



# Calaveras County Water District

## FY 08-09 Five-Year Capital Improvement Plan

July 1, 2008 – June 30, 2013



August 13, 2008

**Calaveras County Water District**  
**FY 08-09 Five-Year Capital Improvement Plan**

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## CHAPTER 1 Executive Summary

This Capital Improvement Plan presents a list of projects and associated requirements to continue operating and maintaining water and wastewater systems to serve Calaveras County Water District's current and future customers. This chapter summarizes the proposed Capital Improvement Plan (CIP) and presents significant findings.

### 1.1 CIP Purpose

The District maintains the CIP to meet its mission of providing water and wastewater services to its customers. This CIP is a prioritized list of projects the District expects to implement over the next five years. Capital improvement projects are studied and implemented to address a wide range of issues that arise in providing water, sewer, and power generation services.

Local, state, and federal agency regulations often require system upgrades and improvements to maintain compliance. Aging infrastructure must be rehabilitated or replaced. Growth in existing service areas requires expansion of infrastructure. Regionalization projects can be driven by market or regulatory forces and could result in expanded service areas as well as assumption of outdated facilities. New customer sectors, such as irrigation or recycled water customers, require new and expanded infrastructure. Supply reliability projects such as new diversions, storage, and conveyance projects address reliability and drought issues. All of these issues drive the development and implementation of capital projects, and are evaluated together as a whole through the master planning process to develop the prioritized list of capital projects to form the basis of the CIP.

### 1.2 Projected Customer Growth

The District currently serves approximately 13,000 water customers in five main service areas and 5,000 sewer customers in six main service areas. The District's 2005 UWMP summarizes projected growth from the various master plans conducted for each service area. Water customers in 2035 are projected to total 34,000 and sewer customers are projected to total 24,000.

### 1.3 District Strategic Issues

The District faces many strategic issues to maintain its charter to develop and administer the water resources of Calaveras County. In addition to growth and subsequent increased capacity needs, the following lists overarching issues that directly impact the District and the CIP.

Service Area. The District is responsible for providing municipal water and sewer service where feasible to the entire Calaveras County area, with the exception of those areas already

served by other providers. Increasing costs and the need to provide service as economically as possible has resulted in the District seeking out partnerships with other agencies.

Supply. Three watersheds provide the District's current surface water supplies. Environmental and institutional issues can impact supply quantity. Climate change will impact supply timing and reservoir operations. Droughts will impact supply availability. With a statewide effort on obtaining new water supplies, the District's three supply sources are under constant scrutiny by downstream users. Water supply strategic efforts include improving supply reliability and quality, and identifying new sources, such as groundwater.

Recycled/Raw Water. The District currently uses recycled water at three service areas, Jenny Lind, Copper Cove, and Forest Meadows. Further use of recycled water could benefit supply reliability and volume issues, compliment land planning efforts from the County's General Plan Update, and increase the agriculture economy in the County.

Asset Management. The reliable asset life of infrastructure can vary from one year to over 50 years. Replacement must be planned and pre-funded to avert financial crisis if too much must be replaced at any one time. The District currently budgets a replacement fund to replace infrastructure. Replacement funding relies on accurate information on the condition of existing assets and past performance in order to predict replacement needs.

Finance. Ongoing asset replacement, improvement projects to meet regulations and level of service requirements, and expansion to meet the needs of the County all impact the District's finances. Managing the District's needs with the District's financial ability requires a balance of priorities. As this CIP indicates, there are significantly more projects needed than can be funded. The District will continue to investigate alternative funding in addition to its current revenue sources.

#### **1.4 Project Priorities**

The District categorizes projects into six types for prioritization and funding purposes.

- (1) Mandatory/Compliance projects to meet regulatory or road relocation requirements.
- (2) Improvement/Reliability projects to address existing capacity issues or improve the level of service.
- (3) Growth projects add capacity to meet new customers.
- (4) Grant projects that are funded by grants or loans.
- (5) Outside driver projects are those that the District is aware of, but require outside drivers for initiation, such as new large-scale developments or regional collaboration efforts. Once Outside driver projects are initiated, they are re-categorized to one of the other five categories.
- (6) Planning projects cover most District planning and strategic efforts.

Projects are generally prioritized by these classifications. Lower classification projects may be prioritized above higher projects for project-specific reasons, such as availability of grant

money or regional collaboration opportunities. Planning projects are generally smaller budget efforts that are continuously funded to keep the District’s issues and needs current.

**1.5 2008 Five-Year CIP Summary**

The District has 34 CIP projects currently funded. 20 new projects are proposed for funding over the next five years, and 32 projects are identified but unfunded for various reasons. There are 86 CIP projects representing a total of \$100 million. After project prioritization and consideration of available funding, the CIP is proposing \$39 million in new project funding. Non-funded projects continue to be tracked and could be prioritized for implementation pending new issues or additional funding availability. Funding needs are summarized in Table 1-1 between Water, Sewer, and Other. Other projects are District-wide projects.

**Table 1-1. Proposed CIP Summary, \$million**

	Total Estimated Cost	Budget Expended	Additional Budget Required	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13
Water Projects	21.0	0.8	20.2	5.2	7.3	4.4	2.2	1.0
Sewer Projects	16.3	3.9	12.4	5.1	3.4	0.6	1.0	2.2
Other Projects	6.6	0.2	6.4	0.5	2.9	3.0	0.0	0.0
Total	43.9	4.9	39.0	10.9	13.6	8.0	3.2	3.2

**1.6 Financial Summary**

The District funds projects from two main funds, the Water or Sewer Operation Funds, or the Expansion Funds. The District maintains separate expansion funds for each of its service areas. Operations Funds are supported by revenue from sales and services. Connection fees and developer contributions support expansion funds. Projects can be funded from a combination of funds depending on the benefit of the project. The District also relies on grants and loans as an additional project funding mechanism.

The total cost of projects identified exceeds the District’s current ability to implement the projects using existing funds. A bond model was created to evaluate bonding capacity to fund projects. The model evaluated existing debt capacity, current fund balances, and projected growth to develop an upper bonding capacity limit of \$25 million. However, only \$21.8 million in debt is identified to present a conservative approach. Combining the \$21.8 million debt with existing and projected expansion fund balances and other revenues, the District is proposing \$39.0 million in new project funding. Including the values from FY 07-08, CIP funding sources are summarized in Table 1-2.

The bond model is used to compare projected funding needs to District funding capacities. Although an effort is made to prioritize projects so that the costs are near the funding capacity, actual bonding capacity will be determined through the bonding process. The District will adjust project priorities as necessary throughout the CIP process, factoring in actual costs of on ongoing projects, and adjust priorities to match actual available funds.



**Table 1-2. CIP Project Funding Sources (including FY 07-08 values)**

Funding Source	Water	Sewer	Total
Expansion funded bonds	\$ 5,773,000	\$ 2,242,500	\$ 8,015,500
Operation funded bonds	5,601,000	4,908,000	10,509,000
Operation funded loan	3,290,000	0	3,290,000
<b>Subtotal Bonds/Loans</b>	<b>14,664,000</b>	<b>7,150,500</b>	<b>21,814,500</b>
Grants	2,824,000	0	2,824,000
Other Revenues	1,701,000	675,000	2,376,000
Expansion Fees	10,208,700	8,950,700	19,159,400
<b>Total</b>	<b>\$ 29,397,700</b>	<b>\$ 16,776,200</b>	<b>\$ 46,173,900</b>

Values include FY 07-08 for model continuity

A sensitivity analysis was conducted to evaluate bonding capacities under different debt ratio assumptions and wrapping scenarios. Table 1-3 indicates that without wrapping and with a more conservative debt ratio, bonding amount is significantly reduced.

**Table 1-3. Debt Assumption Scenario Impacts**

Scenario	Bond Funding Available, million
Wrap, debt coverage 1.0	\$25.0
No wrap, debt coverage 1.0	\$18.5
Wrap, debt coverage 1.25	\$18.8
No wrap, debt coverage 1.25	\$13.8

### 1.7 FY 08/09 CIP Summary

This five-year CIP identifies the District's recommendations for projects to implement for the next five years. Projects in the approved in the FY 08-09 budget are listed in Table 1-4.

**Table 1-4. FY 08-09 Projects**

Project	FY 08-09 Funding
District-Wide Projects	
County Water Resources Plan	\$100,000
CCWD Building	\$400,000
Water Projects	
Annual Water Pipeline Replacement	\$200,000
JL WTP Flood Protection	\$832,000
WP WTP Clearwell Replacement	\$480,000
WP Replacement Project	\$185,000
CC Booster PS and Main to C Tank	\$2,374,000
CC WTP Clearwell	\$100,000
EP Reach 1a Replacement Design	\$144,700
EP Hunters WTP Surge Tank	\$296,500
JL Lancha Plana Well Improvements	\$15,000
WP Moke River PS Improvements	\$198,000
Water Planning Projects	
W. Cnty AB303 Enhanced GW Monitoring	\$300,000
CC Water Master Plan and Model Update	\$46,800
Hwy 12/26 Regional Plan	\$20,500
Bear River Res.Study	\$56,300
Sewer Projects	
Annual Sewer Pipeline Replacement	\$200,000
AR WWTP Improvements	\$208,000
AR Millwoods PS Electrical	\$35,000
AR Indian Rock Filter Rehab.	\$30,000
ARN LS #1	\$6,000
CC WWTP Expansion to 0.5 mgd	\$1,500,000
CC Pond #6 Design	\$182,724
CC Lift Station #22	\$940,000
CC Lift Station #21	\$1,020,533
FM WWTP Discharge PS and Pipeline Design	\$200,000
LC WWTP Discharge Permit	\$20,000
LC WWTP Expansion Phase 2 Schedule 1	\$675,624
Sewer Planning Projects	
CC Sewer Master Plan Update	\$106,028
Hwy 4 Regional Study	\$23,093
<b>Total:</b>	<b>\$10,896,000</b>

## 1.8 CIP Update and Project Approval Process

The five-year plan represents the District's recommendations for project implementation over the next five years. However, this plan does not constitute budget allocation or project approval for any of these projects. Projects are funded and approved on an individual basis through the budgeting process. The CIP is a dynamic document that factors current issues and drivers into the project prioritization process. As new issues arise or more information is obtained, the CIP will be updated with new projects or project modifications. The CIP is planned for annual updates, but specific projects can be updated anytime based on current circumstances. The CIP and project approval process offers many opportunities for project evaluation and discussion prior to project budget approval.

1. Planning process. The District updates its master plans to evaluate current issues and develop infrastructure projects to address the issues. These efforts are presented before the Board to discuss findings and proposed projects.
2. Five-Year CIP process. The CIP report is updated annually. Project descriptions and priorities are discussed before the Board for input.
3. Annual Budget. The budget includes funding for specific CIP projects for implementation in the coming year. The budget is presented before the Board for discussion where specific projects and proposed funding can be reviewed.
4. Design contract approval. For design or planning projects contracted to consultants, the project description, design scope, and cost are presented before the Board for discussion and approval.
5. Construction contract approval. For construction projects contracted to contractors, the project description, and approved bid are presented before the Board for discussion and approval.

## CHAPTER 2 Introduction

This Capital Improvement Plan presents a list of projects and associated requirements to continue operating and maintaining water and wastewater systems to serve Calaveras County Water District's current and future customers. The District provides water and wastewater services to five main areas located throughout the County. This chapter describes the District history, the water and wastewater service areas, and recent trends in demand growth.

### *District Mission Statement*

*Our team is dedicated to protecting, enhancing, and developing our rich water resources to the highest beneficial use for Calaveras County, while maintaining cost-conscious, reliable service, and our quality of life, through responsible management.*

### **2.1 District History and Background**

Calaveras County Water District (CCWD or District) was organized in November 1946 under the laws of the State of California as a public agency for the purpose of developing and administering the water resources in Calaveras County. After amendments to the California Water Code in 1970, wastewater collection and treatment were added to the District's services. The District developed two power projects in support of its charter, the North Fork Stanislaus Hydroelectric Development Project (FERC 2409), completed in 1990, and the New Hogan Power Project (FERC 2903) on the Calaveras River, completed in 1986.



*Collierville Powerhouse at Clarks Flat on North Fork Stanislaus*

The District's service area includes all of Calaveras County, but it is separate from the Calaveras County government. As a special district, CCWD's powers include providing public water service, water supply development and planning, wastewater treatment, disposal, and recycling. CCWD maintains broad general powers over the use of water within its boundaries that include: the right of eminent domain, authority to acquire, control, distribute, store, spread, treat, purify, reclaim, process, and salvage water for beneficial use, providing wastewater service, selling treated or untreated water, acquiring or constructing

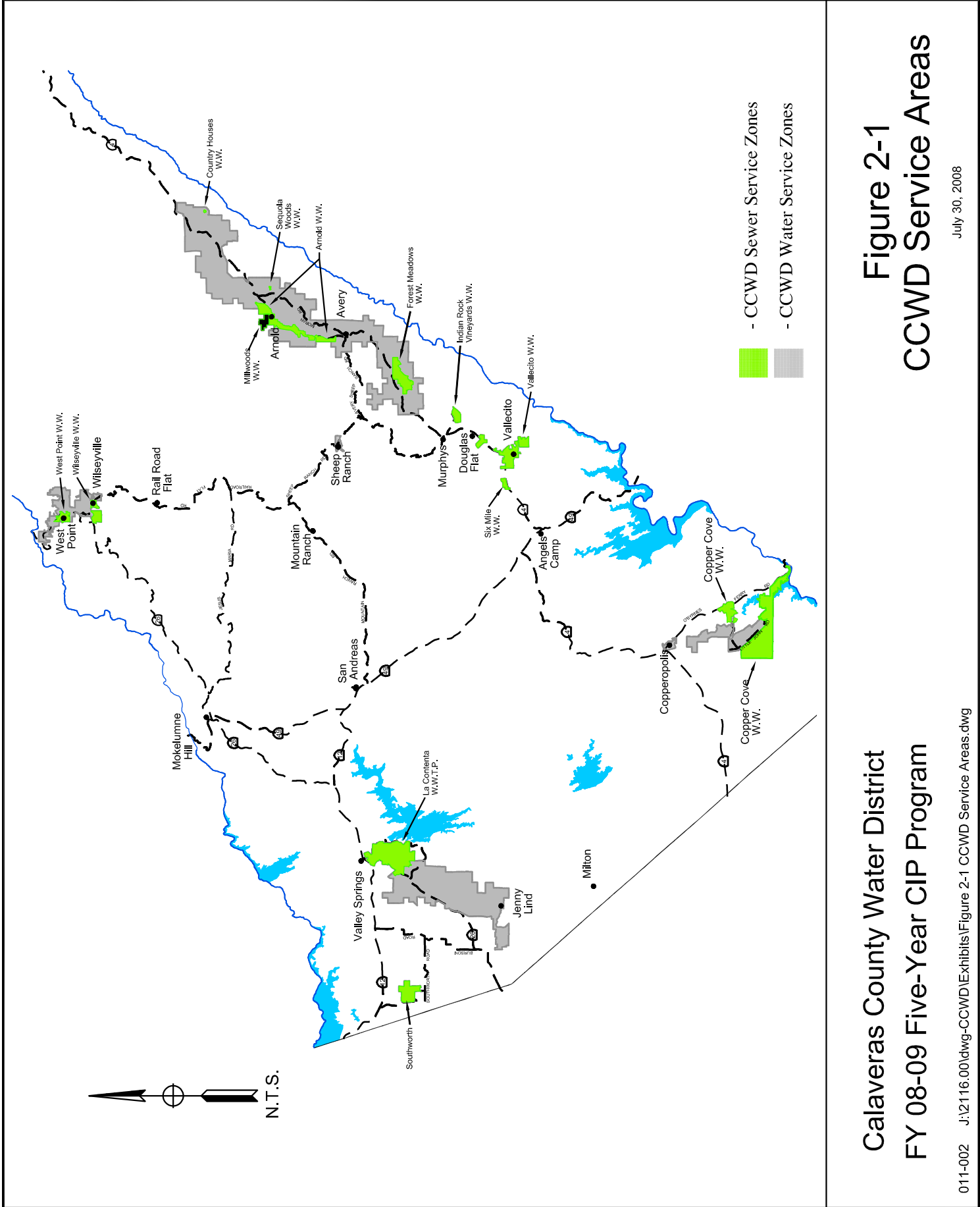
hydroelectric facilities and selling the power and energy produced to public agencies or public utilities engaged in distributing power, contracting with the United States or other political subdivisions, public subdivisions, public utilities, or other persons, and, subject to Article XIII A of the Constitution of the State of California, levying taxes and improvements.

