

Lake County
County Service Areas for Water Service
Municipal Service Reviews

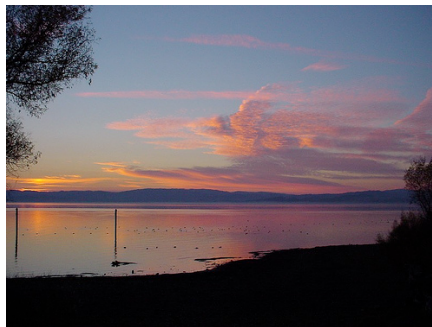


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|------------|----|-----------------|
| 1. CSA No. | 2 | Spring Valley |
| 2. CSA No. | 6 | Finley |
| 3. CSA No. | 7 | Bonanza Springs |
| 4. CSA No. | 13 | Kono Tayee |
| 5. CSA No. | 16 | Paradise Valley |
| 6. CSA No. | 18 | Starview (Cobb) |
| 7. CSA No. | 20 | Soda Bay |
| 8. CSA No. | 22 | Mt. Hannah |
| 9. CSA No. | 23 | Konocti Bay |

Lake LAFCO
Adopted
December 17, 2008
Resolution 2008-07

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Sunset at Clear Lake, California

1 INTRODUCTION

This Municipal Service Review is prepared for nine County Service Areas (CSAs) in Lake County providing domestic water service. The Municipal Service Review for CSA No.21 North Lakeport will be a separate document. The Municipal Service Review (MSR) includes the following information:

- LAFCO requirements for MSRs
- Lake County background
- Description of water service provided by each CSA
- Analysis of each CSA's capability to serve existing and future residents in the area

1.1 LAFCO's Responsibilities

Local Agency Formation Commissions are quasi-legislative local agencies created in 1963 to assist the State in encouraging the orderly development and formation of local agencies. The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Government Code §56000 et seq.) is the statutory authority for the preparation of an MSR, and periodic updates of the Sphere of Influence of each local agency. The Governor's Office of Planning and Research has issued Guidelines for the preparation of an MSR. This MSR adheres to the procedures set forth in the MSR Guidelines.

A Sphere of Influence is a plan for the probable physical boundaries and service area of a local agency, as determined by the affected Local Agency Formation Commission (Government Code §56076). Government Code §56425(f) requires that each Sphere of Influence be updated not less than every five years, and §56430 provides that a Municipal Service Review shall be conducted in advance of the Sphere of Influence update.

1.2 Municipal Service Review Requirements

The statute as amended by AB1744 and regulations call for a review of the municipal services provided in the county or other appropriate area designated by the LAFCO. The LAFCO is required, as part of the MSR, to prepare a written statement of findings of its determinations with respect to each of the following:

- 1. Growth and Population**
- 2. Capacity and Infrastructure**
- 3. Financial Ability**
- 4. Shared Facilities**
- 5. Government Structure and Accountability**

1.3 Lake LAFCO Policies and Procedures Related to Municipal Services

The Lake LAFCO adopted policies and procedures related to municipal services on March 20, 2002. There were amended by action of the Lake LAFCO on July 16, 2003 and November 28, 2007.

1.4 Preparation of the MSR

Research for this Municipal Service Review (MSR) was conducted primarily during a six-month period during the Fall of 2007 and Spring and Summer of 2008. Since that time, several modifications have been made to add additional information. This MSR is intended to support preparation and update of Spheres of Influence, in accordance with the provisions of the Cortese-Knox-Hertzberg Act. The objective of this Municipal Service Review (MSR) is to develop recommendations that will promote more efficient and higher quality service patterns; identify areas for service improvement; and assess the adequacy of service provision as it relates to determination of appropriate sphere boundaries.

While LAFCO prepared the MSR document, LAFCO did not engage the services of experts in engineering, law enforcement, fire protection, recreation and other specialists in related fields, but relied upon reports and Lake County staff for information. Therefore, this MSR reflects LAFCO's recommendations, based on available information during the research period and provided by Lake County staff to assist in its determinations related to promoting more efficient and higher quality service patterns; identifying areas for service improvement; and assessing the adequacy of service provision for each County Service Area.

Nine of the ten water CSAs in Lake County are managed and staffed by the Lake County Special Districts Administration (SDA). (CSA No.23 Konocti Bay provides no water service.) The SDA has conducted various studies of these CSAs with the help of consultants. This MSR includes relevant information from the various reports. Since the reports were prepared at different times there may be occasional differences in data. The most recent report is the Foresight Consulting "Water and Sewer Rate Study Report" which will be cited extensively.

1.5 Description of Public Participation Process

Lake LAFCO is a legislative body authorized by the California Legislature and delegated powers as stated in the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (the Act). The LAFCO proceedings are subject to the provisions California's open meeting law, the Ralph M. Brown Act (Government Code Sections 54950 et seq.) The Brown Act requires advance posting of meeting agendas and contains various other provisions designed to ensure that the public has adequate access to information regarding the proceedings of public boards and commissions. Lake LAFCO complies with the requirements of the Brown Act.

The State MSR Guidelines provide that all LAFCOs should encourage and provide multiple public participation opportunities in the municipal service review process. Local MSR policies have been adopted by the Lake LAFCO. Lake LAFCO has discussed and considered the MSR process in open session, and has adopted a schedule for completing the various municipal service reviews and sphere of influence updates for Lake County. Each municipal service review will be prepared as a draft, and will be subject to public and agency comment prior to final consideration by the Lake LAFCO.

1.6 California Environmental Quality Act (CEQA)

The Municipal Service Review is a planning study that will be considered by Lake LAFCO in connection with subsequent proceedings regarding the Lake County CSAs and the Spheres of Influence. The Sphere of Influence review or update that will follow has not been approved or adopted by LAFCO.

This MSR is funded in the Lake LAFCO's 2008-2009 Budget. This MSR includes an analysis, to the extent required by Section 15262 of the CEQA Guidelines, of the environmental factors that may be affected by the Municipal Service Review process, but will not include the preparation of an environmental review document.

2 LAKE COUNTY

2.1. Lake County Location

Lake County is located in northern California, is surrounded by Sonoma, Colusa, Glenn, Napa, Yolo and Mendocino counties. As home to the State's largest natural freshwater lake, Clear Lake, the area has been a strong attraction for family vacations, fishing tournaments, and general tourism destinations for many generations.

Elevations in Lake County range from 1,000 feet above sea level in the Hidden Valley Lake area to 7,056 feet at Snow Mountain located in the Mendocino National Forest. Government Preserves, Bureau of Land Management areas, Snow Mountain Wilderness, Mendocino National Forest and other public lands encompass 381,193 acres of the 857,000 total acreage of Lake County.

2.2 Lake County Climate

The climate in Lake County is generally described as semi-arid. Summers are typically dry, with high daytime temperatures and warm nights. Winters are typically wet, with an average annual rainfall of approximately 28 inches. Almost all precipitation falls between October and April. The mean annual high and low temperatures are 94 degrees and 30 degrees Fahrenheit, with extremes recorded of 109 degrees and 12 degrees Fahrenheit. The wildland fire season varies, but it usually runs from late May to late October.

The climate is an essential consideration for water use because water use is much higher during the summer. Water supply depends, in large part, on the amount of rain which falls during the winter.

2.3 Lake County Cities

There are two incorporated cities within the County as follows:

Clearlake, on the Lake's eastern border, and
Lakeport, on the western border.

Many unincorporated communities dot the landscape, and provide year-round and summer homes, camping, hotels, and bed and breakfast inns, specialty retail, and access to outdoor recreational activities.

Most of the populated areas of Lake County are located near Clear Lake, with the exception of the Middletown area, located in the southern portion of the County, and small communities in Cobb area located in and adjacent to the Mayacmas Mountains.

2.4 Lake County Highways

The primary means of access to Lake County is via automobile, and the roadway system within Lake County serves as the primary means of movement between communities. The major service routes are Highway 20, providing access to Sacramento/Bay Area and Santa Rosa; Highway 29, providing access to the Napa region; and Highway 175, which also provides access to Napa.

State Highways 29 and 175 traverse mountainous areas, and are narrow and winding. State Highways 20 and 53 are major routes of travel, and are well maintained, but are also heavily traveled and present travel hazards to motorists.

2.5 Lake County Land Use

Most of the land area in Lake County is undeveloped. Of the total 857,000 acres included within the County, approximately 77 percent, or 664,000 acres, consists of wildland areas of forest or brushland.

Approximately 36,000 acres in Lake County are committed to cultivated agricultural production. Of this total, approximately 24,000 acres are irrigated. Some crops, such as pears, walnuts and almonds have decreased in acreage on a steady basis since the mid-1970s. In 1997 the County was still No.5 in the nation for pear production.¹ Other crops, including alfalfa, nursery and truck crops, and wine grapes have increased in acreage during that period.

Recreational opportunities in Lake County attract a substantial number of visitors to the area, especially in the summer. Estimates provided by service providers and police agencies within the County indicate that the summer population in the County sometimes exceeds twice the resident population, especially on holiday weekends. The areas most affected by the population increases are located in the immediate vicinity of Clear Lake, and in the Middletown area.

State Highway 20 along the north shore of Clear Lake is narrow, and provides access to the communities of Clearlake Oaks, Glenhaven, Lucerne and Nice, each of which is settled on a narrow strip of land between Clear Lake and the mountain areas immediately to the north.

These communities were developed with motor lodges and mobile homes in past decades, and present unique challenges in terms of fire protection. Redevelopment of existing structures and development of vacant parcels in the areas north of State Highway 20 has tended to increase the density of development in these areas.

¹ <http://www.buylakecountyrealestate.com/lake-county/demographics.asp>

The configuration of State Highway 20 along the north shore, and the proximity of the route to the Lake, creates substantial concerns regarding the transportation of hazardous materials through the County. Trucks carrying hazardous materials are directed to use State Highways 29 and 53 via the Upper Lake-Lakeport-Lower Lake-Clearlake route to avoid the risks posed by the north shore route.

Residential development in Lake County is concentrated in areas near the Shore of Clear Lake, and in the Middletown area. In recent years the development pattern has also included residential nodes in isolated areas of the County. These nodes are predominated by single-family residences that provide either summer residences or year-round residences.

2.6 Lake County Population and Growth

The population of Lake County, according to the 2000 U.S. Census, was 58,309. The estimated population in 2004 was 64,446. This was an increase of 10.52% from the 2000 Census.² It is projected that the Lake County population will increase to 93,000 by the year 2020. From 1990 to 2000, Lake County and California's population increased by 15.2 percent and 13.8 percent respectively.

According the 2000 Census, the number of Lake County housing units was estimated to be 32,525. According to the 2000 Census, the unincorporated portion of the County had a permanent population of 40,347 and the estimated number of existing housing units was 22,529.

Population characteristics throughout the study area (Lake County) are substantially affected by seasonal variations, distinct user groups and the abundance of second homes. According to the 2000 census, there were 8,884, unoccupied units representing a 26.30% vacancy rate at that time.

To illustrate the effect part-time residents have on the County, projections are provided for the County with and without inclusion of part-time residents as follows:

Year	2000	2005	2010	2015	2020
Lake County Population	59,100	69,200	77,620	84,400	93,000
Lake County Peak Population*	79,518	89,618	98,038	104,818	113,418
*Assuming that the existing vacant units are seasonally occupied.					

² <http://www.buylakecountyrealestate.com/lake-county/demographics.asp>

The percentage of those 65 or older is the highest in the State of California.³ The median age was 43 years. For every 100 females there were 97.60 males. For every 100 females age 18 and over, there were 94.70 males in Lake County.

The median income for a household in the county was \$29,627, and the median income for a family was \$35,818. Males had a median income of \$35,771 versus \$24,026 for females. The per capita income for the county was \$16,825. About 12.90% of families and 17.60% of the population were below the poverty line, including 22.80% of those under age 18 and 7.30% of those aged 65 or over.

2.7 Lake County Surface Water

2.7.1 Surface Water Overview

Three of the ten CSAs considered in this report rely on surface water from Clear Lake for water supply: Spring Valley, Soda Bay and North Lakeport.

Three major drainages exist within Lake County as follows:

- The Eel River Drainage
- The Putah Creek Drainage
- The Cache Creek Drainage

The Eel River Drainage is located in the northern portion of the County, and goes north to Humboldt County and southwest to Mendocino County. The Putah Creek Drainage is located in the southern portion of the County, with a watershed that includes the Mayacmas Mountains, and flows in an east-southeast direction into Lake Berryessa in Napa County and then into the Central Valley.

The third, Cache Creek Drainage, is the most dominant hydrologic feature of the County. The Clear Lake Basin area is the primary producer of waterflows to the Cache Creek drainage. This drainage collects water from the western and central portions of the County, and includes approximately 40 percent of the County's drainage area within its boundaries. Clear Lake is located within the Cache Creek Drainage.

The average depth of Clear Lake is about 26 feet. The Lake is composed of three arms as follows:

- Upper Arm
- Oaks Arm
- Lower Arm (Highlands Arm)⁴

³ <http://www.buylakecountyrealestate.com/lake-county/demographics.asp>

⁴ Lake County Watershed Protection District, "Lake County Water Inventory and Analysis", March 2006, page 2-5.

2.7.2 Surface Water Rights

Water has always been an essential commodity in California and a complex system of water rights has developed. There are two main types of surface water rights as follows:

Riparian rights

"Riparian rights" are the highest priority water rights and are attached to land that borders natural waterways. Based on legal precedents, riparian rights water can only be used on the property adjacent to the waterway and users are prohibited from transferring their water. Previously, riparian rights secured unlimited water use. A later court case established that riparian rights water users must be held to a standard of "reasonable use" and are prohibited from waste, unreasonable use, or unreasonable methods of diversion.

Appropriative rights

"Appropriative rights" are the second type of water rights and can be secured by properties that do not directly border waterways. Miners were the first to initiate this water rights system by posting a notice to divert water and secure the water right. Appropriative water rights were legally recognized in 1855 and are prioritized by a "first in time, first in right" hierarchy. Appropriative water rights must be put to "beneficial use" and can expire if the water is not used for a period of five years.⁵

According to the "Lake County Water Inventory and Analysis",

Conflicts developed between water users over the distinctions between riparian and appropriative water rights. In order to address these issues, the Water Commission Act of 1913 declared water a property of the State of California. The Water Commission Act also created a permit process to control water rights and established the State Water Resources Control Board (SWRCB) to govern the permit process. The Water Commission Act became the basis for appropriating water. The Act does not apply to riparian, appropriative, or groundwater rights established prior to 1914 ("Pre-1914" rights).

During years of water shortage, appropriative rights users must cut back their water use. The most recent right-holders are the most junior and are subject to the cutbacks first. Appropriative rights

⁵ Lake County Watershed Protection District, "Lake County Water Inventory and Analysis", March 2006, page 3-1.

holders continue to be cut back in an inverse priority until the shortage is corrected.⁶

2.7.3 Clear Lake Water Rights

According to the "Lake County Water Inventory and Analysis",

Yolo County, to the southeast of Lake County, holds the majority of the water rights to Clear Lake, its tributaries, and Cache Creek (which drains the Lake). Most Lake County water purveyors do not have rights to Clear Lake and must enter into contracts with Yolo County to purchase Clear Lake surface water.

Numerous water and ditch companies dating back to the late 1800s acquired appropriative water rights from Cache Creek and its source, Clear Lake. The Yolo Water and Power Company later obtained many of these companies. In 1912, the Yolo Water and Power Company made an application for water from Cache Creek, including Clear Lake and all the streams flowing into the Lake. Up to this point Lake County had never applied for water rights and so the water right was given to the Yolo Water and Power Company. Eventually the Clear Lake Water Company purchased the Yolo County Water and Power Company, which was then purchased by Yolo County Flood Control and Water Conservation District.

Today the Yolo County Flood Control and Water Conservation District's appropriative water right allows them to divert up to 150,000 acre-feet of water annually from Clear Lake with certain conditions. The Gopcevic Decree (1920) established Yolo Water and Power's water right for Clear Lake to be between 0 and 7.56 feet Rumsey⁷ and required the Lake to be operated between 0 and 7.56 feet Rumsey, with certain exceptions during flood conditions. The Solano Decree (1978, revised March 30, 1995) regulates

⁶ Lake County Watershed Protection District, "Lake County Water Inventory and Analysis", March 2006, p 3-1 and 3-2.

⁷ The **Rumsey Gauge** is a measurement of the lake level that was established back in 1872 when Capt. Rumsey created a gauge to measure the various lake levels. He came up with a standard that is still used today. Rumsey decided that when water ceased to flow over the Grigsby Riffle, the lake would be at zero on his gauge. Zero Rumsey is equal to a height of 1318.256 feet above sea level. When water was above the riffle it would be called plus Rumsey, such as 1 foot, 2 feet and so on. Below the riffle, the lake level would be measured as minus Rumsey. All measurements were based on zero Rumsey at the Grigsby Riffle, which is located on Cache Creek, about two miles from the dam. Yolo County was originally allowed to take the lake level down to zero on the Rumsey Gauge, however in 1978, eight years after Indian Valley Reservoir was built, Yolo County made an agreement with Lake County to stop taking water out of Clear Lake at plus-1 foot on the Rumsey Gauge. (http://www.record-bee.com/ci_10424164?source=most_emaild)

summer Lake levels and the maximum amount of water that Yolo County Flood Control and Water Conservation District can divert.⁸

2.8 Lake County Groundwater

2.8.1 Groundwater Overview

Lake County is actively monitoring groundwater use in the County as explained below:

Groundwater is one of Lake County's greatest natural resources. In an average year, groundwater meets about 60 percent of Lake County's urban and agricultural water demands. The demand for water will increase significantly as Lake County's population grows and agricultural production increases.

Urban water demand is anticipated to increase from an average of 10,900 acre-feet per year to 19,738 acre-feet per year by the year 2040, an 81% increase. Depending on the type and rate of agricultural development, the current average agricultural water demand of 39,817 acre-feet per year may be minimal or as much as 48,387 acre-feet per year by the year 2040, a 21% increase.⁹

With the exception of areas near Clear Lake, nearly all the additional water demand is likely to be supplied by groundwater. In many basins, the ability to optimally use groundwater is affected by overdraft and water quality impacts, or limited by a lack of data, management, and coordination between water users.

Effective management of groundwater basins is essential because groundwater will play a key role in meeting Lake County's water needs. Lake County is committed to implementing effective, locally planned and controlled groundwater management programs.

Lake County is also committed to partnerships with local agencies to coordinate and expand data monitoring activities that will provide necessary information for more effective groundwater management. Coordinated data collection at all levels and local planning and management will help to ensure that groundwater continues to serve the needs of Californians.

⁸Lake County Watershed Protection District, "Lake County Water Inventory and Analysis", March 2006, p 3-2 and 3-3.

⁹http://www.co.lake.ca.us/Government/DepartmentDirectory/Water_Resources/Division_Programs/Groundwater_Management.htm

Locally led groundwater management planning is an effective way of managing our groundwater for the future. Groundwater management plans could include such possible components as

- monitoring of groundwater levels in storage;
- mitigation of conditions of overdraft;
- replenishment of ground-water extracted by water producers; facilitation of conjunctive use operations;
- administration of a well abandonment and well destruction program;
- identification of well construction policies;
- construction and operation of groundwater contamination,
- clean-up, recharge storage, conservation, water recycling, and extraction projects;
- development of relationships with state and federal regulatory agencies;
- review of land-use plans to assess activities which could create a risk of groundwater contamination; or reductions in the amount of water pumped from specific wells.¹⁰

2.8.2 Lake County Watershed Protection District

The Lake County Watershed Protection District is part of the Lake County Department of Public Works and reports to the County Board of Supervisors. Because of the District's responsibilities regarding water resources, it is an authorized groundwater management agency as defined by the California Water Code (CWC) Section 10753 (a) and (b).¹¹

The Lake County Watershed Protection District has developed a Groundwater Management Plan (GMP) to provide guidance in managing the groundwater resources of Lake County.

¹⁰http://www.co.lake.ca.us/Government/DepartmentDirectory/Water_Resources/Division_Programs/Groundwater_Management.htm

¹¹ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 1-1.

The following is a list of the ten CSA's in this report and the groundwater basin location(s) for each:

Water System	Groundwater Basin ¹²
CSA No. 2 Spring Valley	Clear Lake Cache Formation, Long Valley, Round Mountain Volcanic Unit
CSA No. 6 Finley	Big Valley (water from Kelsey Creek aquifer)
CSA No. 7 Bonanza Springs	Clear Lake Volcanics
CSA No.13 Kono Tayee	Lower Lake Valley
CSA No. 16 Paradise Valley	Lower Lake Valley (water from two aquifers)
CSA No. 18 Starview (Cobb)	Clear Lake Volcanics
CSA No. 20 Soda Bay	Clear Lake Volcanics (water from Clear Lake)
CSA No. 21 North Lakeport	Upper Lake Valley and Scotts Valley (water from Clear Lake)
CSA No. 22 Mt. Hannah	Clear Lake Volcanics
CSA No. 23 Konocti Bay	Not Applicable

These seven groundwater basins used by the CSAs for water will be further described below.

2.7.3 Lake County Groundwater Basins

There are thirteen groundwater basins within Lake County as described in the "Lake County Groundwater Management Plan". Only the seven basins involved with the County Service Areas for water service will be described here.

A. Big Valley Groundwater Basin

1. Big Valley Groundwater Basin Location and Water Use

The Big Valley Basin is located south of Clear Lake and includes the lowlands portion of Big Valley near Clear Lake and the southern uplands portion near Adobe and Kelsey Creeks. The Big Valley Groundwater Basin is bordered by

¹² Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 1-4, Figure 1-1.

Clear Lake to the north, the Clear Lake Volcanics to the east and the Franciscan Formation borders the basin to the west and south. Adobe and Kelsey Creeks flow through the Big Valley and drain to the north into Clear Lake.

Big Valley is shaped like a triangle, at most six miles wide and eight miles long. The ground surface in the northern portion of the basin gently slopes to the north towards Clear Lake. There are uplands on the west side of the Valley that have been uplifted approximately 400 feet by faulting.

The Big Valley Basin is the source of the water supply for Kelseyville and is the largest agricultural area in Lake County.¹³ The Big Valley Groundwater Basin supplies water for CSA No. 6 Finley, Corinthian Bay Mutual Water Company and Kelseyville County Waterworks District #3.¹⁴

There are 463 domestic wells, 297 irrigation wells, 9 municipal wells, 29 monitoring wells and 162 other wells for a total of 960 wells in the Big Valley Groundwater Basin.¹⁵ Approximately 50 percent of domestic wells are less than 75 feet deep and 50 percent of the irrigation wells are less than 150 feet deep.¹⁶

2. Big Valley Groundwater Basin Water-Bearing Formations

According to the "Lake County Groundwater Management Plan"

Hydrogeology in Big Valley is comprised of two distinct areas:

- the younger alluvial and basin deposits in the north, and
- raised uplands comprised of the Kelseyville Formation in the south.

The two areas are separated by the Big Valley Fault, which uplifted the Kelseyville Formation and created the uplands in the south.

There are four major aquifers in the Big Valley area. The younger alluvial system in the northern portion of the basin contains two main aquifers, designated "A1" and "A2". These aquifers are separated by a clay-rich lake deposits layer. The Kelseyville Formation also includes two aquifers, designated "A3" and "volcanic ash", also separated by a clay layer.¹⁷

¹³ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-15.

¹⁴ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 1-4.

¹⁵ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 3-5.

¹⁶ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-20.

¹⁷ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-15.

3. Big Valley Basin Groundwater Hydrogeology

According to the "Lake County Groundwater Management Plan"

The majority of recharge to groundwater in the "A1" and "A2" aquifers is from infiltration of surface flow from Kelsey and Adobe Creeks into the aquifer system. Additional recharge to the "A1" and "A2" aquifers occurs from percolation of rainfall, and underflow from the "A3" aquifer. The "A1" aquifer may also receive recharge from Clear Lake during the summer, when pumping has lowered the groundwater level below the level of Clear Lake.

The "A3" aquifer is recharged by percolation of rainfall and by infiltration of water from Kelsey Creek. Recharge of groundwater in the "Volcanic ash" aquifer is poorly understood. It is probably recharged by underflow from uplands, and from infiltration of streamflow at surface exposures of the volcanic ash.

Groundwater levels in the Big Valley Groundwater Basin behave differently in the northern portion than in the southern portion of the Basin. In the northern (lower) portion, the alluvial system portion of Big Valley, the groundwater level is typically shallow in the spring and fluctuates widely over the irrigation season. Water levels in the northern portion are typically five feet below the ground surface in the spring and decrease from 10 to 50 feet over the summer.

The southern, higher, portion of Big Valley, groundwater levels are significantly farther below ground surface than in the northern portion. Spring groundwater levels range from 70 to 90 feet below ground surface, while summer groundwater levels are and additional 30 to 40 feet below spring levels. Spring groundwater levels have remained generally constant over the past 40 years except in drought periods (1975-1977 and 1987-1992). In 2000 there was a 50-foot decline in the groundwater level from spring to summer around the town of Finley.

The direction of groundwater flow in Big Valley is generally northward towards Clear Lake. The groundwater gradient in the southern portion of the Valley is approximately 70 feet per mile. The gradient in the northern portion of the Valley is approximately 20 feet per mile.

DWR estimated groundwater storage in the Big Valley to be 105,000 acre-feet for a saturated depth interval of 10 to 100 feet in 1960. In 2004, DWR estimated usable storage to be 60,000 acre-feet. DWR estimated specific yield in 1957 to be 8 percent.

Well yields from PG&E reports in 1957 average 374 gpm for “unconfined” wells and 495 gpm for “confined” wells. Specific capacities were estimated by DWR to be 31 gallons per minute per foot for “unconfined” wells and 77 gpm for “confined wells. Average-year agricultural groundwater demand in the Big Valley Groundwater Basin is approximately 11,363 acre-feet per year. Groundwater in the Big Valley Groundwater Basin may be overdrafted during periods of drought, when there is inadequate recharge during winter months to replace water extracted during the summer months. Potential impacts of overdraft during these periods might include the following:

- Water shortages for irrigation
- Water shortages for municipal use
- Deterioration of groundwater quality
- Dry wells,
- Ground subsidence¹⁸

B. Clear Lake Cache Formation

1. Clear Lake Cache Formation Location and Water Use

The Clear Lake Cache Formation is one of two groundwater areas supplying water to CSA No. 2 Spring Valley. The Clear Lake Cache Formation also supplies water to the Konocti County Water District.¹⁹ The Clear Lake Cache Formation Groundwater Basin is located east of Clear Lake.

The Clear Lake Cache Formation Groundwater Basin shares a boundary with the Burns Valley Groundwater Basin in the southwest. Lower Cretaceous marine and Mesozoic ultra-basic intrusive rocks bound the south of the Basin. Lower Cretaceous marine deposits border the east portion of the Basin, and the Franciscan Formation borders the north and west portions of the Basin.²⁰

There are 71 domestic wells, 9 irrigation wells, 10 monitoring wells and 7 other wells for a total of 97 wells in the Clear Lake Cache Formation Groundwater Basin.²¹ Approximately 50 percent of domestic wells are less than 125 feet deep and 50 percent of irrigation wells are less than 200 feet deep.²²

¹⁸ Lake County Watershed Protection District, “Lake County Groundwater Management Plan”, March 31, 2006, P 2-19 and 2-20.

¹⁹ Lake County Watershed Protection District, “Lake County Groundwater Management Plan”, March 31, 2006, P 1-4.

²⁰ Lake County Watershed Protection District, “Lake County Groundwater Management Plan”, March 31, 2006, P 2-36.

²¹ Lake County Watershed Protection District, “Lake County Groundwater Management Plan”, March 31, 2006, P 3-5.

²² Lake County Watershed Protection District, “Lake County Groundwater Management Plan”, March 31, 2006, P 2-37.

2. Clear Lake Cache Formation Water-Bearing Formations

According to the "Lake County Groundwater Management Plan"

The Cache Formation is generally of low porosity, and is the only water-bearing formation in the Clear Lake Cache Formation Groundwater Basin. The Cache Formation ranges in age from 1.6 to 1.8 million years old and is over 13,000 feet thick.

The Cache Formation is characterized by sandstone, conglomerate, and gray sandstone with light-olive-gray conglomerate lower in the section. It represents fluvial deposition, and was deposited in a fault-controlled, subsiding basin.

The Cache Formation overlies the Franciscan Formation and Serpentinized Ultramafic Rocks, and is overlain by the Clear Lake Pleistocene Volcanics and the Lower Lake Formation. The Cache Formation dips to the southwest.²³

3. Clear Lake Cache Formation Groundwater Hydrogeology

According to the "Lake County Groundwater Management Plan", groundwater levels have not been monitored in the Cache Formation. Average-year agricultural groundwater demand in the Clear Lake Cache Formation Groundwater Basin is approximately 85 acre-feet per year.²⁴

C. Clear Lake Volcanics

1. Clear Lake Volcanics Location

The Clear Lake Volcanics groundwater source area is south of Clear Lake. The Clear Lake Volcanics share a boundary with the Big Valley Groundwater Basin to the west. The Franciscan Formation bounds the south and east of the area.²⁵ This area is the water supply for four of the CSAs in this study as follows:

- CSA No. 7 Bonanza Springs
- CSA No. 18 Starview (Cobb)
- CSA No. 20 Soda Bay
- CSA No. 22 Mt. Hannah

²³ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-36.

²⁴ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-37.

²⁵ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-40.

The Clear Lake Volcanics groundwater source area also supplies water for the following water agencies:²⁶

1. Adams Springs Water District
2. ACWD
3. B.1. Mutual Water Company
4. Clearwater Mutual Water Company
5. Cobb Area County Water District
6. Cobb Mountain Water Company
7. Hidden Valley Lake CSD (part)
8. Jago Bay Mutual Water Company
9. Loch Lomond Mutual Water Co.
10. Mt. Konocti Mutual Water Company
11. Pine Grove Water System
12. Riviera West Mutual Water Co.
13. Sunrise Shore Mutual Water Company

There are 537 domestic wells, 59 irrigation wells, 11 municipal wells, 8 monitoring wells, and 52 other wells for a total of 667 wells in the Clear Lake Volcanics Groundwater Source Area.²⁷ Approximately 50 percent of domestic wells are less than 200 feet deep and 50 percent of irrigation wells are less than 325 feet deep.²⁸

2. Clear Lake Volcanics Water-Bearing Formations

According to the "Lake County Groundwater Management Plan"

The Clear Lake Volcanics consist of basalt, andesite, and other volcanic rocks in a complex sequence. The Clear Lake Volcanics are heavily faulted and fractured, and are over 4,000 feet thick near Mount Konocti. A well drilled near the intersection of Red Hills Road and State Highway 29 revealed that the formation was 1,600 feet thick at that location.

Groundwater in the Clear Lake Volcanics occurs primarily in the fractures, joints, and within weathered zones that formed in between volcanic eruptions. The amount of groundwater available to a well in the formation is highly dependent on the size, openness, frequency, and interconnection of fractures and joints encountered in the well.²⁹

²⁶ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 1-4 and 1-5.

²⁷ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 3-5.

²⁸ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-41.

²⁹ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-40.

3. Clear Lake Volcanics Groundwater Hydrogeology

According to the "Lake County Groundwater Management Plan"

Overall, the hydrogeologic properties in the Clear Lake Volcanics vary widely between different locations in the area, and are not well defined. In some areas, pump tests have been performed to determine aquifer properties. Pump tests determine an aquifer's characteristics at a particular well location.

Pump tests typically reveal

- 1) specific capacity and
- 2) transmissivity.

Specific capacity is a calculated number based on the pumping rate in gallons divided by a measurement of the difference of static and pumping levels in the well. Higher specific capacities indicate a productive well, and low specific capacities indicate an unproductive well. Transmissivity is the capacity of an aquifer to transmit water. A higher transmissivity indicates the aquifer is able to transmit more water.

A pumping test performed on a well east of Soda Bay Road in the Clear Lake Volcanics revealed a specific capacity of 43 gpm/foot, and a transmissivity ranging between 20,000 and 86,000 gpd/foot. Other pump tests performed near the intersection of Red Hills Road and State Highway 29 indicated specific capacities of 1.25, 47.6 and 18.7 gpm/foot, and pumping rates of 555 gpm, 150 gpm and 670 gpm. Average-year agricultural groundwater demand in the Clear Lake Volcanics basin is approximately 2,271 acre-feet per year.³⁰

4. Clear Lake Volcanics Groundwater Quality

According to the "Lake County Groundwater Management Plan", "Information obtained from DHS indicates that iron, aluminum and manganese have been detected above SWQLs (secondary water quality thresholds) in the Clear Lake Volcanics."³¹

³⁰Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-40.

³¹ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-40.

D. Long Valley

The Long Valley Groundwater Basin is in the northeast portion of Lake County. The Franciscan Formation borders most of the Long Valley Groundwater Basin. Volcanic rocks form a small section of the southern boundary. The Basin is made up of alluvial fill. Long Valley Groundwater Basin is one of two used by CSA No.2 Spring Valley. No other water agencies take water from this Basin. According to the "Lake County Groundwater Management Plan", "Very little information exists about this Groundwater Basin."

There are 30 domestic wells, 7 irrigation wells and 4 other wells for a total of 41 wells in the Long Valley Groundwater Basin.³² Approximately 50 percent of domestic wells are less than 100 feet deep and 50 percent of irrigation wells are less than 100 feet deep. The average-year agricultural groundwater demand in the Long Valley Basin is approximately 253 acre-feet per year.³³

E. Lower Lake Valley

1. Lower Lake Valley Groundwater Basin Location

The Lower Lake Basin is southeast of Clear Lake. The rocks of the Great Valley sequence border the Lower Lake Basin on the south and the Cache Formation and volcanic rock border the basin to the north. The Lower Lake Formation and volcanic rocks occur within this Basin.³⁴

Two of the CSAs depend on the Lower Lake Basin for water supply:

- CSA No.13 Kono Tayee
- CSA No. 16 Paradise Valley

The CSA No. 13 Kono Tayee has good water quality and capacity. The CSA No. 16 Paradise Valley has two wells with limited capacity, and one well with poor capacity.³⁵

Two other water agencies also depend on the Lower Lake Basin for water:³⁶

- Highlands Mutual Water Company (part)
- Lower Lake County Water District

³² Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 3-5.

³³ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-35.

³⁴ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-32.

³⁵ Lake County Special Districts Administrator, Mark Dellinger, October 22, 2008.

³⁶ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 1-4 and 1-5.

There are 243 domestic wells, 25 irrigation wells, 8 municipal wells, 9 monitoring wells, and 13 other wells for a total of 298 wells in the Lower Lake Basin.³⁷ Approximately 50 percent of domestic wells are less than 50 feet deep and 50 percent of irrigation wells are less than 100 feet deep.³⁸ Average-year agricultural groundwater demand in the Lower Lake Basin is approximately 17 acre-feet per year.³⁹

2. Lower Lake Valley Groundwater Basin Water-Bearing Formations

According to the "Lake County Groundwater Management Plan", Lower Lake Basin Groundwater-bearing formations are as follows:

Alluvial deposits consist of clay, silt, sand and gravel and are approximately 50 to 75 feet thick. Irrigation wells constructed near the alluvial deposits provide about 400 to 600 gpm. The alluvial plain of Herndon Creek likely contains gravelly clay and is interbedded with gravel layers. Wells in the area with depths of approximately 75 feet yield up to 250 gpm with 40 feet of drawdown.

The Lower Lake Formation includes conglomerate, sandstone, siltstone, limestone, tuff, and diatomite. Younger alluvial deposits are found above the Lower Lake Formation and cover an area almost two-thirds of the basin. Permeability is variable but generally low because the strata are high in clay or silt. The formation thickness is unknown. Well yields are about 150 to 240 gpm.⁴⁰

3. Lower Lake Valley Groundwater Basin Groundwater Hydrogeology

According to the "Lake County Groundwater Management Plan", in the Lower Lake Groundwater Basin

Precipitation and seepage from Herndon Creek and Clear Lake are the main sources of recharge for the basin. Recharge is also likely from Copsey and Seigler Canyon creeks. Infiltration of rain falling on the outcrop areas is the likely source of groundwater recharge in the Cache Formation.

DWR monitored three groundwater wells in the Lower Lake Basin, but discontinued monitoring by 1995. Monitoring prior to 1995

³⁷ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 3-5.

³⁸ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-33.

³⁹ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-32.

⁴⁰ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-32 to 2-33.

indicates that groundwater levels fluctuated from an average of 10 feet below ground surface in the spring to an average of 20 feet below ground surface in the fall. There is no information on groundwater movement.

The Lower Lake Basin's storage capacity is approximately 3,000 to 4,000 acre-feet. Additional storage capacity is available as part of the Lower Lake Formation but thickness and yield are unknown.⁴¹

F. Scotts Valley

1. Scotts Valley Groundwater Basin Location

Scotts Valley Groundwater Basin supplies part of the water for CSA No. 21 North Lakeport. This Groundwater Basin also supplies water for the City of Lakeport. The Scotts Valley Basin is located west of Clear Lake. The Basin includes Scotts Valley, the foothills between Scotts Valley and Clear Lake, and the foothills immediately to the south of Lakeport. Clear Lake borders the basin to the east and the Franciscan Formation borders the basin to the north, west and south. Scotts Creek flows through Scotts Valley and drains to the northwest around White Rock Mountain in the Upper Lake Basin.⁴²

There are 235 domestic wells, 87 irrigation wells, 2 municipal wells, and 31 other wells for a total of 355 in the Scotts Valley Basin.⁴³ Approximately 50 percent of the domestic wells are less than 125 feet deep and 50 percents of the irrigation wells are less than 100 feet deep.⁴⁴ Average-year agricultural groundwater demand in the Scotts Valley Basin is approximately 2,369 acre-feet per year.⁴⁵

2. Scotts Valley Groundwater Basin Water-Bearing Formations

According to the "Lake County Groundwater Management Plan", there are three water-bearing formations in the Scotts Valley as follows:

- Quaternary Alluvium
- Quaternary Lake and Floodplain Deposits
- Quaternary Terrace Deposits

Wells completed in the confined portion of Quaternary Alluvium produce up to 600 gallons per minute, and specific yield is estimated to vary between 20 to 25 percent. Permeability in the Lake Deposits is low and the specific yield of the

⁴¹ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-33.

⁴² Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-11.

⁴³ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 3-5.

⁴⁴ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-13.

⁴⁵ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-13.

clays is about 3 percent. The specific yield of the Terrace Deposits is estimated to be between 5 and 10 percent, and wells in the formations sustain small yields of up to 60 gallons per minute.⁴⁶

3. Scotts Valley Groundwater Basin Groundwater Hydrogeology

According to the "Lake County Groundwater Management Plan",

The south end of Scotts Valley serves as the principal recharge area for the entire Valley. Surface water flow in Scotts Creek percolates into the aquifer in the southern portion of Scotts Valley at a rate of approximately 1,000 acre-feet per month. When Scotts Creek is not flowing, the recharge does not take place.

Groundwater levels in the Scotts Valley Basin are shallow in the spring and experience wide fluctuations over the irrigation season. Water levels in the Basin are, on average, ten feet below the ground surface in the spring. Spring groundwater levels have remained generally constant over the last forty years.

Spring to summer drawdown of the water table varies by position in the Scotts Valley Basin, with Scotts Valley experiencing larger drawdown than the rest of the Basin. Spring to summer drawdown in the Scotts Valley ranges from thirty to sixty feet, and drawdown near Burger Lake and south of Lakeport is roughly ten feet. Anecdotal information from groundwater users in Scotts Valley indicates that the summer drawdown is far enough to de-water some pumps.

The general direction of groundwater flow in the Scotts Valley Basin is northward along Scotts Creek in the Scotts Valley portion of the Basin, and eastward towards Clear Lake in the eastern and southern portions of the Basin. Groundwater levels in the Basin seem to completely recover each wet season, and overall there does not appear to be any increasing or decreasing trend in the long-term groundwater levels.

Total groundwater in storage in Scotts Valley is approximately 5,900 acre-feet. DWR estimated usable storage to be 4,500 acre-feet. Specific yield for the depth interval of 0 to 100 feet is approximately 8 percent.⁴⁷

⁴⁶ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-12.

⁴⁷ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-12 to 2-13.

4. Scotts Valley Groundwater Basin Groundwater Quality

According to the "Lake County Groundwater Management Plan",

Information obtained from DHS indicates that iron, aluminum, barium and manganese have been detected above SWQLs (secondary water quality thresholds) in Scotts Valley. Anecdotal evidence in the form of elevated well casings (two to four feet above ground) indicates that the Valley may have subsided by as much as four and one-half feet.⁴⁸

G. Upper Lake Valley

1. Upper Lake Basin Location

The Upper Lake Basin is located northwest of the northern end of Clear Lake. The Upper Lake Basin is composed of three valleys: Middle Creek Valley, Clover Valley, and Bachelor Valley. The Upper Lake Basin is one of two groundwater basins which supply water for the CSA No. 21 North Lakeport which is the largest water system in Lake County operated by a CSA.

The Upper Lake Groundwater Basin has 243 domestic wells, 99 irrigation wells 6 municipal wells, 22 monitoring wells, and 68 other wells for a total of 438 wells.⁴⁹ Approximately 50 percent of the domestic wells are less than 75 feet deep and 50 percent of the irrigation wells are less than 125 feet deep.⁵⁰ Two other water systems also draw from this Basin, the Cal20 Village and the Upper Lake County Water District.⁵¹

2. Upper Lake Basin Water-Bearing Formations

The "Lake County Groundwater Management Plan" describes three water-bearing formations in the Upper Lake Groundwater Basin as follows:

1) Quaternary Alluvium:

Quaternary Alluvium includes channel deposits, fan deposits, and gravel, sand and fine materials. The channel alluvium occurs along Middle, Alley, and Clover Creeks. The mouths of several ravines and small canyons that enter into the valley contain fan and older alluvial deposits that consist of gravel, sand, and fine materials.

⁴⁸ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-13.

⁴⁹ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 3-5.

⁵⁰ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-10.

⁵¹ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P1-4 and 1-5.

