bathrooms, marina structures, fishing docks, 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.

This program was included in the FY2009 CIP at a ten-year cost of \$1,310,000. The cost has been adjusted based on a needs assessment.

Total Project: N/A
Cost to Date through FY2009: N/A
CIP Total \$931,000
Cost Estimate Accuracy Range: \$1,397,000 to \$652,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$143	\$187	\$117	\$107	\$77	\$62	\$52	\$62	\$62	\$62
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 entirely 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 and help deter vandalism.

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

Budgeting Department/Division: Watershed and Lands

CONTRA COSTA WATER DISTRICT

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

Program: Los Vaqueros
Sub-Program: Watershed
Project: Land Acquisition and Real Property Management
Priority: 2

The purpose of this program is to protect the District’s investment and real property rights in the Los Vaqueros Project and other District-owned lands by acquiring property rights needed for watershed protection or protection and enhancement of other District-owned properties and operating facilities. Acquisitions may include real property, easements, licenses, land leases, or development rights.

This program was included in the FY2009 CIP at a ten-year cost of \$1,440,000. The cost has been adjusted for inflation.

Total Project: N/A
Cost to Date through FY2009: N/A
CIP Total: \$1,500,000
Cost Estimate Accuracy Range: \$2,250,000 to \$1,050,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$168	\$148	\$148	\$148	\$148	\$148	\$148	\$148	\$148	\$148
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 entirely by untreated and/or treated water rates, depending on the nature and purpose of the property.

Operational Impacts: There may be minimal impacts related to maintaining or leasing out acquired property.

Basis for Priority: This project has been ranked as priority level 2 based on the need to protect water quality and to facilitate District operations. There is a moderate level of control over when land acquisitions and other interests in land can occur.

Budgeting Department/Division: 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 19,100-acre LV 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 roads, 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 demolition and removal of unsafe structures.

This program was included in the FY2009 CIP at a ten-year total of \$2,340,000. The cost has been adjusted for inflation and to reflect the addition of road rehabilitation projects in FY2011, FY2018 and FY2019.

Total Project: N/A
Cost to Date through FY2009: N/A
CIP Total: \$4,950,000
Cost Estimate Accuracy Range: \$7,425,000 to \$3,465,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$254	\$754	\$324	\$459	\$299	\$334	\$234	\$239	\$984	\$1,069
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 funded by untreated water rates.

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

Basis for Priority: The project has been 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*.

Budgeting Department/Division: Watershed and Lands

Treated Water Distribution and Storage Facilities Program

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

Program: Treated Water Distribution and Storage Facilities
Sub-Program: Corrosion Control
Project: Corrosion Control Program
Priority: 2

The purpose of this project is to protect and prolong the service life and system reliability of the District’s existing treated water facilities. By providing cathodic protection, the District extends the service life of its metallic water treatment, storage, transmission, and distribution facilities. Since corrosion is an ongoing destructive process with water system components, postponement of the planned projects may result in the lack of protection to the steel pipelines and structures and may lead to future corrosion-related problems and failures.

This project implements measures identified in the 1991 Corrosion Control Management Report, the 1996 Treated Water Renewal and Replacement Study, and the 1999 and 2004 Facility Corrosion Control Program Assessments.

Specific projects are defined annually based on monitoring, inspection, and evaluation of the District’s existing facilities. Future projects include the replacement of deep well anode beds and installation of new corrosion control systems on non-protected mains, pumps, and reservoirs.

This program was included in the FY2009 CIP at a total ten-year cost of \$800,000.

Total Project: N/A
Cost to Date through FY2009: N/A
CIP Total: \$808,000
Cost Estimate Accuracy Range: \$1,212,000 to \$566,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$88	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80
0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0

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

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

Operational Impacts: This project will result in operational cost reductions due to lower maintenance requirements and reduced corrosion-related failures. For the purposes of the CIP, operational impacts are assumed to be negligible.

Basis for Priority: This project has been ranked as priority level 2 because it is necessary to maintain existing capital facilities.

Budgeting Department/Division: Operations and Maintenance

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 past experience, but may be significantly lower or higher in any given year depending upon applicant requests.

This program was included in the FY2009 CIP at a ten-year cost of \$18,497,000. The cost has been adjusted for inflation and to reflect the deletion of the Clayton Regency project from the CIP, as the project's schedule has become uncertain. The project will be reinstated in the CIP after the applicant has entered into a development agreement.

Total Project: N/A
Cost to Date through FY2009: N/A
CIP Total: \$14,682,000
Cost Estimate Accuracy Range: \$22,023,000 to \$10,277,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$1,650	\$1,098	\$1,294	\$1,520	\$1,520	\$1,520	\$1,520	\$1,520	\$1,520	\$1,520
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 has been 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.

Budgeting Department/Division: Engineering

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

Program: Treated Water Distribution and Storage Facilities
Sub-Program: Upgrades
Project: Multi-Purpose Pipeline Pressure Sustaining Valve
Priority: 2

The purpose of this project is to ensure reliable service to the District’s existing and future customers by installing a pressure sustaining valve in the Multi-Purpose Pipeline (MPP). The MPP was reconfigured shortly after start-up to serve Zone 2 to maintain adequate operating pressures in the pipeline and to operate more efficiently. As demands grow in the TWSA and more water needs to come from Randall Bold, a means to redirect flow in the MPP from Zone 2 to Zone 1 is required. The recommended solution is to install a pressure sustaining valve in the MPP downstream of the Antioch turnout that would allow the return of the Port Chicago Pipeline and MPP to Zone 1 service during periods of high demand. This will allow the District to maintain adequate pressures in the MPP under low flow conditions and still meet future demands of Bay Point and the Treated Water Service Area.

