

Final
Water and Wastewater Municipal Service Review

Adopted June 18, 2012

Calaveras Agency Formation Commission



By Burr, Stephenson and Benoit

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACRONYMS

ADWF:	Average dry weather flow
af:	Acre-feet
afa:	Acre-feet per annum
BLSMWC:	Blue Lake Springs Mutual Water Company
BOE	California Board of Equalization
ccf:	Hundreds of cubic feet
CC&R	Covenants, Conditions and Restrictions
CCTV:	Closed circuit television
CCWD:	Calaveras County Water District
CEQA:	California Environmental Quality Act
cfs:	Cubic feet per second
CIP	Capital improvement program
CPUD:	Calaveras Public Utility District
CSD	Community Services District
CY:	Calendar year
DFG:	California Department of Fish and Game
DOF	California Department of Finance
DPH	California Department of Public Health
DWR:	California Department of Water Resources
EBMUD	East Bay Municipal Utility District
EPA:	U.S. Environmental Protection Agency
ERAF:	Educational Revenue Augmentation Fund
FEMA:	Federal Emergency Management Agency
FY:	Fiscal year
GIS:	Geographic Information Systems
gpd:	Gallons per day
gpm:	Gallons per minute
I/I	Infiltration and inflow
IRWMP:	Integrated Regional Water Management Plan
JPA:	Joint Powers Authority
LAFCO:	Local Agency Formation Commission
MCL:	Maximum Contaminant Level
mg:	Millions of gallons
mgd:	Millions of gallons per day
MHSD:	Mokelumne Hill Sanitary District
MSD:	Murphys Sanitary District
MSR:	Municipal services review
NA:	Not applicable
NP:	Not provided
NPDES:	National Pollutant Discharge Elimination System
OPR:	Governor's Office of Planning and Research
PWWF:	Peak wet weather flow
RWQCB:	Regional Water Quality Control Board
SASD:	San Andreas Sanitary District
SCADA:	Supervisory Control and Data Acquisition
SDWA:	Safe Drinking Water Act

SOI:	Sphere of influence
SR	State Route
SWRCB:	State Water Resources Control Board
TDS:	Total dissolvable solids
TMDL:	Total maximum daily load
UPUD:	Union Public Utility District
UPA:	Utica Power Authority
UWMP:	Urban Water Management Plan
VSPUD:	Valley Springs Public Utility District
WCSD:	Wallace Community Service District
WWTP:	Wastewater treatment plant
WTP:	Water treatment plant

PREFACE

Prepared for the Calaveras Local Agency Formation Commission (LAFCO), this report is a countywide water and wastewater municipal services review—a state-required comprehensive study of services within a designated geographic area. This MSR focuses on local agencies and other municipal service providers in Calaveras County that provide water or wastewater services.

CONTEXT

Calaveras LAFCO is required to prepare this MSR by the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Government Code §56000, et seq.), which took effect on January 1, 2001. The MSR reviews services provided by public agencies whose boundaries and governance are subject to LAFCO. Those agencies providing water and wastewater services in Calaveras County are the focus of this review. In order to provide comprehensive information on service provision, other service providers—private companies and public agencies which are not subject to LAFCO—are included in this MSR.

CAVEATS

This report includes analyses of municipal service delivery and policy options for the Commission to consider as it makes its determinations with respect to MSR and sphere of influence (SOI) updates. The decision whether or not to approve or disapprove any policy options, with or without amendments, wholly, partially or conditionally, rests entirely with the Commission. This report is not a substitute for those discretionary decisions yet to be made by the Commission.

The authors exercised their professional judgment in selecting the most reliable and recent available data sources, and gathering comparable data from the various providers. Data are rarely perfect. The authors endeavored to note consequential data flaws and inconsistencies.

Affected agencies were given an opportunity to preview and comment on the empirical portions of the report. A *Public Review Draft MSR* was then prepared, findings were presented by the authors at several LAFCO meetings in 2011, and comments from the public were then considered and appropriate revisions incorporated into the *Draft Final MSR* released in April 2012. Another round of comments were received on that version, and appropriate revisions incorporated in a *Public Hearing Draft MSR* considered by LAFCO in May and June 2012.

CREDITS

The authors extend their appreciation to those individuals at many agencies that provided planning and financial information and documents used in this report. The contributors are listed individually at the end of this report.

Calaveras LAFCO Executive Officer, John Benoit, provided project direction and review. Joel Rathje prepared maps and provided GIS analysis. This report was prepared by Beverly Burr and Jennifer Stephenson. Research assistance was provided by Alexander Hebert-Brown.

1. EXECUTIVE SUMMARY

This report is a countywide Municipal Service Review (MSR) report on water and wastewater services prepared for the Calaveras Local Agency Formation Commission (LAFCO). An MSR is a State-required comprehensive study of services within a designated geographic area, in this case, Calaveras County. The MSR requirement is codified in the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Government Code Section 56000 et seq.). After MSR findings are adopted, the Commission will begin the process of updating the spheres of influence (SOIs) of water and wastewater providers in Calaveras County. This report identifies and analyzes SOI options for the Commission's consideration.

SERVICE PROVIDERS

This report focuses on those cities and special districts that both provide water or wastewater services in Calaveras County and are under LAFCO jurisdiction, as shown in Table 1-1.

Table 1-1: Local Agencies Reviewed

Cities
City of Angels Camp
Water Districts
Calaveras County Water District (CCWD)
Public Utility Districts
Calaveras Public Utility District (CPUD)
Union Public Utility District (UPUD)
Valley Springs Public Utility District (VSPUD)
Sanitary Districts
Mokelumne Hill Sanitary District (MHSD)
Murphys Sanitary District (MSD)
San Andreas Sanitary District (SASD)
Community Services District
Wallace Community Services District (WCSD)
Municipal Utility District
East Bay Municipal Utility District (EBMUD)

After the completion of this review, LAFCO will update the spheres of influence of 9 of the 10 agencies reviewed. The City of Angels and Wallace Community Services District (WCSD) provide additional services besides water and wastewater. LAFCO adopted MSR determinations for the City's other services in 2009, and will prepare and adopt MSR determinations for WCSD's other services prior to updating its SOI. Alameda LAFCO has jurisdiction over East Bay Municipal Utility District (EBMUD).

This MSR also includes information on other governmental service providers, such as Utica Power Authority, and private providers, such as Blue Lake Springs Mutual Water Company, to the extent necessary to establish relationships, quantify services, and provide a comprehensive overview of water and wastewater services in Calaveras County.

GROWTH

There were approximately 45,870 residents (in 28,298 housing units) in Calaveras County in 2010. Since 2000, the number of residents grew by 13 percent in total, or 1.2 percent annually. Population growth during the housing boom years was faster than for the State as a whole, but growth in the County has lagged behind the State average during the housing bust and recession years. Building permit activity within the County peaked at over 800 new units annually in 2004 and 2005, and dropped precipitously thereafter. By 2010, permits were issued for less than 50 new units. Most of the providers continue to have relatively few new requests for water connections. CCWD and the City of Angels have had some new connections.

In spite of recent slow growth in the County and throughout the State, growth is expected to resume. Projections indicate that 9-10,000 new housing units will need water and wastewater connections over the next 20 years.

The majority of the new residents are expected to locate in the Copperopolis area where major planned and proposed development projects include Copper Valley Ranch, Sawmill Lake, Oak Canyon Ranch and Tuscany Hills. Other significant growth areas are Valley Springs, San Andreas, Murphys, and Vallecito.

Growth planning in the County emphasizes smart growth. The City of Angels General Plan envisions compact and orderly development. The upcoming County General Plan envisions growth being concentrated within and adjacent to existing water and wastewater service areas.

WATER

Service Levels

Each of the potable water providers is inspected annually by the State or County regulatory agency. All of the LAFCO-regulated providers were considered to be reasonably well-operated and maintained by the respective inspector. Nonetheless, some of the providers face occasional challenges in meeting drinking water standards. Specifically, CCWD and UPUD had several health violations for their water treatment standards in the last decade.

Most of the water providers engage in appropriate long-term capital planning and advanced growth planning. In the 2003 Water MSR, LAFCO required CPUD to initiate long-term capital planning. That effort paid off: CPUD prepared a master plan and has updated it recently. Now there is an additional agency that would benefit from a similar requirement in this MSR cycle. VSPUD does not conduct planning to address long-term capital needs or growth projections.

Infrastructure Needs

The most pressing infrastructure needs facing water service providers is that several providers are relying on groundwater wells that are located in overdrafted groundwater basins and/or are not producing adequate yields to provide water security to constituents. Specifically, VSPUD, Wallace CSD and Blue Lake Springs MWC rely on groundwater and need surface water.

There are untapped area-of-origin water rights on the Mokelumne River that would ideally be put to use in delivering surface water to VSPUD and Wallace CSD. CCWD has been discussing a solution for Wallace CSD involving conveyance from EBMUD facilities. CPUD has existing facilities that could potentially be extended to bring Mokelumne water to the Valley Springs area. LAFCO may wish to encourage the affected providers in the western portion of the County to discuss regional collaboration opportunities.

Financing

The water service providers rely to differing degrees on property taxes, water rates, and other sources for revenues. CCWD and VSPUD benefit favorably from property taxes, receiving 15 and 10 percent of operating revenues from this source. By comparison, the other providers receive 7-9 percent of revenues from taxes. The City of Angels is unique in that its property tax revenues support its general fund, and none of these revenues support the water and wastewater enterprises. CPUD and EBMUD benefit from other revenue sources: hydroelectric power sales and interest. The City of Angels and WCSD rely most heavily on rates.

Water rates charged by the median provider were $41 monthly for residences in 2011. The City of Angels' and WCSD rates are highest at $45 and $47 respectively, and CPUD charges the lowest rates at $29 monthly. Most of the providers regularly update rates to ensure adequate financing for operating costs and appropriate service levels. VSPUD has not raised rates in several years but has revised its tier schedule annually, and its rates are comparable to the median. CPUD should re-examine its rates and connection fees to ensure that financing is sufficient to provide adequate service levels.

Notably, CPUD has relatively low operational spending levels, and a low rate of capital reinvestment. As expected, several of the agencies—CCWD and VSPUD—have drawn down their undesignated reserves to weather the recession.

Sufficient financing of capital investments is a concern, particularly during the recession, for the water providers in the County. EBMUD and VSPUD were the only providers to spend more on capital investments than they consumed due to regular wear and tear. The City of Angels spent nearly as much on capital outlays as it lost in depreciation. By deferring maintenance on capital infrastructure, the other providers will face aging systems with substantial financing needs in the future.

Accountability

Angels, CCWD, CPUD, EBMUD, VSPUD, and WCSD demonstrated accountability based on the measures of contested elections, constituent outreach efforts, and disclosure practices. UPUD faces accountability and management challenges due to a lack of constituent outreach activities, including lack of a website.

It is recommended that UPUD create and maintain a website to improve transparency and inform the public. While CPUD hosts a website, it lacks key documents such as a budget and rates.

Governance Alternatives

The report identifies and describes a number of policy options for the Commission to consider as it updates the spheres of influence of the affected districts, including the following, among others:

- Annexation of adjacent growth areas is an option for a number of providers.
- Annexation of extraterritorial service areas is an option that would promote logical boundaries and equity. Most of the providers provide service to some connections outside of their boundaries. This practice is most extensive at CCWD's operation in Ebbetts Pass where CCWD sells treated water to three private service providers, all of which are struggling financially and/or operationally.
- The City of Angels intends to eventually annex territory within UPUD bounds west of Carson Hill. Detachment of that area from UPUD and annexation to the City is an option.
- Clearly delineated planned service areas for CCWD, defined by a meaningful limited service sphere, is an option to communicate to nearby districts and county planners where CCWD shall provide future service, particularly in high growth areas. In the last MSR cycle, the CCWD water sphere mistakenly included territory in other service providers' boundaries.
- The southern boundary of VSPUD abuts CCWD's Jenny Lind service area, and the northern boundary of UPUD abuts CCWD's Ebbetts Pass service area. LAFCO may wish to consider clarifying which agency will serve future growth in these abutting areas.

- Smaller agencies often struggle with the costs of meeting regulatory requirements and a lack of economies of scale. Several small providers—WCSD and two mutual water companies—already receive some water and operational services from CCWD. They may benefit from ceasing water operations and formally annexing into CCWD water service areas.
- There has been a significant degree of turnover in management at the various service providers during the course of the MSR process. This offers new opportunities for regional collaboration and overcoming old conflicts. LAFCO may wish to help facilitate efforts toward collaboration by re-establishing its Water/Wastewater Committee to further the dialog among the providers.

WASTEWATER

Service Levels

Regulatory compliance is a particular challenge for wastewater providers. Angels, EBMUD, CCWD, SASD, VSPUD, and WCSD could all improve upon their regulatory compliance efforts. Although, no agencies are presently operating under an active cease and desist order, several agencies have been issued significant enforcement actions over the last five years. EBMUD and WCSD have historically had a high rate of violations, but have had no formal enforcement actions issued by RWQCB in the 2006-10 period. While Angels and CCWD have had low rates of violations, RWQCB issued a Notice of Violation to the City and a Clean-up and Abatement Order to CCWD. VSPUD and SASD also received some form of enforcement action in the 2006-10 period.

Angels, CCWD, EBMUD, and WCSD are considered well-managed and generally follow best management practices. SASD, VSPUD, MSD, and MHSD could improve upon a few best management practices, in particular capital improvement planning and advanced growth planning. These providers should initiate or improve upon existing capital improvement planning and advanced growth planning to more adequately plan for future growth and minimize deferred maintenance. A capital improvement plan should generally include anticipated timing for proposed projects. Updates should be made annually to capital plans based on actual outcomes and adjusting for any changes in available financing and anticipated growth. Capital improvement plans should also adequately plan for a level of capital reinvestment that replaces depreciated capital.

Inter-agency collaboration efforts could be improved through enhanced communication skills, as well as impartial education efforts, such as this report, to enhance understanding and trust among the stakeholders. LAFCO may wish to consider offering facilitation services and training to improve inter-personal communications among the agencies.

Infrastructure Needs

A majority of the systems have sufficient capacity to serve existing and anticipated near-term growth. Systems that are at or approaching maximum capacity are CCWD's La Contenta, Country Houses and Sequoia Woods systems. Although VSPUD is presently operating within capacity, the District is challenged by a shortfall of land area for disposal, which will limit the system's long-term growth potential. Based on anticipated growth in the area, VSPUD will need to address this issue within the next 5 to 10 years. All other wastewater providers are using less than 85 percent of their systems' capacity, and can serve anticipated growth for at least the next 10 years.

Due to regulatory compliance concerns, there have been significant investments in wastewater infrastructure among the various providers over the past two years, and there are additional projects that are underway. These projects have/will enable three providers (SASD, Angels Camp, and

CCWD Douglas Flat) to begin treating at tertiary levels, and are intended to bring the providers into compliance with State permit requirements.

Many of the District's face infiltration and inflow challenges with related infrastructure needs to replace old collection mains. The Angels, EBMUD, MSD, SASD, and CCWD's La Contenta and Forest Meadows systems all have peaking factors over three, indicating moderate to high infiltration and inflow. In particular, SASD has had peak flows that were 12 times the ADWF. The District has replaced a portion of the main and reduced the infiltration and inflow rate, but there are still sections that are in need of replacement. Many of the districts have recently or are planning to purchase CCTV equipment to inspect the entire system and prioritize necessary improvements. It is recommended that all districts implement a regular replacement schedule to manage the aging collection systems and mitigate infiltration and inflow.

Financing

Wastewater rates charged by the median provider were $65.54 monthly for residences in 2011. Most of the providers regularly update rates to ensure adequate financing for operating costs and appropriate service levels. MHSD and VSPUD have not updated rates in several years, and have lower rates than the other providers. MHSD and VSPUD should re-examine their rates to ensure that financing is sufficient to provide adequate service levels. MHSD is presently considering a rate increase.

Notably, MHSD has relatively low operational spending levels, and a low rate of capital reinvestment. CCWD had relatively low financial reserves. As expected, several of the agencies—CCWD and WCSD—have drawn down their reserves to weather the recession.

Sufficient financing of capital investments is a concern for the wastewater providers in the County. VSPUD and MSD spend substantially less on capital investments than they consumed due to regular wear and tear. By deferring maintenance on capital infrastructure, these districts will face aging systems with substantial financing needs in the future. The other districts have healthier rates of capital reinvestment.

Accountability

Angels, CCWD, EBMUD, SASD, VSPUD, and WCSD demonstrated accountability based on the measures of contested elections, constituent outreach efforts, and disclosure practices. MHSD and MSD face accountability and management challenges due to a lack of constituent interest in governing body activities as indicated by a lack of contested elections and board involvement, a lack of constituent outreach activities, including lack of a website, and a failure to disclose information in a timely manner. These constraints to district accountability were in part due to staffing and board limitations. In particular, while it appears that more recently, MSD has been able to maintain a full staff and board, MSD staff and board turnover has challenged the professionalism of the agency by impeding transparency, in the past.

It is recommended that MHSD, SASD and MSD create and maintain websites to improve transparency and inform the public. .

Governance Alternatives

The report identifies and describes a number of policy options for the Commission to consider as it updates the spheres of influence of the affected districts, including the following, among others:

- Annexation of extraterritorial service areas is an option that would promote logical boundaries. Providers that are providing service outside of their boundaries include MSD and SASD.

- Clearly delineated planned service areas for CCWD, defined by a meaningful limited service sphere, is an option to communicate to nearby districts and county planners where CCWD shall provide future service, particularly in high growth areas. In the last MSR cycle, the CCWD wastewater sphere mistakenly included territory within other service providers' boundaries.
- The southern boundary of VSPUD abuts CCWD's La Contenta service area. It is recommended that LAFCO clarify future service areas for these agencies.
- Contracting for services or consolidation with another agency are options to address staffing and accountability challenges at MHSD and MSD.

SOI OPTIONS

This report identifies alternatives for LAFCO to consider as it updates the spheres of influence (SOIs) of the water and wastewater districts. An SOI is a LAFCO-approved plan that designates an agency's probable future boundary and service area. The SOI essentially defines where and what types of government reorganizations, such as annexation, detachment, dissolution or consolidation, may be initiated. The governing bodies of local agencies and voters may initiate reorganizations so long as they are consistent with the SOIs. An SOI change neither initiates nor approves a government reorganization. If and when a government reorganization is initiated, there are procedural steps required by law, including a protest hearing and/or election by which voters may choose to approve or disapprove a reorganization.

Agency	Existing SOI	SOI Options
City of Angels	Annexable SOI	The City of Angels SOI update was adopted by LAFCO in December 2011.
CCWD	Nearly Countywide SOI	1. Update both Domestic Water and Wastewater SOIs to exclude territory within other service providers' bounds 2. Update SOIs to exclude territory outside Community Plan Areas 3. Include within SOIs planned growth areas logically served by CCWD 4. Include Wallace CSD in CCWD SOIs 5. Include Mokelumne Hill and/or Murphys Sanitary Districts in CCWD Wastewater SOI 6. Include CCWD-served private water companies in Ebbetts Pass area
CPUD	Annexable SOI	1. Retain Existing Annexable SOI 2. Wastewater SOI to signal desirability of consolidation with MHSD
MHSD	Coterminous SOI	1. Provisional Coterminous SOI 2. Zero SOI 3. Retain Coterminous SOI
MSD	Coterminous SOI	1. Provisional Coterminous SOI 2. Zero SOI 3. Retain Coterminous SOI 4. SOI Expansion - Prospective developments and extra-territorial service area
SASD	Coterminous SOI	1. SOI Expansion - Prospective developments and extra-territorial service area 2. Retain Coterminous SOI
UPUD	Coterminous SOI	1. Provisional SOI Expansion - Require planning then add growth areas 2. Detachable SOI - Coterminous except Angels SOI overlap area 3. Zero SOI 4. Wastewater SOI to signal desirability of consolidation with MSD
VSPUD	Annexable SOI	1. SOI Reduction - Community plan high-density land use designations 2. SOI Expansion and Reduction - Add extra-territorial service area and remove prospective development overlapped by CCWD 3. Retain Existing Annexable SOI
WCSD	Annexable SOI	1. Limited Service SOI 2. Detachable SOI - Territory of undeveloped portion within boundaries 3. Coterminous SOI 4. SOI Reduction - Territory with prospective developments only

2. LAFCO AND MUNICIPAL SERVICES REVIEWS

This report is prepared pursuant to legislation enacted in 2000 that requires LAFCO to conduct a comprehensive review of municipal service delivery and update the spheres of influence (SOIs) of all agencies under LAFCO's jurisdiction. This chapter provides an overview of LAFCO's history, powers and responsibilities. It discusses the origins and legal requirements for preparation of the municipal services review (MSR), and outlines the process for MSR approval. Finally, the chapter discusses SOI updates.

LAFCO OVERVIEW

After World War II, California experienced dramatic growth in population and economic development. With this boom came a demand for housing, jobs and public services. To accommodate this demand, many new local government agencies were formed, often with little forethought as to the ultimate governance structures in a given region, and existing agencies often competed for expansion areas. The lack of coordination and adequate planning led to a multitude of overlapping, inefficient jurisdictional and service boundaries, and the premature conversion of California's agricultural and open-space lands.

Recognizing this problem, in 1959, Governor Edmund G. Brown, Sr. appointed the Commission on Metropolitan Area Problems. The Commission's charge was to study and make recommendations on the "misuse of land resources" and the growing complexity of local governmental jurisdictions. The Commission's recommendations on local governmental reorganization were introduced in the Legislature in 1963, resulting in the creation of a Local Agency Formation Commission, or "LAFCO," operating in every county except San Francisco.

Calaveras LAFCO was formed as a countywide agency to discourage urban sprawl and encourage the orderly formation and development of local government agencies. LAFCO is responsible for coordinating logical and timely changes in local governmental boundaries, including annexations and detachments of territory, incorporations of cities, formations of special districts, and consolidations, mergers and dissolutions of districts, as well as reviewing ways to reorganize, simplify, and streamline governmental structure. The Commission's efforts are focused on ensuring that services are provided efficiently and economically while agricultural and open-space lands are protected. To better inform itself and the community as it seeks to exercise its charge, LAFCO conducts service reviews to evaluate the provision of municipal services within the County.

LAFCO regulates, through approval, denial, conditions and modification, boundary changes proposed by public agencies or individuals. It also regulates the extension of public services by cities and special districts outside their boundaries. LAFCO is empowered to initiate updates to the SOIs and proposals involving the dissolution or consolidation of special districts, mergers, establishment of subsidiary districts, and any reorganization including such actions. Otherwise, LAFCO actions must originate as petitions or resolutions from affected voters, landowners, cities or districts.

LAFCO cannot regulate land use, dictate internal operations or administration of any local agency, or set rates. LAFCO is empowered to enact policies that indirectly affect land use decisions. On a regional level, LAFCO promotes logical and orderly development of communities as it considers and decides individual proposals. LAFCO has a role in reconciling differences between

agency plans so that the most efficient urban service arrangements are created for the benefit of current and future area residents and property owners.

Calaveras LAFCO consists of seven regular members: two members from the Calaveras County Board of Supervisors, two Angels Camp city council members, two independent special district representatives, and one public member who is appointed by the other members of the Commission. There is an alternate in each category. All Commissioners are appointed to four-year terms and serve at the pleasure of the respective appointing authority.

Table 2-1: Commission Members, 2011

Appointing Agency	Members	Alternate Members
Two members from the Board of Supervisors appointed by the Board of Supervisors.	Tom Tryon, Chair Darren Spellman	Merita Callaway
Two members representing the cities in the county. Must be a city officer and appointed by the City Selection Committee.	Jack Lynch Stuart Raggio	Jack Boeding
Two member representing the special districts in the County. Must be a district governing body member and appointed by the independent special district selection committee.	Tony Tyrrell John Lavaroni	Ray Behrbaum
One member from the general public appointed by the other four Commissioners.	Anita Paque, Vice Chair	Paul Stein

MUNICIPAL SERVICES REVIEW ORIGINS

The MSR requirement was enacted by the Legislature months after the release of two studies recommending that LAFCOs conduct reviews of local agencies. The "Little Hoover Commission" focused on the need for oversight and consolidation of special districts, whereas the "Commission on Local Governance for the 21st Century" focused on the need for regional planning to ensure adequate and efficient local governmental services as the California population continues to grow.

Little Hoover Commission

In May 2000, the Little Hoover Commission released a report entitled *Special Districts: Relics of the Past or Resources for the Future?* This report focused on governance and financial challenges among independent special districts, and the barriers to LAFCO's pursuit of district consolidation and dissolution. The report raised the concern that "the underlying patchwork of special district governments has become unnecessarily redundant, inefficient and unaccountable."

In particular, the report raised concern about a lack of visibility and accountability among some independent special districts. The report indicated that many special districts hold excessive reserve funds and some receive questionable property tax revenue. The report expressed concern about the lack of financial oversight of the districts. It asserted that financial reporting by special districts is inadequate, that districts are not required to submit financial information to local elected officials, and concluded that district financial information is "largely meaningless as a tool to evaluate the

effectiveness and efficiency of services provided by districts, or to make comparisons with neighboring districts or services provided through a city or county."[1]

The report questioned the accountability and relevance of certain special districts with uncontested elections and without adequate notice of public meetings. In addition to concerns about the accountability and visibility of special districts, the report raised concerns about special districts with outdated boundaries and outdated missions. The report questioned the public benefit provided by health care districts that have sold, leased or closed their hospitals, and asserted that LAFCOs consistently fail to examine whether they should be eliminated. The report pointed to service improvements and cost reductions associated with special district consolidations, but asserted that LAFCOs have generally failed to pursue special district reorganizations.

The report called on the Legislature to increase the oversight of special districts by mandating that LAFCOs identify service duplications and study reorganization alternatives when service duplications are identified, when a district appears insolvent, when district reserves are excessive, when rate inequities surface, when a district's mission changes, when a new city incorporates and when service levels are unsatisfactory. To accomplish this, the report recommended that the State strengthen the independence and funding of LAFCOs, require districts to report to their respective LAFCO, and require LAFCOs to study service duplications.

Commission on Local Governance for the 21st Century

The Legislature formed the Commission on Local Governance for the 21st Century ("21st Century Commission") in 1997 to review statutes on the policies, criteria, procedures and precedents for city, county and special district boundary changes. After conducting extensive research and holding 25 days of public hearings throughout the State at which it heard from over 160 organizations and individuals, the 21st Century Commission released its final report, *Growth Within Bounds: Planning California Governance for the 21st Century*, in January 2000.[2] The report examines the way that government is organized and operates and establishes a vision of how the State will grow by "making better use of the often invisible LAFCOs in each county."

The report points to the expectation that California's population will double over the first four decades of the 21st Century, and raises concern that our government institutions were designed when our population was much smaller and our society was less complex. The report warns that without a strategy open spaces will be swallowed up, expensive freeway extensions will be needed, job centers will become farther removed from housing, and this will lead to longer commutes, increased pollution and more stressful lives. *Growth Within Bounds* acknowledges that local governments face unprecedented challenges in their ability to finance service delivery since voters cut property tax revenues in 1978 and the Legislature shifted property tax revenues from local government to schools in 1993. The report asserts that these financial strains have created governmental entrepreneurism in which agencies compete for sales tax revenue and market share.

The 21st Century Commission recommended that effective, efficient and easily understandable government be encouraged. In accomplishing this, the 21st Century Commission recommended consolidation of small, inefficient or overlapping providers, transparency of municipal service delivery to the people, and accountability of municipal service providers. The sheer number of special districts, the report asserts, "has provoked controversy, including several legislative attempts

[1] Little Hoover Commission, *Special Districts: Relics of the Past or Resources for the Future?*, 2000, page 24.

[2] The Commission on Local Governance for the 21st Century ceased to exist on July 1, 2000, pursuant to a statutory sunset provision.

to initiate district consolidations,"[3] but cautions LAFCOs that decisions to consolidate districts should focus on the adequacy of services, not on the number of districts.

Growth Within Bounds stated that LAFCOs cannot achieve their fundamental purposes without a comprehensive knowledge of the services available within its county, the current efficiency of providing service within various areas of the county, future needs for each service, and expansion capacity of each service provider. Comprehensive knowledge of water and sanitary providers, the report argued, would promote consolidations of water and sanitary districts, reduce water costs and promote a more comprehensive approach to the use of water resources. Further, the report asserted that many LAFCOs lack such knowledge and should be required to conduct such a review to ensure that municipal services are logically extended to meet California's future growth and development.

MSRs would require LAFCO to look broadly at all agencies within a geographic region that provide a particular municipal service and to examine consolidation or reorganization of service providers. The 21st Century Commission recommended that the review include water, wastewater, and other municipal services that LAFCO judges to be important to future growth. The Commission recommended that the service review be followed by consolidation studies and be performed in conjunction with updates of SOIs. The recommendation was that service reviews be designed to make nine determinations, each of which was incorporated verbatim in the subsequently adopted legislation. The legislature since consolidated the determinations into five required findings and one optional finding as required by Commission policy.

MUNICIPAL SERVICES REVIEW LEGISLATION

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 requires LAFCO review and update SOIs not less than every five years and to review municipal services before updating SOIs. The requirement for service reviews arises from the identified need for a more coordinated and efficient public service structure to support California's anticipated growth. The service review provides LAFCO with a tool to study existing and future public service conditions comprehensively and to evaluate organizational options for accommodating growth, preventing urban sprawl, and ensuring that critical services are provided efficiently.

Government Code §56430 requires LAFCO to conduct a review of municipal services provided in the county by region, sub-region or other designated geographic area, as appropriate, for the service or services to be reviewed, and prepare a written statement of determination with respect to each of the following topics:

- Growth and population projections for the affected area;
- Present and planned capacity of public facilities and adequacy of public services, including infrastructure needs or deficiencies;
- Financial ability of agencies to provide services;
- Status of, and opportunities for shared facilities;
- Accountability for community service needs, including governmental structure and operational efficiencies; and

[3] Commission on Local Governance for the 21st Century, *Growth Within Bounds: Planning California Governance for the 21st Century*, 2000, page 70.

- Any other matter related to effective or efficient service delivery, as required by commission policy.

MUNICIPAL SERVICES REVIEW PROCESS

For local agencies, the Calaveras LAFCO MSR process involves the following steps:

- Outreach: LAFCO outreach and explanation of the project,
- Data Discovery: provide documents and respond to LAFCO questions,
- Map Review: review and comment on LAFCO draft map of the agency's boundary and sphere of influence,
- Profile Review: internal review and comment on empirical portion of the LAFCO draft profile of the agency,
- Public Review Draft MSR: review and comment on LAFCO draft MSR, and
- LAFCO Hearing: attend and provide public comments on MSR

The MSR process does not require LAFCO to initiate changes of organization based on service review findings, only that LAFCO identify potential government structure options. However, LAFCO, other local agencies, and the public may subsequently use the determinations to analyze prospective changes of organization or reorganization or to establish or amend SOIs. Within its legal authorization, LAFCO may act with respect to a recommended change of organization or reorganization on its own initiative (e.g., certain types of consolidations), or in response to a proposal (i.e., initiated by resolution or petition by landowners or registered voters).

MSRs are exempt from California Environmental Quality Act (CEQA) pursuant to §15262 (feasibility or planning studies) or §15306 (information collection) of the CEQA Guidelines. LAFCO's actions to adopt MSR determinations are not considered "projects" subject to CEQA.

Once the LAFCO Commission has adopted the MSR determinations, LAFCO then begins the process of updating the spheres of influence for the affected local agencies.

SPHERE OF INFLUENCE UPDATES

An SOI is a LAFCO-approved plan that designates an agency's probable future boundary and service area. Spheres are planning tools used to provide guidance for individual boundary change proposals and are intended to encourage efficient provision of organized community services, discourage urban sprawl and premature conversion of agricultural and open space lands, and prevent overlapping jurisdictions and duplication of services.

Every determination made by a commission must be consistent with the SOIs of local agencies affected by that determination,[4] for example, territory may not be annexed to a city or district unless it is within that agency's sphere. In other words, the SOI essentially defines where and what types of government reorganizations (e.g., annexation, detachment, dissolution and consolidation) may be initiated. If and when a government reorganization is initiated, there are a number of procedural steps that must be conducted for a reorganization to be approved. Such steps include more in-

[4] Government Code §56375.5.

depth analysis, LAFCO consideration at a noticed public hearing, and processes by which affected agencies and/or residents may voice their approval or disapproval.

SOIs should discourage duplication of services by local governmental agencies, guide the Commission's consideration of individual proposals for changes of organization, and identify the need for specific reorganization studies, and provide the basis for recommendations to particular agencies for government reorganizations.

The Cortese-Knox-Hertzberg Act requires LAFCO to develop and determine the SOI of each local governmental agency within the county and to review and update the SOI every five years. LAFCOs are empowered to adopt, update and amend the SOI. They may do so with or without an application and any interested person may submit an application proposing an SOI amendment.

In addition to requirements in State law, SOIs are governed by local LAFCO policies.[5] It is Calaveras LAFCO's policy that SOIs generally will not be amended concurrently with an action on the related change of organization or reorganization. Calaveras LAFCO requires that territory included in an agency's SOI is likely to require the agency's services within a 20-year period, and that the agency is expected to have the capacity to serve the area at the appropriate level. For special districts providing multiple services, Calaveras LAFCO establishes SOI boundaries for each function or class of services, and the SOI boundaries may or may not be coterminous with each other.

LAFCO may recommend government reorganizations to particular agencies in the county, using the SOIs as the basis for those recommendations. Based on review of the guidelines and practices of Calaveras LAFCO as well as other LAFCOs in the State, various conceptual approaches have been identified from which to choose in designating an SOI:

1) **Coterminous Sphere**: The sphere for a city or special district that is the same as its existing boundaries.

2) **Annexable Sphere**: A sphere larger than the agency's boundaries identifies areas the agency is expected to annex. The annexable area is outside its boundaries and inside the sphere.

3) **Detachable Sphere**: A sphere that is smaller than the agency's boundaries identifies areas the agency is expected to detach. The detachable area is the area within the agency bounds but not within its sphere.

4) **Zero Sphere**: A zero sphere indicates the affected agency's public service functions should be reassigned to another agency and the agency should be dissolved or combined with one or more other agencies.

5) **Consolidated Sphere**: A consolidated sphere includes two or more local agencies and indicates the agencies should be consolidated into one agency.

6) **Provisional Sphere**: LAFCO may designate a provisional sphere that automatically sunsets if certain conditions occur. Provisional spheres are intended to elicit progress toward public policy objectives, such as appropriate service levels, financial sustainability or accountability.

In updating the SOI, LAFCO is required to conduct an MSR and adopt related determinations. In addition, in adopting or amending an SOI, LAFCO must make the following determinations:

- Present and planned land uses in the area, including agricultural and open-space lands;

[5] Local Agency Formation Commission of Calaveras County, *Policies, Standards and Procedures*, adopted August 17, 2009.

- Present and probable need for public facilities and services in the area;
- Present capacity of public facilities and adequacy of public service that the agency provides or is authorized to provide; and
- Existence of any social or economic communities of interest in the area if the Commission determines these are relevant to the agency.

The CKH Act stipulates several procedural requirements in updating SOIs. It requires that special districts file written statements on the class of services provided and that LAFCO clearly establish the location, nature and extent of services provided by special districts. Accordingly, each local agency's class of services provided is documented in this MSR. The MSR described the nature, location, and extent of functions or classes of services provided by existing districts, which is a procedural requirement for LAFCO to complete when updating SOIs.

SOI UPDATE PROCESS

This report outlines SOI options. LAFCO staff will proceed to update SOIs for the affected agencies in the months following adoption of the written MSR determinations.

LAFCOs are empowered to adopt, update and amend the SOI. They may do so with or without an application and any interested person may submit an application proposing an SOI amendment.

The CKH Act stipulates several procedural requirements in updating SOIs. In determining the SOI, LAFCO is required to complete an MSR and adopt the MSR determinations previously discussed. It requires that special districts file written statements on the class of services provided and that LAFCO clearly establish the location, nature and extent of services provided by special districts.

By statute, LAFCO must notify affected agencies 21 days before holding the public hearing to consider the SOI and may not update the SOI until after that hearing. The LAFCO Executive Officer must issue a report including recommendations on the SOI amendments and updates under consideration at least five days before the public hearing.

A CEQA determination is made by LAFCO on a case-by-case basis for each sphere of influence action and each change of organization, once the proposed project characteristics are sufficiently identified to assess environmental impacts.

3. GROWTH

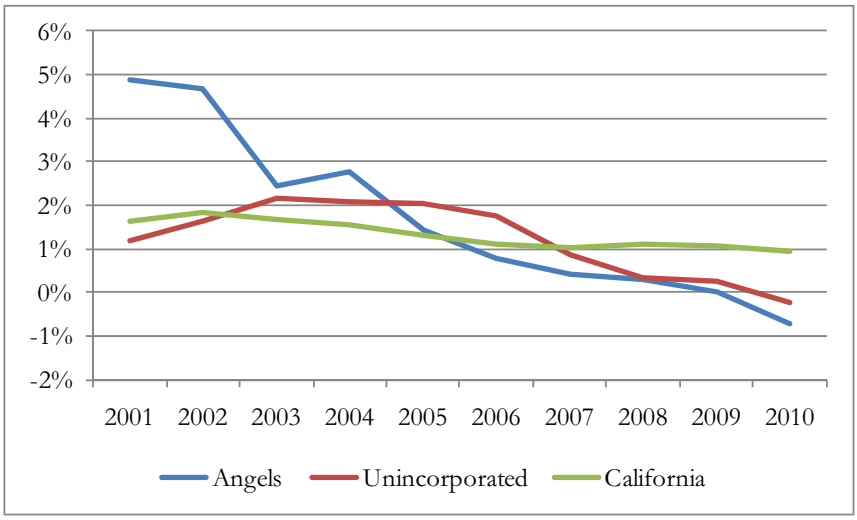
This chapter provides an overview of Calaveras County, recent growth and projected future growth. For overviews of each local agency, please refer to the agency-specific chapters of this report.

Calaveras County is located in the foothills of the Sierra Nevada mountain range, in the heart of the gold country. The County spans 1,028 square miles, extending from San Joaquin County in the west to Alpine County in the east, Toulumne County in the south and Amador County in the north. Residential areas are scattered throughout the County but concentrated primarily along the SR 4 and SR 49 corridors in the City of Angels, and the unincorporated communities of Copperopolis, Murphys, Arnold, San Andreas, and Valley Springs.

RECENT GROWTH

HISTORICAL GROWTH

Figure 3-1: Population Growth Rates in Calaveras County and California



There were 40,554 residents in Calaveras County, as of the 2000 Census. The population in the unincorporated communities was 37,550, composing 93 percent of the County population.

Since the 2000 Census, the countywide population has grown by 13 percent, from 40,554 to 45,870 at the beginning of 2010. The population in the unincorporated communities increased from 37,550 to 42,321 over this time period. The population in the City of Angels increased from 3,004 in 2000 to 3,549 in 2010, an increase of 18 percent. Annually, the entire County averaged 1.2 percent population growth.

The population growth rate in Calaveras County has declined to below the statewide growth rate in recent years, as shown in Figure 3-1. Unincorporated population growth peaked in 2003 at 2.1 percent, but has declined to a point where the County experienced negative growth of 0.2 percent between 2009 and 2010.

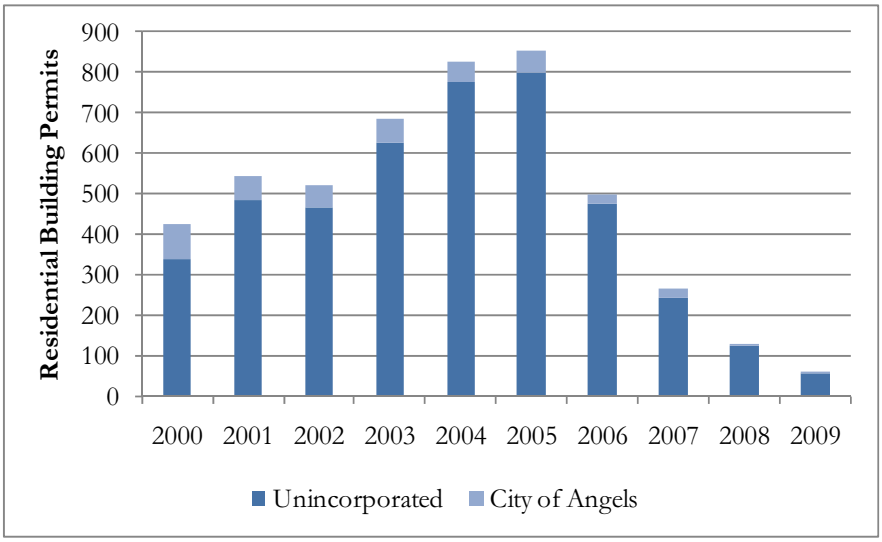
Population growth within the City of Angels was higher than the county and statewide growth until 2005. Similar to the unincorporated areas in the County, the City experienced a negative growth rate of 0.7 percent between 2009 and 2010.

Calaveras County's population density is 45 residents per square mile, including both incorporated and unincorporated areas. There were approximately 2.2 persons per household countywide in 2010.[6]

HISTORICAL DEVELOPMENT

Residential Development

Figure 3-2: New Residential Building Permits



The number of new residential permits issued in Calaveras County peaked in 2005 at 856 and has since declined to 58 in 2009, as shown in Figure 3-2.

Between 2000 and 2009, the City of Angels issued nine percent of the building permits approved in the County. Similar to the County, the number of permits issued by the City has drastically declined over the last 10 years, from 89 permits in 2000 to two permits issued in 2009.

[6] Countywide population density and persons per household are based on the 2009 population reported by the Department of Finance.

PROJECTED GROWTH

PLANNED & PROPOSED DEVELOPMENT

Unincorporated

There are 157 approved or proposed residential permit applications within the unincorporated portion of the County. These planned and proposed developments consist of over 7,900 additional dwelling units.[7] Although the timing of many developments is uncertain due to current economic conditions, existing potential developments illustrate that population could increase by as many as 16,720 in the coming years due to new residential development.[8]

Developments with pending applications in unincorporated Calaveras County, consisting of over 100 dwelling units, are shown in Table 3-1. The communities with the most development potential over the next 20 years include Copperopolis, San Andreas, Murphys, Valley Springs, and Vallecito.

Table 3-1: Planned and Proposed Developments of Greater Than 100 DUs

Development	Dwelling Units	Acres	Status	Community
Tuscanny Hills	335	1,114	Approved in 2007.	Copperopolis
North Vista Plaza	171	35	Approved in 2008.	Valley Springs
Sawmill Lake Master Project	800	244	Staff reviewing revised EIR sections.	Copperopolis
Copper Valley Ranch Master Project	2,400	4,267	Pending Environmental Review.	Copperopolis
Mission Ranch	146	104	Pending Environmental Review.	Valley Springs
Oak Canyon Ranch	676	1,283	Approved in 2008.	Copperopolis
Mitchell Ranch	117	114	Pending Environmental Review.	Vallecito

City of Angels

Within the City's limits, there are five development projects approved or under construction that are anticipated to consist of between 275 and 325 new residential dwelling units. Pending development activity consists of one new planned subdivision, and build-out of existing approved projects. Approved in 2006, The Classics on the Ridge is a new 55-unit subdivision located on 12.5 acres, within the Greenhorn Creek Golf Course Community. Construction of the project is anticipated to begin in 2011 or 2012. Existing projects that have not yet been fully built-out include Greenhorn Creek (150-200 units), Angel Oaks (24 units), Stelte Park (20 units), and Ron Davis Townhomes (27 units). Build-out of the planned and proposed development projects within the city would increase the population by between 595 and 703 residents at existing densities.[9]

The Angels Camp 2020 General Plan reported that there are 93 vacant or underdeveloped residential parcels within the city with capacity for at least 3,200 dwelling units. At existing densities, build-out of the vacant or underdeveloped parcels within the City would increase the population by approximately 6,925 residents.[10]

[7] Potential development was quantified by the authors based on analysis of a March 2010 data file on development projects that was provided by Calaveras County in addition to data provided by the City of Angels. The authors conducted GIS analysis of those projects, and accepted input from the various water and wastewater providers on the potential development projects.

[8] Based on the total number of planned and proposed dwelling units, and the average population per household in unincorporated Calaveras County according to the Department of Finance.

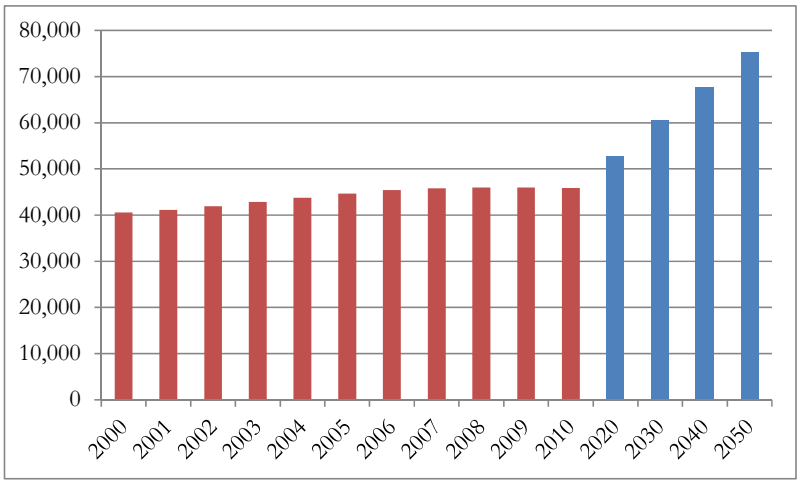
[9] The 2009 population per household for the City of Angels is approximately 2.2, according to the Department of Finance.

[10] Angels Camp 2020 General Plan, Appendices: Housing, 2009, p. 2-24.

POPULATION PROJECTIONS

Countywide

Figure 3-3: Countywide DOF Population Projections



Population projections for the County vary depending on the data source that is used. The California Department of Finance (DOF) projects a countywide population of 52,741 by 2020 and 60,471 by 2030. This would amount to an increase over the 2010 population of 15 percent and 31.8 percent, respectively. The DOF projections through 2050 are shown in Figure 3-•3. [11]

Another method of projecting population is to use planned and proposed developments as a guide. There are approximately 7,900 new housing units planned or proposed in Calaveras County (including the City of Angels), as of the drafting of this report. If and when this growth is absorbed, the countywide population would grow by about 17,435, if new homeowners' households are comparable in size to existing households. A conservative estimate of project initiation, completion and absorption would be about 20 years, particularly given the uncertain future of the housing market. Given this assumption, the countywide population could grow to 63,305 at build-out of all planned and proposed development projects, which is assumed to be around 2030. This would be an increase of 38 percent over the countywide population in 2010.

As part of the General Plan update, the County has put together detailed 2035 projections by sub-area based on the proposed land use alternatives and land use modeling. As of the drafting of this report, the favored alternative is a combination of Alternatives B and C. Detailed growth allocations, including an average for the Alternative B and C combination, are shown in Table 3-•2. The draft numbers shown reflect preliminary results in the General Plan Alternatives Rerport released in February 2010. The County's projections are in flux at this time; updated projections will not be available until the County finishes drafting the General Plan update.

[11] The DOF projection was adjusted by the authors to reflect DOF data on actual growth since the forecast was prepared, and DOF's more recent and more pessimistic short-term growth projections.

Table 3-2: County 2035 Population Projections by Sub-Area

Community	2000	Alt A	Alt B	Alt C	Average Alt B & C	Max Growth Rate
Copperopolis	2,363	9,151	9,427	13,143	11,285	556%
Rancho Calaveras	4,182	157	305	483	394	12%
Valley Springs	2,560	1,237	1,396	2,005	1,701	78%
Wallace	220	260	264	538	401	245%
Angels	3,004	487	511	1,445	978	48%
Mokelumne Hill	774	428	750	1,312	1,031	170%
San Andreas	2,615	1,362	1,564	2,026	1,795	77%
Mountain Ranch	1,557	163	123	149	136	10%
Rail Road Flat	549	82	45	81	63	15%
West Point	746	165	417	647	532	87%
Arnold	4,218	740	1,257	1,884	1,571	45%
Avery	672	132	186	315	251	47%
Dorrington	727	0	180	313	247	43%
Forest Meadows	1,197	559	592	1,145	869	96%
Murphys	2,061	886	741	1,069	905	52%
Vallecito	427	405	827	1,262	1,045	296%
Remainder	12,682	7,470	5,099	7,079	6,089	59%
Total	**40,554**	**23,684**	**23,684**	**34,896**	**29,290**	86%

Of the three land use alternatives evaluated, Alternative C has would have the maximum annualized growth rate of 1.8 percent. A combination of land use alternatives B and C would have an annual growth rate of 1.6.

Table 3-3: Annualized Growth Projections by Method

	2010-2020	2020-2030
DOF Projections	1.7%	1.4%
Planned & Proposed Developments Projections	1.6%	1.6%
General Plan Update Projections (Alt B & C)	1.6%	1.6%

A comparison of the annualized growth rates through 2035 for each of the projection methods discussed is shown in Table 3-3. As shown, each of the projection methods has returned very similar annualized growth rates between 1.4 and 1.7 percent.

City of Angels

Because the DOF does not release projections specific to the City of Angels and the City's growth rates have not always mirrored those of the County, the City has put together its own projections in the General Plan. The projections are based on a combination of historical growth in the City, the Regional Housing Needs Allocation Study, and the Water and Wastewater Master Plans.

The City's housing needs projections are based on regional figures indicating an annual growth rate of approximately 3.0 percent. The City's water and wastewater management plans have most recently been based on a 2.0 percent growth rate (with provisions for reassessing those growth rates). Historically, the city annual average growth rate over a 20-year period has been 3.2 percent; however, reflecting the effects of the recession beginning in 2008, the City Council has directed that the projected growth rate be 1.8 percent to 2.5 percent to better reflect current economic conditions. The General Plan states that the growth rate will be updated frequently to reflect changing conditions.

GROWTH PLANNING

County General Plan

The County is in the process of updating its General Plan. A draft is anticipated to be released in 2012. The updated General Plan will have a planning horizon of 2035.

As part of the General Plan update, the Community Planning Areas (CPAs) are also in the process of being revamped, with extensive input from the various communities. In order to reflect the land use designations adopted in the updated General Plan, LAFCO may wish to use the new CPAs to inform decisions regarding future district SOIs. Given that the CPAs determine land use in the communities, SOIs should reflect areas of potentially high density where water and wastewater services can be financed. SOIs should not extend past the CPA, as it is unlikely that the level of density necessary to fund extending infrastructure to the area will be met. Some CPA bounds may extend far beyond the town centers, in which case the SOIs should be conservatively sized to only include areas zoned for high-density development that will likely be developed in the short to medium term.

City of Angels General Plan

The City's General Plan was last updated in 2006. Growth strategies adopted by the City of Angels including a well-organized and orderly development pattern that encourages compact, mixed use, pedestrian-friendly infill development. The City plans to monitor the supply of land available within the city for future development by preparing a map of vacant parcels throughout the city, which it plans to update at least every three years. The City also has a goal of establishing a growth management/infrastructure allocation program and adopting a growth management ordinance.

4. WATER

This chapter reviews domestic and irrigation water services in Calaveras County, including how these services are provided by the special districts, cities and other providers not under LAFCO jurisdiction. The chapter addresses questions relating to growth and population projections, current and future service needs, infrastructure needs, service adequacy, and financing. Government structure options are identified for local agencies under LAFCO jurisdiction.

OVERVIEW

This section provides an overview of the water service providers, water service areas, and water regulatory context in Calaveras County.

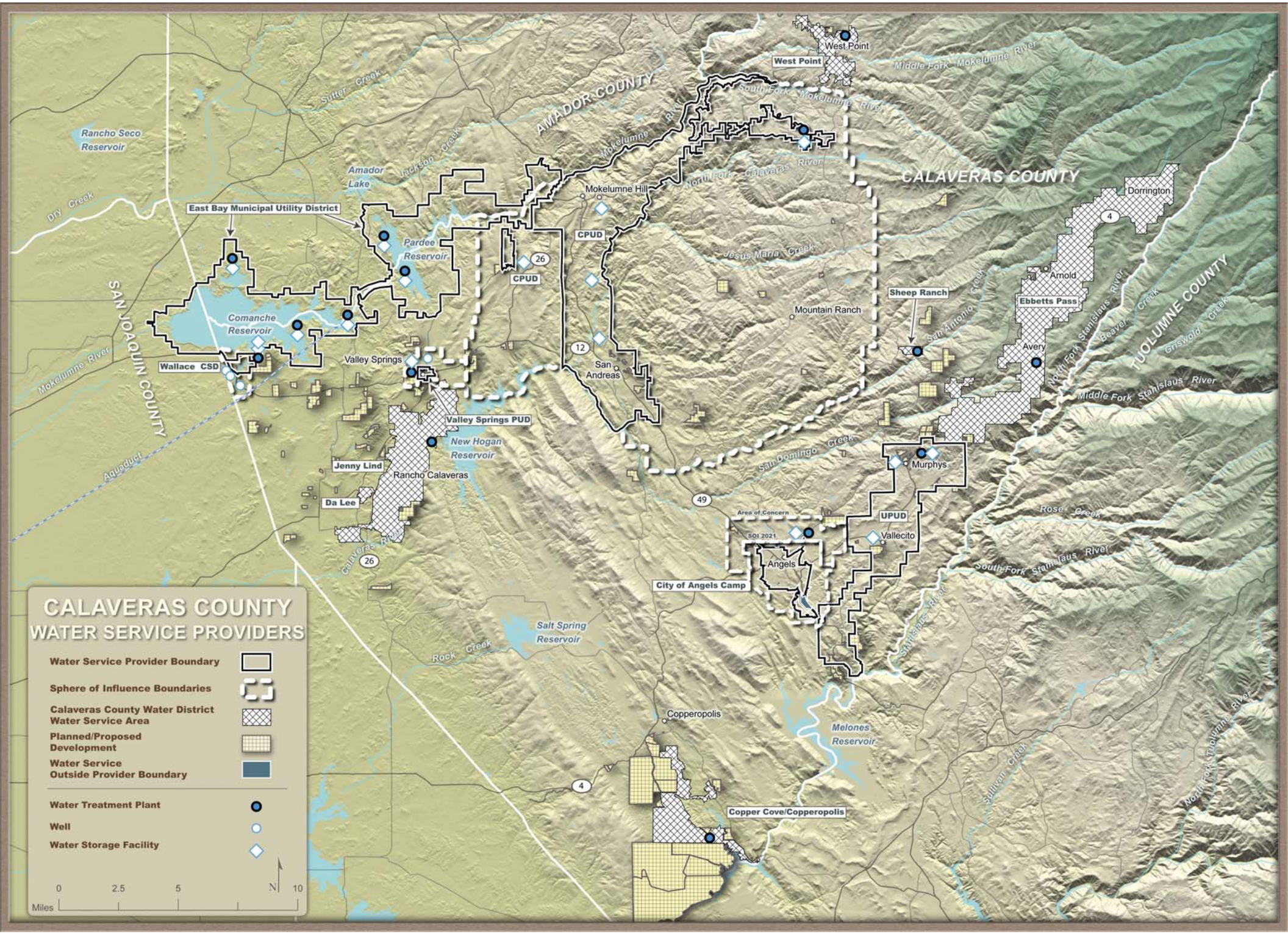
SERVICE PROVIDERS

There are seven domestic (potable) water providers and three recycled water providers in Calaveras County which are under LAFCO jurisdiction, as shown in Table 4-1. Of the potable water providers, all provide treatment and distribution services and five provide water for irrigation and landscape purposes. Of the providers, Calaveras County Water District (CCWD), Calaveras Public Utility District (CPUD), East Bay Municipal Utility District (EBMUD), and Union Public Utility District (UPUD) provide wholesale water. Each of the purveyors shown in the table are under Calaveras LAFCO jurisdiction with the exception of the East Bay Municipal Utility District (EBMUD), which is under the jurisdiction of Alameda LAFCO. For a geographic overview of the water suppliers, please refer to Figure 4-1.

Table 4-1: Calaveras Water Service Providers

Agency	# of Connections	Retail			Services			
		Potable	Irrigation	Recycled	Treatment	Distribution	Wholesale	Maintenance
City of Angels	1,693	✓	✓	✓	✓	✓		✓
Calaveras County Water District	12,739	✓	✓	✓	✓	✓	✓	✓
Calaveras Public Utility District	1,985	✓	✓		✓	✓	✓	✓
East Bay Municipal Utility District	382,265	✓	✓	✓	✓	✓	✓	✓
Union Public Utility District	1,900	✓	✓		✓	✓	✓	✓
Valley Springs Public Utility District	272	✓			✓	✓		✓
Wallace Community Service District	97	✓			✓	✓		

Other water providers in Calaveras that are not under LAFCO jurisdiction, but are relevant to the discussion of water services within the County, are discussed in Chapter 16 to the extent necessary to establish relationships, quantify services, and provide a comprehensive overview of water services countywide. These providers include Blue Lake Springs Mutual Water Company, Snowshoe Springs Association, Fly-In Acres Mutual Water Company, Mineral Mountain Estates Mutual Water Association, and the Utica Power Authority (UPA).


CALAVERAS COUNTY
WATER SERVICE PROVIDERS
Water Service Provider Boundary
Sphere of Influence Boundaries
Calaveras County Water District Water Service Area
Planned/Proposed Development
Water Service Outside Provider Boundary
Water Treatment Plant
Well
Water Storage Facility
0
2.5
5
10
N
Miles
AMADOR COUNTY
CALAVERAS COUNTY
SAN JOAQUIN COUNTY
TUOLUMNE COUNTY
West Point
Middle Fork Mokelumne River
South Fork Mokelumne River
Mokelumne River
North Fork Calaveras River
Sutter Creek
Rancho Seco Reservoir
Amador Lake
Jackson Creek
Dry Creek
East Bay Municipal Utility District
Pardee Reservoir
Comanche Reservoir
Wallace CSD
Mokelumne River
Aqueduct
Mokelumne Hill
CPUD
Jesus Maria Creek
Valley Springs
San Andreas
Valley Springs PUD
New Hogan Reservoir
Jenny Lind
Rancho Calaveras
Da Lee
Calaveras River
Salt Spring Reservoir
Rock Creek
Mountain Ranch
Sheep Ranch
San Antonio Creek
Dorrington
Arnold
Ebbetts Pass
Avery
North Fork Stanislaus River
Beaver Creek
Griswold Creek
Middle Fork Stanislaus River
San Domingo Creek
Murphys
Area of Concern
SOI 2021
UPUD
Vallecito
Angels
City of Angels Camp
Rose Creek
South Fork Stanislaus River
Stanislaus River
Copperopolis
Melones Reservoir
Sullivan Creek
Copper Cove/Copperopolis
North Fork Stanislaus River

This section provides an overview of each of the seven active water purveyors in Calaveras County under LAFCO jurisdiction, as well as the Utica Power Authority for a comprehensive discussion. Each active water purveyors' number of connections served and amount of water produced or purchased in 2009 is summarized in Table 4-2. For a detailed profile of each individual agency, please refer to the appropriate agency's chapter in this report.

Table 4-2: Active Water Systems, 2010

Water Purveyor/System	Connections	Water (af)
CCWD Water Systems	12,743	8,985
Retail Water Systems	12,643	5,784
Copperopolis	2,525	1,765
Ebbets Pass	5,835	1,629
Jenny Lind	3,672	2,195
Sheep Ranch	48	11
West Point	563	184
Wholesale Systems	5	189
Snowshoe Springs Association	1	
Fly-In Acres MWC	1	
Valley Springs PUD	1	
Blue Lake Springs MWC (1)	2	
Irrigation Systems	92	1,955
Agriculture	11	
Landscape - Raw or Recycled	81	
Recycled Water Systems	3	1,057
La Contenta Golf Course	1	108
Saddle Creek Golf Course	1	874
Forest Meadows Golf Course	1	75
Independent Water Systems	6,119	4,617
Potable/Irrigation Water	5,968	3,213
City of Angels	1,714	904
Calaveras Public Utility District	1,985	NP
Union Public Utility District [1]	1,900	2,114
Valley Springs Public Utility District	272	131
Wallace Community Services District	97	64
Raw & Recycled Water	151	1,404
City of Angels	51	400
Calaveras Public Utility District	4	NP
Union Public Utility District	96	1,004
Exported Water		
East Bay Municipal Utility District	382,265	266,340

Note: (1) UPUD served 1,900 customers through 1,600 connections in 2009.

Calaveras County Water District

Calaveras County Water District provides raw and treated surface water to a number of unincorporated communities throughout the County. The District has dual purposes, functioning in some respects as a countywide entity and in other respects as a retail service provider to specific unincorporated communities. CCWD provides surface water transmission, treatment and distribution for domestic uses, and raw surface water for irrigation uses. The District's geographically expansive water services include protecting water rights, providing wholesale water deliveries to those with groundwater supply deficiencies, and groundwater management and monitoring. CCWD also generates hydroelectric power through its FERC-licensed projects on the Stanislaus and Calaveras Rivers; these projects are operated by other agencies under contract with CCWD.

The District's service areas for retail domestic water service include the communities of Copperopolis, Copper Cove, Lake Tulloch, Dorrington, Arnold, Avery, Forest Meadows, southern Valley Springs, La Contenta, Rancho Calaveras, Sheep Ranch, West Point, Wilseyville, and Bummerville. CCWD's retail domestic water services are provided within and outside the bounds of CCWD's water improvement districts.

Raw water is provided presently to nine agricultural operations on the lower Calaveras River, one in the Copperopolis area, and another in the West Point area. CCWD aims to expand its raw water service areas to put existing water rights to beneficial use, thereby keeping the benefit of those water rights within the County. Landowners with orchard and grazing operations have expressed interest in surface water deliveries in various locations in the County where groundwater resources are inadequate for reliable irrigation.

CCWD recycled water services are presently provided to irrigate the La Contenta, Saddle Creek and Forest Meadows golf courses. CCWD aims to extend recycled water service to other areas, such as parks, landscape, highway medians, and for agricultural uses in the Murphys/Vallecito area.

CCWD provides wholesale treated water to several retail water service providers:

- Blue Lake Springs Mutual Water Company (MWC): CCWD supplies wholesale water on an emergency basis to a portion of this resort community near Arnold where there are approximately 1,700 water connections.[12] The MWC relies on groundwater wells presently, but has relied on water purchased from CCWD in recent years for approximately half of its water supply. The MWC owns and operates the storage and distribution system within the subdivision.

- Fly In Acres Mutual Water Company (MWC): CCWD supplies wholesale treated water to this 160-parcel community near Arnold. The MWC owns and operates the storage and distribution system within the subdivision.

- Snowshoe Springs Association: CCWD has provided wholesale treated water to this 300-home subdivision adjacent to Big Trees Village. Snowshoe Springs had relied on three groundwater wells until forced to abandon the wells in the 1970s due to poor water quality. Water is

[12] CCWD refers to this relationship as supplying "emergency" water to the community for historical reasons relating to the service contract and relatively low rates being paid by the community.

delivered through the CCWD water main on Shoshone Drive.[13] The Association owns and operates the storage and distribution system within the subdivision.

- Valley Springs PUD: VSPUD presently relies on two groundwater wells; through an intertie, CCWD occasionally provides treated water to supplement VSPUD's resources through the nearby New Hogan Reservoir on an emergency basis.

City of Angels

The City began providing water service to its citizens in 1985 upon the purchase of a water system from Pacific Gas and Electric Company (PG&E). The City of Angels directly provides domestic water services to the area within the city limits, including surface water treatment and distribution. In addition, the City provides raw water, as well as reclaimed water from its wastewater treatment plant, for irrigation purposes to the Greenhorn Creek golf course. The City makes use of recycled water for irrigation purposes at the golf course and on the WWTP property.

The City entered into a joint powers agreement in 1996 with Union Public Utility District (UPUD) to form the UPA for the purpose of purchasing and operating two hydroelectric projects—the Utica Hydroelectric Project and the Angels Hydroelectric Project.[14]

The City provides water services within the city limits. The City's water services are available to all of its boundary area, and there are no unserved areas within the boundary. In addition, the City provides water services to five connections outside of the city limits.

Calaveras Public Utility District

CPUD provides surface water treatment and distribution, for domestic use, directly. CPUD provides limited raw water service to four accounts. The District generates hydroelectric power at four generating stations for sale to PG&E—three small generating stations located along the main transmission pipeline, and at a fourth station at Schaads Reservoir.

CPUD provides services within its bounds to the communities of San Andreas, Mokelumne Hill, Paloma, and portions of Glencoe and Railroad Flat along the CPUD transmission line. Irrigation customers are located in the Railroad Flat area.

The District's water service area extends beyond its boundary area to serve approximately 18 domestic connections outside bounds. Domestic customers outside District bounds are located along Jesus Maria Road outside Mokelumne Hill, and south of San Andreas along Highway 49. The District's water services are available to most of its boundary area; there are some unserved areas due to gradient and topography issues.

East Bay Municipal Utility District

EBMUD's boundary area is within Alameda and Contra Costa counties, and contains no territory in Calaveras County. The District serves recreation areas at its reservoirs in Calaveras and Amador counties outside its bounds. EBMUD's water system serves approximately 1.3 million people in a 325-square-mile area in Alameda and Contra Costa counties near San Francisco. EBMUD also provides water services to its recreation areas at Camanche South Shore, Pardee Center and Mokelumne Water and Recreation Division offices in Calaveras County, and at Pardee

[13] Mother Lode Engineering, *Snowshoe Springs Water System Improvements: Preliminary Engineer's Report*, March 1996.

[14] CCWD purchased the Utica/Angels project in 1995 and sold it to UPA, of which CCWD was then a member.

and Camanche North Shore recreation areas in Amador County, which are located outside District bounds.

EBMUD's primary water source is Mokelumne River flows from Amador, Alpine and Calaveras counties. It owns 28,149 acres in the watershed, of which 9,034 acres are flooded by Pardee and Camanche reservoirs and 16,880 acres are upland draining to the reservoirs.[15] EBMUD operates reservoirs and aqueducts to export water from the watershed to its primary service area in the East Bay, and also uses the river for hydroelectric development. EBMUD serves groundwater from three wells to residents and visitors to its Camanche North Shore area, and serves other recreation areas through surface water supplies. The District does not produce or use recycled water in the watershed area. The three recreation areas and hunt club are operated by concessionaires, although water treatment facilities and capital replacement and maintenance are the responsibility of the District.

Union Public Utility District

UPUD provides raw and treated water services. The District relies on CCWD and UPA for delivery of surface water from the North Fork Stanislaus River to UPUD facilities. The District does not provide recycled water services. UPUD provides services within its bounds to the communities of Murphys, Douglas Flat, Vallecito, Six Mile Village, and Carson Hill. The District reported that all service is within its bounds. The District's water services are available to all of its boundary area, although there are some unserved areas within the boundary that rely on private wells for water. There were approximately 21 standby connections in 2008.

Valley Springs Public Utility District

VSPUD provides groundwater extraction, treatment and distribution, for domestic use directly with district staff. VSPUD provides services within its bounds to the unincorporated Town of Valley Springs. In addition, the District serves one single family residence outside of the District's boundaries and SOI in the south. The District received permission from LAFCO to provide services to this connection in 2002.[16] Unserved areas within the District's boundaries include the undeveloped land in the northwest corner of the District and two lots where there are private wells in use.

Wallace Community Services District

WCSD provides well water treatment and distribution for domestic use. The District originally provided these services directly with district staff, but in 2009 chose to change the service configuration to limit costs and contracted with CCWD for operation and maintenance of WCSD water facilities. WCSD provides water services to the gated community of Wallace Lake Estates and the unincorporated Town of Wallace—Zones 1 and 2 of the District—which is entirely within the District's boundaries. The District does not provide services outside of its boundaries. Unserved areas within the District's boundaries include several undeveloped lots and approximately five properties with private wells not attached to the District's system.

[15] EBMUD, *Mokelumne Watershed Master Plan: Final Program Environmental Impact Report*, 2008, p. B-2.

[16] LAFCO Resolution 02-02.

Utica Power Authority

Utica Power Authority (UPA) was formed in December 1995 as a joint powers authority (JPA) whose members at that time were the City of Angels, CCWD and UPUD. As a JPA, UPA is not under the jurisdiction of LAFCO. The JPA was formed to manage a water conveyance and hydroelectric power system that PG&E was in the process of selling to CCWD at the time of UPA formation.

The UPA system had originated in the nineteenth century as a system of ditches, flumes, a dam and a reservoir built to convey water from the North Fork Stanislaus River to Angels Creek.[17] The Utica Gold Mining Company had constructed a powerhouse and conveyance line to transport water to Angels Camp prior to the mine's closure in 1918. PG&E purchased the system in 1946, operating two hydroelectric projects known as the Utica Project and Angels Project, and supplying water to customers in Murphys, the City of Angels and surrounding areas over the ensuing 50 years. PG&E supplied water to irrigation users along the canals and ditches, and to the Dogtown Ditch area northwest of the City of Angels. In 1996, PG&E sold the system to CCWD. CCWD then sold a portion of the system to UPA, including PG&E's contractual obligations to supply water to Murphys, the City of Angels and surrounding areas.[18]

PLANNING CONTEXT

Regional water planning has become increasingly critical to increase drought preparedness, regional self-sufficiency, sustainable resource management, and to improve coordination among land use and water planners. The Legislature promoted the concept by authorizing local public agencies to form regional water management groups and adopt regional plans to address qualified programs or projects (SB 1672). The legislation requires the State Department of Water Resources (DWR) to prioritize funding for projects identified in integrated regional water management plans (IRWMPs). Integrated resource planning is a comprehensive systems approach to resource management and planning that explores the cause-and-effect relationships affecting water resources. The plans are recommended to not only analyze the watershed and espouse principles, but also to effect change by including a finance plan with prioritized objectives, an implementation plan, and plans for ongoing performance measurement to evaluate progress.

The Mokelumne, Amador and Calaveras IRWMP was adopted in 2007[19]. Participating water purveyors in Calaveras County were CCWD, CPUD, and EBMUD. The IRWMP region includes all of Amador County and portions of Calaveras County, San Joaquin County, and Alpine County, as well as most of the Mokelumne and Calaveras River watersheds, encompassing approximately 1.25 million acres. The Tuolumne-Stanislaus IRWMP is an emerging plan to the south.

The regional goals established by the IRWMP are improved water supply reliability, water quality protection, environmental preservation, flood protection strategies, and development of a forum for regional communication. The IRWMP identified and prioritized 46 capital projects involving water,

[17] MWH, *Calaveras County General Plan: Water Element Baseline Report Supplement*, Feb. 2009, p. 20.

[18] *Memorandum of Understanding and Settlement Agreement by and Between Calaveras County Water District and Utica Power Authority*, Nov. 3, 2009. CCWD sold certain water rights and assets to Northern California Power Agency (NCPA) for NCPA's operation of the North Fork Stanislaus Hydroelectric Project. CCWD owns and holds the license for the North Fork Project, which NCPA operates on its behalf.

[19] RMC Water and Environment, *Mokelumne, Amador and Calaveras Integrated Regional Water Management Plan*, October 2006.

wastewater or drainage improvements. Top-ranked projects were associated with expanding potable and recycled water supplies.

DWR conducts groundwater monitoring and planning. Legislation requires the State Water Resources Control Board (SWRCB) to establish a comprehensive statewide groundwater quality monitoring program; the first comprehensive groundwater evaluation is to be completed by 2010. CCWD is the only provider in the County that has prepared a groundwater management plan, which falls under the purview of one the District's countywide functions.

Proposed development projects with more than 500 dwelling units or commercial space for more than 1,000 employees are required to be assessed for adequate water supplies (SB 610). Water Code §10912 identifies one of seven conditions which trigger the requirement for a water supply assessment.

Urban water suppliers are required by the Urban Water Management Planning (UWMP) Act to prepare a water shortage contingency plan every five years. The plan describes and evaluates sources of water supply, efficient uses of water, demand management measures, implementation strategy and schedule, and other relevant information and programs. Providers serving at least 3,000 connections or 3,000 af are subject to the UWMP requirement. Only CCWD was subject to the requirement in 2005. CCWD completed a UWMP in 2005. CCWD is presently updating its UWMP as required. None of the other water purveyors is subject to the requirement, and none prepared UWMPs in 2005.

SERVICE DEMAND

This section provides an overview of water uses, a general discussion of factors affecting water demand, analysis of water demand indicators and conservation efforts, and projections of future needs for water.

DOMESTIC WATER

In Calaveras County, the average residence used 344 gallons of water per day in 2010. That equates to 198 gallons per capita per day (gpcd), and represents water consumed not water produced. CPUD and VSPUD did not provide a breakdown of water demand by connection type.

Table 4-3: Potable Water Use per Connection, 2010

Agency	Residential Connections	Pop	Residential Demand af (2010)	Residential Average Daily Demand (gpd)
Angels	1,501	3,575	625	371
CCWD	12,643	19,551	4,289	303
CPUD	1,746	3,915	NP	NP
EBMUD	352,293	1,350,880	177,869	450
UPUD	1,360	3,722	1,034	678
VSPUD	189	650	NP	NP
WCSD	95	214	63	590

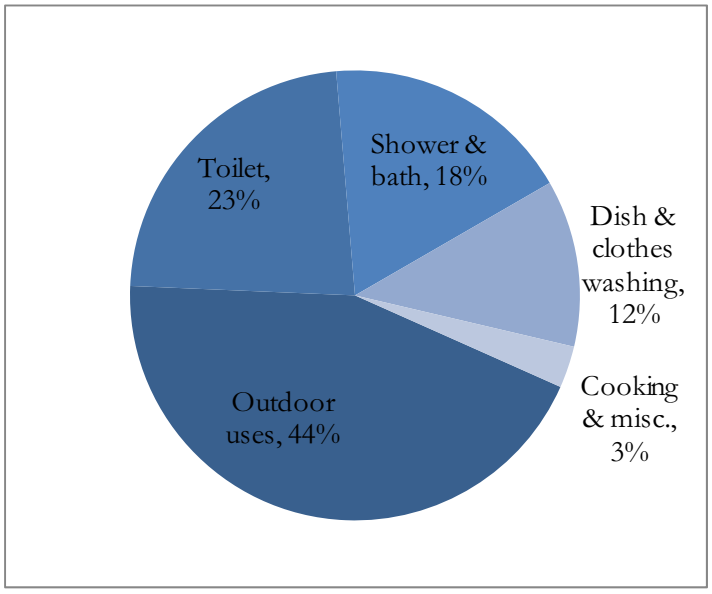
Water usage varies significantly across providers and service areas, as shown in Table 4-3. UPUD and WCSD residential connections used on average significantly more than the Angels, CCWD and EBMUD connections. This is likely due to the fact that these latter agencies serve higher density areas with smaller lot sizes and less irrigation demand. In addition, UPUD serves

multiple customers on some of its connections. CCWD and Angels customers used the least amount of water per connection.

The residential water demand differences relate in part to differences in outdoor water use between communities. Lot size is a significant factor affecting differences in per unit demand. Structure age is another factor expected to affect demand differences, as newer buildings tend to have modern, water-efficient plumbing fixtures. Urban water demand is primarily affected by population and economic growth and by water use efficiency. As the number of residents and jobs grows, the more showers are taken, toilets flushed and dishes washed. Not only does demographic and economic growth affect water demand, so too does the efficiency of water use.

Domestic residential water is used for outdoor, toilet, shower, cleaning, and kitchen uses. Outdoor uses, such as landscaping, swimming pools and washing cars, are the most significant portion, consuming 44 percent of domestic water statewide.[20] Water demand varies over the course of the year, with typically greater use during the summer months. The differences between peak and average water demand largely reflect outdoor water use for landscaping, irrigation and swimming pools. Toilet flushing is the second most important use of water—constituting about 23 percent of use. Showering and bathing consume about 18 percent of domestic water. Dishwashers and clothes washing machines consume 12 percent of domestic water. The remainder of California water consumption relates to cooking and other kitchen uses.

Figure 4-2: Residential Water Use by Purpose in California



Over time, water use levels change in response to changes in water prices, improvements in the efficiency of plumbing fixtures and conservation programs aimed at encouraging consumers to upgrade to efficient plumbing fixtures. These effects are interrelated. For example, water price increases can encourage consumers to reduce their water use directly (e.g., fewer showers) or prompt them to upgrade fixtures (e.g., water-efficient toilets).

Urban water suppliers have been required to install water meters on new municipal and industrial services connections since 1992, and must install meters on all municipal connections by 2025 under AB 2572. Nearly all of the service providers have installed meters on all connections. EBMUD reported that it is on track to have all connections metered by 2015. Water providers must begin by 2010 to charge metered customers based on volume of water. When jurisdictions implement rates charged based on water used, consumption per meter typically declines by 20-35 percent. Additionally, replacement programs for aging customer water meters can mitigate losses. All of the agencies are charging rates that include charges depending on water usage. While these rates based on usage are

[20] U.S. EPA, 1995. Figures reflect average share of domestic consumption in California.

intended to promote conservation, the WCSD threshold amount of water that is included in its base rate is set too high as it exceeds the average use of a residential connection.

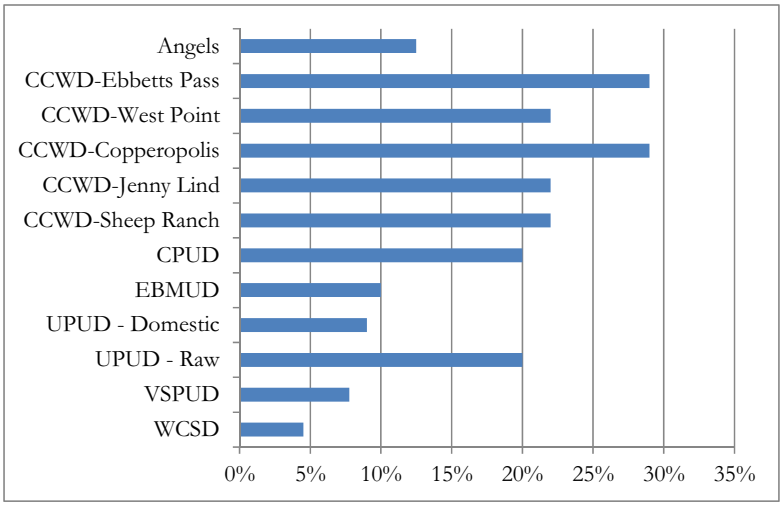
New state and federal requirements for the efficiency of plumbing fixtures have been implemented in the last two decades. Particularly in the early 1990s, new state and federal regulations required high-efficiency showerheads, ultra low-flow toilets and efficient kitchen faucets in new construction. For example, state toilet standards in the 1980s required toilets to consume no more than 3.5 gallons per flush; in 1992, new standards reduced toilet water use to 1.6 gallons per flush. For buildings constructed since 1992, toilet-related water use is less than half the level in buildings built during the 1980s. In buildings constructed prior to 1992, toilets tend to use 4.5-5 gallons per flush. Over time, more efficient plumbing fixtures are becoming prevalent, reducing per capita water use. Although there are no requirements in place for clothes washers, traditional clothes washers use approximately 41 gallons per load while high-efficiency machines use only 23.

Conservation programs help expedite consumers' rate of conversion to more efficient plumbing fixtures. Conservation efforts may affect outdoor water use efficiency by providing recycled water for large landscape accounts, auditing these accounts and conducting public information campaigns to encourage the use of water-efficient plants and gardening practices.

Over 200 California water providers are signatories to the California Urban Water Conservation Council (CUWCC) agreement, through which service providers pledge to develop and implement 14 conservation "best management practices." Within Calaveras County, EBMUD and CCWD are the only signatories among the domestic water providers.

WATER LOSSES

Figure 4-3: Water Loss Rate by System



Inevitably, a portion of water produced does not get delivered to customers as a result of fire flows, lack of integrity in the distribution system and conveyance losses. The median Calaveras water system loses 12.5 percent of water. By comparison, the industry average is 10 percent. Those agencies with the greatest water loss in their systems include CCWD, CPUD and UPUD; all of which had water losses of 20 percent or greater on average. CPUD and UPUD operate raw water transport facilities, such as open ditches, where evaporation and seepage significantly contribute to water losses. WCSD has the lowest water loss as the system is relatively new and compact.

PROJECTED DEMAND

As urbanization and growth occur, potable water needs are projected to increase. Projections are shown in Table 4-4 for each agency. Of note, is the significant increase in domestic demand (67 percent) projected for CCWD between 2010 and 2015, as CCWD anticipates homes increasing

irrigation and becoming full-time residences. EBMUD anticipates the lowest rate of growth over the next 20 years, while WCSD anticipates the highest growth rate after 2015.

Table 4-4: Potable Water Projections, 2010-2030

Water System	2010	2015		2020		2025		2030	
	Total (af)	Total (af)	% Growth	Total (af)	% Growth	Total (af)	% Growth	Total (af)	% Growth
Angels[1]	1,304	1,454	11%	1,605	10%	1,772	10%	1,957	10%
CCWD[2]	4,944	8,259	67%	9,352	13%	10,880	16%	12,411	14%
CPUD	1,469	1,625	11%	1,794	10%	1,973	10%	2,186	11%
EBMUD	253,346	262,314	4%	269,040	3%	273,524	2%	279,129	2%
UPUD	1,034	1,114	8%	1,201	8%	1,281	7%	1,365	7%
VSPUD[3]	131	180	38%	262	45%	344	31%	426	24%
WCSD[4]	64	78	21%	144	84%	265	84%	488	84%

Notes:

1) Projections based on City's assumption of two percent annual growth.

2) Growth projections are from CCWD's 2011 UWMP.

3) VSPUD demand projections assumes no new connections in 2011 and 2012 and 613 potential new connections annualized between 2013 and 2030.

4) Assumes 20 new connections before 2015, and 13 percent growth thereafter based on proposed developments in the area prior to the recession.

Urban development tends to reduce overall water needs when it takes place on formerly irrigated lands. Urban residential uses average 2.2 af per acre in water demand,[21] and urban commercial developments require less than 2 af per acre.[22] By contrast, irrigation pasture land uses more than 4 af per acre, as discussed under Irrigation Demand. However, urbanization will tend to use surface water sources, whereas, there is substantial reliance on groundwater on irrigated lands. Hence, urbanization will tend to increase surface water use and decrease groundwater use.

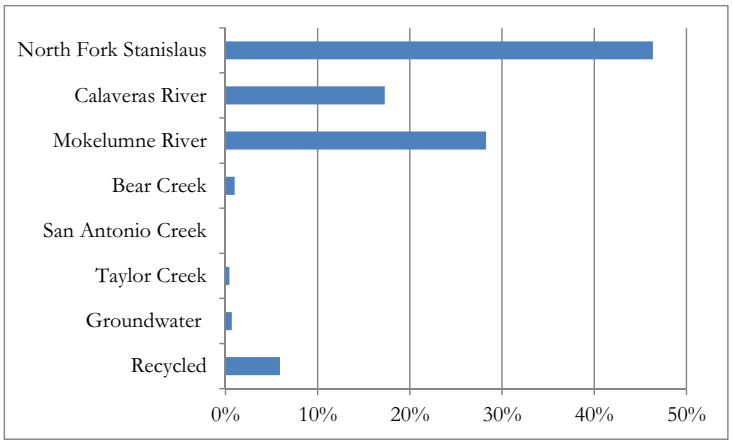
INFRASTRUCTURE NEEDS OR DEFICIENCIES

In the context of water service, infrastructure needs signify water supply, treatment, conveyance and distribution infrastructure that do not provide adequate capacity to accommodate current or projected demand for service for the region as a whole or for sub-regions.

WATER SOURCES

Figure 4-4: Calaveras Water Sources (2009)

The primary water sources are the North Fork Stanislaus River (46 percent), Calaveras River (17 percent), and the Mokelumne River (28 percent). Recycled water comprises six percent of all water supplies. Other sources, which include Bear Creek, San Antonio Creek, and Taylor Creek surface water, and groundwater, consist of approximately 2.5 percent of total water supplied in the County.



[21] Northern California Water Association, *Sacramento Valley Integrated Regional Water Management Plan*, 2006.

[22] Tully and Young, *Land Use/Water Supply Analysis Guidebook: Report to the Northern California Water Association*, June 2007, p. 8.

North Fork Stanislaus River

The North Fork of the Stanislaus River is the most significant water source for the County. Those agencies that make use of the Stanislaus include the City of Angels, CCWD, UPUD, and the Utica Power Authority (UPA).

The water is stored and conveyed from various interconnected hydroelectric projects in the region as defined by numerous agreements and FERC licenses. CCWD's North Fork Stanislaus River Project provides upstream conveyance of water for the downstream users' (Angels, UPUD, UPA) water supply. Water is released from CCWD's Collierville Tunnel via a tunnel tap into UPA's Utica Hydroelectric Project. The water is then transferred from the Utica Project into Hunters Reservoir located in Avery, where water is released into the Lower Utica Canal that carries water to Murphys Forebay, Murphys Powerhouse and the Murphys Afterbay and finally into Angels Creek to the UPA's Angels Diversion Dam. These facilities are shown in Figure 4-7.

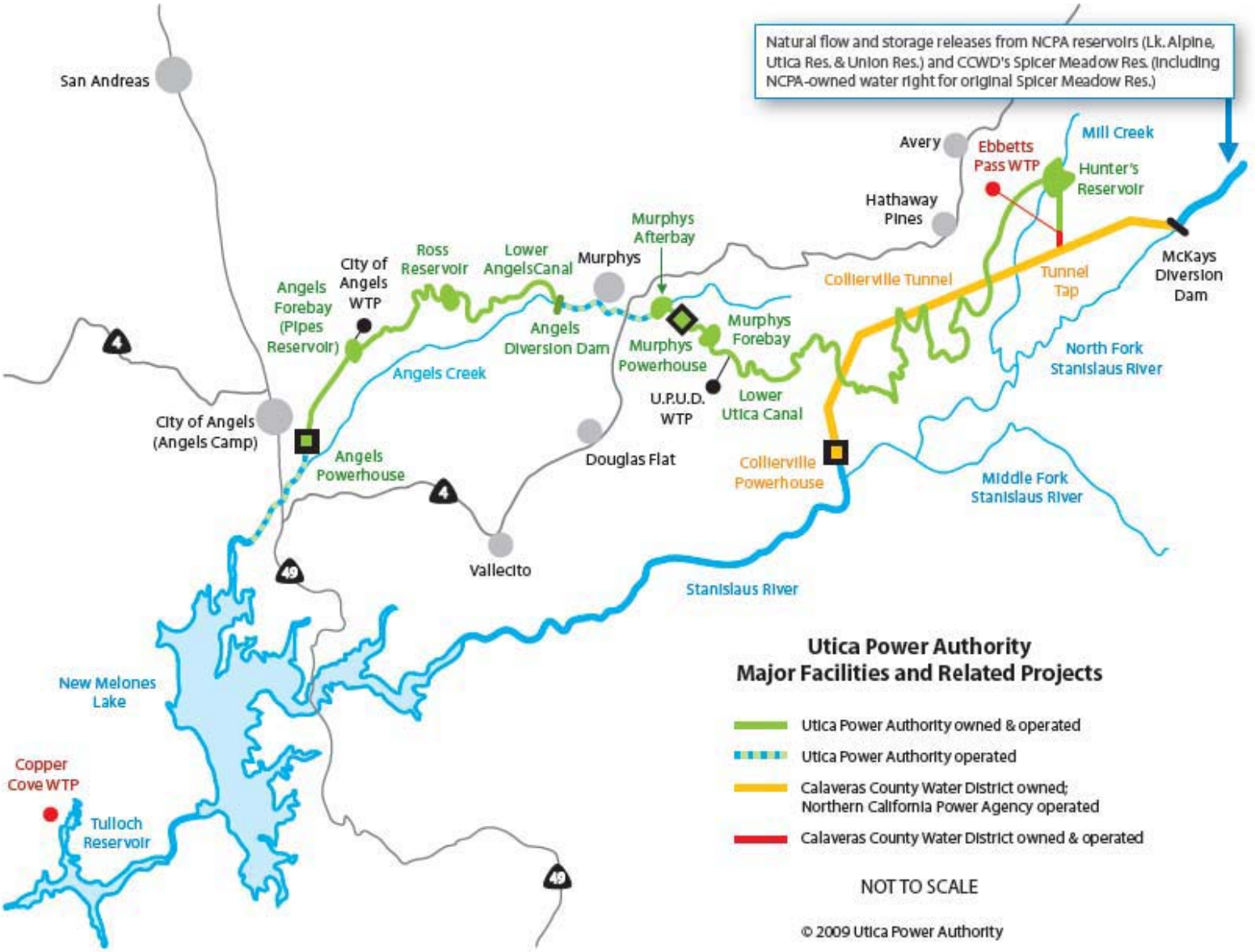
Water is diverted at various points to the Stanislaus users.

- For CCWD's Ebbets Pass service area, water is obtained downstream of McKay's Point diversion dam reservoir from a tap in the Collierville Tunnel which is about one mile from the WTP.
- UPUD's domestic water supply is diverted from UPA above Murphys Forebay, and flows into UPUD's Cademorti Reservoir from whence it flows into the WTP. UPUD's agricultural water is delivered by UPA to two points of diversion: agricultural water for the Murphys customers is delivered above Murphys Forebay, and agricultural water for Vallecito, Douglas Flat and Carson Hill customers is delivered below Murphys Afterbay.
- Angels' water is diverted after the Angels Diversion Dam into the 5.5-mile Upper Angels conduit and delivered through Ross Reservoir to Angels Forebay for power generation at the Angels Powerhouse and for consumptive purposes for the City of Angels and Dogtown agricultural water users served by UPA.
- For CCWD's Copper Cover service area the District withdraws water from Lake Tulloch Reservoir; the reservoir is owned by Tri-Dam Project, which is a partnership between the Oakdale Irrigation District and the South San Joaquin Irrigation District.

Water rights to the Stanislaus have evolved over time through a series of purchases and transfers from PG&E, a Joint Powers Agreement, and litigation, which are discussed generally below. For more details on the water rights to the Stanislaus refer to the chapters on CCWD and UPA.

PG&E began selling off infrastructure and water rights in the area in the 1980s. Angels purchased the Angels water system from PG&E in 1985, and the purchase included the contractual right to 800 acre-feet of water per year at no cost. In 1992, the City and PG&E agreed that the City could have an additional 800 acre-feet of water per year at no cost. If the City needed water above the 1,600 acre-feet, then water would be sold to the City at the value of lost power generation at the Angels Powerhouse. When the UPA acquired the Federal Energy Regulatory Commission (FERC) licenses from PG&E (via CCWD) in 1996, UPA also assumed the obligations of the prior agreements between the City and PG&E. These water rights are pre-1914 rights to direct diversion plus local stream runoff that enters the Utica and Angels Hydroelectric Projects.

Figure 4-5: North Fork Stanislaus Facilities



From 1995 to 1997, PG&E sold off its pre-1914 water rights to CCWD. By 1997, CCWD transferred these water rights (for direct diversion and storage) to UPA and Northern California Power Association (NCPA). CCWD also transferred to UPA certain contracts obligating UPA to deliver water supplies to UPUD and City of Angels (the member units of the UPA Joint Powers Agreement) and raw water users at Dogtown Ditch. Based on UPUD's historical agreement with PG&E, UPUD can receive up to 4,882 af per year at a rate of $1 per af, and can obtain an additional 1,000 af at a rate of $15 per af. CCWD retained "reserved" water rights to use excess flows from the UPA system, but is not making use of those rights at the present time.[23]

UPA reports that it presently uses its entire water supply (less portions diverted for consumptive use in UPA service areas upstream) for power generation purposes.[24] Unconsumed water presently flows down Angels Creek to the USBR New Melones Reservoir. Water demand in the UPA system in the year 2010 for consumptive uses amounted to 4,354 afa. The City of Angels used 1,304 afa, and is contractually entitled to up to 1,600 afa. UPUD used 1,865 afa, and is contractually entitled to up to 5,887 afa.[25] UPA's raw water customers are expected to use 915 afa in 2010, and hold contracts to use up to 1,125 afa.[26]

By agreement with CCWD and NCPA, the flows to the UPA system are allotted on a monthly basis with total amounts limited based on the California Department of Water Resources' (DWR) forecasted flow on the Stanislaus River. The driest year recorded since 1900 was 1977. Based on forecast flows in that year, UPA's safe annual yield is 19,605 afa. The monthly limits on UPA water supplies do not increase during irrigation season in proportion to the increases in water demand at that time. In addition, UPA apparently lacks the water storage capacity to save excess water rights during wet months for use during irrigation season. As a result, UPA has already allocated its water rights during peak demand in the irrigation season, and has a freeze on net new irrigation accounts.

CCWD has rights to 8,000 af for use in the Highway 4 corridor.[27] CCWD is permitted to use up to 6,000 afa in the Copper Cove system. CCWD holds additional consumptive water rights, but those are presently capped by SWRCB Order 97-05 at 6,000 afa until sufficient demand requires the cap to be lifted. Once additional supplies are needed, CCWD will initiate an amendment to the SWRCB 97-05 decision.[28]

CCWD has agreed with UPA to use best efforts to negotiate an agreement by the end of 2014 to transfer additional water to UPA for consumptive use. Such agreement will require consent from NCPA.[29] Under negotiation is CCWD water that is presently being used by NCPA for power generation at Collierville; a portion of the consumptive rights are not presently being used in Ebbetts Pass. Due to existing and planned alternative uses for these rights, CCWD reported that it would need UPA to identify potential lands and users of additional consumptive water supplies in

[23] For further details on CCWD's reserved rights, see the 2009 UPA-CCWD Settlement Agreement.

[24] MWH, *Calaveras County General Plan: Water Element Baseline Report Supplement*, Feb. 2009, pp. 23.

[25] UPUD's contract provides for up to 270 miners inches (equivalent to 4,887 af) at the price of $1 per af, and an additional 1,000 af at the price of $15 per af.

[26] Utica Power Authority, *Preliminary FY 10-11 Budget*, draft dated May 11, 2010.

[27] UPA noted in its comments that in order for CCWD to use this water anywhere other than in the Arnold area or Forest Meadows, that the water would have to be conveyed through UPA's ditch and flume system.

[28] ECO:LOGIC Engineering, *CCWD Copper Cove Water Master Plan – Phasing Plan*, Oct. 2006, p. 3-9.

[29] *Memorandum of Understanding and Settlement Agreement By and Between Calaveras County Water District and Utica Power Authority*, 2009.

order to transfer additional water to UPA. CCWD is also permitted another 1,000 afa for use along the "Cement Slurry Line."

Water quality of the Stanislaus is relatively good; water quality issues (prior to treatment) include upstream sewage discharge, recreational activities and grazing. The Collierville Tunnel supply source will need expansion to serve future growth; future customers will finance expansion through connection fees.[30]

Calaveras River

CCWD and CPUD both hold rights to Calaveras River water. Only CCWD presently makes use of this water source. In 2009, CCWD used 4,069 af of water from this source, or 17 percent of the total amount of water supplied by all purveyors throughout the County. CCWD uses Calaveras River water to serve the Jenny Lind area and agricultural users along the lower Calaveras River. The WTP intake is located one mile downstream from New Hogan reservoir (which is operated by the U.S. Army Corps of Engineers). The reservoir has a storage capacity of 317,000 af. CCWD's 31,278 af in water rights from this source are held by the U.S. Bureau of Reclamation, and are contractual rights.

CPUD reported that it has rights to store 400 afa of Calaveras River water at its Redhawk Reservoir located to the east of the intersection of Ridge Road and Railroad Flat. The water was used in the past to supply downstream agricultural users.[31] CPUD has not supplied those agricultural users since approximately 2002, and is not actively operating the Redhawk Reservoir.[32]

The water source is moderately hard and contains manganese prior to treatment.

Mokelumne River

The Mokelumne River supplied 28 percent of local purveyors' water in 2009, and typically supplies 90-95 percent of EBMUD's needs in its East Bay service area. CCWD, CPUD and EBMUD are the water right holders to the Mokelumne in the County.

The Mokelumne River water originates in Amador, Alpine and Calaveras counties. With a watershed encompassing approximately 660 square miles, the annual average flows of the Mokelumne River at Pardee Reservoir is 753,000 af, with most flow from Sierra snowmelt. The Mokelumne River supplies a total of 636 to 1,385 mgd on average; in 1977, the lowest year on record, it supplied 115 mgd.

CPUD purchased its original water system from Mokelumne River Power and Water Company in 1939, and with it came water rights on the Middle, Licking and South Forks of the Mokelumne River. The District negotiated an agreement the following years with EBMUD which provides up to 9,125 afa, including rights to store water in Schaads reservoir.[33] A subsequent water right order

[30] HDR, *Ebbetts Pass Water System Master Plan Update*, April 2005, Table EPW-1.

[31] Dennis Dickman and Associates. *Service Review Report for the Calaveras Local Agency Formation Commission: Public Agency Water Purveyors*, December 2003, p. VII-3.

[32] Interview with CPUD General Manager Donna Leatherman, October, 4, 2010.

[33] Peterson, Brustad, Inc., *CPUD Water Master Plan*, October 2008, p. 14. State Water Resources Control Board, permit number 16338.

limits the maximum diversion to 6,656 af; that amount is more than adequate to supply the 2,181 af in projected CPUD water demand well past 2030.[34]

CPUD's Schaads Reservoir on the Middle Fork of the Mokelumne River is used to supply CCWD with up to 200 afa. The reservoir capacity is 1,800 afa. Historically, water was moved from Schaads Reservoir through a diversion canal to the Licking Fork of the Mokelumne River (which is upstream from the CPUD pump station). Due to the poor condition of the diversion canal, the Middle Fork water has not been diverted into the Licking Fork for some time.[35] Schaads Reservoir is not connected hydraulically to the CPUD treated water system at this time. Schaads Reservoir needs improvements to remove siltation, install flashboards and reconstruct the pressure reducing facility there; CPUD plans to do these improvements by FY 12-13.

EBMUD obtained the bulk of its Mokelumne River water rights in 1924 when it acquired rights to 224,037 af before the 1927 imposition of so-called area of origin law.[36] EBMUD obtained an additional 140,000 af in 1959 after paying $2 million each to CCWD and Amador County for release of most of their priority rights.[37] Combined, the District has rights to 325 mgd (approximately 364,072 af) annually, subject to prior water rights.[38] EBMUD's position in the hierarchy of Mokelumne water users is determined by a variety of agreements between Mokelumne water rights holders. On average, 98.7 mgd of the supply is distributed to three Sierra foothill counties—Amador, Calaveras and San Joaquin—with senior water rights to the District; this amounts to 107,000 af in average and wet years. CCWD and CPUD hold 27,000 af in water rights senior to EBMUD's Camanche permit in Calaveras County but junior to EBMUD's Pardee right. PG&E, AWA and JVID hold 20,000 af in water rights senior to EBMUD's 1949 permit in Amador County.[39] Similarly, there are 63,600 af in senior water rights in San Joaquin County held by City of Lodi and Woodbridge Irrigation District.[40] EBMUD's water rights permit requires minimum releases from Camanche Reservoir to protect downstream fisheries. EBMUD expects its Mokelumne River supply source to decrease in the future, as consumption by senior water rights increases and increased downstream releases are required. EBMUD's Mokelumne River water supply is not sufficient to meet its long-term customer demands during a drought.

EBMUD's Mokelumne River supply facilities include Pardee Dam and Reservoir, located near Valley Springs and Camanche Dam and Reservoir, located approximately 10 miles downstream. EBMUD diverts its water supply at Pardee Reservoir, moving stored water into the Pardee Tunnel, Mokelumne Aqueducts, and Lafayette Aqueducts and on to its primary users in the East Bay.

The supply from Mokelumne River is generally high quality.

---

[34] Water Right Order 16338. The 6,656 af right is a part of the 27,000 afa of Mokelumne River water reserved for Calaveras County.

[35] California Department of Public Health, *2009 Annual Inspection Report*, June 10, 2009, p. 2.

[36] State Water Resources Control Board, License 11109.

[37] Interview of Harold Raines conducted by the Regional Oral History Office University of California, *Water Rights on the Mokelumne River and Legal Issues at the East Bay Municipal Utility District, 1927-1966*, 1995. See State Water Resources Control Board Permit 10478.

[38] EBMUD's rights include a license with a priority date of 1924 to divert up to 200 mgd, and a permit with a 1949 priority to divert up to 125 mgd.

[39] EBMUD, *Official Statement: Water System Subordinated Refunding Bonds, Series 2009A*, 2009, p. 31.

[40] In dry years, senior water rights in San Joaquin County are 42,600 af per year.

Groundwater

Groundwater resources compose a significant portion of private water use in Calaveras County, but compose a minimal amount of the local purveyors' water. Only the two smallest districts, VSPUD and WCSD, rely on well water. Of the private purveyors, the Blue Lake Springs MWC also draws from groundwater. Both VSPUD and WCSD draw from the East San Joaquin Groundwater Basin, through a total of four active wells. The basin covers about 70 square miles of the County. According to DWR, the basin has experienced a continuous decline in groundwater levels over the past 40 years leading to an overdraft of the aquifer and leaving groundwater depressions below the City of Stockton, east of Stockton and east of Lodi.[41]

Both districts have begun groundwater monitoring. WCSD has identified critical drawdown periods. VSPUD reported that during the historical draw down tests, the day following the tests groundwater levels would return to previous levels.[42] Neither district reported experiencing difficulties with groundwater levels given existing demand, but have concerns about sufficient supply to serve future developments.

In the Valley Springs, South Camanche and Copperopolis areas, there are 40-50 customers with failing wells who purchase water from CCWD's Jenny Lind and Copper Cove WTP and truck the water to their properties.

Both VSPUD and WCSD have started looking for possible surface water sources to supplement the groundwater. There are untapped area-of-origin water rights on the Mokelumne River that would ideally be put to use in delivering surface water to VSPUD and Wallace CSD. CCWD reports that the primary challenge is a lack of storage for use of Mokelumne River supplies; the District considers its New Hogan Reservoir supplies and storage more economically viable in the near-term than an intertie between the Calaveras and Mokelumne systems. Prior to the decline in the housing market, VSPUD approached CCWD regarding a surface water supply to serve proposed large subdivisions in the vicinity of VSPUD; however, these discussions have been put on hold until development picks up again. CPUD has existing facilities that could potentially be extended to bring Mokelumne water to the Valley Springs area. WCSD has applied for surface water through CCWD from the Camanche South Shore Treatment Plant proposed by EBMUD. The application was accepted by CCWD in 2006; however, the proposed treatment plant has not come to fruition.[43] WCSD is still in discussions with CCWD to receive surface water for a long-term water supply.[44] LAFCO may wish to encourage the affected providers in the western portion of the County to discuss regional collaboration opportunities.

CCWD adopted a groundwater management plan for the portion of the East San Joaquin Groundwater Basin underlying Calaveras County. Through DWR grants, the District conducted a hydrogeologic assessment, updated the plan and installed monitoring wells to better understand the overdrafted basin. The District has been monitoring groundwater levels in the basin since 2003.

The groundwater has tested high for iron and manganese in several wells. VSPUD has had to close three wells due to iron and manganese levels in excess of MCLs and positive coliform tests. In 2005, DPH issued a citation to the WCSD due to the poor performance of the treatment system and

[41] DWR, *California's Groundwater Bulletin 118 Basin 5-22.01*, 2006, p. 3.

[42] Interview with Mike Fischer, VSPUD General Manager, July 23, 2010.

[43] Calaveras County, *General Plan Water Element Baseline Report Supplement Final Draft*, February 2009, p. 7.

[44] Interview with Cathryn Jackson, WCSD Board Member, June 16, 2010.

iron and manganese concentrations in excess of their MCLs. Well 3 has been out of compliance on numerous and is consequently only a standby well.[45] Well 2 has remained in compliance since 2007. VSPUD recently drilled and installed an additional well to replace wells with water quality problems.

Recycled Water

Recycled water use comprises six percent of supplied water in Calaveras County, and is expected to increase in the future. Recycled water is wastewater effluent treated to high standards and regulated by the State Department of Health.

The use of recycled water in the county is limited to irrigation of four golf courses and a vineyard. CCWD provides recycled water for the La Contenta, Saddle Creek and Forest Meadows golf courses, while the City of Angels provides reclaimed water for the Greenhorn Creek golf course. Additionally, treated effluent from Murphys Sanitary District is used by Ironstone Vineyards for drip irrigation. CCWD is seeking opportunities to extend recycled water service to other areas, such as parks, landscape, highway medians, and for agricultural uses in the Murphys/Vallecito area. The City has been approached by property owners on Wittle Road to receive recycled water on pastures that are used for grazing.

Based on current supply information, the City will need to acquire additional water supplies from the UPA projects or increase the production of recycled water by 2015 to meet its future water demands, unless the Greenhorn Creek golf course makes greater use of reclaimed water.

[45] California DPH, *Annual Inspection Report*, 2009, p. 6.

FACILITY NEEDS

Each of the providers identified infrastructure needs and deficiencies related to water facilities. In addition, the Department of Public Health also reports needs and deficiencies in its annual inspection report. These needs are outlined in Table 4-5. For further information and background on an agency's respective needs refer to the provider's individual chapter in this document.

Table 4-5: Water Provider Facility Needs

Agency	Infrastructure Needs
City of Angels	1) An additional filter to expand treatment capacity. 2) Additional storage tank for emergencies. 3) Replacement of portions of distribution system prone to failure.
CCWD	1) Increase of water supplies, treatment capacity, storage and extension of distribution system to serve growth in Copper Cove and Jenny Lind, including agricultural areas and the overdrafted groundwater basin. 2) Flood protection improvements at Jenny Lind WTP. 3) Expansion of the Collierville Tunnel supply source and storage capacity at Ebbetts Pass to serve future growth. 4) Replacement of some storage facilities and water mains at Ebbetts Pass. 5) Replacement of 8 miles of pipeline in the West Point distribution system. 6) Replacement of steel mains in the Sheep Ranch distribution system.
CPUD	1) Recapture of leaking drainage water at Jeff Davis Reservoir. 2) Removal of siltation, installation of flashboards and reconstruction of the pressure reducing facility at Schaads Reservoir. 3) Increase of capacity of storage facilities in Golden Hills and Paloma to meet District standards. 4) Replacement of aging pipelines. 5) Address low pressure areas of the system. 6) Rebuild pressure-reducing stations along the transmission main.
EBMUD	1) Camanche South Shore: connect portions of Cottonwood and Moccasin campgrounds to the new water distribution system; build new regional WTP. 2) Pardee Center: portable water connections at the chemical plant and maintenance building. 3) Pardee Recreation Area: replacement of steel distribution piping with PVC pipe; replacement of coarse sand filter tank. 4) Camanche North Shore: updating water hook-ups; installation of backflow prevention devices on RV hook-ups.
UPUD	1) Increase of main pipeline size to provide adequate fire flows. 2) Replacement of 0.5 miles of older mains and service lines. 3) Installation of additional fire hydrants in the Vallecito area, Douglas Flat and Murphys Ranch Subdivision. 4) Replacement of old parts of the system. 5) Additional storage reservoirs and supplies during irrigation season.
Valley Springs PUD	1) Improvements to the distribution system.
Wallace CSD	1) Surface water supply. 2) Installation of a computerized control system, an emergency well power source, a backwash tank, VFD at the pump station. 3) Refurbishment of the three wells. 4) Flow meter at Well 2.

SERVICE ADEQUACY

This section reviews indicators of service adequacy, primarily among providers of domestic water.

SYSTEM INSPECTIONS

The California Department of Public Health (DPH) is responsible for the enforcement of the federal and California Safe Drinking Water Acts and the operational permitting and regulatory oversight of public water systems. The Calaveras County Environmental Health Department (EHD) is responsible for regulatory oversight of small water systems. The domestic water providers are subject to inspections by these agencies. Each of the domestic water providers is inspected by the respective regulatory agency periodically. All of the systems under LAFCO jurisdiction in Calaveras are inspected by the State DPH. Each of the providers was last inspected in 2009, with the exception of VSPUD, which was last inspected in August 2011

All of the LAFCO-regulated providers were considered to be reasonably well-operated and maintained by DPH, with no significant deficiencies. DPH performs separate inspections for each of the CCWD systems. The inspections of all the CCWD treatment plants found that the systems were generally well maintained and operated with no major deficiencies or problems.

DPH did note concerns that in the event of a really hot summer spell, the City of Angels stands the risk of violating the permit requirements regarding the plant production rates. Consequently, DPH recommends that the WTP will eventually need a fourth filter to ensure that the City remains in compliance with permit requirements.

WATER PRESSURE

Urban water systems must maintain adequate pressure in order to provide adequate fire flow. The County Fire Marshall uses State fire flow requirements included in Appendix III-A of the 2000 Uniform Fire Code, which identifies fire flow requirements based on building area, construction type and occupancy. There are no other requirements for water pressure, although customers expect adequate pressure for typical uses.

Most of the domestic water providers reported that water pressure is generally adequate within their service areas.

The City reported that several water main extensions have been constructed to provide looped water mains to meet fire flow requirements and to increase flows to accommodate new connections to the existing system. Fire flow requirements are met throughout the City limits.[46]

CPUD has low-pressure areas of its system (Church Hill in San Andreas and Golden Hills) that need to be addressed. Pressure-reducing stations along the transmission main need to be rebuilt to increase capacity; the CPUD master plan calls for these improvements by 2011.

UPUD reported that it needs to increase main pipeline size, particularly between Vallecito and Carson Hill, to provide adequate fire flows, and to install additional fire hydrants in the Vallecito area, Douglas Flat, and Murphys Ranch subdivision.

[46] Calaveras LAFCO, City of Angels MSR, December 21, 2009, p. 34.

WCSD and VSPUD did not report any needs or challenges related to providing adequate fire flow.

DRINKING WATER QUALITY

Drinking Water Standards

There are a number of threats to drinking water: Improperly disposed chemicals, animal wastes, pesticides, human wastes, wastes injected deep underground, and naturally occurring substances can all contaminate drinking water. Likewise, drinking water that is not properly treated or disinfected, or which travels through an improperly maintained distribution system, may also pose a health risk.

The Safe Drinking Water Act (SDWA) is the main federal law that ensures the quality of Americans' drinking water. The law requires many actions to protect drinking water and its sources—rivers, lakes, reservoirs, springs and groundwater wells—and applies to public water systems serving 25 or more people. EPA drinking water standards are developed as a Maximum Contaminant Level (MCL) for each chemical or microbe. The MCL is the concentration that is not anticipated to produce adverse health effects after a lifetime of exposure, based upon toxicity data and risk assessment principles. National Primary Drinking Water Regulations (NPDWRs or primary standards) are legally enforceable standards that limit the levels of contaminants in drinking water supplied by public water systems. Secondary standards are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. EPA recommends secondary standards to water systems but does not require systems to comply.