These deposits reach a thickness of 40 to 50 feet and decrease downstream to only a few feet. Quaternary alluvium is generally a good water-producing unit.⁵²

2) Pleistocene Terrace Deposits

The Pleistocene terrace deposits, consisting of poorly consolidated clay, silt, and sand with some gravel lenses, border the west and northwest of Middle Creek Valley. Because of the deposits' high clay content, they have a low permeability and are less significant as a groundwater source.⁵³

3) Pleistocene Lake and Floodplain Deposits

Underlying the valley floors of Middle, Clover, and Alley creeks are fine-grained lacustrine sediments (formed in lakes) and coarser grained floodplain deposits. These deposits overlie bedrock and older unconsolidated sediments and generally range from 60 to 110 feet in thickness. Sediments in the Middle creek Valley area form a confining layer for an underlying artesian aquifer system. The floodplain deposits contain sand and gravel lenses from former stream channels. The fine-grained lake deposits have low permeability with specific yields from about 3 to 5 percent while wells screened in the sand and gravel lenses produce an average of 230 gpm.⁵⁴

3. Upper Lake Basin Groundwater Hydrogeology

According to the "Lake County Groundwater Management Plan"

Groundwater recharges the Upper Lake Basin at the mouths of canyons and around the periphery of the basin. Recharge also occurs along Middle Creek, Clover Creek, and Alley Creek. Groundwater recharge occurs from the stream channels during the early part of the wet season, and the basin fully recharges and contributes to stream flow during most wet seasons. Lesser amounts of recharge occur to the groundwater basin through percolation of smaller streams and direct rainfall.

⁵² Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-8.

⁵³ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-9.

⁵⁴ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-9.

Groundwater levels in the Upper Lake Basin are shallow and have remained constant over the last 40 years. Water levels in the Basin are generally within 10 feet of the ground surface in the spring. Groundwater levels have stayed constant spring to spring. The general direction of the groundwater flow in the Upper Lake Basin is southward toward Clear Lake. In Clover Valley, groundwater moves to the northwest, towards Middle Creek.

Groundwater in the Upper Lake Basin fluctuates between 5 and 15 feet from spring to fall. Total storage in the Upper Lake Basin is approximately 9,000 acre-feet. DWR estimated total storage to be 10,900 acre-feet and usable storage to be 5,000 acre-feet. Specific yield for the depth interval of 0 to 100 feet is approximately 8 percent. Average-year agricultural groundwater demand in the Upper Lake Basin is approximately 4,075 acre-feet per year.⁵⁵

4. Upper Lake Basin Groundwater Quality

According to the "Lake County Groundwater Management Plan"

DWR monitors a number of wells for water quality in the Upper Lake Groundwater Basin. Monitoring is not extensive enough to determine trends in groundwater quality or the overall character of groundwater in the Basin. Information obtained from DHS indicates that iron and manganese have been detected above SWQLs in the Upper Lake Groundwater Basin.⁵⁶

⁵⁵ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-9.

⁵⁶ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, P 2-9 and 2-10.

3 OVERVIEW OF TEN COUNTY SERVICE AREAS FOR WATER

3.1 Water Supply, Treatment and Distribution

Lake County Code requires that water wells be constructed with a continuous seal from ground level down 50 feet. The purpose of the seal is to assure that surface water cannot flow into the well casing and contaminate deeper aquifers that are penetrated by the well.⁵⁷

Small community water treatment has posed an enormous problem for the drinking water regulatory community, drinking water professionals, and the people living in these communities. The Safe Drinking Water Act (SDWA) and subsequent regulations require that all water in the distribution system and at every tap connected to the distribution system comply. Water treatment usually consists of filtration and disinfection.

Water treatment standards essentially mandate central treatment for drinking water prior to entering the distribution system. No water that exceeds a primary standard may be used for drinking water. Primary standards have been developed to protect human health and are rigorously enforced by the Department of Health Services. For very small communities, this may be a cost that poses an undue burden. Often it could be a cost that has negative public health implications. For a very low-income family, the money spent on water treatment may not be available for other essentials.

Rather than spend that money, a community may apply for a variance or exemption. Exemptions and variances are intended to be temporary solutions to regulatory compliance. They may, however, extend indefinitely leaving a community with no water that meets the regulation.⁵⁸

Secondary standards are intended to protect the taste, odor or appearance of drinking water. California Code requires that, if a community water system experiences an exceedance of certain secondary standard, quarterly sampling must be initiated. Compliance is then determined based upon the average of four consecutive quarterly samples. Non-compliant water must then be treated to meet the secondary standards.⁵⁹

Water distribution systems carry water for both domestic use and for fire protection. The distribution system should be sized to perform both functions simultaneously, delivering sufficient water volume and pressure. Pipes should be

⁵⁷ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report Bonanza Springs Water System CSA #7 Lake County Special Districts", December 2006, page 6.

⁵⁸ NSF International, "Feasibility of an Economically Sustainable Point-of-Use/Point-of-Entry Decentralized Public Water System Final Report", March 2005, p18. nsf.org/business/.../pdf/GrimesFinalReport_Dec05.pdf

⁵⁹ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report Bonanza Springs Water System CSA #7 Lake County Special Districts", December 2006, page 8.

made of durable and corrosion-resistant materials, and alignments located in areas that are easy to access for repairs and maintenance.⁶⁰ Fire hydrants should be placed a maximum of 600 feet apart along the water mains and a maximum of 500 feet from the end of water lines.⁶¹

Some water loss in the distribution system can be expected. Water loss is the difference between the volume of water pumped from the water supply well and the volume of water sold to users. A loss of water from 10% to 20% is considered acceptable by the American Water Works Association (AWWA).⁶²

The water CSAs in Lake County may require extensive capital improvements as shown in the table below by Foresight Consulting:⁶³ The capital improvements required are different for each CSA depending upon the age and condition of the water system.

Summary of Recommended Water System CIP Costs						
<i>Lake County Special Districts Administration</i>						
System	Projected Total CIP Costs <i>(Includes Financed and Pay-as-You-Go Funding Sources)</i>					Total
	2008-09	2009-10	2010-11	2011-12	2012-13	
N. Lakeport (CSA 21)	\$1,414,200	\$433,000	\$450,000	\$468,000	\$487,000	\$3,252,200
Kelseyville CWWD #3	\$512,000	\$532,000	\$553,000	\$575,000	\$598,000	\$2,770,000
Soda Bay (CSA 20)	\$255,700	\$266,000	\$277,000	\$288,000	\$300,000	\$1,386,700
Spring Valley (CSA 2)	\$329,000	\$342,000	\$928,000	\$965,000	\$1,004,000	\$3,568,000
Finley (CSA 6)	\$68,803	\$72,000	\$75,000	\$78,000	\$81,000	\$374,803
Bonanza Springs (CSA 7)	\$90,000	\$94,000	\$98,000	\$102,000	\$106,000	\$490,000
Paradise Valley (CSA 16)	\$65,000	\$68,000	\$71,000	\$74,000	\$77,000	\$355,000
Mt. Hannah (CSA 22)	\$14,400	\$14,980	\$15,580	\$16,200	\$16,850	\$78,010
Starview (CSA 18)	\$66,000	\$68,600	\$71,300	\$74,200	\$77,200	\$357,300
Kono Tayee (CSA 13)	\$142,200	\$148,000	\$154,000	\$160,000	\$166,000	\$770,200
Total - Preferred CIP	\$2,957,303	\$2,038,580	\$2,692,880	\$2,800,400	\$2,913,050	\$13,402,213

Source: CH2M Hill, Brelje & Race, Water Works Engineers, Winsler & Keley and Special Districts Administration, 2-19-08 with additional adjustments on 5-2-08 and 6-6-08.

The costs shown above include projects to remedy existing deficiencies as well as those mandated by regulatory agencies to meet water quality and/or other standards. The Special Districts Administration and the individual districts inherited many of these problems when the systems were incorporated into the County system.⁶⁴

⁶⁰ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report Bonanza Springs Water System CSA #7 Lake County Special Districts", December 2006, page 10

⁶¹ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report Bonanza Springs Water System CSA #7 Lake County Special Districts", December 2006, page 11

⁶² Mark Dellinger, Special Districts Administrator, 230A Main Street, Lakeport, CA 95453, Ph: (707) 263-0119 F: (707) 263-3826, October 22, 2008.

⁶³ Foresight Consulting, "Water and Sewer Rate Study Report", July 22, 2008, page 10.

⁶⁴ *Many systems were privately constructed that would not meet current construction standards; this has resulted in significant problems that now must be corrected. Others were a consolidation of numerous small individual water systems, and Special Districts Administration incorporated aging assets into the larger systems.*

3.2 Water Systems Capacity and Infrastructure

The Foresight Consulting Study analyzed the water system capacity for each of the ten CSAs and the fees associated with growth. The following table shows the costs allocated to future customers and the number of future customers likely to be subject to system capacity fees (SCFs):⁶⁵

Table SCF-W1 Water System Capacity Fees (SCFs) Lake County Special Districts Administration					
System	Costs Allocated to Growth (2008 \$'s)(a)	Number of New Dwelling Units (EDUs)(b)	Calculated SCF (\$/EDU) (c)	Current SCF (\$/EDU)	Difference: Calculated SCF less Current SCF
N. Lakeport (CSA 21)	\$4,037,547	566	\$7,130	\$4,388	\$2,742
Kelseyville CWWD #3	\$964,083	475	\$2,030	\$2,500	(\$470)
Soda Bay (CSA 20)	\$703,069	29	\$24,240	\$4,388	\$19,852
Spring Valley (CSA 2) (c)	(d)	(d)	\$18,514	(d)	(d)
Finley (CSA 6)	\$126,975	83	\$1,530	\$2,500	(\$970)
Bonanza Springs (CSA 7)	\$225,080	14	\$16,080	\$1,500	\$14,580
Paradise Valley (CSA 16)	\$115,677	26	\$4,510	\$1,000	\$3,510
Mt. Hannah (CSA 22)	\$91,847	12	\$7,360	\$1,500	\$5,860
Starview Water - (CSA 18)	\$167,041	51	\$3,280	\$2,000	\$1,280
Kono Tayee (CSA 13)	\$356,619	49	\$7,290	\$1,500	\$5,790

a. Total system assets and planned CIP costs allocated to growth. From Tables SCF-W5 through SCF-14.
b. Available growth capacity over the next 20 years. From Table SCF-W4.
c. "Costs Allocated to Growth" divided by "Number of New Dwelling Units". Fee is rounded to the nearest \$10.
d. See CH2M HILL analysis, Table 8, December 5, 2006.

The Foresight Consulting Study analyzed the growth likely to occur in each area and developed the following table to show the expected number of dwelling units compared to the existing service connections for each of the water CSAs:⁶⁶

Table SCF-W4 Water System Capacity Available to Future Customers Lake County Special Districts Administration				
System	Capacity Used by 2026 @ 1.5%/yr (a)	Capacity Used by Existing Services (b)	Available for Future Services	% Available for Future Services
N. Lakeport (CSA 21)	2,198	1,632	566	25.8%
Kelseyville CWWD #3	1,844	1,369	475	25.8%
Soda Bay (CSA 20)	769	740	29	3.8%
Spring Valley (CSA 2) (c)	664	493	171	25.8%
Finley (CSA 6)	322	239	83	25.8%
Bonanza Springs (CSA 7)	190	176	14	7.4%
Paradise Valley (CSA 16)	100	74	26	25.8%
Mt. Hannah (CSA 22)	48	38	12	25.8%
Starview Water - (CSA 18)	198	147	51	25.8%
Kono Tayee (CSA 13)	190	141	49	25.8%

a. Estimate of Special District Administration and County Community Development of likely growth over a 20-year horizon at 1.5% growth rate, unless this total would exceed the system capacity estimated in Figure B, Criterion Planners, April 2006 (noted by ").
b. From "Build-Out Analysis of Lake County Water and Wastewater Systems", Figure B, Criterion Planners, April 2006, updated with Special District Administration date from 4-17-08.
c. See CH2M HILL analysis, Table 8, December 5, 2006.

⁶⁵Foresight Consulting, "Water and Sewer Rate Study Report, Appendix", July 22, 2008, page 91.

⁶⁶ Foresight Consulting, "Water and Sewer Rate Study Report Appendix", July 22, 2008, page 92.

3.3 Financing Options

3.3.1 Financing Background

A. Financing Constraints

Municipal service providers are constrained in their capacity to finance services by the inability to increase property taxes, requirements for voter approval for new or increased taxes, and requirements of voter approval for parcel taxes and assessments used to finance services. Municipalities must obtain majority voter approval to increase or impose new general taxes and two-thirds voter approval for special taxes.

Limitations on property tax rates and increases in taxable property values are financing constraints. Property tax revenues are subject to a formulaic allocation and are vulnerable to State budget needs. Agencies formed since the passage of Proposition 13 in 1978 often lack adequate property tax financing.

B. Proposition 218

Proposition 218 Background

Proposition 218 was a proposition in the State of California on the November 5, 1996 ballot. Prop 218 significantly changed local government finance.

Prop 218 amended the California Constitution (Articles XIIC and XIID) which, as it relates to assessments, requires the local government to have a vote of the affected property owners for any proposed new or increased assessment before it could be levied. The assessments portion placed in effect on July 1, 1997.⁶⁷

Proposition 218 can be understood as have four primary effects as follows:

- (1) Proposition 62's rules regarding taxes are now placed in the State Constitution and made applicable to charter cities;
- (2) broad new restrictions are imposed on assessments;
- (3) complex and poorly drafted rules regarding so-called "property related fees" are imposed; and,
- (4) the initiative power is extended to at least some fiscal matters.⁶⁸

⁶⁷ [http://en.wikipedia.org/wiki/California_Proposition_218_\(1996\)](http://en.wikipedia.org/wiki/California_Proposition_218_(1996))

⁶⁸ League of California Cities, City Attorneys Department Spring Meeting, May 19-21, 1999
Michael G. Colantuono, City Attorney, Barstow, Cudahy, La Habra Heights.

In general, the intent of Proposition 218 was to ensure that all taxes and most charges on property owners are subject to voter approval. In addition, Proposition 218 seeks to curb some perceived abuses in the use of assessments and property-related fees, specifically the use of these revenue-raising tools to pay for general governmental services rather than property-related services.

Proposition 218 requires voter approval for all taxes and for certain fees that are "property related." Defining what is and is not a property-related fee has been the subject of several court cases. Proposition 218 also sets forth the procedure that must be followed to impose assessments on real property for capital improvements such as streets, sidewalks and landscaping.⁶⁹

California local governments raise more than \$50 billion annually from taxes, assessments, and fees. Most of these local revenues are *not* affected directly by Proposition 218. Instead, Proposition 218's provisions apply to a relatively small subset of local government revenues.⁷⁰

Proposition 218 and Fees

To impose a new or increased property-related fee, local government must comply with the fee restriction and fee rate calculation requirements of Proposition 218 as described below:

6. (a) (1) The parcels upon which a fee or charge is proposed for imposition shall be identified. The amount of the fee or charge proposed to be imposed upon each parcel shall be calculated. The agency shall provide written notice by mail of the proposed fee or charge to the record owner of each identified parcel upon which the fee or charge is proposed for imposition, the amount of the fee or charge proposed to be imposed upon each, the basis upon which the amount of the proposed fee or charge was calculated, the reason for the fee or charge, together with the date, time, and location of a public hearing on the proposed fee or charge.

A summary of these requirements is shown below:

- Mail information regarding the proposed fee to every property owner.
- Hold a Public Hearing at least 45 days after the mailing.
- Reject the proposed fee if written protests are presented by a majority of the affected property owners.
- Hold an election on any property-related fee, other than a fee for water, sewer, or refuse collection.

⁶⁹ <http://www.cacities.org/index.jsp?zone=wcm&previewStory=25884>

⁷⁰ http://www.lao.ca.gov/1996/120196_prop_218/understanding_prop218_1296.html#intro

As a practical matter, local governments will find it much more difficult--and expensive--to impose or increase property-related fees. In some cases, local governments are probably more likely to try to raise revenues through non-property-related fees or taxes.⁷¹

An example of the language which should be included in the legal notice is as follows:

If you oppose the proposed rates you may submit a written protest to the District prior to the close of the public hearing. At the public hearing, the District Board of Directors will consider the protests against the proposed rate increases. If a majority of the owners who will be subject to the proposed rate increase submit written protests to the District, the Board will not impose the rate increases.

The requirement for a written protest will prove difficult for many taxpayers and the requirement to obtain a majority of written protests will not be met in most cases where the charges are considered reasonable and the board has a good record for open meetings and adequate service.

Additional requirements for fees are listed below:

6. (b) Requirements for Existing, New or Increased Fees and Charges. A fee or charge shall not be extended, imposed, or increased by any agency unless it meets all of the following requirements:

- (1) Revenues derived from the fee or charge shall not exceed the funds required to provide the property related service.*
- (2) Revenues derived from the fee or charge shall not be used for any purpose other than that for which the fee or charge was imposed.*
- (3) The amount of a fee or charge imposed upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of the service attributable to the parcel.*
- (4) No fee or charge may be imposed for a service unless that service is actually used by, or immediately available to, the owner of the property in question. Fees or charges based*

⁷¹ http://www.lao.ca.gov/1996/120196_prop_218/understanding_prop218_1296.html#intro

on potential or future use of a service are not permitted. Standby charges, whether characterized as charges or assessments, shall be classified as assessments and shall not be imposed without compliance with Section 4.

- (5) *No fee or charge may be imposed for general governmental services including, but not limited to, police, fire, ambulance or library services, where the service is available to the public at large in substantially the same manner as it is to property owners. Reliance by an agency on any parcel map, including, but not limited to, an assessor's parcel map, may be considered a significant factor in determining whether a fee or charge is imposed as an incident of property ownership for purposes of this article. In any legal action contesting the validity of a fee or charge, the burden shall be on the agency to demonstrate compliance with this article.*

Proposition 218 and Taxes

In order to impose or increase a tax, local government must comply with the following provisions:

- All general taxes must be approved by a majority vote of the people. (A 1986 statutory initiative--Proposition 62-- previously imposed this vote requirement on general law cities and counties. Proposition 218 expands this requirement to include charter cities, such as Los Angeles, Oakland, and San Francisco.)
- Elections for general taxes must be consolidated with a regularly scheduled election for members of the local governing body. (In an emergency, this provision may be waived by a unanimous vote of the governing body.)
- Any tax imposed for a specific purpose is a "special tax," even if its funds are placed into the community's general fund. Special taxes require a two-thirds vote of approval. (Prior to Proposition 218, all taxes placed into a community's general fund were commonly considered general taxes, requiring only a majority vote.)⁷²

In summary, counties and cities may use revenues from a general tax for any legitimate public purpose. A majority of voters must approve the decision to

⁷²State of California Legislative Analysts Office
http://www.lao.ca.gov/1996/120196_prop_218/understanding_prop218_1296.html#intro

impose, increase, or extend a general tax. A general tax may only be submitted for voter approval at an election for city council or board of supervisors.

A special tax is a tax imposed for a specific purpose. For example, a city might increase the sales tax by adding a use tax for the acquisition of open space or for transportation projects, but that special tax may only be used for its express purpose. Two-thirds of voters must agree to adopt, increase, or extend a special tax. A special tax does not need to be any particular type of tax.⁷³

As a practical matter, this requirement will mean that programs that benefit people, rather than specific properties--such as libraries, mosquito abatement, recreation programs, police protection, and some business improvement programs--must be financed by general or special taxes or by other nonassessment revenues.

C. Financing Opportunities that Require Voter Approval

Financing opportunities that require voter approval include the following:

- special taxes such as parcel taxes,
- increases in general taxes such as utility taxes,
- sales and use taxes,
- business license taxes, and
- transient occupancy taxes.

Communities may elect to form business improvement districts to finance supplemental services, or Mello-Roos districts to finance development-related infrastructure extension. Agencies may finance facilities with voter-approved (general obligation) bonded indebtedness.

D. Financing Opportunities that Do Not Require Voter Approval

Financing opportunities that do not require voter approval include imposition of or increases in fees to more fully recover the costs of providing services, including user fees and development impact fees to recover the actual cost of services provided and infrastructure. Development impact fees and user fees must be based on reasonable costs, and may be imposed and increased without voter approval. Development impact fees may not be used to subsidize operating costs. Agencies may also finance many types of facility improvements through bond instruments that do not require voter approval.

⁷³CSAC-

http://www.csac.counties.org/images/public/Advocacy/rev_tax/Understanding%20the%20Basics%20of%20County%20and%20City%20Revenues_ILG.pdf

Water rates and rate structures are not subject to regulation by other agencies. Utility providers may increase rates annually, and often do so. Generally, there is no voter approval requirement for rate increases, although notification of utility users is required. Water providers must maintain an enterprise fund for the respective utility separate from other funds, and may not use revenues to finance unrelated governmental activities.

3.3.2 Foresight Consulting Recommendation

The Foresight Consulting "Water and Sewer Rate Study Report" recommends the following:

Most of the water and sewer districts are in dire need of capital improvements, either for over-due repair and replacement projects or improvements to meet current deficiencies, comply with regulatory mandates, or meet the needs of future growth. Some of the district budgets are also running at a deficit, at least if all normal operating costs and financial obligations are met.

The County's Special Districts Administration has reached a point where dramatic action must be taken to remedy these problems. A rather significant capital improvement program (CIP) is necessary to meet acceptable operating and maintenance standards. The financial aspects of these problems, which are the primary focus of this study and report, necessitate rate increases in all districts and a comprehensive approach to issuing new debt for capital improvement projects.

Foresight recommends one large-scale revenue bond for the water CIP's and one for sewer CIP's; individual districts will then access these funds for their capital projects as needed, and will incur obligations to repay their proportional share of the annual debt service payments.

Foresight recommends this approach to financing capital improvements because:

- 1) it minimizes the issuance costs compared to separately issuing numerous smaller transactions,
- 2) it offers access to financing that many of the districts may not otherwise qualify for, and
- 3) the interest rate will probably be lower than if bonds were separately issued.

This financing approach will require districts to meet certain criteria, most notably adopting rates that are sufficient for each district to meet a bond coverage ratio. This ratio is net revenues

divided by the annual debt service payment, and is typically set at 1.20 to 1.40.⁷⁴ Foresight has used this ratio as one of the primary criteria for setting the recommended rate increases for individual districts.

We believe that committing to such a long-term plan will dramatically improve services, which is essential if the County plans to meet the needs of existing and future customers and comply with regulatory mandates.

All water and sewer systems will need to increase rates to fund operating, repair and replacement, and new capital improvement costs, some increases are quite significant. These rate increases are needed to:

- 1) correct years of insufficient rate revenue that has resulted in deteriorating infrastructure, and
- 2) fund new regulatory-driven capital improvements.⁷⁵

The details of the rate increases for the various water CSAs are included for the specific CSA in the following sections of this MSR. A summary table of the revenue requirements for all the water CSAs is shown below:⁷⁶

Summary - Projected Net Revenue Requirements by Water System						
<i>Lake County Special Districts Administration</i>						
<u>Water System</u>	<u>Budget 2007-2008</u>	<u>Projected Revenue Requirements (a)</u>				
		<u>2008-2009</u>	<u>2009-2010</u>	<u>2010-2011</u>	<u>2011-2012</u>	<u>2012-2013</u>
N. Lakeport (CSA 21)	\$814,252	\$859,447	\$812,015	\$887,231	\$916,400	\$946,609
Kelseyville CWWD #3	\$401,961	\$406,118	\$492,175	\$538,029	\$559,585	\$581,957
Soda Bay (CSA 20)	\$287,662	\$301,712	\$381,857	\$421,043	\$435,699	\$450,671
Spring Valley (CSA 2)	\$183,112	\$189,228	\$401,740	\$475,213	\$484,231	\$493,430
Finley (CSA 6)	\$108,190	\$92,615	\$114,525	\$125,313	\$129,309	\$133,483
Bonanza Springs (CSA 7)	\$127,240	\$100,333	\$116,343	\$125,125	\$129,473	\$133,912
Paradise Valley (CSA 16)	\$53,003	\$57,547	\$77,167	\$85,991	\$88,383	\$91,052
Mt. Hannah (CSA 22)	\$14,736	\$11,804	\$18,847	\$20,581	\$20,901	\$21,216
Starview Water - (CSA 18)	\$77,922	\$66,879	\$86,778	\$95,645	\$98,337	\$101,207
Kono Tayee (CSA 13)	\$37,800	\$44,182	\$137,045	\$155,200	\$159,598	\$164,049
Total Revenue Requirement	\$2,105,878	\$2,129,865	\$2,638,492	\$2,929,371	\$3,021,917	\$3,117,585
<i>Percent Increase</i>		<i>1.1%</i>	<i>23.9%</i>	<i>11.0%</i>	<i>3.2%</i>	<i>3.2%</i>
<i>New Debt Service as a % of Total</i>		<i>0.0%</i>	<i>20.4%</i>	<i>25.3%</i>	<i>24.7%</i>	<i>24.0%</i>

a. Revenues are from the financial plans for each system shown in the Appendix.

⁷⁴ This coverage ratio provides assurance to the bond holders that the agency will be able to repay the debt service, and will be determined by Bond Counsel at the time the bonds are issued as part of an indenture agreement; the actual ratio may be higher than 1.40.

⁷⁵ Foresight Consulting, "Water and Sewer Rate Study Report", July 22, 2008, pages 1-2.

⁷⁶ Foresight Consulting, "Water and Sewer Rate Study Report", July 22, 2008, page 8.

The rates that these revenues would require for 2008-09 are shown in the following table:⁷⁷

Summary - Water Revenue Req't's. & Rate Revenue by System (FY'08-09) <i>Lake County Special Districts Administration</i>				
<u>System</u>	(1) FY'08-09 <u>Revenue Req't's.</u>	(2) Revenue - <u>Current Rates</u>	(3) Revenue - <u>New Rates</u>	(4) % Rate <u>Increase (a)</u>
N. Lakeport (CSA 21)	\$859,447	\$710,000	\$766,800	8.0%
Kelseyville CWWD #3	\$406,118	\$409,800	\$442,584	8.0%
Soda Bay (CSA 20)	\$301,712	\$255,000	\$293,250	15.0%
Spring Valley (CSA 2)	\$189,228	\$151,000	\$264,250	75.0%
Finley (CSA 6)	\$92,615	\$60,000	\$78,000	30.0%
Bonanza Springs (CSA 7)	\$100,333	\$68,000	\$74,800	10.0%
Paradise Valley (CSA 16)	\$57,547	\$57,000	\$61,845	8.5%
Mt. Hannah (CSA 22)	\$11,804	\$12,270	\$13,497	10.0%
Starview Water - (CSA 18)	\$66,879	\$44,900	\$52,982	18.0%
Kono Tayee (CSA 13)	\$44,182	\$28,500	\$38,475	35.0%
Total Revenue	\$2,129,865	\$1,796,470	\$2,086,483	16.1%

a. Increase from "Revenue - Current Rates" to "Revenue - New Rates." From the financial plans for each system.

b. Percent change from "FY'08-09 Revenue Requirements" to the "Revenue from New Rates."

3.3.3 Assistance to low-income people

The Foresight Consulting study recommends the following methods to assist low-income groups:⁷⁸

In developing the scope of work for this study, the Special Districts Administration included a review of ways to provide assistance to low-income groups. There are two ways to provide this assistance:

- 1) formal programs and
- 2) informal programs.

Prop 218 prohibits any formal subsidies that depart from cost-of-service principles. In other words, one customer class cannot pay more than its fair share of revenue requirements for the purpose of providing a subsidy to other customers.

Informally, there are ways to design rate structures that benefit low income groups. For example, senior and low income customers tend to have smaller homes and yards that consume less water than higher income customers.

⁷⁷ Foresight Consulting, "Water and Sewer Rate Study Report", July 22, 2008, page 9.

⁷⁸ Foresight Consulting, "Water and Sewer Rate Study Report", July 22, 2008, page 20.

Therefore, seniors and low income groups will benefit from:

- 1) water and sewer rates that have lower fixed monthly charges,
- 2) include a lower minimum water consumption in the fixed charges, and/or
- 3) have lower consumption rates for customers using less than the average amount of water.⁷⁹

3.4 Shared Facilities

The Foresight Consulting Study also recommends possible revisions to the number of CSAs in Lake County as follows:

In many respects, there are potentially significant benefits of consolidating all water and all sewer districts into a single County water and/or sewer agency. For example, all customers would be subject to the same rates, funding for capital improvements would be simplified, and fluctuations in rates would be less volatile. However, consolidation of all districts into single water or sewer district, or a single district for both water and sewer, may be possible, but it is a complex issue. It is subject to certain limitations that may be different for each district, such as:

- The powers of the individual districts
- District boundaries, and
- The specific legal requirements and process for consolidation

In other words, there are fairly detailed and lengthy procedures and steps needed to accomplish this, including LAFCO review.

Having said this, there are promising opportunities that should be pursued. These include consolidating: 1) Kelseyville and Corinthian Bay sewer systems, and; 2) Finley and Kelseyville water systems. There are a number of legal and administrative steps that would be required, including a more detailed legal review. For now, these districts will need to continue operating separately while these consolidations are further explored.⁸⁰

⁷⁹ *Average or slightly less than average water consumption is a good gage for setting lower tier water rates for this purpose, since most low income customers use less than average amount of water. Seniors in particular tend to have smaller household sizes that would benefit from this approach.*

⁸⁰ Foresight Consulting, "Water and Sewer Rate Study Report", July 22, 2008, page 4.

3.5 County Service Areas

3.5.1 County Service Area Law

The County Service Area Law (Government Code §25210.1, et seq.) governs the 883 county service areas (CSAs). This Law was amended by Senate Bill 1458 and signed into law July 21, 2008. The new Government Code sections contain statements of legislative intent to guide county supervisors, property owners, and residents in the use of CSAs. This Law includes three provisions of special interest to this MSR as follows:

- The Law explains how CSAs may raise additional revenues
- The Law explains how CSAs may generate capital for public works.
- The Law requires CSAs to follow the Counties' contracting procedures.

3.5.2 Lake County Special Districts Administration

The Foresight Consulting Study found certain problems and recommended several changes to the Lake County Special Districts Administration as follows:⁸¹

The Special Districts Administration has an extremely difficult management and administrative job trying to adequately meet the needs of the ten water and six sewer districts it oversees. The rate schedules, accounting records, and operating practices largely originated from an assortment of privately constructed and operated systems, which is a significant source of current management difficulties. In fact, this is the most complicated administrative structure that Foresight has encountered in our 24 years of consulting.⁸²

Related to this, because of the wide variety of accounting practices for the various districts, it has been difficult to obtain accurate records. We expect as the accounting and management procedures are improved that additional information may require future adjustments to the financial plans and rates recommended by this study. The recommended rate increases and changes to the rate structures and customer classes should be reviewed for revenue sufficiency and to update customer data after the Special Districts Administration has had a year of operations.

⁸¹ Foresight Consulting, "Water and Sewer Rate Study Report", July 22, 2008, pages 3-4.

⁸² *Subsequent to the initiation of this study, the Special Districts Administration has proposed and is in the process of implementing changes to the fiscal, billing, and personnel management functions. We believe this will help improve overall management and operations.*

Related to the complicated management structure of the districts, one of the primary recommendations of this study is to standardize the rate schedules so that similar customer classifications and rate codes can be used uniformly across all water and sewer systems.

The Special Districts Administration should consider updating these fees and penalties with two objectives in mind:

- 1) appropriately recovering actual costs, including overhead costs, and
- 2) establishing levels of charges that encourage compliance with the rules and regulations.

For example, the City of Bishop has a delinquent payment penalty of 10%, plus an additional 1.5% per month. This is more effective in reducing late payments than say a flat \$5.00 penalty on a bi-monthly bill.⁸³

⁸³ *Miscellaneous fees and penalties have not generally been subject to Prop 218 requirements, although Foresight is not rendering a legal opinion on this matter.*

4 CSA NO.2 SPRING VALLEY

4.1 CSA No.2 Spring Valley Background

CSA No.2 Spring Valley encompasses an extensive subdivision called Spring Valley Lakes located at the junction of Cache Creek and Wolf Creek about three miles north of State Highway 20 in eastern Lake County. Mail is addressed to Clearlake Oaks. CSA No.2 was formed in 1965 to provide water and road maintenance services.

Water supply is from a surface water-right on Wolf Creek⁸⁴ and through an agreement (contract) with Yolo County Flood Control and Water Conservation District. (The Yolo County Flood Control and Water Conservation District [34274 State Highway 16, Woodland CA 95695-9371 Phone: (530) 662-0265] was created in 1951 by the State Legislature to provide an entity to purchase the private Clear Lake Water Company.

The California Water Code Appendix states the object and purpose for the act creating the Yolo County Flood Control and Water Conservation District is to provide to the extent the board may deem expedient or economical for the control and disposition of the storm and flood waters of said district. The District is governed by a five-member board of directors appointed by the Yolo County Board of Supervisors to serve four-year alternating terms.)

Surface water supplies can be a problem if there is a drought. However, the Yolo County Flood Control and Water Conservation District indicates that there would be sufficient water for CSA No.2 Spring Valley in the Indian Valley Reservoir for a full supply of 8,000 acre-feet in 2008-2009 in the event of a drought. A longer drought could lead to reduced water supplies.⁸⁵

The CSA No.2 Spring Valley is located in the Clear Lake Cache Formation and Long Valley groundwater basins. The water supply for these groundwater basins is very poor so it is best for this CSA to depend on surface water supplies. The new well for this CSA will take water from the Round Mountain Volcanic Unit overlying the Franciscan Formation.⁸⁶

Water is processed using a conventional slow sand filtration system. The CSA No.2 Spring Valley serves domestic uses and only two commercial customers.⁸⁷

⁸⁴ Mark Dellinger, Special Districts Administrator, 230A Main Street, Lakeport, CA 95453, Ph: (707) 263-0119 F: (707) 263-3826, January 2008.

⁸⁵ Yolo County Flood Control and Water Conservation District, Chris Barton, Assistant Manager, (530) 662-0265, September 12, 2008.

⁸⁶ Mark Dellinger, Special Districts Administrator, 230A Main Street, Lakeport, CA 95453, Ph: (707) 263-0119 F: (707) 263-3826, October 22, 2008.

⁸⁷ Lake County Special Districts Administration, "Current Operations by Utility Area", 8/18/2008.

On September 5, 2006, the Lake County Board of Supervisors passed "An Urgency Ordinance adopting Emergency Water Conservation Restrictions for County Service Area No.2, Spring Valley Lakes." This Ordinance added a surcharge for water use exceeding 600 cubic feet per month and prohibited new connections to the water system.⁸⁸ This Ordinance has been amended since its passage due to significant water conservation practices implemented by the customers.⁸⁹

In 2008 CSA No.2 Spring Valley had 406 active residential connections, 2 commercial connections and 85 standby connections for a total of 493 total connections (compared with 416 as stated in the Build-out Analysis prepared by Lake County Special Districts in 2006). These connections served a population of 987.⁹⁰

Contact information for CSA No.2 Spring Valley is as follows:

Mark Dellinger, Special Districts Administrator
230A Main Street, Lakeport, CA 95453

Phone: (707) 263-0119 Fax: (707) 263-3826

4.2 CSA No. 2 Spring Valley Municipal Service Review

4.2.1 Growth and Population Projections for the Affected Area

A. CSA No.2 Spring Valley Growth and Population Background

In 1985, the CSA was cited in the LAFCO SOI Studies report as serving 225 parcels, with an estimated service population of almost 500 persons. By 1998, the CSA had expanded to 330 connections, which grew to 416 service connections by December 2006.⁹¹ The Special Districts Administration reports 493 connections (including standby connections) with a population of 1,006 in 2007.⁹²

Current water service capacity for CSA No.2 Spring Valley is 360,000 gallons per day. According to the Urgency Ordinance there were twenty-two vacant homes in

⁸⁸ Lake County, Ordinance No. 2791, "An Urgency Ordinance Adopting Emergency Water Conservation Restrictions for County Service Area No. 2, Spring Valley Lakes", September 5, 2006.

⁸⁹ Mark Dellinger, Special Districts Administrator, 230A Main Street, Lakeport, CA 95453, Ph: (707) 263-0119 F: (707) 263-3826, January 2008.

⁹⁰ Lake County Special Districts Administration, "Current Operations by Utility Area", 8/18/2008.

⁹¹ Lake County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p12.

⁹² Lake County Special Districts Administration, "Current Operations by Utility Area", 10/5/2007.

the CSA in 2006.⁹³ This CSA has experienced a significant level of growth over the past three years and relies on incremental improvements to its water system to accommodate growth. The CSA does not have sufficient water treatment capacity to accommodate additional connections. Distribution infrastructure needed for new connections will also be required.

B. CSA No.2 Spring Valley Growth and Population MSR Determinations

- 1-1) CSA No.2 Spring Valley added about sixty connections per year from 1998 to 2005.
- 1-2) CSA No.2 is not allowed to have any new connections to the system for the duration of the Urgency Ordinance starting in September 2006.
- 1-3) It is expected that the California Department of Public Health (DPH) will also impose a connection moratorium until improvements are made to the CSA No.2 Spring Valley water storage and treatment system.

4.2.2 CSA No.2 Spring Valley Capacity and Infrastructure

A. CSA No.2 Spring Valley Infrastructure Background

The infrastructure system within CSA No.2 Spring Valley consists of water treatment, storage and distribution facilities. Surface water is supplied from Wolf Creek and by contract with Yolo County Flood Control and Water Conservation District. The current contractual agreement allows the CSA to purchase up to 1,200 acre feet of untreated water annually.

The CSA maintains a water treatment plant, with a treatment capacity of 380,000 gallons per day.⁹⁴ Distribution lines include water mains three-inches to six-inches in diameter, with laterals serving individual connections. There are booster pumps connected to the system to maintain adequate pressure.

The water system reached treatment plant capacity in July 2006 and the Board of Supervisors passed an Urgency Ordinance that includes a connection moratorium.⁹⁵ Water quality standards are met within the system.

⁹³Lake County, Ordinance No. 2791, "An Urgency Ordinance Adopting Emergency Water Conservation Restrictions for County Service Area No. 2, Spring Valley Lakes", September 5, 2006.

⁹⁴ Mark Dellinger, Special Districts Administrator, 230A Main Street, Lakeport, CA 95453, Ph: (707) 263-0119 F: (707) 263-3826, January 2008.

⁹⁵ Lake County, Ordinance No. 2791, "An Urgency Ordinance Adopting Emergency Water Conservation Restrictions for County Service Area No. 2, Spring Valley Lakes", September 5, 2006.

This CSA has experienced a significant level of growth over the past three years. As a result, a system-wide capacity analysis and distribution assessment was prepared. The results of this work are the foundation for a master plan and capital improvement project. A funding application will be submitted to the Department of Public Health (DPH) in January 2008.⁹⁶ According to the Lake County Budget 2007-2008; \$35,000 is budgeted for maintenance of equipment and buildings.⁹⁷

The Foresight Consulting "Water and Sewer Rate Study Report" states that this CSA will need a treatment plant or alternative water source costing \$2 million.⁹⁸

B. CSA No. 2 Spring Valley Infrastructure MSR Determinations

- 2-1) The CSA No. 2 Spring Valley water system has reached its treatment capacity.
- 2-2) Water quality standards are met within the CSA No.2 water system at this time.
- 2-3) The CSA No.2 does not have sufficient water treatment capacity to accommodate additional connections.
- 2-4) The Foresight Consulting "Water and Sewer Rate Study Report" states that this CSA will need a treatment plant or alternative water source costing \$2 million.

4.2.3 CSA No.2 Spring Valley Financial Ability

A. CSA No.2 Spring Valley Financing Background

CSA No.2 Spring Valley is operated by the County Special Districts Administration with its administrative and utility area employees. As part of its management responsibilities, Special Districts Administration must also manage the CSA's roads, bridges and dam/reservoir.⁹⁹ Water is metered from the point of diversion and also at the point of use.

⁹⁶ Mark Dellinger, Special Districts Administrator, 230A Main Street, Lakeport, CA 95453, Ph: (707) 263-0119 F: (707) 263-3826, January 2008

⁹⁷ Lake County Budget 2007-2008, p. 124.

⁹⁸ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix page 15, Table WFP-4A July 22, 2008

⁹⁹ Mark Dellinger, Special Districts Administrator, 230A Main Street, Lakeport, CA 95453, Ph: (707) 263-0119 F: (707) 263-3826, January 2008.

Rates for water use are based on actual usage, and the CSA does not actively engage in the expenditure of funds for additional services or improvements which are not considered essential for service provision.

A utility area staff of ten employees manages CSA No.2 along with two other wastewater treatment facilities. The CSA prepares annual budgets as part of the overall County budget process. CSA No.2 Spring Valley had a 2007-08 Budget of \$287,443.¹⁰⁰

As a division and entity of Lake County, the CSA has an established appropriations limit for taxing entities, under the Gann Act. The Gann limit is a cap on the amount the CSA can spend on operations. The budget total of \$287,443 is below the adopted Gann limit for the fiscal year.

A review of the planned expenditures for CSA No.2 indicates that the vast majority (more than 95 percent) of operating funds are dedicated to services and supplies. Labor costs, administration, utilities, building maintenance, and contracted services represent the significant categories of expenditure in this budget category.

Except for a small contingency budget (\$4,000), the entire CSA budget is dedicated to operational costs and reserve funds. Budget accounting and reporting is done in a timely manner, and applicable legal obligations related to financing and reporting appear to be met. As mentioned above, to support the long term viability of the system, a rate increase was enacted in 2005.

The basic meter charge of \$19.21 per month¹⁰¹ includes 600 cubic feet (CF) of water and \$6.00 per additional 100 CF beyond 600 under "urgency" conditions.¹⁰² Extra services of stand-by and hydrants are available for additional fees. The normal rates are based on actual costs of purchasing, treating, and distributing water.

In addition to the study of rate increases, the 2008 Foresight Consulting Report included the following comment specifically about the Spring Valley CSA:¹⁰³

We identified areas in which we believe the Special Districts' cost accounting system could be improved to increase the ease with which the Districts' segregate costs for analytical and management purposes.

¹⁰⁰ Lake County Budget 2007-2008, p. 124.

¹⁰¹ Lake County Special Districts, "Special District System Fees 2007".

¹⁰² Lake County, Ordinance No. 2791, "An Urgency Ordinance Adopting Emergency Water Conservation Restrictions for County Service Area No. 2, Spring Valley Lakes", September 5, 2006.

¹⁰³ Foresight Consulting, "Water and Sewer Rate Study Report", July 22, 2008, page 28.

