*The **process** for the development of the Water Element Baseline Report Supplement included a coordinated review by the Calaveras County Water Element Group of Sections 7.2 (Domestic Water), 7.3 (Wastewater), and 9.3 (Water Resources) of the Calaveras County General Plan Update Baseline Report – Public Review Draft (January 2008, Mintier Harnish, ESA, County of Calaveras Community Development Agency).*

Calaveras County General Plan

Water Element Baseline Report Supplement

February 2009

Final Draft

Document Input and Review
Members of the Calaveras County Water Element Group

Document Production
MWH

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ABBREVIATIONS AND ACRONYMS

ADF	average daily flow
ADWF	average dry weather flow
AF	acre-feet
AFA	acre-feet per annum
BLS	Blue Lake Springs Mutual Water Company
CCWD	Calaveras County Water District
CCWEG	Calaveras County Water Element Group
cfs	cubic-feet per second
CPUD	Calaveras Public Utility District
DPH	California Department of Public Health
EBMUD	East Bay Municipal Utility District
EDU	effective dwelling unit
ESFU	equivalent single-family units
FERC	Federal Energy Regulatory Commission
gpd	gallons per day
gpm	gallons per minute
IRWMP	Integrated Regional Water Management Plan
JPA	joint powers authority
LAFCO	Local Agency Formation Commission
MCL	Maximum Contaminant Levels
MDD	Maximum Day Demand
MG	million gallons
mgd	million gallons per day
MHSD	Mokelumne Hill Sanitary District
MME	Mineral Mountain Estates Mutual Water Company
MSD	Murphys Sanitary District
NCPA	Northern California Power Agency
NPDES	National Pollutant Discharge Elimination System
PG&E	Pacific Gas and Electric
psi	per square inch
RWQCB	California Regional Water Quality Control Board's

SASD	San Andreas Sanitary District
SEWD	Stockton East Water District
SOI	Sphere of Influence
SSA	Snowshoe Springs Association
UPA	Utica Power Authority
UPUD	Union Public Utility District
USBR	U. S. Bureau of Reclamation
USDA	U.S. Department of Agriculture
VSPUD	Valley Springs Public Utility District
WCSD	Wallace Community Services District
WLE	Wallace Lake Estates
WREGIS	Western Renewable Energy Generation Information System

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PREFACE

Purpose of this Document

The purpose of the Calaveras County General Plan Water Element Baseline Report Supplement (Baseline Report Supplement) is to provide the context and background to complete policies for the Calaveras County Water Element and other elements of the General Plan Update.

Process for Developing this Document

The process for the development of the Baseline Report Supplement included a coordinated review by the Calaveras County Water Element Group (CCWEG) of Sections 7.2 (Domestic Water), 7.3 (Wastewater), and 9.3 (Water Resources) of the Calaveras County General Plan Update Baseline Report – Public Review Draft (January 2008; Mintier Harnish, ESA, County of Calaveras Community Development Agency). Each water and wastewater agency reviewed these sections and provided comments (see Appendix A) to MWH Americas, Inc. (MWH). These agencies also provided MWH with supplemental data (see Appendix B) describing their services. The intent of this supplemental data is to update and fill in information gaps related to water and wastewater services.

MWH distributed the Draft Water Element Baseline Report Supplement, dated November 20, 2008, to the CCWEG for review. Each water and wastewater agency was instructed to verify that their comments and their supplemental data were correctly incorporated into the draft report, and to obtain concurrence with other members of their organization and/or governing board. MWH asked for this verification by December 12, 2008. Any remaining corrections were provided to MWH and incorporated into this Final Draft Baseline Report Supplement.

Reported Baseline (Existing) Conditions

The Calaveras County General Plan Update Baseline Report published in January, 2008, states "The Baseline Report provides a "snapshot" in time of the county's existing conditions." The report goes on to say "The data and information in this report have a baseline date of October 2007." For the Calaveras County Water Element the CCWEG was afforded the opportunity to update the baseline date corresponding to water and wastewater conditions. The data and information in this report have a new baseline date of November 2008.

Limitations of Baseline Report Supplement

The November 2008 existing conditions is a "snapshot" of the physical and institutional conditions related to water throughout the county. This document presents these conditions as they are presently understood by the water and wastewater agencies.

It is not the purpose of this report to resolve differences in reported information. For example, unresolved differences regarding water rights holdings and various related assets pertaining to the Utica Power Authority and the Calaveras County Water District are part of the existing condition as presented in this report. The presence of these unresolved differences in no way compromises the Baseline Report Supplement.

BACKGROUND

On August 5, 2008, the Calaveras County Board of Supervisors approved the inclusion of a separate Water Element in the County General Plan. Through a series of collaborative meetings the Water Element was developed. The Water Element consists of a Policy Document describing goals, policies, and implementation programs, and a Water Element Baseline Report Supplement (Baseline Report Supplement).

Table 1 lists the private and public water and wastewater service providers within the county.

TABLE 1. PRIVATE AND PUBLIC WATER AND WASTEWATER SERVICE PROVIDERS

Public Agencies	Water-related Services	
	Water	Wastewater
Calaveras County Water District	X	X
Calaveras Public Utilities District	X	
City of Angels*	X	X
Mokelumne Hill Sanitary District		X
Murphys Sanitary District		X
San Andreas Sanitary District		X
Union Public Utilities District	X	
Utica Power Authority	X	
Valley Springs Public Utilities District	X	X
Wallace Community Services District	X	X
Private Community Water Companies	**Water-related Services**	
	Water	**Wastewater**
Calaveras Valley Village	X	
Dunrovin Mobile Home Village	X	
Lakeside Mobile Estates	X	
Lili Valley Water Company	X	
Mineral Mountain Estates Mutual Water Association	X	
Rite of Passage – Sierra Ridge Academy	X	
Other Private Water Companies	**Water-related Services**	
	Water	**Wastewater**
Blue Lake Springs Mutual Water Co.	X	
Fly-In-Acres	X	
Snowshoe Springs Association	X	

* - Note: The information provided by the City of Angels is a courtesy to Calaveras County. The goals, policies and implementation measures of the Calaveras County General Plan do not apply to the City of Angels. The City of Angels is the only incorporated City within Calaveras County has ultimate authority within its City Limits. The City of Angels General Plan goals, policies and implementation measures governs the development of the City including water and wastewater operations.

The following service providers were not included in the original Baseline Report, but provided information for the Baseline Report Supplement:

- Utica Power Authority
- City of Angels
- Blue Lake Springs Mutual Water Company
- Mineral Mountain Estates Mutual Water Company
- Snowshoe Springs Association

The following service providers provided comments on the Baseline Report (see Appendix A):

- Calaveras County Water District
- Mokelumne Hill Sanitary District
- Murphys Sanitary District
- Union Public Utilities District
- Utica Power Authority
- Valley Springs Public Utility District
- Wallace Community Services District

The following service provider stated they had no comments on the Baseline Report:

- Calaveras Public Utilities District

The following service providers provided Supplemental Data Forms, which requested information on water demands, supplies, facilities, wastewater flows, and other information (see Appendix B):

- Blue Lake Springs Mutual Water Company
- Calaveras County Water District
- Calaveras Public Utilities District
- City of Angels
- Mineral Mountain Estates Mutual Water Company
- Mokelumne Hill Sanitary District
- Murphys Sanitary District
- Snowshoe Springs Association
- Union Public Utilities District
- Utica Power Authority
- Valley Springs Public Utility District
- Wallace Community Services District

INTRODUCTION

This Baseline Report Supplement provides major findings and supplemental descriptions of the domestic water services, wastewater services, and water resources. Also presented are key terms related to the descriptions.

Major Findings–Domestic Water

- There are adequate supplies of water to meet the needs of existing and near future domestic water needs but a lack of infrastructure to deliver it.
- Of the county's major water purveyors, two obtain water supplies from groundwater (Wallace Community Services District and Valley Springs Public Utility District). The remaining obtain water supplies from surface water (Calaveras County Water District (CCWD), Calaveras Public Utility District, Union Public Utility District, Utica Power Authority, and Angels Camp Utilities).
- Water purveyors currently utilizing groundwater have been encouraged by the State to explore the use of surface water supplies.

Major Findings–Wastewater

- Existing wastewater systems in the county are generally in need of improvement to current standards and may not be capable of meeting existing service demands.
- Several areas of the county have limited capacity to meet the wastewater needs of future growth. In particular, there are plans for expansion and upgrade of the San Andreas Sanitary District's existing operations. At this time, however, there is limited funding. Consequently, there is a moratorium on new development utilizing the San Andreas Sanitary District facilities until needed expansion takes place. Additionally, due to lack of available facilities and capacity, CCWD Vallecito/Douglas Flat wastewater service areas are under moratorium for new development.

Major Findings–Water Resources

- An abundance of water resources are found throughout Calaveras County, which includes three large river systems: Mokelumne River, Calaveras River, and Stanislaus River. Water supply ditches and reservoirs operated by water districts and public utilities are other major water features in the county.
- Because of the great difference in elevation from west to east in the county, precipitation varies. Average precipitation is 20 inches per year in the western region to 60 inches in the northeast region.
- Calaveras County can be broken up into several watersheds: Upper Mokelumne, Lower Mokelumne, Upper Calaveras, Lower Calaveras, Upper North Fork Stanislaus, and Main-stem Stanislaus. These watersheds represent all or part of a surface water drainage basin or distinct hydrologic features.

- Findings from a watershed assessment report prepared for the Upper Mokelumne River identified elevated levels of a variety of constituents, including turbidity, alkalinity, aluminum, nitrate, and pathogens. A majority of the watershed was found to have moderate vulnerability to the transport of these water quality constituents. High to very high vulnerability to the transport of these constituents was also identified for small portions of the county, which are primarily adjacent to waterways.
- A portion of western Calaveras County overlies the Eastern San Joaquin groundwater sub-basin. This sub-basin is a part of the larger San Joaquin Valley groundwater basin. Water quality in the Eastern San Joaquin groundwater basin is impaired. Groundwater quality in the Eastern San Joaquin groundwater basin has been directly affected by the severe overdraft that has occurred in the basin. As water levels continue to decline in the western portion of the basin groundwater is further degraded by saline intrusion from the Bay-Delta and upwelling of connate water associated with marine deposits.

DOMESTIC WATER (SECTION 7.2 OF THE BASELINE REPORT)

Introduction

This section describes existing information regarding Calaveras County's water infrastructure. It describes water demands, water supplies, and the general condition of the infrastructure. The section reports information in terms of each individual district providing the service.

Methods

The data reported in this section of the report was collected from a number of sources including, but not limited to, the individual water agencies and the Calaveras County LAFCO.

Public Water Agencies

There are six public agencies within Calaveras County that provide water supply including WCSD, CCSD, CPUD, VSPUD, UPUD, and UPA. The following sections provided detailed information on each of these public agencies.

Wallace Community Services District

The Wallace Community Services District (WCSD) is located in the northwestern portion of Calaveras County. In addition to providing domestic water and wastewater treatment services, WCSD also provides propane distribution services, street maintenance, street lighting, and open space and recreation to the Wallace Lake Estates (WLE) subdivision and some surrounding development.

The WLE development is immediately northeast of the unincorporated community of Wallace. The development consists of 263 single-family residential parcels, and a 6.0 acre commercial area. Unit 1, which is the only unit that has been developed, consists of 113 single-family residential parcels, a planned 26 single family residential parcels, the 6.0 acre commercial area, 30.81 acres of public service (2 parcels for the wastewater treatment plant and a percolation pond/spray field), and 57.75 acres of open space.

Local Agency Formation Commission (LAFCO) approved the formation of the WCSD on November 8, 1990.

In 1993 Assembly Bill 1598 was approved pertaining to community services districts and included specific provisions related to the WCSD. These provisions authorized the WCSD to provide liquefied petroleum gas (propane) service to the residents of the Wallace Lake Estates. This authority to provide gas service shall expire; however, when Pacific Gas and Electric (PG&E) is prepared to provide natural gas service to the residents of the WLE (Calaveras County LAFCO 2003a).

District Boundaries and Service Territories

The WCSD is located at the intersection of SR 12 and Camanche Parkway South near the town of Wallace. The area within WCSD's boundary is approximately 381 acres. The area within WCSD's Sphere of Influence (SOI) comprises approximately 976 acres. The WCSD provides domestic water supply and wastewater treatment services to Unit 1 of the Wallace Lake Estates development. The WCSD also provides water and wastewater services to a few parcels outside the WLE development within the town of Wallace along SR 12. (Calaveras County LAFCO 2003a; Cantoni personal communication, 2007; WCSD 2008).

Water Supply

The WCSD's domestic water system consists of three wells, a water treatment facility, storage tanks, and a distribution system with 24 fire hydrants. A fourth well is available on property within the SOI. Two of the wells are not connected to the system. The WCSD is required to file water quality reports with the California Department of Public Health (DPH) and annually to residents. The three wells range in depth from 370 to 476 feet. Table 2 below identifies the rated output for each of the wells.

TABLE 2. WALLACE COMMUNITY SERVICE DISTRICT WATER SUPPLY WELLS 2007

Well	Rated Output (gpm)	Operational Status	Age (years)	Condition
Well #1	80	Not connected	13	Good condition
Well #2	150	Current supply well	16	Last re-build in 2004 with new motor; very good condition
Well #3	200	Emergency standby well	16	Last re-build in 2006 with new pump & motor; excellent condition
Mokelumne Oaks Annexation	150	Not connected	4	Good condition

Sources: Cantoni, personal communication, 2007; WCSD 2008
Key:
gpm = gallons per minute

Raw water from WCSD's wells does not comply with the State of California's Maximum Contaminant Levels (MCL) standards for iron and manganese concentrations. Well Number One has been inactive since it was drilled and does not have electrical service. Well Number Two serves as the current supply

well. Well Number Three serves as the standby well, should additional or replacement flow be required. Wells Number Two and Three are activated automatically by the water level in the ground level storage tank.

The Calaveras LAFCO and the California Department of Public Health, Drinking Water Division have encouraged WCSD to develop surface water sources for long-term water supply. WCSD has applied for surface water through CCWD from the Camanche South Shore Treatment Plant proposed by East Bay Municipal Utility District (EBMUD). This application was accepted by CCWD in February 2006, but the Camanche Project has not advanced. Meanwhile, WCSD is continuing discussions with CCWD regarding surface water sources for long-term water supply.

Domestic Storage and Treatment Systems

The water treatment process consists of an iron and manganese oxidation, precipitation, and filtration system. Well water is directly pumped to this 190 gallons per minute (gpm) capacity treatment unit. Water enters a reaction vessel in the first stage of treatment in which potassium permanganate is added to convert the iron and manganese to insoluble precipitates. The water then enters a second reaction vessel in which chlorine is added to aid in the iron and manganese removal, to provide disinfection and final residual reduction in the distribution system. The water then enters a filter vessel in which the precipitated iron and manganese are removed by filtering through a proprietary "Electromedia" conditioned sand. Sodium hydroxide is then added to the water for pH adjustment if necessary before entering the system's storage tanks. The filter is cleaned by reversing the flow using processed water that is then delivered to the backwash storage tank. The treatment plant can operate in either automatic or manual modes. The water level in the main storage tank controls the automatic plant operation.

Treated water is stored in an elevated tank and a ground level tank. The elevated tank is a 60,000-gallon steel tank and the ground level tank is a 224,000-gallon facility. The total available water storage of 284,000 gallons provides 2 hours of 1,500 gpm fire flow in accordance with fire standards. Water from the ground level storage tank is pumped to the elevated tank. The pumping station has three pumps each capable of pumping 500 gpm to insure adequate fire flow. Pump operation is automatically controlled by the water level of the elevated tank. The current design provides capacity for approximately 185 effective dwelling units (EDU) (Calaveras County LAFCO 2003a; Cantoni personal communication, 2007; WCSD 2008).

Distribution System

The distribution system is constructed of C900 PVC pipeline. The distribution mains are 6, 8, and 10 inches in diameter. The distribution system meets the minimum requirements of State Waterworks Standards. All water service connections are metered. The distribution system is operated as a single pressure zone with pressures varying from 40 to 100 pounds per square inch (psi) depending on the elevation of the particular service location. The system delivers over 1,500 gpm for commercial fire flow at all hydrants and was last tested in December, 2007 (Calaveras County LAFCO 2003a; WCSD 2008).

Water Customers

The WCSD provides water to the 97 single-family residential dwelling units in the WLE as well as to four commercial establishments located in the town of Wallace. An average daily flow (ADF) of 350 gallons per day (gpd) per dwelling was used as the design criteria in the water master planning for the

WLE. Historical data from the WCSD's records indicates that actual demand is higher. ADF has been 520 gpd per dwelling from the period of 2001 to 2005 and Maximum Day Demand (MDD) has been 3.5 times the ADF. These figures are now used as the design criteria in the water master planning. The WCSD also maintains 24 fire hydrants as part of its water delivery system within the WLE development. With a current customer base of 100 EDUs, WCSD can support significant growth within the current well-based system. (Calaveras County LAFCO 2003a; Cantoni personal communication, 2007; WCSD 2008). In 2007, the WCSD delivered 45 acre-feet (AF) of treated water to its customers (WCSD Supplemental Data Form, 2008). Table 3 shows WCSD's projected annual water demand (WCSD Supplemental Data Form, 2008).

TABLE 3. WALLACE COMMUNITY SERVICES DISTRICT – PROJECTED ANNUAL WATER DEMANDS

Year	Demand (AF/year)
2010	55
2020	200
2030	350
2035	500

Source: WCSD Supplemental Data Form, 2008
Key:
AF/year = acre-feet per year

Calaveras County Water District

*[**NOTICE**: The Baseline Report Supplement presents a "snapshot" of the physical and institutional conditions related to water throughout the county, as of November 2008. This document presents these conditions as they are presently understood by the water and wastewater agencies. It is not the purpose of this report to resolve differences in reported information. Unresolved differences regarding water rights holdings and various related assets pertaining to the Utica Power Authority and the Calaveras County Water District are part of the existing condition as presented in this report. The presence of these unresolved differences in no way compromises the Baseline Report Supplement.]*

In 1945 the Calaveras Grange formed a committee to investigate Calaveras County's water resources and eventually recommended the formation of a countywide water district. In 1946 the voters in the county decided in favor of forming the Calaveras County Water District under the State's 1913 County Water District Act. The CCWD was officially formed on November 5, 1946. CCWD's authority is embodied within the California Water Code. CCWD's district boundary is coterminous with that of the County of Calaveras. CCWD supplies water to the following five service areas in Calaveras County:

- Jenny Lind
- Copper Cove/Copperopolis
- Ebbetts Pass
- Sheep Ranch
- West Point/Wilseyville

The Copperopolis and Copper Cove water systems were formerly considered two separate service areas, but they are physically connected and are now treated as one service area. Likewise, the West Point and Wilseyville water systems are also physically connected and accounted for as one area of service. Because of these interrelationships, CCWD essentially serves water to five independent water systems in the county (Calaveras County LAFCO 2003b).

Water Rights and Supply

CCWD has water rights on the three major river systems within or bordering Calaveras County. These rights are held on the Stanislaus, Calaveras, and Mokelumne River systems. CCWD is also exploring the use of groundwater (Calaveras County LAFCO 2003b).

Stanislaus River System. CCWD holds pre-1914 water rights as well as certain post-1914 water right permits for water diversions and storage. Pursuant to the terms and conditions of its post-1914 water right permits, and agreements with the Northern California Power Agency (NCPA), CCWD can divert up to 5,000 acre-feet per annum (AFA) (increasing up to 8,000 AFA in 2009) to supply the Ebbetts Pass water system, and up to 6,000 AFA from Lake Tulloch to supply the Copper Cove/Copperopolis water system. Pursuant to jointly-held pre-1914 rights and contractual arrangements with NCPA and the Utica Power Authority (UPA), CCWD can also access water supplies from the North Fork Stanislaus system after it is used for power purposes. Water from the Stanislaus River System is used in the Copper Cover/Copperopolis and Ebbetts Pass service areas (Pattison et. al. 2007).

CCWD is a participant in the Tuolumne-Stanislaus Integrated Regional Water Management Plan (IRWMP). The IRWMP is a regional planning document designed to utilize multiple strategies and implement multiple projects to provide local and regional benefits, including improvement of local and regional water supply reliability, long-term attainment and maintenance of water quality standards, environmental benefits, and providing safe drinking water.

Calaveras River System. CCWD has been allocated a total of 31,278 AF of water from the New Hogan Dam and Reservoir, owned and operated by the U.S. Army Corps of Engineers. CCWD's contractual entitlement for water is with the U. S. Bureau of Reclamation (USBR) and the actual water rights behind New Hogan are held by the USBR. Under the agreement with USBR, USBR holds the water right permit for New Hogan Reservoir on behalf of CCWD and Stockton East Water District (SEWD). CCWD diverts its allocation downstream of New Hogan powerhouse through an infiltration gallery located in the streambed. Private agricultural users divert water pursuant to settlement rights and pay CCWD for use. Water from the Calaveras River is used in the Jenny Lind/Valley Springs and Sheep Ranch service areas (Calaveras County LAFCO 2003b; Pattison et. al. 2007).

CCWD, in conjunction with Stockton East Water District, has developed the Calaveras River Watershed Management Program in an effort to protect the water quality and availability of water in the Calaveras River. Additionally, this program will ensure that the Calaveras River continues to support beneficial uses of the Bay-Delta system by addressing future availability of sufficient water supply and water quality by monitoring baseline water quality and supply volumes to ensure that they are adequate and of high quality. The program will provide CCWD with information needed to address several issues facing this watershed, including the presence of dissolved heavy metals, habitat-related water quality impacts, and fecal bacteria. This program has been funded by several grants and involves cooperation and participation by stakeholders, citizens, and State agencies (CCWD and SEWD 2005).

Mokelumne River System. CCWD holds water right permits for storage and diversion on Bear Creek, a tributary to the Mokelumne River. The storage right is for 150 AFA. The diversion right is a year-round diversion of 4 cubic-feet per second (cfs) with a maximum annual diversion of 1,830 AF. However, Bear Creek cannot support a 4 cfs diversion during seasonal dry periods. CCWD also maintains a contract with Calaveras Public Utility District to provide 150 AF annually from the Middle Fork of the Mokelumne River. Water from the Mokelumne River System is used in the West Point service area.

CCWD has the opportunity to secure an additional surface water right through an assignment under 1927 State Filings. These State Filings pre-committed a major portion of the Mokelumne River's flow for the future use of Calaveras County. CCWD is updating and refining supply projections and pursuing analysis of drought supply reliability and projects that will improve flexibility and reliability, including conjunctive use and potential regionalization (Pattison et. al. 2007).

CCWD is a participant in the Mokelumne/Amador/Calaveras IRWMP. The IRWMP is a regional planning document designed to utilize multiple strategies and implement multiple projects to provide local and regional benefits, including improvement of local and regional water supply reliability, long-term attainment and maintenance of water quality standards, environmental benefits, and providing safe drinking water. A separate grant funded project recently completed is the assessment Upper Mokelumne River Watershed. This assessment will provide the basis for developing future projects and plans that will improve deficiencies in water quality, ensure future water supply reliability, and provide environmental benefits on the Mokelumne River (Upper Mokelumne River Watershed Authority 2007a, 2007b).

Groundwater. In the Valley Springs area of the county, groundwater is available from the Eastern San Joaquin groundwater basin. In other parts of the county, groundwater is available through fractured rock systems, which generally produce small and unpredictable yields. More information about groundwater resources in the county may be found on Page 49 (Groundwater).

At this time, groundwater is not a source of water supply for CCWD, but CCWD is in the process of studying the opportunities for potential management methods to improve groundwater resources and/or the potential for conjunctive use (Pattison et. al. 2007).

Domestic Storage and Treatment Systems

CCWD, as previously described, has five physically separated water service areas in the County. They are as follows: Ebbetts Pass, Copper Cove/Copperopolis, Sheep Ranch, Jenny Lind, and West Point/Wilseyville (Calaveras County LAFCO 2003b).

Ebbetts Pass Service Area. The Ebbetts Pass service area serves the SR 4 corridor from Avery to Arnold including the Forest Meadows subdivision. The service area is comprised of approximately 16,220 acres and ranges in elevation from 2,400 feet to 5,280 feet.

Water to serve the Ebbetts Pass service area is taken from the Tunnel Tap of the Collierville Tunnel and then transported via a pipeline to a treatment plant near Hunters Reservoir. The treatment plant has a current capacity of 4 million gallons per day (mgd) and it is currently operated at 87.5% of the maximum capacity. The water is treated by filtration and chlorination. After the water is treated, it is pumped to 17 storage tanks located throughout the service area. The storage tanks are either constructed of steel or

redwood and have a combined capacity of 7.513 million gallons (Calaveras County LAFCO 2003b). As of 2007, Ebbetts Pass service area has 5,596 residential, 214 commercial, and 31 landscape water connections, for a total of 5,841 connections. (Pattison personal communication, 2008). In 2007, the CCWD delivered 1,890 AF of treated water to the Ebbetts Pass service area (CCWD-Ebbetts Pass Service Area Supplemental Data Form, 2008). The Ebbetts Pass service area sells wholesale treated water to Snowshoe Springs, Fly-in-Acres and Blue Lakes Springs Private Water Companies.

Copper Cove/Copperopolis Service Area. The Copperopolis service area was established in 1952 and the Copper Cove service area in 1969. In 1982 the two service areas were combined through the construction of a water transmission main connecting the two areas. The Copper Cove/Copperopolis service area encompasses approximately 3,270 acres, including the town of Copperopolis and the Lake Tulloch and Copper Cove subdivisions.

Water to serve this area is stored in Lake Tulloch and pumped via a 24-inch raw water conduit to a treatment plant. The treatment plant has a current capacity of 4 mgd with the possible expansion to 8 mgd. Water is treated by filtration and chlorination. After the water is treated, it is pumped to 3 storage tanks located throughout the service area. These storage tanks have a combined capacity of 1.58 million gallons (MG) (Calaveras County LAFCO 2003b). As of 2007, the Copper Cove/Copperopolis service area has 2,360 residential, 63 commercial, and 46 landscape water connections, for a total of 2,469 connections (Pattison personal communication, 2008).

Sheep Ranch Service Area. CCWD releases water from White Pines Lake in Arnold into San Antonio Creek. This water is diverted and pumped within a raw water line to the Sheep Ranch treatment plant. The treatment plant has a capacity of 30,000 gpd and is currently operating at 100% of its maximum capacity. The treated water is stored in a 100,000 gallon storage tank near the treatment plant and then released into a small distribution system. There are no plans for expansion of water facilities in the Sheep Ranch area (Calaveras County LAFCO 2003b). As of May 2007, the Sheep Ranch service area has 48 residential and no commercial water connections (Burnett personal communication, 2007a). In 2007, the CCWD delivered 11 AF of treated water to the Sheep Ranch service area (CCWD-Sheep Ranch Service Area Supplemental Data Form, 2008).

Jenny Lind Service Area. Water is stored in and released from New Hogan Reservoir under a contract with the U.S. Bureau of Reclamation and the Stockton East Water District. The water is then sent through a water treatment plant having an existing capacity of 6 mgd. The treatment plant was first upgraded in 2007, bringing the total treatment capacity up to 6 mgd. Pending re-rating of filters, the total treatment capacity could be increased to 9 mgd. There are no current plans to further expand the plant. The Jenny Lind water system serves the La Contenta subdivision, parts of the Rancho Calaveras subdivision, and parts of SR 26 southwest of Valley Springs. CCWD provides irrigation water to the La Contenta golf course and to a group of farmers located along the Calaveras River below New Hogan Dam.

The Jenny Lind water system is interconnected with the Valley Springs Public Utility District (VSPUD) system. The primary purpose of the interconnection was primarily to afford fire flows to VSPUD. However, the VSPUD system has also provided backup water supply to CCWD during one or two summers prior to the latest Jenny Lind water treatment plant expansion. The Jenny Lind water system has a number of storage ta7nks with a combined capacity of 4.845 MG (Calaveras County LAFCO 2003b). As of 2007, the Jenny Lind service area has 3,593 residential, 68 commercial, and 21 landscape water

connections, for a total of 3,682 connections (Pattison personal communication, 2008). In 2007, CCWD delivered 2,280 AF of treated water to the Jenny Lind service area (CCWD-Jenny Lind Service Area Supplemental Data Form, 2008).

West Point/Wilseyville Service Area. The primary source of water for the West Point/Wilseyville service area is Bear Creek. Raw water from Bear Creek is stored in a regulating reservoir. It is then transported to a new treatment plant that was completed in 2002. The plant has a nominal capacity of 1 mgd, and plans for future expansion do not exist at this time. A water master plan for the West Point/Wilseyville service area was completed in 1996 and updated in 2005. The service area has three storage tanks with a total capacity of 540,000 gallons (Calaveras County LAFCO 2003b). As of 2007, West Point/Wilseyville service area has 519 residential, 46 commercial, and 1 landscape water connections, for a total of 566 connections (Pattison personal communication, 2008). In 2007, the CCWD delivered 185 AF of treated water to the West Point/Wilseyville service area (CCWD-West Point/Wilseyville Service Area Supplemental Data Form, 2008).

Distribution System

Various water transmission and distribution water lines serve each of CCWD's five water service areas. These distribution systems are generally in good condition. Lines are periodically upgraded and replaced (Calaveras County LAFCO 2003b).

Water Demand

As of 2007, CCWD had nearly 12,500 water customers within its five service areas. The Ebbetts Pass service area is the largest with over 5,800 customers, followed by Jenny Lind with over 3,650 customers, Copper Cove/Copperopolis with over 2,450 customers, West Point/Wilseyville with over 550 customers, and Sheep Ranch with nearly 50 customers.

Table 4 illustrates the future demand for each of CCWD's service areas. The table also identifies the number of connections for each service area in 2005. Based on these projected demands and the expected supply, the Jenny Lind/Valley Springs and Ebbetts Pass service areas may experience future shortages. CCWD is currently investigating its supply reliability and availability (Pattison et. al. 2007).

TABLE 4. CCWD SERVICE AREA CURRENT AND FUTURE DEMAND

Service Area	Current Number of Connections[1]	Demand (AF/year)					
		2005	2010	2015	2020	2025	2030
Ebbetts Pass	5,841	1,820	4,663	7,520	10,404	10,741	10,741
Copper Cove/ Copperopolis	2,469	1,220	5,604	11,831	17,782	23,184	27,836
Sheep Ranch	48	12	19	27	34	4,249	56
Jenny Lind	3,682	3,327	4,903	7,189	9,475	11,761	13,747
West Point	566	178	236	294	352	409	467
TOTAL	12,606	6,557	15,425	26,861	38,047	46,095	52,847

Source: Pattison, et. al., 2007 and 2008
Note:
[1] As of 2007
Key:
AF/year = acre-foot per year

In addition to direct residential and commercial connections, CCWD provides wholesale treated water and raw water to agricultural customers, several golf courses, Snowshoe Springs Water Company, and Fly-In Acres Water Company (Pattison et. al. 2007).

CCWD's Ebbetts Pass water system also has interconnections with the Blue Lake Springs Mutual Water Company (BLS) in Arnold. BLS is a private water company and relies on wells located near White Pines Lake. During emergencies, the two systems have supported each other by supplying treated water as needed (Calaveras County LAFCO 2003b).

Infrastructure Needs and Deficiencies

CCWD has identified a number of improvements and new facilities needed to maintain current systems or meet the needs of planned growth throughout each of its service areas (Burnett personal communication, 2007).

Calaveras Public Utility District

The Calaveras Public Utility District (CPUD) was established in 1934. CPUD supplies treated water to the communities of San Andreas, Mokelumne Hill, Paloma, Glencoe and other customers in outlying areas. CPUD obtains its water at a diversion dam and pump station located near the confluence of the Licking and South Forks of the Mokelumne River. Water is then pumped to Jeff Davis Reservoir and gravity fed to a treatment plant. After treatment, the water is fed through transmission lines to storage tanks located in Rail Road Flat, Mokelumne Hill, Paloma, and San Andreas. From the tanks, water is delivered to customers through distribution lines.

CPUD's current district boundaries cover the areas within and around the communities of Mokelumne Hill and San Andreas. The district also includes an island surrounding the community of Paloma. The district boundaries cover approximately 21,543 acres (34 square miles). CPUD also serves water to a small number of customers outside its district boundaries. These customers are located in the Glencoe and Rail Road Flat area, along Jesus Maria Road outside Mokelumne Hill, and south of San Andreas along Highway 49 (Calaveras County LAFCO 2003b).

Water Rights and Supply

CPUD has various water diversion and storage rights on the Mokelumne River system and the Calaveras River. Its treated water supply is derived from the Mokelumne River system and a small amount of agricultural water is derived from the Calaveras River. A May 8, 1940 agreement with the EBMUD entitles CPUD to a diversion of 12.5 cfs from the South, Middle and Licking Forks of the Mokelumne River. CPUD's maximum entitlement, including direct diversion and diversion from storage, is 10,950 AFA.

The estimated annual safe yield of CPUD's current water supply is 4,370 AF. This includes an estimated annual safe yield of 1,370 AF from its Schaads Reservoir on the Middle Fork of the Mokelumne River. CPUD has the right to store and release 1,800 AFA from Schaads Reservoir. Another 3,000 AF of annual safe yield is from the South Fork of the Mokelumne River when used in conjunction with CPUD's Jeff Davis Reservoir. CPUD has a right to store 2,300 AFA in Jeff Davis Reservoir. CPUD also has a right to store 400 AFA from the Calaveras River watershed at its Redhawk Reservoir. This water is not connected

to CPUD's treated water system and is only used to supply immediate downstream agricultural users (Calaveras County LAFCO 2003b).

Domestic Storage and Treatment Systems

CPUD primarily derives its water supply from the South Fork of the Mokelumne River. Water is pumped from the river at a small diversion dam up to Jeff Davis Reservoir. This pumping plant can pump 3,390 gallons per minute with the two existing pumps and has provisions for the installation of two additional pumps. Jeff Davis Reservoir has a holding capacity of 2,300 AF and is interconnected with CPUD's treatment plant. The treatment plant has an ultimate capacity of 12 mgd. The treatment plant currently has peak flows of 2 mgd and a capacity of 6 mgd.

CPUD can supplement its water supply from the South Fork Diversion by releasing water from the 1,800-AF Schaads Reservoir located on the Middle Fork of the Mokelumne River. Water is released from Schaads Reservoir and conveyed to the South Fork via a ditch system flowing into the Licking Fork. CPUD has five steel storage tanks with a total storage capacity of 5.16 MG (Calaveras County LAFCO 2003b). The water treatment plant is a direct filtration plant, gravity fed from the Jeff Davis Reservoir. The CPUD main pump station, treatment plant, transmission lines and two major storage tanks were completed in 1972. The transmission and storage supply is adequate for the communities served. All facilities are in good condition and meet current regulations (Goffe personal communication, 2007).

Distribution System

CPUD has approximately 23 miles of distribution pipeline. The main transmission water line from the treatment plant to the communities of Mokelumne Hill and San Andreas is 18-inch concrete lined steel pipe. Distribution feeder lines serving the two communities and outlying areas are comprised of 4-inch to 12-inch steel or plastic pipe (Calaveras County LAFCO 2003b).

Water Demand

CPUD's water sales in 2001 amounted to 962 AF. This is approximately 9 percent of its water rights and 22 percent of the safe yield of its current water system. As of 2007, CPUD has approximately 1,950 connections. Some of these customers include several schools, the government center (including the courts and jail), Mark Twain St. Joseph's Hospital, a ready-mix plant and a sand and gravel plant (Calaveras County LAFCO 2003; Goffe personal communication, 2007). In 2007, CPUD delivered approximately 1,500 AF of treated water to its customers (CPUD Supplemental Data Form, 2008). Table 5 shows the projected annual water demands for CPUD.

TABLE 5. CALAVERAS PUBLIC UTILITY DISTRICT – PROJECTED ANNUAL WATER DEMANDS

Year	Demand (AF/year)
2010	1,550
2020	1,800
2030	2,200
2035	2,400

Source: CPUD Supplemental Data Form, 2008
Key:
AF/year = acre-foot per year

Present and Probable Need for Services

The areas proposed for inclusion in CPUD's expanded SOI are currently served from groundwater sources. Individual wells provide water to the residential, commercial, industrial and agricultural uses in the area. The availability and quality of ground water throughout the area varies dramatically. There is one privately operated water system in the proposed SOI area. This water system relies on groundwater, has a small storage tank, and provides water to various commercial establishments in the Toyon area. The present and probable need for water in the proposed CPUD SOI will depend on a number of factors. These factors include continued growth in the area, the density of new development, the desire to have good quality water, the need for water for fire protection services, and the availability of grant and loan monies to undertake expansion of the delivery system. Calaveras County, like other foothill counties, is experiencing growth from increased residential development. New residents are moving to Calaveras County for retirement and/or seeking a rural lifestyle. The Calaveras County General Plan indicates the population of the county in the year 2000 to be 45,600 with this number projected to increase to 57,532 by 2010. The need for public water will increase as the population of the area grows. The availability of public water in Community Centers and Residential Centers allows for parcel sizes to be reduced from five-acre minimums to one-acre.

Existing residents and businesses are interested in more reliable and better quality water supplies. Recently, CPUD expanded its water service into the Rail Road Flat area where the existing developed pattern was largely low-density residential and relied on well water. Sufficient interest existed in this area for residents to subscribe to public water service. CPUD received from the U.S. Department of Agriculture (USDA) Rural Development a $1.1 million grant and $400,000 loan to fund the expansion of water service to this area. Another factor regarding the need for public water is fire protection. Fire protection districts in the expanded SOI often need to rely on limited water storage facilities or surface water supplies for fire fighting. Expansion of CPUD's water service to these areas will allow the installation of fire hydrant systems (Calaveras County LAFCO 2003).

Present Capacity and Adequacy of Services

In 2001 CPUD used 962 AF of water per year. The County Water Master Plan, prepared in January 1996, addressed future County water needs including those of CPUD. The Plan projected future water needs based on low and high ranges. In the Year 2010, CPUD's projection ranges from 2,698 AF to 3,587 AF annually. By 2040 the projection ranges from 4,335 AF to 5,898 AF annually. Table 6 displays the amount of water per customer class that CPUD sold from the period of 1998 through 2001 (Calaveras County LAFCO 2003b).

TABLE 6. WATER USAGE PER CPUD CUSTOMER TYPE – CALAVERAS COUNTY 2007

Customer Type	Usage (AF)			
	1998	1999	2000	2001
SF Residential	418	491	546	564
Multi-Family Residential	92	124	114	127
Commercial	151	165	198	255
Agriculture	6	13	10	16
TOTAL	667	794	868	962

Source: Calaveras Public Utility District
Key:
AF = acre-foot
SF = San Francisco

CPUD's water rights from the Mokelumne River system amounts to 10,950 AFA. Currently, the annual safe yield of CPUD's current water system is 4,370 AFA. This supply should be sufficient to meet the low range water projections through 2040 and the high range water projections through 2025. CPUD's current treatment plant capacity is 6 mgd with today's peak flows only reaching approximately one-third of that capacity. The treatment plant has an ultimate capacity of 12 mgd (Calaveras County LAFCO 2003b).

Water Supply and Demand Correlation

The annual safe yield of CPUD's current water supply is 4,370 AFA. This amount is sufficient to serve the existing district and the district's SOI territory. CPUD's maximum entitlement of water from the Mokelumne River is 10,950 AFA. This amount would be sufficient to serve the existing district and the proposed district SOI. Improvements would eventually need to be made to CPUD's water delivery system to increase pumping, storage, treatment, and delivery capabilities to serve the proposed district SOI (Calaveras County LAFCO 2003b).

Infrastructure Needs and Deficiencies

There are some portions of CPUD's distribution system that are old and undersized. As new development occurs some replacement is required. CPUD has an on-going program for line replacement of undersized and old lines. Additionally, there are several potential residential and commercial projects that would require water connections. Subdivisions would be required to have an individual water system. Commercial customers would be required to have a normal meter or fire connection. (Goffe personal communication, 2007).

Valley Springs Public Utility District

The VSPUD was formed in April of 1948 as a public utility to provide water to the community of Valley Springs. VSPUD primarily serves the community of Valley Springs with water service. It provides water service primarily to residential customers and some commercial establishments. The shopping center in Valley Springs and commercial development east of this shopping center is served by the VSPUD. The VSPUD current district boundaries cover an area of 190 acres, less than one square mile (Calaveras County LAFCO 2003b).

Water Rights, Supply, and Quality

VSPUD derives its water supply from one active well site located in the area. The well (Well Site # 4) is located along Paloma Road. Two other well sites (Well Sites # 2 and #3) located on Snyder Ranch have been abandoned. Pump tests on the active well sites are conducted on a yearly basis. Well Site # 4 produced 1.4 AF per 24 hours during tests conducted in July of 2002. Water production from the well varies throughout the year based on hydrologic conditions. A new well has also been drilled.

VSPUD has permits from DPH for its wells. Water samples are taken on a monthly basis and evaluated through laboratory analysis. A minimal amount of chlorine is added to VSPUD's water supply. VSPUD also needs to submit annual reports to DPH. VSPUD and CCWD have an agreement which provides for the interconnection of VSPUD's water system and CCWD's La Contenta/Hogan water supply. This agreement provides standby water to each agency in the case of shortages or interrupted supply. VSPUD supply from its wells has been sufficient to meet its water demand (Calaveras County LAFCO 2003b).

Domestic Storage and Treatment Systems

VSPUD has two storage tanks with a combined capacity of 300,000 gallons. Both tanks are located within the community of Valley Springs at Myrtle and Oak Streets. One tank has a capacity of 200,000 gallons and the other tank has a capacity of 100,000 gallons. To enhance fire flows in the community the tanks need to be located at a higher elevation according to VSPUD's engineer. VSPUD does not treat its water other than adding a minimal amount of chlorine (Calaveras County LAFCO 2003b).

Distribution System

Water is conveyed from the two well sites via an eight-inch line to VSPUD's storage tanks. Water is then distributed throughout the Valley Springs community using four- to six-inch distribution lines (Calaveras County LAFCO 2003b).