**2.2 Service Areas**

The District’s boundaries are co-terminus with Calaveras County’s boundaries, with the exception of those areas served by other water and sewer agencies within the county. Those areas not served by an agency use private wells and septic systems. The District’s water and wastewater service areas are listed in Table 2.1 and shown in Figure 2-1. The Ebbetts Pass service area includes four separate wastewater systems within the service area. Current and projected connections are discussed in the next section.

**Table 2-1. CCWD Service Areas.**

Water Service Areas	Wastewater Service Areas
Jenny Lind/Valley Springs	La Contenta/AD604
Copper Cove	Copper Cove
Ebbetts Pass	Forest Meadows
West Point	Arnold
Sheep Ranch	Douglas Flat/Vallecito
	Six Mile Village
	West Point
	Wilseyville
	Mountain Retreat/ Sequoia Woods
	Indian Rock Vineyard
	Country Houses
	Southworth
	Millwoods



**Calaveras County Water District**  
**FY 08-09 Five-Year CIP Program**

**Figure 2-1**  
**CCWD Service Areas**

### 2.3 Connections and Growth Trends

CCWD service areas have experienced rapid growth in the last fifteen years. Although the growth rate in the County was 40 percent from 1990 to 2005<sup>1</sup>, the growth rate for the CCWD water connections was 67 percent during the same time period<sup>2</sup>. This indicates that most of the new growth and development in the County is taking place in CCWD service areas. In 2007, the District provided service to nearly 13,000 water connections and 5,000 wastewater connections. Based on discussions regarding the County’s General Plan Update currently underway, reviews of development plans, and regionalization planning efforts, the District expects its customer connections to continue increasing. The historic and 2035 projected connections for each service area are summarized in Tables 2-2 and 2-3, and shown in Figures 2-2 and 2-3.

**Table 2-2. Current and Future Water Connection Projections.**

Service Area	1985 Connections	2006 Connections	2035 Connections
Jenny Lind/Valley Springs	907	3,603	9,610
Copper Cove/ Copperopolis	553	2,411	16,000
Ebbetts Pass	3,355	5,721	7,630
West Point	315	555	731
Sheep Ranch	50	50	75
<b>Total:</b>	<b>5,180</b>	<b>12,340</b>	<b>34,046</b>

**Table 2-3. Current and Future Wastewater Connection Projections.**

Service Area	1991 Connections	2006 Connections	2035 Connections
La Contenta/AD604	400	900	5,800
Copper Cove	720	1,676	16,000
Forest Meadows	369	600	1,400
Arnold	364	450	1,431
Douglas Flat/Vallecito	231	263	347
Six Mile Village	In DF/Val value	68	90
West Point	155 (1994 value)	158	220
Wilseyville	In WP value	29	29
<b>Total:</b>	<b>2,239</b>	<b>4,938</b>	<b>25,317</b>

The recent downturn in the housing market has impacted new connection requests at the District. Although the number of water connections projected for 2035 in the 2007 UWMP and wastewater connections from the master plans are still used for long range planning, a slower growth rate in the near term is expected. New connection estimates for the next five

<sup>1</sup> State of California, Department of Finance, March 2002 for populations up to 1995, and State of California, Department of Finance Population Projections 2000-2050, May 2004 for populations from 2000 to 2005.

<sup>2</sup> CCWD Urban Water Management Plan 2005 Update, July 2007.

years are necessary for the bonding capacity model discussed in Chapter 3 used to create the CIP. As discussed in Chapter 3, a conservative approach to projecting new connections in the next five years is recommended when determining ability to meet bond obligations. Historic connections per year and the projected new connection for the next five years are shown on Figures 2-1 and 2-2 for water and sewer, and Tables 2-4 and 2-5, respectfully.

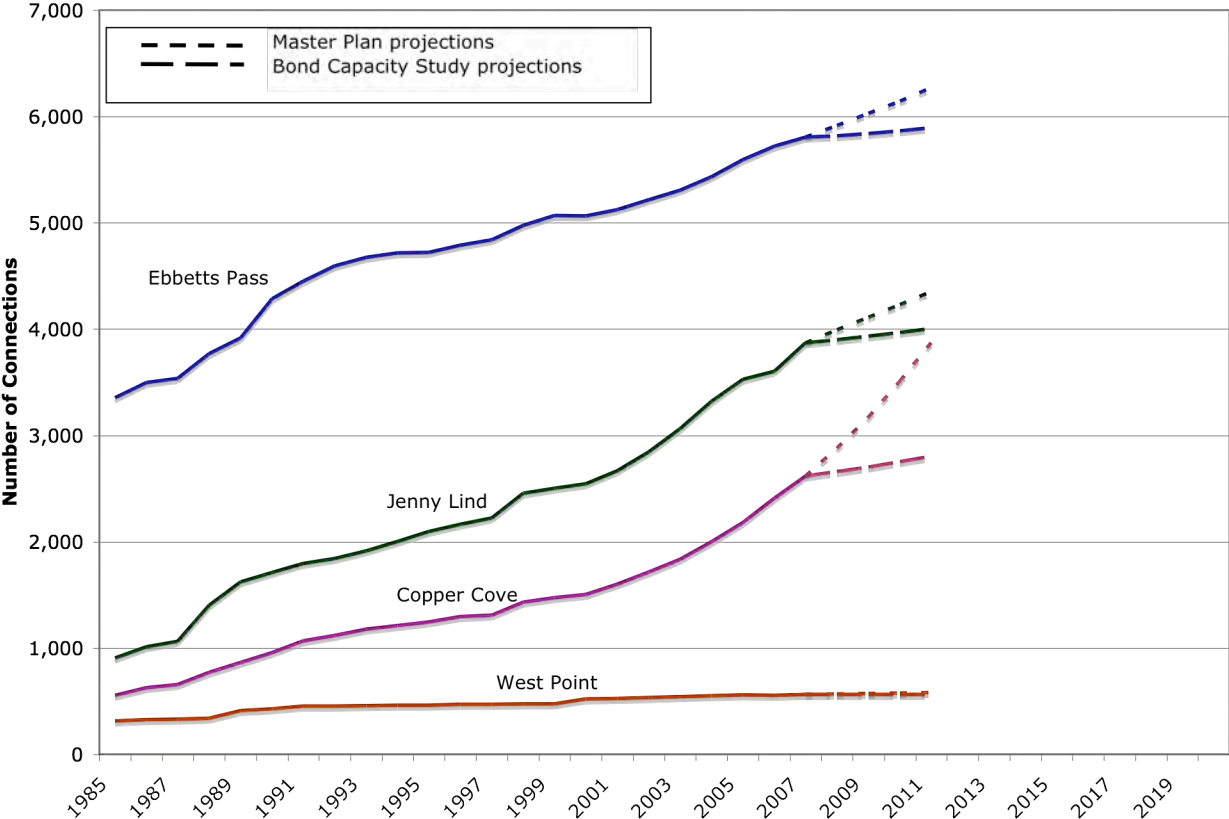


Figure 2-2. Water Connections

Table 2-4. Projected New Water Connections Used in the Bond Model

Service Area	FY 07-08	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13
Jenny Lind/Valley Springs	29	30	30	35	40	45
Copper Cove/Copperopolis	33	40	45	50	50	50
Ebbetts Pass	15	15	20	25	30	30
West Point	0	0	0	0	0	0
Sheep Ranch	0	0	0	0	0	0
<b>Total:</b>	<b>77</b>	<b>85</b>	<b>95</b>	<b>110</b>	<b>120</b>	<b>125</b>



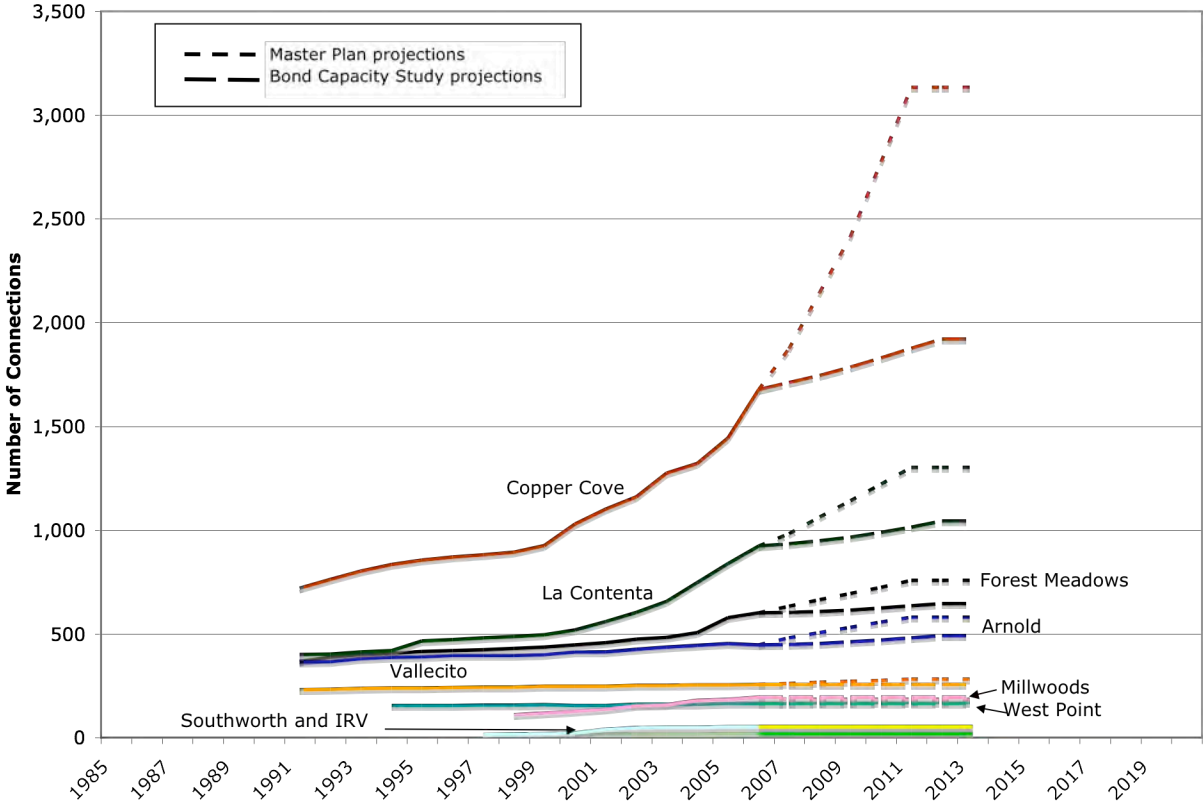


Figure 2-3. Sewer Connections

Table 2-5. Projected New Sewer Connections Used in the Bond Model

Service Area	FY 07-08	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13
La Contenta/AD604	10	14	18	22	26	30
Copper Cove	32	35	40	45	45	45
Forest Meadows	2	5	7	10	10	10
Arnold	3	5	7	10	10	10
Douglas Flat/Vallecito	0	0	0	0	0	0
Six Mile Village	0	0	0	0	0	0
West Point	0	0	0	0	0	0
Wilseyville	0	0	0	0	0	0
Southworth	0	0	0	0	0	0
<b>Total:</b>	<b>47</b>	<b>59</b>	<b>72</b>	<b>87</b>	<b>91</b>	<b>95</b>

## **2.4 Non-Potable Water Demand Potential**

In addition to treated water demands, the District is also evaluating potential non-potable water demands. These demands are raw water or recycled water demands. The District is in ongoing discussions with the agriculture community and County Planning department regarding potential needs for non-potable water supplies. The most recent Water Resources Development Act (WRDA) approved by the Federal Government included an authorization for the District to evaluate raw water needs in the Highway 26/12 area, known as the West County Raw Water Study. Another potential non-potable demand are the vineyards near Murphys. A third potential demand is around Copper Cove. The District has funded a recycled water master plan in that service area that will identify future additional demands to factor into the planning effort. All of these potential non-potable demands are still in the early stages of planning. As efforts progress and demands are better understood, the District will investigate infrastructure needs and begin to program projects into the CIP.

## **2.5 Capital Improvement Project Requirements**

The District maintains the CIP to meet its mission of providing water and wastewater services to its customers. This CIP is a prioritized list of projects the District expects to implement over the next five years. Capital improvement projects are studied and implemented to address a wide range of issues that arise in providing water and wastewater services. Local, state, and federal agency regulations often require system upgrades and improvements to maintain compliance. Aging infrastructure must be rehabilitated or replaced. Growth in existing service areas requires expansion of infrastructure. Partnership projects can be driven by market or regulatory forces and could result in expanded service areas as well as assumption of outdated facilities. New customer sectors, such as irrigation or recycled water customers, require new and expanded infrastructure. Supply reliability projects such as new diversions, storage, and conveyance projects address reliability and drought issues. All of these issues drive the development and implementation of capital projects, and are evaluated together as a whole through the master planning process to develop the prioritized list of capital projects to form the basis of the CIP.

The CIP in this document presents the capital projects selected for implementation by CCWD from fiscal years 08-09 through 12-13. A financial background and proposed funding mechanisms are presented and described. Impacts of schedule, staffing, and financing are discussed to identify certain issues and elements that must be in place for proper implementation of the CIP projects. In addition, future projects that address policy or significant issues are discussed to provide context to the current CIP projects and projects the District expects to address in future CIPs.

## CHAPTER 3 CIP Background and Overview

The CIP process is central to the District's mission. The District identifies current and future issues and develops capital improvement projects to address the issues. Capital improvements are prioritized, funded, and implemented in an ongoing process. This chapter describes the District's CIP process.

### 3.1 CIP Process

The CIP process is a dynamic cycle where the District continuously evaluates potential regulatory, supply, growth, replacement, and other issues to develop capital improvement projects. The CIP is managed by the Engineering Department, although all departments contribute to portions of the process. Each element of the CIP process is discussed below.

#### 3.1.1 Planning

Planning efforts generally are divided into three types: infrastructure, regional, and other. Infrastructure planning focuses on the capital improvements necessary to provide service to each area. An infrastructure master plan (or facilities plan) is prepared for each service area usually every five years. The master plan identifies operational issues, replacement needs, regulatory concerns, and projected growth on a 20-30 year basis. Alternative capital improvement projects are developed, analyzed, and selected. In each plan update, the previous planning assumptions are revisited to evaluate effectiveness of implemented projects, and revise the issues to address in the next CIP. Once the new capital projects are on line, data and operational experiences are fed back into the planning process so that the next master plan update incorporates new issues.

Regional planning involves long term supply and policy issues that apply to the whole District. Regional master plans address specific issues such as water supply and rights, regionalization, integrated planning, power, or others. Each plan is developed based on the specific issue(s) to address. Regional master plans generally develop and analyze policy options for the Board to discuss and evaluate. Once a policy has been formulated, specific capital improvement projects are developed under a separate infrastructure planning document.