Create a new fund to keep transactions for roads, bridges and dams separate from those for water service in Spring Valley. It was recently determined that property tax revenues that had historically been deposited into the Spring Valley Water Fund (Fund #262) and some of those funds had been used for roads, bridges and dams. These property tax revenues cannot be used to offset the cost of roads, bridges and dams. Special District staff has now segregated the costs incurred for roads, bridges and dams from those incurred for water service.

The "Water and Sewer Rate Study Report" states that

All water and sewer systems will need to increase rates to fund operating, repair and replacement, and new capital improvement costs, some increases are quite significant. These rate increases are needed to:

- 1) correct years of insufficient rate revenue that has resulted in deteriorating infrastructure, and
- 2) fund new regulatory-driven capital improvements.¹⁰⁴



http://upload.wikimedia.org/wikipedia/commons/a/a9/Indian_Valley.jpg

The following nine tables and figures from the Foresight Consulting Study show the need for increased rates to pay for capital improvement costs for CSA No.2 Spring Valley.

¹⁰⁴ Foresight Consulting, "Water and Sewer Rate Study Report", July 22, 2008.

The Foresight Consulting "Water and Sewer Rate Study Report" shows the following table comparing Spring Valley CSA rates with the budget requirements.¹⁰⁵ Once the proposed fixed assets are added to the budget the revenue from the rates is clearly inadequate.

Table B-W4 Projected Budget and Revenue Requirements - Spring Valley (CSA 2) Lake County Special Districts Administration						
Cost Classification	Budget 2007-2008	Projected Revenue Requirements (a)				
		2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
Services & Supplies - Maintenance	\$61,500	\$51,500	\$53,600	\$55,700	\$57,900	\$60,200
Services & Supplies - Professional	\$104,101	\$103,850	\$108,000	\$112,300	\$116,800	\$121,500
Services & Supplies - Special Dist. Admin.	\$47,379	\$35,043	\$36,400	\$37,900	\$39,400	\$41,000
Services & Supplies - Utilities	\$26,500	\$27,700	\$28,800	\$30,000	\$31,200	\$32,400
Services & Supplies - Other Admin.	\$7,208	\$4,902	\$5,100	\$5,300	\$5,500	\$5,700
Other Charges	35,776	48,312	\$50,200	\$52,200	\$54,300	\$56,500
Debt Service on '08-09 Treatment CIP (d)	0	0	\$32,500	\$32,500	\$32,500	\$32,500
Fixed Assets/CIP Costs (b) - Pay-As-You-Go	0	0	0	0	0	0
Fixed Assets/CIP Costs (b) - Debt Funded	0	0	172,540	238,113	239,031	239,730
Contingencies	37,453	49,621	\$51,600	\$53,700	\$55,800	\$58,000
Subtotal: Total Expenditures	\$319,917	\$320,928	\$538,740	\$617,713	\$632,431	\$647,530
Less Other Recurring Revenue	(136,805)	(\$131,700)	(\$137,000)	(\$142,500)	(\$148,200)	(\$154,100)
Less Other One-Time Revenue	(282,714)	\$0	\$0	\$0	\$0	\$0
Total Revenue Requirement	(99,602)	189,228	401,740	475,213	484,231	493,430
Rate Revenue from Current Rates (c)	\$206,500	\$151,000	\$151,000	\$151,000	\$151,000	\$151,000

Source of historical costs: Schedule RR.2.262

a. Based on Forms 3-7 from Special Districts Administration, 4-18-08. Projections include an annual increase of 2%.

b. CIP costs through '07-08 are from Special District budgets. Projections are District estimates (fax dated 2-8-08) and reflect CIP expenditures from Tables CIP-1 through CIP-4. Debt funded costs reflect debt service with 5.5% interest rate and 30-year repayment period.

c. As shown in Form 3, from Special Districts Administration, 4-18-08.

d. This debt service is repayment of DPH 20-year, 0%-interest loan of \$650,000 for a \$2 mil. treatment plant (or alternative water source) CIP in FY'08-09.

The Foresight Consulting Study shows the following table to summarize the financial plan for the Spring Valley CSA.¹⁰⁶ The net revenue requirement increase substantially in the next few years.

Table WFP-4 Water Utility Financial Plan - Spring Valley (CSA 2) Lake County Special Districts Administration						
	Estimated 2007-08	Projected Rev. Req'ts., Rate Increases and Rate Revenue				
		2008-09	2009-10	2010-11	2011-12	2012-13
Net Revenue Requirements (a)	\$99,602	(\$189,228)	(\$401,740)	(\$475,213)	(\$484,231)	(\$493,430)
Annual % Increase over Previous Year	-135.7%	-290.0%	112.3%	18.3%	1.9%	1.9%
Base Case - Current Rates with No Increases						
Revenue from Current Rates (a)	\$206,500	\$151,000	\$151,000	\$151,000	\$151,000	\$151,000
less Net Revenue Req't's.	\$99,602	(\$189,228)	(\$401,740)	(\$475,213)	(\$484,231)	(\$493,430)
Year-End Surplus (Deficit)	\$306,102	(\$38,228)	(\$250,740)	(\$324,213)	(\$333,231)	(\$342,430)
Proposed Financial Plan - Water Rate Increases						
Rate Increases (b)		75.0%	45.0%	40.0%	0.0%	0.0%
Revenue from Current Rates (a)	\$206,500	\$151,000	\$151,000	\$151,000	\$151,000	\$151,000
Rate Revenue from Rate Increases		\$113,250	\$113,250	\$113,250	\$113,250	\$113,250
		\$118,913	\$118,913	\$118,913	\$118,913	\$118,913
		\$153,265	\$153,265	\$153,265	\$153,265	\$153,265
		\$0	\$0	\$0	\$0	\$0
		\$0	\$0	\$0	\$0	\$0
Revenue from Rate Increases	\$0	\$113,250	\$232,163	\$385,428	\$385,428	\$385,428
Projected Rate Revenue (w/ Rate Incr.) (b)	\$206,500	\$264,250	\$383,163	\$536,428	\$536,428	\$536,428
less Net Revenue Req't's.	\$99,602	(\$189,228)	(\$401,740)	(\$475,213)	(\$484,231)	(\$493,430)
Year-End Surplus (Deficit)	\$306,102	\$75,022	(\$18,577)	\$61,214	\$52,196	\$42,998

a. From Table B-W4, Water System Budget Projections and Revenue Requirements. Projections include inflation adjustments.

b. Rate increases in first few years must be higher to meet bond coverage ratio requirements.

c. Total revenue to be recovered from rates.

¹⁰⁵ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 14, July 22, 2008

¹⁰⁶ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 14, July 22, 2008

The Foresight Consulting Study shows the following table to summarize the water reserve fund levels for the Spring Valley CSA assuming that the CIP fund is established and used for the water treatment plant:¹⁰⁷

Table WFP-4A Summary of Projected Water Reserve Fund Levels - Spring Valley (CSA 2) Lake County Special Districts Administration						
	Estimated 2007-08	Projected Reserve Funds				
		2008-09	2009-10	2010-11	2011-12	2012-13
Water Operations Fund (Cash)						
Beginning Fund Balance (a)	\$0	\$36,068	\$222,187	\$203,610	\$214,824	\$217,020
Water Rate Revenue Surplus (Deficit) (b)	\$0	\$75,022	(\$18,577)	\$61,214	\$52,196	\$42,998
Increase for FY'08-09 (Form 7)		\$111,097				
Transfers to CIP Fund (c)	\$0	\$0	\$0	(\$50,000)	(\$50,000)	(\$50,000)
Year-End Fund Balance	\$36,068	\$222,187	\$203,610	\$214,824	\$217,020	\$210,018
Water Capital Improvement Fund (CIP)						
Beginning Fund Balance (a)	\$0	\$358,457	\$22,757	\$23,657	\$74,557	\$127,557
Cash for \$2 mil Treatment Plant CIP (d)	\$0	(\$350,000)	\$0	\$0	\$0	\$0
Transfer from Operations Fund (c)	\$0	\$0	\$0	\$50,000	\$50,000	\$50,000
Investment Earnings	\$0	\$14,300	\$900	\$900	\$3,000	\$5,100
Year-End Fund Balance	\$358,457	\$22,757	\$23,657	\$74,557	\$127,557	\$182,657
Combined Water Funds Balance	\$394,525	\$244,944	\$227,267	\$289,381	\$344,577	\$392,675
General Inflation Escalator		4.0%	4.0%	4.0%	4.0%	4.0%
Interest Earnings Rate		4.0%	4.0%	4.0%	4.0%	4.0%
Approx. Coverage Ratio		NA	131.7%	121.5%	144.2%	163.8%

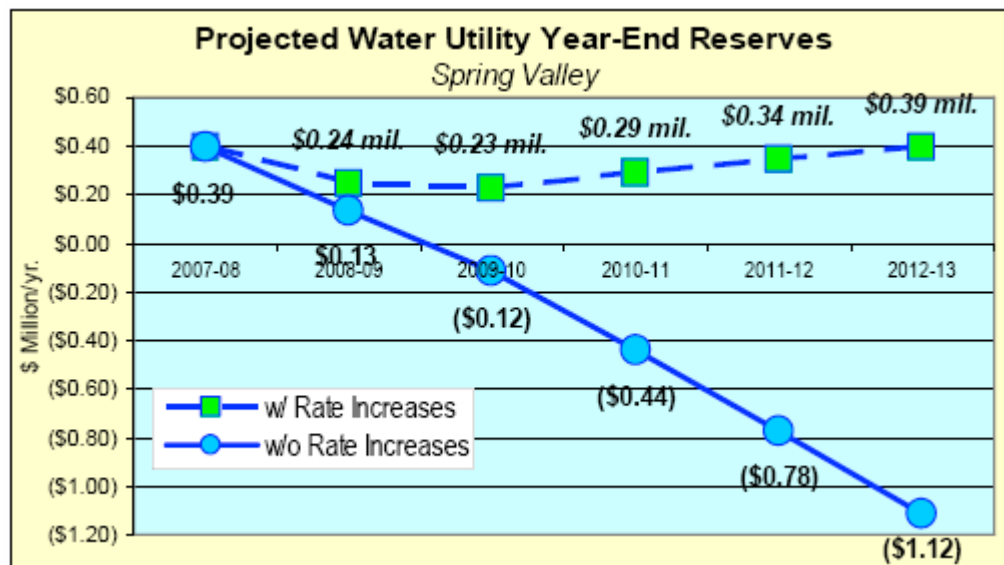
a. 2008-09 year-end balances are from Form 7 "Total Reserves Proposed for FY 08/09".

b. These are the "Year-End Surplus (Deficit)" from Table WFP-1.

c. Transfers between Operations Fund and CIP fund as needed.

d. \$2 million treatment plant, or alternative water source CIP project, using \$350,000 from existing capital reserves.

The Foresight Consulting Study includes the following graph to show that the Spring Valley CSA will be operating at a deficit that will grow increasingly worse without the proposed rate increases:¹⁰⁸



¹⁰⁷ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 15, July 22, 2008

¹⁰⁸ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 15, July 22, 2008

The following table from the Foresight Consulting Study shows how the increased costs for the Spring Valley CSA would be allocated to various categories for the 2008-2009 Fiscal Year:¹⁰⁹

Table COS-W4 Water Fund Cost Allocations - Spring Valley (CSA 2) (FY'08-09) Lake County Special Districts Administration							
Water Operations Fund	2008-09 Budget (a)	Percent Allocations			Allocated Costs		
		Customer Costs	Fixed Capacity	Variable Costs	Customer Costs	Fixed Capacity	Variable Costs
Operating Expenditures							
Services & Supplies - Maintenance	\$51,500	0.0%	50.0%	50.0%	\$0	\$25,750	\$25,750
Services & Supplies - Professional	\$103,850	10.0%	50.0%	40.0%	\$10,385	\$51,925	\$41,540
Services & Supplies - Special Dist. Admin.	\$35,043	10.0%	15.0%	75.0%	\$3,504	\$5,256	\$26,282
Services & Supplies - Utilities	\$27,700	0.0%	25.0%	75.0%	\$0	\$6,925	\$20,775
Services & Supplies - Other Admin.	\$4,902	10.0%	15.0%	75.0%	\$490	\$735	\$3,678
Other Charges	\$48,312	10.0%	50.0%	40.0%	\$4,831	\$24,156	\$19,325
Debt Service - '08-09 Treatment CIP (d)	\$0	0.0%	75.0%	25.0%	\$0	\$0	\$0
Fixed Assets (Pay-as-you-go & debt service)	\$0	0.0%	75.0%	25.0%	\$0	\$0	\$0
Contingencies	\$49,621	10.0%	40.0%	50.0%	\$4,962	\$19,848	\$24,811
less Other Recurring Revenue	(\$131,700)	7.5%	41.9%	50.5%	(\$9,920)	(\$55,235)	(\$66,546)
Net Revenue Requirements	\$189,228	7.5%	41.9%	50.5%	\$14,253	\$79,362	\$95,613
Summary of Allocations							
Total Fixed Costs		49.5%			\$93,614		
Total Variable Costs		50.5%			\$95,613		

a. From Table B-W4, Water System Budget Projections and Revenue Requirements.

The following Foresight Consulting Study table shows the amount of revenue that would be generated by new water rates which are substantially higher than the existing rates:¹¹⁰

Table CR-W4 Consumptive Rates and Revenue <i>Including Price Elasticity Adjustments</i> - Spring Valley (CSA 2) (FY'08-09) Lake County Special Districts Administration						
Volume Rate Class	Billed Water Use (hcf/yr) (a)	2008 Volume Rates		New Rate Differential (%) (b)	Commodity Rates	
		Volume Rate	Differential (%) (b)		Rate (c)	Revenue
Tier 1 (Tier 1 < 10 hcf)	14,761	\$0.82	--	--	\$2.62	\$38,710
Tier 2 (10 hcf > Tier 2 < 20 hcf)	14,465	\$0.99	20.7%	50.0%	\$3.93	\$56,903
Tier 3 (20 hcf > Tier 3)	0	\$1.32	33.3%	50.0%	\$5.90	\$0
Total	29,226	--	--	--	--	\$95,613

a. Estimated consumption from Special District Billing records. **Tiers 2 and 3 consumption were adjusted assuming a price elasticity of -0.25.**

b. Percent difference between tiers (or the % increase from the lower tier to the next tier rate). The average consumption is 7.9 hcf/SFD/mo.

c. Based on the new rate differential, these rates are calculated in order to meet the Target Rev. Reqts.

d. Total Variable Costs shown in the Cost Allocation Table COS-W4.

¹⁰⁹ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 16, July 22, 2008

¹¹⁰ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 16, July 22, 2008

The following Foresight Consulting Study table shows the new rates as fixed monthly rates:¹¹¹

Table FR-W4 New Fixed Monthly Rates - CSA #2 - Spring Valley (FY'08-09) Lake County Special Districts Administration	
Accounts	5/8-3/4" Meters
Total Accounts (a)	408
Extra Units (Additional SFD's) (a)	0
Standby (Excluded from Fixed Rates) (b)	85
Monthly Fixed Rates	
Customer Costs (\$/Acct) (c)	\$2.91
Capacity Costs (\$/Accts & Extra Units) (d)	\$16.21
Total Mo. Base Charge	\$19.12
Annual Revenue from Fixed Mo. Rates	
Customer Costs (Charged only to accounts)	\$14,253
Capacity Costs (Charged to Accts. & Extra Units)	\$79,362
Total	\$93,614
Fixed Costs Allocated to Monthly Fixed Monthly Rates (e)	
Customer Costs	\$14,253
Capacity Costs	\$79,362
Total Monthly Fixed Costs	\$93,614

Note: Rates are monthly rates, but customers are billed bi-monthly.

a. Accounts and Extra Units are from Special Districts records (Current Operations by Utility Area, 4/17/08).

b. Per County Counsel advice, standby accounts are to remain fixed at \$2.50/mo.

c. This is a "base charge" that excludes standby accounts and additional units.

d. This is a "minimum charge" for all "Extra Units" (additional SFD's).

e. Revenue requirements from the Cost Allocation Table.

The following Foresight Consulting table shows the projected water service rates for the Spring Valley CSA through 2012-2013 and shows the monthly bills resulting from the 2008-09 recommended rates compared to the same bills from the current water service rates.¹¹²

Table PR-W4 Summary of Recommended & Projected Rates - Spring Valley (CSA 2) Lake County Special Districts Administration							
Customer Class	Rate Code	Current Rates	New Fixed Monthly Rates (\$/mo./Acct. but billed Bi-Monthly) (a)				
			2008-09	2009-10	2010-11	2011-12	2012-13
Base Charge (\$/Account/mo.)	--	--	\$4.07	\$5.89	\$8.25	\$8.25	\$8.25
Residential Accounts	BA	\$19.75	\$22.64	\$32.82	\$45.95	\$45.95	\$45.95
Outside Accounts	BO	\$39.50	\$22.64	\$32.82	\$45.95	\$45.95	\$45.95
Standby		\$2.50	\$2.50	\$2.50	\$2.50	\$2.50	\$2.50
Consumption Level			New Volume Rates (\$/hcf) (b)				
Tier 1 (Tier 1 < 10 hcf)		\$0.82	\$3.66	\$5.31	\$7.43	\$7.43	\$7.43
Tier 2 (10 hcf > Tier 2 < 20 hcf)		\$0.99	\$5.49	\$7.97	\$11.15	\$11.15	\$11.15
Tier 3 (20 hcf > Tier 3)		\$1.32	\$8.24	\$11.95	\$16.73	\$16.73	\$16.73
Financial Plan Rate Increases			75.0%	45.0%	40.0%	0.0%	0.0%

a. From Table FR-W4. Note: these rates apply only to accounts (meters), not "extra units", which are only charged volume rates.

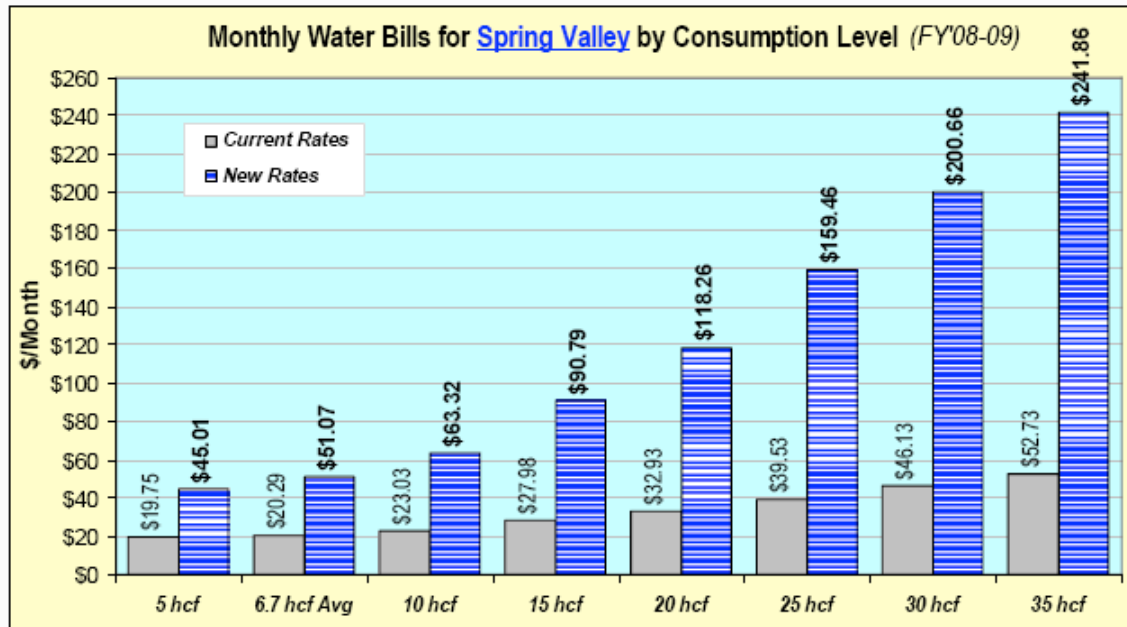
b. From Table CR-W4. Note: Tier 1 now includes all consumption less than 10 hcf.

c. This is the % increase from current rate revenue to the revenue from recommended rates, from the Financial plan for the system.

¹¹¹ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 16, July 22, 2008

¹¹² Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 17, July 22, 2008

The following Foresight Consulting Figure shows the monthly water bills by consumption level compared to the 2008-09 rates.¹¹³ This shows the way that the new rates are higher for increased water use.



B. CSA No.2 Spring Valley Financing MSR Determinations

- 3-1) Financial operations for CSA No.2 Spring Valley are not adequate for future expenses and infrastructure.
- 3-2) The CSA No.2 Spring Valley is building up a small reserve fund. It will be used for the upcoming capital project but it is not large enough to cover future project costs.
- 3-3) CSA No. 2 Spring Valley rates for additional water use over 600 cubic feet per month were increased by the Urgency Ordinance.
- 3-4) The Lake County Board of Supervisors should consider rate hikes for the CSA in order for it to remain solvent and to pay for needed improvements.

¹¹³Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 17, July 22, 2008

4.2.4 Opportunities for Shared Facilities

A. CSA No.2 Spring Valley Shared Facilities Background

The CSA No.2 Spring Valley does share facilities with the Yolo County Flood Control and Water Conservation District because the CSA obtains water from the Indian Valley Reservoir. The Indian Valley Reservoir is a man-made lake located 27 miles west of the town of Williams on State Highway 20. The Reservoir was built by the Yolo County Flood Control and Water Conservation District in 1974 for water storage, irrigation and flood control. The capacity of the reservoir is 301,000 acre feet.¹¹⁴

The CSA has a self-contained water treatment and distribution system, without infrastructure connections to other water systems. The physical infrastructure related to water storage, treatment, and distribution cannot be feasibly shared with other districts, CSAs, or other government agencies because they are too far away from CSA No.2 Spring Valley.

The CSA is managed by the County Special Districts Administration, which oversees ten of the County Service Areas in Lake County. Management duties are shared across all CSAs, as well as the administration facilities. Also shared are office supplies and administrative resources among the CSA's.

B. CSA No. 2 Spring Valley Shared Facilities MSR Determinations

- 4-1) The Foresight Consulting Study recommended that the SDA change certain accounting practices and provide for more uniform charges throughout the ten water CSAs.

4.2.5 Government Structure and Accountability

A. CSA No.2 Spring Valley Government Structure Background

The CSA is served by a Special Districts Utility Area (#1) for day to day field operations. The Utility Area is managed by a superintendent and ten employees. The Utility Area is not only responsible for the management of the CSA, but two regional wastewater systems.

The Special Districts Administration in Lakeport coordinates customer service accounts, billing, budgeting/financial management, master planning/capital

¹¹⁴ http://en.wikipedia.org/wiki/Indian_Valley_Reservoir

improvement programming, meter reading, regulatory compliance, and overall personnel management for the CSA.

The structure of management for the CSA, with day to day field operations conducted by the Utility Area staff and overall administrative functions conducted by the Special Districts Administration in Lakeport, is considered efficient. The system allows for the use of available staff for daily and emergency or directed needs, and does not require the dedication of a full-time staff member during periods in which CSA operations have fewer staff demands. Direct control and decision-making lies with the Special Districts Administration in Lakeport and inquiries regarding CSA operations are able to be addressed promptly.

The boundaries of the CSA match those of the mutual water company which initiated the system prior to takeover by the County. The CSA encompasses the whole of the Spring Valley Lakes Subdivision, and is geographically distinct and logical.

The system is independent and small, with an estimated service population of 1,004. A small boundary adjustment to reconcile subdivision lots with the provision of services provided by the CSA could be necessary.

The County of Lake is a unit of the State of California. It is governed by a Board of Supervisors consisting of five supervisors each elected for a four-year term of office. The terms of office are staggered so that two are elected in one general election and three in the next. The Board usually meets the first, second, third, and fourth Tuesday of each month. The meetings are held in the Board Chambers on the first floor of the Courthouse at 255 North Forbes Street in Lakeport, CA.

Occasionally, for special purposes, the Board will schedule other meetings at different times and/or locations in the County. The Board meetings are open to the public and agendas are published the week prior to the meetings.

The Lake County Board of Supervisors follows all provisions of the Brown Act in conducting business related to CSA activities, and has sufficient mechanisms in place to allow for public inspection and involvement in CSA operations and management. In addition, there is a Board-appointed Citizen Advisory Board which works with the Special Districts Administration, the Board of Supervisors, and the community at large. The Citizen Advisory Board meets once per month.

With a service population of 1,004 and its location far away from Lakeport an option for the residents of the Spring Valley Lakes subdivision could be to form a Community Services District (CSD). A CSD can perform numerous service functions in addition to domestic water. Forming a CSD would require support of the landowners and registered voters in the area.

B. CSA No. 2 Spring Valley Government Structure Options MSR Determinations

- 5-1) The County Service Area has been the best form of government for the Spring Valley area. However, as residents in the CSA develop a desire to be independent from the County a Community Services District may be the best Governance form for not only water services but other services permitted in the CSD law.
- 5-2) The Foresight Consulting Study recommends that a County-wide CSA be considered and that the Board of Supervisors and the Special Districts Administration need to view the Spring Valley water system as part of the entire County's water service. LAFCO does not concur with that recommendation since subdivisions could be permitted anywhere without LAFCO oversight as envisioned by the legislature.
- 5-3) Although removed, the government of the CSA is accountable because the Board of Supervisors is elected. However, officials from a new CSD would be closer to the electorate in the Spring Valley Area.
- 5-4) Until any change of governance occurs, the Board of Supervisors should continue to work with the Citizen Advisory Board it appointed.
- 5-5) Residents, the Citizen Advisory Board, the Special Districts Administration and the Board of Supervisors need to work with the Community Development Department to plan for the future of the area.

5 CSA NO.6 FINLEY

5.1 CSA No.6 Finley Background

Finley is located south of Lakeport and north of Kelseyville on the southwest side of Clear Lake. The Lake County Service Area No.6 Finley provides domestic water to 268 acres in the northwest area of Big Valley, inclusive of the community of Finley and development in the Reeves Point area of Clear Lake Holiday Cove and Lands End. The CSA was formed in 1969.

In August 2008, CSA No.6 Finley had 204 active residential connections, 5 commercial connections, and 16 standby connections for 225 total connections (compared with 167 as stated in the Build-out Analysis prepared by Lake County Special Districts in 2006) serving a population of 596.¹¹⁵ The Foresight Consulting Study reports 239 connections in 2008.¹¹⁶

Finley is located in the Big Valley Groundwater Basin which is the largest and has the most wells of all the groundwater basins in the County. There is a large amount of water used for agriculture in the area.

Contact information for CSA No. 6 Finley is as follows:

Mark Dellinger, Special Districts Administrator
230A Main Street Lakeport, CA 95453

Phone: (707) 263-0119

5.2 CSA No.6 Finley Municipal Service Review

5.2.1 CSA No.6 Finley Growth and Population projections for the affected area

A. CSA No.6 Finley Growth and Population Background

CSA No.6 served 228¹¹⁷ connections, representing a total estimated service population of 631 in 2006. The Special Districts Administration reported 238 single family dwellings billed in 2007¹¹⁸ and 239 connections in 2008.¹¹⁹ The CSA has added an average of three connections per year for the last five years, although population growth has been very low within CSA boundaries.

¹¹⁵ Lake County Special Districts Administration, "Current Operations by Utility Area", 8/48/2008

¹¹⁶ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 92, July 22, 2008

¹¹⁷ County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p70.

¹¹⁸ Lake County Special Districts, "Special District System Fees 2007".

¹¹⁹ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 92, July 22, 2008

It is estimated that the population within the CSA has grown from 500 persons in 1985 to its current level of 596.¹²⁰ There are no population projections specific to the area. There are no approved/non-constructed connections. The "Build-out Analysis" states that there are 22 vacant acres with 39 vacant parcels in this CSA. These vacant parcels could have 58 future dwelling units with and additional 184 residents.¹²¹ The Foresight Consulting Study estimates 83 future service connections will be needed by 2026.¹²²

B. CSA No.6 Finley Growth and Population MSR Determinations

- 1-1) The area served by CSA No.6 Finley is nearly built-out and only a small amount of growth is expected.

6.2.2 CSA No. 6 Finley Infrastructure

A. CSA No.6 Finley Infrastructure Needs or Deficiencies Background

1. Finley Water Supply

CSA No.6 provides for collection, storage, and distribution of domestic water in the Big Valley area. The CSA has two wells, although only one is currently available as a standby source. This is due to connection with Kelseyville. The standby well has a pumping capacity of 432,000 gallons per day.

2. Finley Water Storage

Historically, CSA No.6 Finley has pumped water from its well to a 5,000 gallon storage tank, from which water is distributed to 228¹²³ customers through a series of water mains and lateral lines. All connections are metered. Decisions regarding potential replacement and repair have been made incrementally based on inspections.

3. Connection with Kelseyville County Water Works District #3

CSA No.6 operates at 39 percent of its .307 MGD capacity with peak demand having reached 70 percent of capacity, resulting in no water shortages or service stoppages in recent years.

¹²⁰ Lake County Special Districts Administration, "Current Operations by Utility Area", 8/18/2008.

¹²¹ County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p69.

¹²² Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 92, July 22, 2008

¹²³ County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p70.

Major capital improvement work in neighboring Kelseyville County Water Works District #3 (KCWWD #3) including the addition of a 1 million gallon water storage tank, a new production well, and over 18,000 lineal feet of new water pipeline was completed in April 2006. It will connect the KCWWD#3 and the Lake County Special Districts CSA No.6 Finley water systems for enhanced system reliability, improved pressure and increased fire flows for both systems.

Subsequent to connection of the two systems, CSA No.6 pays its proportional share of the cost to provide the water to the Finley system from the improved KCWWD#3 system. One of the wells at CSA No.6 will be available only has a backup in case of emergencies.

Connection of the two systems has resulted in improved water quality for CSA No.6 due to elevated levels of Iron and Manganese found in the CSA No.6 wells one of which will revert to backup status. Finley water pressure has increased as well. According to the "Build-out Analysis" this water system has a capacity of 524 connections but at total Build-out would only have 412 connections.¹²⁴

B. CSA No.6 Finley Infrastructure Needs or Deficiencies MSR Determinations

- 2-1) CSA No.6 Finley has adequate water supply, storage and distributions systems for the present but not for the future.

5.2.3 CSA No.6 Finley Financing

A. CSA No.6 Finley Financing Background

Annual budgets and financial documents are prepared for CSA No.6 as part of the overall County budget process. Budgets are based on projected annual revenues derived from property taxes, services and sales, and interest from loans and investments. The CSA had an operating budget for FY 2003-04 of \$228,206. The 2007-08 Budget is \$133,334. The budget is also funded by \$15,270 of Indian gaming money provided in 2006-07.¹²⁵

As a division of the County under the management of the Special Districts Administration (SDA), CSA No. 6 maintains no full time staff of its own, but rather dedicates funding to the SDA to provide for management, repair, and

¹²⁴ County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p70.

¹²⁵ Lake County Budget 2007-2008, p.126.

operations by on of three utility areas. The CSA had a capital improvement reserve fund balance of \$4,647 at the beginning of the fiscal year 2007-08.

This CSA is exempt from appropriations limits since it is not a taxing entity, and thus has no outstanding limitations on its expenditures. Financial statements and budgetary documents for CSA No.6 were easily obtained and reviewed. Water is metered, and rates for water usage are based on actual usage. The CSA does not actively engage in the expenditure of funds for additional services or improvements which are not considered essential for service provision. CSA No.6 has 221 active connections, and average monthly operational costs of \$4,500. The operational cost per connection is approximately \$20.

The CSA charges users of the system rates for the provision of water services. Basic charges include a monthly meter fee of \$11.12, and a fee for water of \$0.71 per 100 cubic feet of water. There are additional charges for high water usage (beyond 1,500 cubic feet per month), out of district service, and other miscellaneous services.

Additionally CSA No.6 customers are assessed \$14.86 for infrastructure loan repayment in addition to the \$11.12 meter charge with each billing.¹²⁶ The basic meter charge is commensurate with the rates in other County Service Areas, as well as private water companies in the area. Rates were last revised in September of 2003.



FINLEY ORCHARD LOOKING EAST TO MT. KONOCTI, WITH OLD HIGHWAY 29 (BIG VALLEY ROAD)
<http://www.bestrealtylakeport.com/index.php?action=listingview&listingID=4>

¹²⁶ Lake County Special Districts, "Special District System Fees 2007".

The following nine tables and figures from the Foresight Consulting Study are presented to show the need for the rate increases for CSA No. 6 Finley. The Foresight Consulting table below summarizes the budget projections for the Finley CSA along with the net revenue requirements:¹²⁷

Table B-W5 Projected Budget and Revenue Requirements - CSA #6 - Finley Water Lake County Special Districts Administration						
Cost Classification	Budget 2007-2008	Projected Revenue Requirements (a)				
		2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
Services & Supplies - Maintenance	\$12,285	\$8,950	\$9,300	\$9,700	\$10,100	\$10,500
Services & Supplies - Professional	\$47,380	\$49,950	\$51,900	\$54,000	\$56,200	\$58,400
Services & Supplies - Special Dist. Admin.	\$23,490	\$16,848	\$17,500	\$18,200	\$18,900	\$19,700
Services & Supplies - Utilities	\$16,800	\$10,340	\$10,800	\$11,200	\$11,600	\$12,100
Services & Supplies - Other Admin.	\$3,573	\$2,357	\$2,500	\$2,600	\$2,700	\$2,800
Other Charges	9,480	3,400	\$3,500	\$3,600	\$3,700	\$3,800
Fixed Assets/CIP Costs (b) - Pay-As-You-Go	0	0	0	0	0	0
Fixed Assets/CIP Costs (b) - Debt Funded	0	0	18,125	25,013	25,109	25,183
Contingencies	3,518	9,184	\$9,600	\$10,000	\$10,400	\$10,800
Subtotal: Total Expenditures	\$116,526	\$101,027	\$123,225	\$134,313	\$138,709	\$143,283
Less Other Recurring Revenue	(8,336)	(\$8,412)	(\$8,700)	(\$9,000)	(\$9,400)	(\$9,800)
Less Other One-Time Revenue	0	\$0	\$0	\$0	\$0	\$0
Total Revenue Requirement	108,190	92,615	114,525	125,313	129,309	133,483
Rate Revenue from Current Rates (c)	\$67,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000

Source of historical costs: Schedule RR2.266
a. Based on Forms 3-7 from Special Districts Administration, 4-18-08. Projections include an annual increase of 2%.
b. CIP costs through '07-08 are from Special District budgets. Projections are District estimates (fax dated 2-9-08) and reflect CIP expenditures from Tables CIP-1 through CIP-4. Debt funded costs reflect debt service with 5.5% interest rate and 30-year repayment period.
c. As shown in Form 3, from Special Districts Administration, 4-18-08.

The following Foresight Consulting table summarizes the financial plan and the projected rate increases for the Finley CSA:¹²⁸

Table WFP-5 Water Utility Financial Plan - CSA #6 - Finley Water Lake County Special Districts Administration						
Net Revenue Requirements (a) Annual % Increase over Previous Year	Estimated 2007-08	Projected Rev. Req'ts., Rate Increases and Rate Revenue				
		2008-09	2009-10	2010-11	2011-12	2012-13
	(\$108,190)	(\$92,615)	(\$114,525)	(\$125,313)	(\$129,309)	(\$133,483)
	82.7%	-14.4%	23.7%	9.4%	3.2%	3.2%
Base Case - Current Rates with No Increases						
Revenue from Current Rates (a)	\$67,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000
less Net Revenue Req't's.	(\$108,190)	(\$92,615)	(\$114,525)	(\$125,313)	(\$129,309)	(\$133,483)
Year-End Surplus (Deficit)	(\$41,190)	(\$32,615)	(\$54,525)	(\$65,313)	(\$69,309)	(\$73,483)
Proposed Financial Plan - Water Rate Increases						
Rate Increases		30.0%	25.0%	25.0%	4.0%	2.0%
Revenue from Current Rates (a)	\$67,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000
Rate Revenue from Rate Increases		\$18,000	\$18,000	\$18,000	\$18,000	\$18,000
			\$19,500	\$19,500	\$19,500	\$19,500
				\$24,375	\$24,375	\$24,375
					\$4,875	\$4,875
						\$2,535
Revenue from Rate Increases	\$0	\$18,000	\$37,500	\$61,875	\$66,750	\$69,285
Projected Rate Revenue (w/ Rate Incr.) (b)	\$67,000	\$78,000	\$97,500	\$121,875	\$126,750	\$129,285
less Net Revenue Req't's.	(\$108,190)	(\$92,615)	(\$114,525)	(\$125,313)	(\$129,309)	(\$133,483)
Year-End Surplus (Deficit)	(\$41,190)	(\$14,615)	(\$17,025)	(\$3,438)	(\$2,559)	(\$4,198)

a. From Table B-W5, Water System Budget Projections and Revenue Requirements. Projections include inflation adjustments.
b. Total revenue to be recovered from rates.

¹²⁷ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 18, July 22, 2008

¹²⁸ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 18, July 22, 2008

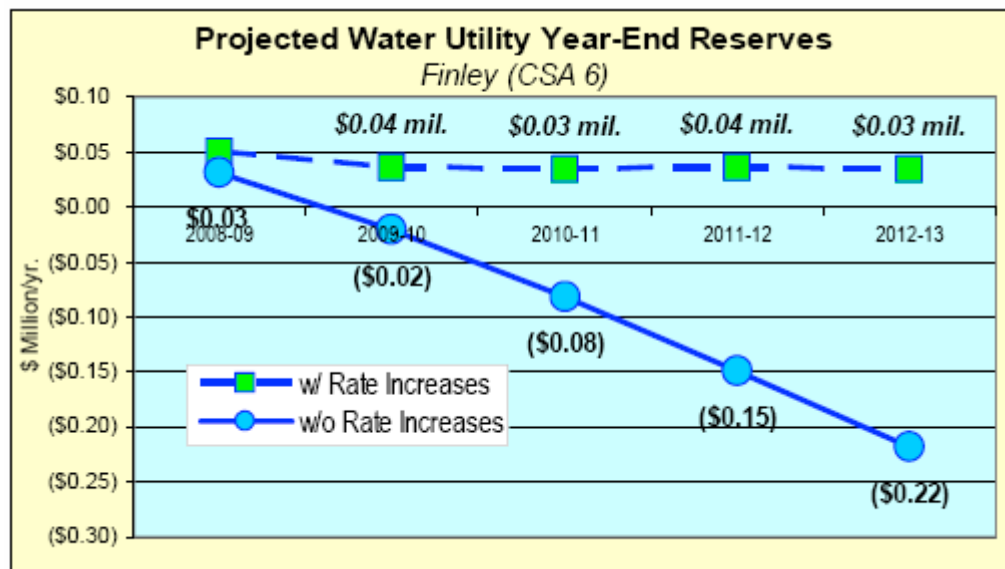
The following Foresight Consulting table shows the need for the Water Capital Improvement Fund for the Finley CSA:¹²⁹

Table WFP-5A
Summary of Projected Water Reserve Fund Levels - CSA #6 - Finley Water
Lake County Special Districts Administration

	Estimated 2007-08	Projected Reserve Funds				
		2008-09	2009-10	2010-11	2011-12	2012-13
Water Operations Fund (Cash)						
Beginning Fund Balance (a)	\$0	\$14,165	\$40,802	\$23,777	\$20,340	\$17,780
Water Rate Revenue Surplus (Deficit) (b)	\$0	(\$14,615)	(\$17,025)	(\$3,438)	(\$2,559)	(\$4,198)
Increase for FY'08-09 (Form 7)		\$41,252				
Transfers to CIP Fund (c)	\$0	\$0	\$0	\$0	\$0	\$0
Year-End Fund Balance	\$0	\$40,802	\$23,777	\$20,340	\$17,780	\$13,583
Water Capital Improvement Fund (CIP)						
Beginning Fund Balance (a)	\$0	\$6,185	\$8,685	\$11,485	\$14,485	\$17,585
Cap Fee Revenue	\$0	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500
Transfer from Operations Fund (c)	\$0	\$0	\$0	\$0	\$0	\$0
Investment Earnings	\$0	\$0	\$300	\$500	\$600	\$700
Year-End Fund Balance	\$0	\$8,685	\$11,485	\$14,485	\$17,585	\$20,785
Combined Water Funds Balance	\$0	\$49,487	\$35,262	\$34,825	\$35,365	\$34,368
General Inflation Escalator		4.0%	4.0%	4.0%	4.0%	4.0%
Interest Earnings Rate		4.0%	4.0%	4.0%	4.0%	4.0%
Approx. Coverage Ratio		NA	194.6%	139.2%	140.8%	136.5%

a. 2008-09 year-end balances are from Form 7 "Total Reserves Proposed for FY 08/09".
b. These are the "Year-End Surplus (Deficit)" from Table WFP-1.
c. Transfers between Operations Fund and CIP fund as needed.

The following figure shows the year-end reserves with and without the proposed rate increases for the Finley CSA:¹³⁰



¹²⁹ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 19, July 22, 2008

¹³⁰ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 19, July 22, 2008

The following Foresight Consulting table shows the cost allocation process whereby revenue requirements are allocated to functional categories for the Finley CSA:¹³¹

Table COS-W5 Water Fund Cost Allocations - CSA #6 - Finley Water (FY'08-09) Lake County Special Districts Administration								
Water Operations Fund	2008-09 Budget (a)	Percent Allocations			Allocated Costs			Total
		Customer Costs	Fixed Capacity	Variable Costs	Customer Costs	Fixed Capacity	Variable Costs	
Operating Expenditures								
Services & Supplies - Maintenance	\$8,950	0.0%	50.0%	50.0%	\$0	\$4,475	\$4,475	\$8,950
Services & Supplies - Professional	\$49,950	10.0%	50.0%	40.0%	\$4,995	\$24,975	\$19,980	\$49,950
Services & Supplies - Special Dist. Admin.	\$16,846	10.0%	15.0%	75.0%	\$1,685	\$2,527	\$12,635	\$16,846
Services & Supplies - Utilities	\$10,340	0.0%	25.0%	75.0%	\$0	\$2,585	\$7,755	\$10,340
Services & Supplies - Other Admin.	\$2,357	10.0%	15.0%	75.0%	\$236	\$353	\$1,767	\$2,357
Other Charges	\$3,400	10.0%	50.0%	40.0%	\$340	\$1,700	\$1,360	\$3,400
Fixed Assets (Pay-as-you-go & debt service)	\$0	0.0%	100.0%	0.0%	\$0	\$0	\$0	\$0
Contingencies	\$9,184	10.0%	50.0%	40.0%	\$918	\$4,592	\$3,674	\$9,184
less Other Recurring Revenue	(\$8,412)	8.1%	40.8%	51.1%	(\$881)	(\$3,431)	(\$4,300)	(\$8,412)
Net Revenue Requirements	\$92,615	8.1%	40.8%	51.1%	\$7,493	\$37,778	\$47,345	\$92,615
Summary of Allocations								
Total Fixed Costs		48.9%			\$45,269			
Total Variable Costs		51.1%			\$47,345			

a. From Table B-W5, Water System Budget Projections and Revenue Requirements.