Water Demand

VSPUD has approximately 274 water customers that use 50 million gallons (or 155 AF) of water per year. Seventy percent of VSPUD's customers are single-family residential, 8 percent multi-family residential, 16 percent commercial, 5 percent public, and less than 1 percent agricultural. In terms of water usage, single-family residential customers use 60 percent, multi-family residential 9 percent, commercial 21 percent, public 10 percent, and agricultural less than 1 percent (Calaveras County LAFCO 2003b; Fischer 2007). The 2007 treated water demand was 142 AF.

Present and Probable Need for Services

The VSPUD SOI covers an area that has not experienced rapid development as compared to other parts of the county. The town of Valley Springs has largely been developed and the outlying areas are primarily ranch land. More development is being experienced in the La Contenta and Rancho Calaveras subdivisions that are served by CCWD (Calaveras County LAFCO 2003).

Present Capacity and Adequacy of Services

VSPUD currently uses 155 AF of water per year. The County Water Master Plan, prepared in January 1996, addresses future county water needs including those of VSPUD. The Plan projects future water needs based on low and high ranges. The Plan projected the year 2000 VSPUD's water needs would range from 189 AF to 320 AF annually. By 2040 the Plan projected VSPUD's water needs would range from 488 AF to 1,450 AF annually (Calaveras County LAFCO 2003b).

The capability of VSPUD's two active wells to serve future water projections is unknown. If the wells are capable of producing water at the same rate as they produced during the July 2002 test for an entire year, Well Site # 1 could produce 292 AFA and Well site #4 could produce 511 AFA. These amounts would be sufficient to meet the mid-range water projection for 2040. VSPUD's storage capacity would likely need to be increased along with other improvements to the delivery system (Calaveras County LAFCO 2003b).

Union Public Utility District

The Union Public Utility District (UPUD) was formed in 1946 under the Public Utility District Act. UPUD acquired its water supply and distributions in 1961 from the Calaveras Water Users Association. UPUD at that time acquired all assets and liabilities of the Association. UPUD provides domestic and agricultural water from the community of Murphys to the community of Carson Hill.

UPUD's current district boundaries cover the area within and around the communities of Murphys, Douglas Flat, Vallecito, and Carson Hill. The district boundaries encompass approximately 12,110 acres (19 square miles). Elevations of the district range from 740 feet to 3,300 feet (Calaveras County LAFCO 2003b).

Water Rights and Supply

UPUD has three separate diversions supplying two water systems - a domestic system and an irrigation system. The domestic system supplies treated water to the communities of Murphys, Douglas Flat, Vallecito and Carson Hill. The North Ditch provides untreated water to the Murphys area, while the South Ditch provides untreated water to Douglas Flat, Vallecito and Carson Hill. UPUD is a member of the UPA that owns the Utica Hydroelectric Project. UPA provides conveyance of water for UPUD's water supply. UPUD's water supply is primarily derived from UPA's pre-1914 rights to direct diversion plus local stream run-off that enters the Utica and Angels Hydroelectric Projects. This water supply is obtained from various interconnected hydroelectric projects in the region as defined by numerous agreements and Federal Energy Regulatory Commission (FERC) licenses.

UPUD is a member of the UPA that operates the Utica Hydroelectric Project (FERC Project No. 2019) and the Angels Hydroelectric Project (FERC Project No. 2699). CCWD's North Fork Stanislaus River Project (FERC Project No. 2409) provides conveyance of water for the UPUD's water supply. Water is released from CCWD's Collierville Tunnel via a tunnel tap into UPA's Utica Hydroelectric Project. The Utica Project consists of an Upper Utica Conduit that transfers water from the tunnel tap to a flume that flows into Hunters Reservoir located in Avery. Water is then released from Hunters Reservoir into the Lower Utica Canal that carries water to Murphys Forebay, Murphys Powerhouse, and the Murphys

Afterbay. UPUD also uses water rights on Taylor Creek to supplement its water supply when water is available from the creek.

UPUD has three points of diversion on the Utica Hydroelectric Project: above the Murphys Forebay (domestic supply), above the Murphys Forebay (North Ditch irrigation supply), and below the Murphys Afterbay (South Ditch irrigation supply). The combined daily flow of water from these three diversion points cannot exceed 6.75 cfs or 270 miners-inches (a miners-inch is equal to .025 cfs). The cost of this water is $0.05 per miners-inch. Pursuant to a September 1992 Comprehensive Water Use Agreement with PG&E, UPUD can obtain an additional 1,000 AF at a price of $15 per AF. UPUD's water supply obtained from the Utica Hydroelectric Project is now under the jurisdiction of the Utica Power Authority. The terms and conditions of the water supply have remained the same today as it was under PG&E's jurisdiction (Calaveras County LAFCO 2003b).

Storage and Treatment Systems

Domestic Supply. UPUD's domestic water supply begins at a diversion point above the Murphys Forebay along the Lower Utica Canal. Water is diverted via a 10 inch transmission line to Cadematori Reservoir. This reservoir is created by an earthfill dam and has a capacity of 140 AF. A treatment plant is located below the reservoir where the water is filtered and treated. The treatment plant consists of three pressure filters and chemical additions for treatment. The treatment plant has a capacity of 3 mgd. After treatment, water is conveyed through 6 to 12 inch lines to three storage tanks having a combined capacity of 1.35 MG (Calaveras County LAFCO 2003b).

Irrigation Supply. UPUD's North Ditch irrigation water begins at a point of diversion just before the Murphys Forebay. Water is then transferred via a ditch and pipeline to UPUD's Stephen's Reservoir that is located on the northern side of SR 4. Stephen's Reservoir has a capacity of approximately 15 AF. Water is then released into a series of pipelines to serve irrigation water to the community of Murphys and area surrounding Murphys. UPUD's South Ditch irrigation water begins at a point of diversion below the Murphys Afterbay and then flows in an open ditch and pipeline to UPUD's Siebel Reservoir. This reservoir has a capacity of 15 AF. From Siebel, water flows through a series of pipelines to Vallecito and then to UPUD's Airola Reservoir. This reservoir has a capacity of 12 AF. Water flows toward Carson Hill from the Airola Reservoir (Calaveras County LAFCO 2003b.)

Distribution Systems

UPUD's domestic water supply is conveyed through a pipeline system consisting of 6- to 12-inch transmission lines and then to smaller sized distribution lines. The irrigation system is comprised of pipelines. Each of these systems are gravity-fed (Calaveras County LAFCO 2003b).

Water Demand

UPUD's water sales in 2001 were 2,113 AF. UPUD divides its customers into two main categories: domestic (treated water) and irrigation (untreated water). Domestic customers are further divided into single-family and commercial. Commercial includes businesses, industrial, public, and multi-family residential. UPUD currently has 1,848 water customers consisting of 1,753 residential and commercial connections and 95 irrigation customers (UPUD Supplemental Data Form, 2008). In the year 2007, UPUD delivered 714.59 AF of treated water and 1,119.5 AF of irrigation water (UPUD Supplemental

Data Form, 2008). UPUD projected its treated water demand in 2035 to range from 1,906 to 2,210 AF (UPUD Supplemental Data Form, 2008).

Present and Probable Need for Services

The UPUD SOI covers an area that has experienced substantial growth in the county. Demand for UPUD water is occurring in the domestic as well as the irrigation sectors. Increased residential and commercial growth is placing further demands on treated water supplies. The area has also experienced increased agricultural activity with the introduction of vineyards. UPUD's facilities range in age up to 40 and are considered to be in good condition (Calaveras County LAFCO 2003b; Severud personal communication, 2007).

Water Supply and Demand Correlation

The County Water Master Plan addresses future County domestic water needs including those of UPUD. The Plan projects future needs based on low and high ranges. In the year 2010, UPUD's projections range from 1,351 AF to 1,749 AF annually. By 2040, the projection ranges from 1,906 AF to 2,210 AF annually. UPUD is already today supplying approximately 2,100 AF of water to its domestic and irrigation water customers. UPUD has a policy of limiting future irrigation customers in order to reserve water for its future domestic customers. Demand exists in the area for additional agricultural water as a result of the development and expansion of vineyards. UPUD does have the ability to purchase additional water, above and beyond what it currently receives, from the UPA. The price of this additional water, however, will be much higher (Calaveras County LAFCO 2003b).

Utica Power Authority

[NOTICE: The Baseline Report Supplement presents a "snapshot" of the physical and institutional conditions related to water throughout the county, as of November 2008. This document presents these conditions as they are presently understood by the water and wastewater agencies. It is not the purpose of this report to resolve differences in reported information. Unresolved differences regarding water rights holdings and various related assets pertaining to the Utica Power Authority and the Calaveras County Water District are part of the existing condition as presented in this report. The presence of these unresolved differences in no way compromises the Baseline Report Supplement.]

When gold was first discovered near Murphys in 1848, the miners began to look for sources to provide a year-round supply of water. In 1852 the Union Water Company formed to bring water from the North Fork Stanislaus River to Angels Creek. The ditches and flumes were constructed and eventually a small dam and reservoir were built. The Utica Gold Mining company installed an experimental powerhouse in 1895 and a transmission line was run to Angels Camp, which was later replaced by power from a powerhouse in Murphys. After the Utica Mine closed in 1918, the air compressor set-up at Angels Camp was converted into a "makeshift hydroelectric plant", which generated power until 1920. An entirely new Angels Powerhouse replaced the old compressor building in 1941 and a new Murphys Powerhouse was built in 1954.

PG&E purchased the entire system in 1946. UPUD was formed in 1946 and in 1961 acquired the assets of the Calaveras Water Users Association. For the next several decades PG&E and UPUD served

customers in the eastern part of the county. When CCWD and NCPA developed the North Fork Stanislaus River Hydroelectric Project in the 1980's, PG&E continued to run the Utica-Angels Hydroelectric Projects, but now took its pre-1914 water rights at the Mill Creek Tunnel Tap since the Upper Utica Conduit had been dismantled.

The Utica Power Authority (UPA) was formed as a joint powers agency on December 20, 1995, pursuant to Government Code Sections 6500, et seq., by CCWD, City of Angels, and UPUD, all having equal membership. CCWD voluntarily and totally withdrew from UPA in June 2004 by way of a financial buyout by UPA. Government Code Section 6507 provides that a joint powers agency is a public entity separate and apart from its member public entities. Section 4.5b of the UPA Joint Powers Agreement states, "The [Utica Power] Authority shall hold title to all funds, property, and works acquired by it during the term of this Agreement." Consequently, water rights, licenses, properties, and facilities conveyed to a joint powers agency are owned solely by the joint power agency; its individual member public entities have no ownership rights in those assets. UPA as well as the City of Angels and UPUD have the legal authority to regulate surface water use and groundwater within their respective jurisdictions and service areas.

UPA owns and operates the Utica (Murphys Powerhouse) Hydroelectric Project (FERC Project P-2019) and the Angels Hydroelectric Project (FERC P-2699), the Utica water conveyance system, and associated properties, facilities, land rights, easements, and the water rights described below. UPA delivers untreated water to the City of Angels, UPUD, and UPA's irrigation customers and generates hydroelectricity at its two power projects.

Water Rights and Supply

UPA owns pre-1914 and riparian water rights in Calaveras County. By recorded Transfer Deeds dated July 18, 1996, and May 1, 1997, respectively, CCWD transferred to the NCPA and UPA all of the ownership rights to the pre-1914 water rights for direct diversion and storage CCWD acquired from PG&E. The 1996-1997 deeded transfers of North Fork Stanislaus River pre-1914 water rights to UPA and NCPA effectively converted CCWD status from the senior water rights holder of North Fork Stanislaus River rights to a junior water rights holder behind UPA and NCPA. By agreement with NCPA, CCWD did reserve a contractual right to reuse North Fork Stanislaus River water after the water is discharged from the Collierville Powerhouse operated by NCPA and the right to divert initially 5,000 acre-feet per annum (AFA) and then 8,000 AFA in 2009 through the Mill Creek Tunnel Tap. However, in the 1997 Assignment Agreement between CCWD and UPA wherein CCWD assigned its ownership rights to water rights, licenses, properties, and facilities to UPA, CCWD did not reserve the right to divert the 5,000/8,000 AFA to itself. UPA's pre-1914 water rights acquired from CCWD include diversions of:

- 60 cfs of an 88 cfs right from the North Fork Stanislaus River into the Utica Canal; the other 28 cfs of the 88 cfs right was deeded by CCWD to NCPA*
- 88 cfs from Mill Creek into Hunters Reservoir* plus a separate 2.5 cfs Mill Creek right
- 45 cfs from Angels Creek to Angels Ditch
- 4.7 cfs from Angels Creek to the North Ditch
- 7 cfs from Angels Creek to the South Ditch
- 45 cfs from French Gulch to the Lower Angels Creek

*The combined diversions under the 88 cfs North Fork Stanislaus River right and the 88 cfs Mill Creek right cannot exceed 88 cfs at any one time.

In July 1995, five months before UPA was formed, CCWD and NCPA contractually agreed to limit water deliveries from the North Fork Stanislaus River to what became the UPA service area to a maximum of 33,514 AFA in the wettest water year. The original contracts had no amount designated for the driest water year but later negotiations with NCPA resulted in a minimum floor of 16,107 AFA.

Legal beneficial uses of water by UPA include domestic water use, irrigation, and power generation. UPA is beneficially using all of the water under its water rights to serve the water needs of the City of Angels, the UPUD, and UPA's direct irrigation customers and to generate Green Power.

Water Delivery and Conveyance

The UPA's 27-mile historic flume, canal, and penstock system delivers raw water to the UPUD service area, including the Town of Murphys, the City of Angels, and UPA's own irrigation customers. Water is taken from the Collierville Tunnel (North Fork Stanislaus River Hydroelectric Project, FERC Project P-2409) via the Mill Creek Tunnel Tap. The Upper Utica conduit transfers water from the tunnel tap to a flume that flows into Hunters Reservoir located in Avery.

Water from the Tunnel Tap and Mill Creek is released into the 13-mile long 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 the Murphys Powerhouse. After the water leaves the Murphys Afterbay it flows through Angels Creek (commonly called "Murphys Creek") through the center of the Town of Murphys where recreation and fishing constitute beneficial uses.

About three miles below the Town of Murphys the water is diverted by the Angels Diversion Dam into the 2.5-mile long Upper Angels Canal. After passing through Ross Reservoir, the water continues through the 3-mile long Lower Angels Canal to the Angels Forebay where the City of Angels takes its allotment for its treatment plant. The water then continues through the 8,600-foot long penstock into the Angels Powerhouse. After the water leaves the powerhouse, some of the water is used to irrigate the Greenhorn golf course while the rest flows down Angels Creek to the Bureau of Reclamation's New Melones Reservoir.

Green Power Generation

The two powerhouses, the Murphys Powerhouse located on Old Powerhouse Road in Murphys and the Angels Powerhouse on Booster Way in City of Angels generate electricity that is metered by the California ISO and is transmitted out to the grid via the Frogtown Station in City of Angels; the average annual generation is approximately 22,000 megawatt hours. The energy that is produced is certified 100% renewable by the California Energy Commission through the state's Renewable Portfolio Standard

program and in December 2007 qualified for "green energy" purchase through the Western Renewable Energy Generation Information System (WREGIS). UPA's Green Power revenues help pay for much of the cost of operating, maintaining, and improving UPA's water and power system.

Water Storage

The Utica and Angels Hydroelectric Projects have limited storage capacity in five reservoirs. The upper system can contain 253 AF at Hunters Reservoir in Avery, 58 AF at Murphys Forebay, and 31 AF at Murphys Afterbay. The lower system can contain 100 AF at Ross Reservoir in City of Angels and 5 AF at Angels Forebay.

Water Demand

UPA has assumed the previous PG&E contracts with UPUD and the City of Angels. The combined diversions to UPUD for domestic and irrigation water supply cannot exceed 6.75 cfs at $0.05 per miners-inch (which is equivalent to $1.00/AF). Pursuant to that previous contract with PG&E, UPUD can obtain an additional 1,000 AF at $15.00/AF. Pursuant to the original assumed agreement with a subsequent amendment, the City of Angels can receive 1,600 AF for domestic and irrigation water supply at no charge until further modified. Table 7 shows the projected water demands for UPA.

TABLE 7. UTICA POWER AUTHORITY – PROJECTED ANNUAL WATER DEMANDS

Year	Demand (AF/year)
2010	33,514
2020	33,514
2030	N/A
2035	N/A

Source: UPA Supplemental Data Form, 2008
Key:
AF/year = acre-foot per year

In addition, UPA serves its own irrigation customers. There are currently four one-year ("annual") contracts above the Murphys Powerhouse with a maximum allocation of 5 AFA each. Below the Murphys Powerhouse, there are seven more one-year contracts with a maximum of 5 AFA each and five ten-year contracts with 50, 50, 100, 120, and 750 AFA respectively. Current pending irrigation applications total approximately another 150 AFA.

City of Angels

[NOTICE: The Baseline Report Supplement presents a "snapshot" of the physical and institutional conditions related to water throughout the county, as of November 2008. This document presents these conditions as they are presently understood by the water and wastewater agencies. It is not the purpose of this report to resolve differences in reported information. Unresolved differences regarding water rights holdings and various related assets pertaining to the Utica Power Authority, of which the City of Angels is a member of, and the Calaveras County Water District are part of the existing condition as presented in this report. The presence of these unresolved differences in no way compromises the Baseline Report Supplement.]

[NOTICE: The information provided below is a courtesy to Calaveras County. The goals, policies and implementation measures of the Calaveras County General Plan do not apply to the City of Angels. The City of Angels is the only incorporated City within Calaveras County has ultimate authority within its City Limits. The City of Angels General Plan goals, policies and implementation measures govern the development of the City including water and wastewater operations.]

[NOTICE: The City of Angels is a member of Utica Power Authority, therefore the following sections are similar to the corresponding sections of the Utica Power Authority description.]

The City of Angels was incorporated in 1912 and is the only incorporated City in Calaveras County. The City runs its own water system for the residents of the City. No other county water purveyors provide water to the City. The City has ultimate authority within its boundary.

When gold was first discovered near Murphys in 1848, the miners began to look for sources to provide a year-round supply of water. In 1852 the Union Water Company formed to bring water from the North Fork Stanislaus River to Angels Creek. The ditches and flumes were constructed and eventually a small dam and reservoir were built. The Utica Gold Mining company installed an experimental powerhouse in 1895 and a transmission line was run to Angels Camp, which was later replaced by power from a powerhouse in Murphys. After the Utica Mine closed in 1918, the air compressor set-up at Angels Camp was converted into a "makeshift hydroelectric plant", which generated power until 1920. An entirely new Angels Powerhouse replaced the old compressor building in 1941 and a new Murphys Powerhouse was built in 1954.

PG&E purchased the entire system 1946. The Union Public Utility District (UPUD) was formed in 1946 and in 1961 acquired the assets of the Calaveras Water Users Association. For the next several decades PG&E and UPUD served customers in the eastern part of the county. When Calaveras County Water District and Northern California Power Agency developed the North Fork Stanislaus River Hydroelectric Project in the 1980's, PG&E continued to run the Utica-Angels Hydroelectric Projects, but now took its pre-1914 water rights at the Mill Creek Tunnel Tap since the Upper Utica Conduit had been dismantled.

The Utica Power Authority was formed as a joint powers agency on December 20, 1995, pursuant to Government Code Sections 6500, et seq., by Calaveras County Water District (CCWD), City of Angels, and Union Public Utility District (UPUD), all having equal membership. CCWD voluntarily and totally withdrew from UPA in June 2004 by way of a financial buyout by UPA. Government Code Section 6507 provides that a joint powers agency is a public entity separate and apart from its member public entities. Section 4.5b of the UPA Joint Powers Agreement states, "The [Utica Power] Authority shall hold title to all funds, property, and works acquired by it during the term of this Agreement." Consequently, water rights, licenses, properties, and facilities conveyed to a joint powers agency are owned solely by the joint power agency; its individual member public entities have no ownership rights in those assets. UPA as well as the City of Angels and UPUD have the legal authority to regulate surface water use and groundwater within their respective jurisdictions and service areas.

UPA owns and operates the Utica (Murphys Powerhouse) Hydroelectric Project (FERC Project P-2019) and the Angels Hydroelectric Project (FERC P-2699), the Utica water conveyance system, and associated properties. UPA delivers untreated water to the City of Angels, UPUD, and UPA's irrigation customers and generates hydroelectricity at its two power projects.

Water Rights and Supply

UPA owns pre-1914 and riparian water rights in Calaveras County. By recorded Transfer Deeds dated July 18, 1996, and May 1, 1997, respectively, CCWD transferred to the Northern California Power Authority (NCPA) and UPA all of the ownership rights to the pre-1914 water rights for direct diversion and storage CCWD acquired from PG&E. The 1996-1997 deeded transfers of North Fork Stanislaus River (NFSR) pre-1914 water rights to UPA and NCPA effectively converted CCWD status from the senior water rights holder of NFSR rights to a junior water rights holder behind UPA and NCPA. By agreement with NCPA, CCWD did reserve a contractual right to reuse NFSR water after the water is discharged from the Collierville Powerhouse operated by NCPA and the right to divert initially 5,000 acre feet per annum (AFA) and then 8,000 AFA in 2009 through the Mill Creek Tunnel Tap. However, in the 1997 Assignment Agreement between CCWD and UPA wherein CCWD assigned its ownership rights to water rights, licenses, properties, and facilities to UPA, CCWD did not reserve the right to divert the 5,000/8,000 AFA to itself.

UPA's pre-1914 water rights acquired from CCWD include diversions of:

- 60 cfs of an 88 cfs right from the North Fork Stanislaus River into the Utica Canal; the other 28 cfs of the 88 cfs right was deeded by CCWD to NCPA*
- 88 cfs from Mill Creek into Hunters Reservoir* plus a separate
- 2.5 cfs Mill Creek right
- 45 cfs from Angels Creek to Angels Ditch
- 4.7 cfs from Angels Creek to the North Ditch
- 7 cfs from Angels Creek to the South Ditch
- 45 cfs from French Gulch to the Lower Angels Creek

*The combined diversions under the 88 cfs NFSR right and the 88 cfs Mill Creek right cannot exceed 88 cfs at any one time.

In July 1995, five months before UPA was formed, CCWD and NCPA contractually agreed to limit water deliveries from the North Fork Stanislaus River to what became the UPA service area to a maximum of 33,514 AFA in the wettest water year. The original contracts had no amount designated for the driest water year but later negotiations with NCPA resulted in a minimum floor of 16,107 AFA.

Legal beneficial uses of water by UPA include domestic water use, irrigation, and power generation. UPA is beneficially using all of the water under its water rights to serve the water needs of the City of Angels, the UPUD, and UPA's direct irrigation customers and to generate Green Power.

Water Delivery and Conveyance

The UPA's 27-mile historic flume, canal, and penstock system delivers raw water to the UPUD service area, including the Town of Murphys, the City of Angels, and UPA's own irrigation customers. Water is taken from the Collierville Tunnel (North Fork Stanislaus River Hydroelectric Project, FERC Project P-2409) via the Mill Creek Tunnel Tap. The Upper Utica conduit transfers water from the tunnel tap to a flume that flows into Hunters Reservoir located in Avery.

Water from the Tunnel Tap and Mill Creek is released into the 13-mile long 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 the Murphys Powerhouse. After the water leaves the Murphys Afterbay

it flows through Angels Creek (commonly called "Murphys Creek") through the center of the Town of Murphys where recreation and fishing constitute beneficial uses.

About three miles below the Town of Murphys the water is diverted by the Angels Diversion Dam into the 2.5-mile long Upper Angels Canal. After passing through Ross Reservoir, the water continues through the 3-mile long Lower Angels Canal to the Angels Forebay where the City of Angels takes its allotment for its treatment plant to accommodate the City of Angels needs.

Water Storage

The City of Angels owns and maintains a 2.5 million gallon storage tank. The City also owns and operates a 2.0 million gallon water treatment plant that treats the City's raw water deliveries from the UPA.

Water Demand

UPA has assumed the previous PG&E contracts with UPUD and the City of Angels. The City of Angels can receive 1,600 AF for domestic and irrigation water supply at no charge until further modified. The City of Angels has the ability to purchase additional water as needed when development occurs through the UPA at regular rates of the UPA. Table 8 shows the projected annual water demands for the City (Angels Supplemental Data Form, 2008).

TABLE 8. CITY OF ANGELS – PROJECTED ANNUAL WATER DEMANDS

Year	Demand (AF/year)
2010	1000
2020	1200
2030	1400
2035	1600

Source: City of Angels Supplemental Data Form, 2008
Key:
AF/year = acre-foot per year

Private Domestic Water Service Providers

Information and data was provided by the Blue Lake Springs Mutual Water Company, Mineral Mountain Estates Mutual Water Company, and the Snowshoe Springs Association and is presented in the following sections.

Blue Lake Springs Mutual Water Company

The Blue Lake Springs Mutual Water Company serves 1,699 connections with groundwater in the Blue Lake Springs area near Arnold, California. Table 9 shows the projected water demands for the area (Blue Lake Spring MWC Supplemental Data Form, 2008).

TABLE 9. BLUE LAKE SPRINGS MUTUAL WATER COMPANY - PROJECTED ANNUAL WATER DEMANDS

Year	Demand (AF/year)
2010	230
2020	250
2030	260
2035	270

Source: Blue Lake Springs MWC Supplemental Data Form, 2008
Key:
AF/year = acre-foot per year

Mineral Mountain Estates Mutual Water Company

The Mineral Mountain Estates Mutual Water Company (MME) serves 34 connections with groundwater near Murphys, California. The annual water demand is approximately 53.7 AFA, which expected to remain flat through 2020 (MME Supplemental Data Forum, 2008). Some of MME's biggest concerns are a lack of sufficient storage, availability of groundwater, and iron sludge in their wells.

Snowshoe Springs Association

The Snowshoe Springs Association (SSA) provides water to 300 connections, with potential expansion to 360 connections (SSA Supplemental Data Form, 2008). In 2007 SSA had a few large leaks in their water system resulting in an annual use of approximately 3.5 million cubic feet. In 2008, SSA projects an annual consumption of approximately 1.5 million cubic feet and in 2009/2010 less than 1 million cubic feet. SSA has achieved this reduction in water use through leak detection procedures, meter readings, public education, and excess water use charges to our members (SSA Supplemental Data Form, 2008). Other concerns for SSA include the age of their distribution system, new regulations, fire protections, and financing upgrades to their system (SSA Supplemental Data Form, 2008).

WASTEWATER (SECTION 7.3 OF THE BASELINE REPORT)

Introduction

This section describes existing information regarding Calaveras County's wastewater infrastructure. It describes current treatment capacities, flow history, treatment processes, reclamation policies, current number of connections to system, and the general condition of the infrastructure. The section reports sanitary sewer information in terms of each individual district providing the service. A general overview, including a spreadsheet summarizing the current treatment facilities within each unincorporated community in the county, is provided at the end of this section.

Methods

Current sanitary sewer infrastructure within Calaveras County is described in terms of agencies or districts providing service. Some of the information included in this report includes the following:

- Historical treatment plant flows (if available);
- Maximum treatment capacities;
- Treatment processes (including reclamation); and
- Age and current condition of system (collection lines).

The data reported in this section of the report was collected from a number of sources including but not limited to special districts that provide sanitary sewer collection and/or treatment (including special district websites) and the Calaveras County LAFCO.

Public Wastewater Agencies

According to Calaveras County LAFCO's *Service Review Study: Public Agency Sanitary Districts* (2005), there are seven public agencies within Calaveras County that provide wastewater services. They provide wastewater services to the populated areas of the county. The remaining parts of the county rely on individual septic systems.

The largest agency is the CCWD whose boundaries are coterminous with that of the county. CCWD provides wastewater services to various communities and residential subdivisions throughout the county. This includes Sequoia Woods, Arnold, Mill Woods, Forest Meadows, Indian Rock Vineyards, Six-Mile, Vallecito, a portion of Douglas Flat, Copper Cove, La Contenta, Southworth, Wilseyville and West Point. The remaining six public agencies providing wastewater services provide such services to specific communities within the County. The Murphys Sanitary District (MSD) serves the community of Murphys. The City of Angels provides wastewater services within its city limits. This district will not be discussed in this document, as the City of Angels is an incorporated city. The San Andreas Sanitary District (SASD) serves the community of San Andreas. The Mokelumne Hill Sanitary District (MHSD) serves the community of Mokelumne Hill. The VSPUD serves the community of Valley Springs. The WCSD provides wastewater services, as well as other services, to portions of the Wallace community (Calaveras County LAFCO 2005a).

Calaveras County Water District

The CCWD was officially formed on November 5, 1946. The County Board of Supervisors in the late 1960s asked CCWD to also provide sewer services. Some on-site septic systems in the county were failing and there was pressure from the development community to provide sewer services. In March 1972 CCWD adopted Resolution No. 1392, accepting the responsibility for county-wide sewer planning relative to communities in the county, which did not have sewer systems. The Resolution also indicated CCWD would form improvement districts for the construction of sewage collection and treatment systems. Authority was given to CCWD to build, operate, and maintain sewer facilities as part of the State's Water Code (Calaveras County LAFCO 2005a).

CCWD's district boundary is coterminous with that of the County of Calaveras. CCWD operates six major wastewater treatment facilities and six small isolated systems. Collection and transport systems consist of over 125 miles of 6- to 10-inch lines, 44 pump stations, and facilities for emergency power and odor control. CCWD owns and operates the following 13 discharge permitted sewer systems and one permitted collection-only system:

- Arnold
- Copper Cove
- Country Houses
- Forest Meadows
- Indian Rock
- La Contenta
- Millwoods
- Mountain Retreat/Sequoia Woods
- Six-Mile Village
- Southworth
- Vallecito
- West Point
- Wilseyville

CCWD does not track sewer customers by class but rather by equivalent single-family units (ESFU). The majority of sewer customers are single-family, with some multi-family and commercial accounts. CCWD does not have industrial or agricultural sewer customers.

CCWD provides wastewater services to over 4,500 ESFUs within its 13 service areas. CCWD's largest wastewater service is Copper Cove, followed by Forest Meadows and La Contenta. These three service areas account for over two-thirds of CCWD wastewater customers. CCWD's wastewater systems utilize a variety of collection, treatment, storage, and disposal systems. The following provides a brief description of these systems by wastewater service area (Burnett personal communication, 2007; Pattison et. al. personal communication, 2007).

CCWD Wastewater Service Areas

Arnold Service Area. The current service area for Arnold encompasses 725 acres (1.13 square miles). Operation of the Arnold wastewater treatment facility is governed by the most recent California Regional Water Quality Control Board's (RWQCB) waste discharge requirements (Order No. 97-073) for the facility, which were approved in April 1997. The treatment facility has a maximum capacity of 175,000 gpd. The treatment of wastewater consists of an oxidation ditch, followed by clarification, chlorination, sand filtration, and a holding tank. Sludge digesters and a belt press for solids handling are also part of the process. The facility during the wet winter months uses 11 subsurface disposal beds. Spray irrigation is used during the dry months and sprayed on 25 acres of native grassland, shrubs, and trees. In the year 2007, the average dry weather flow was 72,000 gpd. The treatment facility has a disposal capacity of 75 acres for spray irrigation and 94 acres for leaching. Potential impact on groundwater is monitored through three on-site monitor wells. Flows to the plant have been far less than anticipated. Several individual lots and one large development (200 ESFU) which were located outside the original service boundary have been accepted into the service area (Calaveras County LAFCO 2005a). As of May 2007 the Arnold service area has 314 residential and 145 commercial wastewater connections, for a total of 459

connections (Burnett personal communication, 2007). In 2007, the average dry weather flow (ADWF) was 72,000 gpd and Table 10 shows the projected wastewater flows (CCWD-Arnold Supplemental Data Form, 2008).

TABLE 10. CCWD-ARNOLD SERVICE AREA – PROJECTED WASTEWATER FLOWS

Year	Flows (gallons per day)
2010	75,000
2020	127,000
2030	147,000
2035	154,000

Source: CCWD-Arnold Service Area Supplemental Data Form, 2008

Copper Cove Service Area. The Copper Cove service area was the first to be accepted into CCWD's jurisdiction and is the CCWD's largest system in terms of area served, connections, and capacity. The service area includes 2,100 acres (3.28 square miles). The Copper Cove wastewater system operates under the RWQCB's waste discharge requirements (Order No. 5-00-136), which were adopted in June 2000. There are two separate treatment plants for Copper Cover, both located on the same site. The wastewater system consists of primary aeration ponds and disinfection by a chlorination-contact pipe. Treated wastewater is stored in two reservoirs having a total capacity of 260 AF. The second plant, a tertiary treatment reclamation plant, is located adjacent to the above-mentioned treatment plant. It is operated under National Pollutant Discharge Elimination System (NPDES) Permit CA0084620, R5-2006-0081 adopted August 2006. This reclamation plant takes secondary treated wastewater from the existing older plant and provides tertiary treatment that complies with Title 22 disinfected tertiary requirements suitable for golf course irrigation. This recycled water is delivered to the Saddle Creek Golf Course for irrigation. As of May 2007 Copper Cove service area has 1,663 residential and 46 commercial wastewater connections, for a total of 1,706 connections (Burnett, personal communication, 2007). In 2007, the ADWF was 205,000 gpd and Table 11 shows the project wastewater flows (CCWD-Copper Cove Supplemental Data Form, 2008). CCWD is in the process of expanding the plant to an ADWF of 350,000 gpd and is pursuing a new permit to allow that expansion.

TABLE 11. CCWD-COPPER COVE SERVICE AREA – PROJECTED WASTEWATER FLOWS

Year	Flows (gallons per day)
2010	225,000
2020	1,100,000
2030	2,000,000
2035	2,350,000

Source: CCWD-Copper Cove Service Area Supplemental Data Form, 2008

Country Houses Service Area. CCWD serves a twenty-four home condominium subdivision that was built in the early 1970s. The service area encompasses 6.7 acres. The wastewater system is a very large septic tank with a leach field system with a maximum treatment capacity of 7000 gpd. The system operates under the RWQCB's waste discharge requirements Order No. 94-357 adopted in 1994. CCWD is responsible for monitoring and reporting on the system's operation. There are no known deficiencies with the system. The system cannot accommodate additional growth even though land is available to expand or replace the leach field. As of May 2007 Country Houses service area has 20 residential and one commercial wastewater connections, for a total of 21 connections (Burnett personal communication,

2007). In 2007, the average dry weather flow was 3,000 gpd and Table 12 shows the projected wastewater flows (CCWD-Country Houses Supplemental Data Form, 2008).

TABLE 12. CCWD-COUNTRY HOUSES SERVICE AREA – PROJECTED WASTEWATER FLOWS

Year	Flows(gallons per day)
2010	3,000
2020	3,000
2030	3,000
2035	3,000

Source: CCWD-Country Houses Service Area Supplemental Data Form, 2008

Forest Meadows Service Area. The Forest Meadows wastewater system was built in the early 1970s. The service area encompasses 480 acres. The wastewater system has a treatment capacity of 270,000 gpd and a storage capacity of 80 AF. Expansion of the treatment plant and an upgrade to produce recycled water for the Forest Meadows golf course was completed in 2001. The RWQCB waste discharge requirements for the Forest Meadows wastewater system is contained in Order No. 5-00-066 adopted in March 2000. The plant treatment process consists of a complete mix basin and sludge settling storage basin. Effluent from the basin is filtered with backwash, sand filtered, and disinfected by an ultraviolet light contact chamber. Reclaimed wastewater is pumped and stored in a 108 AF impoundment reservoir for golf course irrigation. The prior used leach fields are retained for emergency use during plant repairs to avoid spillage at the reservoir.

CCWD is obligated to provide wastewater service to approximately 200 currently vacant lots in the Forest Meadows subdivision. CCWD has also been approached by two major developers for service to an additional 425 dwelling units. Deficiencies in the system include both storage and disposal capacity as a result of changing regulations. As a result of these regulations, CCWD received, and adopted in June 2008, an NPDES permit (CA 0085278, R5-2008-0058) allowing intermittent seasonal discharges to the Stanislaus River when the current pond is in danger of overflowing. Master planning of the wastewater system is currently underway to identify solution to these problems. A Facility Plan was issued in September 2004. The Plan recommends improvements to the Forest Meadows wastewater system in three phases. Phase one involves treatment plant improvements, phase two adding a third dissolved air flotation thickener, and phase three converting to a tertiary treatment process that includes high-rate, activated sludge system. A financing plan for these improvements will be completed at a later date (Calaveras County LAFCO 2005a). As of May 2007 Forest Meadows service area has 605 residential and six commercial wastewater connections, for a total of 611 connections (Burnett personal communication, 2007). In 2007, the average dry weather flow was 56,000 gpd and Table 13 shows the projected wastewater flows (CCWD-Forest Meadows Supplemental Data Form, 2008).

TABLE 13. CCWD-FOREST MEADOWS SERVICE AREA – PROJECTED WASTEWATER FLOWS

Year	Flows (gallons per day)
2010	57,000
2020	138,000
2030	238,000
2035	273,000

Source: CCWD-Forest Meadows Service Area Supplemental Data Form, 2008

Indian Rock Service Area. CCWD accepted this small 20-unit subdivision into its wastewater system in 1990. The subdivision is close to buildout and has no accommodation to serve additional units. This wastewater system is governed by the RWQCB's Order No. 90-259 adopted in September 1990. The wastewater treatment system consists of septic tanks at each residence, with wastewater conveyed through small diameter sewer pipes to two community leach fields comprised of approximately 11,900 square feet (0.27 acres). The treatment system has a maximum treatment capacity of 7,000 gpd. There are no known deficiencies to the system. This system could possibly be incorporated into the MSD if the MSD expands its service territory (Calaveras County LAFCO 2005a). As of May 2007 Indian Rock service area has 19 residential and 1 commercial wastewater connections, for a total of 20 connections (Burnett personal communication, 2007). In 2007, the average dry weather flow was 3,000 gpd and Table 14 shows the projected wastewater flows (CCWD-Indian Rock Supplemental Data Form, 2008).

TABLE 14. CCWD-INDIAN ROCK SERVICE AREA – PROJECTED WASTEWATER FLOWS

Year	Flows (gallons per day)
2010	3,000
2020	3,000
2030	3,000
2035	3,000

Source: CCWD-Indian Rock Service Area Supplemental Data Form, 2008

La Contenta Service Area. The La Contenta wastewater system provides services to the La Contenta subdivision and adjacent residential and commercial development. The wastewater treatment process consists of a mechanically-cleaned bar screen, an activated sludge basin, a secondary clarifier, coagulant feed, sand filters, and chlorine disinfection. Treated plant effluent is stored during the wet season in two storage reservoirs and recycled as irrigation water on the La Contenta golf course during the spring, summer and early fall. Dried sludge solids are periodically removed from the system and hauled to a sanitary landfill for disposal. The La Contenta wastewater system operates under the RWQCB's Order No. R5-2002-0222 adopted in December 2002.

Currently the La Contenta subdivision has 936 ESFUs with ultimate buildout of the subdivision expected to have 2,290 ESFUs. Proposed development outside the La Contenta/Assessment District 604 (AD 604) boundary is expected to increase the total number of ESFUs to approximately 2,810. CCWD is in the process of expanding the plant capacity 200,000 gpd and is pursuing a new permit to allow expansion. The La Contenta service area boundary is contiguous to the VSPUD, which provides wastewater service to the community of Valley Springs (Calaveras County LAFCO 2005a; Burnett 2007). In 2007, the average dry weather flow was 174,000 gpd and Table 15 shows the projected wastewater flows (CCWD-La Contenta Supplemental Data Form, 2008).

TABLE 15. CCWD-LA CONTENTA SERVICE AREA – PROJECTED WASTEWATER FLOWS

Year	Flows (gallons per day)
2010	190,000
2020	250,000
2030	345,000
2035	395,000

Source: CCWD-La Contenta Service Area Supplemental Data Form, 2008

Millwoods Service Area. The Millwoods subdivision is located in the Arnold area and is largely a second home development. It occupies 85 acres and was originally planned for 442 residential units and a small commercial area. The developer revised the plans for this project, reducing the number of residential units to 195, which are all built on. Originally it was thought that this development would be connected to the Arnold wastewater system. However, a separate wastewater system was constructed. The CCWD wastewater system serving this development is comprised of a forced-storage septic system at each residence, conveyance through small diameter sewer lines, and effluent disposal in a community leachfield. The RWQCB's Order No. 88-028 adopted in February 1988 defines waste discharge requirements for the facility. The development is currently about one-third built out. There are no known deficiencies that would limit complete buildout of the development. The master planning of the Arnold wastewater system will evaluate combining the Millwoods collection system with the Arnold collection, treatment, and disposal system (Calaveras County LAFCO 2005a). As of May 2007, Millwoods service area has 192 residential and three commercial wastewater connections, for a total of 195 connections (Burnett personal communication, 2007). In 2007, the average dry weather flow was 14,000 gpd and Table 16 shows the projected wastewater flows (CCWD-Millwoods Supplemental Data Form, 2008).

TABLE 16. CCWD-MILLWOODS SERVICE AREA – PROJECTED WASTEWATER FLOWS

Year	Flows (gallons per day)
2010	14,000
2020	14,000
2030	14,000
2035	14,000

Source: CCWD-Millwoods Service Area Supplemental Data Form, 2008

Mountain Retreat-Sequoia Woods Service Area. The CCWD wastewater service to this area serves two developments. Sequoia Woods is a ten-unit second home development built in 1974. The Mountain Retreat is a 32-unit timeshare condominium development built about ten years later. The two developments are contiguous to each other. The RWQCB's Order No. 95-069 adopted in March 1995 defines waste discharge requirements for the facility. The wastewater system is comprised of community septic tanks and a leach field. The disposal field is at capacity and the system has no potential for additional growth (Calaveras County LAFCO 2005a). As of May 2007 Mountain Retreat-Sequoia Woods service area has 13 residential and 1 commercial wastewater connections, for a total of 14 connections (Burnett personal communication, 2007). In 2007, the average dry weather flow was 4,000 gpd and Table 17 shows the projected wastewater flows (CCWD-Mountain Retreat Supplemental Data Form, 2008).