Other planning projects include all other studies that are funded from the capital improvement process. Examples include information technology master plans, rate studies, and others that affect enterprise-wide issues within the District. CEQA/NEPA environmental planning requirements are also included in this category. A large project often will require



*Jenny Lind Water Treatment Plant*

preparation of an environmental impact statement and/or report, which is usually a significant effort to complete.

Consultants generally conduct planning efforts. CCWD staff develop the description and scope of the planning project, then contract with the consultant. District staff manage the consultant contract and review and approve the work products. Recommendations from the completed master plan are input to the CIP list.

### 3.1.2 Design

Design and bid documents are next created for the CIP project. Design projects can either be designed in-house by CCWD staff, by consultants hired by CCWD, or by developers and their consultants.

Generally, consultants hired by CCWD design large projects. CCWD staff develop the project scope to contract the consultant, then manage the contract and review and approve the design documents. CCWD engineering staff may design smaller projects if time permits.

Developer's engineer designs can occur through development timing or CCWD staffing issues. CCWD staff review and approve the final design for developer-designed projects. Developers may also construct projects prior to CCWD final acceptance. All projects are designed per the CCWD Standard Specifications.

The initial step of each design project identifies construction permit and property requirements. Obtaining the necessary approvals from various State agencies or obtaining property can often be the project critical path. Each design project creates a permitting schedule so that proper efforts are completed to meet the project schedule.

### 3.1.3 Construction

CCWD either bids projects for construction, or conducts the construction in-house with the operations and maintenance staff, depending on staffing availability and size of project. Most large projects are bid, with only the smaller and maintenance-type projects

#### **Asset Management – The Real Cost of Asset Ownership.**

Planning efforts are driven by regulatory requirements, growth, and replacement and rehabilitation needs. The drivers for regulatory and growth driven projects are usually defined in the form of development requests or mandates from regulators. Replacement and rehabilitation needs are less direct as most of the District's assets are buried and out of site, but the potential full life cycle costs for most utilities far exceed regulatory and growth project costs.

The District completed a GASB 34 analysis to start the process of identifying assets and replacement costs. Asset life cycle costs are further defined by incorporating actual maintenance experience and condition analysis. This real time information helps the District develop estimates of asset life and maintenance costs. These actual values will be used to better quantify and understand comprehensive financial requirements for long term operation of the District's assets.

To further this effort, planning projects are beginning to include an estimate of major rehabilitation costs throughout the asset life and an estimate of asset life before replacement is required. This is a long-term effort, with experience from the field continuously refining and updating the District's understanding of asset life and cost of ownership.

contemplated for in-house construction. Bids are selected on lowest bid of qualified contractor. Construction management is either performed by CCWD staff or by consulting construction managers.

### 3.2 Project Classification

The CIP process combines recommended projects from the master plans with financing requirements to develop the prioritized list of projects for implementation. The CIP tracks each project’s progress and is used to re-prioritize or adjust funding based on schedule or other influences. The CIP is updated on an annual basis as part of the budgeting process.

The District groups projects according to type and driver, and then prioritizes the projects. Project categories are summarized in Table 3-1.

**Table 3-1. Project Classifications**

Project Type	Subtype	Notes
1. Mandatory/Compliance	a. Regulatory/compliance b. Road relocations	Projects mandated by regulatory requirements or road relocations.
2. Improvement/Reliability	a. Deficient capacity b. Preventative maintenance c. Level of service	Projects to address existing operational issues and maintain or improve the level of service.
3. Growth	a. Infill b. New service area	Projects that add capacity to accommodate new customers.
4. Grant	--	Projects that are mostly funded by grants.
5. Outside drivers	a. Planning b. Capital improvements	Projects that rely on outside drivers for initiation, such as development plans, regional collaborations, or others beyond the control of the District. Once an outside driver is enacted, the District may update the project priority.
6. Planning	--	Non-capital planning projects.

Generally, project priorities follow project type for projects 1 through 4. However, some lower project types may move up in priority based on special circumstances. For example, a Grant Project Type 4 may have a higher priority than a Type 2 project if the grant money is available to fund the project. Outside Driver Type 5 projects are un-prioritized until the outside driver is enacted. The District maintains the Type 5 project list to be aware of future potential project needs. Planning Project Type 6 projects are smaller budget projects that the District programs into the CIP based on project need.

Prioritized projects are compared to the funding analysis to determine budget requirements. CCWD management compare available funds and bonding capacity to project need in an iterative approach to determine CIP recommendations. The CIP document is updated with the proposed projects, schedule, and funding request and presented to the Board of Directors. Based on Board action, the CIP is either approved or returned to CCWD staff to incorporate requested changes.

## CHAPTER 4 Financial Background and Summary

The following is a summary of the District's funding mechanisms, CIP budgeting process, and current financial status. Specific issues relating to individual service area funds are identified together with a discussion on their impacts to capital project funding. Due to the geographic and economic spread of the District's many service areas, each area exhibits its own unique financial status and requirements. Some service areas are fully funded with healthy revenue projections, and others face extreme limitations in their ability to fund projects. The CIP process identifies each unique issue and develops projects, funding options, and policy issues to address the District's infrastructure needs.

The District developed a rate model in 2006 to support the water and sewer rate evaluation process completed in 2007. As part of this CIP development a financing model was created. This model evaluates the project costs and compares them to available funding from existing rates and the District's ability to support new bonds. A range of alternatives based on project priorities were developed and analyzed, with the recommended project list presented in this CIP.

### 4.1 Finance Background

The Calaveras County Water District is a California Special District established in 1946 under the laws of the state as a County Water District. The District reports its activities as an Enterprise Fund, and operations are financed and operated in a manner similar to a private business enterprise. It is the intention of the District to recover the full-cost of providing goods and/or services through the collection of user charges. However, historically the District has used property tax revenues to support operations and capital needs.

The following provides a brief summary of the District's operating and capital programs. The District maintains other funds and accounts and tracks all its operations and revenue. A detailed operating and capital budget is prepared and approved on an annual basis. The reader is referred to the adopted budget for additional information and a complete listing of the District's accounts.

#### 4.1.1 Project Funding

Capital projects are funded by a variety of sources depending on project needs and beneficiaries. Capital replacement and repair projects are funded primarily by the operating funds, while expansion projects are generally funded by the expansion funds. There are also projects that are funded by both operating and expansion funds as the projects are driven by a combination of regulatory requirements, replacement needs, and growth.

Operating funds generate their revenue from water and sewer rates, while the expansion funds are funded through capacity charges and developer contributions. Both operating and expansion funds can also receive grants and loans. However the existing fund balances and

projected revenues are not enough to cover the high cost of building infrastructure and the District must borrow money either through loans or bonds to meet the project cost requirements.

#### 4.1.2 Water Operating Fund

The water operating fund is used to account for water operations financed and operated in a manner similar to a private business enterprise. It is the District’s intent that the cost of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges. District operational expenses for all water service areas are funded from this one fund. Water sales and revenue from other water services support this fund.

#### 4.1.3 Sewer Operating Fund

The sewer operating fund is used to account for wastewater operations financed and operated in a manner similar to a private business enterprise. It is the District’s intent that the cost of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges. District operational expenses for all sewer service areas are funded from this one fund. Sewer fees and revenue from other sewer services support this fund.

#### 4.1.4 Expansion Funds

The Expansion Funds provide for financial resources used for the acquisition or construction of major capital facilities. Each service area is assigned its own fund, entitled an “Expansion Fund”, to track specific service area revenues. Table 4-1 lists the Water Expansion funds and Table 4-2 lists the Sewer Expansion funds.

**Table 4-1. Water Expansion Funds**

Name	Description
West Point 304	West Point and Wilseyville systems.
Ebbetts Pass Fund 354	Ebbetts Pass system, from Forest Meadows up to Dorington.
Jenny Lind Fund 364	Jenny Lind system including Rancho Calaveras, AD604, and La Contenta.
Copper Cove Fund 374	Copperopolis Community Plan area.

**Table 4-2. Sewer Expansion Funds**

Name	Description
Forest Meadows 524	Forest Meadows system.
Vallecito Fund 534	Vallecito, Douglas Flat, and Six-Mile Village systems.
Arnold Fund 544	Arnold system.
La Contenta Fund 564	La Contenta and AD 604 systems.
Copper Cove Fund 584	Copperopolis Community Plan area.
West Point Fund 624	West Point and Wilseyville.



4.1.5 2007 Rate Adjustment

The District adopted a new rate schedule on May 23, 2007, effective July 1, 2007. During the early stages of the rate analysis in 2004, the District proceeded to update most of its master plans and projected future capital needs. A model was developed to evaluate alternative rate structures and fees, projected connections, and other elements. Public hearings were held and after discussions and review, the rate schedule was approved by the Board. The current water rate schedule is summarized in Tables 4-3. Table 4-4 lists the current sewer rate schedule, based on equivalent single family dwelling units (EDU).

**Table 4-3. Current Water Rate Schedule**

Meter Size	Monthly Base Rate Charge (per EDU)				
	July 1, 2007	July 1, 2008	July 1, 2009	July 1, 2010	July 1, 2011
5/8"	\$ 25.50	\$ 29.00	\$ 32.50	\$ 36.00	\$ 39.50
3/4"	38.25	43.50	48.75	54.00	59.25
1"	63.75	72.50	81.25	90.00	98.75
1 1/2"	127.50	145.00	162.50	180.00	197.50
2"	204.00	232.00	260.00	288.00	316.00
3"	408.00	464.00	520.00	576.00	632.00
4"	637.50	725.00	812.50	900.00	987.50
6"	1,275.00	1,450.00	1,625.00	1,800.00	1,975.00

**Table 4-4. Current Sewer Rate Schedule**

Monthly Rate Charge (per EDU)				
July 1, 2007	July 1, 2008	July 1, 2009	July 1, 2010	July 1, 2011
\$49.50	\$54.00	\$58.50	\$63.00	\$67.50

The rate model also addressed the funding of capital expansion projects. A key assumption of the rate model analysis was that new growth would provide a majority of capital expansion funding, while bond proceeds and other funding sources would provide the balance. The growth rate used in the rate model reflected the housing market at that time (2004-2006). However, as discussed in Chapter 2, the current slowdown in the housing market has reduced the demand for new connection requests below any projections considered two years ago, and the District's ability to fund new projects with capacity charges has been compromised. Conversely, the slowed growth has also reduced the need for expansion projects. Therefore not only must the funding sources be re-evaluated, the need for the projects themselves must also be re-examined.

As part of this capital expansion program development the District prepared a debt-capacity model to re-prioritize projects and evaluate bonding capacity under the existing rate structure. That model is presented below.

#### 4.1.6 2006 Capacity Charge Adjustment

The District adopted a new capacity charge schedule on September 27, 2006, effective December 4, 2006. Capacity charges represent the cost per new connection to use the District’s infrastructure. Charges represent the combination of both “buy-in” and “buy-up” costs. Buy-in represents the costs of maintaining and replacing capacity in existing infrastructure. Buy-up represents the costs of new infrastructure required to serve the connection. Tables 4-5 and 4-6 present the current capacity charge schedule for water and sewer, respectively.

**Table 4-5. Current Water System Capacity Charge Schedule (effective July 1, 2007)**

Meter Size	Jenny Lind	Copper Cove	Ebbetts Pass	West Point
5/8"	\$ 8,691	\$ 8,789	\$ 10,604	\$ 8,974
3/4"	13,037	13,184	15,906	13,461
1"	21,728	21,973	26,510	22,435
1 ½"	43,455	43,945	53,020	44,870
2"	69,528	70,312	84,832	71,792
3"	139,056	140,624	169,664	143,584
4"	217,275	219,725	265,100	224,350
6"	434,550	439,450	530,200	448,700

**Table 4-6. Current Sewer System Capacity Charge Schedule (effective July 1, 2007)**

Type	La Contenta	Copper Cove	Arnold	Forest Meadows	Vallecito	West Point	Southworth
Per EDU	\$14,544	\$8,943	\$8,587	\$9,670	\$10,315	\$5,500	\$5,500

## 4.2 CIP Funding Analysis

A debt capacity analysis model is developed to evaluate the District’s ability to fund projects under the current rate structure. The model assumptions include rate of growth, inflation, interest rates, recommended projects, project costs, and other elements to identify bonding capacity and impacts to existing District funds. A detailed list of model assumptions, methodology, and results are presented in Appendix A. This section provides a summary of the results based on the selected projects identified in subsequent chapters in this CIP.

### 4.2.1 Bond Modeling Approach

The capacity charge and rate modifications from 2006 and 2007 provided the District a limit for debt capacity. The District has existing debt commitments from previous bond and loan

issuances. The difference between the total allowable bond capacity and the existing commitments is the amount of additional bond funding available to the District. The following lists the main bonding assumptions used to define the bonding capacity in the bond model. Detailed model assumptions are presented in Appendix A.

The debt service ratio assumption for the new debt is set at 1.0, which assumes total debt service available equals total net revenues. The District’s current debt service ratio is 1.25, which requires total net revenue is 1.25 times the allowable debt service, a more conservative position. For this analysis of available debt service capacity, a ratio of 1.0 was used, as described below.

The net revenue available for debt service is based solely on revenue from the Water and Sewer Operating Funds. Expansion funds and fees are not assumed available when calculating the debt service ratio as rating agencies do not allow one time fees, such as connection fees, or projected income from projected growth, to be used in the analysis. As some growth will occur within the district, this method of debt service ratio calculation is assumed to be a conservative approach. Revenues from the Water and Sewer Operating Funds projected through Fiscal Year (FY) 12-13 are presented in Table 4-7. These projections represent the total amount available for both existing and new debt service.

**Table 4-7. Total Debt Service Capacity**

Item	FY 07-08	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13 <sup>1</sup>
Water Debt Service	\$200,496	\$380,825	\$422,664	\$631,779	\$707,509	\$707,509
Sewer Debt Service	\$194,889	\$269,113	\$444,672	\$490,361	\$619,813	\$619,813
Total Debt Service	\$395,385	\$649,938	\$867,336	\$1,122,140	\$1,327,322	\$1,327,322

<sup>1</sup> The current rate model only goes through 11-12, 12-13 values assume same as 11-12.

Debt on the existing 2007 Series bonds will expire on September 1, 2017. If the District were to issue additional bonds prior to 2017 and make payments of both interest and principal on the new bonds, the District’s allowable debt service ratio would be exceeded. In order to obtain new bonds, the bonding capacity model utilizes a “wraparound” for the new debt service. A wraparound allows the District to make “interest only” payments on the additional debt up to the debt service ratio until 2017, when the existing bonds are retired. After 2017, the District will make both interest and principal payments in accordance with the payment schedule.

Based on the Total Debt Service Capacity available in FY 11-12 as summarized in Table 4-7, the District can issue debt up to \$25 million. However, this CIP assumes a \$18,500,000 bond and a USDA loan of \$3,290,000, for a total debt of \$21.8 million. This provides a conservative approach to account for possible reductions in revenue such as property tax allocations or reduced growth. Coupled with existing and projected expansion fund balances and other revenue, \$39.0 million is available to the District for capital projects over the next five years.

A sensitivity analysis was conducted to evaluate bonding capacities under different debt ratio assumptions and wrapping scenarios. Table 4-8 indicates that without wrapping and with a more conservative debt ratio, bonding amount is significantly reduced.

**Table 4-8. Debt Assumption Scenario Impacts**

Scenario	Debt Funding Available, million
Wrap, debt coverage 1.0	\$25.0
No wrap, debt coverage 1.0	\$18.5
Wrap, debt coverage 1.25	\$18.8
No wrap, debt coverage 1.25	\$13.8

#### 4.2.2 Overall Funding Summary

The five-year CIP was developed from master plans, operations and maintenance requirements, and other sources, and initially proposed approximately \$100 million in projects. The District prioritized projects through an iteration process until the total project funding requirement was near the available funding as identified above. The list of proposed projects, the funding requirements, and prioritization are presented in the following chapters.