The following Foresight Consulting table shows the new water rates for the Finley CSA:¹³²

Table CR-W5 Consumptive Rates and Revenue <i>Including Price Elasticity Adjustments</i> - CSA #6 - Finley Water (FY'08-09) Lake County Special Districts Administration						
Volume Rate Class	Billed Water Use (hcf/vr) (a)	2008 Volume Rates		New Rate Differential (%) (b)	Commodity Rates	
		Volume Rate	Differential (%) (b)		Rate (c)	Revenue
Tier 1 (Tier 1 < 15 hcf)	24,709	\$0.73	--	--	\$1.28	\$31,588
Tier 2 (15 hcf > Tier 1)	8,217	\$0.98	34.2%	50.0%	\$1.92	\$15,757
Total	32,927	--	--	--	--	\$47,345

a. Estimated consumption from Special District Billing records.

b. Percent difference between tiers (or the % increase from the lower tier to the next tier rate). The average consumption is 13.6 hcf/SFD/mo.

c. Based on the new rate differential, these rates are calculated in order to meet the Target Rev. Reqts.

d. Total Variable Costs shown in the Cost Allocation Table COS-W5.

¹³¹ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 20, July 22, 2008

¹³² Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 20, July 22, 2008

The following Foresight Consulting table shows the new fixed monthly rates for the Finley CSA:¹³³

Table FR-W5 New Fixed Monthly Rates - CSA #6 - Finley Water (FY'08-09) Lake County Special Districts Administration	
Accounts	5/8-3/4" Meters
Total Accounts (a)	206
Extra Units (Additional SFD's) (a)	15
Standby (Excluded from Fixed Rates) (b)	18
Monthly Fixed Rates	
Customer Costs (\$/Acct) (c)	\$3.03
Capacity Costs (\$/Accts & Extra Units) (d)	\$14.24
Total Mo. Base Charge	\$17.28
Annual Revenue from Fixed Mo. Rates	
Customer Costs (Charged only to accounts)	\$7,493
Capacity Costs (Charged to Accts. & Extra Units)	\$37,776
Total	\$45,269
Fixed Costs Allocated to Monthly Fixed Monthly Rates (e)	
Customer Costs	\$7,493
Capacity Costs	\$37,776
Total Monthly Fixed Costs	\$45,269

Note: Rates are monthly rates, but customers are billed bi-monthly.

a. Accounts and Extra Units are from Special Districts records (Current Operations by Utility Area, 4/17/08).

b. Per County Counsel advice, standby accounts are to remain fixed at \$2.50/mo.

c. This is a "base charge" that excludes standby accounts and additional units.

d. This is a "minimum charge" for all "Extra Units" (additional SFD's).

e. Revenue requirements from the Cost Allocation Table.

The following Foresight Consulting table shows the projected water rates for Finley CSA through 2012-13 and the monthly bills resulting from the 2008-09 water rates compared to the bills from the 2008 water rates.¹³⁴

Table PR-W5 Summary of Recommended & Projected Rates - CSA #6 - Finley Water Lake County Special Districts Administration							
Customer Class	Rate	Current	New Fixed Monthly Rates (\$/mo./Acct. but billed Bi-Monthly) (a)				
	Code	Rates	2008-09	2009-10	2010-11	2011-12	2012-13
Base Charge (\$/Account/mo.)	--	--	\$2.55	\$3.19	\$3.99	\$4.15	\$4.23
Residential Accounts	FB	\$11.43	\$12.00	\$15.00	\$18.74	\$19.49	\$19.88
Residential Extra Units	FD	\$7.21	\$12.00	\$15.00	\$18.74	\$19.49	\$19.88
Outside Accounts	FH	\$22.86	\$12.00	\$15.00	\$18.74	\$19.49	\$19.88
Standby		\$2.50	\$2.50	\$2.50	\$2.50	\$2.50	\$2.50
Consumption Level			New Volume Rates (\$/hcf) (b)				
Tier 1 (Tier 1 < 15 hcf)	FC	\$0.73	\$1.08	\$1.35	\$1.68	\$1.75	\$1.78
Tier 2 (15 hcf > Tier 2)	FC	\$0.98	\$1.61	\$2.02	\$2.52	\$2.62	\$2.68
Financial Plan Rate Increases			30.0%	25.0%	25.0%	4.0%	2.0%

a. From Table FR-W5. Note: these rates apply only to accounts (meters), not "extra units", which are only charged volume rates.

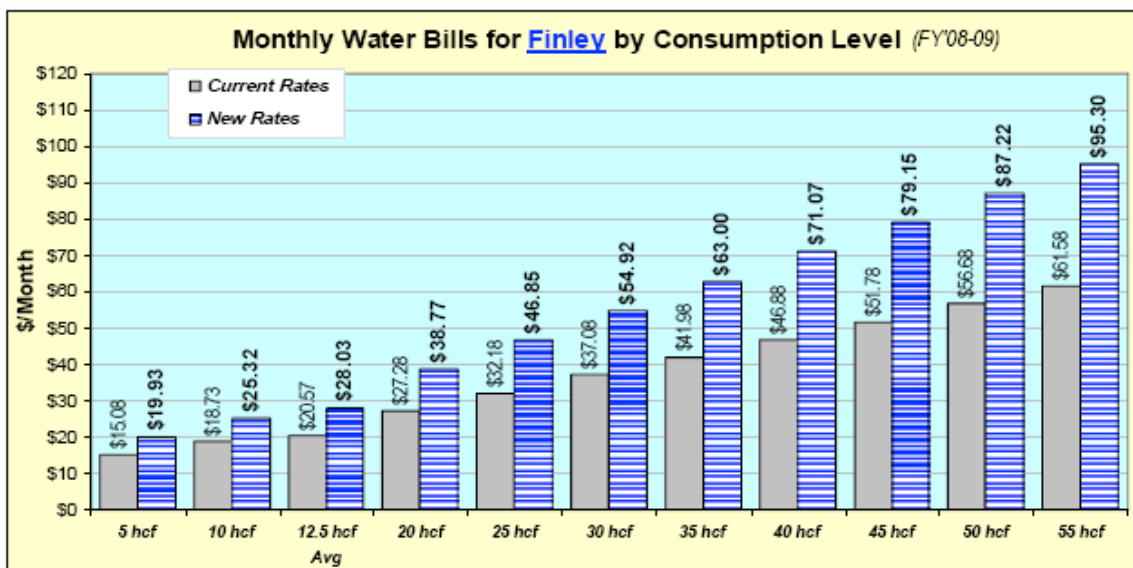
b. From Table CR-W5.

c. This is the % increase from current rate revenue to the revenue from recommended rates, from the Financial plan for the system.

¹³³ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 20, July 22, 2008

¹³⁴ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 21, July 22, 2008

The following Foresight Consulting figure shows the monthly water bills and the way the increase is greater for higher water use.¹³⁵



B. CSA No.6 Finley Financing MSR Determinations

- 3-1) CSA No.6 Finley is included in the Foresight Consulting recommendation that all the CSA's work to revise service charges and accounting methods to make them as uniform as possible throughout the ten water CSAs in Lake County.
- 3-2) The use of the Lake County Special Districts Administration is the most cost-effective way to operate a small water system.
- 3-3) Rates for water service in CSA No. 6 Finley are comparable to other water districts in the area and should be raised to provide for capital improvements.

5.2.4 CSA No.6 Finley Opportunities for Shared Facilities

A. CSA No.6 Finley Shared Facilities Background

CSA No.6 participates in facilities and infrastructure sharing with the KCWWD #3. CSA No.6 is managed by the Lake County Special Districts Administration.

¹³⁵ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 21, July 22, 2008

Management duties are grouped under this Administration, allowing the use of staff and management for each agency or district, as needed.

In addition to staff sharing, the arrangement allows sharing of office facilities. Also shared are miscellaneous office supplies and administrative resources.

B. CSA No.6 Finley Shared Facilities MSR Determinations

- 4-1) CSA No.6 Finley capitalizes on opportunities to share resources with the KCWWD #3 arrangement.
- 4-2) The Foresight Consulting Study strongly recommends that the Finley and Kelseyville water systems be combined.

5.2.5 CSA No.6 Finley Government Structure Options

A. CSA No.6 Finley Government Structure Options Background

CSA No.6 is managed under the elected Lake County Board of Supervisors by the County's Special Districts Administration. The boundaries of the CSA have not changed since the last LAFCO analysis of Spheres of Influence, in 1985. The current CSA boundaries and SOI are geographically distinct. The government structure of a County Service Area is reasonable for the provision of water service in this area.

The CSA No.6 is served by a Special Districts Utility Area (#2) for day to day field operations. The Utility Area is managed by a superintendent and eight employees. The Special Districts Administration in Lakeport coordinates customer service accounts, billing, budgeting/financial management, master planning/capital improvement programming, meter reading, regulatory compliance, and overall personnel management for the CSA.

The system allows for the use of available staff for emergency or directed needs, and does not require the dedication of a full-time staff member during periods in which CSA No.6 operations have fewer staff demands. Direct control and decision-making lies with the Special Districts Administration in Lakeport and inquiries regarding CSA operations are able to be addressed promptly.

The County of Lake is a unit of the State of California. It is governed by a Board of Supervisors consisting of five supervisors each elected for a four-year term of office. The terms of office are staggered so that two are elected in one general election and three in the next.

The Board usually meets the first, second, third, and fourth Tuesday of each month. The meetings are held in the Board Chambers on the first floor of the Courthouse at 255 North Forbes Street in Lakeport, CA.

Occasionally, for special purposes, the Board will schedule other meetings at different times and/or locations in the County. The Board meetings are open to the public and agendas are published the week prior to the meetings. The CSA also has an Advisory Task Force appointed by Special Districts Administration that coordinates customer concerns with Special District Administration.

The Lake County Board of Supervisors follows all provisions of the Brown Act in conducting business related to CSA activities, and has sufficient mechanisms in place to allow for public inspection and involvement in CSA operations and management.

B. CSA No.6 Finley Government MSR Determinations

- 5-1) The Foresight Consulting Study recommends that the Finley and Kelseyville Water District systems be combined.
- 5-2) The structure of management for the CSA No. 6 Finley, with day to day field operations conducted by the Utility Area staff and overall administrative functions conducted by the Special Districts Administration in Lakeport can be improved.
- 5-3) The Board of Supervisors is elected and accountable to the public. A Board of Directors for an independent district would be more directly accountable to the voters.
- 5-4) The Advisory Task Force appointed by Special Districts Administration should continue to work with the community, the Special Districts Administration, and the Board of Supervisors. To increase accountability, the Advisory Task Force should be appointed by the Board of Supervisors.

6 CSA No.7 BONANZA SPRINGS

6.1 CSA No.7 Background

County Service Area No.7 Bonanza Springs provided domestic water to 158¹³⁶ connections in 2008 in the Loch Lomond area in southern Lake County near State Highway 175 and Siegler Springs Road North. The Bonanza Springs water system serves the Bonanza Springs, Forest Oaks, Bonanza Springs Acres and Siegler Springs subdivisions and adjacent parcels.¹³⁷ The CSA was formed in 1971 through purchase of private water companies in the area. Bonanza Springs is located in the Clear Lake Volcanics Groundwater Source Area which has a variable water supply.

In August 2008 CSA No.7 Bonanza Springs served 158 active residential connections, no commercial connections and 19 standby connections for a total of 177 connections in 2008 (compared to 167 connections stated in the system capacity study from FY 2006-2007) and a population of 435.¹³⁸ The Foresight Consulting Study reports 176 connections in 2008.¹³⁹

According to the Lake County Budget for 2007-08 the Bonanza Springs Budget is described as follows:

This budget provides the funding for operation and maintenance of the potable water system in the Bonanza Springs Area on Cobb Mountain. The main goal is to provide drinking water that complies with the regulations in the most cost-effective manner possible.

The Special Districts Administration Department has applied to the Department of Health Services for funding (80% grant, 20% loan) to implement necessary system wide improvements. To qualify for this funding, CSA No.7 must propose a water rate increase to support the required capital improvement program and loan repayment.¹⁴⁰

Contact information for CSA No.7 Bonanza Springs is as follows:

Mark Dellinger, Special Districts Administrator
230A Main Street, Lakeport, CA 95453

Phone: (707) 263-0119

¹³⁶ Lake County Special Districts Administration, "Current Operations by Utility Area", 8/18/2008.

¹³⁷ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report Bonanza Springs Water System CSA #7 Lake County Special Districts", December 2006, page 1.

¹³⁸ Lake County Special Districts Administration, "Current Operations by Utility Area", 8/18/2008

¹³⁹ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 92, July 22, 2008

¹⁴⁰ Lake County 2007-2008 Budget, p.127.

6.2 CSA No.7 Bonanza Springs Municipal Service Review

6.2.1 CSA No.7 Bonanza Springs Growth and Population Projections for the Affected Area

A. CSA No.7 Bonanza Springs Growth and Population Background

CSA No.7 has experienced only minimal growth in recent years. In the five year period 1998-2005, the CSA increased connections to its system from 152 connections to 163, an average of about two new connections annually. The estimated population is 435.¹⁴¹ The Foresight Consulting Study reports 176 connections in 2008.¹⁴²

According to the "Build-out Analysis" there are 893 vacant acres in the CSA having a potential for an additional 196 dwelling units housing 539 residents.¹⁴³ This could more than double the number of connections. Although the Foresight Consulting Study estimates that only 14 new connections will be needed by 2026 for a total of 190 at that time.¹⁴⁴

B. CSA No.7 Bonanza Springs Growth and Population MSR Determinations

- 1-1) The population of Bonanza Springs could increase substantially if sufficient water is available; however the Foresight Consulting Study shows that Bonanza Springs only has 14 possible future connections at this time.

6.2.2 CSA No.7 Bonanza Springs Infrastructure

A. CSA No.7 Bonanza Springs Infrastructure Background

The Special Districts Administration is pursuing Bond funding according to the "Water and Sewer Rate Study Report" to make improvements in the Bonanza Springs system. The CSA is not eligible for grants. If obtained, the funding would be used to replace Well No. 1, add storage capacity, replace some water mains, and to replace "wharf" hydrants with large capacity hydrants more suitable for use by the local fire district.

¹⁴¹ Lake County Special Districts Administration, "Current Operations by Utility Area", 8/18/2008

¹⁴² Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 92, July 22, 2008

¹⁴³ County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p.55.

¹⁴⁴ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 92, July 22, 2008

The Special Districts Administration had the Bonanza Springs Water System evaluated by Brelje & Race, Consulting Civil Engineers and a Preliminary Engineering Report was prepared in December 2006. This Report states that "The areas of deficiency include insufficient water supply, coating failure on an existing storage tank, insufficient water storage and transmission capacity for fire protection and possible well water quality degradation."¹⁴⁵ The Report examines various options for improving the water system and estimates the cost at over \$2.1 million for either option.¹⁴⁶ The Bonanza Springs water system is described in more detail below.

1. Bonanza Springs Water Supply

CSA No.7 Bonanza Springs provides water service to its residents through operation and maintenance of two wells as follows:

Well No.2 was originally drilled in 1977 and deepened in 1989

Well No. 3 was originally drilled in 1985 and deepened in 1988 and in 1992.¹⁴⁷

Well No.3 is the main well used and produces 44 gallons per minute (gpm). The original well, Well No. 1 which adjoins the operating wells, has not been properly abandoned in a manner to assure that surface water cannot enter the casing and travel directly down to groundwater.

Well No.2 lacks a sanitary seal and therefore, does not meet well construction standards. Well No.2 is used only when Well No.3 cannot keep up with the system demand. The Department of Health Services requires daily turbidity tests and maintenance of a chlorine residual of 0.8 ppm at the ends of the system when Well No. 2 is operated because it has no sanitary seal.¹⁴⁸

Because Well No.2 does not meet the well construction criterion, there is a deficit of approximately 21 gpm in the water supply. Additional water supply needs to be secured. The Brelje & Race Consulting Civil Engineers Report for Bonanza Springs examines three options and recommends that a new well be constructed.¹⁴⁹

¹⁴⁵ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report Bonanza Springs Water System CSA #7 Lake County Special Districts", December 2006, page 1.

¹⁴⁶ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report Bonanza Springs Water System CSA #7 Lake County Special Districts", December 2006,

¹⁴⁷ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report Bonanza Springs Water System CSA #7 Lake County Special Districts", December 2006, page 2.

¹⁴⁸ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report Bonanza Springs Water System CSA #7 Lake County Special Districts", December 2006, page 2.

¹⁴⁹ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report Bonanza Springs Water System CSA #7 Lake County Special Districts", December 2006, pages 6-7.

2. Bonanza Springs Water Treatment

Water treatment for the Bonanza Springs Water System consists of filtration and disinfection. The filtration is accomplished using two hurricane type cartridge filters in series. The treatment building is in poor condition. The roof leaks and the foundation have been undermined.¹⁵⁰ The Brelje & Race Consulting Civil Engineers Report for Bonanza Springs does not recommend improvements to the Bonanza Springs water treatment system; however, it is possible that treatment for aluminum may be required in the future.¹⁵¹

3. Bonanza Springs Water Storage

The Brelje & Race Consulting Civil Engineers Report describes the Bonanza Springs water storage as follows:

Water is stored in a 100,000 gallon (nominal capacity. Working capacity is approximately 87,000 gallons.) welded steel tank built in 1989. The tank is 18 feet high and 30.75 feet in diameter, with an inlet centered about 0.75 feet off the floor. The tank provides steady water pressure and serves as a reservoir in case of pump failure or fire flows.

Tank inspections were performed by Aqua-Tech Company in 2003 and in 2006. Inspections were performed by a diver who visually inspected and videoed the interior of the tank. The 2006 inspection report identified numerous corrosion sites and recommended that the tank interior coating be replaced within 12 months.¹⁵²

According to the Brelje & Race Consulting Civil Engineers Report for Bonanza Springs "The required storage capacity is calculated using the design criteria, and includes allowance for stand-by domestic capacity and for fire flow capacity." The storage requirements will vary depending on the source of the water supply but in any case a new storage tank will be required and the interior coating on the existing Bonanza Springs Storage Tank should be replaced as recommended in the 2006 inspection report.¹⁵³

¹⁵⁰ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report Bonanza Springs Water System CSA #7 Lake County Special Districts", December 2006, page 3.

¹⁵¹ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report Bonanza Springs Water System CSA #7 Lake County Special Districts", December 2006, page 9.

¹⁵² Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report Bonanza Springs Water System CSA #7 Lake County Special Districts", December 2006, pages 3-4.

¹⁵³ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report Bonanza Springs Water System CSA #7 Lake County Special Districts", December 2006, pages 9-10.

4. Bonanza Springs Water Distribution

Water is distributed to the 167¹⁵⁴ active Bonanza Springs connections through a series of one-inch to eight-inch diameter water mains and associated lateral lines. A capacity analysis Master Plan was completed during FY 06/07. The System Capacity was reported at 190 connections compared to 498 connections at total build-out.¹⁵⁵ The Brelje & Race Consulting Civil Engineers Report for Bonanza Springs states the following:

Hydraulic calculations were performed for the Bonanza Springs distribution system to determine the pipe sizes needed to deliver water at adequate flowrates and pressures....The calculations revealed that, while current domestic demands can be met by the existing mains in most of the system, larger diameter pipes are needed to convey fire flows. With the current sized piping, water could not be delivered at either the flowrate or the pressure needed for fire-fighting. Services at higher elevations would experience low pressure problems during fire flow.

Deficiencies of the existing Bonanza Springs distribution system are summarized below:

- 1) High frequency of leaks in mains
- 2) Mains undersized for fire protection flows
- 3) Insufficient number of fire hydrants¹⁵⁶

B. CSA No.7 Bonanza Springs Infrastructure MSR Determinations

- 2-1) The CSA No.7 Bonanza Springs water system has a 107,856 gallon-per-day capacity which is barely adequate for the 176 existing connections and does not allow for expansion of more than 14 additional connections.
- 2-2) Improvements to the CSA No.7 Bonanza Springs water system are needed to replace Well No. 1, add storage capacity, replace some water mains, and to replace "wharf" hydrants with large capacity hydrants more suitable for use by the local fire districts.

¹⁵⁴ Lake County Special Districts, "Special District System Fees 2007".

¹⁵⁵ County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p.56.

¹⁵⁶ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report Bonanza Springs Water System CSA #7 Lake County Special Districts", December 2006, pages 10-11.

6.2.3 CSA No.7 Bonanza Springs Financial Ability

A. CSA No.7 Bonanza Springs Financing Background

Annual budgets and financial documents are prepared for CSA No.7 Bonanza Springs as part of the overall County budget process. Budgets are based on projected annual revenues derived from property taxes, services and sales, and interest from loans and investments. The CSA had an operating budget for FY 2003-04 of \$116,266, of which \$34,578 was dedicated to reserves. The 2007-08 Budget is \$186,453.¹⁵⁷

The funding is explained as follows:

The budget is funded by property taxes and user fees. There is sufficient unreserved fund balance carry-over from the prior year to finance the difference as well as to provide \$48,411 in General Reserves and \$50,000 to the Capital Improvement Reserve.¹⁵⁸

As a division of the County under the management of the Special Districts Administration (SDA), CSA No.7 maintains no full time staff of its own, but rather dedicates funding to the SDA to provide for management, repair, and operations. The CSA maintains good financial records, and financial reporting requirements appear to be met in a timely fashion. Financial statements and budgetary documents for CSA No.7 were easily obtained and reviewed. Water is metered, and rates for water usage are based on actual usage.

CSA No.7 has 167 (or 176)¹⁵⁹ active connections. CSA No.7 Bonanza Springs rates are a basic meter charge of \$16.20, plus \$1.74 per 100 CF, up to 750 CF. Water usage rates increase for high water volume customers. The CSA also charges rates for miscellaneous services, such as standby fees, hydrant costs, and shut-off charges.¹⁶⁰ Implementation of the improvements program to upgrade the distribution system and fire hydrants will require a water rate increase in the 2007-08 fiscal year.¹⁶¹

The following nine tables are part of the Foresight Consulting Water and Sewer Rate Study Report Appendix¹⁶² which shows the need for additional funding and higher water rates for all the County Service Areas.

¹⁵⁷ Lake County 2007-2008 Budget, p.148.

¹⁵⁸ Lake County 2007-2008 Final Budget, C-7, C-10.

¹⁵⁹ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 92, July 22, 2008

¹⁶⁰ Lake County Special Districts, "Special District System Fees 2007".

¹⁶¹ Lake County 2007-2008 Budget, p.127.

¹⁶² Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, July 22, 2008.

The following Foresight Consulting table summarizes the budget projections for Bonanza Springs CSA along with the net revenue requirements.¹⁶³

Table B-W6 Projected Budget and Revenue Requirements - CSA #7 - Bonanza Springs Water Lake County Special Districts Administration						
Cost Classification	Budget 2007-2008	Projected Revenue Requirements (a)				
		2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
Services & Supplies - Maintenance	\$17,000	\$18,750	\$19,500	\$20,300	\$21,100	\$21,900
Services & Supplies - Professional	\$24,898	\$21,960	\$22,800	\$23,700	\$24,800	\$25,600
Services & Supplies - Special Dist. Admin.	\$16,622	\$12,084	\$12,800	\$13,100	\$13,600	\$14,100
Services & Supplies - Utilities	\$8,000	\$8,400	\$8,700	\$9,000	\$9,400	\$9,800
Services & Supplies - Other Admin.	\$2,529	\$1,890	\$1,800	\$1,900	\$2,000	\$2,100
SRF Loan Repayment	5,651	5,820	5,995	6,175	6,360	6,551
Fixed Assets/CIP Costs (b) - Pay-As-You-Go	1,088	45,000	47,000	49,000	51,000	53,000
Fixed Assets/CIP Costs (b) - Debt Funded	0	0	11,848	16,350	16,413	16,481
Contingencies or Misc.	93,017	23,484	24,400	25,400	26,400	27,500
Subtotal: Total Expenditures	\$168,605	\$137,188	\$154,643	\$164,925	\$170,873	\$177,012
Less Other Recurring Revenue	(41,365)	(\$36,855)	(\$39,300)	(\$39,800)	(\$41,400)	(\$43,100)
Total Revenue Requirement	127,240	100,333	116,343	125,125	129,473	133,912
Rate Revenue from Current Rates (c)	\$67,800	\$68,000	\$68,000	\$68,000	\$68,000	\$68,000

Source of historical costs: Schedule RR2.267; highlighted projections are from the Five Year Budget Projection, fax dated 1-7-08.
a. Based on Forms 3-7 from Special Districts Administration, 4-18-08. Projections include an annual increase of 2%.
b. CIP costs through '07-08 are from Special District budgets. Projections are District estimates (fax dated 2-8-08) and reflect CIP expenditures from Tables CIP-1 through CIP-4. Debt funded costs reflect debt service with 5.5% interest rate and 30-year repayment period.
c. As shown in Form 3, from Special Districts Administration, 4-18-08.

The following Foresight Consulting table summarizes the financial plan and the projected rate increases for the Bonanza Springs CSA.¹⁶⁴ The rate increases shown are the percent increase in current rate revenue, not individual rates, which are determined through the cost-of-service rate analysis.

Table WFP-6 Water Utility Financial Plan - CSA #7 - Bonanza Springs Water Lake County Special Districts Administration						
	Estimated 2007-08	Projected Rev. Req'ts., Rate Increases and Rate Revenue				
		2008-09	2009-10	2010-11	2011-12	2012-13
Net Revenue Requirements (a)	(\$127,240)	(\$100,333)	(\$116,343)	(\$125,125)	(\$129,473)	(\$133,912)
Annual % Increase over Previous Year	130.2%	-21.1%	16.0%	7.5%	3.5%	3.4%
Base Case - Current Rates with No Increases						
Revenue from Current Rates (a)	\$67,800	\$68,000	\$68,000	\$68,000	\$68,000	\$68,000
less Net Revenue Req't's.	(\$127,240)	(\$100,333)	(\$116,343)	(\$125,125)	(\$129,473)	(\$133,912)
Year-End Surplus (Deficit)	(\$59,440)	(\$32,333)	(\$48,343)	(\$57,125)	(\$61,473)	(\$65,912)
Proposed Financial Plan - Water Rate Increases						
Rate Increases		10.0%	10.0%	10.0%	10.0%	10.0%
Revenue from Current Rates (a)	\$67,800	\$68,000	\$68,000	\$68,000	\$68,000	\$68,000
Rate Revenue from Rate Increases		\$6,800	\$6,800	\$6,800	\$6,800	\$6,800
			\$7,480	\$7,480	\$7,480	\$7,480
				\$8,228	\$8,228	\$8,228
					\$9,051	\$9,051
						\$9,956
Revenue from Rate Increases	\$0	\$6,800	\$14,280	\$22,508	\$31,559	\$41,515
Projected Rate Revenue (w/ Rate Incr.) (b)	\$67,800	\$74,800	\$82,280	\$90,508	\$99,559	\$109,515
less Net Revenue Req't's.	(\$127,240)	(\$100,333)	(\$116,343)	(\$125,125)	(\$129,473)	(\$133,912)
Year-End Surplus (Deficit)	(\$59,440)	(\$25,533)	(\$34,063)	(\$34,617)	(\$29,915)	(\$24,397)

a. From Table B-W6, Water System Budget Projections and Revenue Requirements. Projections include inflation adjustments.
b. Total revenue to be recovered from rates.

¹⁶³ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 22, July 22, 2008

¹⁶⁴ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 22, July 22, 2008

The following Foresight Consulting table shows a summary of projected water reserve fund levels for Bonanza Springs CSA.¹⁶⁵

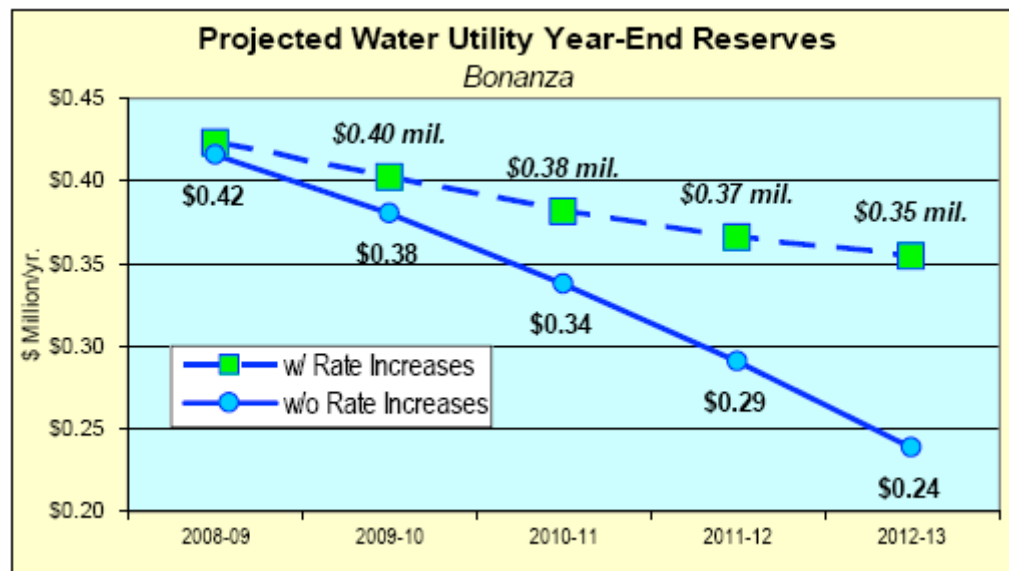
Table WFP-6A Summary of Projected Water Reserve Fund Levels - Bonanza Springs (CSA 7) Lake County Special Districts Administration						
	Estimated 2007-08	Projected Reserve Funds				
		2008-09	2009-10	2010-11	2011-12	2012-13
Water Operations Fund (Cash)						
Beginning Fund Balance (a)	\$0	\$178,062	\$152,529	\$118,466	\$83,849	\$98,935
Water Rate Revenue Surplus (Deficit) (b)	\$0	(\$25,533)	(\$34,063)	(\$34,617)	(\$29,915)	(\$24,397)
Transfers from CIP Fund (c)	\$0	\$0	\$0	\$0	\$45,000	\$45,000
Year-End Fund Balance	\$0	\$152,529	\$118,466	\$83,849	\$98,935	\$119,537
Water Capital Improvement Fund (CIP)						
Beginning Fund Balance (a)	\$0	\$267,386	\$269,886	\$283,186	\$296,986	\$266,386
Cap Fee Revenue	\$0	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500
Transfer to Operations Fund (c)	\$0	\$0	\$0	\$0	(\$45,000)	(\$45,000)
Investment Earnings	\$0	\$0	\$10,800	\$11,300	\$11,900	\$10,700
Year-End Fund Balance	\$0	\$269,886	\$283,186	\$296,986	\$266,386	\$234,586
Combined Water Funds Balance	\$0	\$422,415	\$401,652	\$380,835	\$365,321	\$354,123
General Inflation Escalator		4.0%	4.0%	4.0%	4.0%	4.0%
Interest Earnings Rate		4.0%	4.0%	4.0%	4.0%	4.0%
Approx. Coverage Ratio		NA	339.2%	232.2%	222.6%	215.3%

a. 2008-09 year-end balances are from Form 7 "Total Reserves Proposed for FY 08/09".

b. These are the "Year-End Surplus (Deficit)" from Table WFP-1.

c. Transfers between Operations Fund and CIP fund as needed.

The following Foresight Consulting table shows the total year-end fund balance for the Bonanza Springs CSA with and without the rate increase.¹⁶⁶



¹⁶⁵ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 23, July 22, 2008

¹⁶⁶ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 23, July 22, 2008

The following Foresight Consulting table shows the cost allocation process whereby revenue requirements are allocated to functional budget categories for the Bonanza Springs CSA.¹⁶⁷

Table COS-W6 Water Fund Cost Allocations - CSA #7 - Bonanza Springs Water (FY'08-09) Lake County Special Districts Administration							
Water Operations Fund	2008-09 Budget (a)	Percent Allocations			Allocated Costs		
		Customer Costs	Fixed Capacity	Variable Costs	Customer Costs	Fixed Capacity	Variable Costs
Operating Expenditures							
Services & Supplies - Maintenance	\$18,750	0.0%	50.0%	50.0%	\$0	\$9,375	\$9,375
Services & Supplies - Professional	\$21,980	10.0%	40.0%	50.0%	\$2,198	\$8,784	\$10,980
Services & Supplies - Special Dist. Admin.	\$12,084	10.0%	15.0%	75.0%	\$1,208	\$1,813	\$9,063
Services & Supplies - Utilities	\$8,400	0.0%	25.0%	75.0%	\$0	\$2,100	\$6,300
Services & Supplies - Other Admin.	\$1,890	10.0%	15.0%	75.0%	\$189	\$254	\$1,268
Other Charges	\$5,820	10.0%	40.0%	50.0%	\$582	\$2,328	\$2,910
Fixed Assets (Pay-as-you-go & debt service)	\$45,000	0.0%	50.0%	50.0%	\$0	\$22,500	\$22,500
Contingencies	\$23,484	10.0%	40.0%	50.0%	\$2,348	\$9,394	\$11,742
less Other Recurring Revenue	(\$36,855)	4.7%	41.2%	54.0%	(\$1,747)	(\$15,191)	(\$19,917)
Net Revenue Requirements	\$100,333	4.7%	41.2%	54.0%	\$4,757	\$41,356	\$54,221
Summary of Allocations							
Total Fixed Costs		46.0%			\$46,112		
Total Variable Costs		54.0%			\$54,221		

a. From Table 8-W6, Water System Budget Projections and Revenue Requirements.

The following Foresight Consulting table shows how the water rates are determined:¹⁶⁸

Table CR-W6 Consumptive Rates and Revenue - CSA #7 - Bonanza Springs Water (FY'08-09) Lake County Special Districts Administration						
Volume Rate Class	Billed Water Use (hcf/yr) (a)	2008 Volume Rates		New Rate Differential (%) (b)	Commodity Rates	
		Volume Rate	Differential (%) (b)		Rate (c)	Revenue
Tier 1 (Tier 1 < 7.5 hcf)	8,359	\$1.79	--	--	\$2.64	\$22,090
Tier 2 (7.5 hcf > Tier 2 < 15 hcf)	4,559	\$2.37	32.4%	60.0%	\$4.23	\$19,279
Tier 3 (15 hcf > Tier 3 < 30 hcf)	1,520	\$4.18	76.4%	--	--	--
New Tier 3 (15 hcf > Tier 3)	1,520	--	--	100.0%	\$8.46	\$12,852
Tier 4 (30 hcf > Tier 4)	760	\$6.55	56.7%	--	--	--
Total	16,717	--	--	--	--	\$54,221

a. Estimated consumption from Special District Billing records.

b. Percent difference between tiers (or the % increase from the lower tier to the next tier rate). The average consumption is 8.2 hcf/SFD/mo.

c. Based on the new rate differential, these rates are calculated in order to meet the Target Rev. Reqts.

d. Total Variable Costs shown in the Cost Allocation Table COS-W6.



<http://homes.realtor.com/map/search/listingdetail.aspx?pg=1&cmid=1009314&typ=27&sid=cb9549b91f3a43ea8e0bd9a662d332c&lid=1077201695&lsn=2&srcnt=8#Photo>

¹⁶⁷ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 24, July 22, 2008

¹⁶⁸ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 24, July 22, 2008

The following Foresight Consulting table shows the new fixed monthly rates for the Bonanza Springs CSA:¹⁶⁹

Table FR-W6 New Fixed Mo. Rates - CSA #7/Bonanza Springs (FY'08-09) Lake County Special Districts Administration	
Accounts	5/8-3/4" Meters
Total Accounts (a)	156
Extra Units (Additional SFD's) (a)	0
Standby (Excluded from Fixed Rates) (b)	20
Monthly Fixed Rates	
Customer Costs (\$/Acct) (c)	\$2.54
Capacity Costs (\$/Accts & Extra Units) (d)	\$22.09
Total Mo. Base Charge	\$24.63
Annual Revenue from Fixed Mo. Rates	
Customer Costs (Charged only to accounts)	\$4,757
Capacity Costs (Charged to Accts. & Extra Units)	\$41,356
Total	\$46,112
Fixed Costs Allocated to Monthly Fixed Monthly Rates (e)	
Customer Costs	\$4,757
Capacity Costs	\$41,356
Total Monthly Fixed Costs	\$46,112

Note: Rates are monthly rates, but customers are billed bi-monthly.

a. Accounts and Extra Units are from Special Districts records (Current Operations by Utility Area, 4/17/08).

b. Per County Counsel advice, standby accounts are to remain fixed at \$2.50/mo.

c. This is a "base charge" that excludes standby accounts and additional units.

d. This is a "minimum charge" for all "Extra Units" (additional SFD's).

e. Revenue requirements from the Cost Allocation Table.

The following Foresight Consulting table shows the projected water service rates through 2012-2012 and the monthly bills resulting from the 2008-09 rates:¹⁷⁰

Table PR-W6 Summary of Recommended & Projected Rates - CSA #7 - Bonanza Springs Water Lake County Special Districts Administration						
Customer Class	Rate Code	Current Rates	New Fixed Monthly Rates (\$/mo./Acct. but billed Bi-Monthly) (a)			
Base Charge (\$/Account/mo.)	--	--	2008-09	2009-10	2010-11	2011-12
Residential Accounts	BD	\$16.65	\$1.89	\$2.08	\$2.29	\$2.52
Standby		\$2.50	\$16.47	\$18.12	\$19.93	\$21.92
			\$2.50	\$2.50	\$2.50	\$2.50
			\$2.50	\$2.50	\$2.50	\$2.50
Consumption Level			New Volume Rates (\$/hcf) (b)			
Tier 1 (Tier 1 < 7.5 hcf)		\$1.79	\$1.97	\$2.17	\$2.38	\$2.62
Tier 2 (7.5 hcf > Tier 2 < 15 hcf)		\$2.37	\$3.15	\$3.47	\$3.81	\$4.20
New Tier 3 (15 hcf > Tier 3)		--	\$6.30	\$6.94	\$7.63	\$8.39
Current Tier 3 (15 hcf > Tier 3 < 30 hcf)		\$4.18	NA	NA	NA	NA
Current Tier 4 (30 hcf > Tier 4)		\$6.55	NA	NA	NA	NA
Financial Plan Rate Increases			10.0%	10.0%	10.0%	10.0%

a. From Table FR-W6. Note: these rates apply only to accounts (meters), not "extra units", which are only charged volume rates.

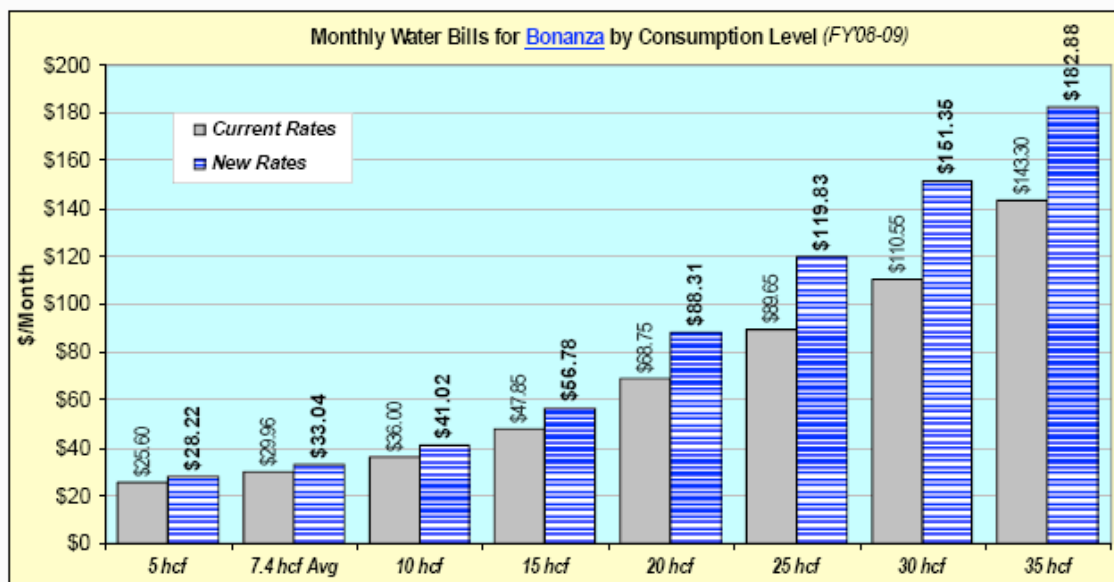
b. From Table CR-W6.

c. This is the % increase from current rate revenue to the revenue from recommended rates, from the Financial plan for the system.

¹⁶⁹ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 24, July 22, 2008

¹⁷⁰ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 25, July 22, 2008

The following Foresight Consulting figure shows the new monthly water bills for Bonanza Springs CSA by Consumption level:¹⁷¹



B. CSA No.7 Bonanza Springs MSR Determinations on Financial Ability

- 3-1) CSA No.7 Bonanza Springs is included in the Foresight Consulting recommendation that all the CSA's work to revise service charges and accounting methods to make them as uniform as possible throughout the nine active water CSAs in Lake County.
- 3-2) Rate increases are needed for CSA No.7 according to the Foresight Consulting Study.

6.2.4 CSA No.7 Bonanza Springs Opportunities for Shared Facilities

A. CSA No.7 Bonanza Springs Shared Facilities Background

CSA No.7 does not actively participate in facilities or infrastructure sharing arrangements with other districts or government agencies. As part of the DPH improvement program, Special Districts Administration evaluated the possibility of consolidating with the Loch Lomond Mutual Water Company. However, the Loch Lomond Mutual Water Company believed that it would not be in their best interests to have a physical connection to CSA No.7.