The California DPH implements the SDWA in California. DPH requires public water systems to perform routine monitoring for regulated contaminants. To meet water quality standards and comply with regulations, a water system with a contaminant exceeding an MCL must notify the public and remove the source from service or initiate a process and schedule to install treatment for removing the contaminant. Health violations occur when the contaminant amount exceeds the safety standard (MCL) or when water is not treated properly. In California, compliance is usually determined at the wellhead or the surface water intake. Monitoring violations involve failure to conduct or to report in a timely fashion the results of required monitoring.

Federal and state regulations on maximum contaminant levels in drinking water have evolved and expanded since 1977. Relatively new requirements faced by California water providers include limits on disinfection byproducts and a gasoline additive (MTBE), and tighter standards for arsenic, cyanide, uranium, and various organic contaminants.

Drinking Water Adequacy

There are a number of threats to drinking water: Improperly disposed chemicals, animal wastes, pesticides, human wastes, wastes injected deep underground, and naturally occurring substances can all contaminate drinking water. Likewise, drinking water that is not properly treated or disinfected, or which travels through an improperly maintained distribution system, may also pose a health risk.

Health and monitoring violations since 2000 for drinking water providers in the area are listed in Table 4-6.

Table 4-6: Drinking Water Violations, 2000-2010

Drinking Water System	Health Violations		Monitoring Violations	
	#	Type	#	Type
City of Angels	1	Surface water treatment 2001	1	CCR failure to report 2001
CCWD - Sheep Ranch	0	No violations	0	No violations
CCWD - Jenny Lind	3	Surface water treatment 2000, 2008; Haloacetic Acid mcl exceeded 2005	0	No violations
CCWD - West Point	1	Surface water treatment 2001	9	Lead and copper sampling 2008; monitoring of surface water treatment 2001; CCR inadequate reporting 2002; Nitrate monitoring 2000; Alkalinity monitoring 2000; Arsenic monitoring 2000; Nitrate/Nitrite monitoring 2000(2); Benzene monitoring 2001
CCWD - Copper Cove	0	No violations	0	No violations
CCWD - Ebbetts Pass	2	Surface water treatment 2007; Haloacetic Acid mcl exceeded 2003	0	No violations
CPUD	0	No violations	6	Coliform monitoring 2007; Chlorine monitoring 2004(4), 2005;
EBMUD - Camanche S. Shore	0	No violations	1	Lead and copper sampling 2000
UPUD	6	Haloacetic Acid mcl exceeded 2004, 2005(4), 2006	1	CCR failure to report 2001
VSPUD	0	No violations	2	Coliform monitoring 2009; lead and copper sampling 2000
WCSD	0	No violations	1	Coliform monitoring 2004

Source: US Environmental Protection Agency, Safe Drinking Water Information System

CCWD has had surface water treatment violations since 2005. None of the other providers had recent treatment technique violations. By comparison, the annual average nationally is that 1.3 percent of systems reported a treatment technique violation. CCWD and UPUD were the only providers with recent health violations. CCWD exceeded the haloacetic acid mcl in 2005 in its Jenny Lind system, and UPUD exceeded the haloacetic acid mcl in 2005 and 2006; both agencies are in compliance now. On average, 5.3 percent of water systems report an mcl violation each year. Monitoring violations are more common; 18 percent of water systems report a monitoring violation each year. Three of the providers have had coliform monitoring violations since 2000. Notably, CCWD and CPUD have had 9 and 6, respectively, separate monitoring violations since 2000—significantly more than the other providers.

Potential vulnerabilities in drinking water sources are evaluated by California DPH. Critical vulnerability scores (13 or higher) for the drinking water providers are shown in Table 4-7.

Table 4-7: Source Water Vulnerabilities

Water System	Wells	Source	Vulnerabilities[1]
City of Angels	0	Surface Water	Mining operations, gas stations, wastewater and drinking water treatment plants, NPDES/WDR permitted discharges, grazing, wells, roads and highways, storm drain discharge, agricultural drainage, housing, parks, firestations, septic systems, surface water, office buildings
CCWD - Sheep Ranch[1]	0	Surface Water	Historic waste dumps, automotive and machine shops, NPDES/WDR permitted discharges, gas stations, chemical storage facilities, recreational areas, grazing, septic systems, havested forests, recent burn areas
CCWD - Jenny Lind	0	Surface Water	Existing and historic gas stations, chemical storage, dry cleaners, metal fabrication, airports, septic systems, wastewater treatment plants, managed forests, historic landfills, mining operations
CCWD - West Point	0	Surface Water	Mining operations, managed forests, septic systems, recreational areas, burn areas, gas stations
CCWD - Copper Cove	0	Surface Water	Gas stations, chemical storage, dry cleaners, metal fabrication, airports, septic systems, wastewater treatment plants, managed forests, historic gas stations, historic dumps, mining operations
CCWD - Ebbetts Pass	0	Surface Water	Existing and historic gas stations, dry cleaners
CPUD	0	Surface Water	Managed forests, burn areas, storm drain discharge, septic systems, roads and streets, surface water
EBMUD - Camanche South Shore	0	Surface Water	Gas stations, wastewater treatment and disposal facilities, historic gas stations, known contaminant plumes, mining operations
UPUD	0	Surface Water	Wastewater treatment plant, mining operations, sewer collection systems, NPDES/WDR permitted discharges, grazing, septic systems, agricultural drainage, burn areas
VSPUD	1	Groundwater	Grazing
WCSD	2	Groundwater	Recreational area

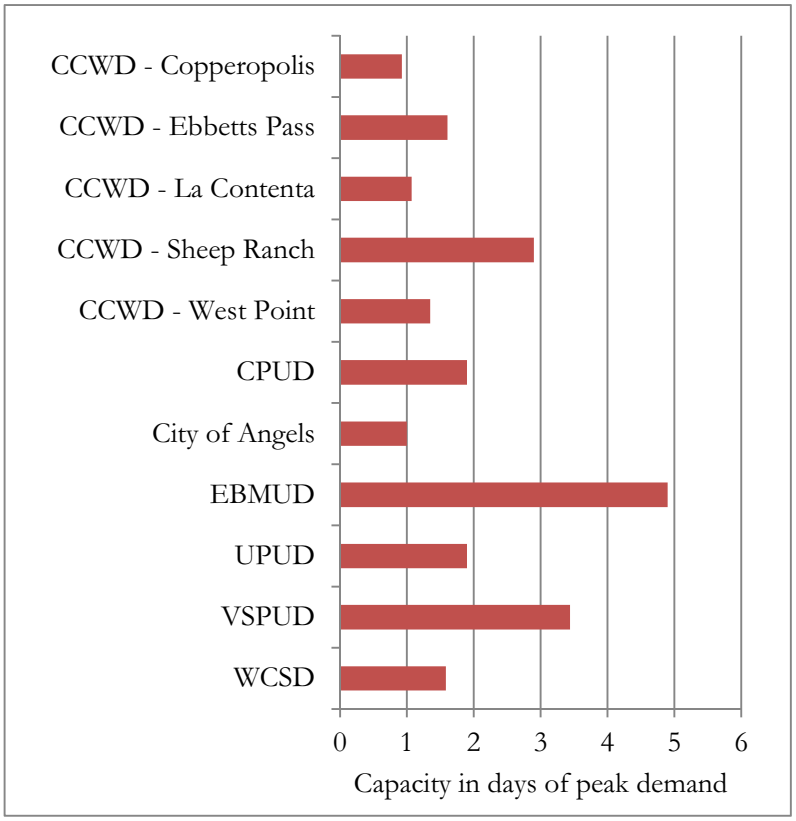
Source: California Department of Health Services, Drinking Water Source Assessment and Protection Program

(1) Vulnerabilties with a cumulative score of 13 or higher in the case of groundwater sources. As the source assessment reports for surface water sources do not include vulnerability rankings, those activities for which the source was reported as being "most vulnerable" are included here.

WATER RESERVES

Urban water suppliers are expected to address catastrophic disruptions of water supplies with plans reviewing the vulnerability of source and delivery and distribution systems to events such as regional power outages and system failures.

Figure 4-6: Water Storage Capacity



Most of the systems do not have interties with other water providers to provide for backup in case of an emergency. VSPUD has an intertie with CCWD's Jenny Lind system for emergency purposes and fire flow needs. The districts can transfer up to 0.25 mgd through this intertie during emergency periods. CCWD also has an intertie with Blue Lake Springs MWC. Other than these interties, there are no connections between the various providers to provide backup water supply during emergencies.[47]

In the event of an emergency that limited or stopped a providers supply of water, the system would rely on stored water in the short term. Figure 4-6 shows the number of days of water storage that each provider maintains given peak day flows. Calaveras water providers have a median 1.6 days of storage capacity during peak demand periods.

The importance of sufficient storage capacity and backup water sources is illustrated by the City of Angels experience with a sudden severely limited water supply. A wildland fire in September of 2001 destroyed a critical portion of wooden flume that was part of the Lower Utica Canal. The City's water supply was severely limited due to this incident. Water deliveries after the fire were limited to the 100 acre-feet of storage available in UPA's Ross Reservoir plus storage capacity in the City's water system. The City also began pumping groundwater from the privately owned Schmauder Mine to the City's water treatment plant. Approximately six weeks after the fire incident, a temporary bypass was put in place to pump a limited amount of water around the destroyed section of flume. The flume section was rebuilt about nine months later at which time full water service was restored.

[47] CCWD's Ebbetts Pass WTP is capable of taking water from UPA's Hunters Reservoir (with UPA permission and following procedures agreed upon by the parties).

The City is solely dependent on UPA's canal system for its water delivery during the dry season. A break in the canal, depending upon its location, could disrupt the City's water supply until such time the canal is repaired or an alternate water source is procured. In such instances, the City would need to rely upon the available water in Ross Reservoir and/or a proportional share of water in other upstream reservoirs. The City could also pump groundwater from the privately owned Schmauder Mine to the City's water treatment plant as was done in the past.

MANAGEMENT

While public sector management standards do vary depending on the size and scope of the organization, there are minimum standards. Well-managed organizations evaluate employees annually, prepare a budget before the beginning of the fiscal year, conduct periodic financial audits to safeguard the public trust, maintain relatively current financial records, periodically evaluate rates and fees, plan and budget for capital replacement needs, conduct advance planning for future growth, and make best efforts to meet regulatory requirements.

Table 4-8: Water Provider Management Practices

	Calaveras CWD	Calaveras PUD	City of Angels	East Bay MUD	Union PUD	Valley Springs PUD	Wallace CSD
Evaluate employees annually	A	A	A	A	N	A	A
Prepare timely budget	A	A	I	A	A	A	A
Periodic financial audits	A	A	A	A	A	A	A
Current financial records	A	A	A	A	A	A	A
Evaluate rates	A	A	A	A	A	I	A
Capital planning	A	I	I	A	I	I	A
Advance growth planning	A	I	A	I	I	I	A
Compliance Efforts	I	A	A	A	I	A	A

Note:
A = Practiced adequately, I= Practiced but improvement needed, N= Not practiced, - = Not Applicable

An evaluation of the adequacy of management practices is shown in Table 4-8. The first four indicators are self-explanatory. Adequate evaluation of rates and fees means updating wastewater rates and development impact fees with reasonable frequency. Adequate capital planning would involve a multi-year capital improvement plan (or comparable planning effort) for capital replacement and, if relevant, expansion. Advance growth planning is adequate when it discloses existing capacity, anticipated needs, and projected demand throughout the existing service area and SOI. Agencies are assumed to have made best efforts to meet regulatory requirements if they had no drinking water health violations since 2005.

Of the agencies under LAFCO jurisdiction, six are professionally staffed and managed by full-time personnel—the City of Angels, CCWD, CPUD, EBMUD, UPUD and VSPUD. The professionally staffed agencies generally demonstrate best management practices. WCSD relies on board members for administrative purposes. For operation and maintenance, WCSD contracts with CCWD.

All providers, with the exception of UPUD, evaluate employees annually. With regard to financial documents and records, all of the agencies prepare timely budgets, perform annual audits, and keep up-to-date wastewater financial information.

Angels, CCWD, CPUD, EBMUD, and VSPUD most recently updated their rates in 2010 and typically update rates annually. VSPUD has not raised rates in several years but has revised its tier schedule annually, and its rates are comparable to the median.

Most of the water providers engage in appropriate long-term capital planning and advanced growth planning. Of the seven water providers, only CCWD, CPUD, EBMUD and WCSD have adopted formal capital improvement plans covering multi-year planning horizons. Angels and UPUD have completed capital improvement plans as part of other planning documents, such as water master plans; however, these plans do not indicate anticipated timing for the capital improvements. VSPUD plans for capital improvements annually in the budget. As indicated in the upcoming Financial Section, while many of these agencies have capital improvement plans, the plans do not allow for adequate capital reinvestment to cover depreciation.

In the 2003 Water MSR, LAFCO required CPUD to initiate long-term capital planning. That effort paid off: CPUD prepared a master plan and has updated it recently. VSPUD does not conduct planning to address long-term capital needs or growth projections, and may benefit from a similar requirement in this MSR cycle.

Angels, CCWD and UPUD were the only providers to plan for projected water needs for their SOI or projected service areas. While CPUD, WCSD, VSPUD and EBMUD have planning documents with future projections and probable needs to meet those projections, the documents did not provide a comprehensive overview of projected demand for the entirety of the respective agency's existing SOI.

Of the domestic water providers, only CCWD and UPUD have had health violations since 2005.

For specifics on the management practices of each agency, refer to the agency's respective chapter in this document.

LOCAL ACCOUNTABILITY AND GOVERNANCE

Table 4-9: Water Agency Accountability and Governance Measures

	Calaveras CWD	Calaveras PUD	City of Angels	East Bay MUD	Union PUD	Valley Springs PUD	Wallace CSD
Contested election since 2000	✓	✓	✓	✓	✓	✓	✓
Constituent outreach activities	✓	✓	✓	✓	○	✓	✓
MSR Disclosure	✓	○	✓	✓	✓	✓	✓

✓ = Occurred or adequately practiced, ○ = needs improvement, × = Did not occur or not practiced

Accountability of a governing body is signified by a combination of several indicators. The indicators chosen here are limited to: 1) constituent interest in the agency's activities as indicated by the rate of contested elections, 2) agency efforts to engage and educate constituents through outreach activities in addition to legally required activities such as agenda posting and public meetings, and 3) transparency of the agency as indicated by cooperation with the MSR process and information disclosure. These measures are shown in Table 4-9.

Each of the providers have held contested elections sometime since 2000.

All agencies prepare and post meeting agendas and make minutes available as required. Additional outreach efforts include websites, newsletters, updates enclosed with bills, articles in

community newspapers, distribution of educational materials, and televising of meetings. Angels, CCWD, EBMUD, VSPUD, and WCSD maintain websites where public documents are available. Angels, CCWD and VSPUD distribute information to local media outlets or contribute to the community newspapers. WCSD holds meetings to inform the public of any issues of concern. CCWD holds public workshops and study sessions for consideration of important items. UPUD should consider constructing a website where useful information can be made readily available to the public, and CPUD should consider adding more substantive information to its website.

Ultimately, each of the agencies demonstrated accountability in its disclosure of information and cooperation with LAFCO. While CPUD submitted information requested initially by LAFCO and answered questions during an interview; the District faced challenges in responding to LAFCO follow-up questions. All providers disclosed a majority of the information that was requested by LAFCO relating to water service.

SHARED FACILITIES

The agencies practice extensive facility sharing through the surface water transport and storage facilities along the North Fork Stanislaus and the Mokelumne. In addition, all agencies were members of the Calaveras County Water/Wastewater Technical Advisory Team, which was intended to discuss common issues and concerns regarding water and wastewater services within the County. The Advisory Team was initiated as a result of the last MSR cycle, but as of the drafting of this report, was not active.

There has been a significant degree of turnover in management at the various service providers during the course of the MSR process. This offers new opportunities for regional collaboration and overcoming old conflicts. LAFCO may wish to help facilitate efforts toward collaboration by re-establishing its Water/Wastewater Committee to further the dialog among the providers.

Table 4-10: Facility Sharing Practices and Opportunities

Agency	Current Practices	Opportunities
City of Angels	1) Membership in the Utica Power Authority (UPA) that operates the Utica Hydroelectric Project and the Angels Hydroelectric Project.	1) No further opportunities for facility sharing were identified.
CCWD	1) Receives raw water from CPUD through Schaads Reservoir. 2) Interties with VSPUD and with Blue Lake Springs MWC for emergency water sharing; Blue Lake Springs relies on CCWD for half of its water supply. 3) Contract services operating the WCSD water system, and occasional contract services to VSPUD. 4) Collaboration with other Mokelumne River stakeholder on a conjunctive use project. 5) Participation in regional water planning, including the IRWMP for the Mokelumne, Calaveras and Stanislaus watersheds, and the County General Plan Update.	1) Negotiations with EBMUD and San Joaquin County on building infrastructure for Mokelumne River water. 2) WCSD needs surface water; there may be opportunities for Mokelumne River water supplies for Wallace through collaboration with EBMUD and/or CPUD. 3) Groundwater management planning efforts for the East San Joaquin Groundwater Basin underlying west Calaveras County.
CPUD	1) Supplier of raw water to CCWD through its Schaads Reservoir.	1) May be possible to use existing CPUD facilities for tapping Mokelumne River water to serve surface water to Valley Springs and nearby growth areas.
EBMUD	1) Partnership with Alpine, Amador and Calaveras counties to conduct a study of the upper Mokelumne watershed. 2) Participation in the Upper Mokelumne River Watershed Authority.	1) EBMUD, CCWD and AWA are considering collaboration on a regional water treatment plant.
UPUD	1) Sharing of ownership and control of Utica Power Authority (UPA), a joint powers agency with City of Angels. 2) Receives raw water from UPA via CCWD through its North Fork Stanislaus River Project which is released from CCWD's Collierville Tunnel into UPA's Utica Hydroelectric Project. UPA transfers water via Lower Utica Canal into UPUD facilities.	1) No further opportunities for facility sharing were identified.
Valley Springs PUD	1) Intertie with the CCWD Jenny Lind system, which is available in case of emergencies.	1) May include receiving treated water through CCWD's system. Discussions with CCWD have paused as new developments have been put on hold.
Wallace CSD	1) Facility sharing and cost reduction by contracting with CCWD for maintenance and operation of WCSD facilities, and collaborating with CCWD on volume purchases, as well as CCWD and the City of Angels on equipment maintenance.	1) Opportunity to borrow any necessary equipment from the nearby districts in Linden and Lockeford should the need arise.

FINANCING

The financial ability of agencies to provide services is affected by available financing sources. This section identifies the revenue sources currently available to the service providers, provides a comparison of water rates, and assesses the financial ability of agencies to provide services.

FINANCING CONSTRAINTS

The boards of each of the public sector water providers are responsible for establishing service charges. Service charges are restricted to the amount needed to recover the costs of providing water service. The water rates and rate structures are not subject to regulation by other agencies. The agencies can and often do increase rates annually. Generally, there is no voter approval requirement for rate increases or for the issuance of water revenue bonds, although there is a Prop. 218 ratepayer approval process.

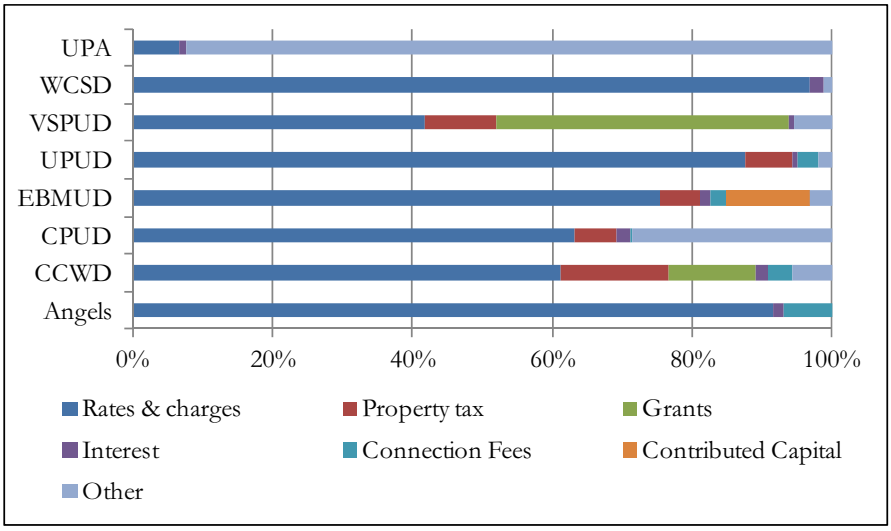
Similarly, connection fees for the public sector water providers are established by the respective boards to recover the costs of extending infrastructure and capacity to new development. The fees must be reasonable and may not be used to subsidize operating costs.

Water providers must maintain an enterprise fund for the water utility separate from other funds, and may not use water utility revenues to finance unrelated governmental activities. Local agencies providing water services are required to maintain separate enterprise funds to ensure that water-related finances are not commingled with the finances of other enterprises.

FINANCING SOURCES

Water rates, property tax and assessments, and connection fees are the primary financing sources for water enterprises in the MSR area. The water service providers rely to differing degrees on these and other sources for revenues.

Figure 4-7: Water Financing Sources, FY 10-11



The various financing sources and the degree to which the agencies rely on them are shown in Figure 4-7. CCWD and VSPUD benefit favorably from property taxes, receiving 15 and 10 percent of operating revenues from this source. By comparison, the other providers receive 6-7 percent of revenues from taxes. The City of Angels is unique in that its property tax revenues support its general fund, and none of these revenues support the water and wastewater enterprises. CPUD and EBMUD benefit from other revenue sources: hydroelectric power sales and interest. The City of Angels and WCSD rely most heavily on rates.

Water service charges constituted 74 percent of water revenues on average throughout the County in FY 10-11.

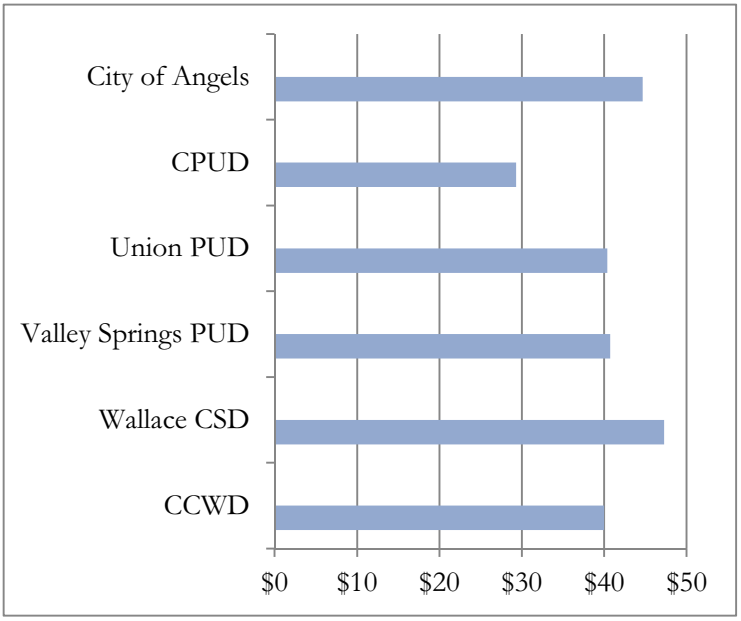
Throughout the County, connection fees contributed on average to two percent of water revenues for each agency in FY 10-11. The percentage of revenues attributable to connection fees was highest for City of Angels at seven percent. For CPUD, VSPUD and WCSD, connection fees were zero percent of water revenue in FY 10-11.

Only CCWD and VSPUD received income from grants in FY 10-11, which was 12 and 42 percent, respectively, of each District's water utility income. CCWD also receives revenue from hydroelectric power projects.

Rate Comparison

Compared with other municipal services, there are relatively few financing constraints for water enterprises. Generally, agencies may establish service charges on a cost-of-service basis and are not required to obtain voter approval for rate increases or restructuring, although Proposition 218 does offer ratepayers certain veto powers. The boards of each of the public sector water providers are responsible for establishing service charges. Service charges are restricted to the amount needed to recover the costs of providing water service. The water rates and rate structures are not subject to regulation by other agencies. Service providers can and often do increase rates annually.

Figure 4-8: Water Residential Rates, 2011



Water rates charged by the median provider were $40.58 monthly for residences in 2011. The City of Angels' and WCSD rates are highest at $45 and $47 respectively, and CPUD charges the lowest rates at $29 monthly. Most of the providers regularly update rates to ensure adequate financing for operating costs and appropriate service levels. VSPUD has not increased rates in several years, but has revised it tier schedule annually. VSPUD rates are comparable to the median.

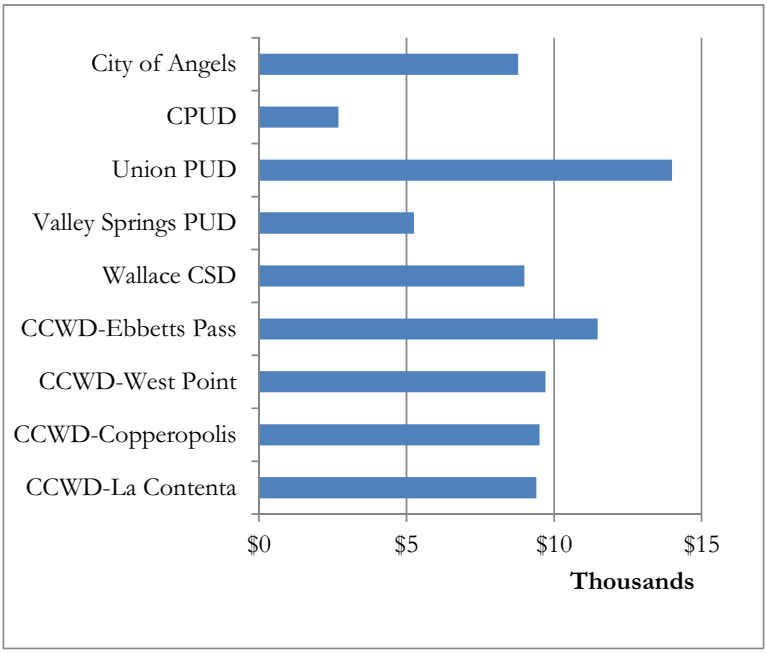
Each provider charges a fixed monthly flat rate according to the type of connection which generally includes a certain amount of monthly flow and additional rates based on any further usage. CCWD charges the same rate for all of its service areas. While these rates based on usage are intended to promote conservation, the WCSD threshold amount of water that is included in its base rate is set too high as it exceeds the average use of a residential connection.

Connection Fees

There is no voter approval requirement for setting connection fees or for issuing water revenue bonds. Connection fees for government water providers are established by each of the respective boards to recover the costs of extending infrastructure and capacity to new development. The fees

must be justifiable, reasonable related to costs of new service and may not be used to subsidize operating costs.

Figure 4-9: Water Connection Fees, 2011



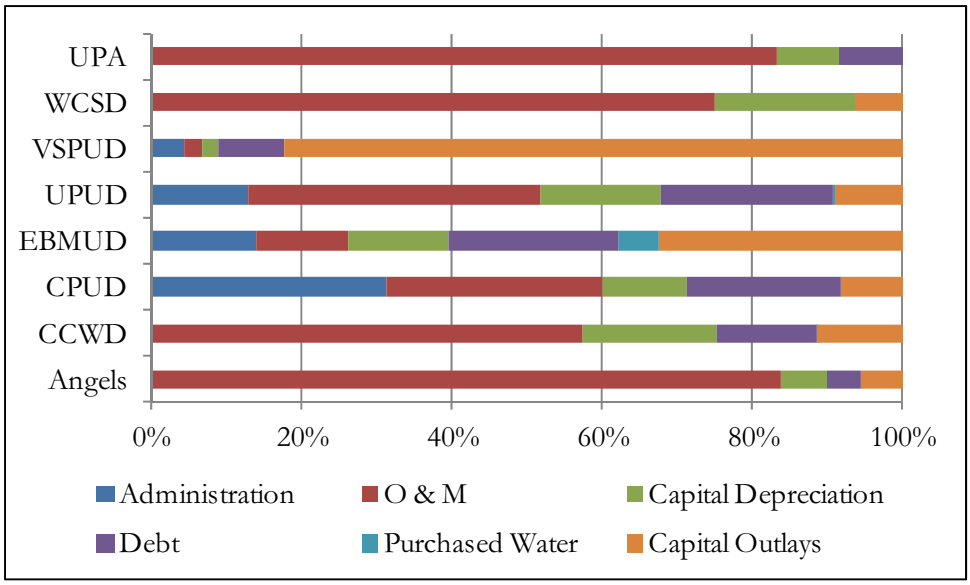
In Calaveras County, providers charge a wide range of connection fees. The median water connection fee of $9,406 for a new residential connection is charged by CCWD in the La Contenta system. The connection fees charged by CPUD is the lowest among Calaveras County service providers at $2,695. Connection fees are highest in UPUD and CCWD's Ebbetts Pass.

A majority of the providers updated their connection fees sometime between 2009 and 2011. Those agencies that have not recently updated their connection fees typically have a lower than median connection fee. Specifically, VSPUD last updated fees in 2006 and charges the second lowest connection fee of the providers. While the City of Angels also last updated its connection fee in 2006, the City charges closes to the median fee charged by other providers in the County.

CPUD should re-examine its rates and connection fees to ensure that financing is sufficient to provide adequate service levels.

COSTS

Figure 4-10: Water Costs by Type, FY 10-11



Water service costs vary between providers due to differences in services provided, water source, treatment methods, service areas, infrastructure age, maintenance efforts and capital financing approaches.

Generally, water enterprise expenditures have been categorized as administration,

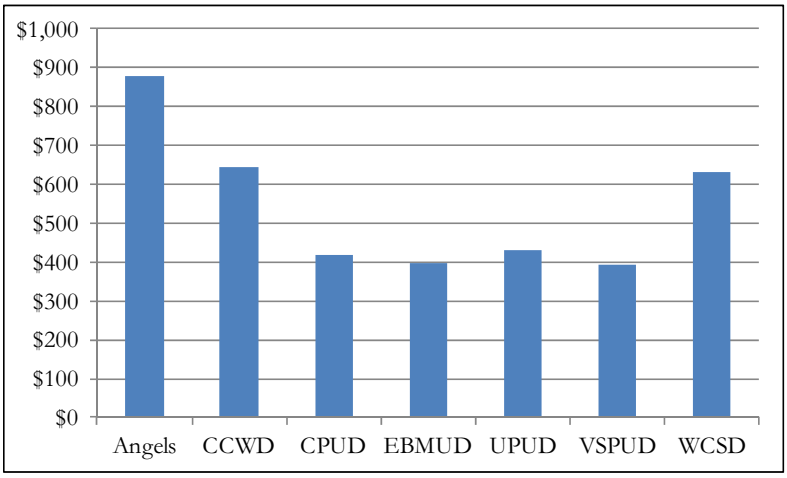
operations, purchased water, capital expenditure, capital depreciation, debt and other, as shown in the water profile tables in each service provider's respective chapter.

For half of the providers, administrative costs were not available and are included in operations costs. Administrative and operations costs combined make up 56 percent of water enterprise costs on average. City of Angels, WCSD and UPA spent the greatest portion on operations.

Capital depreciation comprised on average 12 percent of all expenditures. Capital outlays averaged 19 percent among the providers, but varied dramatically among the providers. EBMUD and VSPUD had significantly higher capital outlays than depreciation (capital consumed due to wear and tear), and City of Angels' capital outlays were on par with depreciation. CCWD, CPUD, UPUD and UPA spent less on capital acquisitions than they lost in depreciation of assets in FY 10-11.

Debt payments comprised on average 13 percent of water expenditures. CPUD, EBMUD and UPUD spent the highest portion (21-23 percent) on debt repayment. For CCWD, VSPUD and UPA, debt composed a moderate portion of costs. And for City of Angels and WCSD, debt expenses were relatively low.

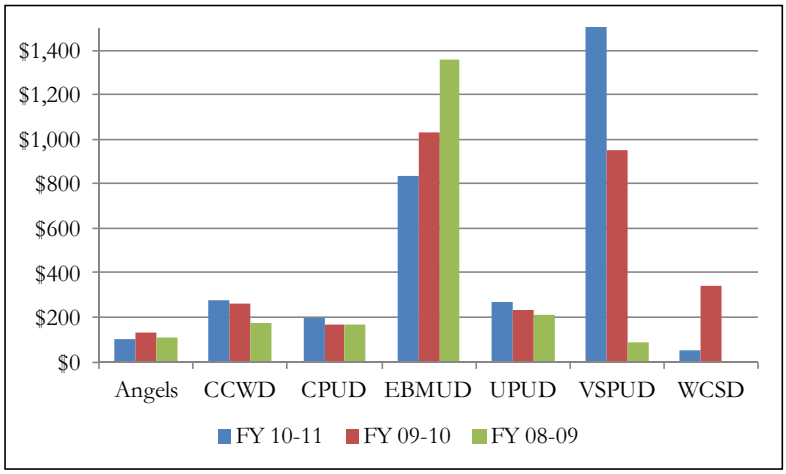
Figure 4-11: Operating Costs per Connection, FY 10-11



The providers vary substantially in size of operations. Comparisons may be drawn by focusing on costs per connection served, as shown in Figure 4-11. Operating costs (administration and operations and maintenance) per connection averaged $541. Costs were relatively low in CPUD, EBMUD, UPUD and VSPUD. Operating costs were higher at CCWD and WCSD with $645 and $631 in costs per connection, respectively. The highest operating costs per connection were in Angels at $879 per connection served.

Capital depreciation is the expense associated with the wearing out, breaking down, or technological obsolescence of physical capital, such as sewer pipes, treatment plants and pumping stations. Agencies should be replacing these worn out assets as they depreciate.

Figure 4-12: Capital Costs per Connection (FYs 09-11)

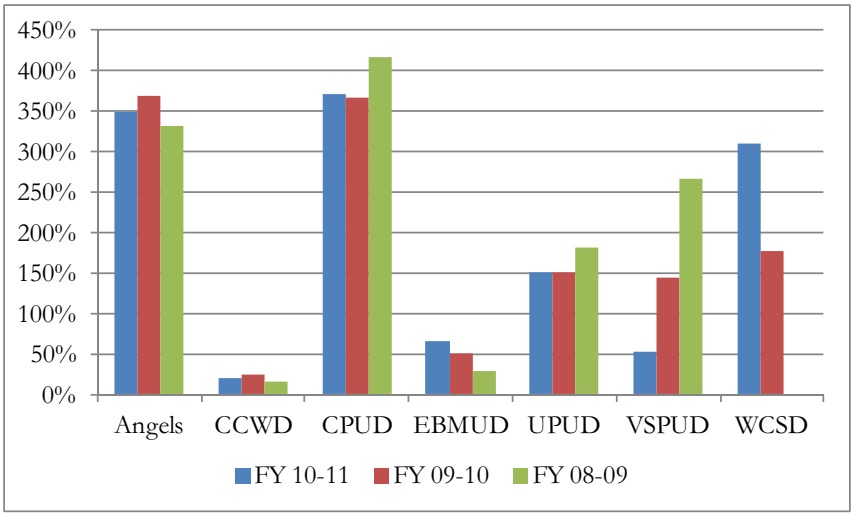


Capital costs per connection is an indicator of the degree to which an agency is reinvesting in its infrastructure. Capital costs (costs of building new capital assets and debt payments) per connection were highest in EBMUD and VSPUD. EBMUD spent $1,074 in capital costs per connection over the three-year period. VSPUD spent $2,090 on capital costs per connection over the three-year period, due to

construction of a new well in FY 09-10 and FY 10-11. Capital costs per connection were lowest for City of Angels and WCSD, which averaged $114 and $130 respectively. CCWD, CPUD and UPUD had moderate levels of capital spending per connection, although they spent significantly less than EBMUD, as shown in Figure 4-12.

RESERVES

Figure 4-13: Unrestricted Financial Reserves as % of Costs



Water providers rely on their financial reserves to weather recessions, to cover unexpected capital projects and as a form of savings to accumulate what is needed to make needed capital repairs. Unrestricted financial reserves reflect savings that can be used for any water-related purpose, and are the most flexible funds and most useful for sustaining service levels during tough economic times or for unanticipated capital projects. CCWD and EBMUD had the lowest levels of unrestricted financial reserves as a percent of total costs, as shown in Figure 4-13. WCSD managed to increase its unrestricted financial reserves during the recession. As the smallest service provider one would expect WCSD to maintain a higher reserve ratio in preparation for a rainy day; however, more recently, the District reported that it has had to reduce reserves to finance capital improvements due to deferred maintenance.

FINANCIAL ABILITY

All providers' financial ability to provide services is constrained by available revenues.

City of Angels reported that its current financing level is generally adequate to deliver services. The City benefits from a relatively compact service area, which means it does not have as expansive system to maintain compared with other providers. The City's water enterprise is supported almost entirely by rates, so the recession has not affected the City as much as agencies reliant on property taxes.

Since the recession started, CCWD has faced declining revenues and has implemented staff lay-offs and dramatically reduced capital spending.

CPUD reported that the current financing level is adequate to deliver services, and indicated that additional funding is needed to provide for paid staffing to provide adequate service levels to meet both existing and future demand.

UPUD reported that the current financing level is adequate to deliver services at an acceptable level of service.

VSPUD reported that its financing level is minimally adequate to deliver services due to declines in property tax revenue.

WCSD reported that its financing level is insufficient to provide adequate services due to the District's debt load, small size and fixed costs of service. The District had expected new growth to help reduce its average cost per connection and provide a larger base over which to spread fixed costs, and estimates that it needs an additional 30 connections to operate within its means. To make debt payments, the District is deferring maintenance of District facilities. The District has reduced maintenance costs in recent years by contracting with CCWD for services.

GOVERNANCE ALTERNATIVES

This section discusses issues and problems with respect to the current organization of water service in Calaveras County and, in light of anticipated growth, with its future organization. It identifies alternatives to the current government structure of service providers for the Commission to consider as it updates the spheres of influence of the affected districts, including the following, among others:

ANNEXATION OF SERVICE AREAS OUTSIDE BOUNDS

Annexation of extraterritorial service areas is an option that would promote logical boundaries. Since 1991, service providers have been required by law to obtain LAFCO approval to serve territory outside their boundaries.[48]

There are several water purveyors presently serving territory outside their boundaries:

- This practice is most extensive at CCWD's operation in Ebbetts Pass where CCWD sells treated water to three private service providers—Blue Lake Springs MWC, Fly-In Acres, and Snowshoe Springs—all of which are struggling financially and/or operationally.[49]
- VSPUD is presently providing water service to a single parcel to the south west of its bounds.
- The City of Angels is providing water services to five connections outside of the city limits.
- CPUD's water service area extends beyond its boundary area to serve approximately 18 domestic connections outside bounds. Domestic customers outside District bounds are located along Jesus Maria Road outside Mokelumne Hill, and south of San Andreas along Highway 49.

ALIGNMENT OF BOUNDARIES BETWEEN VSPUD, UPUD AND CCWD

The southern boundary of VSPUD abuts CCWD's Jenny Lind service area, and the northern boundary of UPUD abuts CCWD's Ebbetts Pass service area. LAFCO may wish to consider clarifying which agency will serve future growth in these abutting areas.

Difficulties arise as CCWD's boundary and SOI encompass the entire County. CCWD's service areas are not exact and are not presently regulated by LAFCO action. Consequently, maps showing the District's service areas are not precise, but illustrate generally areas and parcels that are served.

[48] Government Code §56133. The requirement does not apply to contracts for raw water transfers or sale of surplus water for agricultural purposes.

[49] Since CCWD boundaries are nearly countywide, these services are provided within District boundaries; however, they are provided outside the bounds of CCWD improvement districts and CCWD-mapped service areas.

Along the border between VSPUD's boundary and CCWD's service area, there are small areas of potential overlap. VSPUD reported that there have been no issues regarding duplication of services within its bounds or misunderstandings as to which entity will serve an area.[50] However, it is recommended that both districts coordinate to clearly delineate where CCWD is presently and plans to serve in the future to mitigate potential confusion and encroaching by CCWD into VSPUD's adopted boundaries.

In the same area adjacent to SR 12, there is a single parcel that is not within VSPUD's boundaries and SOI or CCWD's service area and has no designated wastewater provider. The parcel in question is presently receiving water service from VSPUD outside of district boundaries. An option may be to include this area in VSPUD's SOI should VSPUD annex the parcel and decide to extend wastewater services there as well.

Similarly, along the border of the CCWD and UPUD service areas, just north of Murphys, there is the potential for overlap if future growth areas are not clearly defined for both agencies. There are several proposed developments in this area of question, which UPUD reported would likely be best served by CCWD due to topography of the area; however, future growth would be best served through eliminating any potential for misunderstanding between the two agencies, the County, and the developers, by defining future growth areas for both agencies.

CLEARLY DEFINED CCWD PLANNED SERVICE AREAS

Clearly delineated planned service areas for CCWD, defined by a meaningful limited service sphere, is an option to communicate to nearby districts and county planners where CCWD shall provide future service, particularly in high growth areas. In the last MSR cycle, the CCWD water sphere mistakenly included territory in other service providers' boundaries.

The CCWD boundary is nearly countywide which may have made some sense at the time of the District's formation because CCWD was initially intended to acquire and protect water rights throughout the County. CCWD continues to have certain countywide functions in its roles as guardian of area-of-origin water rights, as groundwater monitor, and in providing wholesale water supplies to other service providers with failed or low-yielding wells. In addition, CCWD collects some property taxes from properties throughout the County. Although it makes sense for CCWD to continue providing countywide services (in exchange for countywide property taxes that it receives), it is neither logical nor fair for CCWD to be empowered to provide retail services within another agency's territory.

A problem that dates back to CCWD formation is that the principal act did not provide any restrictions on CCWD's ability to provide retail water services within territory already being served by another local agency or a private company. The principal act precludes CCWD from providing wastewater services within the bounds of another wastewater provider without that provider's consent. By contrast, other countywide water and wastewater districts, such as Amador Water Agency, were formed under principal acts that clearly precluded them from infringing on the territory and rights of other water and wastewater purveyors. In order to logically organize the service areas of water and wastewater providers in the County, LAFCO establishes SOIs (which often extend beyond agency boundaries) and these SOIs carry little weight if they overlap with another providers' SOI. In order to ensure that SOIs for all water and wastewater agencies are logical, LAFCO should seriously consider clarifying precisely what the CCWD water and wastewater

[50] Correspondence with Mike Fischer, General Manager VSPUD, July 26, 2010.

SOIs are doing. For example, the water SOI should clearly not restrict CCWD's ability to serve as guardian for area-of-origin water rights, provide irrigation water services outside other irrigation providers' SOIs, and to conduct groundwater management activities. This report also suggests that LAFCO seriously consider removal of other water and wastewater agencies' SOI areas from the CCWD water and wastewater SOIs.

LAFCO may wish to further restrict where CCWD may provide domestic water as well as wastewater services to developable areas that are adjacent to or within proximity of existing infrastructure. The vision of the forthcoming County General Plan Update is to do precisely that, and to prevent leapfrog development that requires expensive infrastructure extension. In order to further restrict CCWD domestic water and wastewater activities to areas that are logical future service areas, LAFCO could take several different approaches. This option would focus CCWD SOI territory in areas being designated as Community Plan Areas in the County General Plan. Another alternative would be to focus CCWD SOI territory only in areas with proposed and planned development. Yet another approach would be based on zoning approved in the County General Plan Update, and might allow inclusion in the CCWD's SOIs of residential at or above particular densities as well as commercial and industrial zoned lands, but might exclude agriculture and low-density residential zoned lands.

A limited service sphere for CCWD would openly define areas that CCWD can feasibly serve in the future. This tool could be used by county planners to determine what new developments can be served by CCWD as opposed to private septic systems. A limited service sphere would define existing and planned areas of service for domestic water only and would not impact the District's countywide functions.

ENHANCING EFFICIENCIES AND PROFESSIONALISM

Smaller agencies often struggle with the costs of meeting regulatory requirements and a lack of economies of scale. Several small providers—WCSD and two mutual water companies—already receive some water and operational services from CCWD. They may benefit from ceasing water operations and formally annexing into CCWD water service areas.

Smaller districts face several challenges in providing adequate service levels. Smaller constituent sizes typically mean higher rates to provide sufficient financing, and these districts usually rely heavily on volunteer time from board members and sometimes from staff. Due to the lower staffing levels and volunteer nature of the boards, these Districts often face difficulties remaining in compliance with State requirements and keeping up with the demands of the utility systems.

WCSD has reported facing these challenges, as well as others, and chose to contract with CCWD in 2009 for operations and maintenance to reduce costs and improve efficiencies. WCSD reported that it is satisfied with the services provided by CCWD, and consequently, has started negotiations with CCWD to transfer the ownership and operation of the WCSD water and wastewater systems to CCWD. The WCSD Board adopted a resolution in December 2010 to authorize a proposal to CCWD for the extension of contract utility services and the annexation of water and wastewater services.[51] WCSD and CCWD have come to an agreement on the manner in which services will be taken over by CCWD. Takeover by CCWD is contingent upon the approval of a real property assessment district by land owners and approval of the assessment by WCSD. WCSD has submitted an application to LAFCO for approval of the transfer of services. If LAFCO

[51] WCSD Resolution 2010-04.

would like Wallace CSD to be able to initiate a change in its powers to exclude these services, then removal of the area from Wallace CSD's water and wastewater SOIs would be logical, as would inclusion of these areas within CCWD water and wastewater SOIs.

WCSD cited the following as the reasoning behind the proposed transfer:[52]

1) Wallace is a small community that does not have sufficient size to finance independent water and wastewater systems, which has resulted in the District's benefit assessment subsidizing water and wastewater services as opposed to the other services offered by WCSD.
2) In the event of an emergency, WCSD does not have the ability to extend into another debt obligation, should it be necessary.
3) Water and wastewater utilities are demanding on board members and require significant time commitments to remain abreast of issues and regulations, which can be draining in a small community such as Wallace with a limited pool to draw from.
4) Full-time professional staff to operate and maintain the facilities will provide the constituents with a higher quality of water and wastewater services and enhanced access for customer service issues.
5) Economies of scale may allow CCWD to reduce utility rates in the community.
6) CCWD's rate structure will allow it to pump private septic tanks, which WCSD has had challenges regulating.
7) CCWD may have greater leverage to bring surface water to the area, which is presently dependent on groundwater.

Other districts may also benefit from a similar cooperative relationship or reorganization with a larger professionally operated agency.

The three private water companies in the Arnold area receive wholesale water services from CCWD, and are located adjacent to CCWD's service area. Fly-In Acres was considering formation of a CCWD assessment district to finance infrastructure replacement at the time this report was drafted. The other two private companies also face service challenges. Hence, LAFCO may wish to empower local property owners in Blue Lake Springs and Snowshoe to be taken over by CCWD.

MSR DETERMINATIONS

PRESENT AND PLANNED CAPACITY OF PUBLIC FACILITIES AND INFRASTRUCTURE NEEDS

Capacity of facilities and infrastructure needs for each agency are reported in determinations for each provider in their respective chapters.

- In areas of potential high growth, which includes Wallace, Valley Springs, San Andreas, and Copper Cove, agencies should make efforts to complete long-term growth projections in order to adequately plan and time capacity improvement needs.
- Potential sources of future water supply include recycled water, and water rights and associated storage facilities on the North Fork Stanislaus, Mokelumne, and Calaveras rivers.

[52] WCSD, Resolution 2010-04 Perspective, December 16, 2010.

- EBMUD does not use all of its Mokelumne River water rights, but projects that its supply will decrease in the future due to senior water rights and increased instream flow requirements, and that supply will not meet its customers' needs during droughts.
- CCWD projects a 110 percent increase in demand between 2010 and 2015, once the District takes on additional irrigation customers. EBMUD anticipates the lowest rate of growth over the next 20 years, while WCSD anticipates the highest growth rate after 2015.
- In Calaveras County, the average residence used 477 gallons of water per day in 2010. UPUD and WCSD residential connections used on significantly more than the Angels, CCWD and EBMUD connections.
- Those agencies with the greatest water loss in their systems include CCWD, CPUD and UPUD; all of which operate raw water transport facilities, such as open ditches, where evaporation and seepage significantly contribute to water losses.
- The most pressing infrastructure needs facing water service providers is that several providers are relying on groundwater wells that are located in overdrafted groundwater basins and/or are not producing adequate yields to provide water security to constituents. Specifically, VSPUD, Wallace CSD and Blue Lake Springs MWC rely on groundwater and need surface water.
- There are untapped area-of-origin water rights on the Mokelumne River that would ideally be put to use in delivering surface water to VSPUD and Wallace CSD.
- Several providers reported a need to replace aged or undersized pipelines. Many providers would benefit from an overall assessment of their distribution system to identify and prioritize replacement needs.

ADEQUACY OF PUBLIC SERVICES

- The water facilities of all of the providers were found to be reasonably well operated and maintained by DPH.
- A majority of the providers are not connected to other water systems through interties. Water reliability is enhanced when there is an adequate backup water supply.
- The providers generally complied with water contaminant limits and monitoring and reporting requirements. CCWD and UPUD should make efforts to ensure better compliance records.
- Most of the domestic water providers reported that water pressure is generally adequate within their service areas. CCWD, CPUD, and UPUD reported some areas with fire flow concerns and related capital needs.
- Angels, CCWD and UPUD were the only providers to plan for projected water needs for their SOI or projected service areas. While CPUD, WCSD, VSPUD and EBMUD have planning documents with future projections and probable needs to meet those projections, the documents did not provide a comprehensive overview of projected demand for the entirety of the respective agency's existing SOI.
- Most of the water providers engage in appropriate long-term capital planning. VSPUD does not conduct planning to address long-term capital needs.
- Providers should initiate or improve upon existing capital improvement planning to more adequately plan for future growth and minimize deferred maintenance. A capital improvement

plan should generally include anticipated timing for proposed projects. Updates should be made annually to capital plans based on actual outcomes and adjusting for any changes in available financing and anticipated growth.

- The providers shall demonstrate the adequacy of their domestic water supplies for existing service areas and future growth areas in order for such territory to be included in their spheres of influence. Providers shall make best efforts to specify their existing and projected water rights, the safe annual yield of their water resources, and existing and projected water needs. Providers shall also specify their curtailment policies for drought years.

GROWTH AND POPULATION PROJECTIONS

- Although most developments are on hold pending economic recovery, there is potential for significant growth in certain communities in Calaveras, should many of the previously planned and proposed developments come to fruition. Agencies are being conservative about short-term growth estimates and are wary to estimate long-term growth potential.
- There is potential for growth in agricultural water demand.
- Comprehensive analysis of demand is a recommended practice. Comparison of projected demand growth to both regional and local demographic and economic forecasts also helps ensure responsible planning of adequate water for future growth.
- Agencies are encouraged to implement conservation best management practices to promote water use efficiency. Requirements that installed landscaping be climate-appropriate and drought-tolerant would reduce water needs. Agencies should set rates at a level that promotes conservation.

FINANCIAL ABILITY OF AGENCIES TO PROVIDE SERVICES

- Most of the service providers follow best practices by annually updating their rates and connection fees. Notably, VSPUD has not substantively increased rates in several years.
- City of Angels has the most stable revenue base due to reliance on rates rather than property taxes, and has weathered the recession without tapping its financial reserves.
- Operational spending levels per connection at CPUD, UPUD and VSPUD are on par with EBMUD. Operation costs per connection are highest at City of Angels, and CCWD and WCSD have above-average operating costs.
- CPUD and WCSD had relatively low rates of capital reinvestment. Several of the agencies—CCWD and VSPUD—have relatively lower levels of unrestricted reserves compared with their expenditure levels.
- EBMUD is the only provider to consistently spend more on capital investments than it consumed due to regular wear and tear over the last five years. City of Angels, CPUD, UPUD, and WCSD all spent significantly less on capital outlays than they lost through the wearing out of assets. By deferring maintenance on capital infrastructure, the other providers will face aging systems with substantial financing needs in the future.
- VSPUD has not updated rates in several years, although its rates are comparable to the median. CPUD should re-examine its rates and connection fees to ensure that financing is sufficient to provide adequate service levels.

STATUS OF, AND OPPORTUNITIES FOR, SHARED FACILITIES

- The agencies practice extensive facility sharing through the surface water transport and storage facilities along the North Fork Stanislaus and the Mokelumne.
- WCSD practices facility sharing and costs reductions by contracting with CCWD for operation and maintenance of the WCSD water system.
- CCWD has interties with VSPUD and the Blue Lake Springs MWC.
- There is a potential for facility sharing by using EBMUD or CCWD facilities to bring Mokelumne surface water to WCSD and VSPUD.
- Opportunities for resource sharing on the Highway 4 corridor include the upcoming availability of Douglas Flat tertiary recycled water as a dry-year water resource for irrigation downhill in the UPUD service area. Recycled water availability in dry years could enable UPUD to commit more of its water resources to growth in domestic water users.
- LAFCO encourages the efficient use of water resources, equipment and infrastructure. The service providers formerly held collaborative discussions on facility sharing issues through a technical advisory team, but the collaboration disintegrated. LAFCO may wish to consider facilitating these providers afresh to promote collaboration focused on addressing issues raised in the 2012 MSR.

ACCOUNTABILITY FOR COMMUNITY SERVICE NEEDS

- Angels, CCWD, CPUD, EBMUD, VSPUD, and WCSD demonstrated accountability based on the measures of contested elections, constituent outreach efforts, and disclosure practices. UPUD faces accountability and management challenges due to a lack of constituent outreach activities, including lack of a website.
- Each of the providers fully cooperated with the MSR process and responded to all requests for information.
- It is recommended that UPUD create and maintain a website to improve transparency and inform the public. While CPUD hosts a website, it lacks key documents such as a budget and rates.

GOVERNMENTAL STRUCTURE AND OPERATIONAL EFFICIENCIES

The report identifies and describes a number of policy options for the Commission to consider as it updates the spheres of influence of the affected districts, including the following, among others:

- WCSD has initiated the process to transfer water and wastewater services to CCWD.
- Annexation of adjacent growth areas is an option for a number of providers.
- Annexation of extraterritorial service areas is an option that would promote logical boundaries and equity. Most of the providers provide service to some connections outside of their boundaries. Angels, VSPUD and CPUD serve outside of their bounds.
- The City of Angels intends to eventually annex territory within UPUD bounds west of Carson Hill. Detachment of that area from UPUD and annexation to the City is an option.

- Clearly delineated planned service areas for CCWD, defined by a meaningful limited service sphere, is an option to communicate to nearby districts and county planners where CCWD shall provide future service, particularly in high growth areas. A potential option to address this issue may be a limited service sphere for CCWD to define clearly areas that CCWD can feasibly serve in the future.
- The southern boundary of VSPUD abuts CCWD's Jenny Lind service area, and the northern boundary of UPUD abuts CCWD's Ebbetts Pass service area. LAFCO may wish to consider clarifying which agency will serve future growth in these abutting areas.
- Smaller agencies often struggle with the costs of meeting regulatory requirements and a lack of economies of scale. Several small providers—WCSD and two mutual water companies—already receive some water and operational services from CCWD. They may benefit from ceasing water operations and formally annexing into CCWD water service areas.

5. WASTEWATER

This chapter reviews wastewater services in Calaveras County, including how these services are provided by the City of Angels Camp, special districts and other providers not under LAFCO jurisdiction. The chapter addresses questions relating to growth and population projections, current and future service needs, infrastructure needs, service adequacy, and financing. Government structure options are identified for local agencies under LAFCO jurisdiction.

The chapter focuses on those agencies collecting, treating and disposing wastewater. Wastewater is the water that drains from sinks, showers, washers, and toilets. Wastewater includes water used for outdoor purposes, such as draining chlorinated pool water, commercial car washes and industrial processes. Sanitary sewer pipelines carry sewage to a wastewater treatment plant, where it is treated, sanitized and discharged. Private septic systems are not the focus.

OVERVIEW

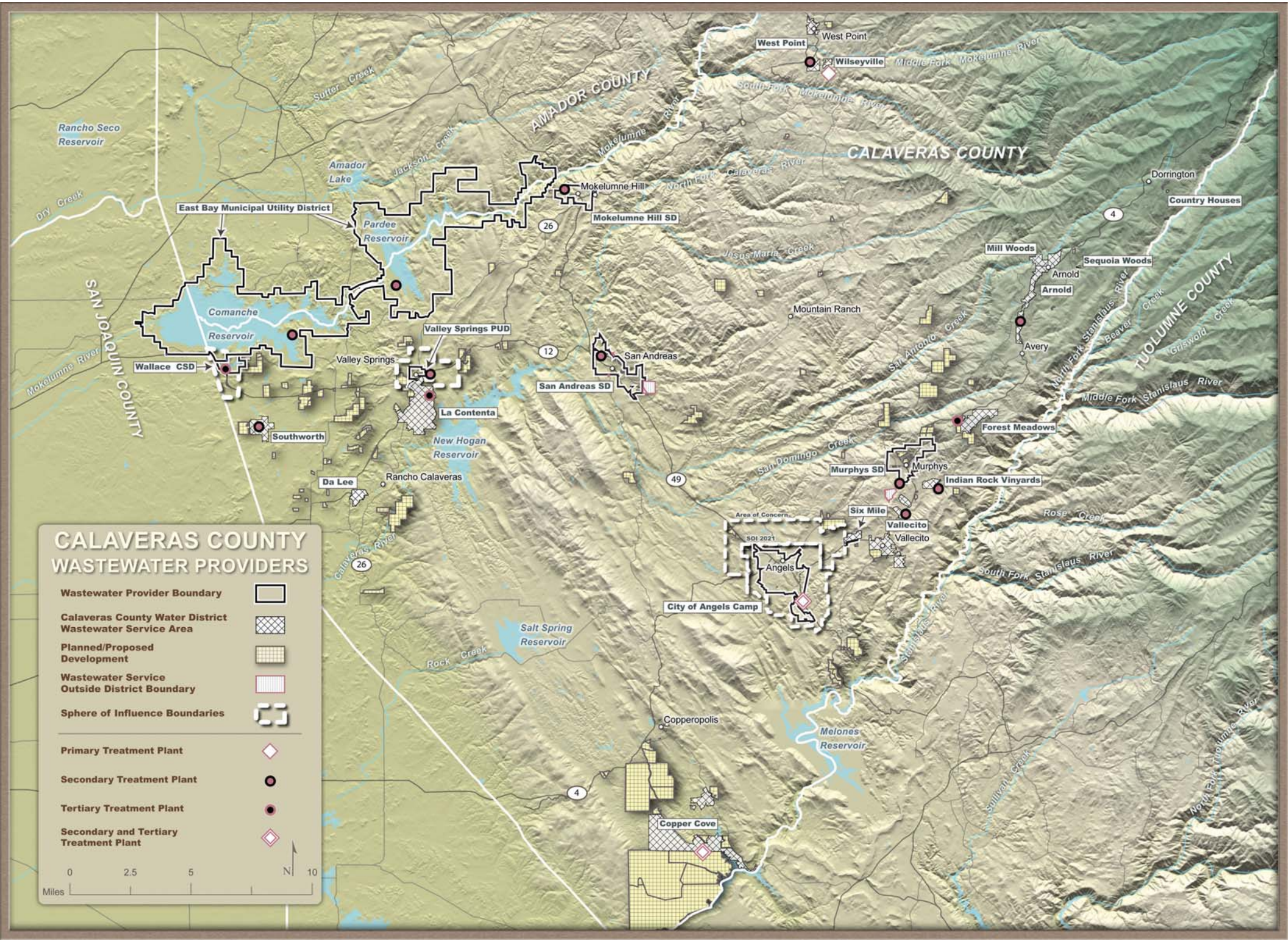
This section provides an overview of wastewater providers, service areas and unserved areas where septic systems are used.

Eight wastewater providers serve Calaveras County, as shown in Table 5-1. Of the eight providers, only Calaveras County Water District's (CCWD) Six Mile service area has an intertie with another system (City of Angels) for treatment purposes. All of the other systems are self-sufficient and provide all services related to wastewater, including collection, treatment, disposal, and maintenance. Valley Springs Public Utility District (VSPUD) has the potential to connect to the CCWD La Contenta service area should the need arise. Due to small service areas separated by large expanses and geographical limitations, the other providers have limited or no opportunity to connect to other systems. All of the agencies provide services directly with agency staff, with the exception of Wallace Community Service District (WCSD), which provides all services by contract with CCWD. For a map of providers and wastewater facilities, see Figure 5-1.

Table 5-1: Wastewater Service Providers, 2010

Agency	Connections	Collection	Treatment	Disposal	Maintenance
City of Angels	1,570	●	●	●	●
Calaveras County Water District	4,593				
Arnold	457	●	●	●	●
Copper Cove	1,741	●	●	●	●
Country Houses	25	●	●	●	●
Forest Meadows	604	●	●	●	●
Indian Rock	20	●	●	●	●
La Contenta	960	●	●	●	●
Millwoods	195	●	●	●	●
Sequoia Woods/Mtn. Retreat	23	●	●	●	●
Six Mile	65	●	○	○	●
Southworth	58	●	●	●	●
Vallecito/Douglas Flat	254	●	●	●	●
West Point	163	●	●	●	●
Wilseyville Camp	28	●	●	●	●
East Bay Municpal Utility District	272	●	●	●	●
Mokelumne Hill Sanitary District	349	●	●	●	●
Murphys Sanitary District	783	●	●	●	●
San Andreas Sanitary District	897	●	●	●	●
Valley Springs Public Utility District	261	●	●	●	●
Wallace Community Service District	97	○	○	○	○

Key:
● service provided currently by agency staff
○ service provided by contract with another service provider


CALAVERAS COUNTY
WASTEWATER PROVIDERS
Wastewater Provider Boundary
Calaveras County Water District Wastewater Service Area
Planned/Proposed Development
Wastewater Service Outside District Boundary
Sphere of Influence Boundaries
Primary Treatment Plant
Secondary Treatment Plant
Tertiary Treatment Plant
Secondary and Tertiary Treatment Plant
0 2.5 5 10
Miles
N
AMADOR COUNTY
CALAVERAS COUNTY
TUOLUMNE COUNTY
SAN JOAQUIN COUNTY
West Point
Wilseyville
Middle Fork Mokelumne River
South Fork Mokelumne River
Mokelumne River
Sutter Creek
Rancho Seco Reservoir
Amador Lake
Jackson Creek
Dry Creek
East Bay Municipal Utility District
Pardee Reservoir
Mokelumne Hill
Mokelumne Hill SD
North Fork Calaveras River
Jesus Maria Creek
Dorrington
Country Houses
Mill Woods
Sequoia Woods
Arnold
Mountain Ranch
Comanche Reservoir
Valley Springs PUD
Valley Springs
Wallace CSD
San Andreas
San Andreas SD
San Antonio Creek
Avery
North Fork Stanislaus River
Beaver Creek
Griswold Creek
Middle Fork Stanislaus River
Forest Meadows
La Contenta
Southworth
New Hogan Reservoir
San Domingo Creek
Murphys SD
Murphys
Indian Rock Vinyards
Da Lee
Rancho Calaveras
Area of Concern
SOI 2021
Six Mile
Vallecito
Angels
Rose Creek
South Fork Stanislaus River
City of Angels Camp
Calaveras River
Salt Spring Reservoir
Rock Creek
Copperopolis
Melones Reservoir
Sullivan Creek
Copper Cove
North Fork Mokelumne River
12
26
49
4

SERVICE PROVIDERS

City of Angels

The City provides wastewater collection, treatment and disposal services to approximately 1,569 sewer customers.[53] All services are provided directly by the City through city staff. The City owns and operates a wastewater treatment plant, and inspects, cleans and repairs sewer collection infrastructure in its service area, such as pipes, manholes and lift stations. The City also conducts related billing, collection and accounting activities.

The City provides services to areas within the city limits, and also provides treatment and disposal services to CCWD by contract for the Six Mile Village community located to the west of the City along SR 4. Six-Mile Village consists of approximately 66 single family residential connections and two commercial connections. CCWD provides wastewater collection services for the community. Effluent is then pumped from the Six Mile area to the City's WWTP, where is it is treated and disposed of with other city wastewater.

Unserved areas within the City's boundaries include several vacant and undeveloped parcels scattered throughout the City. Connections to these areas will be added as needed when projects occur. There are also three connections served by septic systems within the City's limits—two on the south side of the City and one on the north side.

Calaveras County Water District

Calaveras County Water District (CCWD) provides wastewater collection, treatment and disposal services in 13 communities in the County:

- Arnold: The Arnold WWTP receives flows primarily from the Arnold commercial corridor, White Pines, and residences in the area, as well as from a school and mobile home park in Avery just outside the improvement district bounds. The Arnold WWTP provides secondary treatment.
- Copper Cover: The largest of CCWD's wastewater systems, the system serves 1,751 connections in the communities of Copper Cove, Conner Estates, Copper Meadows, Saddle Creek and Lake Tulloch. CCWD has recently expanded the system capacity to serve this high-growth service area. The Copper Cove system provides tertiary treatment.
- Country Houses: This small system provides primary treatment and disposal at onsite leachfields to 25 connections on septic systems located east of Dorrington.
- Forest Meadows: This system provides tertiary treatment, storage and disposal to 610 connections in the residential golf course community. The Forest Meadows service area is approximately four miles east of Murphys.
- Indian Rock: This small system provides secondary treatment via recirculating bed sand filtration and disposal at onsite leachfields to 20 connections on septic systems. The service area is located 1.7 miles southeast of Murphys.

[53] Calaveras LAFCO, *City of Angels MSR*, 12/21/09, p. 39.

- La Contenta: This system provides tertiary treatment, storage and disposal to 960 connections in the La Contenta subdivision, New Hogan and adjacent areas. The service area is located adjacent to Valley Springs.
- Millwoods: This system provides secondary treatment via septic tank settling and disposal at onsite leachfields to 194 connections on modified, forced-storage septic tanks. The service area is located in northern Arnold on Manuel Road.
- Sequoia Woods/Mountain Retreat: This small system provides disposal at an onsite leachfield to 23 connections on septic systems; it was built in 1974 and transferred to CCWD in 1984. The service area encompasses two small subdivisions—Mountain Retreat and Sequoia Woods—with vacation properties located south of Big Trees State Park.
- Six Mile: A collection system conveys effluent from 66 connections on septic tanks to the City of Angels for treatment and disposal. CCWD contracts with the City of Angels for these services.
- Southworth: This small system provides secondary treatment via recirculating sand filters, a storage pond and disposal to an onsite sprayfield. The facility serves 58 connections on septic tanks within the Southworth Ranch Estates subdivision located southeast of Wallace.
- Vallecito/Douglas Flat: This system provides secondary treatment to 256 connections in the communities of Vallecito and Douglas Flat located near Murphys.
- West Point: This system provides secondary treatment to 163 connections on septic tanks in the West Point community.
- Wilseyville Camp: This small system provides secondary treatment via an aerated pond and 10-acre spray field disposal system. It serves 29 connections and is considered at buildout. Wilseyville is located 0.5 miles from the West Point WWTP, but CCWD found it would not be cost-effective to combine the two systems.

Although CCWD's adopted boundaries nearly encompass the entire county, the District's wastewater services are limited to these 13 communities. All other areas, excluding those served by the other providers reviewed here, are considered unserved and have private septic systems.

With the exception of Six Mile Village, CCWD provides collection treatment and disposal services directly with district staff. In addition to these communities, CCWD also operates and maintains WCSD's wastewater facilities by contract and provides back up emergency services to other providers when necessary.

East Bay Municipal Utility District

East Bay Municipal Utility District (EBMUD) operates wastewater collection, treatment and disposal services at its Camanche South Shore recreation area and its upcountry headquarters facility Pardee Center. EBMUD has two wastewater treatment plants in the portion of the Mokelumne watershed that lies within Calaveras County. An annual average of 26 mg of wastewater is generated in the multi-county watershed, 98 percent of this is used in the recreational areas.[54]

[54] EBMUD, *Mokelumne Watershed and Facilities Assessment Report*, November 2007, p. 5-15.

Mokelumne Hill Sanitary District

Mokelumne Hill Sanitary District (MHSD) provides wastewater collection, treatment and disposal services to the unincorporated community of Mokelumne Hill. All operation and management services are provided directly by the agency through district staff, with the exception of billing which is provided by Calaveras Public Utility District. CCWD provides backup emergency response in the event that the District does not have the necessary tools or equipment to repair a problem.

MHSD provides services only within the District's boundaries. There are no unserved areas with septic systems within the District.

Murphys Sanitary District

Murphys Sanitary District (MSD) provides wastewater collection, treatment and disposal services directly through district staff. The District owns and operates a wastewater treatment plant and sewer collection infrastructure in the District's bounds. The District does not provide or receive any services via contract; however, the District does rely on all nearby wastewater providers for backup in the event of an emergency.

MSD provides wastewater collection, treatment and disposal services to the unincorporated community of Murphys and surrounding areas within its boundaries. In addition, the District has one wastewater connection outside of the District's boundaries which serves Ironstone Vineyards, across the street from the WWTP. The Vineyard connected to the District's system in the early 1980's in order to receive reclaimed water from MSD's treatment facility. Records show that in 1999, when the contract with the vineyards was renegotiated, MSD began collecting sewage from the winery, employee housing and a residence for the ranch manager.[55] There are no records of LAFCO approving service outside of the District's bounds, and the area was never annexed by MSD. MSD reported that there are no areas within its boundaries served by septic systems.

San Andreas Sanitary District

San Andreas Sanitary District (SASD) provides wastewater collection, treatment and disposal services to the community of San Andreas and neighboring areas. All services are provided directly by the agency through district staff.

SASD provides all wastewater services within its bounds, which includes the unincorporated community of San Andreas and some neighboring areas. In addition, the District provides wastewater services to six residential connections outside of the District's boundaries located on Gold Strike Road. These connections were added between 1991 and 1994. The residents in that area originally wanted to be included within the District's boundaries, but it was determined that annexation was too costly for six connections.[56] According to the District's regulations and ordinances, it will not accept any additional connections outside of its boundaries.

Valley Springs Public Utility District

Valley Springs Public Utility District (VSPUD) provides wastewater collection, treatment and disposal services to the unincorporated Town of Valley Springs. All services are provided directly by the agency with district staff.

[55] MSD, Agreement for the Supply and Acceptance of Reclaimed Water, April 26th, 1999, p. 1.

[56] Interview with Steve Schimp, District Manager, SASD, April 5, 2010.

VSPUD provides wastewater services only within the District's boundaries. Unserved areas within the District's bounds include the undeveloped portion of the District in the northwest corner of its bounds and approximately eight parcels with septic systems that are on the outskirts of the town. The District does not have a policy requiring hook-up to the District's sewer system.

Wallace Community Service District

Wallace Community Service District (WCSD) provides wastewater collection, treatment and disposal services. Administration services are provided by the District by Board Members. WCSD previously provided all services with district staff; however, in 2009, in an effort to reduce costs, the Board chose to start contracting with CCWD for operation and maintenance of the WCSD facilities. CCWD staff serving WCSD including a part-time facility manager (.25 FTEs approximately) and six field workers to operate and maintain the District's facilities.

WCSD provides wastewater services to the gated community of Wallace Lake Estates and the unincorporated Town of Wallace—Zones 1 and 2 of the District—which is entirely within the District's boundaries. The District does not provide services outside of its boundaries. Unserved areas within the District's boundaries include several undeveloped lots and approximately five properties with septic tanks, located in Zone 2 (outside of the Wallace Lake Estates subdivision), which are not attached to the District's system. The structures served by the private septic systems were already standing when the subdivision was constructed and have not been required to attach to the system.

Septic systems

Areas that do not lie within the service areas of these providers do not receive central wastewater treatment services, but rather rely on septic systems. There are approximately 19,000 residential septic systems throughout the County.[57] Septic systems are located on individual properties, provide treatment of wastewater, collect sludge, and discharge effluent into a leach field. Property owners are responsible for septic system maintenance and sludge disposal. Septic systems are allowed in most areas of the County only if there is no nearby public sewer system. Generally, a public sewer system is considered available if a sewer system or a building connection to a sewer system is within 200 feet of the building, in accordance with the County Building Code, which cites Section 713.4 of the Uniform Plumbing Code of the International Association of Plumbing and Mechanical Officials.

Septic systems do not remove pollutants to the extent wastewater treatment plants do. If septic systems are not properly designed, sewage may surface creating odors and health risks. Public health concerns include seepage into groundwater and surface water. Septic system maintenance and failure carry relatively high and potentially unexpected costs which may be unaffordable to some low-income residents.[58]

SWRCB is in the process of developing new septic system regulations, which may greatly impact the cost of maintaining a private septic system. These new regulations are discussed further in the Service Adequacy section.

[57] Authors' estimate based on estimated households in the County less the number of residential wastewater connections.

[58] EDAW, 2005.

SERVICE DEMAND

This section provides various indicators of service demand, such as wastewater demand, the number of service connections, and projected demand. Please refer to Chapter 2 for population, growth projections and growth strategies.

DEMAND DRIVERS

Wastewater demand is affected primarily by growth in residential population and commercial development, and secondarily by factors such as water usage and conservation efforts. Many of the water demand drivers discussed in Chapter 3 are also wastewater demand drivers during dry periods. During dry weather, wastewater flows are less than potable water consumed. Water used for outdoor purposes, such as landscape, irrigation, firefighting, street cleaning, and residential car washing, does not flow into the wastewater system.[59]

The increased use of water-efficient plumbing fixtures reduces wastewater flows. Ultra-low flush toilets (ULFTs) use one-quarter as much water as older models. Washing machine replacement is effective in reducing wastewater flows. Conventional washers discharge about 42 gallons of water per load compared with 26 gallons for efficient new, frontloading washers.

Wastewater flow includes not only discharges from residences, businesses, institutions, and industrial establishments, but also infiltration and inflow. Infiltration refers to groundwater that seeps into sewer pipes through cracks, pipe joints and other system leaks. Inflow refers to rainwater that enters the sewer system from sources such as yard and patio drains, roof gutter downspouts, uncapped cleanouts, pond or pool overflow drains, footing drains, cross-connections with storm drains, and even holes in manhole covers.[60] Infiltration and inflow tend to affect older sewer systems to a greater degree. Infiltration and inflow rates are highest during or right after heavy rain. They are the primary factors driving peak flows through the wastewater system and a major consideration in capacity planning and costs.

Organic loading levels affect the wastewater treatment process. Organic loading originates from toilets and kitchen sink disposals and is the amount of organic matter in the wastewater. In addition to organic pollutants, wastewater entering a treatment plant may contain metals, nutrients, sediment, bacteria, and viruses. Toxic substances used in the home—motor oil, paint, household cleaners, and pesticides—or substances released by industries also make their way into sanitary sewers. Industries and commercial enterprises may produce high-strength wastewater or wastewater containing pollutants that could upset treatment processes.

[59] Although some drains in outdoor stairwells and yards connect to the wastewater system, most water used for outdoor purposes flows into the stormwater system.

[60] A sewer cleanout is a pipe rising from the underground sewer line to the ground surface with a removable cap; it is used to access the sewer line to clear blockages.

SERVICE CONNECTIONS

There are a total of 8,822 separate sewer connections in the County, as shown in Table 5-2. Of these, 98 percent were residential; while commercial, industrial and institutional users accounted for two percent of sewer connections.

Table 5-2: Wastewater Connections, 2010

Service Area	Residential	Commercial	Industrial	Total
City of Angels	1,412	157	1	1,570
Calaveras County Water District	4,292	301	0	4,593
Arnold	317	140	0	457
Copper Cove	1,687	54	0	1,741
Country Houses	25	0	0	25
Forest Meadows	598	6	0	604
Indian Rock	20	0	0	20
La Contenta	909	51	0	960
Millwoods	195	0	0	195
Sequoia Woods	23	0	0	23
Six Mile	65	0	0	65
Southworth	58	0	0	58
Vallecito/Douglas Flat	244	10	0	254
West Point	123	40	0	163
Wilseyville Camp	28	0	0	28
East Bay Municipal Utility District	263	9	0	272
Camanche South Shore	260	3	0	263
Pardee Center	3	6	0	9
Mokelumne Hill Sanitary District	342	7	0	349
Murphys Sanitary District	679	104	0	783
San Andreas Sanitary District	735	162	0	897
Valley Springs Public Utility District	185	76	0	261
Wallace Community Service District	95	2	0	97
Total	8,003	818	1	8,822

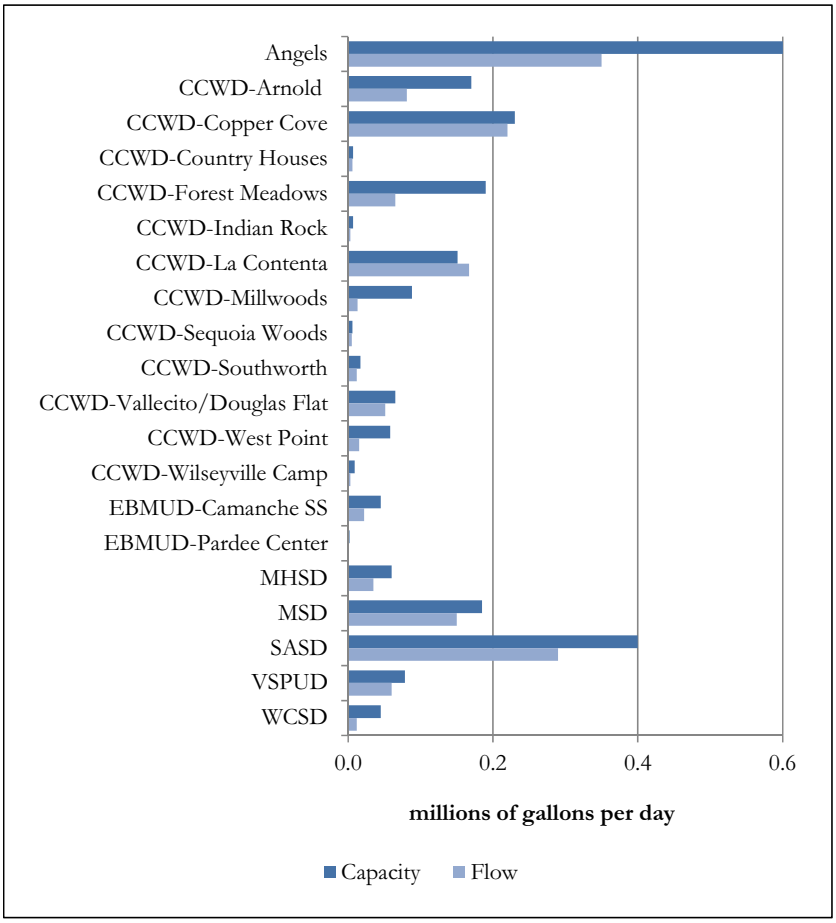
The City of Angels and CCWD serve the most connections. Commercial users are concentrated in Angels, San Andreas and Murphys. The number of connections served by EBMUD in its recreation areas is estimated as it serves a transient population that varies by day and season.

WASTEWATER FLOWS

Dry Weather Flows

Each wastewater treatment plant has permitted capacity as determined by the RWQCB. Permitted capacity is typically defined as average dry weather flow (ADWF).

Figure 5-2: Wastewater Flow and Plant Capacity (mgd), 2009



As shown in Figure 5-2, dry weather flows of nearly all of the wastewater providers are within the capacity of their treatment plants. The exception is the CCWD La Contenta WWTP, where existing ADWF exceeds permitted plant capacity. In addition, CCWD's Copper Cove WWTP is operating at 96 percent permitted capacity. Capacity has been expanded by recent capital improvements at both facilities, but permitted capacity has not been increased yet for either facility. Once the permit has been updated for La Contenta, the treatment capacity will be increased from .15 mgd to 0.2 mgd. Improvements to the Copper Cove WWTP will increase permitted capacity from 0.23 mgd to 0.35 mgd.[61]

Districts with ADWFs that absorb more than 70 percent of the treatment system's permitted capacity include CCWD in Country Houses (86 percent), MSD (81 percent), CCWD in Vallecito (78 percent), VSPUD (77 percent), SASD (73 percent), and CCWD's Southworth and Sequoia Woods communities (71 percent). The Country Houses, Sequoia Woods and Southworth communities are essentially built out, and additional connections are not anticipated there. While on average SASD uses 73 percent of its capacity, there are high school, hospital and County facilities, which lead to a rise in population during weekdays and a subsequent increase in demand for wastewater services. SASD reported that this increase in demand essentially maximizes the capacity of the WWTP during work days, and there is consequently limited space for additional connections.[62] Flows at the other facilities are gradually approaching capacity constraints, and the agencies will need to begin making plans for treatment capacity expansions. Best management practices call for service providers to begin planning WWTP capacity expansion once flows exceed 85 percent of capacity.

MSD reported that although permitted capacity is 0.2 mgd, based on the existing contract for irrigation with the vineyard and the 100-year pond water balance, the actual capacity of the system is 0.185 mgd. For the purpose of this analysis, 0.185 mgd was used as the existing capacity of the system.

[61] RWQCB Order No. R5-2010-0070 approved capacity expansion upon completion of wastewater pond No. 6; that project was in the design phase in FY 10-11 at the time this report was prepared.

[62] Correspondence with Bill Perley, SASD Board Member, August 17, 2010.

While MHSD is permitted to dispose to land 0.15 mgd during the dry season, the capacity of the system is constrained by the amount of effluent that can be stored in the reservoir during the rainy season. Based on the capacity of the storage reservoir, the District estimated that it could treat up to approximately 60,000 gpd on average during wet weather months.[63]

Dry weather wastewater flows at the remainder of the treatment facilities are within the capacity of those systems. In areas of potential high growth, which includes Wallace, Valley Springs, San Andreas, and Copper Cove, districts should make efforts to complete long-term growth projections in order to adequately plan and time capacity improvement needs.

WCSD's dry weather flows presently absorb only 27 percent of the District's capacity; which leaves capacity for approximately 267 additional connections. Should development occur at the pace that the District anticipates, an additional mirror plant to double the District's treatment capacity would be necessary by about 2020.

Table 5-3: Available Dry Weather Permitted Capacity, 2009

Treatment Plant	Remaining Capacity (gpd)	ADWF per Connection (2009)	Remaining Capacity in Connections
Angels	250,000	223	1,121
CCWD-Arnold	89,000	168	531
CCWD-Copper Cove	10,000	126	80
CCWD-Country Houses			
CCWD-Forest Meadows	125,000	107	1,173
CCWD-Indian Rock	4,000	150	27
CCWD-La Contenta	-16,000	173	-92
CCWD-Millwoods	75,000	67	1,125
CCWD-Sequoia Woods	1,000	217	5
CCWD-Southworth	5,000	207	24
CCWD-Vallecito/Douglas Flat	14,000	193	72
CCWD-West Point	43,000	91	470
CCWD-Wilseyville Camp	6,000	107	56
EBMUD-Camanche SS	23,000	84	275
EBMUD-Pardee Center	750	139	5
MHSD[1]	25,000	100	249
MSD[2]	50,000	192	261
SASD[3]	3,960	180	22
VSPUD	18,500	230	80
WCSD	33,000	124	267

Note:

(1) MHSD capacity is limited by its treated effluent storage capacity during wet weather months. The District estimated that during wet weather months, it has sufficient capacity to treat and store on average 0.06 mgd.

(2) MSD remaining capacity is based on actual capacity of the WWTF as reported by the District, which is less than the permitted capacity of the system.

(3) Remaining capacity reported by SASD based on peak demand periods (weekday work hours) when plant capacity is maximized.

Based on VSPUD's existing ADWF, the District has capacity to serve 78 additional connections. The District reported that it has reserved capacity for 12 connections for in-fill and has 63 will serve letters from 2006 for the Charboneau Estates development, which was on hold as of the drafting of this report. Consequently, the WWTP only has space to serve three connections in addition to those for which capacity was reserved. The District reported that it does not anticipate any additional connections in the next two years.

Based on existing ADWF, it appears that SASD has the capacity to serve 340 additional connections; however, the District reported that during peak demand periods on workdays, the WWTP reaches maximum capacity and consequently only has space for

[63] Interview with Phil McCartney, MHSD Plant Operator, October 14, 2010.

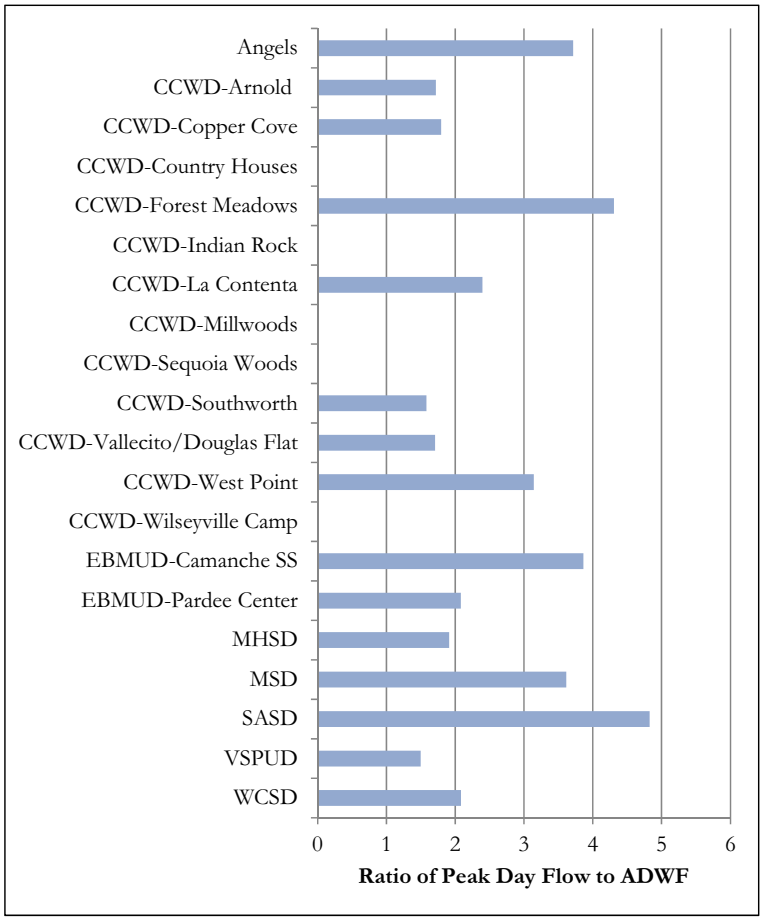
approximately 22 additional connections. The District has no reserve for in-fill development. There are a total of 351 proposed or planned new dwelling units within or neighboring the District's boundaries, based on interest indicated by developers. Many of these potential developments are on hold until the economy improves. The District does not have sufficient capacity to serve these proposed developments, and reported that capacity at the existing WWTP cannot be increased. In order to accommodate the proposed developments, a new plant would be necessary.[64]

The Angels, MHSD, and CCWD Millwoods facilities, have capacity to serve at least over 1,000 additional connections which will provide sufficient capacity well into the future.

Although there is remaining capacity in CCWD's Country Houses, Indian Rock, Southworth, and Wilseyville Camp facilities, these communities are built-out with little or no growth potential, according to the County's General Plan. While CCWD's Sequoia Woods has some remaining treatment capacity, there is reportedly no remaining disposal capacity in the system. CCWD reported that the flow meters in this system may need to be recalibrated to accurately determine the extent of the issue,[65] and later reported that the District plans to expand the leachfield.

Peak Flows

Figure 5-3: Wastewater Peaking Factors, 2009



Wastewater flows depend not only on discharges from wastewater users, but also on the condition of the wastewater collection system and weather conditions due to infiltration and inflow (discussed at the beginning of this section). Peak day wet weather flow in excess of the ADWF permitted capacity does not indicate that the agency is exceeding permitted conditions. Peak effluent flows may be stored and treated as the flow diminishes.

The peaking factor is the ratio of peak day wet weather flows to average dry weather flows. The median system in Calaveras had a peaking factor of 2.1 in 2009. The VSPUD and MHSD systems appear to be in the best condition with peaking factors of less than two. The WCSD and EBMUD Pardee systems also appear to be in relatively good condition with peaking factors of 2.1. Angels (3.7), MSD (3.6), SASD (4.8),

[64] Interview with Tillman Sherman, SASD Board Member, August 18, 2010.

[65] Interview with Bill Perley, CCWD Utilities Director, July 30, 2010.

and CCWD's Forest Meadows (4.3) system have the highest peaking factor with related infrastructure needs to replace old collection mains to reduce infiltration and inflow.

SASD reported a problem with infiltration and inflow, as peak wet weather flows exceeded the historical permitted wet weather capacity of the plant of 0.9 mgd and permitted wet weather discharge of 1.5 mgd. A storm by-pass device allows the diversion of excess storm inflow to a high-flow treatment system and storage reservoir, which has a capacity of six million gallons. However, in 2005, during a 40-year rain event, the District experienced a peaking factor of 12. Since then, the District has replaced approximately 600 feet of main which has corrected those areas with the most significant infiltration and inflow problems. In addition, the District has completed WWTP improvements that increased the peak flow capacity of the trickling filter in the plant from 0.9 mgd to 1.5 mgd and increased the maximum wet weather discharge from 1.5 mgd to 1.9 mgd.

The Forest Meadows collection system was rehabilitated in 2002; however, I/I remains high. CCWD has identified a portion of the force main that needs replacement due to failures and leaks, which may reduce I/I issues. The total project would cost $200,000, but is presently unfunded.

While CCWD's La Contenta system appears to have moderate I/I with a peaking factor of 2.4, peak hourly wet weather flows imply that I/I may be more significant than shown. The system has had peak hourly flows of 1.1 mgd, or a peaking factor of 6.6, which exceeds the plant pumping capacity. An engineering report from 2003 identified the need for a regular pipeline and manhole inspection to identify and prioritize collection system needs and replacements. [66] CCWD staff suggests that a major source of extraneous I/I flows enter through gravity sewer pipelines and manholes located adjacent to creek beds and drainage courses.[67]

Angels reported that is trying to purchase CCTV equipment, in order to inspect the its entire system and prioritize areas susceptible to I/I.

DEMAND MANAGEMENT STRATEGIES

Demand management strategies include sewer infiltration and inflow control, industrial pretreatment and recycling, and water conservation.

Service providers can reduce infiltration and inflow with capital improvements, such as pipeline rehabilitation, manhole cover replacement, and root eradication. They can also address sources on private property, such as broken service lines, uncapped cleanouts and exterior drains, through public education, incentives and regulatory strategies.

Communities use various techniques to prohibit discharge of unwanted pollutants or to reduce the quantity and strength of wastewater discharged to sewers. These techniques include 1) permit limitations on the strength and contaminant levels of industrial and commercial wastewater; 2) increased rates or surcharges on high-strength wastes; and 3) incentives or requirements for water recycling and reuse within the industrial or commercial operation.

Water conservation measures are effective for reducing average wastewater flows, but have less impact on peak flows, which are usually strongly influenced by infiltration and inflow contributions. Water conservation has little or no impact on organic loading to the treatment plant.

[66] ECO:LOGIC Engineering and Bartle Wells Associates, *New Hogan/La Contenta Wastewater System Facilities and Financing Plan*, February 2003, p. 22.

[67] Ibid, p. 16.

PROJECTED DEMAND

Wastewater flow will increase over time with population and economic growth, as shown in Table 5-4.

Table 5-4: Projected ADWF, 2009 through 2025

Service Area	2009	2015	2020	2025
Angels[1]	0.350	0.390	0.440	0.480
CCWD-Arnold[2]	0.075	0.101	0.127	0.137
CCWD-Copper Cove	0.225	0.663	1.100	1.550
CCWD-Country Houses	0.003	0.003	0.003	0.003
CCWD-Forest Meadows	0.057	0.098	0.138	0.188
CCWD-Indian Rock	0.003	0.003	0.003	0.003
CCWD-La Contenta	0.190	0.220	0.250	0.298
CCWD-Millwoods	0.014	0.014	0.014	0.014
CCWD-Sequoia Woods	0.004	0.004	0.004	0.004
CCWD-Southworth	0.012	0.012	0.013	0.013
CCWD-Vallecito/Douglas Flat	0.056	0.062	0.067	0.067
CCWD-West Point	0.021	0.026	0.031	0.034
CCWD-Wilseyville Camp	0.005	0.005	0.005	0.005
EBMUD-Camanche SS	0.022	0.022	0.022	0.022
EBMUD-Pardee Center	0.001	0.001	0.001	0.001
MHSD[3]	0.035	0.036	0.036	0.037
MSD[4]	0.150	0.155	0.159	0.163
SASD[5]	0.290	0.330	0.370	0.410
VSPUD[6]	0.060	0.073	0.120	0.167
WCSD[7]	0.012	0.015	0.032	0.049

Notes:

(1) CCWD Six Mile Village flows are included in the City of Angels projected flows. Flow projections based on City estimates of two percent annual growth in the General Plan.

(2) CCWD projected flows as reported in the Supplement to the Water Element of the County General Plan.

(3) MHSD growth based on district estimates of approximately one additional connection per year.

(4) MSD flow projections based on growth rates reported in the County General Plan Supplement.

(5) SASD reported projections from LAFCO's request for information.

(6) Projections through 2015 based on VSPUD short-term growth estimates and reserve for infill. Long-term estimates based on planned and proposed developments within the District's boundaries and SOI.

(7) Based on short-term and long-term potential developments as reported by WCSD.

INFRASTRUCTURE NEEDS OR DEFICIENCIES

This section outlines infrastructure needs and deficiencies of the individual agencies. Each of the wastewater providers' treatment, conveyance and storage facilities is listed in Table 5-5, along with capacity, facility condition and the year the facility was constructed.

Table 5-5: Wastewater Facilities, 2010

Provider	Facility	Capacity	Condition	Year Built
Angels	City of Angels WWTP	0.6 mgd	Good	1968
Angels	Hollman Reservoir	260 af	Fair	1975
CCWD-Arnold	Arnold WWTP	.170 mgd	Good	1986
CCWD-Copper Cove	Copper Cove WWTP Secondary	.230 mgd	Good	1970s
CCWD-Copper Cove	Copper Cove WWTP Tertiary	.950 mgd	Good	2000
CCWD-Country Houses	Hoopa Circle Leachfield	.007 mgd	Good	1973
CCWD-Forest Meadows	Forest Meadows WWTP	.190 mgd	Good	2000
CCWD-Indian Rock	Indian Rock Leachfields	.006 mgd	Good	1990
CCWD-La Contenta	La Contenta WWTP	.151 mgd	Good	1992
CCWD-Millwoods	Millwoods Leachfield	.088 mgd	Fair	1990
CCWD-Sequoia Woods	Mountain Retreat Leachfield	.006 mgd	Good	1984
CCWD-Southworth	Southworth WWTP	.017 mgd	Good	1990
CCWD-Vallecito/Douglas Flat	Vallecito WWTP	.065 mgd	Fair	1970s
CCWD-West Point	West Point WWTP	.058 mgd	Good	1995
CCWD-Wilseyville Camp	Wilseyville Sprayfield	.009 mgd	Fair	1974
EBMUD-Camanche SS	Camanche South Shore WWTP	0.045 mgd	Fair	NP
EBMUD-Camanche SS	Percolation ponds	6.56 mg	Good	NP
EBMUD-Pardee Center	Pardee Center WWTP	.002 mgd	Good	1970
EBMUD-Pardee Center	Percolation ponds	1.4 af	Good	1970
MHSD	Mokelumne Hill WWTP	0.15 mgd	Good	1974
MHSD	Storage reservoir	0.96 mg	Good	1974
MSD	Murphys WWTP	0.185 mgd	Good	1980's
MSD	Storage Pond	70 mg	Good	1965
SASD	San Andreas WWTP	0.4 mgd	Good	1954
SASD	Effluent storage reservoir	6 mg	Good	1975
VSPUD	Valley Springs WWTP	78,500 gpd	Good	1956
VSPUD	Storage pond	92.2 af	Good	1956
WCSD	Wallace WWTP	0.045 mgd	Good	1989
WCSD	Percolation Pond	47 af	Good	1989
WCSD	Flow Equalization Tank	50,000 g	Not operable	2009

Source: Local agency responses to LAFCO requests for information

Note: (1) Facility condition definitions: Excellent—relatively new (less than 10 years old) and requires minimal maintenance. Good—provides reliable operation in accordance with design parameters and requires only routine maintenance. Fair—operating at or near design levels; however, non-routine renovation, upgrading and repairs are needed to ensure continued reliable operation. Poor—cannot be operated within design parameters; major renovations are required to restore the facility and ensure reliable operation.

CITY OF ANGELS

Key city wastewater infrastructure includes one wastewater treatment plant, a storage reservoir, irrigation fields, 27 miles of sewer pipes and five lift stations. A portion of the wastewater is treated at the WWTP to tertiary standards and used for irrigation at the Greenhorn Creek golf course. The remainder of the wastewater is treated to secondary levels and used to irrigate pastureland on the

property of the treatment plant.[68] Excess treated effluent is stored in Hollman Reservoir until it is used for irrigation. Dried solid waste is disposed of at a landfill. Infrastructure needs and planned improvements for the City's wastewater facilities include:

- The City's WWTP is in the process of being upgraded to accommodate anticipated growth by increasing treatment levels with UV disinfection to discharge to surface water.
- Effluent storage capacity of the wastewater treatment facility is inadequate to contain the amount of water entering the system during a 100-year rainfall event. The facility nearly experienced unauthorized flows from its storage pond in 2005.[69] In addition, improvements are also needed to drainage around the reservoir to prevent rainwater from entering the reservoir.
- Portions of the wastewater collection system located north of SR 4 are at maximum capacity and are failing. The City is proposing a new sewer line to serve these areas. Presently, the City does not have funding for this project. Once funding becomes available, the City will develop a timeline for completion.
- Digesters are undersized. Possible solutions to this issue include expansion of the drying beds or adding a belt filter press.
- The reclaimed water sprayfields and distribution system need to be connected to the SCADA system to prevent illegal discharges due to system failures.

The previous MSR adopted by LAFCO identified infiltration and inflow concerns for the City of Angels. The City reports that many improvements have been made to rectify this issue.[70]

CCWD

Arnold

This system provides secondary treatment at its activated sludge WWTP and disposal via spray irrigation during dry months and via subsurface disposal beds during wet months. The collection system serves 483 connections through 15 miles of pipe and four lift stations.

- A second clarifier is needed for redundancy and routine maintenance to occur. A wet weather evaluation of the subsurface disposal bed and spray irrigation areas is needed to assess disposal capacity (recommended 2005).[71]
- To accommodate projected growth, Arnold WWTP needs an additional 22 acres of spray field irrigation, six percolation beds and lift station improvements at an estimated cost of $865,000; this expansion will be needed when ADWF approaches 130,000 gpd.
- To accommodate buildout, (ADWF of .245 mgd) treatment plant expansion and additional improvements will be needed at an estimated cost of $2.4 million.

[68] City of Angels, *2020 General Plan Draft EIR*, August 2008, p. 498.

[69] City of Angels, *2020 General Plan Draft EIR*, August 2008, p. 498.

[70] Interview with Garret Walker, Chief Plant Operator, City of Angels, 3/11/10.

[71] HDR, *Arnold Sewer System Master Plan*, May 2005, p. 26

- To connect a future Avery commercial area to the Arnold WWTP, would require expansion of the collection system and a connection to the Avery force main; such improvements would need to be financed by the proposed commercial area.

Copper Cove

Copper Cove provides secondary treatment at its older WWTP and tertiary treatment at an adjacent WWTP, and disposal of secondary effluent to sprayfields and tertiary effluent to irrigate a golf course. The collection system consists of about 19 miles of pipeline and 31 lift stations.

- Storage capacity is inadequate. CCWD plans to expand storage capacity by expanding its storage pond from 205 to 415 af, although the timeline for this $5.6 million improvement is uncertain due to financial hardship.
- Lift stations need storage to avoid spills.
- To accommodate buildout capacity needs (ADWF 1.8 mgd) will require upgrades at the secondary WWTP, expansion of storage pond capacity by 475 af, and expansion of irrigation areas by 300 acres.
- The tertiary WWTP needs to be upgraded so that effluent complies with current regulatory requirements by 2011 to comply with a Time Schedule Order.

Forest Meadows

The tertiary WWTF consists of preliminary screening, sludge-settling storage basin, dissolved air flotation thickeners, sand filters, ultraviolet disinfection and effluent storage pond. Disposal facilities include on-site leachfields, golf course irrigation, and seasonal discharges to Stanislaus River during wet weather. The collection system consists of 11.3 miles of sewer pipe.

- Construction of a pumping station and force main for discharge to the Stanislaus River is needed.[72] A portion of the design work has been completed, but the $2.6 million remaining project cost is not presently funded.[73]
- To accommodate projected growth, the District needs to add a treatment filter. The $0.7 million project is not presently funded.
- To accommodate buildout capacity needs (ADWF .273 mgd) will require a new sewer trunk (to be paid by developers), treatment plant upgrades, increase of capacity from 58.4 to 66.3 af, and completion of the pipeline for discharge to Stanislaus River.
- A segment of force main needs replacement due to failures and leaks; the $200,000 capital project is not presently funded.
- There is relatively high infiltration and inflow in spite of a 2002 collection system rehabilitation.

La Contenta

The La Contenta WWTF consists of a bar screen, activated sludge, secondary clarifier, sand filters and ultraviolet disinfection. Treated effluent is stored in two reservoirs during wet months

[72] HDR, Forest *Meadows Wastewater Facility Plan*, 2004, pp. 44-45.

[73] CCWD, *Quarterly Financial Report: FY 2009-10 Third Quarter*, April 28, 2010, p. F-16.]

and used as golf course irrigation during dry months. The collection system consists of about 18 miles of pipeline in addition to 2 miles of force main.

- There is relatively high infiltration and inflow; a study is needed to determine the extent of the I/I problems in this system.
- There is inadequate disposal capacity on the golf course to accommodate peak flows and planned growth. If the District gains regulatory approval for discharges to the Calaveras River, construction of a gravity main for said disposal would be needed. The District has submitted an application for a seasonal discharge permit. If granted, no additional storage and disposal capacity is needed. If not, the District will need to develop additional land disposal capacity (at a cost of $3.4 million) and/or reclaimed water distribution systems.
- To accommodate buildout capacity needs (ADWF of 0.63 mgd, PWWF of 2.8 mgd) requires $1.5 million in collection system upgrades (replacement of undersized collection pipes construction of parallel force main, and pump station), $6.4 million in treatment upgrades, and $5-13 million in storage and disposal upgrades (cost depends on whether or not surface water discharge is approved by RWQCB).

Millwoods

This system provides secondary treatment via septic tank settling and disposal at onsite leachfields to 194 connections on modified, forced-storage septic tanks. The District plans to connect Millwood to the Arnold system.

- A considerable amount of solids is being conveyed to the lift station, and leachfield. Installation of a settling basin and septic tanks screens is needed.[74] Alternatively, the District is considering tying the Mill Woods system into Arnold to avoid system upgrades.
- Septic tank lids need to be replaced and fastened directly to the concrete tank.
- Septic tank discharge pipelines are undersized and subject to overflows, and needed to be replaced with larger diameter pipe, which is estimated to cost about $250,000.

Six-Mile Village

This collection system serves homes on septic systems. Effluent is transmitted via force main to City of Angeles for treatment and disposal.

- The force main is in poor condition. Solids tend to accumulate in the line, portions of which require weekly flushing to eliminate clogs and maintain flow capacity.[75] The estimated replacement cost is $265,000 and has not been funded.
- There is high infiltration and inflow in the collection system. Leaking septic tank lids are suspected to be a contributing factor. Septic tank discharge pipelines are undersized, subject to clogs and difficult to flush due to lack of access (e.g., cleanouts).

[74] HDR, *Arnold Sewer System Master Plan: Calaveras County Water District*, May 2005, pp. 32-3.

[75] Nolte Engineering, *Calaveras County Water District Wastewater Facilities Master Plan for Vallecito, Douglas Flat and Six-Mile Village*, April 2005, pp. 16-17.

Vallecito/Douglas Flat

This system provides secondary treatment via activated sludge and extended aeration processes at two separate facilities, two storage ponds and disposal to 26 acres of spray fields. The collection system consists of 10.6 miles of sewer pipe.

- The system lacks adequate storage and disposal capacity.[76] There is minimal space to increase disposal storage; no funding source has been identified to cover the estimated $2-5 million in costs to expand storage and disposal for Vallecito.[77]
- The treatment plant needs $0.8 million in improvements to prevent overloading, control odors and properly convey and screen solids.[78]
- CCWD plans to complete a new Douglas Flat WWTP in 2012, which will treat at tertiary levels.

West Point

This system provides secondary treatment through a recirculation sand filter system and disinfection by chlorine, storage in two ponds, and onsite disposal to 45 acres of spray fields. The collection system consists of 13 miles of pipeline.

- To accommodate irrigation demand the system would require upgrading the WWTP at a cost of $390,000.[79]
- The collection system is subject to blockage particularly at septic tanks with small-diameter pipes.
- The West Point collection system experiences I&I issues, and may need improvements.

Wilseyville

This small system provides secondary treatment via an aerated pond and 10-acre spray field disposal system.

- Need to install disinfection before spray irrigation.[80]

EBMUD

The Camanche South Shore plant is a three-pond treatment system with two primary treatment ponds and a third pond used for storage and evaporation disposal. The treatment system is in fair condition. Needs and deficiencies identified for EBMUD facilities include the following:

- At Camanche South Shore significant portions of the existing sewage collection and transmission systems at the recreation area are old, were not constructed to current engineering standards, and are generally inaccessible. Specifically, 59 percent of the gravity sewer collection

[76] Calaveras County General Plan, *Water Element Baseline Report Supplement*, Feb. 2009, p. 32.

[77] CCWD, *FY 08-09 Five-Year Capital Improvement Plan*, Aug. 13, 2008, pp. 6-2, 7-7, 7-8. Nolte Engineering, *Calaveras County Water District Wastewater Facilities Master Plan for Vallecito, Douglas Flat and Six-Mile Village*, April 2005, p. 47.

[78] Nolte Engineering, *Calaveras County Water District Wastewater Facilities Master Plan for Vallecito, Douglas Flat and Six-Mile Village*, April 2005, pp. 26-28.

[79] HDR, *West Point Sewer System Master Plan*, May 2005, pp. 28-30.

[80] Calaveras County General Plan, *Water Element Baseline Report Supplement*, Feb. 2009, p. 33.

system is more than 30 years old and needs significant upgrade, particularly in the mobile home park area. The project is projected to cost $12.4 million; no funding source was identified in the District's 2010 CIP.

- At Camanche South Shore, WWTP flows in July are at 86 percent of WWTP capacity. Best management practices call for service providers to begin planning WWTP capacity expansion once flows exceed 85 percent of capacity. Growth in surrounding areas will eventually cause summer demand to exceed capacity.
- The Pardee recreation area will be relocated south to the Calaveras County side of the lake with related wastewater infrastructure needs, when EBMUD raises Pardee reservoir.

MHSD

Key MHSD wastewater infrastructure includes one wastewater treatment plant, irrigation fields, 3.2 miles of sewer pipes and two lift stations. Effluent is treated to a secondary level at the WWTP, discharged into a storage pond and then used to irrigate a 10-acre field on the WWTP property during summer months. Infrastructure needs and planned improvements for MHSD's wastewater facilities include:

- The District reported that there is a need to upgrade the chlorination system, which has occasionally stopped working in the past. An upgrade to a commercial unit would ensure reliable operation. A new chlorination system would cost approximately $500,000.
- The District identified the collection system as generally being in good condition, with the exception of the 6,800 feet of original clay piping that is in poor condition and needs to be replaced. The District is attempting in 2012 to fund replacement of this portion of the system with a combination of grants, loans and proposed rate increases.
- Additional facility and equipment needs that may contribute to district efficiency are a space at the plant with a computer, internet connection, and printer and a company vehicle. The plant operator presently completes administrative work at his residence.

MSD

Key MSD wastewater infrastructure includes three treatment ponds, a storage pond, 13.9 miles of sewer pipes and one lift station. Wastewater is collected in a gravity collection system to a pump station west of Murphys. From the pump station, wastewater enters three treatment ponds and a storage pond where it is treated with aeration and sand filtration. After leaving the ponds, the effluent enters a WWTF where the treatment process is completed to secondary standards with a clarifier, filters and chlorine. Treated effluent is used for drip irrigation at Ironstone Vineyards year round. Needs and deficiencies outlined in the District's SSMP, a treatment facility evaluation and the CIP include:

Needs and deficiencies identified in a 2007 treatment facility evaluation, which are preventing the District from going to tertiary treatment, included 1) poor drainage for the backwash solids basin, 2) an overflowing chlorine contact chamber riser, 3) inadequate consideration of maintenance needs for the chlorine contact chamber, and 4) failure to meet turbidity requirements.[81] Despite these deficiencies that need to be corrected to reach tertiary treatment, the District reported that the

[81] Ibid.

ponds and treatment facility are generally in good condition and there are no immediate infrastructure needs or deficiencies related to the secondary treatment operations of the facility.[82] In the most recent inspection in July 2010, RWQCB noted a need to control vegetation in Pond 4.[83]

The District needs additional discharge capacity, but anticipates that a new contract with Ironstone Vineyards, that is to be completed by the end of 2010, will provide sufficient discharge capacity.

With regard to the collection system, the District reported that approximately 10 percent of the piping needs to be replaced as it is older and composed of clay and contributes to high peak wet weather flows. Specifically, there are seven problem areas identified in the District's SSMP. Based on the capital improvement plan, the District plans to address three of these problem areas by 2016, in addition to two other areas of concern. These projects are estimated to cost a total of $1.3 million.

SASD

Key SASD wastewater infrastructure includes one WWTP, leach fields, 23.5 miles of sewer pipes and five lift stations. Wastewater is treated to secondary levels, discharged into an effluent storage reservoir and pumped to two miles of on-site evaporation, transpiration and percolation ditches. Effluent is discharged to the North Fork Calaveras River from November 1 to April 30.