Total prioritized project funding amounts and respective funding sources are summarized in Table 4-9. Values in Table 4-9 include FY 07-08 projects for financial modeling consistency, and therefore the total project cost is higher than the FY 08-09 five-year project cost of \$39.0 million. Additional discussion of project funding impacts and District policy is discussed in Chapter 8. For purposes of long range planning and to evaluate the affect debt service has on payment requirements, the bonding capacity model incorporates expansion funds and connection fees in the payment cash flow estimates.

**Table 4-9. Five-Year CIP Project Funding Sources (including FY 07-08 values)**

Funding Source	Water	Sewer	Total
Expansion funded bonds	\$ 5,773,000	\$ 2,242,500	\$ 8,015,500
Operation funded bonds	5,601,000	4,908,000	10,509,000
Operation funded loan	3,290,000	0	3,290,000
<b>Subtotal Bonds/Loans</b>	<b>14,664,000</b>	<b>7,150,500</b>	<b>21,814,500</b>
Grants	2,824,000	0	2,824,000
Other Revenues	1,701,000	675,000	2,376,000
Expansion Fees	10,208,700	8,950,700	19,159,400
<b>Total</b>	<b>\$ 29,397,700</b>	<b>\$ 16,776,200</b>	<b>\$ 46,173,900</b>

Values include FY 07-08 for model continuity

## CHAPTER 5 Water Projects

This chapter presents an overview of issues and needs for each water system and lists the water projects selected for the FY 08-13 CIP Program. Selected projects are presented on one-page summary sheets that include specific project descriptions, proposed schedule, funding requirements, and other information. All projects are summarized in the overall CIP program presented in Chapter 8. An overall District map that locates representative CIP projects is also presented in Chapter 8.

### 5.1 Copper Cove

The Copper Cove water service area includes many new developments and proposed developments. Many infrastructure projects have been constructed in the area to serve new customers, and more projects are planned as the new developments are built. The current distribution system is reaching the limit of its ability to provide service to new customers. Many of the proposed projects are aimed at improving reliability and pressures by providing looping systems, direct transmission mains, and more storage. Raw water and treatment capacity is planned for expansion to meet the projected demands from the new developments. With slower growth projected, most of the proposed growth projects for Copper Cove are not prioritized for funding in this 5-year CIP. The following projects are prioritized for funding:

- CC Booster PS, and Main to C Tank
- CC WTP Clearwell
- CC Water Master Plan and Model Update



*Copper Cove Water and Wastewater Treatment Plants*

## 5.2 Jenny Lind

The high priority needs for the Jenny Lind system are to increase treatment capacity to meet new development needs. The master plan conducted in 2005 indicated that the demand would exceed capacity within the next few years. The plant expansion is near completion, and the next high priority issues are raw water quality and distribution system improvements. Although growth has slowed from that experienced in 2005 during the planning effort, there are still projects proposed to meet new growth and maintain service to existing customers. These projects are not prioritized for funding at this time due to lack of funds and potential impacts from proposed major development in the northeast corner of the service area, which will impact many of the project needs. Funding and re-definition of project needs will result from ongoing discussions with the developers. Another issues is water quality. Much of the raw water quality concerns include elevated levels of manganese and disinfection by-product precursors. The following projects are prioritized for funding:

- JL WTP Flood Protection
- JL Lancha Plana Well Improvements
- JL Water Master Plan Update
- JL North WTP Planning
- JL Hwy 12/26 Regional Plan
- West County Raw Water Study
- Bear River Reservoir Study

## 5.3 Ebbetts Pass

The Ebbetts Pass system faces water quality and system expansion requirements. The system only has one treatment plant, but over 65 pressure zones, with associated storage tanks and booster stations. System expansion requires the treatment plant expansion and also transmission and storage improvements. Recommended projects for expansion also address existing system deficiencies and deteriorating infrastructure to improve reliability. Water quality is also an issue for the system. Many of the storage tanks are redwood, which are recommended for replacement to reduce the formation of haloacetic acids, an EPA-regulated disinfectant byproduct. The redwood tanks are also at risk of loss to forest fires. The following projects are prioritized for funding:



*Meadowmont Tank and Pumping Station*

- EP Reach 1a Replacement Design
- EP Techite Replacement
- EP Hunters WTP Surge Tank
- EP Meadowmont Tank and PS Predesign

#### **5.4 West Point**

The West Point area is an older system with no significant growth projected. Although the treatment plant was recently expanded and the raw water supply system is almost updated, the distribution systems that deliver the flow to each area are unreliable and prone to failure. In addition, the distribution systems in West Point, Wilseyville, and Bummerville are inadequate to provide the newer fire flow standard. The West Point Replacement and Clearwell Improvement projects are prioritized for funding because both received grant and loan funding. The following projects are prioritized for funding:

- WP WTP Clearwell Replacement
- WP Replacement Project
- WP Moke River PS Improvements

#### **5.5 Sheep Ranch**

Sheep Ranch system is also an older, small system with no significant growth projected. Issues in the system include supply reliability and system distribution system conditions. A project to increase supply reliability by repairing the raw water supply pipeline is funded from the Ebbetts Pass fund. The following projects are prioritized for funding:

- Sheep Ranch Conveyance Repair

#### **5.6 Project Descriptions**

Project summaries for new projects are presented on the following pages. Summaries for select ongoing projects are also provided where the project is requesting a large amount of additional funding, is a large project, or addresses a special issue.

## CHAPTER 6 Sewer Projects

This chapter presents an overview of issues and needs for each sewer system and lists the sewer projects selected for the 08-13 CIP Program. Selected projects are presented on one-page summary sheets that include specific project descriptions, proposed schedule, funding requirements, and other information. All projects are summarized in the overall CIP program presented in Chapter 8. An overall District map with representative CIP projects located is also presented in Chapter 8.

### 6.1 Copper Cove Wastewater System

The two main issues in the wastewater system are the collection system capacity and treated effluent storage and disposal. The collection system consists of many pumping stations that operate in series to deliver flow over the varied topography to the treatment plant. Growth and aging infrastructure needs are the main drivers for pumping station replacement projects. The wastewater treatment plant capacity is limited by its ability to store and discharge effluent. Historically, effluent was land applied through an on-site spray field. The spray field was at capacity, so the excess effluent was planned for use as irrigation water at the Saddle Creek golf course. CCWD recently upgraded the disinfection system to provide the water quality necessary for golf course application. Now, the effluent storage ponds that store water over winter for use during the irrigation months are limiting capacity due to projected storage needs for a 100-year return rain season. The following projects are prioritized for funding:

- CC Lift Station #22 Improvements
- CC WWTP Expansion to 0.5 mgd
- CC Pond #6 Design
- CC Pond #5 Diversion Ditch
- CC Recycled Water Treatment Plan Expansion Plan
- CC Recycled Water Master Plan
- CC Sewer Master Plan Update
- CC WWTP UV Cover

### 6.2 La Contenta Wastewater System

The main issue facing the service area is effluent disposal. Effluent is currently disposed of through use on the La Contenta golf course. The SRWQCB has set maximum application rates, which impact acreage requirements. Growth projections indicate effluent will exceed the capacity of the current discharge options. CCWD has developed alternatives that depend on the District's ability to secure a surface discharge permit. The Treatment Plant



Expansion Phase 2 Schedule 1, almost complete, expanded the treatment capacity. Phase 2 Schedule 2 will address the disposal capacity. Although Phase 2 Schedule 2 is not prioritized for funding over the next five years, the implementation schedule will depend on the outcome of ongoing discussions with large regional developments regarding available storage ponds and potential recycled water demands. The following projects are prioritized for funding:

- LC WWTP Discharge Permit
- LC WWTP Expansion Phase 2 Schedule 1
- LC Sewer Master Plan Update
- LC Huckleberry LS Improvements

### **6.3 West Point Wastewater System**

The West Point WWTP is projected to contain the necessary capacity for the small growth projections over the next 20 years. The RWQCB has expressed concerns about the treatment pond impacts on underlying groundwater. The current master plan did not recommend any capital project requirements. Requirements may be identified when the Waste Discharge Permit is renewed. Over time, rehabilitation and replacement projects will be identified and added to the CIP list.

### **6.4 Wilseyville Wastewater System**

No projects are projected for the Wilseyville system. The West Point master plan evaluated combining the two systems, but recommended that Wilseyville remain an independent system.

### **6.5 Six Mile, Vallecito, and Douglas Flat Wastewater Systems**

These three systems are located close together but are not combined into one operation. The Vallecito collection system pumps into the Douglas Flat treatment plant. The Six Mile system pumps into the system operated by the City of Angels. Previous planning efforts evaluated combining the systems but recommended keeping the existing system operations in place. Capital projects address collection system improvements, treatment process upgrades for regulatory issues, and effluent disposal requirements. An overriding issue for these three areas is the lack of space available to increase disposal storage. The District is currently conducting a regionalization study for water and wastewater alternatives in the Hwy 4 area. There are no projects prioritized for funding until the regional study is complete.



*Forest Meadows Area and WWTP*

## 6.6 Forest Meadows Wastewater System

The wastewater system was subject to a Cleanup and Abatement Order from the SRWQCB in 2002 to meet Title 22 requirements. The 2004 master plan also identified growth projections at ultimate buildout of three times current flows. As development has slowed, the priority of the expansion projects has decreased, however, there are other asset management projects recommended. The District received an NPDES permit on April 25, 2008 for a seasonal discharge to the Stanislaus River. The funding for the design of a new pumping station and outfall is funded in this CIP through bonds. Board policy will need to address alternatives with upfront funding from development because projected growth is insufficient to cover the debt service from new connections. The following projects are prioritized for funding:

- FM WWTP Discharge PS and Pipeline Design
- FM LS 2 Improvements

## 6.7 Arnold Wastewater System

The Arnold WWTP is relatively new, going on line in 1986. The area serves a narrow band along Highway 4 in the Arnold area and the community of Avery. Adding flow from the Millwoods septic system was analyzed and rejected based on cost in the 2005 Arnold Sewer System Master Plan. Future system improvements include lift station upgrades, WWTP equipment replacement and upgrades, and WWTP expansion as flows increase. The following projects are prioritized for funding:

- AR LS #2 Expansion

- AR WWTP Improvements
- AR Avery Middle School LS Pump Replacement
- AR WWTP Disposal Study
- AR Millwoods PS electrical upgrade
- AR Indian Rock Filter Rehab

## **6.8 Project Descriptions**

Project summaries for new projects are presented on the following pages. Summaries for select ongoing projects are also provided where the project is requesting a large amount of additional funding, is a large project, or addresses a special issue.

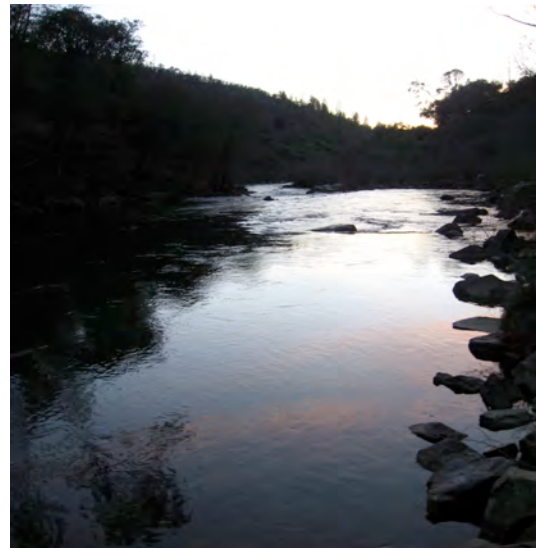
## CHAPTER 7 Future and Strategic Projects

The CIP recommends projects for funding through Fiscal Year 12-13. The District is evaluating other projects that would be implemented beyond the time frame in this CIP. Some of these projects are provided funding for the study or planning phases in the current CIP. Other efforts are being developed through non-CIP elements such as collaborative planning processes with other water or governmental jurisdictions. This section describes the main issues facing the District as it plans for the future. Future strategic projects under consideration are listed with a short description of each project's role in addressing future strategic needs.

### 7.1 Issues Facing the District

Service Area. The District is responsible for providing water and sewer service to the entire Calaveras County area. The overall goal is to provide water and sewer services to the County's residents in an economical way. As a result, the District has identified strategic efforts to evaluate county-wide needs, develop partnerships with other agencies, and evaluate future alternatives, including regionalization.

Supply. Three watersheds provide the District's current surface water supplies. The county contains a significant number of septic systems, along with other potential contaminate sites, which could impact water supply quality. Environmental and institutional issues can impact supply quantity. Climate change will impact supply timing and reservoir operations. Droughts will impact supply availability. With a statewide effort on obtaining new water supplies, the District's three supply sources are under constant scrutiny by downstream users. Water supply strategic efforts include improving supply reliability and quality, and identifying new sources, such as groundwater.



*Mokelumne River*

Recycled/Raw Water. The District currently uses recycled water at three service areas, Jenny Lind, Copper Cove, and Forest Meadows. Further use of recycled water could benefit supply reliability and volume issues, compliment land planning efforts in the County's General Plan Update, and increase the agriculture economy in the County. The District faces challenges at many of its wastewater treatment plants regarding discharge permits and other regulatory concerns. Increasing recycled water use could help resolve some of these discharge issues. Recycled water efforts include discussions with the agricultural community and County Planning regarding potential demand areas and treatment improvements at

existing treatment plants. Although not identified now, a county-wide recycled water plan may be developed if current discussions identify a need for more analysis.

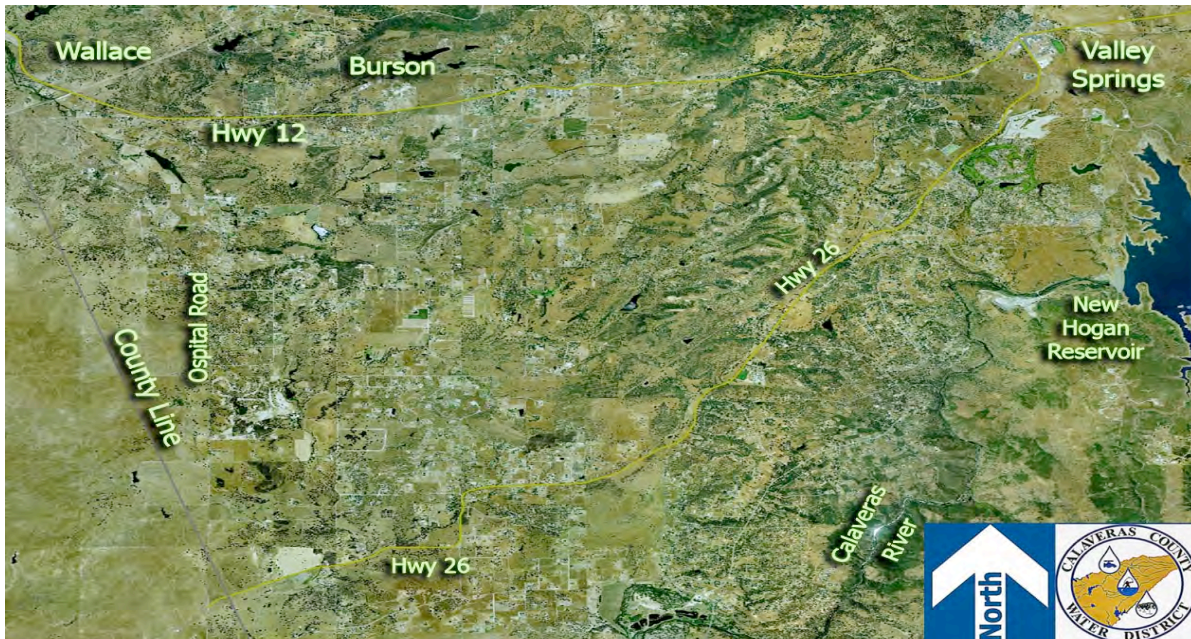
Asset Management. The reliable asset life of infrastructure can vary from one year to over 100 years. Replacement must be planned and pre-funded to avert financial crisis if too much must be replaced at any one time. The District currently budgets a replacement fund to replace infrastructure. Replacement funding relies on accurate information on the condition of existing assets and past performance in order to predict replacement needs. The District will enhance its master planning, condition assessment, and project prioritization process to move towards a proactive asset management strategy.