¹⁷¹ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 25, July 22, 2008

The CSA is managed under the elected Lake County Board of Supervisors by the County Special Districts Administration, which oversees all of the water County Service Areas in Lake County. Management duties are grouped under this Administration, allowing for the use of staff and management to each agency or district, as needed. In addition to staff sharing, the arrangement allows sharing of the offices. Also shared are miscellaneous office supplies and administrative resources.

The boundaries of the CSA encompass approximately 2,100 acres. The Special Districts Administration has indicated that the current boundaries of the CSA are larger than the feasible service area for the system, and could be reduced accordingly. There are two non-districted islands within CSA No.7 which were detached years ago.

B. CSA No.7 Bonanza Springs Shared Facilities MSR Determinations

- 4-1) The Loch Lomond Mutual Water Company is located near CSA No.7 Bonanza Springs and an inter-tie agreement where CSA No.7 would purchase water from Loch Lomond Mutual Water Company at wholesale rates was considered but this proposal was rejected by the Loch Lomond Mutual Water Company.
- 4-2) The government structure of a County Service Area is reasonable at this time for the provision of water service in this area; however, A local advisory task force appointed directly by the Board of Supervisor's would be advisable.

6.2.5 CSA No.7 Bonanza Springs Government Structure and Accountability

A. CSA No.7 Bonanza Springs Government Structure Background

The County of Lake is a unit of the State of California. It is governed by a Board of Supervisors consisting of five supervisors each elected for a four-year term of office. The terms of office are staggered so that two are elected in one general election and three in the next. The Board usually meets the first, second, third, and fourth Tuesday of each month. The meetings are held in the Board Chambers on the first floor of the Courthouse at 255 North Forbes Street in Lakeport, CA.

Occasionally, for special purposes, the Board will schedule other meetings at different times and/or locations in the County. The Board meetings are open to the public and agendas are published the week prior to the meetings.

The Lake County Board of Supervisors follows all provisions of the Brown Act in conducting business related to CSA activities, and has sufficient mechanisms in place to allow for public inspection and involvement in CSA operations and management.

The CSA No.7 is served by a Special Districts Utility Area (#2) for day to day field operations. The Utility Area is managed by a superintendent and eight employees. The Special Districts Administration in Lakeport coordinates customer service accounts, billing, budgeting/financial management, master planning/capital improvement programming, meter reading, regulatory compliance, and overall personnel management for the CSA.

The structure of management for the CSA No.7, with day to day field operations conducted by the Utility Area staff and overall administrative functions conducted by the Special Districts Administration in Lakeport, is considered efficient.

The system allows for the use of available staff for daily maintenance and emergency or directed needs, and does not require the dedication of a full-time staff member during periods in which CSA No.7 operations have fewer staff demands. Direct control and decision-making lies with the Special Districts Administration in Lakeport and inquiries regarding CSA operations are able to be addressed promptly.

B. CSA No.7 Bonanza Springs Governance MSR Determinations

- 5-1) The Special Districts Administration provides good management for CSA No.7 but it could be improved by following the recommendations of the Foresight Consulting Study.
- 5-2) The Board of Supervisors provides adequate accountability and governance for CSA No.7 Bonanza Springs. A Community Service District could be considered as population increases.
- 5-3) An Advisory Task Force helps the Special Districts Administration and the Board of Supervisors. This Advisory Task force should be appointed by the Board of Supervisors.

7 CSA NO.13 KONO TAYEE

7.1 CSA No.13 Kono Tayee Background

County Service Area No.13 Kono Tayee provides domestic water services to a 327-acre area along Clear Lake at Kono Tayee Point. Kono Tayee is located in the Lower Lake Groundwater Basin. It serves an estimated population of 288¹⁷² with 142¹⁷³ connections to the water system (132 active residential, 1 commercial and 9 standby) in August 2008.¹⁷⁴

According to the "Build-out Analysis of Lake County water and Wastewater Systems", the Capacity of the Kono Tayee Water System is 352 connections.¹⁷⁵ However, the Foresight Consulting Study estimates that only 190 will be needed by 2026.¹⁷⁶ The CSA was formed in 1978, replacing a maintenance district. Mail is addressed to Lucerne. The CSA is funded by property taxes and user fees. The 2007-08 Budget is \$92,800.¹⁷⁷

Contact information for CSA No.13 Kono Tayee is as follows:

Mark Dellinger, Special Districts Administrator
230A Main Street, Lakeport, CA 95453

Phone: (707) 263-0119

7.2 CSA No.13 Kono Tayee MSR

7.2.1 CSA No.13 Kono Tayee Growth and Population

A. CSA No.13 Kono Tayee Growth and Population Background

The number of active connections to the CSA No.13 system (141¹⁷⁸) has grown in the last few years. There are no connections which have been approved but not yet constructed. Previous reports indicate the terrain is not easily developed, reducing the likelihood that significant growth will occur in this area in the future.

The "Build-out Analysis of Lake County Water and Wastewater Systems" reports that there are 94 acres of unserviced vacant parcels in the CSA.¹⁷⁹ If these parcels were developed an additional 523 residents would be added to the

¹⁷² Lake County Special Districts Administration, "Current Operations by Utility Area", 8/18/2008.

¹⁷³ Lake County Special Districts Administration, "Current Operations by Utility Area", 8/18/2008

¹⁷⁴ Lake County Special Districts Administration, "Current Operations by Utility Area", 8/18/2008.

¹⁷⁵ Lake County Special Districts, "Build-Out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p.198.

¹⁷⁶ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 92, July 22, 2008

¹⁷⁷ Lake County Final Budget 2007-2008, p. 149.

¹⁷⁸ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 92, July 22, 2008

¹⁷⁹ Lake County Special Districts, "Build-Out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p.197.

service area.¹⁸⁰ With total build-out there would be 377 connections but the system maximum is 352 connections.¹⁸¹

Seasonal demand is also a significant issue for the CSA to address. Water demand has increased significantly as tourism and recreation industries in the area have grown, resulting in seasonal peak demand equal to the CSA's ability to provide water.

This issue was noted in the 1985 SOI Report, and a second well was added to the system to alleviate seasonal demands and to eliminate the CSA's dependency on a single water source.

B. CSA No.13 Kono Tayee Growth and Population MSR Determinations

- 1-1) The Kono Tayee population could grow if seasonal residents become full-time residents due to retirement and/or relocation.
- 1-2) CSA No.13 is capable of servicing almost all of the possible growth in the area with a current system capacity of 352 connections vs. a district build-out of 377 connections.

7.2.2 CSA No.13 Kono Tayee Infrastructure

A. CSA No.13 Kono Tayee Infrastructure Background

CSA No.13 provides domestic water service to residents along Kono Tayee Point. Water system infrastructure operated by the CSA includes two wells (the most recent was put into service in 1988), booster pumps to aid in distribution, three storage tanks, and water mains and laterals to distribute water from the storage tanks to individual connection points.

The well pumping capabilities were not disclosed, but the CSA has cited an ability to serve 200,000 gallons per day to its users. The CSA average daily flow is approximately 20 percent of its maximum capacity, although peak demands in this area can reach the system's maximum capacity in peak summer months.

In FY 06/07, the master planning activities occurred for capital improvements to replace an existing water storage tank and pump station. Actual equipment replacement will begin in FY 08/09. The Bid Opening for this project was October

¹⁸⁰ Lake County Special Districts, "Build-Out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p.197.

¹⁸¹ Lake County Special Districts, "Build-Out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p.198.

24, 2008.¹⁸² The 2007-08 Budget includes \$16,500 for replacement of water meters and \$5,000 for well transmitters and a recorder.¹⁸³ The Reserves classifications include \$46,225 for capital improvements and \$239,484 for Pump station/Verna Way Pipeline.¹⁸⁴

B. CSA No.13 Kono Tayee Infrastructure MSR Determinations

- 2-1) There have been no health or quality issues associated with the water supply used by CSA No.13 Kono Tayee but capital improvements are required.

7.2.3 CSA No.13: Kono Tayee Financial Ability

A. CSA No.13 Kono Tayee Financing Background

Annual budgets and financial documents are prepared for CSA No.13 Kono Tayee as part of the overall County budget process. Budgets are based on projected annual revenues derived from property taxes, services and sales, and interest from loans and investments. The CSA had an operating budget for FY 2003-04 of \$136,602, of which \$34,127 was dedicated to reserves. The 2007-08 budget was \$92,800.¹⁸⁵

As a division of the County under the management of the Special Districts Administration (SDA), CSA No.13 maintains no full time staff of its own, but rather dedicates funding to the SDA to provide for management, repair, and operations. The CSA maintains good financial records, and financial reporting requirements appear to be met in a timely fashion. The CSA had an appropriations limit for FY 2003-04 of \$112,308.

Water is not currently metered. However, the system has been about 35% metered with completion expected during FY 08/09.¹⁸⁶ The CSA No.13 has 142 total connections.¹⁸⁷ Service rates for the CSA are \$17.85 per month.

¹⁸²Mark Dellinger, Special Districts Administrator, 230A Main Street, Lakeport, CA 95453, Ph: (707) 263-0119 F: (707) 263-3826, October 22, 2008.

¹⁸³ Lake County Budget 2007-2008, p. 128-129.

¹⁸⁴ Lake County Budget 2007-2008, p. 129.

¹⁸⁵ Lake County Budget 2007-2008, p. 128.

¹⁸⁶Mark Dellinger, Special Districts Administrator, 230A Main Street, Lakeport, CA 95453, Ph: (707) 263-0119 F: (707) 263-3826, October 22, 2008.

¹⁸⁷. Lake County Special Districts Administration, "Current Operations by Utility Area", 8/18/2008.

Rates are raised each January according to the cost-of-living index. Metered water hydrants, as in most all other Lake County communities, carry a separate charge (\$9.00 per month for 1,500 cubic feet of water).

The CSA No.13 remains financially viable through its additional sources of income, specifically property tax revenues and interest from investments. The intent of the property tax is to finance long-term system improvements, while user rates are intended to offset operational costs. According to the "2007-08 Budget Overview", "A rate increase may be necessary in the near future to fund increased operations and maintenance costs."¹⁸⁸

The following nine tables are part of the Foresight Consulting Water and Sewer Rate Study Report Appendix¹⁸⁹ which shows the need for additional funding and higher water rates for all the County Service Areas.

The following table summarizes the budget projections for Kono Tayee CSA along with the net revenue requirements:¹⁹⁰

Table B-W10 Projected Budget and Revenue Requirements - CSA 13 - Kono Tayee Water Lake County Special Districts Administration						
Cost Classification	Budget	Projected Revenue Requirements (a)				
	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
Services & Supplies - Maintenance	\$20,500	\$22,500	\$23,400	\$24,300	\$25,300	\$26,300
Services & Supplies - Professional	\$6,050	\$9,380	\$9,800	\$10,200	\$10,600	\$11,000
Services & Supplies - Special Dist. Admin.	\$13,736	\$9,880	\$10,300	\$10,700	\$11,100	\$11,500
Services & Supplies - Utilities	\$12,000	\$17,000	\$17,700	\$18,400	\$19,100	\$19,900
Services & Supplies - Other Admin.	\$2,090	\$1,382	\$1,400	\$1,500	\$1,600	\$1,700
Other Charges	23,387	31,950	\$33,200	\$34,500	\$35,900	\$37,300
Fixed Assets/CIP Costs (b) - Pay-As-You-Go	5,899	0	0	0	0	0
Fixed Assets/CIP Costs (b) - Debt Funded	0	0	37,245	51,400	51,598	51,749
Contingencies	9,138	13,814	\$4,000	\$4,200	\$4,400	\$4,600
Subtotal: Total Expenditures	\$92,800	\$105,906	\$137,045	\$155,200	\$159,598	\$164,049
Less Other Recurring Revenue	(\$65,722)	(\$61,724)	(\$64,200)	(\$66,800)	(\$69,500)	(\$72,300)
Less Other One-time Revenue	(\$55,000)	\$0	\$0	\$0	\$0	\$0
Total Revenue Requirement	(27,922)	44,182	72,845	88,400	90,098	91,749
Rate Revenue from Current Rates (c)	\$28,000	\$28,500	\$28,500	\$28,500	\$28,500	\$28,500

Source of historical costs: Schedule RR2.273

a. Based on Forms 3-7 from Special Districts Administration, 4-18-08. Projections include an annual increase of 2%.

b. CIP costs through '07-08 are from Special District budgets. Projections are District estimates (fax dated 2-8-08) and reflect CIP expenditures from Tables CIP-1 through CIP-4. Debt funded costs reflect debt service with 5.5% interest rate and 30-year repayment period.

c. As shown in Form 3, from Special Districts Administration, 4-18-08.



http://www.konoctirealty.com/mls/w/search/lots-land/c/2/area/KT/sortby/1/key_/103560/listing.asp

¹⁸⁸ Lake County 2007-008 Budget, p. 128.

¹⁸⁹ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, July 22, 2008.

¹⁹⁰ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 38, July 22, 2008

The following Foresight Consulting table summarizes the financial plan and projected rate increase for CSA No. 13 Kono Tayee.¹⁹¹ The rate increases shown are the percent increase in current rate revenue, not individual rates, which are determined through the cost-of-service rate analysis.

Table WFP-10 Water Utility Financial Plan - CSA 13 - Kono Tayee Water Lake County Special Districts Administration						
	Estimated 2007-08	Projected Rev. Req'ts., Rate Increases and Rate Revenue				
		2008-09	2009-10	2010-11	2011-12	2012-13
Net Revenue Requirements (a)	\$27,922	(\$44,182)	(\$72,845)	(\$88,400)	(\$90,098)	(\$91,749)
Annual % Increase over Previous Year	-167.0%	-258.2%	64.0%	21.4%	1.9%	1.8%
Base Case - Current Rates with No Increases						
Revenue from Current Rates (a)	\$28,000	\$28,500	\$28,500	\$28,500	\$28,500	\$28,500
less Net Revenue Req'ts.	\$27,922	(\$44,182)	(\$72,845)	(\$88,400)	(\$90,098)	(\$91,749)
Year-End Surplus (Deficit)	\$56,922	(\$15,682)	(\$44,345)	(\$59,900)	(\$61,598)	(\$63,249)
Proposed Financial Plan - Water Rate Increases						
Rate Increases		35.0%	35.0%	35.0%	15.0%	10.0%
Revenue from Current Rates (a)	\$28,000	\$28,500	\$28,500	\$28,500	\$28,500	\$28,500
Rate Revenue from Rate Increases		\$9,975	\$9,975	\$9,975	\$9,975	\$9,975
			\$13,466	\$13,466	\$13,466	\$13,466
				\$18,179	\$18,179	\$18,179
					\$10,518	\$10,518
						\$8,064
Revenue from Rate Increases	\$0	\$9,975	\$23,441	\$41,621	\$52,139	\$60,203
Projected Rate Revenue (w/ Rate Increases)	\$28,000	\$38,475	\$51,941	\$70,121	\$80,639	\$88,703
less Net Revenue Req'ts.	\$27,922	(\$44,182)	(\$72,845)	(\$88,400)	(\$90,098)	(\$91,749)
Year-End Surplus (Deficit)	\$56,922	(\$5,707)	(\$20,904)	(\$18,279)	(\$9,459)	(\$3,046)

a. From Table B-W10, Water System Budget Projections and Revenue Requirements. Projections include inflation adjustments.
b. Total revenue to be recovered from rates.

The following Foresight Consulting table is a summary of the project water reserve fund levels for CSA No. 13 Kono Tayee.¹⁹²

Table WFP-10A Summary of Projected Water Reserve Fund Levels - Kono Tayee Lake County Special Districts Administration						
	Estimated 2007-08	Projected Reserve Funds				
		2008-09	2009-10	2010-11	2011-12	2012-13
Water Operations Fund (Cash)						
Beginning Fund Balance (a)	\$0	\$1,252	\$51,624	\$30,720	\$32,441	\$32,981
Water Rate Revenue Surplus (Deficit) (b)	\$0	(\$5,707)	(\$20,904)	(\$18,279)	(\$9,459)	(\$3,046)
Increase for FY'08-09 (Form 7)		\$56,079	\$0	\$0	\$0	\$0
Transfers from CIP Fund (c)	\$0	\$0	\$0	\$20,000	\$10,000	\$0
Year-End Fund Balance	\$0	\$51,624	\$30,720	\$32,441	\$32,981	\$29,935
Water Capital Improvement Fund (CIP)						
Beginning Fund Balance (a)	\$0	\$46,225	\$50,336	\$53,836	\$37,536	\$30,536
Cap Fee Revenue	\$3,000	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
Transfer to Operations Fund (c)	\$0	\$0	\$0	(\$20,000)	(\$10,000)	\$0
Investment Earnings	\$0	\$2,611	\$2,000	\$2,200	\$1,500	\$1,200
Year-End Fund Balance	\$46,225	\$50,336	\$53,836	\$37,536	\$30,536	\$33,236
Combined Water Funds Balance	\$46,225	\$101,960	\$84,556	\$69,977	\$63,517	\$63,171
General Inflation Escalator		4.0%	4.0%	4.0%	4.0%	4.0%
Interest Earnings Rate		4.0%	4.0%	4.0%	4.0%	4.0%
Approx. Coverage Ratio		NA	227.0%	136.1%	123.1%	122.1%

a. 2008-09 year-end balances are from Form 7 "Total Reserves Proposed for FY 08/09".

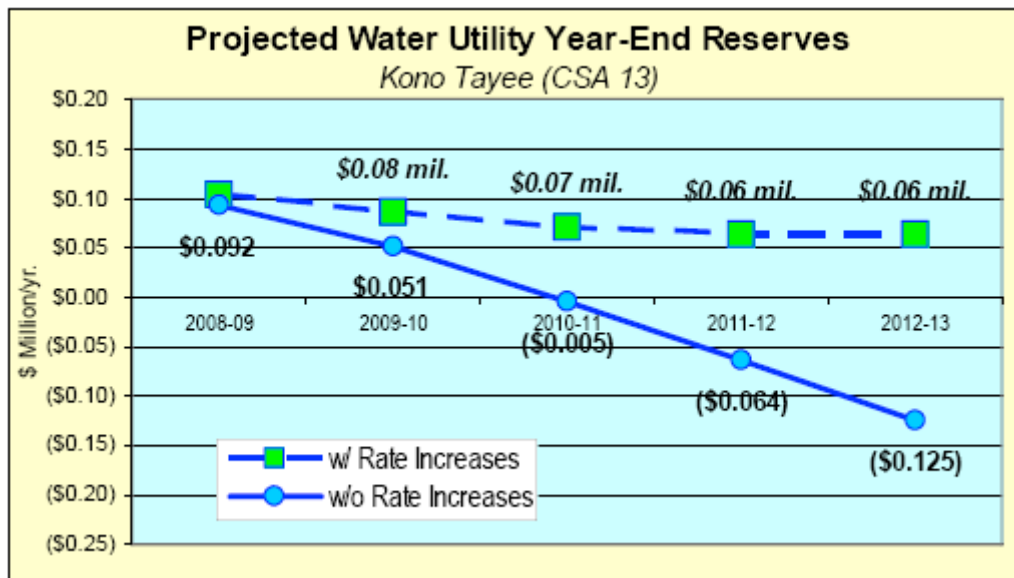
b. These are the "Year-End Surplus (Deficit)" from Table WFP-1.

c. Transfers between Operations Fund and CIP fund as needed.

¹⁹¹ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 38, July 22, 2008

¹⁹² Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 39, July 22, 2008

The following Foresight Consulting figure shows the Year-End Reserves with and without the proposed rate increase for CSA No. 13 Kono Tayee:¹⁹³



The following Foresight Consulting table summarizes the cost allocation process whereby revenue requirements are allocated to functional budget categories:¹⁹⁴

Table COS-W10
Water Fund Cost Allocations - CSA 13 - Kono Tayee Water (FY'08-09)
Lake County Special Districts Administration

Water Operations Fund	2008-09 Budget (a)	Percent Allocations			Allocated Costs			Total
		Customer Costs	Fixed Capacity	Variable Costs	Customer Costs	Fixed Capacity	Variable Costs	
Operating Expenditures								
Services & Supplies - Maintenance	\$22,500	0.0%	25.0%	75.0%	\$0	\$5,625	\$16,875	\$22,500
Services & Supplies - Professional	\$9,380	10.0%	60.0%	30.0%	\$938	\$5,628	\$2,814	\$9,380
Services & Supplies - Special Dist. Admin.	\$9,880	10.0%	50.0%	40.0%	\$988	\$4,940	\$3,952	\$9,880
Services & Supplies - Utilities	\$17,000	0.0%	25.0%	75.0%	\$0	\$4,250	\$12,750	\$17,000
Services & Supplies - Other Admin.	\$1,382	10.0%	15.0%	75.0%	\$138	\$207	\$1,037	\$1,382
Other Charges	\$31,950	10.0%	50.0%	40.0%	\$3,195	\$15,975	\$12,780	\$31,950
Fixed Assets (Pay-as-you-go & debt service)	\$0	0.0%	100.0%	0.0%	\$0	\$0	\$0	\$0
Contingencies	\$13,814	10.0%	50.0%	40.0%	\$1,381	\$6,907	\$5,526	\$13,814
less Other Recurring Revenue	(\$81,724)	6.3%	41.1%	52.6%	(\$3,870)	(\$25,371)	(\$32,482)	(\$61,724)
Net Revenue Requirements	\$44,182	6.3%	41.1%	52.6%	\$2,770	\$18,161	\$23,251	\$44,182
Summary of Allocations								
Total Fixed Costs		47.4%			\$20,931			
Total Variable Costs		52.6%			\$23,251			

a. From Table B-W10, Water System Budget Projections and Revenue Requirements.

¹⁹³ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 39, July 22, 2008

¹⁹⁴ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 40, July 22, 2008

The Foresight Consulting table below summarizes the calculation of fixed rates for CSA No. 13 Kono Tayee.¹⁹⁵

Table FR-W10 New Fixed Mo. Rates - CSA 13 - Kono Tayee Water (FY'08-09) Lake County Special Districts Administration	
Accounts	5/8-3/4" Meters
Total Accounts (a)	134
Extra Units (Additional SFD's) (a)	0
Standby (Excluded from Fixed Rates) (b)	7
Monthly Fixed Rates	
Customer Costs (\$/Acct) (c)	\$1.72
Capacity Costs (\$/Accts & Extra Units) (d)	\$25.75
Total Mo. Base Charge	\$27.48
Annual Revenue from Fixed Mo. Rates	
Customer Costs (Charged only to accounts)	\$2,770
Capacity Costs (Charged to Accts. & Extra Units)	\$41,412
Total	\$44,182
Fixed Costs Allocated to Monthly Fixed Monthly Rates (e)	
Customer Costs	\$2,770
Capacity Costs	\$18,161
Variable Costs (f)	\$23,251
Total Monthly Fixed Costs	\$44,182

Note: Rates are monthly rates, but customers are billed bi-monthly.

a. Accounts and Extra Units are from Special Districts records (Current Operations by Utility Area, 4/17/08).

b. Per County Counsel advice, standby accounts are to remain fixed at \$2.50/mo.

c. This is a "base charge" that excludes standby accounts and additional units.

d. This is a "minimum charge" for all "Extra Units" (additional SFD's).

e. Revenue requirements from the Cost Allocation Table.

f. Variable costs are included since Kono Tayee does not have volume rates.

The following table shows the projected rates for CSA No.13 Kono Tayee through 2012-13 and the monthly bills resulting from the 2008-09 rates compared to the same bills from the 2007-08 rates:¹⁹⁶

Table PR-W10 Summary of Recommended & Projected Rates - CSA 13 - Kono Tayee Water Lake County Special Districts Administration							
Customer Class	Rate	Current	New Fixed Monthly Rates (\$/mo./Acct. but billed Bi-Monthly) (a)				
	Code	Rates	2008-09	2009-10	2010-11	2011-12	2012-13
Base Charge (\$/Account/mo.)	--	--	\$1.50	\$2.03	\$2.73	\$3.14	\$3.46
Residential Accounts	BT	\$17.85	\$22.43	\$30.28	\$40.87	\$47.00	\$51.70
Total		\$17.85	\$23.93	\$32.30	\$43.61	\$50.15	\$55.16
Consumption Level			New Volume Rates (\$/hcf) (c)				
NA (unmetered service)	--	--	--	--	--	--	--
Financial Plan Rate Increases (b)			35.0%	35.0%	35.0%	15.0%	10.0%

a. From Table FR-W10. Note: these rates apply only to accounts (meters), not "extra units", which are only charged volume rates.

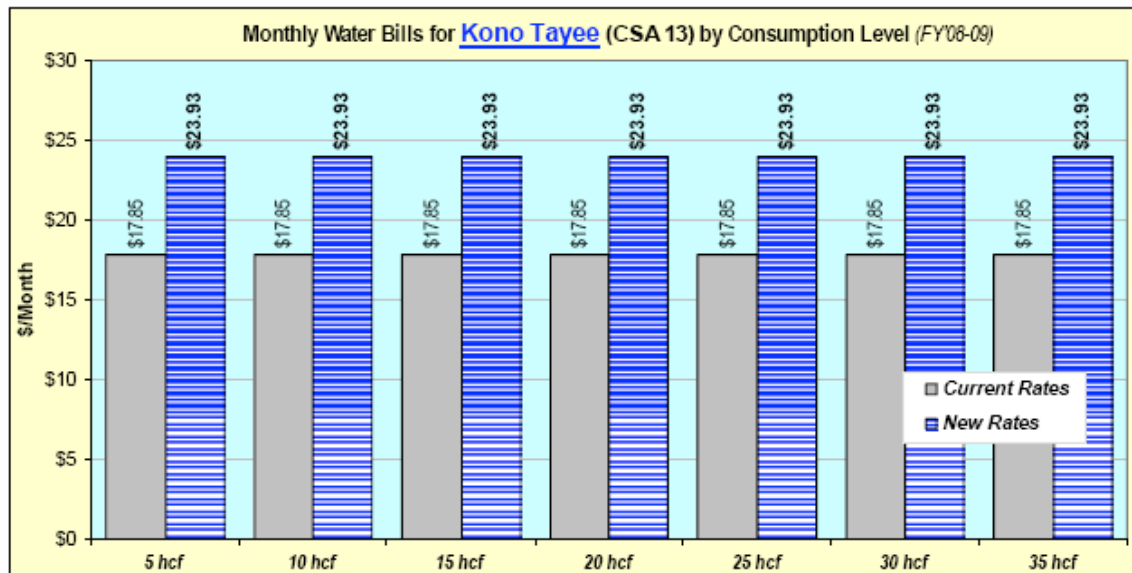
b. This is the % increase from current rate revenue to the revenue from recommended rates, from the Financial plan for the system.

c. In the past, Kono Tayee's water service has been unmetered, so variable rates were not an option. However, all customers will be metered by the end of FY-08-09, at which time volume-based rates will be developed.

¹⁹⁵ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 40, July 22, 2008

¹⁹⁶ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 41, July 22, 2008

The following figure shows the projected rates for CSA No.13 Kono Tayee through 2012-13 and the monthly bills resulting from the 2008-09 rates compared to the same bills from the 2007-08 rates:¹⁹⁷



B. CSA No.13 Kono Tayee Financing MSR Determinations

- 3-1) The budget is funded by property taxes and user fees.
- 3-2) The financial records are in order.
- 3-3) CSA No.13 Kono Tayee is included in the Foresight Consulting recommendation that all the CSA's work to revise service charges and accounting methods to make them as uniform as possible throughout the ten water CSAs in Lake County.
- 3-4) CSA No.13 needs to increase water service rates to pay for capital improvements.

6.2.4 CSA No.13 Kono Tayee Opportunities for Shared Facilities

A. CSA No.13 Kono Tayee Shared Facilities Background

CSA No.13 does not actively participate in facilities or infrastructure sharing arrangements with other districts or government agencies. The CSA is located

¹⁹⁷ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 41, July 22, 2008

near the Paradise Valley CSA and uses the same Lower Lake Groundwater Basin but the water rates for Paradise Valley are substantially higher than the rates for CSA No.13 Kono Tayee. There is a limited supply of groundwater in each area.

The CSA is managed under the elected Lake County Board of Supervisors by the County Special Districts Administration, which oversees the nine active Water County Service Areas in Lake County. Management duties are grouped under this Administration, allowing for the use of staff and management to each agency, as needed. In addition to staff sharing, the arrangement includes sharing office facilities. Also shared are miscellaneous office supplies and administrative resources.

B. CSA No.13 Kono Tayee Shared Facilities MSR Determinations

- 4-1) The Foresight Consulting Study recommends consideration of a County-wide CSA; however, the creation of a County-wide CSA would be growth inducing and have irreversible environmental impacts.
- 4-2) The CSA's are administered by the County's Special Districts Administration.

7.2.5 CSA No.13 Kono Tayee Government Structure and Accountability

A. CSA No.13 Kono Tayee Government Background

The boundaries of the CSA have not changed since the last LAFCO analysis of Spheres of Influence, in 1985. The current CSA boundaries and SOI are geographically distinct. The current government structure of a County Service Area is reasonable for the provision of water service in this area.

CSA No.13 is served by a Special Districts Utility Area (#3) for day to day field operations. The Utility Area is managed by a superintendent and six employees. The Special Districts Administration in Lakeport coordinates customer service accounts, billing, budgeting/financial management, master planning/capital improvement programming, meter reading, regulatory compliance, and overall personnel management for the CSA.

The structure of management for the CSA No.13 Kono Tayee, with day to day field operations conducted by the Utility Area staff and overall administrative functions conducted by the Special Districts Administration in Lakeport, is considered efficient. The system allows for the utilization of available staff for emergency or directed needs, and does not require the dedication of a full-time

staff member during periods in which CSA No.13 operations have fewer staff demands.

Direct control and decision-making lies with the Special Districts Administrator in the Lakeport office, and inquiries regarding CSA operations are able to be addressed promptly

The County of Lake is a unit of the State of California. It is governed by a Board of Supervisors consisting of five supervisors each elected for a four-year term of office. The terms of office are staggered so that two are elected in one general election and three in the next.

The Board usually meets the first, second, third, and fourth Tuesday of each month. The meetings are held in the Board Chambers on the first floor of the Courthouse at 255 North Forbes Street in Lakeport, CA.

Occasionally, for special purposes, the Board will schedule other meetings at different times and/or locations in the County. The Board meetings are open to the public and agendas are published the week prior to the meetings.

The Lake County Board of Supervisors follows all provisions of the Brown Act in conducting business related to CSA activities, and has sufficient mechanisms in place to allow for public inspection and involvement in CSA operations and management.

B. CSA No.13 Kono Tayee MSR Determinations on Government Structure

- 5-1) The CSA is a good form of government for Kono Tayee because the area is relatively small.
- 5-2) CSA No.13 is adequately managed by the Special Districts Administration; however improvements can be made by working to make the accounting procedures uniform for all CSAs.
- 5-3) The Board of Supervisors is accountable because they are elected. However, the Advisory Task force should be appointed by the Board of Supervisors.
- 5-5) The Advisory Task Force should continue to work with the Board of Supervisors and the Special Districts Administration.

8 CSA NO.16 PARADISE VALLEY

8.1 CSA No.16 Paradise Valley Background

CSA No.16 Paradise Valley provides domestic water services to a 181-acre area along Clear Lake approximately one-half mile east of Kono Tayee Point in the same Lower Lake Groundwater Basin. There are 72 active residential connections and no standby connections serving a population of 140.¹⁹⁸

According to the "Build-out Analysis"

This system is currently under and "urgency ordinance" issued by the Board of Supervisors due to capacity problems in the system's production wells. This situation prohibits new connections until the capacity issue is adequately addressed.

In 2005, the Paradise Valley Homeowners Association commissioned the drilling of a new third well to improve production capacity. Special Districts Administration is awaiting the results of completing this new well in Spring 2009¹⁹⁹ and the installation of controls before a recommendation can be made to remove the urgency ordinance.²⁰⁰

Contact information for CSA No.16 Paradise Valley is as follows:

Mark Dellinger, Special Districts Administrator
230A Main Street, Lakeport, CA 95453

Phone: (707) 263-0119

8.2 CSA No. 16 Paradise Valley Municipal Service Review

8.2.1 CSA No. 16 Paradise Valley Growth and Population

A. CSA No. 16 Paradise Valley Growth and Population Background

In 1985, Paradise Valley was a newly developing area and services were extended to less than 25 persons – about 10 to 12 connections. Full build-out was estimated to be 93 connections. Today's population totals 140 persons and 72 connections, up ten connections in five years.

¹⁹⁸ Lake County Special Districts Administration, "Current Operations by Utility Area", 8/18/2008

¹⁹⁹ Lake County Special Districts Administration, Mark Dellinger, October 22, 2008.

²⁰⁰ Lake County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p.226.

This area was developed by an individual who drilled a well and formed a Mutual Water Company. The water system was then transferred to Special Districts Administration. The "Build-out Analysis" shows Paradise Valley with 14 acres of vacant land which could accommodate 19 future dwelling units if water were available.²⁰¹ The number of connections at total build-out would be 93.²⁰² The Foresight Consulting Study shows that 100 connections (maximum) will be needed by 2026.²⁰³

B. CSA No.16 Paradise Valley Growth and Population MSR Determinations

- 1-1) The population within CSA No.16 Paradise Valley cannot substantially increase until the water supply issues are solved.

8.2.2 CSA No.16 Paradise Valley Infrastructure

A. CSA No.16 Paradise Valley Infrastructure Background

CSA No.16 Paradise Valley provides domestic water service to 72²⁰⁴ connections, representing an estimated service population of 140²⁰⁵. The CSA maintains two wells, a storage tank, and water lines for distribution of water supplies to individual connections. The combined wells have a recorded capacity of 22,000 gpd.²⁰⁶

The storage tank for the CSA has a capacity of 105,000 gallons, and two-inch to six-inch diameter mains distribute water from the storage tank to lateral lines serving the connection points. The pumping capacity of the CSA wells (22,000 gpd) is has capacity to meet normal operating demands, and is inadequate to meet peak demands. Although, at that time all remaining reserves in the CSA No. 16 budget were cancelled to support the development of a second well, the well did not improve the water supply significantly.

As a result, a Water Urgency Ordinance was approved by the Board of Supervisors in 2004. The Ordinance placed a water connection moratorium on the CSA No. 16 Paradise Valley system and mandated strict water conservation

²⁰¹ Lake County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p.225.

²⁰² Lake County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p.226.

²⁰³ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 92, July 22, 2008

²⁰⁴ Lake County Special Districts Administration, "Current Operations by Utility Area", 8/18/2008.

²⁰⁵ Lake County Special Districts Administration, "Current Operations by Utility Area", 8/18/2008.

²⁰⁶ Mark Dellinger, Special Districts Administrator, 230A Main Street, Lakeport, CA 95453, Ph: (707) 263-0119 F: (707) 263-3826, January 2008

measures until the supply can be improved. It also required all system connections to have meters installed.

In 2005, The Paradise Cove Property Owner's Association elected to develop a third well that will eventually connect to the water supply system. As of this writing, it is unknown whether this third well will have the ability to provide adequate system supply to allow the urgency ordinance to be lifted.

Seasonal peaks in the area place demand in excess of 30,000 gpd on the water system, which the CSA can not maintain. This leads to potential safety hazards associated with fire protection. Average daily flows during peak demand periods are estimated to be 95 percent of capacity.²⁰⁷

B. CSA No. 16 Paradise Valley Infrastructure MSR Determinations

- 2-1) The CSA No.16 Paradise Valley is deficient in water supply and is under a moratorium for new connections.

8.2.3 CSA No.16 Paradise Valley Financial Ability

A. CSA No.16 Paradise Valley Financing Background

Annual budgets and financial documents are prepared for CSA No. 16 Paradise Valley as part of the overall County budget process. Budgets are based on projected annual revenues derived from property taxes, services and sales, and interest from loans and investments. The CSA had an operating budget for FY 2003-04 of \$90,784, including the use of \$43,498 in reserve funds to address issues related to physical improvements within CSA facilities. The Budget for 2007-08 was \$73,390. Budget items include \$6,150 for maintenance of the water system and \$3,000 for a backwash management system evaluation.²⁰⁸

As a division of the County under the management of the Special Districts Administration (SDA), CSA No.16 maintains no full time staff of its own, but rather dedicates funding to the SDA to provide for management, repair, and operations. The Final Budget includes \$16,900 in General Reserves and \$35,040 in Capacity Expansion Reserves.²⁰⁹ The CSA draws in minimal income from user fees, with an annual average of less than \$25,000. Rising costs related to building maintenance and utilities are expected to worsen this financial issue.

²⁰⁷ Mark Dellinger, Special Districts Administrator, 230A Main Street, Lakeport, CA 95453, Ph: (707) 263-0119 F: (707) 263-3826, January 2008

²⁰⁸ Lake County 2007-2008 Final Budget, p. 150.

²⁰⁹ Mark Dellinger, Special Districts Administrator, 230A Main Street, Lakeport, CA 95453, Ph: (707) 263-0119 F: (707) 263-3826, January 2008

The CSA is exempt from the appropriations limit imposed on most local governments since it is not a taxing entity. Financial statements and budgetary documents for CSA No. 16 were easily obtained and reviewed.

The existing financial structure of the CSA appears inadequate to ensure long-term water service provision in the Paradise Valley area. The CSA does not generate sufficient revenues to offset operational costs, and there are insufficient reserve funds available to address the infrastructure issues known to exist within the system. The system is completely metered as of January 2008.

Water has historically not been metered, with rates for water usage based on even distribution of operating costs. However, the system is now metered and rates will be adjusted to encourage water conservation. Also, the community uses Clear Lake water to irrigate the green belts.²¹⁰

The monthly water rates for CSA No.16 are significantly higher than other CSA's in the area. CSA No.16 has 74 active connections and projected average monthly operational costs of \$3,500 for the current year. The operational cost per connection is expected to be approximately \$55 per month.

Rising utility and maintenance costs are the primary reasons for the increases in operational costs in recent years. The small size of the Paradise Valley CSA, with only 74 connections, has significant disadvantages associated with economies of scale. Set operational costs such as utility bills, administration, communications, and building maintenance are spread across fewer users, resulting in a higher per-customer cost to residents on the system.

Water service within CSA No.16 is a flat rate of \$69.00²¹¹ per month – almost four times that of CSA No.13 Kono Tayee. CSA No.13 is located less than 1.5 miles away. In recent years, the monthly operational costs at CSA No.16 have averaged \$2,150, or the equivalent of \$34.00 per customer, per month. The current fiscal year estimates project an operating cost of \$3,500 per month, or \$54.50 per customer, per month. These costs are significantly higher than in other CSAs in the County, which average around \$20.00 per month. The recent rate increase to \$69.00²¹² per connection has allowed the CSA to build some reserves.

The following nine tables are part of the Foresight Consulting Water and Sewer Rate Study Report Appendix²¹³ which shows the need for additional funding and higher water rates for all the County Service Areas.

²¹⁰ Mark Dellinger, Special Districts Administrator, 230A Main Street, Lakeport, CA 95453, Ph: (707) 263-0119 F: (707) 263-3826, January 2008

²¹¹ Lake County Special Districts, "Special District System Fees 2007"

²¹² Lake County Special Districts, "Special District System Fees 2007".

²¹³ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, July 22, 2008.

The following table by Foresight Consulting shows the projected budget and revenue requirements for CSA No.16 Paradise Valley:²¹⁴

Table B-W7 Projected Budget and Revenue Requirements - CSA 16 - Paradise Valley Water Lake County Special Districts Administration						
Cost Classification	Budget	Projected Revenue Requirements (a)				
	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
Services & Supplies - Maintenance	\$4,000	\$2,500	\$2,600	\$2,700	\$2,800	\$2,900
Services & Supplies - Professional	\$19,010	\$19,280	\$20,100	\$20,900	\$21,700	\$22,600
Services & Supplies - Special Dist. Admin.	\$7,366	\$5,260	\$5,500	\$5,700	\$5,900	\$6,100
Services & Supplies - Utilities	\$20,000	\$19,500	\$20,300	\$21,100	\$21,900	\$22,800
Services & Supplies - Other Admin.	\$1,120	\$736	\$800	\$800	\$800	\$800
Other Charges	5,900	5,200	\$5,400	\$5,600	\$5,800	\$6,000
Fixed Assets/CIP Costs (b) - Pay-As-You-Go	0	0	0	0	0	0
Fixed Assets/CIP Costs (b) - Debt Funded	0	0	17,167	23,691	23,783	23,852
Contingencies	8,512	7,871	8,200	8,500	8,800	9,200
Subtotal: Total Expenditures	\$65,908	\$60,347	\$80,067	\$88,991	\$91,483	\$94,252
Less Other Recurring Revenue	(\$2,905)	(\$2,800)	(\$2,900)	(\$3,000)	(\$3,100)	(\$3,200)
Less Other One-time Revenue	(10,000)	\$0	\$0	\$0	\$0	\$0
Total Revenue Requirement	53,003	57,547	77,167	85,991	88,383	91,052
Rate Revenue from Current Rates (c)	\$56,000	\$57,000	\$57,000	\$57,000	\$57,000	\$57,000

Source of historical costs: Schedule RR2.276

a. Based on Forms 3-7 from Special Districts Administration, 4-18-08. Projections include an annual increase of 2%.

b. CIP costs through '07-08 are from Special District budgets. Projections are District estimates (fax dated 2-8-08) and reflect CIP expenditures from Tables CIP-1 through CIP-4. Debt funded costs reflect debt service with 5.5% interest rate and 30-year repayment period.

c. As shown in Form 3, from Special Districts Administration, 4-18-08.

The following Foresight Consulting table shows the financial plan for CSA No. 16 Paradise Valley.²¹⁵ The rate increases shown are the percent increase in current rate revenue, not individual rates, which are determined through the cost-of-service rate analysis.