Due to the presence of contaminants in treated effluent in excess of permitted conditions on several occasions, the WWTP is in need of upgrades to begin treatment at tertiary equivalent standards and bring the District into compliance with discharge limitations to surface waters. In order to come into compliance with permit requirements, the District is in the process of making improvements to the plant. Improvements under construction include the following:

- Addition of a post-trickling filter extended aeration activated sludge process to reduce ammonia concentrations and increase peak flow capacity of the trickling filter increase the maximum wet weather discharge.
- Addition of effluent filters to treat to tertiary levels for biochemical oxygen demand, total suspended solids and turbidity.
- Modification of the existing chlorination system to facilitate compliance with total coliform concentration requirements.

The District reported a problem with infiltration and inflow, as peak wet weather flows exceed permitted wet weather capacity of the plant and permitted wet weather discharge. The District's SSMP outlines the need for a formalized rehabilitation and replacement plan that identifies and prioritizes deficiencies and establishes a short and long-term replacement schedule. The District reported that there is at least 2,000 feet of main that needs to be replaced.

The District will require additional capacity to serve projected growth.

[82] Interview with Ralph Emerson, MSD Operations Manager, April 28, 2010.

[83] CVRWQCB, Inspection Report, July 29, 2010, p. 1.

VSPUD

The District's key wastewater infrastructure include 3.5 miles of sewer pipelines, a WWTP, which includes a headworks and an aeration tank, two aeration ponds, a polishing pond, and a 92 acre-foot clay lined effluent storage reservoir. Effluent is disposed of by spray irrigation on 33 acres of land.

Infrastructure needs and deficiencies at the treatment plant and ponds include improvements to the storage reservoir to allow the District to keep ph and BOD levels within required levels. Presently, the District reported that the size of the reservoir makes it difficult to control levels, and consequently, RWQCB issued a Notice of Violation to the District for multiple months in excess of mandated maximum levels.

The previous MSR noted that there is a shortfall of land area, which will limit the system's long-term growth potential. Options identified in the MSR to resolve this issue included 1) collecting and discharging to CCWDs La Contenta WWTP although there is presently no capacity at the WWTP to accept VSPUD's effluent, 2) discharging into Cosgrove Creek during winter months, which is challenging given increasing regulations, and 3) acquisition of additional land, which may be financially implausible.

WCSD

Key WCSD wastewater infrastructure includes one wastewater treatment plant, a storage reservoir, 12 acres of spray fields, seven miles of sewer pipes and no lift stations. Each lot has a private sealed septic tank where effluent collects. The septic tank is used primarily to treat solids while liquid effluent gravity flows or is pumped into the District's collection system to the WWTP. Maintenance and pumping of the septic tanks is the responsibility of the landowner. Sludge needs to be removed from the individual septic tanks every three to five years depending on the amount of use. In addition to the septic tank effluent, the WWTP also treats the WTP backwash. At the WWTP, effluent is treated to tertiary standards. After treatment, effluent is stored in a percolation pond. The District has a 12-acre spray field where it is permitted to use the treated effluent for irrigation purposes; however, due to the high percolation rates of the pond, it has not been necessary to use the spray field. Major infrastructure needs and deficiencies are identified by the District's capital improvement plan for the plant and spray fields. Timing for the improvements will depend on when funds become available.

- Improved trickling filter access: The trickling filters are presently difficult to access for maintenance or replacement. The District reported that CCWD is in the process of developing a plan to minimize the cost of improving filter access.
- A computerized control system: A computerized system would allow for programming and trouble shooting from a remote lap top.
- Rebuilding and replacement of the trickling filters: The District plans to complete this project by the end of FY 12 for approximately $36,000.
- Upgrading and activating the spray fields: A recent engineer's report noted that the State may require lining of the pond should seepage into the groundwater be evident. In order to minimize costs related to lining the pond, the District plans to activate the spray fields by installing an irrigation system. These improvements are estimated to cost approximately $250,000.

- New groundwater monitoring well: One of the District's three groundwater monitoring wells is dry and will likely need to be redrilled in a new location.
- Install a settling tank at the WTP: Because the WWTP treats the WTP backwash, the WWTP may be susceptible to high flows that maximize the plant's capacity should the valves of the backwash system fail—which has occurred in the past. The District plans to install a settling tank at the WTP, eliminating the treatment of the backwash at the WWTP.

Between 2001 and 2006, the District recorded abnormally high peak flows during dry seasons. In order to store the peak flow for treatment during times of lower demand and allow for shutting down the plant when in need of maintenance, the District added an additional equalization basin in 2008. However, the basin has not been completed to the satisfaction of the District and has not been attached to the treatment system. Upon completion of a detailed system inspection in 2010, it was determined that the high peak flows were caused by full septic tanks that needed pumping.[84] The District reported that the equalization basin is not anticipated to be brought online until demand is approaching plant capacity.

The collection system was identified by the District as being generally in fair condition. The District reported a need to install flushing ports in the collection lines to allow technicians to find and flush out blockages.[85] Further infrastructure needs and deficiencies for the collection system unknown. CCWD staff have begun an inspection of the entire collection system to identify and prioritize any needs.

SERVICE ADEQUACY

This section reviews indicators of service adequacy, including regulatory compliance, treatment effectiveness, sewer overflows and collection system integrity.

REGULATORY OVERVIEW

In 1972, the U.S. Congress passed the Federal Water Control Pollution Act. Referred to as the Clean Water Act, the law established water quality standards to restore and maintain the chemical, physical, and biological integrity of the nation's waters. The law included the mandate for a permit system known as the National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants into surface waters. The Clean Water Act authorized the EPA to set water quality standards for all contaminants in surface waters, which specify maximum contaminant levels (MCLs) for treated wastewater prior to discharge.

That same year, the Legislature amended the Porter-Cologne Water Quality Control Act of 1969 to allow the State Water Resources Control Board (SWRCB) to assume the responsibilities prescribed in the Clean Water Act. SWRCB and its nine regional control boards regulate federal and state water quality standards, as well as operate the federal permit process for discharging pollutants into open waters. NPDES permits establish specific discharge limits, and monitoring and reporting requirements, and may also require facilities to undertake special measures to protect the environment from harmful pollutants.

[84] Interview with Cathryn Jackson, WCSD Board Member, June 16, 2010.

[85] Interview with Cathryn Jackson, WCSD Board Member, June 16, 2010.

The Clean Water Act requires that all point source wastewater dischargers obtain and comply with an NPDES permit. NPDES permits regulate discharges from publicly-owned wastewater treatment facilities, other wastewater treatment facilities, industrial facilities, concentrated animal feeding operations, aquiculture, and other "point source" dischargers.

Legislation (A.B. 885) passed in 2000 requires SWRCB to adopt regulations for the permitting and operation of septic systems. Each regional water quality control board must incorporate SWRCB regulations or standards into its regional water quality control plans. SWRCB released draft septic regulations in March 2007. The implementation of these regulations in 2008 would require all septic systems statewide to meet permitting and operation standards. The regulations include required system inspections, restrictions on septic systems near impaired water bodies, performance standards and enforcement actions.

The State Water Resources Control Board adopted new policies in 2004 requiring wastewater collection providers to report sanitary sewer overflows and to prepare and implement Sewer System Management Plans (SSMPs).[86] SSMP requirements are modeled on proposed federal capacity, management, operations, and maintenance plans. Dischargers must provide adequate sewer collection system capacity, prevent overflows, prioritize system deficiencies, and develop a plan for disposal of grease, among other requirements. SSMP implementation deadlines depend on service area size. All wastewater providers in California must have implemented an SSMP by August 2010. Also, providers must now report sanitary sewer overflows greater than 100 gallons to the RWQCB, keep internal records of smaller overflows, and produce an annual report on overflows.

REGULATORY COMPLIANCE STATUS

Table 5-6: Wastewater Enforcement Actions, 2000-12

Provider	Formal	Informal
Angels	3	9
CCWD	5	29
EBMUD	1	3
MHSD	0	2
MSD	1	4
SASD	4	3
VSPUD	1	4
WCSD	0	1

Source: SWRCB

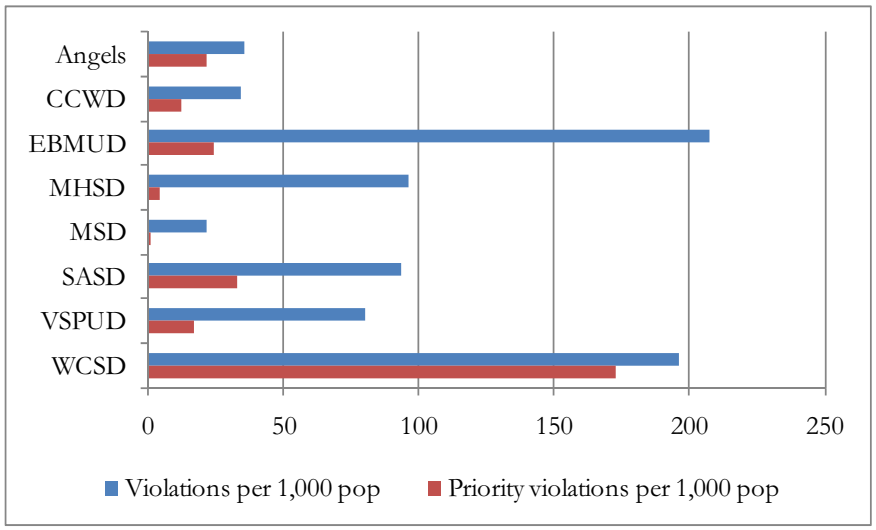
RWQCB enforces the Clean Water Act, NPDES permit conditions and other requirements of wastewater providers. The Board may levy fines or order the provider to take specific actions to comply with water quality regulations.

RWQCB has taken enforcement actions against each of the wastewater service providers over the period 2000 through May of 2012.[87] Each of the providers operates under an NPDES permit or waste discharge requirements (WDR). Since 2005, significant enforcement actions taken by RWQCB include an Administrative Civil Liability Order issued to SASD in 2009, a Clean-up and Abatement Order issued to VSPUD in 2006, a Clean-up and Abatement Order issued to CCWD for the Forest Meadows WWTP in 2005, and a Time Schedule Order issued to CCWD for its Copper Cove tertiary WWTP in 2006. Most recently, in 2011, the City of Angels was issued an Administrative Civil Liability (ACL) Order, and in 2012, CCWD was also issued an ACL order regarding its Copper Cove wastewater reclamation facility. There are no wastewater providers in Calaveras Country that are currently operating under active cease and desist orders.

[86] SWRCB, Resolution Number 2004-0080.

[87] California Integrated Water Quality System Database, http://www.swrcb.ca.gov/ciwqs/, URL accessed on 2/15/10.

Figure 5-4: Wastewater Violations per 1,000 Population, 2005-9



Violations of State requirements for wastewater providers and treatment facilities are recorded by SWRCB. Violations are categorized according to severity and type. Figure 5-4 shows the rate of violations per 1,000 population served for the period from January 1, 2005 to December 31, 2009. During that time period, EBMUD and WCSD had significantly higher rates of violations than the other providers; however, 88 percent of WCSD's violations were priority violations, while only 12 percent of EBMUD's were considered priority violations. Among the wastewater providers in Calaveras, the median rate of violations per 1,000 population served was 87 during this period.

City of Angels

The City has been issued seven Notice of Violation letters, one Staff Enforcement Letter, and one Clean-up and Abatement Order between 2000 and the middle of 2005. Since 2005, the City did not receive any enforcement actions until December 2010 when RWQCB issued a Notice of Violation for six discharges of reclaimed water from the spray irrigation area, which were in violation of the City's waste discharge requirements. As part of the notice, the City was required submit a response which included, among other items, the cause of each discharge, and a plan and schedule to evaluate and repair or retrofit the system to prevent future spills. The City submitted its response on January 14, 2011. The City reported that the discharges were due to various failures in the system, and as the storage reservoir, pump houses and sprayfields are not connected to the SCADA system, identification of the spills was delayed until the daily visual inspection of the system by city staff. In its report, the City proposed increasing the frequency of monitoring as a short-term solution, and the addition of several flow monitors and alarms for the sprayfields, re-regulating reservoir, lower pump house, and Holman Reservoir, to connect to the SCADA system. These improvements would cost an estimated $730,000 and are anticipated to be completed by April 2013. The proposed improvements are preliminary, and will be contingent upon a technical evaluation that the City plans to complete in 2012. In June 2011, the RWQCB issued an Administrative Civil Liability Order outlining financial penalties, should the City not address concerns identified in the original Notice of Violation.

CCWD

Between 2000 and 2009, RWQCB issued 28 enforcement actions to CCWD regarding its wastewater facilities. The last five actions taken since 2007 were oral communications and Notice of Violations regarding deficient and late reporting. In 2006, RWQCB issued a Time Schedule Order (TSO)(R5-2006-0082) to CCWD for its Copper Cove tertiary WWTP. RWQCB found inconsistent compliance with new effluent limitations concentrations (e.g., aluminum, ammonia, manganese), and found it impractical for CCWD to comply in the short-term. By imposing the TSO as part of the NPDES permit, RWQCB gave CCWD additional time to comply. More recently, in June 2011, the

District was issued a Notice of Violation for the Vallecito/Douglas Flat system due to violations of order conditions. Additionally, in March 2012, the District was issued and Administrative Civil Liability Order regarding its Copper Cove wastewater reclamation facility, for effluent violations that occurred during the period from August 23, 2006 through December 31, 2011.

EBMUD

The most recent enforcement action issued to EBMUD was an oral communication from RWQCB in 2000 regarding exceedances of effluent conditions.

MHSD

MHSD received one Notice of Violation in 2006 primarily for deficient reporting and violating effluent limits on several occasions. More recently, the District received an oral communication from RWQCB in 2009 regarding late reporting.

MSD

MSD was issued a Clean-up and Abatement Order in 2001, and more recently a Notice of Violation in 2007 (for not meeting order conditions on multiple occasions, violation of effluent standards and sixteen occurrences of sanitary sewer overflows) and in 2012 (for bypass of treatment units, on-site storage of biosolids, and improper sampling and instrument calibration procedures). The District has complied with all requirements contained in the Clean-up and Abatement Order and the Notice of Violation issued in 2007.

The NOV issued by RWQCB in 2007 directed the District to 1) correct the collection system problems that were resulting in spills, 2) make necessary improvements to the overflow pond prevent spills out of the pond, 3) identify improvements to the collection system and date to be implemented to ensure that overflows do no occur, 4) determine whether the District has sufficient capacity to comply with discharge requirements, and 5) prepare a Sanitary Sewer System Operation, Maintenance, Overflow Prevention, and Response Plan.[88] Required system improvements were made and additional necessary improvements were identified and incorporated into the District's 10-year capital improvement plan.

As a result of the NOV, the District implemented a temporary suspension on new connections to MSD services in order to evaluate the treatment and collection system, and ensure that they were operating adequately and have sufficient capacity to accept new connections. The evaluation found that there was insufficient storage and disposal capacity to maintain a two foot freeboard in Pond 4 as required in the District's discharge specifications. In order to increase the system's capacity, the District began excavating Pond 4, and sought increased discharge capacity at the vineyards. The temporary suspension was lifted in late 2007 after the new discharge permit was issued by the State to Ironstone Vineyards.[89]

More recently, MSD was issued another Notice of Violation in 2012. The NOV was the result of violations which included bypass of treatment units, on-site storage of biosolids, and improper sampling and instrument calibration procedures. Additionally, the District reported an increasing trend of nitrate in groundwater. In April 2012, the District met with RWQCB staff and proposed corrective steps to address the aforementioned violations. The stockpiles of biosolids are to be

[88] CVRWQCB, Notice of Violation, MSD Wastewater Treatment Plant, January 8, 2007, p. 3.

[89] Calaveras County, *Water Element Baseline Report Supplement Final Draft*, February 2009, p. 38.

removed by October 2012. To address the groundwater quality issue, MSD will redevelop the wells, remove biosolid stockpiles, and perform eight quarters of groundwater monitoring with an expanded parameter list. Additionally, to ensure proper groundwater sampling and calibration, MSD will contract with a private groundwater sampler and train all field employees on proper methods and documentation for sampling and calibration. RWQCB has also ordered that MSD submit a Groundwater Quality Corrective Action Plan, a Storage Capacity Evaluation Report, and Biosolids Removal Monthly Status Reports.

SASD

SASD has had recent challenges staying in compliance with State requirements. Due to the presence of contaminants in treated effluent in excess of permitted conditions on several occasions, the WWTP is in need of upgrades to begin treatment at tertiary equivalent standards and bring the District into compliance with discharge limitations to surface waters. During a facility inspection in May 2008, RWQCB identified effluent limitation exceedances for aluminum, diazinon, bis(2-ethylhexyl) phthalate, and manganese.[90] The RWQCB subsequently adopted an Administrative Civil Liability Order (R5-2009-0524) in April 2009 for 24 violations of effluent limitations, between January 1, 2004 and March 30, 2007, and fined the District $48,000, which was waived due to the significant WWTP upgrades that are in progress to correct these violations. During the same facility inspection, there were also concerns that the District may be, at times, discharging secondary treated effluent to the North Fork Calaveras River at less than a 20:1 dilution.[91] All WWTP upgrades must be completed by January 1, 2011 to remain in compliance with the RWQCB Administrative Civil Liability Order.

In addition, upon adoption of a new waste discharge permit in 2009 (R5-2009-0007), the District was put into immediate non-compliance of effluent limitations for the following contaminants: ammonia, chlordane, copper, cyanide, diazinon, dichlorobromomethane, iron, and zinc. Consequently, the RWQCB also issued a Time Schedule Order outlining requirements to bring the District into compliance by January 2014. In order to come into compliance with permit requirements, the District is in the process of making improvements to the plant. Once completed, planned improvements to the WWTP will cost approximately $11 million.

VSPUD

VSPUD faces challenges keeping ph and BOD levels in the storage reservoir within required levels, due to the size of the pond. Consequently, RWQCB issued a Notice of Violation to the District for multiple months in excess of mandated maximum levels. The District is working with RWQCB to come into compliance.

In April 2006, following prolonged and heavy rainfall, Cosgrove Creek overflowed the District's pond berms and was flowing through the treatment ponds at the WWTP prior to re-entering its normal channel. VSPUD estimated that the event resulted in a discharge of 24,000 to 36,000 gallons of partially treated sewage into Cosgrove Creek. At that time, the berms were approximately 1.7 feet lower than the elevation of Cosgrove Creek during a 100-year frequency rain event, according to a 1987 study, which was in violation of the District's WDR requiring 100-year flood protection for the treatment ponds. Consequently, RWQCB issued a Clean-up and Abatement Order, which required the District to study 1) 100-year flood levels of Cosgrove Creek, 2) identify options to bring the

[90] Ibid, p. F-9.

[91] Ibid, p. F-10.

District into compliance with WDR requirements, and 3) complete construction of those necessary improvements by November 30, 2007. The District chose to raise the height of the berms above the 100-year flood level identified by the engineer.

WCSD

The most recent enforcement action issued to WCSD was an oral communication from RWQCB in 2000 regarding exceedance of effluent conditions.

TREATMENT EFFECTIVENESS

Wastewater treatment providers are required to comply with effluent quality standards under the waste discharge requirements determined by RWQCB. The providers were asked how many days in 2009 they were out of compliance with effluent quality requirements.

The American Water Works Association (AWWA) conducts an annual benchmarking study, called QualServe, of water and wastewater performance indicators on behalf of subscribers. This measure is included in the benchmarking study. QualServe 2003 subscribers had a median treatment effectiveness rate of 99.5 percent, meaning that treatment did not meet requirements on two of 365 days.

Table 5-7: Treatment Effectiveness Rate, 2009

Provider	Rate
Angels	100%
CCWD	99%
EBMUD	99%
MHSD	99%
MSD	100%
SASD	99%
VSPUD	100%
WCSD	99%

Three agencies, Angels, MSD and VSPUD, reported 100 percent treatment effectiveness in 2009. All other agencies reported between two to five days of non-compliance in 2009, which is a 99 percent treatment effectiveness rate—just below the median treatment effectiveness rate reported in the QualServe study.

SEWER OVERFLOWS

Sewer overflows are discharges from sewer pipes, pumps and manholes. Reduction, if not prevention, of the size and number of sewer overflows is the key objective of new SWRCB policy.

Table 5-8: Sewer System Overflows, 2008 & 2009

Provider	Pipe Miles	Overflows 1/1/2008 - 8/15/10	Overflow Rate
Angels	27.0	8	30
CCWD	68.6	6	9
EBMUD	12.3	1	8
MHSD	3.2	0	0
MSD	13.9	2	14
SASD	23.5	14	60
VSPUD	3.5	2	57
WCSD	7.0	0	0

Source: CWIQS SSO Database

Wastewater agencies are required to report sewer system overflows (SSOs) to SWRCB. The number of SSOs reported by each agency from January 1, 2008 to August 15, 2010 was received from the CIWQS online database and sorted to exclude those overflows that were caused by limitations/problems with customer-controlled piping/facilities. Thus defined, overflows reflect the capacity and condition of collection system piping and the effectiveness of routine maintenance. The sewer overflow rate is calculated as the number of overflows per 100 miles of collection piping.

SASD and VSPUD had the highest rates of sewer system overflows among the providers. SASD had an overflow rate of 60, with 14 overflows on its system during this time period, and VSPUD had an overflow rate of 57, with two overflows on its system. MHSD and WCSD reported no SSOs to SWRCB in the two and half year period.

COLLECTION SYSTEM INTEGRITY

There are several measures of the integrity of the wastewater collection system, including peaking factors, efforts to address infiltration and inflow (I/I), and inspection practices.

Inspection Practices

The EPA recommends closed circuit television (CCTV) inspection of sewer lines as the most cost-efficient and effective inspection approach.[92] Nationwide, the average wastewater provider conducts CCTV inspection of seven percent of its system annually and cleans 30 percent of the system annually, according to a study by the American Society of Civil Engineers. Collection system problems tend to be concentrated in older areas; it is most important to inspect lines more than 20 years old. Wastewater providers' inspection practices are shown in Table 5-9:

Table 5-9: Collection System Inspection Practices

Provider	Collection System Inspection Practices
Angels	The City presently uses a combination of smoke testing and CCTV to inspect the collection system. As part of the SSMP, that the City is in the process of developing, the City plans to CCTV the entire system either by contract or by purchasing the necessary equipment. As of the drafting of this report, approximately one mile of the City's collection system has been inspected with CCTV.
CCWD	Inspection practices are outlined in the District's SSMP, which was adopted in July 2010.
EBMUD	System was evaluated by CCTV in 2005. Entire system is cleaned on a 3-year cycle, with hot spots cleaned as frequently as once per month.
MHSD	In addition to daily inspection of the system, the District CCTVs lines when necessary. The District does not own its own CCTV equipment, but plans to CCTV the entire collection system prior to the replacement of 6,800 feet of line. The District has performed smoke testing of the system in the past; however, significant improvements have been made to the system since then.
MSD	The District reported that it uses CCTV to inspect every line every 2 years or approximately 50 percent annually.
SASD	The District purchased CCTV equipment in 2008 and has completed surveillance of 10,000 feet or eight percent of the collection system. The District plans to complete surveillance of 23 percent of the system annually over the next four years.
VSPUD	All three lift stations are inspected weekly. The District cleans the entire system with portable rodders and a hydro flusher every three years. Areas of concern are cleaned as needed. Smoke testing of the entire system is also planned to be completed every three years; however, it was last completed in 2003. Manholes are inspected annually at the beginning of the summer and periodically during heavy periods of rain. Areas prone to blockages are checked more regularly. In addition, the District recently purchased a CCTV unit and a vac trailer to inspect the entire system biannually.
WCSD	In 2010, the District instituted inspections of the septic tanks every three years and CCWD began an overall inspection of all of the collection pipes. Thus far, CCWD had completed a leak detection program on all of the main lines. In addition, the meter reader looks for wet spots when in the neighborhood.

[92] U.S. EPA, 1999, p. 5.

Infiltration and Inflow

As previously discussed in the service demand section, a peaking factor indicates of the extent of I/I in a collection system.

MHSD, VSPUD, WCSD, and CCWD's Arnold, Copper Cove, Southworth, and Vallecito systems all had the lowest rates of I/I with peaking factors below two. Moderate levels of peak flows are experienced by the City of Angels, EBMUD's Camanche South Shore facility, and MSD wastewater systems where peaking factors are between 3.0 and 4.0.

Those systems with the highest peaking factors and consequently the highest level of I/I include SASD, and CCWD's La Contenta and Forest Meadows systems. CCWD evaluates I/I as it completes master plans, and has completed master plans for its five largest systems. Pipeline replacement projects are annually budgeted, although allocations have dwindled during the recession. CCWD has an ongoing I/I correction program with a crew dedicated to wastewater collection systems. To reduce I/I rates, districts are encouraged to initiate regular inspection and replacement programs.

SERVICE CHALLENGES

All of the wastewater providers self-reported significant challenges faced in providing adequate services. Common challenges faced by a majority of the providers include:

1. Disposal of sludge during winter months.
2. Remaining in compliance with ever evolving regulations that are time consuming given reporting and monitoring requirements and generally require additional financing.
3. Living within the means of the wastewater utility and simultaneously building reserves given financial constraints.
4. Completing capital improvements while keeping rates at reasonable levels.
5. Instituting a continued inspection and replacement plan to identify and minimize areas prone to I/I.
6. Operating isolated systems without interconnections to other systems due to the rural nature of the County.
7. Negotiating the fallout of the housing bubble burst which lead to a delay of anticipated development and foreclosures of structures with existing connections that are now vacant and on standby.

Challenges that are specific to the providers include:

CCWD: CCWD faces challenges in providing adequate service maintaining septic tanks and leachfields for small, isolated systems with significant capital needs and small revenue bases. The housing bubble and subsequent crash proved challenging due to simultaneous, large demands on the agency for planning, design and construction of capacity expansion projects, and subsequent shelving of plans due to inadequate financing availability.

EBMUD: Access to the collection system is limited due to the small number of manholes and cleanouts, and particularly limited access in the mobile home park. Proximity of surface water supplies requires a levee system.

VSPUD: The District has had difficulty keeping its effluent storage reservoir in compliance with ph requirements, due to the size of the pond.

WCSD: Over the last few years a lack of sufficient revenues has lead to significant deferred maintenance; consequently, the District is faced with the challenge of continuing regular repairs and simultaneously eliminating deferred maintenance.

MANAGEMENT

While public sector management standards do vary depending on the size and scope of the organization, there are minimum standards. Well-managed organizations evaluate employees annually, prepare a budget before the beginning of the fiscal year, conduct periodic financial audits to safeguard the public trust, maintain relatively current financial records, periodically evaluate rates and fees, plan and budget for capital replacement needs, conduct advance planning for future growth, and make best efforts to meet regulatory requirements.

Table 5-10: Wastewater Provider Management Practices

	Angels	CCWD	EBMUD	MHSD	MSD	SASD	VSPUD	WCSD
Evaluate employees annually	A	A	A	N	A	A	A	A
Prepare timely budget	A	A	A	A	A	A	A	A
Periodic financial audits	A	A	A	A	A	A	A	A
Current financial records	A	A	A	A	A	A	A	A
Evaluate rates	A	A	A	I	A	A	I	A
Capital planning	I	A	A	N	I	I	I	A
Advance growth planning	A	A	I	N	N	I	I	A
Compliance Efforts	I	I	I	A	A	I	I	I

Note: A = Practiced adequately, I= Practiced but improvement needed, N= Not practiced, - = Not Applicable

An evaluation of the adequacy of management practices is shown in Table 5-10. The first four indicators are self-explanatory. Adequate evaluation of rates and fees means updating wastewater rates and development impact fees with reasonable frequency. Adequate capital planning would involve a multi-year capital improvement plan (or comparable planning effort) for capital replacement and, if relevant, expansion. Advance growth planning is adequate when it discloses existing capacity, anticipated needs, and projected demand throughout the existing service area and SOI. Agencies are assumed to have made best efforts to meet regulatory requirements if no enforcement actions were taken between 2005 and 2009, and if not operating under a Cease and Desist Order or Cleanup and Abatement Order.

Of the agencies under LAFCO jurisdiction, five are professionally staffed and managed by full-time personnel—the City of Angels CCWD, EBMUD, SASD and VSPUD. The professionally staffed agencies generally demonstrate best management practices. While MSD has full-time positions for an administrative manager and a facility manager, which are presently both filled, the District has had challenges keeping the administrative manager position filled in the past. MHSD and WCSD both rely on board members for administrative purposes. For operation and maintenance, MHSD employs a part-time manager and WCSD contracts with CCWD.

All providers, with the exception of MHSD, evaluate employees annually. With regard to financial documents and records, all of the agencies prepare timely budgets, perform annual audits, and keep up-to-date wastewater financial information.

Angels, CCWD, EBMUD, MSD, and SASD most recently updated their rates in 2009 and typically update rates annually. MHSD last updated rates in 2007. VSPUD has not updated its sewer rates since 2006. Historically, these agencies have updated their rates every five years.

Of the eight wastewater providers, only CCWD, EBMUD, MSD and WCSD have adopted formal capital improvement plans covering multi-year planning horizons. Angels and SASD have completed capital improvement plans as part of other planning documents, such as wastewater master plans; however, these plans do not indicate anticipated timing for the capital improvements. VSPUD plans for capital improvements annually in the budget, while MHSD reported no capital planning efforts. As indicated in the upcoming Financial Section, while many of these agencies have capital improvement plans, the plans do not allow for adequate capital reinvestment to cover depreciation, which is the case for MSD and VSPUD.

Angels and CCWD were the only providers to plan for projected wastewater needs for their SOI or projected service areas. While WCSD, VSPUD and EBMUD have planning documents with future projections and probable needs to meet those projections, the documents did not provide a comprehensive overview of projected demand for the entirety of the respective agency's existing SOI. SASD tracks developments in the area, but does not make formal demand projections. Both MHSD and MSD do not practice advanced growth planning of any kind and do not make formal demand projections.

By way of compliance efforts, the two agencies operating under enforcement orders from RWQCB are SASD and CCWD (Copper Cove). It is anticipated that SASD's new facilities will bring the District into compliance with requirements. Both CCWD and VSPUD have received Clean-up and Abatement Orders in the 2005-10 period. WCSD has had a high rate of violations and priority violations in the past five years. EBMUD, MHSD, and MSD have been issued few enforcement actions in the 2000-2010 period and have low rates of violations.

For specifics on the management practices of each agency, refer to the agency's respective chapter in this document.

LOCAL ACCOUNTABILITY AND GOVERNANCE

Accountability of a governing body is signified by a combination of several indicators. The indicators chosen here are limited to: 1) constituent interest in the agency's activities as indicated by the rate of contested elections, 2) agency efforts to engage and educate constituents through outreach activities in addition to legally required activities such as agenda posting and public meetings, and 3) transparency of the agency as indicated by cooperation with the MSR process and information disclosure. These measures are shown in Table 5-11.

Table 5-11: Wastewater Provider Accountability and Governance Measures

	Angels	CCWD	EBMUD	MHSD	MSD	SASD	VSPUD	WCSD
Contested elections	✓	✓	✓	×	×	✓	✓	✓
Constituent outreach activities	✓	✓	✓	×	○	✓	✓	✓
MSR Disclosure	✓	✓	✓	○	○	✓	✓	✓

✓ = Occurred or adequately practiced, ○ = needs improvement, × = Did not occur

Each of the providers have held contested elections sometime since 2000, with the exceptions of MHSD and MSD. These districts have had a lack of constituent interest as indicated by the lack of individuals running for board positions.

All agencies prepare and post meeting agendas and make minutes available as required. Additional outreach efforts include websites, newsletters, updates enclosed with bills, articles in community newspapers, distribution of educational materials, and televising of meetings. Angels, CCWD, EBMUD, VSPUD, and WCSD maintain websites where public documents are available. Angels and VSPUD distribute information to local media outlets or contribute to the community newspapers. MSD and WCSD hold meetings to inform the public of any issues of concern. MHSD does not perform additional constituent outreach. MHSD, SASD and MSD should consider constructing websites where information can be made readily available to the public. MSD reported that it plans to complete a website by the end of 2011.

Ultimately, each of the agencies demonstrated accountability in its disclosure of information and cooperation with LAFCO. While both MHSD and MSD submitted information requested initially by LAFCO and answered questions during an interview; however, it took both districts between three and four months to respond to several requests for additional information. All providers disclosed a majority of the information that was requested by LAFCO relating to wastewater service.

For specifics on the governing body, constituent outreach efforts and public involvement, refer to the respective chapter in this document.

SHARED FACILITIES

Presently, facility sharing among the wastewater providers is limited to CCWD disposing of Six Mile Village waste into the City of Angels treatment system, and WCSD contracting with CCWD for operation and maintenance services. A majority of the agencies reported cost sharing efforts by coordination with other districts to purchase supplies in bulk.

Opportunities for further facility sharing in the future include interconnections between neighboring providers, regional WWTP and solids disposal location, and enhanced equipment sharing.

The previous MSR reported the potential to integrate the VSPUD and CCWD La Contenta systems, as they abut each other. There are no plans presently for a significant consolidation of the systems; however, the two districts have collaborated on emergency planning, and there is the potential for VSPUD to dispose of excess waste into the La Contenta system should the need arise. There is a pipeline spur and manhole from the La Contenta system near VSPUD's WWTP for potential connection of the two systems.

The City of Angels, CCWD and SASD are considering a joint sludge disposal facility, due to the increased cost of disposing in the local landfill. There is the potential for other agencies to participate in the disposal facility; however, these three agencies have a daily need for sludge disposal, while other agencies need it less frequently. As of the drafting of this report, the agencies were in the process of trying to receive grant financing from USDA for the facility.

In addition, City of Angels, CCWD and MSD have discussed a regional WWTP to serve the area along SR 4 or the possibility of MSD or Angels taking on flow from CCWD's Vallecito/Douglas Flats and Indian Rock service areas. These discussions are merely at the beginning stages. MSD reported that it does not presently have sufficient capacity to receive outside flow, and it may not be feasible to accept flow from these communities, but MSD has continued participation in these discussions. The City of Angels reported an interest in accepting flow from CCWD systems sometime in the future.

A potential equipment and personnel sharing opportunity may be the sharing of equipment and trained personnel between the various providers. By sharing the equipment, agencies could reduce costs. CCWD shares certain emergency equipment (VAC trucks) and maintenance equipment (CCTV) by offering contract service to other agencies (with trained CCWD staff). CCTV equipment is a significant investment. The Calaveras County Water/Wastewater Technical Advisory Team has a website and previously had a page devoted to equipment available from each member agency for sharing purposes; however, this site was never populated with information and subsequently deactivated. This tool could be a resource for the districts in reducing costs.

Table 5-12: Wastewater Provider Facility Sharing Practices

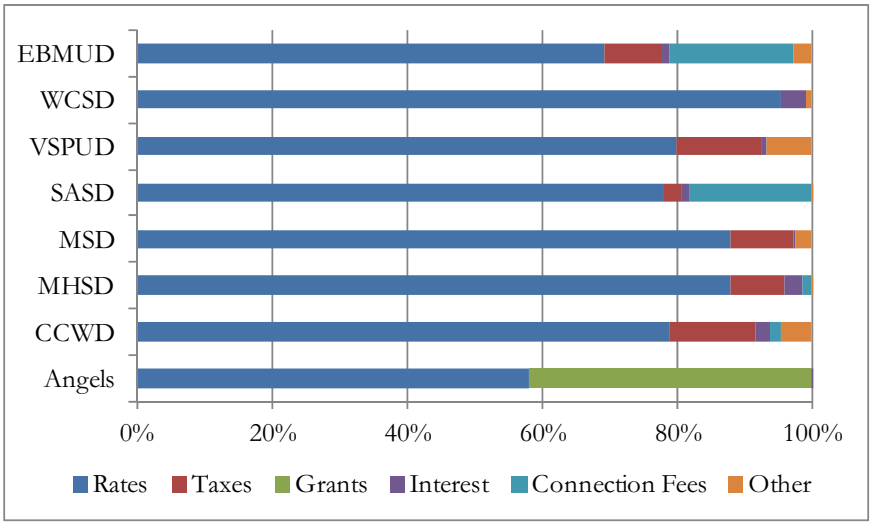
Provider	Existing Practices	Future Opportunities
Angels	The City presently practices facility sharing by treating and disposing wastewater from Six-Mile Village for CCWD.	The City is considering a joint sludge disposal facility with CCWD and SASD to reduce the cost of sludge disposal. In addition, over the long-term, the City may participate in a regional wastewater treatment solution, including possibly receiving flows from CCWD's Vallecito and Douglas Flat communities, as well as the County fairgrounds. The City has also been approached to provide recycled water to property owners on Wittle Rd. for grazing.
CCWD	Six-Mile Village effluent is treated and disposed by Angels. CCWD practices facility sharing among its systems, such as joint use of disposal fields by the Vallecito and Douglas Flat communities. CCWD master plans evaluate the cost effectiveness of combining adjacent systems.	CCWD investigated regionalization along the Highway 4 corridor. There is potential for the City of Angels to absorb Vallecito and Douglas Flat. La Contenta WWTP expansion is in process, and is adjacent to VSPUD. Opportunities involve new irrigation uses for recycled water produced at its Copper Cove, La Contenta and Forest Meadows WWTPs.
EBMUD	No facility sharing practiced.	No opportunities for facility sharing were identified.
MHSD	The District does not presently practice facility sharing with other agencies.	The District hopes to collaborate with other providers on a joint facility for biosolids disposal.
MSD	The District does not presently practice facility sharing; however, it does practice cost sharing with regard to purchasing supplies and emergency support. The District coordinates with other providers to purchase supplies in bulk such as chlorine. During emergency situations, other districts will provide manpower and equipment if necessary.	Due to proximity to other providers, the District has remained in discussions with CCWD and the City of Angels regarding a possible regional WWTP for the area.
SASD	The District reported that it does not presently practice facility sharing.	The District is considering a joint sludge disposal facility with CCWD and the City of Angels to reduce the cost of sludge disposal.
VSPUD	VSPUD does not presently practice faility sharing with other agencies.	There is the possibility of VSPUD discharging into CCWD's La Contenta WWTP; however, this is contingent upon increasing the capacity of CCWD's system.
WCSD	WCSD practices facility sharing and cost reduction by contracting with CCWD for maintenance and operation of WCSD facilities, and collaborating with CCWD on volume purchases, as well as CCWD and the City of Angels on equipment maintenance.	No further facility sharing opportunities were identified.

FINANCING

Service-related financing constraints and opportunities are discussed in this section. The scope includes revenue sources, financing constraints, rates and connection fees. The section identifies financing and rate restructuring opportunities. Finally, it assesses the financial ability of agencies to provide services.

FINANCING SOURCES

Figure 5-5: Wastewater Financing Sources, FY 10-11



Sewer rates, property tax and assessments, and connection fees are the primary financing sources for wastewater enterprises in the MSR area, as shown in Figure 5-5.

Sewer service charges constituted 79 percent of wastewater revenues on average throughout the County in FY 10-11.

Property taxes and assessments composed 7 percent of wastewater revenues on average. CCWD and VSPUD relies on this source more than the other providers, composing 13 percent of revenues in FY 10-11. This revenue source contributes an above-average share of revenue for EBMUD, MHSD and MSD. SASD receives little revenue from this source, making up only three percent of revenue. Angels supports its wastewater enterprise with sewer rates; its property taxes support its general fund activities.

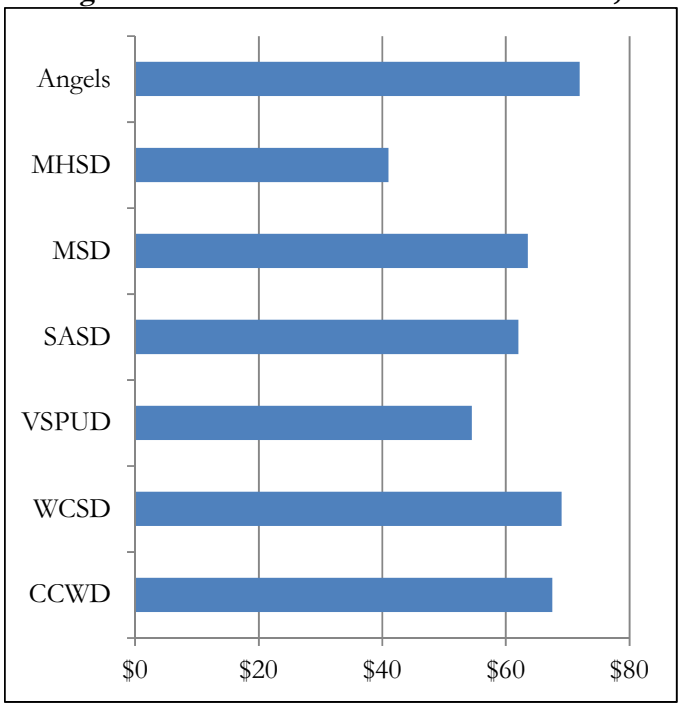
SASD and EBMUD received 18 percent of revenues from connection fees. CCWD and MHSD received 2 and 1 percent, respectively, of all revenues from connection fees. For Angels, MSD and WCSD, connection fees were zero percent of revenue in FY 10-11.

Grants were significant in FY 10-11 only for the City of Angels. Other revenue sources were significant for CCWD due to hydroelectric power revenues.

Rate Comparison

Compared with other municipal services, there are relatively few financing constraints for wastewater enterprises. Generally, agencies may establish service charges on a cost-of-service basis and are not required to obtain voter approval for rate increases or restructuring, although they must comply with the Proposition 218 ratepayer approval process. The boards of each of the public sector sewer providers are responsible for establishing service charges. Service charges are restricted to the amount needed to recover the costs of providing sewer service. The sewer rates and rate structures are not subject to regulation by other agencies. Service providers can and often do increase rates annually.

Figure 5-6: Wastewater Residential Rates, 2011



Each provider charges a fixed monthly flat rate according to the type of connection. CCWD charges the same rate for all of its service areas.

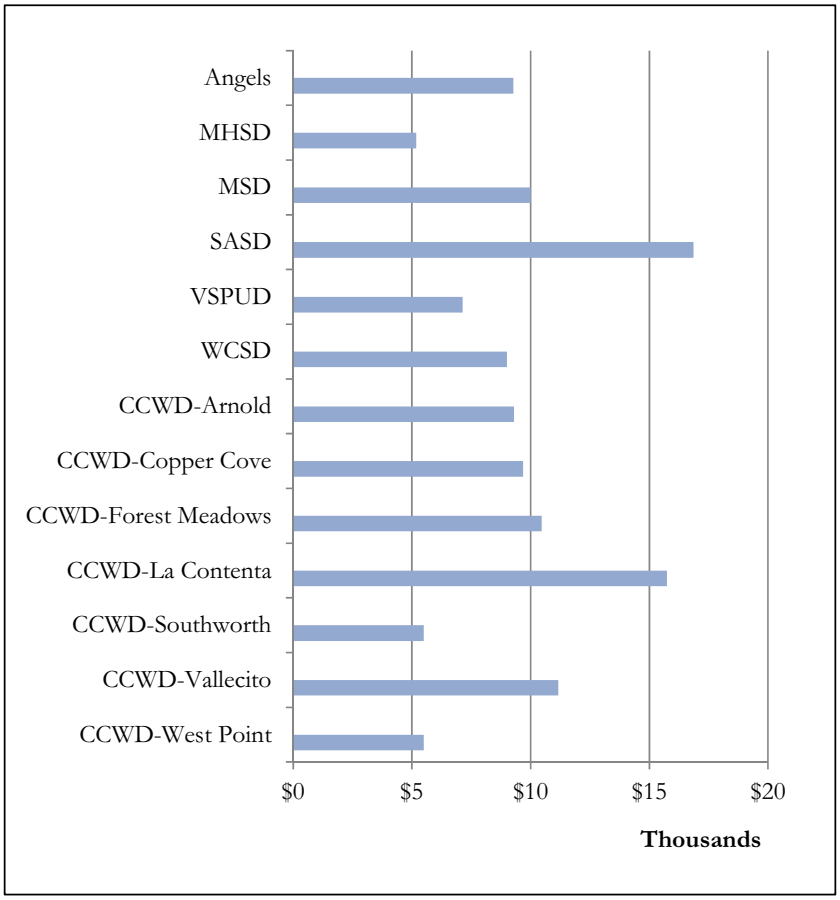
The median provider charges $65.54 monthly for residences in 2011. Residential wastewater rates are lowest in MHSD and VSPUD where rates have not been updated since 2007 and 2006 respectively. To qualify for State capital funding, MHSD proposed a 32 percent rate increase in 2012. VSPUD has not proposed a rate increase in the last six years. All other agencies last updated rates between 2009 and 2012, and reported that they are generally updated annually. Angels and WCSD have the highest rates of $72 and $69 respectively.

Rate restructuring opportunities include prospects promoting conservation and increasing service charges. All providers could promote water conservation by charging tiered sewer rates on the basis of sewer flow (as measured by incoming water flow) for both residential and non-residential customers. Nearly all providers charge flat rates, regardless of flow.

Connection Fees

There is no voter approval requirement for setting connection fees or for issuing sewer revenue bonds. Connection fees for government sewer providers are established by each of the respective boards to recover the costs of extending infrastructure and capacity to new development. The fees must be justifiable, reasonable related to costs of new service and may not be used to subsidize operating costs.

Figure 5-7: Wastewater Connection Fees, 2011



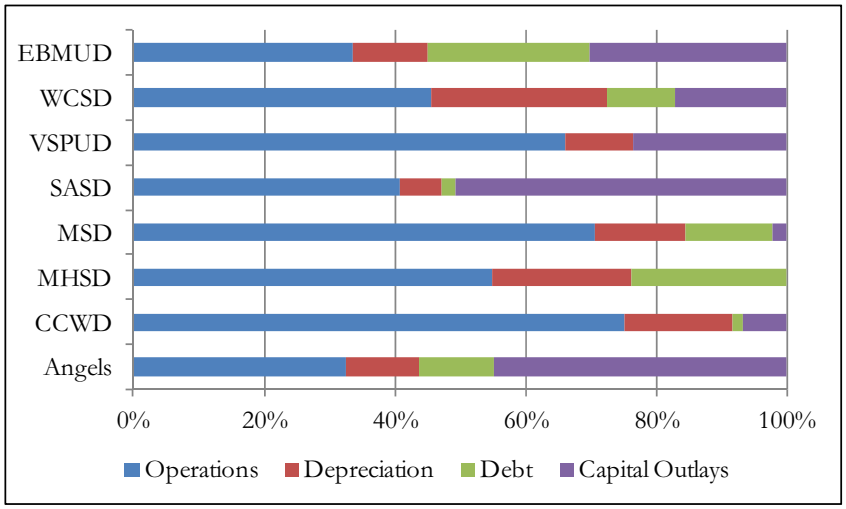
In Calaveras County, providers charge a wide range of connection fees. The median connection fee of $9,294 for a new residential connection is charged by CCWD in the Arnold service area.

Connection fees in CCWD's Southworth and West Point systems are the lowest among Calaveras County service providers. Connection fees are highest in SASD and CCWD's La Contenta, which are both areas with high growth potential.

A majority of the providers updated their connection fees sometime between 2009 and 2011. Those agencies that have not recently updated their connection fees typically have a lower than median connection fee. Specifically, MHSD and VSPUD last updated fees in 2003 and 2006 respectively. MSD last updated fees in 2007; however, its current connection fee ($10,000) is slightly higher than the countywide median.

COSTS

Figure 5-8: Wastewater Costs by Type, FY 10-11



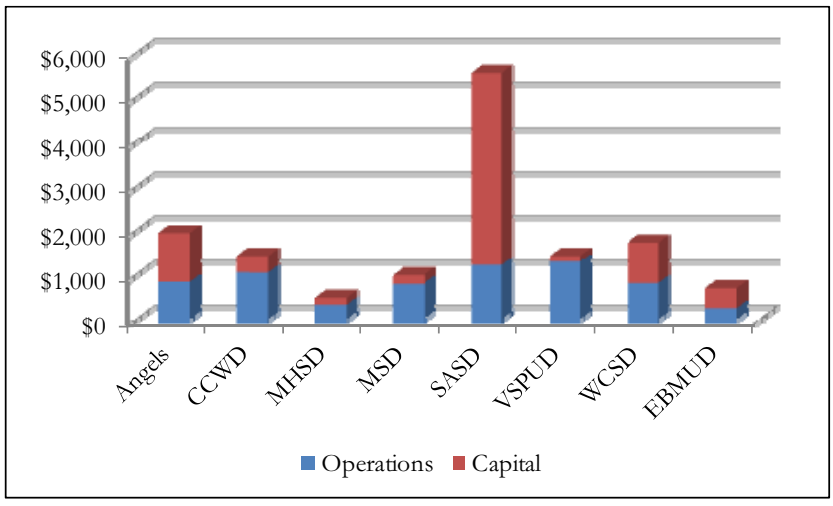
Wastewater service costs vary between providers due to differences in services provided, treatment methods, service areas, infrastructure age, maintenance efforts and capital financing approaches.

Generally, sewer enterprise expenditures have been categorized as operations, capital expenditure, capital depreciation, debt and other.

As shown in Figure 5-8, operations and administrative costs are the most significant of these cost categories, making up 52 percent of wastewater enterprise costs on average. CCWD, VSPUD and MSD spent the greatest portion on operations; both CCWD and MSD spent less on capital acquisitions than they lost in depreciation of their existing assets. CCWD spent 7 percent on capital acquisition, but 17 percent of its expenditures was associated with depreciation (in other words, the wearing out of assets). Similarly MHSD and WCSD spent less on capital acquisition than they lost in depreciation of assets. The rest of the districts spent a greater share on acquiring new assets than they did on depreciation of existing assets.

Over the last five years as a whole, capital investments at Angels, CCWD, EBMUD, MHSD and SASD outweighed depreciation. WCSD capital outlays were on par with depreciation; the District built a new equalization basin which it financed through an installment purchase agreement. At VSPUD and MSD, capital spending was substantially lower than depreciation.

Figure 5-9: Wastewater Costs per Connection



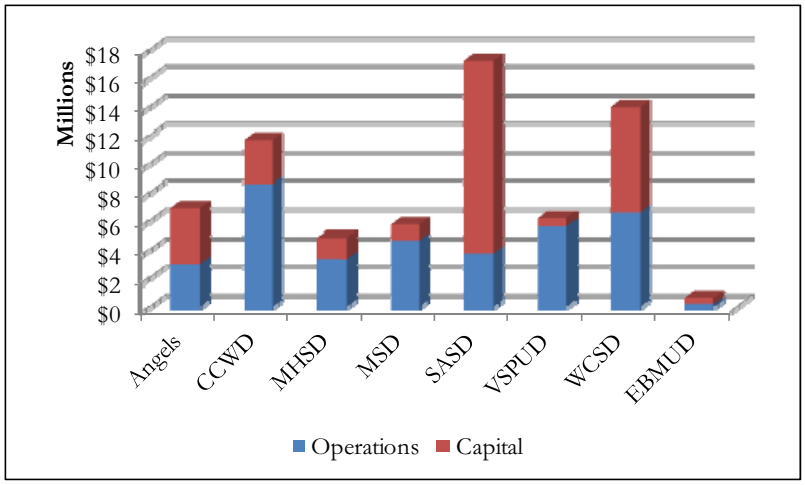
The providers vary substantially in size of operations. Comparisons may be drawn by focusing on costs per connection (see Figure 5-9) and on costs per mgd served (Figure 5-10). Because capital costs may be high in one year but low in others, these figures reflect the average cost over the three-year period of FY 08-09 through FY 10-11.

Operating costs per connection are highest in the

western portion of the County in VSPUD and SASD. Operating costs per connection are relatively low in EBMUD and MHSD.[93] MHSD has relatively low rates and capital investment.

Capital costs (costs of building new capital assets and debt payments) per connection are highest in SASD, WCSD and Angels. Capital costs per connection are relatively low in MHSD, MSD and VSPUD. Capital depreciation is the expense associated with the wearing out, breaking down, or technological obsolescence of physical capital, such as sewer pipes, treatment plants and pumping stations.

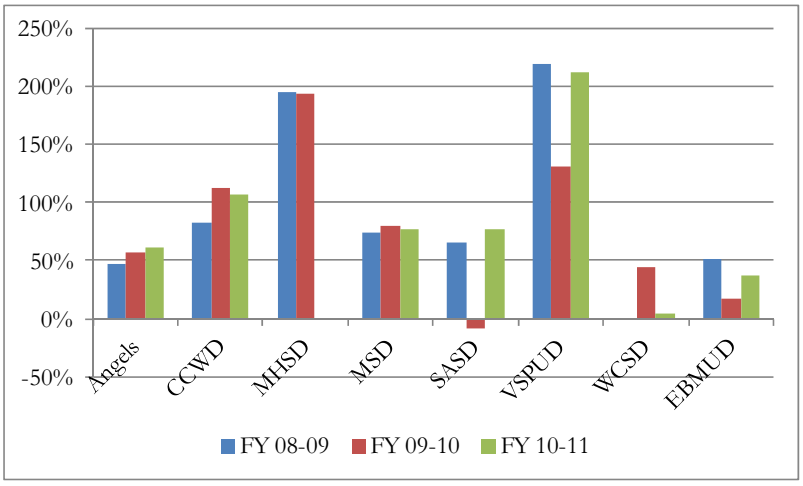
Figure 5-10: Wastewater Costs per mgd Served (ADWF)



When comparing costs relative to the flows treated, it appears that relatively compact service areas tend to have lower costs. For example, EBMUD has relatively low cost per million gallons a day of wastewater treated; EBMUD costs may be lower due to economies of scale, density and because EBMUD does not provide collection services in its East Bay service area. CCWD costs relative to flows are nearly as high as the smallest provider WCSD. CCWD has scattered and isolated wastewater users, which can lead to higher infrastructure costs. VSPUD is the second smallest provider but has lower costs; this reflects in part relatively low capital spending in the last three years.

RESERVES

Figure 5-11: Financial Reserves as % of Total Cost

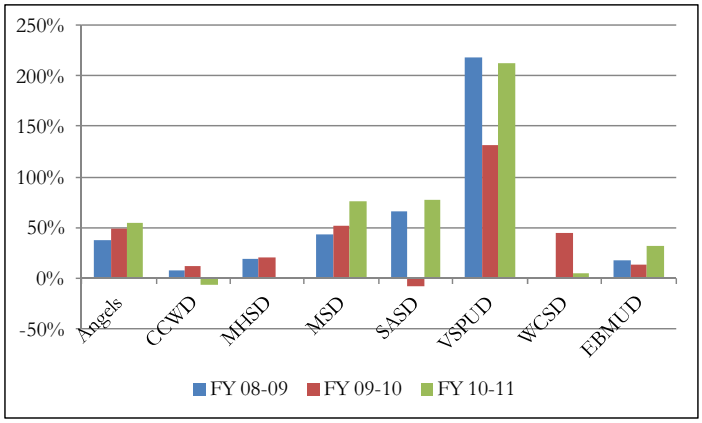


Wastewater providers rely on their financial reserves to weather recessions, to cover unexpected capital projects and as a form of savings to accumulate what is needed to make needed capital repairs. Financial reserves include savings that are restricted for particular uses, such as connection fees (which must be used for extending infrastructure to serve new growth) and required funds for paying off debt, and unrestricted funds that may be used for any purpose.

[93] EBMUD figures reflect districtwide costs, not just the costs in the "upcountry" area in Calaveras County. Note that EBMUD does not provide wastewater collection services in its East Bay service area, only treatment and disposal service are provided.

Figure 5-11 displays each agency's total designated and undesignated reserves as a percent of annual costs (including capital costs). Financial reserves were most ample at MHSD and VSPUD in recent years. As shown in the figure, several of the agencies (WCSD and EBMUD) have been drawing down their total reserves during the recession. EBMUD has continued to complete capital projects that were financed by reserved funds, and has not been receiving significant new revenues from new development. The City of Angels have managed to sustain its total reserves during the recession.

Figure 5-12: Unrestricted Financial Reserves as % of Total Cost



Unrestricted financial reserves reflect savings that can be used for any wastewater-related purpose, and are the most flexible funds and most useful for sustaining service levels during tough economic times or for unanticipated capital projects.

CCWD had the lowest levels of unrestricted financial reserves at the end of FY 10-11, as shown in Figure 5-12. Angels, MSD and EBMUD have experienced the most stability in their unrestricted financial reserves over the course of the recession. As the smallest service provider one would expect WCSD to maintain a higher reserve ratio in preparation for a rainy day; however, more recently, the District reported that it has had to reduce reserves to finance capital improvements due to deferred maintenance. CCWD had the lowest level of unrestricted reserves compared with its wastewater costs, posting negative wastewater reserves in FY 10-11. VSPUD has consistently had the highest reserve ratio in each year compared to the other providers. It should be noted that SASD has received substantial connection fee revenue which it does not classify as restricted even though such revenue may only be used for infrastructure extension, so the Figure overstates SASD financial health.

FINANCIAL ABILITY

All providers' financial ability to provide services is constrained by available revenues.

City of Angels reported that its current financing level is generally adequate to deliver services. The City benefits from a relatively compact service area, which means it does not have as expansive a collection system to maintain compared with other providers. The City's wastewater enterprise is supported almost entirely by rates, so the recession has not affected the City as much as agencies reliant on property taxes.

Since the recession started, CCWD has faced declining revenues and has implemented staff lay-offs and dramatically reduced capital spending (i.e., the capital project budget in its operating fund). CCWD also scaled back its capital improvement program in response to slow development.

MHSD reported that it will need additional financing in the future so there is adequate staff to comply with regulatory reporting and monitoring as well as training demands.

MSD reported that its financing level is adequate and that it is able to fund any necessary upgrades. MSD has a relatively low capital investment rate compared with other providers.

SASD reported that financing is adequate. As discussed above, the District has the highest level of spending per connection.

VSPUD reported that its financing level is minimally adequate to deliver services due to declines in property tax revenue.

WCSD reported that its financing level is insufficient to provide adequate services due to the District's debt load, small size and fixed costs of service. The District had expected new growth to help reduce its average cost per connection and provide a larger base over which to spread fixed costs, and estimates that it needs an additional 30 connections to operate within its means. To make debt payments, the District is deferring maintenance of District facilities. The District has reduced maintenance costs by contracting with CCWD for services. As part of the divestiture process, WCSD is in the process of forming an assessment district to finance necessary improvements to existing facilities to bring them into compliance with State regulatory requirements and CCWD standards.

GOVERNANCE ALTERNATIVES

This section discusses issues and problems with respect to the current organization of wastewater service in Calaveras County and, in light of anticipated growth, with its future organization. It identifies alternatives to the current government structure of service providers.

ANNEXATION OF SERVICE AREAS OUTSIDE BOUNDS

Annexation of extraterritorial service areas is an option that would promote logical boundaries. Since 2001, service providers have been required by law to obtain LAFCO approval to serve territory outside their boundaries.[94]

There are two wastewater purveyors presently serving territory outside their boundaries:

- SASD provides wastewater services to seven residential connections outside of the District's boundaries located on Gold Strike Road. These connections were added between 1991 and 1994. The residents in that area originally wanted to be included within the District's boundaries, but it was determined that annexation was too costly for six connections.
- MSD provides wastewater service to and discharges to Ironstone Vineyards, which is outside of the District's bounds across the street from the WWTP. Annexation of this property would be recommended; however, the property is not adjacent to the MSD's boundaries.

ALIGNMENT OF BOUNDARIES BETWEEN VSPUD AND CCWD AND CLEARLY DEFINED CCWD PLANNED SERVICE AREAS

The southern boundary of VSPUD abuts with CCWD's La Contenta service area. Difficulties arise as CCWD's boundary and SOI encompass the entire County. CCWD's service areas are not exact and are not regulated by LAFCO action. Consequently, maps showing the District's service areas are not precise, but illustrates generally areas and parcels that are served.

Along the border between VSPUD's boundary and CCWD's service area, there are small areas of potential overlap. VSPUD reported that there have been no issues regarding duplication of services within its bounds or misunderstandings as to which entity will serve an area.[95] However, it

[94] Government Code §56133. The requirement does not apply to contracts for raw water transfers or sale of surplus water for agricultural purposes.

[95] Correspondence with Mike Fischer, General Manager VSPUD, July 26, 2010.

is recommended that both districts coordinate to clearly delineate where CCWD is presently and plans to serve in the future to mitigate potential confusion and encroaching by CCWD into VSPUD's adopted boundaries.

In the same area adjacent to SR 12, there is a single parcel that is not within VSPUD's boundaries and SOI or CCWD's service area and has no designated wastewater provider. The parcel in question is presently receiving water service from VSPUD outside of district boundaries. An option may be to include this area in VSPUD's SOI should VSPUD annex the parcel and decide to extend wastewater services there as well.

While VSPUD is the only district that presently abuts a CCWD service area, as growth and development occur around the County, certain high growth areas will require clearly delineated planned service areas to communicate to nearby agencies and county planners where CCWD intends to provide service. As the sphere is presently defined, all area not within another wastewater agency's boundaries is within CCWD's boundary and SOI. However, this SOI fails to indicate areas where CCWD could feasibly provide service in the future given the location of existing CCWD and other agency infrastructure and geographical limitations. An example of this may be along Murphys Grade Road just outside of the City of Angels SOI. Based on the existing interpretation of CCWD's jurisdiction, a development in this area would be considered in CCWD's potential service area, as opposed to the City of Angels, although the City may be a more feasible service provider in this instance.

A potential option to address this issue may be a limited service sphere for CCWD, in order to openly define areas that CCWD can feasibly serve in the future. This tool could be used by county planners to determine what new developments can be served by CCWD as opposed to private septic systems. A limited service sphere would define existing and planned areas of service for domestic wastewater only and would not impact the District's contracting and support functions.

REGIONALIZATION OF TREATMENT FACILITIES

There are several plans under consideration to consolidate treatment systems and eliminate smaller out of date facilities.

MSD, CCWD and the City of Angels have had informal discussions regarding a possible regional wastewater solution for the area. This would be a long-term option to consolidate the systems along the SR 4 corridor and pool financial resources for an enhanced treatment system. Based on responses from the agencies, this may not be a feasible option.

Another option may be the City of Angels WWTP absorbing flows from Vallecito and Douglas Flat, and possibly Indian Rock. Although CCWD researched the possibility of MSD accepting the flow from these communities, MSD reported that it did not have the capacity to serve the Vallecitio, Douglas Flat and Indian Rock systems, which together consist of 276 total connections. The Vallecito system lacks adequate storage and disposal capacity.[96] CCWD received grant funding to upgrade the Vallecito WWTP to tertiary, and expects to complete the project in 2012. The City of Angels, which lies downhill from these areas, has expressed interest in accepting flow from these communities. While Indian Rock has sufficient capacity and no growth is expected in the area, as the older septic systems fail, connecting to an adjacent sewer system may be a more cost effective alternative. Indian Rock has only 20 connections and is located adjacent to the Murphys system. It

[96] Calaveras County General Plan, *Water Element Baseline Report Supplement*, Feb. 2009, p. 32.

may be more feasible to send Indian Rock effluent to MSD, should MSD determine that there is sufficient capacity and not at a deficit to the District.

There is the possibility of VSPUD discharging into CCWD's La Contenta WWTP; however, this is contingent upon increasing the capacity of CCWD's system. The previous MSR reported the potential to integrate the VSPUD and CCWD La Contenta systems, as they abut each other. There are no plans presently for a significant consolidation of the systems; however, the two districts have collaborated on emergency planning, and there is the potential for VSPUD to dispose of excess waste into the La Contenta system should the need arise. There is a pipeline spur and manhole from the La Contenta system near VSPUD's WWTP for potential connection of the two systems.

ENHANCING EFFICIENCIES AND PROFESSIONALISM

Smaller districts face several challenges in providing adequate service levels. Smaller constituent sizes typically mean higher rates to provide sufficient financing, and these districts usually rely heavily on volunteer time from board members and sometimes from staff. Due to the lower staffing levels and volunteer nature of the boards, these Districts often face difficulties remaining in compliance with State requirements and keeping up with the demands of the utility systems.

WCSD has reported facing these challenges, as well as others, and chose to contract with CCWD in 2009 for operations and maintenance to reduce costs and improve efficiencies. WCSD reported that it is satisfied with the services provided by CCWD, and consequently, has started negotiations with CCWD to transfer the ownership and operation of the WCSD water and wastewater systems to CCWD. The WCSD Board adopted a resolution in December 2010 to authorize a proposal to CCWD for the extension of contract utility services and the annexation of water, wastewater and other services.[97] WCSD and CCWD have come to an agreement on the manner in which services will be taken over by CCWD. Takeover by CCWD is contingent upon the approval of a real property assessment district by land owners and approval of the assessment by WCSD. WCSD has submitted an application to LAFCO for approval of the transfer of services.

WCSD cited the following as the reasoning behind the proposed transfer:[98]

1) Wallace is a small community that does not have sufficient size to finance independent water and wastewater systems, which has resulted in the District's benefit assessment subsidizing water and wastewater services as opposed to the other services offered by WCSD.

2) In the event of an emergency, WCSD does not have the ability to extend into another debt obligation, should it be necessary.

3) Water and wastewater utilities are demanding on board members and require significant time commitments to remain abreast of issues and regulations, which can be draining in a small community such as Wallace with a limited pool to draw from.

4) Full-time professional staff to operate and maintain the facilities will provide the constituents with a higher quality of water and wastewater services and enhanced access for customer service issues.

5) Economies of scale may allow CCWD to reduce utility rates in the community.

[97] WCSD Resolution 2010-04.

[98] WCSD, Resolution 2010-04 Perspective, December 16, 2010.

6) CCWD's rate structure will allow it to pump private septic tanks, which WCSD has had challenges regulating.

7) CCWD may have greater leverage to bring surface water to the area, which is presently dependent on groundwater.

Other districts may also benefit from a similar cooperative relationship or reorganization with a larger professionally operated agency.

MHSD and MSD are smaller districts with minimal staffing and accountability challenges. MHSD employs a single plant operator, while administrative responsibilities lie with the Board. Although MSD maintains professional staff, turnover of staff forced the Board to temporarily take on administrative functions. However, MSD has also had high turnover of board members. Due to these challenges, both districts had difficulty cooperating in a timely manner with LAFCO requests for information; although, all requested information was ultimately provided.

With regard to accountability, both MHSD and MSD have not had contested elections since at least 2000, indicating a lack of constituent interest in board activities. Outreach efforts to keep constituents informed are limited or nonexistent and both districts lack websites.

A possible governance alternative with regard to MHSD may be contracting for service operation and maintenance services with CCWD. Recently, WCSD began contracting with CCWD for these services and has reported a reduction of operation and maintenance costs of almost 50 percent. Another potential benefit of contracting for these services may be improved compliance with State requirements. WCSD has historically had the highest rate of violations in the County; however, since transitioning to CCWD for operations and maintenance in January 2010, the District has not had any reported violations. Contracting for these services would allow the districts to retain a level of local control, while benefiting from efficiencies gained in a large professionally managed agency.

Contracting with CCWD may raise questions of balancing local control with constituent interests. Depending on priorities and needs of the communities, another option may be the dissolution of the districts and services assumed by another overlapping agency, such as CCWD, Union PUD, or Calaveras PUD which are all empowered to take on wastewater services. In the example of WCSD, the District chose to retain local control, because it offers additional services outside of water and wastewater. Being governed by a large professionally organized agency may provide constituents with an enhanced level of accountability—with additional constituent outreach efforts, public interest in board activities, and staffing levels that allow greater public accessibility.

One option for improving accountability and performance at MSD is for the District to retain an independent firm to conduct an organizational management review.

In light of the lack of a cooperative working relationship between MSD, CCWD and UPUD, a more feasible governance alternative may be the complete dissolution of MSD and UPUD and the formation of a new agency to take on water and wastewater services in the area. A community service district would also be able to take on additional functions, such as fire, park, lighting, and cemetery services. The benefits of a new agency that provides several services—in particular, public safety services—may be more interest in serving on the Board, more constituent interest, potential administrative cost savings, greater leveraging power for loans and grants, and enhanced accountability.

MSR DETERMINATIONS

PRESENT AND PLANNED CAPACITY OF PUBLIC FACILITIES AND INFRASTRUCTURE NEEDS

- Flows at CCWD's La Contenta and Copper Cove systems are presently at or exceeding permitted capacity. CCWD's Country Houses and Sequoia Woods service areas are absorbing 86 and 83 percent of permitted capacity. All other systems are operating at less than 80 percent capacity.
- It is considered a best management practice to begin planning for capacity improvements when flows absorb 85 percent of permitted capacity.
- MHSD, and CCWD's Forest Meadows and Millwoods systems have sufficient capacity to serve significant growth in demand well into the future.
- MSD is using 75 percent of its permitted capacity. Disposal capacity needs to be enhanced to serve projected growth through 2025.
- VSPUD will need additional capacity to serve all planned and proposed development within its boundaries and SOI. The WWTP's remaining capacity has been reserved for in-fill and a development that is on hold.
- Based on Angels' growth projections, the current plant should have sufficient capacity to serve the City beyond 2030.
- Should development occur at the pace that WCSD anticipates, an additional treatment plant will be necessary by 2020.
- SASD maximizes its capacity during work days, and does not have the capacity to serve the proposed development in the area. In order to serve any significant new development, the District will require a new treatment plant.
- Although there is remaining capacity in CCWD's Country Houses, Indian Rock, Southworth, and Wilseyville Camp facilities, these communities are built-out with little or no growth potential, according to the County's General Plan. While CCWD's Sequoia Woods has some remaining treatment capacity, there is reportedly no remaining disposal capacity in the system.
- In areas of potential high growth, which includes Wallace, Valley Springs, San Andreas, and Copper Cove, agencies should make efforts to complete long-term growth projections in order to adequately plan and time capacity improvement needs.
- Systems with relatively high I/I that need related infrastructure improvements include Angels, MSD, SASD and CCWD's La Contenta and Forest Meadows.
- Significant plant improvements are in progress for CCWD's Copper Cove tertiary facility to comply with the Time Schedule Order issued by RWQCB.
- Portions of the Angels collection system north of SR 4 are at maximum capacity and are failing. The City is proposing a new sewer line to serve these areas; however, it is presently unfunded.

ADEQUACY OF PUBLIC SERVICES

- EBMUD and WCSD have historically had a high rate of violations. Angels, CCWD, and MSD had low rates of violations between 2000 and 2009.
- Since 2005, significant enforcement actions issued by RWQCB include a Notice of Violation issued to the City of Angels in 2010, an Administrative Civil Liability Order issued to SASD in 2009, a Clean-up and Abatement Order issued to VSPUD in 2006, and a Clean-up and Abatement Order issued to CCWD for the Forest Meadows WWTP in 2005. There are no wastewater providers in Calaveras Country that are currently operating under active cease and desist orders.
- All of the providers complied with effluent quality standards between 99 and 100 percent of the days in 2009.
- SASD and VSPUD had significantly higher sewer overflow rates than the other providers between 2008 and 2010.
- Angels, CCWD, EBMUD, and WCSD are considered well-managed and generally follow best management practices. SASD, VSPUD, MSD, and MHSD could improve upon a few best management practices, such as capital planning and advanced growth planning.
- Providers should initiate or improve upon existing capital improvement planning to more adequately plan for future growth and minimize deferred maintenance. A capital improvement plan should generally include anticipated timing for proposed projects. Updates should be made annually to capital plans based on actual outcomes and adjusting for any changes in available financing and anticipated growth.

GROWTH AND POPULATION PROJECTIONS

- Demand for wastewater services is affected directly by population and economic growth, water conservation efforts, and groundwater infiltration and inflow.
- Although most developments are on hold pending economic recovery, there is potential for significant growth in certain communities in Calaveras, should many of the previously planned and proposed developments come to fruition. Agencies are being conservative about short-term growth estimates and are wary to estimate long-term growth potential.

FINANCIAL ABILITY OF AGENCIES TO PROVIDE SERVICES

- Most of the service providers follow best practices by annually updating their rates and connection fees. Notably, VSPUD and MHSD have not updated rates in several years, and MHSD charges the lowest rates in the County. It is recommended that these districts review their rates annually and increase rates as appropriate to fund services. MHSD is in the process of completing a rate study.
- City of Angels has the most stable revenue base due to reliance on rates rather than property taxes, and has weathered the recession without drawing down its financial reserves.
- VSPUD, MSD and MHSD have the lowest rates of capital reinvestment in their wastewater infrastructure. These agencies invested substantially less in their capital assets than they consumed due to wear and tear.

- CCWD, EBMUD, SASD and WCSD had healthy rates of capital reinvestment, and have managed to spend more on new infrastructure than they have consumed due to wear and tear.
- Wastewater operating costs tend to be highest at smaller service providers. Notably, MHSD has relatively low operational spending levels; this may be due to its low rates and low rate of capital reinvestment.

STATUS OF, AND OPPORTUNITIES FOR, SHARED FACILITIES

- Facility sharing among the wastewater providers is limited to CCWD disposing of Six Mile Village waste into the City of Angels treatment system, and WCSD contracting with CCWD for operation and maintenance services.
- There is the potential for VSPUD to dispose of excess waste into CCWD's La Contenta system should the need arise, contingent upon expansion of the La Contenta system.
- The City of Angels, CCWD and SASD are considering a joint sludge disposal facility, due to the increased cost of disposing in the local landfill.
- Recycled water availability in dry years could service irrigation needs downhill in the UPUD service area and enable UPUD and/or Angels to commit more of its water resources to growth in domestic water users.
- A potential equipment and personnel sharing opportunity may be the sharing of closed circuit television (CCTV) and trained personnel between the various providers. CCTV equipment is a significant investment. By sharing the equipment, agencies could reduce costs.
- The service providers formerly held collaborative discussions on facility sharing issues through a technical advisory team, but the collaboration disintegrated. LAFCO may wish to consider facilitating these providers afresh to promote collaboration focused on addressing issues raised in the 2012 MSR.

ACCOUNTABILITY FOR COMMUNITY SERVICE NEEDS

- Angels, CCWD, EBMUD, SASD, VSPUD, and WCSD demonstrated accountability based on the measures of contested elections, constituent outreach efforts, and disclosure practices.
- MHSD and MSD have had little governing body and constituent interest as demonstrated by a lack of contested elections.
- It is recommended that MHSD, SASD and MSD create and maintain websites to improve transparency and inform the public.

GOVERNMENTAL STRUCTURE AND OPERATIONAL EFFICIENCIES

- Annexation of extraterritorial service areas is an option that would promote logical boundaries. Providers that are providing service outside of their boundaries include MSD and SASD.
- The southern boundary of VSPUD abuts with CCWD's La Contenta service area. It is recommended that both districts coordinate to clearly delineate where CCWD is presently and plans to serve in the future to mitigate potential confusion and encroaching by CCWD into VSPUD's adopted boundaries.

- As growth and development occur around the County, certain high growth areas will require clearly delineated planned service areas for CCWD to communicate to nearby districts and county planners where CCWD intends to provide service. A potential option to address this issue may be a limited service sphere for CCWD to define clearly areas that CCWD can feasibly serve in the future.
- A long-term option is to consolidate the wastewater systems along the SR 4 corridor and pool financial resources for an enhanced treatment system.
- WCSD has initiated the process to transfer water and wastewater services to CCWD.
- MHSD and MSD are smaller districts with minimal staffing and accountability challenges—both districts had difficulty responding in a timely manner with LAFCO requests for information. Three governance alternatives were identified with regard to these two districts: 1) contract for operation and maintenance services with CCWD or another provider, 2) dissolution of the districts and services assumed by an existing overlapping agency, or 3) dissolution of the districts and formation of new CSDs to take on wastewater as well as other services in the two areas.

6. CITY OF ANGELS

The City of Angels provides several municipal services including, water, wastewater, fire protection, police, street and road, parks and recreation, and street lighting services. With regard to water services, the City provides treatment of surface water and distribution. Wastewater services provided by the City include collection, treatment and disposal. This MSR focuses on the water and wastewater services provided by the City. For additional information on other City services and functions, refer to the City of Angels MSR adopted by LAFCO in December 2009.

AGENCY OVERVIEW

FORMATION AND BOUNDARY

The City of Angels incorporated in 1912 as a general law city and is the only incorporated city in Calaveras County. The City's boundary is entirely within Calaveras County, located in the south central portion of the County at the intersection of Highways 49 and 4. The City has a boundary area of 3.56 square miles or 2,279 acres.[99]

The City's SOI was adopted by LAFCO in 1985, updated in 2005,[100] and most recently updated in 2011.[101] The SOI encompasses approximately 9.3 square miles, extending beyond the city limits by approximately one mile in the east and about one-quarter to a one-half mile from the City's current boundary to the south, west and north.[102] Additionally, LAFCO adopted two Areas of Concern—one to the north and one to the southeast of the adopted SOI. For a more detailed discussion on the City's SOI update, refer to the SOI Update section at the end of this chapter.

Since the City's incorporation, according to Board of Equalization records, the City has completed nine boundary changes — six annexations and three reorganizations. The last boundary change recorded was effective as of April 1997. All recorded boundary changes are shown in Table 6-1.

Table 6-1: City of Angels Boundary History

Project Name	BOE Effective Date	Change Type	Recording Agency
Mark Twain Annexation	1/13/1961	Annex	BOE
No name reported	1/28/1964	Annex	BOE
Rolleri Parcel Annexation	12/31/1970	Annex	BOE
Altaville Annexation	1/26/1972	Annex	BOE
Stelte Park Subd. Unit 3 Annexation	8/17/1983	Annex	BOE
Angel Oaks Reorg.	12/7/1989	Reorg	BOE
Greenhorn Creek Reorg.	4/7/1993	Reorg	BOE
Spray Waste Field Reorg.	5/18/1993	Reorg	BOE
Old Highway 4/ Crespi Reorg.	4/14/1997	Reorg	BOE

[99] Calaveras LAFCO, City of Angels Camp Hearing Draft MSR, November 16, 2009, p. 6.

[100] LAFCO Resolution 2005-01.

[101] LAFCO Resolution 2011-06.

[102] Ibid.

CALAVERAS LAFCO

CITY OF ANGELS SPHERE OF INFLUENCE

City Boundary

Angels Sphere 2021 (*Adopted 12-19-11*)

Area of Concern (*Adopted 12-19-11*)

Prior 1996 Sphere of Influence

LAND USE

Parks and Recreation

Rural Residential

Business Attraction and Expansion

Public

Special Planning

All district boundaries are generalized and are not to be used on a parcel by parcel basis.

Calaveras LAFCO December, 2011

0 0.25 0.5 1 Miles

N

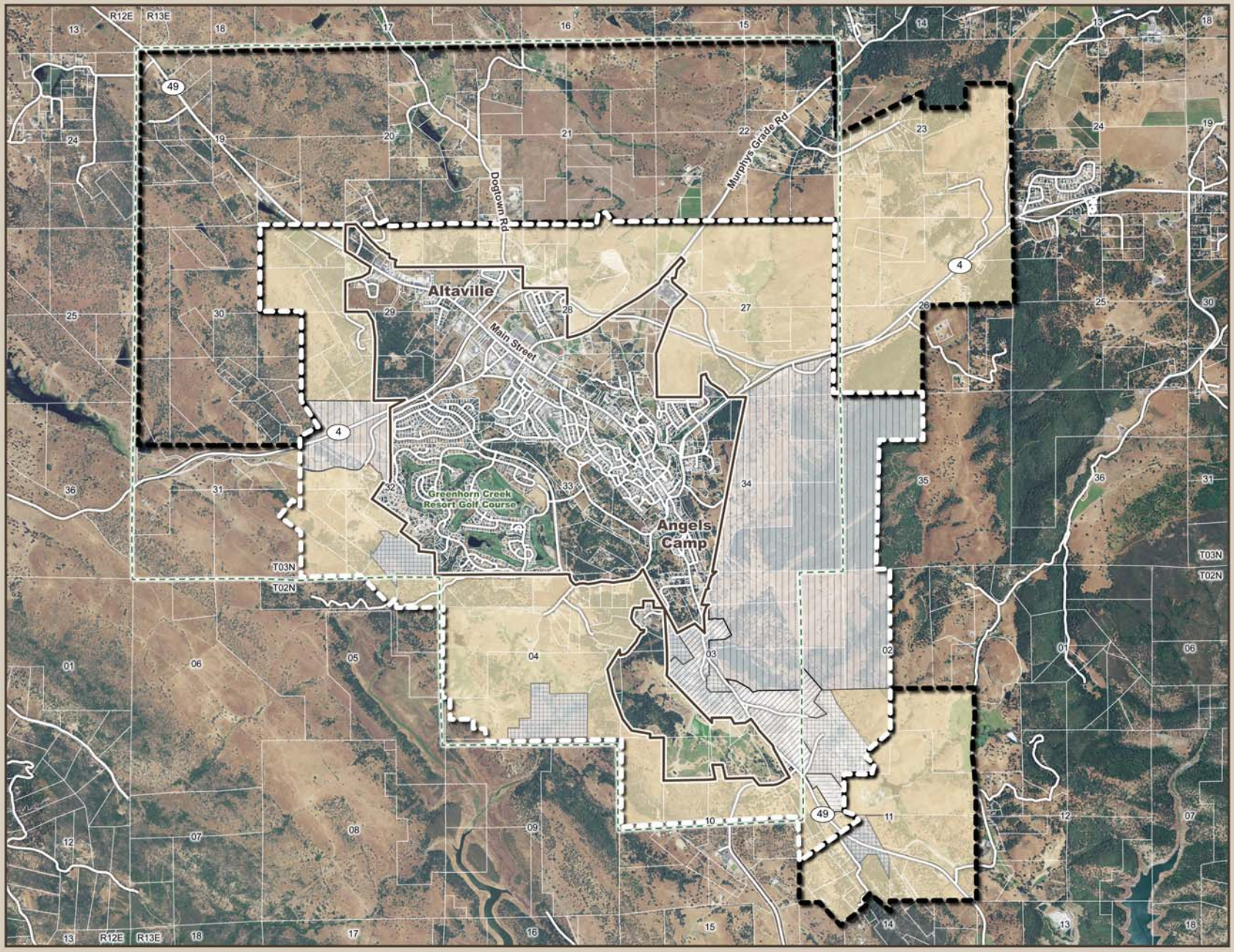


Exhibit "B" Adopted December 19, 2011 Resolution 2011-0006

LOCAL ACCOUNTABILITY AND GOVERNANCE

The City is governed by a five-member city council elected-at-large to four-year terms. Council meetings are held bi-monthly on the first and third Tuesday of each month.

Table 6-2: City of Angels Governing Body

Governing Body				
	Name	**Position**	**Began Serving**	**Term Expires**
Members	Elaine Morris	Mayor	2008	2012
	Jack Lynch	Vice-Mayor	2006	2014
	Roger Neuman	Council Member	2011	2012
	Stuart Raggio	Council Member	2010	2014
	Scott Behiel	Council Member	2011	2012
Manner of Selection	Elected-at-large			
Length of Term	Four years			
Meetings	Date: First and third Tuesday of the month		Location: Angels Camp Fire Department	
Agenda Distribution	Available on the City's website			
Minutes Distribution	Available on the City's website			
Contact				
Contact	City of Angels Camp			
Mailing Address	PO Box 667, 584 South Main Street, Angels Camp, CA 95222			
Email/Website	http://www.angelscamp.gov/			

The City apprises residents of meetings and events through the City's website, which includes links to agendas and minutes and an events calendar. In addition, the City mails the annual water consumer confidence report to each home, includes announcements in water bills, and makes use of local newspapers to keep the public informed.

With regard to customer service, complaints concerning water and wastewater services most often pertain to the odor or taste of the treated water or the odor of the sewer system. In CY 2008, the City received a total of 18 complaints regarding wastewater service and 38 complaints regarding water service. Complaints may be submitted through phone calls, email, letters, and in-person to the City Council, department heads or city administrator. The City has contact information for the Water and Sewer Department available online for constituent concerns. Complaints are directed to the appropriate department and monitored by the Administrative Services Department to ensure that appropriate action was taken.

The City demonstrated full accountability in its disclosure of information and cooperation with LAFCO. The City responded to LAFCO's written questionnaire, interview and document requests.

MANAGEMENT

The City had a total of 39 full-time staff and 11 part-time staff in 2010. The City provides water and wastewater services through the Water and Sewer Department. The City has 13 full-time equivalent staff dedicated to water and wastewater utilities—three administrative personnel, three field staff, five system operators and two maintenance technicians. Of these employees, approximately five FTEs are dedicated to water treatment and distribution services and eight FTEs are dedicated to wastewater collection and treatment services.

Water and wastewater staff are evaluated annually by the Senior Supervisor. The Senior Supervisor is evaluated annually by the City Administrator. The City monitors the workload of water and wastewater staff through minimal time sheets and daily logs at each of the plants. Overall performance of the Water and Wastewater Department is evaluated annually in the City's budget and annual financial statement, as well as by the California Department of Health Services through its annual inspection report. While the Regional Water Quality Control Board does not conduct regular inspections and reports, the Board does monitor City compliance with regulations through city-produced monitoring reports and random inspections.

The City's primary planning document is the General Plan that was updated in 2006. In addition, the City adopted Water and Wastewater Master Plans in 2002 for the planning horizon from 2001 to 2015, and recently completed a Sewer System Management Plan (SSMP) in April 2010.

The City's financial planning documents include annually adopted budgets, audited financial statements and a capital improvement plan for water and wastewater services (included in the Water and Wastewater Master Plans. The most recent audit was performed for FY 10-11.

SERVICE DEMAND AND GROWTH

The existing city bounds encompass a variety of land uses, including residential, commercial, industrial, public and institutional, parks and recreation, and open space land uses. The most common residential land use is low-density residential, located throughout the City. High density residential areas are located in various pockets of the City, and include both attached dwelling units (townhomes and condominiums) and detached dwelling units (houses and mobile homes). Commercial activities are located along Main Street, with the historic commercial areas located in the southeastern portion, community commercial areas located in the central portion, and newer shopping center commercial areas concentrated in the northwestern portion. Industrial land uses are located in the northeastern portion of the City, along Murphys Grade Road. Public and institutional uses are located throughout the City. City-owned park facilities are located along Main Street and Highway 4, and the Greenhorn Creek Golf Course is located in the southwestern portion of the City. Open space land is located in the southern portion of the City (to the east along Greenhorn Creek Road), as well as in smaller areas in the east and west of the City.

Within the City, there were approximately 1,600 individuals in the labor force in 2004, or approximately 45 percent of the total population.[103] The industries that employed the highest percentages of Angels Camp's labor force were educational, health and social services (29 percent), retail trade (15 percent) and construction (10 percent), as of the 2000 Census.[104] Significant employers include Save Mart, the Mark Twain Elementary School District, the Bret Harte High School District and the City of Angels.[105]

Population

The estimated residential population in the City bounds was 3,575 in January 2009, according to the California Department of Finance. The population of the City of Angels has grown by 571 residents since 2000, or in other words, by 19 percent. The majority of this population growth occurred from 2000 to 2005, when the population increased by over 17 percent. Population growth

[103] Angels Camp 2020 General Plan, Economic Development Element, 2009, p. X-9.

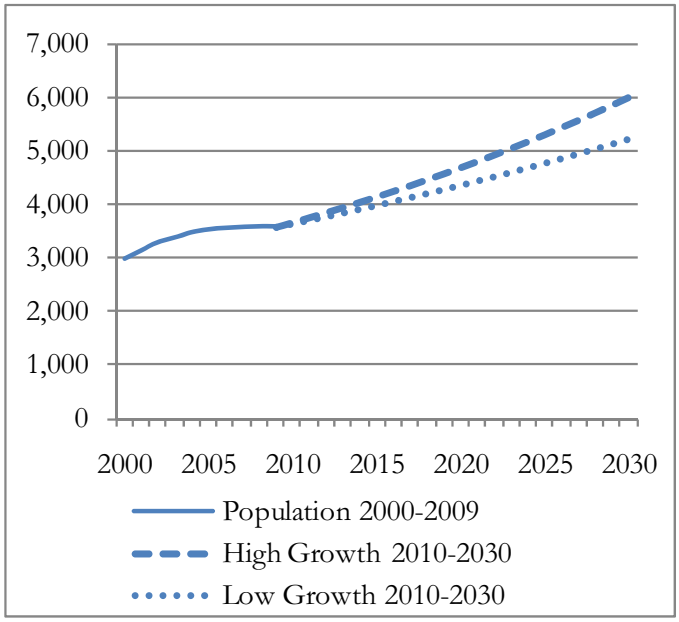
[104] Calaveras County Multi-Hazard Mitigation Plan, October 2008, Annex A.5.

[105] Angels Camp 2020 General Plan, Economic Development Element, 2009, p. X-8.

has slowed in recent years, and from 2006 to 2009 the overall population grew by less than one percent. The City's population density is 1,004 per square mile, compared to the countywide density of 65.

The City considers its customer base to be the residents and businesses within the city limits, as well as those visiting or traveling through the area. Non-residents including weekday workers, shoppers and visitors also contribute to the City's total population and demands on various services. Special events, such as the Calaveras County Fair and Frog Jump Jubilee, can increase the 24-hour population of the City by as many as 13,500 individuals.[106]

Figure 6-2: Recent and Projected Population Growth, 2000-2030



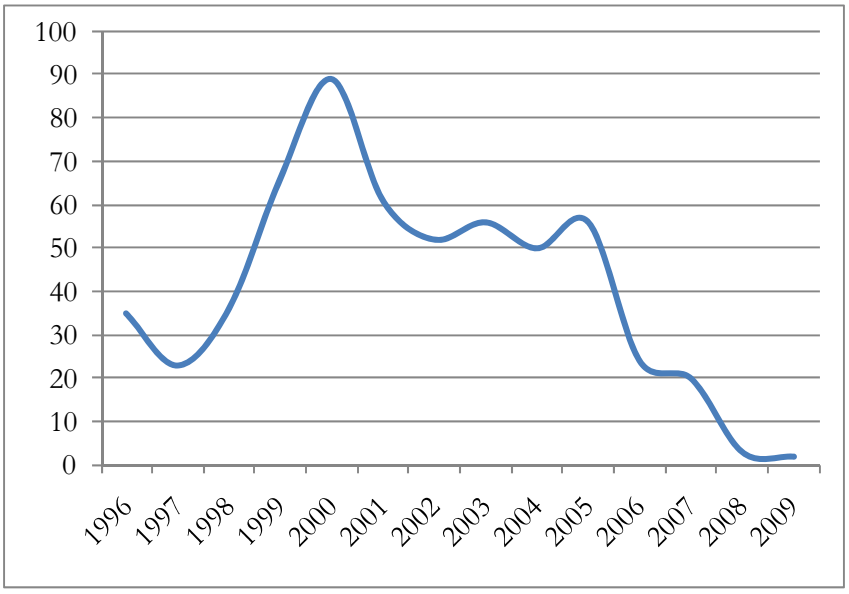
Estimates of residential population growth rates range from around two percent per year (in the city's water and wastewater master plan) to 3.2 percent per year (based on the 20-year historic city population growth rate). The City's 2020 General Plan estimates a population growth rate of between 1.8 and 2.5 percent per year over the planning horizon. Based on the growth rates in the general plan, the City would have a population of between 5,200 and 6,000 in 2030, which would be a total growth of between 43 and 64 percent over that period. By comparison, countywide projected growth during that same period is approximately 40 percent.[107]

[106] Population Forecast for Draft EIR Angels Camp 2020 General Plan, p. 105.

[107] Department of Finance, *Population Projections for California and Its Counties 2000-2050*, July 2007.

Development

Figure 6-3: Housing Construction Permits, 1996-2009



Residential permit activity has been low in recent years, as shown in Figure 6-1. The number of permits issued increased significantly from 1997 to a peak of 89 in 2000, then decreased by 42 percent from 2000 to 2002. Permitting peaked again in 2003 and 2005 at 56 permits per year, and subsequently decreased by 96 percent from 2005 to 2009, with only two permits issued in 2009.

Pending development activity consists of one new planned subdivision, and build-out of existing approved projects. Approved in 2006, The Classics on the Ridge is a new 55-unit subdivision located on 12.5 acres, within the Greenhorn Creek Golf Course Community. Construction of the project is anticipated to begin in 2011 or 2012. Existing projects that have not yet been fully built-out include Greenhorn Creek (150-200 units), Angel Oaks (24 units), Stelte Park (20 units), and Ron Davis Townhomes (27 units). Build-out of all projects would yield approximately 275 to 325 new residential dwelling units. Build-out of the planned and proposed development projects within the city would increase the population by between 595 and 703 residents at existing densities.[108]

The Angels Camp 2020 General Plan reported that there are 93 vacant or underdeveloped residential parcels within the city, able to accommodate at least 3,200 dwelling units. At existing densities, build-out of the vacant or underdeveloped parcels within the city would increase the population by approximately 6,925 residents.[109]

Growth Strategies

The City's General Plan was last updated in 2006. Growth strategies adopted by the City of Angels including a well-organized and orderly development pattern that encourages compact, mixed use, pedestrian-friendly infill development. The City plans to monitor the supply of land available within the city for future development by preparing a map of vacant parcels throughout the city, which it plans to update at least every three years. The City also has a goal of establishing a growth management/infrastructure allocation program, including adoption of a growth management ordinance.

[108] The 2009 population per household for the City of Angels is approximately 2.2, according to the Department of Finance.

[109] Angels Camp 2020 General Plan, Appendices: Housing, 2009, p. 2-24.

FINANCING

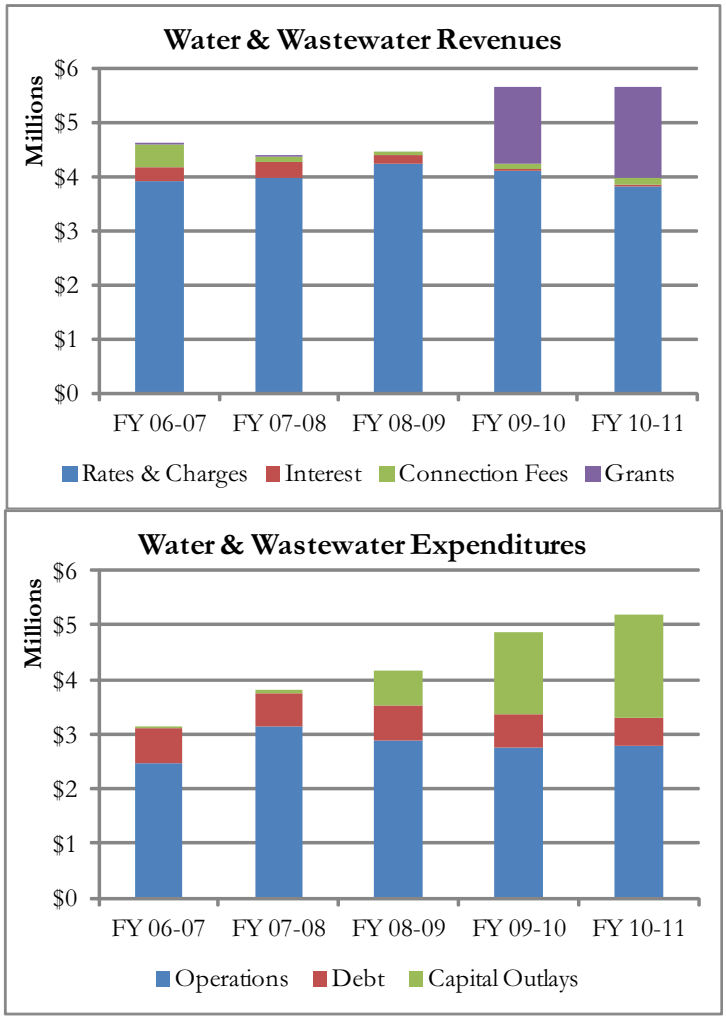
The focus of this financing section is the wastewater and water activities managed by the City. For additional information regarding the City's general finances and financing of other services, refer to the MSR adopted by LAFCO in December 2009.

The City reported that the current financing level for water and wastewater services is generally adequate to deliver services.

The City tracks its financial activities separately through various funds. Water and wastewater service finances are each tracked through separate enterprise funds. The City finances wastewater operations with sewer rates, while capital improvements have been financed with sewer connection fees, bonds, and government loans. Similarly, water operations are financed with water rates and capital costs related to water service have been financed by connection fees and government loans.

The City's total revenues for water and wastewater activities were $5.6 million in FY 10-11. Revenue sources for these services were primarily from rates and service charges (68 percent) and federal grants (30 percent). City expenditures for water and wastewater service totaled $5.7 million in FY 10-11. Of this amount, 48 percent was spent on operations and materials, 10 percent on debt, 33 percent on capital outlays, and 9 percent on capital depreciation.

Figure 6-4: City of Angels Enterprise Revenues and Expenditures



Over the last five years, the City's revenues from water and wastewater rates have declined somewhat, connection fee revenues fell during the recession, and wastewater grant revenues increased in the most recent years. Due to healthy reserves and wastewater grants, the City has managed to increase its spending on capital outlays in recent years, as shown in Figure 6-4.

The City has quantified capital improvement needs in its Water and Wastewater Master Plans. The plans have a planning horizon of 15 years, with the current plans last updated in 2001 and planning through 2015; however, the wastewater plan does not project when the improvements will occur. The City is updating its water and sewer master plans in FY 11-12. Planned water capital improvement projects included in the CIP total $5.6 million, and wastewater capital improvement projects total $4.9 million. Significant capital outlays have been financed in the past with reserves, bonds, loans, grants, and by developers.

The City had $7.0 million in long-term debt outstanding at the end of FY 10-11 related to water and wastewater services. The long-term debt consists of bonds, State Department of Water Resources (DWR) loans, a loan from the U.S. Department of Agriculture, and a lease. A total of $3.2 million in bonds were issued in 2001 to fund WWTP improvements and expansion. In addition to the bond funds, the U.S. Department of Agriculture granted the City a loan of $5 million for WWTP improvement and expansion. The DWR loans financed the addition of the water treatment plant's third filter and advanced funds for sewer system upgrades to be repaid through a federal grant.

The City does not have a formal policy on maintaining financial reserves. The City had $8.4 million in unrestricted net assets for water ($6.2 million) and wastewater ($2.2 million) services at the end of FY 10-11. These balances were equivalent to 349 percent of water and 55 percent of wastewater expenditures in FY 10-11. In other words, the City maintained over three years of working reserves in its water enterprise fund and six months of working reserves in its wastewater fund.[110] The City decided in 2011 to offer constituents a credit on water rates due to the ample financial reserves in the water system.

The City entered into a joint exercise of powers agreement with Union Public Utility District to form the Utica Power Authority for the purpose of purchasing and operating the Utica/Angels Hydroelectric Projects. Each of the member entities is responsible for paying one-half of all UPA project costs and liabilities. The City did not adopt any contributions to the Utica Power Authority in its FY 09-10 budget.

WATER SERVICES

This section describes the nature, extent and location of the water services provided as well as key infrastructure and water sources. The tables provide further information and indicators of the agency's water service supplies, demand, financing, service adequacy, and facilities. The water chapter in the MSR main document contains analysis and conclusions based on this information.

NATURE AND EXTENT

The City began providing water service to its citizens in 1985 upon the purchase of a water system from Pacific Gas and Electric Company (PG&E). The City of Angels directly provides domestic water services to the area within the city limits, including surface water treatment and distribution. In addition, the City provides raw water, as well as reclaimed water from its wastewater treatment plant, for irrigation purposes to the Greenhorn Creek golf course.

The City makes use of recycled water for irrigation purposes at the golf course and on the WWTP property. Agreements between the City and Greenhorn Creek provide for up to 450 acre-feet of recycled wastewater per year to be provided to the golf course for irrigation.

The City entered into a joint powers agreement with Union Public Utility District (UPUD) to form the Utica Power Authority (UPA) for the purpose of purchasing and operating two hydroelectric projects—the Utica Hydroelectric Project and the Angels Hydroelectric Project.[111]

[110] The City also funds an Angels-Utica reserve account through a $1 monthly charge.

[111] CCWD was originally a member of the JPA, but later withdrew.

LOCATION

Table 6-3: Water Service Connections Outside of City Limits

Connection Address
1000 North Main Street
1131 Murphys Grade Road (2 connections)
431 Dogtown Road
2122 Highway 49

The City provides water services within the city limits. The City's water services are available to all of its boundary area, and there are no unserved areas within the boundary. In addition, the City provides water services to five connections outside of the city limits. The locations of these connections are shown in Table 6-3.

INFRASTRUCTURE

Key infrastructure for water service includes the City's 1,600 af of available water supplies, a treatment plant, 23 miles of distribution mains, and a storage tank.

Water Supplies

Water Source and Rights

The City's water supply is primarily derived from the UPA pre-1914 rights to direct North Fork Stanislaus River diversion plus local stream runoff that enters the Utica and Angels Hydroelectric Projects. When the City purchased the Angels Water System from PG&E in 1984, the purchase included the contractual right to 800 acre-feet of water per year at no cost. In 1992, the City and PG&E agreed that the City could have an additional 800 acre-feet of water per year at no cost. If the City needed water above the 1,600 acre-feet, then water would be sold to the City at the value of lost power generation at the Angels Powerhouse. When the UPA acquired the Federal Energy Regulatory Commission (FERC) licenses from PG&E in 1996, UPA also assumed the obligations of the prior agreements between the City and PG&E. The UPA and the City have not renegotiated the terms of these prior agreements so they are still in effect.

The water is stored and conveyed from various interconnected hydroelectric projects in the region as defined by numerous agreements and FERC licenses. Calaveras County Water District's (CCWD) North Fork Stanislaus River Project provides upstream conveyance of water to UPA for the City of Angels water supply. Water is released from CCWD's Collierville Tunnel via a tunnel tap into UPA's Utica Hydroelectric Project. The water is then transferred from the Utica Project into Hunters Reservoir located in Avery, where water is released into the Lower Utica Canal that carries water to Murphys Forebay, Murphys Powerhouse and the Murphys Afterbay and finally into Angels Creek to the UPA's Angels Diversion Dam. From the dam, water is diverted into the 5.5-mile Upper Angels conduit and delivered through Ross Reservoir to Angels Forebay for power generation at the Angels Powerhouse and for consumptive purposes for the City of Angels and Dogtown agricultural water users.

Each year, the water supplied to UPA depends on unimpaired runoff in the Stanislaus River. In the driest of years (i.e., drier than the 1977 drought), UPA would be over-committed during the dry season with deliveries exceeding commitments by 14-24 percent.[112] With no shortage plan to determine how much water each entity would receive, the City's water allocation in such a drought is

[112] Correspondence from UPA Manager Vern Pyle, Feb. 2011, as cited by Stetson Engineers in its *Angels Camp Water Audit*, July 22, 2011.

unknown. The City recommended pursuing a shortage plan with UPA to determine safe annual yield during drought conditions.[113]

Existing and Projected Water Use

The City uses approximately 1,450 acre-feet of water per year out of its contract allocation of 1,600 acre-feet. The majority of water use (1,000 acre-feet) serves residential, commercial, and industrial customers within the City. Approximately, 400 acre-feet per year of raw water is used to provide irrigation water to the Greenhorn Creek golf course. The 400 acre-feet is part of the City's 1,600 acre foot allocation.

Raw water is diverted from Angels Creek near Finnegan Lane and conveyed to the golf course's irrigation system. The City and the golf course developer have agreed that once the City's improved WWTP has met treatment discharge requirements, the golf course's irrigation system will be converted to use a greater ratio of reclaimed wastewater, supplemented by creek water.

Based on the City's assumption of approximately two percent annual growth, the City's projected water use in 2010 is approximately 1,460 acre-feet.[114] By 2030, the City's water use is anticipated to increase to approximately 2,174 acre-feet annually. Based on current supply information, the City will need to acquire additional water supplies from the UPA projects or increase the production of recycled water by 2015 to meet its future water demands.

Quality

The City's water supply is considered to be of good quality.[115]

Treatment and Distribution Facilities

The City owns, operates and maintains a treatment plant for surface water. A twelve-inch diameter pipe from the Angels Forebay delivers water to the City's water treatment plant. The WTP was originally constructed in 1950 and was identified by the City as generally in good condition, but needs improvements to the flocculation basin and an increase in capacity. The City has maximized capacity at the WTP and needs to expand the facility to accommodate existing and future demand.

The treatment plant has a capacity of 2 mgd. The average daily flow rate through the treatment plant during summer months is approximately 1.74 mgd. Peak daily flows have exceeded 2.0 mgd on two occasions in 2008. Generally, peak hour demand and fire demands in excess of the plant output are met by the storage tank. However, DPH has concerns that in the event of a really hot summer spell, the City stands the risk of violating the permit requirements regarding the plant production rates. Consequently, DPH recommends that the WTP will eventually need a fourth filter to ensure that the City remains in compliance with permit requirements.

The City is considering expansion of the plant or adding a filter loading system to increase capacity. According to the City Engineer, the City will need to install a fourth filter at the plant by the end of 2010 to address capacity constraints. According to the City Engineer's projections, a fourth filter would increase the WTP capacity to 3 mgd and accommodate growth until

[113] Stetson Engineers, *Angels Camp Water Audit*, July 22, 2011, p. 11.

[114] City of Angels, *2020 General Plan: Public Facilities & Services Element*, 2009, p. VII-6.

[115] Calaveras LAFCO, *City of Angels MSR*, December 21, 2009, p. 34.

approximately 2024.[116] A fourth filter would cost approximately $0.9 million. According to the Water Master Plan, the City plans to install the filter in 2015.

The City needs to construct settling ponds and a pipeline to its WWTP to handle filter backwash in compliance with State law rather than discharging it into a creek behind the WTP without an NPDES permit.[117]

The City owns and maintains a 2.5 million-gallon storage tank. The tank was constructed in 2002 and was identified by the City as being in excellent condition. There were no needs or deficiencies identified for this storage tank.

In the event of emergencies, the City would rely on the short-term storage tank and a near-by private well. There are no other interties with other water systems for back-up purposes. Refer to the Emergency Plans section below regarding additional contingency plans in the event that there is a loss of connection to the water source (i.e., a break in the UPA canal system).

The storage tank has sufficient capacity to maintain four-hour fire flow (0.96 mg), 25 percent of the peak day water demand for emergency purposes (0.63 mg) and meet four hours of peak hour demand during peak day demand in excess of the WTP capacity (0.63 mg).[118] The storage facility would provide approximately 1.6 days of water based on average daily usage, while maintaining at least four hours of fire flow.

In order to increase storage capacity to improve emergency preparedness, the City plans to build an additional two million-gallon storage facility, which would provide the City with up to 4.5 million gallons of stored water or 3.7 days of water, based on average daily usage, while maintaining at least four hours of fire flow. The City estimates that the storage tank would cost approximately $2.2 million. The city plans to construct the tank in 2015.[119]

The City's distribution system was originally constructed in 1949 and consists of 32 miles of pipe made primarily from asbestos cement (90 percent) and PVC (9 percent). The pipes range in size from two to 14 inches in diameter.

The California Department of Health Services reported that the PVC portion of the system is in very good condition and the asbestos cement portions are in good condition.[120] Needs and deficiencies include replacement of old welded steel mains and asbestos cement mains that have a high probability of failure or are undersized, and construction of a second water main from the WTP to the distribution system. The City has identified necessary projects to replace those portions in the worst condition in the Water Master Plan. Of the eight pipelines prioritized for replacement, construction has been completed on seven pipelines and the eighth section is partially complete. The City did not report when it anticipates completing this project.

Several water main extensions have been constructed to provide looped water mains to meet fire flow requirements and to increase flows to accommodate new connections to the existing system. Fire flow requirements are met throughout the City limits.[121]

---

[116] City of Angels, Memorandum Re: Capacity Analysis WTP and WWTP, October 22, 2004.

[117] Stetson Engineers, *Angels Camp Water Audit*, July 22, 2011, pp. 61-3.

[118] California Department of Health Services, *Annual Inspection Report*, 2009, p. 12.

[119] City of Angels, *Water Master Plan*, 2001, p. 18.

[120] Ibid, p. 18.

[121] Calaveras LAFCO, City of Angels MSR, December 21, 2009, p. 34.

Overall, the Department of Health Services found that the City's WTP, storage tank and distribution system are well maintained and operated and that the plant is able to reliably serve the needs of the City.[122]

Emergency Plans

A wildland fire in September of 2001 (known as the Darby Fire) destroyed a critical portion of wooden flume that was part of the Lower Utica Canal. The City's water supply was severely limited due to this incident. The City immediately adopted an emergency ordinance that established water rationing and suspended water for all irrigation purposes.

Water deliveries after the fire were limited to the 100 acre-feet of storage available in UPA's Ross Reservoir plus storage capacity in the City's water system. The City also began pumping groundwater from the privately owned Schmauder Mine to the City's water treatment plant.

Approximately six weeks after the fire incident, a temporary bypass was put in place to pump a limited amount of water around the destroyed section of flume. At this time, the City allowed a limited amount of landscape watering. The flume section was rebuilt about nine months later at which time full water service was restored.

The City is solely dependent on UPA's canal system for its water delivery. A break in the canal, depending upon its location, could disrupt the City's water supply until such time the canal is repaired or an alternate water source is procured. In such instances, the City would need to rely upon the available water in Ross Reservoir and/or a proportional share of water in other upstream reservoirs. The City could also pump groundwater from the privately owned Schmauder Mine to the City's water treatment plant as was done in the past.

[122] California Department of Health Services, *Annual Inspection Report*, 2009, p. 46.