This project was included in the FY2009 CIP at a total project cost of \$900,000. The cost has been adjusted for inflation and project commencement has been delayed by one year based on updated demand projections.

Total Project: \$937,000
Cost to Date through FY2009: \$0
CIP Total: \$139,000
Cost Estimate Accuracy Range: \$1,406,000 to \$656,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
									\$139
									D D D D

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

Project Funding: This project is funded by treated water rates.
Operational Impacts: Impacts to total annual O&M costs are anticipated to be negligible.
Basis for Priority: This project has been ranked priority level 2 because it will enable the District to maintain water pressure and flow standards as demands grow.
Budgeting Department/Division: Planning

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 FY2010 include main replacements in Pleasant Hill and transmission valve rehabilitations at strategic locations. Also planned for 2010 are improvements to the circulation and reliability in the Concord area by installing approximately 2,200 linear feet of new 12-inch water main, coinciding with the City of Concord’s planned street extension from Commerce Avenue to Waterworld Parkway. Strategic transmission valve rehabilitations are planned for FY2011 as well.

This program was included in the FY2009 CIP at a ten-year cost of \$21,966,000. The cost has been adjusted for inflation.

Total Project: N/A
Cost to Date through FY2009: N/A
CIP Total: \$22,674,000
Cost Estimate Accuracy Range: \$34,011,000 to \$15,872,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$2,683	\$2,868	\$2,433	\$2,105	\$2,090	\$2,105	\$2,090	\$2,105	\$2,090	\$2,105
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 to be negligible.

Basis for Priority: This project has been 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.

Budgeting Department/Division: 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 FY2018 and construction completion is scheduled by FY2021.

This project was included in the FY2009 CIP at a total project cost of \$8,300,000. The cost has been adjusted for inflation and to reflect a one year delay in project commencement based on updated demand projections.

Total Project: \$8,538,000
Cost to Date through FY2009: \$0
CIP Total: \$1,194,000
Cost Estimate Accuracy Range: \$12,807,000 to \$5,977,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
								\$130	\$1,064
								P P D D	C C C C

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 FY2021, 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 has been 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.

Budgeting Department/Division: Planning

CONTRA COSTA WATER DISTRICT

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

Program: Treated Water Distribution and Storage Facilities
Sub-Program: Site Upgrades
Project: Paso Nogal Inlet/Outlet Pipeline Realignment
Priority: 3

The purpose of this project is to ensure reliable service to the District’s treated water customers.

The existing inlet/outlet pipeline at the Paso Nogal Reservoir is potentially located within a slope failure region. The site is being monitored to determine whether the pipeline needs to be realigned. If relocation is found to be necessary, design will begin in FY2010 with construction in FY2011.

This project was included in the FY2009 CIP as part of the Country Club Pump Station Expansion project at a project cost of \$3,247,000. The cost has been adjusted based on a new cost estimate.

Total Project: \$1,900,000
Cost to Date through FY2009: \$0
CIP Total: \$1,808,000
Cost Estimate Accuracy Range: \$2,850,000 to \$1,330,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$180	\$1,720								
D D D D	C C C C								

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

Project Funding: This project may be funded with treated water rates or legal settlement revenue

Operational Impacts: Operational impacts will be minimal.

Basis for Priority: This project has been ranked as priority level 3 because the District has a significant level of control over the scope and implementation of this project.

Budgeting Department/Division: Engineering

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 facility site drainage, water quality, 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 FY2010 projects include construction of improvements to Seminary and Kirker Pass pump stations to ensure the reliability of these backbone facilities, retirement of Pleasant Hill Reservoir and Pump Station, and rehabilitation of various pumps. In addition, improvements to Gregory Gardens and Nob Hill pump stations will be designed in FY2010 for construction in FY2011. Future projects include improvements to the Port Costa Pump Station and realignment of the pump discharge at Bailey Pump Station.

This program was included in the FY2009 CIP at a ten-year cost of \$16,000,000. The cost has been adjusted for inflation.

Total Project: N/A
Cost to Date through FY2009: N/A
CIP Total: \$16,591,000
Cost Estimate Accuracy Range: \$24,887,000 to \$11,614,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$2,188	\$2,120	\$2,251	\$1,416	\$1,416	\$1,416	\$1,416	\$1,456	\$1,456	\$1,456
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 C C

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

Project Funding: This project is entirely funded by treated water rates. The cost of the pump rehabilitation program will be offset by a reduction in operating budget.

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

Basis for Priority: This project has been ranked as priority level 2 because treated water site upgrades are necessary to maintain and enhance existing assets.

Budgeting Department/Division: 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 FY2019 and construction will begin outside of the current CIP window.

This project was included in the FY2009 CIP at a cost of \$4,660,000. The cost has been adjusted for inflation and shifted to begin in FY2019 based on an updated assessment of demands in the sub-zone.

Total Project: \$4,800,000
Cost to Date through FY2009: \$0
CIP Total: \$200,000
Cost Estimate Accuracy Range: \$7,200,000 to \$3,360,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
									\$200
									P P

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 FY2020, 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 has been 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.

Budgeting Department/Division: 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: 2/3

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 that storage alone would provide.

Installation of standby generators and seismic valves at key backbone facilities was completed in FY2006. The installation of a standby generator will be completed at Seminary Pump Station 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 FY2011 and implemented in FY2012, subject to receipt of grant funding.

This project was included in the FY2009 CIP at a total project cost of \$7,377,000. The cost has been adjusted for inflation.

