

Lower Lake County Waterworks District #1 Water Rate Study

Water System #CA1710010, Assistance Referral Number 7109
Requested by: California State Water Resources Control Board



Prepared by: Mary Fleming

September 2024

Rural Community Assistance Corporation
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Funded by: State of California State
Water Resources Control Board

Sept. 30, 2024

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Subject: Lower Lake County Waterworks District #1 water rate analysis
Water System #CA1710010, Assistance Referral Number 7109

Dear Emma,

Enclosed please find the printed final report of the Lower Lake County Waterworks District #1 (LLCWD #1) water rate analysis.

The rate study was presented to the LLCWD #1 Board of Director on August 20, 2024. The Proposition 218 hearing is scheduled for November 26, 2024

If you have any additional questions, feel free to contact me at (916) 508-3031 or Samantha Ryan at (707) 572-7465.

Sincerely,

Kimberley Bennett

Kimberley Bennett
RCAC, Regional Field Manager
Community & Environmental Services

Enclosure: LLCWD #1 Rate Study
CC: Lower Lake County Waterworks District #1

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Executive summary

Lower Lake County Water District #1 (LLCWD #1) provides its consumers with clean, safe drinking water services. The water system is under the jurisdiction of the State Water Resources Control Board (SWCRB). LLCWD #1 is governed by a five-member board of directors that are appointed by the Lake County Board of Supervisors and serve two-year terms.

The State Water Resources Control Board has requested a water rate analysis to evaluate four primary areas. These are:

- Determine an adequate rate structure.
- Analyze reserve requirements for system sustainability.
- Review equitability of current rate structure and any recommended rate structure adjustment(s)
- Compare affordability of current rate and any recommended rate structure adjustment(s)

The current rates were determined to be inadequate to sustain the LLCWD #1 water system's projected cost of service for the present and plan for the future.

RCAC worked with LLCWD #1's general manager and executive assistant to project five-year budgets assuming a 4 percent annual inflation rate based on the actual costs for fiscal year ended 6/30/2023. The budget projections included the following reserve accounts funding to be included in rates:

1. Operating Reserves - On June 30, 2023, LLCWD #1 had adequate cash in bank to designate 12.5% (\$145,592) of the 2025 projected operating budget as Operating Reserves. This is approximately 45 days of operating costs. No further Operating Reserve funding was included in the budget projections.
2. Emergency Reserves – On June 30, 2023, LLCWD #1 had adequate cash in bank to designate \$100,000 as Emergency Reserves. The general manager determined that was an adequate amount and no further Emergency Reserve funding was included in the budget projections.
3. Capital Replacement Reserves (CRP) – In considering affordability of rates, LLCWD #1 determined to set aside \$50,000 in CRP reserves annually.

The proposed rate adjustment includes charging a monthly base rate paralleling the American Water Works Association (AWWA) meter maximum flow limit using data from badgermet.com and sensus.com.

The current usage rate for the LLCWD #1 is tiered, with four hundred cubic feet included in the base rate. The usage, after allowance, currently charged in units of 100 cubic feet, will be converted to a uniform usage rate for residential and commercial customers, instead of the current tiered rate structure.

California Proposition 218 Article 13D, Section 6

***(6.1) “....The agency shall provide written notice by mail of the proposed fee or charge to the record owner of each parcel upon which the fee or charge is proposed for imposition, the amount of the fee or charge proposed, the basis upon which the amount of the proposed fee or charge was calculated,*”**

In the landmark 2015 ruling in the case of Capistrano Taxpayers Association v. The City of San Juan Capistrano, the Fourth District of the Court of Appeal ruled that Proposition 218 requires public water agencies to calculate the actual costs of providing water at various levels of usage. In order to comply

with section 6.1, tiered rates mathematical calculations must be conducted to justify how the number of units in each tier and the amount charged in each tier were determined. Because LLCWD #1's variable costs are at only 14 percent of the total costs of service, mathematical calculations identifying the costs of each tier becomes very complex, if not impossible, and the resulting tiers would not notably increase revenue, RCAC recommends changing the usage charges to a uniform rate. The Rate Adjustment Option in this analysis is based on a flat or uniform usage rate, in which every drop of water delivered is charged at the same rate regardless of usage.