Table WFP-7 Water Utility Financial Plan - CSA 16 - Paradise Valley Water Lake County Special Districts Administration						
	Estimated	Projected Rev. Req'ts., Rate Increases and Rate Revenue				
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Net Revenue Requirements (a)	(\$53,003)	(\$57,547)	(\$77,167)	(\$85,991)	(\$88,383)	(\$91,052)
Annual % Increase over Previous Year	32.7%	8.0%	34.1%	11.4%	2.8%	3.0%
Base Case - Current Rates with No Increases						
Revenue from Current Rates (a)	\$56,000	\$57,000	\$57,000	\$57,000	\$57,000	\$57,000
less Net Revenue Req'ts.	(\$53,003)	(\$57,547)	(\$77,167)	(\$85,991)	(\$88,383)	(\$91,052)
Year-End Surplus (Deficit)	\$2,997	(\$547)	(\$20,167)	(\$28,991)	(\$31,383)	(\$34,052)
Proposed Financial Plan - Water Rate Increases						
Rate Increases		8.5%	8.5%	8.5%	8.5%	8.5%
Revenue from Current Rates (a)	\$56,000	\$57,000	\$57,000	\$57,000	\$57,000	\$57,000
Rate Revenue from Rate Increases		\$4,845	\$4,845	\$4,845	\$4,845	\$4,845
		\$5,257	\$5,257	\$5,257	\$5,257	\$5,257
			\$5,704	\$5,704	\$5,704	\$5,704
				\$6,188	\$6,188	\$6,188
					\$6,714	\$6,714
Revenue from Rate Increases	\$0	\$4,845	\$10,102	\$15,805	\$21,994	\$28,708
Projected Rate Revenue (w/ Rate Incr.)(b)	\$56,000	\$61,845	\$67,102	\$72,805	\$78,994	\$85,708
less Net Revenue Req'ts.	(\$53,003)	(\$57,547)	(\$77,167)	(\$85,991)	(\$88,383)	(\$91,052)
Year-End Surplus (Deficit)	\$2,997	\$4,298	(\$10,065)	(\$13,186)	(\$9,389)	(\$5,344)

a. From Table B-W7, Water System Budget Projections and Revenue Requirements. Projections include inflation adjustments.

b. Total revenue to be recovered from rates.

²¹⁴Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 26, July 22, 2008

²¹⁵Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 26, July 22, 2008

The following Foresight Consulting table shows the projected water reserve fund levels for CSA No.16 Paradise Valley.²¹⁶

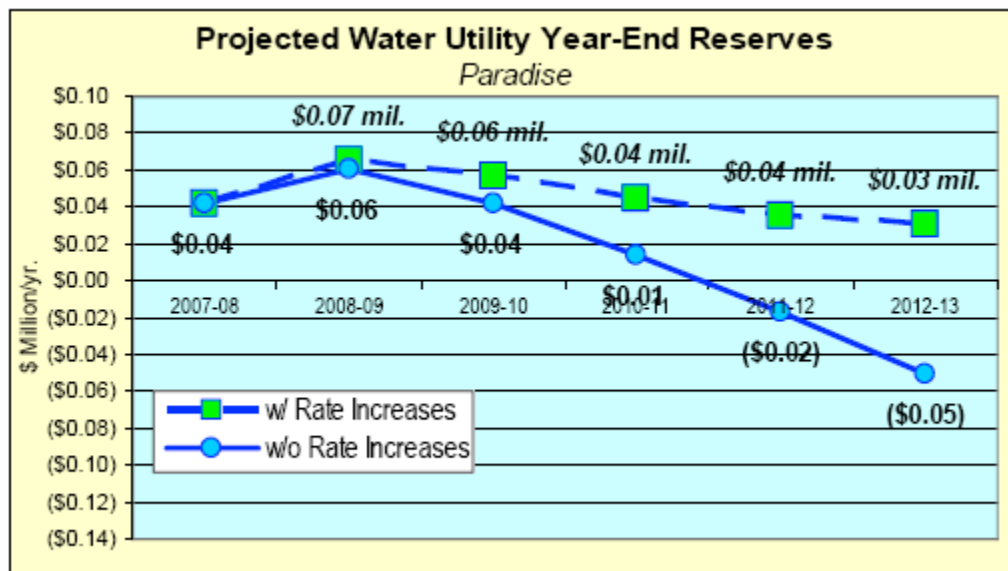
Table WFP-7A Summary of Projected Water Reserve Fund Levels - CSA 16 - Paradise Valley Water Lake County Special Districts Administration						
	Estimated 2007-08	Projected Reserve Funds				
		2008-09	2009-10	2010-11	2011-12	2012-13
Water Operations Fund (Cash)						
Beginning Fund Balance (a)	\$0	\$23,577	\$29,895	\$29,830	\$26,644	\$17,256
Water Rate Revenue Surplus (Deficit) (b)	\$0	\$4,298	(\$10,065)	(\$13,186)	(\$9,389)	(\$5,344)
Increase for FY'08-09 (Form 7)		\$2,020				
Transfers from CIP Fund (c)	\$0	\$0	\$10,000	\$10,000	\$0	\$0
Year-End Fund Balance	\$6,900	\$29,895	\$29,830	\$26,644	\$17,256	\$11,912
Water Capital Improvement Fund (CIP)						
Beginning Fund Balance (a)	\$0	\$35,040	\$35,522	\$26,922	\$18,022	\$18,722
Transfer to Operations Fund (c)	\$0	\$0	(\$10,000)	(\$10,000)	\$0	\$0
Investment Earnings	\$0	\$482	\$1,400	\$1,100	\$700	\$700
Year-End Fund Balance	\$35,040	\$35,522	\$26,922	\$18,022	\$18,722	\$19,422
Combined Water Funds Balance	\$41,940	\$65,417	\$56,752	\$44,666	\$35,978	\$31,334
General Inflation Escalator		4.0%	4.0%	4.0%	4.0%	4.0%
Interest Earnings Rate		4.0%	4.0%	4.0%	4.0%	4.0%
Approx. Coverage Ratio		NA	330.6%	188.5%	151.3%	131.4%

a. 2008-09 year-end balances are from Form 7 "Total Reserves Proposed for FY 08/09".

b. These are the "Year-End Surplus (Deficit)" from Table WFP-1.

c. Transfers between Operations Fund and CIP fund as needed.

The Foresight Consulting figure below shows the projected Year-End Reserves with and without the rate increase for Paradise Valley.²¹⁷



²¹⁶ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 27, July 22, 2008

²¹⁷ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 27, July 22, 2008

The table below by Foresight Consulting summarizes the cost allocation process whereby revenue requirements are allocated to functional categories.²¹⁸

Table COS-W7 Water Fund Cost Allocations - CSA 16 - Paradise Valley Water (FY'08-09) Lake County Special Districts Administration							
Water Operations Fund	2008-09 Budget (a)	Percent Allocations			Allocated Costs		
		Customer Costs	Fixed Capacity	Variable Costs	Customer Costs	Fixed Capacity	Variable Costs
Operating Expenditures							
Services & Supplies - Maintenance	\$2,500	0.0%	60.0%	40.0%	\$0	\$1,500	\$1,000
Services & Supplies - Professional	\$19,280	10.0%	50.0%	40.0%	\$1,928	\$9,640	\$7,712
Services & Supplies - Special Dist. Admin.	\$5,260	10.0%	25.0%	65.0%	\$526	\$1,315	\$3,419
Services & Supplies - Utilities	\$19,500	0.0%	25.0%	75.0%	\$0	\$4,875	\$14,625
Services & Supplies - Other Admin.	\$736	10.0%	25.0%	65.0%	\$74	\$184	\$478
Other Charges	\$5,200	10.0%	50.0%	40.0%	\$520	\$2,600	\$2,080
Fixed Assets (Pay-as-you-go & debt service)	\$0	0.0%	75.0%	25.0%	\$0	\$0	\$0
Contingencies	\$7,871	10.0%	50.0%	40.0%	\$787	\$3,936	\$3,148
less Other Recurring Revenue	(\$2,800)	8.4%	39.9%	53.8%	(\$178)	(\$1,118)	(\$1,506)
Net Revenue Requirements	\$57,547	8.4%	39.9%	53.8%	\$3,657	\$22,934	\$30,956
Summary of Allocations							
Total Fixed Costs		46.2%			\$26,590		
Total Variable Costs		53.8%			\$30,956		

a. From Table B-W7, Water System Budget Projections and Revenue Requirements.

The following table by Foresight Consulting shows the calculation of consumptive water rates for CSA No.16 Paradise Valley.²¹⁹

Table CR-W7 Consumptive Rates and Revenue - CSA 16 - Paradise Valley Water (FY'08-09) Lake County Special Districts Administration						
Volume Rate Class	Billed Water Use (hcf/yr) (a)	2008 Volume Rates		New Rate Differential (%) (b)	Commodity Rates	
		Volume Rate	Differential (%) (b)		Rate (c)	Revenue
Tier 1 (Tier 1 < 15 hcf)	2,015	\$0.00	--	--	\$3.92	\$7,891
Tier 2 (15 hcf > Tier 1)	3,926	\$0.60	--	50.0%	\$5.88	\$23,065
Total	5,940	--	--	--	--	\$30,956

a. Estimated consumption from Special District Billing records.

b. Percent difference between tiers (or the % increase from the lower tier to the next tier rate). The average consumption is 7.1 hcf/SFD/mo.

c. Based on the new rate differential, these rates are calculated in order to meet the Target Rev. Reqts.

d. Total Variable Costs shown in the Cost Allocation Table COS-W7.

²¹⁸ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 28, July 22, 2008

²¹⁹ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 28, July 22, 2008

The following table by Foresight Consulting shows the calculation of fixed rates for CSA No. 16 Paradise Valley.²²⁰

Table FR-W7 New Fixed Mo. Rates - CSA 16 - Paradise Valley (FY'08-09) Lake County Special Districts Administration	
Accounts	5/8-3/4" Meters
Total Accounts (a)	71
Extra Units (Additional SFD's) (a)	0
Standby (Excluded from Fixed Rates) (b)	3
Monthly Fixed Rates	
Customer Costs (\$/Acct) (c)	\$4.29
Capacity Costs (\$/Accts & Extra Units) (d)	<u>\$26.92</u>
Total Mo. Base Charge	\$31.21
Annual Revenue from Fixed Mo. Rates	
Customer Costs (Charged only to accounts)	\$3,657
Capacity Costs (Charged to Accts. & Extra Units)	<u>\$22,934</u>
Total	\$26,590
Fixed Costs Allocated to Monthly Fixed Monthly Rates (e)	
Customer Costs	<u>\$3,657</u>
Capacity Costs	<u>\$22,934</u>
Total Monthly Fixed Costs	<u>\$26,590</u>

Note: Rates are monthly rates, but customers are billed bi-monthly.

a. Accounts and Extra Units are from Special Districts records (Current Operations by Utility Area, 4/17/08).

b. Per County Counsel advice, standby accounts are to remain fixed at \$2.50/mo.

c. This is a "base charge" that excludes standby accounts and additional units.

d. This is a "minimum charge" for all "Extra Units" (additional SFD's).

e. Revenue requirements from the Cost Allocation Table.

The following table by Foresight Consulting shows the projected rates for CSA No.16 Paradise Valley through 2012-13 and the monthly bills which would result from the 2008-09 rates compares to the same bills from 2007-08 rates.²²¹

Table PR-W7 Summary of Recommended & Projected Rates - CSA 16 - Paradise Valley Water Lake County Special Districts Administration							
Customer Class	Rate Code	Current Rates	New Fixed Monthly Rates (\$/mo./Acct. but billed Bi-Monthly) (a)				
			2008-09	2009-10	2010-11	2011-12	2012-13
Base Charge (\$/Account/mo.)	--	--	\$4.61	\$5.00	\$5.43	\$5.89	\$6.39
Residential Accounts	BP	\$69.00	\$28.93	\$31.39	\$34.05	\$36.95	\$40.09
		\$69.00	\$33.54	\$36.39	\$39.48	\$42.84	\$46.48
Standby		\$2.50	\$2.50	\$2.50	\$2.50	\$2.50	\$2.50
Consumption Level			New Volume Rates (\$/hcf) (b)				
Tier 1 (Tier 1 < 15 hcf)		\$0.00	\$4.21	\$4.57	\$4.96	\$5.38	\$5.83
Tier 2 (15 hcf > Tier 2)		\$0.60	\$6.31	\$6.85	\$7.43	\$8.07	\$8.75
Financial Plan Rate Increases			8.5%	8.5%	8.5%	8.5%	8.5%

a. From Table FR-W7. Note: these rates apply only to accounts (meters), not "extra units", which are only charged volume rates.

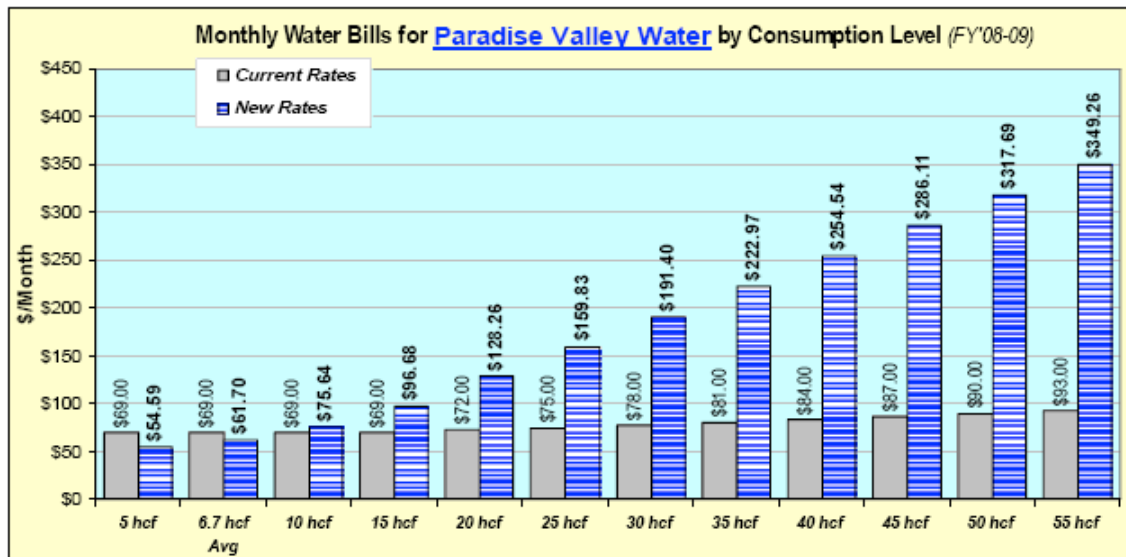
b. From Table CR-W7.

c. This is the % increase from current rate revenue to the revenue from recommended rates, from the Financial plan for the system.

²²⁰ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 28, July 22, 2008

²²¹ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 29, July 22, 2008

The following figure by Foresight Consulting shows the projected rates for CSA No.16 Paradise Valley through 2012-13 and the monthly bills which would result from the 2008-09 rates compares to the same bills from 2007-08 rates.²²²



B. CSA No.16 Paradise Valley Financing MSR Determinations

- 3-1) Its water supply problems are a reflection of the relatively poor financial position of the CSA.
- 3-2) Water service rates need to be increased in the future to pay for needed capital improvements.
- 3-3) The rates for water service are very high compared to the other County Service Areas so the new rates recommended by the Foresight Consulting, "Water and Sewer Rate Study Report", would not increase as much for low water use accounts.

8.2.4 CSA No.16 Paradise Valley Opportunities for Shared Facilities

A. CSA No.16 Paradise Valley Shared Facilities Background

CSA No.16 does not actively participate in facilities or infrastructure sharing arrangements with other districts or government agencies.

²²² Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 29, July 22, 2008

The CSA is managed under the elected Lake County Board of Supervisors by the County Special Districts Administration, which oversees all of the water County Service Areas in Lake County. Management duties are grouped under this Administration, allowing for the use of staff and management to each agency or district, as needed. In addition to staff sharing, the arrangement uses sharing office facilities. Also shared are miscellaneous office supplies and administrative resources.

The boundaries of the CSA have not changed since the last LAFCO analysis of Spheres of Influence, in 1985. The current provision of water service by CSA No.16 Paradise Valley is inefficient and costly to its residents. The small number of connections maintained by the CSA is insufficient to defer set costs associated with operation, and results in higher water rates than in surrounding areas.

The CSA has been able to develop reserves sufficient to make necessary improvements and upgrades to the water system. The CSA plans to use metered water rates to provide an incentive for water conservation in the future.

The provision of water service can be done in a variety of ways, including through municipal service provision, through a private water company, or through a special district. Given the geographic isolation of the Paradise Cove area and the inability to add significant new customers to the system (due to lack of water availability) government restructuring alternatives could be difficult. However, the Foresight Consulting Study recommends consideration of a County-wide CSA.

A proposal by some members of the area Homeowners Association in 2005 to take over operations of the CSA was voted down by LAFCO at the request of a significant majority of the rate payers.

B. CSA No.16 Paradise Valley Shared Facilities MSR Determinations

- 4-1) The CSA may have few opportunities to share resources.
- 4-2) The CSA is the most suitable form of government for this water service; however the SDA needs to work toward uniform accounting practices.

8.2.5 Government Structure and Accountability

A. CSA No.16 Paradise Valley Governance Background

The County of Lake is a unit of the State of California. It is governed by a Board of Supervisors consisting of five supervisors each elected for a four-year term of office. The terms of office are staggered so that two are elected in one general election and three in the next.

The Board usually meets the first, second, third, and fourth Tuesday of each month. The meetings are held in the Board Chambers on the first floor of the Courthouse at 255 North Forbes Street in Lakeport, CA.

Occasionally, for special purposes, the Board will schedule other meetings at different times and/or locations in the County. The Board meetings are open to the public and agendas are published the week prior to the meetings. The Lake County Board of Supervisors follows all provisions of the Brown Act in conducting business related to CSA activities, and has sufficient mechanisms in place to allow for public inspection and involvement in CSA operations and management.

CSA No.16 was formed in 1983, and is managed by the Lake County Special Districts Administration. CSA No.16 is served by a Special Districts Utility Area for day to day field operations. The Utility Area is managed by a superintendent and several employees.

The Special Districts Administration in Lakeport coordinates customer service accounts, billing, budgeting/financial management, master planning/capital improvement programming, meter reading, regulatory compliance, and overall personnel management for the CSA.

The structure of management for the CSA No16, with day to day field operations conducted by the Utility Area staff and overall administrative functions conducted by the Special Districts Administration in Lakeport, is considered efficient. The system allows for the use of available staff for emergency or directed needs, and does not require the dedication of a full-time staff member during periods in which CSA No.16 operations have fewer staff demands.

Direct control and decision-making lies with the Special Districts Administration in Lakeport and inquiries regarding CSA operations are able to be addressed promptly.

B. CSA No.16 Paradise Valley Governance MSR Determinations

- 5-1) The management of the CSA No.16 Paradise Valley is efficient but could be improved following the recommendations of the Foresight Consulting Study.
- 5-2) The Board of Supervisors is accountable because they are elected but it is recommended by the Foresight Consulting Study that a County-wide view and approach when dealing with the water CSAs be taken.
- 5-3) There is an Advisory Task Force appointed by Special Districts Administration to assist in considering the problems that this water service faces. This task force should be appointed by the Board of Supervisors.

9 CSA No.18 STARVIEW (COBB)

9.1 CSA No.18 Starview (Cobb) Background

County Service Area No.18 Starview is comprised of approximately 123 acres, located two miles east of Whispering Pines and three miles east of State Highway 175. The CSA was formed to replace a publicly-owned mutual water company and uses water from the Clear Lake Volcanics Groundwater Source Area where water supplies are quite variable.

There are approximately 277²²³ parcels within the CSA. CSA No. 18 Starview served 141 active residential connections, and 6 standby connections for 147 (compared with 138 as stated in the Build-out Analysis prepared by Lake County Special Districts in 2006) 2008 total connections with a population of 379.²²⁴ Foresight Consulting also reported 147 connections in 2008.²²⁵

Contact information for CSA No.18 Starview is as follows:

Mark Dellinger, Special Districts Administrator
230A Main Street, Lakeport, CA 95453

Phone; (707) 263-0119

9.2 CSA No.18 Starview (Cobb) Municipal Service Review

9.2.1 CSA No.18 Starview (Cobb) Growth and Population

A. CSA No.18 Starview (Cobb) Growth and Population Background

In 1985, a Sphere of Influence report by LAFCO stated that 110 homes were being served by the CSA, with a total population of 270 persons. Area population is reported by the CSA to be 371²²⁶ persons and 142 connections²²⁷. Only eight new connections have been added to the system in the last five years.

The CSA has a projected build-out population of 660 persons, if all 277²²⁸ lots within the CSA were to develop with projected land uses. However, the total build-out of 277 connections (adding 134 connections and 360 people) exceeds the system capacity of 209 connections.²²⁹ The CSA appears to be nearing its

²²³ Lake County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p126.

²²⁴ Lake County Special Districts Administration, "Current Operations by Utility Area", 8/18/2008.

²²⁵ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 92, July 22, 2008

²²⁶ Lake County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p126.

²²⁷ Lake County Special Districts, "Special District System Fees 2007".

²²⁸ Lake County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p126.

²²⁹ Lake County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p126.

capacity of 209 connections²³⁰ with regard to peak demand, and will not be able to support a build-out population without the acquisition of additional water supplies. Foresight Consulting estimates that 190 total connections will be needed by 2026.²³¹

B. CSA No.18 Starview (Cobb) Growth and Population MSR Determinations

- 1-1) There are unserved vacant parcels in the CSA No.18 Starview (Cobb) so there will be a demand for additional connections in the future.

9.2.2 CSA No.18 Starview (Cobb) Infrastructure

A. CSA No. 18 Starview (Cobb) Infrastructure Background

CSA No.18 provides domestic water service to an estimated 387²³² persons on 146²³³ connections. The CSA maintains two wells (one active and one inactive) to draw water from underground aquifers, which pump water to a 100,000 gallon storage tank. A system of one-inch to eight-inch diameter mains distributes water to lateral lines, which provide water to individual connections.

Special Districts Administration is pursuing a Department of Public Health funding program²³⁴ to make improvements in the water system. If obtained, the funding would be used to develop an additional well, replace distribution piping, and to add larger fire hydrants. The SDA had a Preliminary Engineering Report prepared by Brelje & Race, Consulting Engineers for the Starview CSA. This Report states that "The areas of deficiency include insufficient water storage capacity, a high rate of water loss from the system, water mains relatively inaccessible for repairs, and water mains undersized for domestic use and fire protection."²³⁵

Peak demand for the Starview System in the last five years has reached an estimated 122,000 gpd, or approximately 89 percent of the system capacity of 137,089 gpd. Average daily flow is at approximately 36 percent of capacity. The County 2002 Consumer Confidence Report showed high levels of iron impacting color and taste of the water supply.

²³⁰ Lake County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p125-126.

²³¹ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 92, July 22, 2008

²³² Lake County Special Districts Administration, "Current Operations by Utility Area", 10/18/2007

²³³ Lake County Special Districts Administration, "Current Operations by Utility Area", 10/18/2007

²³⁴ Lake County Budget 2007-2008, p130.

²³⁵ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report, Starview Water System, CSA #18" December 2006. page1.

Additional information regarding the infrastructure of the Starview Water System is included below.

1. Starview Water Supply

The Brelje & Race, Consulting Engineers Report for Starview states the following:

Two wells supply water to the Starview water system. The wells, No.2 and No.3 were originally drilled in 1978 and 1993, respectively.... Well No.3, which produces approximately 98 gpm is the primary source for the system....Well No.2 is not viewed as a viable water source, for several reasons, primarily that it lacks the required 50-foot sanitary seal.²³⁶

The Report recommends that Well No.2 be connected to electrical power and be used only as a stand-by water source.²³⁷

2. Starview Water Treatment

Starview's treated water meets primary drinking water standards. The treated water does not meet the secondary drinking water standard for iron.²³⁸ The Brelje & Race, Consulting Engineers Report for Starview recommends "that quarterly monitoring for iron be initiated immediately. If quarterly monitoring results in non-compliance, treatment options should be identified and analyzed and a water treatment option selected and implemented."²³⁹

3. Starview Water Storage

The Brelje & Race, Consulting Engineers Report for Starview states that "The storage required for this system is 172,000 gallons. The existing storage tank provides approximately 87,000 gallons of storage. Thus, the system has a storage deficit of approximately 85,000 gallons."²⁴⁰

²³⁶ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report, Starview Water System, CSA #18" December 2006. page 2.

²³⁷ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report, Starview Water System, CSA #18" December 2006. page 6.

²³⁸ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report, Starview Water System, CSA #18" December 2006. page 6.

²³⁹ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report, Starview Water System, CSA #18" December 2006. page 7.

²⁴⁰ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report, Starview Water System, CSA #18" December 2006. page 7.

The Report recommends that

A new storage tank capable of storing 85,000 gallons should be constructed in compliance with current construction and seismic standards. It is recommended that a standard-sized bolted steel tank on a concrete foundation be utilized. The standard-sized tank that would satisfy the criteria would be close to the same size as the existing tank, and have a nominal capacity of 100,000 gallons. It is further recommended that maintenance be performed on the existing tank as recommended in the 2006 inspection report²⁴¹

4. Starview Water Distribution

The Brelje & Race Consulting Civil Engineers Report for Starview describes the water distribution system as follows:

The water main diameters range from 1.5-inch to 8-inch. Approximately 400 feet of 8-inch PVC pipe connects the tank to the distribution mains. In general, the mains in the southern part of the system (newer part) are constructed of 4-inch ACP (asbestos cement pipe), while mains in the northern part of the system (older part) are constructed of 3-inch and smaller PVC or galvanized iron pipe.

The water mains are constructed variously in roadways, cross country and through backyards. The southern part of the system generally is within roadways, while approximately 50% of the piping in the northern part of the system is in backyards....From 2001 through 2006 the yearly water loss for the system averaged 35% of production. For comparison, a loss between 5% and 15% is acceptable.²⁴²

Deficiencies of the existing Starview water distribution system are summarized by Brelje & Race Consulting Civil Engineers as follows:

- 1) Mains undersized for projected domestic flows.
- 2) Excessive number of leaks in mains
- 3) Mains in areas difficult to access for meter reading and repairs (backyards)
- 4) Mains undersized for fire protection flows
- 5) Insufficient number of fire hydrants²⁴³

²⁴¹ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report, Starview Water System, CSA #18" December 2006. page 8.

²⁴² Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report, Starview Water System, CSA #18" December 2006. page 4.

²⁴³ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report, Starview Water System, CSA #18" December 2006. pages 8-9.

B. CSA No. 18 Starview (Cobb) Infrastructure MSR Determinations

- 2-1) The SDA is working to improve the infrastructure for CSA No.18 Starview but rate increases to pay for these capital improvements will be necessary.

9.2.3 CSA No.18 Starview (Cobb) Financing

A. CSA No. 18 Starview (Cobb) Financing Constraints and Opportunities Background

Annual budgets and financial documents are prepared for CSA No.18 as part of the overall County budget process. Budgets are based on projected annual revenues derived from property taxes, services and sales, and interest from loans and investments.

The CSA had an operating budget for FY 2003-04 of \$90,851, including the dedication of \$10,615 to its reserve fund. The 2007-08 Budget was \$90,605.²⁴⁴ There is \$42,177 in General Reserves and \$34,897 in Capital Improvement Program Reserves.²⁴⁵

According to the Budget Overview:

The main goal is to provide drinking water that complies with regulations in the most cost-effective manner possible. The Special Districts Administration has applied to the State Department of Health Services for funding (80% grant, 20% loan) to implement necessary system wide improvements.

To qualify for this funding, the CSA must support a water rate increase and the required capital improvement program and loan repayment. Special Districts Administration Department has initiated the process required to implement the proposed system improvements and fee increases.²⁴⁶

As a division of the County under the management of the Special Districts Administration (SDA), CSA No.18 maintains no full time staff of its own, but rather dedicates funding to the SDA to provide for management, repair, and operations. The CSA maintains good financial records, and financial reporting

²⁴⁴ Lake County Final Budget 2007-2008, p151.

²⁴⁵ Lake County Final Budget 2007-2008, p.C-7, C-10.

²⁴⁶ Lake County Budget 2007-2008, p130.

requirements appear to be met in a timely fashion. The CSA is exempt from the appropriations limit imposed on most local governments. Financial statements and budgetary documents for CSA No.18 were easily obtained and reviewed. Water is metered, with rates for water usage based on actual usage. Basic water rates are \$20.00 per month, which includes up to 750 cubic feet of water. Additional water usage is charged at a rate of \$1.00 per 100 cubic feet.²⁴⁷

The monthly water rates for CSA No.18 are commensurate with those of other CSAs in the area. CSA No.18 has 138 active connections and projected average monthly operational costs of \$5,500 for the 2007-08 year. The operational cost per connection is expected to be approximately \$41 per month, which is higher than most CSAs in Lake County.

Rising insurance, utility and maintenance costs are the primary reasons for the increases in operational costs in the 2007-08 fiscal year. The small size of the CSA, with only 142 connections²⁴⁸, has disadvantages associated with economies of scale.

Set operational costs such as utility bills, administration, communications, and building maintenance are spread across fewer users, resulting in a higher per-customer cost to residents on the system. The CSA also charges rates for miscellaneous services, such as standby fees, hydrant costs, and shut-off charges.

The following nine tables and figures by Foresight Consulting show the need for increased rates to pay for capital improvements.

²⁴⁷ Lake County Special Districts, "Special District System Fees 2007."

²⁴⁸ Lake County Special Districts, "Special District System Fees 2007."

The following table by Foresight Consulting shows the projected budget and revenue requirements for CSA No.18 Starview:²⁴⁹

Table B-W9 Projected Budget and Revenue Requirements - CSA 18 - Starview Water Lake County Special Districts Administration						
Cost Classification	Budget 2007-2008	Projected Revenue Requirements (a)				
		2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
Services & Supplies - Maintenance	\$13,000	\$10,750	\$11,200	\$11,800	\$12,100	\$12,600
Services & Supplies - Professional	\$15,626	\$23,680	\$24,600	\$25,600	\$26,600	\$27,700
Services & Supplies - Special Dist. Admin.	\$14,134	\$10,378	\$10,800	\$11,200	\$11,600	\$12,100
Services & Supplies - Utilities	\$3,800	\$6,000	\$6,200	\$6,400	\$6,700	\$7,000
Services & Supplies - Other Admin.	\$2,150	\$1,452	\$1,500	\$1,600	\$1,700	\$1,800
SRF Loan Repayment	7,498	7,723	8,000	8,000	8,000	8,000
Fixed Assets/CIP Costs (b) - Pay-As-You-Go	7,925	0	0	0	0	0
Fixed Assets/CIP Costs (b) - Debt Funded	0	0	17,278	23,845	23,937	24,007
Contingencies or Misc.	23,970	15,497	16,100	16,700	17,400	18,100
Subtotal: Total Expenditures	\$88,103	\$75,479	\$95,678	\$104,945	\$108,037	\$111,307
Less Other Recurring Revenue	(\$10,181)	(\$8,600)	(\$8,900)	(\$9,300)	(\$9,700)	(\$10,100)
Less Other One-time Revenue	0	0	0	0	0	0
Total Revenue Requirement	77,922	66,879	86,778	95,645	98,337	101,207
Rate Revenue from Current Rates (c)	\$43,900	\$44,900	\$44,900	\$44,900	\$44,900	\$44,900

Source of historical costs: Schedule RR2.278; highlighted projections are from the Five Year Budget Projection, fax dated 1-7-08.

a. Based on Forms 3-7 from Special Districts Administration, 4-18-08. Projections include an annual increase of 2%.

b. CIP costs through '07-08 are from Special District budgets. Projections are District estimates (fax dated 2-8-08) and reflect CIP expenditures from Tables CIP-1 through CIP-4. Debt funded costs reflect debt service with 5.5% interest rate and 30-year repayment period.

c. As shown in Form 3, from Special Districts Administration, 4-18-08.

The following Foresight Consulting table shows the financial plan for CSA No.18 Starview. The rate increases shown are the percent increase in current rate revenue, not individual rates, which are determined through the cost-of-service rate analysis.²⁵⁰

Table WFP-9 Water Utility Financial Plan - CSA 18 - Starview Water Lake County Special Districts Administration						
	Estimated 2007-08	Projected Rev. Req'ts., Rate Increases and Rate Revenue				
		2008-09	2009-10	2010-11	2011-12	2012-13
Net Revenue Requirements (a)	(\$77,922)	(\$66,879)	(\$86,778)	(\$95,645)	(\$98,337)	(\$101,207)
Annual % Increase over Previous Year	132.1%	-14.2%	29.8%	10.2%	2.8%	2.0%
Base Case - Current Rates with No Increases						
Revenue from Current Rates (a)	\$43,900	\$44,900	\$44,900	\$44,900	\$44,900	\$44,900
Less Net Revenue Req'ts.	(\$77,922)	(\$66,879)	(\$86,778)	(\$95,645)	(\$98,337)	(\$101,207)
Year-End Surplus (Deficit)	(\$34,022)	(\$21,979)	(\$41,878)	(\$50,745)	(\$53,437)	(\$56,307)
Proposed Financial Plan - Water Rate Increases						
Rate Increases		18.0%	18.0%	16.0%	16.0%	16.0%
Revenue from Current Rates (a)	\$43,900	\$44,900	\$44,900	\$44,900	\$44,900	\$44,900
Rate Revenue from Rate Increases		\$8,082	\$8,082	\$8,082	\$8,082	\$8,082
		\$9,537	\$9,537	\$9,537	\$9,537	\$9,537
			\$10,003	\$10,003	\$10,003	\$10,003
				\$11,803	\$11,803	\$11,803
						\$13,460
Revenue from Rate Increases	\$0	\$8,082	\$17,619	\$27,622	\$39,225	\$52,695
Projected Rate Revenue (w/ Rate Incr.) (b)	\$43,900	\$52,982	\$62,519	\$72,522	\$84,125	\$97,585
Less Net Revenue Req'ts.	(\$77,922)	(\$66,879)	(\$86,778)	(\$95,645)	(\$98,337)	(\$101,207)
Year-End Surplus (Deficit)	(\$34,022)	(\$13,897)	(\$24,259)	(\$23,123)	(\$14,211)	(\$3,621)

a. From Table B-W9, Water System Budget Projections and Revenue Requirements. Projections include inflation adjustments.

b. Total revenue to be recovered from rates.

²⁴⁹Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 34, July 22, 2008

²⁵⁰ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 34, July 22, 2008

The following Foresight Consulting table shows a summary of projected water reserve fund levels for CSA No.18 Starview:²⁵¹

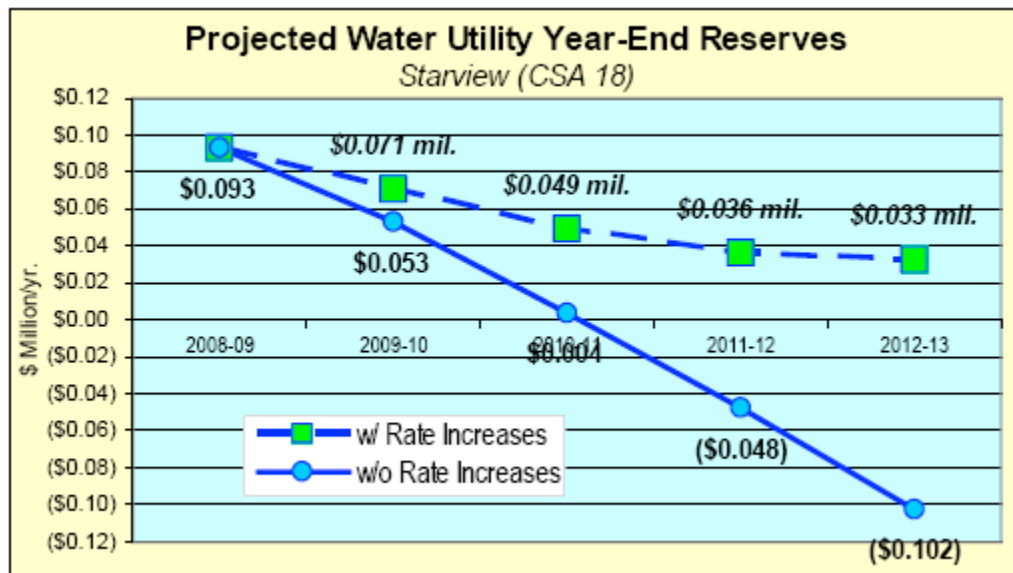
Table WFP-9A Summary of Projected Water Reserve Fund Levels - CSA 18 - Starview Water Lake County Special Districts Administration						
	Estimated 2007-08	Projected Reserve Funds				
		2008-09	2009-10	2010-11	2011-12	2012-13
Water Operations Fund (Cash)						
Beginning Fund Balance (a)	\$0	\$56,074	\$53,566	\$29,307	\$26,184	\$21,972
Water Rate Revenue Surplus (Deficit) (b)	\$0	(\$13,897)	(\$24,259)	(\$23,123)	(\$14,211)	(\$3,621)
Increase for FY08-09 (Form 7)		\$11,369	\$0	\$0	\$0	\$0
Transfers from CIP Fund (c)	\$0	\$0	\$0	\$20,000	\$10,000	\$0
Year-End Fund Balance	\$0	\$53,566	\$29,307	\$26,184	\$21,972	\$18,351
Water Capital Improvement Fund (CIP)						
Beginning Fund Balance (a)	\$0	\$34,897	\$39,822	\$41,422	\$23,122	\$14,022
Transfer to Operations Fund (c)	\$0	\$0	\$0	(\$20,000)	(\$10,000)	\$0
Investment Earnings	\$0	\$4,925	\$1,600	\$1,700	\$900	\$600
Year-End Fund Balance	\$0	\$39,822	\$41,422	\$23,122	\$14,022	\$14,622
Combined Water Funds Balance	\$0	\$93,388	\$70,729	\$49,306	\$35,994	\$32,973
General Inflation Escalator		4.0%	4.0%	4.0%	4.0%	4.0%
Interest Earnings Rate		4.0%	4.0%	4.0%	4.0%	4.0%
Approx. Coverage Ratio		NA	409.4%	206.5%	160.4%	137.3%

a. 2008-09 year-end balances are from Form 7 "Total Reserves Proposed for FY 08/09".

b. These are the "Year-End Surplus (Deficit)" from Table WFP-1.

c. Transfers between Operations Fund and CIP fund as needed.

The following Foresight Consulting table shows the total year-end fund balance for the Starview CSA with and without the rate increase.²⁵²



²⁵¹ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 35, July 22, 2008

²⁵² Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 35, July 22, 2008

The following Foresight Consulting table shows the cost allocation process whereby revenue requirements are allocated to functional budget categories for the CSA No.18 Starview:²⁵³

Table COS-W9 Water Fund Cost Allocations - CSA 18 - Starview Water (FY'08-09) Lake County Special Districts Administration							
Water Operations Fund	2008-09 Budget (a)	Percent Allocations			Allocated Costs		
		Customer Costs	Fixed Capacity	Variable Costs	Customer Costs	Fixed Capacity	Variable Costs
Operating Expenditures							
Services & Supplies - Maintenance	\$10,750	0.0%	50.0%	50.0%	\$0	\$5,375	\$5,375
Services & Supplies - Professional	\$23,680	10.0%	60.0%	30.0%	\$2,368	\$14,208	\$7,104
Services & Supplies - Special Dist. Admin.	\$10,378	10.0%	50.0%	40.0%	\$1,038	\$5,189	\$4,151
Services & Supplies - Utilities	\$6,000	0.0%	25.0%	75.0%	\$0	\$1,500	\$4,500
Services & Supplies - Other Admin.	\$1,452	10.0%	60.0%	30.0%	\$145	\$871	\$436
Other Charges	\$7,723	10.0%	60.0%	30.0%	\$772	\$4,634	\$2,317
Fixed Assets (Pay-as-you-go & debt service)	\$0	0.0%	100.0%	0.0%	\$0	\$0	\$0
Contingencies	\$15,497	10.0%	60.0%	30.0%	\$1,550	\$9,298	\$4,649
less Other Recurring Revenue	(\$8,600)	7.8%	54.4%	37.8%	(\$869)	(\$4,680)	(\$3,251)
Net Revenue Requirements	\$66,879	7.8%	54.4%	37.8%	\$5,204	\$36,395	\$25,281
Summary of Allocations							
Total Fixed Costs		62.2%			\$41,598		
Total Variable Costs		37.8%			\$25,281		

a. From Table B-W9, Water System Budget Projections and Revenue Requirements.

The following Foresight Consulting table shows how the consumptive water rates are determined for CSA No.18 Starview:²⁵⁴

Table CR-W9 Consumptive Rates and Revenue <i>Including Price Elasticity Adjustments</i> - CSA 18 Starview Water (FY'08-09) Lake County Special Districts Administration						
Volume Rate Class	Billed Water Use (hcf/yr) (a)	2008 Volume Rates		New Rate	Commodity Rates	
		Volume Rate	Differential (%) (b)	Differential (%) (b)	Rate (c)	Revenue
Tier 1 (Tier 1 < 7.5 hcf)	9,007	\$0.00	--	--	\$1.27	\$11,439
Tier 2 (Tier 2 > 7.5 hcf)	<u>5,450</u>	<u>\$1.00</u>	--	<u>100%</u>	<u>\$2.54</u>	<u>\$13,842</u>
Total	14,457	--	--	--	--	\$25,281
						\$25,281

a. Estimated consumption from Special District Billing records.

b. Percent difference between tiers (or the % increase from the lower tier to the next tier rate). The average consumption is 5.1 hcf/SFD/mo.

c. Based on the new rate differential, these rates are calculated in order to meet the Target Rev. Reqts.

d. Total Variable Costs shown in the Cost Allocation Table COS-W9.

²⁵³ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 36, July 22, 2008

²⁵⁴ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 36, July 22, 2008

The following Foresight Consulting table shows the new fixed monthly rates for CSA No.18 Starview:²⁵⁵

Table FR-W9 New Fixed Mo. Rates - CSA 18 - Starview Water (FY'08-09) Lake County Special Districts Administration	
Accounts	5/8-3/4" Meters
Total Accounts (a)	140
Extra Units (Additional SFD's) (a)	0
Standby (Excluded from Fixed Rates) (b)	7
Monthly Fixed Rates	
Customer Costs (\$/Acct) (c)	\$3.10
Capacity Costs (\$/Accts & Extra Units) (d)	<u>\$21.66</u>
Total Mo. Base Charge	\$24.76
Annual Revenue from Fixed Mo. Rates	
Customer Costs (Charged only to accounts)	\$5,204
Capacity Costs (Charged to Accts. & Extra Units)	<u>\$36,395</u>
Total	\$41,598
Fixed Costs Allocated to Monthly Fixed Monthly Rates (e)	
Customer Costs	<u>\$5,204</u>
Capacity Costs	<u>\$36,395</u>
Total Monthly Fixed Costs	<u>\$41,598</u>

Note: Rates are monthly rates, but customers are billed bi-monthly.

a. Accounts and Extra Units are from Special Districts records (Current Operations by Utility Area, 4/17/08).

b. Per County Counsel advice, standby accounts are to remain fixed at \$2.50/mo.

c. This is a "base charge" that excludes standby accounts and additional units.

d. This is a "minimum charge" for all "Extra Units" (additional SFD's).

e. Revenue requirements from the Cost Allocation Table.