Finance. Ongoing asset replacement, improvement projects to meet regulations and level of service requirements, and expansion to meet the needs of the County all impact the District's finances. Managing the District's needs with the District's financial ability requires a balance of priorities. As this CIP indicates, there are significantly more projects needed than can be funded. The District will continue to investigate alternative funding in addition to its current revenue sources.

## 7.2 Strategic Initiative Projects

Specific projects identified for strategic initiatives or other needs are described in this section.

Mokelumne-Calaveras Regional Water Supply. The District is evaluating long term water demands and supply alternatives to serve the west county area currently served by the Mokelumne and Calaveras Rivers. The need for this effort is identified in the MAC IRMWP (described below) to meet increasing demands with more reliable water supplies while



*Northwest County Area for Regional Water Supply Study*

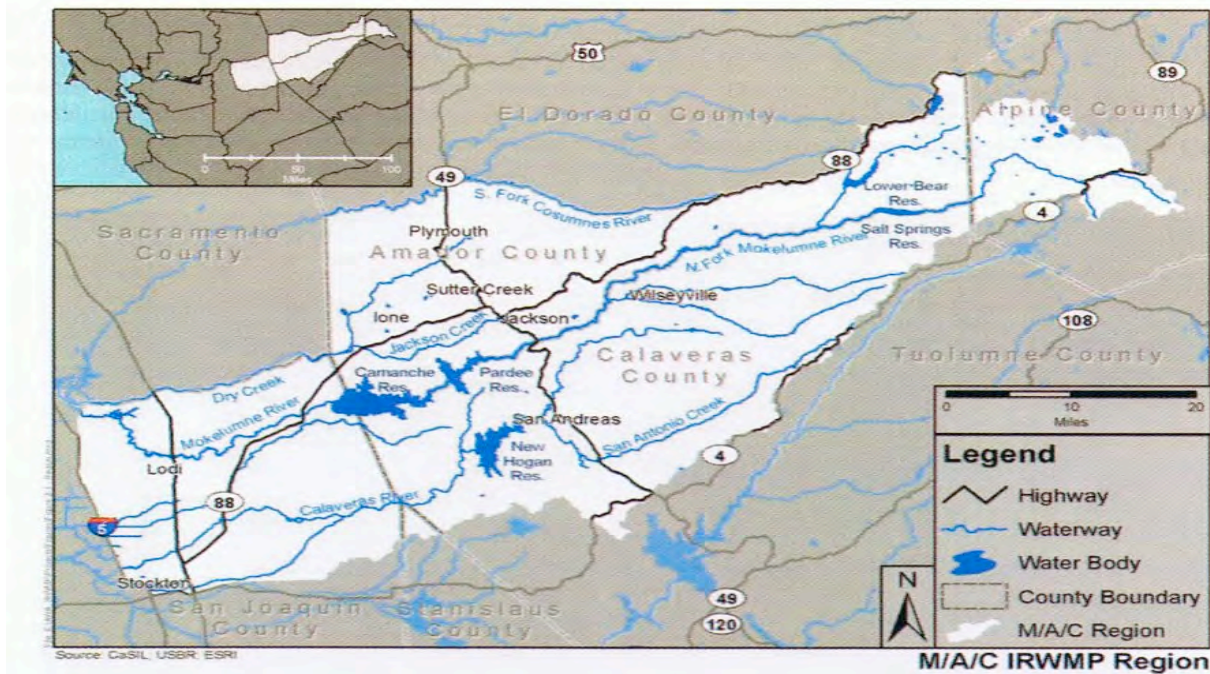
improving water quality and environmental sustainability. The effort includes a group of

projects that will investigate, analyze, design, build, and monitor conjunctive use opportunities. The first of these projects, the West County Raw Water Study, is funded through WRDA and proposed for implementation over the next two years in this CIP. The second project, a plan for increased groundwater monitoring and evaluation, will be implemented with funding through a state AB303 groundwater grant.

Recycled/Raw Water Planning. The District continues to discuss potential agricultural water needs with the County and agricultural community, in addition to potential development projects. No specific project is identified at this time, but a recycled water master plan may likely be required to support future discussions and planning efforts.

Highway 4 Regionalization. A preliminary study evaluating regionalization potential for water and sewer service is underway. The study area covers Highway 4 from Angels Camp to Arnold. The area is currently served by multiple agencies that are all facing similar regulatory and infrastructure replacement issues. Additional studies and projects may be identified pending results of the current study.

Highway 12/26 Regionalization. A preliminary study evaluating regionalization potential of water and sewer service is underway. The study area covers the existing Jenny Lind service area and surrounding areas such as Valley Springs, Burson, and Wallace. The study is evaluating each agency's ability to provide a reliable supply for the existing area plus potential future developments, and the potential benefits that regionalization could provide to the overall stewardship of water resources in the area. Additional studies and projects may be identified pending results of the current study. The West County Raw Water Study will also investigate potential demands and supply for the entire northwest area of the county, including the Highway 12/26 area.



*M/A/C IRWMP Area (from MAC IRMWP, November 2006)*

**IRWMP.** The District is a participant in two Integrated Regional Water Management Plan efforts. The MAC (Mokelumne and Calaveras Rivers and Amador County) has produced its first IRWMP document with assistance from a state grant. Another IRWMP group is beginning efforts for the Stanislaus and Tuolumne River areas. IRWMPs are the state standard for planning efforts and necessary for eligibility for many of the current and future grant programs. The plans evaluate the diverse needs of the planning area and identify projects to improve water quality and reliability for all users. The existing MAC IRMWP identifies many of the District's current Mokelumne and Calaveras projects. The District will continue to participate in these planning efforts and will look for opportunities to develop projects with regional benefits. Once developed, these projects will be included in the CIP planning process.

**Information Technology.** The District relies on many different forms of information in its daily operations. Currently, the District's information technology and records management mostly resides in stand-alone legacy systems maintained by individuals or departments. Updating and streamlining information flow throughout the District will be necessary to meet the District's future needs efficiently. For example, organizing and converting all the District's system maps into a GIS format will provide a central base for the District's core information. Adding service information to the GIS database such as customer accounts, maintenance management systems, operations data, permitting and regulatory requirements, hydraulic models, and others allows equal and efficient distribution of data for all District needs. The District will also need to analyze its current information technology and develop hardware and communication standards to support the improved information management system. An information needs assessment and strategy will be the first step in the process.

The District will continue to refine and develop the definition, scope, and budget for this program and incorporate it into the CIP planning process.

### 7.3 Non-Scheduled Projects

The current master plans identify several projects to address infrastructure replacement and improvements, regulatory-based upgrades, and growth-funded expansions. Many of these projects were assigned low priorities by the District due to slow growth, coordination needs with other agencies, lack of District resources or funding, or other reasons, and were not included in the five-year CIP. Water projects are listed in Table 7-1 and sewer projects in 7-2, with a short description as to its non-scheduled status. Project priorities depend on many factors that could change. See table 3-1 for a discussion of project priority types. The CIP is updated on an annual basis, during which time these non-scheduled projects could become higher priority and assigned to the CIP schedule.

**Table 7-1. Water Non-Scheduled Projects**

Project (type)	Est. Budget (2008)	Description
<b>Jenny Lind Water Service Area</b>		
JL WTP to 7 mgd (3a)	\$1,416,000	The plant will need expansion to meet future demands, including a force main for the backwash waste to the LC WWTP. However, new development may fund a new, North WTP. This project is non-scheduled due to slow growth and pending ongoing planning with developers.
JL A Tank Improvements (2b)	\$333,000	Add additional pumping and piping to allow tank level exercising to address water age issues. Project is non-scheduled due to lack of funds.
JL A-B Transmission Main (2b)	\$250,000	Add a parallel transmission main to improve flow and pressure. Project is non-scheduled due to lack of funds and pending hydraulic model update.
<b>Copper Cove Water Service Area</b>		
CC O'Byrnes Ferry Line Loop (2c)	\$2,152,000	The 2005 master plan identified this project to improve system reliability to the Tank C/E and Tank B/E zones near Lake Tulloch, and provide service to future development. The project is non-schedule due to lack of funds.
CC Zone C Transmission Main Extension (3b)	\$578,000	Miscellaneous main extensions within C zone to serve infill development and loop systems. This project is non-scheduled due to slow growth and lack of funds.
CC Raw Water PS Expansion (3b)	\$562,000	The raw water pumping station will need expansion to meet future growth demands. This project is non-scheduled due to slow growth and will first need a developer agreement to move forward.
CC B Tank Line Expansion (3b)	\$300,000	Provide a parallel pipe from Tank B to Kiva to serve Tuscan Hills. Project is non-scheduled pending funding from developer.



Project (type)	Est. Budget (2008)	Description
CC C Tank to Oak Canyon Main, C Main Extension (5)	\$150,000	A new water main to serve the Oak Canyon Ranch and Copper Mill Residential developments. Developer will conduct project and fund full cost (approximately \$6.5 million). This project provides budget to review and coordinate developer's design with CCWD. Project is non-scheduled due to slow growth and lack of funding.
CC Oak Canyon Storage and PS (5)	\$2,626,000	The project will provide 4.0 mgal storage on the west side of the system to serve multiple planned developments. Project is non-scheduled due to slow growth and lack of funding.
CC Transmission Main C to E (5)	\$2,944,000	Approximately 15,000 lf of new main to link Tank C to Tank E to improve service and reliability and to allow capacity through Tank B Zone for Tank B Zone requirements. This project is non-scheduled due to lack of funds and slow growth.
CC Tank E (5)	\$901,000	A new 0.5 mgal tank near Copper Cove Dr. and O'Byrne's Ferry Road to improve service and reliability to the lower Tank C zones and the Lake Tulloch area and to meet infill growth. Project is non-scheduled due to lack of funds and slow growth.
Copper Tank to Copper Town Main Realignment (5)	\$1,609,000	Project will relocate main around potential contaminate area near a mine tailing area. Project is non-scheduled due to lack of funding and awaiting results from State's monitoring program.
CC Copperopolis Tank 2 (5)	\$1,100,000	Construct a 0.55 mgal tank to meet new development requirements. Project is non-scheduled due to lack of funds and slow growth.
CC B Tank 2 Replacement (5)	\$2,264,000	Project will construct a 0.7 mgal tank. Project is non-scheduled due to slow growth and lack of funding.
CC WTP Expansion to 6 mgd Plan (6)	\$208,000	Conduct facilities planning to expand the WTP capacity to 6.0 mgd. Project is non-scheduled due to lack of funds and slow growth.
<b>Ebbetts Pass Water Service Area</b>		
EP Reach 1A Replacement Construction (2b)	\$3,218,300	Construction of first segment of main line from Hunters WTP down Hwy. 4 to past Forest Meadows. Pipe is in poor condition and requires frequent emergency repairs to pipe failures. Project will replace pipeline. Project is non-scheduled due to lack of funding.
EP Reach 1B Replacement (2b)	\$2,000,000	Second segment of main line from Hunters WTP down Hwy. 4 to past Forest Meadows. Pipe is in poor condition and requires frequent emergency repairs to pipe failures. Project will replace pipeline. Project is non-scheduled due to lack of funding.
EP Reach 1C Replacement (2b)	\$2,000,000	Third segment of main line from Hunters WTP down Hwy. 4 to past Forest Meadows. Pipe is in poor condition and requires frequent emergency repairs to pipe failures. Project will replace pipeline. Project is non-scheduled due to lack of funding.

Project (type)	Est. Budget (2008)	Description
EP Reach 3A Replacement (2b)	\$2,721,000	Main segment through downtown Arnold. Project will replace aging pipe. Project is non-scheduled due to lack of funding.
EP Hunters, Avery, and Sawmill PS Expansion (2b)	\$832,000	Replacement and expansion of pumps and associated equipment in PS. Project is non-scheduled due to lack of funding.
EP 60k Tank Replacement (2b)	\$120,000	Replace redwood tank with larger tank. Project is non-scheduled due to lack of funds.
EP WTP 6 MGD Expansion Plan (5)	\$180,000	Plan for expansion needs to increase the WTP capacity to 6 mgd. Project is non-scheduled due to lack of funds and slow growth.
EP Avery Tank Expansion Plan (5)	\$120,000	Project will evaluate storage needs in relation to development rates and recommend expansion alternatives. Project is non-scheduled due to lack of funding and slow growth.
<b>West Point Water Service Area</b>		
WP Filter Redundancy Planning (6)	\$112,000	Investigate requirements and alternative to add redundant filter. Project is non-scheduled due to lack of funds.

**Table 7-2. Sewer Non-Scheduled Projects**

Project (type)	Est. Budget	Description
<b>La Contenta Sewer Service Area</b>		
LC WWTP Expansion Ph 2 Schedule 2 (5)	\$3,351,000	Expand disposal capacity through additional spray fields and associated equipment. Project is non-scheduled due to lack of funding and pending disposal negotiations with developers and existing golf course staff.
LC WWTP Expansion Ph 3 (5)	\$4,467,000	Expand WWTP to 0.26 mgd from Phase 2 capacity of 0.195 mgd. Expansion includes 32 acres of new spray fields, 28 million gallons effluent storage, main pumping station improvements, and a new filter. Project non-scheduled due to slow growth, lack of funding, and pending discussion with developers.
LC WTP Sewer Line (2a)	\$1,000,000	Construct a sewer line to convey solids from the WTP to the WWTP. Project non-scheduled due to insufficient funds.
<b>Copper Cove Sewer Service Area</b>		
Pond 6 Construction (2b)	\$5,609,000	Construct Pond 6 expansion. Project is non-scheduled due to lack of funding.
<b>Vallecito Sewer Service Area</b>		
VA LS Improvements (2b)	\$202,000	Add storage to Six-Mile and Vallecito plus ancillary improvements. Project non-scheduled due to lack of funding.

Project (type)	Est. Budget	Description
VA WWTP Pond Expansion (2a)	\$3,446,000	The existing effluent storage pond is at capacity. Project will expand pond capacity by at least double. A regional planning effort is scheduled to be completed in 08 and may impact project need and/or definition. Project non-scheduled to wait for results of regional study.
VA Spray Field Expansion (5)	1,157,000	The existing spray field acreage will require expansion to meet future growth. This service area is also included in the ongoing regionalization study. Project is non-scheduled due to slow growth, lack of funding, and pending the outcome of the regionalization study.
VA WWTP Improvements (5)	\$1,062,000	The 2005 Master Plan recommends a new aeration basin/clarifier, odor control, headworks improvements, and solids processing improvements. This project is non-scheduled due to slow growth, lack of funding, and awaiting outcome of regionalization study.
<b>Forest Meadows Sewer Service Area</b>		
FM WWTP Discharge Pipeline Construction (5)	\$2,356,000	Construct pumping station and force main for surface water discharge. Project is non-scheduled due to slow growth and lack of funding.
FM WWTP Expansion (5)	\$733,000	Add an additional filter and UV disinfection to meet projected growth. Replace four aeration mixers. Project is non-scheduled due to slow growth and lack of funding.
FM WWTP Solids Handling (2b)	\$500,000	Add a belt filter press and building to house press. Currently, solids are trucked to Vallecito, then trucked to La Contenta. Project is non-scheduled due to slow growth and lack of funding.
FM Lift Station 4 Force Main (2b)	\$200,000	Repair/Replace 1,000 LF force main and add security measures to Pumping Station. Force main experiences failures and leaks. Project is non-scheduled due to lack of funding.