Table 6-4: City of Angels Water Profile

Water Service Configuration & Infrastructure					
Water Service	**Provider(s)**		**Water Service**	**Provider(s)**	
Retail Water	City of Angels		Groundwater Recharge	None	
Wholesale Water	UPA		Groundwater Extraction	None	
Water Treatment	City of Angels		Recycled Water	City of Angels	
Service Area Description					
Retail Water	Treated domestic water is provided within the limits of the City of Angels. Raw water is provided to the golf course for irrigation.				
Wholesale Water	The City provides raw water to the Greenhorn Creek golf course for irrigation.				
Recycled Water	The City provides reclaimed water to the Greenhorn Creek golf course for irrigation.				
Boundary Area	3.6 sq. miles		Population (2009) 3,575		
System Overview					
Average Daily Demand	0.95 mg		Peak Day Demand 2.53 mg		
Supply	The City's supply is limited to 1,600 af per contractual agreements with UPA. Additional water is available for purchase at the value of lost power generation at the Angels Powerhouse.				
Major Facilities					
Facility Name	**Type**		**Capacity**	**Condition**	**Yr Built**
Angels Water Treatment Plant	WTP		2 mgd	Good	1950
Storage tank	Storage		2.5 mg	Excellent	2002
Other Infrastructure					
Reservoirs[2]	0		Storage Capacity (mg)	2.5	
Pump Stations	0		Pressure Zones	5	
Production Wells[3]	0		Pipe Miles	32	
Other:					
Infrastructure Needs and Deficiencies					
The WTP needs an additional filter to expand treatment capacity to remain in compliance with permit requirements and address the anticipated increase in service demand. Settling ponds and a pipeline to the WWTP are needed to discharge backwash water properly. The City needs an additional storage tank to increase emergency water storage. A second water main connecting the WTP to the distribution system is needed. Some portions of the distribution system are prone to failure or are undersized and need to be replaced.					
Facility-Sharing and Regional Collaboration					
Current Practices: The City of Angels is a member of the Utica Power Authority (UPA) that owns and operates the Utica Hydroelectric Project and the Angels Hydroelectric Project. The City is also a member of the Calaveras County Water/Wastewater Technical Advisory Team, which met regularly to discuss common issues and concerns regarding water and wastewater services within the County.					
Opportunities: No further opportunities for facility sharing were identified with regard to water services.					
Notes: (1) NA means Not Applicable, NP means Not Provided, mg means millions of gallons, af means acre-feet. (2) The City does not own any water storage reservoirs; however, there are reservoirs upstream from the City. (3) There are no city-owned wells; however the City has access to a private well at Schmauder Mine.					

continued

Water Demand and Supply							
Service Connections	**Total**		**Inside Bounds**		**Outside Bounds**		
Total	1,693		1,693		0		
Irrigation/Landscape	1		1		0		
Domestic	1,509		1,504		5		
Commercial/Industrial/Institutional	182		182		0		
Recycled	1		1		0		
Other	0		0		0		
Average Annual Demand Information (Acre-Feet per Year)[1]							
	2000	**2005**	**2009**	**2015**	**2020**	**2025**	**2030**
Total	NP	1,329	1,304	1,454	1,605	1,772	1,957
Residential	NP	641	625	727	832	947	1,074
Commercial/Industrial	NP	251	225	285	325	370	420
Irrigation/Landscape	NP	84	54	95	108	123	140
Other - raw	NP	400	400	400	400	400	400
Water Sources			**Supply (Acre-Feet/Year)**				
Source	**Type**		**Average**		**Maximum**		**Safe/Firm**
North Fork of the Stanislaus River	Surface Water		1,400		1,600		NP
Supply Information (Acre-feet per Year)[2]							
	2000	**2005**	**2009**	**2015**	**2020**	**2025**	**2030**
Total	NP	1,477	1,434	1,615	1,783	1,969	2,174
Imported	0	0	0	0	0	0	0
Groundwater	0	0	0	0	0	0	0
Surface	NP	1,477	1,350	NP	NP	NP	NP
Recycled	NP	0	84	NP	NP	NP	NP
Drought Supply and Plans							
Drought Supply (af)	Year 1: NP		Year 2: NP		Year 3: NP		
Significant Droughts	1961, 1976-77, 1987-8, 1990, 1992, 1994, 2007						
Storage Practices	Storage is for short-term emergencies only.						
Drought Plan	None						
Water Conservation Practices							
CUWCC Signatory	No						
Metering	Yes						
Conservation Pricing	Yes						
Other Practices	None						

Notes:

(1) Demand flows based on the assumption of 10 percent distribution loss of the amount supplied.

(2) Supply projections based on City's assumption of two percent annual growth.

continued

Water Rates and Financing

Residential Water Rates-Ongoing Charges[1]

	Rate Description	Avg. Monthly Charges	Consumption[2]
Residential FY 09-10	Flat monthly fee of $39.75, $1.08 per ccf for <5 ccf, $1.63 per ccf >5 ccf	$ 53.56	7,600 gal/month
Residential FY 10-11	Flat monthly fee of $43.02 includes 10 ccf, $1.08 per ccf for <5 ccf, $1.63 per ccf >5 ccf	$ 44.65	7,600 gal/month

Special Rates

The City charges higher rates for connections outside of the city limits where the base charge is $81.53.

Wholesale Water Rates

The Greenhorn Creek golf course pays $1,666.67 per month for recycled water from the wastewater treatment plant. Once the UV process at the treatment plant is operational, the monthly rate will be increased to $2,500.

Rate-Setting Procedures

Policy Description	Monthly flat rate based on meter size, plus additional charges based on usage.		
Most Recent Rate Change	2/1/11	Frequency of Rate Changes	As needed

Water Development Fees and Requirements

Connection Fee Approach	The connection fee is a flat rate based on land use type. Connection fees in Greenhorn Creek ($4,130/single family unit) and Angels Oaks ($800/single family unit) are determined by developer's agreements and legal action, and are not changeable.
Connection Fee Timing	Fee is due at the time the permit application is submitted.
Connection Fee Amount	$8,782/Single Family Unit Last updated: 2006
Land Dedication Requirements	None
Development Impact Fee	None

Water Enterprise Revenues, FY 10-11			Expenditures, FY 10-11	
Source	Amount	%		Amount
Total	$1,632,167	100%	Total	$1,777,132
Rates & charges	$1,496,692	92%	Administration	NP
Property tax	$0	0%	O & M	$1,487,192
Grants	$0	0%	Capital Depreciation	$111,449
Interest	$20,774	1%	Debt	$78,603
Connection Fees	$114,701	7%	Purchased Water	$0
Other	$0	0%	Capital Outlays	$99,888

Notes:

(1) Rates include water-related service charges and usage charges.

(2) Water use assumptions were used to calculate average monthly bills. Assumed use levels are consistent countywide for comparison purposes. For further details, refer to Chapter 4.

continued

Water Service Adequacy, Efficiency & Planning Indicators		
Water Planning	**Description**	**Planning Horizon**
Water Master Plan	Proposed projects and financing	2001-2015
UWMP	None, not required	NA
Capital Improvement Plan	Included in Water Master Plan	2001-2015
General Plan	Updated in 2006	2020
Emergency Response Plan	Emergency notification plan	NA

Service Challenges

The City reported that the most significant service challenge related to providing adequate water service, was ensuring adequate revenues to cover operating costs and future capital needs. However, the City reported that at this time the financing level is sufficient to provide adequate services.

Service Adequacy Indicators			
Connections/FTE	735	O&M Cost Ratio[1]	$1,565,465
MGD Delivered/FTE	0.40	Distribution Loss Rate	10-15%
Distribution Breaks & Leaks (2009)	43	Distribution Break Rate[2]	134
Response Time Policy	30 minutes	Response Time Actual	45 minutes
Water Pressure	40+ psi	Total Employees (FTEs)	2.4
Customer Complaints CY 2008:	Odor/taste (36), color (2)		

Water Operator Certification

The City's water manager has a D3 certification for distribution systems and a T3 certification for treatment systems. The City is required to have a D3 and T3 certified chief operator; the City is meeting these

Drinking Water Quality Regulatory Information[3]		
	#	**Description**
Health Violations	1	Surface water treatment 2001
Monitoring Violations	1	CCR failure to report 2001
DW Compliance Rate[4]	100%	

Notes:
(1) Operations and maintenance costs (exc. purchased water, debt, depreciation) per volume (mgd) delivered.
(2) Distribution break rate is the number of leaks and pipeline breaks per 100 miles of distribution piping.
(3) Violations since 1995, as reported by the U.S. EPA Safe Drinking Water Information System.
(4) Drinking water compliance is percent of time in compliance with National Primary Drinking Water Regulations in 2009.

WASTEWATER SERVICES

NATURE AND EXTENT

The City provides wastewater collection, treatment and disposal services to approximately 1,569 sewer customers.[123] All services are provided directly by the City through city staff. The City owns and operates a wastewater treatment plant, and inspects, cleans and repairs sewer collection infrastructure in its service area, such as pipes, manholes and lift stations. The City also conducts related billing, collection and accounting activities.

The City also provides treatment and disposal services to CCWD by contract.

LOCATION

The City provides wastewater collection, treatment and disposal services to areas within the city limits. In addition, the city provides treatment and disposal services to Six-Mile Village, to the west of the City along SR 4, by contract with CCWD. Six-Mile Village consists of approximately 66 single family residential connections. CCWD provides wastewater collection services for the community and the system is connected to the City's system.

Unserved areas within the City's boundaries include several vacant and undeveloped parcels scattered throughout the City. Connections to these area will be added as needed when projects occur. There are also three connections served by septic systems within the City's limits—two on the south side of the City and one on the north side.

INFRASTRUCTURE

Key city wastewater infrastructure includes one wastewater treatment plant, a storage reservoir, irrigation fields, 27 miles of sewer pipes and five lift stations.

A portion of the wastewater is treated at the WWTP to tertiary standards and used for irrigation of 110 acres at the Greenhorn Creek golf course. The remainder of the wastewater is treated to secondary levels and used to irrigate 61 acres of pastureland on the property of the treatment plant.[124] Excess treated effluent is stored in Hollman Reservoir until it is used for irrigation. Dried solid waste is disposed of at a landfill.

The WWTP was expanded in 2006 to a design capacity of 0.60 million gallons per day (average dry weather flow) and a peak wet weather flow of 1.9 mgd. The City reported that the current average dry weather flow is between 0.3 and 0.35 mgd—using up to 58 percent of the plant's capacity. The City did not provide an approximate cost of this plant expansion. These projects were funded by U.S. Department of Agriculture grants and loans, and from local funding.

The City plans to continue expansion and upgrades to the WWTP to accommodate anticipated growth. The City applied for and was issued an NPDES permit from RWQCB in 2007 through 2012 to discharge up to 1.9 mgd of tertiary treated effluent into Angels Creek during the winter months. In order to begin discharging effluent into the creek, the City was required to construct an outfall and diffuser to Angels Creek and install an ultraviolet light disinfection system. Construction of the outfall and diffuser has been completed, and the City has installed the disinfection system.

[123] Calaveras LAFCO, *City of Angels MSR*, 12/21/09, p. 39.

[124] City of Angels, *2020 General Plan Draft EIR*, August 2008, p. 498.

Once the City met discharge requirements, it began to direct treated effluent to the holding ponds located at the golf course. The reclaimed water will be used for additional irrigation of the golf course. Proposed improvements to the system will allow future development to be accommodated through 2028 assuming an annual growth rate of not more than 2 percent.[125]

The City financed the improvements through a $3.5 million American Recovery and Reinvestment Act of 2009 (ARRA) grant to make these upgrades to the treatment plant to facilitate the stream discharge into Angels Creek.

Hollman Reservoir provides 260 acre-feet of storage for the City's treated wastewater. The reservoir is sized to retain a 25-year storm frequency event. Effluent storage capacity of the wastewater treatment facility is inadequate to contain the amount of water entering the system during a 100-year rainfall event. Future plans call for the reservoir capacity to be expanded to contain a 100-year storm return frequency or discharge of the treated wastewater to Angels Creek. The facility nearly experienced unauthorized flows from its storage pond in 2005.[126] The existing reservoir was described by the City to be in fair condition. The City reported that improvements are also needed to drainage around the reservoir to prevent rainwater from entering the reservoir.

In December 2010, RWQCB issued a Notice of Violation for six discharges of reclaimed water from the spray irrigation area, which were in violation of the City's waste discharge requirements. As part of the notice, the City was required to submit a response which included, among other items, the cause of each discharge, and a plan and schedule to evaluate and repair or retrofit the system to prevent future spills. The City submitted its response on January 14, 2011. The City reported that the discharges were due to various failures in the system, and as the storage reservoir, pump houses and sprayfields are not connected to the SCADA system, identification of the spills was delayed until the daily visual inspection of the system by city staff. In its report, the City proposed increasing the frequency of monitoring as a short-term solution, and the addition of several flow monitors and alarms for the sprayfields, re-regulating reservoir, lower pump house, and Holman Reservoir, to connect to the SCADA system in the long term. These improvements would cost an estimated $730,000 and are anticipated to be completed by April 2013. The proposed improvements are preliminary until the City completes a technical evaluation in 2012. InSeptember 2011, the RWQCB issued an Administrative Civil Liability Order outlining financial penalties, should the City not address concerns identified in the original Notice of Violation.

The City reported that the 27 miles of sewer collection pipes were constructed between 1949 and the present and that a majority of the system is in good condition, with the exception of the Altaville pipeline which is in poor condition. The pipes range in size from four to 18 inches and are primarily comprised of clay and cement. According to the City's General Plan EIR, the collection mains north of SR 4 (the Altaville pipeline) have reached maximum capacity and are experiencing failures. Any additional connections in those areas would exceed wastewater collection capacity. The City is proposing a new sewer line to serve these areas to reroute discharge.[127] Presently the City does not have funding for this project. Once funding becomes available, the City will develop a timeline for completion.

[125] City of Angels, Memorandum Re: Capacity Analysis WTP and WWTP, October 22, 2004.

[126] City of Angels, *2020 General Plan Draft EIR*, August 2008, p. 498.

[127] Ibid.

The MSR previously adopted by LAFCO identified infiltration and inflow concerns. The City reports that many improvements have been made to rectify this issue.[128]

Table 6-5: City of Angels Wastewater Profile

Wastewater Service Configuration and Demand				
Service Configuration				
Service Type	**Service Provider(s)**			
Wastewater Collection	City of Angels			
Wastewater Treatment	City of Angels			
Wastewater Disposal	City of Angels			
Recycled Water	City of Angels			
Service Area				
Collection:	City of Angels			
Treatment:	City of Angels and Six-Mile Village (collection provided by CCWD)			
Recycled Water:	Greenhorn Creek golf course and the WWTP property			
Sewer Connection Regulatory/Policies				
Private septic systems are regulated through the Calaveras County Environmental Health Department. All new development within the City is required to connect to the public wastewater system. Houses within reasonable distance of a public sewer are required to connect to the public sewer system within 60 days of when the main or lateral is completed.				
Onsite Septic Systems in Service Area				
There are limited septic systems within the City's limits. As the septic systems fail due to age, they are replaced with public sewer service. The City reported that there are three septic systems within the City's limits—two on the south side of the City and one in the northern portion of the City.				
Service Demand				
	Connections (2009)			**Flow (mgd)**
Type	**Total**	**Inside Bounds**	**Outside Bounds**	**Average**
Total	1,570	1,504	66	0.8
Residential	1,412	1,346	66	0.6
Commercial	157	157	0	0.2
Industrial	1	1	0	0.1
Projected Demand (in millions of gallons per day)[2]				
	2005[3]	**2009**	**2015**	**2025**
Avg. dry weather flow	0.40	0.35	0.39	0.48
Peak wet weather flow	1.50	1.3	1.46	1.78
Notes:				
(1) NA: Not Applicable; NP: Not Provided.				
(2) The City assumes an annual growth rate of two percent to calculate flow projections.				
(3) The City recalibrated flow meters in 2009, consequently flows in 2005 may be exagerated.				

[128] Interview with Garret Walker, Chief Plant Operator, City of Angels, 3/11/10.

Wastewater Infrastructure			
Wastewater Treatment & Disposal Infrastructure			
System Overview			
Treatment level: Secondary and Tertiary Disposal method: Treated effluent is used to irrigate pastureland and a golf course.			
Facility Name	**Capacity**	**Condition**	**Yr Built**
City of Angels WWTP	0.6 mgd	Good	1968
Hollman Reservoir	260 af	Fair	1975
Treatment Plant Daily Flow (mgd)	**Average Dry**	**Peak Wet**	
City of Angels WWTP	0.35 mgd	1.3	
Infrastructure Needs and Deficiencies			
In order to accommodate additional demand anticipated from approved development and meet waste discharge requirements to protect against a 100-year rainfall event, the City was required to construct an outfall and diffuser to Angels Creek and install an ultraviolet light disinfection system. The outfall and diffuser have been completed, and the City is in the process of installing the disinfection system.			
Wastewater Collection & Distribution Infrastructure			
Collection & Distribution Infrastructure			
Sewer Pipe Miles 27.0	Sewage Lift Stations 5		
Infrastructure Needs and Deficiencies			
Portions of the wastewater collection system located north of SR 4 are at maximum capacity and are failing. The City is proposing a new sewer line to serve these areas.			
Infiltration and Inflow			
The MSR previously adopted by LAFCO identified infiltration and inflow concerns. The City reports that many improvements have been made to rectify this issue. As of 2010, the City was operating with a peaking factor of approximately 3.7. The City is hoping to purchase CCTV equipment to inspect the entire system. The sprayfields, reservoirs and pump houses need to be connected to the SCADA system to prevent illegal spills.			
Wastewater Regional Collaboration and Facility Sharing			
Regional Collaboration			
The City is a member of the Calaveras County Water/Wastewater Technical Advisory Team, which met regularly to discuss common issues and concerns regarding water and wastewater services within the County. The City also collaborated with other agencies on the County General Plan Water Element in 2009 and the IRWMP.			
Facility Sharing Practices and Opportunities			
The City presently practices facility sharing by treating and disposing wastewater from Six-Mile Village for CCWD. The City is considering a joint sludge disposal facility with CCWD and SASD to reduce the cost of sludge disposal. Additional opportunities for further facility sharing may include receiving effluent from Vallecito and Douglas Flat, receiving effluent from the County fairgrounds, which is presently operating on a septic system, and providing recycled water to property owners on Wittle Rd. for grazing.			

Wastewater Service Adequacy, Efficiency & Planning			
Regulatory Compliance Record, 1/2000-5/2012			
Formal Enforcement Actions	3	Informal Enforcement Actions	9
Enforcement Action Type	**Date**	**Description of Violations**	
Clean-up and Abatement Order	10/5/2001	Permit conditions	
Notice of Violation	7/12/2001	Deficient reporting (6), other effluent violation (6)	
Staff Enforcement Letter	7/3/2002	Permit conditions, other effluent violation (3)	
Notice of Violation	7/15/2002	Order conditions	
Notice of Violation	8/14/2002	Other effluent violation (4)	
Notice of Violation	9/9/2002	Order conditions	
Notice of Violation	2/26/2003	Other effluent violation	
Notice of Violation	7/7/2004	Order conditions	
Notice of Violation	6/23/2005	Order conditions (19), sanitary sewer overflow	
Notice of Violation	12/1/2010	Order conditions (6)	
Administrative Civil Liability Order	9/6/2011	Order conditions (6)	
Total Violations, 2005-9			
Total Violations	122	Priority Violations	75
Violation Type, 2005-9			
Category 1 Pollutant in Effluent	0	Other Pollutant in Effluent	0
Order or Code Violation[1]	21	Groundwater Degradation	0
Deficient Monitoring	1	Late or Deficient Reporting	100
Service Adequacy Indicators			
Sewer Overflows 1/1/2008 to 8/15/2010[2]	8	Sewer Overflow Rate[3]	30
Treatment Effectiveness Rate[4]	100%	Response Time Policy[5]	30 minutes
Total Employees (FTEs)	3.6	Response Time Actual	1 hour
MGD Treated per FTE	0.23		
Customer Complaints CY 2008: Odor (10), spills (6), other (2)			
Wastewater Operator Certification			
Treatment Plant Classification	Grade 4	Grade I Operators	0
Grade II Operators	2	Grade III Operators	1
Grade IV Operators	1	Grade V Operators	
Source Control and Pollution Prevention Practices			
The City has a fats, roots, oils and grease program to prevent build-up of grease and oils. Grease traps are inspected quarterly. The City has only one industrial connection, and consequently, chemical contaminants are not a concern.			
Collection System Inspection Practices			
The City presently uses a combination of smoke testing and CCTV to inspect the collection system. As part of the SSMP that the City is in the process of developing, the City plans to CCTV the entire system by purchasing the necessary equipment. Approximately one mile of the City's collection system has been inspected with CCTV to date.			
Service Challenges			
The most significant challenge with regard to wastewater service is disposal of sludge during winter months. The City is researching options to reduce the cost of sludge handling through a joint disposal facility with CCWD and SASD.			
Wastewater Planning Plan	**Description**	**Planning Horizon**	
Wastewater Master Plan	Treatment and collection facilities plan	2001-2015	
Capital Improvement Plan	Included within the master plan	2001-2015	
General Plan	Updated in 2006	2020	
Sanitary Sewer Management Plan	In the process of developing	NA	

Notes:

(1) Order or Code Violations include sanitary sewer overflow violations.

(2) Total number of overflows experienced (excluding those caused by customers) from 1/1/2008 to 8/15/2010 as reported by the agency.

(3) Sewer overflows from 1/1/2008 to 8/15/2010 (excluding those caused by customers) per 100 miles of collection piping.

(4) Total number of compliance days in 2009 per 365 days.

(5) Agency policy, guidelines or goals for response time between service call and clearing the blockage.

Wastewater Rates and Financing

Wastewater Rates-Ongoing Charges FY 11-12[1]

	Rate Description	Avg. Monthly Charges	Demand[2]
Residential	Flat monthly charge	$71.92	250 gpd

Rate Zones

Connections outside of the city limits (CCWD) are charged based on actual metered wastewater flows to the City's wastewater system, while commercial institutions within the City are charged based on average monthly water consumption from the previous five months.

Rate Update

Last Rate Change	2/1/2009	Frequency of Rate Changes	As needed

Wastewater Development Fees and Requirements

Connection Fee Approach	The connection fee is a flat rate based on land use type.			
Connection Fee Timing	Connection fees are due at the time an application for a permit is submitted.			
Connection Fee Amount[3]	Residential:	$9,277	Last updated:	2006
Land Dedication Req.	None			
Development Impact Fee	None			

Wastewater Enterprise Revenues, FY 10-11			Expenditures, FY 10-11	
Source	Amount	%		Amount
Total	$4,009,608	100%	Total	$3,954,425
Rates & Charges	$2,326,965	58%	Administration	NP
Property Tax	$0	0%	O & M	$1,285,674
Grants	$1,673,111	42%	Capital Depreciation	$445,239
Interest	$9,532	0%	Debt	$454,753
Connection Fees	$0	0%	Capital Expenditures	$1,768,759
Other	$0	0%	Other	$0

Notes:

(1) Rates include wastewater-related service charges and strength and flow charges. Average monthly charges calculated based on average consumption. Rates are rounded for presentation.

(2) Wastewater use assumptions by customer type were used to calculate average monthly charges. Assumed use levels are 250 gallons per home per day, and are consistent countywide for comparison purposes. For further details, see Chapter 4.

(3) Connection fee amount is calculated for a single-family home.

SUMMARY OF DETERMINATIONS

The following determinations summarize the findings of this report for water and wastewater services and infrastructure provided by the City of Angels Camp. Those determinations shown in italics are determination relevant to water and wastewater services that were previously adopted by LAFCO in the City of Angels Camp MSR in November 2009.

GROWTH AND POPULATION PROJECTIONS

- *The City of Angels Camp needs to continue economic development and to balance job and population growth.*
- *The City has established requirements for future annexations and developments so that developers will pay their fair share of infrastructure development costs.*
- The City's estimated population in 2009 according to DOF was 3,575.
- The population of the City of Angels grew by 19 percent between 2000 and 2009 with more rapid growth prior to 2005.
- Non-residents including weekday workers, shoppers and visitors also contribute to the City's total population and demands on various services.
- The City's 2020 General Plan estimates a population growth rate of between 1.8 and 2.5 percent per year over the planning horizon. Based on these growth rates, the City would have a population of between 5,200 and 6,000 in 2030.
- Pending development activity consists of one new planned subdivision, and build-out of existing approved projects. Build-out of all projects would yield approximately 275 to 325 new residential dwelling units, which would increase the population by between 595 and 703 residents.

PRESENT AND PLANNED CAPACITY OF PUBLIC FACILITIES AND ADEQUACY OF PUBLIC SERVICES, INCLUDING INFRASTRUCTURE NEEDS AND DEFICIENCIES

- *New connection fees for water service are updated as needed.*
- *There is sufficient source water available to serve the expected population growth.*
- *The City of Angels Camp Wastewater Treatment Plant is under the Central Valley Regional Water Quality Control Board.*
- *New connection fees for sewer service are updated as needed.*
- *Water availability for fire protection is adequate.*
- The City uses approximately 1,450 acre-feet of water per year (or 91 percent) out of its contract allocation of 1,600 acre-feet.
- Based on current supply information, the City will need to acquire additional water supplies from the UPA projects or increase the production of recycled water by 2015 to meet its future water demands unless the golf course makes greater use of reclaimed water.

- In the event of a drought, the City's water deliveries from UPA are unknown. The City, in concert with UPA and UPUD, need to determine both safe annual yield during drought conditions and curtailment procedures.
- The WTP needs improvements to the flock basin and an increase in capacity. The City has maximized capacity at the WTP and needs to expand the facility to accommodate existing and future demand as peak daily flows have exceeded treatment plant capacity on two occasions. Settling ponds and a pipeline to the WWTP are needed to discharge backwash water properly.
- Other water service related infrastructure needs include a two million gallon storage facility to improve emergency preparedness and replacement of a single area of pipeline deemed in the worst condition.
- A second water main connecting the WTP to the distribution system is needed. Overall, the Department of Health Services found that the City's WTP, storage tank and distribution system are well maintained and operated and that the plant is able to reliably serve the needs of the City.
- The City reported that the current average dry weather flow is between 0.3 and 0.35 mgd—using up to 58 percent of the plant's capacity.
- Proposed improvements to the system will allow future development to be accommodated through 2028 assuming an annual growth rate of not more than 2 percent.
- Infrastructure needs and deficiencies related to the collection system include the Altaville pipeline, which has reached maximum capacity and is experiencing failures. The City is proposing a new sewer line to serve these areas which would reroute discharge; however, there is presently no funding for this project.
- The reclaimed water sprayfields, reservoirs and pump houses need to be connected to the SCADA system to prevent illegal discharges due to system failures.
- Wastewater services offered by the City appear to be adequate based on treatment effectiveness, response times and planning efforts. The City could improve upon its regulatory compliance based on the recent NOV, as well as its peaking factors and overflow rates, which were both above the median rate throughout the County.

FINANCIAL ABILITY OF AGENCIES TO PROVIDE SERVICES

- *The City has established development impact fees to ensure that all new development pays the cost of development.*
- *The City should prepare a capital improvement plan to be prepared for future capital expenditures.*
- *The City should become familiar with community facilities districts and Mello-Roos Bonds as a means for new development to pay infrastructure and operational costs.*
- The City reported that its current financing level is generally adequate to deliver services. The City's water and wastewater enterprises are almost entirely supported by rates, so the recession has not affected the City as much as agencies reliant on property taxes.
- Angels' water and wastewater enterprises appear to be financially healthy, as indicated by capital reinvestment rates and financial reserve ratios. The City's water operating costs per connection were higher than other service providers in FY 10-11.

- The City has quantified capital improvement needs in its Water and Wastewater Master Plans. Planned water capital improvement projects included in the CIP total $5.6 million, and wastewater capital improvement projects total $4.9 million. The City should prepare a capital improvement plan for future capital expenditures.
- The City's rates and fees were last updated in 2011. The City's water and wastewater rates are the highest in the County, while connection fees are comparable to other providers in Calaveras.

STATUS OF, AND OPPORTUNITIES FOR, SHARED FACILITIES

- *The City could investigate ways to reduce administrative cost through computerization and or shared services.*
- *Shared facilities for wastewater collection and treatment and water service are not feasible at this time. However, over the long-term, the City may participate in a regional wastewater treatment solution.*
- The City presently practices facility sharing by treating and disposing of wastewater from Six Mile Village for CCWD.
- The City of Angels is a member of the Utica Power Authority (UPA) that owns and operates the Utica Hydroelectric Project and the Angels Hydroelectric Project.
- The City is cooperating in the creation of a joint sludge disposal facility with CCWD and SASD. In addition, over the long-term, the City may receive flows from CCWD's Vallecito and Douglas Flat communities, as well as the County fairgrounds. The City has also been approached to provide recycled water to property owners on Wittle Rd. for grazing.
- No further opportunities for facility sharing were identified with regard to water services.

ACCOUNTABILITY FOR COMMUNITY SERVICE NEEDS, INCLUDING GOVERNMENTAL STRUCTURE AND OPERATIONAL EFFICIENCIES

- *The City has a web site to communicate with tax-payers, residents and the public.*
- *The City should study the most efficient manner to provide administrative services.*
- *The City adopts budgets and rate changes at hearings where the public is notified and invited. Information is placed in the local newspaper, when required.*
- *The City has recently updated the General Plan.*
- The City demonstrated full accountability through its disclosure of information as indicated by the City's cooperation in providing all requested information, meeting for interviews, and providing review and comments during the MSR process.
- Accountability is best ensured when contested elections are held for governing body seats, constituent outreach is conducted to promote accountability and ensure that constituents are informed and not disenfranchised, and public agency operations and management are transparent to the public. The City of Angels demonstrated accountability with respect to all of these factors.

SOI UPDATE

The City of Angels SOI was updated prior to the adoption of this MSR.

The City proposed an updated SOI as part of its General Plan, which was adopted in 2009. The proposed SOI consisted of a primary and a secondary SOI. Proposed changes to the City's SOI included 1) removing certain territory to the north and west of the City for the SOI and placing most of it in an Area of Interest, and 2) adding certain territory to the east of the City to the SOI.

In response to the City's proposed SOI, Union Public Utility District (UPUD) and members of the public raised objections, particularly regarding land southeast of the City where territory in the City's proposed SOI would overlap with UPUD's existing boundaries. Due to the presence of prime agricultural lands in the overlap territory, and the unlikely need for the City to grow into the area within the timeframe of the SOI update (10 years), LAFCO chose not to include most of the overlap area in the City's updated SOI.

As it was adopted by LAFCO on December 19, 2011, the City's SOI now consists of 5,977 acres in addition to the two Areas of Concern.[129] The SOI is representative of territory that LAFCO anticipates will be annexed by the City over the next 10 years. The area within the SOI is largely designated as rural residential and special planning land uses. The SOI overlaps with UPUD's boundaries in two areas that consist of a combined 189 acres, which are designated for rural residential (109 acres) and public uses (80 acres). The public land is comprised entirely of the Calaveras County Fairgrounds or Frogtown. The City's updated SOI, Areas of Concern and the overlap areas with UPUD are shown on the following map.

[129] An Area of Concern is a geographic area beyond the SOI in which land use decisions or other governmental actions of one local agency impact directly or indirectly upon another local agency. LAFCO will notify any concerned agency when it receives notice of a proposal of another agency in the Area of Concern.

CALAVERAS LAFCO

CITY OF ANGELS SPHERE OF INFLUENCE

City Boundary

Angels Sphere 2021 (*Adopted 12-19-11*)

Area of Concern (*Adopted 12-19-11*)

Prior 1996 Sphere of Influence

LAND USE

Parks and Recreation

Rural Residential

Business Attraction and Expansion

Public

Special Planning

All district boundaries are generalized and are not to be used on a parcel by parcel basis.

Calaveras LAFCO December, 2011

0 0.25 0.5 1 Miles

N

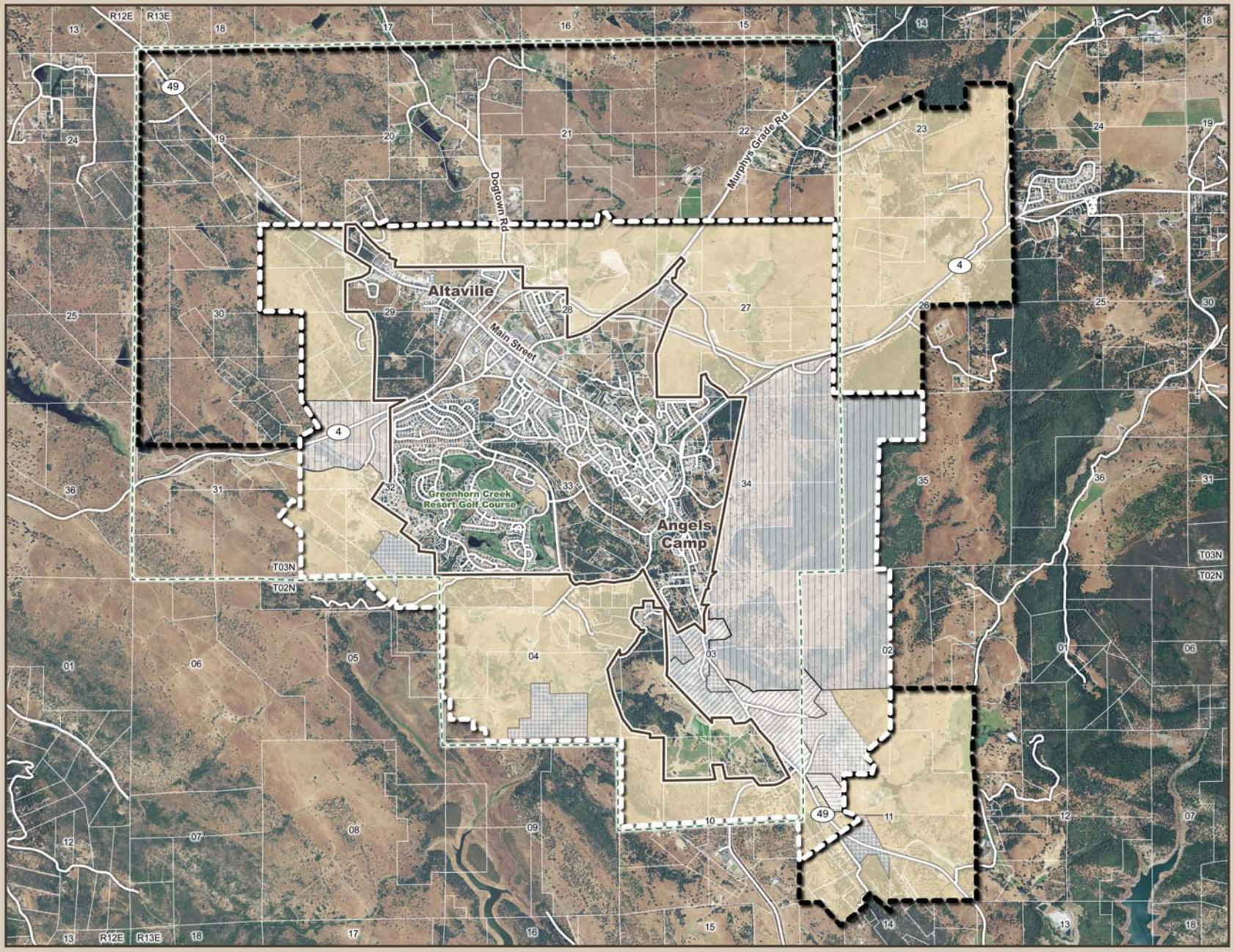


Exhibit "B" Adopted December 19, 2011 Resolution 2011-0006

7. CALAVERAS COUNTY WATER DISTRICT

Calaveras County Water District provides raw and treated surface water, hydroelectric power, and wastewater collection, treatment and disposal services to a number of unincorporated communities throughout the County. Outside these direct service areas, the District's services include protecting water rights, providing wholesale water deliveries to those with failed wells, groundwater management and monitoring, and assisting other agencies with wastewater planning.

AGENCY OVERVIEW

FORMATION AND BOUNDARY

Calaveras County Water District (CCWD) was formed on August 30, 1946 as an independent special district.[130] The District was formed to acquire water rights, construct water works and distribute and sell water. The District's formation was approved countywide[131] by 97 percent of voters, with the groundswell attributed largely to the sponsorship and countywide outreach efforts of the Calaveras Grange.[132] The first CCWD board was elected on November 5, 1946. Initial CCWD activities involved acquiring water rights on the Mokelumne River, Calaveras River and the north fork of the Stanislaus River, discussion of county water issues and growth, and initiation of a property tax levy.[133]

The principal act that governs the District is the County Water District Law.[134] The principal act empowers the District to "store water for the benefit of the district, conserve water for future use, and appropriate, acquire, and conserve water and water rights for any useful purpose,"[135] to provide sewer, stormwater and solid waste services,[136] and to provide fire protection services,[137] recreation services, and hydroelectric power services. CCWD assumed responsibility in 1972 for countywide wastewater planning and providing wastewater services to unsewered communities.[138] CCWD is not presently engaged in stormwater, solid waste or fire protection services. Districts must apply and

[130] Board of Equalization Official Date.

[131] Office of the Secretary of State, *Certificate of Incorporation of the Calaveras County Water District*, September 6, 1946. The election was held on August 27, 1946.

[132] CCWD, *Calaveras County Water District*, undated two-page history paper (typed, appears to predate the personal computer).

[133] CCWD Board minutes for meetings held in 1946 and 1947 (Nov. 22, 1946, March 25, 1947, May 23, 1947, and July 25, 1947).

[134] California Water Code §30000-33901.

[135] California Water Code §31021.

[136] California Water Code §31110.

[137] California Water Code §31120.

[138] CCWD Resolution No. 1392, March 1, 1972. The resolution states that "the Board of Supervisors of the County of Calaveras has requested that [CCWD] be the responsible agency to represent the entire County in sewer matters," and that CCWD accepts "responsibility for County-wide planning relative to sewage for communities within the County which are not now sewered; and that the District staff may assist those sewered or unsewered areas who may desire various information regarding sewage planning." CCWD began providing wastewater services several years prior to this resolution, as indicated by formation of its first sewer improvement district in 1970.

obtain LAFCO approval to exercise latent powers or, in other words, those services authorized by the principal act but not provided by the district at the end of 2000.[139]

The boundaries of CCWD upon its formation were countywide. Two areas were detached in 2009; these areas make up 137 acres. The District has a boundary area of approximately 1,037 square miles. CCWD provides domestic water and wastewater services to service areas scattered throughout the County, as shown on Maps 3-1 and 4-1.

Table 7-1: CCWD Improvement Districts, 2010

Project Name	LAFCO Resolution #	BOE Effective Date	Change Type	Acres	Recording Agency
Formation		8/30/1946	Formation		BOE
Mountain Oaks/PAWS	2009-0012	12/21/2009	Detachment	78.9	LAFCO, BOE
Calaveras Criminal Justice Center	2009-0004	5/18/2009	Detachment	58	LAFCO, BOE

LAFCO established a countywide water SOI for CCWD in 2004, but reasoned that the SOI "will be influenced by changes to the SOIs of the other public agency water purveyors in the county as they expand their service territories."[140] The water SOI was subsequently amended in 2009 to exclude 38 acres annexed to CPUD (California Criminal Justice Center). Similarly, LAFCO established a countywide wastewater SOI for CCWD in 2005. The wastewater SOI was amended twice in 2009 to exclude 58 acres annexed to SASD at the California Criminal Justice Center, and 79 acres annexed to SASD at the Mountain Oaks PAWS site.

Dual Purposes

The District has dual purposes, functioning in some respects as a countywide entity and in other respects as a retail service provider to specific unincorporated communities.

CCWD provides certain services on a countywide basis: promoting beneficial use for area-of-origin water rights, providing wholesale water deliveries to service providers with groundwater supply deficiencies, selling treated water to properties with failed wells, groundwater management and monitoring, and assisting other agencies with wastewater planning.

CCWD provides water and wastewater services to certain unincorporated communities, and is responsible for planning and, where feasible, serving previously unserved communities that may need such services due to dry wells or increased development densities.

There are limitations on CCWD's powers given its geographic overlap with other agencies empowered to provide the same services. The principal act protects the legal rights of cities and other public agencies that provide similar services.[141] CCWD may not provide wastewater services within the territory of a county, city or special district without its consent.[142] LAFCO is empowered to modify CCWD boundaries and authorized powers, and to reorganize the District under the provisions of the CKH Act.

[139] Government Code §56824.10.

[140] Dennis Dickman and Associates, *Service Review Study—Public Agency Water Purveyors*, Report Prepared for Calaveras LAFCO, Dec. 2003, p. IV-10.

[141] California Water Code §30065.

[142] California Water Code §31100.

Improvement Districts

Table 7-2: CCWD Improvement Districts, 2010

Name	Improvement District No.	Water	Sewer	Formation Date	Status
West Point	03	√		4/27/1954	Active
Ebbetts Pass	05	√		11/6/1963	Active
Jenny Lind	06	√		9/6/1967	Active
Copper Cove	07	√		7/2/1969	Active
Copper Cove	08S		√	11/4/1970	Active
Ebbetts Pass	09S		√	11/3/1971	Active
Wilseyville	11S		√	9/11/1974	Active
Burson	16			7/28/1977	Inactive
Wilseyville	301	√		9/11/1974	Active

Source: California State Board of Equalization

There are officially nine CCWD improvement districts, as shown in Table 7-2.[143] Historically, the improvement districts represented CCWD service areas. The District regularly formed and annexed newly-served properties to improvement districts through 1979. During that era, CCWD financed water and wastewater costs in those communities by imposing a property tax levy in the communities served.

California voters passed Proposition 13 in 1978, limiting the general property tax rate to one percent, and freezing the allocation of property taxes among agencies. CCWD's incentive to update the boundaries of its improvement districts was formally eliminated a few years later when the County imposed a property tax sharing formula. Under that formula, no property taxes are allocated to special districts annexing territory to extend a municipal service not previously provided to that territory.[144]

Since then, CCWD has extended services beyond the improvement districts, and increasingly relied on water and wastewater rates, rather than general (one percent) property taxes, to finance service costs. Due to subsequent growth, CCWD's present-day service areas extend beyond the boundaries of the original improvement districts, particularly in the Valley Springs/Jenny Lind area.

Special Assessment Districts

CCWD has nine special assessment districts where property owners pay special assessments to repay bonds that financed improvements; the assessments are collected on the property tax bill, but are not general (one percent) property taxes. The DaLee/Cassidy assessment district was formed most recently (in July 2010) to construct new water infrastructure.

LOCAL ACCOUNTABILITY AND GOVERNANCE

The District has a five-member governing body. Board members are elected by district to staggered four-year terms. Elections are regularly contested; the most recent contested election for a board seat occurred in 2009.

To keep citizens informed of District activities, CCWD conducts project-specific outreach (e.g., mailings and a telephone hotline for the new DaLee/Cassidy improvement district), and maintains a website with updates on current projects and press releases. The District also discloses plans,

[143] CCWD reports two additional improvement districts—Copperopolis (No. 2) and Sheep Ranch (No. 4)—which are not reflected in official Board of Equalization records. These may have been special assessment districts rather than improvement districts.

[144] Calaveras County Board of Supervisors, *Resolution No. 81-347*, August 3, 1981. The resolution states: "When a special district annexes territory to provide a service when such service had not been previously provided by any special district, there would be no assumption of service and therefore no property tax revenue shall be transferred."

finances and other public documents via the Internet. CCWD holds public workshops and study sessions for consideration of important items.

Table 7-3: CCWD Governing Body

Governing Body					
Members	**Name**	**Position**	**District**	**Term Began**	**Term Expires**
	Scott Ratterman	Member	1	2011	2013
	Bob Dean	Member	2	2005	2013
	Don Stump	President	3	2009	2013
	Dennis Dooley	Vice President	4	2009	2013
	Jeff Davidson	Member	5	1999	2015
Manner of Selection	Elected by district				
Length of Term	Four-year term				
Meetings	Date: 2nd Wednesday of each month, 9 a.m. Location: District office				
Agenda Distribution	Posted at district office and online				
Minutes Distribution	Available by request				
CCWD Contact Information					
Contact	General Manager				
Mailing Address	423 East St. Charles Street, PO Box 846, San Andreas, CA 95249				
Phone	209-754-3543				
Email/Website	information@ccwd.org www.ccwd.org				

With regard to customer service, complaints may be submitted by phone, or by letter or email to the General Manager. The District does not track the total number of complaints, but reported that most complaints relate to billing and rates. CCWD does track complaints relating directly to water service, and reported 302 such complaints in 2009, primarily related to water pressure and leaks in the Jenny Lind system.

The District demonstrated accountability in its disclosure of information and cooperation with LAFCO. The agency responded to LAFCO's written questionnaires, and cooperated with LAFCO map inquiries and document requests.

MANAGEMENT

The District's staff consists of 67 full-time personnel and no part-time personnel.[145] CCWD is managed by a full-time General Manager. The District is organized into five departments handling 1) utility services, 2) water resource management, 3) engineering, regulatory and technical services, 4) financial services, and 5) administrative services. Each department head reports to the General Manager. The utility services department is the largest department with 48 staff; a deputy director manages water and wastewater treatment and safety planning, and reports to the director.

All employees are evaluated at least once annually. New hires are evaluated four times in their first year before being promoted to permanent staff. The District management team monitors employee productivity through the employee evaluation process. CCWD is implementing a five-year strategic business plan in FY 10-11 to develop more comprehensive measures to evaluate District performance. The State Department of Public Health inspects District water facilities and

[145] CCWD, *FY 2009-10 Final Budget*, 2009.

practices every two years, and most recently described each of the five water systems as well-run and well-maintained. The District annually compares its water and wastewater rates with similar service providers, but does not practice performance benchmarking/comparisons with other providers.

CCWD engages in long-term growth planning. The District prepared an urban water management plan in 2007 with supply and demand projections through 2035. CCWD provided water and wastewater demands projections through 2030 and 2035, respectively, for the Calaveras County General Plan Water Element released in 2009.

The District's capital planning efforts include nine master plans that were prepared between 2004 and 2006.[146] These plans analyzed existing systems, projected future demands, analyzed options and recommended capital improvements needed to meet current needs and to provide capacity for future growth. CCWD most recently prepared a comprehensive five-year capital improvement plan in 2008; the CIP is updated annually in the District's budget.

Financial planning efforts include annual preparation of budgets, annually audited financial statements, and occasional rate studies (most recently in 2007). The most recent audited financial statement provided by the District was for FY 10-11. The auditor did not identify any deficiencies. The District's most recent rate study (2007) identified a need for substantial rate increases of 80 percent for water and 50 percent for wastewater (over the five-year implementation period).

Other planning efforts include CCWD's Multi-Hazard Mitigation Plan (2006) and emergency response plans.

CCWD regularly receives awards from Government Finance Officers Association and California Society of Municipal Finance Officers for its budget, and received a Certification of Excellence for its investment policy in 2006 from the Association of Public Treasurers.

SERVICE DEMAND AND GROWTH

The District bounds encompass a wide variety of land uses, as the boundary is nearly countywide. CCWD service areas are primarily composed of community centers and residential centers with residential, commercial and public land uses.

Local business activities include retail and tourist-serving businesses. Major employers within CCWD service areas include Big Trees Market in Arnold and Saddle Creek Resort in Copperopolis.

The District considers its customer base to be the water and wastewater connections served and the residents and property owners within the District boundaries. The District provided water services to 12,468 water connections—12,249 residential, 394 commercial, and 92 irrigation/landscape connections—in 2009. CCWD served 4,591 wastewater connections—4,290 residential and 301 commercial connections—in 2010.

The estimated number of residents in CCWD water service areas in 2009 was 19,551, based on number of connections and average household size in unincorporated areas (DOF data). The population density of the District's water service areas was approximately 403 per square mile in 2009, compared with the countywide density of 45. The projected population growth rate from

[146] HDR, *Arnold Sewer System Master Plan*, May 2005; HDR, *Copper Cove Wastewater Facility*, May 2005; HDR, *Forest Meadows Wastewater Facility Plan*, September 2004; Nolte Associates, *Wastewater Facilities Master Plan for Vallecito, Douglas Flat, and Six-Mile Village*, April 2005; HDR, *West Point Sewer System Master Plan*, May 2005. ECO:LOGIC Engineering, *Copper Cove Water Master Plan—Phasing Plan*, October 2006; HDR, *Ebbetts Pass Water System Master Plan Update*, 2005; Owen Engineering and Management Consultants, *Jenny Lind Water Treatment Plant: Flood Protection Alternatives Report*, October 2006; HDR, *West Point Water System Master Plan*, May 2005.

2009 to 2030 is 32 percent countywide. By comparison, the District projects that domestic water demand in its service areas will increase by 93 percent between 2010 and 2030, and that wastewater demand will increase by 327 percent.[147] CCWD's primary growth areas are Copper Cove and Jenny Lind; CCWD also projects significant growth in its Forest Meadows and Ebbetts Pass service areas. CCWD also expects growth in the agricultural sector requests for raw water.

There are a number of planned or proposed developments in or adjacent to CCWD service areas, particularly Copperopolis and Jenny Lind (Valley Springs). The larger potential development projects in and near the Copper Cove service area are Copper Valley Ranch (2,400 units), Sawmill Lake (800 units approved) and Oak Canyon Ranch (676 units). The larger potential development projects in and near the Jenny Lind service area are Gold Creek Estates (385 units approved, of which about half are already built), North Vista Plaza, Mission Ranch, and Hogan Oaks.

Table 7-4: Planned and Proposed Development, CCWD

Name	Dwelling units	Acres	Name	Dwelling units	Acres
Copperopolis Service Area			**Jenny Lind/La Contenta Service Area**		
Copper Valley Ranch	2,400	4,267	Gold Creek Estates	193	NP
Sawmill Lake Project	800	243	North Vista Plaza	171	35
Oak Canyon Ranch	676	1,283	Mission Ranch	146	104
Tuscany Hills	335	1,113	Hogan Oaks	122	80
Others	134	3,295	Old Golden Oaks	96	27
Total	4,345	10,201	Del Verde Estates	91	40
Vallecito Service Area			Others	91	241
Mitchell Ranch	117	114	Total	910	526
Ebbetts Pass Service Area			**Southworth Service Area**		
Total	704	NP	Total	22	137

The District is not a land use authority, and does not hold primary responsibility for implementing growth strategies. That said, CCWD favors growth strategies that put countywide surface water rights to beneficial use in order to retain those rights and avoid losing water rights to downstream users. One such strategy is to limit urban development to areas with or near existing infrastructure as opposed to leapfrog development. This helps promote local retention of surface water rights by enhancing financial feasibility (through economies of scale) for new development to connect to surface water delivery systems; and helps protect existing groundwater users from negative impacts of development on groundwater levels and quality. Another such strategy is to promote agricultural development that can be feasibly irrigated with surface water deliveries.[148]

FINANCING

The District reported that current financing is not adequate to deliver services, and that additional funding is needed to deliver adequate service levels to meet both existing and future demand.[149] Due to declining interest income and connection fee revenues during the recession,

[147] MWH, *Calaveras County General Plan: Water Element Baseline Report Supplement*, February 2009, pp. 12, 27-33.

[148] Interview with CCWD Water Resources Manager Edwin Pattison, Nov. 8, 2010.

[149] CCWD, *FY 2009-10 Final Budget*, 2009.

CCWD reduced its staffing level in recent years, and deferred capital maintenance expenditures. CCWD implemented a five-year rate increase plan in FY 2007-08, which will result in an overall 80 percent increase in base water rates, and a 50 percent increase in wastewater rates. The 2007 rate study had assumed more growth than has materialized, putting a severe funding strain on both operational and capital improvement budgets. Another financial challenge facing the District is the increasing costs associated with funding retiree health benefits. The District continues to implement cost-saving and revenue-enhancing strategies: grant-funded capital projects, deferral of capital maintenance, a wage freeze and other labor concessions, studying rates, and marketing water to agricultural interests.[150]

The District reports its financial activities in two primary funds—a water and a wastewater enterprise fund—as well as a fiduciary fund through which special assessment bond debts are repaid.

The District's total revenues were $16.8 million in FY 10-11.[151] Revenue sources included rates and charges (66 percent), property taxes (15 percent), grants (9 percent), connection fees (3 percent), and other sources (primarily hydroelectric power sales). By comparison, total revenues were $18.6 million in FY 06-07 and $19.7 million in FY 07-08. The primary revenue sources that declined during the recession and housing market collapse were interest income and connection fee revenues; CCWD revenues from rates increased significantly over this period.

The District's expenditures were $20.8 million in FY 10-11. Of this amount, 37 percent was spent on compensation, 26 percent on services and supplies, 10 percent on capital expenditures, 17 percent on depreciation, and 10 percent on long-term debt. By comparison, total expenditures were $25.8 million in FY 06-07 and $26.2 million in FY 07-08. Primarily, expenditure cuts involved capital outlays, which declined from $8.5 million in FY 06-07 to $2.1 million in FY 10-11. CCWD operating expenditures increased between FY 06-07 and FY 07-08, but decreased somewhat since then. The District's spending on employee compensation increased over this period.

The District quantified its five-year capital plans in 2008, identifying $100 million in capital needs (in FY 07-08 dollars). At that time, CCWD anticipated $46 million in funding through connection fees (41 percent of then-anticipated funding), operation-backed bonds and loans (30 percent), expansion-funded bonds (17 percent), grants (6 percent) and other sources (5 percent).[152] CCWD updates the CIP annually during the budget process. Due to the housing market collapse, projected revenue and facility expansion needs were less than anticipated by the 2008 CIP. CCWD capital spending has steadily declined since FY 06-07. For the most part, capital projects programmed in FY 09-10 were funded by connection fees and grants rather than operating funds. In FY 10-11, active CIP projects were limited to projects already in the pipeline or grant-funded.

Significant capital outlays have been financed in the past with connection fees, bonds, grants, rates and reserves. As of the end of FY 10-11, the District had capital reserves of $22 million for system expansion and construction.

The District had $11 million in long-term debt at the end of FY 10-11. Most of the debt was due to an enterprise refunding revenue bond; a secondary debt was a U.S. Bureau of Reclamation

[150] Calaveras County Water District, *Strategic Business Plan: FY 2011-12 thru FY 2015-16*, August 2011. Email correspondence from CCWD Chief Financial Officer, March 9, 2012.

[151] Revenue source is audited financial statements, cash flow statement. For consistency with other agencies, contributed capital was added to revenues and deducted from expenditures (purchase of capital assets). Use of reserve funds and inter-fund transfers were excluded from revenues.

[152] CCWD, *FY 08-09 Five-Year Capital Improvement Plan, July 1, 2008 – June 30, 2013*, August 13, 2008, p. 1-4.

note for construction costs associated with New Hogan Dam. In addition, CCWD had unfunded liability associated with retiree health benefits being paid at $0.9 million annually.

The District's policy on maintaining financial reserves is to maintain operating reserves covering 90 days of operating expenditures; CCWD aims to maintain rate stabilization reserves of 10 percent of operating revenues. CCWD had $2.5 million in unrestricted net assets at the close of FY 10-11. The amount is equivalent to 12 percent of all expenditures or 19 percent of operating expenditures in FY 10-11. In other words, the District maintained 1.4 months of working reserves on average.

The District engages in joint financing arrangements related to pension and insurance. The District is a member of Association of California Water Agencies' Joint Powers Insurance Authority (ACWA) that provides limits of liability for general liability and workers compensation claims. CalPERS acts as a common investment and administrative agent for participating public employers within the State for retirement and disability benefits.

WATER SERVICES

This section describes the nature, extent and location of the water services provided as well as key infrastructure and water sources. The tables provide further information and indicators of the agency's water service supplies, demand, financing, service adequacy, and facilities.

NATURE AND EXTENT

The District has dual purposes, functioning in some respects as a countywide entity and in other respects as a retail service provider to specific unincorporated communities.

CCWD provides surface water transmission, treatment and distribution for domestic uses, and raw surface water for irrigation uses. CCWD also generates hydroelectric power through its FERC-licensed projects on the Stanislaus and Calaveras Rivers; these projects are operated by other agencies under contract with CCWD.

The District provides certain services on a broader geographic basis: promoting beneficial use for water rights, providing wholesale water deliveries to service providers with groundwater supply deficiencies, selling treated water to properties with failed wells, groundwater management and monitoring, assisting other agencies with wastewater planning, and conjunctive use planning with downstream agencies.

CCWD provides wholesale treated water to several retail water service providers. The District supplies recycled water for irrigation uses on three golf courses.

LOCATION

CCWD provides all services within its bounds. The District's service area does not extend beyond its boundary area.

The District's service areas for retail domestic water service include the communities of Copperopolis, Copper Cove, Lake Tulloch, Dorrington, Arnold, Avery, Forest Meadows, southern Valley Springs, La Contenta, Rancho Calaveras, Sheep Ranch, West Point, Wilseyville, and Bummerville. CCWD's retail, domestic water services are provided within and outside the bounds of CCWD's water improvement districts; as discussed earlier in this chapter, improvement district bounds have not been updated since the late 1970s when Proposition 13 was passed.

CCWD is responsible for planning and, where feasible, serving previously unserved communities that may need such services due to dry wells or increased development densities.

Raw treated water is provided presently to nine agricultural operations on the lower Calaveras River, one in the Copperopolis area, and another in the West Point area. CCWD aims to expand its raw water service areas to put existing water rights to beneficial use, thereby keeping the benefit of those water rights within the County. Landowners with orchard and grazing operations have expressed interest in surface water deliveries in various locations in the County where groundwater resources are inadequate for reliable irrigation. CCWD has identified potential agricultural uses, as shown in Figure 7-1.

In the Valley Springs, South Camanche and Copperopolis areas, there are 40-50 customers with failing wells who purchase water from CCWD's Jenny Lind and Copper Cove WTP and truck the water to their properties.

CCWD recycled water services are presently provided to irrigate the La Contenta, Saddle Creek and Forest Meadows golf courses. CCWD aims to extend recycled water service to other areas, such as parks, landscape, highway medians, and for agricultural uses in the Murphys/Vallecito area.

CCWD provides wholesale treated water to several retail water service providers:

- Blue Lake Springs Mutual Water Company (MWC): CCWD supplies emergency wholesale water to this resort community near Arnold where there are approximately 1,700 water connections. The MWC relies on groundwater wells for approximately half of its water supply and CCWD for the remainder. The MWC owns and operates the storage and distribution system within the subdivision.[153]

- Fly In Acres Mutual Water Company (MWC): CCWD supplies wholesale treated water to this 160-parcel community near Arnold. The MWC owns and operates the storage and distribution system within the subdivision.

- Snowshoe Springs Association: CCWD has provided wholesale treated water to this 300-home subdivision adjacent to Big Trees Village. Snowshoe Springs had relied on three groundwater wells until forced to abandon the wells in the 1970s due to poor water quality. Water is delivered through the CCWD water main on Shoshone Drive.[154] The Association owns and operates the storage and distribution system within the subdivision.

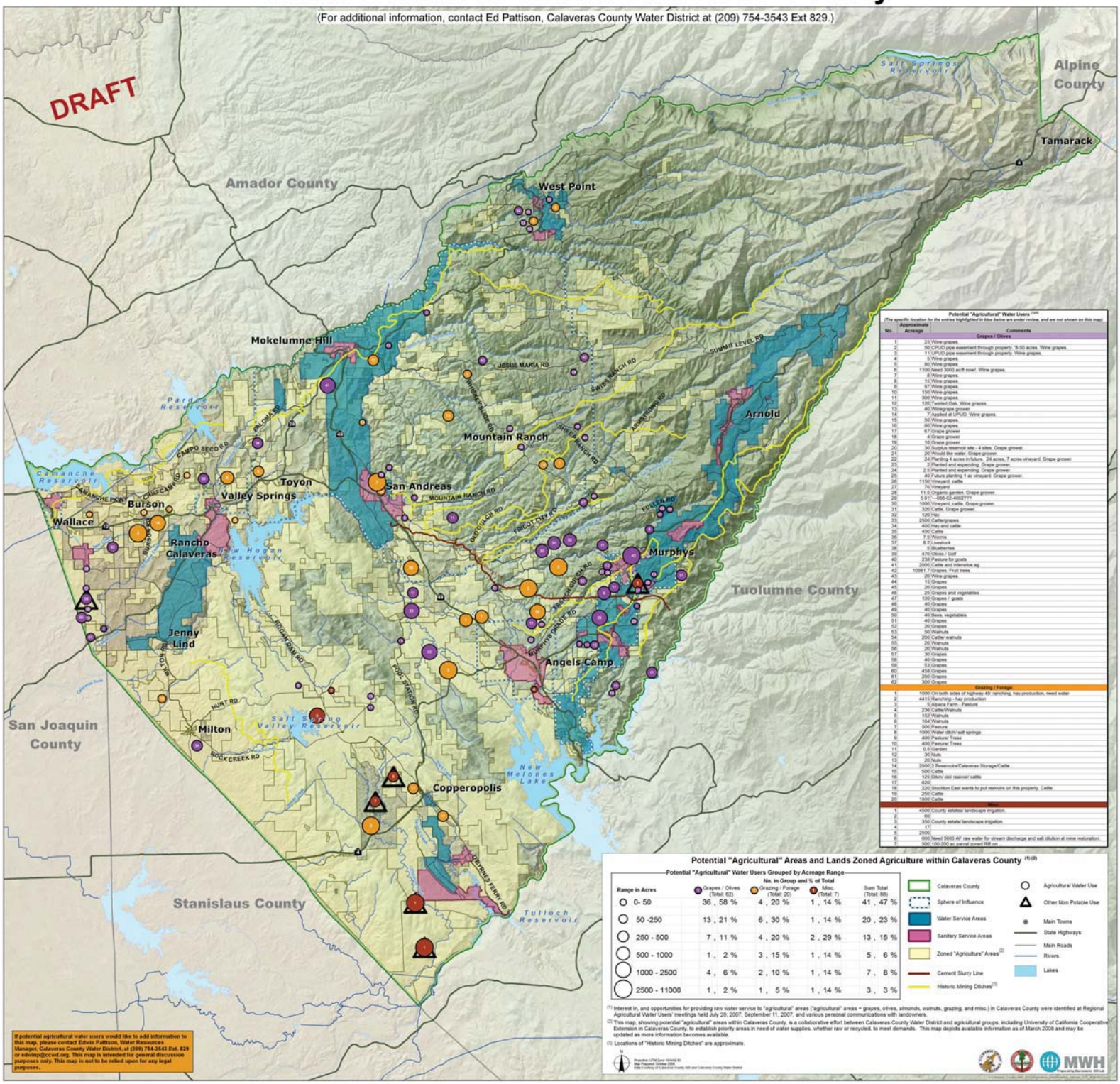
- Valley Springs PUD: VSPUD presently relies on two groundwater wells; through an intertie, CCWD occasionally provides treated water on an "emergency" basis to supplement VSPUD's resources.

[153][153] CCWD's supply to Blue Lake Springs MWC is contractually provided on an emergency basis only, as the BLSMWC is paying for water at emergency rates rather than retail rates paid by other providers.

[154] Mother Lode Engineering, *Snowshoe Springs Water System Improvements: Preliminary Engineer's Report*, March 1996.

Water Demands within Calaveras County [1] (2)

(For additional information, contact Ed Pattison, Calaveras County Water District at (209) 754-3543 Ext 829.)



Potential "Agricultural" Water Users [1][2][3]

(The specific location for the entries highlighted in blue below are under review, and are not shown on this map)

No.	Approximate Acreage	Comments
Grapes / Olives		
1		25 Wine grapes.
2		50 CPUD pipe easement through property. 9-50 acres. Wine grapes.
3		11 UPUD pipe easement through property. Wine grapes.
4		5 Wine grapes.
5		80 Wine grapes.
6		1100 Need 3000 acr-ft now!. Wine grapes.
7		6 Wine grapes.
8		15 Wine grapes.
9		97 Wine grapes.
10		150 Wine grapes.
11		300 Wine grapes.
12		120 Twisted Oak. Wine grapes.
13		40 Wine grape grower.
14		7 Applied at UPUD. Wine grapes.
15		50 Wine grapes.
16		60 Wine grapes.
17		67 Grape grower.
18		4 Grape grower.
19		10 Grape grower.
20		30 Surplus reservoir site - 4 sites. Grape grower.
21		20 Would like water. Grape grower.
22		24 Planting 4 acres in future. 24 acres, 7 acres vineyard. Grape grower.
23		2 Planted and expending. Grape grower.
24		2.5 Planted and expending. Grape grower.
25		40 Future planting 1 ac vineyard. Grape grower.
26		1150 Vineyard, cattle.
27		70 Vineyard
28		11.5 Organic garden. Grape grower.
29		5.61 - -066-02-40027??
30		1000 Vineyard, cattle. Grape grower.
31		320 Cattle. Grape grower.
32		120 Hay
33		2500 Cattle/grapes
34		400 Hay and cattle
35		400 Cattle
36		7.5 Worms
37		8.2 Livestock
38		5 Blueberries
39		470 Olives / Golf
40		238 Pasture for goats
41		2000 Cattle and intensive ag.
42		109811.7 Grapes, Fruit trees
43		20 Wine grapes.
44		15 Grapes
45		20 Grapes
46		25 Grapes and vegetables
47		100 Grapes - goats
48		40 Grapes
49		40 Grapes
50		40 Bees, vegetables.
51		40 Grapes
52		20 Grapes
53		50 Walnuts
54		200 Cattle/ walnuts
55		20 Walnuts
56		20 Walnuts
57		30 Grapes
58		40 Grapes
59		53 Grapes
60		408 Grapes
61		250 Grapes
62		300 Grapes
Grazing / Forage		
1		1000 On both sides of highway 49/ ranching, hay production, need water
2		4415 Ranching - hay production
3		5 Alpaca Farm - Pasture
4		236 Cattle/Walnuts
5		152 Walnuts
6		164 Walnuts
7		500 Pasture
8		1000 Water ditch/ salt springs
9		400 Pasture/ Trees
10		400 Pasture/ Trees
11		5.5 Garden
12		30 Nuts
13		20 Nuts
14		2000 2 Reservoirs/Calaveras Storage/Cattle
15		500 Cattle
16		125 Ditch/ old/ reservoir/ cattle
17		620
18		220 Stockton East wants to put reservoirs on this property. Cattle
19		250 Cattle
20		1800 Cattle
Misc.		
1		4500 County estates/ landscape irrigation.
2		80
3		350 County estate/ landscape irrigation.
4		17
5		2500
6		600 Need 5000 AF raw water for stream discharge and salt dilution at mine restoration.
7		500/ 100-200 ac parcel zoned RR on ...

Potential "Agricultural" Areas and Lands Zoned Agriculture within Calaveras County [1][2]

Potential "Agricultural" Water Users Grouped by Acreage Range

Range in Acres	No. in Group and % of Total: Grapes / Olives (Total: 62)	Grazing / Forage (Total: 20)	Misc. (Total: 7)	Sum Total (Total: 88)
0- 50	36 , 58 %	4 , 20 %	1 , 14 %	41 , 47 %
50 -250	13 , 21 %	6 , 30 %	1 , 14 %	20 , 23 %
250 - 500	7 , 11 %	4 , 20 %	2 , 29 %	13 , 15 %
500 - 1000	1 , 2 %	3 , 15 %	1 , 14 %	5 , 6 %
1000 - 2500	4 , 6 %	2 , 10 %	1 , 14 %	7 , 8 %
2500 - 11000	1 , 2 %	1 , 5 %	1 , 14 %	3 , 3 %

Calaveras County
Sphere of Influence
Water Service Areas
Sanitary Service Areas
Zoned "Agriculture" Areas [2]
Cement Slurry Line
Historic Mining Ditches [3]
Agricultural Water Use
Other Non Potable Use
Main Towns
State Highways
Main Roads
Rivers
Lakes

(1) Interest in, and opportunities for providing raw water service to "agricultural" areas ("agricultural" areas = grapes, olives, almonds, walnuts, grazing, and misc.) in Calaveras County were identified at Regional Agricultural Water Users' meetings held July 28, 2007, September 11, 2007, and various personal communications with landowners.

(2) This map, showing potential "agricultural" areas within Calaveras County, is a collaborative effort between Calaveras County Water District and agricultural groups, including University of California Cooperative Extension in Calaveras County, to establish priority areas in need of water supplies, whether raw or recycled, to meet demands. This map depicts available information as of March 2006 and may be updated as more information becomes available.

(3) Locations of "Historic Mining Ditches" are approximate.

Projection: UTM Zone 10 NAD 83
Base Data: Calaveras County GIS
Data Courtesy of Calaveras County GIS and Calaveras County Water District

MWH

INFRASTRUCTURE

Key infrastructure for water service includes the District's water supplies, five treatment plants, distribution mains, storage tanks and reservoirs in its five water service areas.

Water Supplies

North Fork Stanislaus River

The water source for the Ebbetts Pass service area is the North Fork of the Stanislaus River. The District has 8,000 af in water rights for use in the Ebbetts Pass area.[155] During most of the year, water is obtained downstream of McKay's Point diversion dam reservoir from a tap in the Collierville Tunnel which is about one mile from the WTP. CCWD owns the diversion dam and water rights, and contracts with Northern California Power Association (NCPA) for operation of hydroelectric facilities. Under agreements with CCWD and UPA, NCPA is required to deliver water through the Mill Creek Tap to both CCWD and UPA. CCWD uses 3-6 cfs for consumptive demand at this time. UPA uses up to 47 cfs for power generation (a portion of which is used for consumptive demand). Water quality is relatively good; water quality issues (prior to treatment) include upstream sewage discharge, recreational activities and grazing. The Collierville Tunnel supply source will need expansion to serve future growth; future customers will finance expansion through connection fees.[156]

The water source for the Copper Cove service area is the North Fork of the Stanislaus River. CCWD is permitted to use up to 6,000 afa to serve the Copper Cove system.[157] CCWD holds additional consumptive water rights, but those permitted to be used for Copper Cove are presently capped by SWRCB Order 97-05 at 6,000 afa until sufficient demand supports the filing of an application to SWRCB to increase the cap. The District withdraws water from Lake Tulloch Reservoir; the reservoir is owned by Tri-Dam Project, which is a partnership between the Oakdale Irrigation District and the South San Joaquin Irrigation District. Copper Cove water supplies are expected to be adequate to serve growth through at least 2023. Once additional supplies are needed, CCWD will initiate an amendment to the SWRCB 97-05 decision.[158]

Calaveras River

The water source for the Jenny Lind service area is the Calaveras River with the WTP intake located one mile downstream from New Hogan reservoir (which is operated by the U.S. Army Corps of Engineers). The reservoir has a storage capacity of 317,000 af. CCWD holds a contractual reservation to 31,278 af; the water rights from this source are held by the U.S. Bureau of Reclamation. The water source is moderately hard and contains manganese prior to treatment.

[155] CCWD maintains filing and rights on the North Fork Stanislaus River for diversions and storage. Under the terms of its post-1914 water right permits and agreements with NCPA, the District can currently divert up to 8,000 afa to supply the Ebbetts Pass system (more generally the Highway 4 corridor). Under SWRCB WR 97-05, CCWD can also use 3 cfs up to 1,000 afa for the cement slurry line right.

[156] HDR, *Ebbetts Pass Water System Master Plan Update*, April 2005, Table EPW-1.

[157] CCWD maintains filing and rights on the North Fork Stanislaus River for diversions and storage, and reports that those exceed 6,000 afa. Under SWRCB WR 97-05, CCWD may divert up to 6,000 afa at Lake Tulloch under its North Fork Stanislaus permits. This condition was established to match historic growth projections; when demands exceeds this supply, the District may request a change of condition of its existing rights to allow higher diversions (not a request for a new appropriation).

[158] ECO:LOGIC Engineering, *CCWD Copper Cove Water Master Plan – Phasing Plan*, Oct. 2006, p. 3-9.

The Sheep Ranch service area water source is San Antonio Creek surface water. The creek is tributary to the Calaveras River. The water is collected in White Pines Lake, about 7 miles from the WTP diversion. CCWD holds 300 af in water rights from this source. CCWD typically diverts about 0.2 mgd down the Fricot Ditch with 0.03-0.05 mgd going to Sheep Ranch, and the remainder flowing to Fricot City and other downstream users. The lake, which has capacity for 262 af, is owned and operated by CCWD. Water quality from this source is considered good.

Mokelumne River

The West Point water source is the Bear Creek diversion and the Middle Fork of the Mokelumne River. Bear Creek is the preferred source. CCWD has rights to 1,830 af of water from Bear Creek at 4 cfs and 150 af storage. Bear Creek is not a reliable source during the summer months. When there is not enough Bear Creek water, the Mokelumne River source is used. CCWD has rights via contract with CPUD to 200 af of water from the Mokelumne River.

Additional water rights are area-of-origin rights to water from the Mokelumne River. As CCWD works to develop a conjunctive use program in the East San Joaquin Groundwater Basin to mitigate overdraft and develop a more reliable water supply, CCWD is looking to permit the Mokelumne State reservation water that is senior to EBMUD's Camanche right and a part of the 27,000 af from the 1958 Agreement between CCWD and EBMUD.

Treatment Systems

The District owns, operates and maintains five treatment plants for surface water.

- Copper Cove WTP, which was constructed in 1998, has capacity for 4.0 mgd with provisions for future expansion to 8.0 mgd capacity. Current demand is 1.4 mgd on average, peaking at 3.8 mgd. Located on the northwest shore of Lake Tulloch, the WTP is in good condition.
- The Ebbetts Pass WTP (also known as Hunters WTP) has capacity for 4.0 mgd, and was built in 1990. Current demand is 1.6 mgd on average, peaking at 3.7 mgd. The plant will need expansion to serve future growth.[159] The plant was described as "well-run and maintained. The plant appeared in good order and…records were thorough and complete."[160]
- Jenny Lind WTP has capacity for 6.0 mgd. Current demand is 2.0 mgd on average, peaking at 4.7 mgd. The plant capacity was recently expanded in 2008. The WTP capacity will need expansion to serve future growth, specifically a second WTP with capacity for 4 mgd.[161] The existing plant was described as "well operated and maintained."[162]
- Sheep Ranch WTP, which was constructed in 1979, has capacity for 0.087 mgd. Current demand is .008 mgd on average, peaking at .03 mgd. The plant was described as "well-maintained considering the limited budget the system has to work with due to its size."[163]

[159] HDR, *Ebbetts Pass Water System Master Plan*, May 2005, p. 5.

[160] California Department of Public Health, *2008 Annual Inspection Report: CCWD—Ebbetts Pass (Hunters WTP)*, 2008, memorandum p. 1.

[161] HDR, *Jenny Lind Water System Master Plan*, June 2005, p. 24.

[162] California Department of Public Health, *2008 Annual Inspection Report: CCWD—Jenny Lind*, 2008, p. 54.

[163] California Department of Public Health, *2008 Annual Inspection Report: CCWD—Sheep Ranch*, 2008, p. 19.

- West Point WTP, which was originally constructed in 1979 and expanded in 2001, has capacity for 1.0 mgd.[164] Current demand is .164 mgd on average, peaking at .48 mgd. The plant is considered to have adequate capacity to serve growth in the area through buildout. The plant is "well-run and maintained; the physical condition of the plant appeared in good order and … records were thorough and complete."[165]

Water Storage

The Agency owns and maintains 28 treated water storage facilities.

Copper Cove has 1.05 mg storage capacity for treated water at the WTP in a clearwell and a reservoir. There are six storage tanks in the Copper Cove distribution system with a combined capacity of 3.48 mg.

Ebbetts Pass has a 1 mg clearwell storage tank at the WTP. There are 15 storage tanks in the distribution system with a total capacity of 6.0 mg. Ten of the storage tanks are composed of redwood, and need to be replaced.[166] The steel tanks were installed between 1978 and 1995. The system will need both replacement of existing tanks and expansion of storage capacity to serve future growth.[167]

Jenny Lind has seven distribution tanks with capacity of 5.0 mg in addition to two clearwells at the WTP with another 0.245 mg in capacity. The tanks are in fair to good condition.

Sheep Ranch has 87,000 gallons of water storage capacity in a clearwell.

West Point has a 50-af raw water reservoir, and two reservoirs for treated water with a combined capacity of 0.64 mg. The larger of the two is a tank located adjacent to the WTP, and the other tank is located off of Bummerville Road in the West Point area. CCWD replaced the larger tank with two new tanks in 2011.

Distribution and Transmission

The Copper Cove distribution system is composed of two major pressure zones, with another pressure zone in the Copperopolis area. The distribution system consists of approximately 65 miles of pipeline. Water mains were classified to be in good condition.

The Ebbetts Pass distribution system is composed of 14 pressure zones, and includes 10 pump stations. The distribution system consists of approximately 147 miles of pipeline. Water mains composed of steel and techite (which make up 41 percent of the mains) were classified in poor condition. Some of the AC water mains are also in poor condition.[168] Improvements to storage tanks and pump stations had originally been planned to occur by 2010,[169] but improvements have been deferred due to economic downturn.

[164] The plant constructed in 2001 upgraded and replaced the old filtration system while also yielding additional capacity. The new clearwell tanks being constructed will replace the last portion of the old plant still in use.

[165] California Department of Public Health, *2008 Annual Inspection Report: CCWD—West Point*, 2008, p. 55.

[166] HDR, *Ebbetts Pass Water System Master Plan Update*, May 2005, p. 6.

[167] HDR, *Ebbetts Pass Water System Master Plan Update*, April 2005, Table EPW-1.

[168] California Department of Public Health, *2008 Annual Inspection Report: CCWD—Ebbetts Pass (Hunters WTP)*, 2008, p. 15.

[169] HDR, *Ebbetts Pass Water System Master Plan Update*, April 2005, Table EPW-1.

The Jenny Lind distribution system contains five pressure zones, and five pump stations. The distribution system consists of approximately 106 miles of pipeline. Water mains were installed in the late 1960s and early 1970s, and are in fair to good condition. To meet fire flow demand in the long-term, CCWD anticipates upgrading 14.5 miles of pipe.[170]

In the Sheep Ranch distribution system, there is one pressure zone. Most of the water mains were classified as in good condition, but 25 percent of the mains are composed of steel and are in poor condition.[171] Information on the number of pipeline miles in the distribution system was not available separately, and is included in the Ebbetts Pass pipeline mile total.

In the West Point distribution system, there are 3 pressure zones and four pump stations. The distribution system consists of approximately 19 pipeline miles. Water mains are classified as in good condition. The system will need additional storage and distribution improvements to provide adequate fire flow to meet future demands. There are nearly 2 miles of transmission pipeline from the Mokelumne River source; the pipeline was built in 1991.[172] The Master Plan found that additional pipeline capacity is needed in most areas (except nearest the WTP) to provide adequate fire flow, recommending 8 miles of pipeline be replaced and localized booster pumps be installed. CCWD is in the process of replacing water mains in West Point with disadvantaged community grant financing.

[170] HDR, *Jenny Lind Water System Master Plan*, June 2005, pp. 34-6.

[171] California Department of Public Health, *2008 Annual Inspection Report: CCWD—Sheep Ranch*, 2008, p. 5.

[172] HDR, *West Point Water System Master Plan*, May 2005, p. 4.

Table 7-5: CCWD Water Profile

Water Service Configuration					
Water Service	**Provider(s)**		**Water Service**	**Provider(s)**	
Retail Water	CCWD		Groundwater Recharge	None	
Wholesale Water	CCWD		Groundwater Extraction	Private wells	
Water Treatment	CCWD		Recycled Water	CCWD	
Service Area Description					
Retail Water	1) Copperopolis: Copperopolis, Copper Cove, Lake Tulloch 2) Ebbetts Pass: Dorrington, Arnold, Avery, Forest Meadows 3) Jenny Lind: La Contenta, Mother Lode Acres, Rancho Calaveras 4) Sheep Ranch 5) West Point: Bummerville, West Point, Wilseyville				
Wholesale Water	2 private companies near Arnold (Snowshoe Springs and Fly-In Acres), emergency wholesale sales via interties to VSPUD and Blue Lake Springs				
Irrigation Water	Lower Calaveras River properties, La Contenta and Saddle Creek golf courses				
Recycled Water	La Contenta, Saddle Creek and Forest Meadows golf courses				
	Copperopolis	**Ebbetts Pass**	**Jenny Lind**	**Sheep Ranch**	**West Point**
Service Area acres	3,220	16,220	9,400	120	2,100
Service Area population	3,910	8,984	5,754	77	825

continued

Water Infrastructure

System Overview	Copperopolis	Ebbetts Pass	Jenny Lind	Sheep Ranch	West Point
Avg. Day Demand (mgd)	1.39	1.62	1.96	0.008	0.16
Peak Day Demand	3.76	3.74	4.68	0.030	0.48
Supply (safe yield)	5.35	4.46	7.14	0.268	0.54

Major Facilities

Facility Name	Type	Capacity	Condition	Year Built
Copper Cove WTP	Water treatment	4.0 mgd	Good	1998
Hunters WTP	Water treatment	4.0 mgd	Good	1991
Jenny Lind WTP	Water treatment	6.0 mgd	Good	1990
Sheep Ranch WTP	Water treatment	0.087 mgd	Fair	1979
West Point WTP	Water treatment	1.0 mgd	Good	2001

Other Infrastructure

Raw Water Reservoirs	2	Storage Capacity (mg)	16
Pump Stations	19	Pressure Zones	26
Production Wells	0	Pipe Miles	337
Other:	White Pines Lake		

Infrastructure Needs and Deficiencies

CCWD will eventually need to increase water supplies, treatment capacity, storage and extend the distribution sytem to serve growth in the Copper Cove and Jenny Lind service areas. The Jenny Lind WTP needs flood protection improvements, and will need a second WTP and 14 miles of pipe upgrade to serve future growth. Ebbetts Pass will need expansion of the Collierville Tunnel supply source and storage capacity to serve future growth, and needs replacement of some of the existing storage facilities and water mains. The West Point distribution system needs replacement of 8 of 17 miles of pipeline. Steel mains in the Sheep Ranch distribution system are in poor condition, and need replacement. From a cost perspective, pipeline replacement is the most significant need.

Facility-Sharing and Regional Collaboration

Current Practices: CPUD supplies supplemental raw water to CCWD through its Schaads Reservoir. CCWD has interties with VSPUD and with Blue Lake Springs MWC for emergency water sharing; Blue Lake Springs relies on CCWD for half of its water supply (officially on an "emergency" basis). CCWD provides contract services operating the WCSD water system, and occasional contract services to VSPUD. CCWD collaborates with other Mokelumne River stakeholder on a conjunctive use project. CCWD participates in regional water planning, including the IRWMP for the Mokelumne, Calaveras and Stanislaus watersheds, and the County General Plan Update.

Opportunities: CCWD is in negotiations with EBMUD and San Joaquin County on building infrastructure for Mokelumne River water. WCSD needs surface water; there may be opportunities for Mokelumne River water supplies for Wallace through collaboration with EBMUD and/or CPUD.

Note: (1) NA means Not Applicable, NP means Not Provided, mg means millions of gallons, af means acre-feet.

continued

Water Demand and Supply

Service Connections (2009)	Total	Copper-opolis	Ebbetts Pass	Jenny Lind	Sheep Ranch	West Point
Total	12,792	2,541	5,888	3,743	50	570
Domestic	12,678	2,495	5,851	3,713	50	569
Residential	12,282	2,416	5,648	3,644	50	524
Commercial/Industrial/Institutional	396	79	203	69	0	45
Irrigation	110	46	34	29	0	1
Agriculture	9	0	0	9	0	0
Landscape - Raw or Recycled	101	46	34	20	0	1
Wholesale and Other	4	0	3	1	0	0

Average Annual Demand Information (Acre-Feet per Year) [1]	2000	2005	2010	2015	2020	2025	2030
Total	5,174	5,121	5,165	23,840	37,571	51,362	63,903
Domestic	4,289	716	685	1,144	1,297	1,508	1,721
Irrigation/Landscape	825	2,263	2,275	18,597	31,965	43,336	53,455
Recycled	60	2,142	2,205	1,099	1,309	1,518	1,727
Recharge & Other	0	0	0	3,000	3,000	5,000	7,000

Water Sources		Supply (Acre-Feet/Year)		
Source	Type	Average [2]	Maximum [3]	Safe/Firm [4]
Calaveras River	surface water	4,069	31,278	8,050
North Fork Stanislaus River	surface water	6,421	14,000	14,000
Bear Creek	surface water	236	1,830	500
Mokelumne River Middle Fork	surface water	0	200	200
San Antonio Creek	surface water	15	300	300

Supply Information (Acre-feet per Year)	2000	2005	2010	2015	2020	2025	2030
Total	44,913	45,043	48,917	73,606	74,296	76,983	4,005
Surface	44,508	44,508	47,608	71,608	71,608	73,608	other
Recycled	405	535	1,309	1,998	2,688	3,375	4,005

Drought Supply and Plans			
Drought Supply (af)	Year 1: 23,000	Year 2: 23,000	Year 3: 23,000
Significant Droughts	1961, 1976-77, 1987-8, 1990, 1992, 1994, 2007		
Storage Practices	Treated water storage would accommodate 1.5 days of average system demand, with more ample storage in the Ebbetts Pass, Sheep Ranch, and West Point service areas. In addition, raw water storage would satisy many years of water demand in the CCWD system.		
Drought Plan	CCWD has an ordinance in place for restricting domestic water use during a drought. The plan was invoked in the service areas reliant on Stanislaus River water during the 1976-77 drought. Agricultural operations are not affected. CCWD maintains a water cnotingency plan to ensure reliable water supply during droughts or supply interruptions.		

Water Conservation Practices	
CUWCC Signatory	Yes
Metering	All accounts are metered.
Conservation Pricing	Yes
Other Practices	CCWD makes available residential plumbing retrofit kits, and offers public education and school education programs on water conservation.

Notes:

(1) CCWD UWMP 2011 was the source for all projected demand information except 2000.

(2) Average supply shown in this table is the portion actually used, including "unaccounted-for water," i.e., water loss, hydrant flushing, etc.

(3) The maximum Stanislaus water supply is the sum of 8,000 afa (Ebbetts Pass/Hwy 4 area), and 6,000 afa (Copper Cove). For further details, see preceding section on water infrastructure and particularly footnote 157.

(4) The "Safe/Firm" number shows the maximum annual quantity that can be supplied continuously from a water supply system under hydrologic conditions similar to the most critical dry year of record, further limited by contracts and permits.

continued

Water Rates and Financing

Residential Water Rates-Ongoing Charges FY 11-12[1]			
	Rate Description	Avg. Monthly Charges	Consumption[2]
Residential	$79/bi-monthly basic charge for 5/8" meter up to 1,000 cu. ft., $1 per 100 cu. ft. additional, tiered rates based on usage	$ 40.00	7,600 gal/month

Agricultural Rates
$9.70 per af for water drawn directly by agricultural operations from the Calaveras River.

Wholesale Water Rates
Wholesale users pay the same rates as retail residential users.

Rate-Setting Procedures			
Policy Description	A rate schedule established in FY 07-08 provided for annual rate increases of 10-16 percent annually through July 2011. The five-year plan resulted in a cumulative 80 percent increase in base water rates.		
Most Recent Rate Change	7/1/11	Frequency of Rate Changes	Annually

Water Development Fees and Requirements				
Connection Fee Approach	The connection fee is a flat rate based on meter size. Connection fees are updated annually, most recently on July 1, 2011.			
Connection Fee Timing	Fee is due at the time the permit application is submitted.			
	Copperopolis	**Ebbetts Pass**	**Jenny Lind**	**West Point**
Connection Fee Amount-Standard Residential	$9,513	$11,477	$9,406	$9,714
Land Dedication Requirements	None		Development Impact Fee	None

Water Enterprise Revenues, FY 10-11			Expenditures, FY 10-11	
Source	Amount	%		Amount
Total	$11,867,100	100%	Total	$14,203,618
Rates & charges	$7,271,960	61%	Administration	NP
Property tax	$1,825,829	15%	O & M	$8,152,642
Grants	$1,464,225	12%	Capital Depreciation	$2,518,244
Interest	$211,948	2%	Debt	$1,916,936
Connection Fees	$413,673	3%	Purchased Water	$4,000
Contributed Capital	$0	0%	Capital Outlays	$1,611,796
Other	$679,465	6%	Other	$0

Notes:

(1) Rates include water-related service charges and usage charges.

(2) Water use assumptions were used to calculate average monthly bills. Assumed use levels are consistent countywide for comparison purposes. For further details, refer to Chapter 4.

continued

Water Service Adequacy, Efficiency & Planning Indicators				
Water Planning	**Description**		**Planning Horizon**	
Water Master Plan	Copper Cove, Ebbetts Pass, West Point		2005 - 2025	
UWMP	Urban water management plan, June 2011		2010-2050	
Capital Improvement Plan	Five-year CIP		FY 10-11 through FY 14-15	
Emergency Response Plan	Each system has a plan		NA	
Hazard Mitigation Plan	2006 plan scheduled for update in 2012			
Service Challenges				
The primary service challenges relate to the physical layout of the District, which involves significant distance between service areas and differences in elevation (water pressure).				
Service Adequacy Indicators				
Connections/FTE	278	O&M Cost Ratio[1]	$1,584,268	
MGD Delivered/FTE	0.11	Distribution Loss Rate	22%	
Distribution Breaks & Leaks (2009)	284	Distribution Break Rate[2]	84	
Response Time Policy	on scene in 15 mins	Response Time Actual	1-2 hours	
Water Pressure	40-300 psi	Total Employees (FTEs)	46	
Customer Complaints CY 2008:	Odor/taste (16), leaks (149), pressure (0), other (14)			
	Copperopolis	**Ebbetts Pass**	**Jenny Lind**	**West Point**
Water Pressure	70 psi	150-300 psi	150 psi	40-200 psi
Distribution Breaks & Leaks (2009)	35	73	153	23
Distribution Break Rate [2]	56	50	144	120
Distribution Loss Rate	29%	29%	22%	22%
Water Operator Certification				
Copper Cove (T-3), Ebbetts Pass (T-3), Jenny Lind (T-4), West Point (T-3), and Sheep Ranch (T-2) are required certification levels. CCWD operators meet treatment and distribution certification requirements.				
Drinking Water Quality Regulatory Information[3]				
	#	**Description**		
Health Violations	6	Surface water treatment (2000, 2001, 2007, 2008), Haloacetic Acid mcl exceeded (2003, 2005)		
Monitoring Violations	9	Lead and copper sampling 2008; monitoring of surface water treatment 2001; CCR inadequate reporting 2002; Nitrate monitoring 2000; Alkalinity monitoring 2000; Arsenic monitoring 2000; Nitrate/Nitrite monitoring 2000(2); Benzene monitoring 2001		
DW Compliance Rate[4]	100% (2009)	100% (2010)		

Notes:

(1) Operations and maintenance costs (exc. purchased water, debt, depreciation) per volume (mgd) delivered.

(2) Distribution break rate is the number of leaks and pipeline breaks in 2009 per 100 miles of distribution piping.

(3) Violations since 1995, as reported by the U.S. EPA Safe Drinking Water Information System.

(4) Drinking water compliance is percent of time in compliance with National Primary Drinking Water Regulations in 2009.

WASTEWATER SERVICES

NATURE AND EXTENT

CCWD provides wastewater collection, treatment and disposal services in 13 communities in the County:

- Arnold: The Arnold WWTP receives flows primarily from the Arnold commercial corridor, White Pines, and residences in the area, as well as from a school and mobile home park in Avery just outside the improvement district bounds. The Arnold WWTP provides secondary treatment.
- Copper Cove: The largest of CCWD's wastewater systems, the system serves 1,751 connections in the communities of Copper Cove, Conner Estates, Copper Meadows, Saddle Creek and Lake Tulloch. CCWD has recently expanded the system capacity to serve this high-growth service area. The Copper Cove system provides tertiary treatment.
- Country Houses: This small system provides primary treatment and disposal at onsite leachfields to 25 connections on septic systems located east of Dorrington.
- Forest Meadows: This system provides tertiary treatment, storage and disposal to 610 connections in the residential golf course community. The Forest Meadows service area is approximately four miles east of Murphys.
- Indian Rock: This small system provides secondary treatment via recirculating bed sand filtration and disposal at onsite leachfields to 20 connections on septic systems. The service area is located 1.7 miles southeast of Murphys.
- La Contenta: This system provides tertiary treatment, storage and disposal to 960 connections in the La Contenta subdivision, New Hogan and adjacent areas. The service area is located adjacent to Valley Springs.
- Millwoods: This system provides secondary treatment via septic tank settling and disposal at onsite leachfields to 194 connections on modified, forced-storage septic tanks. The service area is located in northern Arnold on Manuel Road.
- Sequoia Woods/Mountain Retreat: This small system provides disposal at an onsite leachfield to 23 connections on septic systems; it was built in 1974 and transferred to CCWD in 1984. The service area encompasses two small subdivisions—Mountain Retreat and Sequoia Woods—with vacation properties located south of Big Trees State Park. Mountain Retreat is a 30-unit condo complex, and Sequoia Woods is a 10-unit townhouse complex. CCWD plans to expand the Sequoia Woods leachfield to remedy operational issues.
- Six Mile: A collection system conveys effluent from 66 connections on septic tanks to the City of Angels for treatment and disposal. CCWD contracts with the City of Angels for these services.
- Southworth: This small system provides secondary treatment via recirculating sand filters, a storage pond and disposal to an onsite sprayfield. The facility serves 58 connections on septic tanks within the Southworth Ranch Estates subdivision located southeast of Wallace.
- Vallecito/Douglas Flat: This system provides secondary treatment to 256 connections in the communities of Vallecito and Douglas Flat located near Murphys.

- West Point: This system provides secondary treatment to 163 connections on septic tanks in the West Point community.
- Wilseyville Camp: This small system provides secondary treatment via an aerated pond and 10-acre spray field disposal system. It serves 29 connections and is considered at buildout. Wilseyville is located 0.5 miles from the West Point WWTP, but CCWD found it would not be cost-effective to combine the two systems.

With the exception of Six Mile Village, CCWD provides collection treatment and disposal services directly with district staff. In addition to these communities, CCWD also operates and maintains WCSD's wastewater facilities by contract and provides back up emergency services to other providers when necessary.

LOCATION

Although CCWD's adopted boundaries nearly encompass the entire county, the District's wastewater services are limited to these 13 communities. All other areas, excluding those served by the other providers reviewed in this MSR, are considered unserved and have private septic systems. The District maintains GIS mapping of its wastewater service areas.

Table 7-6: CCWD Wastewater Profile

Wastewater Service Configuration	
Service Configuration	
Service Type	**Service Provider(s)**
Wastewater Collection	CCWD
Wastewater Treatment	CCWD
Wastewater Disposal	CCWD
Recycled Water	CCWD
Service Area	
Collection:	Arnold, Copper Cove, Country Houses, Forest Meadows, Indian Rock, La Contenta, Millwoods, Sequoia Woods, Six Mile, Southworth, Vallecito, West Point and Wilseyville Camp
Treatment:	Same as collection
Recycled Water:	La Contenta, Saddle Creek and Forest Meadows golf courses
Sewer Connection Regulatory/Policies	
Buildings within an established CCWD wastewater district are required to connect to the CCWD sewer system, if available.	
Onsite Septic Systems in Service Area	
The Country Houses, Indian Rock, Millwoods, Sequoia Woods, Six Mile, Southworth, and West Point service areas are comprised of customers on septic systems. There are less than 10 septic systems in the Vallecito service area and there may be a small number in the Arnold area; otherwise, CCWD is not aware of septic systems within its other wastewater service areas.	
Note: (1) NA: Not Applicable; NP: Not Provided.	

continued

Wastewater Service Demand				
Service Demand	**Connections (2010)**			**Flow (mgd)**
Type	**Total**	**Residential**	**Commercial/ Industrial**	**Average**
Arnold	457	317	140	0.081
Copper Cove	1,741	1,687	54	0.220
Country Houses	25	25	0	0.006
Forest Meadows	604	598	6	0.065
Indian Rock	20	20	0	0.003
La Contenta	960	909	51	0.167
Millwoods	195	195	0	0.013
Sequoia Woods	23	23	0	0.005
Six Mile	65	65	0	
Southworth	58	58	0	0.012
Vallecito/Douglas Flat	254	244	10	0.051
West Point	163	123	40	0.015
Wilseyville Camp	28	28	0	0.003

Projected Demand (in millions of gallons per day)				
	2005	**2010**	**2015**	**2025**
Avg. dry weather flow	0.66	1.2089	1.754	2.3145
Peak wet weather flow	NP	NP	NP	NP

continued

Wastewater Service Adequacy				
Regulatory Compliance Record, 1/2000-5/2012				
Formal Enforcement Actions		5	Informal Enforcement Actions	29
Enforcement Action Type	**Date**	**Facility**	**Description of Violations**	
Administrative Civil Liability	3/9/2012	Copper Cove WWRF	Effluent conditions (57)	
Notice of Violation	12/19/2011	Copper Cove	Sanitary sewer overflow	
Notice of Violation	6/22/2011	West Point	Order Conditions (4)	
Notice of Violation	6/19/2011	Southworth Ranch	Order Conditions	
Notice of Violation	6/1/2011	Vallecito	Order conditions	
Staff Enforcement Letter	8/30/2010	La Contenta	Order conditions	
Notice of Violation	6/16/2009	CCWD	Deficient reporting	
Notice of Violation	4/13/2009	Arnold	Deficient reporting	
Oral Communication	4/6/2009	Millwoods	Deficient reporting (5)	
Notice of Violation	1/29/2009	Saddle Creek	Late report	
Notice of Violation	7/17/2007	Millwoods	Deficient reporting (16)	
Time Schedule Order	8/23/2006	Saddle Creek	Effluent conditions (9)	
Notice of Violation	8/3/2006	Southworth Ranch	Order conditions	
Notice of Violation	5/17/2006	Copper Cove	Order conditions(19), effluent conditions (3), sanitary sewer overflow (2)	
Notice of Violation	2/7/2006	La Contenta	Order conditions (6), deficient reporting (19)	
Notice of Violation	9/1/2005	Forest Meadows	Order conditions (2)	
Notice of Violation	8/3/2005	Arnold	Order conditions	
Clean-up and Abatement Order	3/28/2005	Forest Meadows	Order conditions (4)	
Notice of Violation	9/9/2004	Copper Cove	Sanitary sewer overflow (3)	
Notice of Violation	3/6/2003	Southworth Ranch	Order conditions (24), deficient monitoring (13), effluent conditions (2)	
Notice of Violation	10/10/2002	Forest Meadows	Order conditions	
Clean-up and Abatement Order	8/29/2002	Forest Meadows	Order conditions	
Notice of Violation	8/8/2002	Arnold	Order conditions	
Notice of Violation	4/15/2002	Forest Meadows	Order conditions	
Clean-up and Abatement Order	4/11/2002	La Contenta	Order conditions (3)	
Notice of Violation	1/29/2002	West Point	Effluent conditions (12)	
Notice of Violation	6/1/2001	Copper Cove	Effluent conditions (3)	
Oral Communication	12/15/2000	Copper Cove	Effluent conditions (30)	
Notice of Violation	11/17/2000	Copper Cove	Effluent conditions (35)	
Notice of Violation	11/14/2000	Wilseyville	Order conditions	
Staff Enforcement Letter	11/8/2000	Indian Rock	Groundwater degredation (4)	
Notice of Violation	10/26/2000	Copper Cove	Unauthorized discharge (3)	
Notice of Violation	10/25/2000	La Contenta	Order conditions (65)	
Notice of Violation	4/21/2000	Copper Cove	Unauthorized discharge	
Notice of Violation	1/14/2000	Forest Meadows	Unauthorized discharge	
Total Violations, 2005-9				
Total Violations		327	Priority Violations	120
Violation Type, 2005-9				
Category 1 Pollutant in Effluent		5	Other Pollutant in Effluent	17
Order or Code Violation[1]		97	Groundwater Degradation	44
Deficient Monitoring		13	Late or Deficient Reporting	147
Service Adequacy Indicators				
Sewer Overflows 1/1/2008 to 8/15/2010[2]		6	Sewer Overflow Rate[3]	9
Treatment Effectiveness Rate[4]		99%	Response Time Policy[5]	

Notes:
(1) Order or Code Violations include sanitary sewer overflow violations.
(2) Total number of overflows experienced (excluding those caused by customers) from 1/1/2008 to 8/15/2010 as reported by the agency.
(3) Sewer overflows from 1/1/2008 to 8/15/2010 (excluding those caused by customers) per 100 miles of collection piping.
(4) Total number of compliance days in 2009 per 365 days.
(5) Agency policy, guidelines or goals for response time between service call and clearing the blockage.

continued

Wastewater Rates and Financing

Wastewater Rates-Ongoing Charges FY 11-12[1]						
	Rate Description			Avg. Monthly Charges		Demand[2]
Residential	Flat bimonthly rate			$67.50		250 gpd
Rate Update						
Last Rate Change	7/1/2011	Frequency of Rate Changes		Annual		
Wastewater Development Fees and Requirements						
Connection Fee Approach	Based on equivalent flow to single-family dwelling unit					
Connection Fee Timing	Upon notification of approval of connection application					
Last updated:	7/1/2011					
Connection Fee Amount[3]	Forest Meadows:	$10,466	Vallecito:	$11,165	West Point:	$5,500
	Copperopolis:	$ 9,680	Arnold:	$9,294	Southworth:	$5,500
	La Contenta:	$15,742				

Wastewater Enterprise Revenues, FY 10-11			Expenditures, FY 10-11	
Source	Amount	%		Amount
Total	$4,953,442	100%	Total	$6,634,352
Rates & Charges	$3,902,613	79%	Administration	NP
Property Tax	$635,178	13%	O & M	$4,980,344
Grants	$0	0%	Capital Depreciation	$1,095,150
Interest	$106,590	2%	Debt	$116,812
Connection Fees	$84,710	2%	Capital Outlays	$442,046
Other	$224,351	6%	Other	$0

Notes:

(1) Rates include wastewater-related service charges and strength and flow charges. Average monthly charges calculated based on average consumption. Rates are rounded for presentation.

(2) Wastewater use assumptions by customer type were used to calculate average monthly charges. Assumed use levels are 250 gallons per home per day, and are consistent countywide for comparison purposes. For further details, see Chapter 4.

(3) Connection fee amount is calculated for a single-family home.

SUMMARY OF DETERMINATIONS

The following determinations summarize the findings of this report for water and wastewater services and infrastructure provided by CCWD.

GROWTH AND POPULATION PROJECTIONS

- The estimated population in 2010 in CCWD bounds was 45,870. There were approximately 19,551 residents in CCWD water service areas, and 6,888 residents in CCWD wastewater service areas.
- There are a number of planned or proposed developments in or adjacent to CCWD service areas. The larger projects are in and near the Copper Cove area (4,345 potential dwelling units). Other growth areas include Vallecito (117 potential new units), Ebbetts Pass (704 potential new units), Jenny Lind/La Contenta (910 potential new units) and Southworth (22 potential units).
- CCWD is planning for growth in irrigated agricultural acreage.

PRESENT AND PLANNED CAPACITY OF PUBLIC FACILITIES AND ADEQUACY OF PUBLIC SERVICES, INCLUDING INFRASTRUCTURE NEEDS AND DEFICIENCIES

- Water services appear to be adequate based on State inspection reports, compliance rates with drinking water regulations, a recent record of regulatory compliance, response times, and planning efforts. The District could improve by providing information on its existing domestic water service areas.
- CCWD will eventually need to increase water supplies, treatment capacity, storage and extend the distribution system to serve growth in the Copper Cove and Jenny Lind service areas.
- Water treatment capacity is adequate to serve existing connections. State inspection reports indicate that CCWD's WTPs are well-run and well-maintained. The Ebbetts Pass WTP is approaching capacity for peak demand, primarily due to the increased reliance in recent years of Blue Lake Springs MWC on CCWD for water supplies. The Jenny Lind WTP needs flood control improvements.
- Water storage capacity is adequate in most service areas. The West Point area needs additional storage.
- From a cost perspective, pipeline replacement is the most significant water infrastructure need. CCWD's water loss rate is relatively high. The Ebbetts Pass and Sheep Ranch distribution systems include water mains in poor condition that need replacement. The West Point distribution system needs more pipeline capacity to provide adequate fire flow.
- CCWD engages in a variety of water planning efforts, and has prepared master plans for its Copper Cove, Ebbetts Pass, Jenny Lind and West Point systems. Water planning efforts appear adequate.
- CCWD will eventually need to increase wastewater treatment capacity, storage and extend the collection systems to serve growth in the Arnold, Copper Cove, La Contenta and Jenny Lind service areas.

- The Copper Cove WWTP needs to be upgraded to comply with regulatory requirements.
- CCWD's wastewater treatment plant capacity is not adequate to serve existing connections. The Copper Cove and Vallecito/Douglas Flat WWTPs need more storage and disposal capacity. La Contenta needs more disposal capacity. The Arnold WWTP needs another clarifier. The Millwoods system needs a settling basin.
- CCWD wastewater collection system needs include replacement of force main segments in Forest Meadows and Six-Mile Village. Septic tank discharge pipelines and septic tank lids need to be replaced in Millwoods and Six-Mile Village to prevent overflows and reduce infiltration and inflow. The La Contenta system needs improvements, and CCWD needs to evaluate the causes of high infiltration and inflow in the La Contenta system.
- Wastewater services offered by CCWD appear to be adequate based on treatment effectiveness, response times and planning efforts.

FINANCIAL ABILITY OF AGENCIES TO PROVIDE SERVICES

- The District reported that its current financing level is not adequate to deliver services, and that additional funding is needed to deliver adequate service levels.
- The District's operating costs are higher than other providers. Its capital reinvestment rate was healthy during the housing boom but has failed to keep pace with depreciation during the recession. Unrestricted financial reserves were relatively low compared with other providers, particularly in the wastewater operation.
- CCWD has quantified capital improvement needs in its Water and Wastewater Master Plans. Planned capital improvement projects included in the CIP total $100 million.
- CCWD's rates and fees were last updated in 2011. The District's water and wastewater rates are near the average in the County. Connection fees are comparable to other providers in Calaveras in most areas, although La Contenta wastewater connection fees and Ebbetts Pass water connection fees are higher than average.
- CCWD capital outlays have been significantly lower than depreciation, indicating a low capital investment rate, during the recession. Financial reserves were somewhat sparse.

STATUS OF, AND OPPORTUNITIES FOR, SHARED FACILITIES

- CCWD has interties with VSPUD and Blue Lake Springs MWC for emergency water sharing. UPA relies on CCWD's upstream storage and conveyance facilities. CCWD relies on CPUD facilities for supplemental water supplies in its West Point service area. The District collaborates with other Mokelumne River stakeholders on a conjunctive use project, and participates in regional water planning. CCWD provides contract staffing services to Wallace CSD.
- There are opportunities for facility-sharing with other agencies, including EBMUD and CPUD, to convey Mokelumne River water supplies to areas in Western Calaveras.
- With regard to wastewater services, facility sharing practices and collaboration efforts include discharging to City of Angels treatment facilities, financing of a regional wastewater study, and collaboration with EBMUD on joint solutions to wastewater capacity needs in the Lake Camanche area.

- CCWD is cooperating in the creation of a joint sludge disposal facility with the City and SASD. In addition, over the long-term, CCWD may dispose flows from CCWD's Vallecito and Douglas Flat communities to the City of Angels.

ACCOUNTABILITY FOR COMMUNITY SERVICE NEEDS, INCLUDING GOVERNMENTAL STRUCTURE AND OPERATIONAL EFFICIENCIES

- CCWD demonstrated full accountability through its disclosure of information as indicated by the District's cooperation in providing all requested information, meeting for interviews, and providing review and comments during the MSR process.
- Accountability is best ensured when contested elections are held for governing body seats, constituent outreach is conducted to promote accountability and ensure that constituents are informed and not disenfranchised, and public agency operations and management are transparent to the public. CCWD demonstrated accountability with respect to all of these factors.
- Local accountability is limited by the large, nearly countywide nature of the District. Constituents within CCWD water and wastewater service areas do not exercise as much local control through the election process as in smaller districts. County residents outside CCWD water and wastewater service areas participate in elections.
- Several small districts rely on CCWD to some extent for contract maintenance services or wholesale water service. These districts face some challenges in terms of service adequacy. A service option for such districts is to transfer services to CCWD with subsequent dissolution by LAFCO. While CCWD is open to such an option, it does not actively seek out possible consolidations. Interested districts must approach CCWD. For example, Wallace CSD had expressed interest in takeover of its water and wastewater functions by CCWD.
- Although CCWD's principal act prevents it from providing wastewater services within the territory of a city or special district without its consent, the act does not clearly prevent CCWD from providing water services within the territory of another water provider without its consent. LAFCO has the authority to close this loophole when updating the CCWD SOI for domestic water service.

SOI OPTIONS AND DETERMINATIONS

The CCWD water SOI encompasses all territory in the County except the California Criminal Justice Center. The CCWD wastewater SOI encompasses all territory in the County except the California Criminal Justice Center and Mountain Oaks PAWS site.

AGENCY PROPOSAL

Although CCWD has not clearly made an SOI proposal, staff at the District have questioned why CCWD should have an SOI and argued that the District's SOI is effectively countywide. Staff indicated the District "prefers to maintain a countywide sphere of influence while not imposing upon those SOIs dedicated to other water and wastewater providers." The District's position is that the current countywide SOI is appropriate and essential in light of the countywide functions for which CCWD was established.

SOI OPTIONS

Six potential options have been identified with respect to the CCWD water and wastewater SOIs.

Option #1: Reduce SOIs to exclude territory in other local agencies' SOIs

The CCWD water and wastewater SOIs adopted by LAFCO presently include territory served by other agencies and within the bounds of other agencies. This appears to have been done accidentally, as the 2004 Water MSR reasoned that the SOI "will be influenced by changes to the SOIs of the other public agency water purveyors in the County as they expand their service territories." By excluding territory in the SOIs of other local agencies providing water and wastewater services, LAFCO would more clearly communicate to property owners which agency is the likely future service provider and would reduce the potential for inter-agency conflicts. Also under this option LAFCO would clarify the limitation on services outside the CCWD SOIs.

Option #2: Update SOIs to exclude territory outside Community Plan Areas

This option would remove from the CCWD water and wastewater SOIs not only 1) territory in other local agencies' SOI, but also 2) territory that is not planned for development and is outside Community Plan Areas. By excluding territory that is not likely to develop, LAFCO would more clearly communicate to property owners whether or not property is likely to be included in CCWD water and wastewater service areas in the future.

Option #3: Update SOIs to include only planned growth areas logically served by CCWD

This option is more restrictive than option #2, and would remove from the CCWD water and wastewater SOIs not only 1) territory in other local agencies' SOI, and 2) territory that is not planned for development and is outside Community Plan Areas, but also 3) territory in Community Plan Areas where there are no presently planned growth areas. This would exclude territory that is not expected to develop in the near future.

Option #4: Include Wallace CSD

The fourth option is to include in the CCWD water and wastewater SOI territory within the existing Wallace CSD SOI to signal the likelihood of CCWD taking over water and wastewater services in Wallace. This option could be combined with options 1, 2 or 3 above.

Option #5: Include MHSD and/or MSD in CCWD Wastewater SOI

The fifth option is to include in the CCWD wastewater SOI territory within the existing Mokelumne Hill SD and/or Murphys SD SOI to signal the desirability of CCWD taking over MHSD and/or MSD wastewater services. This option could be combined with options 1, 2 or 3 above. See chapters 10 and 11 for further details.