TABLE 17. CCWD-MOUNTAIN RETREAT/SEQUOIA WOODS SERVICE AREA – PROJECTED WASTEWATER FLOWS

Year	Flows (gallons per day)
2010	4,000
2020	4,000
2030	4,000
2035	4,000

Source: CCWD-Mountain Retreat/Sequoia Service Area Supplemental Data Form, 2008

Six-Mile Village Service Area. Six-Mile Village was built in the mid-1980s and consists of 67 residential units and three commercial properties. The system is another small diameter pipe septic system. This development was one of the four wastewater moratorium areas in the county. The construction of a separate treatment facility for this small development did not appear to be practical. Instead, a sewer line was constructed down SR 4 to transport the sewage to the City of Angels collection system for eventual treatment and disposal. CCWD is not required to have a discharge permit for this facility since no treatment is performed. However, CCWD is, subject to the constraints of the agreement with the City of Angels to accept the effluent. There is no growth potential other than the few undeveloped lots that remain in the subdivision (Calaveras County LAFCO 2005a). As of May 2007, Six-Mile Village service area has 65 residential and three commercial wastewater connections, for a total of 68 connections (Burnett personal communication, 2007). In 2007 the average dry weather flow was 12,000 gpd and Table 18 shows the projected wastewater flows (CCWD-Six-mile Village Supplemental Data Form, 2008).

TABLE 18. CCWD-SIX-MILE VILLAGE SERVICE AREA – PROJECTED WASTEWATER FLOWS

Year	Flows (gallons per day)
2010	12,500
2020	12,500
2030	12,500
2035	12,500

Source: CCWD-Six-Mile Service Area Supplemental Data Form, 2008

Southworth Service Area. CCWD provides wastewater services to the Southworth Ranch Estates subdivision. This development lies on approximately 486 acres and consists of 68 single-family residential parcels. The wastewater system is comprised of septic tanks at each residence, re-circulation sand filters, a storage pond, and a spray field for effluent disposal. Operation of the system is governed by the RWQCB's waste discharge requirements Order No. 90-258 adopted in September 1990. There is no growth potential in the system other than the few undeveloped lots that remain in the subdivision (Calaveras County LAFCO 2005a). As of May 2007, Southworth service area has 57 residential and no commercial wastewater connections (Burnett personal communication, 2007). In 2007, the average dry weather flow was 11,000 gpd and Table 19 shows the projected wastewater flows (CCWD-Southworth Supplemental Data Form, 2008).

TABLE 19. CCWD-SOUTHWORTH SERVICE AREA – PROJECTED WASTEWATER FLOWS

Year	Flows (gallons per day)
2010	11,500
2020	12,500
2030	12,500
2035	12,500

Source: CCWD-Southworth Service Area Supplemental Data Form, 2008

Vallecito Service Area. Vallecito was one of four wastewater moratorium areas within the county. A collection system was constructed in the late 1980s. CCWD already operated a nearby small treatment plant in Douglas Flat. Due to funding restrictions, it was not possible to combine the sewage from the Vallecito and Douglas Flat systems. Wastewater from the community of Vallecito is discharged to an interceptor tank and then to an extended aeration plant located in Douglas Flat. Douglas Flat discharges to a separate extended aeration plant. Combined effluent from the two plants is discharged to two holding ponds. The total capacity of the ponds is 18 million gallons. Effluent from the ponds is then disposed on 26 acres of spray fields. Operation of the Douglas Flat/Vallecito wastewater treatment plant is under the RWQCB's Order No. 92-018 adopted in January 1992. Current deficiencies in the system are lack of storage and disposal area. The system's proximity to the Murphys area makes it a potential candidate to be included in an expanded Murphys Sanitary District (Calaveras County LAFCO 2005a). As of May 2007, Vallecito service area has 247 residential and seven commercial wastewater connections, for a total of 254 connections (Burnett personal communication, 2007). In 2007, the average dry weather flow was 52,000 gpd and Table 20 shows the projected wastewater flows (CCWD-Vallecito Supplemental Data Form, 2008).

TABLE 20. CCWD-VALLECITO SERVICE AREA – PROJECTED WASTEWATER FLOWS

Year	Flows (gallons per day)
2010	56,000
2020	67,000
2030	67,000
2035	67,000

Source: CCWD-Vallecito Service Area Supplemental Data Form, 2008

West Point Service Area. The West Point area was also one of the wastewater moratorium areas within the County and has the distinction of being the first system constructed to mitigate the wastewater treatment and disposal problem. This system was the first CCWD-approved small diameter, septic tank collection system technology. This type of system was later used in other service areas in the late 1980s and early 1990s. The original West Point system relied on a leach field for disposal, but it became apparent that the disposal site could not absorb the quantity of wastewater. In 1995 the District constructed a new treatment plant several miles away from the original disposal site. The new facility included a treatment plant with on-site spray irrigation disposal. The West Point wastewater treatment facility is comprised of a recirculating sand filter, effluent storage, and spray irrigation on a site south of West Point known as Sandy Gulch. Operation of the facility is under the RWQCB's Order No 93-078 adopted in June 1993. There is substantial capacity remaining in the system. In-fill growth plus some new growth could be accommodated. A master plan is being proposed that would examine the feasibility of combining the West Point wastewater system with the Wilseyville wastewater system since the two systems are adjacent to each other (Calaveras County LAFCO 2005a). As of May 2007 West Point

service area has 124 residential and 40 commercial wastewater connections, for a total of 164 connections (Burnett personal communication, 2007). In 2007, the average dry weather flow was 15,000 gpd and Table 21 shows the projected wastewater flows (CCWD-West Point Supplemental Data Form, 2008).

TABLE 21. CCWD-WEST POINT SERVICE AREA – PROJECTED WASTEWATER FLOWS

Year	Flows (gallons per day)
2010	20,800
2020	30,500
2030	36,500
2035	37,500

Source: CCWD-West Point Service Area Supplemental Data Form, 2008

Wilseyville Service Area. The Wilseyville wastewater system was built in the early 1980s to solve the sewage treatment issues of the Wilseyville Camp. The Camp began as housing for lumber company employees and is now used for private housing with a total of 29 dwelling units. The plant consists of a pond with a single aerator and a 10-acre irrigation field for disposal. The only deficiency in the system is a new regulation (Order No. 98-044, adopted February 1998) to install disinfection before spray irrigating. There is no growth potential in the Wilseyville wastewater system. As mentioned earlier, the 2005 Master Plan examined the cost of combining the system with the West Point system and these plans were discussed at public meetings. As of May 2007, the Wilseyville service area has 28 residential and one commercial wastewater connections, for a total of 29 connections (Burnett personal communication, 2007). In 2007, the average dry weather flow was 4,000 gpd and Table 22 shows the projected wastewater flows (CCWD-Wilseyville Supplemental Data Form, 2008).

TABLE 22. CCWD-WILSEYVILLE SERVICE AREA – PROJECTED WASTEWATER FLOWS

Year	Flows (gallons per day)
2010	4,500
2020	5,000
2030	5,500
2035	5,500

Source: CCWD-Wilseyville Service Area Supplemental Data Form, 2008

Present and Probable Need for Services

Two of CCWD's wastewater service areas, La Contenta and Copper Cove, expect substantial growth in the future as a result of large planned developments. Systems such as Arnold and Forest Meadows can expect growth as existing lots within these subdivisions are developed. The West Point system has a small amount of surplus capacity to accommodate future growth. The CCWD wastewater system for the Vallecito/Douglas Flat area is currently under a moratorium for new development wastewater connections. The remaining CCWD wastewater systems have no growth potential due to their small size and reliance on septic tanks and community leach fields (Calaveras County LAFCO 2005a; CCWD 2005, 2007).

Present Capacity and Adequacy of Services

The last county-wide sewer study projecting growth and the need for sewer services in either the county or CCWD's current service areas was conducted in 1970. This report provided only broad estimates of growth without quantifying growth by each CCWD sewer service area. The master planning of each wastewater facility is required to provide actual quantification plus an assessment of the adequacy of wastewater facilities to serve future growth. CCWD has prepared master plans for La Contenta, Forest Meadows, Arnold, Vallecito, Copper Cove, Ebbetts Pass, Jenny Lind, and West Point. The RWQCB's orders sets forth maximum discharge requirements for each wastewater facility. Actual capacity of individual components may be greater than permitted capacity, so future expansion does not necessarily mean that all collection, treatment, and disposal components of a system need to be expanded. Generally, collection systems are installed to accommodate buildout flows, whereas treatment and disposal facilities are constructed in phases as demand dictates. Table 23 shows the permitted capacity of each of CCWD's wastewater systems compared to current ADWF (Calaveras County LAFCO 2005a).

TABLE 23. CCWD WASTEWATER TREATMENT PERMITTED CAPACITIES – CALAVERAS COUNTY 2007

Wastewater Service Area	Current Permit #	Permitted Capacity (ADWF, gpd)	Current ADWF (gpd)
Arnold	97-073	175,000	75,000
Copper Cove	5-00-136	200,000	220,000
NPDES[1]	CA0084620	950,000	950,000
Country Houses	94-357	7,000	2,000
Forest Meadows	5-00-066	190,000	57,000
NPDES[1]	CA0085278	840,000	290,000
Indian Rock	90-239	6,000	3,000
La Contenta	R-2002-0222	150,000	165,000
Millwoods	88-028	88,000	13,000
Mountain Retreat- Sequoia Woods	95-069	7,000	6,000
Six Mile Village[2]	N/A	20,000	13,000
Southworth Ranch	90-258	17,000	10,000
Vallecito/Douglas Flat	92-018	65,000	51,000
West Point	93-078	58,000	16,000
Wilseyville	98-044	9,000	3,000

Notes:
[1] NPDES permits allot disposal to receiving streams in-lieu of land disposal. Capacity is not ADWF of treatment; it is capacity of disposal system.
[2] Collection only. Sewage sent to City of Angels for treatment and disposal. The City imposed the capacity limit.
Key:
ADWF = average dry weather flow
gpd = gallons per day
NPDES = National Pollutant Discharge Elimination System

Future Capacity

CCWD's 13 wastewater service areas have widely varying degrees of future capacity. The following systems have no capacity for future growth because they are either at capacity or the available capacity is committed to future planned developments: Country Houses, Forest Meadows, Indian Rock, Millwoods, Mountain Retreat-Sequoia Woods, Six Mile Village, Southworth, and Wilseyville. Table 24 below

identifies the capacity for each of the CCWD wastewater treatment systems (Calaveras County LAFCO 2005a).

TABLE 24. CCWD WASTEWATER TREATMENT SERVICE AREA CAPACITIES – CALAVERAS COUNTY 2007

Wastewater Service Area	Current Connections	Build-Out of Connections	Potential to Expand
Arnold	454	520	Yes
Copper Cove	1,706	15,000	Yes
Country Houses	21	21	No
Forest Meadows	604	1,400	No
Indian Rock	20	20	No
La Contenta	936	2,810	Yes
Millwoods	195	195	No
Mountain Retreat- Sequoia Woods	41	41	No
Six Mile Village[1]	65	70	No
Southworth Ranch	56	68	No
Vallecito/Douglas Flat	254	286	Yes
West Point	163	250	Yes
Wilseyville	28	29	No

Source: Calaveras County LAFCO 2005a; Burnett, personal communication, 2007.
Note:
[1] Collection only. City of Angels imposed limit on the amount of sewage accepted.

Infrastructure Needs and Deficiencies

The level of CCWD's infrastructure needs and deficiencies vary per wastewater system. CCWD's largest three wastewater systems (Arnold, La Contenta, and Copper Cove) have the potential to expand their service areas. Likewise, the Vallecito and West Point systems also have the potential for expansion. CCWD's other wastewater systems, which tend to be smaller and serve specific areas or developments within the county, do not have expansion opportunities. New discharge regulations as they are implemented will affect the ability of all these systems to expand (Calaveras County LAFCO 2005a).

Murphys Sanitary District

The MSD was formed in the early 1960s under the provisions of the California Sanitary District Act of 1923. MSD provides wastewater collection, treatment, and disposal services for the community of Murphys. MSD's current district boundaries cover the area within and around the communities of Murphys and northeasterly along SR 4. The district boundaries encompass approximately 1,611 acres (2.5 square miles). The MSD lies within the Murphys Community Plan area with the exception of 80 acres to the north. The 80 acres lies within the county's Ebbetts Pass Highway Plan area (Calaveras County LAFCO 2005a). Murphys Sanitary District serves 783 customers, with 89 commercial and 694 residential connections. In 2007, MSD implemented a temporary suspension on new connections to MSD services in order for them to evaluate their wastewater systems and ensure that they were operating properly and had sufficient capacity to continue to accept new connections. The suspension had been lifted as late 2007 (Honan 2007a, 2007b), after a new discharge permit was issued by the State to Ironstone Vineyards, allowing year round discharge as well as an increased gpd. In the year 2007, the

average dry weather flow was 156,000 gpd and Table 25 shows the projected wastewater flows (MSD Supplemental Data Form, 2008).

TABLE 25. MURPHYS SANITARY DISTRICT – PROJECTED WASTEWATER FLOWS

Year	Flows (gallons per day)
2010	158,000
2020	168,000
2030	175,000
2035	178,000

Source: MSD Supplemental Data Form, 2008

Collection System

Sewage is collected through a standard gravity collection system that flows to a pump station west of Murphys. The pump station lies adjacent to Angels Creek. Sewage is pumped through two 4,200 feet long, 6" pipes to a single 8" pipe which is 2,200 feet long. The wastewater then enters the first of 4 treatment and storage ponds. The pump station grinds solids into small particles prior to transporting the sewage to the treatment plant. There is also an overflow pond near the pump station in the case of emergency or excessive flows. A backup generator is also located at the pump station in case of a power failure. (Calaveras County LAFCO 2005a; Honan personal communication, 2007).

Treatment System

The MSD wastewater treatment plant is located on Six Mile Road approximately one mile south of downtown Murphys. The treatment and disposal system was reconstructed in the early 1980s with a Clean Water Grant funded by the State and Federal governments. Treatment consists of aeration, sedimentation, chlorination and filtration. The treatment plant is a four-pond system with treatment occurring in ponds 1 through 3 with storage in pond 4. Pond 1 is aerated using vertical aerators. The blower is operated on a timed basis depending on the time of year and oxygen requirements. Ponds 2 and 3 are used as facultative non-aerated ponds. The three treatment ponds are approximately four feet deep each with a mean cell residence time of 27 days. Pond 4 has an estimated storage of over 69 million gallons. Further treatment occurs before reclaimed wastewater is used for irrigation water. (Calaveras County LAFCO 2005a; Honan personal communication, 2007).

Disposal System

Wastewater is pumped from the main storage pond through a series of seven pre, and post chlorination sand filters. The chlorine is then mixed in an underground contact chamber, where it gravity flows into a three hundred thousand gallon polishing pond, waiting for use at the discharge site. The MSD has recently renegotiated a contract with Kautz Vineyards Inc. (owner of Ironstone Vineyards) to supply Ironstone with all treated wastewater from its treatment facility. Ironstone Vineyards is located directly across Six Mile Road from the MSD wastewater treatment facility. The old agreement allows MSD to discharge up to 180 AF of water, while both parties have the understanding that more water will be treated and discharged if available or needed. The new agreement allows MSD to discharge 280 AF of water with the same additional water agreement. Ironstone Vineyards distributes the reclaimed wastewater by drip irrigation to 60 acres of apple trees and 53 acres of vineyards. The old wastewater discharge permit allowed treatment and discharge to the disposal sites only between the months of March

1st to November 30th. The permit was modified in 2007 and allows treatment and discharge year round as long as certain wet weather requirements are complied with. Spray irrigation is prohibited. The RWQCB adopted waste discharge requirements for the MSD in December 2000. When the two foot freeboard became part of the pond capacity and year round discharge was prohibited, MSD had to discharge treated water during heavy rain years outside of the adapted discharge season because of the restrictions placed on them. The current addendum to the waste discharge permit has removed those wet weather obstacles because they allow for year round discharge. The RWQCB required the MSD to prepare a hydraulic balance analysis to determine the treatment facility's ability to contain stormwater and wastewater due to storm events with a 100-year recurrence interval. Also, the MSD had to install groundwater monitoring wells and implement a groundwater monitoring program (Calaveras County LAFCO 2005a).

Present and Probable Need for Services

The Murphys area has experienced growth in the past few years. Likewise, the MSD has experienced about 7 percent growth in number of customers. Greater demand for wastewater services is occurring primarily in the residential and commercial sectors. During the four-year period from 2000 to 2003 single-family residential sewer customers grew 5 percent and commercial sewer customers grew 18 percent. Sewer customers within the multi-family residential, public, and school customer classes remained relatively constant.

Present Capacity and Adequacy of Services

MSD has sufficient capacity to serve additional customers and has taken appropriate measures to satisfy the potential build out of the property owners within the district boundaries as long as MSD requirements are met. In 2002 the MSD entered into two Installment Sale Agreements with the Municipal Finance Corporation to undertake improvements to its wastewater system. The first agreement dated January 23, 2002, was in the amount of $350,000 for the purposes of expanding Pond 4. This expansion would increase the capacity of Pond 4 from its current 49 million-gallon capacity to 68 million gallons. The expansion of pond #4 allowed for a continued 61 million gallons of storage which would have been diminished by complying with the two foot freeboard requirements, if expansion hadn't taken place. In addition, various upgrades to the pump house including the replacement and upgrading of the generator and electrical panel were included in the project. The second agreement dated March 25, 2002, was in the amount of $400,000 for the purposes of expansion and improvements to the District's wastewater treatment plant (Calaveras County LAFCO 2005a).

Infrastructure Needs and Deficiencies

MSD is in the process of increasing the capacity of its collection system along with additional pumping capabilities at its main pumping station. MSD is also looking into alternate disposal sites, enlarging its storage pond, and year-round discharging of its effluent (Honan personal communication, 2007).

San Andreas Sanitary District

The SASD provides wastewater collection, treatment, and disposal services for the community of San Andreas and surrounding area. San Andreas is the county seat of Calaveras County. The SASD was formed in July 1948 under the Sanitary District Act of 1923. Its wastewater system was constructed in

the 1950s with significant improvements made in 1969 and in 1982. Additional improvements to the system were made in 1992 and 1994. SASD's current district boundaries cover the areas within and around the community of San Andreas. The district boundaries cover approximately 1,240 acres (about 1.94 square miles).

The SASD currently serves approximately 1,130 sewer customers, or 1,840 EDUs (equivalent dwelling units)[1] with the largest customer group being residential. Residential customers account for 86 percent of all customers and 14 percent for commercial users. SASD has an obligation to serve an additional 80 EDUs, or the equivalent of 80 homes that generate 250 gallons per day of wastewater (Calaveras County LAFCO 2005a; SASD 2007).

Collection System

The SASD's collection system consists of roughly 18 miles of sanitary sewer pipe ranging in size from 4 to 12 inches in diameter. SASD also maintains five lift stations through the system. The collection system was experiencing high inflow and infiltration during wet weather in excess of treatment capacity. SASD has implemented a continuing sewer line preventative maintenance program that includes video surveillance of the sewer lines plus cleaning and repairs (Calaveras County LAFCO 2005a; SASD 2007).

Treatment System

The SASD treatment plant involves a number of components. The raw sewage receiving facility consists of a grit removal chamber, an influent flow meter, and the secondary sludge return point. A storm flow bypass device allows the diversion of excessive storm inflow to a high flow treatment system and storage reservoir. Additional components of the system include a pre-aeration basin, primary and secondary clarifiers, re-circulating trickling filter, chemical contact chambers, digester, and sludge drying beds. There are three post-secondary effluent polishing ponds. A diesel power generator is on-site and used in the event of an electrical outage. SASD's storage system consists of a six million-gallon reservoir (Calaveras County LAFCO 2005a; SASD 2007).

Disposal System

Disposal of the SASD's treated wastewater is governed by the RWQCB discharge requirements (Order No. R5-2003-0151). These requirements were adopted in October 2003. Disposal is accomplished by both land disposal and discharge into San Andreas Creek, a tributary to Murray Creek, which is a tributary to the North Fork of the Calaveras River. Land disposal of treated wastewater occurs from May 1 through October 31. The SASD owns approximately 180 acres of land for disposal. Presently SASD uses about 70 acres as the other 110 acres has been recently purchased and not developed for disposal. Treated wastewater is held in the effluent storage reservoir and then pumped to on-site evaporation, transpiration, and percolation ditches. The disposal ditches have a total length of nearly two miles and vary in depth from 1.5 to 3 feet to 2 to 4 feet wide. Storm runoff and excess effluent from the trenches is returned to the storage reservoir via a return ditch.

From November 1 through April 30, secondary treated effluent is discharged to the land disposal area to the extent possible. However, treated effluent that cannot be discharged to the land is currently

[1] San Andreas Sanitary District defines one EDU as generating 163 gallons per day of wastewater per residential dwelling unit.

discharged to San Andreas Creek. Using the effluent polishing ponds for storage, the treatment plant is capable of discharging up to a maximum of 1.5 mgd of treated effluent depending on inflows and meeting the minimum dilution requirement of 20 to 1 (Calaveras County LAFCO 2005a; SASD 2007).

Present and Probable Need for Services and Present Capacity

The need for wastewater services from the SASD will continue in the future. San Andreas, as the County seat, is the location for many public facilities including the County government Center, hospital and Calaveras Unified School District High School. SASD has 25 public wastewater customers. Multi-family residential and commercial customers have remained stable over the past five years. Moderate growth has been experienced in the single-family residential sector at about 2 percent per year.

The present capacity of the SASD treatment facilities is 0.3 mgd. SASD's capacity is adequate to handle current wastewater flows. Additionally, SASD has sufficient infrastructure at this time to accommodate wastewater flows within its service area. SASD expects that more than an additional 800 additional EDUs will need service in the near-term (the next 5 to 10 years). SASD intends to expand the capacity of its wastewater system during its next Discharge Permit application process in the year 2008 (Calaveras County LAFCO 2005a; SASD 2007).

In August 2007 the SASD Board of Directors passed a moratorium on new sewer connections. SASD plans to expand and upgrade their existing operations. However, they are requiring new sewer connections to pay connection fees up front that would fund the expansions. At this time the County is exploring how to process proposed developments in light of this issue (Turner 2007).

Mokelumne Hill Sanitary District

The MHSD was formed by resolution in 1945 for the purpose of constructing and operating a system of collection, treatment, and disposal of sewage. MHSD operates under and is governed by the statutory authority known as the California Health and Safety Code, Division 6, Part 1 regarding Sanitary Districts. MHSD's current district boundary covers the area around the community of Mokelumne Hill. The district boundaries encompass approximately 848 acres (1.33 square miles). MHSD lies within the Mokelumne Hill Community Plan.

MHSD currently has approximately 280 customers. Ninety-two percent of the customers are single-family residential, 5 percent multi-family residential and 3 percent commercial. In terms of revenue, 76 percent of revenues are from the single-family sector, 17 percent from multi-family, and 7 percent from commercial (Calaveras County LAFCO 2005a).

Collection System

The original collection system was completed in 1947 and consisted of approximately 15,000 linear feet of 6- to 8-inch diameter clay pipe. In the 1970s, an additional 2,700 linear feet of 8 inch diameter SDR-35 pipe was installed. In 1973, MHSD received a grant and loan from the USDA, Farmers Home Administration, to upgrade its sewer system. A portion of these funds were used to install approximately 5,425 linear feet of SDR-35 diameter pipe to feed a new treatment plant and the construction of two pump stations, Pump Stations A and B. These two pump stations handle 60 percent of MHSD wastewater.

Pump station A has a 20 kW backup propane generator, in 2007 a 20 kW backup generator was purchased for pump station B.

A Preliminary Engineering Report prepared in December 2002 by Weber Ghio & Associates, recommends the replacement of portions of the old collection system. In 2005 MHSD applied for and received a grant/loan from USDA. Approximately 6,200 feet of 1947 clay pipe was replaced with SDR-35 (8 inch diameter).

MHSD continues to replace sections of clay pipe when identified using video equipment. Approximately 4,000 to 5,000 feet of 1947 clay pipe is still in use and ongoing replacement of that pipe continues.

In 2007, the average dry weather flow was 40,000 gpd and Table 26 shows the projected wastewater flows (MHSD Supplemental Data Form, 2008).

TABLE 26. MOKELUMNE HILL SANITARY DISTRICT – PROJECTED WASTEWATER FLOWS

Year	Flows (gallons per day)
2010	40,000
2020	50,000
2030	50,000
2035	50,000

Source: MHSD Supplemental Data Form, 2008

Treatment System

MHSD's original treatment plant was constructed in 1947 and was located northeast of the community near Volunteer Gulch. In 1973 MHSD received a grant and loan from the USDA, Farmers Home Administration, to finance the construction of a new sewer system including a new treatment plant.

MHSD's new sewage treatment plant is located to the northwest of the Mokelumne Hill community. The wastewater treatment plant facilities include two aerated lagoons, a chlorination tank, and storage pond. The plant has a design capacity of 150,000 gpd. Average flow rates are approximately 60,000 gpd. After mainline replacement in 2005 average flows decreased to approximately 40,000 to 45,000 gpd. Included in the 2005 project, two energy efficient aerators replaced the original lagoon aerators and a similar aerator was also installed in the storage reservoir. A mechanical screen was installed at the plant head-works and influent and effluent totalizer = meters were installed for irrigation.

Storage System

Treated effluent is stored in the storage pond until summer, when it is used to irrigate the spray disposal field. The field is 20 acres in size; however, only 10 acres are currently used. The spray disposal field is used for cattle grazing (Calaveras County LAFCO 2005a).

Disposal System

Disposal of the MHSD's wastewater is governed by the RWQCB. The RWQCB issued Waste Discharge Requirements for the MHSD in April 1991 through Order No. 91-098. MHSD is required to monitor effluent samples prior to discharging wastewater to the spray disposal field. Weekly monitoring reports

are submitted to Sierra Foothill Labs, and monthly reports are submitted to RWQCB (Calaveras County LAFCO 2005a).

Present and Probable Need for Services

Data provided by the State of California Department of Finance indicates the population of Mokelumne Hill was 1,341 in 1990 and 1,476 in 2000. This represents an annual growth rate of approximately 1 percent per year. Residential sewer connections for the last 10 years have only averaged one per year (Calaveras County LAFCO 2005a).

Present Capacity and Adequacy of Services

The 2002 Preliminary Engineering Report concludes that the treatment plant is operating at 40 percent of dry weather capacity and has a current capacity to serve the community for 40 to 50 years. However, replacements and repairs need to be made to the collection system to reduce the amount of infiltration during wet periods (Calaveras County LAFCO 2005a).

Infrastructure Needs and Deficiencies

MHSD is in the process of upgrading its facilities based on the recommendations of the 2002 Preliminary Engineering Report (Calaveras County LAFCO 2005a).

Valley Springs Public Utility District

The VSPUD primarily serves the community of Valley Springs and surrounding area with water supply, wastewater collection, treatment, and disposal services. It provides these services to single-family residential, multi-family residential and commercial customers. The VSPUD current district boundaries cover an area of 190 acres or 0.44 square miles. The VSPUD has approximately 263 sewer customers. Seventy percent of VSPUD's customers are single-family residential, 8 percent multi-family residential, 16 percent commercial, 5 percent public, and less than 1 percent agricultural (Calaveras County LAFCO 2005a).

Collection System

VSPUD's collection system ranges in age from the early 1940s to recent improvements. Inflow and infiltration are always a concern in old collection systems and contribute to peak inflows during the rainy season. In June 2002 VSPUD conducted a smoke testing of its collection system including private laterals. The testing was performed by Morlan Civil Engineering and they found 51 specific infiltration sites. All the sites have been corrected as of 2005.

Treatment System

VSPUD's treatment process includes the use of a treatment plant, pond processing, and storage and spray irrigation disposal. The treatment facility uses an activated sludge package plant followed by two ponds operated in a series to provide treatment of wastewater. The plant has been in service since 1956. Pond 1 has a maximum volume of 230,000 gallons and Pond 2 has a maximum volume of 575,000 gallons. Each

of these polishing ponds use mechanical aeration and mixing of treated wastewater (Calaveras County LAFCO 2005a).

Storage System

VSPUD's storage reservoir consists of a clay-lined earthen reservoir that was expanded in 1978 to a volume of 92.2 AF. The working effluent storage volume of the reservoir is 85.05 AF and is dependent on plant inflow, disposal capacity, and pond evaporation. The maximum record impoundment for 2002-03 occurred in May at 57.42 AF. Available land area and topographic conditions limit expansion of the storage reservoir. In June 2002 the District constructed effluent monitoring ponds and a return pump system (Calaveras County LAFCO 2005a).

Disposal System

VSPUD has waste discharge requirements issued by the RWQCB. The RWQCB Order R5-2005-0066 was issued in May 1994 and sets forth discharge requirements for the Valley Springs Wastewater Treatment Plant. The current waste discharge requirement limitation is 65,000 gpd. VSPUD has exceeded this limitation. Treated wastewater is disposed though a combination of pond evaporation and spray fields. VSPUD has a total of 37 acres of spray fields of which 33 acres are available for disposal. In the 2002-03 season, VSPUD irrigated 11.4 acres of its spray irrigation fields (Calaveras County LAFCO 2005a).

Present and Probable Need for Services

The VSPUD SOI covers an area that has not experienced rapid development as compared to other parts of the county. The town of Valley Springs has largely been developed and some of the outlying areas are primarily ranch land. From 1999 through 2003 the number of VSPUD sewer customers remained largely the same. Two small developments of less than 10 lots have recently requested sewer service from VSPUD. More development is being experienced in the La Contenta and Rancho Calaveras subdivisions (Calaveras County LAFCO 2005a).

Present Capacity and Adequacy of Services

Average flows through the VSPUD wastewater treatment facility currently exceed VSPUD's Waste Discharge Order 94-148 of 78,500 gpd. It has been determined that existing facilities are adequate to dispose of an average daily flow of 73,000 gpd. Accurate historic flow data is not available due to past calibration problems with the flow meter (Calaveras County LAFCO 2005a).

Future Capacity

The Wastewater Facilities Engineer's Report and Master Plan discusses the need to make improvements to the wastewater treatment system. The Master Plan recommends the VSPUD apply to the RWQCB for a revised Waste Discharge Requirement of 80,000 gpd and eventually achieve a capacity of 120,000 gpd. The Plan also recommends an application be made for limited winter discharge into Cosgrove Creek, proceed with further improvements to the system, and increase connection fees. Planned improvements to the wastewater system include expanding the existing spray field, modifying a portion of the spray field into a trench system, constructing additional ponds, and upgrading various hardware components of the system.

Even with substantial improvements to the wastewater facility, a shortfall of land area will limit the sewer system's long-term growth potential. Potential options to resolve this problem include interconnection with CCWD's wastewater facilities, application for a permit to discharge into Cosgrove Creek during the winter, and acquisition of additional lands near the existing disposal area. Preliminary meetings with CCWD indicate that CCWD does not have adequate capacity at this time to accept VSPUD wastewater. Long-term discharging into Cosgrove Creek is considered problematic in light of ever increasing regulations. The acquisition of additional land may be beyond the VSPUD's current financial capability (Calaveras County LAFCO 2005a).

Infrastructure Needs and Deficiencies

The VSPUD has limited capability to accommodate future development and currently lack the necessary financial resources to upgrade the District's infrastructure. VSPUD in 2005 also obtained a revised Waste Discharge Requirement to comply with its current flow rates.

Wallace Community Services District

General information about the history and district boundaries of the WCSD is provided in the "Domestic Water" section, above.

Wastewater Treatment System

The WCSD's wastewater treatment system was originally constructed by the WLE development for Unit 1 and operates at the tertiary treatment level. The wastewater system consists of individual septic tanks, a collection system, wastewater treatment plant, and disposal facilities. The California Regional Water Quality Control Board (Regional Board) is responsible for issuing waste discharge requirements for wastewater treatment facilities. In June 2003, the Regional Board issued new waste discharge requirements for the Wallace Lake Estates wastewater treatment facility (Calaveras County LAFCO 2003; WCSD 2008). The wastewater treatment system serves 97 customers with an average treatment capacity of 16,000 gallons per day. In 2007, the average dry weather flow was 16,000 gpd and Table 27 shows the projected wastewater flows (WCSD Supplemental Data Form, 2008).

TABLE 27. WALLACE COMMUNITY SERVICES DISTRICT – PROJECTED WASTEWATER FLOWS

Year	Flows (gallons per day)
2010	19,000
2020	64,000
2030	120,000
2035	160,000

Source: WCSD Supplemental Data Form, 2008

Customers

The WCSD provides wastewater treatment services to 96 single-family residential dwelling units in WLE plus three customers within the town of Wallace. Each residence within the WLE is constructed with a 1,250-gallon septic tank with back-flow prevention and connected to the collection system. It should be noted that the tanks are privately owned and maintained. Septic pumps are installed should a parcel, due

to its elevation, require pumping into the collection system. The septic tank is used to store and treat solids while the collection system carries liquid wastewater. Sludge needs to be removed from the individual septic tanks every 5 to 10 years depending on the amount of use (Calaveras County LAFCO 2003).

WCSD has been contacted by a number of developers requesting that services be provided. Will-serve agreements have been provided for most of these developments. Expansion to meet the needs of most of the growth in the area is planned for the present location (Cantoni personal communication, 2007).

Collection System

The wastewater collection system consists of a small diameter piped gravity system without manholes. The pipes vary from two to four inches in diameter depending on the number of connections per line. The collections system has air relief/vacuum values at all high points and required separations between water and sewer lines (Calaveras County LAFCO 2003).

Table 28 below identifies the age and condition of each of the components of WCSD operations and their operating condition.

TABLE 28. WALLACE COMMUNITY SERVICE DISTRICT WATER SUPPLY WELLS 2007

Component	Age (years)	Condition
Treatment Plant	16	Good condition, gradually being re-built as components wear out
Collection System	16	Good condition
Percolation Pond	16	Very good condition
Spray Fields	16	Not used as of 2007 due to high percolation rates in the pond
Septic Tanks for each home	1 to 16	Generally considered to be in good condition. Mandatory inspection of these tanks every three years has been implemented by the District.

Source: Cantoni personal communication, 2007.

Treatment Plant

The wastewater treatment plant is a tertiary facility with a permitted capacity of 45,000 gpm. The plant is designed for one-half of the ultimate flow from the WLE development. The original WLE plan anticipated that a second identical wastewater plant be installed when 50 percent build out of Unit 1 occurs according to the Waste Discharge Permit from the RWQCB (RWQCB Order No. 87- 215). The agreement was signed by the developer of WLE.

The wastewater treatment plant process is summarized as follows. Wastewater first enters the treatment plant into two flow equalization tanks (16,500 and 25,000 gallon). The tanks also receive overflow from the sludge holding tank and backwash water from the sand filters. The flow equalization tanks increase plant efficiency by minimizing flow variations. Wastewater from the tanks is pumped to three stages of trickling filters followed by filtration. Suspended solids remaining in the effluent are then removed using sand filters. The filtered effluent is then disinfected through the addition of sodium hypochlorite. Any collected sludge accumulates in a sludge holding tank that must be pumped periodically and taken to offsite disposal facilities.

Existing demands from Unit 1 construction are approximately 20,000 gpd on average and 64,000 gpd on peak days, with peak flows being buffered by the flow equalization tanks. WCSD recently completed installation of the second (25,000 gallon) equalization tank which will allow better handling of peak flows. A third tank has been installed (25,000 gallon capacity) which acts as an overflow protection facility. With completion of the new tanks, the plant is able to support approximately 200 EDUs.

The wastewater treatment system is a single treatment path process with no backup. In case of failure the equalization and overflow tanks can be used for collection and pumper trucks are required for removal and disposal (Cantoni personal communication, 2008).

Transmission System/Impoundment

Treated effluent is transported from the treatment plant via a 6-inch diameter Class 150, C900 PVC pipeline to an impoundment. The transmission main is also used as an additional chlorine contact chamber. The impoundment consists of an unlined earthen reservoir with a volume of 47 AF occupying a site of 3.5 acres. The impoundment reservoir was sized to accommodate flows from the total WLE development (Calaveras County LAFCO 2003).

Disposal System

Treated effluent is pumped from the storage reservoir into a force main and ultimately to spray irrigation fields. The original engineer design envisioned 14 fields covering approximately 12 acres. Six fields were constructed as part of Unit 1of the WLE development. These six fields comprise 65 percent of the total spray field area. Current flows from the wastewater treatment plant are insufficient to use the spray fields. All effluent is currently evaporating, transporting, or percolating into the soil from the storage reservoir. Groundwater contaminant levels are monitored and have had no measurable effect on ground water as observed in monitoring wells (Calaveras County LAFCO 2003; WCSD 2008).

Infrastructure Needs and Deficiencies

WCSD previously identified a significant deficiency in the design of its wastewater treatment plant. Analysis of daily flows over the past five years showed that maximum daily flows are significantly higher than average flows. As WCSD would increase the number of connections, there would be an increased risk of an overflow condition because of under-sizing of the input buffer reservoir in the original design. The design deficiency was corrected with the installation of a 25,000 gallon equalization tank (additional capacity) and a 25,000 gallon overflow tank, construction completed on December 1, 2008 (Cantoni personal communication, 2008).

City of Angels

[NOTICE: The information provided below is a courtesy to Calaveras County. The goals, policies and implementation measures of the Calaveras County General Plan do not apply to the City of Angels. The City of Angels is the only incorporated City within Calaveras County has ultimate authority within its City Limits. The City of Angels General Plan goals, policies and implementation measures govern the development of the City including water and wastewater operations.]

Introduction

The City of Angels encompasses an area 3,252 acres, and sphere of influence extends to approximately 8,943 acres,. The City of Angels has a total of 1590 sewer connections for residential, commercial, and public customers, The City has 2,482 single family equivalent dwelling units (EDU).

Collection System:

The City of Angels collection system consists of roughly 30 miles of sanitary sewer pipe ranging in size from 4 to 18 inches in diameter. The City of Angels also maintains a number of lift stations throughout the system. The collection system has in the past experienced high inflow and infiltration during wet weather of treatment capacity. Average dry weather flow (ADWF) in the City of Angels is approximately 154 gallons per day (gpd) per EDU. This includes wastewater flows from Six-Mile Village. The average wet weather flow (AWWF) is approximately 0.57 mgd, with a Wet Weather Flow(WWF) peak of 1.9 mgd.

Treatment System:

The City of Angels Wastewater Treatment Plant (WWTP) is a Title 22 disinfected secondary effluent facility, a treatment capacity of 0.6 mgd ADWF and 1.9 mgd WWF. The treatment plant consist of a 3 million gallons (MG) equalization basin, three (3) 0.2 MG sequenced batch reactors, eight (8) filters with a six filter rate of 1.9 mgd, and eight sludge drying beds. Treated effluents are disinfected through a 0.2 MG chlorine contact tank.

Disposal System:

The City of Angels treated effluents are stored in Holman reservoir, with a total storage volume of 202 acre feet (66 MG) . To accommodate a 100-year storm event, storage volumes need to be expanded to 530 acre feet (173 MG). The City of Angels disposes it effluents in an 106 acre irrigation field, with additional plans to irrigate the Greenhorn Creek Course. The City of Angels has an irrigation potential of 0.91 mgd by irrigating both the Aeration Fields ant the Greenhorn Creek Course.

The City of Angels WWTP is currently running the operation under the RWQCB Waste Discharge Requirement (WDR) Order No. 98-110 dated April 27, 1998. Discharge Specification No. 11 imposed that the storage ponds shall have sufficient capacity to accommodate allowable wastewater flow, seasonal participation and ancillary inflow and infilitration during the non-irrigation season. On May 7, 2007, the RWQCB issued WDR Order No. R5-2007-0031 and NPDES Permit No. CA0085201 to the City of Angels for the proposed discharge.

Present and Probable Need for Services

The City of Angels has experienced growth in the past few years. Greater demand for wastewater services is occurring primarily in the residential and commercial sectors of the community. During the last few years, the City of Angels has expanded it services from 0.37 million gallons per day (mgd) to approximately 0.40 mgd. Based on General Plan population projections, the City will add approximately 1400 residents over the next 15 years. The City will expand flows approximately 0.20 mgd a day.

WATER RESOURCES (SECTION 9.3 OF THE BASELINE REPORT)

Introduction

The topography in Calaveras County varies greatly, from near sea level in the Central Valley or western portion of the county to elevations around 8,100 feet in the mountainous Sierra Nevada or eastern portion of the County. An abundance of both surface and groundwater resources are found throughout Calaveras County and described further in this section. In addition, please refer to Chapter 10 of this Baseline Report for information pertaining to flooding and dam inundation concerns in the County. Water supply and water rights are described in Chapter 7.

Methods

A variety of data related to the county's water resources was reviewed in preparing this section. The primary sources of reference data reviewed include the following:

- Calaveras County 1996 General Plan
- Calaveras County Local Agency Groundwater Protection Program (2004)
- Mokelumne/Amador/Calaveras Integrated Regional Water Management Plan (2006)

Precipitation

Because of the great difference in elevation from west to east in the county, precipitation varies. Average precipitation is 20 inches a year in the western region to 60 inches in the northeast. The rainy season is October 1 through May 1. Precipitation increases with altitude including both snow and rain in the higher elevations. Snow accounts for much of the precipitation in the higher elevations (up to 300 inches per year), while snowfall is rare in the foothills (Calaveras County 1996).

Surface Water Resources

Three significant rivers are the Mokelumne, Calaveras, and Stanislaus. These rivers carry the runoff of the west slope of the Sierra Nevada from east to west across Calaveras County, and into the Central Valley. These rivers provide significant habitat for wildlife. All three rivers are dammed in one or more places. The lower stretches of the rivers provide irrigation water for valley agriculture and are used as municipal water supplies within and beyond the county (Calaveras County 1996).

Calaveras County can be broken up into several watersheds. These watersheds include:

- Upper Mokelumne,
- Lower Mokelumne,
- Upper Calaveras,
- Lower Calaveras, and
- Stanislaus.