CHAPTER 8 CIP Program

The proposed CIP program for fiscal years 07/08 through 12/13 is presented in this chapter. A funding model was created to assist in developing the funding needs, feasibility, and prioritization of projects. Some of the projects and service area funds present special issues that are described.

**8.1 CIP Program**

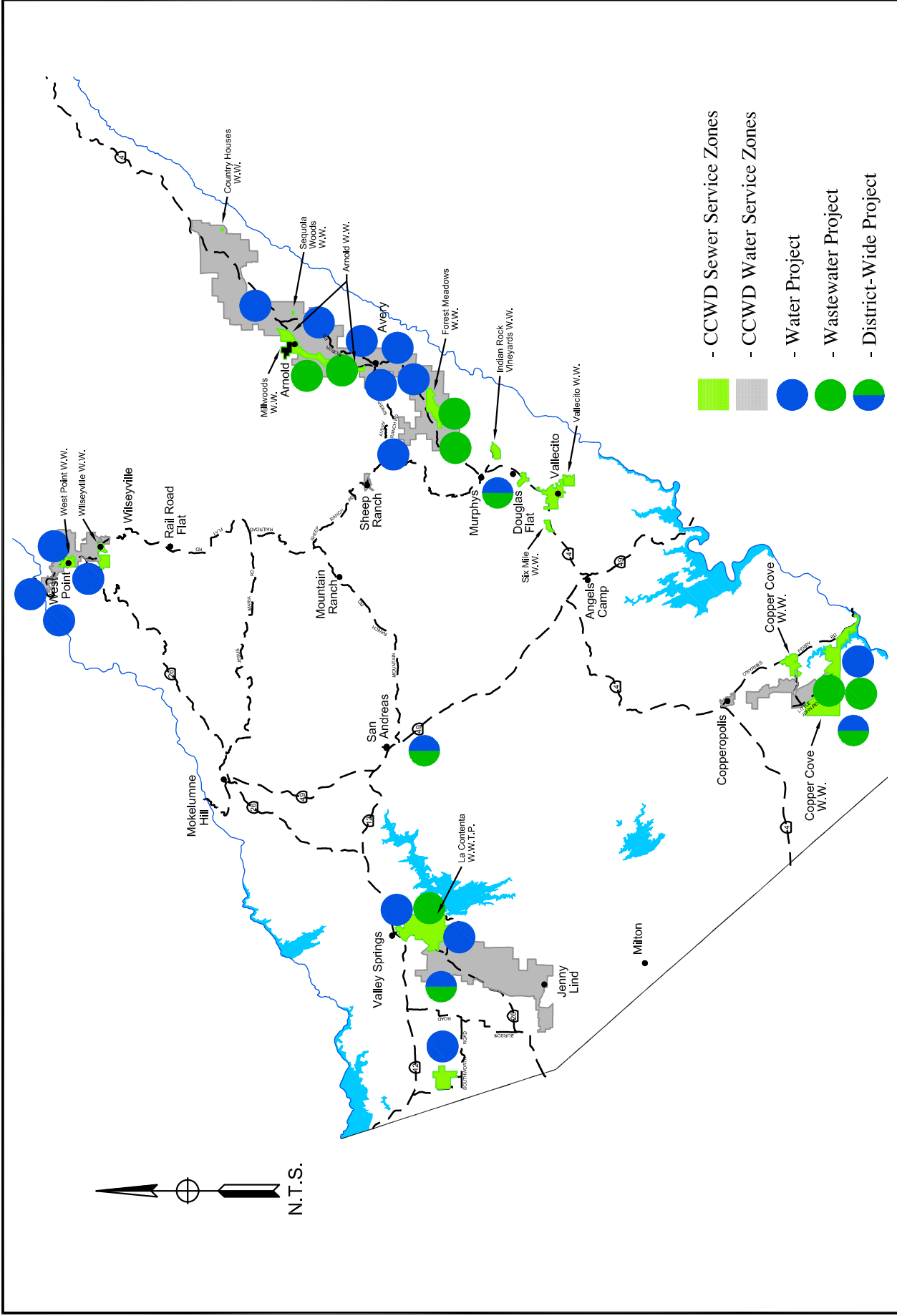
The five-year CIP is summarized in Table 8-1. The FY 08-09 CIP is summarized in Table 8-2. Representative project locations are identified on Figure 8-1. A detailed project listing and schedule is presented in Tables 8-3, 8-4, and 8-5 at the end of this chapter. Capital projects are divided into two groups; existing projects and new projects. Existing projects are those with existing funding, though the project may or may not have started. The projects that are ongoing and will likely continue into 08-09 are included. The projects that were previously funded and near completion are not shown in this plan. The new projects are those selected by CCWD staff for implementation over the next five years. Detailed funding schedules are presented in the bond model output in Appendix A.

**Table 8-1. Proposed Five-Year CIP Summary, \$million**

	Total Estimated Cost	Budget Expended	Additional Budget Required	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13
Water Projects	21.0	0.8	20.2	5.2	7.3	4.4	2.2	1.0
Sewer Projects	16.3	3.9	12.4	5.1	3.4	0.6	1.0	2.2
Other Projects	6.6	0.2	6.4	0.5	2.9	3.0	0.0	0.0
Total	43.9	4.9	39.0	10.9	13.6	8.0	3.2	3.2

**Table 8-2. Proposed FY 08-09 Projects**

Project	FY 08-09 Funding
District-Wide Projects	
County Water Resources Plan	\$100,000
CCWD Building	\$400,000
Water Projects	
Annual Water Pipeline Replacement	\$200,000
JL WTP Flood Protection	\$832,000
WP WTP Clearwell Replacement	\$480,000
WP Replacement Project	\$185,000
CC Booster PS and Main to C Tank	\$2,374,000
CC WTP Clearwell	\$100,000
EP Reach 1a Replacement Design	\$144,700
EP Hunters WTP Surge Tank	\$296,500
JL Lancha Plana Well Improvements	\$15,000
WP Moke River PS Improvements	\$198,000
Water Planning Projects	
W. Cnty AB303 Enhanced GW Monitoring	\$300,000
CC Water Master Plan and Model Update	\$46,800
Hwy 12/26 Regional Plan	\$20,500
Bear River Res.Study	\$56,300
Sewer Projects	
Annual Sewer Pipeline Replacement	\$200,000
AR WWTP Improvements	\$208,000
AR Millwoods PS Electrical	\$35,000
AR Indian Rock Filter Rehab.	\$30,000
ARN LS #1	\$6,000
CC WWTP Expansion to 0.5 mgd	\$1,500,000
CC Pond #6 Design	\$182,724
CC Lift Station #22	\$940,000
CC Lift Station #21	\$1,020,533
FM WWTP Discharge PS and Pipeline Design	\$200,000
LC WWTP Discharge Permit	\$20,000
LC WWTP Expansion Phase 2 Schedule 1	\$675,624
Sewer Planning Projects	
CC Sewer Master Plan Update	\$106,028
Hwy 4 Regional Study	\$23,093
<b>Total:</b>	<b>\$10,896,000</b>



**Figure 8-1**  
**Representative CIP Project Locations**  
 (Figure Does Not Show All Projects)

**Calaveras County Water District**  
**FY 08-09 Five-Year CIP Program**

July 30, 2008

## 8.2 CIP Funding Impacts

The revenue and debt service funding requirements for each service area are summarized in Appendix A. The District faces special financial issues with many of the service areas that can be impacted by Board discussion and policy. The District faces unique challenges in that its funds are separated into each service area. Depending on recommended projects, projected connection growth, previous debt, and current balance, some funds are not able to fund the service area's needs. The following discusses specific funding issues.

### 8.2.1 Funding Expansion

For some of the projects recommended, a percentage of the project will provide capacity to meet future growth. The bond model assumes the future connections will fund the expansion portion. However, due to cash flow issues, the District is initially borrowing money through bonds to build system expansion. For example, the CC Clearwell, PS, and Main to C Tank project benefits future expansion. The District plans to borrow the funds to construct the project, then is projecting nearly 150 new connections through 2013 to pay the debt. In this case, the expansion fund is negatively impacted, but catches up as new connections are added. The District did not assume in the bond model that developer agreements would be used to pre-fund each respective expansion project, but such arrangements could be used in the future.

### 8.2.2 Grant and Loans

The District actively pursues grants and loans to supplement project funding needs. Some grants and loans also require a local share match, and the District is required to fund a percentage of the total project cost. While "free" money is usually considered beneficial, the local match can significantly impact the District's service area fund and the District's Operations Fund. The District is receiving a \$1.9 million dollar grant and a \$3.29 million dollar loan for water treatment plant improvements and distribution system replacement in the West Point service area. The District's requirements for matching costs are \$1.29 million. As there are no new connections projected for this area over the next five years, and the expansion fund cannot support the entire bond and loan payment, the District must use cash from its Operations Fund to support these projects. Therefore, in order to receive the grants and loans, the District must use cash from its District-wide operations fund to support a project in West Point. While this funding situation is not uncommon for a district with numerous, separated service areas, the magnitude of funding requirements is greater than usually encountered.

### 8.2.3 High Priority Projects

The District has identified some projects that are high priority, but whose respective expansion fund is unable to support the bond payments. In addition, the projected new connections will also not support the payment requirements, putting the expansion fund into

a declining balance trend. Despite funding ability, the District feels these are projects that must be done, and proposes using the Operations Fund, and acknowledges the service area expansion fund will not be able to pay its “fair share”. This scenario is similar to the Grant and Loans issues discussed above. Ebbetts Pass Reach 1a Replacement project is an example of this case. The project replaces over seven miles of transmission main on Highway 4 that has been failing with increased frequency. The entire replacement for Reach segments 1a, 1b, and 1c has been estimated at nearly \$8 million. The Ebbetts Pass expansion fund has a current debt obligation of approximately \$570,000 annually over the next five years, and is already in a declining balance state. Adding the new debt for Reach 1a Replacement further impacts the fund, and speeds up the declining balance, despite the 115 new connections project over the next five years. In this case, existing debt, limited new connections, and excessive projects costs require the Operations Fund be used to fund the project.

#### 8.2.4 Replacement Funds

The District has established annual funding for water and sewer pipeline replacement needs. As the District’s infrastructure ages and fails, common asset management practice uses a proactive approach to replace infrastructure before failing. This proactive approach allows timely and cost effective replacement projects. Reacting to infrastructure failures after they occur would most likely cost more, distract District staff from other projects, and could incur fines and regulatory actions. Over the five-year CIP schedule, the total replacement funds budgeted are \$5.3 million. With current debt service and other operations requirements, the District cannot fund these replacement costs with cash, and must borrow the money through bonds. Expansion fees are also assumed to pay a percentage of these costs. The bond debt is spread 55 percent to all the expansion funds, and 45 percent to the Operations Fund. Unlike other CIP projects, these two replacement projects are an annual expense incurred indefinitely. Identifying a constant revenue source for these funds that doesn’t involve borrowing money is a top priority for the District.

#### 8.2.5 Un-Funded Projects

The District has identified \$100 million on projects for the next five years. The District can only fund \$39 million over the next five years with its current financial status. Funding shortfalls require the District to prioritize projects across service areas and between water and wastewater. This results in some areas and service types receiving more funding than others. The District strives to provide an equal level of service to all its customers. The District will need to identify additional funding and revenue options in order to construct all of the proposed projects.



**Table 8-3. District-Wide CIP Projects**

Project	Total Cost	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13
New District-Wide Projects							
County Water Resources Plan	\$100,000		\$100,000				
Subtotal:	\$100,000	\$0	\$100,000	\$0	\$0	\$0	\$0
Ongoing District-Wide Projects							
CCWD Building	\$6,460,000	\$183,700	\$400,000	\$2,920,000	\$2,956,300		
Subtotal:	\$6,460,000	\$183,700	\$400,000	\$2,920,000	\$2,956,300	\$0	\$0
<b>Total District-Wide Projects:</b>	<b>\$6,560,000</b>	<b>\$150,000</b>	<b>\$500,000</b>	<b>\$2,920,000</b>	<b>\$2,956,300</b>	<b>\$0</b>	<b>\$0</b>

Notes: Total Cost includes expenditures from previous fiscal years.

**Table 8-4. Water CIP Projects**

Project	Total Cost	FY 07-08	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13
<b>New Water Projects</b>							
Annual Water Pipeline Replacement	\$3,400,000		\$200,000	\$200,000	\$1,000,000	\$1,000,000	\$1,000,000
EP Techite Replacement	\$728,600			728,000			
Sheep Ranch Conveyance Repair	\$165,300	\$3,300				\$162,000	
JL WTP Flood Protection	\$832,000		\$832,000				
WP WTP Clearwell Replacement	\$1,700,000	5,500	\$480,000	\$962,000	\$252,500		
WP Replacement Project	\$4,290,000	19,500	\$185,000	\$2,053,000	\$2,032,500		
Subtotal:	\$11,115,900	\$28,280	\$1,697,000	\$3,943,600	\$3,285,000	\$1,162,000	\$1,000,000
<b>Ongoing Water Projects</b>							
CC Booster PS and Main to C Tank	\$6,133,700	\$658,000	\$2,374,000	\$2,000,000	\$1,101,600		
CC WTP Cleawell	960,000		\$100,000	\$860,000			
EP Reach 1a Replacement Design	\$291,000	\$16,300	\$144,700	\$130,000			
EP Hunters WTP Surge Tank	\$306,000		\$296,000	\$9,500			
EP Meadowmont Tank/PS Predesign	\$256,000					\$256,000	
JL WTP Pre-Treatment	\$784,000	\$6,100			\$50,000	\$727,900	
JL Lancha Plana Well Improvements	\$35,000	\$20,000	\$15,000				
WP Moke River PS Improvements	\$198,000		\$198,000				
Subtotal:	\$8,963,700	\$700,400	\$3,128,200	\$2,999,500	\$1,151,600	\$983,900	\$0
<b>Planning Projects</b>							
West County GW Monitoring	\$300,000		\$300,000				
West County Raw Water Study	\$324,000			\$324,000			
JL North WTP Planning	\$108,000	\$38,200		\$69,800			
CC Water Master Plan/Model	\$75,000	\$28,200	\$46,800				
JL Water Master Plan Update	\$75,000					\$75,000	
Hwy 12/26 Regional Plan	\$50,000	\$29,500	\$20,500				
Bear River Res.Study	\$60,000	\$3,700	\$56,300				
Subtotal:	\$992,000	\$99,500	\$423,600	\$393,800	\$0	\$75,000	\$0
<b>Total Water Projects:</b>	<b>\$21,071,600</b>	<b>\$828,200</b>	<b>\$5,248,800</b>	<b>\$7,336,900</b>	<b>\$4,094,000</b>	<b>\$2,220,900</b>	<b>\$1,000,000</b>

Notes: Total Cost includes expenditures from previous fiscal years.