Total Project: \$7,528,000
Cost to Date through FY2009: \$4,469,000
CIP Total: \$3,059,000

Cost Estimate Accuracy Range: \$9,058,000 to \$6,610,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$559									
C C C C									

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
	\$430	\$2,070							
	D D D D	C C C C							

P = Planning

D = Design

C = Construction

O = Other

Project Funding: The priority level 2 component is funded by treated water rates. Priority level 3 activities would be funded by grant funds.

Operational Impacts: The operational impacts of this project are estimated at \$20,000 per year for maintenance service of the standby generators.

Basis for Priority: The initial phase of the project has been ranked as priority level 2 because its completion is needed to satisfy the District’s emergency storage criteria. The second phase has been ranked as priority level 3 because it is dependent upon outside funding sources.

Budgeting Department/Division: 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. Through FY2008, six steel tanks and four concrete tanks have been replaced or rehabilitated.

Improvements may include rehabilitation, replacement, abandonment, or relocation of some water storage capacity, and would include addition of state of the art corrosion protection, seismic reinforcement, water quality improvements, and operational enhancements.

With the completion of the new Midhill II Reservoir, the District can now remove Midhill I Reservoir from service to remediate its metallic-based seals. Design will be completed in FY2009 for FY2010 construction. Other upcoming projects include coating repairs at Gregory Gardens Reservoir and drainage improvements for Murchio Reservoir.

This program was included in the FY2009 CIP at a ten-year cost of \$7,020,000. The cost has been adjusted for inflation.

Total Project: NA
Cost to Date through FY2009: NA
CIP Total: \$7,440,000

Cost Estimate Accuracy Range: \$11,160,000 to \$5,208,000 (+50%/-30%)

Annual Cost Distribution (in 000's) and Schedule

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$1,625	\$215	\$1,185	\$215	\$1,185	\$215	\$1,185	\$215	\$1,185	\$215
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 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 to be 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.

Budgeting Department/Division: 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 Service Area Master Plan 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 facilities. The current Treated Water Service Area (TWSA) Master Plan was completed in FY2008. Periodic updates are needed to ensure that the plan accurately reflects changes in the communities to which treated water service is provided.

This project was included in the FY2009 CIP at a ten-year cost of \$250,000. The cost has been adjusted for inflation.

Total Project: N/A
Cost to Date through FY2009: N/A
CIP Total: \$355,000
Cost Estimate Accuracy Range: \$462,000 to \$302,000 (+30%/-15%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
		\$215					\$140		
		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 (46.5%) and treated water FRCs (53.5%) per the 1998 Facility Reserve Charge Analysis.

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. The plan ensures an integrated approach for meeting the supply and distribution needs of the TWSA.

Budgeting Department/Division: Planning

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 FY2005. This project will update the study in FY2011 and FY2017 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 FY2009 CIP at a ten-year cost of \$250,000. The cost has been adjusted for inflation.

Total Project: \$260,000
Cost to Date through FY2009: \$0
CIP Total: \$260,000
Cost Estimate Accuracy Range: \$338,000 to \$221,000 (+30%/-15%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
	\$135						\$125		
	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.

Budgeting Department/Division: 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 is new to the CIP.

Total Project: \$500,000
Cost to Date through FY2009: \$0
CIP Total: \$500,000
Cost Estimate Accuracy Range: \$750,000 to \$350,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
	100	400							
	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 has been ranked as priority level 3 because it is dependent upon outside funding sources.

Budgeting Department/Division: Planning/Engineering

Untreated Water Supply and Transport Program

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 past experience, but may be significantly lower or higher in any given year depending upon applicant requests.

Ongoing development in East County causes the continued 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 FY2009 CIP at a ten-year cost of \$1,850,000. The cost has been adjusted based on a program re-evaluation.

Total Project: N/A
Cost to Date through FY2009: N/A
CIP Total: \$1,309,000
Cost Estimate Accuracy Range: \$1,964,000 to \$916,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$229	\$120	\$120	\$120	\$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 has been 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.

Budgeting Department/Division: 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. The plan was last updated in FY2006. Future updates of the UWFIP will be completed in FY2011 and FY2016.

This project was included in the FY2009 CIP at a cost of \$585,000. The cost has been adjusted for inflation.

Total Project: \$600,000
Cost to Date through FY2009: \$0
CIP Total: \$600,000
Cost Estimate Accuracy Range: \$780,000 to \$510,000 (+30%/-15%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
	\$375					\$225			
	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 has been 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.

Budgeting Department/Division: Planning

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 FY2015 and completed in FY2018, 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 FY2009 CIP at a total project cost of \$20,082,000. The cost has been adjusted for inflation.

Total Project: \$20,700,000
Cost to Date through FY2009: NA
CIP Total: \$20,700,000
Cost Estimate Accuracy Range: \$31,050,000 to \$14,490,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
					\$650	\$1,810	\$8,220	\$10,020	
					P P D D	D D D D	C C C C	C C C C	

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 FY2018.

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

Budgeting Department/Division: 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: 1/2/3

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. Due to the reliance on external funding and the availability of this funding, 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 design and environmental work will cover all phases of the project to ensure an integrated approach. 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.

Construction of the 1,900-foot initial phase has been accelerated from FY2010 to FY2009 to take advantage of the favorable bidding climate. The remaining portions of the project will proceed as funding is secured.

This project was included in the FY2009 CIP at a total cost of \$89,000,000. The cost has been adjusted for inflation.