These watersheds represent all or part of a surface water drainage basin or distinct hydrologic features. The boundaries of these watersheds are not necessarily coterminous with the boundaries of the County. The watersheds primarily consist of a major river system, such as that of the Mokelumne, Calaveras, or Stanislaus, along with its tributaries. Each of these river systems are further discussed below (CalWater Committee 2001).

Mokelumne River

The Mokelumne River runs in three forks (North, Middle, and South) from the Sierra Nevada Mountains in Alpine County. Snowmelt serves as the primary source of water for the Mokelumne River. The Mokelumne drains an area of about 660 square miles. It flows southwest with the forks all joining near Lodi, then turns northwest to end in the Sacramento River delta lands, emptying into the San Joaquin river about 20 miles north of Stockton.

The river forms the County's northern boundary with neighboring Amador County, and was considered the division between the southern and northern mining districts during the Gold Rush. The river passes through several reservoirs in the County: Salt Springs Reservoir, Pardee Reservoir, and Camanche Reservoir (Calaveras County 1996, RMC 2006).

Calaveras River

Calaveras River originates in the Sierra Nevada Mountains and extends west-southwest approximately 60 miles toward and through the Stockton metropolitan area, terminating at the San Joaquin River, outside of Calaveras County. In the County, the river runs in two forks (North and South). It is fed almost entirely by rainfall and encompasses approximately 550 square miles.

In the Upper Calaveras watershed above New Hogan Dam and within the County, the primary tributaries are Esperanza, Jesus Maria, Calaveritas, San Antonio, and San Domingo Creeks. Below New Hogan Dam, in the Lower Calaveras watershed, the main tributaries in the County conveying runoff are the Cosgrove, Indian, and South Gulch (Calaveras County 1996, RMC 2006).

Stanislaus River

The Stanislaus River drains a narrow basin of about 980 square miles above the foothills on the western slope of the San Joaquin River, forming the southern boundary of the county. Elevations range from 15 feet above sea level at the river mouth to 10,000 feet at the crest of the drainage area. There are three tributary forks (North, Middle and South) of the Stanislaus which join above New Melones Lake, about 3 miles north of Parrots Ferry. North Fork is located within Calaveras County while the Middle and South Forks are in Tuolumne County (Calaveras County 1996).

Lakes and Reservoirs

No naturally-occurring lakes of notable size are located in the County, although some smaller, mountain lakes are found in the Sierra Nevada. The County contains six major reservoirs, which are described below.

Camanche Reservoir – Owned by the East Bay Municipal Utility District, this reservoir on the Mokelumne River was completed in 1963, with additional recreational and power uses added in 1983. Capacity is 417,000 AF. There are developed recreation areas at both the north shore (located in Amador County) and the south shore (located in Calaveras County). The lake can be used for swimming, fishing, boating, camping, and motel accommodations. RV hook-ups are available. Undeveloped lands are used for grazing. Camanche Reservoir is a source of municipal and industrial water supplies, as well as providing flood control.

New Hogan Reservoir – New Hogan Reservoir was completed by the Army Corps of Engineers in 1964 for purposes of flood control and water supply, and is located 28 miles northeast of Stockton along the Calaveras River. Storage capacity is 317,000 AF it is currently owned and managed by the Corps. The reservoir supplies irrigation water to the Stockton East Water District and the Calaveras County Water District. The reservoir provides multiple recreation uses, but is not as developed as Camanche Reservoir. Substantial recreational use includes fishing, boating, swimming, camping, and sightseeing.

New Melones Reservoir – One of California's largest reservoirs, New Melones on the Stanislaus River was completed in 1978 by the U.S. Bureau of Reclamation with a capacity for 2,420,000 AF. New Melones provides irrigation water, flood control, recreational opportunities, and hydroelectric power.

Pardee Reservoir – Also owned by East Bay Municipal Utility District, Pardee straddles the Mokelumne River above Camanche Reservoir. Completed in 1929, its capacity is 198,000 AF. Water in this reservoir is subject to strict water quality standards because it is a domestic drinking water supply, so it is not used as intensively for recreational uses as other county reservoirs. Pardee Reservoir provides municipal and industrial water, flood control, recreation opportunities, and hydroelectric power.

Salt Springs Reservoir – Located along the North Fork of the Mokelumne River on the Calaveras/Amador County border. Capacity is about 140,000 AF. The reservoir was completed in 1931. Owned and operated by PG&E, its primary purpose is to supply hydroelectric power, with fishing and recreation being secondary uses.

Tulloch Reservoir – The Tulloch Reservoir was developed as part of the Tri-Dam Project in the 1950s by the Oakdale and South San Joaquin Irrigation Districts, and continues to be managed by them. Tulloch Reservoir is located on the lower Stanislaus River below New Melones Reservoir. Capacity is about 67,000 AF. The water is used for irrigation and domestic water purposes. Recreational opportunities include swimming and boating.

In addition to the reservoirs described above, a number of smaller older reservoirs built for irrigation and flood control purposes are found throughout the county. These include Hunter Reservoir, Salt Springs Valley Reservoir, Tiger Creek Reservoir, Calaveras Reservoir, Emery Reservoir, Schaads Reservoir, Old McCormick Reservoir, Copperopolis Reservoir, and the Goodwin Diversion Dam. There are also several

reservoirs that were created as part of mine reclamation, such as Mine Run Reservoir near Camanche Reservoir (Alpers et. al. 1999; DWR 2005; Calaveras County 1996).

Also, CCWD owns New Spicer Meadow Reservoir on the North Fork Stanislaus River, which has a maximum storage capacity of 189,000 AF and provides water storage for CCWD's North Fork Hydroelectric project and to meet water demands in the Ebbetts Pass area along Highway 4 and the Copper Cove/Copperopolis area surrounding Lake Tulloch.

Major Streams and Diversion Canals

The following are 23 of the county's major streams and diversion canals; lesser perennial and seasonal creeks are not listed.

- Airola Creek
- Angel's Creek
- Bear Creek
- Blue Creek
- Calaveras Public Utility Ditch
- Calaveritas Creek
- Cherokee Creek
- Dutch Creek
- Esperanza Creek
- Forest Creek
- Indian Creek
- Jesus Maria Creek
- Licking Fork
- McCarty Creek
- Moore Creek
- Murray Creek
- San Antonio Creek
- San Domingo Creek
- Steele Creek
- Spring Valley Creek
- Swamp Creek
- Telegraph Creek

- Utica Ditch

Surface Water Quality

Impacts to water quality result from runoff during wet weather events, direct discharge associated with industrial/commercial activities, resource extraction activities, leaking sewer infrastructure, and illicit dumping. Additional pollutant sources within the county include past waste disposal practices, agricultural chemicals, and chemicals and fertilizers applied to landscaping. Typical contaminants may include sediment, hydrocarbons and metals, pesticides, nutrients, bacteria, and trash.

The SWRCB, in compliance with the Clean Water Act, Section 303(d), has prepared a list of impaired water bodies in the state of California. This list was approved by the US EPA in 2003. The Lower Stanislaus River is listed as being impaired by Diazinon, Group A pesticides, and mercury. Group A pesticides include chlordane, toxaphene, heptachlor, endosulfan, and several other pesticides. Diazinon and the Group A pesticides likely resulted from agriculture. Mercury likely originated from mining activities. The CVRWQCB is required to develop and implement a plan to lower the amounts of these contaminants in this water body to an acceptable level (CVRWQCB 2003).

Findings from a watershed assessment report prepared for the Upper Mokelumne River watershed provide information regarding the quality of water in the watershed (Upper Mokelumne River Watershed Authority 2007). Contaminants and characteristics of concern identified by this assessment include turbidity, alkalinity, aluminum, nitrate, and pathogens. Each of these constituents are found in elevated levels throughout the watershed. High levels of turbidity and low alkalinity were determined to be the result of natural watershed conditions. High levels of aluminum are also the result of natural watershed conditions but also originate from mining activities. High levels of nitrates result from natural watershed conditions and human activities, such as failing septic systems. Elevated pathogen concentrations are a major concern for this watershed and were observed in the Middle Fork, North Fork and Main Stem of the Mokelumne River. A majority of the County was found to have moderate vulnerability to the transport of these water quality constituents. High to very high vulnerability to the transport of these constituents was also identified for areas of the County that had a combination of factors. These factors include close proximity to water (less than 300 feet), high clay content in the soils, and high occurrence of vegetation that has low ability to provide a protective layer between rainfall and soil and stabilize soils with leaf debris and roots (Upper Mokelumne River Watershed Authority 2007).

Groundwater

A portion of western Calaveras County overlies the Eastern San Joaquin groundwater sub-basin. This sub-basin is a part of the larger San Joaquin Valley groundwater basin. This groundwater sub-basin extends from the western corner of the County to west of the cities of Stockton and Lodi. Use of water from this resource for irrigation and municipal purposes has resulted in a continuous decline of available groundwater over the past 40 years. As of 1990 annual groundwater extractions in San Joaquin County exceeded the estimated safe yield. Overdraft of the groundwater in this sub-basin has created groundwater depressions below Stockton, east of Stockton, and east of Lodi. The Cosumnes groundwater sub-basin of the San Joaquin Valley Basin is located just north of the Eastern San Joaquin groundwater sub-basin and the Modesto groundwater sub-basin of the San Joaquin Valley groundwater basin is located just south of the Eastern San Joaquin sub-basin.

Groundwater resources occur in parts of the rest of the County although there are no officially delineated groundwater basins defining these areas. In fact, most of the groundwater used within the County is obtained from these areas outside of the Eastern San Joaquin groundwater sub-basin. This groundwater may be found in hard rock formations and is retrieved from fractured rock, faults, or changes in stratigraphy (Calaveras County 2004).

The county contains an underground system of eighteen separate channels called the Tertiary Calaveras River Channel System. These channels are generally found throughout the central portion of the County, extending from the boundary with North Fork Mokelumne River to the north to the Stanislaus River to the south (Calaveras County 2004).

Also, CCWD recently updated its adopted 2001 AB 3030 Groundwater Management Plan per SB 1938 requirements for the Camanche/Valley Springs area, which overlies the Eastern San Joaquin groundwater sub-basin in western Calaveras County. CCWD also completed a DWR AB 303 grant funded project for the same area in 2003 that produced a hydrogeologic assessment of groundwater conditions in the area. CCWD also submitted a recent AB 303 grant application to continue and enhance groundwater monitoring programs in the area because of concerns regarding failing wells and deteriorating groundwater quality. The reports contained within this comment can all be found on CCWD's web site at www.ccwd.org.

Groundwater Quality

The water quality in the Eastern San Joaquin groundwater sub-basin is impaired. Groundwater quality in the Eastern San Joaquin groundwater sub-basin has been directly affected by the severe overdraft that has occurred in the sub-basin. As water levels in the sub-basin have declined, a saline front originating in the western portion of the sub-basin has moved eastward.

Continuous monitoring of the groundwater quality from the WCSD wells shows little change in the last 15 years. The water from these wells generally has iron and manganese concentrations above the maximum contaminant levels. The implementation of industry standard treatment practices using a potassium permanganate additive and filtering result in concentrations typically in the range of 10 percent of the maximum contaminant levels (WCSD 2008).

The quality of the remainder of the groundwater found throughout the County, in addition to the Eastern San Joaquin groundwater sub-basin, may be affected by activities that include Class V injection wells, abandoned mines, abandoned wells, underground storage tanks, hazardous waste sites, on-site septic systems, failing septic systems, and solid waste sites. Contaminants that may be released from these sources into groundwater include fecal coliform, NO_2/NO_3, volatile organic compounds, and synthetic organic compounds (Calaveras County 2004).

KEY TERMS

The following key terms used in this chapter are defined as follows:

Acre-Foot (AF). The volume of water required to cover one acre of land (43,560 square feet) to a depth of one foot. One AF is equal to 325,851 gallons or 1,233 cubic meters.

ADWF. Average dry weather flow, or flow during dry seasons, with limited or no inflow and infiltration.

Aquifer. A geologic formation that is water bearing. A geological formation or structure that stores and/or transmits water, such as to wells and springs. Use of the term is usually restricted to those water bearing formations capable of yielding water in sufficient quantity to constitute a usable supply.

Backup. Wastewater that enters into basements and other low-lying areas during a moderate to intense rainfall event. Similar to overflow, backup is normally a result of excess stormwater and groundwater entering into the sanitary sewer or a blockage in the public or private sewer system.

Base Flow. The component of wastewater that originates from domestic users such as residential, commercial, and institutional discharges.

Beneficial Use. Use of water either directly by people or for their overall benefit as legally defined and identified.

Beneficial use. Use of water either directly by people or for their overall benefit. There are 24 categories of beneficial uses identified by the State Water Resources Control Board.

Cleanout. Outside access point on a property owner's service lateral that allows for cleaning in the event of a blockage.

Climate change. Changes in average annual temperature and precipitation and their monthly patterns in 2050 compared to today.

Commercial Water Use. Water used for motels, hotels, restaurants, office buildings, other commercial facilities, and institutions. Water for commercial uses comes both from public-supplied sources, such as a county water department, and self-supplied sources, such as local wells.

Community Water System. A public water system that serves at least 15 service connections used by yearlong residents or regularly serves at least 25 yearlong residents. See also public water system.

Confined Aquifer. Soil or rock below the land surface that is saturated with water. There are layers of impermeable material both above and below a confined aquifer and it is under pressure, so that when the aquifer is penetrated by a well, the water will rise above the top of the aquifer.

Conjunctive use. Application of surface and groundwater to meet the demand for a beneficial use. Coordinated and planned management of both surface and groundwater resources in order to maximize the efficient use of the resource; that is, the planned and managed operation of a groundwater basin and a surface water storage system combined through a coordinated conveyance infrastructure. Water is stored

in the groundwater basin for later and planned use by intentionally recharging the basin during years of above-average surface water supply.

Conveyance Facilities. Canals, pipelines, pump lifts, ditches, etc. used to move water from one area to another.

Cubic Feet per Second (cfs). A rate of flow, for example in streams and rivers. One cubic foot per second is equal to a volume of water one foot high and one foot wide flowing a distance of one foot in one second. This is 7.48 gallons of water.

Discharge. A rate of surface flow, typically expressed as a unit of volume of water per unit of time.

Disinfection. A process following secondary or tertiary treatment that typically involves the use of chlorine or ultraviolet (UV) radiation to destroy bacteria and other pathogens.

Domestic Water Use. Water used for household purposes, such as drinking, food preparation, bathing, washing clothes, dishes, and dogs, flushing toilets, and watering lawns and gardens.

Drawdown. A lowering of the groundwater surface level caused by pumping.

Dry Weather Infiltration. Groundwater that enters into the sanitary sewer system during the driest period of the year when the groundwater table is lowest in elevation.

Ecosystem restoration. The activity of improving the condition of natural landscapes and biotic communities.

Effective Dwelling Unit (EDU). Also referred to as Equivalent Dwelling Unit or Equivalent Single-Family Unit. The level of service a typical residential unit receives per year. Often serves as the basis for determining service fees.

Effluent. Treated wastewater discharged from a wastewater treatment facility.

Floodplain management. Actions designed to reduce risks to life, property, and the environment due to flooding. Actions can include watershed management, infrastructure construction and operation, variations in land use practices, floodway designations, etc.

Greywater (or graywater). Domestic wastewater that does not contain human wastes such as tub, shower, or washing machine water

Groundwater Basin. A groundwater basin is the aboveground area from which water flows or seeps into a particular aquifer or series of linked aquifers.

Groundwater in storage. The quantity of water in the zone of saturation.

Groundwater management plan. A comprehensive written document developed for the purpose of groundwater management and adopted by an agency having appropriate legal or statutory authority.

Groundwater management. The planned and coordinated management of a groundwater basin or portion of a groundwater basin with a goal of long-term sustainability of the resource.

Groundwater quality. Water quality can affect supply integrity. Many pollutants are hydrophilic and not easily filtered by soil. Treated groundwater can be added to water supply.

Groundwater recharge. The natural or intentional infiltration of surface water into the zone of saturation.

Groundwater. Water that occurs beneath the land surface and fills the pore spaces of the alluvium, soil, or rock formation in which it is situated. It excludes soil moisture, which refers to water held by capillary action in the upper unsaturated zones of soil or rock.

Industrial Water Use. Water used for industrial purposes in such industries as steel, chemical, paper, and petroleum refining. Nationally, water for industrial uses comes mainly (80 percent) from self-supplied sources, such as local wells or withdrawal points in a river, but some water comes from local water service providers.

Inflow. Surface stormwater that enters into the sanitary sewer through direct sources such as vented manhole covers, downspouts, area drains, and uncapped cleanouts.

Interceptor. Sanitary sewer interceptors are those lines that convey sewage from neighborhood to neighborhood in route to the wastewater treatment plant. Pipe diameters are generally larger than lines placed within residential developments.

Lift Station. A pumping facility that conveys wastewater flow from an area that would not naturally drain to the wastewater treatment plant, or into the gravity sewer system for delivery and treatment.

Manhole. Manholes are used at designated intervals in a sewer line as a means of access for inspection or cleaning.

Maximum Contaminant Level (MCL). The designation given by the U.S. Environmental Protection Agency (EPA) to water quality standards promulgated under the Safe Drinking Water Act. The MCL is the greatest amount of a contaminant that can be present in drinking water without causing a risk to human health.

Milligram (mg). One-thousandth of a gram.

Milligrams per Liter (mg/L). A unit of the concentration of a constituent in water or wastewater. It represents 0.001 gram of a constituent in 1 liter of water. It is approximately equal to one part per million (PPM).

Million Gallons per Day (mgd). A rate of flow of water equal to 133,680.56 cubic feet per day, or 1.5472 cubic feet per second, or 3.0689 AF per day. A flow of one million gallons per day for one year equals 1,120 AF (365 million gallons).

Municipal Water System. A water system that has at least five service connections or which regularly serves at least 25 individuals for 60 days; also called a public water system.

Natural recharge. Natural replenishment of an aquifer generally from snowmelt and runoff; through seepage from the surface.

Ordinance. A law set forth by a governmental authority

Overdraft. Overdraft is a condition of a groundwater basin or aquifer in which withdrawals exceed inflow (i.e., more water is removed than put back in).

Per Capita Use. The average amount of water used per person during a standard time period, generally per day.

Potable Water. Water of a quality suitable for drinking.

Recharge area protection. The action of keeping recharge areas from being paved over or otherwise developed and guarding the recharge areas so they don't become contaminated.

Recycled water (or reclaimed water). Treated municipal, industrial, or agricultural wastewater to produce water that can be reused.

Reuse. Additional use of previously used water.

Runoff. Precipitation that is not used by plants, evaporated, or absorbed by soils and is transported across land surfaces to streams or other bodies of surface water.

Runoff. The volume of surface flow from an area.

Service Line. Facilities owned and maintained by property owners that convey waste from a structure to the public system.

Sufficient Water Supply. Total water supplies available during normal, single-dry, and multiple-dry years within a 20-year projection that will meet the projected demand associated with the proposed subdivision, in addition to existing and planned future uses, including, but not limited to, agricultural and industrial uses. *(Government Code Section 66473.7(a)(2)*

Surcharge. A condition in which the wastewater flow rate in a sewer system exceeds the capacity of the sewer lines to the extent that raw sewage begins to rise within manholes.

Surface Water. Water that is on the earth's surface, such as in a stream, river, lake, or reservoir.

Sustainability. A specific resource that avoids complete depletion over a specified time horizon. The continued feasibility of a specified economic activity over a specified time horizon, usually influenced by management and policy actions

Title 22. A section of the California State Water Code requiring filtration of any reclaimed effluent used for full-body contact recreation or fresh food crop irrigation, provided a receiving water dilution of less than 20-to-1 exists. Title 22 requires lesser levels of treatment for other uses of reclaimed effluent.

Total Maximum Daily Loads. A total maximum daily load (TMDL) refers to the amount of a specific pollutant a river, stream, or lake can assimilate and still meet Federal water quality standards as provided under the Clean Water Act.

Unconfined Aquifer. An aquifer whose upper water surface (water table) is at atmospheric pressure, and is, therefore, able to rise and fall.

Wastewater. Sewage (either treated or untreated) from residential, commercial, industrial, and institutional sources.

Water balance. An analysis of the total developed/dedicated supplies, uses, and operational characteristics for a region.

Water conservation. The use of less water to accomplish the same purpose.

Water demand. The desired quantity of water that would be used if the water is available and a number of other factors such as price do not change.

Water quality. Description of the chemical, physical, and biological characteristics of water, usually in regard to its suitability for a particular purpose or use.

Water Quality. The chemical purity of water measured in terms of a variety of constituents or parameters (e.g., turbidity, metals concentration, organics concentration, and salinity).

Water reliability. A measure of a system's ability to sustain the social, environmental, and economic systems that it serves.

Water Table. The top of the water surface in the saturated part of an aquifer.

Watershed management. The process of evaluating, planning, managing, restoring, and organizing land and other resource use within an area that has a single common drainage point.

Watershed. The land area from which water drains into a stream, river, or reservoir.

Well (wellwater). An artificial excavation put down by any method for the purposes of withdrawing water from underground aquifers. A bored, drilled, or driven shaft, or a dug hole whose depth is greater than the largest surface dimension and whose purpose is to reach underground water supplies or oil, or to store or bury fluids below ground.

Wet-Weather Infiltration. Peak infiltration that is measured 6 to 12 hours after a measured storm event, excluding base flow and dry weather infiltration.

WWTF. Abbreviation for wastewater treatment facility.

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Chimente, Michael. Superintendent, Bret Harte Union High School District. Personal communication via letter. June 5, 2007.

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Gill, Robert. Fire Chief, Central Calaveras Fire & Rescue Protection District. Personal communication via email. May 29, 2007.

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Honan, Raymond. 2007a. General Manager, Murphys Sanitary District. Personal communication via facsimile. August 14, 2007.

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Pastizzo, Dave. Planner, Calaveras County Planning Department. Personal communication via telephone. August 6, 2007.

Severud, Diane. Office Manager, Union Public Utility District. Personal communication via facsimile. August 16, 2007.

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APPENDICES

APPENDIX A – COMMENTS RECEIVED ON BASELINE REPORT

APPENDIX B – SUPPLEMENTAL DATA FORMS

APPENDIX C – SUMMARY OF COMMENTS AND RESPONSES ON BASELINE REPORT

APPENDIX D – WATER ELEMENT MEETING AGENDAS

APPENDIX E – WATER ELEMENT MEETING SIGN-IN SHEETS

Appendix A – Comments Received on Baseline Report

Calaveras County Water Element
Comments Received from Water Element Group
(X denotes information received by MWH)

Agency/Organization	Baseline Report Comments
City of Angels	
Blue Lake Springs Mutual Water Co.	
Calaveras County Water District	X
Calaveras Public Utilities District	X
Fly-In-Acres	
Lili Valley Water Company	
Mokelumne Hill Sanitary District	X
Mineral Mountain Estates	
Murphys Sanitary District	X
San Andreas Sanitary District	
Snowshoe Springs Association	X
Union Public Utilities District	X
Utica Power Authority	X
Valley Springs Public Utilities District	X
Wallace Community Services District	X
Total (15 agencies/organizations)	9

CALAVERAS COUNTY WATER DISTRICT

Calaveras County Draft Baseline Report Review

Chapter One – Introduction

1. Page 1-2, 1.3 Regional Setting. The term 'Major Watersheds' used within the Baseline text is incorrect. The watersheds in Calaveras County include portions of the larger watershed, and as such, are referred to sub-watersheds. The sub-watersheds include, the South and Middle Fork Mokelumne River, the North Fork Stanislaus River, and the entire Calaveras River Watershed. The Calaveras River Watershed is not just the north-central portion of the county; sub-watersheds of the Calaveras River reach into south-east and south-west portion of Calaveras County – the Highway 4 corridor approximates the divide between the North Fork and Main Stem of the Stanislaus River Watershed boundary and the Calaveras River Watershed boundary – a 'pocket' area exists in south-western Calaveras County that does not drain to either the Stanislaus River Watershed or the Calaveras River Watershed; the area drains westerly toward the delta via Sawmill Creek and Littlejohns Creek.

Chapter Two – Population and Demographics

2. Page 2-2, Section 2.1 Major Findings, Second to last bullet. The following paragraph summarizes DOF population projects: "In July 2007 DOF projected that Calaveras County would grow somewhat more slowly than in the recent past. DOF projected an AAGR of 1.6 percent between 2000 and 2010, 1.7 percent between 2010 and 2020, 1.4 percent between 2020 and 2030, 1.1 percent between 2030 and 2040, and 1.1 percent between 2040 and 2050. In absolute terms, this amounts to a population increase of around 7,000 individuals between 2000 and 2010, and around 8,000 individuals each decade thereafter up to 2050." In tracking General Plan updates in Stanislaus and San Joaquin Counties, including large city general plan updates, such as Stockton, Modesto, and others, significant growth is projected to grow out and eastward, with populations projections in 2030 showing the Stockton area growing to a larger metropolitan area than Sacramento is now in 2007/2008. With this level of growth projected in the Valley, prudent planning suggests growth spill over into western Calaveras County over the next several decades. Despite the current slow down in 'new construction,' increase growth in the Valley means more growth in western Calaveras County, in addition to re-locations from other areas of the state, such as the Bay Area and beyond. More specifically, a 'Major Findings'discussion point should include the likely scenario whereby Valley residents will re-locate/locate in western Calaveras County, in areas such as Copperopolis/Copper Cove in south-western Calaveras County and in the New Hogan/Camanche/Valley Springs/Burson/Wallace area of north-western Calaveras County because of its proximity to the Valley/Bay Area and because of major east-west transportation corridors.

3. Pages 2-3 to 2-9, Tables 2-1 and following, Population/Household/Employment Change. Because of its traditional use, the 'average' provides context, but in itself, does not exist in reality. Use of the term can distort the inter-annual variability. Therefore, it seems appropriate to add a column between 'Change from Previous Period' and 'AAGR from Previous Period' showing 'Percent Change from Previous Period.' For instance, for 2007, the total percent change from the previous period would be 13.5%, with the AAGR from the previous period at 1.9%.
4. Page 2-15, Section 2.5, Future Projections. The discussion in this section discusses future population projections in detail, however the discussion fails to discuss where the population increases are most likely to occur in Calaveras County. See discussion under Comment 2 above regarding population increase in western Calaveras County.

Chapter Three – Land Use

5. Page 3-2, Section 3.1 Major Findings, sixth bullet. The statement 'A substantial number amount of land' incorrectly combines the use of two terms: 'number' and 'amount.' Delete the term 'normal' or 'amount.'
6. Page 3-80, Section 3.7, Regional Plans and Policies. With respect to the Mokelumne / Amador / Calaveras Integrated Regional Water Management Plan, the Calaveras County Water District, along with East Bay Municipal Utility District, the Amador Water Agency, and various community stakeholders, are in the process of updating the M/A/C IRWMP to be consistent with state guidelines for IRWMPs, which require IRWMPs to contain a close nexus to general plans. Similarly, the California Governor's Office of Planning and Research is in the process of updating its guidelines for the development of General Plans, which will include requirements for coordinating General Plans with IRWMPs. In addition to the M/A/C IRWMP for the Mokelumne and Calaveras River Watersheds, the Calaveras County Water District is working with Tuolumne Utilities District, the Counties of Calaveras and Tuolumne, and various stakeholders to develop an IRWMP for the Stanislaus and Tuolumne River Watersheds. Development of this Stanislaus and Tuolumne Rivers IRWMP is in its early formation stages with actual plan development scheduled during 2009-2010.

Chapter Seven – Public Facilities

7. Page 7-2, Section 7.1 Major Findings. The bullet on stormwater drainage may be an appropriate section to discuss the state's agricultural discharge waiver program.
8. Page 7-2, Section 7.1 Major Findings, Second Bullet. Wastewater services provided by CCWD in Forest Meadows does provide some limited number of wastewater connections to its wastewater facilities.
9. Page 7-6, Section 7.2 Domestic Water,WCSD. The statement that CCWD has not acted on WCSD's application for surface water is incorrect. CCWD is partner in a proposed 2-MGD South Shore Camanche Water Treatment Plant, of which East Bay MUD and

Amador Water Agency are partners. EBMUD and AWA put the project on hold to address higher priority wastewater issues on north Shore Camanche. CCWD is continuing to develop its water supplies to meet WCSD's needs through a 2008 federal appropriations request under the Water Resources Development Act approved by the United States Congress in 2007. With federal funding of a proposed raw water project in the New Hogan/Camanche/Valley Springs area, studies will develop an engineering analysis to cost effectively deliver surface water to WCSD and others in western Calaveras County.

10. Page 7-7, Section 7.2, Calaveras County Water District. 'The five directorial districts were made synonymous with the County supervisorial districts' is an incorrect statement. No correlation exists between CCWD's direlectorial boundaries and the County's supervisorial boundaries. CCWD's Board passed Resolution 2003-10 and a subsequent amendment Resolution 2003-15 establishing new boundaries that do not coincide with the County's.
11. Page 7-8, Section 7.2, Stanislaus River System. The statement '. . . and up to 6,000 af per year from Lake Tulloch to supply the Copper Cove/Copperopolis water system' is only partially correct. CCWD holds both pre-1914 and post-14 rights on the river that exceed the current 6,000 acre-foot cap. Within the next several years, CCWD will be increase this cap consistent with its permitted water rights by filing a change petition with the State Water Resources Control Board, which is based on the authorized number of buildable lots and the demonstrated need for increased supplies within its service area.
12. Page 7-8, Section 7.2, Calaveras River System. The statement allocating 31,278 acre-feet to CCWD should more accurately read 'CCWD owns a contractual right to 43.5 percent of the New Hogan Project yield.' The long-term average project yield is currently being analyzed, which will likely change the number referenced above.
13. Page 7-9, Section 7.2, Mokelumne River System. See Comment 6 above discussing the M/A/C IRWMP update.
14. Page 7-9, Section 7.2, Ebbetts Pass Service Area. The Hunters Water Treatment Plant capacity should read '6 million gallons per day.'
15. Page 7-10, Section 7.2, Copper Cove/Copperopolis Service Area. As of May 2007, the Copper Cove/Copperopolis Service Area has over 2,100 residential connections and over 70 commercial connections, for a total of nearly 2,200 connections.
16. Page 7-10, Section 7.2, Jenny Lind Service Area. The Jenny Lind Water Treatment Plant capacity should read '7 million gallons per day,' with the potential to expand the plant capacity to 9 million gallons per day.
17. Page 7-10, Section 7.2, Copper Cove/Copperopolis Service Area. As of May 2007, the West Point/Wilseyville Service Area has over 500 residential connections and over 40 commercial connections, for a total of nearly 600 connections.
18. Page 7-11, Section 7.2, Table 7-2, CCWD Service Area Current and Future Demand. The water demand for Sheep Ranch in 2025 is incorrect. CCWD data shows Sheep Ranch water demand in 2025 of 42 acre-feet and in 2030 of 49 acre-feet.
19. Page 7-12, Section 7.2, Table 7-2, Infrastructure Needs and Deficiencies. CCWD is seeking federal funding, along with local and state funding, to build infrastructure necessary to begin delivering raw surface water in the New Hogan/Camanche/Valley Springs area within the Highways 12 and 26 corridor.

Chapter Nine – Natural Resources

20. Page 9-3, Section 9.1 Major Findings, Agricultural Resources. CCWD is in the process of developing an agricultural water demand for the County because of numerous requests for water to expand agricultural production. The water demand map currently shows significant increases in water demand in the three primary areas: (1) the Murphys area – vineyard expansion; (2) the Copperopolis/Salt Springs area; and (3) the New Hogan/Camanche/Valley Springs area in the Highways 12 and 26 corridor. CCWD is continuing to refine the water demand map is seeking federal funding under the recently authorized Water Resources Development Act – 2007 to begin the planning and design work necessary to construct facilities to begin water deliveries to meet the expanded and future demand in these areas.
21. Page 9-31, Section 9.3, Water Resources, Lakes and Resources. CCWD owns New Spicer Meadow Reservoir on the North Fork Stanislaus River. New Spicer Meadow Reservoir has a maximum storage capacity of 189,000 acre-feet and provides water storage for CCWD's North Fork Hydroelectric project and to meet water demands in the Ebbetts Pass area along Highway 4 and the Copper Cove/Copperopolis area surrounding Lake Tulloch.
22. Page 9-33, Section 9.3, Water Resources, Groundwater. CCWD recently updated its adopted 2001 AB 3030 Groundwater Management Plan per SB 1938 requirements for the Camanche/Valley Springs area, which overlies the Eastern San Joaquin Groundwater Basin in western Calaveras County. CCWD also completed a DWR AB 303 grant funded project for the same area in 2003 that produced a Hydrogeologic Assessment assessing groundwater conditions in the area. CCWD also submitted a recent AB 303 grant application to continue an enhance groundwater monitoring program in the area because of concerns regarding failing wells and deteriorating groundwater quality. The reports contained within this comment can all be found on CCWD's web site at www.ccwd.org .

Chapter Ten – Safety

23. Page 10-4, Soils. The NRCS currently has a comprehensive soils survey update for both the Calaveras and Tuolumne Counties expected to be complete by 2010.
24. Page 10-15, Section 10.3, Flood Hazards. The U.S. Army Corps of Engineers completed a planning study, including a HEC-RAS analysis of flooding along Cosgrove Creek, that was published in June 2005. Calaveras County, along with CCWD's support, will be working with the USACE to complete a feasibility study during 2008/2009 that will examine cost effective project alternatives to mitigate flooding along Cosgrove Creek.

End Comments
Additional Comments to Follow

"Gary Goffe" <garyg@goldrush.com>
11/04/2008 10:10 AM

To "Roger Putty" <roger.putty@mwhglobal.com>
cc
bcc
Subject Baseline Comments from CPUD

Roger: As I stated at the meeting of October 9, 2008, the description of the Calaveras Public Utility District is close enough. The data refers to existing LAFCO 2003 reports.

Gory Goffe, Manager

Mokelumne Hill Sanitary District

Mokelumne Hill Sanitary District (MHSD) was formed by resolution in 1945 for the purpose of constructing and operating a system of collection, treatment, and disposal of sewage. The District operates under and is governed by the statutory authority known as the California Health and Safety Code, Division 6, Part 1 regarding Sanitary Districts. The MHSD current district boundary covers the area around the community of Mokelumne Hill. The district boundaries encompass approximately 848 acres (1.33 square miles). The MHSD lies within the Mokelumne Hill Community Plan.

The District currently has approximately 300 customers. Ninety-two percent of the customers revenue, 76 percent of revenues are from the single-family sector, 17 percent from multi-family, and 7 percent from commercial (Calaveras County LAFCO 2005a).

Collection System

The original collection system was completed in 1947 and consisted of approximately 15,000 linear feet of 6-to 8-inch pipe. In the 1970's an additional 2,700 linear feet of 8 inch diameter SDR-35 pipe was installed. In 1973, the District received a grant and loan from the USDA, Farmers Home Administration, to upgrade the District's sewer system. A portion of these funds were used to install approximately 5,425 linear feet of SDR-35 diameter pipe to feed a new treatment plant and the construction of two pump stations. Pump station A has a 20 kW backup propane generator, in 2007 a 20 kW backup generator was purchased for pump station B.

A Preliminary Engineering Report prepared in December 2002 by Weber Ghio & Associates, recommends the replacement of portions of the old collection system. In 2005 MHSD applied for and received a grant/loan from USDA. Approximately 6,200 ft. of 1947 clay pipe was replaced with SDR-35 (8 inch diameter).

MHSD continues to replace sections of clay pipe when identified using video equipment. We still have approximately 4 to 5,000 ft. of 1947 clay pipe still in use and continue ongoing replacement.

Treatment System

The District's original treatment plant was constructed in 1947 and was located northeast of the community near Volunteer Gulch. In 1973 the District received a grant and loan from the USDA, Farmers Home Administration, to finance the construction of a new sewer system including a new treatment plant.

The District's new sewage treatment plant is located to the northwest of the Mokelumne Hill community. The wastewater treatment plant facilities include two aerated lagoons, a chlorination tank, and storage pond. The plant has a design capacity of 150,000 gpd. Average flow rates were approximately 60,000 gpd. After mainline replacement in 2005 our average flows decreased to approximately 40 to 45,000 gpd. Included in the 2005 project, two energy efficient aerators replaced the original lagoon aerators also one was installed in the storage reservoir. A mechanical screen was

installed at the plant head-works and influent and effluent totalizers also a meter was installed for irrigation.

Storage System

Treated effluent is stored in the storage pond until May and irrigate through October, weather permitting. Over the last ten years we have reclaimed the irrigation fields and now irrigate approximately 20 acres which are broke down into four fields. The spray disposal field is used for cattle grazing (Calaveras County LAFCO 2005a).

Disposal System

Disposal of the District's wastewater is governed by the RWQCB. The RWQCB issued Waste Discharge Requirements for the MHSD in April 1991 through Order No. 91-098. These requirements were updated in September 2007. The District is required to monitor effluent and influent samples prior to discharging wastewater to the spray fields. Weekly monitoring reports are submitted to Sierra Foothill Labs, and monthly reports are submitted to RWQCB (Calaveras County LAFCO 2005a).

Present and Probable Need for Services

Data provided by the State of California Department of Finance indicated the population of Mokelumne Hill was 1,341 in 1990 and 1,476 in 2000. This represents an annual growth rate of approximately 1 percent per year. Residential sewer connections for the last 10 years have only averaged one per year (Calaveras County LAFCO 2005a).

Present Capacity and Adequacy of Services

The 2002 Preliminary Engineering Report concludes that the treatment plant is operation at 40 percent of dry weather capacity and has a current capacity to serve the community for 40 to 50 years. With continuing pipe replacement infiltration has decreased but due to dry weather conditions over the past few years, we do not have accurate wet weather data (Calaveras County LAFCO 2005a).

Infrastructure Needs and Deficiencies

The District is in the process of upgrading its facilities based on the recommendations of the 2002 Preliminary Engineering Report (Calaveras County LAFCO 2005a).

Received 10/21/08
MWH

MURPHY'S SANITARY DISTRICT
PO BOX 1110
90-B BIG TREES RD
MURPHYS CA. 95247
Office(209)728-3094 Fax(209)728-9510

Mr. Roger Putty, Date: October 15, 2008

There are discrepencies in the current "base line report" which has been distributed throughout the County, regarding Murphys Sanitary District. I will make the corrections in numerical order based on the order in which they appear in the base line report.

1. Murphys Sanitary District serves 783 customers, with 89 commercial and 694 residential.
2. MSD implemented a temporary suspension on new connections in order to evaluate population growth as it refers to the collection and treatment processes. The suspension was lifted in late 2007, after a new discharge permit was issued by the State to Ironstone Vineyards, allowing year round discharge as well as an increased gpd.
3. Collection System--- Sewage is pumped through two 4,200 ft long, 6" pipes to a single 8" pipe which is 2,200 ft long. The wastewater then enters the first of 4 treatment and storage ponds.
4. Disposal System--- Wastewater is pumped from the main storage pond through a series of seven pre, and post chlorination sand filters. The chlorine is then mixed in an underground contact chamber, where it gravity flows into a three hundred thousand gallon polishing pond, waiting for use at the discharge site.
5. The old agreement allows MSD to discharge up to 180 acre feet of water, while both parties have the understanding that more water will be treated and discharged if available or needed. The new agreement allows MSD to discharge 280 acre feet of water with the same additional water agreement.
6. The old wastewater discharge permit allowed treatment and discharge to the disposal sites only between the months of March 1st to November 30th. The permit was modified in 2007 and allows treatment and discharge year round as long as certain wet weather requirements are complied with.
7. When the two foot freeboard became part of the pond capacity and year round discharge was prohibited, MSD had to discharge treated water during heavy rain years outside of the adapted discharge season because of the restrictions placed on them. The current addendum to the waste discharge permit has removed those wet weather obstacles because they allow for year round discharge.
8. Present and Probable Need for Services--- When it begins, "additional growth in sewer customers is currently limited", from this point to the end, it should be stricken because MSD has never looked into expansion of it's boundaries and a presumption of what MSD is capable of is pre mature. incorrect and un-informed.
9. Present Capacity and Adequacy of Services--- MSD has sufficient capacity to serve additional customers and has taken appropriate measures to satisfy the potential build out of the property owners within the district boundaries as long as MSD requirements are met.
10. The expansion of pond #4 allowed for a continued 61 million gallons of storage which would have been diminished by complying with the two foot freeboard requirements, if expansion hadn't taken place.

Thank You for the anticipated changes,

Ralph Emerson
Ralph Emerson
Operations Manager

Altshuler <altshule@pacbell.net>
10/28/2008 02:31 PM
Please respond to altshule@pacbell.net

To Roger G Putty <Roger.G.Putty@us.mwhglobal.com>
cc
bcc
Subject Re: Attn Water Element Group: Baseline Comments and Supplemental Data Form

Roger

I guess that we missed your deadline. I need to pay closer attention.

One thing that we have done within Snowshoe Springs Association over the last 14 months is really focus on our water consumption (we buy water in bulk from CCWD and then distribute it among 300 homes).

We have reduced our water consumption from a high of 13,000 FT3/day in August 2007 to 1800 FT3/day today (no I didn't slip a extra zero). How? Through very creative leak detection procedures, meter readings, public education, and excess water use charges to our members. So, if I had a comment to make it would be conservation of water by finding and eliminating leaks should be a key aspect for preserving and extending our water resources.

Sam Altshuler PE
Snowshoe Springs Assoc
(925) 820-0857

Received 10/20/
MWH

UNION PUBLIC UTILITY DISTRICT
339 MAIN STREET
MURPHYS, CA 95247-9626
(209) 728-3651

October 8, 2008

Mr. Roger Putty, P.E.
MWH Americas, Inc.
3321 Power Inn Road, Suite 300
Sacramento, CA 95826

Re: Revisions of Public Review Draft Baseline Report (Water Element)

Mr. Putty:

It was so nice to meet you at the Kick Off Meeting on September 25th in San Andreas. Our directors and staff look forward to working together with the other agencies in the County to contribute towards the Water Element of the General Plan Update. UPUD has several revisions to the Baseline Report and I have listed them below.