**Table 8-5. Sewer CIP Projects**

Project	Total Cost	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13
<b>New Sewer Projects</b>							
Annual Sewer Pipeline Replacement	\$1,900,000		\$200,000	\$200,000	\$500,000	\$500,000	\$500,000
AR LS #2 Expansion	\$469,000						\$469,000
AR WWTP Improvements	\$986,000		\$208,000			\$232,000	\$546,000
AR Avery MS LS Pump Replacement	\$480,000						\$480,000
LC Huckleberry LS Improvements	\$174,000					\$174,000	
AR Millwoods PS Electrical	\$35,000		\$35,000				
AR Indian Rock Filter Rehabil.	\$30,000		\$30,000				
FM LS 2 Improvements	\$82,000						\$82,000
Subtotal:	\$4,156,000	\$0	\$473,000	\$200,000	\$200,000	\$906,000	\$2,077,000
<b>Ongoing Sewer Projects</b>							
ARN LS # 1	\$216,700	\$213,700	\$6,000				
CC POND #5 Diversion Ditch	\$112,000	\$3,700			\$108,300		
CC WWTP Expansion to 0.5 mgd	\$2,803,800	\$231,100	\$1,500,000	\$1,072,700			
CC Pond #6 Design	\$314,200	\$131,500	\$182,700				
CC Lift Station #22	\$2,529,000	\$1,200	\$940,000	\$1,587,800			
CC Lift Station # 21	\$2,227,500	\$1,207,000	\$1,020,500				
FM WWTP Disch. PS/Pipeline Design	\$581,600		\$200,000	\$381,600			
CC WTP UV Cover	\$100,000					\$100,000	
LC WWTP Discharge Permit	\$100,000	\$13,200	\$20,000	\$66,800			
LC WWTP Expansion Ph 2 Sch 1	\$2,721,300	\$2,045,700	\$675,600				
Subtotal:	\$11,709,100	\$3,847,100	\$4,544,800	\$3,108,900	\$108,300	\$100,000	\$0

Notes: Total Cost includes expenditures from previous fiscal years.

**Table 8-5. Sewer CIP Projects, Continued.**

Project	Total Cost	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13
Planning Projects							
AR WWTP Disposal Study	\$34,000						\$34,000
CC RCW TP Expansion Plan	\$54,000			\$54,000			
CC RCW Master Plan	\$81,000			\$81,000			
CC Sewer Master Plan Update	\$143,200	\$37,200	\$106,000				
HWY 4 Regional Study	\$75,000	\$51,900	\$23,100				
LC Sewer Master Plan Update	\$75,000						\$75,000
Subtotal:	\$462,200	\$89,100	\$129,100	\$135,000	\$0	\$0	\$109,000
<b>Total Sewer Projects:</b>	<b>\$16,327,300</b>	<b>\$3,936,200</b>	<b>\$5,147,900</b>	<b>\$3,443,900</b>	<b>\$608,300</b>	<b>\$1,006,000</b>	<b>\$2,186,000</b>

Notes: Total Cost includes expenditures from previous fiscal years.

CHAPTER 9 Implementation

This chapter presents the implementation steps to approve the proposed CIP and discusses potential impacts to District staffing needs and costs.

**9.1 CIP Report Implementation Schedule**

The administrative draft of the proposed CIP was prepared in February, 2008. A meeting with operations and maintenance staff discussed project priorities and specific project impacts to operations and maintenance staffing and budgets. A second version of the administrative draft was created that included the information from operations and maintenance staff. The CIP was presented and discussed in a series of workshops with the Board over a two-month period. Comments and recommendations from the Board workshops are incorporated into the current version and presented to the Board for adoption. The update process schedule is shown on Figure 9-1.

Task	March	April	May	June	July
GM review					
O/M Review					
Board Workshop					
Board Approval					

Figure 9-1. CIP Approval Schedule

**9.2 Impacts to Operations**

Adding more infrastructure to operate and maintain directly impacts operations and maintenance needs. Many of the District’s facilities are remotely controlled and/or unattended for a majority of the time. As facilities are expanded and new permits are issued, operations requirements may increase, requiring more operators. In addition, as treatment plants are expanded and gain new technology, the new permits may require operators with higher grades of certification. Additional infrastructure will also require increased energy costs, chemical costs, and other related costs that should be considered in future budgets. Potential impacts of each CIP project are listed on the project 1-sheet summaries in Chapters 5 and 6.

Constructing all projects listed in the CIP will also impact staffing requirements for construction inspectors. Many of the large construction projects usually contract for an inspector. However, there are many other smaller projects in the CIP that may be inspected by District staff. Currently there are two full time construction inspectors. Workload analysis and staffing requirements will be required to define staffing needs during the CIP implementation.

### **9.3 Impacts to Engineering**

The CIP will require the Engineering Department to manage and contract the planning, design, and construction of approximately \$58 million dollars of projects. Looking at the annual cash flows projected in Table 8-1, the work is evenly spread over the next five years. The District has suffered in the past from uneven workflow and insufficient staffing levels to complete projects on time. Industry experience for agencies using consultant contracts suggests that a project manager can usually manage up four to five individual projects, or \$4-5 million in budget. As CCWD intends to complete some of the projects themselves, the number of projects assigned to one engineer will decrease, as they will do more of the detailed work. Depending on project timing and other assignments, implementing the CIP will most likely require additional engineers, either through hiring or contracting, and/or contracting out more projects to consultants. Workload analysis and staffing requirements will be required to create an implementation plan once the CIP has been approved and is ready for implementation.

### **9.4 Implementation Conclusions**

The CIP is a dynamic process. At a minimum, the plan will be updated on an annual basis. However, project priorities and available funding will most likely be conducted throughout the year as issues arise that impact the District' CIP. The purpose of this CIP is to provide a solid base and procedure to analyze projects and refine priorities for implementing projects. Implementation will require careful management and tracking to ensure cost effective project implementation. In particular, the District will proactively identify its financial and staffing requirements match the proposed implementation schedule. With this CIP report, the District has created the tools and methodology to use going forward to manage its infrastructure and finances in a balanced manner.

**Appendix A**  
**Bond Model**

**FUNDING FOR CIP PROJECTS #13**

**Water and Sewer Capital Projects**

The Capital Improvement Model original proposal called for \$60,381,000 in Water Projects and \$41,916,500 in Sewer Projects for a total of \$102,297,500. Due to the Sub-Prime Meltdown the connection fee projections have been reduced. The effect on the Capital Projects has been to reduce the number of projects that can be funded. The amount of the Water and Sewer projects has dropped to \$29,397,000 and \$16,776,200 respectively for a total of \$46,173,900. The following schedule shows the source of funding for the projects and the debt service related to Operation and Expansion funds.

<b>FUNDING SOURCE FOR PROJECTS</b>			
	Water	Sewer	Total
Expansion Bonds	\$5,773,000	\$2,242,500	\$8,015,500
Operation Bonds	5,601,000	4,908,000	10,509,000
Operation Loan	3,290,000		3,290,000
<b>Total Funded By Debt</b>	<b>14,664,000</b>	<b>7,150,500</b>	<b>21,814,500</b>
Other Revenues	4,525,000	675,000	5,200,000
Expansion Fees	10,208,700	8,950,700	19,159,400
<b>Total</b>	<b>\$29,397,700</b>	<b>\$16,776,200</b>	<b>\$46,173,900</b>

<b>DEBT SERVICE</b>			
	Water	Sewer	Total
Expansion Funds	\$327,000	\$128,000	\$455,000
Operation Funds	462,000	278,000	740,000
<b>Total</b>	<b>\$789,000</b>	<b>\$406,000</b>	<b>\$1,195,000</b>
	<b>Rate</b>	<b>Years</b>	
Bonds	5.50%	25	
Loan	4.38%	40	

The amount of bonds to be sold was based on the maximum amount of debt service the Water/Sewer Operations funds will generate by Fiscal 11/12. The 5.5% interest rate assumes a rating on the bonds to be aaa. The reason for this is that the rating agency will not give credit to one time funds such as connection fees. The debt service also assumed a 1 to 1 debt coverage ratio, currently the ratio is 1.25 to 1 coverage. The following is a schedule of projected revenue from Water/Sewer operation for new debt service:

	07/08	08/09	09/10	10/11	11/12
Water Debt Service	\$200,496	\$380,825	\$422,664	\$631,779	\$707,509
Sewer Debt Service	\$194,889	\$269,113	\$444,672	\$490,361	\$619,813
<b>Total Debt Service</b>	<b>\$395,385</b>	<b>\$649,938</b>	<b>\$867,336</b>	<b>\$1,122,140</b>	<b>\$1,327,322</b>



**FUNDING FOR CIP PROJECTS #13**

**Water and Sewer Capital Projects**

The projected Debt Service for the five years is interest only. The financing is based around the present bonds outstanding. The new bonds will pay interest only until the old bonds are retired, which is 2017. The following is a example of debt service for both issued

Date	Old Debt	New Debt	Total
2015	\$1,883,268	\$1,195,000	\$3,078,268
2016	\$1,883,440	\$1,195,000	\$3,078,440
2017	\$530,400	\$2,548,040	\$3,078,440
2018		\$3,078,440	\$3,078,440

The Bond process is very time consuming, generally taking up to several months. One of the first thing needed in issuance debt is selecting a FA (Financial Advisor) and Bond Counsel. Once you have selected a FA a decision can be made on what type of Bond Sale, Public sale or negotiated sale. The following show the services required to issue bonds and estimated cost associated with the services, based on a \$30 million Issue.

ESTIMATED BOND ISSUANCE COST OF \$30 MILLION		
Type		Amount
Financial Advisor	Flat Fee	\$45,000
Bond Counsel	Flat Fee	60,000
Disclosure Counsel	Flat Fee	25,000
Bond Insurance	Basis points of debt service	185,000
Credit Rating's	Flat Fee	6,000
Printer	Flat Fee	8,000
Total Cost		\$329,000

The following assumptions were used to develop the Capital Projects Program.

	07/08	08/09	09/10	10/11	11/12
Expenditure Inflation Rate		4.00%	4.00%	4.00%	4.00%
Connection Fees Inflation Rate		4.00%	4.00%	4.00%	4.00%
Interest Earnings Rate	4.00%	4.00%	4.00%	4.00%	4.00%

The following chart will be useful when using the charts starting on page 4. The Charts and graphs were developed to give the reader a better understanding on how the projects are to be funded and where the debt service is going to be paid from.

**FUNDING FOR CIP PROJECTS #13**

**Water and Sewer Capital Projects**

	Funded By Operations	Original Proposed Projects	Projects To Be Funded	From Grants/Land Sale/Building Fund	Connection Fees and Interest earnings	Debt To Be Paid Operation Funds	
Description	Opt Share	Proj. Cost 07/08-12/13	Funded Projects	Other Revenues	Expansion Fees	Operations Bonds	Total Bonds
Pond #6 Design	20.00%	\$5,399,000	\$313,300		\$250,300	63,000	63,000
Lift Station #22	25.00%	2,529,000	2,529,000		1,897,000	632,000	632,000
Pond #5 Diversion Ditch	20.00%	112,000	112,000		90,000	22,000	22,000
Other							
<b>Total Cost</b>	n/a	<b>\$13,291,400</b>	<b>\$8,205,700</b>		<b>\$5,508,700</b>	<b>\$888,000</b>	<b>\$2,697,000</b>

**SUMMARY:**

The District plans to issued \$21,814,500 of bonds and receive a loan of \$3,290,000 from United States Department of Agriculture (USDA). In calculating the amount of debt the District can issue only the revenue stream from the Water and Sewer operation was used. The revenue from the Expansion Funds were not used, due to the fact that the rating agency will not give credit on one time revenues such as connection fees. In order to receive the maximum amount of financing the District plans to use a wraparound financing, where interest only will be paid on the new bonds until the 2004 Series is paid off in 09/01/2017. After that both interest and principal will be paid on the new issue. With the debt financing and other sources of revenue the amount of capital projects to be completed is \$45,574,000. If the Expansion Funds pays their share of Debt Service, that will free up money in the Operations Funds and if connection fees increase over projections then other projects can be funded on a cash bases.

FUNDING FOR CIP PROJECTS #13  
8/2/08

**FUNDING FOR CIP PROJECTS #13**

**MISC WATER PROJECTS FUND 120**

Description	Funded Projects	Other Revenues	Expansion Fees	Operations Bonds	Expansion Bonds	Total Bonds
Pipeline RPL	3,400,000		140,000	1,870,000	1,390,000	3,260,000
CCWD Building 75%	4,840,000	2,025,000	240,000	1,408,000		2,575,000
County Water Resources Plan	100,000				100,000	100,000
Other						
<b>Total Cost</b>	<b>8,340,000</b>	<b>2,025,000</b>	<b>380,000</b>	<b>3,278,000</b>	<b>2,657,000</b>	<b>5,935,000</b>

	07/08	08/09	09/10	10/11	11/12	12/13
Ending Fund Balance	117,825	1,632,825	5,207,825	2,037,825	1,097,825	117,825

**WEST POINT WATER EXPANSION FUND 304**

Description	Funded Projects	Other Revenues	Expansion Fees	Operations Bonds+Loan	Expansion Bonds	Total Bonds
WPT Clearwell Replacement	1,700,000	900,000		800,000		800,000
Replacement Project	4,290,000	1,000,000		3,290,000		3,290,000
Moke River PS Improv.	198,000		198,000			
Other						
<b>Total Cost</b>	<b>6,188,000</b>	<b>1,900,000</b>	<b>198,000</b>	<b>4,090,000</b>		<b>4,090,000</b>

	07/08	08/09	09/10	10/11	11/12	12/13
Connection Revenues						
Total Debt Service Old						
Over/(Under) Connection Revenue						
Total Debt Service New			6,800	6,800	6,800	6,800
Over/(Under) Connection Revenue			(6,800)	(6,800)	(6,800)	(6,800)
Ending Fund Balance	789,727	(13,273)	1,954,927	618,127	631,327	654,527
New Connections						

Years Of Debt Svc-----> 96.25

FUNDING FOR CIP PROJECTS #13  
8/2/08

**FUNDING FOR CIP PROJECTS #13**

**EBBETTS PASS WATER FUND 354**

Description	Funded Projects	Other Revenues	Expansion Fees	Operations Bonds	Expansion Bonds	Total Bonds
Techite Replacement	728,000		73,000	655,000		655,000
Reach 1A Replacement Design	291,000		166,000	125,000		125,000
Sheep Ranch Conveyance Repair	162,000		162,000			
Hunters WTP Surge Tank	306,000		229,000	77,000		77,000
Meadowmont Tank & PSPredesign	256,000		256,000			
Hwy 4 Reg. Water Plan	25,000		25,000			
Other						
<b>Total Cost</b>	<b>1,768,000</b>		<b>911,000</b>	<b>857,000</b>		<b>857,000</b>

	07/08	08/09	09/10	10/11	11/12	12/13
Connection Revenues	154,200	160,350	222,400	289,000	360,600	375,000
Debt Service Old	570,400	567,700	567,700	566,800	568,600	569,600
Over/(Under) Connection Revenue	(416,200)	(407,350)	(345,300)	(277,800)	(208,000)	(194,600)
Total Debt Service New			70,500	70,500	70,500	70,500
Over/(Under) Connection Revenue	(416,200)	(407,350)	(415,800)	(348,300)	(278,500)	(265,100)
Ending Fund Balance	4,801,645	3,363,295	3,642,495	3,444,195	3,305,695	3,170,595
New Connections	15	15	20	25	30	30
				Years Of Debt Svc----->		11.96