Total Project: \$91,000,000
Cost to Date through FY2009: \$13,135,000
CIP Total: \$77,865,000

Cost Estimate Accuracy Range: \$129,935,000 to \$67,640,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$4,865									
C C C C									

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
133									
P D D D									

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
	\$1,422	\$19,499	\$19,296		\$1,422	\$15,649	\$15,579		
	P D D D	C C C C	C C C C		P D D D	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: 1/2/3

Project Funding: The District's share of the project cost is anticipated to be \$4.7 million, which is needed to satisfy cost sharing requirements from various grants. The balance of the project cost would be funded by developers' contributions and various State and Federal grants, including 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 to be negligible.

Basis for Priority: The first phase of this project is ranked as priority level 1 because the District has received project funding through grant agreements and funding from developers with a cash flow tied to the pace of housing development. FY2010 activities are ranked as priority 2 because the District has moderate schedule control. The final phase of the project is 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.

Budgeting Department/Division: 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 new Bypass. This approach saved initial construction costs, while avoiding expending LVP project funds for a future Bypass project that might not occur.

The Authority has recently budgeted for this specific interchange at Balfour Road. Additionally, the Authority has prepared preliminary designs for this interchange 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 FY2009 CIP at a cost of \$3,000,000. The cost has been adjusted for inflation and updated cost projections.

Total Project: \$3,900,000
Cost to Date through FY2009: \$0
CIP Total: \$3,900,000
Cost Estimate Accuracy Range: \$5,820,000 to \$2,730,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
				\$483	\$3,417				
				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 project will be funded from the Los Vaqueros Commitments Reserve Fund and untreated water rates; otherwise the Authority will fund the relocation.

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

Basis for Priority: This project has been ranked a priority level 1 because it is a contractual obligation of the District.

Budgeting Department/Division: 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: 2/3

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 is forty feet wide and twenty-five hundred 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 slough in October 2006 and determined there is five feet of sediment buildup since the last dredging in 1987 when the bottom of the slough was dredged to seven and a half feet below mean sea level. The buildup of sediment can reduce the capacity of the pump station by up to 15 percent.

This project will dredge the slough to its original design depth and remove the sediment spoils to a designated disposal site, as well as re-shape the walls of the intake channel. The permitting phase of the project is Priority Level 2, and is scheduled to occur in FY2009 and FY2010. Design and construction are Priority Level 3, subject to funding availability.

This project was included in the FY2009 CIP at a cost of \$3,300,000. The cost has been adjusted for inflation

Total Project: \$3,331,000
Cost to Date through FY2009: \$104,000
CIP Total: \$3,227,000
Cost Estimate Accuracy Range: \$4,945,000 to \$2,363,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$127									
P P P P									

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
		\$280	\$2,820						
		D D D D	D C C C						

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

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: This project has been ranked priority level 3, as the project scope and schedule have been defined only on a conceptual level.

Budgeting Department/Division: 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: Rock Slough Fish Screen
Priority: 1/3

The purpose of this project is to provide support to Reclamation’s efforts to construct a fish screen at the Rock Slough intake to the Contra Costa Canal. The fish screen is required by the Central Valley Project Improvement Act (CVPIA) and the U.S. Fish and Wildlife Service’s Los Vaqueros Project Biological Opinion on Delta Smelt. Reclamation has initiated discussions with the resource agencies to extend the deadline to December 2018.

Reclamation’s project activities began in FY1996, and were suspended at the 50 percent design phase in 1998 due to lack of funding from the CVPIA cost sharing agencies. The District has proposed that it would complete the project on a contract basis, subject to the availability of Reclamation funds. This project completion phase has been added as a priority level 3 placeholder project, should funds become available via any proposed economic stimulus efforts.

This project was included in the FY2009 CIP at a total project cost of \$326,000. The cost has been adjusted to reflect the addition of the priority level 3 placeholder, with the District taking the lead for immediate implementation upon funding.

Total Project: \$24,547,000
Cost to Date through FY2009: \$242,000
CIP Total: \$24,305,000
Cost Estimate Accuracy Range: \$36,700,000 to \$17,256,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$5									
o o o o	o o o o								

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$455	\$1,005	\$8,040	\$12,930	\$1,870					
P P P P	P P D D	D D C C	C C C C	C					

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

Project Funding: Under the CVPIA, the costs of the fish screen are to be shared among the federal government (37.5%), the CVP (37.5%) and the State of California (25%). The District has incurred untreated water rate funded costs for coordination with Reclamation during the planning and 50 percent design phases.

Operational Impacts: It is assumed that the District would take responsibility for the operations and maintenance of this federal facility, as it has for the Contra Costa Canal and related facilities. The District’s O&M costs are estimated to increase by \$150,000 per year starting in FY2014 (first full year of operation). Labor costs account for two-thirds (\$100,000) of this estimate.

CONTRA COSTA WATER DISTRICT

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

Program: Untreated Water Supply and Transport

Sub-Program: Untreated Water Facilities - Upgrades

Project: Rock Slough Fish Screen - *continued*

Priority: 1/3

Basis for Priority: This project has been ranked as priority level 1 because it is part of the CVPIA and Los Vaqueros Project Delta Smelt Biological Opinion requirements. Continued pumping at Rock Slough is dependent on meeting the requirements of the CVPIA. The completion phase has been ranked as priority level 3, as funding is outside funded and uncertain at this time.

Budgeting Department/Division: 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: Untreated Water Facilities Improvement Program
Priority: 2

The purpose of this project is to improve operational reliability of the District’s untreated water facilities, many of which are over 65 years old and nearing the end of their useful lives. The project focuses on rehabilitating canal system deficiencies in an effort to improve current operations and ensure safe access to the Contra Costa Canal. Improvements are identified and prioritized in the Untreated Water Facilities Improvement Plan.