Page 7-17 WATER RIGHTS AND SUPPLY

1. UPUD has three separate diversions supplying two water systems - a domestic and an irrigation. The domestic system supplies treated water to the communities of Murphys, Douglas Flat, Vallecito and Carson Hill. The North Ditch provides untreated water to the Murphys area, while the South Ditch provides untreated water to Douglas Flat, Vallecito and Carson Hill.
2. UPUD is a member of the UPA that owns the Utica Hydroelectric Project...
3. UPA provides conveyance of water for UPUD's water supply.
4. UPUD also uses water rights on Taylor Creek, as originally stated in PG&E's agreement and passed along to UPA, to supplement its water supply when water...

If you have any questions on this matter, please feel free to contact me at 209/728-3651.

Sincerely,

Diane Severud

Diane Severud
Office Manager

Utica Power Authority (UPA)

1168 Booster Way
P O Box 358
Angels Camp, CA 95222

upaoffice@goldrush.com

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Fax (209) 736-9110
Emergencies (209) 736-4536

October 7, 2008

Mr. Roger Putty, P.E.
MWH Americas, Inc.
3321 Power Inn Road, Suite #300
Sacramento, CA 95826

Re: **Comments to/Revision of Public Review Draft Baseline Report ("Water Element")**

Dear Mr. Putty:

The following are UPA's comments on the draft discussion of CCWD's Water Rights and Supply as to the Stanislaus River System found on page 7-8 of the County's Public Review Draft Baseline Report dated January 2008:

1. UPA has the best integrated water and power system in Calaveras County. UPA's primary duties and obligations are (a) to provide a reliable water supply to the City of Angels, UPUD, and UPA's own customers, (b) to operate, maintain, and improve Murphys and Angels Powerhouses such that their Green Power revenues continue to pay for much of the cost of the water and power system, and (c) to safeguard UPA's water rights, water supply, water conveyance system, and power system from those both within and without the county who would try to take those rights and properties away from UPA and its customers.

2. The General Plan and the Water Elements need to be solidly based upon a factual and realistic assessment of each agency's water rights, actual water supply reliability during droughts, and water conveyance rights. Unsupportable claims or claims with unrealistic chances of being implemented waste valuable time and money and create unrealistic expectations and unsupportable planning decisions.

3. Since CCWD completely withdrew from UPA in June 2004, CCWD has no ownership rights in UPA's North Fork Stanislaus River, Mill Creek, Angels Creek, and French Gulch pre-1914 rights or in UPA's water conveyance system or in UPA's power plants. CCWD has no right to regulate UPA's use of UPA's water rights and CCWD has no right to dictate to UPA how those water rights should be used. CCWD also has no right to use UPA's water conveyance facilities without UPA's prior written agreement on terms and conditions acceptable to UPA.

Utica Power Authority (UPA)

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4. While CCWD wants to "safeguard" water rights for the county, CCWD has made unsupported claims that would result in taking water from UPA with no mention of compensation to UPA and CCWD in turn wants to sell UPA's water to new developments. Prices mentioned for the 2009 State Drought Water Bank are in the $300 to $400 per acre feet range.

5. CCWD has expressly reserved rights to redivert water discharged from NCPA's Collierville Powerhouse. That water consists of the 28 cfs of the 88 cfs North Fork Stanislaus River pre-1914 right deeded to NCPA by CCWD and CCWD's post-1914 rights contractually committed to NCPA for generation at the Collierville Powerhouse. The practical question is whether CCWD can economically redivert this water from this lower discharge point in the Stanislaus River for use in the county other than in the Copper Cover/Copperopolis area.

6. Unlike its agreement with NCPA, CCWD did not reserve any rights in the pre-1914 rights deeded to UPA. Under the 1997 Assignment Agreement signed by CCWD, NCPA, and UPA, CCWD assigned all of its interests in the CCWD-NCPA 1995 Restated Agreement to UPA except that the Assignment "Agreement did not alter or modify any rights that CCWD may have or acquire to divert or utilize North Fork Stanislaus River water that is discharged in Angels Creek from the Angels Powerhouse and which is no longer needed by Utica to provide water service to its customers." [Section 2(c).] The North Fork pre-1914 right did not include the right to redivert the North Fork water in lower Angels Creek. Also, CCWD did not and has not mentioned the pre-1914 rights to waters in Mill Creek, Angels Creek, and French Gulch that were also deeded by CCWD to UPA and that are also used to generate power at Angels Powerhouse.

7. In CCWD's final Proposition 204 grant report entitled "Calaveras County Water District West County Water Supply Reliability Feasibility Study," dated July 2008, CCWD proposed to redivert water discharged by UPA into lower Angels Creek after the water was no longer needed by UPA and to transfer that water to the western portion of the county. CCWD should give the Water Element participants an update on its current plans for and the economic feasibility of that proposed transfer.

8. Under the 1997 Assignment Agreement, CCWD did not reserve and, therefore, assigned to UPA the right to divert up to 5,000 acre feet per year (increasing up to 8,000 acre feet per year in 2009). UPA is willing to discuss and reach agreement with CCWD on CCWD's existing diversions for the Ebbetts Pass system but CCWD has not yet indicated any willingness to discuss this issue.

9. Based upon the above, UPA recommends that the Stanislaus River System paragraph be reworded as follows:

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"CCWD hold interests in certain pre-1914 water rights owned by the Northern California Power Agency (NCPA) as well as certain post-1914 water right permits for water diversion and storage. Pursuant to the terms and conditions of its post-1914 water right permits and agreements with NCPA, CCWD was authorized to divert up to 5,000 AF per year (increasing up to 8,000 AF per year in 2009) to supply the Ebbetts Pass system and the Murphys-Angels Camp area. The Utica Power Authority (UPA) states that the right to divert (as opposed to CCWD's post-1914 water right) was assigned to UPA. The parties hope to resolve this issue amicably. Under its post-1914 permits, CCWD can divert up to 6,000 AF per year from Lake Tulloch to supply the Copper Cover/Copperopolis water system. Pursuant to its contractual arrangements with NCPA, CCWD can also access North Fork Stanislaus River water after it is discharged from NCPA's Collierville Powerhouse. Pursuant to its contractual arrangements with UPA, UPA agreed that those agreements did not alter or modify any rights that CCWD may have or acquire to divert or utilize North Fork Stanislaus River water that is discharged in Angels Creek from the Angels Powerhouse and which is no longer needed by UPA to provide water service to its customers. Water from the Stanislaus River System is used in the Copper Cove/Copperopolis and Ebbetts Pass service areas."

10. The Stanislaus River System paragraph references "Pattison et. al. 2007." UPA has not been provided a copy of that reference and would appreciate receiving it.

Thank you for the opportunity to comment. Because of the limited time provided to review the Public Review Draft Baseline Report, UPA reserves the right to provide additional comments later. In addition, UPUD will be updating its information and, even though the City of Angels would not be subject to the General Plan or the Water Elements, the City of Angels' water system and supply should be included. UPA looks forward to working with the citizens of the county to develop a factual and realistically based Water Element.

Please contact our office if you have further questions regarding any of the above information.

Regards,

Vern Pyle
General Manager

cc: MintierHarnish, Attn: Jessica
Center for Collaborative Policy, Attn: Carolyn Lott
County Board of Supervisors, Attn: Russ Thomas
CCWD, Attn: Dave Andres
UPUD, Attn: Bill Eltringham
City of Angels, Attn: Tim Shearer

River is 10,950 af per year. This amount would be sufficient to serve the existing district and the proposed district SOI. Improvements would eventually need to be made to CPUD's water delivery system to increase pumping, storage, treatment, and delivery capabilities to serve the proposed district SOI (Calaveras County LAFCO 2003b).

Infrastructure Needs and Deficiencies

There are some portions of CPUD's distribution system that are old and undersized. As new development occurs some replacement is required. CPUD has an on-going program for line replacement of undersized and old lines. Additionally, there are several potential residential and commercial projects that would require water connections. Subdivisions would be required to have an individual water system. Commercial customers would be required to have a normal meter or fire connection. (Goffe personal communication, 2007).

Valley Springs Public Utility District

The Valley Springs Public Utility District (VSPUD) was formed in April of 1948 as a public utility to provide water to the community of Valley Springs. VSPUD primarily serves the community of Valley Springs with water service. It provides water service primarily to residential customers and some commercial establishments. The shopping center in Valley Springs and commercial development east of this shopping center is served by the VSPUD. The VSPUD current district boundaries cover an area of 190 acres, less than one square mile (Calaveras County LAFCO 2003b).

Water Rights, Supply, and Quality

VSPUD derives its water supply from ~~two active~~ well sites located in the area. ~~One well site (Well Site #1) is located on the Snyder Ranch~~. The other well site (Well Site # 4) is located along Paloma Road. Two other well sites (Well Sites # 2 and #3) located on Snyder Ranch have been abandoned. Pump tests on the active well sites are conducted on a yearly basis. ~~Well Site #1 produced .8 acre-feet and Well Site # 4 produced 1.4 acre-feet per 24 hours during tests conducted in July of 2002.~~ Water production from the well sites varies throughout the year based on hydrologic conditions.

VSPUD has permits from California Department of Health Services (DHS) for its wells. Water samples are taken on a monthly basis and evaluated through laboratory analysis. A minimal amount of chlorine is added to VSPUD's water supply. VSPUD also needs to submit annual reports to DHS. VSPUD and the CCWD have an agreement which provides for the interconnection of the VSPUD water system and CCWD's La Contenta/Hogan water supply. This agreement provides standby water to each agency in the case of shortages or interrupted supply. CCWD has occasionally purchased water from VSPUD during one or two summers prior to the last Jenny Lind water treatment plant expansion. VSPUD supply from its wells has been sufficient to meet its water demand (Calaveras County LAFCO 2003b).

Domestic Storage and Treatment Systems

The VSPUD has two storage tanks with a combined capacity of 300,000 gallons. Both tanks are located within the community of Valley Springs at Myrtle and Oak Streets. One tank has a capacity of 200,000 gallons and the other tank has a capacity of 100,000 gallons. To enhance fire flows in the community the

ONE

Any well has been Drilled *

* A new well has been drilled.

tanks need to be located at a higher elevation according to the District's Engineer. VSPUD does not treat its water other than adding a minimal amount of chlorine (Calaveras County LAFCO 2003b).

Distribution System

Water is conveyed from the two well sites via an eight-inch line to VSPUD's storage tanks. Water is then distributed throughout the Valley Springs community within four- to six-inch distribution lines (Calaveras County LAFCO 2003b).

Water Demand

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VSPUD has approximately 370 water customers that use 50 million gallons (or 155 acre-feet) of water per year. Seventy percent of VSPUD's customers are single-family residential, 8 percent multi-family residential, 16 percent commercial, 5 percent public, and less than 1 percent agricultural. In terms of water usage, single residential customers used 60 percent, multi-family residential 9 percent, commercial 21 percent, public 10 percent, and agricultural less than 1 percent (Calaveras County LAFCO 2003b; Fischer 2007).

Present and Probable Need for Services

The VSPUD SOI covers an area that has not experienced rapid development as compared to other parts of the county. The town of Valley Springs has largely been developed and the outlying areas are primarily ranch land. More development is being experienced in the La Contenta and Rancho Calaveras subdivisions that are served by CCWD (Calaveras County LAFCO 2003).

Present Capacity and Adequacy of Services

The VSPUD currently uses 155 af of water per year. The County Water Master Plan, prepared in January 1996, addresses future county water needs including those of VSPUD. The Plan projects future water needs based on low and high ranges. In year2000, VSPUD's projection ranges from 189 af to 320 af annually. By 2040 the projection ranges from 488 af to 1,450 af annually (Calaveras County LAFCO 2003b).

The capability of VSPUD's two active wells to serve future water projections is unknown. If the wells are capable of producing water at the same rate as they produced during the July 2002 test for an entire year, Well Site # 1 could produce 292 af per year and Well site #4 could produce 511 af per year. These amounts would be sufficient to meet the mid-range water projection for 2040. VSPUD's storage capacity would likely need to be increased along with other improvements to the delivery system (Calaveras County LAFCO 2003b).

Union Public Utility District

The Union Public Utility District (UPUD) was formed in 1946 under the Public Utility District Act. UPUD acquired its water supply and distributions in 1961 from the Calaveras Water Users Association. UPUD at that time acquired all assets and liabilities of the Association. UPUD provides domestic and agricultural water from the community of Murphys to the community of Carson Hill.

effluent samples prior to discharging wastewater to the spray disposal field. Weekly monitoring reports are submitted to Sierra Foothill Labs, and monthly reports are submitted to RWQCB (Calaveras County LAFCO 2005a).

~~Quarterly monitoring reports are submitted to the RWQCB (Calaveras County LAFCO 2005a).~~

Present and Probable Need for Services

Data provided by the State of California Department of Finance indicates the population of Mokelumne Hill was 1,341 in 1990 and 1,476 in 2000. This represents an annual growth rate of approximately 1 percent per year. Residential sewer connections for the last 10 years have only averaged one per year (Calaveras County LAFCO 2005a).

Present Capacity and Adequacy of Services

The 2002 Preliminary Engineering Report concludes that the treatment plant is operating at 40 percent of dry weather capacity and has a current capacity to serve the community for 40 to 50 years. However, replacements and repairs need to be made to the collection system to reduce the amount of infiltration during wet periods (Calaveras County LAFCO 2005a).

Infrastructure Needs and Deficiencies

The District is in the process of upgrading its facilities based on the recommendations of the 2002 Preliminary Engineering Report (Calaveras County LAFCO 2005a).

Valley Springs Public Utility District

The Valley Springs Public Utility District (VSPUD) primarily serves the community of Valley Springs and surrounding area with water supply, wastewater collection, treatment, and disposal services. It provides these services to single-family residential, multi-family residential and commercial customers. The VSPUD current district boundaries cover an area of 190 acres or 0.44 square miles. The VSPUD has approximately 370 sewer customers. Seventy percent of VSPUD's customers are single-family residential, 8 percent multi-family residential, 16 percent commercial, 5 percent public, and less than 1 percent agricultural (Calaveras County LAFCO 2005a).

Collection System

The VSPUD's collection system ranges in age from the early 1940s to recent improvements. Inflow and infiltration are always a concern in old collection systems and contribute to peak inflows during the rainy season. VSPUD in June 2002 conducted a smoke testing of its collection system including private laterals. The testing was performed by Morlan Civil Engineering and they found 51 specific infiltration sites. Eighty percent of the sites were corrected by August 2003. The remaining sites are in the process of being corrected (Calaveras County LAFCO 2005a).

* All sites have been corrected (2005) *

Treatment System

VSPUD's treatment process includes the use of a treatment plant, pond processing, and storage and spray irrigation disposal. The treatment facility uses an activated sludge package plant followed by two ponds operated in a series to provide treatment for the district's wastewater. The plant has been in service since 1956. Pond 1 has a maximum volume of 230,000 gallons and Pond 2 has a maximum volume of 575,000 gallons. Each of these polishing ponds utilize mechanical aeration and mixing of treated wastewater (Calaveras County LAFCO 2005a).

Storage System

The District's storage reservoir consists of a clay-lined earthen reservoir that was expanded in 1978 to a volume of 92.2 acre-feet. Working effluent storage volume of the reservoir is 85.05 af and is dependent on plant inflow, disposal capacity, and pond evaporation. The maximum record impoundment for 2002-03 occurred in May at 57.42 acre-feet. Available land area and topographic conditions limit expansion of the storage reservoir. In June 2002 the District constructed effluent monitoring ponds and a return pump system (Calaveras County LAFCO 2005a).

Disposal System

The VSPUD has waste discharge requirements issued by the RWQCB. The RWQCB Order 94-148 was issued in May 1994 and sets forth discharge requirements for the Valley Springs Wastewater Treatment Plant. The current waste discharge requirement limitation is 65,000 gpd. The District has exceeded this limitation. Treated wastewater is disposed though a combination of pond evaporation and spray fields. VSPUD has a total of 37 acres of spray fields of which 25.2 acres is available for disposal. In the 2002-03 season, the District irrigated 11.4 acres of its spray irrigation fields (Calaveras County LAFCO 2005a).

Present and Probable Need for Services

The VSPUD SOI covers an area that has not experienced rapid development as compared to other parts of the county. The town of Valley Springs itself has largely been developed and some of the outlying areas are primarily ranch land. From 1999 through 2003 the number of VSPUD sewer customers remained largely the same. Two small developments of less than 10 lots have recently requested sewer service from VSPUD. More development is being experienced in the La Contenta and Rancho Calaveras subdivisions (Calaveras County LAFCO 2005a).

Present Capacity and Adequacy of Services

Average flows through the VSPUD wastewater treatment facility currently exceed the District's Waste Discharge Order 94-148 of 65,000 gpd. It has been determined that existing facilities are adequate to dispose of an average daily flow of 73,000 gpd. Accurate historic flow data is not available due to past calibration problems with the flow meter (Calaveras County LAFCO 2005a).

Future Capacity

The Wastewater Facilities Engineer's Report and Master Plan discusses the need to make improvements to the wastewater treatment system. The Master Plan recommends the District apply to the RWQCD for a revised Waste Discharge Requirement of 80,000 gpd and eventually achieve a capacity of 120,000 gpd.

The Plan also recommends an application be made for limited winter discharge into Cosgrove Creek, proceed with further improvements to the system, and increase connection fees. Planned improvements to the wastewater system include expanding the existing spray field, modifying a portion of the spray field into a trench system, constructing additional ponds, and upgrading various hardware components of the system.

Even with substantial improvements to the wastewater facility, a shortfall of land area will limit the sewer system's long-term growth potential. Potential options to resolve this problem include interconnection with CCWD's wastewater facilities, application for a permit to discharge into Cosgrove Creek during the winter, and acquisition of additional lands near the existing disposal area. Preliminary meetings with CCWD indicate that CCWD does not have adequate capacity at this time to accept VSPUD wastewater. Long-term discharging into Cosgrove Creek is considered problematic in light of ever increasing regulations. The acquisition of additional land may be beyond the District's current financial capability. (Calaveras County LAFCO 2005a)

Infrastructure Needs and Deficiencies

The VSPUD has limited capability to accommodate future development and currently lack the necessary financial resources to upgrade the District's infrastructure. The District also needs to obtain a revised Waste Discharge Requirement to comply with its current flow rates (Calaveras County LAFCO 2005a).

Wallace Community Services District

General information about the history and district boundaries of the Wallace Community Services District is provided in the "Domestic Water" section, above.

Wastewater Treatment System

The WCSD's wastewater treatment system was originally constructed by the Wallace Lake Estates (WLE) development for Unit 1 and operates at the tertiary treatment level. The wastewater system consists of individual septic tanks, a collection system, wastewater treatment plant, and disposal facilities. The California Regional Water Quality Control Board (Regional Board) is responsible for issuing waste discharge requirements for wastewater treatment facilities. In June 2003, the Regional Board issued new waste discharge requirements for the Wallace Lake Estates wastewater treatment facility (Calaveras County LAFCO 2003; WCSD 2008). The wastewater treatment system serves 97 customers with an average treatment capacity of 16,000 gallons per day. In 2007, the average dry weather flow was 16,000 gpd and Table 29 shows the projected wastewater flows (WCSD Supplemental Data Form, 2008).

TABLE 29 WALLACE COMMUNITY SERVICES DISTRICT - PROJECTED WASTEWATER FLOWS

~~**PROJECTED WASTEWATER FLOWS**~~

Year	Flows (gallons per day)
2010	19,000
2020	64,000
2030	120,000
2035	160,000

Source: WCSD Supplemental Data Form, 2008

7.2 DOMESTIC WATER

Public Domestic Water Service Providers

Wallace Community Services District

The Wallace Community Services District (WCSD) is located in the northwestern portion of Calaveras County. In addition to providing domestic water and wastewater treatment services, WCSD also provides propane distribution services, street maintenance, street lighting, and open space and recreation to the Wallace Lake Estates (WLE) subdivision and some surrounding development.

The Wallace Lake Estates (WLE) development is immediately northeast of the unincorporated community of Wallace. The development consists of 263 single-family residential parcels, and a 6.0 acre commercial area. Unit 1, which is the only unit that has been developed, consists of 113 single-family residential parcels, a planned 26 single family residential parcels, the 6.0 acre commercial area, 30.81 acres of public service (2 parcels for the wastewater treatment plant and a percolation pond/spray field), and 57.75 acres of open space. LAFCO approved the formation of the WCSD on November 8, 1990.

In 1993 Assembly Bill 1598 was approved pertaining to community services districts and included specific provisions related to the WCSD. These provisions authorized the WCSD to provide liquefied petroleum gas (propane) service to the residents of the Wallace Lake Estates. This authority to provide gas service shall expire; however, when PG&E is prepared to provide natural gas service to the residents of the WLE (Calaveras County LAFCO 2003a).

District Boundaries and Service Territories

The WCSD is located at the intersection of SR 12 and Camanche Parkway South near the town of Wallace. The area within WCSD's boundary comprises approximately 381 acres. The area within WCSD's Sphere of Influence (SOI) comprises approximately 976 acres. The WCSD provides domestic water supply and wastewater treatment services to Unit 1 of the Wallace Lake Estates development. The District also provides water and wastewater services to a few parcels outside the WLE development within the town of Wallace along SR 12. (Calaveras County LAFCO 2003a; Cantoni personal communication, 2007)

Water Supply

The WCSD's domestic water system consists of three wells, a water treatment facility, storage tanks, and a distribution system with 24 fire hydrants. A fourth well is available on property within the SOI. Two of the wells are not connected to the system. The WCSD is required to file water quality reports with the California Department of Public Health and annually to residents. The District's three wells range in depth from 370 to 476 feet. Table 7-1 below identifies the rated output for each of the wells.

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TABLE 7-1
WALLACE COMMUNITY SERVICE DISTRICT WATER SUPPLY WELLS
2007

Well	Rated Output (gpm)[1]	Operational Status	Age (Years)	Condition
Well #1	80	Not Connected	13	Good condition
Well #2	150	Current Supply Well	16	Last re-build in 2004 with new motor; very good condition
Well #3	200	Emergency standby well	16	Last re-build in 2006 with new pump & motor; excellent condition
Mokelumne Oaks Annexation	150	Not connected	4	Good condition

[1] gpm = gallons per minute
Cantoni personal communication, 2007

Raw water from WCSD's wells does not comply with the State of California's Maximum Contaminant Levels (MCL) standards for iron and manganese concentrations. Well Number One has been inactive since it was drilled and does not have electrical service. Well Number Two serves as the current supply well. Well Number Three serves as the standby well should additional or replacement flow be required. Wells Number Two and Three are activated automatically by the water level in the ground level storage tank.

The Calaveras LAFCO and the California Department of Public Health, Drinking Water Division have encouraged WCSD to develop surface water sources for long-term water supply. WCSD has applied for surface water through Calaveras County Water District (CCWD) from the Camanche South Shore Treatment Plant proposed by East Bay Municipal Utility District (EBMUD). This application was accepted by CCWD in February 2006, but the Camanche Project has not advanced. Meanwhile, the District is continuing discussions with CCWD regarding surface water for Wallace.

Domestic Storage and Treatment Systems

The water treatment process consists of an iron and manganese oxidation, precipitation, and filtration system. Well water is directly pumped to this 190 gallons per minute (gpm) capacity treatment unit. Water enters a reaction vessel in the first stage of treatment in which potassium permanganate is added to convert the iron and manganese to insoluble precipitates. The water then enters a second reaction vessel in which chlorine is added to aid in the iron and manganese removal, to provide disinfection and final residual reduction in the distribution system. The water then enters a filter vessel in which the precipitated iron and manganese are removed by filtering through a proprietary "Electromedia" conditioned sand. Sodium hydroxide is then added to the water for pH adjustment if necessary before entering the system's storage tanks. The filter is cleaned by reversing the flow using processed water that is then delivered to the backwash storage tank. The treatment

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plant can operate in either automatic or manual modes. The water level in the main storage tank controls the automatic plant operation.

Treated water is stored in an elevated tank and a ground level tank. The elevated tank is a 60,000-gallon steel tank and the ground level tank is a 224,000-gallon facility. The total available water storage of 284,000 gallons provides 2 hours of 1,500 gpm fire flow in accordance with fire standards. Water from the ground level storage tank is pumped to the elevated tank. The pumping station has three pumps each capable of pumping 500 gpm to insure adequate fire flow. Pump operation is automatically controlled by the water level of the elevated tank. The current design provides capacity for approximately 185 effective dwelling units (EDU). (Calaveras County LAFCO 2003a; Cantoni personal communication, 2007)

Distribution System

The distribution system is constructed of C900 PVC pipeline. The distribution mains are 6, 8, and 10 inches in diameter. The distribution system meets the minimum requirements of State Waterworks Standards. All water service connections are metered. The distribution system is operated as a single pressure zone with pressures varying from 40 to 100 pounds per square inch (psi) depending on the elevation of the particular service location. The system delivers over 1,500 gpm for commercial fire flow at all hydrants (Calaveras County LAFCO 2003a) and was last tested in December, 2007.

Water Customers

The WCSD provides water to the 96 single-family residential dwelling units in the WLE as well as to four commercial establishments located in the town of Wallace. An average daily flow (ADF) of 350 gallons per day (gpd) per dwelling was used as the design criteria in the water master planning for the WLE. Historical data from the WCSD's records indicates that actual demand is higher. ADF has been 520 gpd per dwelling from the period of 2001 to 2005 and Maximum Day Demand (MDD) has been 3.5 times the ADF. These figures are now used as the design criteria in the water master planning. The WCSD also maintains 24 fire hydrants as part of its water delivery system within the WLE development. With a current customer base of 100 EDUs, WCSD can support significant growth within the current well-based system. (Calaveras County LAFCO 2003a; Cantoni personal communication, 2008)

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7.3 WASTEWATER

Wallace Community Services District

General information about the history and district boundaries of the Wallace Community Services District is provided in the "Domestic Water" section, above.

Wastewater Treatment System

The WCSD's wastewater treatment system was originally constructed by the Wallace Lake Estates (WLE) development for Unit 1 and operates at the tertiary treatment level. The wastewater system consists of individual septic tanks, a collection system, wastewater treatment plant, and disposal facilities. The California Regional Water Quality Control Board (Regional Board) is responsible for issuing waste discharge requirements for wastewater treatment facilities. In June 2003, the Regional Board issued new waste discharge requirements for the Wallace Lake Estates wastewater treatment facility (Calaveras County LAFCO 2003).

Customers

The WCSD provides wastewater treatment services to 96 single-family residential dwelling units in WLE plus three customers within the town of Wallace. Each residence within the WLE is constructed with a 1,250-gallon septic tank with back-flow prevention and connected to the collection system. It should be noted that the tanks are privately owned and maintained. Septic pumps are installed should a parcel, due to its elevation, require pumping into the collection system. The septic tank is used to store and treat solids while the collection system carries liquid wastewater. Sludge needs to be removed from the individual septic tanks every 5 to 10 years depending on the amount of use (Calaveras County LAFCO 2003).

WCSD has been contacted by a number of developers requesting that services be provided. Will-serve agreements have been provided for most of these developments. Expansion to meet the needs of most of the growth in the area is planned for the present location (Cantoni personal communication, 2007).

Collection System

The wastewater collection system consists of a small diameter piped gravity system without manholes. The pipes vary from two to four inches in diameter depending on the number of connections per line. The collections system has air relief/vacuum values at all high points and required separations between water and sewer lines (Calaveras County LAFCO 2003).

Table 7-5 below identifies the age and condition of each of the components of WCSD operations and their operating condition.

TABLE 7-5
WALLACE COMMUNITY SERVICE DISTRICT WATER SUPPLY WELLS
2007

Component	Age (years)	Condition
Treatment Plant	16	Good condition, gradually being re-built as components wear out
Collection System	16	Good condition
Percolation pond	16	Very good condition

Baseline Report Edits from Wallace Community Services District

Spray fields	16	Not used as of 2007 due to high percolation rates in the pond
Septic tanks for each home	1 to 16	Generally considered to be in good condition. Mandatory inspection of these tanks every three years has been implemented by the District.

Treatment Plant

The wastewater treatment plant is a tertiary facility with a permitted capacity of 45,000 gpm. The plant is designed for one-half of the ultimate flow from the WLE development. The original WLE plan anticipated that a second identical wastewater plant be installed when 50 percent build out of Unit 1 occurs according to the Waste Discharge Permit from the RWQCB (RWQCB Order No. 87-215). The agreement was signed by the developer of WLE.

The wastewater treatment plant process is summarized as follows. Wastewater first enters the treatment plant into two flow equalization tanks (16,500 and 25,000 gallon). The tanks also receive overflow from the sludge holding tank and backwash water from the sand filters. The flow equalization tanks increase plant efficiency by minimizing flow variations. Wastewater from the tanks is pumped to three stages of trickling filters followed by filtration. Suspended solids remaining in the effluent are then removed using sand filters. The filtered effluent is then disinfected through the addition of sodium hypochlorite. Any collected sludge accumulates in a sludge holding tank that must be pumped periodically and taken to offsite disposal facilities.

Existing demands from Unit 1 construction are approximately 20,000 gpd on average and 64,000 gpd on peak days, with peak flows being buffered by the flow equalization tanks. The District recently completed installation of the second (25,000 gallon) equalization tank which will allow better handling of peak flows. A third tank has been installed (25,000 gallon capacity) which acts as an overflow protection facility. With completion of the new tanks, the plant is able to support approximately 200 EDU's.

The wastewater treatment system is a single treatment path process with no backup. In case of failure the equalization and overflow tanks can be used for collection and pumper trucks are required for removal and disposal. (Cantoni personal communication, 2008).

Transmission System/Impoundment

Treated effluent is transported from the treatment plant via a 6-inch diameter Class 150, C900 PVC pipeline to an impoundment. The transmission main is also used as an additional chlorine contact chamber. The impoundment consists of an unlined earthen reservoir with a volume of 47 af occupying a site of 3.5 acres. The impoundment reservoir was sized to accommodate flows from the total WLE development (Calaveras County LAFCO 2003).

Disposal System

Treated effluent is pumped from the storage reservoir into a force main and ultimately to spray irrigation fields. The original engineer design envisioned 14 fields covering approximately 12 acres. Six fields were constructed as part of Unit 1of the WLE development. These six fields comprise 65 percent of the total spray field area. Current flows from the wastewater treatment plant are insufficient to use the spray fields. All effluent is currently evaporating, transporating or percolating into the soil from the storage reservoir. Groundwater contaminant levels are monitored and have had no measurable effect on ground water as observed in monitoring wells.
(Calaveras County LAFCO 2003).

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Infrastructure Needs and Deficiencies

WCSD previously identified a significant deficiency in the design of its wastewater treatment plant. Analysis of daily flows over the past five years showed that maximum daily flows are significantly higher than average flows. As WCSD would increase the number of connections, there would be an increased risk of an overflow condition because of under-sizing of the input buffer reservoir in the original design. The design deficiency was corrected with the installation of a 25,000 gallon equalization tank (additional capacity) and a 25,000 gallon overflow tank, construction completed on December 1, 2008.
(Cantoni personal communication, 2008).

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Deleted: WCSD is currently designing an enlarged input buffer system which is expected to be installed by the end of 2008 to provide better flow equalization and improved plant operation and emergency overflow capacity.

Deleted: 2007

9.3 WATER RESOURCES

Introduction

The topography in Calaveras County varies greatly, from near sea level in the Central Valley or western portion of the county to elevations around 8,100 feet in the mountainous Sierra Nevada or eastern portion of the County. An abundance of both surface and groundwater resources are found throughout Calaveras County and described further in this section. In addition, please refer to Chapter 10 of this Baseline Report for information pertaining to flooding and dam inundation concerns in the County. Water supply and water rights are described in Chapter 7.

Methods

A variety of data related to the county's water resources was reviewed in preparing this section. The primary sources of reference data reviewed include the following:

Calaveras County 1996 General Plan

Calaveras County Local Agency Groundwater Protection Program (2004)

Mokelumne/Amador/Calaveras Integrated Regional Water Management Plan (2006)

Precipitation

Because of the great difference in elevation from west to east in the County, precipitation varies. Average precipitation is 20 inches a year in the western region to 60 inches in the northeast. The rainy season is October 1 through May 1. Precipitation increases with altitude including both snow and rain in the higher elevations. Snow accounts for much of the precipitation in the higher elevations (up to 300 inches per year), while snowfall is rare in the foothills (Calaveras County 1996).

Surface Water Resources

Three significant rivers are the Mokelumne, Calaveras, and Stanislaus. These rivers carry the runoff of the west slope of the Sierra Nevada from east to west across Calaveras County, and into the Central Valley. These rivers provide significant habitat for wildlife. All three rivers are dammed in one or more places. The lower stretches of the rivers provide irrigation water for valley agriculture and are used as municipal water supplies within and beyond the County (Calaveras County 1996).

Calaveras County can be broken up into several watersheds that are shown in Figure 9-3. These watersheds include:

Upper Mokelumne,

Lower Mokelumne and Cosumnes,

Upper Calaveras,

Lower Calaveras, and

Stanislaus.

These watersheds represent all or part of a surface water drainage basin or distinct hydrologic features. The boundaries of these watersheds are not necessarily coterminous with the boundaries of the County. The watersheds primarily consist of a major river system, such as that of the Mokelumne, Calaveras, or Stanislaus, along with its tributaries. Each of these river systems are further discussed below (CalWater Committee 2001).

Baseline Report Edits from Wallace Community Services District

Mokelumne River

The Mokelumne River runs in three forks (North, Middle, and South) from the Sierra Nevada Mountains in Alpine County. Snowmelt serves as the primary source of water for the Mokelumne River. The Mokelumne drains an area of about 660 square miles. It flows southwest with the forks all joining near Lodi, then turns northwest to end in the Sacramento River delta lands, emptying into the San Joaquin river about 20 miles north of Stockton.

The river forms the County's northern boundary with neighboring Amador County, and was considered the division between the southern and northern mining districts during the Gold Rush. The river passes through several reservoirs in the County: Salt Springs Reservoir, Pardee Reservoir, and Camanche Reservoir (Calaveras County 1996, RMC 2006).

Calaveras River

Calaveras River originates in the Sierra Nevada Mountains and extends west-southwest approximately 60 miles toward and through the Stockton metropolitan area, terminating at the San Joaquin River, outside of Calaveras County. In the County, the river runs in two forks (North and South). It is fed almost entirely by rainfall and encompasses approximately 550 square miles.

In the Upper Calaveras watershed above New Hogan Dam and within the County, the primary tributaries are Esperanza, Jesus Maria, Calaveritas, San Antonio, and San Domingo Creeks. Below New Hogan Dam, in the Lower Calaveras watershed, the main tributaries in the County conveying runoff are the Cosgrove, Indian, and South Gulch (Calaveras County 1996, RMC 2006).

Stanislaus River

The Stanislaus River drains a narrow basin of about 980 square miles above the foothills on the western slope of the San Joaquin River, forming the southern boundary of the county. Elevations range from 15 feet above sea level at the river mouth to 10,000 feet at the crest of the drainage area. There are three tributary forks (North, Middle and South) of the Stanislaus which join above New Melones Lake, about 3 miles north of Parrots Ferry. North Fork is located within Calaveras County while the Middle and South Forks are in Tuolumne County (Calaveras County 1996).

Lakes and Reservoirs

No naturally-occurring lakes of notable size are located in the County, although some smaller, mountain lakes are found in the Sierra Nevada. The County contains six major reservoirs, which are described below. The locations of the reservoirs are shown on Figure 9-3.

Baseline Report Edits from Wallace Community Services District

Camanche Reservoir. Owned by the East Bay Municipal Utility District, this reservoir on the Mokelumne River was completed in 1963, with additional recreational and power uses added in 1983. Capacity is 417,000 acre feet (af). There are developed recreation areas at both the north shore (located in Amador County) and the south shore (located in Calaveras County). The lake can be used for swimming, fishing, boating, camping, and motel accommodations. RV hook-ups are available. Undeveloped lands are used for grazing. Camanche Reservoir is a source of municipal and industrial water supplies, as well as providing flood control.

New Hogan Reservoir. New Hogan Reservoir was completed by the Army Corps of Engineers in 1964 for purposes of flood control and water supply, and is located 28 miles northeast of Stockton along the Calaveras River. Storage capacity is 317,000 af it is currently owned and managed by the Corps. The reservoir supplies irrigation water to the Stockton East Water District and the Calaveras County Water District. The reservoir provides multiple recreation uses, but is not as developed as Camanche Reservoir. Substantial recreational use includes fishing, boating, swimming, camping, and sightseeing.

New Melones Reservoir. One of California's largest reservoirs, New Melones on the Stanislaus River was completed in 1978 by the U.S. Bureau of Reclamation with a capacity for 2,420,000 af. New Melones provides irrigation water, flood control, recreational opportunities, and hydroelectric power.

Pardee Reservoir. Also owned by East Bay Municipal Utility District, Pardee straddles the Mokelumne River above Camanche Reservoir. Completed in 1929, its capacity is 198,000 af. Water in this reservoir is subject to strict water quality standards because it is a domestic drinking water supply, so it is not used as intensively for recreational uses as other county reservoirs. Pardee Reservoir provides municipal and industrial water, flood control, recreation opportunities, and hydroelectric power.

Salt Springs Reservoir. Located along the North Fork of the Mokelumne River on the Calaveras/Amador County border. Capacity is about 140,000 af. The reservoir was completed in 1931. Owned and operated by Pacific Gas and Electric (PG&E), its primary purpose is to supply hydroelectric power, with fishing and recreation being secondary uses.

Tulloch Reservoir. The Tulloch Reservoir was developed as part of the Tri-Dam Project in the 1950s by the Oakdale and South San Joaquin Irrigation Districts, and continues to be managed by them. Tulloch Reservoir is located on the lower Stanislaus River below New Melones Reservoir. Capacity is about 67,000 af. The water is used for irrigation and domestic water purposes. Recreational opportunities include swimming and boating.

In addition to the reservoirs described above, a number of smaller older reservoirs built for irrigation and flood control purposes are found throughout the county. These include Hunter Reservoir, Salt Springs Valley Reservoir, Tiger Creek Reservoir, Calaveras Reservoir, Emery Reservoir, Schaads Reservoir, Old McCormick Reservoir, Copperopolis Reservoir, and the Goodwin Diversion Dam. There are also several reservoirs that were created as part of mine reclamation, such as Mine Run Reservoir near Camanche Reservoir (Alpers et. al. 1999; DWR 2005; Calaveras County 1996).

Major Streams and Diversion Channels

The following are 23 of the county's major streams and diversion canals; lesser perennial and seasonal creeks are not listed. The locations of these waterways can be found on Figure 9-3.

Airola Creek
Angel's Creek
Bear Creek
Blue Creek
Calaveras Public Utility Ditch
Calaveritas Creek
Cherokee Creek
Dutch Creek
Esperanza Creek
Forest Creek
Indian Creek
Jesus Maria Creek
Licking Fork
McCarty Creek
Moore Creek
Murray Creek
San Antonio Creek
San Domingo Creek
Steele Creek
Spring Valley Creek
Swamp Creek
Telegraph Creek
Utica Ditch

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Surface Water Quality

Impacts to water quality result from runoff during wet weather events, direct discharge associated with industrial/commercial activities, resource extraction activities, leaking sewer infrastructure, and illicit dumping. Additional pollutant sources within the county include past waste disposal practices, agricultural chemicals, and chemicals and fertilizers applied to landscaping. Typical contaminants may include sediment, hydrocarbons and metals, pesticides, nutrients, bacteria, and trash.

The SWRCB, in compliance with the Clean Water Act, Section 303(d), has prepared a list of impaired water bodies in the state of California. This list was approved by the US EPA in 2003. The Lower Stanislaus River is listed as being impaired by Diazinon, Group A pesticides, and mercury. Group A pesticides include chlordane, toxaphene, heptachlor, endosulfan, and several other pesticides. Diazinon and the Group A pesticides likely resulted from agriculture. Mercury likely originated from mining activities. The CVRWQCB is required to develop and implement a plan to lower the amounts of these contaminants in this water body to an acceptable level (CVRWQCB 2003).

Baseline Report Edits from Wallace Community Services District

Findings from a watershed assessment report prepared for the Upper Mokelumne River watershed provide information regarding the quality of water in the watershed (Upper Mokelumne River Watershed Authority 2007). Contaminants and characteristics of concern identified by this assessment include turbidity, alkalinity, aluminum, nitrate, and pathogens. Each of these constituents are found in elevated levels throughout the watershed. High levels of turbidity and low alkalinity were determined to be the result of natural watershed conditions. High levels of aluminum are also the result of natural watershed conditions but also originate from mining activities. High levels of nitrates result from natural watershed conditions and human activities, such as failing septic systems. Elevated pathogen concentrations are a major concern for this watershed and were observed in the Middle Fork, North Fork and Main Stem of the Mokelumne River. A majority of the County was found to have moderate vulnerability to the transport of these water quality constituents. High to very high vulnerability to the transport of these constituents was also identified for areas of the County that had a combination of factors. These factors include close proximity to water (less than 300 feet), high clay content in the soils, and high occurrence of vegetation that has low ability to provide a protective layer between rainfall and soil and stabilize soils with leaf debris and roots (Upper Mokelumne River Watershed Authority 2007).

Groundwater

A portion of western Calaveras County overlies the Eastern San Joaquin groundwater sub-basin. This sub-basin is a part of the larger San Joaquin Valley groundwater basin. This groundwater sub-basin extends from the western corner of the County to west of the cities of Stockton and Lodi. Use of water from this resource for irrigation and municipal purposes has resulted in a continuous decline of available groundwater over the past 40 years. As of 1990 annual groundwater extractions in San Joaquin County exceeded the estimated safe yield. Overdraft of the groundwater in this sub-basin has created groundwater depressions below Stockton, east of Stockton, and east of Lodi. The Cosumnes groundwater sub-basin of the San Joaquin Valley Basin is located just north of the Eastern San Joaquin groundwater sub-basin and the Modesto groundwater sub-basin of the San Joaquin Valley groundwater basin is located just south of the Eastern San Joaquin sub-basin. Each of these sub-basins can be seen on Figure 9-3 (DWR 2006).