**JENNY LIND WATER EXPANSION FUND 364**

Description	Funded Projects	Other Revenues	Expansion Fees	Operations Bonds	Expansion Bonds	Total Bonds
602 Tank RPL	595,000		595,000			
Zone 602	132,600		132,600			
Filter Add & Slige Dewatering	995,000		995,000			
Zone Hwy 26 Transm Line	522,100		522,100			
Lancha Plana Well Imp.	35,000		35,000			
Hwy 12/26 Regional Water Plan	50,000		50,000			
Water Master Plans Updates	75,000		75,000			
Bear River Res Study	60,000		60,000			
WTP Flood Protection	832,000	600,000		116,000	116,000	232,000
WTP Pre-Treatment	784,000				784,000	784,000
Land Purchase	695,000		250,000		445,000	445,000
West County Raw Water Study	324,000				324,000	324,000
North WTP Planning	108,000				108,000	108,000
Other						
<b>Total Cost</b>	<b>5,207,700</b>	<b>600,000</b>	<b>2,714,700</b>	<b>116,000</b>	<b>1,777,000</b>	<b>1,893,000</b>

	07/08	08/09	09/10	10/11	11/12	12/13
Connection Revenues	244,325	262,800	273,300	331,450	394,000	460,800
Debt Service Old	401,400	399,400	399,400	398,800	400,100	400,800
Over/(Under) Connection Revenue	(157,075)	(136,600)	(126,100)	(67,350)	(6,100)	60,000
Total Debt Service New			144,100	144,100	144,100	144,100
Over/(Under) Connection Revenue	(157,075)	(136,600)	(270,200)	(211,450)	(150,200)	(84,100)
Ending Fund Balance	374,472	5,872	1,196,672	231,222	91,022	6,922
New Connections	29	30	30	35	40	45
				Years Of Debt Svc----->		0.08

\* \$100,000 From 7 Mdg & new Pumo for 07/08

FUNDING FOR CIP PROJECTS #13  
8/2/08

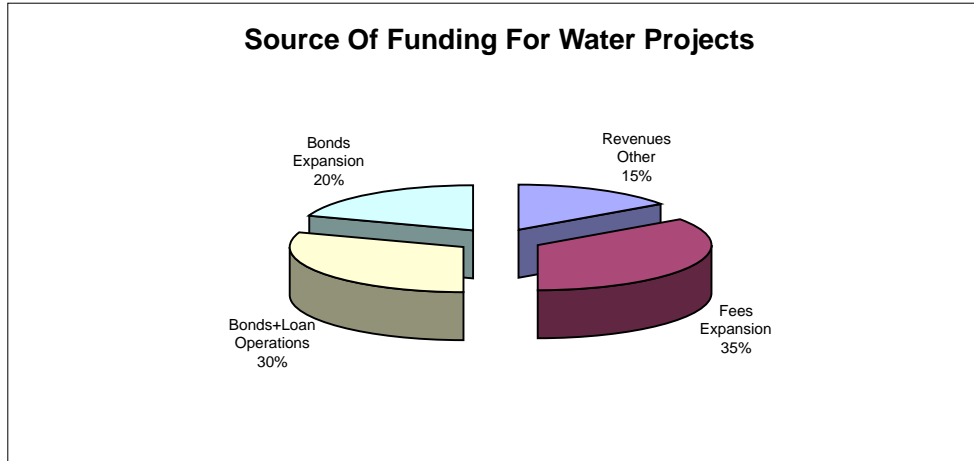
**FUNDING FOR CIP PROJECTS #13**

**COPPER COVE WATER EXPANSION FUND 374**

Description	Funded Projects	Other Revenues	Expansion Fees	Operations Bonds	Expansion Bonds	Total Bonds
PS Main To C Tank	5,544,000		5,000,000		544,000	544,000
Clearwell Expansion	960,000		240,000		720,000	720,000
C Tank Expansion/RPL	720,000		720,000			
Wtr Stg Tank & Main	595,000		45,000	550,000		550,000
CC Master Plan. & Model Update	75,000				75,000	75,000
Other						
<b>Total Cost</b>	<b>7,894,000</b>		<b>6,005,000</b>	<b>550,000</b>	<b>1,339,000</b>	<b>1,889,000</b>

	07/08	08/09	09/10	10/11	11/12	12/13
Connection Revenues	281,160	345,400	404,325	467,750	486,750	506,750
Debt Service Old	261,400	260,200	260,200	259,700	260,600	261,000
Over/(Under) Connection Revenue	19,760	85,200	144,125	208,050	226,150	245,750
Total Debt Service New			105,700	105,700	105,700	105,700
Over/(Under) Connection Revenue	19,760	85,200	38,425	102,350	120,450	140,050
Ending Fund Balance	1,003,297	(1,285,503)	(333,078)	(230,728)	(110,278)	29,772
New Connections	33	40	45	50	50	50
				Years Of Debt Svc----->		(0.21)

**FUNDING FOR CIP PROJECTS #13**



**SUMMARY OF FUNDING BY PROJECTS**

Description	Funded Projects	Other Revenues	Expansion Fees	Operations Bonds+Loan	Expansion Bonds	Total Bonds
Misc. Water Projects	8,340,000	2,025,000	380,000	3,278,000	2,657,000	5,935,000
West Point Water Expansion	6,188,000	1,900,000	198,000	4,090,000		4,090,000
Ebbetts Pass Water Expansion	1,768,000		911,000	857,000		857,000
Jenny Lind Water Expansion	5,207,700	600,000	2,714,700	116,000	1,777,000	1,893,000
Copper Cove Water Expansion	7,894,000		6,005,000	550,000	1,339,000	1,889,000
<b>Total Revenues/Expenditures</b>	<b>29,397,700</b>	<b>4,525,000</b>	<b>10,208,700</b>	<b>8,891,000</b>	<b>5,773,000</b>	<b>14,664,000</b>

FUNDING FOR CIP PROJECTS #13  
8/2/08

**FUNDING FOR CIP PROJECTS #13**

**MISC SEWER PROJECTS FUND 130**

Description	Funded Projects	Other Revenues	Expansion Fees	Operations Bonds	Expansion Bonds	Total Bonds
Pipeline RPL	1,900,000			1,900,000		1,900,000
RCW PT Exp. Plan	54,000		54,000			
CC RCW Master Plan	81,000		15,000		66,000	66,000
CCWD Building 25%	1,620,000	675,000	105,000	472,500	367,500	840,000
Other						
<b>Total Cost</b>	<b>3,655,000</b>	<b>675,000</b>	<b>174,000</b>	<b>2,372,500</b>	<b>433,500</b>	<b>2,806,000</b>

	07/08	08/09	09/10	10/11	11/12	12/13
Ending Fund Balance	471,387	886,387	2,617,387	1,397,387	947,387	477,387

**FOREST MEADOWS SEWER EXPANSION FUND 524**

Description	Funded Projects	Other Revenues	Expansion Fees	Operations Bonds	Expansion Bonds	Total Bonds
WWTP Compliance	75,000		75,000			
Discharge PS/ Pipeline Dis.-Only	504,000		438,500	65,500		65,500
LS 2 Improvements	82,000		82,000			
Other						
<b>Total Cost</b>	<b>661,000</b>		<b>595,500</b>	<b>65,500</b>		<b>65,500</b>

	07/08	08/09	09/10	10/11	11/12	12/13
Connection Revenues	18,760	48,800	71,050	105,600	109,800	114,200
Debt Service Old						
Over/(Under) Connection Revenue	18,760	48,800	71,050	105,600	109,800	114,200
Total Debt Service New			3,600	3,600	3,600	3,600
Over/(Under) Connection Revenue	18,760	48,800	67,450	102,000	106,200	110,600
	(104,052)	(159,252)	(26,302)	75,698	181,898	220,498
New Connections	2	5	7	10	10	10
				Years Of Debt Svc----->		(1.99)

**FUNDING FOR CIP PROJECTS #13**

**VALLECITO SEWER EXPANSION FUND 534**

Description	Funded Projects	Other Revenues	Expansion Fees	Operations Bonds	Expansion Bonds	Total Bonds
Hwy4 Regional Study	25,000		25,000			
Other						
<b>Total Cost</b>	<b>25,000</b>		<b>25,000</b>			

	07/08	08/09	09/10	10/11	11/12	12/13
Connection Revenues						
Debt Service Old						
Over/(Under) Connection Revenue						
Total Debt Service New			1,900	1,900	1,900	1,900
Over/(Under) Connection Revenue			(1,900)	(1,900)	(1,900)	(1,900)
Ending Fund Balance	1,012,316	1,052,316	1,090,416	1,128,516	1,176,616	1,224,716
New Connections						
				Years Of Debt Svc----->		644.59

**ARNOLD SEWER EXPANSION FUND 544**

Description	Funded Projects	Other Revenues	Expansion Fees	Operations Bonds	Expansion Bonds	Total Bonds
LS#1 RPL	6,000		6,000			
LS #2 Expansion	469,000		281,000	188,000		188,000
WWTP Improvements	986,000		246,000	740,000		740,000
Disposal Study	34,000		34,000			
Avery MS LS Pump RPL	480,000			480,000		480,000
Other						
<b>Total Cost</b>	<b>1,975,000</b>		<b>567,000</b>	<b>1,408,000</b>		<b>1,408,000</b>

	07/08	08/09	09/10	10/11	11/12	12/13
Connection Revenues	24,975	43,300	63,070	93,700	97,400	101,300
Debt Service Old						
Over/(Under) Connection Revenue	24,975	43,300	63,070	93,700	97,400	101,300
Total Debt Service New			3,600	3,600	3,600	3,600
Over/(Under) Connection Revenue	24,975	43,300	59,470	90,100	93,800	97,700
Ending Fund Balance	708,718	558,018	2,045,488	2,215,588	2,157,388	776,088
New Connections	3	5	7	10	10	10



**FUNDING FOR CIP PROJECTS #13**

**LA CONTENTA SEWER EXPANSION FUND 564**

Description	Funded Projects	Other Revenues	Expansion Fees	Operations Bonds	Expansion Bonds	Total Bonds
AD604 Construction Reimb.	126,500		126,500			
WWTP Phase 2 Schedule 1	1,779,000		1,779,000			
WWTP Phase 2 Schedule 2						
WWTP Discharge Permit	100,000		100,000			
Sewer Master Plan Update	75,000		75,000			
Huckleberry LS Improvements	174,000			174,000		174,000
Other						
<b>Total Cost</b>	<b>2,254,500</b>		<b>2,080,500</b>	<b>174,000</b>		<b>174,000</b>

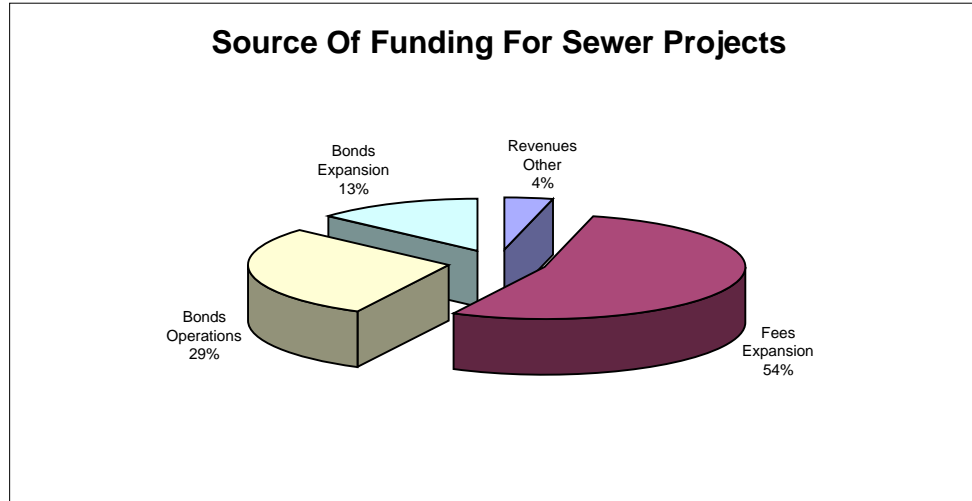
	07/08	08/09	09/10	10/11	11/12	12/13
Connection Revenues	100,190	150,700	205,090	257,080	312,800	372,700
Debt Service Old						
Over/(Under) Connection Revenue	100,190	150,700	205,090	257,080	312,800	372,700
Total Debt Service New			5,500	5,500	5,500	5,500
Over/(Under) Connection Revenue	100,190	150,700	199,590	251,580	307,300	367,200
Ending Fund Balance	1,079,354	844,054	1,247,644	1,549,224	1,742,524	2,179,724
New Connections	10	14	18	22	26	30

**COPPER COVE SEWER EXPANSION FUND 584**

Description	Funded Projects	Other Revenues	Expansion Fees	Operations Bonds	Expansion Bonds	Total Bonds
Lift Station RPL						
WWTP UV Cover	110,400		11,400	99,000		99,000
WWTP Exp. to 0.5 mgd	2,789,000		2,789,000			
Pond #6 Design	313,300		250,300	63,000		63,000
Lift Station #22	2,529,000		1,897,000	632,000		632,000
Pond #5 Diversion Ditch	112,000		90,000	22,000		22,000
Sewer Master Plan Update	143,000		71,000	72,000		72,000
LS #21 RPL	2,209,000		400,000		1,809,000	1,809,000
Other						
<b>Total Cost</b>	<b>8,205,700</b>		<b>5,508,700</b>	<b>888,000</b>	<b>1,809,000</b>	<b>2,697,000</b>

	07/08	08/09	09/10	10/11	11/12	12/13
Connection Revenues	277,440	315,700	375,200	439,200	456,750	475,200
Debt Service Old	53,300	53,000	53,000	52,900	53,100	52,900
Over/(Under) Connection Revenue	224,140	262,700	322,200	386,300	403,650	422,300
Total Debt Service New			112,400	112,400	112,400	112,400
Over/(Under) Connection Revenue	224,140	262,700	209,800	273,900	291,250	309,900
Ending Fund Balance	1,141,805	(1,639,495)	(757,695)	(595,795)	(304,545)	5,355
New Connections	32	35	40	45	45	45

**FUNDING FOR CIP PROJECTS #13**



**SUMMARY OF FUNDING FOR SEWER PROJECTS**

Description	Funded Projects	Other Revenues	Expansion Fees	Operations Bonds	Expansion Bonds	Total Bonds
Misc Sewer Project	3,655,000	675,000	174,000	2,372,500	433,500	2,806,000
Forest Meadows Sewer Expansion	661,000		595,500	65,500		65,500
Vallecito Sewer Expansion	25,000		25,000			
Arnold Sewer Expansion	1,975,000		567,000	1,408,000		1,408,000
La Contenta Sewer Expansion	2,254,500		2,080,500	174,000		174,000
Copper Cove Sewer Expansion	8,205,700		5,508,700	888,000	1,809,000	2,697,000
<b>Total Expenditures</b>	<b>16,776,200</b>	<b>675,000</b>	<b>8,950,700</b>	<b>4,908,000</b>	<b>2,242,500</b>	<b>7,150,500</b>

## Appendix B Glossary

**Acre-foot** – volume of water equal to 325,581 gallons.

**CEQA/NEPA** – California Environmental Quality Act / National Environmental Policy Act. Requires certain projects to evaluate project's impacts to the environment.

**CPUD** – Calaveras Public Utilities District.

**CIP** – Capital Improvements Plan. A document listing the proposed capital and planning projects.

**Debt service** – Obligation to pay the principal and interest of bonds and other debt instruments according to payment schedule.

**Debt coverage ratio** – Ratio of debt service to District revenue.

**FEMA** – Federal Emergency Management Agency.

**Wrap around bond** – A debt payment strategy in which initial payments only pay for interest portion of debt. Later in the payment schedule when existing debt is retired, payments cover both interest and principal payments in accordance with the payment schedule.

**Bond covenants** – Rules and restrictions applied to the bond purchase.

**MAC IRWMP** – Mokelumne, Amador, and Calaveras Integrated Regional Water Management Plan.

**NPDES** – Nation Pollution Discharge Elimination System. A permit required to discharge to the waters of the State.

**Title 22 Requirements** – State of California requirements for use of recycled water.