The following Foresight Consulting table shows the projected water service rates through 2012-2012 and the monthly bills resulting from the 2008-09 rates for CSA No.18 Starview:²⁵⁶

Table PR-W9 Summary of Recommended & Projected Rates - CSA 18 - Starview Water Lake County Special Districts Administration							
Customer Class	Rate	Current	New Fixed Monthly Rates (\$/mo./Acct. but billed Bi-Monthly) (a)				
	Code	Rates	2008-09	2009-10	2010-11	2011-12	2012-13
Base Charge (\$/Account/mo.)	--	--	\$2.45	\$2.90	\$3.36	\$3.90	\$4.52
Residential Accounts	BT	\$20.00	\$17.16	\$20.25	\$23.49	\$27.25	\$31.61
Consumption Level			New Volume Rates (\$/hcf) (b)				
Tier 1 (Tier 1 < 7.5 hcf)		\$0.00	\$1.01	\$1.19	\$1.38	\$1.60	\$1.85
Tier 2 (Tier 2 > 7.5 hcf)		\$1.00	\$2.01	\$2.37	\$2.75	\$3.19	\$3.71
Financial Plan Rate Increases			18.0%	18.0%	16.0%	16.0%	16.0%

a. From Table FR-W9. Note: these rates apply only to accounts (meters), not "extra units", which are only charged volume rates.

b. From Table CR-W9. Note: The Tier breakpoints have changed. Tier 1 now includes all consumption less than 7.5 hcf.

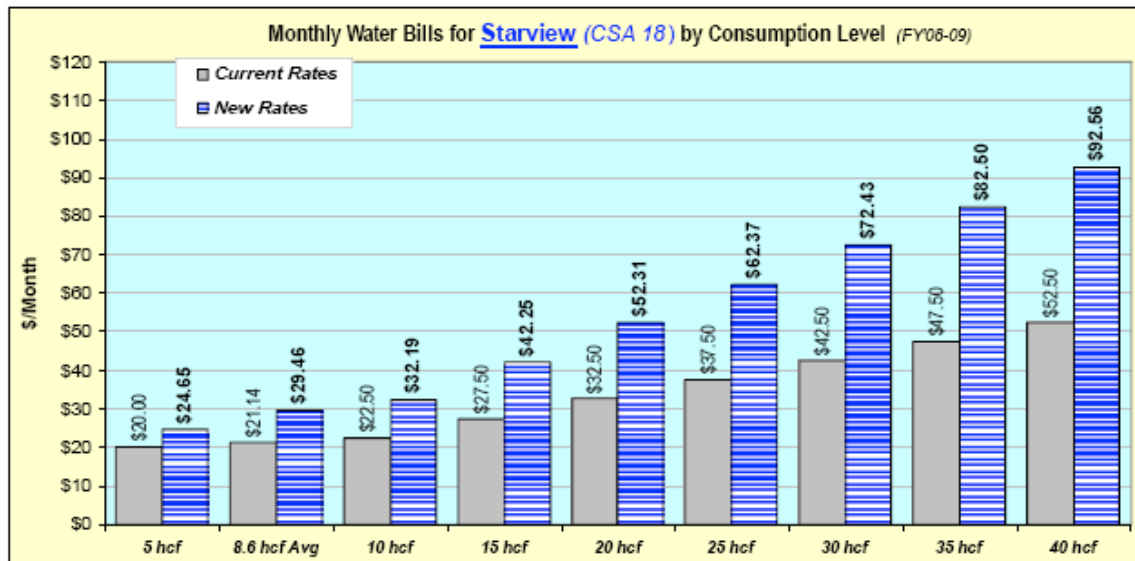
Tier 2 includes all consumption greater than 7.5 hcf.

c. This is the % increase from current rate revenue to the revenue from recommended rates, from the Financial plan for the system.

²⁵⁵ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 36, July 22, 2008

²⁵⁶ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 37, July 22, 2008

The following Foresight Consulting figure shows the new monthly water bills for CSA No.18 Starview by consumption level:²⁵⁷



B. CSA No. 18 Starview (Cobb) Financing MSR Determinations

- 3-1) The Foresight Consulting Study recommends that rates be increased to fund capital improvements which will address long-standing infrastructure deficiencies.
- 3-2) LAFCO concurs with the Foresight Consulting Study recommends that uniform rates and accounting procedures be used for all the water CSAs as much as possible.

9.2.4 CSA No.18 Starview (Cobb) Opportunities for Shared Facilities

A. CSA No.18 Starview (Cobb) Shared Facilities Background

CSA No.18 does not actively participate in facilities or infrastructure sharing arrangements with other districts or government agencies. The CSA is managed under the Board of Supervisors by the County Special Districts Administration, which oversees all of the water service CSAs in Lake County.

Management duties are grouped under this Administration, allowing for the use of staff and management to each agency or district, as needed. In addition to

²⁵⁷ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 37, July 22, 2008

staff sharing, the arrangement allows sharing of office facilities. Also shared are miscellaneous office supplies and administrative resources. Although consolidation could possibly be desirable, the DPH concluded that consolidation of this CSA would be infeasible in conjunction with evaluating approval of a loan/grant for facilities improvements.

CSA No.18 is managed under the elected Lake County Board of Supervisors by the County's Special Districts Administration. The boundaries of the CSA have not changed since incorporation of the CSA in 1985. The provision of water service by CSA No.18 is costly to residents of the area, and is expected to become less cost-efficient in coming years. The small number of connections maintained by the CSA (138)²⁵⁸ is insufficient to defer set costs associated with operation, and results in higher water rates than in surrounding areas.

The CSA is currently spending down its reserves in order to meet operational costs, a practice which calls into question the long-term financial viability of the CSA. The CSA does not appear likely to be able to provide future water service to its residents in a cost-efficient manner, under its current structure.

The current CSA was established in 1985 to provide service which a private company could no longer maintain. Given the inability to add significant new customers to the system (due to lack of water availability), operational problems cannot be feasibly mitigated through the addition of customers to the system.

Potential consolidation options could be explored with area districts, including the Cobb Area Water District, which has the financial and administrative resources to make efficient use of potential economies of scale. Although consolidation could possibly be desirable, the DPH concluded that consolidation of this CSA with the Cobb Area Water District would be infeasible, at present, in conjunction with evaluating approval of a loan/grant for facilities improvements.

The potential for connection to the Cobb Area Water System was evaluated in the Brelje & Race Consulting Civil Engineers Preliminary Engineering Report. This Report states that "In conclusion, the costs to both construct the new necessary facilities and abandon existing facilities that become unnecessary should the Starview Water System connect to the Cobb Area Water System are approximately \$400,000."²⁵⁹

²⁵⁸ Lake County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p126.

²⁵⁹ Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report, Starview Water System, CSA #18" December 2006. page11.

B. CSA No. 18 Starview (Cobb) Shared Facilities MSR Determinations

- 4-1) The Foresight Consulting Study recommends that the CSA No. 18 Starview become more integrated with the other water CSAs through changes in the SDA.
- 4-2) The CSA is a suitable form of government for the Starview water service.

9.2.5 CSA No.18 Starview (Cobb) Governance

A. CSA No.18 Starview (Cobb) Governance Background

CSA No.18 was formed in 1985, and is managed by the Lake County Special Districts Administration. CSA No.18 is served by a Special Districts Utility Area (No.2) for day to day field operations. The Utility Area is managed by a superintendent and eight employees.

The Special Districts Administration in Lakeport coordinates customer service accounts, billing, budgeting/financial management, master planning/capital improvement programming, meter reading, regulatory compliance, and overall personnel management for the CSA. The system allows for the use of available staff for emergency or directed needs, and does not require the dedication of a full-time staff member during periods in which CSA No.18 operations have fewer staff demands.

Direct control and decision-making lies with the Special Districts Administrator in the Lakeport office, and inquiries regarding CSA operations are able to be addressed promptly

The County of Lake is a unit of the State of California. It is governed by a Board of Supervisors consisting of five supervisors each elected for a four-year term of office. The terms of office are staggered so that two are elected in one general election and three in the next.

The Board usually meets the first, second, third, and fourth Tuesday of each month. The meetings are held in the Board Chambers on the first floor of the Courthouse at 255 North Forbes Street in Lakeport, CA. Occasionally, for special purposes, the Board will schedule other meetings at different times and/or locations in the County. The Board meetings are open to the public and agendas are published the week prior to the meetings. The Lake County Board of Supervisors follows all provisions of the Brown Act in conducting business related to CSA activities, and has sufficient mechanisms in place to allow for public inspection and involvement in CSA operations and management.

B. CSA No. 18 Starview (Cobb) Governance MSR Determinations

- 5-1) LAFCO does not concur with the Foresight Consulting Study which recommends that the Board and the SDA take a County-wide approach in dealing with the water CSAs and consider a County-wide CSA if possible. A county-wide CSA would lead to irreversible environmental impacts and be growth inducing.
- 5-2) The Board of Supervisors is accountable to the voters and taxpayers because they are elected. A task force directly appointed by the Board of Supervisors would increase this accountability.
- 5-3) A Citizen Advisory Task Force appointed by SDA is in place to help the Board and the Special Districts Administration. This task force should be appointed directly by the Board of Supervisors.

10 CSA NO.20 SODA BAY

10.1 CSA No.20 Soda Bay Background

Lake County CSA No.20 Soda Bay was formed in 1989 and serves the Riviera Heights subdivision of Soda Bay west to Clear Lake State Park. Although the Soda Bay area is located in the Clear Lake Volcanics Groundwater Source Area the CSA No.20 Soda Bay uses surface water from Clear Lake for the water supply. The CSA provides domestic water service to an estimated population of 1361²⁶⁰ persons, through 641 connections (602 active residential, 2 commercial, 37 standby) representing 742 single family dwelling equivalents²⁶¹.

CSA No.20 Soda Bay is located on the southern shore of Clear Lake, east of Clear Lake State Park. When the water system was first constructed, it was proposed to include the Buckingham community and Riviera West. However, these two communities were not interested in consolidation. When the Kelseyville-Finley water system was built it was proposed to connect that system with Soda Bay. However, the residents in Kelseyville and Soda Bay believed that their water quality would be adversely affected so the Soda Bay water system remains separate.²⁶²

Contact information for CSA No.20 Soda Bay is as follows:

Mark Dellinger, Special Districts Administrator
230A Main Street, Lakeport, CA 95453 Ph: 707-263-0119 F: 707-263-3836

10.2 CSA No.20: Soda Bay Municipal Service Review

10.2.1 CSA No.20: Soda Bay Growth and Population

A. CSA No.20 Soda Bay Growth and Population Background

In 1998, this system served 535 connections. Service connections increased to 612²⁶³ in 2005, to 737 in 2007²⁶⁴, and to 740 in 2008²⁶⁵ (compared with 612 as stated in the Build-out Analysis prepared by Lake County Special Districts in 2006), or an average of about 21 new connections per year. There are no additional connections which have been approved but not yet constructed.

²⁶⁰ Lake County Special Districts Administration, "Current Operations by Utility Area", 8/18/2008

²⁶¹ Lake County Special Districts Administration, "Current Operations by Utility Area", 8/18/2008

²⁶² Mark Dellinger, Special Districts Administrator, 230A Main Street, Lakeport, CA 95453, Ph: (707) 263-0119 F: (707) 263-3826, January 2008.

²⁶³ Lake County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p112.

²⁶⁴ Lake County Special Districts, "Special District System Fees 2007, 10/18/2007."

²⁶⁵ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 92, July 22, 2008

Based on maximum daily peak figures, the CSA appears to be nearing its capacity of 769 connections²⁶⁶ with regard to peak demand, and likely will not be able to support the addition of new connections without system wide improvements. Foresight Consulting states that 769 connections will be needed by 2026.²⁶⁷

According to the "Build-out Analysis" there are 179 vacant acres in CSA No.20 Soda Bay divided into 408 parcels. This would allow 649 future dwelling units with an additional population of 1467. The number of connections at total Build-out would be 1296 far exceeding the system capacity of 769 connections.²⁶⁸

B. CSA No.20 Soda Bay Growth and Population MSR Determinations

- 1-1) CSA No.20 Soda Bay would have to increase the ultimate capacity of the water system by 69% to serve the total growth allowed by the zoning.

10.2.2 CSA No.20 Soda Bay Infrastructure

A. CSA No.20 Soda Bay Infrastructure Background

The CSA draws water from Clear Lake, at an intake point near Big Soda Spring Point. The CSA uses a filtration system to treat drinking water, and pumps it to a system of storage tanks. The CSA maintains approximately 600,000 gallons of storage capacity in six tanks. Treated water is then distributed from storage facilities to individual connections, through a system of main and lateral lines.

According to the "2007-08 Budget Overview", "The primary goal this year is to complete an engineering study for tank #3 pump station and chlorine pacing unit."²⁶⁹ However, this will not occur because it will be deferred until a recently-failed ozone unit is replaced.²⁷⁰

According to the SDA, Granular activated carbon (GAC) will be used in place of granular media in conventional rapid filters (GAC filter-adsorbers) for removal of

²⁶⁶ Lake County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p112.

²⁶⁷ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 92, July 22, 2008

²⁶⁸ Lake County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p111-112.

²⁶⁹ Lake County Budget 2007-2008, p131.

²⁷⁰ Mark Dellinger, Special Districts Administrator, 230A Main Street, Lakeport, CA 95453, Ph: (707) 263-0119 F: (707) 263-3826, January 2008.

both organic compounds, primarily taste and odor, and turbidity in November 2008.²⁷¹

Current capacity is at 400,000 gpd used only for domestic use. The system is at approximately 80 percent of maximum operating capacity²⁷² during peak demand periods. The system has not had any health or water quality issues.

B. CSA No.20 Soda Bay Infrastructure MSR Determinations

- 2-1) This 17 year-old CSA No.20 Soda Bay water system appears to be in satisfactory condition but not to accommodate growth.
- 2-2) Expansion of the CSA No.20 Soda Bay water system will be required to serve new development expected in the service area.

10.2.3 CSA No.20 Soda Bay Financing

A. CSA No.20 Soda Bay Financing Background

Annual budgets and financial documents are prepared for CSA No.20 Soda Bay as part of the overall County budget process. Budgets are based on projected annual revenues derived from property taxes, services and sales, and interest from loans and investments.

The CSA had an operating budget for FY 2003-04 of \$273,396, with no dedication of revenues to its reserve fund. The 2007-08 Budget is \$331,908.²⁷³ This budget includes \$26,000 for a watershed survey required by the Department of Public Health. Capital Improvement Program Reserves are being increased by \$63,810 to a total of \$77,104.²⁷⁴

As a division of the County under the management of the Special Districts Administration (SDA), CSA No.20 maintains no full time staff of its own, but rather dedicates funding to the SDA to provide for management, repair, and operations. This CSA is exempt from the appropriations limit imposed on most local governments since it is not a taxing entity. Financial statements and budgetary documents for CSA No.20 were easily obtained and reviewed.

²⁷¹ Mark Dellinger, Special Districts Administrator, 230A Main Street, Lakeport, CA 95453, Ph: (707) 263-0119 F: (707) 263-3826, October 22, 2008.

²⁷² Lake County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p112

²⁷³ Lake County Final Budget 2007-2008, p. 152.

²⁷⁴ Lake County Final Budget 2007-2008, p, C-10.

Water is metered, with rates for water usage based on actual usage. Basic water rates are \$17.34 per month, a \$1.50 per month loan repayment charge and \$0.96 per 100 cubic feet of water. Water usage beyond 750 cubic feet is charged at a rate of \$1.17 per 100 cubic feet.²⁷⁵

The monthly water rates for CSA No.20 are commensurate with those of other CSAs in the area. The projected operational cost per connection is expected to be approximately \$41 per month, which is higher than most CSAs in Lake County. Part of the reason for this is that CSA No.20 Soda Bay included the consolidation of several small water companies when the CSA was formed. The Special District Administration took over the assets of these companies which include several redwood tanks which were very old.²⁷⁶ Rising utilities, supplies, and maintenance costs are other reasons for the increases in operational costs in the current fiscal year.

The following tables and figures by Foresight Consulting show the need for increased revenue for capital improvements. The following table by Foresight Consulting shows the projected budget and revenue requirements for CSA No.20 Soda Bay:²⁷⁷

Table B-W3						
Projected Budget and Revenue Requirements - Soda Bay (CSA 20)						
<i>Lake County Special Districts Administration</i>						
<u>Cost Classification</u>	<u>Budget</u>	<u>Projected Revenue Requirements (a)</u>				
	<u>2007-2008</u>	<u>2008-2009</u>	<u>2009-2010</u>	<u>2010-2011</u>	<u>2011-2012</u>	<u>2012-2013</u>
Services & Supplies - Maintenance	\$25,000	\$20,000	\$20,800	\$21,600	\$22,500	\$23,400
Services & Supplies - Professional	\$88,341	\$91,570	\$95,200	\$99,000	\$103,000	\$107,100
Services & Supplies - Special Dist. Admin.	\$72,661	\$52,102	\$54,200	\$56,400	\$58,700	\$61,000
Services & Supplies - Utilities	\$68,450	\$72,737	\$75,600	\$78,600	\$81,700	\$85,000
Services & Supplies - Other Admin.	\$11,054	\$7,288	\$7,600	\$7,900	\$8,200	\$8,500
Other Charges	86,783	42,400	\$44,100	\$45,900	\$47,700	\$49,600
Fixed Assets/CIP Costs (b) - Pay-As-You-Go	0	0	0	0	0	0
Fixed Assets/CIP Costs (b) - Debt Funded	0	0	67,057	92,543	92,899	93,171
Contingencies	0	42,915	\$44,600	\$46,400	\$48,300	\$50,200
Subtotal: Total Expenditures	\$352,289	\$329,012	\$409,157	\$448,343	\$462,999	\$477,971
Less Other Recurring Revenue	(21,627)	(\$14,800)	(\$14,800)	(\$14,800)	(\$14,800)	(\$14,800)
Less Other One-Time Revenue	(43,000)	(\$12,500)	(\$12,500)	(\$12,500)	(\$12,500)	(\$12,500)
Total Revenue Requirement	287,662	301,712	381,857	421,043	435,699	450,671
<i>Rate Revenue from Current Rates (c)</i>	<i>\$250,600</i>	<i>\$255,000</i>	<i>\$255,000</i>	<i>\$255,000</i>	<i>\$255,000</i>	<i>\$255,000</i>

Source of historical costs: Schedule RR2.280

a. Based on Forms 3-7 from Special Districts Administration, 4-18-08. Projections include an annual increase of 2%.

b. CIP costs through '07-08 are from Special District budgets. Projections are District estimates (fax dated 2-8-08) and reflect CIP expenditures from Tables CIP-1 through CIP-4. Debt funded costs reflect debt service with 5.5% interest rate and 30-year repayment period.

c. As shown in Form 3, from Special Districts Administration, 4-18-08.

²⁷⁵ Lake County Special Districts, "Special District System Fees 2007."

²⁷⁶ Mark Dellinger, Special Districts Administrator, 230A Main Street, Lakeport, CA 95453, Ph: (707) 263-0119 F: (707) 263-3826, October 22, 2008.

²⁷⁷ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 10 July 22, 2008



Soda Bay View http://www.bestrealtylakeport.com/retriever/displays/Residential/gallery_search.php?listing_number=104211&LOCATION=

The following Foresight Consulting table shows the financial plan for CSA No.20 Soda Bay. The rate increases shown are the percent increase in current rate revenue, not individual rates, which are determined through the cost-of-service rate analysis.²⁷⁸

Table WFP-3 Water Utility Financial Plan - Soda Bay (CSA 20) Lake County Special Districts Administration						
	Estimated 2007-08	Projected Rev. Req'ts., Rate Increases and Rate Revenue				
		2008-09	2009-10	2010-11	2011-12	2012-13
Net Revenue Requirements (a)	(\$287,662)	(\$301,712)	(\$381,857)	(\$421,043)	(\$435,699)	(\$450,671)
<i>Annual % Increase over Previous Year</i>	-1.0%	4.9%	26.6%	10.3%	3.5%	3.4%
Base Case - Current Rates with No Increases						
Revenue from Current Rates (a)	\$250,800	\$255,000	\$255,000	\$255,000	\$255,000	\$255,000
less Net Revenue Req't's.	(\$287,662)	(\$301,712)	(\$381,857)	(\$421,043)	(\$435,699)	(\$450,671)
Year-End Surplus (Deficit)	(\$37,062)	(\$46,712)	(\$126,857)	(\$166,043)	(\$180,699)	(\$195,671)
Proposed Financial Plan - Water Rate Increases						
<i>Rate Increases</i>		15.0%	15.0%	13.0%	6.0%	4.0%
Revenue from Current Rates (a)	\$250,800	\$255,000	\$255,000	\$255,000	\$255,000	\$255,000
Rate Revenue from Rate Increases		\$38,250	\$38,250	\$38,250	\$38,250	\$38,250
		\$43,988	\$43,988	\$43,988	\$43,988	\$43,988
				\$43,841	\$43,841	\$43,841
					\$22,865	\$22,865
						\$16,158
Revenue from Rate Increases	\$0	\$38,250	\$82,238	\$126,078	\$148,943	\$165,101
Projected Rate Revenue (w/ Rate Incr.)(b)	\$250,800	\$293,250	\$337,238	\$381,078	\$403,943	\$420,101
less Net Revenue Req't's.	(\$287,662)	(\$301,712)	(\$381,857)	(\$421,043)	(\$435,699)	(\$450,671)
Year-End Surplus (Deficit)	(\$37,062)	(\$8,462)	(\$44,620)	(\$39,964)	(\$31,756)	(\$30,570)

a. From Table B-W3, Water System Budget Projections and Revenue Requirements. Projections include inflation adjustments.

b. Total revenue to be recovered from rates.

²⁷⁸ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 10, July 22, 2008

The following Foresight Consulting table shows a summary of projected water reserve fund levels for CSA No.20 Soda Bay:²⁷⁹

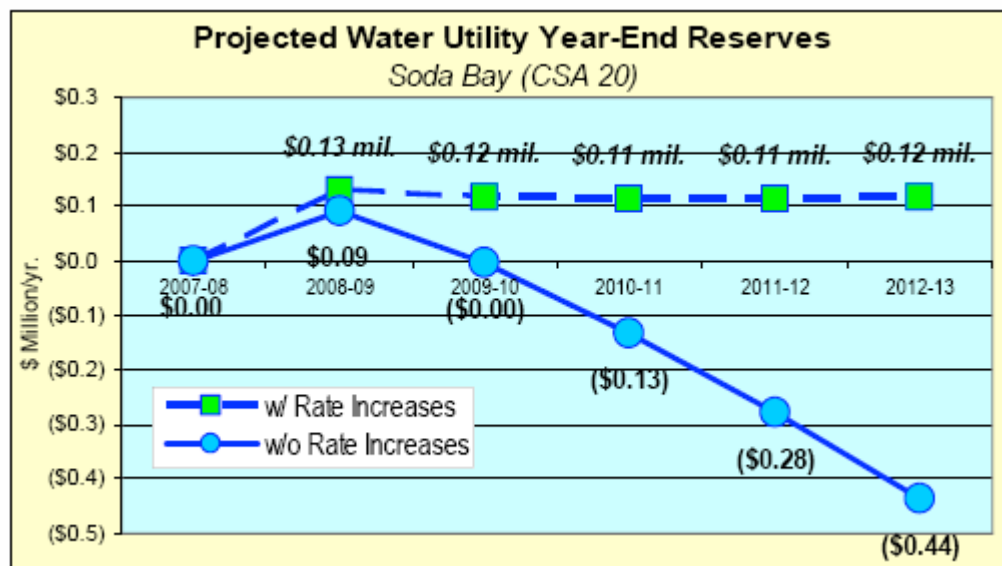
Table WFP-3A Summary of Projected Water Reserve Fund Levels - Soda Bay (CSA 20) Lake County Special Districts Administration						
	Estimated 2007-08	Projected Reserve Funds				
		2008-09	2009-10	2010-11	2011-12	2012-13
Water Operations Fund (Cash)						
Beginning Fund Balance (a)	\$0	\$46,944	\$38,482	\$13,862	\$13,898	\$22,142
Water Rate Revenue Surplus (Deficit) (b)	\$0	(\$8,462)	(\$44,620)	(\$39,964)	(\$31,756)	(\$30,570)
Transfers from CIP Fund (c)	\$0	\$0	\$20,000	\$40,000	\$40,000	\$30,000
Year-End Fund Balance	\$0	\$38,482	\$13,862	\$13,898	\$22,142	\$21,572
Water Capital Improvement Fund (CIP)						
Beginning Fund Balance (a)	\$0	\$49,004	\$90,361	\$103,961	\$98,161	\$92,061
Cap Fee Revenue	\$0	\$41,357	\$30,000	\$30,000	\$30,000	\$30,000
Transfer to Operations Fund (c)	\$0	\$0	(\$20,000)	(\$40,000)	(\$40,000)	(\$30,000)
Investment Earnings	\$0	\$0	\$3,600	\$4,200	\$3,900	\$3,700
Year-End Fund Balance	\$0	\$90,361	\$103,961	\$98,161	\$92,061	\$95,761
Combined Water Funds Balance	\$0	\$128,843	\$117,823	\$112,059	\$114,203	\$117,333
General Inflation Escalator		4.0%	4.0%	4.0%	4.0%	4.0%
Interest Earnings Rate		4.0%	4.0%	4.0%	4.0%	4.0%
Approx. Coverage Ratio		NA	175.7%	121.1%	122.9%	125.9%

a. 2008-09 year-end balances are from Form 7 "Total Reserves Proposed for FY 08/09".

b. These are the "Year-End Surplus (Deficit)" from Table WFP-1.

c. Transfers between Operations Fund and CIP fund as needed.

The following Foresight Consulting table shows the total year-end fund balance for the Soda Bay CSA with and without the rate increase.²⁸⁰



²⁷⁹ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 11, July 22, 2008

²⁸⁰ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 11, July 22, 2008

The following Foresight Consulting table shows the cost allocation process whereby revenue requirements are allocated to functional budget categories for the CSA No.20 Soda Bay:²⁸¹

Table COS-W3 Water Fund Cost Allocations Soda Bay (CSA 20) (FY'08-09) Lake County Special Districts Administration							
Water Operations Fund	2008-09 Budget (a)	Percent Allocations			Allocated Costs		
		Customer Costs	Fixed Capacity	Variable Costs	Customer Costs	Fixed Capacity	Variable Costs
Operating Expenditures							
Services & Supplies - Maintenance	\$20,000	0.0%	50.0%	50.0%	\$0	\$10,000	\$10,000
Services & Supplies - Professional	\$91,570	10.0%	50.0%	40.0%	\$9,157	\$45,785	\$36,628
Services & Supplies - Special Dist. Admin.	\$52,102	10.0%	15.0%	75.0%	\$5,210	\$7,815	\$39,077
Services & Supplies - Utilities	\$72,737	0.0%	25.0%	75.0%	\$0	\$18,184	\$54,553
Services & Supplies - Other Admin.	\$7,288	10.0%	30.0%	60.0%	\$729	\$2,188	\$4,373
Other Charges	\$42,400	10.0%	50.0%	40.0%	\$4,240	\$21,200	\$16,960
Fixed Assets (Pay-as-you-go & debt service)	\$0	0.0%	100.0%	0.0%	\$0	\$0	\$0
Contingencies	\$42,915	10.0%	50.0%	40.0%	\$4,292	\$21,458	\$17,166
less Other Recurring Revenue	(\$27,300)	7.2%	38.5%	54.3%	(\$1,961)	(\$10,507)	(\$14,832)
Net Revenue Requirements	\$301,712	7.2%	38.5%	54.3%	\$21,867	\$116,121	\$163,924
Summary of Allocations							
Total Fixed Costs		45.7%			\$137,788		
Total Variable Costs		54.3%			\$163,924		

a. From Table B-W3, Water System Budget Projections and Revenue Requirements.

The following Foresight Consulting table shows how the consumptive water rates are determined for CSA No.20 Soda Bay:²⁸²

Table CR-W3a Consumptive Rates and Revenue <i>Including Price Elasticity Adjustments</i> - Soda Bay (CSA 20) (FY'08-09) Lake County Special Districts Administration						
Volume Rate Class	Billed Water Use (hcf/yr) (a)	2008 Volume Rates		New Rate Differential (%) (b)	Commodity Rates	
		Volume Rate	Differential (%) (b)		Rate (c)	Revenue
Tier 1 (Tier 1 < 7.5 hcf)	32,965	\$0.99	--	--	\$1.60	\$52,719
Tier 2 (7.5 hcf > Tier 1)	46,357	\$1.20	21.2%	50.0%	\$2.40	\$111,205
Total	79,322	--	--	--	--	\$163,924

a. Estimated consumption from Special District Billing records. **Tier 2 consumption was adjusted assuming a price elasticity of -0.25.**

b. Percent difference between tiers (or the % increase from the lower tier to the next tier rate). The average consumption is 9.8 hcf/SFD/mo.

c. Based on the new rate differential, these rates are calculated in order to meet the Target Rev. Reqts.

d. Total Variable Costs shown in the Cost Allocation Table COS-W3.

²⁸¹ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 12, July 22, 2008

²⁸² Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 12, July 22, 2008

The following Foresight Consulting table shows the new fixed monthly rates for CSA No.20 Soda Bay.²⁸³

Table FR-W3 New Fixed Monthly Rates - CSA #20 - Soda Bay (FY'08-09) Lake County Special Districts Administration	
Accounts	5/8-3/4" Meters
Total Accounts (a)	600
Extra Units (Additional SFD's) (a)	101
Standby (Excluded from Fixed Rates) (b)	39
Monthly Fixed Rates	
Customer Costs (\$/Acct) (c)	\$3.01
Capacity Costs (\$/Accts & Extra Units) (d)	<u>\$13.80</u>
Total Mo. Base Charge	\$16.81
Annual Revenue from Fixed Mo. Rates	
Customer Costs (Charged only to accounts)	\$21,667
Capacity Costs (Charged to Accts. & Extra Units)	<u>\$116,121</u>
Total	\$137,788
Fixed Costs Allocated to Monthly Fixed Monthly Rates (e)	
Customer Costs	<u>\$21,667</u>
Capacity Costs	<u>\$116,121</u>
Total Monthly Fixed Costs	<u>\$137,788</u>

Note: Rates are monthly rates, but customers are billed bi-monthly.

a. Accounts and Extra Units are from Special Districts records (Current Operations by Utility Area, 4/17/08).

b. Per County Counsel advice, standby accounts are to remain fixed at \$2.50/mo.

c. This is a "base charge" that excludes standby accounts and additional units.

d. This is a "minimum charge" for all "Extra Units" (additional SFD's).

e. Revenue requirements from the Cost Allocation Table.

The following Foresight Consulting table shows the projected water service rates through 2012-2012 and the monthly bills resulting from the 2008-09 rates for CSA No.20 Soda Bay.²⁸⁴

Table PR-W3 Summary of Recommended & Projected Rates - Soda Bay (CSA 20) Lake County Special Districts Administration							
Customer Class	Rate	Current	New Fixed Monthly Rates (\$/mo./Acct. but billed Bi-Monthly) (a)				
	Code	Rates	2008-09	2009-10	2010-11	2011-12	2012-13
Base Charge (\$/Account/mo.)	--	--	\$2.92	\$3.36	\$3.80	\$4.03	\$4.19
Residential Accounts	IA	\$17.83	\$13.42	\$15.43	\$17.44	\$18.48	\$19.22
Residential Extra Units	IB	\$13.17	\$13.42	\$15.43	\$17.44	\$18.48	\$19.22
Motel Units	IC	\$6.25	\$4.03	\$4.63	\$5.23	\$5.54	\$5.77
RV Units	ID	\$4.23	\$2.68	\$3.09	\$3.49	\$3.70	\$3.84
Standby	--	\$2.50	\$2.50	\$2.50	\$2.50	\$2.50	\$2.50
Consumption Level			New Volume Rates (\$/hcf) (b)				
Tier 1 (Tier 1 < 7.5 hcf)	BN	\$0.99	\$1.55	\$1.79	\$2.02	\$2.14	\$2.23
Tier 2 (7.5 hcf > Tier 2)	BN	\$1.20	\$2.33	\$2.68	\$3.03	\$3.21	\$3.34
Financial Plan Rate Increases			15.0%	15.0%	13.0%	6.0%	4.0%

a. From Table FR-W3. Note: these rates apply only to accounts (meters), not "extra units", which are only charged volume rates. Equivalent SFD's are: MH/Apts. = 80%, Motel = 30%, RV/Trailer Units = 20%, Other Accounts = 6%. This is primarily based on SWRCB Revenue program guidelines for water consumption, Table G-1, page G-23.

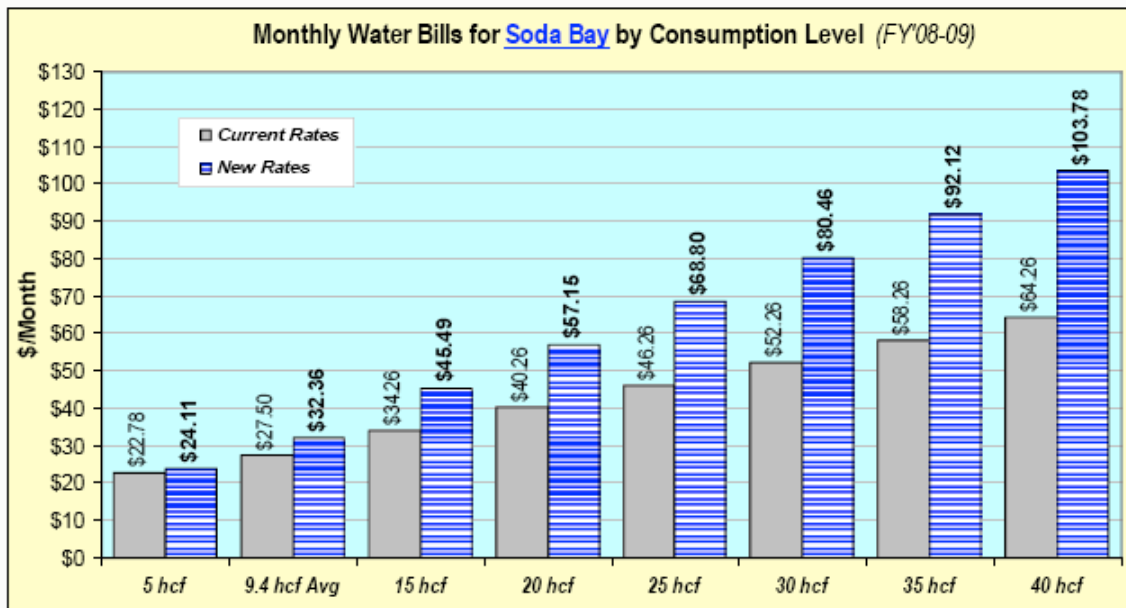
b. From Table CR-W3.

c. This is the % increase from current rate revenue to the revenue from recommended rates, from the Financial plan for the system.

²⁸³ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 12, July 22, 2008

²⁸⁴ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 13, July 22, 2008

The following Foresight Consulting figure shows the new monthly water bills for CSA No.20 Soda Bay by consumption level:²⁸⁵



B. CSA No. 20 Soda Bay Financing MSR Determinations

- 3-1) The Foresight Consulting Study recommends that rates be increased to pay for capital improvements.

10.2.4 CSA No. 20 Soda Bay Opportunities for Shared Facilities

A. CSA No. 20 Soda Bay Shared Facilities Background

CSA No.20 does not actively participate in facilities or infrastructure sharing arrangements with other districts or government agencies. The CSA is managed by the County Special Districts Administration, which oversees the nine active water CSAs in Lake County. Management duties are grouped under this Administration, allowing for the use of staff and management to each agency or district, as needed. In addition to staff sharing, the arrangement utilizes sharing of the facilities in which offices are located. Also shared are miscellaneous office supplies and administrative resources.

²⁸⁵ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 13, July 22, 2008

The boundaries of the CSD have not changed since the last the formation of the CSA in 1989. The current CSA boundaries and SOI are geographically distinct. The current government structure of a County Service Area is reasonable for the provision of water service in this area.

B. CSA No. 20 Soda Bay Shared Facilities MSR Determinations

- 4-1) The Foresight Consulting Study recommends that the SDA provide a uniform accounting practices where possible.
- 4-2) The CSA government structure is considered appropriate.

10.2.5 CSA No. 20 Soda Bay Governance

A. CSA No. 20 Soda Bay Governance Background

CSA No.20 was formed in 1989, and is managed by the Lake County Special Districts Administration. CSA No.20 is served by a Special Districts Utility Area (No.3) for day to day field operations. The Utility Area is managed by a superintendent and eight employees.²⁸⁶

The Special Districts Administration in Lakeport coordinates customer service accounts, billing, budgeting/financial management, master planning/capital improvement programming, meter reading, regulatory compliance, and overall personnel management for the CSA. The system allows for the use of available staff for emergency or directed needs, and does not require the dedication of a full-time staff member during periods in which CSA No.20 operations have fewer staff demands. Direct control and decision-making lies with the Special Districts Administration in the Lakeport and inquiries regarding CSA operations are able to be addressed promptly

The County of Lake is a unit of the State of California. It is governed by a Board of Supervisors consisting of five supervisors each elected for a four-year term of office. The terms of office are staggered so that two are elected in one general election and three in the next.

The Board usually meets the first, second, third, and fourth Tuesday of each month. The meetings are held in the Board Chambers on the first floor of the Courthouse at 255 North Forbes Street in Lakeport, CA. Occasionally, for special

²⁸⁶ Mark Dellinger, Special Districts Administrator, 230A Main Street, Lakeport, CA 95453, Ph: (707) 263-0119 F: (707) 263-3826, January 2008.

purposes, the Board will schedule other meetings at different times and/or locations in the County.

The Board meetings are open to the public and agendas are published the week prior to the meetings. The Lake County Board of Supervisors follows all provisions of the Brown Act in conducting business related to CSA activities, and has sufficient mechanisms in place to allow for public inspection and involvement in CSA operations and management.

B. CSA No. 20 Soda Bay Governance MSR Determinations

- 5-1) LAFCO disagrees with the Foresight Consulting Study recommendation that the Board of Supervisors consider the various water CSAs as part of a County-wide system and consider a County-wide CSA if possible. A county-wide CSA would result in irreversible environmental impacts and be growth inducing.
- 5-2) The Board of Supervisors is accountable because they are elected. The Advisory Task Force should be appointed directly by the Board of Supervisors.
- 5-3) The Advisory Task Force appointed by the Special Districts Administration from the Soda Bay community should continue to meet and to assist the Board and the Special Districts Administration.

11 CSA NO. 22 MT. HANNAH

11.1 CSA No. 22 Mt. Hannah Background

CSA No.22 Mount Hannah is located in southwestern Lake County. The Mt. Hannah water system depends on the Clear Lake Volcanics Groundwater Source Area. This CSA was created by Lake County in 1991. A single well supplies water to the Mt. Hannah water system. The well was drilled in 1994 to replace and older well.²⁸⁷ In 2008, the CSA provides domestic water service to 87 persons through 36 connections.²⁸⁸

Contact information for CSA No.22 Mt. Hannah is as follows:

Mark Dellinger, Special Districts Administrator
230A Main Street, Lakeport, CA 95453

Ph: 707-263-0119 F: 707-263-3836

11.2 CSA No. 22 Mt. Hannah Municipal Service Review

11.2.2 CSA No. 22 Mt. Hannah Growth and Population

A. CSA No. 22 Mt. Hannah Growth and Population Background

In five years (1998-2003), no new connections have been added to this system. There are currently no additional connections which have been approved but not yet constructed. According to the Foresight Consulting Study the Mt. Hanna CSA has 12 connections available for future services, the smallest of any of the ten water CSAs.²⁸⁹

The CSA averages a daily flow at a rate equal to 45²⁹⁰ percent of its maximum capacity. During peak periods (typically holiday periods in summer months), the CSA has experienced a maximum demand for water equal to less than half of its capacity. Based on maximum daily peak figures, CSA No.22 appears to be able to meet service demands except for fire flows.

²⁸⁷ Brelje & Race Consulting Civil Engineers "Preliminary Engineering Report Mount Hannah Water System CSA #22", December 2006, page 2

²⁸⁸ Lake County Special Districts, "Current Operations by Utility Area", 8/18/2008.

²⁸⁹ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 92, July 22, 2008

²⁹⁰ Lake County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p98

There is little or no growth expected to occur in the area. The "Build-out Analysis" shows that there are 13 vacant unserviced acres in the Mt. Hannah service area divided into 41 parcels. The zoning would allow 41 new dwelling units with an additional population of 100 in the CSA. This would result in a total of 77 connections, barely within the 80 connection system capacity.²⁹¹

B. CSA No. 22 Mt. Hannah Growth and Population MSR Determinations

- 1-1) The CSA No. 22 Mt. Hannah water system will accommodate the expected growth provided that fire flow capacity is added.

11.2.2 CSA No. 22 Mt. Hannah Infrastructure

A. CSA No. 22 Mt. Hannah Infrastructure Background

1. Water Supply

The CSA collects water for its system from a single well, with a pumping capacity of 46,080 gallons per day. According to the Brelje & Race Consulting Civil Engineers Report, "Two of the well water quality indicators are cause for concern....In addition to the turbidity exceedances, aluminum concentrations in the well water are high and rising."²⁹²

2. Water Treatment

According to the Brelje & Race Consulting Civil Engineers Report,

Water treatment consists of filtration and disinfection. The filtration is accomplished using two hurricane type cartridge filters in series.... The well water is disinfected with sodium hypochlorite (a strong bleach solution) before entering the distribution and storage system. Water is pumped to a 50,000 gallon storage tank, where it is distributed to individual connections through water mains and lateral lines.²⁹³

²⁹¹ Lake County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006, p98

²⁹² Brelje & Race Consulting Civil Engineers "Preliminary Engineering Report Mount Hannah Water System CSA #22", December 2006, page 3

²⁹³ Brelje & Race Consulting Civil Engineers "Preliminary Engineering Report Mount Hannah Water System CSA #22", December 2006, page 3

The SDA notes that a 100,000 gallon storage tank has been added to the system.²⁹⁴

3. Water Storage

According to the Brelje & Race Consulting Civil Engineers Report,

Water is stored in a 50,000 gallon redwood tank. The tank provides steady water pressure and serves as a reservoir in case of pump failure or fire flows. The tank is believed to be 40 or 50 years old. A liner was installed in the tank some time before 2000. The tank currently has a large strap around it, which is attached to a tree uphill of the tank to prevent the tank from failing. The operations staff reported that, to reduce the risk of failure, the tank is not filled completely.