Option #6: Include Private Water Companies

The sixth option is to include in the CCWD water SOI territory within the private water companies, i.e., Blue Lake Springs MWC, Snowshoe Springs Association and Fly-In Acres, to allow for these private companies to elect to be served directly by CCWD. CCWD already provides wholesale water services to these areas. This option could be combined with options 1, 2 or 3 above.

SOI ANALYSIS

The CCWD boundary is nearly countywide which may have made some sense at the time of the District's formation because CCWD was initially intended to acquire and protect water rights throughout the County. CCWD continues to have certain geographically expansivefunctions in its roles as guardian of area-of-origin and other water rights, as groundwater monitor, and in providing wholesale water supplies to other service providers with failed or low-yielding wells. In addition, CCWD collects some property taxes from properties throughout the County. Although it makes sense for CCWD to continue providing geographically expansive services (in exchange for countywide property taxes that it receives), it is neither logical nor fair for CCWD to be empowered to provide retail services within another agency's territory.

A problem that dates back to CCWD formation is that the principal act did not provide any restrictions on CCWD's ability to provide retail water services within territory already being served by another local agency or a private company. The principal act precludes CCWD from providing wastewater services within the bounds of another wastewater provider without that provider's consent. By contrast, other countywide water and wastewater districts, such as Amador Water Agency, were formed under principal acts that clearly precluded them from infringing on the territory and rights of other water and wastewater purveyors. In order to logically organize the service areas of water and wastewater providers in the County, LAFCO establishes SOIs (which often extend beyond agency boundaries) and these SOIs carry little weight if they overlap with another providers' SOI. In order to ensure that SOIs for all water and wastewater agencies are logical, LAFCO should seriously consider clarifying precisely what the CCWD water and wastewater SOIs are doing. For example, the water SOI should clearly not restrict CCWD's ability to serve as guardian for area-of-origin water rights, provide irrigation water services outside other irrigation providers' SOIs, and to conduct groundwater management activities. This report also suggests that LAFCO seriously consider removal of other water and wastewater agencies' SOI areas from the CCWD water and wastewater SOIs.

LAFCO may wish to further restrict where CCWD may provide domestic water as well as wastewater services to developable areas that are adjacent to or within proximity of existing infrastructure. The vision of the forthcoming County General Plan Update is to do precisely that, and to prevent leapfrog development that requires expensive infrastructure extension. In order to further restrict CCWD domestic water and wastewater activities to areas that are logical future service areas, LAFCO could take several different approaches. SOI Option #2 would focus CCWD SOI territory in areas being designated as Community Plan Areas in the County General Plan. SOI Option #3 would focus CCWD SOI territory only in areas with proposed and planned development. Yet another approach would be based on zoning approved in the County General Plan Update, and might allow inclusion in the CCWD's SOIs of residential at or above particular densities as well as commercial and industrial zoned lands, but might exclude agriculture and low-density residential zoned lands.

Wallace CSD has proposed that CCWD take over its water and wastewater services. If LAFCO would like Wallace CSD to be able to initiate a change in its powers to exclude these services, then removal of the area from Wallace CSD's water and wastewater SOIs would be logical, as would inclusion of these areas within CCWD water and wastewater SOIs.

Although MSD has not proposed a CCWD takeover, MSD has demonstrated a number of deficiencies as discussed elsewhere in this report. By establishing a zero SOI for MSD and placing the territory within the CCWD wastewater SOI, LAFCO would empower MSD property owners to initiate dissolution and consolidation with CCWD.

Finally, the three private water companies in the Arnold area receive wholesale water services from CCWD, and are located adjacent to CCWD's service area. Fly-In Acres was considering formation of a CCWD assessment district to finance infrastructure replacement at the time this report was drafted. The other two private companies also face service challenges. Hence, LAFCO may wish to empower local property owners in Blue Lake Springs and Snowshoe to be taken over by CCWD.[173]

DRAFT SOI DETERMINATIONS

Present and Planned Land Uses

The District bounds encompass a wide variety of land uses, as the boundary is nearly countywide. CCWD service areas are primarily composed of community centers and residential centers with residential, commercial and public land uses.

Present and Probable Need for Public Facilities and Services

There is a clear and present need for CCWD domestic water and wastewater facilities and services within existing CCWD service areas. Furthermore, there is clearly a present need for CCWD to continue providing countywide services for which CCWD collects countywide property taxes.

There is a probable need for CCWD domestic water and wastewater facilities and services within adjacent growth areas outside the SOIs of other water and wastewater service providers. Such areas with a probable need for such public facilities and services are in and near lands in the County where there are existing communities.

Present Capacity of Public Facilities and Adequacy of Public Service

Water facilities and services appear to be adequate based on State inspection reports, recent regulatory compliance, treatment effectiveness rates, and response times. There are needed improvements at existing water facilities, and particularly pipeline replacement. CCWD conducts master planning, capital improvement planning, growth planning and other best management practices to provide for such improvements, although the District has in recent years struggled to keep its capital investment rate even with depreciation. The District could improve by providing information on its existing domestic water service areas.

Wastewater services appear to be adequate based on treatment effectiveness, response times and planning efforts. Wastewater facilities need improvements. CCWD's extensive planning efforts and planned rate increases indicate needed improvements are likely to be made.

Existence of Any Social or Economic Communities of Interest

For purposes of the CCWD domestic water SOI, communities of interest within the District's boundary and SOI include the unincorporated communities of Arnold, Copperopolis, La Contenta, Sheep Ranch, and West Point where CCWD is the existing service provider. Other communities of interest within the existing CCWD water SOI are communities that are served by other local agencies who require economies of scale in order to contain costs and a meaningful SOI in order to plan future facilities and services.

[173] Under new law (AB 54), LAFCO may detach territory from an MWC and annex it to a city or special district, among other powers.

For purposes of the CCWD wastewater SOI, communities of interest within the District's boundary and SOI include the unincorporated communities of Arnold, Copper Cove, Country Houses, Forest Meadows, Indian Rock, La Contenta, Millwoods, Sequoia Woods, Six Mile, Southworth, Vallecito, West Point and Wilseyville Camp where CCWD is the existing service provider. Other communities of interest within the existing CCWD wastewater SOI are communities that are served by other local agencies who require economies of scale in order to contain costs and a meaningful SOI in order to plan future facilities and services.

8. CALAVERAS PUBLIC UTILITY DISTRICT

Calaveras Public Utility District (CPUD) provides treated water services to Mokelumne Hill, San Andreas, Paloma, and portions of Glencoe and Railroad Flat, as well as raw water services.

AGENCY OVERVIEW

FORMATION AND BOUNDARY

CPUD was formed on January 18, 1934 as an independent special district.[174] The District was formed to provide water services to the communities of Mokelumne Hill and San Andreas. Shortly after its formation, CPUD acquired a Gold Rush era system of ditches and flumes from the Mokelumne River Power and Water Company.

The principal act that governs the District is the Public Utility District Act.[175] The principal act empowers the District to acquire, construct, own, operate, control, or use works for supplying light, water, power, heat, transportation, telephone service, or other means of communication, or means for the disposal of garbage, sewage, or refuse matter.[176] In addition, the District may acquire, construct, own, complete, use, and operate a fire department, street lighting system, public parks and other recreation facilities, and provide for the drainage of roads, streets, and public places.[177] Districts must apply and obtain LAFCO approval to exercise services authorized by the principal act but not already provided (i.e., latent powers) by the district at the end of 2000.[178]

The boundaries of CPUD extend from Mokelumne Hill in the northwest along the Mokelumne River to Glencoe, extends an eastern arm along Ridge Road toward Railroad Flat, and south to the South Fork Calaveras River including the community of San Andreas. The boundary area includes a non-contiguous area in the community of Paloma, as shown on Map 8-1. The District has a boundary area of approximately 38 square miles.

The CPUD sphere of influence is substantially more expansive than the CPUD boundary area, encompassing about 159 square miles. Beginning near the Channel Arm of Pardee Reservoir, the northern SOI runs along the Mokelumne River. Near Glencoe the SOI runs east along the South Fork Mokelumne River beyond Railroad Flat Road. The SOI extends east beyond Railroad Flat Road, including the community of Mountain Ranch. The SOI runs south along San Antonio Creek, the South Fork Calaveras River and along the north of New Hogan Reservoir.

Boundary History

Since its 1934 formation, there have been five annexations of territory to CPUD. In 1967, three areas totaling 236 acres, including the County Government Center, were annexed to the District. In

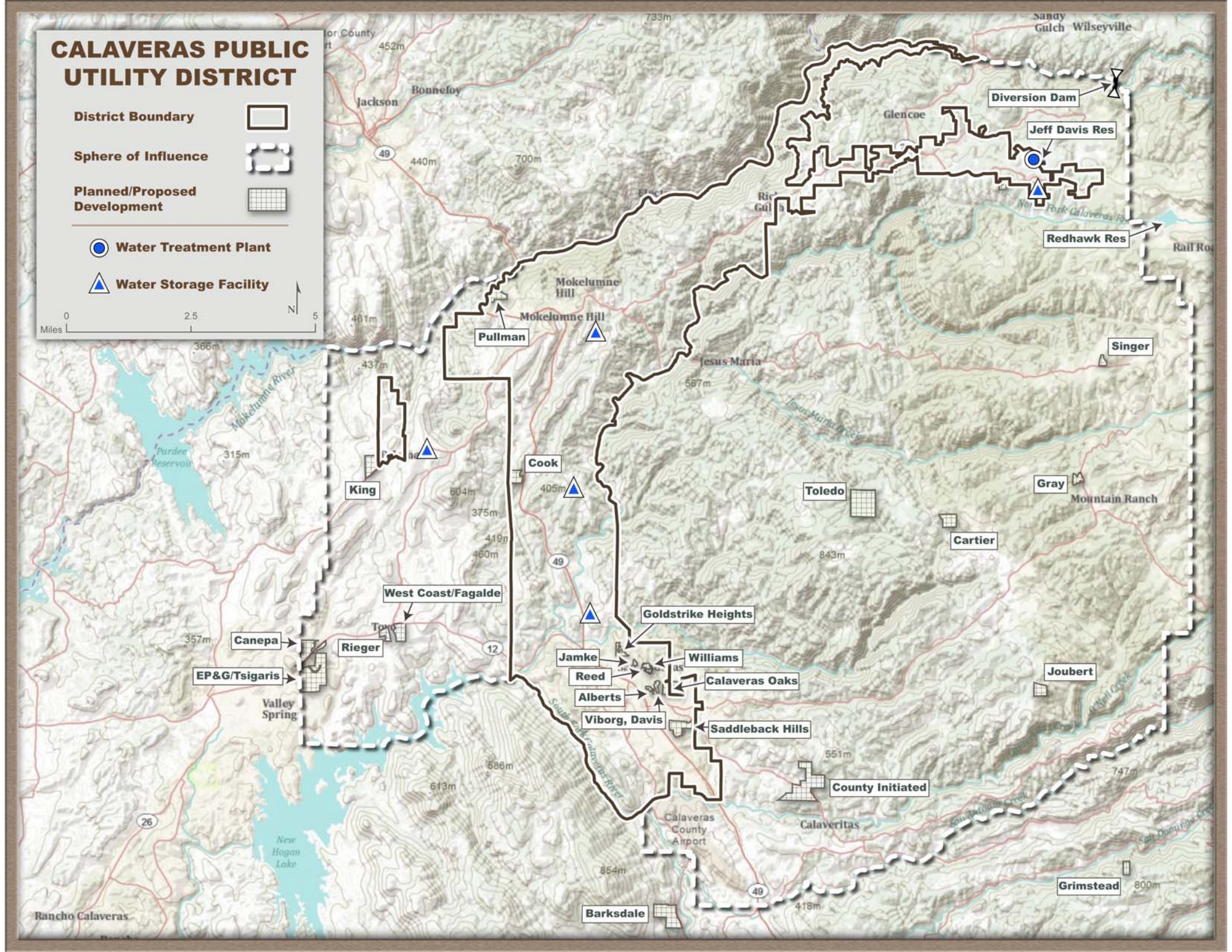
[174] Board of Equalization Official Date.

[175] Public Utilities Code §15501-17501.

[176] Public Utilities Code §16461.

[177] Public Utilities Code §16463.

[178] Government Code §56824.10.


CALAVERAS PUBLIC UTILITY DISTRICT
District Boundary
Sphere of Influence
Planned/Proposed Development
Water Treatment Plant
Water Storage Facility
0
2.5
5
Miles
N
Diversion Dam
Jeff Davis Res
Redhawk Res
Pullman
Mokelumne Hill
Singer
Jesus Maria
Cook
King
Toledo
Gray
Mountain Ranch
Cartier
West Coast/Fagalde
Goldstrike Heights
Canepa
Rieger
EP&G/Tsigaris
Jamke
Williams
Reed
Calaveras Oaks
Alberts
Viborg, Davis
Saddleback Hills
Joubert
County Initiated
Calaveritas
Calaveras County Airport
Grimstead
Barksdale
Valley Springs
Rancho Calaveras
Jackson
Bonnefoy
Glencoe
Wilseyville
Sandy Gulch
Mokelumne River
Pardee Reservoir
New Hogan Lake
South Fork Calaveras River
North Fork Calaveras River
Jesus Maria Creek
Rail Road

1971, the Des Jardin annexation brought 58 acres into CPUD bounds. In response to drought and drying of wells, the 437-acre community of Paloma annexed to CPUD in 1977. The Gold Hunter Hills subdivision annexed to CPUD in 1992. Most recently, CPUD annexed 2,973 acres in 2004 to add two areas already being served: Railroad Flat along Ridge Road (served by CPUD since 1975) and an area along SR-49 in east San Andreas (served by CPUD since 1965).

Table 8-1: CPUD Boundary History

Project Name	LAFCO Resolution #	BOE Effective Date	Change Type	Acres	Recording Agency
Formation		1/18/1934	Formation		BOE
County Gov. Center, Wykle & Gold Strike Rd.	67-6	12/1/1967	Annexation	236	LAFCO/BOE
Leonard Ranch[1]	71-9		Annexation	1,130	LAFCO
Des Jardin Annexation	71-10	12/30/1971	Annexation	58	LAFCO/BOE
Paloma	77-1	10/27/1977	Annexation	437	LAFCO/BOE
Gold Hunter Hills	92-3	5/6/1992	Annexation	85	LAFCO/BOE
Ridge Road/Railroad Flat & Hwy 49/San Andreas	04-02	11/3/2004	Annexation	2972.63	LAFCO/BOE

Notes:

1) After LAFCO adopted the annexation resolution, CPUD rescinded its original annexation due to a property description error, and adopted a new resolution. There is no LAFCO record of a subsequent annexation resolution, and the annexation was never formally submitted to Board of Equalization. In other words, the annexation was never completed.

LOCAL ACCOUNTABILITY AND GOVERNANCE

The District has a five-member governing body. Board members are elected at large to staggered four-year terms. The last contested election for a board seat occurred in 2009 when four candidates ran for three seats; the 2007 and 2011 elections were uncontested.

Table 8-2: CPUD Governing Body

Governing Body				
	Name	**Position**	**Began Serving**	**Term Expires**
Members	Robert Jaich	President	1989	2015
	John Lavaroni	Member	1991	2013
	Charlie Moore	Member	1984	2013
	Clifford Overmier	Member	2001	2013
	Dave Ortegel	Member	1985	2013
Manner of Selection	Elected at-large			
Length of Term	Four-year term			
Meetings	Date: Second Tuesday of the month, 7:00 p.m.		Location: District office	
Agenda Distribution	Posted at district office and online			
Minutes Distribution	Available online and hardcopy by request			

continued

CPUD Contact Information	
Contact	District Manager
Mailing Address	506 West St. Charles St., PO Box 666, San Andreas, CA 95249
Phone	209-754-9442
Email/Website	cpud@goldrush.com http://www.goldrush.com/~cpud/

District outreach efforts include agendas posted online and at the CPUD office, notices accompanying the water bill, and notifications in the local newspaper when necessary. The District maintains a website where it posts meeting agendas and minutes; the website does not contain a map, rates or budget information.

With regard to customer service, complaints may be submitted in person, by phone or email, or in writing to the district manager or a board member. There is an answering service to ensure that customers can reach the District should the need arise. The District received 25 complaints in CY 2008, of which 18 related to leaks, five to water pressure, and two to odor/taste.

The District demonstrated partial accountability in its disclosure of information and cooperation with LAFCO. The agency responded to LAFCO's written questionnaires and cooperated with LAFCO map inquiries and some of LAFCO's document requests.

MANAGEMENT

The District's staff consists of seven full-time employees—a general manager, a secretary, a treatment plant supervisor, and four field staff members—and one part-timer field staff member. The general manager is responsible for managing day-to-day operations. The field staff report directly to the treatment plant supervisor who, in turn, reports to the general manager.

Employees are evaluated on an annual basis, and more frequently when necessary. The District did not provide specifics as to how it monitors its productivity. The District operates employee training programs, including safety training.

The State Department of Public Health inspects District facilities and practices annually, and most recently described the water system operation as good. The District compares its water rates with similar service providers, but does not practice performance benchmarking/comparisons with other providers.

The District prepared a water master plan in 2008 that identified capital project priorities for a six-year planning horizon. The plan identifies annual pipe replacement costs, and a need to begin planning for an expanded WTP within the next 10-15 years. Prior to the master plan, CPUD most recently prepared a capital improvement plan in 2005. Capital improvements are also addressed annually in the District's budget.

Financial planning efforts include annual preparation of budgets, annually audited financial statements, and occasional rate studies (most recently in 2001). The most recent audited financial statement provided by the District was for FY 10-11. The auditor found deficiencies relating to a need for the District to maintain a listing of reserve requirements for its long-term debt, to have written financial and accounting policies. The District's most recent rate study was conducted in 2001; nonetheless, the District has regularly raised its rates.

SERVICE DEMAND AND GROWTH

The District bounds encompass a variety of land uses, as they include the communities of San Andreas and Mokelumne Hill, in addition to the Highway 49 corridor between the two. In the

community of San Andreas, land uses include residential, commercial, public, and parks and recreation land uses; and in the community of Mokelumne Hill, land uses include residential, commercial, agricultural, and public land uses. Significant planned development is associated with both communities. Other land uses within CPUD include agricultural preserve, timberland and mineral resources.

Local businesses include commercial and institutional operations located in the communities of San Andreas and Mokelumne Hill. Major employers within the District include Calaveras County, Mark Twain St. Joseph's Hospital, Mark Twain Convalescent Hospital, and Calaveras Unified School District.

The District considers its customer base to be the water connections served and the residents within the District boundaries. As of 2009, the District provided water services to 1,985 water connections—1,461 single-family residential, 285 multi-family residential, 228 commercial, seven public, no industrial, and four irrigation connections. The estimated number of residents in 2009 was 3,915, based on analysis of connections served and 2010 DOF household size data. The District's population density was approximately 50 per square mile in 2009, compared with the countywide density of 45 per square mile. The District's projected population growth rate from 2009 to 2030 is 49 percent (two percent annually), which is somewhat higher than the countywide projected growth of 32 percent over that period.

Table 8-3: Proposed and Planned Development Activity in CPUD Vicinity

Name	Acres	Dwelling units	Location	Vis-à-vis CPUD bounds	Status
Residential Projects					
Saddleback Hills	63	158	San Andreas	In bounds	Inactive
Ventana	13	50	San Andreas	In bounds	Env. Review
Gold Strike Heights	14	27	San Andreas	In bounds	Map approved
Calaveras Oaks	28	25	San Andreas	Partly in bounds	Map approved
San Andreas Sky Estates	8	24	San Andreas	In bounds	Pending CEQA
Unnamed	4	19	San Andreas	In bounds	Pending other
Unnamed	5	17	San Andreas	In bounds	Pending other
Alan King	56	11	Paloma	In SOI	Map approved
Unnamed	7	11	San Andreas	In bounds	Map approved
Pullman	40	6	Mokelumne Hills	In bounds	Map approved
Trinkle	10	2	Glencoe	In bounds	Pending other
	248	350			
Non-Residential Projects					
Calaveras County Jail	57		San Andreas	In bounds	Env_Review
Zeman (commercial)	24		Railroad Flat	In bounds	Pending CEQA
Fagalde (industrial)	45	10	Toyon	In SOI	Pending CEQA

CPUD's commitments for future service presently involve only one outstanding will-serve letter, and the District does not presently anticipate significant expansions to its service area. The District's 2008 master plan analyzes system needs for serving potential development in areas such as Toyon, Saddleback, Mountain Ranch Road and northeast of the Highway 12/49 intersection. CPUD reported that it has adequate reserves for infill capacity, and excess capacity to accommodate

future development. Potential growth areas are located to the east and west of the District bounds. In 2003, LAFCO expanded the SOI for CPUD to accommodate these future growth areas.

In terms of planned development, new multi-family units within the District are planned south of Highway 49, west of Russell Road, and north of Highway 49, along Main Street and along Gold Strike Way. Multi-family units are also planned in the vicinity of the Highway 12/49 junction. Commercial development is planned south of Highway 49, east of Pool Station Road, and in the southeastern portion of the District along Highway 49. Industrial areas are planned west of Angels Road and along Airport Road, in the south of the District. Minimal development is planned in Mokelumne Hill where single family residential infill is planned to be constructed on two parcels south of Center Street.

The District is not a land use authority, and does not hold primary responsibility for implementing growth strategies.

FINANCING

The District reported that the current financing level is adequate to deliver services, and indicated that additional funding is needed to provide for paid staffing to provide adequate service levels to meet both existing and future demand.

CPUD reports its financial activity through a water enterprise fund.

The District's total revenues were $1.7 million in FY 10-11. Revenue sources include water rates (63 percent), bond-related taxes (21 percent), general property taxes (6 percent), interest income (2 percent), and connection fees (less than 1 percent). Approximately three percent of revenue is from miscellaneous sources.

The District's expenditures were $1.7 million in FY 10-11. Of this amount, 30 percent was spent on compensation, 31 percent on services and supplies, 21 percent on debt payments, 11 percent on capital depreciation, and eight percent of capital equipment.

The District quantified its long-term capital plans in 2008, identifying $22 million in capital needs (in 2009 dollars) through 2030. CPUD updates the CIP annually during the budget process. Due to the housing market collapse, projected revenue and facility expansion needs were less than anticipated by the 2008 CIP. CPUD capital spending steadily declined between FY 06-07 and FY 08-09; however, capital outlays in FY 10-11 approach the level in FY 06-07. Significant capital outlays have been financed in the past with connection fees, loans, rates and reserves. The District's master plan contemplates funding some capital projects through an assessment district. In the past five fiscal years, capital outlays have not kept pace with capital depreciation.

The District had $0.7 million in long-term debt at the end of FY 10-11. Of this amount, 56 percent involves a 1970 loan for constructing CPUD water facilities, two percent of debt is for a 1972 water construction project, seven percent for a 1977 loan to finance water facilities in Paloma, and 35 percent for a USDA loan to finance construction of the Railroad Flat water plant.

The District does not have a formal policy on maintaining financial reserves. CPUD had $6.5 million in unrestricted reserves at the close of FY 10-11, none of which was formally designated for debt payments or capital projects. The amount is equivalent to 371 percent of all expenditures in FY 10-11. In other words, the District maintained three years and eight months of working reserves.

The District engages in joint financing arrangements related to pension and insurance. The District is a member of Association of California Water Agencies' Joint Powers Insurance Authority

(ACWA) that provides limits of liability of for general liability, auto and an additional umbrella policy. CalPERS acts as a common investment and administrative agent for participating public employers with the State of California for retirement and disability benefits.

WATER SERVICES

This section describes the nature, extent and location of the water services provided as well as key infrastructure and water sources. The tables provide further information and indicators of the agency's water service supplies, demand, financing, service adequacy, and facilities.

NATURE AND EXTENT

CPUD provides surface water treatment and distribution, for domestic use, directly. CPUD provides limited raw water service to four accounts. The District generates hydroelectric power at four generating stations for sale to PG&E.

LOCATION

CPUD provides services within its bounds to the communities of to the communities of San Andreas, Mokelumne Hill, Paloma, and portions of Glencoe and Railroad Flat along the CPUD transmission line. Irrigation customers are located in the Railroad Flat area.

The District's water service area extends beyond its boundary area to serve approximately 18 domestic connections outside bounds. Domestic customers outside District bounds are located along Jesus Maria Road outside Mokelumne Hill, and south of San Andreas along Highway 49. The District's water services are available to most of its boundary area; there are some unserved areas due to gradient and topography issues.

The District generates hydroelectric power at three small generating stations located along the main transmission pipeline, and at a fourth station at Schaads Reservoir.

INFRASTRUCTURE

Key infrastructure for water service includes the District's water supplies, its water treatment plant, three pump stations, two reservoirs, six storage tanks, three pressure-reducing stations, 18 miles of transmission mains, and 23 miles of distribution pipeline.

Water Supplies

CPUD purchased its original water system from Mokelumne River Power and Water Company in 1939, and with it came water rights on the Middle, Licking and South Forks of the Mokelumne River. The District negotiated an agreement the following years with EBMUD which provides up to 9,125 afa, including rights to store water in Schaads reservoir.[179] A subsequent water right order limits the maximum diversion to 6,656 af; that amount is more than adequate to supply the 2,181 af in projected CPUD water demand well past 2030.[180]

[179] Peterson, Brustad, Inc., *CPUD Water Master Plan*, October 2008, p. 14. State Water Resources Control Board, permit number 16338.

[180] Water Right Order 16338. The 6,656 af right is a part of the 27,000 afa of Mokelumne River water reserved for Calaveras County.

CPUD obtains its water from the South Fork of the Mokelumne River where the District has a diversion dam; the dam is located just below the confluence of the South and Licking Forks of the Mokelumne River. The dam causes the river water to pool, so CPUD can extract the water from the river through a pump station (3,300 gpm capacity) and transport it via a three-mile pipeline (9.7 mgd capacity) to the Jeff Davis Reservoir. From there, it enters the treatment plant and then flows through transmission mains into the distribution system.

The District also has facilities for extracting water from the Middle Fork of the Mokelumne River. CPUD's Schaads Reservoir on the Middle Fork of the Mokelumne River is used to supply CCWD with up to 200 afa. The reservoir capacity is 1,800 afa. Historically, water was moved from Schaads Reservoir through a diversion canal to the Licking Fork of the Mokelumne River (which is upstream from the CPUD pump station). Due to the poor condition of the diversion canal, the Middle Fork water has not been diverted into the Licking Fork for some time.[181] Schaads Reservoir is not connected hydraulically to the CPUD treated water system at this time. Schaads Reservoir needs improvements to remove siltation, install flashboards and reconstruct the pressure reducing facility there; CPUD plans to do these improvements by FY 12-13.

CPUD reported that it has rights to store 400 afa of Calaveras River water at its Redhawk Reservoir located to the east of the intersection of Ridge Road and Railroad Flat. The water was used in the past to supply downstream agricultural users.[182] CPUD has not supplied those agricultural users since approximately 2002, and is not actively operating the Redhawk Reservoir.[183]

Treatment Systems

The District owns, operates and maintains a treatment plant for surface water. The Jeff Davis WTP consists of six dual media pressure filters, and has capacity to produce 6 mgd of treated water. The WTP was designed to allow for expansion to 12 mgd capacity with the addition of six pressure filters. By comparison, average day demand is 1.3 mgd and peak day demand is 3.02 mgd. There is adequate WTP capacity. CPUD plans to start planning for WTP expansion within the next 10-15 years.[184] The WTP is in good condition, having been upgraded recently.[185] When it is expanded, the WTP will need to provide more treated water storage and to re-engineer to avoid in-plant pumping.

Water Storage

The Agency owns and maintains six treated water storage facilities. The storage tanks have a combined storage of 5.66 mg of water. Treated water storage would accommodate 1.9 days of peak demand or 4.4 days of average system demand. Four storage tanks were built in the 1970s, a minor storage tank in Golden Hills was built in the 1980s, and the Railroad Flat storage tank was built in 2002. Storage facilities in Golden Hills and Paloma lack capacity to meet District standards.

[181] California Department of Public Health, *2009 Annual Inspection Report*, June 10, 2009, p. 2.

[182] Dennis Dickman and Associates. *Service Review Report for the Calaveras Local Agency Formation Commission: Public Agency Water Purveyors*, December 2003, p. VII-3.

[183] Interview with CPUD General Manager Donna Leatherman, October, 4, 2010.

[184] Peterson, Brustad, Inc., *CPUD Water Master Plan*, October 2008, p. 34.

[185] Peterson, Brustad, Inc., *CPUD Water Master Plan*, October 2008, p. 34.

Distribution and Transmission

The transmission system consists of 18 miles of mains made primarily from cement, mortar-lined and–coated steel pipe of 16 to 27 inches in diameter. The transmission main runs from the WTP and generally follows SR 26 but crosses open country in some locations. The distribution system consists of 20 miles of pipeline made of steel, PVC and other materials; some distribution pipelines are 50 years or older in age. The CPUD master plan calls for $795,000 in annual pipeline replacement expenditures to replace aging pipelines; under this plan 25 percent of the CPUD pipeline will be replaced by 2030. The most recent State inspection report indicated that a majority of distribution lines are steel mains installed in the 1940s and 1950s.[186]

[186] California Department of Health Services, *2009 Annual Inspection Report*, 2009, p. 15.

Table 8-4: CPUD Water Profile

Water Service Configuration & Infrastructure			
Water Service	**Provider(s)**	**Water Service**	**Provider(s)**
Retail Water	CPUD	Groundwater Recharge	None
Wholesale Water	CPUD, EBMUD	Groundwater Extraction	None
Water Treatment	CPUD	Recycled Water	None
Service Area Description			
Retail Water	San Andreas, Mokelumne Hill, Paloma, and portions of Glencoe and Railroad Flat along the CPUD transmission line.		
Wholesale Water	Railroad Flat area		
Recycled Water	None		
Boundary Area	38.5 sq. miles	Population (2009)	3,915
System Overview			
Average Daily Demand	1.31 mgd	Peak Day Demand	3.02 mgd
Supply	3.90 mgd	Peak Hour Demand	4.52 mgd
Major Facilities			
Facility Name	**Type**	**Capacity**	**Condition** / **Yr Built**
Jeff Davis WTP	Water treatment	6 mgd	Good / 1973
Jeff Davis Reservoir	Reservoir	2,300 af	Fair / 1973
Schaads Reservoir	Reservoir	1,800 af	Poor / 1973
San Andreas	Storage	3.0 mg	Fair / 1973
Mokelumne Hill	Storage	1.5 mg	Fair / 1973
Other Infrastructure			
Minor Reservoirs	1 - Redhawk	Storage Capacity (mg)	5.67
Pump Stations	3	Pressure Zones	17
Production Wells	0	Pipe Miles	23
Other:	three power-generating pressure reducing stations, 4 minor storage tanks		
Infrastructure Needs and Deficiencies			
Jeff Davis Reservoir is an earthen dam; leaking drainage water needs to be recaptured. Schaads Reservoir needs improvements to remove siltation, install flashboards and reconstruct the pressure reducing facility; CPUD plans to do this work by 2013. Storage facilities in Golden Hills and Paloma lack capacity to meet District standards. Some distribution pipelines are 50 years or older in age. The CPUD master plan calls for $795,000 in annual pipeline replacement expenditures to replace aging pipelines. There are low-pressure areas of the system (Church Hill in San Andreas and Golden Hills) that need to be addressed. Pressure-reducing stations along the transmission main need to be rebuilt to increase capacity; the CPUD master plan calls for these improvements by 2011.			
Facility-Sharing and Regional Collaboration			
Current Practices: CPUD supplies raw water to CCWD through its Schaads Reservoir.			
Opportunities: There may be opportunities to use existing CPUD facilities for tapping Mokelumne River water to serve surface water to Valley Springs and nearby growth areas.			
Notes: (1) NA means Not Applicable, NP means Not Provided, mg means millions of gallons, af means acre-feet.			

continued

Water Demand and Supply

Service Connections	Total	Inside Bounds	Outside Bounds	
Total	1,985	1,967	18	
Irrigation/Landscape	4	4	0	
Domestic	1,746	1,728	18	
Commercial/Industrial/Institutional	228	228	0	
Recycled	0	0	0	
Other	7	7	0	

Average Annual Demand Information (Acre-Feet per Year)	2000	2005	2010	2015	2020	2025	2030
Total	1,258	1,219	1,469	1,625	1,794	1,973	2,186
Residential	NP	NP	NP	NP	NP	NP	NP
Commercial/Industrial	NP	NP	NP	NP	NP	NP	NP
Irrigation/Landscape	NP	NP	NP	NP	NP	NP	NP
Other	NP	NP	NP	NP	NP	NP	NP

Water Sources		Supply (Acre-Feet/Year)		
Source	Type	Average	Maximum	Safe/Firm
Mokelumne River	Surface water	6,656	9,125	4,370

Supply Information (Acre-feet per Year)	2000	2005	2010	2015	2020	2025	2030
Total	1,258	1,219	1,469	1,625	1,794	1,973	2,186
Imported	0	0	0	0	0	0	0
Groundwater	0	0	0	0	0	0	0
Surface	1,258	1,219	1,469	1,625	1,794	1,973	2,186
Recycled	0	0	0	0	0	0	0

Drought Supply and Plans			
Drought Supply (af)	Year 1: NP	Year 2: NP	Year 3: NP
Significant Droughts	1976-1977, 1988-91, 2008-09		
Storage Practices	Treated water storage would accommodate 1.9 days of peak demand or 4.4 days of average system demand.		
Drought Plan	CPUD water rights are senior to EBMUD rights. CPUD does not anticipate a need to ration water.		

Water Conservation Practices	
CUWCC Signatory	No
Metering	Yes, all accounts are metered.
Conservation Pricing	Yes, graduated rates for higher water use levels.
Other Practices	None identified.

continued

Water Rates and Financing

Residential Water Rates-Ongoing Charges FY 11-12[1]

	Rate Description	Avg. Monthly Charges	Consumption[2]
Residential	$26.15 for the first 5,000 gallons, with graduated rates for additional usage.	$ 29.30	7,600 gal/month

Special Rates			
CPUD charges a surcharge in the Rail Road Flat area.			
Wholesale Water Rates			
NA			
Rate-Setting Procedures			
Policy Description	Monthly flat rate based on meter size, plus additional charges based on usage. Rates have been increased 5% annually for the last 5 years.		
Most Recent Rate Change	7/1/10	Frequency of Rate Changes	Annually
Water Development Fees and Requirements			
Connection Fee Approach	The connection fee is a flat rate based on meter size. There is a $2,000 surcharge for connections in the Railroad Flat area. Line extensions, backflow devices, permits, engineering, etc. are at cost plus 15 percent.		
Connection Fee Timing	Fee is due at the time the permit application is submitted.		
Connection Fee Amount	$2,795/Single Family Unit	Last updated: 2010	
Land Dedication Requirements	None		
Development Impact Fee	None		

Water Enterprise Revenues, FY 10-11			Expenditures, FY 10-11	
Source	Amount	%		Amount
Total	$1,678,557	100%	Total	$1,745,287
Rates & charges	$1,062,356	63%	Administration	$543,572
Property tax	$98,310	6%	O & M	$506,138
Grants	$0	0%	Capital Depreciation	$191,683
Interest	$33,435	2%	Debt	$359,649
Connection Fees	$6,890	0%	Purchased Water	$0
Other	$477,566	28%	Capital Outlays	$144,245
Contributed Capital	$0	0%		

Notes:

(1) Rates include water-related service charges and usage charges.

(2) Water use assumptions were used to calculate average monthly bills. Assumed use levels are consistent countywide for comparison purposes. For further details, refer to Chapter 4.

continued

Water Service Adequacy, Efficiency & Planning Indicators			
Water Planning	**Description**		**Planning Horizon**
Water Master Plan	Water Master Plan		2008 - 2015 (growth & CIP to 2030)
UWMP	NA - Not required		
Capital Improvement Plan	Included in master plan		FY 10/11 - FY 14/15
Emergency Response Plan	Emergency Action Plan		
Service Challenges			
Topography and grade in the District lead to a multitude of pressure zones. CPUD uses pressure-reducing stations to partly address this challenge.			
Service Adequacy Indicators			
Connections/FTE	265	O&M Cost Ratio[1]	$386,365
MGD Delivered/FTE	0.17	Distribution Loss Rate	23%
Distribution Breaks & Leaks (2008)	15	Distribution Break Rate[2]	37
Response Time Policy	24-48 hours	Response Time Actual	36 hours
Water Pressure	25 - 115 psi	Total Employees (FTEs)	7.5
Customer Complaints CY 2008:	18 leaks, 5 water pressure, and 2 odor/taste		
Water Operator Certification			
The District is required to have a D3 and T3 certified chief operator; the District is meeting these requirements. The District reported 3 personnel with D3 or higher certification for distribution systems and 2 personnel with a T3 or higher certification for treatment systems.			
Drinking Water Quality Regulatory Information[3]			
	#	**Description**	
Health Violations	0	None	
Monitoring Violations	6	Coliform monitoring 2007; Chlorine monitoring 2004(4), 2005.	
DW Compliance Rate[4]	100%		

Notes:

(1) Operations and maintenance costs (exc. purchased water, debt, depreciation) per volume (mgd) delivered.

(2) Distribution break rate is the number of leaks and pipeline breaks per 100 miles of distribution piping.

(3) Violations since 1995, as reported by the U.S. EPA Safe Drinking Water Information System.

(4) Drinking water compliance is percent of time in compliance with National Primary Drinking Water Regulations in 2009.

SUMMARY OF DETERMINATIONS

GROWTH AND POPULATION PROJECTIONS

- The population within the CPUD boundary area was 5,089 residents in 2009.
- If built, planned and proposed developments would add new housing units and jobs in areas such as Toyon, Saddleback, Mountain Ranch Road, and along Gold Strike Way.
- Growth projections within the CPUD area involve substantial growth in housing units in and around San Andreas and Mokelumne Hill, and substantial growth in the job base in San Andreas by 2035.

PRESENT AND PLANNED CAPACITY OF PUBLIC FACILITIES AND ADEQUACY OF PUBLIC SERVICES, INCLUDING INFRASTRUCTURE NEEDS AND DEFICIENCIES

- CPUD has adequate capacity to provide service to existing water connections. The District has adequate water rights to supply projected growth in demand well past 2030. CPUD has adequate treatment capacity to accommodate near-term growth, and plans to initiate WTP expansion planning in the next 10-15 years to accommodate long-term growth needs.
- CPUD infrastructure needs include aging pipelines, water pressure issues, reservoir deficiencies, and storage capacity. Jeff Davis Reservoir is leaking, and Schaads Reservoir needs significant improvements which CPUD plans to do by 2013. Storage facilities in Golden Hills and Paloma lack capacity to meet District standards. Pressure-reducing stations along the transmission main need to be rebuilt to increase capacity.
- The CPUD water loss rate is relatively high. There are aging pipelines within the system. CPUD has a plan to replace 25 percent of its pipelines by 2030, which will address a portion of the elderly steel mains.
- Water services in the CPUD service area were identified as generally adequate with well operated and maintained systems.

FINANCIAL ABILITY OF AGENCIES TO PROVIDE SERVICES

- Financing is adequate to deliver minimally adequate services to the CPUD systems. However, CPUD reported that additional funding is needed for paid staffing to provide adequate service levels.
- CPUD has the lowest service rates and connection fees among the service providers. The District should consider updating its rates so that they are comparable to area providers and enhance revenue sources for capital improvements and additional staffing.
- CPUD appears to have adequate financial reserves.
- CPUD capital outlays have not kept pace with depreciation in recent years.

STATUS OF, AND OPPORTUNITIES FOR, SHARED FACILITIES

- The Agency practices facility sharing by supplying raw water to CCWD through its Schaads Reservoir.
- There are opportunities for collaboration between CPUD and CCWD to ensure adequate financing of substantial infrastructure needs at Schaads Reservoir.
- There may be opportunities to use existing CPUD facilities for tapping Mokelumne River water to serve surface water to Valley Springs and nearby growth areas outside CPUD bounds. CCWD reported that it has been discussing facility-sharing with EBMUD for several years for gaining access to Mokelumne River water supplies for these areas. It appears appropriate for CCWD and CPUD to explore more expedient opportunities to deliver surface water to such areas.

ACCOUNTABILITY FOR COMMUNITY SERVICE NEEDS, INCLUDING GOVERNMENTAL STRUCTURE AND OPERATIONAL EFFICIENCIES

- Accountability is promoted by somewhat active interest in serving on the governing body, as indicated by recently contested elections.
- Local accountability is promoted by the relative small size of the District and the inherent degree of local control.
- CPUD conducts master planning and capital improvement planning, and provided growth projections to LAFCO. Planning efforts appear to be adequate.
- CPUD demonstrated a limited degree of accountability through its outreach efforts and disclosure of information. The District does maintain a website, although the website does not contain a service area map, rates or financial information. CPUD responded to the LAFCO questionnaire, but did not respond to all LAFCO requests for information.
- There are accountability and management challenges at Mokelumne Hill Sanitary District (MHSD) whose bounds overlap the northwestern portion of CPUD. Governance options include consolidation of MHSD with CPUD or CCWD to promote enhanced accountability and management practices for wastewater services to the Mokelumne Hill area.

SOI OPTIONS AND DETERMINATIONS

The CPUD sphere of influence is substantially more expansive than the CPUD boundary area, encompassing about 159 square miles.

AGENCY PROPOSAL

CPUD has not proposed any changes to its existing SOI.

SOI OPTIONS

Two potential options have been identified with respect to the CPUD SOI.

Option #1: Retain Existing Annexable SOI

By affirming the existing SOI, LAFCO would signal that it recommends that it continue to exist and serve future growth in areas adjacent to District bounds.

Option #2: Adopt Wastewater SOI

A second option is for LAFCO to adopt a wastewater SOI for CPUD to signal the desirability of consolidation of Mokelumne Hill Sanitary District (MHSD) into CPUD.

As discussed in the chapter on MHSD, MHSD faces significant challenges in accountability and management of its affairs. One option identified for MHSD, depending on priorities and needs of the community, may be the dissolution of MHSD and services assumed by another overlapping agency, such as CCWD or CPUD, which are both empowered to take on wastewater services.

DRAFT SOI DETERMINATIONS

Present and Planned Land Uses

The District bounds encompass a variety of land uses, as they include the communities of San Andreas and Mokelumne Hill, in addition to the Highway 49 corridor between the two. In the community of San Andreas, land uses include residential, commercial, public, and parks and recreation land uses; and in the community of Mokelumne Hill, land uses include residential, commercial, agricultural, and public land uses. Significant planned development is associated with both communities. Other land uses within CPUD include agricultural preserve, timberland and mineral resources.

Present and Probable Need for Public Facilities and Services

As of 2009, the district boundaries included approximately 5,089 residents.

Modest growth is anticipated within the District in the next 20 years. The existing SOI includes 11 proposed and planned residential development projects involving 350 potential dwelling units, most of which lie within existing CPUD bounds. The proposed Calaveras Oaks projects is partly within the CPUD bounds, and the Alan King project in Paloma is outside CPUD bounds. Non-residential development projects are planned or proposed in San Andreas and Railroad Flat within District bounds, as well as an industrial project in Toyon which lies inside the existing CPUD SOI. CPUD had determined in its 2008 Master Plan that water service to the Toyon area appears not to be cost-effective.

Present Capacity of Public Facilities and Adequacy of Public Service

CPUD has adequate water supplies to serve anticipated growth beyond 2030. Treatment capacity is adequate to serve near-term growth, but will eventually need to be expanded to serve long-term growth. CPUD intends to initiate WTP expansion planning within the next 15 years.

Aging pipelines are a challenge for CPUD, and may be the reason for the District's relatively high water loss rate. The District has a plan to replace one quarter of its pipeline by 2030. According to the State inspection report, a majority of CPUD's distribution lines were installed in the 1940s and 1950s.

There are water pressure issues in portions of the CPUD system, specifically low pressure in Church Hill and Golden Hills.

Existence of Any Social or Economic Communities of Interest

Communities of interest within the District's boundary and SOI include the unincorporated communities of Mokelumne Hill, San Andreas, Paloma, and portions of Glencoe and Railroad Flat.

9. EAST BAY MUNICIPAL UTILITY DISTRICT

East Bay Municipal Utility District (EBMUD) operates recreation areas on watershed lands in Calaveras County that are owned by the District. EBMUD provides water and wastewater service to visitors and residents of its recreation areas at Camanche South Shore and to employees and visitors to its headquarters Pardee Center in Calaveras County, and nearby at Camanche North Shore and Pardee Recreation Areas in Amador County. The District generates electricity at Pardee and Camanche Dams. EBMUD is a multi-county district with territory in both Alameda and Contra Costa counties, where it provides water treatment, conveyance and retail services, water recycling, and wastewater treatment and disposal services. An MSR was prepared and MSR determinations adopted for EBMUD by Alameda LAFCO in the District's principal county.[187]

AGENCY OVERVIEW

FORMATION

EBMUD was formed on May 8, 1923 as an independent special district.[188] The District was created to provide water service; in 1944 it began providing wastewater treatment to a portion of its service area in Alameda County.

The principal act governing the District is the Municipal Utility District Act.[189] Municipal utility districts may potentially provide a wide array of utility services, including light, water, power, heat, transportation, telephone service, or other means of communication, or means for the collection, treatment, or disposition of garbage, sewage, or refuse matter. They are required to gain LAFCO approval to provide those services permitted by the principal act but not performed by the end of 2000 (i.e., latent powers).[190]

BOUNDARY AND SOI

EBMUD's boundary area is within Alameda and Contra Costa counties, and contains no territory in Calaveras County, as shown on Map 9-1. The District serves recreation areas at its reservoirs in Calaveras and Amador counties outside its bounds, as shown on Map 9-2.

The District's Alameda County boundary area includes the cities of Alameda, Albany, Berkeley, Emeryville, Oakland, Piedmont, and San Leandro and portions of Hayward. Unincorporated areas in the District bounds include Ashland, Cherryland, Castro Valley, Fairview, San Lorenzo, and the watershed lands east of Oakland. The District's territory in Contra Costa County includes the cities of Richmond, San Pablo, El Cerrito, Pinole, Hercules, Orinda, Lafayette, Moraga, Walnut Creek, Danville and San Ramon, as well as unincorporated areas such as Alamo.

[187] Alameda LAFCO, Nov. 10, 2005.

[188] Portions of the agency overview section of the EBMUD profile were originally published in the Alameda LAFCO 2005 *Municipal Service Review Volume II—Utility Services* (Burr Consulting, Nov. 10, 2005).

[189] California Public Utilities Code section 11501 et seq.

[190] Government Code §56824.10.

Figure 9-1: EBMUD System Map

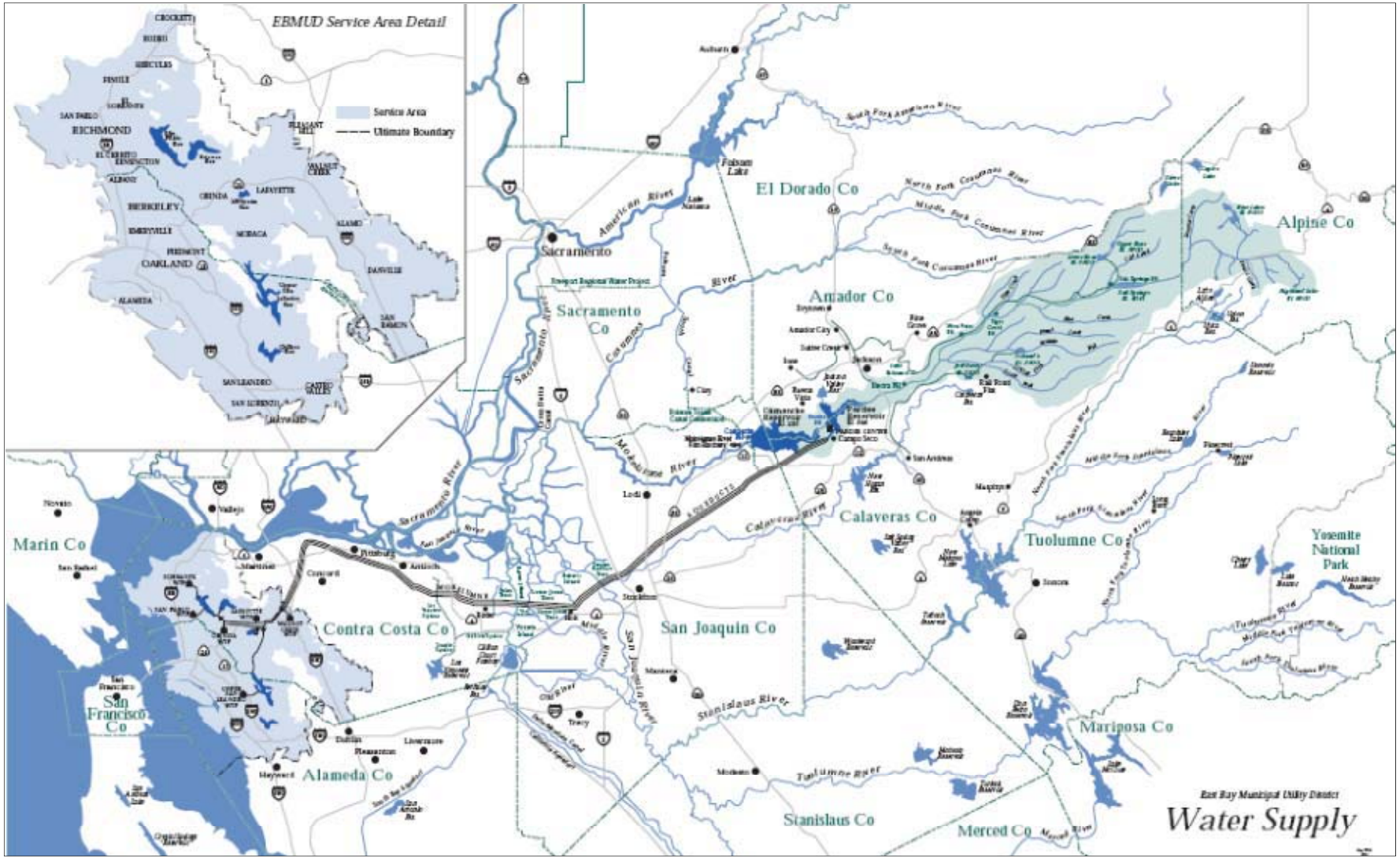
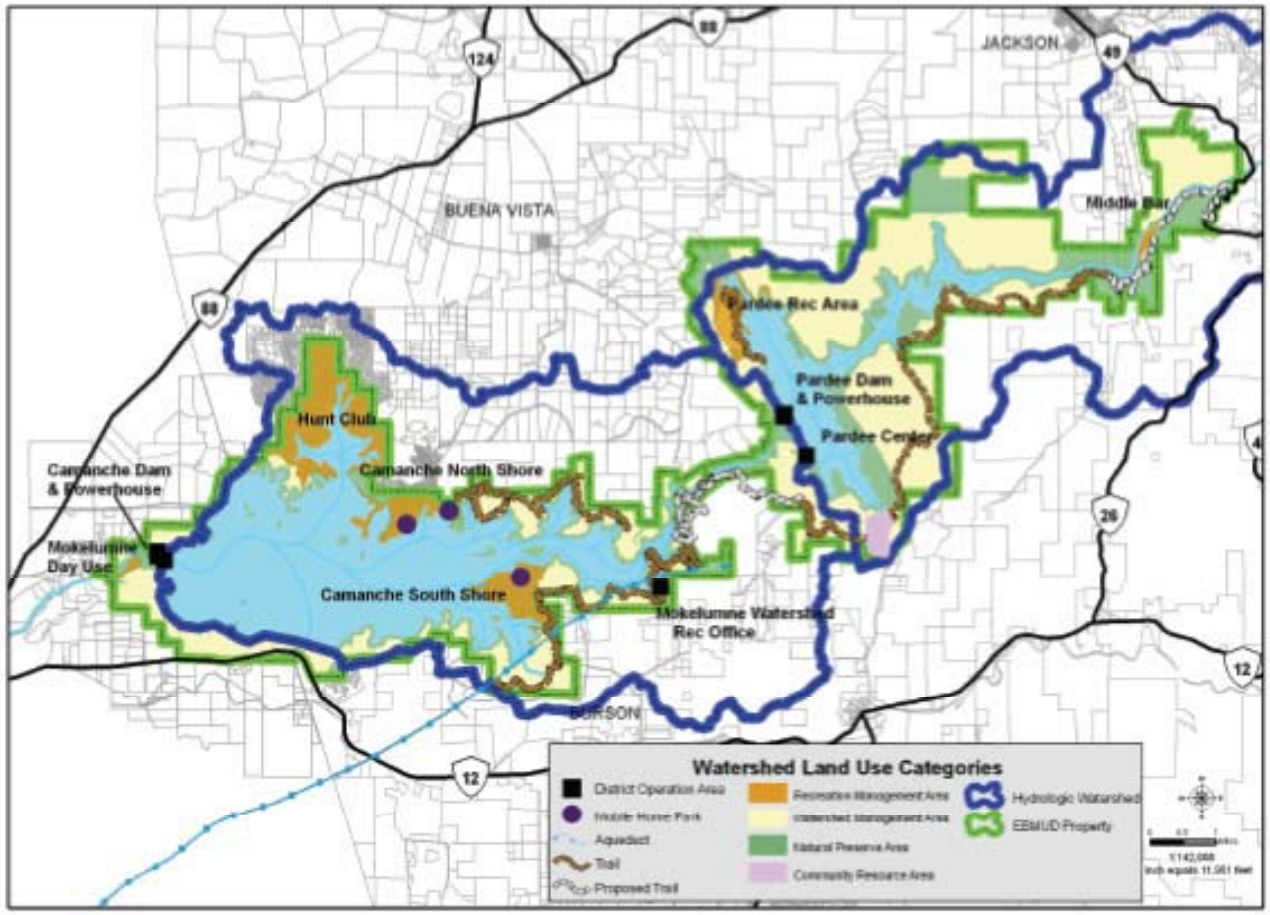


Figure 9-2: EBMUD Upcountry Map



The District's SOI was established on April 21, 1983 and included only the City of San Leandro and the unincorporated areas of Ashland, Cherryland, Castro Valley, Fairview and San Lorenzo. The cities of Alameda, Albany, Berkeley, Emeryville, Oakland, and Piedmont, where EBMUD provides water and sewer service, were added to the District's SOI in 2006 by Alameda LAFCO after adoption of an MSR for the District. The District's SOI contains no territory in Calaveras County.

The District's boundary area is 325 square miles.

LOCAL ACCOUNTABILITY AND GOVERNANCE

EBMUD is governed by a seven-member Board of Directors elected from wards to serve four-year terms. The Directors must be residents of the ward they represent. Elections for board member positions are typically contested, although the Ward 2 election in 2006 was uncontested.

Table 9-1: EBMUD Governing Body

East Bay Municipal Utility District			
Governing Body			
Members	**Name**	**Position**	**Term Ends**
	John A. Coleman	Ward 2	12/31/2014
	Katy Foulkes	Ward 3	12/31/2014
	Andy Katz	Ward 4	12/31/2014
	Doug Linney	Ward 5	12/31/2012
	Lesa R. McIntosh	Ward 1	12/31/2012
	Frank Mellon	Ward 7	12/31/2014
	William "Bill" Patterson	Ward 6	12/31/2012
Manner of Selection	Election by ward		
Length of Term	Four years		
Meeting	Date: second and fourth Tuesday of each month, 1:15 p.m.	Location: EBMUD Board Room in Oakland	
Contact			
Contact	General Manager		
Mailing Address	P.O. Box 24055, Oakland, CA 94623		
Phone	1-866-40-EBMUD (1-866-403-2683)		
Email/Website	http://www.ebmud.com/	custsvc@ebmud.com	

The Board of Directors meets twice a month on the second and fourth Tuesday in Oakland. The meetings are not broadcast live on local television. The District posts Board notices, agendas and meeting summaries on the District's website and these are e-mailed to anyone who signs up for the service.

To keep citizens informed of District activities, EBMUD participates in community events, distributes a newsletter, fact sheets and reports, and maintains a website with updates on current projects and press releases. The District also discloses plans, finances and other public documents via the Internet. The District offers media activities and audiovisual presentations, with audiences that include the general community, stakeholder groups, school groups, community leaders, civic groups, and ratepayers.

Customer complaints may be submitted by phone, fax and email. The District's customer service and water quality staff routinely handle complaints. Complaint resolution occurs in one to five business days. Customers can also attend regular board meetings and present complaints to the

Board. The District's annual complaint volume is typically 6,300, which includes complaints about high rates, water quality, water pressure, noise, and leaks as well as information requests.

The District demonstrated accountability in its disclosure of information and cooperation with LAFCO.

MANAGEMENT

A general manager and executive team manage EBMUD's workforce of 2,093 staff (2,055 full-time equivalents).

The District evaluates its performance through annual personnel performance evaluations, annual financial audits and financial trend reports. Service operations are routinely evaluated, including water operations, treatment and distribution, customer service and response, wastewater treatment and distribution, and construction of pipeline projects.

EBMUD has developed performance indicators to monitor workload for specific areas as well as district-wide planning and goal setting. The performance indicators track productivity and error rates for the various types of work performed. Performance measures for core services include water supply, treatment and distribution as well as design and construction costs. Benchmarking practices include analysis and comparison of water and wastewater rates with neighboring service providers.

The District has adopted a strategic plan and a mission statement. The EBMUD water and wastewater master plans were last updated in 2000 and have a planning time horizon of 10 years. The scope of planning efforts includes system capacity, service demand, costs, water quality and supply. The District's water supply management program was last updated in 2010 and has a 30-year planning horizon. The District collaborated with local water and wastewater providers in developing the 2006 Mokelumne/Amador/Calaveras Integrated Regional Water Management plan. EBMUD adopted a Mokelumne Watershed Master Plan (MWMP) in 2008, and plans to develop additional plans for the area, including a mobile home park and recreation management plan, in the coming years.[191]

District financial planning efforts include annual preparation of budgets and annually audited financial statements. The most recent audit provided by the District was for FY 08-09. The most recent adopted budget provided was for FY 10-11; the annual budget contains long-term financial projections for a five-year planning horizon. The District conducts long-term capital improvement planning through its budget process; the capital improvement plan planning horizon is 10 years and was most recently updated in 2010. The District also generates semi-annual and annual budget performance reports.

SERVICE DEMAND AND GROWTH

Existing land uses in the District's boundary are diverse. On District-owned lands in the Mokelumne watershed, a major use is water, composing 9,000 acres. The remaining 17,000 acres are primarily watershed management areas and natural preserves; secondary uses include recreation areas and mobile home parks. Watershed management areas are rangelands managed for the primary goal of protection of water quality, fire control, and ecological integrity. Natural preserves are areas managed for the creation, restoration, and protection of natural systems (aquatic, riparian,

[191] EBMUD, *Mokelumne Watershed Master Plan Program Environmental Impact Report*, April 2008.

and upland habitats) surrounding Pardee and Camanche reservoirs and their tributaries.[192] There were 70 mobile home park sites, 500 camp sites and on the north shore of Camanche Reservoir; there are 99 seasonal recreational vehicle (RV) sites for stays up to nine months and 119 short-term RV sites at Camanche South Shore.

Within District bounds, there were 1,350,880 residents and 612,821 jobs in 2005.

EBMUD served a total of 381,728 water accounts in 2009.[193] The District's service demand has been relatively stable in recent years. Water consumption was 215 mg in 2000, and 214 mg in 2007. From 2005 through 2020, water demand is projected to grow by three percent, according to EBMUD's UWMP. By comparison; population and the job base are expected to grow by 10 and 20 percent, respectively. The District's existing water supplies are insufficient to meet current and future customer demand during droughts, despite implementation of conservation and water recycling programs. The District's growth strategies include not annexing new territory due to water supply constraints.

In the Mokelumne watershed, the largest concentration of development is within the Camanche South Shore Recreation Area. With approval from the respective counties, subdivisions and other uses could be developed in the rural areas around the Mokelumne Watershed.

On EBMUD property, there are temporary accommodations at camping sites, cottages and motel rooms. There are 500 campsites at Camanche South Shore for tent and RV camping, seven cottages and 70 private mobile home lots. Campsite amenities include barbecues, tables, water, hot showers, restrooms and laundry facilities. About 70 mobile homes are located on the Camanche Lake's south shore; the mobile home parks were established in the late 1960s.

On its property within the Mokelumne watershed, the EBMUD Board, by four-fifths vote, may render a local zoning ordinance inapplicable to other proposed uses of its property. EBMUD policies on its watershed lands are that any new development (or redevelopment) will occur in or immediately adjacent to existing developed areas, with a strong preference for sites within developed areas. No new areas will be opened to development unless it is neither feasible nor practical to locate the facility within a developed area, or because of the facility's utility to the District.[194]

FINANCING

The District tracks its finances through two enterprise funds, one for its water and another for its wastewater operation.

Total revenue in FY 09-10 was $398 million.[195] EBMUD's primary revenue source is water rates; these include service charges, volume charges and elevation charges. Other revenue sources include wastewater rates, hydroelectric power sales, and system capacity charges. The District relies on property taxes for eight percent of revenues. The District receives a portion of the one percent tax within District boundaries.

Total expenditures for the year were $427 million. The District finances capital projects with service charges, connection fees, reserves and bonded debt. The District's expenditures for

[192] EBMUD, *Mokelumne Watershed Master Plan Program Environmental Impact Report*, April 2008, p. 8.

[193] EBMUD, *Annual Report*, 2009, p. 13.

[194] EBMUD, *Mokelumne Watershed Master Plan: Final Program Environmental Impact Report*, 2008, p. 11.

[195] EBMUD, *Comprehensive Annual Financial Report*, FY 09-10, p. 18.

Mokelumne watershed management averaged $5.4 million annually, of which $0.5 million is recouped by grazing leases, $1 million is recouped by mobile home site fees, and further revenue is recouped by recreation charges.[196]

The District quantified its 10-year capital plans in 2010, identifying $2 billion in capital needs. The District has programmed funding over for addressing 46 percent of those capital needs through FY 13-14. The CIP has a planning horizon of 10 years, with the current CIP last updated in FY 10-11 and planning through FY 19-20. The District's ongoing replacement plan historically involved replacing eight linear miles of water distribution pipe annually, although EBMUD plans to replace only seven miles of pipe in FY 10-11 as a cost-saving measure.

Significant capital outlays have been financed in the past with bonds, rates and reserves. As of FY 09-10, the District had capital reserves of $67 million for system expansion.

The District had $3.0 billion in long-term debt at the end of FY 09-10, which was composed mostly of general obligation and revenue bonds. The District received a "very strong" (Aa2) underlying rating from Moody's for its water enterprise bonds and a "very strong" (Aa3) underlying rating from Moody's for its sewer enterprise bonds.

By way of financial reserves, the District had unrestricted net assets of $200 million at the end of FY 09-10. The reserves amounted to 47 percent of the District's expenses in FY 09-10; the District maintained approximately 5.6 months of working capital. The District's reserve levels meet its stated policy on target reserve levels.

The District is involved in joint financing arrangements through various Joint Powers Authorities. The District is a 50 percent participant in the DSRSD/EBMUD Recycled Water Authority. EBMUD, along with the Sacramento County Water Agency and the City of Sacramento, partnered on the Freeport Regional Water Project, which provides supplemental water to EBMUD during dry years. The District formed a partnership with Alpine, Amador and Calaveras counties to conduct a study of the upper Mokelumne watershed. The District partnered with a number of agencies to form the Bay Area Water Agencies Coalition, which is devoted to improving water quality and reliability in the Bay Area.

WATER SERVICES

This section describes the nature, extent and location of the water services provided as well as key infrastructure and water sources. The tables provide further information and indicators of the agency's water service supplies, demand, financing, service adequacy, and facilities.

NATURE AND EXTENT

EBMUD's primary water source is Mokelumne River flows from Amador, Alpine and Calaveras counties. It owns 28,149 acres in the watershed, of which 9,034 acres are flooded by Pardee and Camanche reservoirs and 16,880 acres are upland draining to the reservoirs.[197]

EBMUD operates reservoirs and aqueducts to export water from the watershed to its primary service area in the East Bay, and also uses the river for hydroelectric development. EBMUD serves groundwater from three wells to residents and visitors to its Camanche North Shore area, and serves

[196] EBMUD, *Mokelumne Watershed and Facilities Assessment Report*, November 2007, pp. 4-23 – 4-25.

[197] EBMUD, *Mokelumne Watershed Master Plan: Final Program Environmental Impact Report*, 2008, p. B-2.

other recreation areas through surface water supplies. The District does not produce or use recycled water in the watershed area. The three recreation areas and hunt club are operated by concessionaires, although water treatment facilities and capital replacement and maintenance are the responsibility of the District.

LOCATION

EBMUD's water system serves approximately 1.3 million people in a 325-square-mile area in Alameda and Contra Costa counties near San Francisco.

EBMUD also provides water services to its recreation areas at Camanche South Shore, Pardee Center and Mokelumne Water and Recreation Division offices in Calaveras County, and at Pardee and Camanche North Shore recreation areas in Amador County, which are located outside District bounds. An annual average of 78 mg of potable water are used in the watershed, 98 percent of this is used in the recreational areas.[198]

INFRASTRUCTURE

EBMUD owns substantial water infrastructure. Key infrastructure includes 13 treatment plants, 161 reservoirs, 91.5 miles of aqueducts, and 4,110 miles of pipeline.

Water Rights

EBMUD's primary water source is Mokelumne River flows; minor sources include East Bay runoff and drought supplies from the Central Valley Project.

The Mokelumne River water originates in Amador, Alpine and Calaveras counties. With a watershed encompassing approximately 660 square miles, the annual average flows of the Mokelumne River at Pardee Reservoir is 753,000 af, with the majority of flow derived from Sierra snowmelt. The Mokelumne River supplies a total of 636 to 1,385 mgd on average; in 1977, the lowest year on record, it supplied 115 mgd.

EBMUD obtained the bulk of its Mokelumne River water rights in 1924 when it acquired rights to 224,037 af before the 1927 imposition of county of origin law.[199] EBMUD obtained an additional 140,000 af in 1959 after paying $2 million each to CCWD and Amador County for release of most of their priority rights.[200] Combined, the District has rights to 325 mgd (approximately 364,072 af) annually, subject to prior water rights.[201] EBMUD's position in the hierarchy of Mokelumne water users is determined by a variety of agreements between Mokelumne water rights holders. On average, 98.7 mgd of the supply is distributed to three Sierra foothill counties—Amador, Calaveras and San Joaquin—with senior water rights to the District; this amounts to 107,000 af in average and wet years. CCWD and CPUD hold 27,000 af in water rights senior to EBMUD's Camanche right (but junior to EBMUD's Pardee right) in Calaveras County. PG&E, AWA and JVID hold 20,000 af in water rights senior to EBMUD's 1949 permit in Amador County.[202] Similarly, there are 63,600 af

[198] EBMUD, *Mokelumne Watershed and Facilities Assessment Report*, November 2007, p. 5-15.

[199] State Water Resources Control Board, License 11109.

[200] Interview of Harold Raines conducted by the Regional Oral History Office University of California, *Water Rights on the Mokelumne River and Legal Issues at the East Bay Municipal Utility District, 1927-1966*, 1995. See State Water Resources Control Board Permit 10478.

[201] EBMUD's rights include a license with a priority date of 1924 to divert up to 200 mgd, and a permit with a 1949 priority to divert up to 125 mgd.

[202] EBMUD, *Official Statement: Water System Subordinated Refunding Bonds, Series 2009A*, 2009, p. 31.

in senior water rights in San Joaquin County held by City of Lodi and Woodbridge Irrigation District.[203] EBMUD's water rights permit requires minimum releases from Camanche Reservoir to protect downstream fisheries.

The supply from this source is generally high quality.

EBMUD expects its Mokelumne River supply source to decrease in the future, as consumption by senior water rights increases and increased downstream releases are required to protect fish, wildlife and riparian habitat. EBMUD's Mokelumne River water supply is not sufficient to meet its long-term customer demands during a drought. The conditions that restrict the District's ability to use its Mokelumne River entitlement include upstream water use by prior right holders, downstream water use by riparian and senior appropriators and other downstream obligations, as well as multi-year drought conditions.

EBMUD's Mokelumne River supply facilities include Pardee Dam and Reservoir, located near Valley Springs, and Camanche Dam and Reservoir, located approximately 10 miles downstream. EBMUD diverts its water supply at Pardee Reservoir, moving stored water into the Pardee Tunnel, Mokelumne Aqueducts, and Lafayette Aqueducts and on to its primary users in the East Bay.

EBMUD's Pardee Reservoir has a capacity of 197,950 af and is operated as a water supply reservoir. The reservoir was built in 1929. EBMUD operates hydroelectric power generation (23.6 mw) at Pardee Dam, which was built in 1930 and expanded in 1983. The District is considering a project of raising the reservoir 33 feet, which would increase reservoir capacity to 371,000 af and generation capacity to 30 mw.[204] The project includes replacement of the dam, and construction of an intake tower, powerhouse, bridge, and saddle dams. The District faced significant upcountry opposition to this project in 2009, and faces litigation on the matter in 2010. Water is conveyed from Pardee by the Mokelumne Aqueducts to the EBMUD service area approximately 91 miles away. Remaining water flows 10 miles downstream to Camanche Dam and Reservoir.

Camanche Reservoir has a capacity of 417,120 af, and was built in 1964. Camanche Reservoir is operated for flood control and to meet instream flow requirements and downstream entitlements. Water supplies from the Mokelumne River are withdrawn for Woodbridge Irrigation District and the North San Joaquin Water Conservation District at Camanche Reservoir, depending on EBMUD supply requirements. EBMUD operates a hydroelectric power plant at Camanche Dam as well, having constructed the generation facilities there in 1983.

The Camanche South Shore water system consists of a water treatment plant, two storage tanks (capacity of 246,000 gallons each), and three miles of distribution pipe. The water treatment plant is in poor condition being antiquated and dilapidated. A new regional WTP would cost $14 million. EBMUD plans to replace the plant as early as 2015, and has discussed a joint WTP with CCWD and AWA.[205] It is expected to involve a surface water treatment plant on the south shore, with a pipeline conveying treated water to the north shore.

The Pardee Center water system consists of a water treatment plant (capacity of 10-12 gpm) located adjacent to the Pardee Outlet Tower, a storage tank (capacity of 14,000 gallons) and 0.5 miles of distribution pipe. The system needs to be expanded to extend potable water connections to the chemical plant and maintenance building.

[203] In dry years, senior water rights in San Joaquin County are 42,600 af per year.

[204] RMC Water and Environment, *Mokelumne, Amador and Calaveras IRWMP*, October 2006, p. 5-18.

[205] RMC Water and Environment, *Mokelumne, Amador and Calaveras IRWMP*, October 2006, p. 3-17.

Table 9-2: EBMUD Water Profile

Water Service Configuration & Infrastructure			
Water Service	**Provider(s)**	**Water Service**	**Provider(s)**
Retail Water	EBMUD	Groundwater Recharge	Natural
Wholesale Water	EBMUD	Groundwater Extraction	None
Water Treatment	EBMUD	Recycled Water	EBMUD
Service Area Description			
Retail Water	East Bay (Alameda, Contra Costa), Camanche S. Shore and Pardee Center (Calaveras), Pardee Recreation Area and Camanche N. Shore (Amador)		
Wholesale Water	See retail area. EBMUD produces only for customers, and does not sell to other entities.		
Recycled Water	Various EBMUD facilities, Alameda-Chuck Corica Golf Complex, Harbor Bay Parkway, and Metropolitan Golf Links.		
Boundary Area	325.0 sq. miles	Population (2009)	1,380,000
System Overview			
	Systemwide	**Camanche South Shore**	**Pardee Center**
Average Daily Demand	181 mg	.08 mgd	1,784 gpd
Peak Day Demand	262 mg	.17 mgd	8,000 gpd
Supply	181 mg	.08 mgd	1,784 gpd
Major Upcountry Facilities			
Facility Name	**Type**	**Capacity**	**Condition** / **Yr Built**
Camanche Dam	Dam/reservoir	417,120 af	Good / 1964
Pardee Dam	Dam/reservoir	197,950 af	Good / 1929
Other Upcountry Infrastructure			
Minor Reservoirs	0	Storage Capacity (mg)	0.88
Pump Stations	2	Pressure Zones	5 separate systems
Production Wells	4	Pipe Miles	6.0 (3.6 in Calaveras)
Other:	5 upcountry water treatment plants		
Upcountry Infrastructure Needs and Deficiencies			
Camanche South Shore: portions of Cottonwood and Moccasin campgrounds need to be connected to the new water distribution system; water treatment plant is in poor condition being antiquated and dilapidated. A new regional WTP would cost $14 million. **Pardee Center**: need potable water connections at the chemical plant and maintenance building. **Pardee Recreation Area**: needs steel distribution piping to be replaced with PVC pipe, coarse sand filter tank needs replacement. **Camanche North Shor**e: water hook-ups have not been updated since the 1960s, RV hook-ups lack backflow prevention devices.			
Facility-Sharing and Regional Collaboration			
Current Practices: EBMUD formed a partnership with Alpine, Amador and Calaveras counties to conduct a study of the upper Mokelumne watershed. EBMUD participates in the Upper Mokelumne River Watershed Authority.			
Opportunities: EBMUD, CCWD and AWA are considering collaboration on a regional water treatment plant.			
Notes: (1) NA means Not Applicable, NP means Not Provided, mg means millions of gallons, af means acre-feet.			

continued

Water Demand and Supply

Service Connections	Total	Inside Bounds	Outside Bounds	
Total	382,265	381,728	537	
Irrigation/Landscape	4,265	4,265	0	
Domestic	352,293	351,778	515	
Commercial/Industrial/Institutional	25,701	25,679	22	
Recycled	0	0 [1]	0	
Other	0	0	0	

Average Annual Demand Information (Acre-Feet per Year)							
	2000	2005	2010	2015	2020	2025	2030
Total	237,524	246,620	253,346	262,314	269,040	273,524	279,129

Water Sources		Supply (Acre-Feet/Year)		
Source	Type	Average	Maximum	Safe/Firm
Mokelumne River	Surface water	213,482	364,325	NP
Central Valley Project	Imported-drought	21,300	150,000	75,000
East Bay Runoff	Surface water	4,951	30,000	0
Recycled Water	Recycled	9,780	9,780	9,780

Supply Information (Acre-feet per Year)							
	2000	2005	2010	2015	2020	2025	2030
Total	247,864	255,080	266,340	269,324	272,217	NP	NP
Imported	0	0	0	0	0	NP	NP
Groundwater	0	0	0	0	0	NP	NP
Surface	241,288	245,300	253,200	255,400	256,500	NP	NP
Recycled	6,576	9,780	13,140	13,924	15,717	NP	NP

Drought Supply and Plans			
Drought Supply (af)	Year 1: 227,360	Year 2: 183,680	Year 3: 127,680
Significant Droughts	1976-1977, 1988-91, 2008-09		
Storage Practices	EBMUD stores water in reservoirs upcountry, in the San Leandro reservoir and other local sites. EBMUD is exploring the use of groundwater basins for long-term storage.		
Drought Plan	With a 15% shortfall, EBMUD will institute water use restrictions and promote conservation. With a 15-25% shortfall, EBMUD will declare a water emergency and procure a supplemental supply. With greater shortfalls, the effort will be intensified to increase conservation.		

Water Conservation Practices	
CUWCC Signatory	Yes
Metering	On track to have all accounts metered within 5 years.
Conservation Pricing	Conserving rate structure.
Other Practices	

Notes:

(1) Recycled water accounts are included with irrigation/landscape accounts.

continued

Water Service Adequacy, Efficiency & Planning Indicators					
Water Planning	**Description**			**Planning Horizon**	
Water Master Plan	Water Supply Master Plan			2010 - 2040	
Upcountry Utility Master Plan	Contains recommended Capital Plan			2009 - 2019	
UWMP	Systemwide			2005 - 2025	
Capital Improvement Plan	Systemwide			FY 10/11 - FY 14/15	
Emergency Response Plan	Emergency contacts and procedures			NA	
Service Challenges					
None reported.					
Service Adequacy Indicators					
Connections/FTE	144		O&M Cost Ratio[1]	NA	
MGD Delivered/FTE	0.04		Distribution Loss Rate	10%	
Distribution Breaks & Leaks (2009)	18		Distribution Break Rate[2]	500.2	
Response Time Policy	Initial response w/in 1 hour		Response Time Actual	Resolve problem within 2 days	
Water Pressure	Adequate		Total Employees (FTEs)	2	
Customer Complaints CY 2008:	Odor/taste (0), leaks (0), pressure (0), other (0) at Camanche S. Shore and Pardee				
Water Operator Certification					
The District has 9 personnel in its Pardee section with D2 or higher certification for distribution systems and 6 personnel with a T3 or higher certification for treatment systems. The District is required to have a D2 and T3 certified chief operator for its Camanche South Shore facility; the District is meeting these requirements.					
Drinking Water Quality Regulatory Information[3]					
	#	**Description**			
Health Violations	0	None			
Monitoring Violations	1	Lead and copper sampling 2000			
DW Compliance Rate[4]	100%				

Notes:

(1) Operations and maintenance costs (exc. purchased water, debt, depreciation) per volume (mgd) delivered.

(2) Distribution break rate is the number of leaks and pipeline breaks per 100 miles of distribution piping.

(3) Violations since 1995, as reported by the U.S. EPA Safe Drinking Water Information System.

(4) Drinking water compliance is percent of time in compliance with National Primary Drinking Water Regulations in 2009.

WASTEWATER SERVICES

NATURE AND EXTENT

EBMUD operates wastewater collection, treatment and disposal services at its Camanche South Shore recreation area and its upcountry headquarters facility Pardee Center.

LOCATION

EBMUD has two wastewater treatment plants in the portion of the Mokelumne watershed that lies within Calaveras County. An annual average of 26 mg of wastewater is generated in the multi-county watershed, 98 percent of this is used in the recreational areas.[206]

INFRASTRUCTURE

The Camanche South Shore plant is a three-pond treatment system with two primary treatment ponds and a third pond used for storage and evaporation disposal. Two of the unlined treatment ponds are mechanically aerated, effluent is stored in the third pond where it evaporates. The ponds are separated from Lake Camanche and nearby fish ponds by a levee system. In 2009, the plant processed peak dry weather flows of 91,000 gpd on summer holiday weekends, and an average of 26,750 gpd. There are seven lift stations. Significant portions of the collection system, particularly in the mobile home parks, need upgrade. The treatment system is in fair condition.[207] The plant met all permit conditions in 2009.

Significant portions of the existing sewage collection and transmission systems at the recreation area are old, were not constructed to current engineering standards, and are generally inaccessible. Major portions of the existing sewage collection and transmission systems will be replaced by EBMUD at a cost of $9 million.[208] Specifically, 59 percent of the gravity sewer collection system is more than 30 years old and needs significant upgrade, particularly in the mobile home park area. The project is estimated to cost $12.4 million; no funding source was identified in the District's 2010 CIP.

At the Pardee Center, there is a package wastewater treatment facility with storage ponds and a one-acre land-discharge site. The WWTP was built in 1970, and rehabilitated in 2009. The Pardee design flow is 2,000 gpd during wet months of October through April, according to the permit; whereas, the permit does not limit dry weather flow which is disposed on the spray field. Actual flows ranged from 700 to 1,800 gpd with one spike of 2,600 gpd.[209] In 2005, most of the sewer mainlines were cleaned and most laterals were flushed.

[206] EBMUD, *Mokelumne Watershed and Facilities Assessment Report*, November 2007, p. 5-15.

[207] EBMUD, *Mokelumne Watershed and Facilities Assessment Report*, November 2007, p. 5-21.

[208] RMC Water and Environment, *Mokelumne, Amador and Calaveras IRWMP*, October 2006, pp. 5-11 to 5-13.

[209] Central Valley Regional Water Quality Control Board, *Order No. R5-2003-0119*, 2003.

Table 9-3: EBMUD Wastewater Profile

Wastewater Service Configuration and Demand				
Service Configuration				
Service Type	**Service Provider(s)**			
Wastewater Collection	EBMUD			
Wastewater Treatment	EBMUD			
Wastewater Disposal	EBMUD			
Recycled Water	None			
Service Area				
Collection:	Camanche South Shore Recreation Area, Pardee Center			
Treatment:	Camanche South Shore Recreation Area, Pardee Center			
Recycled Water:	NA			
Sewer Connection Regulatory/Policies				
No new connections authorized or planned in EBMUD-owned recreation areas.				
Onsite Septic Systems in Service Area				
None				
Service Demand				
	Connections (2010)			**Flow (mgd)**
Type	**Total**	**Inside Bounds**	**Outside Bounds**	**Average**
Total	272	0	0	0.023
Residential	263	0	263	
Commercial	9	0	9	
Industrial	0	0	0	
Projected Demand (in millions of gallons per day)				
	2005	**2009**	**2015**	**2025**
Avg. dry weather flow	0.028	0.028	0.028	0.028
Peak wet weather flow	0.094	0.094	0.094	0.094
Note:				
(1) NA: Not Applicable; NP: Not Provided.				

continued

Wastewater Infrastructure

Wastewater Treatment & Disposal Infrastructure

System Overview

Treatment level: Secondary treatment

Disposal method: Percolation and evaporation at Camanche South Shore. At Pardee Center, percolation and evaporation during winter months and spray irrigation during summer months. Dried solids are disposed of by a contractor.

Facility Name	Capacity	Condition	Yr Built
Camanche South Shore WWTP	0.045 mgd	Fair	1960s
Camanche South Shore Percolation Ponds	6.56 mg	Good	1960s
Pardee Center WWTP	.002 mgd	Good	1970
Pardee Center Percolation Pond	1.4 af	Good	1970

Treatment Plant Daily Flow (mgd)	Average Dry	Peak Wet
Camanche S. Shore WWTP	0.03 mgd	0.09 mgd
Pardee Center WWTP	1,250 gpd	2,600 gpd

Infrastructure Needs and Deficiencies

Camanche South Shore: WWTP flows in July are at 86 percent of WWTP capacity, although adequate freeboard in ponds has been maintained. Best management practices call for service providers to begin planning WWTP capacity expansion once flows exceed 85 percent of capacity.

Pardee Center: None identified

Pardee Recreation Area: if EBMUD raises Pardee reservoir, the Pardee recreation area will be relocated south to the Calaveras County side of the lake with related wastewater infrastructure needs.

Wastewater Collection & Distribution Infrastructure

Collection & Distribution Infrastructure

Sewer Pipe Miles	12.3	Sewage Lift Stations	8

Other:

Infrastructure Needs and Deficiencies

Camanche South Shore: 59% of gravity sewer collection system is more than 30 years old and needs significant upgrade, particularly in the mobile home park area. The project is projected to cost $12.4 million; no funding source was identified in the District's 2010 CIP.

Infiltration and Inflow

The District evaluated rainfall-dependent infiltration and inflow in the Camanche South Shore system, and identified no areas with a greater than 20% return ratio. Sewer lines are video-inspected for breaks, obstacles and defects that could lead to I&I issues.

Wastewater Regional Collaboration and Facility Sharing

Regional Collaboration

The District collaborated with local water and wastewater providers in developing the 2006 Mokelumne/Amador/Calaveras Integrated Regional Water Management plan.

Facility Sharing Practices and Opportunities

None identified.

Wastewater Service Adequacy, Efficiency & Planning			
Regulatory Compliance Record, 1/2000-5/2012			
Formal Enforcement Actions	0	Informal Enforcement Actions	1
Enforcement Action Type	**Date**	**Description of Violations**	
Oral Communication	12/21/2000	Effluent condition	
Total Violations, 2005-9			
Total Violations	60	Priority Violations	7
Violation Type, 2005-9			
Category 1 Pollutant in Effluent	3	Other Pollutant in Effluent	4
Order or Code Violation[1]	14	Groundwater Degradation	0
Deficient Monitoring	0	Late or Deficient Reporting	39
Service Adequacy Indicators			
Sewer Overflows 1/1/2008 to 8/15/2010[2]	1	Sewer Overflow Rate[3]	8
Treatment Effectiveness Rate[4]	99%	Response Time Policy[5]	<=24 hours
Total Employees (FTEs)	1.50	Response Time Actual	2 hours
MGD Treated per FTE	0.02		
Customer Complaints CY 2008: None			
Wastewater Operator Certification			
Treatment Plant Classification	Grade 1 (Camanche)	Grade I Operators	1
Grade II Operators	3	Grade III Operators	0
Grade IV Operators	1	Grade V Operators	1
Source Control and Pollution Prevention Practices			
Residential users of mobile home parks are subject to targeted lateral inspections to identify inflow source and potential blockage points and/or causes (e.g., fats, oils, grease, debris, solid materials). Routine maintenance is required for grease traps at the concessionaire's food service locations. Public education about proper handling and disposal of fats, oils and grease is targeted around periods of peak recreation use and high reported incident levels.			
Collection System Inspection Practices			
System was evaluated by CCTV in 2005. Entire system is cleaned on a 3-year cycle, with hot spots cleaned as frequently as once per month. Sewer lines are video-inspected for breaks, obstacles and defects.			
Service Challenges			
Access to collection system limited due to small number of manholes and cleanouts, and particularly limited access in mobile home park. Proximity of surface water supplies requires a levee system. The CASS collection system was built by a concessionaire, and subsequently transfered to EBMUD.			
Wastewater Planning			
Plan	**Description**	**Planning Horizon**	
Wastewater Master Plan	Mokelumne Facilities Assessment	2007 - 2020	
	Upcountry Utilities Infrastructure	2009 - 2019	
Wastewater Collection Plan	Upcountry Wastewater Collection System Condition Assessment	2005	
Capital Improvement Plan	Adopted annually	FY 2011 - 2016	
Sanitary Sewer Management Plan	Adopted 2010	2010 - 2015	
Emergency Plan	Emergency contacts and procedures	NA	

Notes:

(1) Order or Code Violations include sanitary sewer overflow violations.

(2) Total number of overflows experienced (excluding those caused by customers) from 1/1/2008 to 8/15/2010 as reported by the agency.

(3) Sewer overflows from 1/1/2008 to 8/15/2010 (excluding those caused by customers) per 100 miles of collection piping.

(4) Total number of compliance days in 2009 per 365 days.

(5) Agency policy, guidelines or goals for response time between service call and clearing the blockage.

10. MOKELUMNE HILL SANITARY DISTRICT

Mokelumne Hill Sanitary District (MHSD) provides wastewater collection, treatment and disposal services to the unincorporated community of Mokelumne Hill.

AGENCY OVERVIEW

FORMATION AND BOUNDARY

MHSD was formed on August 20, 1945 as an independent special district.[210] The District was formed for the purpose of constructing and operating a system of collection, treatment and disposal of sewage for the community of Mokelumne Hill.

The principal act that governs the District is the Sanitary District Act of 1923.[211] The principal act empowers the District to acquire, plan, construct, reconstruct, alter, enlarge, lay, renew, replace, maintain, and operate garbage dumpsites and garbage collection and disposal systems, sewers, drains, septic tanks, and sewerage collection, outfall, treatment works and other sanitary disposal systems, and storm water drains and collection, outfall and disposal systems, and water recycling and distribution systems.[212] Districts must apply and obtain LAFCO approval to exercise services authorized by the principal act but not already provided (i.e., latent powers) by the district at the end of 2000.[213]

The boundaries of MHSD extend from west of Del Orto Road along SR 49 to Italian Vista Court along SR 26 in the east, and from Sierra Lane in the north to south of Corral Flat Road as shown on Map 9-1. The District has a boundary area of approximately 1.33 square miles or 848 acres.

The District's SOI was last updated by LAFCO in 2005, and is coterminous with the District's boundaries.[214]

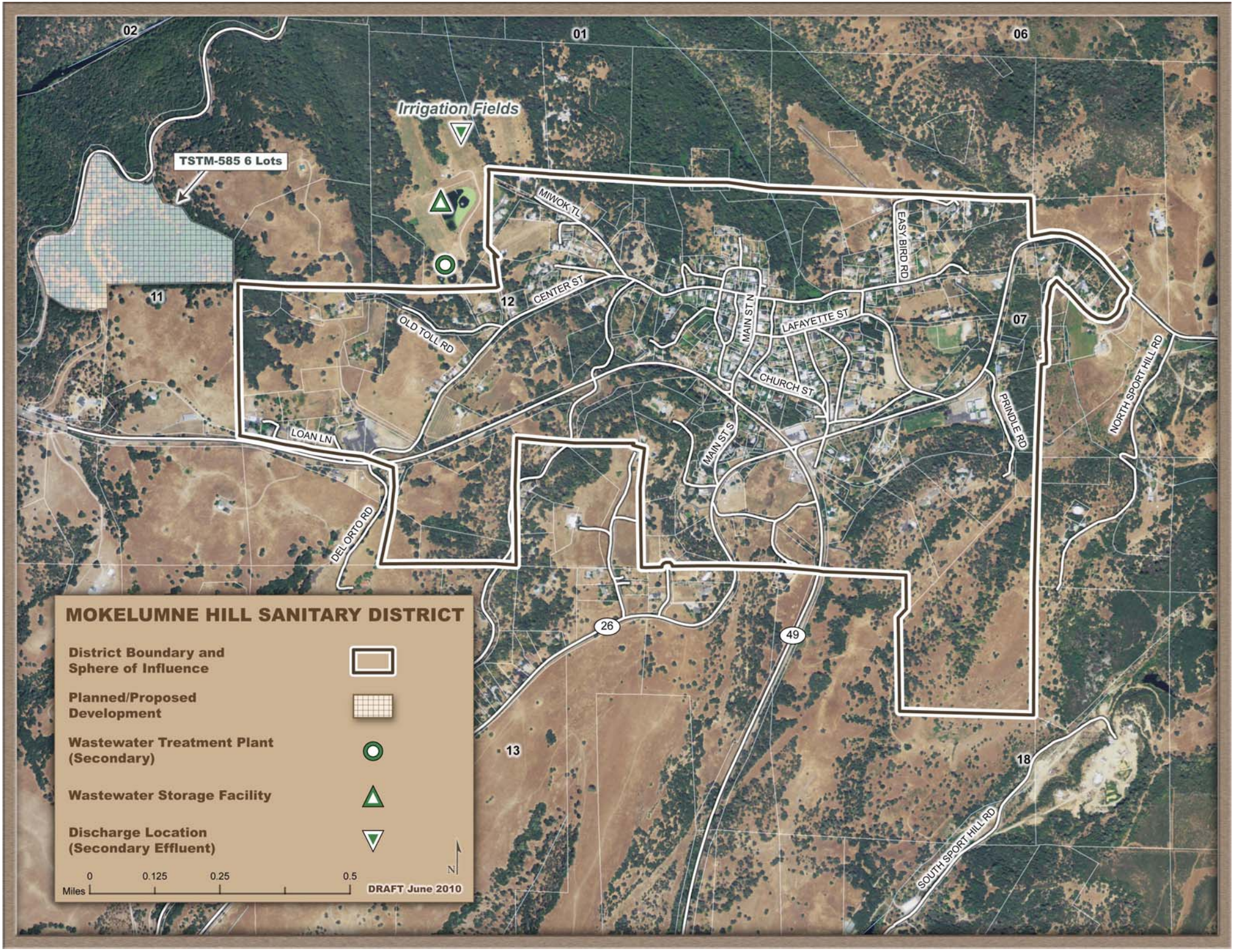
[210] Board of Equalization Official Date.

[211] California Health & Safety Code, Div. 6, Pt. 1, §§ 6400-6830.

[212] California Health & Safety Code §6512.

[213] Government Code §56824.10.

[214] LAFCO Resolution 2005-01.


02
01
06
Irrigation Fields
TSTM-585 6 Lots
MIWOK TL
EASY BIRD RD
11
12
CENTER ST
OLD TOLL RD
MAIN ST N
LAFAYETTE ST
07
CHURCH ST
PRINDLE RD
NORTH SPORT HILL RD
LOAN LN
MAIN ST S
DEL ORTO RD
26
49
13
18
SOUTH SPORT HILL RD
MOKELUMNE HILL SANITARY DISTRICT
District Boundary and Sphere of Influence
Planned/Proposed Development
Wastewater Treatment Plant (Secondary)
Wastewater Storage Facility
Discharge Location (Secondary Effluent)
0
0.125
0.25
0.5
Miles
N
DRAFT June 2010

Boundary History

Since formation, the boundaries of the District have been changed five times, according to LAFCO and Board of Equalization records. At least four of the five changes were annexations. The most recent boundary change was completed in 1988.

Table 10-1: MHSD Boundary History

Project Name	LAFCO Resolution #	BOE Effective Date	Change Type	Recording Agency
Lewis, Snead, Peek Reorganization	71-08	12/28/1971	Annex	BOE, LAFCO
No name reported		4/21/1975	Not reported	BOE
Pearce Addition[1]	84-?	6/23/1988	Annex	BOE, LAFCO
Wendell Addition	84-01	6/23/1988	Annex	BOE, LAFCO
Belle Addition[1]	87-?	6/23/1988	Annex	BOE, LAFCO

Note:
1) Correspondance in the LAFCO archives indicate that these annexations were approved; however, no resolutions for these actions were available.

LOCAL ACCOUNTABILITY AND GOVERNANCE

The District has a five-member governing body. Board members are elected at large to staggered four-year terms. There has not been a contested election for a board seat since at least 2000. The District does not have an office. Meetings are held at a Board Member's office or the town library, and administrative work is completed at the plant operator's and board members' residences.

Table 10-2: MHSD Governing Body

Governing Body				
Members	**Name**	**Position**	**Began Serving**	**Term Expires**
	Marcy Hosford	President	1977	2013
	Samual Chastin	Member	2007	2013
	James Aarons	Member	2002	2015
	Michael Hansen	Member	2011	2015
	Bob Pynenberg	Member	2009	2013
Manner of Selection	Elected at-large			
Length of Term	Two-year term			
Meetings	Date: Third Thursday of the month		Location: Hosford Real Estate Office	
Agenda Distribution	Posted at the post office			
Minutes Distribution	Available upon request			
Contact				
Contact	District Manager			
Mailing Address	PO Box 209 Mokelumne Hill, CA 95245			
Email/Website	None			

District outreach efforts include agendas posted at the post office, and notifications in the local newspaper when necessary. The District reported that it is trying to transition to using more

available technology for its outreach activities, such as email, websites, and possibly a call-in service for emergency needs. The District does not presently maintain a website; although, meeting announcements are occasionally available on the Mokelumne Hill Community website.

With regard to customer service, complaints may be submitted in person, phone, or in writing to the district manager or a board member. There is no emergency number to reach the District should the need arise; although, due to the small size of the community, the plant operator or a board member is easily contacted. The plant operator tracks complaints to ensure that they have been addressed adequately. Complaints are generally related to odor from the sewage system or sewage spills. The District reported that it received a total of four complaints in CY 2008.

The District demonstrated accountability in its disclosure of information and cooperation with LAFCO. The agency responded to LAFCO's written questionnaires and cooperated with initial LAFCO document and interview requests, but missed several deadlines to respond to requests for remaining items. All requested documentation was eventually received by LAFCO.

MANAGEMENT

The District's staff consists of three part-time staff or just over 1 full-time equivalent employee—one plant operator, a maintenance technician, and a secretary. Due to increasing state reporting and training requirements, the plant operator reported that additional staffing may be necessary to continue operating at a satisfactory level in the future.

All staff report to the plant operator or a board member. The plant operator reports to the Board at monthly meetings. Due to the small size of the District, employees are not regularly evaluated. Employee productivity is tracked through a minimal time sheet and a daily log that is maintained at the plant.

Overall district performance is evaluated annually in the District's budget and annual financial statement. While the Regional Water Quality Control Board does not conduct regular inspections and reports, the Board does monitor district compliance with regulations through district-produced monitoring reports and random inspections. The District does not practice formal benchmarking with similar service providers, but does informally track the rates of other providers in the County.

With regard to planning documents and tools, the District does not have a capital improvement plan, a sewer system management plan or similar documents which address long-term capital needs or growth projections.

The District reported that financial planning efforts include annual preparation of budgets and annually audited financial statements; the most recent audit provided by the District was for FY 09-10. The most recent adopted budget provided was for FY 09-10. MHSD is the only special district in Calaveras County to fail to file financial reports with the State Controllers' Office (SCO). Of the most recent 4 years reported by SCO; the District failed to file in three of those years (FY 04-05, FY 05-06 and FY 07-08).[215]

SERVICE DEMAND AND GROWTH

The District bounds encompass residential, commercial, agricultural, and public land uses. Existing residential areas within the District are single family dwelling units, concentrated in the

[215] California State Controllers Office, *Special Districts Annual Report*, FY 04-05 through FY 07-08. The SCO reports for FY 08-09 and FY 09-10 have not yet been released.

central portion of the District in the community of Mokelumne Hill, and rural residential in the remainder of the District. Public land uses within the District include the Mokelumne Hill Cemetery and the Mokelumne Hill Elementary School.

Local business activities include a convenience store, two restaurants, a hotel, a used car lot, and a thrift shop. Major employers within the District include the Hotel Leger on Main Street.

The District considers its customer base to be the wastewater connections served and the residents within the District boundaries. As of 2010, the District provided wastewater services to 349 wastewater connections—326 single family residential, 16 multi-family residential, and 7 commercial connections. The estimated number of residents in 2010 was 771, based on the number of residential connections and average household size in the County. The District's population density was approximately 580 per square mile, compared with the countywide density of 45 per square mile.[216] The projected population growth rate from 2010 to 2030 is six percent, based on the District's approximation of one new connection annually.[217] By comparison, the countywide growth rate for the same period is projected to be 40 percent by the Department of Finance.

While the District does not anticipate significant growth in the future, land use designations for undeveloped areas within the District accommodate growth in the future. Single family residential infill is planned to be constructed on two parcels south of Center Street. Multi-family residential development is planned in the northwestern portion of the District, along Miwok Trail, at a density of six units per acre, and south of Lafayette Street in the eastern portion of the District, at a density of 12 units per acre. Commercial and residential mixed use development is planned within the community of Mokelumne Hill along Highway 49, Main Street, Center Street and Maretta Lane. Commercial and commercial/rural residential mixed use development is planned along Highway 49 in the western portion of the District, and along Highway 26 in the southern portion of the District.[218]

The District is not a land use authority, and does not hold primary responsibility for implementing growth strategies.

[216] Based on the County population, as reported by the Department of Finance for 2009, and the estimated population for the District according to the number of residential connections served and countywide average household size of 2.3 in 2009.

[217] Interview with Phil McCartney, Plant Operator, Mokelumne Hill Sanitary District, March 24, 2010.

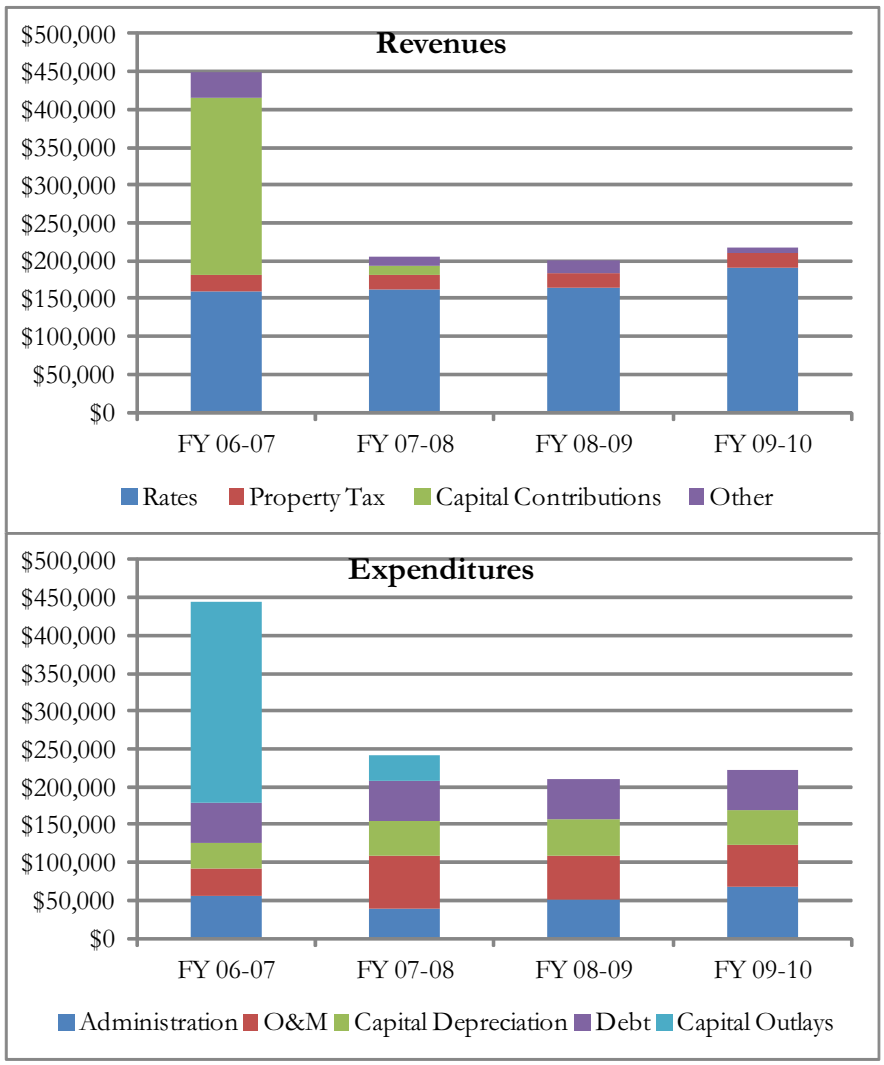
[218] Calaveras County, Mokelumne Hill Community Plan Land Use Designations Map, January 2008.

FINANCING

The District reported that while the current financing level is adequate to deliver services presently, additional financing will be necessary to increase staffing levels in the future in order to comply with state reporting, monitoring and training demands.

The District operates out of a single fund for operation and maintenance purposes. The District maintains a separate fund for capital improvements.

Figure 10-2: MHSD Revenues and Expenditures, 2006-10



The District's total revenues were approximately $0.22 million in FY 09-10. Revenue sources include service charges (88 percent), property taxes (8 percent), interest (3 percent), connection fees (1 percent), and other (less than one percent).

The District's expenditures were approximately $0.22 million in FY 09-10. Of this amount, 26 percent was spent on operations and maintenance, 25 percent was spent on debt payments, 32 percent was spent on administration, and 23 percent was allocated to capital depreciation.

The District's revenue net capital contributions has remained relatively stable over the period FY 07 to FY 10. District expenditures, including depreciation, remained within district revenues in FYs 07 and 08. Total expenditures (including depreciation) slightly exceeded revenues in FYs 09 and 10.

The District has not quantified long-term capital improvement needs, but instead addressed capital needs on an annual basis. Significant capital outlays in the past have been financed with bonds, loans and capital reserves. In FY 10, the District spent $0 on capital outlays while depreciation eroded $47,000 in its capital assets. The District proposed a 32 percent rate increase in FY 11-12; if approved by the ratepayers, the District will also receive $1.6 million in capital funds from California Clean Water State Revolving Fund.

The District had $0.76 million in long-term debt at the end of FY 09-10, of which four percent was for a bond issued in 1974, four percent was for a loan issued by CCWD, and 92 percent was for a capital improvement loan from the USDA.

The District does not have a formal policy on maintaining financial reserves. MHSD had $44,464 in unrestricted net assets at the close of FY 09-10. The amount is equivalent to 20 percent of operating expenditures in that year. In other words, the District maintained 2.4 months of working reserves. In addition, the District had $0.4 million in reserves restricted for debt service and capital projects.

The District engages in joint financing arrangements related to billing with Calaveras Public Utility District.

WASTEWATER SERVICES

NATURE AND EXTENT

MHSD provides wastewater collection, treatment and disposal services to the unincorporated community of Mokelumne Hill. All operation and management services are provided directly by the agency through district staff, with the exception of billing which is provided by Calaveras Public Utility District.

CCWD provides backup emergency response in the event that the District does not have the necessary tools or equipment to repair a problem.

LOCATION

MHSD provides all services entirely within the District's boundaries. No services are provided outside the District's boundaries. There are no unserved areas with septic systems within the District.

INFRASTRUCTURE

Key MHSD wastewater infrastructure includes one wastewater treatment plant, irrigation fields, 3.2 miles of sewer pipes and two lift stations.

Effluent is treated to a secondary level at the WWTP, discharged into a storage pond and then used to irrigate a 20-acre field on the WWTP property, during summer months, The field is used for cattle grazing. The treatment plant was originally completed in 1974. The District reported that the plant is generally in good condition. The District reported that there is a need to upgrade the chlorination system, which has occasionally stopped working in the past. An upgrade to a commercial unit would ensure reliable operation. A new chlorination system would cost approximately $5,000.

The WWTP has a permitted capacity of 0.15 mgd average dry weather flow. As of 2010, there was an average dry weather flow of 0.035 mgd or 23 percent of the WWTP's permitted capacity. However, during wet weather months, the limiting factor of the treatment system is the District's treated effluent storage capacity, as the District is restricted from irrigating during those months and must store the effluent until the dry months. The District estimated that during wet weather months, it has sufficient capacity to treat and store on average 0.06 mgd. Consequently, during the wet weather months, the District uses approximately 58 percent of its capacity. The District does not presently have any will serve letters, but reports that there is sufficient capacity to serve infill and future development.

Peak wet weather flow was .125 mgd in 2006, which is still within the plants permitted capacity for average dry weather flows.[219] During wet periods the District stores excess effluent in a storage reservoir that has a capacity of approximately 0.96 mg.

The collection system was originally installed in 1947 and extended and updated in 1974, the 1990s and 2005. Of the 3.2 miles of existing pipeline, approximately 6,800 feet (40 percent of the total system) remain of the original clay piping. The District identified the collection system as generally being in good condition, with the exception of the 6,800 feet of original clay piping that is in poor condition and needs to be replaced. The District is in the process of applying for funding to replace this portion of the system, and estimates that it will cost approximately $1.6 million. Once this section has been completed, the District reported that the collection system will have no infrastructure needs or deficiencies. In order to CCTV the system before beginning this replacement project, the District hopes to purchase CCTV equipment.

Additional facility and equipment needs that may enhance district efficiency are a space at the plant with a computer, an internet connection, a printer, and a company vehicle. The plant operator presently completes administrative work at his residence.

[219] Peak flows could have been higher as the flow meter maxed out at 125,000 mgd.

Table 10-3: MHSD Wastewater Profile

Wastewater Service Configuration and Demand				
Service Configuration				
Service Type	**Service Provider(s)**			
Wastewater Collection	MHSD			
Wastewater Treatment	MHSD			
Wastewater Disposal	MHSD			
Recycled Water	None			
Service Area				
Collection:	Unincorporated community of Mokelumne Hills which is located at the intersection of SRs 49 and 26.			
Treatment:	Unincorporated community of Mokelumne Hills which is located at the intersection of SRs 49 and 26.			
Recycled Water:	NA			
Sewer Connection Regulatory/Policies				
According to District policies, areas inside the District that are within a quarter mile of the system must connect to the MHSD system.				
Onsite Septic Systems in Service Area				
There are no septic systems within the District's boundaries.				
Service Demand				
	Connections (2010)			**Flow (mgd)**
Type	**Total**	**Inside Bounds**	**Outside Bounds**	**Average**
Total	349	349	0	0.035
Residential	342	342	0	0.034
Commercial	7	7	0	0.001
Industrial	0	0	0	-
Projected Demand (in millions of gallons per day)				
	2005	**2010**	**2015**	**2025**
Avg. dry weather flow	0.035	0.035	0.036	0.037
Peak wet weather flow	0.125	0.067	NP	NP
Note:				
(1) NA: Not Applicable; NP: Not Provided.				

Wastewater Infrastructure

Wastewater Treatment & Disposal Infrastructure

System Overview

Treatment level: Secondary
Disposal method: Treated effluent is stored in a reservoir and then used to irrigate a field on the WWTP property. Dried solids are disposed in a landfill.

Facility Name	Capacity	Condition	Yr Built
Mokelumne Hill WWTP	0.15 mgd	Good	1974
Storage reservoir	0.96 mg	Good	1974

Treatment Plant Daily Flow (mgd)	Average Dry	Peak Wet
Mokelumne Hill WWTP	0.035 mgd	0.067 mgd

Infrastructure Needs and Deficiencies

The District reported that there is a need to upgrade the chlorination system at the plant to a commercial unit that would ensure reliable operation. A new chlorination system would cost approximately $5,000.

Wastewater Collection & Distribution Infrastructure

Collection & Distribution Infrastructure

Sewer Pipe Miles	3.2	Sewage Lift Stations	2

Other:

Infrastructure Needs and Deficiencies

The District reported that it needs to replace approximately 6,800 feet of pipes that were originally installed in 1947 to reduce I/I issues.

Infiltration and Inflow

The District has a peaking factor of approximately 2 during wet weather, which indicates moderate problems with infiltration and inflow. The District plans to replace 6,800 feet of pipes to reduce the I/I flow.

Wastewater Regional Collaboration and Facility Sharing

Regional Collaboration

The District was a member of the Calaveras County Water/Wastewater Technical Advisory Team, which met to discuss common issues and concerns regarding water and wastewater services within the County. In addition, the District collaborated with other agencies on the County General Plan Water Element in 2009.

Facility Sharing Practices and Opportunities

The District does not presently practice facility sharing with other agencies, but hopes to collaborate with other providers on a joint facility for biosolids disposal.

Wastewater Service Adequacy, Efficiency & Planning			
Regulatory Compliance Record, 1/2000-5/2012			
Formal Enforcement Actions	0	Informal Enforcement Actions	2
Enforcement Action Type	**Date**	**Description of Violations**	
Notice of Violation	8/28/2006	Effluent conditions (7), deficient reporting (15), order conditions (3)	
Oral Communication	2/27/2009	Late report (2)	
Total Violations, 2005-9			
Total Violations	74	Priority Violations	3
Violation Type, 2005-9			
Category 1 Pollutant in Effluent	7	Other Pollutant in Effluent	0
Order or Code Violation[1]	10	Groundwater Degradation	0
Deficient Monitoring	0	Late or Deficient Reporting	57
Service Adequacy Indicators			
Sewer Overflows 1/1/2008 to 8/15/2010[2]	0	Sewer Overflow Rate[3]	0
Treatment Effectiveness Rate[4]	99%	Response Time Policy[5]	None
Total Employees (FTEs)	1.25	Response Time Actual	Within 2 hours
MGD Treated per FTE	0.03		
Customer Complaints CY 2008: Odor (2), spills (2), other (0)			
Wastewater Operator Certification			
Treatment Plant Classification	Grade 1	Grade I O.I.T Operators	1
Grade II Operators	1	Grade III Collection System Operators	1
Grade IV Operators	0	Grade V Operators	0
Source Control and Pollution Prevention Practices			
None			
Collection System Inspection Practices			
In addition to daily inspection of the system, the District CCTVs lines when necessary. The District does not own its own CCTV equipment, but plans to CCTV portions of the collection system prior to the replacement of 6,800 feet of line. The District has performed smoke testing of the system in the past.			
Service Challenges			
The District realizes the need to replace approximately 60 percent of the collection system. The poor condition of the collection system has caused extraordinarily high repair and maintenance costs in recent years (2008-2010).			