The project consists of improvements to mechanical and electrical equipment, pipelines, structures, instrumentation, laterals, wasteways, damaged concrete canal lining section, roads, bridges, fences and the restoration of erosion damaged sites at various locations along the Contra Costa Canal.

Planned FY2010 work includes the design of drainage improvements adjacent to the canal near Boundary Oaks Golf Course, interior inspection of the Shortcut Pipeline and obtaining permits and access easements to construct improvements to the Shortcut Pipeline.

This program was included in the FY2009 CIP at a ten-year cost of \$19,625,000. The cost has been adjusted for inflation and was reduced to bridge an anticipated funding shortfall for the Canal Replacement Project in the FY2009 and FY2010 budgets. In addition, a debt-funded Shortcut Pipeline Improvements component was added to this program.

Total Project: N/A
Cost to Date through FY2009: N/A
CIP Total: \$27,531,000
Cost Estimate Accuracy Range: \$41,297,000 to \$19,272,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$801	\$3,405	\$3,692	\$2,363	\$4,813	\$2,209	\$4,659	\$1,863	\$1,863	\$1,863
0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0

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

Project Funding: This project is mainly funded by untreated water rates. The cost of the pump rehabilitation program will be offset by a reduction in operating budget. Shortcut Pipeline improvements will be debt-funded starting in FY2011, with the debt being retired using canal land levy tax revenues.

Operational Impacts: The operational impact of this project is estimated to be negligible. This project improves operations and maintenance of the Canal and reduces water loss.

Basis for Priority: This project has been ranked as priority level 2. The District’s untreated water facilities may be approaching the end of their useful life. The improvements made by this project will insure a reliable system of operation and greater maintenance efficiency.

Budgeting Department/Division: 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: 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, and address issues raised by the State of California, Division of Safety of Dams (DSOD) and the United States Bureau of Reclamation (USBR).

The program, which began in FY1998, has included projects to improve security and safety of the District’s untreated water reservoirs. Most recently, upgrades were made to the Los Vaqueros Reservoir Automated Dam Acquisition System (ADAS); to replace aging instrumentation relied upon for communicating critical dam safety information. Additional ADAS improvements at Los Vaqueros are planned for FY2011. The program also includes the abandonment of unused wells adjacent to Mallard Reservoir in FY2012. Both projects are subject to the availability of funding.

This project was included in the FY2009 CIP at a total cost of \$11,891,000. The cost has been adjusted based on a needs analysis.

Total Project: \$10,829,000
Cost to Date through FY2009: \$10,447,000
CIP Total: \$382,000
Cost Estimate Accuracy Range: \$11,047,000 to \$10,727,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
	\$197	\$185							
	D D C C	D D 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 obtaining data, and increase the level of dam oversight through higher quality, faster data.

Basis for Priority: This project has been ranked as priority level 3 because the District has a significant level of control over the scope and implementation of this project.

Budgeting Department/Division: Engineering

CONTRA COSTA WATER DISTRICT

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

Program: Untreated Water Supply and Transport
Sub-Program: Upgrades
Project: Untreated Water Revenue Meter Data Logger Replacements
Priority: 2

The purpose of this project is to improve the accuracy and reliability of revenue metering sites of major untreated water customers. The electrical power system and data collection/telemetry equipment are approaching the ends of their useful lives and are becoming increasingly unreliable. In addition, the physical sites are in need of refurbishment. These meters account for annual revenues in excess of \$36 million.

This project consists of the development and installation of systems using cellular telemetry to directly communicate real-time revenue data, reducing the need for District staff to manually read these meters, at twenty-four untreated water metering sites. The project also includes security, power, and safety and access improvements at each site.

This project was included in the FY2009 CIP at a total cost of \$2,010,000. The cost has been adjusted for inflation.

Total Project: \$2,193,000
Cost to Date through FY2009: \$244,000
CIP Total: \$1,949,000
Cost Estimate Accuracy Range: \$3,168,000 to \$1,608,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$1,949									
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. Any additional operating cost, i.e., cellular costs, would be more than offset by decreased labor effort (equipment maintenance and meter reading), which would be re-directed to other activities.

Basis for Priority: The project is ranked as priority level 2 because unreliable metering results in inequitable revenue collection.

Budgeting Department/Division: Engineering

Water/Energy Demand Reduction Program

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 incentives for the Residential, Commercial/Industrial/Institutional and Landscape customer classes. Incentives are consistent with the Future Water Supply Study (FWSS) and the Best Management Practices (BMP's).

The program includes incentives for the installation of efficiency toilets, clothes washers, smart irrigation timers and various commercial devices and irrigation equipment.

This program was included in the FY2009 CIP at a ten-year cost of \$8,010,000. Costs have been adjusted for inflation, and to reflect changes in individual program elements.

Total Project: N/A
Cost to Date through FY2009: N/A
CIP Total: \$8,975,000
Cost Estimate Accuracy Range: \$10,321,000 to \$8,526,000 (+15%/-5%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$875	\$900	\$900	\$900	\$900	\$900	\$900	\$900	\$900	\$900
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 \$200,000.

Operational Impacts: This project has no operational impact.

Basis for Priority: This project has been 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.

Budgeting Department/Division: Finance

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

Program: Water/Energy Demand Reduction
Sub-Program: Best Management Practices Implementation
Project: Commercial/Industrial Conservation
Priority: N/A

The purpose of this program is to reduce water demands by providing conservation audits to commercial customers to evaluate water uses on site and to provide suggestions for improved water use efficiency. The program also provides the pre-inspection at commercial establishments for the water conservation incentive program.