A tank inspection was performed by Aqua-Tech Company in 2003, more than three years ago. The inspection report indicated that there was corrosion on the connectors for the ladder and the pipe penetrations, and that the liner was pulling away from its securing straps. Significantly, the 2003 inspection report recommended that the tank be replaced within 12 months.²⁹⁵

4. Water Demand

The current average daily demand on the system is approximately 45 percent²⁹⁶ of its capacity of 46,080 gallons per day (80 connections).²⁹⁷ The greatest peak demand in the last five years was 13,200 gallons per day, well below capacity. The "Build-out Analysis" shows that the total build-out would be 77 connections, three less than the system capacity of 80 connections.²⁹⁸

There is limited fire flow capacity and much of the system is in poor condition. As a result, this CSA is involved in a Department of Public Health funding program for capital improvements to the system. A Feasibility Study/Master Plan has been competed. These improvements will include rehabilitation of the distribution system and installation of fire hydrants.

²⁹⁴ ²⁹⁴ Lake County Special Districts, Mark Dellinger, October 22, 2008.

²⁹⁵ Brelje & Race Consulting Civil Engineers "Preliminary Engineering Report Mount Hannah Water System CSA #22", December 2006, page 3

²⁹⁶ Lake County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p98.

²⁹⁷ Lake County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p98.

²⁹⁸ Lake County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006. p98

The Brelje & Race Consulting Civil Engineers "Preliminary Engineering Report Mount Hannah Water System CSA #22" describes the deficiencies in this system as follows:

The areas of deficiency include well water quality, a structural failure of the storage tank, a high rate of water main leakage, and insufficient water storage and transmission capacity for fire protection.²⁹⁹

According to the Special Districts Administration web site the Mt. Hannah application has been submitted to DPH for water system improvements. The Board of Supervisors and DPH have approved emergency funding for a 100,000 gallon storage tank. The geotech and design is underway.³⁰⁰ Site grading for the tank has been completed and the tank should be completed by Spring 2008.³⁰¹

B. CSA No.22 Mt. Hannah Infrastructure MSR Determinations

- 2-1) The Special Districts Administration Department is working to correct the infrastructure deficiencies for CSA No.22 Mt. Hannah.

11.2.3 CSA No. 22 Mt. Hannah Financial Ability

A. CSA No. 22 Mt. Hannah Financing Background

Annual budgets and financial documents are prepared for CSA No.22 Mt. Hannah as part of the overall County budget process. Budgets are based on projected annual revenues derived from property taxes, services and sales, and interest from loans and investments.

The CSA had an operating budget for FY 2003-04 of \$27,112, with a dedication of \$413 in revenues to its reserve fund. The 2007-08 Budget is \$242,130 based on revenues of \$137,391 and a carry-over of \$104,739.

²⁹⁹ Brelje & Race Consulting Civil Engineers "Preliminary Engineering Report Mount Hannah Water System CSA #22", December 2006, page 1.

³⁰⁰ [http://www.co.lake.ca.us/Business/With the County/Special Districts Projects.htm](http://www.co.lake.ca.us/Business/With_the_County/Special_Districts_Projects.htm), September 23, 2007.

³⁰¹ Mark Dellinger, Special Districts Administrator, 230A Main Street, Lakeport, CA 95453, Ph: (707) 263-0119 F: (707) 263-3826, January 2008.

The Funding Sources are explained as follows:

Although user fees are not sufficient to cover appropriations, because of a \$172,200 grant provided by the Board of Supervisors from the general fund and a \$250,000 grant from the DPH, there is sufficient funding to pay for the water storage tank.³⁰²

As a division of the County under the management of the Special Districts Administration (SDA), CSA No.22 maintains no full time staff of its own, but rather dedicates funding to the SDA to provide for management, repair, and operations. The CSA draws income from user fees, with projected income for the year at \$11,000.

Operational costs have not been met by income from water rate charges in the previous two fiscal years, and are expected to significantly exceed the sales revenues in coming years. As utilities, insurance, labor, and related costs continue to rise, the CSA will further spend down its reserves.

The CSA is exempt from the appropriations limit imposed on most local governments since it is a non-taxing entity. Financial statements and budgetary documents for CSA No.22 were easily obtained and reviewed. With only 36 connections and no additional methods of generating stable revenues, the financial outlook of the CSA is considered unstable.

Water is metered, with rates for water usage based on actual usage. Basic water rates are \$25.00 per month, inclusive of up to 800 cubic feet of water and a loan re pay of \$10.00 per month. Water use beyond 800 cubic feet is charged at a rate of \$0.80 per 50 cubic feet.

The monthly water rates for CSA No.22 are commensurate with those of other CSAs in the area, although these rates appear insufficient to meet current and anticipated future service costs. CSA No.22 has projected average monthly operational costs of \$2,218 for the current year.

The operational cost per connection is expected to be approximately \$63 per month, which is considered very high for Lake County. This is significantly higher than normal for this CSA, but is based on rising costs associated with utilities, building maintenance, insurance, and other operational costs. These rates are insufficient to cover the rising costs associated with the provision of water services to CSA No.22 Mt. Hannah residents.

³⁰²Mark Dellinger, Special Districts Administrator, 230A Main Street, Lakeport, CA 95453, Ph: (707) 263-0119 F: (707) 263-3826, January 2008.

The following nine tables and figures by Foresight Consulting show the need for increased rates to fund capital improvements. The following table by Foresight Consulting shows the projected budget and revenue requirements for CSA No.22 Mt. Hannah:³⁰³

Table B-W8 Projected Budget and Revenue Requirements - CSA 22 - Mt. Hannah Water Lake County Special Districts Administration						
Cost Classification	Budget 2007-2008	Projected Revenue Requirements (a)				
		2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
Services & Supplies - Maintenance	\$4,929	\$4,118	\$4,300	\$4,500	\$4,700	\$4,900
Services & Supplies - Professional	\$6,500	\$2,835	\$2,900	\$3,000	\$3,100	\$3,200
Services & Supplies - Special Dist. Admin.	\$2,625	\$2,559	\$2,700	\$2,800	\$2,900	\$3,000
Services & Supplies - Utilities	\$2,957	\$3,700	\$3,800	\$4,000	\$4,200	\$4,400
Services & Supplies - Other Admin.	\$545	\$358	\$400	\$400	\$400	\$400
SRF Loan Repayment	2,160	2,160	2,160	2,160	2,160	2,160
Fixed Assets/CIP Costs (b) - Pay-As-You-Go	0	0	0	0	0	0
Fixed Assets/CIP Costs (b) - Debt Funded	0	0	3,772	5,206	5,226	5,241
Contingencies or Misc.	2,450	5,515	5,515	5,515	5,515	5,515
Subtotal: Total Expenditures	\$22,166	\$21,245	\$25,547	\$27,581	\$28,201	\$28,816
Less Other Recurring Revenue	(7,430)	(\$6,460)	(\$6,700)	(\$7,000)	(\$7,300)	(\$7,600)
Less Other One-time Revenue	(20,000)	(\$2,981)	(\$3,100)	(\$3,200)	(\$3,300)	(\$3,400)
Total Revenue Requirement	(\$5,264)	11,804	15,747	17,381	17,601	17,816
Rate Revenue from Current Rates (c)	\$12,270	\$12,270	\$12,270	\$12,270	\$12,270	\$12,270

Source of historical costs: Schedule RR2.252; highlighted projections are from the Five Year Budget Projection, fax dated 1-7-08.
a. Based on Forms 3-7 from Special Districts Administration, 4-15-05. Projections include an annual increase of 2%.
b. CIP costs through '07-08 are from Special District budgets. Projections are District estimates (fax dated 2-5-05) and reflect CIP expenditures from Tables CIP-1 through CIP-4. Debt funded costs reflect debt service with 6.6% interest rate and 30-year repayment period.
c. As shown in Form 3, from Special Districts Administration, 4-15-05.

The following Foresight Consulting table shows the financial plan for CSA No.22 Mt. Hannah. The rate increases shown are the percent increase in current rate revenue, not individual rates, which are determined through the cost-of-service rate analysis.³⁰⁴

Table WFP-3 Water Utility Financial Plan - CSA 22 - Mt. Hannah Water Lake County Special Districts Administration						
Net Revenue Requirements (a)	Estimated 2007-08	Projected Rev. Req'ts., Rate Increases and Rate Revenue				
		2008-09	2009-10	2010-11	2011-12	2012-13
Annual % Increase over Previous Year	-108.7%	-324.2%	33.4%	10.4%	1.3%	1.2%
Base Case - Current Rates with No Increases						
Revenue from Current Rates (a)	\$12,270	\$12,270	\$12,270	\$12,270	\$12,270	\$12,270
less Net Revenue Req'ts.	\$5,264	(\$11,804)	(\$15,747)	(\$17,381)	(\$17,601)	(\$17,816)
Year-End Surplus (Deficit)	\$17,534	\$466	(\$3,477)	(\$5,111)	(\$5,331)	(\$5,546)
Proposed Financial Plan - Water Rate Increases						
Revenue from Current Rates (a)	\$12,270	10.0%	10.0%	10.0%	10.0%	10.0%
		\$12,270	\$12,270	\$12,270	\$12,270	\$12,270
Rate Revenue from Rate Increases		\$1,227	\$1,227	\$1,227	\$1,227	\$1,227
		\$1,350	\$1,350	\$1,350	\$1,350	\$1,350
		\$1,485	\$1,485	\$1,485	\$1,485	\$1,485
		\$1,633	\$1,633	\$1,633	\$1,633	\$1,633
		\$1,798	\$1,798	\$1,798	\$1,798	\$1,798
Revenue from Rate Increases	\$0	\$1,227	\$2,577	\$4,061	\$5,695	\$7,491
Projected Rate Revenue (w/ Rate Inc.) (b)	\$12,270	\$13,497	\$14,847	\$16,331	\$17,965	\$19,761
less Net Revenue Req'ts.	\$5,264	(\$11,804)	(\$15,747)	(\$17,381)	(\$17,601)	(\$17,816)
Year-End Surplus (Deficit)	\$17,534	\$1,693	(\$901)	(\$1,050)	\$363	\$1,945
DPH Reserve Surcharge (c)	\$0	\$27,070	\$27,070	\$27,070	\$27,070	\$27,070

a. From Table B-W8, Water System Budget Projections and Revenue Requirements. Projections include inflation adjustments.
b. Total revenue to be recovered from rates.
c. Dept. of Public Health grant of \$350,000 for CIP projects requires a sinking fund charge per customer equal to \$16.00/month/customer. See Table WFP-8A.

³⁰³ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 30, July 22, 2008

³⁰⁴ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 30, July 22, 2008

The following Foresight Consulting table shows a summary of projected water reserve fund levels for CSA No.22 Mt. Hannah:³⁰⁵

Table WFP-8A Summary of Projected Water Reserve Fund Levels - Mt. Hannah (CSA 22) Lake County Special Districts Administration						
	Estimated 2007-08	Projected Reserve Funds				
		2008-09	2009-10	2010-11	2011-12	2012-13
Water Operations Fund (Cash)						
Beginning Fund Balance (a)	\$0	\$0	\$1,693	\$792	(\$258)	\$106
Water Rate Revenue Surplus (Deficit) (b)	\$0	\$1,693	(\$901)	(\$1,050)	\$363	\$1,945
Transfers to CIP Fund (c)	\$0	\$0	\$0	\$0	\$0	\$0
Year-End Fund Balance	\$0	\$1,693	\$792	(\$258)	\$106	\$2,050
Water Capital Improvement Fund (CIP)						
Beginning Fund Balance (a)	\$0	\$0	\$0	\$0	\$0	\$0
Transfer from Operations Fund (c)	\$0	\$0	\$0	\$0	\$0	\$0
Investment Earnings	\$0	\$0	\$0	\$0	\$0	\$0
Year-End Fund Balance	\$0	\$0	\$0	\$0	\$0	\$0
Combined Water Funds Balance	\$0	\$1,693	\$792	(\$258)	\$106	\$2,050
DPH Replacement Fund						
Annual Contribution	\$0	\$27,070	\$27,070	\$27,070	\$27,070	\$27,070
Year-End Fund Balance	\$0	\$27,070	\$54,140	\$81,210	\$108,280	\$135,350
General Inflation Escalator		4.0%	4.0%	4.0%	4.0%	4.0%
Interest Earnings Rate		4.0%	4.0%	4.0%	4.0%	4.0%
Approx. Coverage Ratio (w/o DPHS reserve charge)(d)		NA	21.0%	-4.9%	2.0%	32.1%

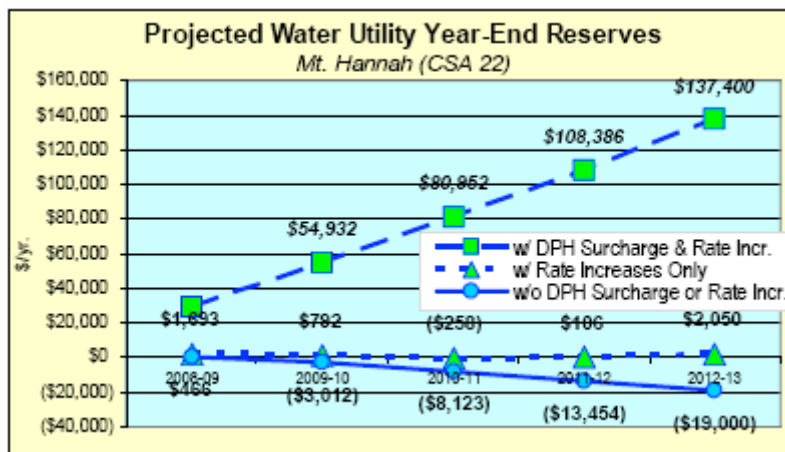
a. 2008-09 year-end balances are from Form 7 "Total Reserves Proposed for FY 08/09".

b. These are the "Year-End Surplus (Deficit)" from Table WFP-1.

c. Transfers between Operations Fund and CIP fund as needed.

d. This coverage ratio is not relevant; once the DPH reserve funds are included the ratio far exceeds minimum coverage requirements.

The following Foresight Consulting figure shows the total year-end fund balance for the Mt. Hannah CSA with and without the rate increase:³⁰⁶



³⁰⁵ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 31, July 22, 2008

³⁰⁶ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 31, July 22, 2008

The following Foresight Consulting table shows the cost allocation process whereby revenue requirements are allocated to functional budget categories for the CSA No.22 Mt. Hannah:³⁰⁷

Table COS-W8 Water Fund Cost Allocations - CSA 22 - Mt. Hannah Water (FY'08-09) Lake County Special Districts Administration							
Water Operations Fund	2008-09 Budget (a)	Percent Allocations			Allocated Costs		
		Customer Costs	Fixed Capacity	Variable Costs	Customer Costs	Fixed Capacity	Variable Costs
Operating Expenditures							
Services & Supplies - Maintenance	\$4,118	0.0%	50.0%	50.0%	\$0	\$2,059	\$2,059
Services & Supplies - Professional	\$2,835	10.0%	60.0%	30.0%	\$283	\$1,701	\$850
Services & Supplies - Special Dist. Admin.	\$2,559	25.0%	75.0%	0.0%	\$640	\$1,919	\$0
Services & Supplies - Utilities	\$3,700	0.0%	50.0%	50.0%	\$0	\$1,850	\$1,850
Services & Supplies - Other Admin.	\$358	10.0%	50.0%	40.0%	\$36	\$179	\$143
Other Charges	\$2,160	10.0%	50.0%	40.0%	\$216	\$1,080	\$864
Fixed Assets (Pay-as-you-go & debt service)	\$0	0.0%	100.0%	0.0%	\$0	\$0	\$0
Contingencies	\$5,515	10.0%	60.0%	30.0%	\$552	\$3,309	\$1,655
Less Other Recurring Revenue	(\$9,441)	8.1%	56.9%	34.9%	(\$767)	(\$5,376)	(\$3,298)
Net Revenue Requirements	\$11,804	8.1%	56.9%	34.9%	\$959	\$6,722	\$4,123
Summary of Allocations							
Total Fixed Costs			65.1%			\$7,601	
Total Variable Costs				34.9%			\$4,123

a. From Table B-W8, Water System Budget Projections and Revenue Requirements.

The following Foresight Consulting table shows how the consumptive water rates are determined for CSA No.22 Mt. Hannah:³⁰⁸

Table CR-W8 Consumptive Rates and Revenue - CSA 22 - Mt. Hannah Water (FY'08-09) Lake County Special Districts Administration						
Volume Rate Class	Billed Water Use (hct/yr) (a)	2008 Volume Rates		New Rate Differential (%) (b)	Commodity Rates	
		Volume Rate	Differential (%) (b)		Rate (c)	Revenue
Tier 1 (Tier 1 < 15 hct)	1,755	\$1.80	--	--	\$1.57	\$2,749
Tier 2 (15 hct > Tier 1)	439	\$1.10	-31.3%	100.0%	\$3.13	\$1,374
Total	2,194	--	--	--	--	\$4,123

a. Estimated consumption from Special District Billing records.

b. Percent difference between tiers (or the % increase from the lower tier to the next tier rate). The average consumption is 6.1 hct/SFD/mo.

c. Based on the new rate differential, these rates are calculated in order to meet the Target Rev. Reqts.

d. Total Variable Costs shown in the Cost Allocation Table COS-W8.

³⁰⁷ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 32, July 22, 2008

³⁰⁸ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 32, July 22, 2008

The following Foresight Consulting table shows the new fixed monthly rates for CSA No.22 Mt. Hannah.³⁰⁹

Table FR-W9 New Fixed Mo. Rates - CSA 22 - Mt. Hannah Water (FY08-09) Lake County Special Districts Administration	
Accounts	5/8-3/4" Meters
Total Accounts (a)	36
Extra Units (Additional SFD's) (a)	0
Standby (Excluded from Fixed Rates) (b)	0
Monthly Fixed Rates	
Customer Costs (\$/Acct) (c)	\$2.22
Capacity Costs (\$/Accts & Extra Units) (d)	<u>\$15.56</u>
Total Mo. Base Charge	\$17.78
Annual Revenue from Fixed Mo. Rates	
Customer Costs (Charged only to accounts)	\$959
Capacity Costs (Charged to Accts. & Extra Units)	<u>\$6,722</u>
Total	\$7,681
Fixed Costs Allocated to Monthly Fixed Monthly Rates (e)	
Customer Costs	<u>\$959</u>
Capacity Costs	<u>\$6,722</u>
Total Monthly Fixed Costs	<u>\$7,681</u>

Note: Rates are monthly rates, but customers are billed bi-monthly.

a. Accounts and Extra Units are from Special Districts records (Current Operations by Utility Area, 4/17/08).

b. Per County Counsel advice, standby accounts are to remain fixed at \$2.50/mo.

c. This is a "base charge" that excludes standby accounts and additional units.

d. This is a "minimum charge" for all "Extra Units" (additional SFD's).

e. Revenue requirements from the Cost Allocation Table.

The following Foresight Consulting table shows the projected water service rates through 2012-2012 and the monthly bills resulting from the 2008-09 rates for CSA No.22 Mt. Hannah.³¹⁰

Table PR-W8 Summary of Recommended & Projected Rates - CSA 22 - Mt. Hannah Water Lake County Special Districts Administration								
Customer Class	Rate Code	Current Rates	New Fixed Monthly Rates (\$/mo./Acct. but billed Bi-Monthly) (a)					
			2008-09	2009-10	2010-11	2011-12	2012-13	
Base Charge (\$/Account/mo.)	--	--	\$2.54	\$2.79	\$3.07	\$3.38	\$3.72	
Residential Accounts	BT	\$25.00	\$17.79	\$19.57	\$21.53	\$23.68	\$26.05	
Consumption Level			New Volume Rates (\$/hcf) (b)					
Tier 1 (Tier 1 < 15 hcf)			\$1.60	\$1.79	\$1.97	\$2.17	\$2.38	\$2.62
Tier 2 (Tier 2 > 15 hcf)			\$1.10	\$3.58	\$3.94	\$4.33	\$4.77	\$5.24
Financial Plan Rate Increases			10.0%	10.0%	10.0%	10.0%	10.0%	

a. From Table FR-W8. Note: these rates apply only to accounts (meters), not "extra units", which are only charged volume rates.

b. From Table CR-W8. Note: The Tier breakpoints have changed. Tier 1 now includes all consumption less than 15 hcf.

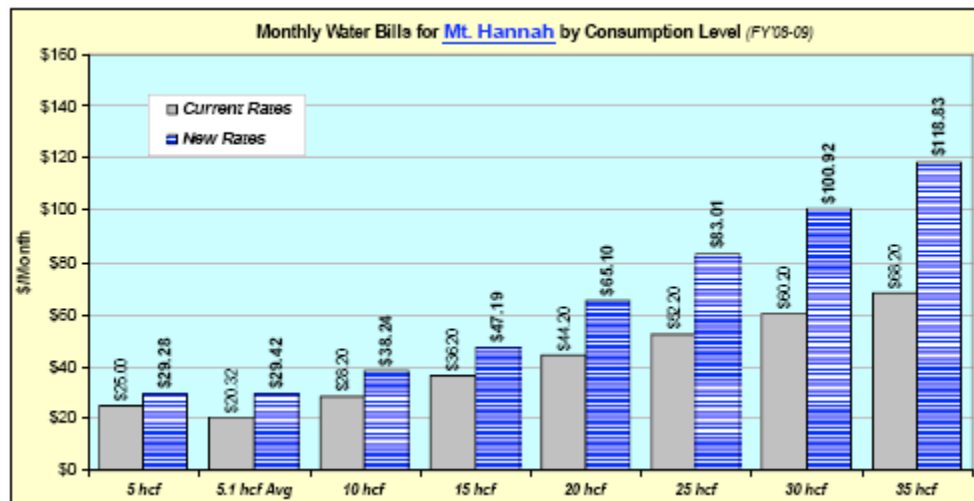
Tier 2 includes all consumption greater than 15 hcf.

c. This is the % increase from current rate revenue to the revenue from recommended rates, from the Financial plan for the system.

³⁰⁹ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 32, July 22, 2008

³¹⁰ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 33, July 22, 2008

The following Foresight Consulting figure shows the new monthly water bills for CSA No.22 Mt. Hannah by consumption level:³¹¹



B. CSA No. 22 Mt. Hannah Financing Constraints and Opportunities MSR Determinations

- 3-1) The CSA barely maintains financial solvency, and has insufficient financial reserves or revenues to continue operation without increasing rates.
- 3-2) Implementation of the improvements program will require a water rate increase in accordance with DPH criteria in the near future.

11.2.4 CSA No. 22 Mt. Hannah Opportunities for Shared Facilities

A. CSA No. 22 Mt. Hannah Shared Facilities Background

CSA No.22 does not actively participate in facilities or infrastructure sharing arrangements with other districts or government agencies. As part of the DPH improvement program, Special Districts has evaluated the possibility of consolidating with the Loch Lomond Mutual Water Company; however, this was determined to be infeasible.³¹²

The CSA is managed by the County Special Districts Administration, which oversees all of the water County Service Areas in Lake County. Management

³¹¹ Foresight Consulting, "Water and Sewer Rate Study Report", Appendix, page 33, July 22, 2008

³¹² Mark Dellinger, Special Districts Administrator, 230A Main Street, Lakeport, CA 95453, Ph: (707) 263-0119 F: (707) 263-3826, January 2008.

duties are grouped under this Administration, allowing for the use of staff and management to each agency or district, as needed. In addition to staff sharing, the arrangement uses sharing of office facilities. Also shared are miscellaneous office supplies and administrative resources.

B. CSA No. 22 Mt. Hannah Shared Facilities MSR Determinations

- 4-1) The CSA No. 22 Mt. Hannah capitalizes on all known opportunities to share resources.

11.2.5 CSA No. 22 Mt. Hannah Government Structure and Accountability

A. CSA No. 22 Mt. Hannah Government Structure Background

CSA No.22 Mt. Hannah is managed under the elected Lake County Board of Supervisors by the County's Special Districts Administration. The boundaries of the CSA have not changed since the last LAFCO analysis of Spheres of Influence, in 1991.

The current provision of water service by CSA No.22 is inefficient and costly to its residents. The small number of connections maintained by the CSA (36) is insufficient to defer set costs associated with operation, and results in higher water rates than in surrounding areas.

The CSA has not been able to develop reserves sufficient to provide for long-range planning or to make necessary improvements and upgrades to the water system. The CSA does not appear to be able to provide water service to these residents in a cost-efficient manner under its current structure.

The provision of water service can be done in a variety of ways, including through municipal service provision, through a private water company, or through a special district. The current CSA was established in 1991 to provide service which a private company could no longer maintain.

CSA No.22 was formed in 1991, and is managed by the Lake County Special Districts Administration. CSA No.22 is served by a Special Districts Utility Area (No.3) for day to day field operations. The Utility Area is managed by a superintendent and eight employees.

The Special Districts Administration in Lakeport coordinates customer service accounts, billing, budgeting/financial management, master planning/capital improvement programming, meter reading, regulatory compliance, and overall personnel management for the CSA.

The system allows for the use of available staff for emergency or directed needs, and does not require the dedication of a full-time staff member during periods in

which CSA No.22 operations have fewer staff demands. Direct control and decision-making lies with the Special Districts Administration in Lakeport and inquiries regarding CSA operations are able to be addressed promptly

The County of Lake is a unit of the State of California. It is governed by a Board of Supervisors consisting of five supervisors each elected for a four-year term of office. The terms of office are staggered so that two are elected in one general election and three in the next.

The Board usually meets the first, second, third, and fourth Tuesday of each month. The meetings are held in the Board Chambers on the first floor of the Courthouse at 255 North Forbes Street in Lakeport, CA.

Occasionally, for special purposes, the Board will schedule other meetings at different times and/or locations in the County. The Board meetings are open to the public and agendas are published the week prior to the meetings. The Lake County Board of Supervisors follows all provisions of the Brown Act in conducting business related to CSA activities.

B. CSA No. 22 Mt. Hannah Government Structure MSR Determinations

- 5-1) Given the geographic isolation of the Mt. Hannah area and the inability to add significant new customers to the system (due to lack of water availability), there do not appear to be government restructuring alternatives which would improve the efficiency of the system operation or otherwise reduce costs to the residents in the area. Much higher rates and a parcel tax will have to be approved by the landowners in order to make the needed improvements and to achieve financial solvency.
- 5-2) The structure of management for the CSA No.22 Mt. Hannah, with day to day field operations conducted by the Utility Area staff and overall administrative functions conducted by the Special Districts Administration in Lakeport, is considered efficient but could be improved and consideration of a County-wide CSA is encouraged.
- 5-3) The Board of Supervisors has sufficient mechanisms in place to allow for public inspection and involvement in CSA operations and management.
- 5-4) The Advisory Task Force appointed by Special Districts Administration should be used to educate the residents on the need for higher rates.
- 5-5) The Advisory Task Force should be directly appointed by the Board of Supervisors.

12 CSA NO. 23 KONOCTI BAY

CSA No.23 is a legal entity only, with no water service or customers. No analysis of this CSA is warranted or provided as part of this MSR. The SDA does not administer this CSA.



http://upload.wikimedia.org/wikipedia/en/2/20/SPRING_IN_THE_VINEYARDS.JPG

**COMPARISON TABLE
LAKE COUNTY CSA'S FOR WATER SERVICE**

CSA	Current System and CSA Build-out Capacity³¹³	Cur-rent Con-nec-tions³¹⁴	2007-08 Budget³¹⁵	2007-08 Revenue	2007-08 Carry-over	2008-09 Budget³¹⁶
No. 2 Spring Valley	571/1251	493	\$287,443	\$287,443	\$216,972	\$459,427
No. 6 Finley	524/412	223	\$118,064	\$66,180	\$59,692	\$105,613
No. 7 Bonanza Springs	190/498	170	\$186,453	\$106,097	\$178,767	\$186,816
No. 13 Kono Tayee	352/352	138	\$92,800	\$92,800	\$0	\$292,218
No. 16 Paradise Valley	74/n/a	74	\$73,390	\$63,235	\$27,055	\$63,074
No. 18 Starview (Cobb)	209/277	146	\$90,605	\$51,463	\$81,319	\$91,823
No. 20 Soda Bay	769/1296	737	\$331,908	\$272,239	\$123,479	\$396,185
No. 21 North Lakeport	1793/5280	1274	\$990,301	\$683,006	\$307,295	1,339,503
No. 22 Mt. Hannah	80/77	36	\$242,130	\$137,391	\$104,739	78,685
No. 23 Konocti Bay						

³¹³ Lake County Special Districts, "Build-out Analysis of Lake County Water and Wastewater Systems" Prepared by Criterion Planners, www.crit.com, April 2006

³¹⁴ Lake County Special Districts, "Special District System Fees 2007."

³¹⁵ Lake County Final Budget 2007-2008

³¹⁶ Lake County Final Budget 2008-2009

ABBREVIATIONS

AB	Assembly Bill
Ac-ft	Acre-foot (water)
ACP	asbestos cement pipe
AWWA	American Water Works Association
CEQA	California Environmental Quality Act
CF	Cubic Feet
CIP	Capital Improvement Plan
CKH Act	Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000
CSA	County Service Area
CSAs	County Service Areas
CSD	Community Services District
CWC	California Water Code
DPH	Department of Public Health (California)
DWR	Department of Water Resources (California)
EDU	Equivalent Dwelling Unit
FY	Fiscal Year
GAC	Granular Activated Carbon
GMP	Groundwater Management Plan
gpd	gallons per day
gpm	gallons per minute
KCWWD #3	Kelseyville County Water Works District No.3
LAFCO	Local Agency Formation Commission
MCL	Maximum Contaminant Level
MSR	Municipal Service Review (LAFCO)

No.	Number
PG&E	Pacific Gas and Electric Company
ppm	parts per million
PVC	poly-vinyl chloride
SCFs	system capacity fees
SDA	Special Districts Administration (Lake County)
SDWA	Safe Drinking Water Act
SOI	Sphere of Influence
SWQLs	secondary water quality thresholds
SWRCB	State Water Resources Control Board



<http://www.go-california.com/CA/images/listings/ClearLake-intro.jpg>

DEFINITIONS

Acre foot: The volume of water that will cover one acre to a depth of one foot, 325,850 U.S. Gallons or 1,233,342 liters (approximately).

Alluvium: A general term for clay, silt, sand, gravel, or similar unconsolidated detrital material, deposited during comparatively recent geologic time by a stream or other body of running water, (1) as sediment in the bed of the stream or on its flood plain or delta, (2) as a cone or fan at the base of a mountain slope; esp., such a deposit of fine-grained texture (silt or silty clay) deposited during time of flood.³¹⁷

Aquifer: An underground, water-bearing layer of earth, porous rock, sand, or gravel, through which water can seep or be held in natural storage. Aquifers generally hold sufficient water to be used as a water supply.

Bond: An interest-bearing promise to pay a stipulated sum of money, with the principal amount due on a specific date. Funds raised through the sale of bonds can be used for various public purposes.

California Environmental Quality Act (CEQA): A State Law requiring State and local agencies to regulate activities with consideration for environmental protection. If a proposed activity has the potential for a significant adverse environmental impact, an environmental impact report (EIR) must be prepared and certified as to its adequacy before taking action on the proposed project.

Capital Improvements Program (CIP): A program established by the City and reviewed by the Planning Commission, which schedules permanent improvements, usually for a minimum of five years in the future, to fit the projected fiscal capability of the City. The Program generally is reviewed annually, for conformance to and consistency with the General Plan.

Clay The finest-grain particles in a sediment, soil, or rock. Clay is finer than silt, characterized by a grain size of less than approximately 4 micrometers. However, the term clay can also refer to a rock or a deposit containing a large component of clay-size material. Thus clay can be composed of any inorganic materials, such as clay minerals, allophane, quartz, feldspar, zeolites, and iron hydroxides, that possess a sufficiently fine grain size. Most clays, however, are composed primarily of clay minerals. Although the composition of clays can vary, clays can share several properties that result from their fine particle size. These properties include plasticity when wet, the ability to form colloidal suspensions when dispersed in water, and the tendency to flocculate (clump together) and settle out in saline water.³¹⁸

Community Facilities District: Under the Mello-Roos Community Facilities Act of 1982 (Section 53311, et seq.) a legislative body may create within its jurisdiction a special tax district that can finance tax-exempt bonds for the planning, design, acquisition, construction, and/or operation of public facilities, as well as public services for district residents. Special taxes levied solely within the district are used to repay the bonds.

³¹⁷ <http://www.maden.hacettepe.edu.tr/dmmrt/index.html>

³¹⁸ <http://www.answers.com/topic/clay>

Community Services District (CSD): A geographic subarea of a county used for planning and delivery of parks, recreation, and other human services based on an assessment of the service needs of the population in that subarea. A CSD is a taxation district with independent administration.

Cretaceous: Applied to the third and final period of the Mesozoic Era. Extensive marine chalk beds were deposited during this period.³¹⁹

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. About 85% of domestic water is delivered to homes by a public-supply facility, such as a county water department. About 15% of the Nation's population supplies their own water, mainly from wells.³²⁰

Franciscan Complex: Jurassic to Early Cretaceous rocks, characteristic of the Pacific coastal ranges of California, composed primarily of sandstones, cherts, serpentinites, and glaucophane schists. The Franciscan should not be visualized as a formation or sequence with ordinary physical, spatial, and temporal coherence, but rather as a disorderly assemblage of various characteristic rocks that have undergone unsystematic disturbance; a melange. The formation includes deep-water sediments and mafic marine volcanic material, locally accompanied by masses of serpentinite.³²¹

Formation: A laterally continuous rock unit with a distinctive set of characteristics that make it possible to recognize and map from one outcrop or well to another. The basic rock unit of stratigraphy.³²²

Gravity flow: flow of water in a pipe on a descending path.

Groundwater: Water under the earth's surface, often confined to aquifers capable of supplying wells and springs.

ground water basin: A ground water reservoir, defined by an overlying land surface and the underlying aquifers that contain water stored in the reservoir. In some cases, the boundaries of successively deeper aquifers may differ and make it difficult to define the limits of the basin.³²³

Groundwater recharge: Groundwater recharge or deep drainage or deep percolation is a hydrologic process where water moves downward from surface water to groundwater. This process usually occurs in the vadose zone below plant roots and is often expressed as a flux to the water table surface. Recharge occurs both naturally (through the water cycle) and anthropologically (i.e., "artificial groundwater recharge"), where rainwater and or reclaimed water is routed to the subsurface.

Groundwater is recharged naturally by rain and snow melt, though this may be impeded somewhat by human activities including paving, development, or logging. These activities can result in enhanced surface runoff and reduction in recharge. Use of groundwater, especially for

³¹⁹ <http://www.webref.org/geology/c/cretaceous.htm>

³²⁰ <http://ga.water.usgs.gov/edu/dictionary.html>

³²¹ http://www.webref.org/geology/f/franciscan_complex.htm

³²² <http://geology.com/dictionary/glossary-f.shtml>

³²³ <http://rubicon.water.ca.gov/v1cwp/glssry.html>

irrigation, may also lower the water tables. Groundwater recharge is an important process for sustainable groundwater management, since the volume-rate abstracted from an aquifer should be less than or equal to the volume-rate that is recharged.

Recharge can help move excess salts that accumulate in the root zone to deeper soil layers, or into the ground water system. Another environmental issue is the disposal of waste through the water flux such as dairy farms, industrial, and urban runoff.³²⁴

Impact Fee: A fee, also called a development fee, levied on the developer of a project by a county, or other public agency as compensation for otherwise-unmitigated impacts the project will produce. California Government Code Section 66000, et seq., specifies that development fees shall not exceed the estimated reasonable cost of providing the service for which the fee is charged. To lawfully impose a development fee, the public agency must verify its method of calculation and document proper restrictions on use of the fund.

Infrastructure: Public services and facilities such as sewage-disposal systems, water-supply systems, and other utility systems, schools and roads.

Land Use Classification: A system for classifying and designating the appropriate use of properties.

Local Agency Formation Commission (LAFCO): A five-or seven-member commission within each county that reviews and evaluates all proposals for formation of special districts, incorporation of cities, annexation to special districts or cities, consolidation of districts, and merger of districts with cities. Each county's LAFCO is empowered to approve, disapprove, or conditionally approve such proposals. The LAFCO members generally include two county supervisors, two city council members, and one member representing the general public. Some LAFCOs include two representatives of special districts.

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.³²⁵

Mello-Roos Bonds: Locally issued bonds that are repaid by a special tax imposed on property owners within a community facilities district established by a governmental entity. The bond proceeds can be used for public improvements and for a limited number of services. Named after the program's legislative authors.

municipal water system: A water system that has at least five service connections or which regularly serves 25 individuals for 60 days; also called a public water system.³²⁶

per capita water use: The water produced by or introduced into the system of a water supplier divided by the total residential population; normally expressed in gallons per capita per day (gpcd).³²⁷

³²⁴ http://en.wikipedia.org/wiki/Groundwater_recharge

³²⁵ <http://ga.water.usgs.gov/edu/dictionary.html>

³²⁶ <http://ga.water.usgs.gov/edu/dictionary.html>

³²⁷ <http://rubicon.water.ca.gov/v1cwp/glssry.html>

Percolation: The downward movement of water through the soil or alluvium to a ground water table.³²⁸

Piezometer: An instrument for measuring pressure head; usually consisting of a small pipe tapped into the side of a closed or open conduit and flush with the inside; connected with a pressure gage, mercury, water column, or other device for indicating head.³²⁹

Pleistocene Epoch: The first epoch of the Quaternary Period, beginning 2 to 3 million years ago and ending approximately 10,000 years ago.³³⁰

potable water: Water of a quality suitable for drinking.³³¹

Quaternary: The second period of the Cenozoic era, following the Tertiary; also, the corresponding system of rocks. It began 2 to 3 million years ago and extends to the present. It consists of two grossly unequal epochs; the Pleistocene, up to about 10,000 years ago, and the Holocene since that time.³³²

Specific Capacity: The specific capacity of a water well depends on hydraulic characteristics of the aquifer and on the construction of the well. Specific capacity is determined by dividing the wells production by the drawdown that occurs during pumping. Higher specific capacities in wells tend to be indicative of higher aquifer production.³³³

Specific Yield: The specific yield for a water well is the percent of space in the ground that will drain by gravity when the water table drops. Specific yield is reported as a percent. Higher specific yields tend to be indicative of higher aquifer production. An example of a good specific yield is 7 percent, which is a typical average specific yield of aquifers in the Sacramento Valley.³³⁴

Sphere of Influence (SOI): The probable physical boundaries and service area of a local agency, as determined by the Local Agency Formation Commission (LAFCO) of the county.

total dissolved solids: A quantitative measure of the residual minerals dissolved in water that remain after evaporation of a solution. Usually expressed in milligrams per liter. Abbreviation: TDS.³³⁵

Transmissivity: Transmissivity is a term used to define the ability of an aquifer to convey or transport water, similar to the capacity of a pipeline. Transmissivity is related to hydraulic conductivity and saturated thickness of an aquifer or groundwater basin. Hydraulic conductivity is that rate at which groundwater moves through the aquifer. More porous aquifers, such as sand and gravel aquifers, have high hydraulic conductivities. The saturated thickness is the total depth of groundwater in an aquifer or basin. The term transmissivity combines both these terms

³²⁸ <http://rubicon.water.ca.gov/v1cwp/glssry.html>

³²⁹ http://www.webref.org/geology/f/franciscan_complex.htm

³³⁰ http://www.webref.org/geology/p/pleistocene_epoch.htm

³³¹ <http://ga.water.usgs.gov/edu/dictionary.html>

³³² <http://www.webref.org/geology/q/quaternary.htm>

³³³ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, Page 2-4.

³³⁴ Lake County Watershed Protection District, "Lake County Groundwater Management Plan", March 31, 2006, Page 2-4.

³³⁵ <http://rubicon.water.ca.gov/v1cwp/glssry.html>

so it is a good overall indication of the capacity of a groundwater basin to produce water. Higher transmissivity values tend to be indicative of higher aquifer production. An example of a good transmissivity is 100,000 gallons per day per foot (gpd/ft), which is the average transmissivity of a productive aquifer in the Sacramento Valley.³³⁶

Urban: Of, relating to, characteristic of, or constituting a city. Urban areas are generally characterized by moderate and higher density residential development (i.e., three or more dwelling units per acre), commercial development, and industrial development, and the availability of public services required for that development, specifically central water and sewer service, an extensive road network, public transit, and other such services (e.g., safety and emergency response). Development not providing such services may be “non-urban” or “rural”. CEQA defines “urbanized area” as an area that has a population density of at least 1,000 persons per square mile (Public Resources Code Section 21080.14(b)).

Urban Services: Utilities (such as water, gas, electricity, and sewer) and public services (such as police, fire protection, schools, parks, and recreation) provided to an urbanized or urbanizing area.

Volcanic Ash: Sand-sized particles of igneous rock that form when a spray of liquid magma is blown from a volcanic vent by escaping gas.³³⁷

water quality: Used to describe the chemical, physical, and biological characteristics of water, usually in regard to its suitability for a particular purpose or use.³³⁸

water year: A continuous 12-month period for which hydrologic records are compiled and summarized. In California, it begins on October 1 and ends September 30 of the following year.³³⁹

Zoning: The division of a city by legislative regulations into areas, or zones, that specify allowable uses for real property and size restrictions for buildings within these areas; a program that implements policies of the general plan.

³³⁶ Lake County Watershed Protection District, “Lake County Groundwater Management Plan”, March 31, 2006, Page 2-4.

³³⁷ <http://geology.com/dictionary/glossary-v.shtml>

³³⁸ <http://rubicon.water.ca.gov/v1cwp/glssry.html>

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Resolution 2008-07

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