Wastewater Planning		
Plan	**Description**	**Planning Horizon**
Wastewater Master Plan	None	NA
Capital Improvement Plan	None	NA
Sanitary Sewer Management Plan	None	NA
Emergency Plan	Emergency contact information	NA
Other:		

Notes:

(1) Order or Code Violations include sanitary sewer overflow violations.

(2) Total number of overflows experienced (excluding those caused by customers) from 1/1/2008 to 8/15/2010 as reported by the agency.

(3) Sewer overflows from 1/1/2008 to 8/15/2010 (excluding those caused by customers) per 100 miles of collection piping.

(4) Total number of compliance days in 2009 per 365 days.

(5) Agency policy, guidelines or goals for response time between service call and clearing the blockage.

Wastewater Rates and Financing

Wastewater Rates-Ongoing Charges FY 11-12[1]

	Rate Description	Avg. Monthly Charges	Demand[2]
Residential	Flat monthly charge	$41.50	250 gpd

Rate Zones				
None				
Rate Update				
Last Rate Change	7/1/2007	Frequency of Rate Changes		Annually through 2007
Wastewater Development Fees and Requirements				
Connection Fee Approach	Based on land use			
Connection Fee Timing	Upon notification of approval of connection application			
Connection Fee Amount[3]	Residential:	$5,183	Last updated:	2003
Land Dedication Req.	None			
Development Impact Fee	None			

Wastewater Enterprise Revenues, FY 09-10			Expenditures, FY 09-10	
Source	Amount	%		Amount
Total	$217,932	100%	Total	$223,089
Rates & Charges	$191,301	88%	Administration	$67,647
Property Tax	$17,728	8%	O & M	$54,904
Grants	$0	0%	Capital Depreciation	$47,473
Interest	$5,644	3%	Debt	$53,065
Connection Fees	$3,151	1%	Capital Expenditures	$0
Contributed Capital	$0	0%	Other	$0
Other	$108	0%		

Notes:

(1) Rates include wastewater-related service charges and strength and flow charges. Average monthly charges calculated based on average consumption. Rates are rounded for presentation.

(2) Wastewater use assumptions by customer type were used to calculate average monthly charges. Assumed use levels are 250 gallons per home per day, and are consistent countywide for comparison purposes. For further details, see Chapter 4.

(3) Connection fee amount is calculated for a single-family home.

SUMMARY OF DETERMINATIONS

GROWTH AND POPULATION PROJECTIONS

- The estimated number of residents in 2010 was 771, based on the number of residential connections and average household size in the County.
- The population growth within MHSD's boundaries has historically averaged less than one percent annually between 2000 and 2010.
- The District anticipates continued limited growth in the future with approximately one additional connection annually, which would increase the District's population by six percent from 2010 to 2030. By comparison, the countywide growth rate for the same period is projected to be 40 percent by the Department of Finance.
- There are no significant planned or proposed developments of greater than 10 dwelling units within the vicinity of MHSD that could possibly be served by the District.

PRESENT AND PLANNED CAPACITY OF PUBLIC FACILITIES AND ADEQUACY OF PUBLIC SERVICES, INCLUDING INFRASTRUCTURE NEEDS AND DEFICIENCIES

- The MHSD system has sufficient capacity to serve existing connections and significant remaining capacity to serve anticipated demand well into the future, as only 58 percent of the District's capacity is in use.
- The District reported that the treatment plant is generally in good condition, but there is a need to upgrade the chlorination system, which has occasionally stopped working in the past.
- The District identified 40 percent of the collection system as being in good condition, and the other 60 percent is in poor condition and needs to be replaced.
- Additional facility and equipment needs that may enhance district efficiency are a space at the plant with a computer, an internet connection, a printer, and a company vehicle.
- Wastewater services offered by the District appear to be minimally adequate based on overflow rates, peak flows, response times, and treatment effectiveness. The District could improve upon 1) planning efforts, which are absent, 2) accountability and transparency, and 3) regulatory compliance, as the District had a slightly higher rate of violations per population served than the median rate throughout the County.

FINANCIAL ABILITY OF AGENCIES TO PROVIDE SERVICES

- The District reported that while the current financing level is adequate to deliver services presently, additional financing will be necessary to increase staffing levels in the future in order to comply with state reporting, monitoring and training demands.
- The District has not quantified long-term capital improvement needs, but instead addresses capital needs on an annual basis.
- MHSD has a relatively low capital investment rate compared with other providers. The District invested less in its capital assets than it consumed due to wear and tear.

- MHSD has the lowest service rates and connection fees among the service providers. The District should update its rates to finance appropriate capital replacement and adequate service levels .

STATUS OF, AND OPPORTUNITIES FOR, SHARED FACILITIES

- MHSD does not presently practice facility sharing, but hopes to collaborate with other districts on a joint sludge disposal facility in the future.

ACCOUNTABILITY FOR COMMUNITY SERVICE NEEDS, INCLUDING GOVERNMENTAL STRUCTURE AND OPERATIONAL EFFICIENCIES

- MHSD demonstrated minimal accountability through its disclosure of information as indicated by the District's failure to respond in a timely manner to LAFCO requests for information.
- Accountability is constrained by a lack of constituent outreach efforts, including the absence of a website, and limited interest in serving on the governing body, as indicated by uncontested elections.
- Meeting transparency could be improved by holding board meetings at a public facility.
- Potential governance alternatives identified for the District to improve operational efficiencies include 1) contracting with CCWD for operation and maintenance services, 2) dissolution and absorption of wastewater services by an existing agency in the area, or 3) dissolution and creation of a new agency to take on wastewater and other services in the community, such as water and fire services.

SOI OPTIONS AND DETERMINATIONS

The District's SOI was last updated by LAFCO in 2005, and is coterminous with the District's boundaries.[220]

AGENCY PROPOSAL

MHSD did not propose changes to its SOI, and reported that it did not anticipate any significant growth in the future that would necessitate a change to its SOI.

SOI OPTIONS

Three potential options have been identified with respect to the MHSD SOI.

Option #1: Provisional Coterminous SOI

By adopting a provisional SOI, LAFCO may revisit the District's SOI at a later date to ensure that recommended conditions are adequately addressed in a timely manner. The Commission may wish to stipulate accountability measures and planning efforts to allow MHSD to make service enhancements, before a longer-term SOI is adopted.

MHSD is a small district with minimal staffing that has faced accountability challenges. Should the District desire to retain the existing governing structure over wastewater services, enhanced accountability practices are recommended, such as developing a website, holding meetings at a public facility, promoting constituent involvement in board activities, and additional staffing to promptly address any public requests. In addition, the District could improve service adequacy by initiating planning efforts, such as creating a multi-year capital improvement plan and completing a rate study in order to update rates accordingly to cover operation costs and depreciation of capital assets.

Another alternative to improve adequacy of district services and simultaneously retain a level of local control may be contracting for operation and maintenance services with CCWD. Benefits of contracting with CCWD would be reduced operation and maintenance costs and improved regulatory compliance. In this scenario, MHSD would continue to govern the activities of the District and it would still be recommended that the District make suitable improvements to management and accountability practices as previously discussed.

Option #2: Zero SOI

A zero SOI would signify that LAFCO anticipates the eventual dissolution of MHSD and the transfer of its services to another entity, such as a new, multi-service CSD or an existing entity that is empowered to take on wastewater services.

Depending on priorities and needs of the community, one option may be the dissolution of the District and services assumed by another overlapping agency, such as CCWD or Calaveras PUD, which are both empowered to take on wastewater services. Being governed by a large professionally organized agency may provide constituents with an enhanced level of accountability—with additional constituent outreach efforts, public interest in board activities, and greater staffing levels.

[220] LAFCO Resolution 2005-01.

In the event that CCWD were to take over wastewater services in the area, CCWD might form an improvement district encompassing the community through a vote by its Board. Due to the countywide nature of CCWD, the constituents in Mokelumne Hill may encounter a loss of local control. Conversely, as CCWD offers professional staffing levels and standardized protocol for customer requests and complaints, the constituents may benefit from greater public accessibility and enhanced transparency.

Another governance alternative may be the complete dissolution of MHSD and CPUD (the overlapping water provider) and the formation of a new agency to take on water and wastewater services in the area. A community service district would also be able to take on additional functions, such as fire, park, lighting, and cemetery services. While CPUD demonstrated adequate service levels and full accountability during the MSR process, a newly formed district may face less opposition as it is an opportunity to start from a clean slate without a preexisting governing body and management structure. The benefits of a new agency that provides several services—in particular, public safety services—may be more interest in serving on the Board, more constituent interest in district activities, potential administrative cost savings, additional resources to apply for loans and grants, and enhanced accountability. On the other hand, given the small size of the Mokelumne Hill community, and the differences in service areas when compared to water and fire services, a new consolidated agency may not be practicable.

Option #3: Retain Coterminous SOI

By retaining the existing coterminous SOI, LAFCO would indicate that the District is not expected to annex or detach territory in the foreseeable future.

ANALYSIS

MHSD provides minimally adequate services and faces challenges with accountability. These deficiencies were not identified in the previous MSR; consequently, the District has not been made aware of management practices that are in need of improvement.

When updating the District's SOI, LAFCO will need to determine the degree to which it values 1) service adequacy, 2) local control and 3) opportunity for improvement. If LAFCO would like to ensure adequate service levels, then the suitable SOI options would be Options 1 or 2. Should LAFCO value local control over level of service then Options 1 or 3 would be appropriate. If LAFCO determines that the District has not had adequate notice of the deficiencies nor sufficient time to address the issues of concern, then a provisional SOI would allow for a judicious amount of time as defined by the Commission to make necessary improvements. Conversely, if the Commission feels that the District is aware of the insufficiencies, but has failed to make efforts at improvement, then a zero SOI would be recommended.

Should the Commission choose to adopt a provisional SOI, LAFCO will need to set specific conditions for the District to meet within a required time frame. A minimum of two years is recommended to allow the District to complete and implement the recommended studies. Examples of LAFCO conditions that could be established in response to recognized deficiencies include:

1) Lack of constituent outreach: Create a website where service related information, contact information, and board meeting details, agendas, and minutes are available.
2) Lack of an emergency contact system for constituents: Set up a call in service for emergency purposes.

3) Board meetings may lack transparency as they are held at a Board Member's office: Hold meetings at a public venue.

4) Lack of a capital improvement plan: Identify, prioritize, and budget for existing and anticipated capital needs in a five-year capital improvement plan.

5) Rates are inadequate to cover services and depreciation and have not been updated in three years: Complete a rate study and update rates as recommended. (The District reported that it is considering a rate increase in 2012.)

DRAFT SOI DETERMINATIONS

Present and Planned Land Uses

The District bounds encompass residential, commercial, agricultural, and public land uses. Existing residential areas within the District are single family dwelling units, concentrated in the central portion of the District in the community of Mokelumne Hill, and rural residential in the remainder of the District. Public land uses within the District include the Mokelumne Hill Cemetery and the Mokelumne Hill Elementary School.

While the District does not anticipate significant growth in the future, land use designations for undeveloped areas within the District accommodate growth in the future. Single family residential infill is planned to be constructed on two parcels south of Center Street. Multi-family residential development is planned in the northwestern portion of the District, along Miwok Trail, at a density of six units per acre, and south of Lafayette Street in the eastern portion of the District, at a density of 12 units per acre. Commercial and residential mixed use development is planned within the community of Mokelumne Hill along Highway 49, Main Street, Center Street and Maretta Lane. Commercial and commercial/rural residential mixed use development is planned along Highway 49 in the western portion of the District, and along Highway 26 in the southern portion of the District.[221]

Present and Probable Need for Public Facilities and Services

As of 2010, the District provided wastewater services to 349 wastewater connections—326 single family residential, 16 multi-family residential, and 7 commercial connections. The estimated number of residents in 2010 was 771, based on the number of residential connections and average household size in the County. The District's population density was approximately 580 per square mile, compared with the countywide density of 45 per square mile.[222] The projected population growth rate from 2010 to 2030 is six percent, based on the District's approximation of one new connection annually.[223] By comparison, the countywide growth rate for the same period is projected to be 40 percent by the Department of Finance.

Based on the District's projected population growth over the next 20 years, by the year 2030 the District is projected to have an ADWF of approximately 0.038 mgd, which is well within the District's permitted and actual capacity.

[221] Calaveras County, Mokelumne Hill Community Plan Land Use Designations Map, January 2008.

[222] Based on the County population, as reported by the Department of Finance for 2009, and the estimated population for the District according to the number of residential connections served and countywide average household size of 2.3 in 2009.

[223] Interview with Phil McCartney, Plant Operator, Mokelumne Hill Sanitary District, March 24, 2010.

Present Capacity of Public Facilities and Adequacy of Public Service

The MHSD system has sufficient capacity to serve existing connections and significant remaining capacity to serve anticipated demand well into the future, as only 58 percent of the District's capacity is presently in use and future growth is anticipated to be minimal.

Wastewater services offered by the District appear to be minimally adequate based on overflow rates, peak flows, response times, and treatment effectiveness. The District could improve upon 1) planning efforts, which are absent, 2) accountability and transparency, and 3) regulatory compliance, as the District had a slightly higher rate of violations per population served than the median rate throughout the County.

Existence of Any Social or Economic Communities of Interest

Communities of interest within the District's boundary and SOI includes the unincorporated community of Mokelumne Hill. Economic communities of interest include the businesses located along Main and Center Streets and the landowners within the District that pay a portion of their property tax to MHSD. These communities are not divided by the District's boundaries or SOI.

11. MURPHYS SANITARY DISTRICT

Murphys Sanitary District (MSD) provides wastewater collection, treatment and disposal services to the community of Murphys and the surrounding area.

AGENCY OVERVIEW

FORMATION AND BOUNDARY

MSD was formed on January 12, 1960 as an independent special district.[224] The District was formed to provide wastewater services in the community of Murphys.

The principal act that governs the District is the Sanitary District Act of 1923.[225] The principal act empowers the District to may acquire, plan, construct, reconstruct, alter, enlarge, lay, renew, replace, maintain, and operate garbage dumpsites and garbage collection and disposal systems, sewers, drains, septic tanks, and sewerage collection, outfall, treatment works and other sanitary disposal systems, and storm water drains and storm water collection, outfall and disposal systems, and water recycling and distribution systems.[226] Districts must apply and obtain LAFCO approval to exercise services authorized by the principal act but not already provided (i.e., latent powers) by the district at the end of 2000.[227]

The boundaries of MSD encompass the area within and around the community of Murphys, extending northeasterly along SR 4 to beyond Manzanita Drive and beyond the intersection of French Gulch Road and Murphys Grade Road to the west, as shown on Map 10-1. The District has a boundary area of approximately 2.5 square miles or 1,611 acres.[228]

The District's SOI was last updated by LAFCO in 2005 and is coterminous with the District's boundaries.[229]

Boundary History

Since formation there have been no recorded changes to the District's boundaries, according to the Board of Equalization and LAFCO.

[224] Board of Equalization Official Date.

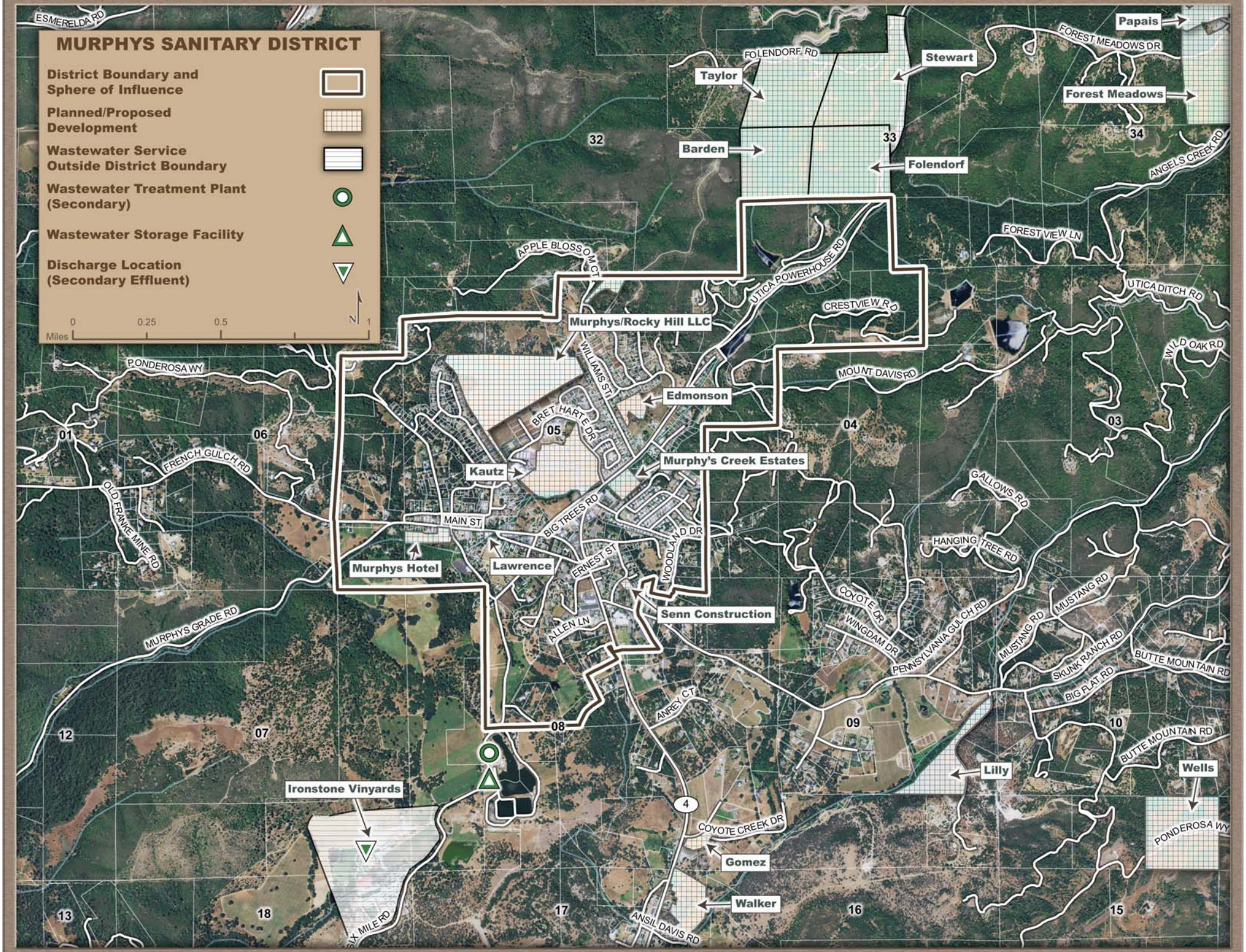
[225] California Health & Safety Code, Div. 6, Pt. 1, §§ 6400-6830.

[226] California Health & Safety Code §6512.

[227] Government Code §56824.10.

[228] LAFCO, *Wastewater MSR*, 2005.

[229] LAFCO Resolution 2005-01.


MURPHYS SANITARY DISTRICT
District Boundary and Sphere of Influence
Planned/Proposed Development
Wastewater Service Outside District Boundary
Wastewater Treatment Plant (Secondary)
Wastewater Storage Facility
Discharge Location (Secondary Effluent)
0
0.25
0.5
1
Miles
N
ESMERELDA RD
Papais
FOREST MEADOWS DR
FOLENDORF RD
Taylor
Stewart
Forest Meadows
32
33
34
Barden
Folendorf
ANGELS CREEK RD
FOREST VIEW LN
APPLE BLOSSOM CT
UTICA POWERHOUSE RD
UTICA DITCH RD
CRESTVIEW RD
Murphys/Rocky Hill LLC
WILLIAMS ST
WILD OAK RD
PONDEROSA WY
MOUNT DAVIS RD
Edmonson
BRET HARTE DR
01
06
05
04
03
FRENCH GULCH RD
Kautz
Murphy's Creek Estates
GALLOWS RD
OLD FRANKE MINE RD
MAIN ST
BIG TREES RD
WOODLAND DR
HANGING TREE RD
Murphys Hotel
Lawrence
ERNEST ST
COYOTE DR
MUSTANG RD
Senn Construction
MURPHYS GRADE RD
ALLEN LN
WINGDAM DR
PENNSYLVANIA GULCH RD
SKUNK RANCH RD
BUTTE MOUNTAIN RD
BIG FLAT RD
ANREY CT
12
07
08
09
10
Lilly
Wells
Ironstone Vinyards
4
COYOTE CREEK DR
PONDEROSA WY
Gomez
Walker
13
18
17
16
15
SIX MILE RD
ANSIL DAVIS RD

LOCAL ACCOUNTABILITY AND GOVERNANCE

The District has a five-member governing body. Board members are elected at large to staggered four-year terms. The District has not had a contested election for a board member position since 2000 or earlier.

Table 11-1: MSD Governing Body

Governing Body				
Members	**Name**	**Position**	**Began Serving**	**Term Expires**
	Patricia Davies	President	2009	2013
	Cynthia Trade	Member	2007	2013
	Delma Harris	Member	2012	2013
	Tim Oflinn	Member	2011	2015
	Ryan Van Cleave	Member	2012	2013
Manner of Selection	Elected at-large			
Length of Term	Four years			
Meetings	Date: 2nd Monday of each month	Location: MSD Office 90 Big Tree Rd. Suite B, Murphys, CA		
Agenda Distribution	In the window of the district office, and via email to interested parties			
Minutes Distribution	Available with the next meeting agenda or upon request			
Contact				
Contact	Board President			
Mailing Address	90 Big Trees Road #B			
Email/Website	gm@murphyssd.org			

The District keeps constituents updated through mailings and public outreach meetings regarding any significant service-related changes or notifications. For example, before the Board adopted the most recent rate increase, the District held meetings to inform the customers of the rate changes. The District does not maintain a website where documents are available to the public.

With regard to customer service, complaints regarding immediate service needs are now received by office staff during working hours and by the answering service after hours and are directed to the on-call employee in person or by phone. These complaints are tracked by the general manager to ensure that they are immediately resolved. The District reported six service-related complaints filed within CY 2008. Complaints are generally related to sewer spills or odor concerns. Complaints regarding policy concerns can be submitted to the Board of Directors in person, by phone, or by letter. Generally, the general manager responds to all complaints. Policy complaints are referred to the Board of Directors through the agenda process. The District began a log to track complaints in May 2012.

The District demonstrated partial accountability in its disclosure of information and cooperation with LAFCO. The agency responded to LAFCO's written questionnaires and cooperated with initial LAFCO document and interview requests, but missed several deadlines to respond to requests for remaining items. There were irregularities with the District's responsiveness to LAFCO's requests as discussed in the next section. All requested documentation was eventually received by LAFCO.

MANAGEMENT

The District has budgeted for five full and part-time staff or 4.5 FTEs: a general manager, an office manager, an administrative assistant, a field supervisor, an operator. Presently, the field employees report to the general manager. Generally, the administrative assistant reports to the office manager. The general manager reports to the Board at regular meetings. Although the District operated without an administrative manager twice during 2010 and general manager for several years with notable impacts on District performance, all positions are presently filled as of May 2012.

The District demonstrated a lack of effective management during the MSR process. During the course of the MSR, LAFCO worked with six separate MSD liaisons, including district staff and board members, and there did not appear to have been communication between most of these various liaisons. The District assigned its administrative manager as LAFCO liaison. There were three separate individuals employed in this position on and off during 2010. During a six-month period when the administrative manager position was vacant, the District assigned two separate board members as LAFCO liaison. Those board members also separated from the District, leaving the operations manager as LAFCO liaison at one point. An MSR author contacted the District on three occasions when she was informed that the previous liaison was no longer with the District, the prior requests had not been passed on to the current liaison, and in fact the District had not clearly established a LAFCO liaison. During that period, the District struggled with managerial deficiencies, including a lack of follow through, a lack of notification of staffing changes, and a lack of agency-wide communication. The current general manager has been professional and responsive in his role as LAFCO liaison, and all board positions have since been filled. However, given both the board and staff turnover levels and recent history, it is unclear how stable the management structure is and whether the District will operate professionally over the long-term.

All district employees are evaluated annually. New employees are reviewed 90 days after beginning employment, and annually thereafter. Employee workload is tracked through a timesheet and monitored daily by the general manager.

Overall district performance is evaluated annually in the District's budget and annually audited financial statement. While the Regional Water Quality Control Board does not conduct regular inspections and reports, the Board does monitor district compliance with regulations through district-produced monitoring reports and random inspections. The District does not practice benchmarking with similar service providers.

The District has prepared a sewer system management plan and a 10-year capital improvement plan as planning tools to address long-term growth and capital needs. The capital improvement plan provides a list of potential projects, engineer's estimates of cost, and expected completion dates. The capital improvement plan was last updated in 2008. Capital improvements are also addressed annually in the District's budget.

Financial planning efforts include annual preparation of budgets, annually audited financial statements, and a 2009 rate study. The most recent audited financial statement provided by the District was for FY 10-11. In FY 08-09, the auditor found a significant deficiency relating to a need for oversight of the District's financial reporting process.[230] The District reported that since then, it had retained a full-time employee to implement new accounting software, and manage the District's accounting needs. The employee meets with the Board Treasurer weekly. However, in FY 10-11,

[230] MSD, *Independent Auditor's Report and Financial Statements, June 30, 2009*, August 18, 2009, p. 14.

the auditor reiterated the significant deficiencies in internal control that the auditor had first noted in 2008.

SERVICE DEMAND AND GROWTH

A majority of the District lies within the County designated Murphys Community Plan area with the exception of 80 acres to the north that lies within the County's Ebbetts Pass Highway Plan area.

The District bounds encompass residential, commercial, industrial, agricultural preserve, and public land uses. Residential areas consist of single family, multi-family and rural residential designations. Single family residential areas are located in the western and central portion of the District, north of Main Street and Highway 4, while rural residential areas are located in the western and eastern extremes of the District. The multi-family residential designation consists of the Murphys Diggins Mobile Home Park, south of Highway 4. Commercial designations are primarily located along Main Street and Highway 4, and industrial activity is located south of Bret Harte Drive. Public land uses consist of the Murphys Cemetery and Albert Michelson Elementary School. A domestic water storage facility is located in the northeastern portion of the District, south of Utica Powerhouse Road.[231]

Local business activities are primarily tourism-related, and include hotels and inns, restaurants, several wine tasting rooms, and boutique shops.

The District considers its customer base to be the wastewater connections served and the residents within the District boundaries. As of 2010, the District provided wastewater services to 783 wastewater connections—639 single family residential, 40 multi-family residential, and 104 commercial connections. The estimated residential population in the District bounds was 1,532 in 2010, based on analysis of the number of residential connections and average household size in the County. The District's population density was approximately 613 per square mile in 2010, compared with the countywide density of 45 per square mile.

The District has experienced approximately 25 percent growth between 2000 and 2010. The District reported that it anticipates slower growth in the future.

There are three developments (Kautz, Edmonson, and Murphys Creek Estates) consisting of a total of 60 new connections and two in-fill connections that have been approved to connect to the District's system. The District reported that there are limited opportunities for growth outside of the District's boundaries, as a majority of the surrounding area is at a lower elevation than the District's wastewater treatment plant, given the cost to pump wastewater up to the plant.[232] The District did not report other proposed developments, and has not developed growth projections.

According to the County, there is one additional planned or proposed development projects within the District's boundaries of greater than five units—the Murphys/Rocky Hill development. The projects would total over 82 residential dwelling units. Given the recent decline in the housing market, this project, like many others, is on hold. In addition, there are four planned or proposed parcel splits—the Taylor, Stewart, Barden, and Folendorf properties—which are immediately adjacent to the District's boundaries in the north along Utica Powerhouse Road. There are eight potential dwelling units in this area; the District has not been approached by these property owners, but reported that extending service to this area might be feasible.

[231] Calaveras County, Murphys-Douglas Flat Communty Plan Land Use Designations Map, January 2008.

[232] Interview with Stephen Tanner, MSD Board Member, May 3, 2010.

Construction of all of the planned and proposed units within the District's boundaries and connection to the District's system would result in a population increase of approximately 20 percent . The District anticipates a growth rate of approximately 10 percent between 2010 and 2030 based on wastewater flow projections.[233] By comparison, the countywide projected growth rate is 40 percent over that period. [234]

The District is not a land use authority, and does not hold primary responsibility for implementing growth strategies.

FINANCING

The District reported that the current financing level is adequate to deliver services with the recent rate update in 2009. The District reported that it is able to operate the wastewater system effectively and fund any necessary upgrades as needed.[235] In recent years the District's capital spending has been substantially less than capital depreciation.[236] The District reported that it has not faced any challenges related to the recent recession. The District reported that it anticipates its financial outlook to change as a result of a planned reassessment of treatment system capabilities that will likely result in the construction of a significant facility upgrade. Additionally, the District anticipates significant expenses during FY 12-13 for the disposal of of accumulated biosolids.

The District operates out of a single enterprise fund for its daily operational activities. MSD has a restricted fund for capital replacement and expansion purposes.

The District's total revenues were $1.0 million in FY 10-11. Revenue sources include rates and charges (88 percent), property tax (9 percent), and interest and connection fees (2 percent).

The District's expenditures were $1.0 million in FY 10-11. Of this amount, 41 percent was spent on services and supplies, 29 percent on salaries, wages and employee benefits, 14 percent on depreciation, 14 percent on long-term debt, and two percent on capital acquisition.

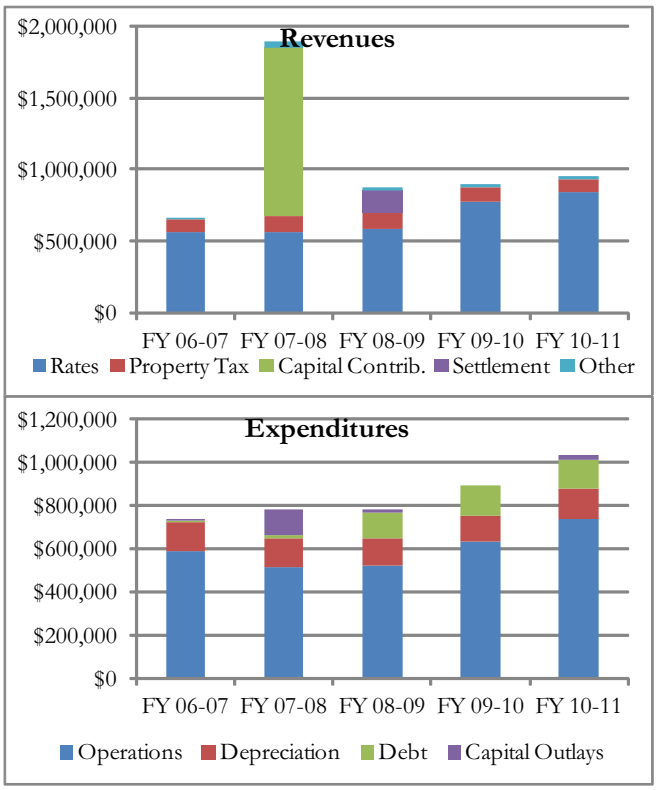
[233] Calaveras County, *Water Element Baseline Report Supplement Final Draft*, February 2009, p. 39.

[234] Department of Finance, *Population Projections for California and Its Counties 2000-2050*, July 2007.

[235] Ibid.

[236] MSD audited financial statements for FY 07-08 through FY 10-11, and MSD preliminary budget for FY 06-07 actuals.

Figure 11-2: MSD Revenues and Expenditures FY 06-07 to 10-11



Over the period from FY 06-07 through FY 08-09, district revenues and expenditures steadily increased. Since FY 08-09, rate revenues have increased significantly due to the 2009 rate increase, and MSD's payroll and operating costs have also risen.

The District quantified its 10-year capital needs in 2008, identifying $1.4 million in capital needs of which approximately half was funded by the District's 2009 rate increase. The CIP has a planning horizon of 10 years, with the CIP last updated in FY 08-09 and planning through FY 15-16. The District's ongoing replacement plan involves replacing 300 linear feet of force main annually at a cost of $6,000 per year and treatment plant replacement costs of $9-12,000 annually; the District plans to spend substantially more on collection system replacement in certain years (e.g., its 2009 project cost $105,000 for replacing 450 linear feet).

Significant capital outlays have been financed in the past with loans and reserves. As of FY 09, the District had capital reserves of $251,100 for system expansion.

The District had $0.3 million in long-term debt at the end of FY 10-11. Of the debt, 15 percent consisted of two loans issued in 2002 for expansion of the sewer system. These loans mature in 2012. In 2007, the District obtained lease financing to purchase a new diesel pump for the main pumping station. This financing consists of approximately 6 percent of the District's total long-term debt. In addition, in 2009, the District obtained financing to purchase 23 acres of property. This loan will mature in 2024.

The District does not have a formal policy on maintaining financial reserves. MSD had $0.8 million in unrestricted net assets at the end of FY 10-11. The amount is equivalent to 76 percent of all expenditures in FY 10-11. In other words, the District maintained nine months of working reserves.

The District engages in joint financing arrangements related to pension plans and risk management. The District is a member of the California Public Employees' Retirement System, which is an investment pool for public employers within California. In addition, the District is a member of the Special Districts Risk Management Authority to limit risk from loss of torts, theft, damage or destruction of assets, errors and omission, injuries to employees, and natural disasters.

WASTEWATER SERVICES

NATURE AND EXTENT

MSD provides wastewater collection, treatment and disposal services directly through district staff. The District owns and operates a wastewater treatment plant and sewer collection infrastructure in the District's bounds.

The District does not provide or receive any services via contract; however, the District does rely on all neighboring wastewater providers for backup in the event of an emergency and would reciprocate this assistance should the need arise for another provider.

LOCATION

MSD provides wastewater collection, treatment and disposal services to the unincorporated community of Murphys and surrounding areas within its boundaries. In addition, the District has one wastewater connection outside of the District's boundaries which serves Ironstone Vineyards, across the street from the WWTP. The Vineyard connected to the District's system in the early 1980's in order to receive reclaimed water from MSD's treatment facility. Records show that in 1999, when the contract with the vineyards was renegotiated, MSD began collecting sewage from the winery, employee housing and a residence for the ranch manager.[237] There are no records of LAFCO approving service outside of the District's bounds; however, approval from LAFCO for extra-territorial service was not required until 2001. The area was never annexed by MSD.

The District reported that there are no unserved areas within the District's boundaries served by septic systems.

INFRASTRUCTURE

Key MSD wastewater infrastructure includes three treatment ponds, a storage pond, 13.9 miles of sewer pipes and one lift station.

Wastewater is collected in a gravity collection system to a pump station west of Murphys. From the pump station, wastewater enters three treatment ponds and a storage pond where it is treated with aeration and sand filtration. After leaving the ponds, the effluent enters a WWTF where the treatment process is completed to secondary standards with a clarifier, filters and chlorine. Treated effluent is used for drip irrigation at Ironstone Vineyards year round.

Dried sludge has been disposed of on the District's property in the past; however, during an RWQCB inspection in July 2010, the District was informed that it must submit a Notice of Intent to RWQCB to dispose of the biosolids on its property or dispose of the biosolids off site. The District indicated that it would be disposing of the biosolids off site from that time forward.[238] RWQCB directed in its report that following sludge drying, biosolids must be disposed off site at a permitted facility prior to the rainy season in 2010, which generally begins in November. The District did not follow through, and continued to stockpile these biosolids through the end of 2011. As a result, the District has been issued a Notice of Violation and is in the process of addressing this issue.

[237] MSD, Agreement for the Supply and Acceptance of Reclaimed Water, April 26th, 1999, p. 1.

[238] CVRWQCB, Inspection Report, July 29, 2010.

The treatment facilities were originally built in the 1980s and upgraded in 2002. Improvements included a new filtration system, a clarifier, sludge drying beds, a chlorine detention basin, electrical upgrades, and expansion of the storage pond. According to a later report, the aim of the 2002 improvements was to upgrade the facility to tertiary treatment; however, the existing system is not able to treat to tertiary standards due to a failure to provide Department of Health-approved components.[239] Other needs and deficiencies identified in a 2007 treatment facility evaluation included 1) poor drainage for the backwash solids basin, 2) an overflowing chlorine contact chamber riser, and 3) inadequate consideration of maintenance needs for the chlorine contact chamber.[240] The District has not estimated the cost of these improvements to go to tertiary treatment; however, the FY 12-13 budget will include funds for a preliminary engineering report for tertiary improvements.

In addition to these deficiencies that need to be corrected to reach tertiary treatment, there are numerous issues that are currently undergoing review, including propoer disposal of accumulated biosolids and the lack of an influent flow meter. In the most recent inspection in July 2010, RWQCB also noted a need to control vegetation in Pond 4 and to provide documentation that the influent flow meter had been calibrated by October 31, 2010.[241]

The District's permitted inflow to the WWTP is not to exceed a monthly average of 0.2 mgd ADWF. The District reported that although its permitted capacity is 0.2 mgd, based on the existing contract for irrigation with the vineyard and the 100-year pond water balance, the actual capacity of the system is 0.185 mgd.[242] Although the District is permitted to discharge year round to the vineyard up to a monthly average of 0.45 mgd, the District is still operating under a contract with the vineyards for up to 0.35 mgd. The District and the vineyards are reportedly in the process of updating the contract, however; the parties had failed to come to an agreement over the last three years of negotiations. .[243] Should the contract be updated to the full permitted discharge amount, the District anticipates that the actual capacity of the system will equal the permitted inflow of 0.2 mgd. The District's ADWF of 0.15 is well within the District's permitted inflow and actual capacity.

In 2007, the District was issued a Notice of Violation (NOV) by RWQCB due to 17 occurrences of violating order conditions, 16 sanitary sewer overflows, and two other violations. The District was ordered to 1) correct the collection system problems that were resulting in spills, 2) make necessary improvements to the overflow pond prevent spills out of the pond, 3) identify improvements to the collection system and date to be implemented to ensure that overflows do no occur, 4) determine whether the District has sufficient capacity to comply with discharge requirements, and 5) prepare a Sanitary Sewer System Operation, Maintenance, Overflow Prevention, and Response Plan.[244] Required system improvements were made and additional necessary improvements were identified and incorporated into the District's 10-year capital improvement plan. As a result of the NOV, the District implemented a temporary suspension on new connections to MSD services in order to evaluate the treatment and collection system, and ensure that they were operating adequately and have sufficient capacity to accept new connections.

[239] MSD, Evaluation of Murphys Wastewater Treatment Plant Facilities and Performance, March 2007, p. 5.

[240] Ibid.

[241] CVRWQCB, Inspection Report, July 29, 2010, p. 1.

[242] Correspondence with Gary Ghio, MSD Engineer, August 9, 2010.

[243] Interview with Stephen Tanner, MSD Board Member, May 3, 2010.

[244] CVRWQCB, Notice of Violation, MSD Wastewater Treatment Plant, January 8, 2007, p. 3.

The evaluation found that there was insufficient storage and disposal capacity to maintain a two foot freeboard in Pond 4 as required in the District's discharge specifications. In order to increase the system's capacity, the District began sludge removal in Pond 4, and sought increased discharge capacity at the vineyards. The temporary suspension was lifted in late 2007, after the new discharge permit was issued by the State to Ironstone Vineyards.[245]

More recently, MSD was issued another Notice of Violation in 2012. The NOV was the result of violations which included bypass of treatment units, on-site storage of biosolids, and improper sampling and instrument calibration procedures. Additionally, the District reported an increasing trend of nitrate in groundwater. In April 2012, the District met with RWQCB staff and proposed corrective steps to address the aforementioned violations. The stockpiles of biosolids are to be removed by October 2012. To address the groundwater quality issue, MSD will redevelop the wells, remove biosolid stockpiles, and perform eight quarters of groundwater monitoring with an expanded parameter list. Additionally, to ensure proper groundwater sampling and calibration, MSD will contract with a private groundwater sampler and train all field employees on proper methods and documentation for sampling and calibration. RWQCB has also ordered that MSD submit a Groundwater Quality Corrective Action Plan, a Storage Capacity Evaluation Report, and Biosolids Removal Monthly Status Reports.

The District estimated that at the existing irrigation rate it had remaining capacity for approximately 233 new connections based on an average flow of 150 gpd per connection. Should the contract with the vineyard be updated to receive the maximum amount of discharge permitted by the State, the District anticipates capacity for a total of 333 additional customers.[246] By comparison, based on the actual ADWF of 192 gpd per connection and the existing inflow capacity of the system of 0.185 mgd, the system presently has space for approximately 183 additional connections. It is anticipated that once the contract is updated, there will be space for 260 total additional connections. The District reported that it is reevaluating its available capacity, based on recent flow data.

The District has reserved space for 62 connections that are remaining to be built in the Kautz development (33), the Edmonson development (11), Murphys Creek Estates (16), as well as infill connections (two).

The collection system was originally installed in 1963 and consists of 13.9 miles of pipes. The system is a standard gravity collection system that flows to a single pump station adjacent to Angels Creek. The District reported that the system is generally in good condition. According to the District's capital improvement plan, the District plans to replace 300 linear feet of force main annually. Of the total collection system, the District reported that approximately 10 percent of the piping needs to be replaced as it is older and composed of clay. Specifically, there are six problem areas identified in the District's SSMP, which have not yet been addressed—manholes 31 and 27 which only have access from private property, a sewer line that crosses the bottom of Angels Creek, a length of main located between manholes 40 and 25 which is prone to backups due to a slight upwards slope, manhole 172 which has had many overflows recorded in the past, and the manholes and lines directly above the lift station which are difficult to access. Based on the capital improvement plan, the District plans to address three of these problem areas by 2016, in addition to two other areas of concern. These projects are estimated to cost a total of $1.3 million.

[245] Calaveras County, *Water Element Baseline Report Supplement Final Draft*, February 2009, p. 38.

[246] Interview with Stephen Tanner, MSD Board Member, May 3, 2010.

Table 11-2: MSD Wastewater Profile

Wastewater Service Configuration and Demand				
Service Configuration				
Service Type	**Service Provider(s)**			
Wastewater Collection	MSD			
Wastewater Treatment	MSD			
Wastewater Disposal	MSD			
Recycled Water	MSD			
Service Area				
Collection:	The area within and around the community of Murphys, extending northeasterly along SR 4 to beyond Manzanita Drive and beyond the intersection of French Gulch Road and Murphys Grade Road to the west.			
Treatment:	Same as collection service area.			
Recycled Water:	The District provides reclaimed water to 113 acres at Ironstone Vineyards, which is across the street from the WWTP.			
Sewer Connection Regulatory/Policies				
Private septic systems are regulated through the Calaveras County Environmental Health Department. The use of private septic systems within the District is prohibited by the District's regulations.				
Onsite Septic Systems in Service Area				
None				
Service Demand				
	Connections (2010)			**Flow (mgd)**
Type	**Total**	**Inside Bounds**	**Outside Bounds**	**Average**
Total	783	782	1	0.18
Residential	679	679	0	0.15
Commercial	104	103	1	0.03
Industrial	0	0	0	-
Projected Demand (in millions of gallons per day)				
	2005	**2009**	**2015**	**2025**
Avg. dry weather flow	0.13	0.15	0.155	0.163
Peak wet weather flow	0.55	0.542	0.547	0.555
Note:				
(1) NA: Not Applicable; NP: Not Provided.				

Wastewater Infrastructure

Wastewater Treatment & Disposal Infrastructure

System Overview

Treatment level: Secondary

Disposal method: Up to 392 afa of reclaimed water is used for drip irrigation at Ironestone Vineyards.

Facility Name	Capacity	Condition	Yr Built
Murphys WWTP	0.185 mgd[1]	Good	1980's
Storage Pond	70 mg	Good	1965

Treatment Plant Daily Flow (mgd)	Average Dry	Peak Wet
Murphys WWTP	0.15 mgd	0.542 mgd

Infrastructure Needs and Deficiencies

None

Wastewater Collection & Distribution Infrastructure

Collection & Distribution Infrastructure

Sewer Pipe Miles	13.9	Sewage Lift Stations	1

Other:

Infrastructure Needs and Deficiencies

MSD aims to upgrade its WWTP to tertiary to simplify disposal. RWQCB noted a need to control vegetation in Pond 4 and provide documentation that the influent flow meter had been calibrated. Other deficiencies include 1) poor drainage for the backwash solids basin, 2) an overflowing chlorine contact chamber riser, 3) inadequate consideration of maintenance needs for the chlorine contact chamber, and 4) the lack of an inflow meter. Of the total collection system, the District reported that approximately 10 percent of the piping needs to be replaced as it is older and composed of clay. The SSMP identified six problem areas in the collection system that need to be replaced. The District reported that it replaces on average 300 linear feet per year.

Infiltration and Inflow

The District reported that it has had challenges with infiltration and inflow in the past during severe rain events, but that the I/I had been largely addressed by sealing the District's 230 manhole lids. To identify areas with leaks, the District does dye testing and smoke testing. In addition, the speed of the flows is tracked to determine where I/I is occurring and prioritize manhole and other improvement needs. Other areas of concern, such as cracks, are documented with photographs.

Wastewater Regional Collaboration and Facility Sharing

Regional Collaboration

The District was a member of the Calaveras County Water/Wastewater Technical Advisory Team, which met regularly to discuss common issues and concerns regarding water and wastewater services within the County. In addition, the District collaborated with other agencies on the County General Plan Water Element in 2009. The District also participates in the Tuolumne County Consortium, and the California Special Districts Association.

Facility Sharing Practices and Opportunities

The District does not presently practice facility sharing; however, it does practice cost sharing with regard to purchasing supplies and emergency support. The District coordinates with other providers to purchase supplies in bulk such as chlorine. During emergency situations, other districts will provide manpower and equipment if necessary.

Note:

(1) The District reported that although permitted capacity is 0.2 mgd, based on the existing contract for irrigation with the vineyard and the 100-year pond water balance, the actual capacity of the system is 0.185 mgd.

Wastewater Service Adequacy, Efficiency & Planning			
Regulatory Compliance Record, 1/2000-5/2012			
Formal Enforcement Actions	1	Informal Enforcement Actions	4
Enforcement Action Type	**Date**	**Description of Violations**	
Clean-up and Abatement Order	10/30/2001	Order conditions	
Notice of Violation	1/8/2007	Order conditions (17), sanitary sewer overflow (16), other effluent violation (2)	
Notice of Violation	6/9/2011	Order conditions (55), deficient reporting (7)	
Notice of Violation	12/19/2011	Sanitary Sewer Overflow	
Notice of Violation	5/1/2012	Order conditions	
Total Violations, 2005-9			
Total Violations	33	Priority Violations	1
Violation Type, 2005-9			
Category 1 Pollutant in Effluent	0	Other Pollutant in Effluent	1
Order or Code Violation[1]	31	Groundwater Degradation	0
Deficient Monitoring	0	Late or Deficient Reporting	1
Service Adequacy Indicators			
Sewer Overflows 1/1/2008 to 8/15/2010[2]	2	Sewer Overflow Rate[3]	14
Treatment Effectiveness Rate[4]	100%	Response Time Policy[5]	1 Hour
Total Employees (FTEs)	4.5	Response Time Actual	40 minutes
MGD Treated per FTE	0.04		
Customer Complaints CY 2008: Odor (1), spills (5), other (0)			
Wastewater Operator Certification			
Treatment Plant Classification	Grade 2	Grade I Operators	2
Grade II Operators	1	Grade III Operators	0
Grade IV Operators	0	Grade V Operators	0
Source Control and Pollution Prevention Practices			
As part of a Fats, Oils and Greases Program, the District sends letters to each connection every six months to remind customers to not put grease down the sink. In addition, all commercial connections have grease interceptors, which are monitored every 3 months. Twice a year, the District pumps all grease out of the wet well.			
Collection System Inspection Practices			
The District reported that it uses CCTV to inspect every line every 2 years or approximately 50 percent annually.			
Service Challenges			
The District reported that it faces challenges in meeting more stringent requirements by regulatory agencies, as they are time consuming given reporting and monitoring requirements and generally require additional financing.			
Wastewater Planning			
Plan	**Description**	**Planning Horizon**	
Wastewater Master Plan	None	NA	
Capital Improvement Plan	Engineer's estimates	2009-2016	
Sanitary Sewer Management Plan	Identifies areas of concern	NA	
Emergency Plan	Emergency call list and procedures for emergencies	NA	

Notes:

(1) Order or Code Violations include sanitary sewer overflow violations.

(2) Total number of overflows experienced (excluding those caused by customers) from 1/1/2008 to 8/15/2010 as reported by the agency.

(3) Sewer overflows from 1/1/2008 to 8/15/2010 (excluding those caused by customers) per 100 miles of collection piping.

(4) Total number of compliance days in 2009 per 365 days.

(5) Agency policy, guidelines or goals for response time between service call and clearing the blockage.

Wastewater Rates and Financing

Wastewater Rates-Ongoing Charges FY 11-12[1]

	Rate Description	Avg. Monthly Charges	Demand[2]
Residential	Flat monthly charge per EDU	$63.58	250 gpd

Rate Zones

None

Rate Update

Last Rate Change	7/1/2009	Frequency of Rate Changes	Every 5 years

Wastewater Development Fees and Requirements

Connection Fee Approach	Based on the type of use of the connection according to wastewater generated			
Connection Fee Timing	At least five days prior to connection			
Connection Fee Amount[3]	Residential:	$10,000	Last updated:	2007
Land Dedication Req.	None			
Development Impact Fee	None			

Wastewater Enterprise Revenues, FY 10-11			Expenditures, FY 10-11	
Source	Amount	%		Amount
Total	$954,728	100%	Total	$1,037,808
Rates & Charges	$839,867	88%	Administration	$244,987
Property Tax	$88,704	9%	O & M	$489,024
Grants	$0	0%	Capital Depreciation	$142,702
Interest	$3,099	0%	Debt	$139,188
Connection Fees	$0	0%	Capital Expenditures	$21,907
Contributed Capital	$0	0%	Other	$0
Other	$23,058	3%		

Notes:

(1) Rates include wastewater-related service charges and strength and flow charges. Average monthly charges calculated based on average consumption. Rates are rounded for presentation.

(2) Wastewater use assumptions by customer type were used to calculate average monthly charges. Assumed use levels are 250 gallons per home per day, and are consistent countywide for comparison purposes. For further details, see Chapter 4.

(3) Connection fee amount is calculated for a single-family home.

SUMMARY OF DETERMINATIONS

GROWTH AND POPULATION PROJECTIONS

- The District has experienced approximately 25 percent growth between 2000 and 2010. The estimated residential population in the District bounds was 1,532 in 2010.
- The District reported that it anticipates slower growth in the future, but has not developed formal population projections.
- Construction of all 144 planned and proposed units within the District's boundaries and connection to the District's system would result in a population increase of approximately 325 or 21 percent.
- The District reported that there are limited opportunities for growth outside of the District's boundaries, as a majority of the surrounding area is at a lower elevation than the District's wastewater treatment plant, given the cost to pump wastewater up to the plant.

PRESENT AND PLANNED CAPACITY OF PUBLIC FACILITIES AND ADEQUACY OF PUBLIC SERVICES, INCLUDING INFRASTRUCTURE NEEDS AND DEFICIENCIES

- The District reported that the ponds and treatment facility are generally in good condition and there are no immediate infrastructure needs or deficiencies related to the secondary treatment operations of the facility. Improvements would be necessary if the District chose to pursue treating at tertiary standards, which was the intent of improvements that were completed in 2002.
- Due to existing contract limitations with regard to discharge, the District's actual inflow is 93 percent of its permitted capacity. Additional disposal capacity is needed or else the District needs to upgrade to tertiary treatment.
- Based on the existing inflow capacity and ADWF, the WWTP is operating at 81 percent capacity.
- Based on the actual ADWF per connection and the existing inflow capacity of the system, the system presently has space for approximately 183 additional connections.
- Of the total collection system, 10 percent of the piping needs to be replaced as it is older and composed of clay. The District plans to address five problem areas by 2016, which will cost an estimated $1.3 million.
- Wastewater services offered by the District appear to be adequate based on regulatory compliance status, treatment effectiveness rate, overflow rates, and response times. The District could improve upon its infiltration and inflow rates based on its peaking factor, and its planning efforts, which are minimal.

FINANCIAL ABILITY OF AGENCIES TO PROVIDE SERVICES

- The District reported that its financing level is adequate and that it is able to fund any necessary upgrades.

- MSD has a relatively low capital investment rate compared with other providers. The District invests substantially less in its capital assets than it consumed due to wear and tear.
- MSD has adequate financial reserves, which have grown somewhat during the recession.
- The auditor found a significant deficiency relating to a need for oversight of the District's financial reporting process.
- MSD rates were last updated in 2009 and are comparable to other providers in the County. The District's connection fees were last updated in 2007 and are also comparable to other providers throughout the County.

STATUS OF, AND OPPORTUNITIES FOR, SHARED FACILITIES

- The District does not presently practice facility sharing; however, it does practice cost sharing with regard to purchasing supplies and emergency support.

ACCOUNTABILITY FOR COMMUNITY SERVICE NEEDS, INCLUDING GOVERNMENTAL STRUCTURE AND OPERATIONAL EFFICIENCIES

- MSD demonstrated minimal accountability through its disclosure of information as indicated by the District's failure to respond in a timely manner to LAFCO requests for information.
- Accountability is constrained by a lack of constituent outreach efforts, including the absence of a website, and limited interest in serving on the governing body, as indicated by uncontested elections and historical board vacancies and turnover.
- Potential governance alternatives identified for the District to improve accountability include 1) MSD retaining an independent firm to conduct an organizational management review, 2) dissolution and absorption of wastewater services by an existing agency in the area, or 3) dissolution and creation of a new agency to take on wastewater and other services in the community, such as water and fire services.
- Annexation of extraterritorial service areas is an option that would promote logical boundaries, as MSD is providing service outside of its boundaries to the vineyard.

SOI OPTIONS AND DETERMINATIONS

MSD's SOI was last updated by LAFCO in 2005 and is coterminous with the District's boundaries.[247]

AGENCY PROPOSAL

MSD did not propose any changes to its SOI for LAFCO's consideration. The District staff propose that the Ironstone property be added to its SOI, given that is where the District's wastewater disposal is directed. However, if the District should upgrade to tertiary treatment in the future, it would be able to discharge elsewhere and would not be reliant on Ironstone for disposal capacity.

SOI OPTIONS

Four potential options have been identified with respect to the MSD SOI.

Option #1: Provisional Coterminous SOI

By adopting a provisional SOI, LAFCO may revisit the District's SOI at a later date to ensure that recommended conditions are adequately addressed in a timely manner. The Commission may wish to stipulate accountability measures and planning efforts to allow MSD to make service enhancements, before a longer-term SOI is adopted.

MSD is a small district that has faced challenges with staff and board turnover in the past. As a result of this turnover, MSD demonstrated minimal accountability through its disclosure of information as indicated by the District's failure to respond in a timely manner to LAFCO requests for information. The District's accountability is additionally constrained by a lack of constituent outreach efforts, including the absence of a website, and limited interest in serving on the governing body, as indicated by uncontested elections and board vacancies. Should the District desire to retain the existing governance structure over wastewater services, enhanced accountability practices are recommended, such as developing a website, promoting constituent involvement in board activities, retaining a full board, and taking measures to ensure staff and board member stability. An independently-conducted organizational management review is an option for identifying and addressing the District's leadership challenges.

Option #2: Zero SOI

A zero SOI would signify that LAFCO anticipates the eventual dissolution of MSD and the transfer of its services to another entity, such as a new, multi-service CSD or an existing entity that is empowered to take on wastewater services.

Depending on priorities and needs of the community, one option may be the dissolution of the District and services assumed by another overlapping agency, such as CCWD or Union PUD, which are both empowered to take on wastewater services. Being governed by a large professionally organized agency may provide constituents with an enhanced level of accountability—with additional constituent outreach efforts, public interest in board activities, and more consistent staffing.

[247] LAFCO Resolution 2005-01.

In the event that CCWD were to take over wastewater services in the area, CCWD would form an improvement district encompassing the community through a vote by its Board. Due to the countywide nature of CCWD, the constituents in Murphys may encounter a loss of local control. Conversely, as CCWD offers professional staffing levels and standardized protocol for customer requests and complaints, the constituents may benefit from greater public accessibility and enhanced transparency. The potential for improvement of service levels, if taken on by CCWD, can be seen in the case of WCSD, which has reduced operational costs and improved regulatory compliance since contracting for services with CCWD. If initiated by LAFCO, a consolidation study could explore the potential for enhanced services in more detail.

In light of the lack of a cooperative working relationship between MSD, CCWD and UPUD, a more feasible governance alternative may be the complete dissolution of MSD and UPUD (the overlapping water provider) and the formation of a new agency to take on water and wastewater services in the area. A community service district would also be able to take on additional functions, such as fire, park, lighting, and cemetery services. A newly formed district may face less opposition, as it is an opportunity to start from a clean slate without a preexisting governing body and management structure. The benefits of a new agency that provides several services—in particular, public safety services—may be more interest in serving on the Board, more constituent interest in district activities, potential administrative cost savings, additional resources to apply for loans and grants, and enhanced accountability.

Option #3: Confirm Existing Coterminous SOI

By retaining the existing coterminous SOI, LAFCO would indicate that the District is not expected to annex or detach territory in the foreseeable future.

Option #4: SOI Expansion

An SOI expansion would indicate that LAFCO anticipates the annexation of the added areas in the foreseeable future. The Commission may choose to include within the District's SOI 1) the parcel to which the District is providing service outside of its boundaries, 2) the District's wastewater treatment facility property, and 3) adjacent proposed developments to which the District could potentially provide service.

The District has one wastewater connection outside of the District's boundaries which serves Ironstone Vineyards, across the street from the WWTP. The Vineyard connected to the District's system in the early 1980's in order to receive reclaimed water from MSD's treatment facility. Records show that in 1999, when the contract with the vineyards was renegotiated, MSD began collecting sewage from the winery, employee housing and a residence for the ranch manager.[248] There are no records of LAFCO approving service outside of the District's bounds and the area was never annexed by MSD.

While districts are not required to annex property which they own or have facilities on, MSD's WWTP property is included in this option to bridge the gap between the District's existing boundaries and the vineyard.

There are four planned or proposed developments—the Taylor, Stewart, Barden, and Folendorf developments—which are immediately adjacent to the District's boundaries in the north along Utica Powerhouse Road. The District has not been approached by these developers, but reported that

[248] MSD, Agreement for the Supply and Acceptance of Reclaimed Water, April 26th, 1999, p. 1.

extending service to this area may be feasible depending on the size of the developments. Including these developments within the District's SOI, would clearly indicate what agency LAFCO anticipates serving the areas in the future.

ANALYSIS

MSD faces challenges with accountability and practices minimal planning activities. With the exception of minimal capital improvement planning, these deficiencies were not identified in the previous MSR; consequently, the District has not been made aware of management practices that are in need of improvement.

When updating the District's SOI, LAFCO will need to determine the degree to which it values 1) service adequacy, 2) local control and 3) opportunity for improvement. If LAFCO would like to ensure adequate service levels, then the suitable SOI options would be Options 1 or 2. Should LAFCO value local control over level of service then Options 3 or 4 would be appropriate. If LAFCO determines that the District has not had adequate notice of the deficiencies nor sufficient time to address the issues of concern, then a provisional SOI would allow for a judicious amount of time as defined by the Commission to make necessary improvements. Conversely, if the Commission feels that the District is aware of the insufficiencies, but has failed to make efforts at improvement, then a zero SOI would be recommended.

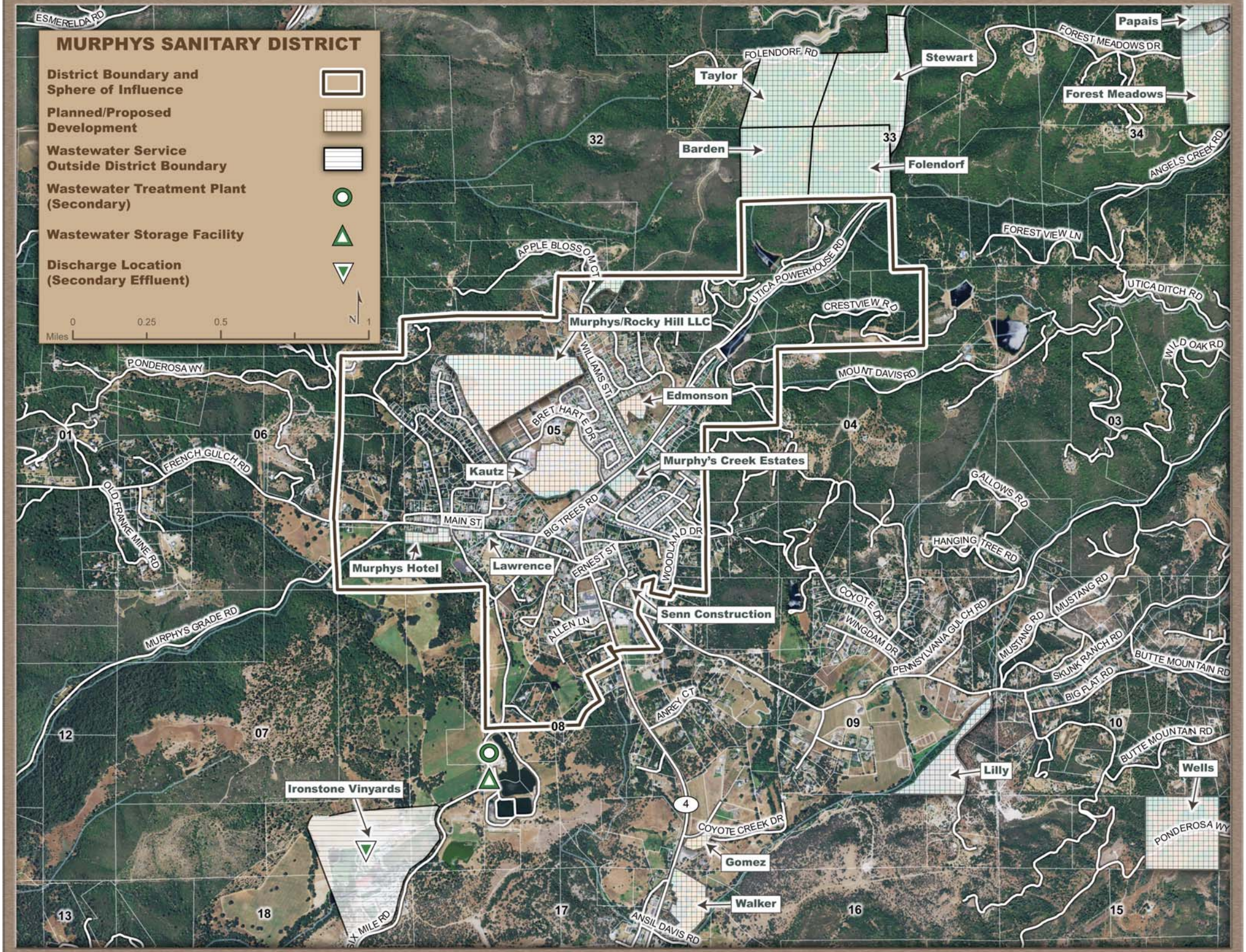
As part of the previous MSR LAFCO identified the need for MSD to prepare and adopt a capital improvement plan for five, 10 and 15 year increments. MSD has since then prepared a minimal 10-year plan with cost estimates and approximate timing of seven sewer line improvements. The plan was last updated in 2008.

Should the Commission choose to adopt a provisional SOI, LAFCO will need to set specific conditions for MSD to meet within a required time frame. A minimum of two years is recommended to allow the District to complete and implement the recommended studies. Examples of conditions that could be established in response to recognized deficiencies include:

1) Lack of constituent outreach: Create a website where service related information, contact information, and board meeting details, agendas, and minutes are available.[249]
2) High rate of staff and board turnover lending to a lack of accountability: Maintain a full board for a prescribed period.
3) Minimal capital improvement planning and reinvestment in capital: Prepare and adopt a 10-year capital improvement plan that includes treatment plant needs and necessary improvements.

In recent months, MSD has demonstrated efforts to improve management organization and communication by instating a full-time office manager and a new general manager. The District has opened a channel of communication with LAFCO to discuss challenges and efforts made to overcome those challenges. A provisional SOI would give MSD an opportunity to continue to make necessary improvements and work with LAFCO on the SOI expansion desired by the District.

[249] The District has secured a domain name and plans to complete a website by the end of 2011.


MURPHYS SANITARY DISTRICT
District Boundary and Sphere of Influence
Planned/Proposed Development
Wastewater Service Outside District Boundary
Wastewater Treatment Plant (Secondary)
Wastewater Storage Facility
Discharge Location (Secondary Effluent)
0
0.25
0.5
1
Miles
N
ESMERELDA RD
Papais
FOREST MEADOWS DR
FOLENDORF RD
Taylor
Stewart
Forest Meadows
32
33
34
Barden
Folendorf
ANGELS CREEK RD
FOREST VIEW LN
APPLE BLOSSOM CT
UTICA POWERHOUSE RD
UTICA DITCH RD
CRESTVIEW RD
Murphys/Rocky Hill LLC
WILLIAMS ST
WILD OAK RD
PONDEROSA WY
MOUNT DAVIS RD
Edmonson
BRET HARTE DR
01
06
05
04
03
FRENCH GULCH RD
Kautz
Murphy's Creek Estates
GALLOWS RD
OLD FRANKE MINE RD
MAIN ST
BIG TREES RD
WOODLAND DR
HANGING TREE RD
Murphys Hotel
Lawrence
ERNEST ST
COYOTE DR
MUSTANG RD
Senn Construction
MURPHYS GRADE RD
ALLEN LN
WINGDAM DR
PENNSYLVANIA GULCH RD
SKUNK RANCH RD
BUTTE MOUNTAIN RD
BIG FLAT RD
ANREY CT
12
07
08
09
10
Lilly
Wells
Ironstone Vinyards
4
COYOTE CREEK DR
PONDEROSA WY
Gomez
Walker
13
18
17
16
15
SIX MILE RD
ANSIL DAVIS RD

DRAFT SOI DETERMINATIONS

Present and Planned Land Uses

The District bounds encompass residential, commercial, industrial, agricultural preserve, and public land uses. Residential areas consist of single family, multi-family and rural residential designations. Single family residential areas are located in the western and central portion of the District, north of Main Street and Highway 4, while rural residential areas are located in the western and eastern extremes of the District. The multi-family residential designation consists of the Murphys Diggins Mobile Home Park, south of Highway 4. Commercial designations are primarily located along Main Street and Highway 4, and industrial activity is located south of Bret Harte Drive. Public land uses consist of the Murphys Cemetery and Albert Michelson Elementary School. A domestic water storage facility is located in the northeastern portion of the District, south of Utica Powerhouse Road.

There are three developments (Kautz, Edmonson, and Murphys Creek Estates) consisting of a total of 60 new connections and two in-fill connections that have been approved to connect to the District's system. There is one additional proposed development projects within the District's boundaries of greater than five units—the Murphys/Rocky Hill development. These project would total over 82 residential dwelling units. Given the recent decline in the housing market, this project, like many others, is on hold. In addition, there are four planned or proposed developments—the Taylor, Stewart, Barden, and Folendorf developments—which are immediately adjacent to the District's boundaries in the north along Utica Powerhouse Road.

Present and Probable Need for Public Facilities and Services

The estimated residential population in the District bounds was 1,532 in 2010, based on analysis of the number of residential connections and average household size in the County. The District has experienced approximately 25 percent growth between 2000 and 2010. The District reported that it anticipates slower growth in the future.

Construction of all of the units planned and proposed units within the District's boundaries and connection to the District's system would result in a population increase of approximately 325 or 21 percent. The District anticipates a growth rate of approximately 10 percent between 2010 and 2030 based on wastewater flow projections. By comparison, the countywide projected growth rate is 40 percent over that period, according to the DOF.

Present Capacity of Public Facilities and Adequacy of Public Service

The District is using 81 percent of its existing capacity, and upon completion of a new contract with the vineyard for irrigation, the District will be using 75 percent of its permitted capacity. Based on the actual ADWF of 192 gpd per connection and the existing inflow capacity of the system of 0.185 mgd, the system presently has space for approximately 183 additional connections. It is anticipated that once the contract is updated, there will be space for 260 total additional connections. Should growth slow as the District anticipates, then the existing plant would have sufficient capacity to serve the area beyond 2025.

Wastewater services offered by the District appear to be adequate based on regulatory compliance status, treatment effectiveness rate, overflow rates, and response times. The District could improve upon its infiltration and inflow rates based on its peaking factor, its planning efforts, which are minimal, and accountability.

Existence of Any Social or Economic Communities of Interest

Communities of interest within the District's boundary and SOI includes the unincorporated community of Murphys. Economic communities of interest include the businesses and the landowners within the District that pay a portion of their property tax to MSD. These communities are not divided by the District's boundaries or SOI.

12. SAN ANDREAS SANITARY DISTRICT

San Andreas Sanitary District (SASD) provides wastewater collection, treatment and disposal services for the unincorporated community of San Andreas and neighboring areas.

AGENCY OVERVIEW

FORMATION AND BOUNDARY

SASD was formed on July 26, 1946 as an independent special district.[250] The District was formed to provide wastewater services in the community of San Andreas.

The principal act that governs the District is the Sanitary District Act of 1923.[251] The principal act empowers the District to may acquire, plan, construct, reconstruct, alter, enlarge, lay, renew, replace, maintain, and operate garbage dumpsites and garbage collection and disposal systems, sewers, drains, septic tanks, and sewerage collection, outfall, treatment works and other sanitary disposal systems, and storm water drains and storm water collection, outfall and disposal systems, and water recycling and distribution systems.[252] Districts must apply and obtain LAFCO approval to exercise services authorized by the principal act but not already provided (i.e., latent powers) by the district at the end of 2000.[253]

The boundaries of SASD extend along SR 49 from Magers Way to beyond Pool Station Road, north along Gold Strike Road in the east and up to West Murray Creek Road in the West, as shown on Map 12-1. The District has a boundary area of approximately 1,387 acres or 2.2 square miles.[254]

The District's SOI was last updated in 2005 and is coterminous with the District's boundaries.[255]

[250] Board of Equalization Official Date.

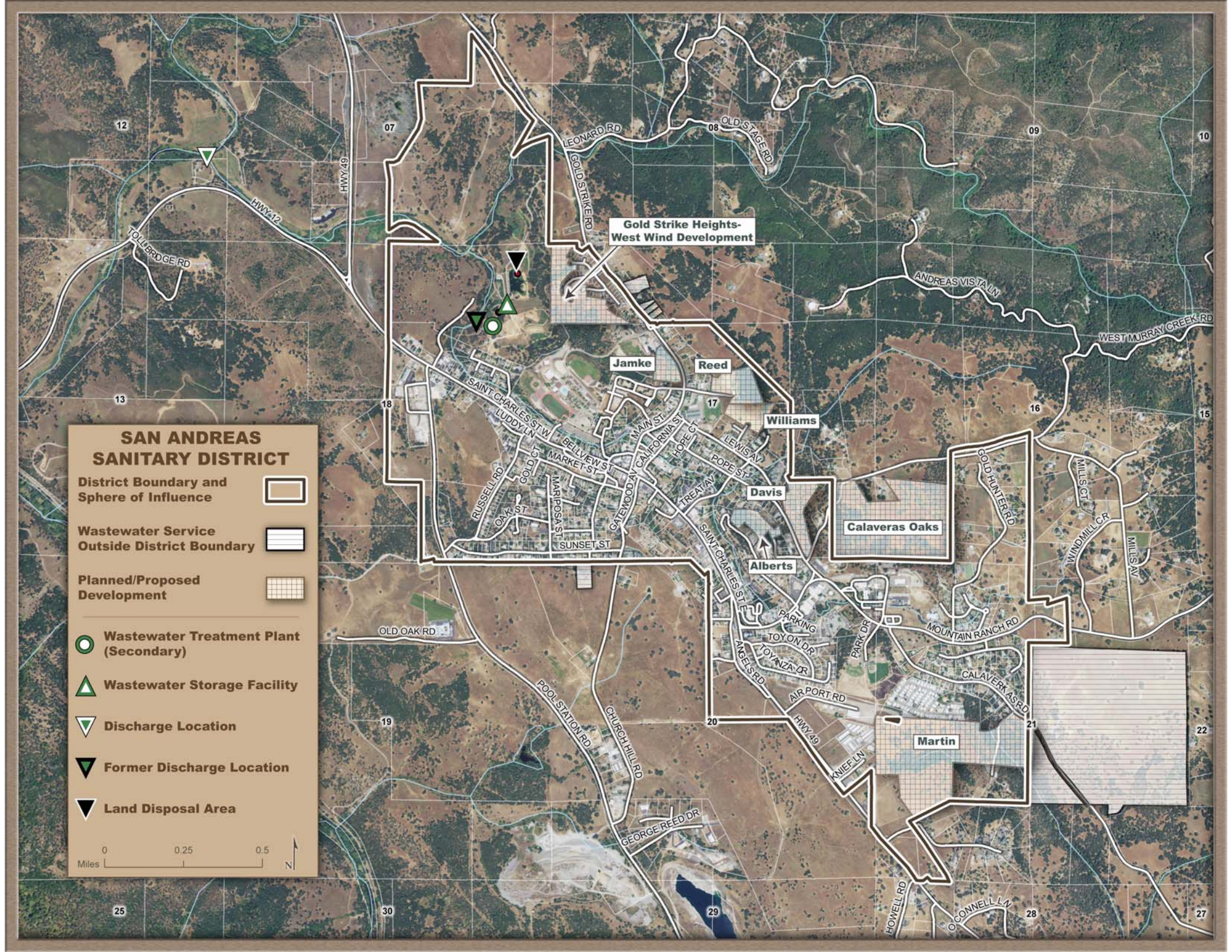
[251] California Health & Safety Code, Div. 6, Pt. 1, §§ 6400-6830.

[252] California Health & Safety Code §6512.

[253] Government Code §56824.10.

[254] Calaveras LAFCO, Wastewater MSR, 2005, p. VII-1.

[255] LAFCO Resolution 2005-01.


SAN ANDREAS SANITARY DISTRICT
District Boundary and Sphere of Influence
Wastewater Service Outside District Boundary
Planned/Proposed Development
Wastewater Treatment Plant (Secondary)
Wastewater Storage Facility
Discharge Location
Former Discharge Location
Land Disposal Area
0
0.25
0.5
Miles
N
Gold Strike Heights-
West Wind Development
Jamke
Reed
Williams
Davis
Alberts
Calaveras Oaks
Martin
HWY 49
HWY 12
TOLLBRIDGE RD
LEONARD RD
GOLD STRIKE RD
OLD STAGE RD
ANDREAS VISTA LN
WEST MURRAY CREEK RD
SAINT CHARLES ST W
LUDDY LN
BELLVIEW ST
MARKET ST
MAIN ST
CALIFORNIA ST
HOPE CT
LEWIS AV
POPE ST
TREAT AV
GATEWOOD AV
RUSSELL RD
GOLD CT
OAK ST
MARIPOSA ST
SUNSET ST
SAINT CHARLES ST E
GOLD HUNTER RD
MILLS CT
WINDMILL CR
MILLS AV
PARKING
TOYON DR
TOYANZA DR
PARK DR
ANGELS RD
MOUNTAIN RANCH RD
CALAVERAS RD
AIRPORT RD
KNIEF LN
OLD OAK RD
POOL STATION RD
CHURCH HILL RD
GEORGE REED DR
HOWELL RD
O'CONNELL LN
07
08
09
10
12
13
15
16
17
18
19
20
21
22
25
27
28
29
30

Boundary History

Since formation, the District has completed 12 boundary changes, according to LAFCO and Board of Equalization records. At least 10 of the 12 changes were annexations. The most recent boundary change was completed in 1994.

Table 12-1: SASD Boundary History

Project Name	LAFCO Reso #	BOE Effective Date	Change Type	Recording Agency
SASD Annexation	66-02	12/4/1967	Annex	BOE, LAFCO
SASD Detachment[1]	68-03		Detach	LAFCO
No name reported		12/27/1971	Not reported	BOE
Desjardin Reorginization #5	71-10	12/30/1971	Annex	BOE, LAFCO
Haight-Sunset Annexation	71-12	4/11/1974	Annex	BOE, LAFCO
Lodato-Metzger Annexation	74-03	10/28/1974	Annex	BOE, LAFCO
Knief-Haight Annexation	75-02	11/18/1975	Annex	BOE, LAFCO
Vista De Los Rebels/Kiernan Annexation[1]	80-01		Annex	LAFCO
Knief, Jaurez, Gilbeau Annexation	81-01	8/26/1982	Annex	BOE, LAFCO
La Tienda-Oak Shadows Annexation	91-01	11/25/1991	Annex	BOE, LAFCO
Gold Strike Heights Annexation	93-05	11/19/1993	Annex	BOE, LAFCO
SASD Annexation	94-02	7/25/1994	Annex	BOE, LAFCO

Notes:

1) While LAFCO has records of these boundary changes, there is no Certificate of Completion in LAFCO records to confirm that the change was formally submitted to the Board of Equalization.

LOCAL ACCOUNTABILITY AND GOVERNANCE

The District has a five-member governing body. Board members are elected at large to staggered four-year terms. The last contested election for a board seat occurred in 2011. For more information on each of the board members and their term expiration dates refer to Table 12-2.

The District informs constituents by posting agendas at its office. Minutes are available by request and at monthly meetings. Additional outreach efforts include notices in bills and separate mailings to customers if necessary. The District also submits announcements to the local newspaper. The District does not maintain a website.

With regard to customer service, complaints regarding a need for immediate service may be submitted by phone, in-person or via email to the District. The District reported that staff respond to such service requests as soon as possible. Complaints regarding policy concerns should be submitted in writing to the Board and are included on the agenda for the next meeting. Complaints are tracked through a computer system. The district manager ensures that complaints are appropriately addressed. The District reported that in CY 2008 there were 12 complaints, all of which were related to wastewater spills.

Table 12-2: SASD Governing Body

Governing Body				
Members	**Name**	**Position**	**Began Serving**	**Term Expires**
	Bill Perley	President	2007	2015
	Michelle Turner	Member	2011	2015
	Robert Applegate	Member	1985	2013
	Eri "Don" Young	Member	2011	2015
	Terral Strange	Secretary	1999	2013
Manner of Selection	Elected at-large			
Length of Term	Four-year term			
Meetings	Date: Second Wednesday of the month		Location: District office	
Agenda Distribution	Posted at district office			
Minutes Distribution	By request			
Contact				
Contact	Office Manager			
Mailing Address	152 East St. Charles St., PO Box 1630, San Andreas, CA 95249			
Email/Website	sasdoffice@comcast.net			

The District demonstrated full accountability in its disclosure of information and cooperation with LAFCO. The agency responded to LAFCO's written questionnaires and cooperated with LAFCO map inquiries and document requests.

MANAGEMENT

The District's staff consists of seven full and part-time staff or five FTEs. All of the personnel report to the General Manager who reports to the Board at monthly meetings.

All district employees are evaluated in written performance reviews at least annually by the General Manager. Employee workload is monitored through staff timesheets, and individualized check lists of daily tasks to be performed.

Overall district performance is evaluated annually in the District's budget and annually audited financial statement. While the Regional Water Quality Control Board does not conduct regular inspections and reports, the Board does monitor district compliance with regulations through district-produced monitoring reports and random inspections. The District does not practice benchmarking with similar service providers.

District planning tools include a sewer system management plan and a minimal five-year capital improvement plan with a planning horizon through 2011. Capital improvements are also addressed annually in the District's budget.

Financial planning efforts include annual preparation of budgets and annually audited financial statements. The most recent audited financial statement provided by the District was for FY 10-11. The auditor identified a deficiency relating to the District's failure to develop a funding policy for its other post-employment benefits, as required by GASB, and separately reported on the District's internal controls over financial reporting.

SERVICE DEMAND AND GROWTH

The District bounds encompass residential, commercial, public, and parks and recreation land uses. Single family residential land uses are located in the central portion of the District, north and south of Highway 49. Two-family and multi-family residential land uses are located in the central portion of the District, north of Highway 49, and in the southern portion of the District, south of Calaveras Road. Rural residential land uses are located in the northwestern and northeastern portions of the District boundary. Commercial land uses dominate the Highway 49 corridor that runs through the District. Public land uses include the Calaveras County Government Center, San Andreas Elementary School, Calaveras High School, the Peoples Cemetery, and the San Andreas Sanitary District facilities. Park and recreation facilities within the District include Nielsen Park and the baseball fields at Park Drive, south of Mountain Ranch Road, and tennis courts adjacent to Gold Hunter Road.

Local business activities include the County's offices, a hospital, a California Highway Patrol office, a Department of Forestry station, and two hotels.

As San Andreas is the county seat of Calaveras County and has a high school, there is a substantial influx in population during the day, resulting in increased demand for wastewater services.

The District considers its customer base to be the wastewater connections served and the residents within the District boundaries. As of 2010, the District provided wastewater services to 897 wastewater connections—657 single family residential, 78 multi-family residential, 162 commercial and public, and no industrial connections. The estimated number of residents in 2010 was 1,658, based on analysis of the number of residential connections served. The District's population density was approximately 386 per square mile in 2010, compared with the countywide density of 45 per square mile.

Table 12-3: SASD Planned and Proposed Developments

Name	Dwelling units	Location
Gold Strike Heights	120	Within bounds
Calaveras Oaks	130	Outside bounds
Stewart Albert	17	Within bounds
Jamke	18	Within bounds
Martin (In forclosure)	26	Within bounds
George Reed	21	Within bounds
In-fill and small developments	19	Within bounds
TOTAL	351	

The District reported that it anticipates approximately two to three new connections annually, although this may fluctuate depending on the timing of the completion of proposed developments.[256] Two to three new connections annually would result in a growth in population of eight percent between 2010 and 2030, which is lower than the countywide projected growth of 40 percent over that period.[257] However, these projections may be low given the number of developments that showed interest prior to the economic recession.

[256] Interview with Steve Schimp, District Manager, SASD, April 5, 2010.

[257] Department of Finance, *Population Projections for California and Its Counties 2000-2050*, July 2007.

The District reported that there are a total of 351 proposed or planned new dwelling units within or adjacent to the District's boundaries, based on interest indicated by developers. Many of these potential developments are on hold until the economy improves.

In terms of planned development, new multi-family units within the District are planned south of Highway 49, west of Russell Road, and north of Highway 49, along Main Street and along Gold Strike Way. Multi-family units are also planned west of the existing SASD boundaries, in the vicinity of the Highway 12/49 junction. Commercial development is planned south of Highway 49, east of Pool Station Road, and in the southeastern portion of the District along Highway 49. Industrial areas are planned west of Angels Road and along Airport Road, in the south of the District, and to the west of the existing SASD boundaries along Highway 49. The future growth area of the District is to the west of the existing boundaries, encompassing the planned multi-family and industrial development areas.[258]

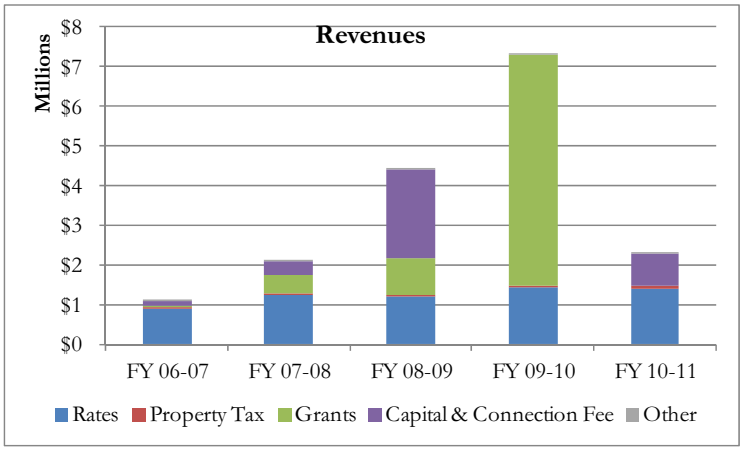
The District is not a land use authority, and does not hold primary responsibility for implementing growth strategies.

FINANCING

The District reported that the current financing level is adequate to deliver services, as it recently completed a rate update and the rates can be adjusted annually for inflation over the next five years. In addition, the District has received significant financing from the SWRCB for wastewater treatment plant financing. The recent recession has had minimal impact on the District's revenues. Similar to other districts, potential developments that could bring additional revenue have been put on hold; however, the District reported that the existing level of demand is sufficient for adequate revenues.

The District operates out of a single enterprise fund for its daily operational activities.

Figure 12-2: SASD Revenues FY 07-11

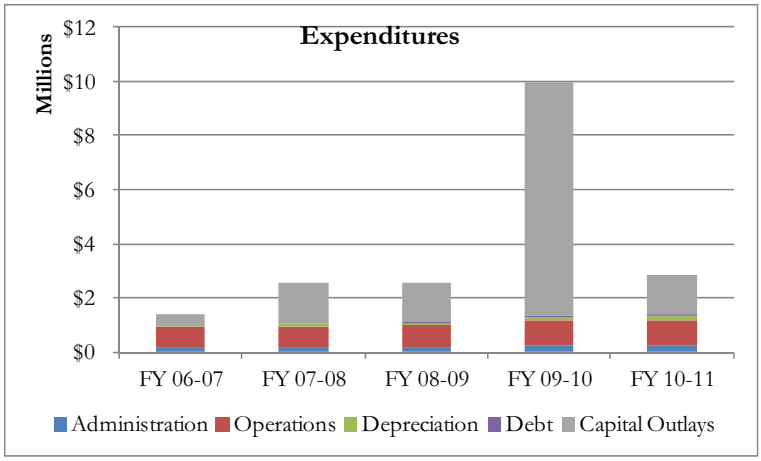


The District's total revenues were $2.3 million in FY 10-11. Revenue sources include connection and developer fees (14 percent), rates and charges (61 percent), capital contributions (21 percent), and property taxes, interest and other sources (3 percent). The District receives just over two percent of its revenues from property taxes.

Over the period FY 07-11, district revenues have significantly increased due to loans, grants, and capital contributions received for major capital improvements at the WWTP.

[258] Calaveras County, San Andreas Community Plan Land Use Designations Map, January 2008.

Figure 12-3: SASD Expenditures FY 07-11



The District's expenditures were $2.8 million in FY 10-11. Of this amount, 51 percent was spent on capital outlays, 32 percent was spent on operations, and nine percent was spent on administration.

District planning tools include a sewer system management plan and a minimal five-year capital improvement plan with a planning horizon through 2011. Capital improvements are also addressed annually in the District's budget.

The District has quantified capital improvement needs in its minimal capital improvement plan and annually adopted budget. The CIP has a planning horizon of five years, with the current CIP last updated in 2007 and planning through FY 11. Planned water capital improvement projects included in the CIP total $12.1 million, and wastewater capital improvement projects total $1.8 million. No timing for the projects was given in the plan. Significant capital outlays have been financed in the past with reserves, loans, bonds and by developers.

The District had $4.6 million in long-term debt at the end of FY 10-11. The debt consists primarily of a State Revolving Fund loan that financed the WWTP project, and secondarily of a loan made by the U.S. Department of Agriculture Rural Utilities Service to construct an outfall to the Calaveras River.

The District does not have a formal policy on maintaining financial reserves. SASD had $2.2 million in unrestricted net assets at the close of FY 10-11, which was equivalent to 157 percent of the District's operating expenditures in FY 10-11. In other words, the District maintained about 19 months of working reserves.

The District engages in joint financing arrangements related to pension plans. The District is a member of the California Public Employees' Retirement System, which is an investment pool for public employers within California.

WASTEWATER SERVICES

NATURE AND EXTENT

SASD provides wastewater collection, treatment and disposal services to the community of San Andreas and neighboring areas. All services are provide directly by the agency through district staff.

LOCATION

SASD provides all wastewater services within its bounds, which includes the unincorporated community of San Andreas and some neighboring areas. In addition, the District provides wastewater services to seven residential connections outside of the District's boundaries located on Gold Strike Road. These connections were added between 1991 and 1994. The residents in that area originally wanted to be included within the District's boundaries, but it was determined that

annexation was too costly for six connections.[259] According to the District's regulations and ordinances, it will not accept any additional connections outside of its boundaries.

The District reported that there are no areas within the District's boundaries that are served by septic systems.

INFRASTRUCTURE

Key SASD wastewater infrastructure includes one wastewater treatment plant, leach fields, 23.5 miles of sewer pipes and 5 lift stations.

Wastewater is treated to tertiary levels, is discharged into an effluent storage reservoir and then pumped to two miles of on-site evaporation, transpiration and percolation ditches. The WWTP was upgraded in 2011.[260] Under the District's former waste discharge requirements permit (R5-2003-0151), treated effluent was discharged exclusively to the percolation ditches during the dry months from May 1 to October 31. During wet weather, from November 1 to April 30, treated effluent was discharged to the land disposal area to the extent possible; however, treated effluent that could not be discharged to the land was discharged into the San Andreas Creek. The former permit required that discharges to the San Andreas Creek, as well as the North Fork Calaveras River, be diluted to a daily average of 20:1 (receiving water flow: treated effluent flow) or receive tertiary treatment after April 1, 2006. SASD has since constructed an outfall pipeline to the North Fork Calaveras River, to discharge excess secondary treated effluent from November 1 to April 30, and has discontinued discharging to San Andreas Creek. Dried sludge is disposed of at the Forward Landfill.

The WWTP was originally built between 1948 and 1954 and was upgraded in 1975, 1995 and 2011. The District identified the plant as being in good condition.

The WWTP has a design capacity of 0.4 mgd average dry weather flow.[261] While the District's average dry weather flow is .29 mgd or 73 percent of the WWTP's capacity, the District reported that due to high flows during work periods, the WWTP is essentially at capacity.[262] Based on the design capacity of 0.4 mgd, the District can treat approximately 277 gpm; however, during work hours on weekdays the plant treats up to 350 gpm. During evening hours, the Districts flow can be as low as 90 gpm. The District estimates that it can accept a maximum of 22 new connections.[263] Due to limitations on capacity expansion at the existing WWTP, the District reported that it will need a new plant to serve projected growth. The District reported that there is presently no reserve capacity for in-fill development.

Due to the presence of contaminants in treated effluent in excess of permitted conditions on several occasions, the WWTP wass in need of upgrades to begin treatment at tertiary equivalent standards and bring the District into compliance with discharge limitations to surface waters. During a facility inspection in May 2008, RWQCB identified effluent limitation exceedances for aluminum, diazinon, bis(2-ethylhexyl) phthalate, and manganese.[264] The RWQCB subsequently

[259] Interview with Steve Schimp, District Manager, SASD, April 5, 2010.

[260] Stantec Consulting Services, Inc., *San Andreas Sanitary District 2008 Wastewater Treatment Plant Upgrades: Performance Evaluation Certification Report*, September 2011.

[261] CVRWQCB, Waste Discharge Requirements Order No. R5-2009-0007, p. F-3.

[262] Interview with Tillman Sherman, SASD Board Member, August 18, 2010.

[263] Interview with Steve Schimp, SASD General Manager, January 5, 2011.

[264] Ibid, p. F-9.

adopted an Administrative Civil Liability Order (R5-2009-0524) in April 2009 for 24 violations of effluent limitations, between January 1, 2004 and March 30, 2007. During the same inspection, there were concerns that the District may have been, at times, discharging secondary treated effluent to the North Fork Calaveras River at less than a 20:1 dilution.[265]

In addition, upon adoption of a new waste discharge permit in 2009 (R5-2009-0007), the District was put into immediate non-compliance of effluent limitations for the following contaminants: ammonia, chlordane, copper, cyanide, diazinon, dichlorobromomethane, iron, and zinc. Consequently, the RWQCB also issued a Time Schedule Order outlining requirements to bring the District into compliance by January 2014.

In order to come into compliance with permit requirements, the District completed improvements to the plant ahead of schedule, and RWQCB signed off on the WWTP upgrade and the District's compliance status in February 2012. Recent improvements to the WWTP cost approximately $10 million and include the following:

- Addition of a post-trickling filter extended aeration activated sludge process to reduce ammonia concentrations and increase peak flow capacity of the trickling filter in the plant from 0.9 mgd to 1.5 mgd and increase the maximum wet weather discharge from 1.5 mgd to 1.9 mgd.
- Addition of effluent filters to treat to tertiary levels for biochemical oxygen demand (BOD_5), total suspended solids (TSS), and turbidity.
- Modification of the existing chlorination system to facilitate compliance with total coliform concentration requirements.

The SWRCB has provided $10.6 million in financing for these upgrades under the American Recovery and Reinvestment Act, and SASD completed the work under budget by $0.9 million. The stimulus money consisted of a $5.8 million grant and a $3.7 million loan (at one-percent interest).

The collection system was originally constructed in the 1950's. There have been significant improvements since then in 1969 and 1982. The system consists of 23.5 miles of pipes ranging in size from four to 24 inches in diameter. The District identified the collection system as being generally in fair condition.

The District reported a problem with infiltration and inflow, as peak wet weather flows exceed permitted wet weather capacity of the plant of 0.9 mgd and permitted wet weather discharge of 1.5 mgd. A storm by-pass device allows the diversion of excess storm inflow to a high-flow treatment system and storage reservoir, which has a capacity of six million gallons. However, in 2005, during a 40-year rain event, the District experienced a peaking factor of 12. Since then, the District has replaced approximately 600 feet of main which has corrected those areas with the most significant infiltration and inflow problems.

The District has purchased a CCTV camera, and plans to inspect the entire collection system by the end of 2014 to prioritize replacement needs. As of the drafting of this report the District had completed surveillance of 10,000 feet of pipes out of the District's 122,554 linear pipe feet. Approximately, 2,000 feet have been identified for replacement. The District also has plans to upgrade four of the system's five lift stations for roughly $0.1 million. According to the District, lift station improvements were to have been completed by the end of 2010.

[265] Ibid, p. F-10.

Table 12-4: SASD Wastewater Profile

Wastewater Service Configuration and Demand				
Service Configuration				
Service Type	**Service Provider(s)**			
Wastewater Collection	SASD			
Wastewater Treatment	SASD			
Wastewater Disposal	SASD			
Recycled Water	None			
Service Area				
Collection:	Unincorporated community of San Andreas and neighboring areas along SR 49			
Treatment:	Unincorporated community of San Andreas and neighboring areas along SR 49			
Recycled Water:	None			
Sewer Connection Regulatory/Policies				
Private septic systems are regulated through the Calaveras County Environmental Health Department. The use of private septic systems within the District is prohibited by the District's regulations.				
Onsite Septic Systems in Service Area				
None				
Service Demand				
	Connections (2010)			**Flow (mgd)**
Type	**Total**	**Inside Bounds**	**Outside Bounds**	**Average**
Total	897	891	6	0.29
Residential	735	729	6	0.19
Commercial	162	162	0	0.10
Industrial	0	0	0	-
Projected Demand (in millions of gallons per day)				
	2005	**2009**	**2015**	**2025**
Avg. dry weather flow	0.35	0.29	0.33	0.41
Peak wet weather flow	3.6	3.6	3.3	3.3
Note:				
(1) NA: Not Applicable; NP: Not Provided.				

Wastewater Infrastructure

Wastewater Treatment & Disposal Infrastructure

System Overview

Treatment level: Tertiary

Disposal method: Treated effluent is disposed of in a designated land disposal area from May 1 to October 31. During the winter months treated effluent is disposed of into the North Fork of the Calaveras River. Dried solids are disposed of on farmland in the Ione vicinity.

Facility Name	Capacity	Condition	Yr Built
San Andreas WWTP	0.4 mgd[1]	Good	1954
Effluent storage reservoir	6 mg	Good	1975

Treatment Plant Daily Flow (mgd)	Average Dry	Peak Wet
San Andreas WWTP	0.29 mgd	3.6 mgd

Infrastructure Needs and Deficiencies

The District needs to evaluate the existing capacity of the sprayfields (which appear to have more capacity than had previously been estimated), and needs to develop sludge disposal solutions.

Wastewater Collection & Distribution Infrastructure

Collection & Distribution Infrastructure

Sewer Pipe Miles	23.5	Sewage Lift Stations	5

Other:

Infrastructure Needs and Deficiencies

The District's SSMP outlines the need for a formalized rehabilitation and replacement plan that indentifies and prioritizes deficiencies and establishes a short and long-term replacement schedule. The District reported that there is at least 2,000 feet of main that needs to be replaced.

Infiltration and Inflow

The District reported that there are I/I challenges. Peak wet weather flow is well beyond the permitted wet weather capacity of the WWTP. In 2005, during a 40-year wet weather event, the District experienced a peaking factor of over 12. Since then, the District has replaced approximately 600 feet of main which has reduced some of the I/I. The system peaking factor was not provided. In order to identify and prioritize replacement of other areas with significant I/I, the District has begun mapping with GIS to determine low points that are more susceptible to I/I issues. In addition, the District purchased CCTV equipment in 2008 and has completed surveillance of 10,000 feet or eight percent of the collection system.

Wastewater Regional Collaboration and Facility Sharing

Regional Collaboration

The District is a member of the Calaveras County Water/Wastewater Technical Advisory Team, which meets regularly to discuss common issues and concerns regarding water and wastewater services within the County. In addition, the District collaborated with other agencies on the County General Plan Water Element in 2009.

Facility Sharing Practices and Opportunities

The District reported that it does not presently practice facility sharing. The District is considering a joint sludge disposal facility with CCWD and the City of Angels to reduce the cost of sludge disposal.

Note:
1) Average dry weather flow.

Wastewater Service Adequacy, Efficiency & Planning

Regulatory Compliance Record, 1/2000-5/2012			
Formal Enforcement Actions	4	Informal Enforcement Actions	3

Enforcement Action Type	Date	Description of Violations
Cease and Desist Order	10/17/2003	Effluent conditions (173)
Time Schedule Order	2/5/2009	Effluent conditions (15)
Notice of Violation	4/22/2009	Order conditions, deficient monitoring
Notice of Violation	4/22/2009	Sanitary sewer overflow, order conditions
Administrative Civil Liability Order	4/30/2009	Effluent conditions (24)
Administrative Civil Liability Order	7/1/2010	Effluent conditions (16)
Notice of Violation	1/5/2012	Order conditions (2), deficient monitoring (2), deficient reporting (2)

Total Violations, 2005-9			
Total Violations	155	Priority Violations	54
Violation Type, 2005-9			
Category 1 Pollutant in Effluent	68	Other Pollutant in Effluent	82
Order or Code Violation[1]	4	Groundwater Degradation	0
Deficient Monitoring	1	Late or Deficient Reporting	0
Service Adequacy Indicators			
Sewer Overflows 1/1/2008 to 8/15/2010[2]	14	Sewer Overflow Rate[3]	60
Treatment Effectiveness Rate[4]	99%	Response Time Policy[5]	45 minutes
Total Employees (FTEs)	3	Response Time Actual[6]	About 2 hours
MGD Treated per FTE	0.10		
Customer Complaints CY 2008: Odor (0), spills (12), other (0)			
Wastewater Operator Certification			
Treatment Plant Classification	Grade 2	Grade I Operators	3
Grade II Operators	1	Grade III Operators	0
Grade IV Operators	0	Grade V Operators	0

Source Control and Pollution Prevention Practices

The District recently introduced a Fats, Oils, and Grease Control Program, although several source control elements are included in the Districts regulations and ordinances. As part of the SSMP the District must either develop a control program or justify that such a program is not necessary.

Collection System Inspection Practices

The District purchased CCTV equipment in 2008 and has completed surveillance of 10,000 feet or eight percent of the collection system. The District plans to complete surveillance of the entire system over the next four years.

Service Challenges

The District presently faces a challenge in finding an alternative location to dispose of biosolids. The District currently disposes of biosolids at a County landfill, but increased disposal rates have prompted the District, CCWD and the City of Angels to begin discussions of starting a joint disposal facility.

Wastewater Planning Plan	Description	Planning Horizon
Wastewater Master Plan	None	NA
Capital Improvement Plan	Minimal list of projects and costs	2008-2011
Sanitary Sewer Management Plan	Timeline, goals and organization	NA
Emergency Plan	None	NA

Notes:

(1) Order or Code Violations include sanitary sewer overflow violations.

(2) Total number of overflows experienced (excluding those caused by customers) from 1/1/2008 to 8/15/2010 as reported by the agency.

(3) Sewer overflows from 1/1/2008 to 8/15/2010 (excluding those caused by customers) per 100 miles of collection piping.

(4) Total number of compliance days in 2009 per 365 days.

(5) SASD does not have policy for response time between service call and clearing the blockage, but does have an adopted policy to arrive on the scene within 45 minutes.

(6) Response time actual based on the time it takes to respond to an incident and correct the blockage as estimated by the District.

Wastewater Rates and Financing

Wastewater Rates-Ongoing Charges FY 09-10[1]

	Rate Description	Avg. Monthly Charges	Demand[2]
Residential	$62.00 flat monthly rate	$62.00	250 gpd

Rate Zones

None

Rate Update

Last Rate Change	7/1/2009	Frequency of Rate Changes	Every 2 years

Wastewater Development Fees and Requirements

Connection Fee Approach	Based on the estimated gpd of waste produced of 90 gpd per bedroom. Each estimated gallon is $46.83.			
Connection Fee Timing	Upon notification of approval of connection application			
Connection Fee Amount[3]	Residential:	$16,859	Last updated:	7/1/2009
Land Dedication Req.	None			
Development Impact Fee	None			

Wastewater Enterprise Revenues, FY 10-11			Expenditures, FY 10-11	
Source	Amount	%		Amount
Total	$2,285,935	100%	Total	$2,832,830
Rates & Charges	$1,405,017	61%	Administration	$259,655
Property Tax	$50,715	2%	O & M	$893,924
Grants and Loans	$0	0%	Capital Depreciation	$182,579
Interest	$16,462	1%	Debt	$59,028
Connection & Developer Fees	$327,631	14%	Capital Expenditures	$1,437,644
Contributed Capital	$483,874		Other	$0
Other	$2,236	0%		

Notes:

(1) Rates include wastewater-related service charges and strength and flow charges. Average monthly charges calculated based on average consumption. Rates are rounded for presentation.

(2) Wastewater use assumptions by customer type were used to calculate average monthly charges. Assumed use levels are 250 gallons per home per day, and are consistent countywide for comparison purposes. For further details, see Chapter 4.

(3) Connection fee amount is calculated for a single-family home with 4 bedrooms.

SUMMARY OF DETERMINATIONS

GROWTH AND POPULATION PROJECTIONS

- The estimated number of residents served by SASD in 2010 was 1,658, based on analysis of the number of residential connections served.
- The District anticipates approximately two to three new connections annually, which would result in a growth in population of eight percent between 2010 and 2030. District projections may be underestimated given the number of developments that showed interest prior to the economic recession.
- There are a total of 351 proposed or planned new dwelling units within the District's boundaries, based on interest indicated by developers, which would increase the District's population by 790 (48 percent). Many of these potential developments are on hold until the economy improves.
- As San Andreas is the county seat of Calaveras County and has a high school, there is a substantial influx in population during the day, resulting in increased demand for wastewater services.

PRESENT AND PLANNED CAPACITY OF PUBLIC FACILITIES AND ADEQUACY OF PUBLIC SERVICES, INCLUDING INFRASTRUCTURE NEEDS AND DEFICIENCIES

- The District's average dry weather flow uses 73 percent of the WWTP's capacity; however due to a substantial influx of people during weekdays, the WWTP is essentially at capacity.
- Needs and deficiencies at the WWTP include increased capacity.
- The WWTP is operating well, having been upgraded recently to comply with an RWQCB Administrative Civil Liability Order related to contaminants and to bring the District into compliance with discharge limitations to surface waters.
- The District reported a problem with infiltration and inflow, as peak wet weather flows exceed permitted wet weather capacity of the plant and permitted wet weather discharge.
- Wastewater services offered by the District appear to be minimally adequate with a recent Civil Liability Order, the highest overflow rate and highest peaking factor among the providers. It is anticipated that upon completion of the improvements presently under construction, that the District's level of service will improve.

FINANCIAL ABILITY OF AGENCIES TO PROVIDE SERVICES

- The District reported that financing is adequate.
- The District had the highest level of capital spending per connection among the wastewater providers in the County, and its operating expenses were higher-than-average.
- SASD rates are comparable to other providers, while connection fees in the high growth area are the highest in the County.

- Capital investments by SASD have significantly outpaced capital depreciation between FY 06-07 and FY 10-11.
- Financial reserves appear to be adequate, and have not been eroded during the recession.

STATUS OF, AND OPPORTUNITIES FOR, SHARED FACILITIES

- The District does not presently practice facility sharing with other agencies.
- SASD is cooperating in the creation of a joint sludge disposal facility with CCWD and the City of Angels.

ACCOUNTABILITY FOR COMMUNITY SERVICE NEEDS, INCLUDING GOVERNMENTAL STRUCTURE AND OPERATIONAL EFFICIENCIES

- The District demonstrated a high degree of accountability through its constituent outreach efforts and disclosure of information during the MSR process.
- It is recommended that the District develop and maintain a website to enhance accountability.
- Annexation of SASD extraterritorial service areas is an option that would promote logical boundaries. The District currently provides service outside of its bounds to seven residential connections located on Gold Strike Road.

SOI OPTIONS AND DETERMINATIONS

SASD's SOI was last updated in 2005 and is coterminous with the District's boundaries.[266]

AGENCY PROPOSAL

SASD did not propose any changes to its SOI for consideration by LAFCO.

SOI OPTIONS

Two potential options have been identified with respect to the SASD SOI.

Option #1: SOI Expansion

An SOI expansion would indicate that LAFCO anticipates the annexation of the added areas in the foreseeable future. The Commission may choose to include within the District's SOI 1) the parcels to which the District is providing service outside of its boundaries, and 2) the adjacent proposed development to which the District could potentially provide service.

The District provides wastewater services to seven residential connections outside of the District's boundaries located on Gold Strike Road. These connections were added between 1991 and 1994. The residents in that area originally wanted to be included within the District's boundaries, but it was determined that annexation was too costly for six connections.[267]

Calaveras Oaks is a proposed development of approximately 130 dwelling units, which is located along West Murray Creek Road. SASD is the only potential provider of wastewater service for the proposed development, as there are no other nearby providers. The development is presently on hold, like many other developments, due to the economic recession. Once the economy has recovered, it is anticipated that the area will be developed within the next five to 10 years.

Option #2: Confirm Coterminous SOI

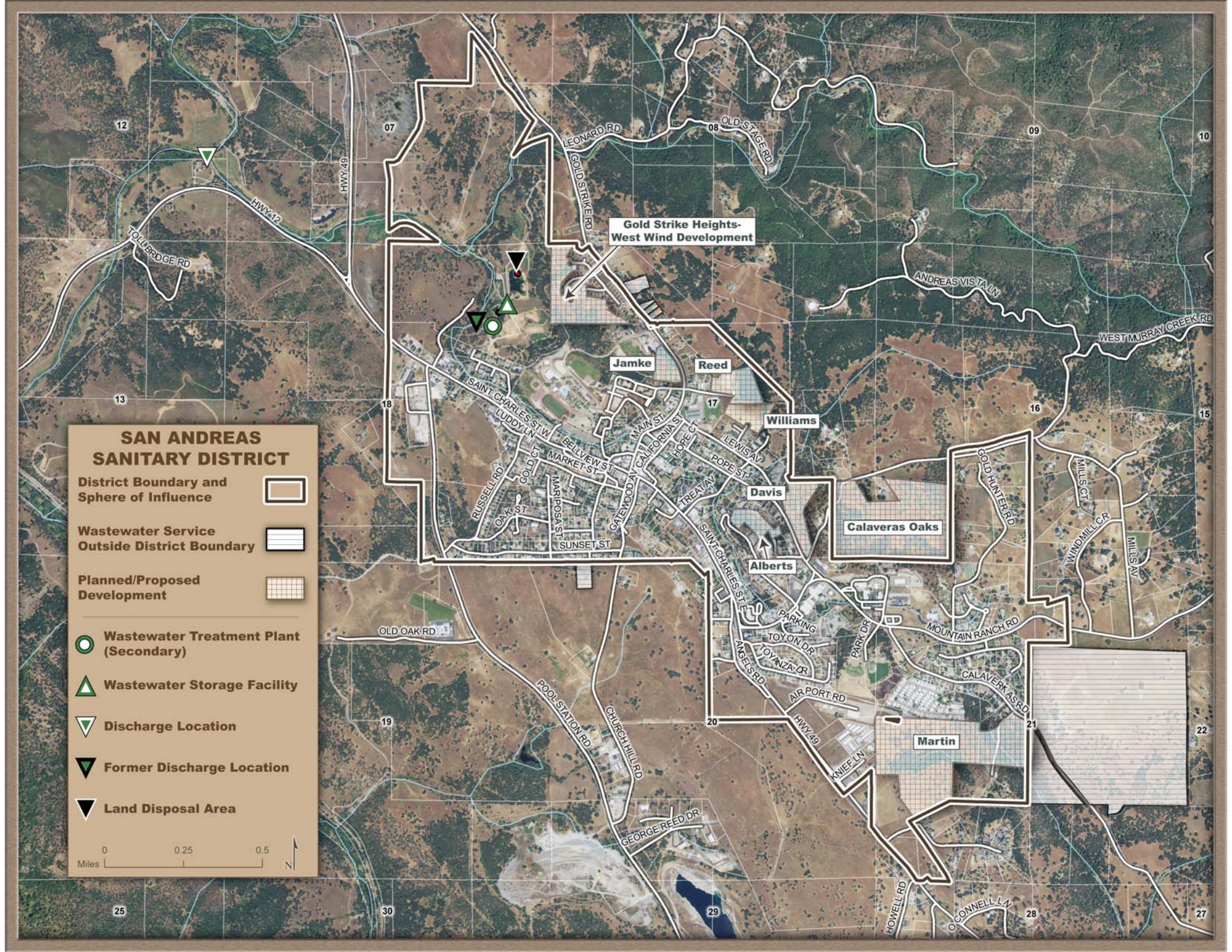
By retaining the existing coterminous SOI, LAFCO would indicate that the District is not expected to annex or detach territory in the foreseeable future.