Groundwater resources occur in parts of the rest of the County although there are no officially delineated groundwater basins defining these areas. In fact, most of the groundwater used within the County is obtained from these areas outside of the Eastern San Joaquin groundwater sub-basin. This groundwater may be found in hard rock formations and is retrieved from fractured rock, faults, or changes in stratigraphy (Calaveras County 2004).

The county contains an underground system of eighteen separate channels called the Tertiary Calaveras River Channel System. These channels are generally found throughout the central portion of the County, extending from the boundary with North Fork Mokelumne River to the north to the Stanislaus River to the south (Calaveras County 2004).

Groundwater Quality

The water quality in the Eastern San Joaquin groundwater basin is impaired. Groundwater quality in the Eastern San Joaquin groundwater basin has been directly affected by the severe overdraft that has occurred in the basin. As water levels in the basin have declined, a saline front originating in the western portion of the basin has moved eastward. From 1994

through 2000, samples taken from wells within the impacted area of the basin yielded water quality results that exceed maximum contaminant levels for constituent pollutants. Constituent pollutants include inorganic and radiological pollutants, nitrates, pesticides, and volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) (DWR 2006).

Continuous monitoring of the groundwater quality from the Wallace Community Services District (WCSD) wells shows little change in the last 15 years. The water from these wells generally has iron and manganese concentrations above the maximum contaminant levels. The implementation of industry standard treatment practices using a potassium permanganate additive and filtering result in concentrations typically in the range of 10 % of the maximum contaminant levels.

The quality of the remainder of the groundwater found throughout the County, in addition to the Eastern San Joaquin groundwater basin, may be affected by activities that include Class V injection wells, abandoned mines, abandoned wells, underground storage tanks, hazardous waste sites, on-site septic systems, failing septic systems, and solid waste sites. Contaminants that may be released from these sources into groundwater include fecal coliform, NO_2/NO_3, volatile organic compounds, and synthetic organic compounds (Calaveras County 2004).

Appendix B –
Supplemental Data Forms

Calaveras County Water Element
Comments Received from Water Element Group
(X denotes information received by MWH)

Agency/Organization	Supplemental Data Form
City of Angels	X
Blue Lake Springs Mutual Water Co.	X
Calaveras County Water District	X
Calaveras Public Utilities District	X
Fly-In-Acres	
Lili Valley Water Company	
Mokelumne Hill Sanitary District	X
Mineral Mountain Estates	X
Murphys Sanitary District	X
San Andreas Sanitary District	
Snowshoe Springs Association	X
Union Public Utilities District	X
Utica Power Authority	X
Valley Springs Public Utilities District	X
Wallace Community Services District	X
Total (15 agencies/organizations)	12

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

PLEASE COMPLETE AS MUCH OF THE FORM AS POSSIBLE AND/OR ATTACH ADDITIONAL INFORMATION AS APPRORPRIATE

1. GENERAL DATA

Today's Date: 10/23/08

Name of Organization: City of Angels

Public Agency: ☑ **Private Company:** ☐

Staff Contact (name/phone #): Tim Shearer 736-2181

Directors/Council Members: 1. Lee Seaton 2. Paul Raggio

3. _____ 4. _____ 5. _____

General Manager and Other Key Staff (name/title): Tim Shearer, City Administrator; David Hantam, asst. Planning Director

Service Area(s) *(if services provided to separate geographies, list each area)*

City of Angels Camp

Services Provided *(for multiple service areas, complete separate form for each)*

Service Area Name: City of Angels / Six Mile Village

Services Provided in this Area: Water: ☐ Wastewater: ☐ Both: ☑

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

2. WATER DATA

(for multiple service areas, complete separate form for each if data available)

Water Source: Surface Water: ☒ Which Watershed? Stanislaus Groundwater: ☐

Number of Water Connections Served: Approx. 1600

Treatment Capacity: Maximum Day 2 MGD Current % of Maximum Day 100 %
Plant Location (township/range/section)

Storage Capacity:

Reservoir Name	Capacity (acre-feet)	Location (T/R/S)

Tank Name	Capacity (gallons)	Location (T/R/S)
Water Treatment Plant	2.5 Million	

2007 Treated Water Delivery (annual acre-feet): 900

Projected Water Demand (annual acre-Feet):

Year	Demand	Year	Demand	Year	Demand	Year	Demand
2010	953	2020	1165	2030	1390	2035	1536

Do you have a Water Facility Master Plan? Yes ☒ Year: 2002 No ☐

List other planning or engineering documents, and mapped information available:
Water Treatment Plant Improvement Study (December 2007); Feasibility Study for Achieving Compliance with Wastewater Permit Requirements (September 2002), Discharge Permit Documentation

Any issues, violations, concerns, or other information regarding facilities?
4th Filter Requirement; Discharge Permit Delays

Alternative Analysis for North Angels Sewer Trunk Line (2008) 2007

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

3. WASTEWATER DATA

(for multiple service areas, complete separate form for each if data available)

Number of Wastewater Connections Served: Approx 1600

Treatment Capacity: Maximum Day .6 MGD
Plant Location (township/range/section) _____

Storage Capacity (total acre-feet): 202

Disposal Capacity (annual acre-feet): 1040

Type of Wastewater Treatment Technology: SBR

Level of Wastewater Treatment: Advanced Secondary ☐ Tertiary ☒ Other: _____

Disposal Method(s): Spray Fields, GMC Golf Course

2007 Average Dry Weather Flow (Gallons per Day): .4 MGD

Projected Wastewater Flow (Gallons per Day):

Year	Flow	Year	Flow	Year	Flow	Year	Flow
2010	.42	2020	.51	2030	.62	2035	.68

Do you have a Wastewater Facility Master Plan? Yes ☒ Year: 2002 No ☐

List other planning or engineering documents, and mapped information available: _____

See Water

Any issues, violations, concerns, or other information regarding facilities? _____

Rate Stabilization Analysis and Proposal (2008)

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

4. AGRICULTURAL WATER DATA

(for multiple service areas, complete separate form for each if data available)

If your organization provides agricultural water deliveries, complete the following:

Water Type: Raw Water: ☐ Recycled Water: ☒

Acres served in 2007: GHC usage is pending containment compliance

Acre-feet delivered in 2007:

Projected Agricultural Deliveries (annual acre-feet):

Year	Delivery	Year	Delivery	Year	Delivery	Year	Delivery
2010		2020		2030		2035	

List other planning or engineering documents, and mapped information available:

Development Agreement for GHC

Any issues, violations, concerns, or other information regarding facilities?

Regulatory changes

[redacted]

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

PLEASE COMPLETE AS MUCH OF THE FORM AS POSSIBLE AND/OR ATTACH ADDITIONAL INFORMATION AS APPRORPRIATE

1. GENERAL DATA

Today's Date: 10/13/08

Name of Organization: BLUE LAKE SPRINGS MUTUAL WATER CO.

Public Agency: ☐ **Private Company:** ☒

Staff Contact (name/phone #): MAYNARD "MIKE" HERREID 209-795-7025

Directors/Council Members: 1. John Speakman 2. Dave Owen
3. Evelin Carlsen 4. Ernie Multhaup 5. David Wood
6. Richard Watson 7. Robert Maginnis

General Manager and Other Key Staff (name/title): Maynard "Mike" Herreid General Manager, Jeri Cline OBBee Manager

Service Area(s) *(if services provided to separate geographies, list each area)*

Units 1 thru 13 Blue Lake Springs, Arnold, CA 95223

Services Provided *(for multiple service areas, complete separate form for each)*

Service Area Name: Blue Lake Springs

Services Provided in this Area: Water: ☒ Wastewater: ☐ Both: ☐

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

2. WATER DATA

(for multiple service areas, complete separate form for each if data available)

Water Source: Surface Water: ☐ Which Watershed? _____ Groundwater: ☑

Number of Water Connections Served: 1699

Treatment Capacity: Maximum Day 0.5 MGD Current % of Maximum Day 20 %
Plant Location (township/range/section) 38° 15' 37.17" N 120° 19' 56.15" W

Storage Capacity:

Reservoir Name	Capacity (acre-feet)	Location (T/R/S)

Tank Name	Capacity (gallons)	Location (T/R/S)
Tank # 4	750,000	38° 15' 33.75" N 120° 20' 49.35" W
Tank # 6	750,000	38° 15' 39.00" N 120° 18' 59.70" W
Tank # 8	150,000	38° 15' 37.17" N 120° 19' 56.15" W

2007 Treated Water Delivery (annual acre-feet): _____

Projected Water Demand (annual acre-Feet):

Year	Demand	Year	Demand	Year	Demand	Year	Demand
2010	230	2020	250	2030	260	2035	270

Do you have a Water Facility Master Plan? Yes ☒ Year: 2007 No ☐

List other planning or engineering documents, and mapped information available: _____

MAP SHOWING 6 PROJECTS FROM 2007 THRU 2012 REPLACE LINES INTO STREETS, WITH FIRE Hydrants

Any issues, violations, concerns, or other information regarding facilities? No

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

3. WASTEWATER DATA

(for multiple service areas, complete separate form for each if data available)

Number of Wastewater Connections Served: N/A

Treatment Capacity: Maximum Day _____
Plant Location (township/range/section) _____

Storage Capacity (total acre-feet): _____

Disposal Capacity (annual acre-feet): _____

Type of Wastewater Treatment Technology: _____

Level of Wastewater Treatment: Advanced Secondary ☐ Tertiary ☐ Other: _____

Disposal Method(s): _____

2007 Average Dry Weather Flow (Gallons per Day): _____

Projected Wastewater Flow (Gallons per Day):

Year	Flow	Year	Flow	Year	Flow	Year	Flow
2010		2020		2030		2035	

Do you have a Wastewater Facility Master Plan? Yes ☐ Year: _____ No ☐

List other planning or engineering documents, and mapped information available: _____

Any issues, violations, concerns, or other information regarding facilities? _____

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

4. AGRICULTURAL WATER DATA

(for multiple service areas, complete separate form for each if data available)

If your organization provides agricultural water deliveries, complete the following:

Water Type: Raw Water: ☐ Recycled Water: ☐

Acres served in 2007: _____

Acre-feet delivered in 2007: _____

Projected Agricultural Deliveries (annual acre-feet):

Year	Delivery	Year	Delivery	Year	Delivery	Year	Delivery
2010		2020		2030		2035	

List other planning or engineering documents, and mapped information available: _____

_____

_____

_____

Any issues, violations, concerns, or other information regarding facilities? _____

_____

_____

_____

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

4. AGRICULTURAL WATER DATA

(for multiple service areas, complete separate form for each if data available)

CALAVERAS RIVER AG USERS

If your organization provides agricultural water deliveries, complete the following:

Water Type: Raw Water: ☒ Recycled Water: ☐

Acres served in 2007: _____

Acre-feet delivered in 2007: 1016.

Projected Agricultural Deliveries (annual acre-feet):

Year	Delivery	Year	Delivery	Year	Delivery	Year	Delivery
2010		2020		2030		2035	

List other planning or engineering documents, and mapped information available: _____

Any issues, violations, concerns, or other information regarding facilities? _____

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Voluntary Request fo Informatio

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

PLEASE COMPLETE AS MUCH OF THE FORM AS POSSIBLE AND/OR ATTACH ADDITIONAL INFORMATION AS APPRORPRIATE

1. GENERAL DATA

Today's Date:_____

Name of Organization: _____

Public Agency: ☐ **Private Company:** ☐

Staff Contact (name/phone #): _____

Directors/Council Members: 1._____ **2.**_____

3._____ **4.**_____ **5.**_____

General Manager and Other Key Staff (name/title): _____

_____

Service Area(s) ***(if services provided to separate geographies, list each area)*** _____

See attached service area boundary

_____

Services Provided ***(for multiple service areas, complete separate form for each)***

Service Area Name: COPPER COVE

Services Provided in this Area: Water: ☐ Wastewater: ☐ Both: ☒

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

2. WATER DATA

(for multiple service areas, complete separate form for each if data available)

Water Source: Surface Water: ☒ Which Watershed? STANISLAUS Groundwater: ☐

Number of Water Connections Served: 2449

Treatment Capacity: Maximum Day 4.0 mgd Current % of Maximum Day 72.5
Plant Location (township/range/section) T1N/R12E/26

Storage Capacity:

Reservoir Name	Capacity (acre-feet)	Location (T/R/S)
RAW WATER TAKEN FROM LAKE TULLOCH		

Tank Name	Capacity (gallons)	Location (T/R/S)
CLEARWELL	300,000	T1N/R12E/26
B TANKS (2)	1,000,000	T1N/R12E/25
C TANKS (2)	1,000,000	T1N/R12E/23
COPPEROPOLIS	500,000	T2N/R12E/34

2007 Treated Water Delivery (annual acre-feet): 1475.

Projected Water Demand (annual acre-Feet):

Year	Demand	Year	Demand	Year	Demand	Year	Demand
2010	2175.	2020	6585.	2030	9105	2035	10,050

Do you have a Water Facility Master Plan? Yes ☒ Year: 2006 No ☐

List other planning or engineering documents, and mapped information available:

Any issues, violations, concerns, or other information regarding facilities?

NO

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

3. WASTEWATER DATA

(for multiple service areas, complete separate form for each if data available)

Number of Wastewater Connections Served: 1706

Treatment Capacity: Maximum Day 1.0 mg/d ~~0.206 mg/d ADWF~~ ~~1.0 mg/d~~
Plant Location (township/range/section) 7 IN / R 12 E / 26

Storage Capacity (total acre-feet): 260

Disposal Capacity (annual acre-feet): 510 on golf course

Type of Wastewater Treatment Technology: AERATED LAGOONS & RECLAIMED WATER PLANT

Level of Wastewater Treatment: Advanced Secondary ☐ Tertiary ☒ Other: _____

Disposal Method(s): DELIVERED TO SADDLE CREEK GOLF COURSE

2007 Average Dry Weather Flow (Gallons per Day): 0.205 mg/d

Projected Wastewater Flow (Gallons per Day):

Year	Flow	Year	Flow	Year	Flow	Year	Flow
2010	225,000	2020	1,100,000	2030	2,000,000	2035	2,350,000

Do you have a Wastewater Facility Master Plan? Yes ☒ Year: 2008 No ☐

List other planning or engineering documents, and mapped information available: _____

Any issues, violations, concerns, or other information regarding facilities? _____

APPLYING FOR AN ADWF INCREASE TO 0.350 mg/d.

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

4. AGRICULTURAL WATER DATA

(for multiple service areas, complete separate form for each if data available)

Saddle Creek Golf Course Irrigation

If your organization provides agricultural water deliveries, complete the following:

Water Type: Raw Water: ☒ Recycled Water: ☒

Acres served in 2007: 125

Acre-feet delivered in 2007: RAW - 331. RECYCLED - 207

Projected Agricultural Deliveries (annual acre-feet):

Year	Delivery	Year	Delivery	Year	Delivery	Year	Delivery
2010		2020		2030		2035	

List other planning or engineering documents, and mapped information available: _____

Any issues, violations, concerns, or other information regarding facilities? _____

EBBETTS PASS

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

Voluntary Request for Informatio

PLEASE COMPLETE AS MUCH OF THE FORM AS POSSIBLE AND/OR ATTACH ADDITIONAL INFORMATION AS APPRORPRIATE

1. GENERAL DATA

Today's Date:_____

Name of Organization: _____

Public Agency: ☐ **Private Company:** ☐

Staff Contact (name/phone #): _____

Directors/Council Members: 1._____ **2.**_____

3._____ **4.**_____ **5.**_____

General Manager and Other Key Staff (name/title): _____

_____

Service Area(s) ***(if services provided to separate geographies, list each area)*** _____

See attached service area boundary

_____

Services Provided ***(for multiple service areas, complete separate form for each)***

Service Area Name: EBBETTS PASS

Services Provided in this Area: Water: ☐ Wastewater: ☐ Both: ☒

WITHIN THE EBBETTS PASS WATER SERVICE AREA, THERE ARE FIVE INDIVIDUAL WASTEWATER SERVICE AREAS.

COUNTRY HOMES
SEQUOIA WOODS / MOUNTAIN RETREAT
MILLWOODS
ARNOLD
← FOREST MEADOWS

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

2. WATER DATA

(for multiple service areas, complete separate form for each if data available)

Water Source: Surface Water: ☒ Which Watershed? STANISLAUS Groundwater: ☐

Number of Water Connections Served: 5736

Treatment Capacity: Maximum Day 4.0 mg d Current % of Maximum Day 87.5
Plant Location (township/range/section) T4N/R14E/18

Storage Capacity:

Reservoir Name	Capacity (acre-feet)	Location (T/R/S)
RA WATER TAKEN FROM	COLLIERVILLE TUNNEL	

Tank Name	Capacity (gallons)	Location (T/R/S)
SEE ATTACHED LIST		

2007 Treated Water Delivery (annual acre-feet): 1890

Projected Water Demand (annual acre-Feet):

Year	Demand	Year	Demand	Year	Demand	Year	Demand
2010	2015	2020	3025	2030	4500	2035	4500.

Do you have a Water Facility Master Plan? Yes ☒ Year: 2005 No ☐

List other planning or engineering documents, and mapped information available:

Any issues, violations, concerns, or other information regarding facilities?

SELLS WHOLESALE TREATED WATER TO (100%) (100%)
SNOWSHOE SPRINGS, FLY-IN-ACRES & BLUE LAKES
SPRINGS (30-50%)

CALAVERAS COUNTY WATER DISTRICT

EBBETTS PASS SYSTEM

TREATED WATER STORAGE TANKS

	CAPACITY	LOCATION
TANK	gallons	township/range/section
Big Trees Village 8	100,000	T6N / R16E / 31
Big Trees Village 4&5 (2 tanks)	200,000	T5N / R15E / 12
Big Trees Village 3	100,000	T5N / R15E / 14
Big Trees Village 1	100,000	T5N / R15E / 14
60 K	60,000	T5N / R15E / 14
Sawmill	3,000,000	T5N / R15E / 21
Pinebrook	1,000,000	T5N / R15E / 33
Meadowmont	250,000	T4N / R15E / 6
Meadowmont 13	100,000	T5N / R15E / 30
Timber Trails	60,000	T4N / R14E / 13 or 14
Avery	750,000	T4N / R15E / 7
Forest Meadows - Heather	500,000	T4N / R14E / 25
Forest Meadows - Larkspur	210,000	T4N / R14E / 26
Clearwell	1,000,000	T4N / R14E / 18

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

EPW

3. WASTEWATER DATA ARNOLD

(for multiple service areas, complete separate form for each if data available)

Number of Wastewater Connections Served: 454

Treatment Capacity: Maximum Day 175,000 gpd
Plant Location (township/range/section) T4N/R15E/6

Storage Capacity (total acre-feet): N/A

Disposal Capacity (annual acre-feet): ~~Spray~~ leach 94 Spray 95

Type of Wastewater Treatment Technology: OXIDATION; CLARIFICATION; DISINFECTION

Level of Wastewater Treatment: Advanced Secondary ☒ Tertiary ☐ Other: _____

Disposal Method(s): WINTER - ON-SITE LEACH; SUMMER - ON-SITE IRRIGATION

2007 Average Dry Weather Flow (Gallons per Day): 72,000

Projected Wastewater Flow (Gallons per Day):

Year	Flow	Year	Flow	Year	Flow	Year	Flow
2010	75,000	2020	127,000	2030	147,000	2035	154,000.

Do you have a Wastewater Facility Master Plan? Yes ☒ Year: 2005 No ☐

List other planning or engineering documents, and mapped information available: _____

Any issues, violations, concerns, or other information regarding facilities? _____

NO

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

EPW

3. WASTEWATER DATA FOREST MEADOWS

(for multiple service areas, complete separate form for each if data available)

Number of Wastewater Connections Served: 604

Treatment Capacity: Maximum Day 270,000 gpd
Plant Location (township/range/section) T4N/R14E/34

Storage Capacity (total acre-feet): 80.

Disposal Capacity (annual acre-feet): 3x40 120.

Type of Wastewater Treatment Technology: RECLAIMED WATER FACILITY

Level of Wastewater Treatment: Advanced Secondary ☐ Tertiary ☒ Other: _____

Disposal Method(s): DELIVERED TO F.M. GOLF COURSE ; EXCESS DISCHARGED TO STANISLAUS RIVER

2007 Average Dry Weather Flow (Gallons per Day): 56,000

Projected Wastewater Flow (Gallons per Day):

Year	Flow	Year	Flow	Year	Flow	Year	Flow
2010	57,000.	2020	138,000.	2030	238,000.	2035	273,000.

Do you have a Wastewater Facility Master Plan? Yes ☒ Year: 2005 No ☐

List other planning or engineering documents, and mapped information available: _____

MASTER PLAN. SHOWS BUILD-OUT BY 2025 — THIS IS BEEN DELAYED TO 2035. TO REFLECT SLOWING HOUSING MARKET

Any issues, violations, concerns, or other information regarding facilities? _____

NO

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

4. AGRICULTURAL WATER DATA

(for multiple service areas, complete separate form for each if data available)

FOREST MEADOWS GOLF COURSE

If your organization provides agricultural water deliveries, complete the following:

Water Type: Raw Water: ☐ . Recycled Water: ☒

Acres served in 2007: 40

Acre-feet delivered in 2007: 70.

Projected Agricultural Deliveries (annual acre-feet):

Year	Delivery	Year	Delivery	Year	Delivery	Year	Delivery
2010	120	2020	120	2030	120	2035	120

List other planning or engineering documents, and mapped information available: _____

Any issues, violations, concerns, or other information regarding facilities? _____

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

EP W

3. WASTEWATER DATA HILLWOODS

(for multiple service areas, complete separate form for each if data available)

Number of Wastewater Connections Served: 195

Treatment Capacity: Maximum Day 28,000 gpd
Plant Location (township/range/section) T5N/R15E/30

Storage Capacity (total acre-feet): N/A

Disposal Capacity (annual acre-feet): N/A

Type of Wastewater Treatment Technology: NONE

Level of Wastewater Treatment: Advanced Secondary ☐ Tertiary ☐ Other: NONE

Disposal Method(s): ON-SITE COMMUNITY LEACH FIELD

2007 Average Dry Weather Flow (Gallons per Day): 14,000 gpd

Projected Wastewater Flow (Gallons per Day):

Year	Flow	Year	Flow	Year	Flow	Year	Flow
2010	14,000	2020	14,000	2030	14,000	2035	14,000

Do you have a Wastewater Facility Master Plan? Yes ☐ Year: _____ No ☒

List other planning or engineering documents, and mapped information available: _____

Any issues, violations, concerns, or other information regarding facilities? _____

CONSIDERING THE ~~MAY EQUIP~~ DELIVERY OF FLOW TO ARNOLD CWTF

BUILT OUT

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

EPW

3. WASTEWATER DATA SEQUOIA WOODS / MT. RETREAT

(for multiple service areas, complete separate form for each if data available)

Number of Wastewater Connections Served: 42

Treatment Capacity: Maximum Day 7,000 gpd
Plant Location (township/range/section) T5N/R15E/28

Storage Capacity (total acre-feet): N/A

Disposal Capacity (annual acre-feet): N/A

Type of Wastewater Treatment Technology: NONE

Level of Wastewater Treatment: Advanced Secondary ☐ Tertiary ☐ Other: NONE

Disposal Method(s): ON-SITE COMMUNITY LEACH FIELD

2007 Average Dry Weather Flow (Gallons per Day): 4,000 gpd

Projected Wastewater Flow (Gallons per Day):

Year	Flow	Year	Flow	Year	Flow	Year	Flow
2010	4,000	2020	4,000	2030	4,000	2035	4,000

Do you have a Wastewater Facility Master Plan? Yes ☐ Year: _____ No ☒

List other planning or engineering documents, and mapped information available: _____

Any issues, violations, concerns, or other information regarding facilities? _____

A NEW LEACH FIELD MAY BE NEEDED IN NEXT 5 YEARS

BUILT OUT

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

EPW

3. WASTEWATER DATA COUNTRY HOMES

(for multiple service areas, complete separate form for each if data available)

Number of Wastewater Connections Served: 20

Treatment Capacity: Maximum Day 7,000 gpd
Plant Location (township/range/section) T5N/R16E/7

Storage Capacity (total acre-feet): N/A

Disposal Capacity (annual acre-feet): N/A

Type of Wastewater Treatment Technology: NONE

Level of Wastewater Treatment: Advanced Secondary ☐ Tertiary ☐ Other: NONE

Disposal Method(s): ON-SITE COMMUNITY LEACH FIELD

2007 Average Dry Weather Flow (Gallons per Day): 3,000 gpd

Projected Wastewater Flow (Gallons per Day):

Year	Flow	Year	Flow	Year	Flow	Year	Flow
2010	3,000	2020	3,000	2030	3,000.	2035	3,000

Do you have a Wastewater Facility Master Plan? Yes ☐ Year: _____ No ☒

List other planning or engineering documents, and mapped information available: _____

Any issues, violations, concerns, or other information regarding facilities? _____

NO

BUILT OUT

INDIAN ROCK VILLAGE

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

Voluntary Request fo Informatio

PLEASE COMPLETE AS MUCH OF THE FORM AS POSSIBLE AND/OR ATTACH ADDITIONAL INFORMATION AS APPRORPRIATE

1. GENERAL DATA

Today's Date:_____

Name of Organization: _____

Public Agency: ☐ **Private Company:** ☐

Staff Contact (name/phone #): _____

Directors/Council Members: 1._____ **2.**_____

3._____ **4.**_____ **5.**_____

General Manager and Other Key Staff (name/title): _____

_____

Service Area(s) ***(if services provided to separate geographies, list each area)*** _____

_____

_____

Services Provided ***(for multiple service areas, complete separate form for each)***

Service Area Name: INDIAN ROCK VILLAGE, MURPHYS

Services Provided in this Area: Water: ☐ Wastewater: ☒ Both: ☐

3. WASTEWATER DATA

(for multiple service areas, complete separate form for each if data available)

Number of Wastewater Connections Served: 20

Treatment Capacity: Maximum Day 7,000.
Plant Location (township/range/section) T3N/R14E/9

Storage Capacity (total acre-feet): N/A

Disposal Capacity (annual acre-feet): N/A

Type of Wastewater Treatment Technology: NONE

Level of Wastewater Treatment: Advanced Secondary ☐ Tertiary ☐ Other: NONE

Disposal Method(s): ON-SITE ~~&~~ COMMUNITY LEACH FIELD

2007 Average Dry Weather Flow (Gallons per Day): 3,000.

Projected Wastewater Flow (Gallons per Day):

Year	Flow	Year	Flow	Year	Flow	Year	Flow
2010	3,000	2020	3,000	2030	3,000	2035	3,000

Do you have a Wastewater Facility Master Plan? Yes ☐ Year: _____ No ☒

List other planning or engineering documents, and mapped information available: _____

Any issues, violations, concerns, or other information regarding facilities? _____

Built Out.

JENNY LIND

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

Voluntary Request fo Informatio

PLEASE COMPLETE AS MUCH OF THE FORM AS POSSIBLE AND/OR ATTACH ADDITIONAL INFORMATION AS APPRORPRIATE

1. GENERAL DATA

Today's Date:_____

Name of Organization: _____

Public Agency: ☐ **Private Company:** ☐

Staff Contact (name/phone #): _____

Directors/Council Members: 1._____ **2.**_____

3._____ **4.**_____ **5.**_____

General Manager and Other Key Staff (name/title): _____

_____

Service Area(s) ***(if services provided to separate geographies, list each area)*** _____

_____

_____

Services Provided ***(for multiple service areas, complete separate form for each)***

Service Area Name: JENNY LIND

Services Provided in this Area: Water: ☐ Wastewater: ☐ Both: ☒

PROVIDES WASTEWATER SERVICE TO LIMITED AREA WITHIN JENNY LIND WATER DISTRICT CALLED LA CONTENTA.

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

2. WATER DATA

(for multiple service areas, complete separate form for each if data available)

Water Source: Surface Water: ☒ Which Watershed? CALAVERAS Groundwater: ☐

Number of Water Connections Served: 3624

Treatment Capacity: Maximum Day 6.0 Current % of Maximum Day 80.
Plant Location (township/range/section) T4N / R10E / 36

Storage Capacity:

Reservoir Name	Capacity (acre-feet)	Location (T/R/S)
RAW WATER FROM CALAVERAS RIVER BELOW		HOGAN DAM

Tank Name	Capacity (gallons)	Location (T/R/S)
SEE ATTACHED LIST		

2007 Treated Water Delivery (annual acre-feet): 2280

Projected Water Demand (annual acre-Feet):

Year	Demand	Year	Demand	Year	Demand	Year	Demand
2010	2350	2020	4450	2030	6250	2035	6500

Do you have a Water Facility Master Plan? Yes ☒ Year: 2005 No ☐

List other planning or engineering documents, and mapped information available:

REGIONALIZATION IS BEING DISCUSSED

Any issues, violations, concerns, or other information regarding facilities?

NO.

CALAVERAS COUNTY WATER DISTRICT

JENNY LIND SYSTEM

TREATED WATER STORAGE TANKS

	CAPACITY	LOCATION
TANK	gallons	township/range/section
F tank	1,000,000	T4N / R11E / 30
E tank	500,000	T4N / R10E / 36
B tankn	1,000,000	T3N / R10E / 11
A tank	2,000,000	T4N / R10E / 35
602 tank	200,000	T4N /R10E / 27
Clearwells (2 tanks)	250,000	T4N / R10E / 36

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

JLW

3. WASTEWATER DATA LA CONTENTA

(for multiple service areas, complete separate form for each if data available)

Number of Wastewater Connections Served: 936

Treatment Capacity: Maximum Day PERMITED ~~[illegible]~~ 200,000.

Plant Location (township/range/section) T4N/R10E/24

Storage Capacity (total acre-feet): 230,~~000~~

Disposal Capacity (annual acre-feet): 200.

Type of Wastewater Treatment Technology: RECLAIMED PLANT

Level of Wastewater Treatment: Advanced Secondary ☐ Tertiary ☒ Other: _____

Disposal Method(s): DELIVERY TO LA CONTENTA GOLF COURSE

2007 Average Dry Weather Flow (Gallons per Day): 174,000.

Projected Wastewater Flow (Gallons per Day):

Year	Flow	Year	Flow	Year	Flow	Year	Flow
2010	190,000.	2020	250,000	2030	345,000	2035	395,000

Do you have a Wastewater Facility Master Plan? Yes ☒ Year: 2005 No ☐

List other planning or engineering documents, and mapped information available:

ADJUSTED FLOWS DOWN FROM MASTER PLAN TIMING.

REGIONALIZATION BEING CONSIDERED

Any issues, violations, concerns, or other information regarding facilities?

THERE IS A CURRENT DISPOSAL SHORT FALL.

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

4. AGRICULTURAL WATER DATA

(for multiple service areas, complete separate form for each if data available)

La Contenta Golf Course

If your organization provides agricultural water deliveries, complete the following:

Water Type: Raw Water: ☒ Recycled Water: ☒

Acres served in 2007: 70

Acre-feet delivered in 2007: RAW - 134 RECYCLED - 145

Projected Agricultural Deliveries (annual acre-feet):

Year	Delivery	Year	Delivery	Year	Delivery	Year	Delivery
2010	300	2020	300	2030	300	2035	300

List other planning or engineering documents, and mapped information available: _____

Any issues, violations, concerns, or other information regarding facilities? _____

SHEEP RANCH

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

Voluntary Request for Information

PLEASE COMPLETE AS MUCH OF THE FORM AS POSSIBLE AND/OR ATTACH ADDITIONAL INFORMATION AS APPRORPRIATE

1. GENERAL DATA

Today's Date:_____

Name of Organization: _____

Public Agency: ☐ **Private Company:** ☐

Staff Contact (name/phone #): _____

Directors/Council Members: 1._____ **2.**_____

3._____ **4.**_____ **5.**_____

General Manager and Other Key Staff (name/title): _____

_____

Service Area(s) ***(if services provided to separate geographies, list each area)*** _____

_____

_____

Services Provided ***(for multiple service areas, complete separate form for each)***

Service Area Name: SHEEP RANCH

Services Provided in this Area: Water: ☒ Wastewater: ☐ Both: ☐

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

2. WATER DATA

(for multiple service areas, complete separate form for each if data available)

Water Source: Surface Water: ☒ Which Watershed? CALAVERAS Groundwater: ☐

Number of Water Connections Served: 48

Treatment Capacity: Maximum Day 33,000. Current % of Maximum Day 100
Plant Location (township/range/section) T4N/R14E/8

Storage Capacity:

Reservoir Name	Capacity (acre-feet)	Location (T/R/S)
RAW WATER FROM SAN ANTONIO CREEK	BELOW WHITE PINES	

Tank Name	Capacity (gallons)	Location (T/R/S)
CLEARWELL	80,000.	T4N/R14E/8

2007 Treated Water Delivery (annual acre-feet): 11.

Projected Water Demand (annual acre-Feet):

Year	Demand	Year	Demand	Year	Demand	Year	Demand
2010	11.	2020	11.	2030	11.	2035	11.

Do you have a Water Facility Master Plan? Yes ☐ Year: _____ No ☒

List other planning or engineering documents, and mapped information available: _____

Any issues, violations, concerns, or other information regarding facilities?

- SMALL SYSTEM NON-ACCEPTABLE TREATMENT TECHNOLOGY WAIVER
- DISTRIBUTION SYSTEM INADEQUATE FOR TODAY'S FIRE SUPPRESSION REQUIREMENTS

SIX MILE VILLAGE

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

Voluntary Request fo Informatio

PLEASE COMPLETE AS MUCH OF THE FORM AS POSSIBLE AND/OR ATTACH ADDITIONAL INFORMATION AS APPRORPRIATE

1. GENERAL DATA

Today's Date:_____

Name of Organization: _____

Public Agency: ☐ **Private Company:** ☐

Staff Contact (name/phone #): _____

Directors/Council Members: 1._____ **2.**_____

3._____ **4.**_____ **5.**_____

General Manager and Other Key Staff (name/title): _____

_____

Service Area(s) ***(if services provided to separate geographies, list each area)*** _____

_____

_____

Services Provided ***(for multiple service areas, complete separate form for each)***

Service Area Name: 6-MILE VILLAGE

Services Provided in this Area: Water: ☐ Wastewater: ☒ Both: ☐

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

3. WASTEWATER DATA

6MV

(for multiple service areas, complete separate form for each if data available)

Number of Wastewater Connections Served: 65

Treatment Capacity: Maximum Day N/A
Plant Location (township/range/section) T3N/R13E/24

Storage Capacity (total acre-feet): N/A

Disposal Capacity (annual acre-feet): N/A

Type of Wastewater Treatment Technology: N/A

Level of Wastewater Treatment: Advanced Secondary ☐ Tertiary ☐ Other: N/A

Disposal Method(s): N/A

2007 Average Dry Weather Flow (Gallons per Day): 12,000.

Projected Wastewater Flow (Gallons per Day):

Year	Flow	Year	Flow	Year	Flow	Year	Flow
2010	12,500	2020	12,500	2030		2035	

Do you have a Wastewater Facility Master Plan? Yes ☐ Year: _____ No ☒

List other planning or engineering documents, and mapped information available:

COLLECTION SYSTEM ONLY — RAW SEWAGE DELIVERED TO ANGELS CAMP.

Any issues, violations, concerns, or other information regarding facilities?

ONLY 3 CONNECTIONS LEFT: ESSENTIALLY BUILT OUT.

SOUTHWORTH RANCH ESTATES

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

Voluntary Request fo Informatio

PLEASE COMPLETE AS MUCH OF THE FORM AS POSSIBLE AND/OR ATTACH ADDITIONAL INFORMATION AS APPRORPRIATE

1. GENERAL DATA

Today's Date:_____

Name of Organization: _____

Public Agency: ☐ **Private Company:** ☐

Staff Contact (name/phone #): _____

Directors/Council Members: 1._____ **2.**_____

3._____ **4.**_____ **5.**_____

General Manager and Other Key Staff (name/title): _____

_____

Service Area(s) ***(if services provided to separate geographies, list each area)*** _____

_____

_____

Services Provided ***(for multiple service areas, complete separate form for each)***

Service Area Name: SOUTHWORTH RANCH ESTATES, WALLACE/BURSON

Services Provided in this Area: Water: ☐ Wastewater: ☒ Both: ☐

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

3. WASTEWATER DATA

SRE

(for multiple service areas, complete separate form for each if data available)

Number of Wastewater Connections Served: 56

Treatment Capacity: Maximum Day 17,000
Plant Location (township/range/section) T4N/R9E/35

Storage Capacity (total acre-feet): 11.

Disposal Capacity (annual acre-feet): 20.

Type of Wastewater Treatment Technology: RECIRC SAND FILTER + DISINFECTION

Level of Wastewater Treatment: Advanced Secondary ☒ Tertiary ☐ Other: _____

Disposal Method(s): ON-SITE IRRIGATION

2007 Average Dry Weather Flow (Gallons per Day): 11,000

Projected Wastewater Flow (Gallons per Day):

Year	Flow	Year	Flow	Year	Flow	Year	Flow
2010	11,500	2020	12,500.	2030	12,500	2035	12,500

Do you have a Wastewater Facility Master Plan? Yes ☐ Year: _____ No ☒

List other planning or engineering documents, and mapped information available: _____

Any issues, violations, concerns, or other information regarding facilities? _____

ONLY 12 CONNECTIONS LEFT

Build out by 2015

VALLECITO / DOUGLAS FLAT

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

Voluntary Request for Informatio

PLEASE COMPLETE AS MUCH OF THE FORM AS POSSIBLE AND/OR ATTACH ADDITIONAL INFORMATION AS APPRORPRIATE

1. GENERAL DATA

Today's Date:_____

Name of Organization: _____

Public Agency: ☐ **Private Company:** ☐

Staff Contact (name/phone #): _____

Directors/Council Members: 1._____ **2.**_____

3._____ **4.**_____ **5.**_____

General Manager and Other Key Staff (name/title): _____

_____

Service Area(s) ***(if services provided to separate geographies, list each area)*** _____

_____

_____

Services Provided ***(for multiple service areas, complete separate form for each)***

Service Area Name: VALLECITO / DOUGLAS FLAT

Services Provided in this Area: Water: ☐ Wastewater: ☒ Both: ☐

VAL/DF

3. WASTEWATER DATA

(for multiple service areas, complete separate form for each if data available)

Number of Wastewater Connections Served: 254

Treatment Capacity: Maximum Day 65,000
Plant Location (township/range/section) T3N/R14E/17

Storage Capacity (total acre-feet): 49.

Disposal Capacity (annual acre-feet): 75.

Type of Wastewater Treatment Technology: EXTENDED AERATION + DISINFECTED

Level of Wastewater Treatment: Advanced Secondary ☒ Tertiary ☐ Other: _____

Disposal Method(s): ON-SITE IRRIGATION

2007 Average Dry Weather Flow (Gallons per Day): 52,000.

Projected Wastewater Flow (Gallons per Day):

Year	Flow	Year	Flow	Year	Flow	Year	Flow
2010	56,000	2020	67,000	2030	67,000	2035	67,000.

Do you have a Wastewater Facility Master Plan? Yes ☒ Year: 2005 No ☐

List other planning or engineering documents, and mapped information available: _____

Any issues, violations, concerns, or other information regarding facilities? _____

- THERE IS A STORAGE & DISPOSAL SHORTFALL.
- REGIONIZATION WITH MURPHYS AND/OR ANGELS CAMP
- BEING DISCUSSED.
- Build out 2020.

WEST POINT

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

Voluntary Request fo Informatio

PLEASE COMPLETE AS MUCH OF THE FORM AS POSSIBLE AND/OR ATTACH ADDITIONAL INFORMATION AS APPRORPRIATE

1. GENERAL DATA

Today's Date:_____

Name of Organization: _____

Public Agency: ☐ **Private Company:** ☐

Staff Contact (name/phone #): _____

Directors/Council Members: 1._____ **2.**_____

3._____ **4.**_____ **5.**_____

General Manager and Other Key Staff (name/title): _____

_____

Service Area(s) ***(if services provided to separate geographies, list each area)*** _____

_____

_____

Services Provided ***(for multiple service areas, complete separate form for each)***

Service Area Name: WEST POINT

Services Provided in this Area: Water: ☐ Wastewater: ☐ Both: ☒

PROVIDES SEWER SERVICE TO TWO AREAS WITHIN WEST POINT WATER BOUNDARY.

- WEST POINT
- WILSEYVILLE

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

2. WATER DATA

(for multiple service areas, complete separate form for each if data available)

Water Source: Surface Water: ☒ Which Watershed? MOKELUMNE RIVER Groundwater: ☐

Number of Water Connections Served: 556

Treatment Capacity: Maximum Day 1.0 Current % of Maximum Day 35.
Plant Location (township/range/section) T6N/R13E/2

Storage Capacity:

Reservoir Name	Capacity (acre-feet)	Location (T/R/S)
REGULATOR (RAW WATER)	50	T7N/R13E/35

Tank Name	Capacity (gallons)	Location (T/R/S)
CLEARWELL	420,000.	T6N/R13E/2
BUMMERVILLE	30,000.	T6N/R13E/2

2007 Treated Water Delivery (annual acre-feet): 185.

Projected Water Demand (annual acre-Feet):

Year	Demand	Year	Demand	Year	Demand	Year	Demand
2010	220.	2020	308.	2030	370.	2035	385.

Do you have a Water Facility Master Plan? Yes ☒ Year: 2005 No ☐

List other planning or engineering documents, and mapped information available:

Any issues, violations, concerns, or other information regarding facilities?

DISTRIBUTION SYSTEM UNDERGOING UPGRADE.

Slow growth leaves excess capacity in 2035.

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

WPW

3. WASTEWATER DATA

WEST POINT SEWER

(for multiple service areas, complete separate form for each if data available)

Number of Wastewater Connections Served: 163

Treatment Capacity: Maximum Day 58,000 gpd
Plant Location (township/range/section) T6N/R13E/15

Storage Capacity (total acre-feet): 71.

Disposal Capacity (annual acre-feet): (40 AF) 120.