This is an operating budget program and is not included in program or CIP cost estimate totals. It is included here to provide a comprehensive picture of the District's Water Demand Reduction program.

This program was included in the FY2009 CIP at a ten-year cost of \$1,550,000. The cost has been adjusted for inflation.

Total Project: N/A
Cost to Date through FY2009: N/A
CIP Total: \$1,600,000
Cost Estimate Accuracy Range: \$1,840,000 to \$1,520,000 (+15%/-5%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$160	\$160	\$160	\$160	\$160	\$160	\$160	\$160	\$160	\$160
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 untreated water rates.

Operational Impacts: This is an operating budget program. There are no O&M impacts beyond administering the project.

Responsible Department/Division: Finance

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

Program: Water/Energy Demand Reduction
Sub-Program: Best Management Practices Implementation
Project: Landscape Conservation
Priority: N/A

The purpose of this program is to reduce water demands by providing landscape surveys in business parks, homeowner association’s common landscape areas, city parks and other areas that have irrigation meters and large areas of turf. It also provides an annual follow-up to those surveyed sites in order to assure continued savings. In addition, this program involves developing landscape water budgets for all dedicated irrigation accounts.

This is an operating budget program and is not included in program or CIP cost estimate totals. It is included here to provide a comprehensive picture of the District’s Water Demand Reduction program.

This program was included in the FY2009 CIP at a ten-year cost of \$2,020,000. The cost has been adjusted for inflation.

Total Project: N/A
Cost to Date through FY2009: N/A
CIP Total: \$2,100,000
Cost Estimate Accuracy Range: \$2,415,000 to \$1,995,000 (+15%/-5%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$210	\$210	\$210	\$210	\$210	\$210	\$210	\$210	\$210	\$210
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 untreated water rates.

Operational Impacts: This is an operating budget program. There are no O&M impacts beyond administering the project.

Responsible Department/Division: Finance

CONTRA COSTA WATER DISTRICT

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

Program: Water/Energy Demand Reduction
Sub-Program: Best Management Practices Implementation
Project: Residential Water Audits/Plumbing Retrofit
Priority: N/A

The purpose of this program is to reduce water demands by providing water audits to single-family and multi-family residential customers. The Residential Water Audit Program works with District customers at their homes to improve water efficiency. Trained surveyors test for leaks in toilets, install showerheads and conduct comprehensive landscape water use evaluations. The Program makes water saving devices (showerheads, faucet aerators, etc.) available to customers free of charge.

This is an operating budget program and is not included in program or CIP cost estimate totals. It is included here to provide a comprehensive picture of the District's Water Demand Reduction program.

This program was included in the FY2009 CIP at a ten-year cost of \$3,500,000. The cost has been adjusted for inflation.

Total Project: N/A
Cost to Date through FY2009: N/A
CIP Total: \$3,600,000
Cost Estimate Accuracy Range: \$4,140,000 to \$3,420,000 (+15%/-5%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$360	\$360	\$360	\$360	\$360	\$360	\$360	\$360	\$360	\$360
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 untreated water rates.

Operational Impacts: This is an operating budget program. There are no O&M impacts beyond administering the project.

Responsible Department/Division: Finance

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

Program: Water/Energy Demand Reduction

Sub-Program:

Project: Greywater Demonstration and Pilot Project

Priority: 3

The purpose of this project is to reduce water demands by implementing a greywater pilot or demonstration project. The proposed project would include installation of greywater systems in the District's service area (including, possibly, District facilities), permitting the systems, obtaining customer feedback, and evaluating the systems. The project would allow the District to evaluate the cost, functionality, maintenance, and water savings associated with greywater systems. Additionally, the District's work with permitting agencies in the service area would provide a more efficient method of permitting for customers, which would result in a reduction of non-permitted systems and the health risks associated with those systems.

This is an operating budget program and is not included in program or CIP cost estimate totals. It is included here to provide a comprehensive picture of the District's Water Demand Reduction program.

This project is new to the CIP.

Total Project: \$300,000
Cost to Date through FY2009: N/A
CIP Total: \$300,000
Cost Estimate Accuracy Range: \$390,000 to \$255,000 (+30%/-15%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$300									
o o o o									

P = Planning

D = Design

C = Construction

O = Other

Project Funding: This program would be funded by untreated water rates and grants.

Operational Impacts: This would be an operating budget program. There are no O&M impacts beyond administering the project.

Basis for Priority: This project has been ranked as priority level 3 because is dependent upon outside funding sources.

Responsible Department/Division: Planning/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: 2/3

The purpose of this project is to evaluate the District’s energy use and identify and implement strategies to reduce consumption of energy and associated greenhouse gas emissions, ensure the District is well positioned to meet new regulations, and to conform to the District’s mission of delivering service in an environmentally responsible manner.

The master plan will evaluate the District’s current energy use and will identify 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, hydropower, 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 also includes approximately \$4 million as a Priority 3 placeholder for the implementation of these projects.

This program was included in the FY2009 CIP in the Administrative, Support & Maintenance Facility Improvement program at a ten-year cost of \$150,000. The cost has been adjusted to reflect the addition of the implementation placeholder.

Total Project: \$4,158,000
Cost to Date through FY2009: \$123,000
CIP Total: \$4,035,000
Cost Estimate Accuracy Range: \$6,163,000 to \$2,955,000 (+15%/-5%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$35									
P P P P									

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
	\$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: 38% of the cost of the priority level 2 master plan will be funded by untreated water rates and 62% by treated water rates as described in Section III, Table III-1. 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.