ANALYSIS

The SOI preferred by LAFCO will greatly depend on how the Commission views extraterritorial service by agencies. District's must apply to LAFCO to provide out-of-bounds service; however, the connections in question were added to the system almost 20 years ago. As there are only a few connections, the same conclusion would likely be reached by the District and the property owners as 20 years ago—that annexation for a few property owners is prohibitively expensive. However, by including these areas within the District's SOI, LAFCO would be indicating that it anticipates the eventual inclusion of these areas within the District, and annexation may wait until there are other potential customers in the area to share the associated costs. The eventual annexation of these areas would promote clarity and transparency.

[266] LAFCO Resolution 2005-01.

[267] Interview with Steve Schimp, District Manager, SASD, April 5, 2010.


SAN ANDREAS SANITARY DISTRICT
District Boundary and Sphere of Influence
Wastewater Service Outside District Boundary
Planned/Proposed Development
Wastewater Treatment Plant (Secondary)
Wastewater Storage Facility
Discharge Location
Former Discharge Location
Land Disposal Area
0
0.25
0.5
Miles
N
Gold Strike Heights-
West Wind Development
Jamke
Reed
Williams
Davis
Alberts
Calaveras Oaks
Martin
HWY 49
HWY 12
TOLLBRIDGE RD
LEONARD RD
GOLD STRIKE RD
OLD STAGE RD
ANDREAS VISTA LN
WEST MURRAY CREEK RD
SAINT CHARLES ST W
LUDDY LN
BELLVIEW ST
MARKET ST
MAIN ST
CALIFORNIA ST
HOPE CT
LEWIS AV
POPE ST
TREAT AV
GATEWOOD AV
RUSSELL RD
GOLD CT
OAK ST
MARIPOSA ST
SUNSET ST
SAINT CHARLES ST E
GOLD HUNTER RD
MILLS CT
WINDMILL CR
MILLS AV
PARKING
TOYON DR
TOYANZA DR
PARK DR
ANGELS RD
MOUNTAIN RANCH RD
CALAVERAS RD
AIRPORT RD
KNIEF LN
OLD OAK RD
POOL STATION RD
CHURCH HILL RD
GEORGE REED DR
HOWELL RD
O'CONNELL LN
07
08
09
10
12
13
15
16
17
18
19
20
21
22
25
27
28
29
30

DRAFT SOI DETERMINATIONS

Present and Planned Land Uses

The District bounds encompass residential, commercial, public, and parks and recreation land uses. Single family residential land uses are located in the central portion of the District, north and south of Highway 49. Two-family and multi-family residential land uses are located in the central portion of the District, north of Highway 49, and in the southern portion of the District, south of Calaveras Road. Rural residential land uses are located in the northwestern and northeastern portions of the District boundary. Commercial land uses dominate the Highway 49 corridor that runs through the District. Public land uses include the Calaveras County Government Center, San Andreas Elementary School, Calaveras High School, the Peoples Cemetery, and the San Andreas Sanitary District facilities. Park and recreation facilities within the District include Nielsen Park and the baseball fields at Park Drive, south of Mountain Ranch Road, and tennis courts adjacent to Gold Hunter Road.

In terms of planned development, new multi-family units within the District are planned south of Highway 49, west of Russell Road, and north of Highway 49, along Main Street and along Gold Strike Way. Multi-family units are also planned west of the existing SASD boundaries, in the vicinity of the Highway 12/49 junction. Commercial development is planned south of Highway 49, east of Pool Station Road, and in the southeastern portion of the District along Highway 49. Industrial areas are planned west of Angels Road and along Airport Road, in the south of the District, and to the west of the existing SASD boundaries along Highway 49. The future growth area of the District is to the west of the existing boundaries, encompassing the planned multi-family and industrial development areas.[268]

Present and Probable Need for Public Facilities and Services

The estimated number of residents in 2010 was 1,658, based on analysis of the number of residential connections served.

The District reported that it anticipates approximately two to three new connections annually, although this may fluctuate depending on the timing of the completion of proposed developments.[269] Two to three new connections annually would result in a growth in population of eight percent between 2010 and 2030, which is lower than the countywide projected growth of 40 percent over that period.[270] However, these projections may be low given the number of developments that showed interest prior to the economic recession. The District reported that there are a total of 351 proposed or planned new dwelling units within or adjacent to the District's boundaries, based on interest indicated by developers. Build-out of these developments would create a 48 percent growth in population in the District.

Present Capacity of Public Facilities and Adequacy of Public Service

The District's average dry weather flow uses 73 percent of the WWTP's capacity; however due to a substantial influx of people during weekdays, the WWTP is essentially at capacity. The District will need a new WWTP to serve any additional development in the area.

[268] Calaveras County, San Andreas Community Plan Land Use Designations Map, January 2008.

[269] Interview with Steve Schimp, District Manager, SASD, April 5, 2010.

[270] Department of Finance, *Population Projections for California and Its Counties 2000-2050*, July 2007.

Wastewater services offered by the District appear to be minimally adequate with a recent Civil Liability Order, the highest overflow rate and highest peaking factor among the providers. It is anticipated that due to completion of the improvements, that the District's level of service will improve.

Existence of Any Social or Economic Communities of Interest

Communities of interest within the District's boundary and SOI includes the unincorporated community of San Andreas. Economic communities of interest include the businesses concentrated along SR 49 and the landowners within the District that pay a portion of their property tax to MSD. These communities are not divided by the District's boundaries or SOI.

13. UNION PUBLIC UTILITY DISTRICT

Union Public Utility District (UPUD) provides raw and treated water services in the communities of Murphys, Douglas Flat, Vallecito, Six Mile Village, and Carson Hill.

AGENCY OVERVIEW

FORMATION AND BOUNDARY

UPUD was formed on July 26, 1946 as an independent special district.[271] The District was formed to provide agricultural and domestic water services. PG&E served water to the UPUD service area until 1961 when UPUD acquired its water supply and distribution system from the Calaveras Water Users Association.

The principal act that governs the District is the Public Utility District Act.[272] The principal act empowers the District to acquire, construct, own, operate, control, or use works for supplying light, water, power, heat, transportation, telephone service, or other means of communication, or means for the disposal of garbage, sewage, or refuse matter.[273] In addition, the District may acquire, construct, own, complete, use, and operate a fire department, street lighting system, public parks and other recreation facilities, and provide for the drainage of roads, streets, and public places.[274] Districts must apply and obtain LAFCO approval to exercise services authorized by the principal act but not already provided (i.e., latent powers) by the district at the end of 2000.[275]

The boundaries of UPUD extend in the north to the Utica Canal north of Murphys, encompass the community of Murphys, encompass Vallecito and Douglas Flat, and extends south of there along South Ditch to include the community of Carson Hill, as shown on Map 13-1. The District has a boundary area of approximately 19.1 square miles.

The District's SOI is coterminous with its bounds. The SOI overlaps the City of Angels SOI presently.

Boundary History

Other than the District's formation in 1946, neither LAFCO nor the Board of Equalization has any records of any subsequent boundary changes or reorganizations affecting UPUD.

LOCAL ACCOUNTABILITY AND GOVERNANCE

The District has a five-member governing body. Board members are elected at large to staggered four-year terms. The last contested election for a board seat occurred in 2011 when three candidates ran for two positions. Although the 2007 election was uncontested, District elections have often been contested in the past.

[271] Board of Equalization Official Date.

[272] Public Utilities Code §15501-17501.

[273] Public Utilities Code §16461.

[274] Public Utilities Code §16463.

[275] Government Code §56824.10.

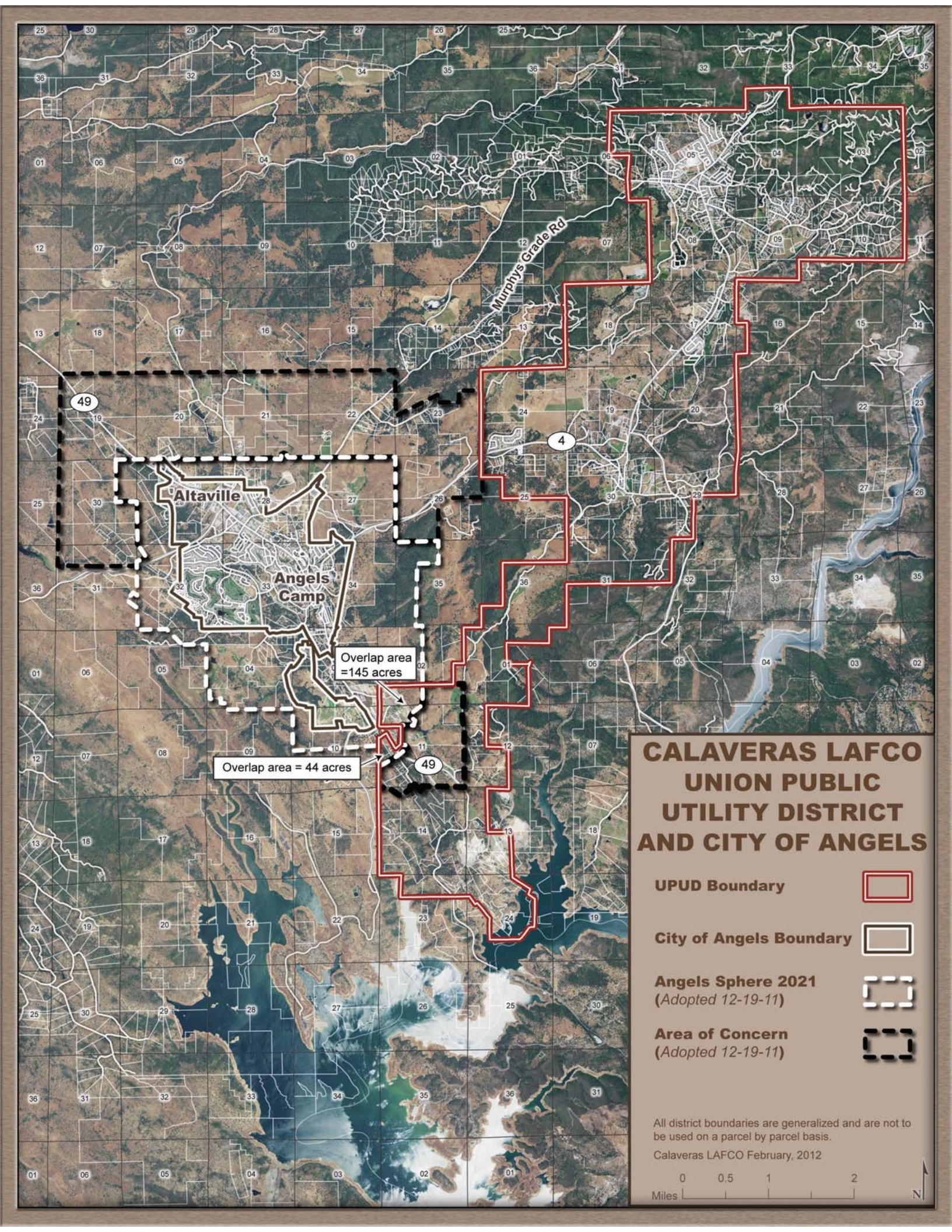

Murphys Grade Rd
49
4
Altaville
Angels Camp
Overlap area =145 acres
Overlap area = 44 acres
49
CALAVERAS LAFCO
UNION PUBLIC UTILITY DISTRICT AND CITY OF ANGELS
UPUD Boundary
City of Angels Boundary
Angels Sphere 2021 (Adopted 12-19-11)
Area of Concern (Adopted 12-19-11)
All district boundaries are generalized and are not to be used on a parcel by parcel basis.
Calaveras LAFCO February, 2012
0 0.5 1 2
Miles
N

Table 13-1: UPUD Governing Body

Governing Body				
Members	**Name**	**Position**	**Began Serving**	**Term Expires**
	Bill Airola	Member	2009	2013
	Greg Rasmussen	Member	2009	2013
	William J. Riedel	President	1977	2013
	Duane Oneto	Member	2011	2015
	Ralph Chick	Member	2011	2013
Manner of Selection	Elected at-large			
Length of Term	Four-year term			
Meetings	Date: 3rd Wednesday of each month, 7 p.m.		Location: District office	
Agenda Distribution	Posted at district office			
Minutes Distribution	Available by request			
UPUD Contact Information				
Contact	District Manager			
Mailing Address	339 Main Street, Murphys, California 95247			
Phone	209-728-3651			
Email/Website	adminupud@goldrush.com		No website	

The District's outreach efforts involve giving the media notice of its meetings. The District reports that its meetings are occasionally covered by the media. UPUD does not currently maintain a website, but reported in 2012 that it is developing a website. The District does not publish a newsletter, but does provide informational memos to customers on their statements and on inserts included with monthly billings two to three times annually.

With regard to customer service, complaints may be submitted to UPUD staff in person, by mail or by telephone. The District reports 6 complaints were filed within CY 2008, and 3 in CY 2009.

The District demonstrated accountability in its disclosure of information and cooperation with LAFCO. The agency responded to LAFCO's written questionnaires and cooperated with document requests.

MANAGEMENT

The District's staff consists of six full-time staff. The District Manager is responsible for supervision of field personnel, long-term planning, annual budget, and human resources functions. Field personnel include a treatment plant operator, and two staff involved in transmission and distribution repairs. The Office Manager assists the Board of Directors and UPUD staff with clerical, accounting and administrative duties, and is responsible for supervision of office staff. A customer service clerk reports to the Office Manager.

All District permanent employees are evaluated before receiving merit advancement, but otherwise are not regularly evaluated. New hires are evaluated at the end of the six-month probationary period.

The District reported that it regularly evaluates operations during its annual budget review, annual review of treated water, and annual inspection, but did not provide specific examples of how it evaluates operations. The California Department of Public Health regularly inspects UPUD facilities and operations. The most recent annual inspection report indicated that UPUD's treatment

plant is well-run and maintained, and that records were readily available and up to date. UPUD has an operations plan that was last updated in 2007.

The District did not identify specific efforts to monitor productivity.

The District reported that its financial planning efforts include annual budgets, annual financial audits, and occasional capital improvement plans. The most recent audit was completed for FY 10-11. The District most recently produced a capital improvement plan (CIP) in 1999 as part of a water rate study. The District prepared a 30-year water master plan in 2004. Capital improvements are addressed annually in the District's budget. The District reported that its most recent rate study was conducted in 2006 by its engineer.

UPUD did not identify awards or honors for their accomplishments between 2004 and 2009.

SERVICE DEMAND AND GROWTH

The District bounds encompass agricultural preserves (747 acres), community centers (447 acres), community plan areas (5,589 acres), residential centers (977 acres), single-family residential (498 acres) and timberlands (3,851 acres). Local business activities include hotels and motels, restaurants, shops and wineries.

The District considers its customer base to be the water connections served and the residents within the District boundaries. As of 2009, the District provided water services to 1,900 water customers—1,360 single-family and multi-family residential, 300 properties with second dwellings, 144 commercial, 96 irrigation connections.[276] The estimated residential population in the District bounds was 3,722, based on the product of connections served, and average 2010 household size according to DOF. The District's population density was approximately 196 per square mile in 2009, compared with the countywide density of 45 per square mile.

The County General Plan reported capacity for an additional 741-1,069 people in Murphys, and an additional 823-1,262 people in Vallecito.

There are several planned and proposed development projects within UPUD's boundaries and in adjacent areas, as shown in Table 13-2. The most significant active projects are Mitchell Ranch (117 units proposed) and Rocky Hill (82 units) in Murphys. UPUD has outstanding "will-serve" letters for both of these proposed developments. There are 76 additional units proposed in Murphys. There are two large, inactive development projects, Walker in Douglas Flat and The Cove in Vallecito, where 104 and 112 units respectively had been proposed. Eighteen units are proposed on fairly large parcels south of Carson Hill, a portion of which lies within UPUD bounds. Just north of UPUD bounds, there are four parcels where parcel splits are proposed; UPUD reports that due to grade those properties would likely be better served by CCWD than UPUD. Another project, Oakview Heights, involves 38 proposed dwelling units on Murphys Grade Road between UPUD and the City of Angels; extension of UPUD service to this area would entail significant pipeline extension funded by the new development.

UPUD's 2004 Master Plan projected 31 new connections would be added annually between 2010 and 2032 based on countywide DOF population projections. The District's 2004 Master Plan projects zero growth in irrigation use due to a net freeze on irrigation accounts;[277] the District does

[276] By 2011, the District served 1,947 customers through 1,604 connections, as shown in Table 13-3.

[277][277] Weber, Ghio & Associates, Inc., *Union Public Utility District Water Master Plan, 2002-2032*, Feb. 2004, p. 2. UPA has a freeze on new irrigation users within its service area due to contractual limitations on water deliveries in dry years.

not consider this freeze to be a "moratorium" as it connects new irrigation users when prior users disconnect from its system. Nearly half of current water use is agricultural, and the District reported in 2008 that it had not been able to extend service to a growing number of vineyards. UPUD's water supplier Utica Power Authority reported a freeze on new agricultural connections within UPA's service area. UPUD projected in 2008 that domestic consumption would reach 1,906-2,210 af by the year 2040.

UPUD is not a land use authority, and does not hold primary responsibility for implementing growth strategies.

Table 13-2: Planned and Proposed Development

Name	Acres	Dwelling units	Location	Vis-à-vis UPUD bounds	Status
Within Existing Bounds					
Walker	247	104	Douglas Flat	Mostly in bounds	Env. Review
Mitchell Ranch	114	117	Vallecito	In bounds	Pending EIR
Murphys Rocky Hill	45	82	Murphys	In bounds	Pending
Murphys Oaks	14	46	Murphys	In bounds	Map approved
Murphy's Creek Estates	5	20	Murphys	In bounds	Map approved
Edmonson	4	10	Murphys	In bounds	Map approved
Wilson	49	4	S. Carson Hill	In bounds	Env. Review
Field	50	5	S. Carson Hill	Partly in bounds	Env. Review
Nielsen	50	4	S. Carson Hill	Partly in bounds	Env. Review
	578	392	89		
Outside Existing Bounds					
Rasmussen	51	5	S. Carson Hill	Adjacent	Env. Review
Laidlaw	46	2	N. Murphys	Adjacent	Env. Review
Taylor	41	2	N. Murphys	Adjacent	Env. Review
Stevenot	40	2	N. Murphys	Adjacent	Env. Review
Folendorf	40	2	N. Murphys	Adjacent	Env. Review
Oakview Heights	221	38	Murphys Grade Rd.	Outside	Pending EIR
	438	51			

FINANCING

The District reported that the current financing level is adequate to deliver services at an acceptable level of service.

The District reports its financial activity through a single proprietary fund.

The District's total revenues were $1.4 million in FY 10-11. Revenue sources include water rates (88 percent), property taxes (7 percent), interest (1 percent), and connection fees (3 percent).

The District's expenditures were $1.5 million in FY 10-11.[278] Of this amount, 29 percent was spent on compensation, 23 percent on debt payments, nine percent on capital equipment, 16 percent on capital use (depreciation), and 32 percent on services and supplies.

The District had $3.0 million in long-term debt at the end of FY 10-11. The majority of the debt (63 percent) consisted of a safe drinking water loan used to finance water treatment plant upgrades completed in 2006. Other debt sources were a 2003 bond (17 percent), a 2005 bond used to repay a USDA loan (14 percent), and a State loan (six percent).

Over the period from FY 07-08 through FY 10-11, district revenues and expenditures increased. UPUD revenue from rates increased consistently over the period; connection fee revenue and contributed capital declined significantly in FY 08-09 due to the slow-down in housing construction related to the housing market collapse and recession. UPUD interest income also declined significantly compared with FY 07-08. The District's capital outlays also declined.

The District last quantified its long-term capital needs in 2004. The 2004 Master Plan identified $12.3 million (or $410,000 annually) in long-term capital needs for its domestic system, with most of the projects at that time expected to be needed by 2013. The Master Plan anticipated availability of approximately $150,000 annually for capital costs by the year 2011 upon completion of debt repayment for previous capital projects. For the irrigation system, UPUD mapped out the system in 1999 when it identified $3.1 million (or $104,000 annually) in line replacement needs. There has been no regular budget allocation or reserve fund for ongoing capital replacement (such as pipeline replacement). Significant capital outlays have been financed in the past with loans, bond proceeds, rates and reserves. UPUD spent $150,000 on capital outlays in FY 07-08, nothing in FY 08-09, $21,000 in FY 09-10, and $136,000 in FY 10-11. UPUD's most recent capital projects involved automated meter reading, inventory and WTP improvements. As of January 2011, the District had $0.5 million in capital reserves designated for capital improvements and capital replacement. UPUD had $65,000 in funds designated for expansion of the domestic water system.

The District does not have a formal policy on maintaining financial reserves. UPUD had $2.2 million in unrestricted net assets at the close of FY 10-11. The amount is equivalent to 151 percent of all expenditures in FY 10-11. In other words, the District maintained 18.1 months of working reserves.[279]

The District engages in joint financing arrangements related to insurance, purchased power and pension. The District is a member of Association of California Water Agencies' Joint Powers Insurance Authority (ACWA) that provides liability insurance. UPUD purchases electric power through Calaveras Public Power Agency. CalPERS acts as a common investment and administrative agent for participating public employers with the State of California for retirement and disability benefits.

WATER SERVICES

This section describes the nature, extent and location of the water services provided as well as key infrastructure and water sources. The tables provide further information and indicators of the agency's water service supplies, demand, financing, service adequacy, and facilities.

[278] For UPUD as well as the other service providers, expenditures were calculated based on the Statement of Cash Flow in the District's financial statements.

[279] UPUD maintains a reserve account funded by a $1 monthly rate to fund its share of UPA debt service and operating expenses.

NATURE AND EXTENT

UPUD provides raw and treated water services. The District relies directly on UPA for delivery of surface water from the North Fork Stanislaus River to UPUD facilities; UPA, in turn relies on upstream CCWD facilities. The District does not provide recycled water services.

LOCATION

UPUD provides services within its bounds to the communities of Murphys, Douglas Flat, Vallecito, Six Mile Village, and Carson Hill. The District reported that all service is within its bounds. The District's water services are available to all of its boundary area, although there are some unserved areas within the boundary that rely on private wells for water. There were approximately 21 standby connections in 2008.

INFRASTRUCTURE

Key infrastructure for water service includes the District's water supplies, treatment plant, transmission and distribution pipelines, four storage tanks, four reservoirs, and two irrigation canals.

Water Supplies

The District's primary water source is the North Fork Stanislaus River. Historically, UPUD obtained water from PG&E who held pre-1914 rights to the water until selling off these operations to CCWD in 1996 and 1997. Under UPUD's agreement with PG&E, UPUD obtained 6.75 cfs (equivalent to 4,882 afa) at a rate of $1 per af, and can obtain an additional 1,000 af at a rate of $15 per af. CCWD transferred these water rights (for direct diversion and storage) to Utica Power Authority (UPA) and NCPA. UPA now holds the rights to the source water delivered to UPUD, and holds substantially more water rights than have been allocated to its member agencies and customers due to contractual limitations on UPA water deliveries in dry years. UPUD would need additional water supplies to serve build-out of its service area.

CCWD conveys the water from its Collierville Tunnel into the UPA Utica Hydroelectric Project. UPA transfers water to a flume that flows into Hunters Reservoir in Avery, from there into Lower Utica Canal, and then into Murphys Forebay, Murphys Powerhouse and Murphys Afterbay. UPUD's domestic water supply is diverted from UPA above Murphys Forebay, and flows into UPUD's Cademorti Reservoir from whence it flows into the WTP. UPUD's agricultural water is delivered by UPA to two points of diversion: agricultural water for the Murphys customers is delivered above Murphys Forebay, and agricultural water for Vallecito, Douglas Flat and Carson Hill customers is delivered below Murphys Afterbay.

Each year, the water supplied to UPA depends on unimpaired runoff in the Stanislaus River. In the driest of years (i.e., drier than the 1977 drought), UPA would be over-committed during the dry season with deliveries exceeding commitments by 14-24 percent.[280] With no shortage plan to determine how much water each entity would receive, the District's water allocation in such a drought is unclear. The City of Angels Camp recommended pursuing a shortage plan with UPA to determine safe annual yield during drought conditions.[281] The next MSR should explore constraints to supplying contractual water rights, particularly during irrigation season.

[280] Correspondence from UPA Manager Vern Pyle, Feb. 2011, as cited by Stetson Engineers in its *Angels Camp Water Audit*, July 22, 2011.

[281] Stetson Engineers, *Angels Camp Water Audit*, July 22, 2011, p. 11.

Water quality vulnerabilities include wastewater treatment plant, mining operations, sewer collection systems, NPDES/WDR permitted discharges, grazing, septic systems, agricultural drainage, and burn areas.[282]

The District's secondary water source is surface water from Taylor Creek.[283] Taylor Creek flows seasonally; typically, the creek is dry by late May or early June. A typical annual supply from the creek is about 100 af, with actual supplies dependent on rainfall and varying from 60-130 af. This water supply is used exclusively for irrigation purposes, and is included in UPUD's contractual allocation from UPA.

Treatment Systems

The District owns, operates and maintains a treatment plant for surface water. The WTP is located below Cadematori Reservoir. The plant capacity is 3.1 mgd.[284] Average daily flow treated at the facility is 850,000 gallons. UPUD upgraded the WTP in 2006. The WTP is in good condition. The plant will need an additional filter at an estimated cost of $0.5 million to expand its capacity in order to accommodate future growth. In addition, installation of a conventional contact clarification will be needed to accommodate future growth due to the effect of higher flows on clogging filters; the estimated cost of this project is $1.7 million.[285]

Water Storage

The Agency owns and maintains four treated water storage facilities and four raw water reservoirs. The storage tanks have a combined storage of 3.35 mg of water. Tank locations are near the WTP (0.25 mg capacity), in Murphys on Sheep Ranch Road (1 mg), in Vallecito on Redhill Road (0.1 mg), and in Murphys at the WTP (2 mg capacity). The 2 mg tank is in excellent condition, having been purchased recently in 2006. The Murphys tank on Sheep Ranch Road was installed in 1992, [286] and the Vallecito tank was installed in 1989. The tanks were last inspected and cleaned in 2012. The smaller tank at the WTP is relatively old, but was repaired in 2007, and last inspected and cleaned in 2008. Additional storage would be needed to accommodate build-out of the UPUD service area.

There are four reservoirs. Cademorti is the most significant based on capacity and function; it holds the incoming raw water and is connected directly to the WTP. The other three reservoirs function as storage for raw water deliveries to agricultural customers. Two of the raw water reservoirs are in good condition, and one is in fair condition. Additional storage reservoirs would enhance the irrigation water supplies to accommodate growth in service demand.

Distribution and Transmission

The domestic distribution system consists of 33.1 miles of distribution pipeline. The domestic system is described by the State inspector as complex and long. UPUD reported the water loss rate is about 7 percent; by comparison the 2004 Master Plan reported the average historical domestic loss

[282] California Department of Health Services, *Drinking Water Source Assessment: Utica Rep. at Angels – Raw*, January 2003.

[283] Calaveras County, *Calaveras County General Plan: Water Element Baseline Report Supplement*, Feb. 2009, pp. 18-19.

[284] California Department of Public Health, Annual Inspection Report – Union Public Utility District, 2009, p. 9. Note that UPUD reports its WTP capacity is 2 mgd which is less than peak day demand.

[285] Weber, Ghio & Associates, Inc., *Union Public Utility District Water Master Plan*, 2002-2032, Feb. 2004.

[286] California Department of Public Health, *Annual Inspection of the Union Public Utility District's Treatment Plant*, Nov. 16, 2009.

rate at 8-11 percent. Infrastructure needs or deficiencies in the domestic distribution system include increasing main pipeline size to provide adequate fire flows, replacing 0.5 miles of older mains and service lines, installing additional fire hydrants in the Vallecito area, Douglas Flat, and Murphys Ranch subdivision. The 2004 Master Plan identified $2.5 million in capital needs associated primarily with replacing undersized mains and increasing fire flow. The most significant needs are associated with replacing 3.8 miles of undersized mains between Vallecito Tank and Carson Hill.

UPUD's agricultural water delivery system consists of two irrigation ditches, some of which are composed of pipeline. There are approximately 17.0 miles in the irrigation distribution system. The North Ditch begins at Murphys Forebay and ends at Stephen's Reservoir, and is composed of open ditch and pipeline. Agricultural water is distributed to the Murphys area via pipeline. The South Ditch begins at Murphys Afterbay and flows via open ditch and pipeline to Siebel Reservoir; from there, it flows via pipelines to Vallecito and then to Airola Reservoir. The irrigation water loss rate is 10 percent, as reported by UPUD; comparison of demand with UPA water deliveries in 2010 indicate that unaccounted-for-water constitutes 30 percent of water supplied to UPUD. UPUD described its irrigation system as continually needing replacement, with portions of the system more than 60 years old. Projected needs for replacement of the irrigation system (last updated in 1999) indicated annual costs of $104,000 over a 30-year period. Actual replacement needs are greater, as UPUD capital expenditures in recent years have not kept pace with the 1999 plan.

Table 13-3: UPUD Agency Water Profile

Water Service Configuration & Infrastructure					
Water Service	**Provider(s)**	**Water Service**	**Provider(s)**		
Retail Water	UPUD	Groundwater Recharge	None		
Wholesale Water	UPUD, UPA, CCWD	Groundwater Extraction	None		
Water Treatment	UPUD	Recycled Water	None		
Service Area Description					
Retail Water	Murphys, Vallecito, Douglas Flat, Carson Hill				
Wholesale Water	Agricultural water service area is the same as retail area.				
Recycled Water	None				
Boundary Area	19.1 sq. miles	Population (2009)	3,722		
System Overview					
	Treated Water		**Raw Water**		
Average Daily Demand	0.92 mgd		1.47 mgd		
Peak Day Demand	2.38 mgd		3.34 mgd		
Peak Hour Demand	3,300 gpm		NP		
Supply	NP		NP		
Major Facilities					
Facility Name	**Type**	**Capacity**		**Condition**	**Yr Built**
Water Treatment Plant	Water treatment	3.1 mgd (CA); 2 mgd (UPUD)		Good	1983
Cademorti Reservoir	Reservoir	140 af (92 usable)		Good	1983
Stephens Reservoir	Irrigation Reservoir	15 af		Good	1951
Siebel Reservoir	Irrigation Reservoir	15 af		Good	1947
Airola Reservoir	Irrigation Reservoir	12 af		Fair	1950
Storage tanks (3)	Storage	3.35 mg		Good	1983-2006
Other Infrastructure					
Minor Reservoirs	0	Storage Capacity (mg)	3.35		
Pump Stations	0	Pressure Zones	10		
Pipe Miles (domestic)	33.1	Pipe Miles (irrigation)	17.0		
Other:	North Ditch (irrigation conveyance to Murphys vicinity), South Ditch (irrigation conveyance to Vallecito and Carson Hill areas)				
Infrastructure Needs and Deficiencies					
In the domestic system, needs include increasing main pipeline size to provide adequate fire flows, replacing 0.5 miles of older mains and service lines, installing additional fire hydrants in the Vallecito area, Douglas Flat, and Murphys Ranch subdivision. UPUD upgraded its WTP from 2005-2008, and replaced segments of its domestic distribution system at that time. Portions of the irrigation distribution system are more than 60 years old, UPUD continually replaces parts of the system. Additional storage reservoirs and supplies during irrigation season would enhance the irrigation water supplies to accommodate growth in service demand.					
Facility-Sharing and Regional Collaboration					
Current Practices: UPUD and the City of Angels share control of Utica Power Authority (UPA), a joint powers agency. UPUD relies on upstream CCWD facilities to supply raw water to UPA through the North Fork Stanislaus River Project which is released from CCWD's Collierville Tunnel into UPA's Utica Hydroelectric Project. UPA transfers water via Lower Utica Canal into UPUD facilities.					
Opportunities: Availability of uphill recycled water (tertiary effluent at CCWD's Douglas Flat WWTP) presents opportunities for dry-year water supplies for irrigation uses in UPUD's service area.					
Notes: (1) NA means Not Applicable, NP means Not Provided, mg means millions of gallons, af means acre-feet.					

continued

Water Demand and Supply

Service Connections	Total 2009	Inside Bounds	Outside Bounds	Total 2011
Total	1,900	1,900	0	1,947
Irrigation/Landscape	96	96	0	99
Domestic	1,360	1,360	0	1,382
Commercial/Industrial/Institutional	144	144	0	123
Recycled	0	0	0	0
Other [1]	300	300	0	343

Average Annual Demand Information (Acre-Feet per Year)	2001	2007	2010	2015	2020	2025	2030
Total	2,113	1,834	1,865	1,945	2,032	2,112	2,196
Domestic	NP	715	1,034	1,114	1,201	1,281	1,365
Irrigation/Landscape	NP	1,120	831	831	831	831	831
Other	0	0	0	0	0	0	0

Water Sources		Supply (Acre-Feet/Year)		
Source	Type	Average	Maximum	Safe/Firm
North Fork Stanislaus River	Surface water	2,000	4,882	4,882
North Fork Stanislaus River	Surface water	0	1,000	1,000
Taylor Creek	Surface water	100	130	60

Supply Information (Acre-feet per Year)	2000	2005	2010	2015	2020	2025	2030
Total	2,113	1,834	2,114	1,945	2,032	2,112	2,196
Imported	0	0	0	0	0	0	0
Groundwater	0	0	0	0	0	0	0
Surface	2,113	1,834	2,114	1,945	2,032	2,112	2,196
Recycled	0	0	0	0	0	0	0

Drought Supply and Plans			
Drought Supply (af)	Year 1: NP	Year 2: NP	Year 3: NP
Significant Droughts	1961, 1976-77, 1987-8, 1990-92 and 1994		
Storage Practices	Treated water storage would accommodate 1.4 days of peak demand or 3.6 days of average system demand.		
Drought Plan	Ongoing project planning with UPA		

Water Conservation Practices	
CUWCC Signatory	No
Metering	All accounts are metered.
Conservation Pricing	UPUD rates increase for users with higher water consumption levels.
Other Practices	None identified.

Note:

(1) Other connections are not technically separate connections but represent additional customers that are served by a connection enumerated above (e.g., a mobile home park with multiple customers). These accounts are termed "additional minimums" by the District.

continued

Water Rates and Financing

Residential Water Rates-Ongoing Charges FY 11-12[1]

	Rate Description	Avg. Monthly Charges	Consumption[2]
Residential	$39/month basic charge for 5/8" or 3/4" meter up to 1,000 cu. ft., and $0.70 per 100 cu. ft. additional	$ 40.40	7,600 gal/month

Special Rates

Irrigation water rate is $30/month for up to 50,000 cu. ft., and $0.35 per 1,000 cu. ft. additional.

Wholesale Water Rates

NA

Rate-Setting Procedures

Policy Description	Monthly flat rate based on meter size, plus additional charges based on usage. A rate schedule established in 2006 provided for annual rate increases of 6 percent annually.		
Most Recent Rate Change	11/1/10	Frequency of Rate Changes	Annually

Water Development Fees and Requirements

Connection Fee Approach	The connection fee is a flat rate based on number of dwelling units or number of hotel room units.
Connection Fee Timing	Fee is due at the time the permit application is submitted.
Connection Fee Amount	$14,000/Single Family Unit Last updated: 2008
Land Dedication Requirements	None
Development Impact Fee	None

Water Enterprise Revenues, FY 10-11			Expenditures, FY 10-11	
Source	Amount	%		Amount
Total	$1,379,837	100%	Total	$1,491,525
Rates & charges	$1,209,060	88%	Administration	$190,223
Property tax	$91,834	7%	O & M	$582,941
Grants	$0	0%	Capital Depreciation	$236,564
Interest	$10,808	1%	Debt	$343,094
Connection Fees	$42,000	3%	Purchased Water	$2,500
Other	$26,135	2%	Capital Outlays	$136,203
Contributed Capital	$0		Other	$0

Notes:

(1) Rates include water-related service charges and usage charges.

(2) Water use assumptions were used to calculate average monthly bills. Assumed use levels are consistent countywide for comparison purposes. For further details, refer to Chapter 4.

continued

Water Service Adequacy, Efficiency & Planning Indicators

Water Planning	Description	Planning Horizon
Water Master Plan	2004 (domestic)	2002 - 2032
UWMP	None	
Capital Improvement Plan	included in master plan	2004 - 2013
Emergency Response Plan	Emergency Action Plan	2007

Service Challenges

In certain hillside areas, there is inadequate water pressure to provide standard service; customers may access water service by installing appropriate pressure booster pumps. To accommodate build-out of the service area, UPUD would need additional dry-year water supplies for irrigation uses.

Service Adequacy Indicators

Connections/FTE	317	O&M Cost Ratio[1]	$303,993
MGD Delivered/FTE	0.28	Distribution Loss Rate	7-11% (domestic), 10-30% (raw)
Distribution Breaks & Leaks (2009)	40	Distribution Break Rate[2]	98
Response Time Policy	asap	Response Time Actual	1/2 hour
Water Pressure	10-120 psi	Total Employees (FTEs)	6.0
Customer Complaints CY 2008:	57 leaks, 25 outages, 0 water pressure, 4 odor/taste, and 2 other		

Water Operator Certification

The District is required to have a D2 and T3 certified chief operator; the District is meeting these requirements. The District reported 4 personnel with D2 or higher certification for distribution systems and 2 personnel with a T3 or higher certification for treatment systems.

Drinking Water Quality Regulatory Information[3]

	#	Description
Health Violations	6	Haloacetic Acid mcl exceeded 2004, 2005(4), 2006
Monitoring Violations	1	CCR complete failure to report 2001
DW Compliance Rate[4]	100% (2009)	100% (2008)

Notes:

(1) Operations and maintenance costs (exc. purchased water, debt, depreciation) per volume (mgd) delivered.

(2) Distribution break rate is the number of leaks and pipeline breaks per 100 miles of distribution piping.

(3) Violations since 1995, as reported by the U.S. EPA Safe Drinking Water Information System.

(4) Drinking water compliance is percent of time in compliance with National Primary Drinking Water Regulations in 2009.

SUMMARY OF DETERMINATIONS

GROWTH AND POPULATION PROJECTIONS

- UPUD serves a population of approximately 3,722 people. The District serves 1,947 customers. Roughly half of its water demand is irrigation water.
- There is substantial development capacity remaining in Vallecito and Murphys. The draft County General Plan projections imply that UPUD's service area will add 1,200-1,900 connections by 2035.
- There are a growing number of vineyards in UPUD's service area. UPUD has restricted growth in irrigation water demand due to infrastructure limitations.

PRESENT AND PLANNED CAPACITY OF PUBLIC FACILITIES AND ADEQUACY OF PUBLIC SERVICES, INCLUDING INFRASTRUCTURE NEEDS AND DEFICIENCIES

- UPUD has adequate capacity to provide service to existing water connections. The District will need to expand its treatment and distribution systems to serve future growth in its domestic system.
- Treated water services in the UPUD service area were identified as generally adequate with a well-operated and maintained system.
- Domestic water infrastructure needs include replacement of water mains to provide adequate fire flows. Additional fire hydrants are needed in the Vallecito area, Douglas Flat, and Murphys Ranch subdivision.
- The District, in concert with UPA and the City, needs to determine both safe annual yield during drought conditions and curtailment procedures.
- UPUD does have adequate contracted water supplies during the irrigation season to meet new demand. There is a freeze on net new irrigation connections due to infrastructure limitations in certain locations. Additional upstream storage reservoirs and supplies during irrigation season would enhance the irrigation water supplies to accommodate growth in service demand.
- Portions of the irrigation distribution system are aged and need replacement. In recent years, UPUD has not kept pace with its capital plans in terms of annual replacement outlays.
- UPUD last prepared a domestic water master plan in 2004 and irrigation pipeline replacement plan in 1999. Given anticipated growth within and adjacent to UPUD bounds, the District should tailor its growth projections to its service area and update its growth plans regularly.

FINANCIAL ABILITY OF AGENCIES TO PROVIDE SERVICES

- The District reported that financing is adequate to deliver services. Due to ongoing challenges related to deteriorating irrigation distribution infrastructure, irrigation water rates should by reviewed to ensure continued adequate financing.
- UPUD capital outlays have not kept pace with depreciation in recent years.

STATUS OF, AND OPPORTUNITIES FOR, SHARED FACILITIES

- The District practices facility sharing of its raw water delivery system with City of Angels and Utica Power Authority.
- CCWD and Utica Power Authority intend to negotiate by 2015 additional consumptive water rights that could benefit UPUD's ability to serve future growth.
- CCWD, NCPA and UPA could potentially renegotiate terms for their water supply agreement to ensure adequate supplies to the UPUD service area to accommodate growth in irrigation demand.
- Availability of uphill recycled water presents opportunities for dry-year water supplies for irrigation uses in UPUD's service area.
- The District did not identify opportunities for future facility sharing.

ACCOUNTABILITY FOR COMMUNITY SERVICE NEEDS, INCLUDING GOVERNMENTAL STRUCTURE AND OPERATIONAL EFFICIENCIES

- Accountability is promoted by somewhat active interest in serving on the governing body, as indicated by recently contested elections.
- Local accountability is promoted by the relatively small size of the District and the inherent degree of local control.
- UPUD demonstrated a limited degree of accountability through its constituent outreach efforts and disclosure of information. The District lacks a website, and makes minimal efforts at outreach.
- The District is encouraged to enhance its growth, demand and facility planning efforts and improve its transparency by making key information available to the public through a website.
- There are accountability and management challenges at Murphys Sanitary District (MSD) whose bounds overlap the northernmost portion of UPUD. Governance options include UPUD assuming responsibility for MSD, creation of a new agency (likely a community services district) to begin afresh with operating and managing water and wastewater services in the UPUD service area, or consolidation with CCWD.
- There are planned and proposed development projects outside UPUD bounds, and substantial growth anticipated over the next 20 years in UPUD's service area. A governance option is to expand UPUD's sphere of influence so the District may annex such territory.

SOI OPTIONS AND DETERMINATIONS

UPUD's SOI was last updated by LAFCO in 2005 and is coterminous with the District's boundaries.[287]

[287] LAFCO Resolution 2005-01.

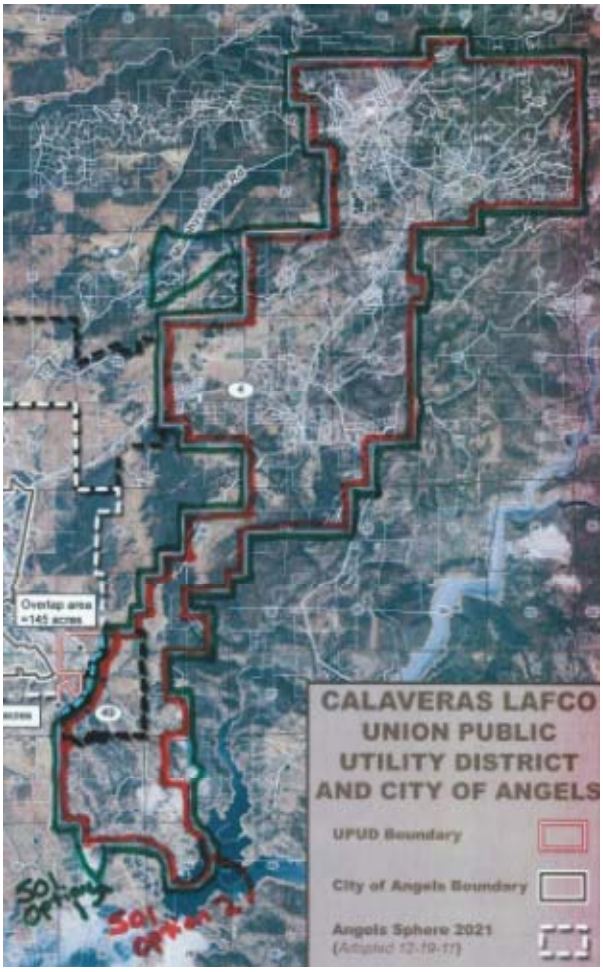
AGENCY PROPOSAL

UPUD did not propose any changes to its SOI for LAFCO's consideration. UPUD opposed expansion of the City of Angels SOI where it overlaps the UPUD boundary and SOI.[288] UPUD opposes reduction of its SOI to remove the area that now overlaps the City of Angels adopted SOI.

SOI OPTIONS

Four potential options have been identified with respect to the UPUD SOI.

Figure 13-2: UPUD SOI Options



Option #1: Provisional Annexable SOI

By adopting a provisional annexable SOI, LAFCO would signal that it recommends the District continue to exist and serve future growth in adjacent areas. By making the SOI provisional, LAFCO could condition the UPUD SOI expansion on UPUD making improvements in its accountability and planning efforts. Presumably this would encourage the District to ensure that recommended conditions are adequately addressed in a timely manner. The SOI would exclude development projects just north of UPUD bounds, as UPUD reported these areas would be more cost-effectively served by CCWD.

LAFCO may wish to encourage the District to improve accountability by making information available online, tailor basic growth planning to its service area, update growth plans, and/or provide adequate funding for capital maintenance. To accomplish that, LAFCO could establish the short-term SOI to include only those areas with existing service connections (not depicted in Figure 13-2). LAFCO would also establish a long-term SOI (shown as Option 1 in Figure 13-2). UPUD would then need to implement such practices before extending service to new development within its long-term SOI.

LAFCO would presumably exclude from the UPUD SOI territory that overlaps the adopted SOI of the City of Angels Camp to the west of Carson Hill.

Option #2: Detachable SOI

By removing territory in the City of Angels adopted SOI from the UPUD SOI, LAFCO would indicate that the District is expected to detach territory from UPUD once the area annexes to the

[288] Letter from UPUD District Engineer to Calaveras LAFCO Executive Officer, March 9, 2011.

City of Angels. SOI option #2 differs from SOI option #1 in that SOI option #2 does not contain territory outside UPUD bounds where development projects are anticipated.

Option #3: Zero SOI

A zero SOI would signify that LAFCO anticipates the eventual dissolution of UPUD and the transfer of its services to another entity, such as a new, multi-service CSD.

As discussed in the chapter on Murphys Sanitary District (MSD), MSD faces even more significant challenges in accountability and management of its affairs. One option identified for MSD, depending on priorities and needs of the community, may be the dissolution of MSD and services assumed by another overlapping agency, such as CCWD or Union PUD, which are both empowered to take on wastewater services.

In light of the lack of a cooperative working relationship between CCWD and UPUD, a more feasible governance alternative may be the complete dissolution of MSD and UPUD and the formation of a new agency to take on water and wastewater services in the area. A community services district would also be able to take on additional functions, such as park or lighting services. A newly formed district may face less opposition, as it is an opportunity to start from a clean slate without a preexisting governing body and management structure.

Option #4: Establishment of a Wastewater SOI to Signal Desirability of Consolidation

Another option is for LAFCO to establish a wastewater SOI for UPUD to signal the desirability of consolidation of MSD into UPUD.

SOI ANALYSIS

UPUD faces challenges with accountability and practices minimal planning activities. UPUD is a small district that has faced challenges with disclosure of information. The District's accountability is additionally constrained by a lack of constituent outreach efforts, including the absence of a website. UPUD has not updated its capital improvement plan in seven years, its growth plans are not tailored to its service area, and it lacks recent information on projected water demand. Other notable issues are the freeze on net new agricultural water connections and financial practices in recent years have allowed capital depreciation to outpace capital maintenance and replacement. These deficiencies were not identified in the previous MSR; consequently, the District has not been made aware of management practices that are in need of improvement.

There are a number of planned or proposed developments located immediately north of the District's northern boundary in Murphys, west of UPUD's western bounds in Vallecito, and south and east of UPUD's southeastern bounds in Carson Hill. Including these developments within the District's SOI, would clearly indicate what agency LAFCO anticipates serving the areas in the future. An SOI expansion would indicate that LAFCO anticipates the annexation of the added areas in the foreseeable future. The Commission may choose to include within the District's SOI adjacent proposed developments to which the District could potentially provide service.

The City of Angels Camp's adopted SOI overlaps UPUD's existing bounds and coterminous SOI to the west of Carson Hill. UPUD reports that it presently provides service to this area, and that one of its reservoirs is located near the SOI overlap area. The CKH Act clearly prioritizes service be provided by a multi-purpose agency rather than a single-purpose agency. LAFCO may wish to exclude that territory from the UPUD SOI. By so doing, a city annexation could be processed simultaneously with detachment of the affected territory from UPUD.

If LAFCO determines that the District has not had adequate notice of the deficiencies nor sufficient time to address the issues of concern, then a provisional SOI would allow for a judicious amount of time as defined by the Commission to make necessary improvements.

Should the Commission choose to adopt a provisional SOI, LAFCO will need to set specific conditions for UPUD to meet within a required time frame, such as a one-year period. Examples of conditions that could be established in response to recognized deficiencies include:

1) Lack of transparency and outreach: Create a website where a map, contact information, board meeting agendas, and information on District finances and plans are available.
2) Unknown supply and demand information: Update the water plan information on demand, constraints on water supply, and availability of water supply to serve future growth.
3) Minimal capital improvement planning and reinvestment in capital: Prepare and update a 10-year capital improvement plan that discusses infrastructure needs and ongoing plans to invest in maintenance.

DRAFT SOI DETERMINATIONS

Present and Planned Land Uses

The District bounds encompass agricultural preserves, community centers, community plan areas, residential centers, single-family residential and timberlands. Local business activities include hotels and motels, restaurants, and shops.

Present and Probable Need for Public Facilities and Services

The estimated residential population in the District bounds was 3,708 in 2010, based on analysis of the number of residential connections and average household size in the County.

There are a number of planned and proposed developments within and adjacent to District bounds. Construction of all of the units planned and proposed units within the District's boundaries and connection to the District's system would result in a population increase of approximately 741-1,069 people in Murphys, and an additional 823-1,262 people in Vallecito.

Present Capacity of Public Facilities and Adequacy of Public Service

The District is using 28 percent of its existing treatment capacity, and 40 percent of the water supplies to which the District is contractually entitled.

Water services offered by the District appear to be adequate based on regulatory compliance status, treatment effectiveness rate, and response times. Certain pipelines are undersized, particularly south of Vallecito, and there are areas needing additional fire hydrants. The District could improve upon its planning efforts, which are minimal, and accountability. UPUD's irrigation distribution infrastructure is aged, and portions need replacement.

Existence of Any Social or Economic Communities of Interest

Communities of interest within the District's boundary and SOI includes the unincorporated communities of Murphys, Vallecito and Carson Hill. Economic communities of interest include the businesses and the landowners within the District that pay a portion of their property tax to UPUD.

The adopted SOI for the City of Angels Camp overlaps a portion of territory west of Carson Hill that is within UPUD's boundaries and existing SOI.

14. VALLEY SPRINGS PUBLIC UTILITY DISTRICT

Valley Springs Public Utility District (VSPUD) provides treated water, and wastewater collection, treatment and disposal services.

AGENCY OVERVIEW

FORMATION AND BOUNDARY

VSPUD was formed in April of 1948 as a public utility to provide water to the community of Valley Springs. A separate district, the Valley Springs Sanitary District (VSSD), was formed in January of 1940 to provide wastewater services to Valley Springs. In October of 1998, LAFCO adopted Resolution No. 98-01 approving a reorganization of VSPUD and VSSD. This action and a subsequent action by the County Board of Supervisors consolidated VSSD with VSPUD and designated VSPUD as the successor district to assume the functions of VSSD. The reorganization also provided for the annexation of additional territory to VSPUD.[289]

VSPUD is an independent district. The principal act that governs the District is the Public Utility District Act.[290] The principal act empowers the District to acquire, construct, own, operate, control, or use works for supplying light, water, power, heat, transportation, telephone service, or other means of communication, or means for the disposal of garbage, sewage, or refuse matter.[291] In addition, the District may acquire, construct, own, complete, use, and operate a fire department, street lighting system, public parks and other recreation facilities, and provide for the drainage of roads, streets, and public places.[292] Districts must apply and obtain LAFCO approval to exercise services authorized by the principal act but not already provided (i.e., latent powers) by the district at the end of 2000.[293]

The boundaries of VSPUD extend from just north of Sequoia Avenue, south to Jean Street in the east and Daphne Street in the west, and from the end of Daphne Street in the west to just west of Lime Creek Road, as shown on Map 14-1. The District has a boundary area of approximately 0.44 square miles or 190 acres.

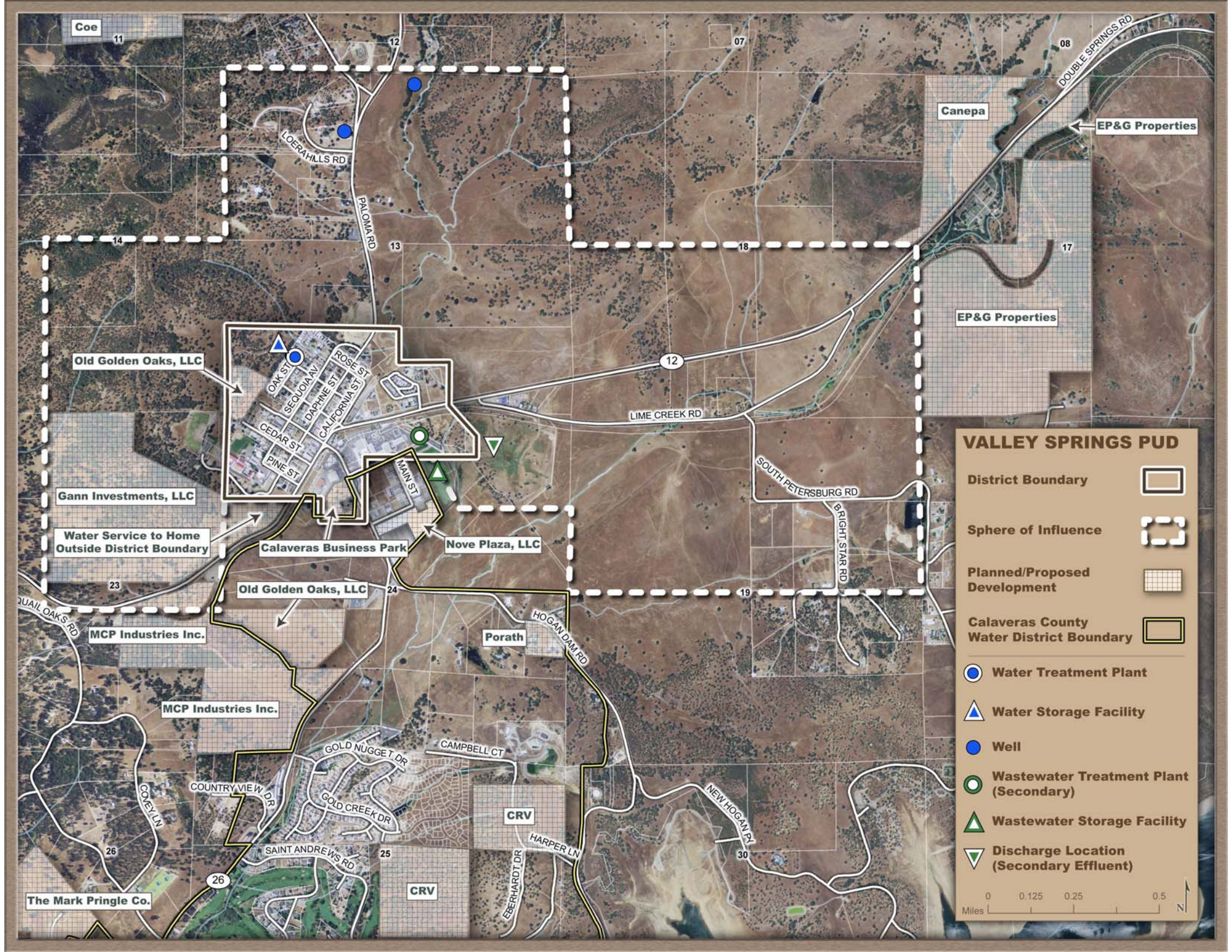
[289] Calaveras LAFCO, *Wastewater MSR*, 2005, p. IX-1.

[290] Public Utilities Code §15501-17501.

[291] Public Utilities Code §16461.

[292] Public Utilities Code §16463.

[293] Government Code §56824.10.


Coe
11
12
07
08
DOUBLE SPRINGS RD
Canepa
EP&G Properties
LOERA HILLS RD
PALOMA RD
14
13
18
17
EP&G Properties
Old Golden Oaks, LLC
OAK ST
SEQUOIA AV
ROSE ST
DAPHNE ST
CALIFORNIA ST
CEDAR ST
PINE ST
12
LIME CREEK RD
MAIN ST
SOUTH PETERSBURG RD
BRIGHT STAR RD
Gann Investments, LLC
Water Service to Home Outside District Boundary
Calaveras Business Park
Nove Plaza, LLC
23
24
19
Old Golden Oaks, LLC
QUAIL OAKS RD
MCP Industries Inc.
Porath
HOGAN DAM RD
MCP Industries Inc.
GOLD NUGGET DR
CAMPBELL CT
COUNTRY VIEW DR
COVEY LN
GOLD CREEK DR
CRV
NEW HOGAN PK
HARPER LN
26
SAINT ANDREWS RD
25
30
26
The Mark Pringle Co.
CRV
EBERHARDT DR
VALLEY SPRINGS PUD
District Boundary
Sphere of Influence
Planned/Proposed Development
Calaveras County Water District Boundary
Water Treatment Plant
Water Storage Facility
Well
Wastewater Treatment Plant (Secondary)
Wastewater Storage Facility
Discharge Location (Secondary Effluent)
0
0.125
0.25
0.5
Miles
N

The District's SOI was originally adopted in 1990 and was last updated by LAFCO in 2005. The SOI extends beyond the District's boundaries in the west to Quail Oaks Road, in the north to the Watertown Road and Paloma Road intersection and in the east to South Petersburg Road and the Pacific Placer Reservoir.[294] The SOI is coterminous with the District's bounds in the south. The SOI encompasses approximately 2.9 square miles or 1,826 acres.

Boundary History

Since formation, the District has had eight boundary changes—two reorganizations, five annexations and one detachment—according to BOE and LAFCO records. Of the eight boundary changes, four have not been recorded by BOE and are based on LAFCO records only, as shown in Table 14-1. As the District receives property tax revenue, it is recommended that the District and LAFCO work together to ensure that the BOE roll for the tax rate area system is consistent with recorded boundary changes for the District.

Table 14-1: VSPUD Boundary History

Project Name	LAFCO Resolution #	BOE Effective Date	Change Type	Recording Agency
No name reported	67-05	9/7/1967	Reorg	BOE, LAFCO
No name reported		12/1/1967	Annex	BOE
Moore-Bourquet Annexation	82-02		Annex	LAFCO
No name reported	82-07		Annex	LAFCO
CUSD and Jenny Lind Veteran Memorial District	83-04		Annex	LAFCO
Meyers Detachment[1]	91-05		Detach	LAFCO
Valley Oaks Center	93-06	6/8/1994	Annex	BOE, LAFCO
Valley Springs PUD Reorganization	98-01	11/30/1998	Reorg	BOE, LAFCO

Note:

(1) There are no records that the Meyers Detachment was approved by LAFCO.

LOCAL ACCOUNTABILITY AND GOVERNANCE

The District has a five-member governing body. Board members are elected at-large to staggered four-year terms. The last contested election for a board seat occurred in 2007 when seven individuals ran for three board positions.

The District keeps constituents updated and informed through its outreach efforts, which consists of a district website and information included with billings. The District maintains a website where district staff and contact information, planning documents and meeting agendas and minutes are available.

[294] LAFCO Resolution 2005-01.

Table 14-2: VSPUD Governing Body

Valley Springs PUD				
Governing Body				
Members	**Name**	**Position**	**Began Serving**	**Term Expires**
	Lucille Allee	President	1998	2015
	Andy Whitaker	Vice Chair	2005	2015
	Paul Robertson	Director	2011	2013
	Theresa Cardenas	Director	2011	2013
	Connie Gleason	Director	2005	2013
Manner of Selection	Elected at-large			
Length of Term	Four years			
Meetings	Date: Fourth Wednesday of the month at 6:30 pm		Location: District Office - 150 Sequoia Avenue Valley Springs, CA	
Agenda Distribution	Available on the District's website and posted in front of the district office			
Minutes Distribution	Available on the website and by request			
Contact				
Contact	General Manager			
Mailing Address	P.O. Box 284 Valley Springs, CA 95252			
Email/Website	vspud@sbcglobal.net/www.vspud.com			

With regard to customer service, complaints may be submitted in person, in writing, by phone or at board meetings. According to the District's procedure manual, complaints are to be resolved at the lowest possible administrative level. The District's process to resolve complaints is outlined as follows 1) the individual with a complaint will first discuss it with a district representative designated by the manager, 2) if the issue is not resolved to the satisfaction of the customer, the individual may escalate the complaint to the manager for resolution, 3) if the individual is not satisfied with the outcome, the customer may submit a written complaint to the Board of Directors within 10 days of receiving the manager's decision, and the Board will make a final decision. Complaints are tracked in correspondence folders and in meeting minutes. In the past, complaints were regarding rates; however, recently, there have been few complaints. The District reported that there were no wastewater related complaints in 2008 and one complaint related to water service due to a leak.

The District demonstrated full accountability in its disclosure of information and cooperation with LAFCO. The agency responded to LAFCO's written questionnaires and cooperated with LAFCO map inquiries and document requests.

MANAGEMENT

The District's staff consists of three full and part-time staff or 2.5 FTEs—a general manager, a system operator and an administrative secretary. The system operator spends approximately 75 percent of his time on wastewater related activities and 25 percent of his time on water related activities. The District contracts for legal counsel and engineering services. All staff report to the general manager, who then reports to the Board at monthly meetings.

All District employees are evaluated annually. New hires and personnel on one-year promotion probation are evaluated formally on a quarterly basis and informally at least once a month. The

District is up to date on staff performance evaluations. The District monitors employee workload through minimal timesheets with time allocations for type of tasks and work logs at the plants.

Overall district performance is evaluated annually in the District's budget and annual financial statement, as well as by the California Department of Public Health through its annual inspection report. While the Regional Water Quality Control Board does not conduct regular inspections and reports, the Board does monitor District compliance with regulations through district-produced monitoring reports and random inspections. The District does not practice benchmarking with other similar service providers.

With regard to planning documents and tools, the District does not have a multi-year capital improvement plan, a water master plan, a sewer system management plan or similar documents which address long-term capital needs or growth projections. The District prepared a Wastewater Master Plan in 2003, but the document has not been updated since then. Capital needs are identified and budgeted on an annual basis.

The District reported that its financial planning efforts include annual budgets and annual financial audits. The most recent audit was completed for FY 10-11. The auditor did not identify any significant deficiencies.

SERVICE DEMAND AND GROWTH

The District bounds encompass residential, commercial, and public land uses. Residential areas are located north of SR 12. Local business activities primarily consist of commercial shopping areas located south of SR 12. Within the existing SOI, land uses include single family residential, agricultural rural and commercial areas.

Local business activities include Valley Springs Home Store, Umpqua Bank, Mar-Val Food Stores, CVS and Round Table Pizza in the main shopping center area and a Napa Auto Parts on SR 12 in the District.

The District considers its customer base to be the water and wastewater connections served and the residents within the District's boundaries. As of 2010, the District provided water and wastewater services to 272 connections—172 single family residential (18 standby), 13 multi-family residential (135 units), 74 commercial or public (three standby), and 13 agricultural or outside watering. The estimated number of residents in 2010 was 650, based on analysis of connections served and average household size. The District's population density was approximately 1,476 per square mile in 2010, compared with the countywide density of 45 per square mile.

Population growth within the District's bounds has been minimal (approximately five percent) between 2000 and 2010. During that period, the District added only seven additional connections to its system. In 2005 and 2006, developers showed interest in several locations within the District's bounds and SOI, and immediately adjacent to the SOI; however, many of these developments have been put on hold until the economy recovers from the recent recession. Based on planned and proposed developments that were in the application process prior to the recession, growth has the potential to be significant in the future with the possibility of more than doubling the District's current number of connections; however in the short-term, the District reported that it does not anticipate any new connections during FY 11 and FY 12.

The District reported that it has reserved capacity for 12 connections for in-fill and has 63 will serve letters from 2006 for the Charboneau Estates development, by Old Golden Oaks, that was on hold as of the drafting of this report. Other major developments that the District has the potential to serve in the future are shown in Table 14-3. The three developments would add a total of 613

connections to the District's existing 272 connections. With the addition of these connections over the next 15 to 20 years, the projected population growth rate from 2010 to 2030 is 225 percent, which is significantly higher than the countywide projected growth of 40 percent over that period.

Table 14-3: VSPUD Planned and Proposed Developments

Name	Dwelling units	Location	Status	Capacity reserved
Reserve for in-fill capacity	12	Within boundaries	NA	Yes
Charboneau Estates	63	Within boundaries	Not active	Yes
Gann/White House	188	Within SOI	Not active	No
Castle Rock[1]	350	Partially in SOI	Not active	No
Total	613			

Note:

(1) Castle Rock is not shown on the District's map, as the application for this subdivision has been withdrawn.

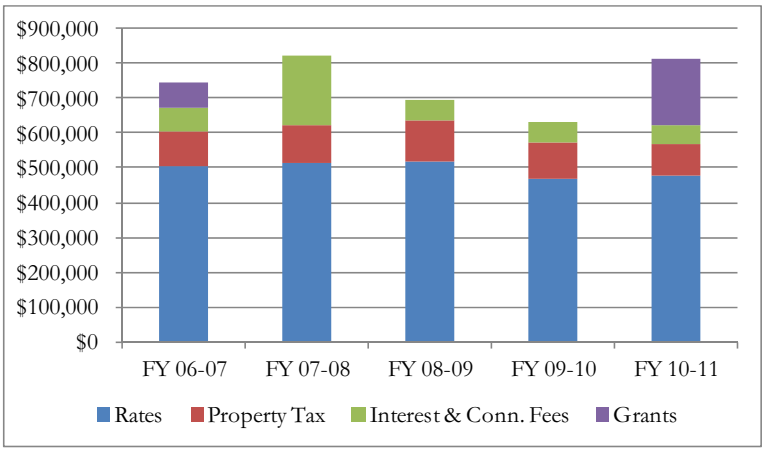
The District is not a land use authority, and does not hold primary responsibility for implementing growth strategies.

FINANCING

The District reported that the current financing level is minimally adequate to deliver services, and indicated that it anticipates challenges in the future in maintaining the existing level of service due to a decline in property tax revenue and upcoming loan payments on a well that is in the process of being installed.[295] Due to State financing issues and the resultant impact of the suspension of Proposition 1A, the District experienced a decline in property tax revenues during the recent recession of approximately $9,600 or one percent of total revenues in FY 08-09.

The District clearly practices appropriate fund accounting for separate water and wastewater enterprise funds, as demonstrated by its FY 10-11 audited financial statement.

Figure 14-2: VSPUD Revenues FY 07-11



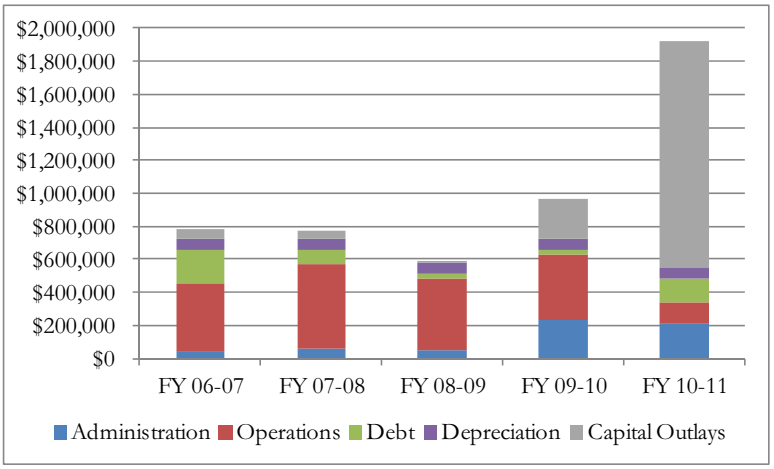
The District's total revenues were $0.8 million in FY 09-10. Revenue sources include rates and charges (59 percent), grants (23 percent), and property taxes (11 percent).

Ongoing District revenues declined after FY 07-08, primarily due to reduced interest earnings and connection fees. Grant revenue for the District's water enterprise increased in FY 10-11. Due to the State budget crisis, in July 2009, the

[295] Interview with Dee Myshrall, VSPUD Administrative Secretary, July 13, 2010.

State legislature voted to suspend Proposition 1A, which ensures local property tax and sales tax revenues remain with the counties, cities and special districts.[296] Consequently, all local agencies are required to loan eight percent of apportioned property tax revenues to the State with repayment plus interest by June 30, 2013. To mitigate the impact of the loss of revenues on the local agencies, the Proposition 1A Securitization Program enables local agencies to sell their Proposition 1A Receivables for cash proceeds to be paid in two installments in January and May 2010. VSPUD chose not to participate in the securitization program.

Figure 14-3: VSPUD Expenditures FY 07-11



The District's expenditures were $1.9 million in FY 10-11. Of this amount, 71 percent was spent on capital outlays, 11 percent on administration, 7 percent on operations, 7 percent on debt, and 12 percent is attributed to depreciation.

District expenditures on capital outlays and for general and administrative purposes have increased over the last five years, as shown in Figure 14-3. VSPUD spending on operations has declined.

The District reported that it plans for capital needs on a yearly basis in the budget. The District did not provide estimates for long-term water and wastewater related capital needs. In the past, significant capital outlays have been financed with loans, reserves, bonds, grants and by developers. In 2006, the District instituted an infrastructure fee of $5 per month per connection as part of its rate system, which is reserved only for capital needs. The District has invested somewhat less in its wastewater capital outlays in the past five years than has been consumed by wear and tear (depreciation); however, its water capital outlays exceeded depreciation.

The District had $1.3 million in long-term debt at the end of FY 10-11. The debt is composed entirely of a U.S. Department of Agriculture loan that helped finance installation of a new well and storage tank.

The District does not have a formal policy on maintaining financial reserves. VSPUD had $1.6 million in unrestricted net assets at the close of FY 10-11. The amount is equivalent to 82 percent of all expenditures in FY 10-11. In other words, the District maintained 10 months of working reserves.

The District engages in joint financing arrangements through the Special District Risk Management Authority (SDRMA) for insurance purposes and the California Public Employees' Retirement System (CalPERS) for employee pension plans. SDRMA is a not-for-profit public agency that provides a full-service risk management program for California's local governments. CalPERS acts as a common investment and administrative agent for participating public employers with the State of California for retirement and disability benefits.

[296] Proposition 1A was passed by voters in 2004. It prohibits the State from reducing local government property and sales tax proceeds. The proposition may be suspended if the Governor declares a fiscal necessity and two-thirds of the State legislature approve the suspension.

WATER SERVICES

This section describes the nature, extent and location of the water services provided as well as key infrastructure and water sources. The tables provide further information and indicators of the agency's water service supplies, demand, financing, service adequacy, and facilities. The water chapter in the MSR main document contains analysis and conclusions based on this information.

NATURE AND EXTENT

VSPUD provides groundwater extraction, treatment and distribution, for domestic use directly with district staff.

The District does not use recycled water.

LOCATION

VSPUD provides services within its bounds to the unincorporated Town of Valley Springs. In addition, the District serves one single family residence outside of the District's boundaries and SOI in the south. The District received permission from LAFCO to provide services to this connection in 2002.[297]

Unserved areas within the District's boundaries include the undeveloped land in the northwest corner of the District and 2 lots where there are private wells in use.

INFRASTRUCTURE

Key infrastructure for water service includes the District's groundwater supplies, two wells, approximately five miles of distribution mains, and three storage tanks.

Water Supplies

Water Source and Rights

VSPUD relies entirely on well water for its retail water services. The District owns two wells: Well 4 and Well 6 (completed in 2011). Wells 1, 2 and 3 have been shut down and returned to the land owners, due to a positive total coliform test at Well 3 and high iron and manganese levels at the other two wells. Presently, Well 4 has the capacity to pump approximately 0.36 mgd—well beyond the existing average daily demand (0.12 mgd in 2009). Well 6 was completed in 2011 and cos $1.82 million. The District financed the new well with a loan and partial grant from the USDA.

The well draws water from the East San Joaquin Groundwater Basin, which covers about 70 square miles of the County. According to DWR, the basin has experienced a continuous decline in groundwater levels over the past 40 years leading to an overdraft of the aquifer and leaving groundwater depressions below the City of Stockton, east of Stockton and east of Lodi.[298] The District reported that it has not had problems with groundwater levels in the past. The District recently began groundwater monitoring with a transducer, and prior to that completed an annual draw down test. During the historical draw down tests, the District reported that the day following the tests groundwater levels would return to previous levels.[299] The District has considered finding a

[297] LAFCO Resolution 02-02.

[298] DWR, *California's Groundwater Bulletin 118 Basin 5-22.01*, 2006, p. 3.

[299] Interview with Mike Fischer, VSPUD General Manager, July 23, 2010.

surface water source that could be used to supplement the groundwater. Prior to the decline in the housing market, VSPUD approached CCWD regarding a surface water supply to serve proposed large subdivisions in the vicinity of VSPUD; however, these discussions have been put on hold until development picks up again.

Quality

In the past, the District has had problems with positive coliform tests and iron and manganese levels in excess of MCLs. Consequently, the District has had to close three wells. Water from Well 4 has never been out of compliance with contaminant limitations.

Treatment and Distribution Facilities

The District owns, operates and maintains well head treatment equipment for groundwater, which treats with chlorination at the site of each active well prior to pumping to the storage tanks. There were no needs identified with the treatment system.

The well and distribution system have a capacity of approximately 0.598 mgd. Based on the District's average daily demand, the District is using on average 20 percent of its capacity; however, during periods of peak demand, the District uses up to 47 percent of its capacity. Based on the current peak demand rate of use among the existing connections, the system has space for approximately 300 additional connections.

Other improvements to the treatment system that were completed with the USDA funds include installing SCADA for the whole system and standby generators. The total USDA project cost approximately $1.82 million.

The distribution system consists of five miles of mains that were originally installed in 1950 with galvanized steel pipes. Since then the entire system has been replaced with asbestos cement pipes and more recently with PVC pipes. The existing system is composed primarily of asbestos cement with nine percent composed of PVC and three percent of galvanized steel. The pipelines range in size from one to 10 inches in diameter. The system is considered to be in good condition according to DPH. The District did not specify the existing needs or deficiencies of the distribution system.

According to DPH, the VSPUD water system is well maintained and operated.[300]

Emergency Plans

The Agency owns and maintains three storage facilities. The storage tanks have a combined storage of 0.49 mg of water. The most recent inspection and cleaning was completed in October 2006 for two older tanks. The District reported that they are both in good condition. There were no infrastructure needs and deficiencies identified for the tanks.

The storage facilities would provide approximately 3.4 days of water based on average daily usage, while maintaining at least two hours of commercial fire flow (1,500 gpm).

The District has an intertie with CCWD's Jenny Lind system for emergency purposes and fire flow needs. The District can receive up to 0.25 mgd through this intertie during emergency periods. This intertie also allows for CCWD to purchase water from VSPUD, which has occurred in the past prior to the expansion of the Jenny Lind treatment plant.

Table 14-4: VSPUD Water Profile

[300] DPH, Annual Inspection Report Memorandum, March 2007, p. 1.

Water Service Configuration & Infrastructure					
Water Service	**Provider(s)**		**Water Service**	**Provider(s)**	
Retail Water	VSPUD		Groundwater Recharge	VSPUD	
Wholesale Water	None		Groundwater Extraction	VSPUD	
Water Treatment	VSPUD		Recycled Water	None	
Service Area Description					
Retail Water	Within district boundaries in the unincorporated town of Valley Springs and one residential connection outside of the District's boundaries and SOI.				
Wholesale Water	NA				
Recycled Water	NA				
Boundary Area	0.3 sq. miles		Population (2009)	650	
System Overview					
Average Daily Demand	.12 mgd		Peak Day Demand	0.28 mgd	
Supply	The District relies entirely on groundwater for its water supply. The District owns two wells.				
Major Facilities					
Facility Name	**Type**	**Capacity**		**Condition**	**Yr Built**
Tank A	storage	100,000 g		Good	1957
Tank B	storage	200,000 g		Good	1979
Tank C	storage	196,000 g		Excellent	2011
Well 4	well	250 gpm		Good	2004
Well 6	well	165 gpm		Excellent	2011
Other Infrastructure					
Reservoirs	0		Storage Capacity (mg)	0.49 mg	
Pump Stations	1		Pressure Zones	1	
Production Wells	2		Pipe Miles	5	
Infrastructure Needs and Deficiencies					
The District recently addressed its infrastructure deficiencies in 2011, which was financed by a USDA grant and loan.					
Facility-Sharing and Regional Collaboration					
Current Practices: The District has an intertie with the CCWD Jenny Lind system, which is available in case of emergencies.					
Opportunities: Future opportunities for facility sharing may include receiving treated water through CCWD's system. Discussions with CCWD have paused as new developments have been put on hold.					
Notes: (1) NA means Not Applicable, NP means Not Provided, mg means millions of gallons, af means acre-feet.					

Water Demand and Supply

Service Connections	Total	Inside Bounds	Outside Bounds	
Total	272	271	1	
Irrigation/Landscape	6	6	0	
Domestic	189	188	1	
Commercial/Industrial/Institutional	77	77	0	
Recycled	0	0	0	
Other	0	0	0	

Average Annual Demand Information (Acre-Feet per Year)

	2000	2005	2009	2015	2020	2025	2030
Total	NP	123	131	180	262	344	426
Residential	NP	NP	NP	NP	NP	NP	NP
Commercial/Industrial	NP	NP	NP	NP	NP	NP	NP
Irrigation/Landscape	NP	NP	NP	NP	NP	NP	NP
Other	NP	NP	NP	NP	NP	NP	NP

Water Sources		Supply (Acre-Feet/Year)		
Source	Type	Average	Maximum[1]	Safe/Firm
East San Joaquin Groundwater Basin	Groundwater	95	403	Unknown

Supply Information (Acre-feet per Year)

	2000	2005	2009	2015	2020	2025	2030
Total[2]	147	144	142	194	283	371	460
Imported	0	0	0	NP	NP	NP	NP
Groundwater	147	144	142	NP	NP	NP	NP
Surface	0	0	0	0	0	0	0
Recycled	0	0	0	0	0	0	0

Drought Supply and Plans			
Drought Supply (af)[3]	Year 1: 100%	Year 2: 100%	Year 3: 100%
Significant Droughts	1976, 1977, 1988-94, 2008-09		
Storage Practices	Storage is for short-term emergencies only.		
Drought Plan	No official drought plan, but the District has adopted policies regarding drought rationing in its water code.		

Water Conservation Practices	
CUWCC Signatory	No
Metering	Yes
Conservation Pricing	Yes
Other Practices	None

Notes:

(1) Maximum water supply based on maximum pumping capacity of Well 4.

(2) Total amount supplied is based on the annual demand plus the existing distribution system rate of loss, which is eight percent.

(3) Firm or safe water supply from the aquifer is unknown. Limits of water during drought are based on maximum supply experienced by the District during doughts over the past 20 years.

Water Rates and Financing

Residential Water Rates-Ongoing Charges FY 11-12[1]

	Rate Description	Avg. Monthly Charges	Consumption[2]
Residential	Flat monthly fee of $30.50, $.75 per 1,000 gallons (<17,000), $1.50 per 1,000 gallons (17,001-57,000 gallons), $2.00 per 1,000 gallons (>57,000)	$ 41.50	7,600 gal/month

Special Rates			
None			
Rate-Setting Procedures			
Policy Description	The District sets fees to cover operations, maintenance and administration of the utility. Major infrastructure needs are financed with a $5 infrastructure fee.		
Most Recent Rate Change	4/1/11	Frequency of Rate Changes	Every 5 years
Water Development Fees and Requirements			
Connection Fee Approach	Based on the number of fixtures served by the connection.		
Connection Fee Timing	All fees must be paid prior to connection to the District's system.		
Connection Fee Amount	$5,250/Single Family Unit	Last updated: 3/1/2006	
Land Dedication Requirements	Developers are required to build necessary infrastructure and transfer it to the District.		
Development Impact Fee	None		

Water Enterprise Revenues, FY 10-11			Expenditures, FY 10-11	
Source	Amount	%		Amount
Total	$450,564	100%	Total	$1,560,365
Rates & charges	$188,625	42%	Administration	$68,584
Property tax	$45,531	10%	O & M	$37,815
Grants	$189,000	42%	Capital Depreciation	$30,409
Interest	$2,627	1%	Debt	$138,027
Connection Fees	$0	0%	Purchased Water	$0
Contributed Capital	$0	0%	Capital Outlays	$1,285,530
Other	$24,781	5%	Other	$0

Notes:

(1) Rates include water-related service charges and usage charges.

(2) Water use assumptions were used to calculate average monthly bills. Assumed use levels are consistent countywide for comparison purposes. For further details, refer to Chapter 4.

Water Service Adequacy, Efficiency & Planning Indicators			
Water Planning	**Description**		**Planning Horizon**
Water Master Plan	None		NA
UWMP	None		NA
Capital Improvement Plan	None		NA
Emergency Response Plan	Emergency contact list		NA
Service Challenges			
The District described challenges with regard to the limited capacity of the wells and the District's reliance on groundwater.			
Service Adequacy Indicators			
Connections/FTE	1,088	O&M Cost Ratio[1]	$886,658
MGD Delivered/FTE	0.48	Distribution Loss Rate	8%
Distribution Breaks & Leaks (2009)	1	Distribution Break Rate[2]	25
Response Time Policy	None	Response Time Actual	15 minutes
Water Pressure	50 to 88 psi	Total Employees (FTEs)	0.25
Customer Complaints CY 2008:	Odor/taste (0), leaks (1), pressure (0), other (0)		
Water Operator Certification			
The District's facility manager has a D2 certification for distribution systems and a T3 certification for treatment systems. The District is required to have a D1 and T1 certified chief operator; the District is exceeding these requirements.			
Drinking Water Quality Regulatory Information[3]			
	#	**Description**	
Health Violations	0		
Monitoring Violations	2	Coliform monitoring 2009; lead and copper sampling 2000	
DW Compliance Rate[4]	100%		

Notes:

(1) Operations and maintenance costs (exc. purchased water, debt, depreciation) per volume (mgd) delivered.

(2) Distribution break rate is the number of leaks and pipeline breaks per 100 miles of distribution piping.

(3) Violations since 1995, as reported by the U.S. EPA Safe Drinking Water Information System.

(4) Drinking water compliance is percent of time in compliance with National Primary Drinking Water Regulations in 2009.

WASTEWATER SERVICES

NATURE AND EXTENT

VSPUD provides wastewater collection, treatment and disposal services to the unincorporated Town of Valley Springs. All services are provided directly by the agency with district staff.

LOCATION

VSPUD provides wastewater services only within the District's boundaries. Wastewater services are not provided outside of the boundaries. Unserved areas include the undeveloped portion of the District in the northwest corner of the District's bounds and approximately eight parcels with septic systems that are on the outskirts of the town.

INFRASTRUCTURE

The District's key wastewater infrastructure include 3.5 miles of sewer pipelines, a WWTP, which includes a headworks and an aeration tank, two aeration ponds, a polishing pond, and a 92 acre-foot clay lined effluent storage reservoir. Effluent is disposed of by spray irrigation on 33 acres of land. Dried sludge is disposed of at a local landfill.

The WWTP and ponds were constructed in 1956. The District reported that the treatment plant and ponds are generally in good condition. Influent enters the WWTP through a comminutor, which automatically cuts coarse sewage solids into small settable solids, which settle out in a settling tank. After sewage has gone through the comminutor, it enters an Aeration Tank. Sewage discharged from the Aeration Tank enters two treatment ponds (Aeration Pond Nos. 1 and 2) and a polishing pond (Pond No. 3) in succession and finally stored in the storage reservoir. VSPUD has historically disposed of wastewater on approximately 15 acres of hillside east of the wastewater treatment and storage system. To increase its disposal capacity, the District expanded the spray disposal area to approximately 22 acres in 2004 and then to 33 acres in 2006. The Discharger has a lease agreement with a local farmer to allow horses to graze within the sprayfield boundaries.

Infrastructure needs and deficiencies at the treatment plant and ponds include improvements to the storage reservoir to allow the District to keep ph and BOD levels within required levels. Presently, the District reported that the size of the reservoir makes it difficult to control levels, and consequently, RWQCB issued a Notice of Violation to the District for multiple months in excess of mandated maximum levels. In FY 09-10, the District budgeted $107,500 for a liftstation upgrade and fencing, a roof blower room, painting the WWTP, and other WWTP improvements.

As of 2009, ADWF was 60,000 gpd. Based on the ADWF, the District is using 77 percent of the system's permitted capacity.

The District's Wastewater Facilities Master Plan outlines four phases to increase the WWTP and disposal area capacity to 120,000 gpd. As of the drafting of this report, the first to phases of the plan had been completed. The District reported that the timing for Phases 3 and 4 would depend upon the rate of future growth in demand, as the District is presently operating within its permitted capacity. Phase 3 improvements will increase capacity to 100,000 gpd. Phase 3 was estimated to cost approximately $234,000 in 2003 dollars. Improvements will include modifying a portion of the spray field area to a trench system, enlarging Aeration Pond 2, replacing the aerators, modifying the headworks and grit chamber, and modifying the spray field pump system at the storage reservoir. Completion of Phase 4 projects will expand the system to a capacity of 120,000 gpd. Phase 4

projects were estimated to cost a total of $246,000 in 2003. Improvements will include expansion of the spray irrigation fields to the maximum of the existing district property, construct monitory pond 5, and modify the existing sludge drying beds.

The previous MSR noted that there is a shortfall of land area, which will limit the system's long-term growth potential. Options identified in the MSR to resolve this issue included 1) collecting and discharging to CCWDs La Contenta WWTP although there is presently insufficient permitted capacity at the WWTP to accept VSPUD's effluent, 2) discharging into Cosgrove Creek during winter months, which is challenging given increasing regulations, and 3) acquisition of additional land, which may be financially implausible. Although there is no capacity at CCWD's treatment plant to accept long-term flow, VSPUD has an agreement with CCWD to accept emergency flow should the VSPUD ponds be close to overflowing. There is presently no interconnection between the two systems; however, there is a spur from the CCWD system near the VSPUD plant. The District reported that it is planning to analyze its options for increasing system capacity, which may include relocating the WWTP or rebuilding at the existing location.

The collection system was originally installed in 1940. The system is composed of a combination of six and eight diameter mains consisting of vitrified clay (90 percent) and the remaining is primarily plastic with small amounts of asbestos cement and galvanized steel. In the past, the District had issues with infiltration and inflow; however, a smoke test of the entire system was completed in 2002 and improvements made to the 51 identified locations of infiltration by 2005. The District reported that the collection system is presently in good condition. The District has instituted a regular replacement schedule for the collection system and budgeted $150,000 in FY 09-10 for collection system repairs, which consisted of replacement of 630 feet of mains and installation of four manholes.

In April 2006, following prolonged and heavy rainfall, Cosgrove Creek overflowed the District's pond berms and was flowing through the treatment ponds at the WWTP prior to re-entering its normal channel. VSPUD estimated that the event resulted in a discharge of 24,000 to 36,000 gallons of partially treated sewage into Cosgrove Creek. At that time, the berms were approximately 1.7 feet lower than the elevation of Cosgrove Creek during a 100-year frequency rain event, according to a 1987 study, which was in violation of the District's WDR requiring 100-year flood protection for the treatment ponds. Consequently, RWQCB issued a Clean-up and Abatement Order, which required the District to study 1) 100-year flood levels of Cosgrove Creek, 2) identify options to bring the District into compliance with WDR requirements, and 3) complete construction of those necessary improvements by November 30, 2007. An evaluation of the Creek's elevation, which was performed by an independent engineer, determined that if the Creek is cleared of brush annually then the existing berm height is sufficient to protect against a 100-year flood and leave at least one foot of freeboard.[301] The District chose to raise the height of the berms above the 100-year flood level identified by the engineer.

[301] VSPUD, *Riverline Analysis*, 2007, p. 2.

Table 14-5: VSPUD Wastewater Profile

Wastewater Service Configuration and Demand				
Service Configuration				
Service Type	**Service Provider(s)**			
Wastewater Collection	VSPUD			
Wastewater Treatment	VSPUD			
Wastewater Disposal	VSPUD			
Recycled Water	None			
Service Area				
Collection:	Within district boundaries in the unincorporated town of Valley Springs.			
Treatment:	Within district boundaries in the unincorporated town of Valley Springs.			
Recycled Water:	NA			
Sewer Connection Regulatory/Policies				
Private septic systems are regulated through the Calaveras County Environmental Health Department. The District does not have a policy requiring connection to the District's wastewater system.				
Onsite Septic Systems in Service Area				
There are approximately eight septic systems within the District's boundaries, which are on larger parcels on the outskirts of the town.				
Service Demand				
	Connections (2010)			**Flow (mgd)**
Type	**Total**	**Inside Bounds**	**Outside Bounds**	**Average**
Total	261	261	0	NP
Residential	185	185	0	NP
Commercial	74	74	0	NP
Agriculture	2	2	0	NP
Projected Demand (in millions of gallons per day)				
	2005	**2009**	**2015**	**2025**
Avg. dry weather flow	0.06	0.06	0.07	0.17
Peak wet weather flow	0.11	0.09	0.11	0.25
Note:				
(1) NA: Not Applicable; NP: Not Provided.				

continued

Wastewater Infrastructure

Wastewater Treatment & Disposal Infrastructure

System Overview

Treatment level: Secondary

Disposal method: Storage ponds and then used for irrigation of a sprayfield.

Facility Name	Capacity	Condition	Yr Built
WWTP	78,500 gpd	Good	1956
Aeration pond 1	0.23 mg	Good	1956
Aeration pond 2	0.58 mg	Good	1956
Polishing pond	0.47 mg	Good	1956
Storage pond	92.2 af	Good	1956

Treatment Plant Daily Flow (mgd)	Average Dry	Peak Wet
VSPUD WWTP	.06 mgd	0.09 mgd

Infrastructure Needs and Deficiencies

The District reported that the only immediate major infrastructure need at the treatment plant is an old wet well at the lift station that needs to be replaced. In the long term the District would like to improve the plant and progress to tertiary treatment; however, this will be contingent upon adequate financing.

Wastewater Collection & Distribution Infrastructure

Collection & Distribution Infrastructure

Sewer Pipe Miles	3.5	Sewage Lift Stations	3

Infrastructure Needs and Deficiencies

The District did not identify any emergent collection system needs or deficiencies, but reported that the collection system is generally outdated and the clay pipes are in need of replacement. The District has instituted a regular replacement schedule for the collection system, and plans to replace a couple of sections each year as funds allow.

Infiltration and Inflow

In order to reduce I/I, the District conducted a smoke test of the entire collection system in 2002. The testing identified 51 infiltration sites, which were all corrected as of 2005. The District has continued to face higher than desired I/I, and has made continued efforts to identify low points that are susceptible to infiltration. The District hopes that as the clay mains are replaced through the regular replacement schedule that infiltration will be minimized.

Wastewater Regional Collaboration and Facility Sharing

Regional Collaboration

The District is a member of the Calaveras County Water/Wastewater Technical Advisory Team, which meets regularly to discuss common issues and concerns regarding water and wastewater services within the County. In addition, the District collaborated with other agencies on the County General Plan Water Element in 2009.

Facility Sharing Practices and Opportunities

There is the possibility of VSPUD discharging into CCWD's La Contenta WWTP; however, this is contingent upon increasing the capacity of CCWD's system.

continued

Wastewater Service Adequacy, Efficiency & Planning			
Regulatory Compliance Record, 1/2000-5/2012			
Formal Enforcement Actions	1	Informal Enforcement Actions	4
Enforcement Action Type	**Date**	**Description of Violations**	
Notice of Violation	4/12/2000	Effluent conditions	
Notice of Violation	10/8/2000	Effluent conditions	
Notice of Violation	9/1/2005	Deficient reporting (6)	
Clean-up and Abatement Order	11/28/2006	Order conditions (2)	
Notice of Violation	9/23/2009	Order conditions (37), late report (2)	
Total Violations, 2005-9			
Total Violations	52	Priority Violations	11
Violation Type, 2005-9			
Category 1 Pollutant in Effluent	0	Other Pollutant in Effluent	0
Order or Code Violation[1]	39	Groundwater Degradation	8
Deficient Monitoring	0	Late or Deficient Reporting	5
Service Adequacy Indicators			
Sewer Overflows 1/1/2008 to 8/15/2010[2]	2	Sewer Overflow Rate[3]	57
Treatment Effectiveness Rate[4]	100%	Response Time Policy[5]	30 minutes
Total Employees (FTEs)	0.75	Response Time Actual	15 minutes
MGD Treated per FTE	0.08		
Customer Complaints CY 2008: Odor (0), spills (0), other (0)			
Wastewater Operator Certification			
Treatment Plant Classification	Grade 1	Grade I Operators	0
Grade II Operators	2	Grade III Operators	0
Grade IV Operators	0	Grade V Operators	0
Source Control and Pollution Prevention Practices			
Grease traps at restaurants are inspected annually.			
Collection System Inspection Practices			
All three lift stations are inspected weekly. The District cleans the entire system with portable rodders and a hydro flusher every three years. Areas of concern are cleaned as needed. Smoke testing of the entire system is also planned to be completed every three years; however, it was last completed in 2003. Manholes are inspected annually and periodically during heavy periods of rain. Areas prone to blockages are checked more regularly. The District recently purchased a CCTV unit and a vac trailer to inspect the entire system biannually.			
Service Challenges			
The District reported challenges remaining in compliance with ever evolving regulations. In addition, the District has had difficulty keeping its storage reservoir in compliance with ph requirements, due to the size of the pond.			
Wastewater Planning			
Plan	**Description**	**Planning Horizon**	
Wastewater Master Plan	Scenarios to meet future flows	None specified, adopted in 2003	
Capital Improvement Plan	None		
Sanitary Sewer Management Plan	NP		
Emergency Plan	Contingency Plan, and Spill Response and Procedures		
Other: Sanitary Sewer System and Operation Maintenance, Overflow Prevention and Response Plan			

Notes:

(1) Order or Code Violations include sanitary sewer overflow violations.

(2) Total number of overflows experienced (excluding those caused by customers) from 1/1/2008 to 8/15/2010 as reported by the agency.

(3) Sewer overflows from 1/1/2008 to 8/15/2010 (excluding those caused by customers) per 100 miles of collection piping.

(4) Total number of compliance days in 2009 per 365 days.

(5) Agency policy, guidelines or goals for response time between service call and clearing the blockage.

Wastewater Rates and Financing

Wastewater Rates-Ongoing Charges FY 11-12[1]

	Rate Description	Avg. Monthly Charges	Demand[2]
Residential	Flat month fee of $49.50 plus $5 dollar infrastructure fee	$54.50	250 gpd

Rate Zones

None

Rate Update

Last Rate Change	3/1/2006	Frequency of Rate Changes	Every five years

Wastewater Development Fees and Requirements

Connection Fee Approach	Based on land use type and the number of fixtures served by the connection			
Connection Fee Timing	Prior to making the connection to the District's system			
Connection Fee Amount[3]	Residential:	$7,130	Last updated:	3/1/2006
Land Dedication Req.	None			
Development Impact Fee	None			

Wastewater Enterprise Revenues, FY 10-11			Expenditures, FY 10-11	
Source	Amount	%		Amount
Total	$361,617	100%	Total	$357,942
Rates & Charges	$288,735	80%	Administration	$146,407
Property Tax	$45,531	13%	O & M	$90,159
Grants	$0	0%	Capital Depreciation	$37,486
Interest	$2,628	1%	Debt	$0
Connection Fees	$0	0%	Capital Outlays	$83,890
Other	$24,723	9%	Other	$0

Notes:

(1) Rates include wastewater-related service charges and strength and flow charges. Average monthly charges calculated based on average consumption. Rates are rounded for presentation.

(2) Wastewater use assumptions by customer type were used to calculate average monthly charges. Assumed use levels are 250 gallons per home per day, and are consistent countywide for comparison purposes. For further details, see Chapter 4.

(3) Connection fee amount is calculated for a single-family home.

SUMMARY OF DETERMINATIONS

GROWTH AND POPULATION PROJECTIONS

- The estimated number of residents within VSPUD in 2010 was 650, based on analysis of connections served and average household size.
- Population growth within the District's bounds has been minimal (approximately five percent) between 2000 and 2010.
- Based on planned and proposed developments that were in the application process prior to the recession, growth has the potential to more than double the District's current number of connections.
- Three planned or proposed developments within the District's bounds or SOI would add a total of 613 connections to the District's existing 272 connections. With the addition of these connections over the next 15 to 20 years, the projected population growth rate from 2010 to 2030 is 225 percent.

PRESENT AND PLANNED CAPACITY OF PUBLIC FACILITIES AND ADEQUACY OF PUBLIC SERVICES, INCLUDING INFRASTRUCTURE NEEDS AND DEFICIENCIES

- The District reported that the WWTP and ponds are generally in good condition.
- The effluent storage reservoir needs improvements to allow the District to keep ph and BOD levels within required levels. The District reported that the size of the reservoir makes it difficult to control levels, which has led RWQCB to issue a Notice of Violation to the District for multiple exceedances.
- The District was using 77 percent of the wastewater system's permitted capacity as of 2009.
- There is a shortfall of land area for disposal, which will limit the system's long-term growth potential. Options to manage long-term growth include 1) collecting and discharging to CCWDs La Contenta WWTP (contingent upon expansion of the La Contenta system), 2) discharging into Cosgrove Creek during winter months, and 3) acquisition of additional land.
- The collection system is considered to be in good condition. The District had infiltration and inflow challenges, but has since fixed many of the problem areas and instituted a regular replacement schedule for the system.
- Wastewater services offered by the District appear to be adequate based on low infiltration and inflow rates, regulatory compliance status, treatment effectiveness rate, and response times. The District could improve upon its capital planning and long-term growth planning which are minimal.
- Due to positive coliform tests and high iron and manganese levels at three wells, the District has recently constructed a new well.
- The District is in need of a surface water source to supplement the area's groundwater. The District has approached CCWD regarding a surface water supply to serve proposed large

subdivisions in the vicinity of VSPUD; however, these discussions have been put on hold until development picks up again.

- Based on the District's average daily demand, the District is using on average 20 percent of its capacity; however, during periods of peak demand, the District uses up to 47 percent of its capacity.
- The distribution system is considered to be in good condition according to DPH.

FINANCIAL ABILITY OF AGENCIES TO PROVIDE SERVICES

- VSPUD reported that its financing level is minimally adequate to deliver services.
- The District has a healthy rate of capital investment in its water enterprise. VSPUD has a low rate of wastewater capital reinvestment, having invested substantially less in its capital assets than was consumed due to wear and tear.
- VSPUD should consider substantively updating its water rates, which were thoroughly reviewed in 2006, and its wastewater rates, which were last adjusted in 2006, to ensure that necessary capital improvements are fully funded.

STATUS OF, AND OPPORTUNITIES FOR, SHARED FACILITIES

- VSPUD does not presently practice facility sharing with other wastewater agencies.
- The District has a water intertie with the CCWD Jenny Lind system, which is available in case of emergencies.
- There is the possibility of VSPUD discharging into CCWD's La Contenta WWTP; however, this is contingent upon increasing the capacity of CCWD's system and an agreement with CCWD.
- Future opportunities for facility sharing with regard to water services may include receiving treated water through CCWD's system. Discussions with CCWD have paused as new developments have been put on hold.

ACCOUNTABILITY FOR COMMUNITY SERVICE NEEDS, INCLUDING GOVERNMENTAL STRUCTURE AND OPERATIONAL EFFICIENCIES

- The District demonstrated a high degree of accountability through its constituent outreach efforts and disclosure of information during the MSR process.
- The southern boundary of VSPUD abuts with CCWD's La Contenta service area. It is recommended that both districts coordinate to clearly delineate where CCWD is presently and plans to serve in the future to mitigate potential confusion and encroaching by CCWD into VSPUD's adopted boundaries.
- VSPUD provides water service to one connection outside of its boundaries. Annexation of extraterritorial service areas is an option that would promote logical boundaries.

SOI OPTIONS AND DETERMINATIONS

VSPUD's SOI was originally adopted in 1990 and was last updated by LAFCO in 2005. The SOI extends beyond the District's boundaries in the west to Quail Oaks Road, in the north to the

Watertown Road and Paloma Road intersection and in the east to South Petersburg Road and the Pacific Placer Reservoir.[302] The SOI is coterminous with the District's bounds in the south. The SOI encompasses approximately 2.9 square miles or 1,826 acres.

AGENCY PROPOSAL

VSPUD did not anticipate any changes in its service area in the next 5 to 10 years that would require changes to its SOI.

SOI OPTIONS

Three potential options have been identified with respect to the VSPUD SOI.

Option #1: SOI Reduction

An SOI option would be to align the SOI with areas of potential higher density development according to the updated community plan land use designations.

The District's existing SOI includes territory designated as agricultural rural in the Valley Springs Community Plan (October 2010). It is unlikely that the District would extend service to rural areas that lack density to finance capital investments needed to serve the area. The Valley Springs Community Plan recently underwent revision as part of the County's General Plan update. SOI Option #1 shown on Map 14-1 is an outline of developable land according to the existing land use designations in the updated community plan. Some territory with agricultural designations are included to form a contiguous SOI.

Option #2: SOI Expansion & Reduction

This SOI would indicate that LAFCO anticipates the eventual annexation of the single parcel to which VSPUD is providing extraterritorial water service. In addition, this option would adjust the existing SOI to exclude a proposed development which is only partially within the existing SOI.

The District serves one single family residence outside of its boundaries and SOI in the south. The District received permission from LAFCO to provide services to this connection in 2002.[303]

The MCP Industries development is south of SR 12 adjacent to CCWD's La Contenta service area. A small portion of the proposed development lies within VSPUD's SOI, and is the only territory south of SR 12 west of the Valley Springs community core. As the proposed development is adjacent to CCWD's existing infrastructure, it is more likely that CCWD would serve the proposed development, should it come to fruition. [304]

Option #3: Confirm Existing SOI

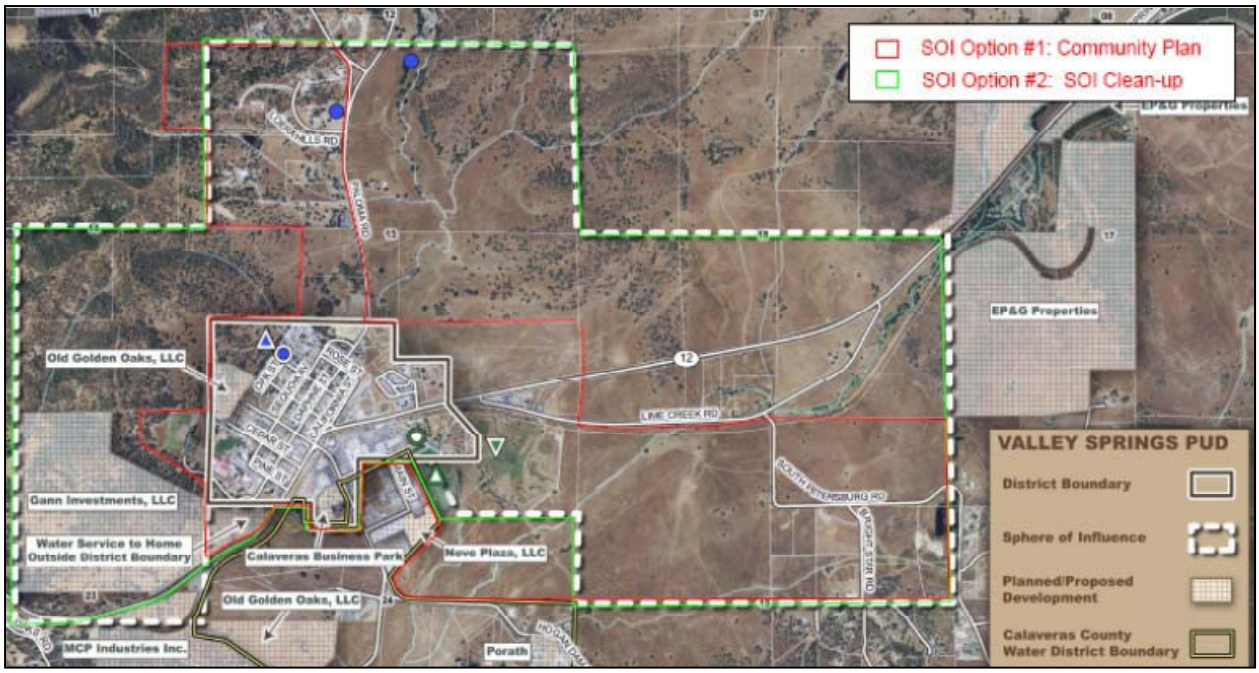
Confirmation of the existing SOI would indicate that the Commission expects all territory within the SOI will be annexed and served within the foreseeable future.

[302] LAFCO Resolution 2005-01.

[303] LAFCO Resolution 02-02.

[304] With respect to the Ponte Ranch project (1,000+ units), the developer had asked that CCWD sell treated water to VSPUD to distribute to the proposed development.

Figure 14-4: VSPUD SOI Options



SOI ANALYSIS

Based on existing land use designations, VSPUD likely will not serve rural areas that lack density to finance capital investments needed to serve the area. These areas make up a majority of the existing SOI. While land use designations can be revised by application to the County for development purposes, the Valley Springs community voiced its opinion in the Community Plan that it would like to maintain the community's "small-town" scale and preserve the area's rural character and agriculture, by preventing sprawl and large high-density developments. The community plan outlines the need to direct new residential growth to areas "served by existing sewer and water infrastructure to protect water quality (related to septic systems) and groundwater levels (related to private wells)." Should LAFCO wish to support the plans outlined by stakeholders in the Community Plan, Option #1 would be appropriate.

While development in the areas designated as agriculture does not appear likely, at least within the next 10 years, there may be long-term development potential depending on the economy, public support, and ability of the developer to finance the necessary significant capital investments for water and wastewater. In the event that LAFCO would like to clearly indicate where adjacent providers (VSPUD and CCWD) may anticipate providing services in the long-term to allow for enhanced planning and inter-agency cooperation, then Option #2 may be appropriate.

DRAFT SOI DETERMINATIONS

Present and Planned Land Uses

The District bounds encompass residential, commercial, and public land uses. Residential areas are located north of SR 12. Local business activities primarily consist of commercial shopping areas located south of SR 12. Within the existing SOI, land uses include single family residential, agricultural rural and commercial areas.

Future land uses in the VSPUD SOI are based upon the Valley Springs Community Plan. The plan designates 64 percent of the SOI to be in an agricultural rural designation having a minimum parcel size of 5 acres. The next largest designation is single family residential ranging in minimum parcel size of .16 to 5 acres depending upon the availability of water and sewer. The single family area is largely located north and east of the Valley Springs town site. The third largest land use designation is urban and basically constitutes the town site of Valley Springs. Additionally, several areas are designated for industrial purposes.

There are three planned or proposed developments within VSPUD's boundary or SOI. All three of these developments were on hold as of the drafting of this report. The District reported that it has reserved capacity for 12 connections for in-fill and has 63 will serve letters from 2006 for the Charboneau Estates development by Old Golden Oaks. The Gann/White House and Castle Rock developments combined would add an additional 538 dwelling units.

Present and Probable Need for Public Facilities and Services

The estimated number of residents in 2010 was 650, based on analysis of connections served and average household size. Population growth within the District's bounds has been minimal (approximately five percent) between 2000 and 2010.

Based on planned and proposed developments that were in the application process prior to the recession, growth has the potential to be significant in the future with the possibility of more than doubling the District's current number of connections. Should the developments be approved and

complete construction sometime over the next 15 to 20 years, the projected population growth rate from 2010 to 2030 would be 225 percent.

Present Capacity of Public Facilities and Adequacy of Public Service

The VSPUD wastewater system has sufficient capacity to serve existing connections as only 77 percent of the WWTP capacity is in use, based on ADWF. Based on the current average flow per connection, the District's wastewater system has space for approximately 80 additional connections.

Based on the District's average daily demand, the District is using on average 20 percent of its water system capacity; however, during periods of peak demand, the District uses up to 47 percent of its capacity. Based on the current peak demand rate of use among the existing connections, the District's water system has space for approximately 300 additional connections.

Wastewater services offered by the District appear to be adequate based on low infiltration and inflow rates, regulatory compliance status, treatment effectiveness rate, and response times. The District could improve upon its capital planning and long-term growth planning which are minimal.

Existence of Any Social or Economic Communities of Interest

Communities of interest within the District's boundary and SOI includes the unincorporated community of Valley Springs. Economic communities of interest include the businesses concentrated along SR 12 and the property owners of the District that pay a portion of their property tax to the District. These communities are not divided by the District's boundaries or SOI.

15. WALLACE COMMUNITY SERVICE DISTRICT

Wallace Community Service District (WCSD) provides domestic water and wastewater, liquid petroleum gas, road and street light maintenance and repair, and recreational facilities and open space services in the Wallace Lake Estates subdivision. The District also provides water and wastewater services in the neighboring Town of Wallace. Operation and maintenance of water and wastewater facilities is provided by contract with CCWD. The focus of this MSR is water and wastewater services. Other services provided by the District will be covered in a separate MSR.

AGENCY OVERVIEW

FORMATION AND BOUNDARY

WCSD was formed on November 8, 1990 as an independent special district.[305] The District was formed to provide water, wastewater, road, streetlight, and recreational facility maintenance and repair, and garbage collection in Wallace Lake Estates and the unincorporated town of Wallace.[306] The District is comprised of two zones. Zone 1 encompasses the Wallace Lake Estates subdivision, where the District provides all approved services. In Zone 2, the town of Wallace, the District only provides water and wastewater services.