Type of Wastewater Treatment Technology: RECIRC SAND FILTER + DISINFECTION

Level of Wastewater Treatment: Advanced Secondary ☒ Tertiary ☐ Other: _____

Disposal Method(s): ON-SITE IRRIGATION

2007 Average Dry Weather Flow (Gallons per Day): 15,000

Projected Wastewater Flow (Gallons per Day):

Year	Flow	Year	Flow	Year	Flow	Year	Flow
2010	20,800	2020	30,500	2030	36,500	2035	37,500

Do you have a Wastewater Facility Master Plan? Yes ☒ Year: 2005 No ☐

List other planning or engineering documents, and mapped information available: _____

Any issues, violations, concerns, or other information regarding facilities? _____

NO

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

WPW

3. WASTEWATER DATA

Willseyville

(for multiple service areas, complete separate form for each if data available)

Number of Wastewater Connections Served: 28

Treatment Capacity: Maximum Day 9,000
Plant Location (township/range/section) T6N / R13E / 14

Storage Capacity (total acre-feet): N/A (18)

Disposal Capacity (annual acre-feet): ~~10~~ 10x2.5 25

Type of Wastewater Treatment Technology: AERATED LAGOON + DISINFECTION

Level of Wastewater Treatment: Advanced Secondary ☐ Tertiary ☐ Other: _____

Disposal Method(s): ON-SITE IRRIGATION

2007 Average Dry Weather Flow (Gallons per Day): 4,000

Projected Wastewater Flow (Gallons per Day):

Year	Flow	Year	Flow	Year	Flow	Year	Flow
2010	4,500.	2020	5,000.	2030	5,500.	2035	

Do you have a Wastewater Facility Master Plan? Yes ☐ Year: _____ No ☒

List other planning or engineering documents, and mapped information available: _____

Any issues, violations, concerns, or other information regarding facilities? _____

CONSIDERING DELIVERY OF POND EFFLUENT TO WEST POINT TREATMENT FACILITY.

BUILT OUT.

Voluntary Request for Information

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

PLEASE COMPLETE AS MUCH OF THE FORM AS POSSIBLE AND/OR ATTACH ADDITIONAL INFORMATION AS APPRORPRIATE

1. GENERAL DATA

Today's Date: 11/12/08

Name of Organization: CALAVERAS PUBLIC UTILITY DISTRICT

Public Agency: ☒ **Private Company:** ☐

Staff Contact (name/phone #): DONNA LEATHERMAN 209 754-9442

Directors/Council Members: 1. JOHN LAUARONI 2. ROBERT JAICH 3. CLIFF OVERMIER 4. CHARLIE MOORE 5. DAVID ORTEGEL

General Manager and Other Key Staff (name/title): GARY GOFFE, MANAGER

Service Area(s) *(if services provided to separate geographies, list each area)*

SAN ANDREAS, MOKELUMNE HILL, PACOMA, PARTS OF GLENCOE + RAIL ROAD FLAT

Services Provided *(for multiple service areas, complete separate form for each)*

Service Area Name: CPUD DISTRICT BOUNDARIES

Services Provided in this Area: Water: ☒ Wastewater: ☐ Both: ☐

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

2. WATER DATA

(for multiple service areas, complete separate form for each if data available)

Water Source: Surface Water: ☒ Which Watershed? MOKELUMNE (SF) Groundwater: ☐

Number of Water Connections Served: 1950

Treatment Capacity: Maximum Day 4 MGD Current % of Maximum Day 66%
Plant Location (township/range/section) T6 R13 4

Storage Capacity:

Reservoir Name	Capacity (acre-feet)	Location (T/R/S)
JEFF DAVIS	2300	T6R13 4

Tank Name	Capacity (gallons)	Location (T/R/S)
SAN ANDREAS	3 M	T4R12 17
MOKELUMNE HILL	1.5 M	T5R12 7
RAIL ROAD FLAT	.5M	T6R13 33

2007 Treated Water Delivery (annual acre-feet): 1500±

Projected Water Demand (annual acre-Feet):

Year	Demand	Year	Demand	Year	Demand	Year	Demand
2010	1550	2020	1800	2030	2200	2035	2400

Do you have a Water Facility Master Plan? Yes ☒ Year: 2008 No ☐

List other planning or engineering documents, and mapped information available:

NONE

Any issues, violations, concerns, or other information regarding facilities?

NONE

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

3. WASTEWATER DATA

(for multiple service areas, complete separate form for each if data available)

Number of Wastewater Connections Served: N/A

Treatment Capacity: Maximum Day_____
Plant Location (township/range/section)_____

Storage Capacity (total acre-feet): _____

Disposal Capacity (annual acre-feet): _____

Type of Wastewater Treatment Technology: _____

Level of Wastewater Treatment: Advanced Secondary ☐ Tertiary ☐ Other: _____

Disposal Method(s): _____

2007 Average Dry Weather Flow (Gallons per Day):_____

Projected Wastewater Flow (Gallons per Day):

Year	Flow	Year	Flow	Year	Flow	Year	Flow
2010		2020		2030		2035	

Do you have a Wastewater Facility Master Plan? Yes ☐ Year: _____ No ☐

List other planning or engineering documents, and mapped information available: _____

_____

_____

_____

Any issues, violations, concerns, or other information regarding facilities? _____

_____

_____

_____

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

4. AGRICULTURAL WATER DATA

(for multiple service areas, complete separate form for each if data available)

If your organization provides agricultural water deliveries, complete the following:

Water Type: Raw Water: ☐ Recycled Water: ☐

Acres served in 2007: _____

Acre-feet delivered in 2007: N/A

Projected Agricultural Deliveries (annual acre-feet):

Year	Delivery	Year	Delivery	Year	Delivery	Year	Delivery
2010		2020		2030		2035	

List other planning or engineering documents, and mapped information available: _____

Any issues, violations, concerns, or other information regarding facilities? _____

Voluntary Request fo Informatio

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

PLEASE COMPLETE AS MUCH OF THE FORM AS POSSIBLE AND/OR ATTACH ADDITIONAL INFORMATION AS APPRORPRIATE

1. GENERAL DATA

Today's Date: 10/23/08

Name of Organization: MOKELUMNE HILL SANITARY DISTRICT

Public Agency: ☒ **Private Company:** ☐

Staff Contact (name/phone #): PHIL McCARTNEY

Directors/Council Members: 1. PAM HIRL **2.** SAM CHASTAIN

3. JAMES AARON **4.** RAY WALLER **5.** _____

General Manager and Other Key Staff (name/title): BOARD PRES. - MARCY HOSFORD

Service Area(s) ***(if services provided to separate geographies, list each area)*** _____

MOKELUMNE HILL

Services Provided ***(for multiple service areas, complete separate form for each)***

Service Area Name: MOKELUMNE HILL SANITARY DISTRICT

Services Provided in this Area: Water: ☐ Wastewater: ☒ Both: ☐

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

2. WATER DATA

(for multiple service areas, complete separate form for each if data available)

Water Source: Surface Water: ☐ Which Watershed?_____ Groundwater: ☐

Number of Water Connections Served: _____

Treatment Capacity: Maximum Day_____Current % of Maximum Day_____
Plant Location (township/range/section)_____

Storage Capacity:

Reservoir Name	Capacity (acre-feet)	Location (T/R/S)

Tank Name	Capacity (gallons)	Location (T/R/S)

2007 Treated Water Delivery (annual acre-feet): _____

Projected Water Demand (annual acre-Feet):

Year	Demand	Year	Demand	Year	Demand	Year	Demand
2010		2020		2030		2035	

Do you have a Water Facility Master Plan? Yes ☐ Year: _____ No ☐

List other planning or engineering documents, and mapped information available: _____

_____

_____

_____

Any issues, violations, concerns, or other information regarding facilities? _____

_____

_____

_____

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

3. WASTEWATER DATA

(for multiple service areas, complete separate form for each if data available)

Number of Wastewater Connections Served: 350

Treatment Capacity: Maximum Day 150 MGD
Plant Location (township/range/section) _____

Storage Capacity (total acre-feet): 55 AF

Disposal Capacity (annual acre-feet): 55 AF

Type of Wastewater Treatment Technology: CHLORINE TREATMENT

Level of Wastewater Treatment: Advanced Secondary ☒ Tertiary ☐ Other: _____

Disposal Method(s): SPRAY FIELDS

2007 Average Dry Weather Flow (Gallons per Day): .040 MGD

Projected Wastewater Flow (Gallons per Day):

Year	Flow	Year	Flow	Year	Flow	Year	Flow
2010	.040	2020	.050	2030	.050	2035	.050

Do you have a Wastewater Facility Master Plan? Yes ☐ Year: _____ No ☑

List other planning or engineering documents, and mapped information available: _____

WEBER & GILO ASSOC - SAN ANDREAS

Any issues, violations, concerns, or other information regarding facilities? NO

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

4. AGRICULTURAL WATER DATA

(for multiple service areas, complete separate form for each if data available)

If your organization provides agricultural water deliveries, complete the following:

Water Type: Raw Water: ☐ Recycled Water: ☐

Acres served in 2007: _____

Acre-feet delivered in 2007: _____

Projected Agricultural Deliveries (annual acre-feet):

Year	Delivery	Year	Delivery	Year	Delivery	Year	Delivery
2010		2020		2030		2035	

List other planning or engineering documents, and mapped information available: _____

_____

_____

_____

Any issues, violations, concerns, or other information regarding facilities? _____

_____

_____

_____

Voluntary Request for Information

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

PLEASE COMPLETE AS MUCH OF THE FORM AS POSSIBLE AND/OR ATTACH ADDITIONAL INFORMATION AS APPRORPRIATE

1. GENERAL DATA

Today's Date: 11/16/08

Name of Organization: Mineral Mountain Mutual Water Co.

Public Agency: ☐ **Private Company:** ☒

Staff Contact (name/phone #): Tom Milligan 209 728-9251
Bill Bogdanoff 209 728-8337 MARK SOUZA 209 728-88

Directors/Council Members: 1. Tom Milligan-Pres. 2. Steve April-V-PRES.
3. Susan Rajaram-Sec. 4. Marcia Kasuba-TREASURER 5.

General Manager and Other Key Staff (name/title): Tom Milligan President
Bill Bogdanoff - Distribution Operator
MARK SOUZA - Meter Reader/Sub operator

Service Area(s) *(if services provided to separate geographies, list each area)*
Mineral Mountain Estates Subdivision

Services Provided *(for multiple service areas, complete separate form for each)*

Service Area Name: Mineral Mountain Estates

Services Provided in this Area: Water: ☒ Wastewater: ☐ Both: ☐

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

2. WATER DATA

(for multiple service areas, complete separate form for each if data available)

Water Source: Surface Water: ☐ Which Watershed?_____ Groundwater: ☒

Number of Water Connections Served: 34

Treatment Capacity: Maximum Day 48,000 Current % of Maximum Day_____
Plant Location (township/range/section) Mineral Mtn - Murphys

Storage Capacity:

Reservoir Name	Capacity (acre-feet)	Location (T/R/S)

Tank Name	Capacity (gallons)	Location (T/R/S)
01	10,000	Mineral Mtn - Murphys
02	50,000	Mineral Mtn - Murphys

2007 Treated Water Delivery (annual acre-feet): ~ 53.7

Projected Water Demand (annual acre-Feet):

Year	Demand	Year	Demand	Year	Demand	Year	Demand
2010	53.7	2020	53.7	2030	?	2035	?

Do you have a Water Facility Master Plan? Yes ☐ Year: _____ No ☒

List other planning or engineering documents, and mapped information available: _____

We have a copy of the system layout with modifications

Any issues, violations, concerns, or other information regarding facilities? Not enough Storage, availability of groundwater biggest concern. Every three years we go through a pump due to iron sludge.

Received 10/31/08 MWH

Voluntary Request for Information

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

PLEASE COMPLETE AS MUCH OF THE FORM AS POSSIBLE AND/OR ATTACH ADDITIONAL INFORMATION AS APPRORPRIATE

1. GENERAL DATA

Today's Date: 10/30/08

Name of Organization: Murphys Sanitary District

Public Agency: ☑ **Private Company:** ☐

Staff Contact (name/phone #): Ralph Emerson (209) 728-3094

Directors/Council Members: 1. Fred Kett 2. Cynthia Trade 3. Diane Severud 4. Jesse Hampton 5. Patricia Davies

General Manager and Other Key Staff (name/title): Ralph Emerson (Operations Manager)

Service Area(s) ***(if services provided to separate geographies, list each area)*** N/A

Services Provided ***(for multiple service areas, complete separate form for each)***

Service Area Name: Murphys, CA.

Services Provided in this Area: Water: ☐ Wastewater: ☑ Both: ☐

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

3. WASTEWATER DATA

(for multiple service areas, complete separate form for each if data available)

Number of Wastewater Connections Served: 783

Treatment Capacity: Maximum Day .450 Avg
Plant Location (township/range/section) Section 8, T3N, R14E

Storage Capacity (total acre-feet): 187 Acres

Disposal Capacity (annual acre-feet): 373 during 9 month season

Type of Wastewater Treatment Technology: 4 pond facultative, Aerated, tertiary

Level of Wastewater Treatment: Advanced Secondary ☐ Tertiary ☑ Other: Biological

Disposal Method(s): pumped to drip irrigation

2007 Average Dry Weather Flow (Gallons per Day): .156

Projected Wastewater Flow (Gallons per Day):

Year	Flow	Year	Flow	Year	Flow	Year	Flow
2010	.158	2020	.168	2030	.175	2035	.178

Do you have a Wastewater Facility Master Plan? Yes ☑ Year: 2007 No ☐

List other planning or engineering documents, and mapped information available:

Master plan, sphere of influence, future land use, capital improvement plan

Any issues, violations, concerns, or other information regarding facilities?

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

4. AGRICULTURAL WATER DATA

(for multiple service areas, complete separate form for each if data available)

If your organization provides agricultural water deliveries, complete the following:

Water Type: Raw Water: ☐ Recycled Water: ☑

Acres served in 2007: 113

Acre-feet delivered in 2007: 195

Projected Agricultural Deliveries (annual acre-feet):

Year	Delivery	Year	Delivery	Year	Delivery	Year	Delivery
2010	197	2020	209	2030	216	2035	220

List other planning or engineering documents, and mapped information available:

Master plan, Sphere of Influence, Future Land use Study, Capital improvement plan

Any issues, violations, concerns, or other information regarding facilities?

Calaveras County General Plan Water Element Water and Wastewater Services Supplement Data Form

PLEASE COMPLETE AS MUCH OF THE FORM AS POSSIBLE AND/OR ATTACH ADDITIONAL INFORMATION AS APPRORPRIATE

1. GENERAL DATA

Today's Date: October 28, 2008
Name of Organization: Snowshoe Springs Association
Public Agency: **Private Company**: Homeowner's association
Staff Contact (name/phone #): Sam Altshuler, Chair of Water Committee (925) 820 0857; Ward Redman, General manager, (209) 795 4904
Directors/Council Members: 1._Kevin Marques, President_2._Sam Altshuler, VP_____ 3._Bobbe Hengst, CFO/Treasurer__4._Walt Patterson_____ 5.__Steve Ohare____ 6. Andy Hegedus, 7 Richard Markwell
General Manager and Other Key Staff Ward Redman, General manager
Service Area(s) ***(if services provided to separate geographies, list each area)***
Snowshoe Springs Association in the Dorrington, Camp Connell area, 300 homes

---

Services Provided ***(for multiple service areas, complete separate form for each)***

Service Area Name:

Services Provided in this Area: Water

Calaveras County General Plan Water Element Water and Wastewater Services Supplement Data Form

2. WATER DATA

(for multiple service areas, complete separate form for each if data available)

Water Source: CCWD supplies water through a 2 inch meter:
Number of Water Connections Served: 300, potential up to 360
Treatment Capacity: Maximum none
Plant Location (township/range/section)__NA_____

Storage Capacity: Reservoir Name: na	**Capacity (acre-feet)**	**Location (T/R/S)**

2007 Average Dry Weather Flow (Gallons per Day):__15000- 25000 gallons per day_

__

Storage Capacity: Reservoir Name	**Capacity (acre-feet)**	**Location (T/R/S)**

3 tanks in service: 1, 60,000 gallon and 2, less than 10,000 gallons each

In 2007 we had a few large leaks in our water system resulting in an annual use of around 3.5 million cubic feet, in 2008, we project an annual consumption of around 1.5 million cubic feet and in 2009/2010 we project a use of less than 1 million cubic feet if we continue to maintain a tight system. Our rate of growth of cabin is about 2% per year, and slowing down as we approach a fully built out subdivision.

We have two master plans, one prepared in 1996 and the other prepared in 2006.

Our concerns are as follows:

1. What is the life of our plastic pipes, now 50 years old that deliver our water to our cabin owners?

2. What new regulations are coming forth that will inhibit us to be able to continue to go forth into the future as a small independent water company?

3. We have no ability to provide adequate water flow to fire hydrants? Currently, we are rate R-4 and rely on fire hydrants surrounding our association in Big Trees Village. Will our members continue to be able to buy fire insurance for their homes at reasonable rates into the future? Do we need to upgrade our water delivery system to be able to service new fire hydrants? Is there another option to providing water for fire hydrants, perhaps using water out of our 1.5 acre lake with a diesel driven pump??

4. If we had to upgrade our water system, how would we finance it, estimated cost of >$5 million?

Received 10/20/08
MWH

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

Voluntary Request f Informati

PLEASE COMPLETE AS MUCH OF THE FORM AS POSSIBLE AND/OR ATTACH ADDITIONAL INFORMATION AS APPRORPRIATE

1. GENERAL DATA

Today's Date: 10/6/08

Name of Organization: Union Public Utility District

Public Agency: ☒ **Private Company:** ☐

Staff Contact (name/phone #): Diane Severud | 728-3651

Directors/Council Members: 1. Bill Riedel 2. Randy Lagomarsino 3. Ray Behrbaum 4. Julie McManus 5. Tom Quincy

General Manager and Other Key Staff (name/title): Bill Eltringham, District Mngr and/or Gary Ghio, District Engineer

Service Area(s) *(if services provided to separate geographies, list each area)* Murphys, Douglas Flat, Vallecito, Carson Hill

Services Provided *(for multiple service areas, complete separate form for each)*

Service Area Name: All.

Services Provided in this Area: Water: ☒ Wastewater: ☐ Both: ☐

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

2. WATER DATA

(for multiple service areas, complete separate form for each if data available)

Water Source: Surface Water: [X] Which Watershed? North Fork Stanislaus Groundwater: [ ]

Number of Water Connections Served: 1848

Treatment Capacity: Maximum Day 2 MGD Current % of Maximum Day 2,001,750
Plant Location (township/range/section) _____

Storage Capacity:

Reservoir Name	Capacity (acre-feet)	Location (T/R/S)
Cademartori	140	Murphys

Tank Name	Capacity (gallons)	Location (T/R/S)
	2.0 MG	Murphys
	.25 MG	Murphys
	1.0 MG	Murphys
	.100 MG	Vallecito

2007 Treated Water Delivery (annual acre-feet): 714.59 acre feet

Projected Water Demand (annual acre-Feet):

Year	Demand	Year	Demand	Year	Demand	Year	Demand
2010	1351 to 1749 af	2020		2030		2035	1906 to 2210 af

Do you have a Water Facility Master Plan? Yes [X] Year: 2032 No [ ]

List other planning or engineering documents, and mapped information available: _____

Any issues, violations, concerns, or other information regarding facilities? none.

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

4. AGRICULTURAL WATER DATA

(for multiple service areas, complete separate form for each if data available)

If your organization provides agricultural water deliveries, complete the following:

Water Type: Raw Water: ☒ Recycled Water: ☐

Acres served in 2007: unknown

Acre-feet delivered in 2007: 1,119.51 acre feet

Projected Agricultural Deliveries (annual acre-feet):

Year	Delivery	Year	Delivery	Year	Delivery	Year	Delivery
2010		2020		2030		2035	

List other planning or engineering documents, and mapped information available:

Any issues, violations, concerns, or other information regarding facilities? none.

Received 11/3/08
MWH MW

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

PLEASE COMPLETE AS MUCH OF THE FORM AS POSSIBLE AND/OR ATTACH ADDITIONAL INFORMATION AS APPRORPRIATE

1. GENERAL DATA

Today's Date: 10/6/08

Name of Organization: UTICA POWER AUTHORITY

Public Agency: ☒ (JPA) **Private Company:** ☐

Staff Contact (name/phone #): Karen Rojas (Admin) 736-9419

Directors/~~Council~~ Members: 1. Randall Lagomarsino 2. Paul Raggio
3. William Hutchinson 4. Diane Cornish 5. Ray Behrbaum

General Manager and Other Key Staff (name/title): Vern Pyle, General Mgr.
Mitch Pyle, Hydroelectric Operator/Compliance Officer

Service Area(s) ***(if services provided to separate geographies, list each area)*** deliver raw water to UPUD and COA (see letter attd)

Services Provided ***(for multiple service areas, complete separate form for each)***

Service Area Name: _____

Services Provided in this Area: Water: ☒ Wastewater: ☐ Both: ☐

raw water to UPUD and COA.

Cal[illegible]eras County General Plan Wat[illegible]Element
Water and Wastewater Services Supplement Data Form

2. WATER DATA

(for multiple service areas, complete separate form for each if data available)

Water Source: Surface Water: ☑ Which Watershed? Stanislaus Groundwater: ☐

Number of Water Connections Served: to UPUD + COA

Treatment Capacity: Maximum Day (See UPUD + COA) Current % of Maximum Day _____

Plant Location (township/range/section) _____

Storage Capacity:

Reservoir Name	Capacity (acre-feet)	Location (T/R/S)
① Hunters Reservoir	253 AF	T 4N, R 15E, S 18
② Murphys Forebay	58 AF	T 3N, R 14E, S 4
③ Murphys Afterbay	31 AF	T 3N, R 14E, S 4
④ Ross Reservoir	100 AF	T 3N, R 13 E, S 14

Tank Name	Capacity (gallons)	Location (T/R/S)

2007 Treated Water Delivery (annual acre-feet): raw water delivered to UPUD & COA

Projected Water Demand (annual acre-Feet):

Year	Demand	Year	Demand	Year	Demand	Year	Demand
2010	33,514 +	2020	33,514+	2030	to be determined.	2035	

Do you have a Water Facility Master Plan? Yes ☐ Year: _____ No ☒

List other planning or engineering documents, and mapped information available: _____

(See UPUD + COA)

Any issues, violations, concerns, or other information regarding facilities? _____

N/A

Ca[illegible]veras County General Plan Wa[illegible] Element
Water and Wastewater Services Supplement Data Form

3. WASTEWATER DATA

(for multiple service areas, complete separate form for each if data available)

Number of Wastewater Connections Served: _____

Treatment Capacity: Maximum Day _____
Plant Location (township/range/section) _____

Storage Capacity (total acre-feet): _____

Disposal Capacity (annual acre-feet): _____ N/A

Type of Wastewater Treatment Technology: _____

Level of Wastewater Treatment: Advanced Secondary ☐ Tertiary ☐ Other: _____

Disposal Method(s): _____

2007 Average Dry Weather Flow (Gallons per Day): _____

Projected Wastewater Flow (Gallons per Day):

Year	Flow	Year	Flow	Year	Flow	Year	Flow
2010		2020		2030		2035	

Do you have a Wastewater Facility Master Plan? Yes ☐ Year: _____ No ☐

List other planning or engineering documents, and mapped information available: _____

_____

_____

_____

Any issues, violations, concerns, or other information regarding facilities? _____

_____

_____

_____

Cala_ras County General Plan Wate_lement
Water and Wastewater Services Supplement Data Form

4. AGRICULTURAL WATER DATA

(for multiple service areas, complete separate form for each if data available)

If your organization provides agricultural water deliveries, complete the following:

Water Type: Raw Water: ☒ Recycled Water: ☐

Acres served in 2007: See UPUD + COA / UPA

Acre-feet delivered in 2007: " / 1,070 AF ±

Projected Agricultural Deliveries (annual acre-feet):

Year	Delivery	Year	Delivery	Year	Delivery	Year	Delivery
2010	1200 +	2020	1300+	2030		2035	

List other planning or engineering documents, and mapped information available:

NONE.

Any issues, violations, concerns, or other information regarding facilities?

NONE

Voluntary Request for Information

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

PLEASE COMPLETE AS MUCH OF THE FORM AS POSSIBLE AND/OR ATTACH ADDITIONAL INFORMATION AS APPRORPRIATE

1. GENERAL DATA

Today's Date: 11-25-08

Name of Organization: Valley Springs Public Utility District (VSPUD)

Public Agency: ☒ **Private Company:** ☐

Staff Contact (name/phone #): Michael Fischer / Dee Myshrall

Directors/Council Members: 1. Lucille Allee 2. Andy Whitaker 3. Rob Robertson 4. Connie Gleason 5. Mary DeWitt

General Manager and Other Key Staff (name/title): Michael Fisher- GM Dee Myshall- Admin Secretary

Service Area(s) ***(if services provided to separate geographies, list each area)*** Valley Springs (township North of Hwy 12) + Commercial area at Hwy 26 + 12

Services Provided ***(for multiple service areas, complete separate form for each)***

Service Area Name: Valley Springs

Services Provided in this Area: Water: ☐ Wastewater: ☐ Both: ☒

10 Pages

916-418-8520

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

2. WATER DATA

(for multiple service areas, complete separate form for each if data available)

Water Source: Surface Water: ☐ Which Watershed?_____ Groundwater: ☒

Number of Water Connections Served: 274

Treatment Capacity: Maximum Day .220 Current % of Maximum Day_____
Plant Location (township/range/section)_____

Storage Capacity:

Reservoir Name	Capacity (acre-feet)	Location (T/R/S)

Tank Name	Capacity (gallons)	Location (T/R/S)
#1	300,000	Myrtle + OAK
#2	200,000	Myrtle + OAK

2007 Treated Water Delivery (annual acre-feet): 142

Projected Water Demand (annual acre-Feet):

Year	Demand	Year	Demand	Year	Demand	Year	Demand
2010		2020		2030		2035	

Do you have a Water Facility Master Plan? Yes ☒ Year: 1996 No ☐

List other planning or engineering documents, and mapped information available: _____

IN PROCESS WITH USDA to UPGRADE NEW WELL + TANK PROJECT.

Any issues, violations, concerns, or other information regarding facilities? _____

* WATER DEMAND HAS BEEN FAIRLY CONSISTENT.

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

3. WASTEWATER DATA

(for multiple service areas, complete separate form for each if data available)

Number of Wastewater Connections Served: 263

Treatment Capacity: Maximum Day .370

Plant Location (township/range/section) _____

Storage Capacity (total acre-feet): 92.2 Acre-feet

Disposal Capacity (annual acre-feet): 90 acre-feet

Type of Wastewater Treatment Technology: Secondary

Level of Wastewater Treatment: Advanced Secondary ☒ Tertiary ☐ Other: _____

Disposal Method(s): SPRAY FIELD

2007 Average Dry Weather Flow (Gallons per Day): .063

Projected Wastewater Flow (Gallons per Day):

Year	Flow	Year	Flow	Year	Flow	Year	Flow
2010		2020		2030		2035	

Do you have a Wastewater Facility Master Plan? Yes ☒ Year: _____ No ☐

List other planning or engineering documents, and mapped information available: _____

HAVE DONE SOME EXTENSIVE WORK ON COLLECTION System to Reduce infiltration.

Any issues, violations, concerns, or other information regarding facilities? _____

DISTRICT NOW disinfects with Hypochlorite prior to land disposal, All sprayfield area tailwater is now returned to the Plant. All past violations have been corrected & District has conformed to all Requirements per Permit R5-2005-0066.

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

N/A

4. AGRICULTURAL WATER DATA

(for multiple service areas, complete separate form for each if data available)

If your organization provides agricultural water deliveries, complete the following:

Water Type: Raw Water: ☐ Recycled Water: ☐

Acres served in 2007: _____

Acre-feet delivered in 2007: _____

Projected Agricultural Deliveries (annual acre-feet):

Year	Delivery	Year	Delivery	Year	Delivery	Year	Delivery
2010		2020		2030		2035	

List other planning or engineering documents, and mapped information available: _____

_____

_____

_____

Any issues, violations, concerns, or other information regarding facilities? _____

_____

_____

_____

Voluntary Request for Information

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

PLEASE COMPLETE AS MUCH OF THE FORM AS POSSIBLE AND/OR ATTACH ADDITIONAL INFORMATION AS APPRORPRIATE

1. GENERAL DATA

Today's Date: 10-23-08

Name of Organization: Wallace Community Services District

Public Agency: ☑ **Private Company:** ☐

Staff Contact (name/phone #): David Edwards
209 763 2882 wallacecsd@comcast.net

Directors/Council Members: 1. M. Tusselman 2. C. Contoni
3. B Pugh 4. F. Schneider 5. R Guarantee

General Manager and Other Key Staff (name/title): David Edwards

Service Area(s) *(if services provided to separate geographies, list each area)*

Wallace

Services Provided *(for multiple service areas, complete separate form for each)*

Service Area Name: WCSD

Services Provided in this Area: Water: ☑ Wastewater: ☑ Both: ☑

Open space, roads, light

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

2. WATER DATA

(for multiple service areas, complete separate form for each if data available)

Water Source: Surface Water: ☐ Which Watershed? Future Groundwater: ☒

Number of Water Connections Served: 97

Treatment Capacity: Maximum Day 100,000 Current % of Maximum Day ?
Plant Location (township/range/section) Wallace

Storage Capacity:

Reservoir Name	Capacity (acre-feet)	Location (T/R/S)
Wallace Lake Recreational		

Tank Name	Capacity (gallons)	Location (T/R/S)
Ground	240,000	
Elevated	60,000	

2007 Treated Water Delivery (~~annual acre-feet~~): 14.6 MG 45 ac ft

Projected Water Demand (annual acre-Feet): Who knows

Year	Demand	Year	Demand	Year	Demand	Year	Demand
2010	[illegible]	2020	200	2030	350	2035	500

Do you have a Water Facility Master Plan? Yes ☐ Year: _____ No ☒ IN process

List other planning or engineering documents, and mapped information available:

Any issues, violations, concerns, or other information regarding facilities?
Age of infrastructure

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

3. WASTEWATER DATA

(for multiple service areas, complete separate form for each if data available)

Number of Wastewater Connections Served: 97

Treatment Capacity: ~~Maximum~~ Ave Day 16,000 / max 40,000

Plant Location (township/range/section) Wallace

Storage Capacity (total acre-feet): _____

Disposal Capacity (annual acre-feet): _____

Type of Wastewater Treatment Technology: ~~Tertiary~~ Stacked Trickling filter

Level of Wastewater Treatment: Advanced Secondary ☐ Tertiary ☒ Other: _____

Disposal Method(s): Percolation, ground water recharge

2007 Average Dry Weather Flow (Gallons per Day): 16,000

Projected Wastewater Flow (Gallons per Day): We have

Year	Flow	Year	Flow	Year	Flow	Year	Flow
2010	19,000	2020	64,000	2030	120,000	2035	160,000

Do you have a Wastewater Facility Master Plan? Yes ☐ Year: _____ No ☒ in process

List other planning or engineering documents, and mapped information available: _____

We have rooms full of documents

Any issues, violations, concerns, or other information regarding facilities? _____

Same as water

Calaveras County General Plan Water Element
Water and Wastewater Services Supplement Data Form

4. AGRICULTURAL WATER DATA

(for multiple service areas, complete separate form for each if data available)

If your organization provides agricultural water deliveries, complete the following: No

Water Type: Raw Water: ☐ Recycled Water: ☐

Acres served in 2007: None at this time and no plans for the future

Acre-feet delivered in 2007:

Projected Agricultural Deliveries (annual acre-feet):

Year	Delivery	Year	Delivery	Year	Delivery	Year	Delivery
2010		2020		2030		2035	

List other planning or engineering documents, and mapped information available:

Any issues, violations, concerns, or other information regarding facilities?

David Edwards

Appendix C – Summary of Comments and Responses on Baseline Report

Date	Agency	Comment	Section	Type of Comment	Response
10/15/2008	MSD	Murphys Sanitary District serves 783 customers, with 89 commercial and 694 residential.	Wastewater	Revision	Corrected
10/15/2008	MSD	MSD implemented a temporary suspension on new connections in order to evaluate population growth as it refers to the collection and treatment processes. The suspension was lifted in late 2007, after a new discharge permit was issued by the State to Ironstone Vineyards, allowing year round discharge as well as an increased gpd.	Wastewater	Supplemental	Modified
10/15/2008	MSD	Collection System--- Sewage is pumped through two 4,200 ft long, 6" pipes to a single 8" pipe which is 2,200 ft long. The wastewater then enters the first of 4 treatment and storage ponds.	Wastewater	Revision	Corrected
10/15/2008	MSD	Disposal Systems- Wastewater is pumped from the main storage pond through a series of seven pre, and post chlorination sand filters. The chlorine is then mixed in an underground contact chamber, where it gravity flows into a three hundred thousand gallon polishing pond, waiting for use at the discharge site .	Wastewater	Supplemental	Modified
10/15/2008	MSD	The old agreement allows MSD to discharge up to 180 acre feet of water, while both parties have the understanding that more water will be treated and discharged if available or needed. The new agreement allows MSD to discharge 280 acre feet of water with the same additional water agreement.	Wastewater	Supplemental	Modified
10/15/2008	MSD	The old wastewater discharge permit allowed treatment and discharge to the disposal sites only between the months of March 1st to November 30th. The permit was modified in 2007 and allows treatment and discharge year round as long as certain wet weather requirements are complied with.	Wastewater	Supplemental	Modified
10/15/2008	MSD	When the two foot freeboard became part of the pond capacity and year round discharge was prohibited, MSD had to discharge treated water during heavy rain years outside of the adapted discharge season because of the restrictions placed on them. The current addendum to the waste discharge permit has removed those wet weather obstacles because they allow for year round discharge.	Wastewater	Supplemental	Modified
10/15/2008	MSD	Present and Probable Need for Services--- When it begins, "additional growth in sewer customers is currently limited", from this point to the end, it should be stricken because MSD has never looked into expansion of it's boundaries and a presumption of what MSD is capable of is pre mature. incorrect and un-informed.	Wastewater	Supplemental	Modified
10/15/2008	MSD	Present Capacity and Adequacy of Services--- MSD has sufficient capacity to serve additional customers and has taken appropriate measures to satisfy the potential build out of the property owners within the district boundaries as long as MSD requirements are met.	Wastewater	Supplemental	Modified
10/15/2008	MSD	The expansion of pond #4 allowed for a continued 61 million gallons of storage which would have been diminished by complying with the two foot freeboard requirements, if expansion hadn't taken place.	Wastewater	Supplemental	Modified

Date	Agency	Comment	Section	Type of Comment	Response
10/7/2008	UPA	UPA has the best integrated water and power system in Calaveras County. UPA's primary duties and obligations are (a) to provide a reliable water supply to the City of Angels, UPUD, and UPA's own customers, (b) to operate, maintain, and improve Murphys and Angels Powerhouses such that their Green Power revenues continue to pay for much of the cost of the water and power system, and (c) to safeguard UPA's water rights, water supply, water conveyance system, and power system from those both within and without the county who would try to take those rights and properties away from UPA and its customers.	Domestic Water	General comment	Comment noted.
10/7/2008	UPA	The General Plan and the Water Elements need to be solidly based upon a factual and realistic assessment of each agency's water rights, actual water supply reliability during droughts, and water conveyance rights. Unsupportable claims or claims with unrealistic chances of being implemented waste valuable time and money and create unrealistic expectations and unsupportable planning decisions.	Domestic Water	Comment re basis for a water element	Review of each agency's Baseline Report has been requested and a Supplemental Data Form has been requested to confirm factual and realistic information is used as the basis of the water element
10/7/2008	UPA	Since CCWD completely withdrew from UPA in June 2004, CCWD has no ownership rights in UPA's North Fork Stanislaus River, Mill Creek, Angels Creek, and French Gulch pre-1914 rights or in UPA's water conveyance system or in UPA's power plants. CCWD has no right to regulate UPA's use of UPA's water rights and CCWD has no right to dictate to UPA how those water rights should be used. CCWD also has no right to use UPA's water conveyance facilities without UPA's prior written agreement on terms and conditions acceptable to UPA.	Domestic Water	Legal issue	The water element is a County policy document and it is not within the scope of a water element to resolve legal issues among third parties.
10/7/2008	UPA	While CCWD wants to "safeguard" water rights for the county, CCWD has made unsupported claims that would result in taking water from UPA with no mention of compensation to UPA and CCWD in turn wants to sell UPA's water to new developments.	Domestic Water	Legal issue	The water element is a County policy document and it is not within the scope of a water element to resolve legal issues among third parties.
10/7/2008	UPA	CCWD has expressly reserved rights to redivert water discharged from NCPA's Collierville Powerhouse. That water consists of the 28 cfs of the 88 cfs North Fork Stanislaus River pre-1914 right deeded to NCPA by CCWD and CCWD's post-1914 rights contractually committed to NCPA for generation at the Collierville Powerhouse. The practical question is whether CCWD can economically redivert this water from this lower discharge point in the Stanislaus River for use in the county other than in the Copper Cover/Copperopolis area.	Domestic Water	Economic issue	The water element is a County policy document and it is not within the scope of a water element to evaluate the economic feasibility of alternatives under consideration by third parties.