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 - *continued*
Priority: 2/3

Basis for Priority: This master plan has been ranked priority level 2 because the District has a moderate level of control over the schedule. Implementation has been ranked priority level 3 because the District has a significant level of control the scope and schedule.

Budgeting Department/Division: 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: 2

The purpose of this project is to reduce energy costs by implementing a hydroelectric generation facility capable of producing approximately 800 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.

Feasibility studies completed to date conclude that constructing a hydropower generation facility at the Los Vaqueros Pipeline has a payback of approximately ten years.

This project was included in the FY2009 CIP in the Untreated Water Supply and Transport program at a total project cost of \$4,734,000. The cost has been adjusted for inflation and the project has been accelerated to a FY2011 completion date.

Total Project: \$6,177,000
Cost to Date through FY2009: \$637,000
CIP Total: \$5,344,000
Cost Estimate Accuracy Range: \$8,653,000 to \$4,378,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$3,306	\$2,038								
c c c c	c c c c								

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 \$370,000 beginning in FY2011.

Basis for Priority: This project has been ranked as priority level 2 because the District has a moderate level of control over scope and timing.

Budgeting Department/Division: Engineering

Water Treatment Facility Improvements Program

CONTRA COSTA WATER DISTRICT

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

Program: Water Treatment Facility Improvements
Sub-Program: Expansion
Project: Drinking Water Laboratory
Priority: 3

The purpose of this project is to enable the District to meet new, more stringent, analytical requirements related to new regulations, potential new water supplies, and expanded outreach to our municipal customers.

The Facilities Master Plan (FMP) adopted by the Board in 1999, recommended construction of a new 6,500 to 10,000 square foot laboratory adjacent to the Bollman Water Treatment Plant at a cost of \$2.6 to \$6.0 million to provide additional space and state-of-the-art equipment. Due to funding constraints, the proposed project has been reduced to 5,000 square feet.

Estimated annual operating costs and amortized capital costs of the laboratory are about equal to the cost of using commercial laboratories to perform the projected analysis. A cost-benefit analysis comparing the use of commercial facilities versus constructing a District facility will be provided before project funding. The District has conducted significant outreach to municipal customers to provide lab services to them at a competitive cost. While limited success has been achieved, sufficient additional work to justify lab expansion, based on this criterion alone, has not been generated. The outreach will continue.

This project was included in the FY2009 CIP at a cost of \$2,000,000. The schedule has been delayed one year to allow for additional outreach.

Total Project: \$2,000,000
Cost to Date through FY2009: \$0
CIP Total: \$2,000,000
Cost Estimate Accuracy Range: \$3,000,000 to \$1,400,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
		\$400	\$1,600						
		P P D D	C C C C						

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

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

Operational Impacts: This project will increase the District’s analytical capability by providing state-of-the-art equipment and a more efficient laboratory layout, ensuring the lab’s ability to meet new and more stringent regulations. Any additional operating costs would be offset by the lessened need for outside laboratory services, and fees collected from other agencies using the lab.

Basis for Priority: This project has been ranked as priority level 3 because the District has maximum flexibility in implementing this project.

Budgeting Department/Division: Operations and Maintenance

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 next plan update is scheduled for FY2013. This project also includes approximately \$4,900,000 for the implementation of improvements recommended by the study.

This project was included in the FY2009 CIP at a cost of \$5,100,000. The cost has been adjusted for inflation and to reflect a two-year acceleration of the master plan.

Total Project: \$7,630,000
Cost to Date through FY2009: \$0
CIP Total: \$7,630,000
Cost Estimate Accuracy Range: \$11,447,000 to \$5,341,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
	\$230	\$280	\$1,570	\$280	\$1,570	\$280	\$1,570	\$280	\$1,570
	P P P P	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 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 has been 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.

Budgeting Department/Division: Planning

CONTRA COSTA WATER DISTRICT

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

Program: Water Treatment Facility Improvements
Sub-Program: Upgrades
Project: Membrane Filtration Placeholder
Priority: 3

The purpose of this project is to ensure the District’s water quality objectives will continue to be met through advanced treatment process improvements. Future increases to water demands from the Delta, in the absence of definite projects to protect the District and other Bay Area users of Delta water, will likely lead to degraded water quality. There is also a trend to increasing regulations to ensure high quality water is delivered to urban water users. These regulations are targeting areas now unregulated, including new viral, bacterial and protozoan pathogens, more stringent disinfection by-product regulations and regulations on currently unregulated chemicals. This trend also leads to an increasing likelihood of a need for advanced treatment.

If the State proceeds with options for the Delta that create degraded water quality at the District’s intakes, then the District must consider the potential need for the implementation of advanced treatment technologies such as membrane filtration and multiple barriers (including multiple disinfectants, UV disinfection, and higher filtration levels). If implementation were deemed necessary, this project would be initiated in FY2013 with an estimated completion date in FY2016.

This project was included in the FY2009 CIP at a total cost of \$80,000,000. Project commencement has been delayed two years pending the outcomes of the Delta Vision and other ongoing Delta studies.

Total Project: \$80,000,000
Cost to Date through FY2009: \$0
CIP Total: \$80,000,000
Cost Estimate Accuracy Range: \$120,000,000 to \$56,000,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
			\$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 would be funded by treated water rates.

Operational Impacts: For purposes of planning, the total annual O&M costs are estimated to be \$6.6 million per year, of which \$160,000 is attributable to labor costs.