The principal act that governs the District is the Community Services District Law.[307] CSDs may potentially provide a wide array of services, including water supply, wastewater, solid waste, police and fire protection, street lighting and landscaping, airport, recreation and parks, mosquito abatement, library services; street maintenance and drainage services, ambulance service, utility undergrounding, transportation, abate graffiti, flood protection, weed abatement, hydroelectric power, among various other services. CSDs are required to gain LAFCO approval to provide those services permitted by the principal act but not performed by the end of 2005 (i.e., latent powers).[308]

WCSD is located near the intersection of SR 12 and Camanche Parkway South, immediately northeast of the unincorporated community of Wallace. The boundaries of WCSD extend easterly from SR 12 to just beyond Wallace Lake, and from just south of Wallace Lake to Camanche Parkway South in the north, as shown on Map 15-1. The District has a boundary area of approximately 381 acres or 0.6 square miles.

[305] Board of Equalization Official Date.

[306] The District never began garbage collection services. Liquid petroleum gas services were added in 1993 by AB 1598. In 2008, PG&E was approached to take over the liquid petroleum gas service, but it was deemed too expensive to extend a line to the community.

[307] Government Code §61000-61226.5.

[308] Government Code §61106.


WALLACE CSD
CSD Boundary
Sphere of Influence
Planned/Proposed Development
Zone 2 within CSD Boundary
Well
Water Treatment Plant
Water Storage Facility
Wastewater Treatment Plant (Tertiary)
Wastewater Storage Facility
Discharge Location (Tertiary Effluent)
N
0
0.25
0.5
Miles
Mendonca
Ruosan
Tres Lagos
Boyd
Hannameyer
Mokelume Oaks
Remainder
Remainder
Crestview Estates
Shively
CAMANCHE PY S
HAWKS LANDING CT
OLIVEIRA CT
CRYSTAL DR
WALLACE LAKE DR
CORMORANT DR
WILLET CT
WALLACE LAKE DR S
BOLLEA RD
PETROSS ST
LIMESTONE DR
QUARTZ DR
CREEKVIEW LN
WHALEN RD
HASKELL ST
09
10
11
12
12
13
14
15
16
22
23
24
25
26
27
28

The District's SOI was last updated by LAFCO in 2004, and extends beyond the District's boundaries in the north to just beyond SR 12, in the west to the county line, and in the south to just beyond EBMUD Road.[309] The SOI encompasses approximately 1.9 square miles or 1,206 acres.

Boundary History

Since formation there have been no recorded changes to the District's boundaries, according to the Board of Equalization and LAFCO.

LOCAL ACCOUNTABILITY AND GOVERNANCE

The District has a five-member governing body. Board members are elected at-large to staggered four-year terms. The last contested election for a board seat occurred in 2011 and in 2009 when seven individuals ran for three board seats.

Table 15-1: WCSD Governing Body

Governing Body				
Members	**Name**	**Position**	**Began Serving**	**Term Expires**
	Pat Bailey	President	2009	2013
	Larry Howen	Vice President	2009	2013
	Jerry Zedlitz	Director	2009	2013
	David Reyner	Director	2007	2015
	Jack Fetzer	Director	2011	2015
Manner of Selection	Elected at-large			
Length of Term	Four years			
Meetings	Date: Third Thursday of each month		Location: Historic Wallace Schoolhouse	
Agenda Distribution	Website and posted outside post office and community bulletin board			
Minutes Distribution	Available online and at meetings or by request			
Contact				
Contact	General Manager			
Mailing Address	P.O. Box 398, Wallace, CA 95254			
Email/Website	jackieneill@comcast.com/www.wallaceonline.org/wallace_csd			

In order to keep constituents updated and informed, the District maintains a website where meeting agendas and minutes, and some reports are available. Other district outreach activities include a monthly newsletter, which is attached to each customer's utility bill, and educational seminars to alert the residents of any issues and activities. These seminars are completed as needed. The District has completed three such seminars to date.

With regard to customer service, complaints may be submitted to the general manager in writing, by phone or in person. The general manager ensures that complaints are addressed satisfactorily. If the customer is not satisfied with the outcome of the complaint, then they may file a written complaint to the Board within 10 days of receiving the general managers decision. The District occasionally receives complaints about the noise generated at the wastewater treatment plant; however, in CY 2008, the District reported that it received no complaints regarding water or

[309] LAFCO Resolution 2004-01.

wastewater services. In the case of an emergency, on-call CCWD staff answer the District's phone and provide rapid response at all times. The District reported that it only experiences an emergency of this nature approximately once every three years.[310]

The District demonstrated full accountability in its disclosure of information and cooperation with LAFCO. The agency responded to LAFCO's written questionnaires and cooperated with LAFCO map inquiries and document requests.

MANAGEMENT

Staff directly employed by the District consists of a part-time general manager or approximately 0.1 FTEs. The general manager informs the Board of any plant needs and corresponds with state regulating agencies. In addition, the District contracts with CCWD to provide a part-time facility manager (.25 FTEs approximately) and six field workers to operate and maintain the District's facilities. The general manager and facility manager both report to the Board at monthly meetings.

All administrative functions of the District are handled by the Board, such as meeting agendas and minutes. The Board took over these functions at the beginning of 2010, as a measure to reduce district expenditures and long-term debt and eventually address deferred maintenance needs.[311]

It is district policy that all employees are evaluated at least annually. The general manager is reviewed by the President of the Board of Directors. The District is up to date on staff performance evaluations. The District monitors the workload of the general manager and contract services provided by CCWD through minimal time sheets, daily logs at each plants, and monthly reports to the Board.

Overall district performance is evaluated annually in the District's budget and annual financial statement, as well as by the California Department of Public Health through its annual inspection report. While the Regional Water Quality Control Board does not conduct regular inspections and reports, the Board does monitor District compliance with regulations through district-produced monitoring reports and random inspections. The District does not practice benchmarking with other similar service providers.

The District's primary planning documents are an annual service plan and a multi-year capital improvement plan. The District's annual service plan tracks potential development and identifies plans to address capacity needs as a result of the prospective increase in service demand, as well as regular maintenance and operational concerns. The District's existing multi-year capital improvement plan has a 15-year planning horizon until 2024. Additionally, the District completed an engineer's report for both its water and wastewater systems, in order to determine the necessary per parcel assessment required for capital improvements planned over the 2012-2022 period.

The District's financial planning documents include annually adopted budgets, annually audited financial statements and a capital improvement plan for water and wastewater services. The most recent audit was performed for FY 10-11.

[310] Interview with Cathryn Jackson, WCSD Board Member, June 3, 2010.

[311] Ibid.

SERVICE DEMAND AND GROWTH

The District bounds primarily encompass single family residential land uses. Also included within the District is Wallace Lake.

Local business activities are fairly minimal, and include a gas station, a post office, a bar and now closed restaurant.

The District considers its customer base to be the wastewater connections served and the residents within the District boundaries. As of 2010, the District provided services to 97 active water and wastewater connections—95 single family residential and two commercial connections.[312] Based on the number of single family connections within the District and average household size in the County, the estimated residential population in the District bounds is approximately 214 in 2010. The District's population density was approximately 357 per square mile in 2010, compared with the countywide density of 45 per square mile.

The District has experienced a rapid pace of growth between 2000 and 2010—more than doubling the number of connections served. Growth in demand began to plateau in 2006 due to the economic downturn; however, the District anticipates that development will resume and demand for district services will continue to grow at a high rate. Based on estimates of potential developments, the District is anticipating approximately 290 additional service connections in the next 10 to 15 years by about 2025.[313] This would increase the District's population to approximately 882 residents—more than tripling the present population. The District has planned for approximately three to four additional connections annually until 2014. Thereafter, the District anticipates averaging 23 additional connections each year until 2025. Actual timing of these new connections will depend on the state of the economy and housing market, and the availability of capacity in the District's water and wastewater systems.

Future growth will depend primarily on new residential construction. The District anticipates in the next five years, until about 2015, that growth will largely consist of small residential in-fill developments throughout Unit 1 within the District's boundaries. Those projects that the District is aware of and has reserved capacity for consist of 20 additional units in the short-term.

There are four other potential residential developments that the District is anticipating will be built within the next 10 to 15 years sometime between 2020 and 2025, which total 250 dwelling units. Due to the economic downturn and decline in the housing market, the Tres Lagos, Crestview Estates and Mokelumne Oaks developments are on hold. As of 2010, there was no developer for the Wallace Lake Estates Unit 2 development. In addition to these developments, the District is anticipating that incentives in the County General Plan Update to build in the mixed-use commercial township of Wallace will result in approximately 20 additional residential and commercial units. While the District has not been approached by the developer to provide utilities, the Mendoca development is within the District's SOI. Potential developments are shown in Table 15-2.

[312] The District has 101 residential water and wastewater connections; however, as of the drafting of this report six houses were in foreclosure.

[313] Interview with Cathryn Jackson, WCSD Board Member, June 3, 2010.

Table 15-2: WCSD Potential Developments

Name	Dwelling units	Location	Status	In-fill reserve
Short-term developments (~2015)				
Wallace Lake Estates, Unit 1 (remaining developable lots w/in gates)	5	Within boundaries	No developer	Yes
Wallace Lake Estates, Unit 1 Lot A (Boyd)	4	Within boundaries	Pending	Yes
Wallace Lake Estates, Unit 1 Lot 24 (Ruosan)	11	Within boundaries	Pending	Yes
TOTAL	20			
Long-term developments (~2025)				
Tres Lagos, Lot 106 B	56	Within boundaries	TM-approved	
Wallace Lake Estates, Unit 2 (Remainder Parcel)	124	Within boundaries	Withdrawn	
Zone 2: Mixed use commercial community service area	20	Within boundaries	No developer	
Crestview Estates	30	Outside SOI	Pending	
Mokelumne Oaks	40	Within SOI	Foreclosed	
Mendonca[1]	6	Within SOI	Pending	
TOTAL	276			

Notes:
(1) The developer of this subdivision has not approached WCSD for utility service.

The District is not a land use authority, and does not hold primary responsibility for implementing growth strategies.

FINANCING

The District reported that the existing financing level is not sufficient to provide adequate services. In 2008, the District entered into an installment purchase agreement for $150,000 to construct an equalization basin for which the District must make 15 annual payments of $14,944. In order to make the debt payment, the District reports that it is deferring maintenance of the District's facilities and began using special assessment revenue—which was intended to be used for road, streetlight, recreation and open space services—to fund water and wastewater services. In an effort to pay off the loan and continue necessary maintenance within the utility revenues, the Board has raised water and wastewater rates annually through 2011, and in 2010, the Board took on all administrative responsibilities to minimize expenditures. In addition, the District reported that it had reduced maintenance and operating costs of the facilities from $6,200 to $3,100 per month by contracting with CCWD for services.[314] Although the District has reduced operating costs, the District has substantial deferred maintenance. As part of the divestiture process, WCSD is in the process of forming an assessment district to finance necessary improvements to existing facilities to bring them into compliance with State regulatory requirements and CCWD standards.

The District estimated that it needs approximately 30 additional water/wastewater connections to operate within its means as costs for the small district are largely fixed.[315] Additional connections were on the horizon for the District until the recent economic recession, which caused many of the developments to be delayed and some of the developers to go bankrupt. The District anticipates

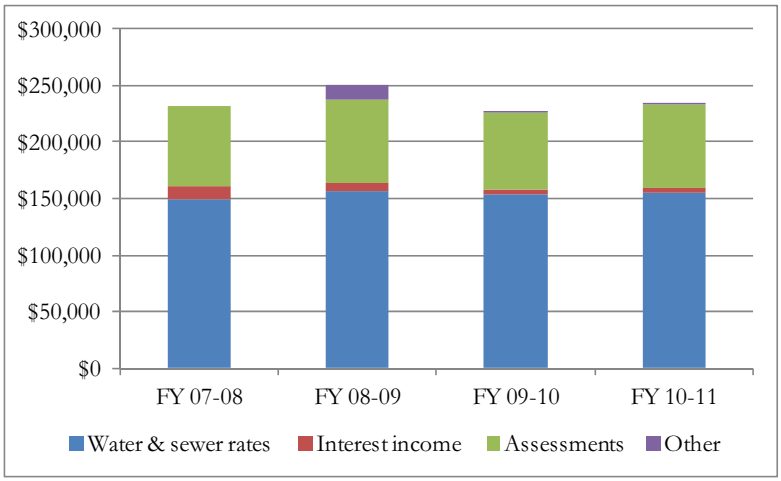
[314] Interview with Cathryn Jackson, WCSD Board Member, June 3, 2010.

[315] Ibid.

that as the official end of the recession nears, some old development plans will resume and new plans will be proposed and additional connections will eventually be added to the system.

The District reports its activities in two enterprise funds—a water and a wastewater fund—as well as a special fund for tracking finances related to its road, lighting and other activities. The District practices appropriate fund accounting for separate water and wastewater enterprise funds, as demonstrated by its FY 10-11 audited financial statement.

Figure 15-2: WCSD Revenues FY 07-11



The District's total revenues were $0.23 million in FY 10-11. Revenue sources include water and wastewater rates and charges (67 percent), special assessments (31 percent), and interest (two percent). The District does not receive any property tax revenues.

The District levies a special assessment on properties in Zone 1. The assessment was established in 1995 and is based on land use of the property. Single family residential lots are assessed $500 annually. Historically, the special assessment has been used to support inadequate water and sewer revenues and maintenance of streets, street lights, open space and recreational areas.[316] However, it is district policy to endeavor to set water and sewer rates such that this revenue source not be used to supplement water and sewer services.[317]

The District is considering an additional benefit assessment of $450 annually per lot for 10 years in order to finance projects identified in a draft engineering report submitted by CCWD. If the constituents fail to pass the proposed benefit assessment through the Proposition 218 process, then the District will consider a rate increase of $40 to $50 per month in order to finance necessary capital projects.

The District's expenditures were $0.36 million in FY 10-11. Of this amount, major expenditures consisted of water and sewer operations (42 percent), capital depreciation (34 percent), capital outlays (13 percent), debt payments (5 percent), and street and other governmental service costs (5 percent).

Over the period FY 07 to FY 11, district expenditures (including depreciation) have annually exceeded total district revenues. Consequently, in the future, the District will have challenges financing capital improvements solely from reserves and will need to find other funding sources.

The District has quantified capital improvement needs in its capital improvement plan and annually adopted budget. The CIP has a planning horizon of fifteen years, with the current CIP last updated in 2009 and planning through FY 24. Planned water capital improvement projects included in the CIP total $3.3 million, and wastewater capital improvement projects total $3.1; however, the District reported that several of the CIP projects have been put on hold until sufficient funding can

[316] WCSD, *Policy Handbook*, 2009, p., 7050-1.

[317] Ibid, p., 7050-2

be found and increased demand requires additional capacity.[318] Significant capital outlays have been financed in the past with reserves, loans and by developers. As of FY 09, the District had capital reserves of $164,831, of which $12,896 (eight percent) was designated for water improvements and $151,935 (92 percent) was for wastewater infrastructure.

The District had $128,794 in long-term debt at the end of FY 10-11. The debt consists of an installment purchase agreement for the purpose of constructing a wastewater treatment plant equalization tank and related expenses, and is scheduled to be paid off by 2024.

The District has a formal policy to maintain three months of general emergency reserves or approximately $70,000. WCSD had $343,150 in unrestricted net assets at the close of FY 10-11. The amount is equivalent to 114 percent of all expenditures in FY 10-11. In other words, the District maintained 14 months of working reserves.

The District engages in joint financing arrangements through the Special District Risk Management Authority (SDRMA) for insurance purposes. SDRMA is a not-for-profit public agency that provides a full-service risk management program for California's local governments.

WATER SERVICES

This section describes the nature, extent and location of the water services provided as well as key infrastructure and water sources. The tables provide further information and indicators of the agency's water service supplies, demand, financing, service adequacy, and facilities. The water chapter in the MSR main document contains analysis and conclusions based on this information.

NATURE AND EXTENT

WCSD provides well water treatment and distribution for domestic use. The District originally provided these services directly with district staff, but in 2009 chose to change the service configuration to limit costs and contracted with CCWD for operation and maintenance of WCSD water facilities.

LOCATION

WCSD provides water services to the gated community of Wallace Lake Estates and the unincorporated Town of Wallace—Zones 1 and 2 of the District—which is entirely within the District's boundaries. The District does not provide services outside of its boundaries. Unserved areas within the District's boundaries include several undeveloped lots and approximately five properties with private wells not attached to the District's system.

INFRASTRUCTURE

Key infrastructure for water service includes the District's water supplies, treatment plant, seven miles of distribution mains, three wells, and two storage tanks.

[318] Interview with Cathryn Jackson, WCSD Board Member, June 3, 2010.

Water Supplies

Water Source and Rights

WCSD relies entirely on well water for its retail water services. The District owns three wells; however, only two of the three wells are active. Well 1 has been inactive since it was drilled and does not have electrical service, pumps or motors. Well 2 is the active well, while Well 3 serves as a standby well should any additional flow be required. Wells 2 and 3 are activated automatically by the water level in storage.[319] Combined, Wells 2 and 3 have the capacity to pump approximately 0.46 mgd—well beyond the capacity of the treatment facility (0.27 mgd) and existing average daily demand (.06 mgd in 2009).

The wells draw water from the East San Joaquin Groundwater Basin, which covers about 70 square miles of the County. According to DWR, the basin has experienced a continuous decline in groundwater levels over the past 40 years leading to an overdraft of the aquifer and leaving groundwater depressions below the City of Stockton, east of Stockton and east of Lodi.[320] Due to proposed development in the Wallace area and questions of adequate groundwater supply, a developer completed an aquifer study, which found that there is capacity to serve at least an estimated additional 400 equivalent dwelling units. A peer review of the study was completed, which concurred with these results.[321] Although the studies found that there is presently sufficient groundwater supply for additional units, several agencies question the results. The District has initiated a groundwater monitoring program that has identified critical drawdown times. The District is presently operating under the conservative estimate that the groundwater supply can accommodate a total of approximately 290 additional EDU's.[322] To mitigate concerns of overdraft, eliminate obstacles to development and provide a backup to the current system, the District is in the process of searching for a surface water source.

The East Bay Municipal Utility District's (EBMUD) Mokelumne River Aqueduct runs approximately three-quarters mile south of the WCSD's district boundary. This aqueduct carries untreated water from EBMUD's Pardee Reservoir to the San Francisco Bay region. The 2004 Wallace MSR recommends negotiating with EBMUD to receive a reliable water supply from the Mokelumne River Aqueduct. Since then, WCSD applied for surface water through CCWD from the Camanche South Shore Treatment Plant proposed by EBMUD. However, the treatment plan has not yet come to fruition, and the application fee was never paid by the developer to finalize the application to CCWD. WCSD is still in discussions with CCWD and Stockton East Water District to receive surface water for a long-term water supply.[323]

Water Quality

The District has had ongoing challenges complying with iron and manganese MCLs. In 2005, DPH issued a citation to the District due to the poor performance of the treatment system and iron and manganese concentrations in excess of their MCLs. Well 3 has been out of compliance on numerous occasions due to high iron and manganese levels. Thus, the well is only a standby well

[319] Calaveras LAFCO, *WCSD MSR*, 2004, p. 6.

[320] DWR, *California's Groundwater Bulletin 118 Basin 5-22.01*, 2006, p. 3.

[321] West Yost Associates, Letter to Stephanie Moreno, Calaveras County Planning Department, July 10, 2008, p. 9.

[322] Interview with Cathryn Jackson, WCSD Board Member, June 16, 2010.

[323] Interview with Cathryn Jackson, WCSD Board Member, June 16, 2010.

and is not to be used unless absolutely necessary.[324] Well 2 has had problems meeting manganese MCLs, but has remained in compliance since 2007.

In 2006, the District began using potassium permanganate, which has been more effective at keeping iron and manganese levels within required limits. Since 2007, iron or manganese has not been found in the distribution system at levels that exceed their respective MCL's.

Potassium permanganate can create pink water if it is in high concentrations. Under normal conditions no residual potassium permanganate is in the final treated water. On occasion, an overfeed of potassium permanganate—due to improper dosing or mechanical failure—will create pink water. The concentration of potassium permanganate that may ultimately leave the treatment process will normally be detectable. Occasionally, levels which are below the MCL will still impart a pink color to the water and will generate customer concerns. While potassium permanganate is not considered a carcinogen and is toxic only when consumed in significant amounts, customers of the District are advised to not drink the water if it appears pink and immediately inform WCSD. The District has had one such occurrence since switching treatment methods, due to a power failure at Well 2. The District plans to convert from potassium permanganate to sodium permanganate sometime over the next five years to mitigate the difficulty in handling dry chemicals.

Recently, the District identified a neighboring private well that tested high in arsenic. Although there are no records of arsenic exceeding the state or federal MCLs in the District's wells, this discovery may compound the District's need to search for a surface water supply.

Treatment and Distribution Facilities

The District owns, operates and maintains a treatment facility for groundwater pumped from the wells. The plant was constructed in 1989 and was identified by the District as being in good condition. CCWD has identified $85,000 in infrastructure needs.[325] Major infrastructure needs and deficiencies which had been planned for capital improvement by 2016 are outlined in the District's CIP for the wells and treatment plant. Timing for the nine needs and deficiencies listed here from the CIP will be based on priority as funds permit. The District reported that repairs over $40,000 will be deferred until additional connections have been added to the system or reserves become available.

- Installation of a new computerized control system: This system will improve operations of the multiple wells and give improved control of the backwash process. This system is estimated to cost approximately $30,000 and is needed in the short-term.
- Purchase an emergency well power source: The District plans to purchase a portable generator to connect to any of the wells in the event that there is a power outage. It will cost approximately $10,000.
- Bring Well 1 online: Well 1 is presently inactive, and has not been permitted by the State. The well permitting process needs to be completed, and is expected to entail installation of electrical controls, pumps, piping, testing and DPH approvals. The project will cost approximately $50,000.

[324] California DPH, *Annual Inspection Report*, 2009, p. 6.

[325] Steve Hutchings and CCWD staff. *Wallace Community Services District: Preliminary Assessment Engineers Report*, May 2011.

- Variable frequency drive (VFD) and valves for alternate pressure source: In order to enable the elevated water storage tank to be taken offline for repairs and re-coating the interior, the VFD will be installed in one of the booster pumps at the plant, in FY 14. It is estimated to cost $14,000.
- Add additional treatment filter: Depending on the capacity needs of the plant, the District is considering installing an additional final stage filter in parallel with the current filter in FY 15 for approximately $40,000.
- Refurbish Wells 1, 2 and 3: The District has made plans to refurbish each well every five years. All three wells are planned to be refurbished between FY 14 and FY 16 for a total of about $160,000.
- Replace original water treatment filter tank: The District plans to upgrade the existing steel filter vessel with a fiberglass unit as part of a redesign to increase plant capacity. The CIP shows plans to replace the filter in FY 16; however, the actual timing will depend on the rate of development in the area. The filter will cost approximately $15,000.

The plant has a permitted treatment capacity of .27 mgd. Based on the District's average daily demand, the District is using on average 22 percent of its permitted capacity; however, during periods of peak demand, the District uses up to 66 percent of its treatment capacity. Based on the current peak demand rate of use among the existing connections, the system has space for approximately 50 additional connections. According to growth projections provided by the District, based on planned and proposed development, the treatment plant will require additional capacity around 2018.

The distribution system consists of seven miles of mains made primarily from C900 PVC ranging in size from six to 10-inch diameters. DPH identified the pipes and mains as being in good condition.[326] The District did not identify any needs or deficiencies of the distribution infrastructure.

During the District's 2009 annual inspection, DPH found that the entire system was generally well maintained and the chemical monitoring was found to be complete and current.[327]

Emergency Plan

WCSD owns and maintains two storage facilities. Water is pumped from the treatment plant into a ground level tank located adjacent to the plant and from there it is pumped to the 60-gallon elevated tank. The tanks were identified by DPH as being in good condition. The storage tanks were inspected in the summer of 2009, and were found to be generally in good condition. Needs or deficiencies identified during the inspection include peeling coating on the roof of the ground storage tank.

The storage tanks have a combined storage of 0.29 mg of water. The storage facilities would provide approximately 1.75 days of water based on average daily usage, while maintaining at least two hours of commercial fire flow (1,500 gpm).

An additional storage tank will be necessary once the system is serving in excess of 200 EDUs. The CIP shows plans to install the new tank between FY 15 and FY 16; however, timing will be

[326] DPH, Annual Inspection Report, 2009, p. 14.

[327] WCSD, *Annual Service Plan FY 10*, August 2009, p. 23.

adjusted based on the level of demand. A new storage tank will cost $250,000, based on district estimates.

The District does not have interconnections with other water systems. In the event of a stop in water production, the District would rely on its short-term storage and then transport water in from another source. The District has proposed a contract with CCWD to provide an emergency water supply should the need arise.[328] In addition, the District has plans to purchase a portable back-up generator, in case of a well pump failure.

[328] WCSD, *Water Shortage Contingency Plan*, 2009, p. 4.

Table 15-3: WCSD Agency Water Profile

Water Service Configuration & Infrastructure			
Water Service	**Provider(s)**	**Water Service**	**Provider(s)**
Retail Water	WCSD	Groundwater Recharge	WCSD
Wholesale Water	None	Groundwater Extraction	WCSD
Water Treatment	WCSD	Recycled Water	None
Service Area Description			
Retail Water	The gated community of Wallace Lake Estates and the unincorporated Town of Wallace.		
Wholesale Water	NA		
Recycled Water	NA		
Boundary Area	0.6 sq. miles	Population (2010)	214
System Overview			
Average Daily Demand	60,000 gpd	Peak Day Demand	180,000 gpd
Supply	The District relies entirely on groundwater for its water supply. The District owns three wells; however, only two of the three wells are active.		
Major Facilities			
Facility Name	**Type**	**Capacity**	**Condition**	**Yr Built**
Well 1 (Inactive)	well	80 gpm	Poor	1992
Well 2	well	120 gpm	Good	1989
Well 3 (Standby)	well	200 gpm	Excellent	1989
WTP	treatment plant	0.273 mgd	Good	1989
Elevated Storage Tank	storage tank	0.06 mg	Good	1989
Storage Tank	storage tank	0.224 mg	Good	1989
Other Infrastructure			
Reservoirs	0	Storage Capacity (mg)	0.285 mg
Pump Stations	1	Pressure Zones	1
Production Wells	2	Pipe Miles	7
Infrastructure Needs and Deficiencies			
Needs and deficiencies identified by CCWD for the existing wells, treatment plant and distribution system—that are not related to potential capacity needs—include installing equipment to activate and gain regulatory approval for Well #1, installation of a computerized control system. Other needs identified by WCSD include an emergency well power source, a VFD at the pump station, refurbishment of the three wells, a flow meter at Well 2 and other improvements, and convert WTP to sodium permanganate process.			
Facility-Sharing and Regional Collaboration			
Current Practices: WCSD practices facility sharing and cost reduction by contracting with CCWD for maintenance and operation of WCSD facilities, and collaborating with CCWD on volume purchases, as well as CCWD and the City of Angels on equipment maintenance. In addition, the District collaborated with other agencies on the County General Plan Water Element in 2009.			
Opportunities: The District has the opportunity to borrow any necessary equipment from the nearby districts in Linden and Lockeford should the need arise.			
Notes: (1) NA means Not Applicable, NP means Not Provided, mg means millions of gallons, af means acre-feet.			

Water Demand and Supply

Service Connections	Total	Inside Bounds	Outside Bounds	
Total	97	97	0	
Irrigation/Landscape	0	0	0	
Domestic	95	95	0	
Commercial/Industrial/Institutional	2	2	0	
Recycled	0	0	0	
Other	0	0	0	

Average Annual Demand Information (Acre-Feet per Year)[1]

	2000	2005	2009	2015	2020	2025	2030
Total	28	46	64	78	144	265	488
Residential	27.6	45.5	62.9	76.4	140.7	259.1	477.6
Commercial/Industrial	0.6	0.9	1.3	1.6	2.9	5.3	9.8
Irrigation/Landscape	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0

Water Sources		Supply (Acre-Feet/Year)		
Source	Type	Average	Maximum[2]	Safe/Firm[3]
East San Joaquin Groundwater Basin	Groundwater	67	516	192

Supply Information (Acre-feet per Year)

	2000	2005	2009	2015	2020	2025	2030
Total	30	49	67	82	150	277	511
Imported	0	0	0	0	0	85	319
Groundwater	30	49	67	82	150	192	192
Surface	0	0	0	0	0	0	0
Recycled	0	0	0		0	0	0

Drought Supply and Plans			
Drought Supply (af)[4]	Year 1: 100%	Year 2: 100%	Year 3: 100%
Significant Droughts	1976, 1977, 1988-94, 2008-09		
Storage Practices	Storage is for short-term emergencies only.		
Drought Plan	None		

Water Conservation Practices	
CUWCC Signatory	No
Metering	Yes
Conservation Pricing	Yes, however volume threshold for pricing system is not effective as it is set too high.
Other Practices	None

Notes:

(1) Demand is the total amount of water delivered to connections. WCSD reported a 4.5% distribution loss after treatment.

(2) Maximum water supply based on pumping capacity of Wells 2 and 3.

(3) Based on District's conservative estimate that the aquifer can serve up 290 EDUs; although, one study reports that the safe yield may be up to 239 AFY.

(4) Firm or safe water supply from the aquifer is unknown. Limits of water during drought are based on District's Water Shortage Contingency Plan, and historical groundwater availability during previous droughts.

Water Rates and Financing			
Residential Water Rates-Ongoing Charges FY 11-12[1]			
	Rate Description	**Avg. Monthly Charges**	**Consumption[2]**
Residential	Flat monthly rate of $49.10 and $0.015 per cf above 1,200 cf per month	$ 49.10	7,600 gal/month
Special Rates			
None			
Rate-Setting Procedures			
Most Recent Rate Change	7/1/2011	Frequency of Rate Changes	Annually
Water Development Fees and Requirements			
Connection Fee Approach	Flat rate regardless of land use		
Connection Fee Timing	Prior to connection to the system		
Connection Fee Amount	$9,000/Single Family Unit	Last updated:	7/1/09
Land Dedication Requirements	Developers are required to build necessary infrastructure and transfer it to the District.		
Development Impact Fee	None		

Water Enterprise Revenues, FY 10-11			**Expenditures, FY 10-11**	
Source	**Amount**	**%**		**Amount**
Total	$74,818	100%	Total	$81,815
Rates & charges	$72,389	97%	Administration	NP
Special assessment	$895	1%	O & M	$61,242
Grants	$0	0%	Capital Depreciation	$15,416
Interest	$1,534	2%	Debt	$0
Connection Fees	$0	0%	Purchased Water	$0
Other	$0	0%	Capital Outlays	$5,157

Notes:

(1) Rates include water-related service charges and usage charges.

(2) Water use assumptions were used to calculate average monthly bills. Assumed use levels are consistent countywide for comparison purposes. For further details, refer to Chapter 4.

Water Service Adequacy, Efficiency & Planning Indicators		
Water Planning	**Description**	**Planning Horizon**
Water Master Plan	Draft plan with system evaluation and capital needs	Not specified, drafted in 2009
UWMP	None	NA
Capital Improvement Plan	Multi-year planning document for existing and anticipated capital needs	FY 10 - FY 24
Emergency Response Plan	Water Shortage Contingency Plan	NA
Annual Service Plan	Water and wastewater system planning based on planned and proposed development	FY 10 - FY 23

Service Challenges
The District identified two major challenges to providing adequate services 1) living within the means of the water utility and simultaneously building reserves given financial constraints and 2) identifying and continuing regular repairs to eliminate deferred maintenance.

Service Adequacy Indicators			
Connections/FTE	259	O&M Cost Ratio[1]	$1,020,700
MGD Delivered/FTE	0.16	Distribution Loss Rate	4.5%
Distribution Breaks & Leaks (2009)	0	Distribution Break Rate[2]	0.0
Response Time Policy	3 hours	Response Time Actual	NP
Water Pressure	40+ psi	Total Employees (FTEs)	0.375
Customer Complaints CY 2008:	Odor/taste (0), leaks (0), pressure (0), other (0)		

Water Operator Certification
The District's facility manager has a D2 certification for distribution systems and a T2 certification for treatment systems. The District is required to have a D2 and T2 certified chief operator; the District is meeting these requirements.

Drinking Water Quality Regulatory Information[3]		
	#	**Description**
Health Violations		None
Monitoring Violations		Coliform Monitoring (2004)
DW Compliance Rate[4]		100%

Notes:

(1) Operations and maintenance costs (exc. purchased water, debt, depreciation) per volume (mgd) delivered.

(2) Distribution break rate is the number of leaks and pipeline breaks per 100 miles of distribution piping.

(3) Violations since 1995, as reported by the U.S. EPA Safe Drinking Water Information System.

(4) Drinking water compliance is percent of time in compliance with National Primary Drinking Water Regulations in 2009.

WASTEWATER SERVICES

NATURE AND EXTENT

WCSD provides wastewater collection, treatment and disposal services. Administration services are provided by the District; while maintenance and operation of the wastewater facilities are provided through contract by CCWD staff. WCSD does not provide services to other agencies by contract.

LOCATION

WCSD provides all wastewater services to the gated community of Wallace Lake Estates and the unincorporated Town of Wallace—Zones 1 and 2 of the District—which is entirely within the District's boundaries. The District does not provide services outside of its boundaries.

Unserved areas within the District's boundaries include several undeveloped lots and approximately five properties with septic tanks, located in Zone 2 (outside of the Wallace Lake Estates subdivision), which are not attached to the District's system. The structures were already standing when the subdivision was constructed and have not been required to attach to the system.

INFRASTRUCTURE

Key WCSD wastewater infrastructure includes one wastewater treatment plant, a storage reservoir, 12 acres of spray fields, seven miles of sewer pipes and no lift stations.

Each lot has a private sealed septic tank where effluent collects. The septic tank is used primarily to treat solids while liquid effluent gravity flows or is pumped into the District's collection system to the WWTP. Maintenance and pumping of the septic tanks is the responsibility of the landowner. Sludge needs to be removed from the individual septic tanks every three to five years depending on the amount of use. In addition to the septic tank effluent, the WWTP also treats the WTP backwash.

At the WWTP, effluent is treated to tertiary standards. The treatment process consists of aerobic trickling filters, sedimentation, sand filtering and disinfection. The WWTP and collection system were installed in 1989 when the subdivision was developed.

After treatment, effluent is stored in a percolation pond. The District has a 12-acre spray field where it is permitted to use the treated effluent for irrigation purposes; however, due to the high percolation rates of the pond, it has not been necessary to use the spray field.

Between 2001 and 2006, the District recorded abnormally high peak flows during dry seasons. In order to store the peak flow for treatment during times of lower demand and allow for shutting down the plant when in need of maintenance, the District added an additional equalization basin in 2008. However, the basin has not been completed to the satisfaction of the District and has not been attached to the treatment system. Upon completion of a detailed system inspection in 2010, it was determined that the high peak flows were caused by full septic tanks that needed pumping.[329] In response to this problem the District has instituted an inspection program for all septic tanks, which is to be completed every three years at the expense of the District. The District's Sewer Code now

[329] Interview with Cathryn Jackson, WCSD Board Member, June 16, 2010.

requires that the tanks be inspected every three years. The system needs $350,000 in improvements.[330]

Major infrastructure needs and deficiencies identified by the CCWD engineering study or District's capital improvement plan for the plant and spray fields include:

- Disposal system: In order to comply with the regulatory permit, the District needs to restore its irrigation system and install a 50,000 gallon holding tank to store peak effluent flows. The CCWD engineers report estimated this project would cost $250,000.
- A computerized control system: A computerized system would allow for programming and trouble shooting from a remote lap top. The project is expected to cost $30,000.
- Rebuilding and replacement of the trickling filters: The trickling filters are outdated and need replacement at a cost of approximately $60,000.
- New groundwater monitoring well: One of the District's three groundwater monitoring wells is dry and will likely need to be redrilled in a new location. The District is unsure of when this will need to be addressed, but anticipates that it will cost approximately $10,000.

In addition, because the WWTP treats the WTP backwash, the WWTP may be susceptible to high flows that maximize the plant's capacity should the valves of the backwash system fail—which has occurred in the past. This could also lead to a high iron content in the percolation pond and subsequently the groundwater monitoring wells, which would give cause to RWQCB to require that the pond be lined. In order to mitigate this risk, the District plans to install a settling tank at the WTP, eliminating the treatment of the backwash at the WWTP. The settling tank will cost approximately $40,000 and is planned to be constructed in FY 15 or whenever the WWTP is closer to capacity and the funding is available.[331]

The collection system consists of seven miles of PVC pipes from two to four inches in diameter. The system primarily uses gravity flows with only a few septic pumps throughout the system. The system was identified by the District as being generally in fair condition. The District reported a need to install flushing ports in the collection lines to allow technicians to find and flush out blockages.[332]

With the plant's existing ADWF of 12,000 gpd, approximately 27 percent of the WWTP's permitted capacity is being used. The District reports that the current plant has the capacity to serve a total of approximately 200 EDUs; although, based on the author's calculations of existing flow per connection the plant may be able to handle a total of 364 connections. Once the existing plant has reached capacity, an additional mirror plant will be constructed that would handle 200 additional connections. The District estimates that a new plant would cost approximately $1.5 million. Should development occur at the pace that the District anticipates, a new plant would be necessary by about 2020.

[330] Steve Hutchings and CCWD staff. *Wallace Community Services District: Preliminary Assessment Engineers Report*, May 2011.

[331] WCSD, *Annual Service Plan FY 10*, August 20, 2009, p. 41.

[332] Interview with Cathryn Jackson, WCSD Board Member, June 16, 2010.

Table 15-4: WCSD Agency Wastewater Profile

Wastewater Service Configuration and Demand				
Service Configuration				
Service Type	**Service Provider(s)**			
Wastewater Collection	WCSD			
Wastewater Treatment	WCSD			
Wastewater Disposal	WCSD			
Recycled Water	None			
Service Area				
Collection:	Wallace Lake Estates and the Town of Wallace			
Treatment:	Wallace Lake Estates and the Town of Wallace			
Recycled Water:	NA			
Sewer Connection Regulatory/Policies				
Private septic systems are regulated through the Calaveras County Environmental Health Department. All new structures are required in the District's code to connect to the District's wastewater collection system.				
Onsite Septic Systems in Service Area				
There are approximately five properties with septic tanks, located in Zone 2 (outside of the Wallace Lake Estates subdivision), which are not attached to the District's system.				
Service Demand				
	Connections (2010)			**Flow (mgd)**
Type	**Total**	**Inside Bounds**	**Outside Bounds**	**Average**
Total	97	97	0	0.0220
Residential	95	95	0	0.0215
Commercial	2	2	0	0.0005
Industrial	0	0	0	-
Projected Demand (in millions of gallons per day)				
	2005	**2009**	**2015**	**2025**
Avg. dry weather flow	NP	0.012	0.015	0.049
Peak wet weather flow	NP	0.025	0.030	0.103
Note:				
(1) NA: Not Applicable; NP: Not Provided.				

continued

Wastewater Infrastructure

Wastewater Treatment & Disposal Infrastructure

System Overview

Treatment level: Tertiary treatment
Disposal method: Treated effluent is held in a percolation pond and then used for spray irrigation on 12 acres. Dried solids are disposed of by a contractor.

Facility Name	Capacity	Condition	Yr Built
WWTP	0.045 mgd	Good	1989
Percolation Pond	47 af	Good	1989
Flow Equalization Tank	50,000 g	Not operable	2009

Treatment Plant Daily Flow (mgd)	Average Dry	Peak Wet
WWTP	0.012	25,000 gpd

Infrastructure Needs and Deficiencies

The District needs to activate its irrigation system in the spray fields, and install a holding tank to store effluent. The District's sewage treatment process and equipment are outdated and need to be replaced. The pressure sand filters' sand media and tanks have deteriorated and need replacement. The District needs a computerized control system for remote programming and trouble shooting, upgrading and activation of the spray fields.

Wastewater Collection & Distribution Infrastructure

Collection & Distribution Infrastructure

Sewer Pipe Miles	7.0	Sewage Lift Stations	0

Other:

Infrastructure Needs and Deficiencies

The collection system lacks access points, such as manholes, and needs flushing ports to be installed to provide access to pipelines for maintenance.

Infiltration and Inflow

The District is not aware of any problems with infiltration and inflow in the current system. There are no manholes, which minimizes infiltration and inflow. CCWD determined that the District needs flushing ports to be installed to provide access to pipelines for maintenance work.

Wastewater Regional Collaboration and Facility Sharing

Regional Collaboration

The District collaborated with other agencies on the County General Plan Water Element in 2009.

Facility Sharing Practices and Opportunities

WCSD practices facility sharing and cost reduction by contracting with CCWD for maintenance and operation of WCSD facilities, and collaborating with CCWD on volume purchases, as well as CCWD and the City of Angels on equipment maintenance.

Continued

Wastewater Service Adequacy, Efficiency & Planning			
Regulatory Compliance Record, 1/2000-5/2012			
Formal Enforcement Actions	0	Informal Enforcement Actions	1
Enforcement Action Type	**Date**	**Description of Violations**	
Oral Communication	12/21/2000	Effluent condition	
Total Violations, 2005-9			
Total Violations	42	Priority Violations	37
Violation Type, 2005-9			
Category 1 Pollutant in Effluent	4	Other Pollutant in Effluent	0
Order or Code Violation[1]	0	Groundwater Degradation	0
Deficient Monitoring	0	Late or Deficient Reporting	38
Service Adequacy Indicators			
Sewer Overflows 1/1/2008 to 8/15/2010[2]	0	Sewer Overflow Rate[3]	0
Treatment Effectiveness Rate[4]	99%	Response Time Policy[5]	None
Total Employees (FTEs)	0.38	Response Time Actual[6]	NA
MGD Treated per FTE	0.06		
Customer Complaints CY 2008: Odor (0), spills (0), other (0)			
Wastewater Operator Certification			
Treatment Plant Classification	Grade 2	Grade I Operators	1
Grade II Operators	2	Grade III Operators	0
Grade IV Operators	1	Grade V Operators	0
Source Control and Pollution Prevention Practices			
The District does not have a formal source control or pollution prevention program; however, this is a facet of the regular septic tank inspections.			
Collection System Inspection Practices			
In 2010, the District instituted inspections of the septic tanks every three years and CCWD began an overall inspection of all of the collection pipes. Thus far, CCWD had completed a leak detection program on all of the main lines. In addition, the meter reader looks for wet spots when in the neighborhood.			
Service Challenges			
The District identified two major challenges to providing adequate services 1) living within the means of the wastewater utility and simultaneously build reserves given financial constraints and 2) identifying and continuing regular repairs to eliminate deferred maintenance.			
Wastewater Planning			
Plan	**Description**	**Planning Horizon**	
Wastewater Master Plan	None	NA	
Capital Improvement Plan	Adopted annually	FY 2009 - 2024	
Sanitary Sewer Management Plan	Under development		
Emergency Plan	Emergency contacts and procedure	NA	
Other: Annual Service Plan	Population projections	FY 2010	

Notes:

(1) Order or Code Violations include sanitary sewer overflow violations.

(2) Total number of overflows experienced (excluding those caused by customers) from 1/1/2008 to 8/15/2010 as reported by the agency.

(3) Sewer overflows from 1/1/2008 to 8/15/2010 (excluding those caused by customers) per 100 miles of collection piping.

(4) Total number of compliance days in 2009 per 365 days.

(5) Agency policy, guidelines or goals for response time between service call and clearing the blockage.

(6) The District reported that it had not had to respond to a blockage or similar other complaint.

Wastewater Rates and Financing

Wastewater Rates-Ongoing Charges FY 11-12[1]

	Rate Description	Avg. Monthly Charges	Demand[2]
Residential	$69 flat monthly rate	$69.00	250 gpd

Rate Zones

None

Rate Update

Last Rate Change	7/1/2011	Frequency of Rate Changes	Annually

Wastewater Development Fees and Requirements

Connection Fee Approach	The connection fee is a flat rate regardless of land use.			
Connection Fee Timing	Prior to connection to the system			
Connection Fee Amount[3]	Residential:	$9,000	Last updated:	7/1/2009
Land Dedication Req.	Each lot must have adequate space for the private septic tank.			
Development Impact Fee	None			

Wastewater Enterprise Revenues, FY 10-11			Expenditures, FY 10-11	
Source	Amount	%		Amount
Total	$86,568	100%	Total	$145,283
Rates & Charges	$82,633	95%	Administration	NP
Property Tax	$0	0%	O & M	$66,405
Grants	$0	0%	Capital Depreciation	$39,038
Interest	$3,040	4%	Debt	$14,943
Connection Fees	$0	0%	Capital Outlays	$24,897
Other	$895	1%	Other	$0

Notes:

(1) Rates include wastewater-related service charges and strength and flow charges. Average monthly charges calculated based on average consumption. Rates are rounded for presentation.

(2) Wastewater use assumptions by customer type were used to calculate average monthly charges. Assumed use levels are 250 gallons per home per day, and are consistent countywide for comparison purposes. For further details, see Chapter 4.

(3) Connection fee amount is calculated for a single-family home.

SUMMARY OF DETERMINATIONS

GROWTH AND POPULATION PROJECTIONS

- The estimated residential population in the District bounds was approximately 214 in 2010.
- The District has experienced a rapid pace of growth between 2000 and 2010—more than doubling the number of connections served. Growth in demand began to plateau in 2006 due to the economic downturn; however, the District anticipates that development will resume and demand for district services will continue to grow at a high rate.
- Based on estimates of potential developments, the District is anticipating approximately 290 additional service connections in the next 10 to 15 years by about 2025. This would increase the District's population to approximately 882 residents—more than tripling the present population.

PRESENT AND PLANNED CAPACITY OF PUBLIC FACILITIES AND ADEQUACY OF PUBLIC SERVICES, INCLUDING INFRASTRUCTURE NEEDS AND DEFICIENCIES

- To mitigate concerns of groundwater overdraft, eliminate obstacles to development and provide a backup to the current system, the District is in the process of searching for a surface water source. Additionally, WCS faces the challenge of transporting the water to the community.
- The District has faced challenges complying with iron and manganese MCLs.
- Major WTP infrastructure needs and deficiencies include 1) installation of a new computerized control system, 2) installation of equipment to gain regulatory approval and activate Well #2, and 3) back-up power sources for the wells.
- During periods of peak demand, the District uses up to 66 percent of its treatment capacity. Based on the current peak demand rate, the water treatment plant will require additional capacity around 2018.
- Major infrastructure needs and deficiencies identified for the WWTP and spray fields include 1) improved trickling filter access, 2) a computerized control system, 3) replacement of the trickling filters, 4) activating the spray fields, 5) installation of a disposal holding tank, and 6) electrical upgrades.
- The collection system is generally in fair condition. The District reported a need to install flushing ports in the collection lines to allow technicians to find and flush out blockages. Further infrastructure needs and deficiencies for the collection system are unknown.
- Approximately 27 percent of the WWTP's permitted capacity is being used. Based on the existing flow per connection the plant may be able to handle a total of 364 connections.
- Once the existing plant has reached capacity, an additional mirror plant will be constructed. Should development occur at the pace that the District anticipates, a new plant would be necessary by about 2020.
- Wastewater services offered by the District appear to be adequate based on low infiltration and inflow rates, treatment effectiveness rate, sewer overflow rate, response times, and planning

efforts. The District could improve upon its regulatory compliance as it has the highest rate of priority violations among the providers.

FINANCIAL ABILITY OF AGENCIES TO PROVIDE SERVICES

- WCSD reported that its financing level is insufficient to provide adequate services due to the District's debt load, small size and fixed costs of service. The District had expected new growth to help reduce its average cost per connection and provide a larger base over which to spread fixed costs.
- WCSD has a low rate of capital reinvestment, having invested substantially less in its capital assets than was consumed due to wear and tear. The District is deferring maintenance of District facilities.
- The District's financial reserves in its water system appear to be adequate, but its wastewater system has relatively low financial reserves.
- The District's water and wastewater rates are among the highest in the County, while the District's connection fees are comparable to other providers.
- As part of the divestiture process, WCSD is in the process of forming an assessment district to finance necessary improvements to existing facilities to bring them into compliance with State regulatory requirements and CCWD standards.

STATUS OF, AND OPPORTUNITIES FOR, SHARED FACILITIES

- WCSD practices cost reduction by contracting with CCWD for maintenance and operation of WCSD facilities, collaborating with CCWD on volume purchases, and CCWD and the City of Angels on equipment maintenance.
- No further facility sharing opportunities for water and wastewater services were identified.

ACCOUNTABILITY FOR COMMUNITY SERVICE NEEDS, INCLUDING GOVERNMENTAL STRUCTURE AND OPERATIONAL EFFICIENCIES

- WCSD demonstrated a high degree of accountability through its constituent outreach efforts and disclosure of information during the MSR process.
- WCSD has initiated the process to transfer water and wastewater services to CCWD.

SOI OPTIONS AND DETERMINATIONS

The WCSD's SOI was last updated by LAFCO in 2004, and extends beyond the District's boundaries in the north to just beyond SR 12, in the west to the county line, and in the south to just beyond EBMUD Road.[333] The SOI encompasses approximately 1.9 square miles or 1,206 acres.

AGENCY PROPOSAL

WCSD indicated interest in a limited service SOI, which would include the services presently provided by WCSD with the exception of water and wastewater services.

SOI OPTIONS

Four potential options have been identified with respect to the WCSD SOI.

Option #1: Limited Service SOI

The Commission could adopt a limited service SOI, which would include the services presently provided by WCSD with the exception of water and wastewater services. By excluding water and wastewater services as part of WCSD's SOI, LAFCO would indicate that it anticipates WCSD will stop providing those services and transfer those responsibilities to another provider. This option could be done in conjunction with any of the following other SOI options in order to define the size of the limited service SOI. The size of the limited service SOI will depend on where LAFCO foresees WCSD providing liquid petroleum gas, road and street light maintenance and repair, and recreational facilities and open space services in the near future. Presently, the District provides these services in the Wallace Lake Estates subdivision within its boundaries.

WCSD has negotiated with CCWD to transfer the ownership and operation of the WCSD water and wastewater systems to CCWD. The WCSD Board adopted a resolution in December 2010 to authorize a proposal to CCWD for the extension of contract utility services and the annexation of water, wastewater and other services.[334] CCWD approved a divestiture agreement with WCSD in 2011. Takeover by CCWD is contingent upon the approval of a real property assessment district by land owners and approval of the assessment by WCSD. WCSD has submitted an application to LAFCO for approval of the transfer of services.

WCSD cited the following as the reasoning behind the proposed transfer:[335]

1) Wallace is a small community that does not have sufficient size to finance independent water and wastewater systems, which has resulted in the District's benefit assessment subsidizing water and wastewater services as opposed to the other services offered by WCSD.
2) In the event of an emergency, WCSD does not have the ability to extend into another debt obligation, should it be necessary.
3) Water and wastewater utilities are demanding on board members and require significant time commitments to remain abreast of issues and regulations, which can be draining in a small community such as Wallace with a limited pool to draw from.

[333] LAFCO Resolution 2004-01.

[334] WCSD Resolution 2010-04.

[335] WCSD, Resolution 2010-04 Perspective, December 16, 2010.

4) Full-time professional staff to operate and maintain the facilities will provide the constituents with a higher quality of water and wastewater services and enhanced access for customer service issues.

5) Economies of scale may allow CCWD to reduce utility rates in the community.

6) CCWD's rate structure will allow it to pump private septic tanks, which WCSD has had challenges regulating.

7) CCWD may have greater leverage to bring surface water to the area, which is presently dependent on groundwater.

Option #2: Detachable SOI

A detachable SOI would include less territory than WCSD's existing boundaries, indicating that LAFCO does not foresee WCSD providing services to all territory within its boundaries, and anticipates the eventual detachment of those areas where the District does not provide services.

Should LAFCO choose to adopt a limited service sphere, as proposed in Option #1, then the District's services would eventually be limited to the area within the Wallace Lake Estates Subdivision within its bounds (once the transfer of water and wastewater services is complete). Services provided by the District in the Subdivision would include liquid petroleum gas, road and street light maintenance and repair, and recreational facilities and open space services. The Subdivision makes up approximately 75 percent of the District's existing boundaries. There are no plans to provide these services outside of the Subdivision at present. While there is the potential for WCSD to provide services to proposed developments that lie outside of the Subdivision, but within the existing boundaries, the timing of these developments are unknown and the developers have not approached the District for those services that would be included in a limited service SOI.

Option #3: Coterminous SOI

By adopting a coterminous SOI, LAFCO would indicate that the District is not expected to annex or detach territory in the foreseeable future.

Over the next five to 10 years, the District reported that it does not anticipate serving any proposed developments outside of its boundaries, as many developments have been put on hold until the economy recovers.

Within the District's boundaries, there is space for 220 units as part of new developments and infill. LAFCO may wish to promote organized growth and development by ensuring that the area within the District's boundaries is developed prior to areas further away from the community core.

In addition, in light of the need to bring surface water to the community to serve any significant new development, and giving consideration to the time it will take to construct necessary treatment and conveyance infrastructure, it is unlikely that the water purveyor (regardless of who the water provider is) will have the capacity in the short term to serve the entire area within WCSD's existing SOI. Based on the District's conservative estimates, the groundwater in the area can safely serve an additional 290 units, of which 76 percent would serve build-out of the District's boundaries, leaving adequate water supply for approximately 70 units outside of the District's boundaries. Given the limited water supply and time needed to bring in surface water, any proposed development outside of WCSD's existing boundaries is not expected to occur in the short-term; consequently, LAFCO may wish to consider excluding this area from the District's SOI.

Option #4: SOI Reduction

An SOI reduction would indicate that LAFCO does not anticipate WCSD annexing and serving the full area within its existing SOI in the defined sphere planning horizon.

Prior to the economic recession, there were three planned or proposed developments within the District's SOI but outside its boundaries—Mokelumne Oaks, Mendoca and Hannameyer. The developments consisted of approximately 50 units. Each of these developments are on hold or have gone into foreclosure and are not anticipated to be approved and begin construction within the next 10 years. There are no other areas in the District's SOI that the District has a potential to serve in the foreseeable future. LAFCO may choose to include only those areas with prospective developments in the District's SOI, as they have the possibility to be served by the WCSD in the short term.

Based on the District's estimates that the groundwater basin has an adequate supply to safely serve an additional 290 units, the future water purveyor will have the groundwater capacity to serve these three developments (approximately 50 units) in addition to 220 units within the District's boundaries. Until surface water is brought to the area, there will be minimal water supply to support any additional growth.

ANALYSIS

If LAFCO is in agreement with the eventual transfer of water and wastewater services from WCSD to CCWD, then the Commission should adopt a limited service SOI to indicate that such a reorganization is supported and would be approved. The territory that is included in the limited service SOI will largely depend on how LAFCO chooses to interpret the planning horizon of the SOI and potential demand for WCSD's reduced services. Option 2 has the shortest planning horizon of the next 5 years. Option 3 has a planning horizon of approximately five to 10 years, with proposed developments on a majority of the territory. Option 4 has a horizon of up to 15 years with some territory with no development potential in the pipeline.

In the event that WCSD transfers water and wastewater services, it is unclear what future demand will be for the District's reduced services, particularly outside of the Wallace Lake Estate Subdivision. In the case of past proposed developments, the District has been approached to provide essential water and wastewater services, not supplemental services such as road maintenance. Given this change in demand for WCSD services, it may be prudent to adopt a conservative SOI with a shorter planning horizon to gauge the growth potential of the District with regard to prospective development.


WALLACE CSD
CSD Boundary
Sphere of Influence
Planned/Proposed Development
Zone 2 within CSD Boundary
Well
Water Treatment Plant
Water Storage Facility
Wastewater Treatment Plant (Tertiary)
Wastewater Storage Facility
Discharge Location (Tertiary Effluent)
N
0
0.25
0.5
Miles
Mendonca
Ruosan
Tres Lagos
Boyd
Hannameyer
Mokelume Oaks
Remainder
Remainder
Crestview Estates
Shively
CAMANCHE PY S
HAWKS LANDING CT
OLIVEIRA CT
CRYSTAL DR
WALLACE LAKE DR
CORMORANT DR
WILLET CT
WALLACE LAKE DR S
BOLLEA RD
PETROSS ST
LIMESTONE DR
QUARTZ DR
CREEKVIEW LN
WHALEN RD
HASKELL ST
09
10
11
12
12
13
14
15
16
22
23
24
25
26
27
28

DRAFT SOI DETERMINATIONS

Present and Planned Land Uses

The District bounds primarily encompass single family residential land uses. Also included within the District is Wallace Lake. Local business activities are fairly minimal, and include a gas station, a post office, a bar and now closed restaurant.

Future growth will depend primarily on new residential construction. The District anticipates in the next five years, until about 2015, that growth will largely consist of small residential in-fill developments throughout Unit 1 within the District's boundaries. Those projects that the District is aware of and has reserved capacity for consist of 20 additional units in the short-term.

There are four other potential residential developments that the District is anticipating will be built within the next 10 to 15 years sometime between 2020 and 2025, which total 250 dwelling units. Due to the economic downturn and decline in the housing market, all of the developments are on hold or foreclosed. In addition to these developments, the District is anticipating that incentives in the County General Plan Update to build in the mixed-use commercial township of Wallace will result in approximately 20 additional residential and commercial units. While the District has not been approached by the developer to provide utilities, the Mendoca development is within the District's SOI.

Present and Probable Need for Public Facilities and Services

Based on the number of single family connections within the District and average household size in the County, the estimated residential population in the District bounds is approximately 214 in 2010. The District has experienced a rapid pace of growth between 2000 and 2010—more than doubling the number of connections served. Growth in demand began to plateau in 2006 due to the economic downturn; however, the District anticipates that development will resume and demand for district services will continue to grow at a high rate. Based on estimates of potential developments, the District is anticipating approximately 290 additional service connections in the next 10 to 15 years by about 2025.[336] This would increase the District's population to approximately 882 residents—more than tripling the present population.

The District has planned for approximately three to four additional connections annually until 2014. Thereafter, the District anticipates averaging 23 additional connections each year until 2025. Actual timing of these new connections will depend on the state of the economy and housing market, and the availability of capacity in the District's water and wastewater systems.

Based on the District's projected population growth over the next 20 years, by the year 2030 the District is projected to have a wastewater flow of approximately 0.07 mgd (ADWF), which is beyond the District's permitted capacity. Should development occur at the pace that the District anticipates, a new wastewater plant would be necessary by about 2020. In 2030, demand for water in the District is projected to be approximately 0.4 mgd, which is beyond the existing WTP's treatment capacity. According to growth projections provided by the District, based on planned and proposed development, the treatment plant will require additional capacity around 2018.

[336] Interview with Cathryn Jackson, WCSD Board Member, June 3, 2010.

Present Capacity of Public Facilities and Adequacy of Public Service

The WCSD system has sufficient capacity to serve existing connections as only 27 percent of the WWTP capacity is in use, based on ADWF, and up to 66 percent of the WTP capacity is in use during periods of peak demand.

Wastewater services offered by the District appear to be adequate based on low infiltration and inflow rates, treatment effectiveness rate, sewer overflow rate, response times, and planning efforts. The District could improve upon its regulatory compliance as it has the highest rate of priority violations among the providers.

The District has initiated a divestiture of its water and wastewater operations with transfer of those services to CCWD, and CCWD has approved a divestiture agreement.

Existence of Any Social or Economic Communities of Interest

Communities of interest within the District's boundary and SOI includes the unincorporated community of Wallace. Economic communities of interest include the few businesses located along SR 12 and the landowners in Zone 1 of the District that pay a special assessment for enhanced services. These communities are not divided by the District's boundaries or SOI.

16. OTHER SERVICE PROVIDERS

A number of water service providers in Calaveras County are not under Calaveras LAFCO's jurisdiction, as shown in Table 16-1. This chapter profiles four private community water systems—Blue Lake Springs, Lili Valley, Mineral Mountain, Snowshoe Springs—and Utica Power Authority.

Table 16-1: Drinking Water Systems, Calaveras County

Service Provider	Population Served (1)	Surface Water	Purchased Water	Ground water	Health Violations (2)	Monitoring Violations
Community Water Systems - Private						
Blue Lake Springs MWC	4,700		√	√	0	0
Dunrovin Mobile Home Village	*99*			√	4	15
Lakeside Mobile Estates	*24*			√	0	0
Lili Valley Water Co.	100			√	2	8
Mineral Mountain MWC	60			√	2	7
Rite Of Passage/Sierra Ridge Academy	*150*			√	1	14
Snowshoe Springs Assn.	*270*		√		1	1
Seasonal Water Systems						
CUSD District Office	*100*			√	0	8
Foothill Community Church	*85*			√	1	9
Toyon Middle School	*200*			√	1	8
Toyon Park Water System LLC	*150*			√	3	5
United Parcel Service	*75*			√	2	4
Transient Water Systems						
American Legion Post #376	*120*			√	0	8
Angels Arm Water Plant	*100*	√			0	6
Angels Camp RV/Camping Res.	*228*			√	12	7
Big Meadows Campground	*100*	√			0	5
Blunder Inn	*60*	√			4	11
Burson Donut	*25*			√	0	12
Burson Full Gospel Church	*80*			√	0	3
Calaveras Big Trees SP, North Grove	*350*		√		0	1
Calaveras Big Trees SP, Oak Hollow	*1,213*		√		0	0
Calaveras County Airport	*25*			√	3	2
California Caverns	*80*			√	1	2
Camp Lodestar	*150*			√	4	10
Camp Madonna Of Peace	*70*			√	0	1
Camp Menzies	*150*			√	0	3
Camp Wolfeboro	*250*	√			0	3

continued

Service Provider	Population Served (1)	Surface Water	Purchased Water	Ground water	Health Violations (2)	Monitoring Violations
Transient Water Systems (continued)						
Changing Echoes	*25*			√	0	0
Cottage Springs Water Co.	*51*			√	2	7
Dream Mountain Christian Camp	*50*			√	0	5
El Torero Restaurant	*225*			√	0	4
Moaning Cavern	*80*			√	0	1
Morning Star Outreach	*100*			√	0	5
Mountain Ranch Kitchen, The	*228*			√	0	8
New Melones Lake Marina	*1,000*			√	0	4
Oakendell, Inc.	*25*			√	1	1
Salt Springs Valley Res. & Campgrnd	*100*			√	2	5
Sherman Acres MWA	*120*	√			2	1
Sky High Ranch HOA	*94*			√	2	9
Stanislaus River Campground	*100*			√	1	5
Stone Corral Community Church	*80*			√	2	6
Tamarack Cabin Owners Assn	*50*			√	0	2
Tamarack Springs MWC	*35*			√	1	2
U.S. Army Corps - New Hogan	*1,860*			√	0	1

Source: U.S. EPA, Safe Drinking Water Information System, extracted Jan. 2011.

Notes: (1) Population is the EPA estimate of number of water users served (italicized). Population from more reliable sources, such as annual inspection reports, are shown in standard (not-italicized font).

(2) Violations reflect the number reported by the State to EPA over the last 10 years. For details, see SDWIS.

BLUE LAKE SPRINGS MWC

Blue Lake Springs (BLS) Mutual Water Company (MWC) provides groundwater production, water treatment and distribution services to 1,707 connections in the community of Blue Lake Springs located in the vicinity of Arnold. The community has approximately 1,707 housing units, most of which are vacation homes.[337] There are approximately 800 year-round residents; the population peaks at about 4,700 during busy weekends in the summer months and ski season.[338] Although there are 317 lots that are not built, the MWC estimates that approximately 200 of those are developable. The development rate in the last 15 years has averaged 10.3 units per year, although in 2010 only two units were absorbed. As a mutual water company, BLS is owned by its shareholders (local property owners) and overseen by a board elected by the shareholders.

The BLS groundwater system dates back to 1962 when it relied on groundwater from four wells. Those wells were abandoned in the mid-1980s due to insufficient capacity. At that time, CCWD and BLS reached an agreement whereby CCWD granted half of the funds and loaned the remainder

[337] About 120 of the housing units are vacation rentals.

[338] California Department of Public Health, *Annual Inspection Report for Blue Lake Springs MWC*, November 18, 2009.

of funds to BLS to construct two new wells adjacent to White Pines Lake, and built a CCWD-BLS intertie through which the parties share water during emergencies.[339] BLS subsequently built two replacement wells at White Pines Lake in 1988, one of which was replaced in 2002. BLS groundwater production declined; by 2005 BLS relied on CCWD for half of its water supply,[340] and continued to rely on CCWD until 2011.

Infrastructure in the BLS system includes two groundwater wells located by the lake (combined capacity of 350 gpm), pumps (to convey the groundwater over the ridge at SR-4), a water treatment facility (400 gpm capacity), three water storage tanks (1.65 mg capacity), and distribution infrastructure. CCWD is co-owner of the wells, pumping system and treatment facility. CCWD and BLS co-own two interties between its Ebbetts Pass surface water system and the BLS distribution system; through those interties, CCWD supplies treated water to BLS. BLS infrastructure deficiencies include inadequate groundwater supply, leaking service lines, a lack of water meters on many of the service connections, and need for additional fire hydrants.[341] BLS recently repaired a weir above the lake in September 2010 in the hope that groundwater well production will improve; as of February 2011, groundwater production had not yet increased. The MWC reported that it has supplied its customers with adequate water, partly due to customers' significant conservation efforts.

BLS reported that it pays CCWD $1.60 per ccf for its water supplies. This is the CCWD consumptive rate for an emergency supply but does not include base charges for the meter. By comparison, each unit at Snowshoe Springs and Fly-In Acres paid capacity charges at the time of connection to the CCWD system to reserve system capacity. BLS has not paid those charges to CCWD. CCWD is concerned that BLS has become reliant on its surface water, and that its Hunters WTP capacity may need expansion to accommodate ongoing wholesale supplies to BLS.[342] Concerned about the cost of capacity charges, BLS is exploring its options, such as drilling additional wells.[343] One of its options may be to dissolve the MWC and annex to CCWD, as its neighbor Fly-In Acres MWC is presently considering.

The groundwater supply contains iron, manganese and hydrogen sulphite (prior to treatment); the supply is vulnerable to contaminants from recreational uses of the lake and septic systems (although contaminants have not been detected).[344] The supply from CCWD is treated surface water originating on the North Fork of the Stanislaus River. BLS had no health or monitoring violations in the last 10 years, according to EPA's Safe Drinking Water Information System.

---

[339] *Agreement between Calaveras County Water District, Blue Lake Springs Mutual Water Company, and Calaveras County Water District Improvement District No. 5*, June 3, 1986.

[340] Blue Lake Springs Mutual Water Company, *Minutes of the Annual Shareholders Meeting*, June 5, 2010. BLS states that groundwater production decline began after a 1996 flood silted in Mill Pond. Mill Pond is fed by San Antonio Creek and functions as the weir to White Pine Lake (interview with General Manager Maynard Herreid, Feb. 23, 2011).

[341] BLSMWC has made improvements over the years, reporting that it has installed 10 miles of water main and 119 fire hydrants in the last 17 years.

[342] Interview with CCWD General Manager Joone Lopez, Jan. 17, 2011.

[343] Interview with General Manager Maynard Herreid, Feb. 23, 2011.

[344] California Department of Public Health, *Drinking Water Source Assessment, White Pines Well 03*, Feb. 2003; California Department of Public Health, *Drinking Water Source Assessment, White Pines Well 2*, Oct. 2001. The MWC asserts that the groundwater supply is not under the direct influence of the lake, because the wells are drilled down through 100 feet of clay and the MWC has verified through water testing of the well water and the lake (interview with General Manager Maynard Herreid, Feb. 23, 2011).

BLS produced and purchased a total of 204 af in 2008,[345] of which 105 af was groundwater produced by BLS and 99 af was purchased from CCWD. BLS water use declined to 194 af in 2009 and 169 af in 2010.

If future growth is comparable to average growth rates in the last 15 years, BLS future water demand will increase by about 0.6 percent annually through build-out in 2029.

SNOWSHOE SPRINGS ASSOCIATION

The Snowshoe Springs Association (SSA) is a homeowners association that distributes purchased and pre-treated surface water to a subdivision in Dorrington. The community has approximately 290 homes, mostly used seasonally as vacation homes. There are approximately 70 year-round residents; the population peaks at about 200 during August and December.[346] The subdivision has remaining development capacity for an additional 70 homes. The water system is overseen by a board elected by the local property owners.

Developed around 1957, the subdivision originally relied on groundwater wells for water. The water quality deteriorated in 1970. Coincidentally, around that time, nearby Big Trees Village was being developed and water infrastructure installed there by CCWD. SSA then decided to connect to the CCWD system and rely on purchased water instead.[347]

Infrastructure includes two conveyance connections to CCWD, two storage tanks (79,000 gallon capacity) for treated water, and 5.8 miles of water distribution lines. The majority of the distribution and storage system was constructed in the late 1950s and early 1960s. SSA reported its primary challenges as an aging distribution system, new regulations, fire protection and financing system upgrades.[348] The most recent system inspection in 2008 identified that 1.4 miles of the distribution system was in fair condition (the remainder was deemed to be in good condition), that water mains are undersized and cannot provide adequate fire flows, and that a valve maintenance program was needed.[349] Presently SSA relies on the CCWD Big Trees Village water system for fire flows; half of the homes are within 1,000 feet of a hydrant located in Big Trees Village, but fire personnel lack hydrant access for serving the remainder of the homes. SSA would need additional storage capacity (120,000 gallons) and replacement of water mains to provide adequate fire flows. All told, the improvements would cost about $4.8 million.[350]

The surface water supply from CCWD is treated surface water originating on the North Fork of the Stanislaus River. The SSA water system experienced one health violation (lead from 2000 to 2002), and one monitoring violation in the last 10 years.[351] The company's most recent monitoring violations involved a complete failure to report in 2001. All connections are metered. There were

[345] California Department of Public Health, *Annual Inspection Report for Blue Lake Springs MWC*, November 18, 2009.

[346] California Department of Public Health, *Annual Inspection Report for Snowshoe Springs Association*, October 27, 2008.

[347] Jim Wurtz, *The Snowshoe Springs Water System*, URL http://www.snowshoespringsassociation.com/water/system/ accessed on Feb. 11, 2011.

[348] MWH, *Calaveras County General Plan: Water Element Baseline Report Supplement*, Feb. 2009, p. 24.

[349] California Department of Public Health, *Annual Inspection Report for Snowshoe Springs Association*, October 27, 2008.

[350] Pakpour Consulting Group, *Snowshoe Springs 2006 Water Master Plan*, June 2006.

[351] U.S. Environmental Protection Agency, *Safe Drinking Water Information System*, data extracted as of Jan. 14, 2011.

eight breaks and leaks in 2007; SSA had identified and corrected major leak problems in 2000 and 2001. The 2008 inspection report described the system as "fairly well operated and maintained."

SSA has purchased 76 af in 2007, but managed to reduce consumption to 27 af in 2010 through water conservation improvements and an ongoing leak detection and repair program.[352] SSA aims to reduce annual consumption to 23 afa, and did not provide projections on the timing or impacts of subdivision development on water demand.[353]

FLY-IN ACRES MWC

Fly-In Acres Mutual Water Company distributes purchased and pre-treated surface water to the older portion of the Fly-In Acres subdivision southeast of Arnold. The community has approximately 212 homes of which 125 homes are served by the MWC and the remainder are served by CCWD. Most of the homes are used seasonally as vacation homes. The water system is overseen by a board elected by the local property owners.

Developed around 1948, the subdivision originally relied on groundwater wells for water. Since CCWD developed the water infrastructure nearby around 1970, CCWD has been the direct service provider to the new growth within the subdivision. CCWD also sells wholesale water to the MWC.

The water distribution infrastructure is over 50 years old and needs replacement at an estimated cost of up to $2 million. The MWC reports that the distribution system was originally built from World War II surplus pipe, covered with tar and tar paper. The distribution system requires frequent repairs due to leaks, and the cost and frequency of repairs has been increasing. The MWC property owners will be considering in Spring 2011 two options for replacing the system: 1) dissolve the MWC, annex to CCWD, form an improvement district, and finance the replacement costs through an annual assessment to be repaid over a 20-year period, or 2) increase water rates and replace the system gradually in the future. Under the first option, CCWD would replace the system in the short-term. The service area is not contiguous to the CCWD water service area presently, because a finger of the BLSMWC juts through Fly-In Acres, so one option may be for both BLS and Fly-In to annex to CCWD together. Both the upper and lower portions of Fly-In are served by CCWD master meters, and both could be served by interconnections with the CCWD distribution system, as proposed by the MWC engineering report.

LILI VALLEY WATER COMPANY

Lili Valley Water Company provides groundwater production and distribution to 55 homes in a small mountain subdivision east of West Point. The subdivision had originally proposed to have 107 lots, but only 70 became available for development. Of those 70 lots, there are 15 remaining with development potential.

Infrastructure includes two groundwater wells (combined yield of 30 gpm), a storage tank (108,000 gallons), and a treatment system to control copper corrosion. The most recent system inspection in 2009 found that the groundwater wells need flow meters, that the treatment system

[352] Snowshoe Springs Association, *Seasonal Newsletter*, Fall 2010.

[353] MWH, *Calaveras County General Plan: Water Element Baseline Report Supplement*, Feb. 2009, p. 24.

should include a chart recorder to track chlorine levels, and that the storage tank ladder should be secured to prevent unauthorized access.[354]

The water source is not affected by surface water. The source is considered most vulnerable to septic systems, although not associated with any detected contaminants.[355] The water system experienced two health violations (coliform in 2005 and 2006), and eight monitoring violations in the last 10 years.[356] The company's monitoring violations involve coliform monitoring deficiencies as recently as 2010.

The amount of groundwater produced and consumed by this system was not available. At the time of the most recent system inspection, this water system lacked flow meters. The company did not participate in the *Calaveras County General Plan Water Element*, so water demand projections were not available.

MINERAL MOUNTAIN ESTATES MWA

Mineral Mountain Estates Mutual Water Association (MWA) provides groundwater production and distribution to 34 connections in a small subdivision in a semi-mountainous area located near Sheep Ranch Road between the communities of Sheep Ranch and Murphys. Although remaining development potential in the subdivision was not known, the MWA does not anticipate growth in water demand in the next 25 years.[357]

Infrastructure includes three active groundwater wells, a water treatment system, and a storage tank (50,000 gallon capacity) for treated water. The MWA reported its primary infrastructure challenges as a lack of sufficient storage, availability of groundwater, and iron sludge in the wells.[358] The most recent system inspection in 2008 identified needs for well house repairs, well water meter replacement, water pressure relief valve, and relocation of power lines near a well.[359]

Groundwater contains iron and manganese (which are removed by the treatment system). Groundwater at an inactive well contains arsenic. The source is considered most vulnerable to septic systems, although not associated with any detected contaminants.[360] The water system experienced two health violations (coliform in 2007 and 2009), and seven monitoring violations in the last 10 years.[361] The company's most recent monitoring violations involved coliform monitoring deficiencies in 2007.

[354] Calaveras County Environmental Health Department, *Water System Inspection Report 2009 – Lili Valley Water Company*, 2009.

[355] California Department of Public Health, *Drinking Water Source Assessment – Lili Valley Water Company*, Dec. 2002.

[356] U.S. Environmental Protection Agency, *Safe Drinking Water Information System*, data extracted as of Jan. 14, 2011.

[357] MWH, *Calaveras County General Plan: Water Element Baseline Report Supplement*, Feb. 2009, p. 24.

[358] Ibid.

[359] Calaveras County Environmental Health Department, *Water System Inspection Report 2008 – Mineral Mountain Estates Mutual Water Association*, 2008.

[360] California Department of Public Health, *Drinking Water Source Assessment – Mineral Mountain Mutual Water*, May 2002.

[361] U.S. Environmental Protection Agency, *Safe Drinking Water Information System*, data extracted as of Jan. 14, 2011.

The MWA produced 54 af in 2008, and anticipates future water demand will remain flat through 2020.[362]

[362] MWH, *Calaveras County General Plan: Water Element Baseline Report Supplement*, Feb. 2009, p. 24. The MWA projections were provided in 2008.

UTICA POWER AUTHORITY

Utica Power Authority delivers untreated water to the City of Angels, Union Public Utility District, and irrigation customers, and generates hydroelectric power.

AGENCY OVERVIEW

Formation and History

Utica Power Authority (UPA) was formed in December 1995 as a joint powers authority (JPA) whose members at that time were the City of Angels, CCWD and UPUD. The JPA was formed to manage a water conveyance and hydroelectric power system that PG&E was in the process of selling to CCWD at the time of UPA formation. UPA owns and operates the water conveyance and hydroelectric power systems.

The UPA system had originated in the nineteenth century as a system of ditches, flumes, a dam and a reservoir built to convey water from the North Fork Stanislaus River to Angels Creek.[363] The Utica Gold Mining Company had constructed a powerhouse and conveyance line to transport water to Angels Camp prior to the mine's closure in 1918. PG&E purchased the system in 1946, operating two hydroelectric projects known as the Utica Project and Angels Project, and supplying water to customers in Murphys, the City of Angels and surrounding areas over the ensuing 50 years. PG&E supplied water to irrigation users along the canals and ditches, and to the Dogtown Ditch area northwest of the City of Angels. In 1996, PG&E sold the system to CCWD. CCWD then sold a portion of the system to UPA, including PG&E's contractual obligations to supply water to Murphys, the City of Angels and surrounding areas.[364]

In 2001, the Darby Fire burned through a section of UPA's flume; UPA kept a minimum amount of water flowing during the 10 months while the flume was rebuilt. CCWD grew concerned about legal and financial costs of participating in UPA; CCWD withdrew from UPA in 2004 by way of a financial buyout by UPA. There followed several years of conflict between CCWD and UPA relating to the transferred water rights and other property, including litigation initiated by UPA, and concluding with a settlement agreement reached in November 2009.

Governance and Management

UPA's governing body is composed of two representatives from each of its two member agencies – UPUD and City of Angels – and a fifth appointed community member at-large.

To keep citizens informed of its activities, UPA maintains a website. The website content is minimal, and does not contain financial information, a system map or rates.[365]

UPA's staff in FY 10-11 consisted of 7 full-time employees and 2 part-time employees, whose time amounts to 8.25 full-time equivalents (FTEs). The full-time employees are a general manager, a hydroelectric project supervisor, two hydroelectric operators, a water conveyance supervisor, a water

[363] MWH, *Calaveras County General Plan: Water Element Baseline Report Supplement*, Feb. 2009, p. 20.

[364] *Memorandum of Understanding and Settlement Agreement by and Between Calaveras County Water District and Utica Power Authority*, Nov. 3, 2009. CCWD sold certain water rights and assets to Northern California Power Agency (NCPA) for NCPA's operation of the North Fork Stanislaus Hydroelectric Project. CCWD owns and holds the license for the North Fork Project, which NCPA operates on its behalf.

[365] URL http://uticapower.com/ accessed on Feb. 24, 2011.

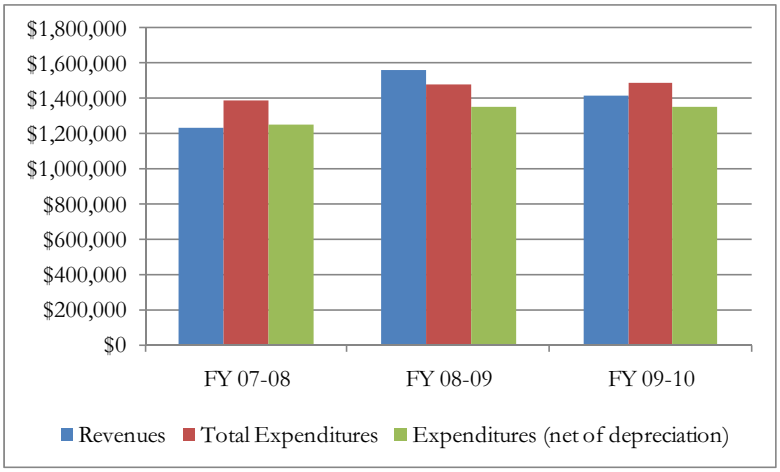
conveyance operator, and an administrative secretary. UPA also employs a part-time operator who assists with both hydroelectric and water conveyance activities (0.75 FTE), and an administrative assistant (0.5 FTE).[366]

Financial planning efforts include annual preparation of budgets and annually audited financial statements. The most recent audited financial statement provided by UPA was for FY 10-11.

Financing

UPA reports its financial activities in a single fund which contains both hydroelectric power and water conveyance activities.

Figure 16-1: UPA Revenues and Expenditures, FY 08-10



UPA total revenues were $1.5 million in FY 10-11.[367] Revenue sources included power sales (90 percent of total revenue), water sales (7 percent), rents and leases (2 percent), and interest income (1 percent). By comparison, total revenues were $1.2 million in FY 07-08 and $1.6 million in FY 08-09. The revenue trend is due to changes in total power sales. UPA interest income also declined between FY 07-08 and FY 10-11.

UPA's expenditures were $1.6 million in FY 10-11. Of this amount, 43 percent was spent on employee compensation, 40 percent on services and supplies, 9 percent on long-term debt, and 9 percent on depreciation. By comparison, total expenditures were $1.4 million in FY 07-08 and $1.5 million in FY 08-09. Expenditure increases in FY 08-09 involved services and supplies primarily, there were modest increases in employee compensation costs, and the amount spent on long-term debt decreased substantially. In FY 09-10, there were modest decreases in expenditures for services and supplies and modest increases in expenditures on employee compensation.

UPA conducts capital planning annually through its budget process. The preliminary budget for FY 10-11 identifies $0.3 million in anticipated costs for annual maintenance of the water conveyance system (half of which involves Murphys Forebay), $0.2 million for engineering and planning of a small hydroelectric project, and $0.2 million for powerhouse maintenance. UPA anticipates conducting the site work for the hydro project in FY 11-12, and the electrical work in FY 12-13.

Significant capital outlays have been financed primarily with power sales revenue. As of the end of FY 10-11, UPA had capital reserves of $0.3 million for capital improvements. In addition to capital reserves, UPA had $1.4 million in unrestricted net assets at the end of FY 10-11; that amounts to 95 percent of expenditures in that year.

[366] Utica Power Authority, *Preliminary FY 10-11 Budget*, draft dated May 11, 2010.

[367] Utica Power Authority, *Independent Auditor's Report and Financial Statements, (for the Year Ending) June 30, 2011*, Aug. 30,2011.

UPA had $0.5 million in long-term debt at the end of FY 10-11. The debt is from a loan obtained in 2005 to finance the buy-out of CCWD's share of the UPA assets including water rights. Both the City and UPUD have debt-related reserve accounts financed by $1 monthly rates.

UPA last increased its water rates in FY 09-10; water rates for most users increased by 5 percent.

WATER SERVICES

This section describes the nature, extent and location of the water services provided as well as key infrastructure and water sources.

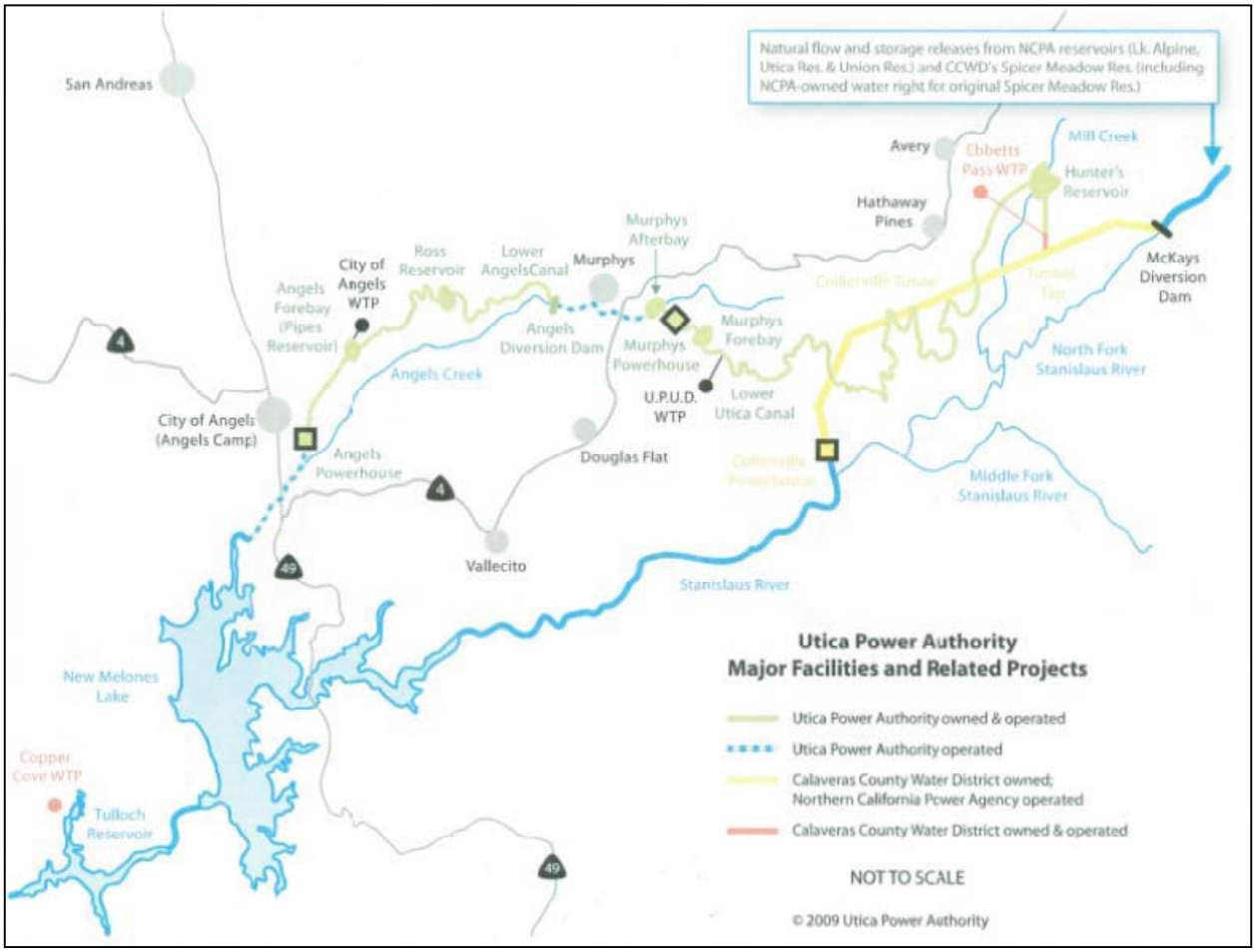
Nature and Extent

UPA owns and operates two hydroelectric power generation projects, conveys water to UPUD and City of Angels, and supplies irrigation water directly to consumers within its service area. UPA does not provide water treatment services or domestic water retail services.

Location

UPA may supply water to the City of Angels and UPUD only for use within their LAFCO-designated spheres of influence under the terms of the CCWD-UPA settlement agreement. UPUD withdraws water from the canal at Cademartori Reservoir for treatment and domestic use, and irrigation water along two ditches–one located at Murphys Forebay and the other at Murphys Afterbay. The City of Angels withdraws its water at Angels Forebay.

Figure 16-2: UPA System Map



UPA also supplies some irrigation customers directly. Certain water delivery contracts for irrigation customers were transferred from PG&E to UPA. UPA continues to serve these customers. UPA supplies irrigation water to four customers upstream from Murphys Powerhouse, 10 customers downstream from the powerhouse, and to users of the Dogtown Ditch just north of City of Angels. The Dogtown Ditch users withdraw water at Angels Forebay. Under the terms of the CCWD-UPA settlement agreement, UPA may also supply water to lands with water delivery connections within one-quarter mile of UPA water conveyance facilities in existence in 2009.

Hydroelectric power is generated presently at the Murphys and Angeles Powerhouses. UPA transmits power to the grid, thereby selling power to customers outside Calaveras County.

Infrastructure

Key infrastructure for water service includes UPA's water supplies, 27-mile water conveyance system, and five reservoirs.

Water Supplies

UPA's water source is the North Fork Stanislaus River (including Mill Creek and Beaver Creek). UPA obtained its water rights from CCWD in 1997; in turn CCWD had acquired these water rights from PG&E.[368] Prior to the transfer, CCWD had contractually agreed with Northern California Power Association (NCPA) to limit water deliveries to the UPA service area to a maximum of 33,514 afa in the wettest water year. Later negotiations established a minimum of 16,107 afa in dry water years.[369]

By agreement with CCWD and NCPA, the flows to the UPA system are allotted on a monthly basis with total amounts limited based on the California Department of Water Resources' (DWR) forecasted flow on the Stanislaus River. The driest year recorded since 1900 was 1977. Based on forecast flows in that year, UPA's safe annual yield is 19,605 afa; theoretically in a year drier than 1977 the safe annual yield would be as low as 16,107 afa. The monthly limits on UPA water supplies do not increase during irrigation season in proportion to the increases in water demand at that time. In addition, UPA apparently lacks the water storage capacity to save up excess water rights during wet months for use during irrigation season.[370] As a result, UPA has already allocated its water rights during peak demand in the irrigation season, and has a freeze on new irrigation accounts.

CCWD has agreed with UPA to use best efforts to negotiate an agreement by the end of 2014 to transfer additional water to UPA for consumptive use.[371] Such agreement will require consent from NCPA.[372] Under negotiation are CCWD water supplies (the unconsumed portion of which are presently being used by NCPA for power generation at Collierville); the consumptive rights are not

[368] The reader should note that there are conflicts and discrepancies between UPA's written assertions of its water rights and CCWD's assertions, that these rights have been litigated and that a settlement agreement between the parties is the most objective document describing the resulting water rights. That said, the authors note that UPA asserts that its water rights include a 60 cfs right from the North Fork Stanislaus River into the Utica Canal, 20-88 cfs from Mill Creek into Hunter Reservoir, and 2.5 cfs from Mill Creek, in addition to the details of UPA's permitted diversions (e.g., 2.67 cfs point of diversion in Angels Creek below Angels powerhouse).

[369] MWH, *Calaveras County General Plan: Water Element Baseline Report Supplement*, Feb. 2009, pp. 21-22; Utica Power Authority, *Water Supply Within the North Fork Stanislaus River-Mill Creek-Angels Creek System.*

[370] NCPA is obligated to operate the upper reservoirs to assist in providing UPA with the contractually-agreed water allocation.

[371] The use of CCWD's 8,000 afa water right in a broader service area (including the Murphys and City of Angels area) is described in SWRCB Order No. 97-05.

[372] *Memorandum of Understanding and Settlement Agreement By and Between Calaveras County Water District and Utica Power Authority*, 2009.

presently being entirely used in the Ebbetts Pass area. Due to CCWD's existing and planned alternative uses for these rights, CCWD reported that it would need UPA to identify potential lands and users of additional consumptive water supplies in order to transfer additional water to UPA. CCWD reported in 2012 that the parties will be discussing the viability of and conditions under which a water transfer to UPA might occur, and indicated that NCPA consent would be needed for UPA to rely upon use of water stored under CCWD appropriative rights.

UPA water is used both for hydroelectric power generation and for water delivery for consumptive uses.

CCWD also transferred to UPA certain contracts obligating UPA to deliver water supplies to UPUD, City of Angels and raw water users at Dogtown Ditch. Water demand in the UPA system in the year 2010 for consumptive uses amounted to 4,354 afa. The City of Angels used 1,304 afa, and is contractually entitled to up to 1,600 afa. UPUD used 1,989 afa, and is contractually entitled to up to 5,887 afa.[373] UPA's raw water customers are expected to use 915 afa in 2010, and hold contracts to use up to 1,125 afa.[374]

UPA reports that it presently uses its entire water supply (less portions diverted for consumptive use in UPA service areas upstream) for power generation purposes.[375] Unconsumed water presently flows down Angels Creek to the USBR New Melones Reservoir. CCWD retained junior ("reserved") water rights to use excess flows from the UPA system, but is not making use of those rights at the present time.

Treatment Systems

UPA does not provide water treatment services, and does not own water treatment facilities.

Water Storage

UPA has storage capacity in five reservoirs with a combined capacity of 447 af. Hunters Reservoir is the furthest upstream, and has capacity for 253 af. The other reservoirs are Murphys Forebay (58 af capacity), Murphys Afterbay (31 af capacity), Ross Reservoir (100 af), and Angels Forebay (5 af).

UPA budgeted $175,000 in FY 10-11 for desilting and maintenance work on Murphys Forebay. The reservoirs are generally in good condition; Murphys Afterbay needs to be desilted in the near future. UPA reports that it follows a schedule for desilting the reservoirs, although specifics were not provided.

Existing water storage facilities do not appear to have adequate capacity to meet agricultural demand during irrigation season. There are monthly limits on water supplies flowing into the UPA system in the contract between CCWD and NCPA. Due to these contractual limits and limited storage capacity, UPA and its member agencies presently face challenges in making commitments to meet agricultural water demand during irrigation season. UPA reports that it cannot expand its existing storage due to costs and regulatory obstacles.

The reasons for the storage deficit are disputed by UPA and CCWD. UPA's perspective is that the UPA service area historically had sufficient storage before CCWD deeded the upper reservoirs

[373] UPUD's contract provides for up to 270 miners inches (equivalent to 4,887 af) at the price of $1 per af, and an additional 1,000 af at the price of $15 per af.

[374] Utica Power Authority, *Preliminary FY 10-11 Budget*, draft dated May 11, 2010.

[375] MWH, *Calaveras County General Plan: Water Element Baseline Report Supplement*, Feb. 2009, pp. 23.

to NCPA, and that UPA faces challenges in making new commitments to irrigation use because of the contractual limits on water availability in drought years as well as the loss of storage capacity. From CCWD's perspective, the arrangement is an improvement over what it would have been if NCPA had directly acquired the PG&E system; furthermore, CCWD states that PG&E's storage did not allow them to continually run 88 cfs through its system, and that FERC license constraints also limit UPA's ability to deliver water.

CCWD reported in 2012 that the parties will be discussing the viability of and conditions under which a water transfer to UPA might occur, and indicated that NCPA consent would be needed for UPA to rely upon use of water stored under CCWD appropriative rights.[376]

Conveyance

The UPA water conveyance system is a 27-mile system composed of historic flume, canal and penstock.[377] UPA's point of diversion is from the Collierville Tunnel via the Mill Creek Tunnel Tap. The Upper Utica conduit transfers water from the tunnel tap to a flume which flows into Hunters Reservoir.

Water from the Tunnel Tap and Mill Creek is released into the 13-mile Lower Utica Canal, a system of metal-lined wooden box flumes, natural earth, and gunited canal sections. The water is conveyed to Murphys Forebay, then through Murphys Powerhouse. After Murphys Afterbay, water flows through Angels Creek (also known as Murphys Creek) through the town of Murphys.

About three miles below the town of Murphys, water is diverted by the Angels Diversion Dam into the 2.5 mile Upper Angels Canal. It passes through Ross Reservoir and into the 3-mile Lower Angels Canal to the Angels Forebay where the City of Angels withdraws water for its treatment plant. The water then flows through a 1.6-mile penstock into Angels Powerhouse.

UPA reported the conveyance system to be in good condition, needing only routine maintenance. UPA budgeted $152,000 in FY 10-11 to maintain the water conveyance system, including repairs of canal, flume and gunite. In addition, UPA has two full-time staff members who work on the water conveyance system. In 2009, UPA did major repairs on a 500-feet section of flume in the Upper Utica Canal.[378]

Hydroelectric Facilities

UPA owns and operates two powerhouses. Both were reported to be in good condition. The average annual generation is approximately 22,000 megawatt hours. The energy produced is certified as renewable energy. UPA's power generation revenues subsidize the costs of its water conveyance system.

To generate additional power sales, UPA is evaluating the installation of small generators, known as "hydros," in four locations: Hunters Dam (0.2 MW capacity), Murphys Afterbay (0.2 MW capacity), Ross Dam (0.1 MW capacity), and Angels Powerhouse.

[376] Correspondence from Calaveras County Water District General Manager to Calaveras LAFCO Executive Officer, May 3, 2012.

[377] MWH, *Calaveras County General Plan: Water Element Baseline Report Supplement*, Feb. 2009, pp. 22.

[378] Utica Power Authority, *Utica Water Conveyance, November 2009 Maintenance Report*, URL http://uticapower.com/projects/utica_water_conveyance.html accessed on March 22, 2010.

17. REFERENCES

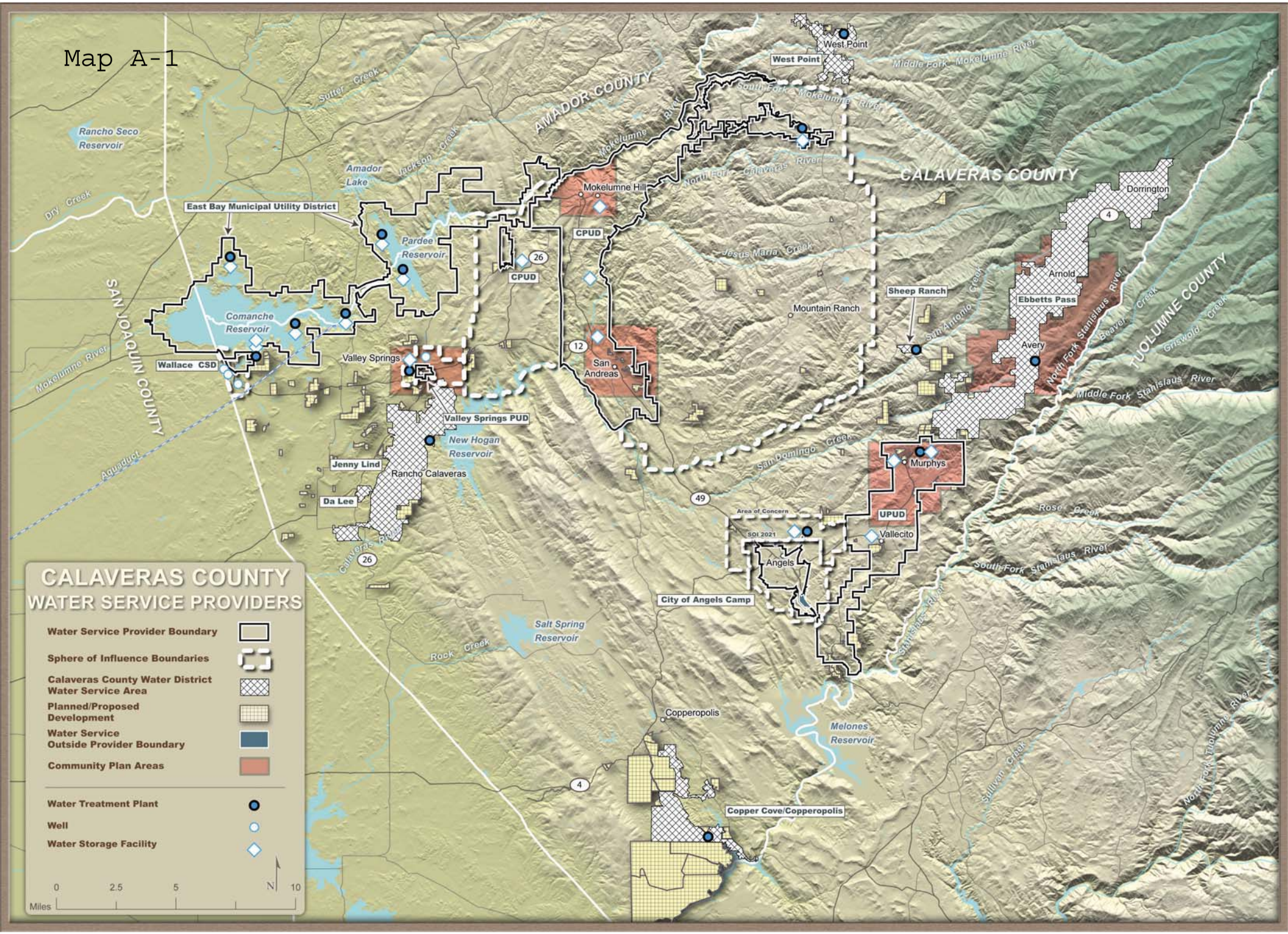
INTERVIEWS AND CORRESPONDENCE

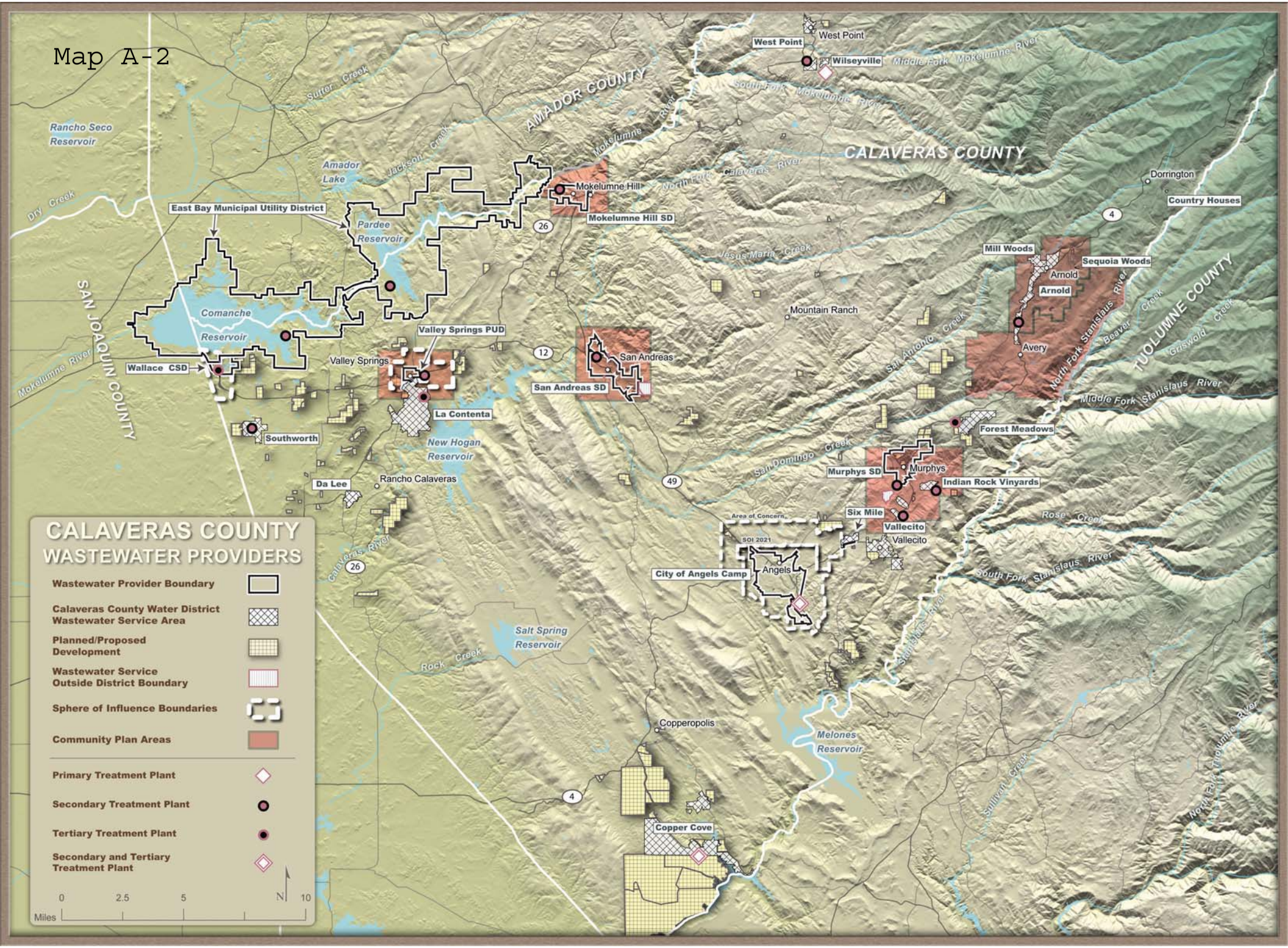
Agency	Name/Title
Blue Lake Springs Mutual Water Company	Maynard Herreid/General Manager
Calaveras County	Brenda Gillarde/General Plan Coordinator
Calaveras County	Brian Moss/Environmental Health Director
Calaveras County	Christine Hollingshead/Assistant Auditor
Calaveras County	Darcy Goulart/Planner
Calaveras County	Dave Pastizzo/Long-term Planner
Calaveras County	Linda Churches/Former Auditor
Calaveras County	Terry Mingo/Water System Inspector
Calaveras County Water District	Bill Perley/Director of Utility Services
Calaveras County Water District	Edwin Pattison/Water Resources Manager
Calaveras County Water District	Jeffrey Meyer/Director of Financial Planning
Calaveras County Water District	Joone Lopez/General Manager
Calaveras County Water District	Larry Diamond/Assistant General Manager
Calaveras County Water District	Robert Creamer/Technical Services
Calaveras Public Utility District	Donna Leatherman/General Manager
Calaveras Public Utility District	Todd Fischer
California Department of Public Health	Dave Remick/District Manager
California Department of Public Health	Joe Spano/Former District Manager
City of Angels Camp	David Hanham/Planning Director
City of Angels Camp	David Richards/City Manager
City of Angels Camp	Erin Mutch/GIS Technician
City of Angels Camp	Garett Walker/Plant Operator
City of Angels Camp	Melisa Ralston/Finance Director
East Bay Municipal Utility District	John Johnson
East Bay Municipal Utility District	Kent Lambert
Mokelumne Hill Sanitary District	Marcy Hosford/Board Member
Mokelumne Hill Sanitary District	Phil McCartney/Plant Operator
Murphys Sanitary District	Beth Hartline/Former Board Member
Murphys Sanitary District	Cindy Nugent/Administrative Manager (Independent Contractor)
Murphys Sanitary District	Fred Kett/Board Member
Murphys Sanitary District	Gary Ghio/Contract Engineer
Murphys Sanitary District	Nancy Culver/Former Administrative Manager
Murphys Sanitary District	Ralph Emerson/Operations Manager
Murphys Sanitary District	Sherill Singleton/Former Administrative Manager
Murphys Sanitary District	Stephen Tanner/Former Board Member
Regional Water Quality Control Board	Mary Boyd/Water Resources Control Engineer

continued

Agency	Name/Title
San Andreas Sanitary District	Bill Perley/Board Member
San Andreas Sanitary District	Nancy Baxley/District Secretary
San Andreas Sanitary District	Steve Schimp/District Manager
San Andreas Sanitary District	Tillman Sherman/Board Member
State Water Resources Control Board	Debbie Zuccala/Certification Analyst
Union Public Utility District	Bill Eltringham/District Manager
Union Public Utility District	Diane Severud/Former Office Manager
Utica Power Authority	Vern Pyle/General Manager
Valley Springs Public Utility District	Dee Myshrall/Administrative Secretary
Valley Springs Public Utility District	Mike Fisher/General Manager
Wallace Community Services District	Bill Perley/General Manager
Wallace Community Services District	Cathryn Jackson/Board Member
Wallace Community Services District	Chuck Cantoni/Former Board Member

APPENDIX A – COUNTYWIDE WATER AND WASTEWATER MAPS WITH COUMMUNITY PLANNING AREAS


Map A-1
CALAVERAS COUNTY
WATER SERVICE PROVIDERS
Water Service Provider Boundary
Sphere of Influence Boundaries
Calaveras County Water District Water Service Area
Planned/Proposed Development
Water Service Outside Provider Boundary
Community Plan Areas
Water Treatment Plant
Well
Water Storage Facility
0
2.5
5
10
Miles
N
West Point
Middle Fork Mokelumne River
South Fork Mokelumne River
Sutter Creek
AMADOR COUNTY
Rancho Seco Reservoir
Amador Lake
Jackson Creek
Mokelumne River
North Fork Calaveras River
CALAVERAS COUNTY
Dorrington
Dry Creek
East Bay Municipal Utility District
Pardee Reservoir
CPUD
Mokelumne Hill
Jesus Maria Creek
Arnold
Sheep Ranch
Mountain Ranch
Ebbetts Pass
San Antonio Creek
North Fork Stanislaus River
Beaver Creek
TUOLUMNE COUNTY
Griswold Creek
Comanche Reservoir
SAN JOAQUIN COUNTY
Valley Springs
San Andreas
Avery
Wallace CSD
Valley Springs PUD
New Hogan Reservoir
Middle Fork Stanislaus River
San Domingo Creek
Murphys
Jenny Lind
Rancho Calaveras
Aqueduct
Da Lee
Area of Concern
SOI 2021
UPUD
Vallecito
Rose Creek
Angels
South Fork Stanislaus River
City of Angels Camp
Salt Spring Reservoir
Rock Creek
Stanislaus River
Copperopolis
Melones Reservoir
Sullivan Creek
Copper Cove/Copperopolis
North Fork Stanislaus River


Map A-2
CALAVERAS COUNTY
WASTEWATER PROVIDERS
Wastewater Provider Boundary
Calaveras County Water District Wastewater Service Area
Planned/Proposed Development
Wastewater Service Outside District Boundary
Sphere of Influence Boundaries
Community Plan Areas
Primary Treatment Plant
Secondary Treatment Plant
Tertiary Treatment Plant
Secondary and Tertiary Treatment Plant
0 2.5 5 10
Miles
N
East Bay Municipal Utility District
Wallace CSD
Valley Springs PUD
Mokelumne Hill SD
San Andreas SD
Murphys SD
City of Angels Camp
Area of Concern
SOI 2021
Copper Cove
Mill Woods
Sequoia Woods
Arnold
Forest Meadows
Indian Rock Vinyards
Six Mile
Vallecito
Country Houses
Dorrington
Mountain Ranch
Avery
Valley Springs
San Andreas
Mokelumne Hill
West Point
Wilseyville
Angels
Murphys
Vallecito
Arnold
Southworth
Da Lee
La Contenta
Rancho Calaveras
Copperopolis
AMADOR COUNTY
CALAVERAS COUNTY
TUOLUMNE COUNTY
SAN JOAQUIN COUNTY
Rancho Seco Reservoir
Amador Lake
Pardee Reservoir
Comanche Reservoir
New Hogan Reservoir
Salt Spring Reservoir
Melones Reservoir
Sutter Creek
Dry Creek
Jackson Creek
Mokelumne River
North Fork Mokelumne River
Middle Fork Mokelumne River
South Fork Mokelumne River
Calaveras River
Jesus Maria Creek
San Antonio Creek
San Domingo Creek
Rock Creek
Rose Creek
Sullivan Creek
Beaver Creek
Griswold Creek
North Fork Stanislaus River
Middle Fork Stanislaus River
South Fork Stanislaus River
Stanislaus River
North Fork Tuolumne River
26
12
49
4