Date	Agency	Comment	Section	Type of Comment	Response
10/7/2008	UPA	Unlike its agreement with NCPA, CCWD did not reserve any rights in the pre-1914 rights deeded to UPA. Under the 1997 Assignment Agreement signed by CCWD, NCPA, and UPA, CCWD assigned all of its interests in the CCWD-NCPA 1995 Restated Agreement to UPA except that the Assignment "Agreement did not alter or modify any rights that CCWD may have or acquire to divert or utilize North Fork Stanislaus River water that is discharged in Angels Creek from the Angels Powerhouse and which is no longer needed by Utica to provide water service to its customers." [Section 2(c).] The North Fork pre-1914 right did not include the right to redivert the North Fork water in lower Angels Creek. Also, CCWD did not and has not mentioned the pre-1914 rights to waters in Mill Creek, Angels Creek, and French Gulch that were also deeded by CCWD to UPA and that are also used to generate power at Angels Powerhouse.	Domestic Water	Legal issue	The water element is a County policy document and it is not within the scope of a water element to resolve legal issues among third parties.
10/7/2008	UPA	In CCWD's final Proposition 204 grant report entitled "Calaveras County Water District West County Water Supply Reliability Feasibility Study," dated July 2008, CCWD proposed to redivert water discharged by UPA into lower Angels Creek after the water was no longer needed by UPA and to transfer that water to the western portion of the county. CCWD should give the Water Element participants an update on its current plans for and the economic feasibility of that proposed transfer.	Domestic Water	Information request	The information request will be passed on to CCWD.
10/7/2008	UPA	Under the 1997 Assignment Agreement, CCWD did not reserve and, therefore, assigned to UPA the right to divert up to 5,000 acre feet per year (increasing up to 8,000 acre feet per year in 2009). UPA is willing to discuss and reach agreement with CCWD on CCWD's existing diversions for the Ebbetts Pass system but CCWD has not yet indicated any willingness to discuss this issue.	Domestic Water	Legal issue	The water element is a County policy document and it is not within the scope of a water element to resolve legal issues among third parties.
10/7/2008	UPA	Based upon the above comments, UPA recommends that the Stanislaus River System paragraph be reworded.	Domestic Water	Recommended revision	The recommended text will be incorporated into the draft Water and Wastewater Baseline Supplement Report to be reviewed by the Water Element Group.
10/7/2008	UPA	The Stanislaus River System paragraph references "Pattison et. al. 2007." UPA has not been provided a copy of that reference and would appreciate receiving it.	Domestic Water	Information request	The following link will be cited in the paragraph: http://www.ccwd.org/documents/Facilities/CCWD_UWMP_2005-Update.pdf

Date	Agency	Comment	Section	Type of Comment	Response
10/8/2008	UPUD	UPUD has three separate diversions supplying two water systems - a domestic and an irrigation. The domestic system supplies treated water to the communities of Murphys, Douglas Flat, Vallecito and Carson Hill. The North Ditch provides untreated water to the Murphys area, while the South Ditch provides untreated water to Douglas Flat, Vallecito and Carson Hill	Domestic Water	Supplemental	Modified
10/8/2008	UPUD	UPUD is a member of the UPA that owns the Utica Hydroelectric Project	Domestic Water	Supplemental	Modified
10/8/2008	UPUD	UPA provides conveyance of water for UPUD's water supply	Domestic Water	Supplemental	Modified
10/8/2008	UPUD	UPUD also uses water rights on Taylor Creek, as originally stated in PG&E's agreement and passed along to UPA, to supplement its water supply when water…	Domestic Water	Supplemental	Modified
10/28/2008	SSA	We have reduced our water consumption from a high of 13,000 FT3/day in August 2007 to 1800 ft3/day through very creative leak detection procedures, meter readings, public education, and excess water use charges to our members. Conservation of water by finding and eliminating leaks should be a key aspect for preserving and extending our water resources.	Domestic Water	Supplemental	Added
12/12/2008	WCSD	Various technical revisions	Domestic Water and Wastewater	Revisions	Modified
11/26/2008	VSPUD	Various technical revisions	Domestic Water and Wastewater	Revisions	Modified

Date	Agency	Comment	Section	Type of Comment	Response
10/29/2008	CCWD	Page 7-2, Section 7.1 Major Findings. The bullet on stormwater drainage may be an appropriate section to discuss the state's agricultural discharge waiver program.	Domestic Water	General	Modified
10/29/2008	CCWD	Page 7-2, Section 7.1 Major Findings, Second Bullet. Wastewater services provided by CCWD in Forest Meadows does provide some limited number of wastewater connections to its wastewater facilities.	Domestic Water	Supplemental	Modified
10/29/2008	CCWD	Page 7-6, Section 7.2 Domestic Water,WCSD. The statement that CCWD has not acted on WCSD's application for surface water is incorrect. CCWD is partner in a proposed 2-MGD South Shore Camanche Water Treatment Plant, of which East Bay MUD and Amador Water Agency are partners. EBMUD and AWA put the project on hold to address higher priority wastewater issues on north Shore Camanche. CCWD is continuing to develop its water supplies to meet WCSD's needs through a 2008 federal appropriations request under the Water Resources Development Act approved by the United States Congress in 2007. With federal funding of a proposed raw water project in the New Hogan/Camanche/Valley Springs area, studies will develop an engineering analysis to cost effectively deliver surface water to WCSD and others in western Calaveras County.	Domestic Water	Correction	Modified
10/29/2008	CCWD	Page 7-7, Section 7.2, Calaveras County Water District. 'The five directorial districts were made synonymous with the County supervisorial districts' is an incorrect statement. No correlation exists between CCWD's directorial boundaries and the County's supervisorial boundaries. CCWD's Board passed Resolution 2003-10 and a subsequent amendment Resolution 2003-15 establishing new boundaries that do not coincide with the County's.	Domestic Water	Correction	Modified
10/29/2008	CCWD	Page 7-8, Section 7.2, Stanislaus River System. The statement '. . . and up to 6,000 af per year from Lake Tulloch to supply the Copper Cove/Copperopolis water system' is only partially correct. CCWD holds both pre-1914 and post-14 rights on the river that exceed the current 6,000 acre-foot cap. Within the next several years, CCWD will be increase this cap consistent with its permitted water rights by filing a change petition with the State Water Resources Control Board, which is based on the authorized number of buildable lots and the demonstrated need for increased supplies within its service area.	Domestic Water	Revision	Modified
10/29/2008	CCWD	Page 7-8, Section 7.2, Calaveras River System. The statement allocating 31,278 acre-feet to CCWD should more accurately read 'CCWD owns a contractual right to 43.5 percent of the New Hogan Project yield.' The long-term average project yield is currently being analyzed, which will likely change the number referenced above.	Domestic Water	Revision	Modified
10/29/2008	CCWD	Page 7-9, Section 7.2, Mokelumne River System. See Comment 6 above discussing the M/A/C IRWMP update.	Domestic Water	Supplemental	Modified
10/29/2008	CCWD	Page 7-9, Section 7.2, Ebbetts Pass Service Area. The Hunters Water Treatment Plant capacity should read '6 million gallons per day.'	Domestic Water	Revision	Modified
10/29/2008	CCWD	Page 7-10, Section 7.2, Copper Cove/Copperopolis Service Area. As of May 2007, the Copper Cove/Copperopolis Service Area has over 2,100 residential connections and over 70 commercial connections, for a total of nearly 2,200 connections.	Domestic Water	Revision	Modified

Date	Agency	Comment	Section	Type of Comment	Response
10/29/2008	CCWD	Page 7-10, Section 7.2, Jenny Lind Service Area. The Jenny Lind Water Treatment Plant capacity should read '7 million gallons per day,' with the potential to expand the plant capacity to 9 million gallons per day.	Domestic Water	Revision	Modified
10/29/2008	CCWD	Page 7-10, Section 7.2, Copper Cove/Copperopolis Service Area. As of May 2007, the West Point/Wilseyville Service Area has over 500 residential connections and over 40 commercial connections, for a total of nearly 600 connections.	Domestic Water	Revision	Modified
10/29/2008	CCWD	Page 7-11, Section 7.2, Table 7-2, CCWD Service Area Current and Future Demand. The water demand for Sheep Ranch in 2025 is incorrect. CCWD data shows Sheep Ranch water demand in 2025 of 42 acre-feet and in 2030 of 49 acre-feet.	Domestic Water	Revision	Modified
10/29/2008	CCWD	Page 7-12, Section 7.2, Table 7-2, Infrastructure Needs and Deficiencies. CCWD is seeking federal funding, along with local and state funding, to build infrastructure necessary to begin delivering raw surface water in the New Hogan/Camanche/Valley Springs area within the Highways 12 and 26 corridor.	Domestic Water	Supplemental	Modified
10/29/2008	CCWD	Page 9-31, Section 9.3, Water Resources, Lakes and Resources. CCWD owns New Spicer Meadow Reservoir on the North Fork Stanislaus River. New Spicer Meadow Reservoir has a maximum storage capacity of 189,000 acre-feet and provides water storage for CCWD's North Fork Hydroelectric project and to meet water demands in the Ebbetts Pass area along Highway 4 and the Copper Cove/Copperopolis area surrounding Lake Tulloch.	Domestic Water	Supplemental	Modified
10/29/2008	CCWD	Page 9-33, Section 9.3, Water Resources, Groundwater. CCWD recently updated its adopted 2001 AB 3030 Groundwater Management Plan per SB 1938 requirements for the Camanche/Valley Springs area, which overlies the Eastern San Joaquin Groundwater Basin in western Calaveras County. CCWD also completed a DWR AB 303 grant funded project for the same area in 2003 that produced a Hydrogeologic Assessment assessing groundwater conditions in the area. CCWD also submitted a recent AB 303 grant application to continue an enhance groundwater monitoring program in the area because of concerns regarding failing wells and deteriorating groundwater quality. The reports contained within this comment can all be found on CCWD's web site at www.ccwd.org .	Domestic Water	Supplemental	Modified
1/16/2009	CCWD	CCWD and UPA have had ongoing disagreements about the nature and extent of water rights and facility transfers between CCWD and UPA contained in various contracts, transfer agreements, and other documents. The CCWD contends that information provided by UPA is inaccurate and incorrect.	Domestic Water	Legal issue	The water element is a County policy document and it is not within the scope of a water element to resolve legal issues among third parties.
1/16/2009	CCWD	CCWD comment responding to UPA's Appendix C - Summary of Comments on Baseline Report: UPA submitted comments contained within Appendix C - Summary of Comments on Baseline Report regarding CCWD's water rights. CCWD and UPA have had ongoing disagreements about the nature and extent of water rights and facility transfers between CCWD and UPA contained in various contracts, transfer agreements, and other documents. The CCWD contends that information provided by UPA is inaccurate and incorrect. CCWD asserts that a county land use planning policy document is not an appropriate venue for resolving technical legal issues among agencies.	Domestic Water	Legal issue	The water element is a County policy document and it is not within the scope of a water element to resolve legal issues among third parties.

Date	Agency	Comment	Section	Type of Comment	Response
11/17/2008	MHSD	Mokelumne Hill Sanitary District (MHSD) was formed by resolution in 1945 for the purpose of constructing and operating a system of collection, treatment, and disposal of sewage. The District operates under and is governed by the statutory authority known as the California Health and Safety Code, Division 6, Part 1 regarding Sanitary Districts. The MHSD current district boundary covers the area around the community of Mokelumne Hill. The district boundaries encompass approximately 848 acres (1.33 square miles). The MHSD lies within the Mokelumne Hill Community Plan. The District currently has approximately 300 customers. Ninety-two percent of the customers revenue, 76 percent of revenues are from the single-family sector, 17 percent from multi-family, and 7 percent from commercial (Calaveras County LAFCO 2005a).	Wastewater	Revision	Modified
11/17/2008	MHSD	The original collection system was completed in 1947 and consisted of approximately 15,000 linear feet of 6-to 8-inch pipe. In the 1970's an additional 2,700 linear feet of 8 inch diameter SDR-35 pipe was installed. In 1973, the District received a grant and loan from the USDA, Farmers Home Administration, to upgrade the District's sewer system. A portion of these funds were used to install approximately 5,425 linear feet of SDR-35 diameter pipe to feed a new treatment plant and the construction of two pump stations. Pump station A has a 20 kW backup propane generator, in 2007 a 20 kW backup generator was purchased for pump station B. A Preliminary Engineering Report prepared in December 2002 by Weber Ghio & Associates, recommends the replacement of portions of the old collection system. In 2005 MHSD applied for and received a grant/loan from USDA. Approximately 6,200 ft. of 1947 clay pipe was replaced with SDR-35 (8 inch diameter).	Wastewater	Revision	Modified
11/17/2008	MHSD	MHSD continues to replace sections of clay pipe when identified using video equipment. We still have approximately 4 to 5,000 ft. of 1947 clay pipe still in use and continue ongoing replacement.	Wastewater	Revision	Modified
11/17/2008	MHSD	The District's original treatment plant was constructed in 1947 and was located northeast of the community near Volunteer Gulch. In 1973 the District received a grant and loan from the USDA, Farmers Home Administration, to finance the construction of a new sewer system including a new treatment plant. The District's new sewage treatment plant is located to the northwest of the Mokelumne Hill community. The wastewater treatment plant facilities include two aerated lagoons, a chlorination tank, and storage pond. The plant has a design capacity of 150,000 gpd. Average flow rates were approximately 60,000 gpd. After mainline replacement in 2005 our average flows decreased to approximately 40 to 45,000 gpd. Included in the 2005 project, two energy efficient aerators replaced the original lagoon aerators also one was installed in the storage reservoir. A mechanical screen was installed at the plant head-works and influent and effluent totalizers also a meter was installed for irrigation.	Wastewater	Revision	Modified

Date	Agency	Comment	Section	Type of Comment	Response
11/17/2008	MHSD	Treated effluent is stored in the storage pond until May and irrigate through October, weather permitting. Over the last ten years we have reclaimed the irrigation fields and now irrigate approximately 20 acres which are broke down into four fields. The spray disposal field is used for cattle grazing (Calaveras County LAFCO 2005a).	Wastewater	Revision	Modified
11/17/2008	MHSD	Disposal of the District's wastewater is governed by the RWQCB. The RWQCB issued Waste Discharge Requirements for the MHSD in April 1991 through Order No. 91-098. These requirements were updated in September 2007. The District is required to monitor effluent and influent samples prior to discharging wastewater to the spray fields. Weekly monitoring reports are submitted to Sierra Foothill Labs, and monthly reports are submitted to RWQCB (Calaveras County LAFCO 2005a).	Wastewater	Revision	Modified
11/17/2008	MHSD	Data provided by the State of California Department of Finance indicated the population of Mokelumne Hill was 1,341 in 1990 and 1,476 in 2000. This represents an annual growth rate of approximately 1 percent per year. Residential sewer connections for the last 10 years have only averaged one per year (Calaveras County LAFCO 2005a).	Wastewater	Revision	Modified
11/17/2008	MHSD	The 2002 Preliminary Engineering Report concludes that the treatment plant is operation at 40 percent of dry weather capacity and has a current capacity to serve the community for 40 to 50 years. With continuing pipe replacement infiltration has decreased but due to dry weather conditions over the past few years, we do not have accurate wet weather data (Calaveras County LAFCO 2005a).	Wastewater	Revision	Modified
11/17/2008	MHSD	The District is in the process of upgrading its facilities based on the recommendations of the 2002 Preliminary Engineering Report (Calaveras County LAFCO 2005a).	Wastewater	Revision	Modified

Appendix D –
Water Element Meeting Agendas

Draft Meeting Agenda
Water Element to the
Calaveras County General Plan Update
Bi-Weekly Meeting

Thursday, October 9, 2008
9:00 a.m. – 12:00 p.m.

The Metropolitan
59 N. Main Street
San Andreas, CA 95249

Agenda Items

9:00	1. Introductions and Agenda Review	10 min
9:10	2. Discuss Project Schedule (see Exhibit 1 – Project Schedule) ***Expected Outcome: Consensus Agreement on Project Schedule***	15 min
9:25	3. Discuss Agency Supplemental Data (see Exhibit 2 – Baseline Report Excerpt and Exhibit 3 – Voluntary Supplemental Data Form) ***Expected Outcome: Next steps to complete Agency Supplemental Data***	30 min
9:55	4. Discuss Development of Water Element Goals (see Exhibit 4 – Development of Water Element Goals) ***Expected Outcome: Preliminary list of Water Element Goals***	60 min
10:55	5. Discuss Technical Advisory Committee (TAC) Development ***Expected Outcome: Volunteers for TAC***	45 min
11:40	6. Action Items	15 min
11:55	7. Adjourn	

Draft Meeting Agenda
Water Element to the
Calaveras County General Plan Update
Bi-Weekly Meeting

Thursday, October 23, 2008
2:00 p.m. – 3:30 p.m.
("Working Group" Meeting immediately following, 3:30-5:00 p.m.)

San Andreas Library - Chesebrough Room
1299 Gold Hunter Road, San Andreas 95249

Agenda Items

2:00	1. Introductions and Agenda Review (see Exhibit 1 – October 9th Meeting Notes)	10 min
2:10	2a. Update of Goals/Policies Work by "Working Group" (see Exhibit 2 – Example Goals/Policies Workbook) ***Expected Outcome: Direction to "Working Group" for completing Draft Goal Statements***	40 min
2:50	2b. Consider Forming Wastewater Subgroup to the "Working Group" ***Expected Outcome: Form WW Subgroup***	10 min
3:00	3. Agency Comments on Baseline Data and Key Terms (see Exhibit 3 – Draft Key Terms) ***Expected Outcome: Hand-off of agency Baseline Data and Key Terms comments to MWH***	20 min
3:20	4. Action Items	5 min
3:25	5. Adjourn to "Working Group" Meeting (3:30 to 5:00 pm, same location)	

Draft Meeting Agenda
Water Element to the
Calaveras County General Plan Update
"Working Group" Meeting

Thursday, October 23, 2008
3:30 p.m. – 5:00 p.m.
("Working Group" Meeting immediately following Water Element Meeting)

San Andreas Library - Chesebrough Room
1299 Gold Hunter Road, San Andreas 95249

Agenda Items

3:30	1. Agenda Review	5 min
3:35	2. Discuss Agency Findings/Issues	25 min
4:00	3. Review/Draft Goals/Policies	30 min
4:30	4. Action Items	10 min
4:40	5. Draft Agenda for next meeting	10 min
4:50	6. Next meeting data and Adjourn	n/a

Draft Meeting Agenda
Water Element to the
Calaveras County General Plan Update
Bi-Weekly Meeting

Thursday, November 6, 2008
9:00 a.m. – 10:00 a.m.
("Working Group" Meeting immediately following, 10:00-12:00 p.m.)

Sequoia Room – **Cal Works Building**
509 E. St. Charles Street, San Andreas 95249

Agenda Items

9:00	1. Introductions and Agenda Review (see Exhibit 1 – October 23rd Meeting Summary)	10 min
9:10	2. Status of Baseline Report / Comments (see Exhibit 2a – Baseline Report Comments & Supplemental Data Forms and Exhibit 2b – Excerpt from Issues and Opportunities Report) ***Expected Outcome: Confirmation of comments/forms received to date***	10 min
9:20	3. Review Draft Goal Statements (see Exhibit 3 – Goal Statement Summary) ***Expected Outcome: Consensus on Draft Goal Statements***	30 min
9:50	4. Action Items	10 min
10:00	5. Adjourn to "Working Group" Meeting (10:00 am to 12:00 pm, same location)	

Agenda for "Working Group" on opposite side

Draft Meeting Agenda
Water Element to the
Calaveras County General Plan Update
"Working Group" Meeting

Thursday, November 6, 2008
10:00 a.m. – 12:00 p.m.
("Working Group" Meeting immediately following Water Element Meeting)

Sequoia Room – **Cal Works Building**
509 E. St. Charles Street, San Andreas 95249

Agenda Items

10:00	1. Draft Policy Discussions and Work Group Exercise	45 min
10:45	2. Break	10 min
10:55	3. Continue with Draft Policy Discussions and Work Group Exercise	40 min
11:35	4. Recommended Actions	10 min
11:45	5. Draft Agenda for next meeting	10 min
11:55	6. Next meeting date and Adjourn	n/a

Agenda for Water Element Meeting on opposite side

Draft Meeting Agenda
Water Element to the
Calaveras County General Plan Update
Bi-Weekly Meeting

Thursday, November 20, 2008
9:00 a.m. – 9:45 a.m.
("Working Group" Meeting immediately following, 9:45 a.m-1:30 p.m.)

San Andreas Library - Chesebrough Room
1299 Gold Hunter Road, San Andreas 95249

Agenda Items

9:00	1. Introductions and Agenda Review (see Exhibit 1 – November 6th Meeting Summary)	5 min
9:05	2. Status of Baseline Supplement Report/Comments on Issues and Opportunities Report ***Expected Outcome: Baseline Supplement Report ready for review by Agencies***	10 min
9:15	3. Draft Water Element Goals review (see Exhibit 2 – Revised Draft Goals) ***Expected Outcome: Acceptance of Revised Draft Goals***	20 min
9:35	4. Action Items	10 min
9:45	5. Adjourn to "Working Group" Meeting (9:45 am to 1:30 pm, same location)	

Agenda for "Working Group" on reserve side

Draft Meeting Agenda
Water Element to the
Calaveras County General Plan Update
"Working Group" Meeting

Thursday, November 20, 2008
9:45 a.m. – 1:30 p.m. (Lunch Provided)
("Working Group" Meeting immediately following Water Element Meeting)

San Andreas Library - Chesebrough Room
1299 Gold Hunter Road, San Andreas 95249

Agenda Items

9:45	1. Break	10 min
9:55	2. Revised Draft Water Element Policies review (see Exhibit 3 – Draft Policies)	90 min
11:25	3. Implementation Program working exercise/working lunch	110 min
1:15	4. Recommended Actions	5 min
1:20	5. Draft Agenda for next meeting	10 min
1:30	6. Next meeting date and adjourn	n/a

Agenda for Water Element Meeting on reverse side

Draft Meeting Agenda
Water Element to the
Calaveras County General Plan Update
Combined Water Element Group and Working Group
Bi-Weekly Meeting

Thursday, December 4, 2008
9:00 a.m. – 1:30 p.m.
(Lunch Provided)

Sequoia Room – **Cal Works Building**
509 E. St. Charles Street, San Andreas 95249

Agenda Items

9:00	1. Introductions	5 min.
9:05	2. Agenda Review	5 min.
9:10	3. Availability of Preliminary Draft Report	5 min.
9:15	4. Deadline for Submitting Information on Report Supplement, Issues & Opportunities Report	5 min.
9:20	5. Review Goals, Amend, and Recommend Draft Policies and Implementation Measures	130 min.
11:30	Working Lunch / Break	30 min.
12:00	6. Review Goals, Amend, and Recommend Draft Policies and Implementation Measures ***(Continued)***	75 min.
1:15	7. Next Steps	

Draft Meeting Agenda
Water Element to the
Calaveras County General Plan Update
Combined Water Element Group and Working Group
Bi-Weekly Meeting

Thursday, January 22, 2008
9:00 a.m. – 1:30 p.m.
(Lunch Provided)

San Andreas Library - Chesebrough Room
1299 Gold Hunter Road, San Andreas 95249

Agenda Items

9:00	1. Introductions	10 min.
9:10	2. Agenda Review	5 min.
9:15	3. Review/Discuss/Incorporate Comments Received on Dec 12 Water Policy Document	90 min.
10:45	*(15 minute Break)*	15 min.
11:00	4. Review/Discuss / Incorporate Comments Received on Dec 12 Water Policy Document *(continued)*	90 min.
	(Includes working lunch from approximately 12:00-12:30)	
12:30	5. Status Report on Baseline Report Supplement	20 min.
12:50	6. Next Steps for Water Element	20 min.
1:10	7. Closing Remarks	

Appendix E –
Water Element Meeting
Sign-in Sheets

Calaveras County General Plan Water Element Meeting
Sign-In Sheet

Date: 9-25-08

Name	Agency	Address	Phone Number	Email Address
Diane Severud	MSD	PO Box 1110, Murphys	209/728-3094	dianeupud@goldrush.com
Ralph Emerson	MSD	" "	" "	
Claudette Langley	Enterprise		209-754-3861	clangley@calaverasenterprise.com
Charles Cantoni	WCSD	P.O. Box 398 Wallace	209 763-2699	cwc@cantoni.net
MIKE TERRY	—	PO BOX 126 ANGELS	209-736-1352	2mnlbc@earthlink.net
Muriel Gerrell	Mountain Springs Comm	P.O. BOX 1501 V.S.	772-1743	muriel2@comcast.net
DAVE HALEY	DEVELOPER	PO BOX 449 Murphys	209-785-8558	dhaley@eastlecooke.com
PAUL MOELLER	CCTV	~~POB~~ 152 AVERY	~~925~~ 728-3803	pmoeller@paulmoeller.net
Christine Poe	CDA	891 Mt. Ranch Rd San Andreas	754-2801	cpoe@co.calaveras.ca.us
MARIAN CUAHRAN	—	PO Box 905 S.A. Copperopolis	754-1573	mcoahran@goldrush.com
PAUL STEIN	CASTLE & COOKE	100 TOWN SQUARE PLACE	785-8565	pstein@castlecooke.com
Debra Lewis	CDA-Calaveras	891 Mtn Ranch Rd San Andreas	754-2801	dlewis@co.calaveras.ca.us
Bill Peters	SASD	341 Scenic Cir San Andreas	(209) 754-9772	billpe@ccwd.org
Steve Schimpf	SASD	661 Sunset St	209 754 1432	SASDoffice@comcast.net
JOHN LAVAGNINI	CPUD	SAN ANDREAS	209-754-3501	JRGATS@GOLDRUSH.COM
Jim Shearer	ANGELS	P.O. 667 Angels 95223	209-736-2181	jimshearer@angelscamp.net
ED PATTISON	CCWD		209/754.3543	edwinp@ccwd.org
Bob Dean	CCWD		209/754/5881	deanr@goldrush.com

Calaveras County General Plan Water Element Meeting
Sign-In Sheet

Date: 9-25-08

Name	Agency	Address	Phone Number	Email Address
LEE SEATON	ANGELS CAMP	POBOX 667 AC 95222	209 743 2245	LSEATON@CITIZENSSEATON.COM
CAROLYN LOTT	CENTER FOR COLLABORATIVE POLICY SACRAMENTO		209-402-2024	CAROLYNLOTT@SBCGLOBAL.NET
EO RICA	CCWD		754-3543	
Vern Pfh	UPA	POB 358 AC 95222	736-9419.	upaoffice@goldrush.com
Mike Herreid	Blue Lake Springs	P.O. Box 912	795-~~788~~ 7025	
Joyce Techel	My Valley Springs.com	PO Box 1501	772-1463	jaytee@caltel.com
Randy Lagomarsino	UPA		736-9419	RML9@COMCAST.NET
Bill Reidel	UPUD		925 3651	
John Buckley	CSERC	Box 396 Twain Harte CA 95383	209 586-7440	johnb@cserc.org
Mitch Pyke	UPA	P.O. Box 358 Angels Camp	209-736-9419	MitchP@uticapower.com
Karen Sue Rojas	Utica Power Authority	POB 358 AC 95222	736-9419	upaoffice@goldrush.com
RICHARD WATSON	BLUE LAKE SPRINGS	PO Box 661 ARNOLD	795-6011	rwatdcwatson@att.net
ERVIE MULTHAUP	"	PO Box 2879 ARNOLD	795-1050	ERN12@COMCAST.NET
Don Stump	—	PO Box 168 Hathaway Pines	795-3800	Donstump1@yahoo.com
Pat Bailey	WCSR	P.O. Box 186 Wallace, CA 95254	763-5453	
JACKIE NEILL	WCSR	P.O. Box 43 Wallace 95254	763-5103	JACKIENEILL@COMCAST.NET
Cathryn Jackson	WCSR	" "	"	cathrynjackson@comcast.NET
[illegible]	C.D.A.		736-2181	
Larry Diamond	CCWD		754-3543	larryd@ccwd.org
TIM ELTRINGHAM	U.P.U.D		728-3651	

Calaveras County General Plan Water Element Meeting
Sign-In Sheet

Date: Oct. 9, 2008

Name	Agency	Address	Phone Number	Email Address
Joyce Techel	My Valley Springs.com	PO Box 1506, Valley Springs	772-95/463	jaytee@caltel.com
Diane Severud	MSD	PO Box 1110 Murphys	728-3094	dianeupud@goldrush.com
Ray Behrbaum	UPUD/LAFCO	339 Main St, Murphys	728-3651	" "
Don Stump		P.O. Box 168 Hathaway Pines	795-3800	Donstump1@yahoo.com
BERTHA UNDERHILL	COWD	BOB 4015, CAMP CONCORD 95223	795-5406	bunderhill85@cmcast.net
Paul R. Eklund	COA		736-4352	
Bill Riede	UPUD		728 31 57	
Bill Hutchinson	COA	PO Box 177; ALTAVILLE 95224	736 4460	bJHUTCH@SBCGLOBAL.NET
Cathryn Jackson	Wallace Citizens	PO BOX 43, Wallace 95254	763-5103	cathrynjackson@COMCAST.NET
Debra Lewis	CDA	891 Mtn Ranch, San Andreas	754-1752	dlewis@co.calaveras.ca.us
John Taylor	CDA		754-2851	
Jessica Schmidt	Hunter Ehrlich	—	916-445-0522	jtaylor@co.calaveras.ca.us
Randy Lagomarsino	UPA		728-3888	jessica@hunterehrlich.com
Christine Poe	CDA		754-2801	RML9@comcast.net
Robert Sullivan	CDA		754-2850	cpoe@co.calaveras.ca.us
Bill Eldringham	U.P.U.D		728-3651	RSELLMAN@co.CalaverasCo.us
Ed Rich	CWD		754-3543	
Gary Goffe	CPUD		754-9442	
Diane Gray	Chamber of Comm	PO 1145 Angels Camp	736-2580	Chamber@calaveras.org
Vacant	UPA		736-9414	

Calaveras County General Plan Water Element Meeting
Sign-In Sheet

Date: Oct. 9, 2008

Name	Agency	Address	Phone Number	Email Address
Mitch Rg	Utica Power -		209-736-0114	Mitch@uticapower.com
Karen Rojas	UPA	PDB 358, Booster Way Angels	736-9419	upaoffice@goldrush.com
Marian Coahran	"	PO Box 905 San Andreas	754-1973	mcoahran@goldrush.com
Claudette Langley	C. Enterprise	15 N. main St. S.A.	754-3861	clangley@calaverasenterprise.com
Steve Schimp	SASD	661 Sunset St	7543281	SASDoffice@comcast.net
Ralph Emerson	MSD	Murphys	728-9514	
Ed Pattison	CCWD		754.3543	edwinp@ccwd.org
Ralph Emerson	Fly in Acres	PO Box 108 Murphys 95247	728-9511	msdmgr@hotmail.com

Name	Agency	Email	Phone
Jafar Faghih	MWH	jafar.faghih@mwhglobal.com	916-918-8437
Dave ANDRES	CCWD	dave@ccwd.org	736-7[illegible]
David Hanham	City of Angels	DAVIDHANHAM@ANGELSCAMP.GOV	
PAUL MOELLER	CCTV	pmoeller@paulmoeller.net	
Diane Severud	UPUD/MSD	dianeupud@goldrush.com	
Mitch Pyle	Utica Power	Mitch@goldrush.com	
Vern Pyle	Utica Power	Vern@uticapower.com	
Ed Pattison	CCWD	edwinp@ccwd.org	
Roger Putty	MWH	roger.putty@mwhglobal.com	
Ralph Emerson	MSD	msdmgr@hotmail.com	
MARIAN COADRAW	PRIVATE	MCOAHRAN@goldRUSH.com	254-4573
Bob Dean	CCWD	dean@goldrush.com	

WATER ELEMENT WORKING SUB-GROUP
OCTOBER 15, 2008

Calaveras County General Plan Water Element Meeting
Sign-In Sheet

Date: Oct. 23 2008

Name	Agency	Address	Phone Number	Email Address
John Buckley	CSERC	Box 396, TH CA 95383	2095867440	johnb@cserc.org
COLLEEN HAERR	NOLTE ASSOC.	PO Box 453 Copperopolis, 95228	772-2650	colleen.HAERR@NOLTE.COM
Lucille. H Miller	V.S.P.U.D	PO. Box 128 V.S. 95252	" "	
William A Whitaker	VSPUD	145 Sequoia Ln		
DAVID EDwards	WCSD.	PO398 Wallace Ca 95254	763 2882	Wallacecsd@comcast.net
Cathryn Jackson	Wallace Citizens Serving Residents	PO. BOX 43, Wallace, CA 95254	763-5103	cathrynjackson@COMCAST.NET
Pat Bailey - WCSR	Wallace Citizens Serving Residents	PO Box 186 Wallace, CA 95254	763-5453	tapatc2@comcast.net
send mtg to website * Terry Strange	non affiliated	PO BOX 129 Wilseyville CA 95257	209 293-3230	Strangraga@Volcano.net
Ed Pattison	CCWD		209/754.3543	edwinp@ccwd.org
Jafar Faghih	MWH	3321 Power Inn Road, Sac, CA 95826	916-418-8937	jafar.faghih@mwhglobal.com
Roger Putty	"	"	916-418-8963	roger.putty@mwhglobal.com

Calaveras County General Plan Water Element Meeting
Sign-In Sheet

Date: Oct. 23 2008

Name	Agency	Address	Phone Number	Email Address
Bill Bideri	UPUD	Murphys	209 728 3651	
Paul D. Raggio	C.O.A	———	736-251	
Bertha Underhill	CCWD		795-5406	bunderhill85@comcast.net
Don Stump	—	Hathaway Pines	795-3800	donstump1@yahoo.com
Mitch Pyle	UPA	Angels Camp	736-0114	mitch@utica power.com
Paul Moeller	CCTV	AVERY	728-3803	pmoeller@paulmoeller.net
Al Segalla	CCTA		785-1491	alsegalla@mindspring.com
Susan Richard	Private ranch	PO Box 813 Angels Camp	754-5037	stranch@hotmail.com
Joyce Techel	MtValleySprings.com	Burson/Vs	772-1463	joytee@caltel.com
Ralph Emerson	MSD	PO Box 1110 Murphys 95247	728-3094	msdmgr@hotmail.com
Debra Lewis	CDA	891 Mt Ranch Rd	754-6782	dlewis@co.calaveras.ca.us
David Haverson	City of Angels	City of Angels Camp	(209) 736-8446	davidhaverson@angelscamp.gov
Randy Lagomarsino	UPA		736-9419	RML9@comcast.net
Phil McCartney	CCWD/MHSD	P.O. Box 209 Moke Hill CA 95245	256-4548	MCCARTNEYSTONE@COMCAST.NET
Bill Peracy	SASD/CCWD	Po Box 8246 San Andreas 95249	(209) 754-3543 ext 26	billpe ccwd.org
Claudette Langley	Enterprise	15 North main St. S.A.	754-3861	clangley@calaverasenterprise.com
Jeff Davidson	CCWD	202 Ronald Reagan Dr VS	768 2253	JeffDavidson CCWD@comcast.net
Charles Cantoni	Wallace CSD	PO Box 998 Wallace 95254	~~765-1166~~ 763-4699	ccwc@cantoni.net
LEE SEATON	ANGELS	PO 855 Altaville 95221	743 2245	SEATONS@COMCAST.NET
MARIAN COATHRAN	Private well septic	PO Box 905 San Andreas	754-1573	mcoathran@goldrush.com

Calaveras County General Plan Water Element Meeting
Sign-In Sheet

Date: 11-6-08

Name	Agency	Address	Phone Number	Email Address
Don Stump			795-3800	donstump1@yahoo.com
BERTHA UNDERHILL	CCWD	P.O. Box 846, San Andreas 95249	795-5406	Burderh.185@comcast.net
John Buckley	CSERC	Box 396, Twain Harte CA 95383	586-7440	johnb@cserc.org
MARIAN COAHRAN	None	POB 905 San Andreas	754-1573	mcoahran@goldrush.com
Ralph Emerson	MSD	POB 1110 Murphys	728-3094	msdmgr@hotmail.com
Diane Silvernd	MSD (POB 1110	~~330 Main St~~ Murphys	728-3651	dianeupud@goldrush.com
Bill Riedel	URUD	339 Main St Murphys	728-3651	dianeupud@goldrush.com
Vern Kylie	UPA	POB 358, Angels Camp 95222	736-9419	upaoffice@goldrush.com
Karen Rojas	UPA	POB 358, Angels Camp 95222	736-9419	upaoffice@goldrush.com
[illegible]	C.O.A.	— — —	736-2181	
PHIL McCARTNEY	CCWD/MHSD	P.O. BOX 279 MOKELUMNE HILL 95245	256-4548	MCCARTNEYSTONE@COMCAST.NET
Robert Dean	CCWD	18183 Jesus Maria Rd, Mokelumne Hill 95245	754-5887	dean@goldrush.com
CATHRYN JACKSON	PUBLIC	PO BOX 43, Wallace, 95254	763-5103	cathrynjackson@COMCAST.NET
Pat Bailey	Public	P.O. Box 186 Wallace 95254	763-5453	tapatch@comcast.net
LEE SEATON	COA	~~PO~~	743-2245	SEATONS@COMCAST.NET
Joyce Techel	MVS.com	PO Box 1501	772-1463	joytec@caltel.com
Lucille H Allee	V.S.P.U.D	Po. Box 284 Valley Springs	772-2650	
William W Peterson	V.S.P.U.D.	145 Segovia Valley Springs	772-195	
Jim Shearer	~~ACM~~-CAO CMP	PO Box 667, AG 95222	736-2181	jimshearer@angelscamp.gov
Debra Lewis	CDA-county	891 Mtn Ranch Rd		dlewis@co.calaveras.ca.

Calaveras County General Plan Water Element Meeting
Sign-In Sheet

Date:

Name	Agency	Address	Phone Number	Email Address
Tom Infusino	Calaveras Planning Coalition	P.O. Box 792, Pine Grove	(209) 295-8866	tomi@volcano.net
DAVE ANDRES	CCWD	PO Box 846 SAW And.	209. 754 - 5846	davida@ccwd.org
AL SEGALLA	CCTA	4889 KIVA DR. COPPER	785-1491	alsegalla@mindspring.com
DAVID Edwards	WCSD	PO 398 Wallace Ca 95254	763 288 2	wallacesd@comcast.net
Jafar Faghih	MWH			
Roger Rutty	MWH			
Terry Stronge	Non-Affiliated	PO Box 129 Wilseyville 95257	209 293 3230	Strongeague@volcano.net
Carolynn Lott	CCP			
Jessica Schwartz	Winter Harnish			
Paul Moeller	CCTV			

Calaveras County General Plan Water Element Meeting
WORKING GROUP Sign-In Sheet

Date: 11/6/08

Name	Agency	Address	Phone Number	Email Address
David Edwards	WCSD			
Terry Strange	Non-Affiliated			
Joyce Techel	NVS.com			
David Hartstrom	City of Angels			
Bob Deaver	CCWD			
Phil McCartney	CCWD/MHSD			
Karen Rojas	UPA			
Vern Lyle	UPA			
Diane Severud	MSD | UPUD			
Ralph Emerson	MSD			
AL SEGALLA	CCPA			
MARIAN CONRAN	PRIVATE			
John Buckley	CSERS			
Tom Infusino	CPC	← add to email	list	
Carolyn Lott	CCP			
Roger Putty	MWH			
Jafar Faghih	MWH			
Jessica Schwartz	Mintier Harnish			
DAVE ANCHES	CCWD			

Calaveras County General Plan Water Element Meeting
Sign-In Sheet

Date: NOV 20, 2008

Name	Agency	Address	Phone Number	Email Address
Lucille H Allec	U.S.P.U.D	150 Sequoia ST	772-2650	
[illegible]	V.S.P.U.D	145 S Sequoia AV	772-1755	
COLLEEN HAERR	NOLTE ASSOCIATES		824-3205	COLLEEN.HAERR@NOLTE.COM
Karen Rojas	UPA	POB 358 Angels Camp.	736-9419	upaoffice@goldrush.com
BILL RIEDEL	UPUD		728 3651	
Mitch Ryle	U.P.A	1168 Booster way Angels Camp	736-0114	mitch@utica power.com
Diane Severud	UPUD / MSD	339 Main St, Murphys	728-3651	dianeupud@goldrush.com
Ralph Emerson	MSD	90-B Bigtrees Rd Murphys	728-3094	msdmgr@hotmail.com
Vera Ryle	UPA			
Don Stump		P.O. Box 168 Hathaway Pines	795-3800	donstump1@yahoo.com
~~SERENA~~ UNDERHILL	CCWD	P.O. Box 4015, CAMP CONNELL 95223	795-5406	bunderhi1185@COMCAST.NET
GARY GOFFE	CPUD	Box 666, SAN ANDREAS 95249	754-9442	CPUD@GOLDRUSH.COM
David Hanham	City of Angels	571 S Main St Ste #5, Angels Camp CA 95222	736-1346	DAVIDHANHAM@ANGELSCAMP.GOV
ED RICH	CCWD		754-3543	
PHIL MCCARTNEY	CCWD	P.O. Box 279 MOKE HILL CA.	256-4548	
MARIAN GOATHRAID	Private Citizen.	PO Box 905 San Andreas	754-1573	MGOATHRAID@GOLDRUSH.COM
Bob Dean	CCWD		754-5587	dean@goldrush.com
John Buckley	CSERC	Box 396 Twain Harte CA 95383	586-7440	johnb@cserc.org
Tom Infusino	C.P.C.	PO Box 792 Pine Grove 95665	295-8866	tominvalcano.net
DAVE ANDRES	CCWD	PO Box 846 SAN Andreas	754-5846	davida@ccwd.org

Calaveras County General Plan Water Element Meeting
Sign-In Sheet

Date: NOV 20, 2008

Name	Agency	Address	Phone Number	Email Address
DAVID EDwards	WCSD	PO 398 Wallace 95254	209 763 2882	wallace@comcast.NET
Cathryn Jackson	CPC	PO BOX 43, Wallace 95254	763-5103	cathrynjackson@COMCAST.NET
Ed Pattison	CCWD			edwinp@ccwd.org
AL SEGALLA	CCTA			alsegalla@mindspring.com
TILLMAN SHERMAN	SASD	1330 CALAVERITAS RD #10 SAN ANDREAS, CA 95249	209-559-2672	TILLMAN.SHERMAN@COMCAST.NET
Jafar Faghih	MWH			
Roger Putty	MWH			
Jessica Schwartz	Mintier Harnish			
Jaq@Techel	MVS.com	PO BOX 1501	772-1463	jaytee@caltel.com
Debra Lewis	County CDA			dlewis@co.calaveras.ca.us
TIM SHEARER	ANGELS CAMP	BOX 667, ANGELS CAMP, CA 95222	209 736-2181	timshearer@angelscamp.gov
Jeff Davidson	CCWD			
Terry Strange	~~None~~ Strange Aquatic Res.	PO BOX 179 Wilseyville CA 95257	209 293 3230	strangeaqua@volcano.net

Calaveras County General Plan Water Element Meeting
WORKING GROUP Sign-In Sheet

Date: Nov 20, 2003

Name	Agency	Address	Phone Number	Email Address
David Haultham	City of Angels	584 S. Main Street - Angels Camp 95222	209 - 736-1346	David Haultham@Angelscamp.gov
AL SEGALLA	CCTA			
Vera Pyle	UPA			
Ralph Emerson	MSD			
Mitch Pyle	UPA	Angels Camp	736-0114	mitch@utica power.com
Bill RIEDEL	UPUD	MURPHYS	728 3651	
Diane Severud	UPUD / MSD			
Karen Rogas	UPA	POB 358 Angels Camp	736-9419	upaoffice@goldrush.com
COLLEEN HAERR	NOLTE ASSOCIATES	PO BOX 453 COPPEROPOLIS	824-3205	COLLEEN.HAERR@NOLTE.COM
John Buckley	CSERC	PO Box 396 Twain Harte CA 95383	586-7440	johnb@cserc.org
Tom Infusino	C.P.C			
DAVE ANDRES	CCWD			
DAVID Edwards	WCSD			
Ed Pattison	CCWD			edwinp@ccwd.org
Jafar Faghih	MWH			
Jessica Schwartz	Muntzin Harnish			
Joyce Techel	MVS.com			
Jeff Loux	UC Davis		530-757-8577	jdloux@ucdavis.edu
MARIAN COAHRAN	Private Citizen			
Bob Dean	PCWP			

Calaveras County General Plan Water Element Meeting
WORKING GROUP Sign-In Sheet

Date: Nov 20, 2008

Name	Agency	Address	Phone Number	Email Address
Terry Strange	Strange Aquatic Resources	PO Box 129 Wilseyville CA 95257	209 293 3230	Strangeaqua@volcano.net

Calaveras County General Plan Water Element Meeting
Sign-In Sheet

Date: DECEMBER 4, 2008

Name	Agency	Address	Phone Number	Email Address
[illegible]	USPUD	PO Box 284	772-2650	
Andy Whitelaw	✓SPUD	175 Sequoia	772-1755	
PHIL McCARTNEY	MHSD	P.O Box 209 MOKELUMNE	256-9548	
BILL RIEDEL	UPUD		728 3651	
Mitch Pyle	UPA	Angels	736-9419	Mitch@utica power.com
Vern Pyle	UPA	Angels	736-9419	Vern@utica power.com
Don Stump		P.O. Box 168 Hathaway Pines	795-3800	donstump1@yahoo.com
Mary Boblet	Parks + Rec	PO Box 131 Hathaway Pines 95233	795-7818	mnboblet@gmail.com
AL SEGALLA	CCTA			
John Buckley	CSERC	same as previous		
Diane Sevrud	UPUD/MSD	you know ☺		
Ralph Emerson	MSD			
GARY GOFFE	CPUD			
Cathryn Jackson	Public Rep.	PO Box 43, Wallace 95254	763-5103	cathrynjackson@comcast.net
Joyce Teschel	My Valley Springs.com			
FRANK D. RAGGIO	C.O.F.		736-2181	
David Hartmann	C.O.A.	584 S. Main Street	736-1346	DavidHartmann@angelscamp.gov
Claudette Langley	Enterprise.		754-3861	
DAVID SILVA	CALCO BUSINESS COUNCIL	448 CALAVERITAS RD SAN ANDREAS 95249	418-9800	flint2u@hotmail.com
JEFF DAVIDSON	CCWD	202 RONALD REAGAN Cr.	772 9675	ddavidson@CCWD.COMCAST.NET

Calaveras County General Plan Water Element Meeting
Sign-In Sheet

Date: DECEMBER 4, 2008

Name	Agency	Address	Phone Number	Email Address
Tom Infusino	CAL Plan. Coalition			
Charles Cantoni	Wallace CSD	PO Box 398 Wallace, CA	209 763-2699	cwc@cantoni.net
Dave Aldrich	CCWP			
MARIAN COAHRAN	PRIVATE	PO Box 905 San Andreas	754-1973	mcoahran@gpldruth.com