Basis for Priority: This project has been ranked as priority level 3 because the District has maximum flexibility in implementing this project, and the outcome of the CALFED Program is uncertain.

Budgeting Department/Division: 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: 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 FY2004 Water Treatment Plant Master Plan (WTPMP).

Projects planned for FY2010 and FY2011 include the addition of a new ozone generator, sedimentation basin and clearwell seismic improvements, replacement of filter valves and upgrades to the non-ionic polymer system. There is a priority level 3 placeholder project to implement on-site solids handling if required by Central Contra Costa Sanitary District.

The projects identified in this program were included in FY2009 CIP at a ten-year cost of \$15,917,000. The costs have been adjusted for inflation and to reflect the passing of FY2009 and the addition of FY2019.

Total Project: NA
Cost to Date through FY2009: NA
CIP Total: \$14,964,000
Cost Estimate Accuracy Range: \$22,447,000 to \$10,475,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$1,677	\$2,903	\$1,133	\$218	\$803	\$803	\$803	\$218	\$803	\$803
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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
			\$500	\$2,850	\$1,450				
			D D D D	C C C C	C C C C				

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 project are estimated to be \$50,000 per year beginning in FY2010. Labor costs account for \$8,000 of the total costs.

Basis for Priority: This program has been ranked as priority level 2 for components that have been defined and priority level 3 for components that are pending the outcome of investigations.

Budgeting Department/Division: 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: 2/3

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 FY2009. 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.

Various small upgrade projects are anticipated to be needed beginning in FY2011 and filter media is assumed to be replaced on a four-year cycle beginning in FY2012. There is a priority level 3 placeholder project to line the wash water lagoons if required by the Regional Water Quality Control Board.

The projects identified in this program were included in FY2009 CIP at a ten-year cost of \$2,558,000. The costs have been adjusted for inflation.

Total Project: NA
Cost to Date through FY2009: NA
CIP Total: \$2,760,000
Cost Estimate Accuracy Range: \$4,140,000 to \$1,932,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
	\$50	\$435	\$435	\$50	\$50	\$435	\$500	\$85	\$80
	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*

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
		\$100	\$540						
		D D D D	C C C C						

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 project are minimal.

Basis for Priority: This program has been ranked as Priority level 2 for components that have been defined and priority level 3 for components that are pending the outcome of investigations.

Budgeting Department/Division: 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: 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 FY2004 Water Treatment Plant Master Plan (WTPMP).

Projects included in this program include DCS replacement, filter media replacement, and groundwater monitoring and alternatives analysis for lagoon operations at the site. There are priority level 3 placeholder projects to line the wash water and solids lagoons if required by the Regional Water Quality Control Board, and to convert the plant to hypochlorite if required by legislation.

The projects identified in this program were included in FY2009 CIP at a 10-year cost of \$8,992,000. The costs have been adjusted for inflation.

Total Project: NA
Cost to Date through FY2009: NA
CIP Total: \$10,602,000
Cost Estimate Accuracy Range: \$15,907,000 to \$7,424,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
\$190	\$168	\$248	\$2,318	\$818	\$98	\$98	\$783	\$783	\$98
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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
		\$460	\$2,940	\$1,600					
		D D D	C C C C	C C C C					

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 project are estimated to be \$90,000 per year beginning in FY2009. Labor costs account for \$8,000 of the total costs.

Basis for Priority: This program has been ranked as priority level 2 for components that have been defined and priority level 3 for components that are pending the outcome of investigations or potential legislation.

Budgeting Department/Division: Planning/Engineering/Operations & Maintenance

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

Program: Water Treatment Facility Improvements
Sub-Program: Upgrades
Project: Randall-Bold Water Treatment Plant Upgrades for Increased Capacity
Priority: 3

Description: The purpose of this project is to upgrade the Randall-Bold Water Treatment Plant to increase treatment capacity at the facility. A filter assessment study is currently underway to determine if the plant’s filtration rates can be increased from 40 MGD to 54 MGD. If the results of the study indicate that capacity increases are feasible, additional upgrades for greater storage and higher treatment capacity may be needed to reliably meet a 35% production increase. Examples of upgrades possibly needed are additional chemical tanks and chemical feeders, higher waste discharge capacity, greater capacity for solid waste handling, and modifications to influent piping to alleviate hydraulic constrictions.

A placeholder of \$500,000 has been included in this CIP for implementation of projects necessary to increase capacity at the Randall-Bold Water Treatment Plant. The project scope and schedule will be updated based on the results of the filter assessment study.

This project was included in FY2009 CIP at a total cost of \$500,000.

Total Project: \$500,000
Cost to Date through FY2009: \$0
CIP Total: \$500,000
 +
Cost Estimate Accuracy Range: \$750,000 to \$350,000 (+50%/-30%)

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

FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
	\$100	\$400							
	D D D D	C C C C							

P = Planning

D = Design

C = Construction

O = Other

Project Funding: This project would be funded by treated water rates and FRCs.

Operational Impacts: Impacts to total annual O&M costs are anticipated to be negligible.

Basis for Priority: This project has been ranked priority level 3, as the project scope and schedule have been defined only on a conceptual level.

Budgeting Department/Division: Planning

Section VIII

EXHIBITS

List of Abbreviations

ABAG	Association of Bay Area Governments
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
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
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

List of Abbreviations
(continued)

ROD	Record of Decision
SCADA	Supervisory Control and Data Acquisition
SRIP	Seismic Reliability Improvement Project
SWQ	Safety and Water Quality
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
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.

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.

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 traditionally issued by the District 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 - Multipurpose 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 District's 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.

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).

Section IX

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