(6.2.b.1) "Revenues derived from the fee or charge shall not exceed the funds required to provide the property related service."

Due to these regulations, RCAC recommends not including usage in base rates. If a connection is using less than the allotment included in the base rate, the charge is in excess of the property related service and the charge to that property is, therefore, subsidizing the rates of other users.

(6.2.b.2) "Revenues derived from the fee or charge shall not be used for any other purpose than that for which the fee or charge was imposed."

The rates calculated in the analysis were based on the cost of service for the water enterprise only.

(6.2.b.3) "The amount of 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."

In *Bighorn-Desert View Water Agency vs. Verji* (2006) it was determined that "while tiered, or inclined rates that go up progressively in relation to usage are perfectly consonant with article XIID, Section 6, subdivision (b)(3) the tiers must still correspond to the actual cost of providing service at a given level of usage. In this case, the water agency failed to calculate the cost of actually providing water at its various tier levels. It merely allocated all its costs among the price tier levels, based not on costs, but on pre-determined usage budgets.

Tiered rates are an effective tool in a utility's efforts to curb wasteful usage of water, an essential resource to all living things. However according to case law on Proposition 218, tiered rates are allowable only if the water utility can justify the need for a tiered rate structure. Calculating the units in each tier and the cost of each tier is much more clear-cut in larger utilities that 1) may need to hire additional staff with an increase in water usage, 2) will see large increases in chemical and power costs, 3) may have additional costs related to their water source, and 4) can quantify the toll on capital assets as usage increases. For smaller systems, who usually have salaried staff whose time cannot be directly or indirectly linked to the amount of water delivered to its connections and whose chemical and electrical costs do not increase dramatically with increased usage, it becomes complex to quantify. Therefore, RCAC recommends converting the current tiered rate structure to a uniform rate structure. California Articles XIII C and XIII D place the burden of proof on water utilities to show that the benefit conferred to each parcel is proportional to the rate of the fee. After *San Juan Capistrano*, the growing body of case law on tiered water rates emerging out of the California Court of Appeals has turned tiered rate-setting into a confusing and tenuous process. If LLCWD #1 determines to continue charging tiered rates, RCAC recommends they consult with legal counsel who is well-versed in Proposition 218 case law.

Proposed Rate Adjustment

In the Rate Adjustment, the monthly base rates will increase as indicated in the table below. The current increasing block usage rate will be modified to a uniform block usage rate in which all usage is charged \$2.25 per one-hundred cubic feet.

The Rate Adjustment will increase LLCWD #1's annual rate revenue to an amount that will not fully recapture all operating costs but when combined with non-operating revenue, will fully recover all operating costs, debt service and fund \$50,000 in capital replacement reserves. Subsequent years would require an annual increase of the greater of 4 percent or the annual inflation rate according to the Consumer Price Index (CPI).

| Meter Size | Current Rate | Adjusted Rate |
|--------------------------|----------------|---------------|
| 5/8 Inch | 69.94 | 71.90 |
| ¾ Inch | 69.94 | 71.90 |
| 1 Inch | 162.48 | 179.75 |
| 1.5 Inch | 323.99 | 359.50 |
| 2 Inch | 518.57 | 575.20 |
| 3 Inch | 1,008.97 | 1,150.40 |
| 4 Inch | 1,621.92 | 1,797.50 |
| 6 Inch | 3,243.07 | 3,595.00 |
| Usage per 100 Cubic Feet | Based on Usage | \$2.25 |

| Rate Adjustment Monthly 5-Year Rate Schedule | | | | | |
|--|----------|----------|----------|----------|----------|
| Meter Size | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| 5/8 Inch | 71.90 | 75.03 | 77.95 | 81.00 | 84.50 |
| ¾ Inch | 71.90 | 75.03 | 77.95 | 81.00 | 84.50 |
| 1 Inch | 179.75 | 187.57 | 194.88 | 202.50 | 211.25 |
| 1.5 Inch | 359.50 | 375.14 | 389.77 | 405.01 | 422.50 |
| 2 Inch | 575.20 | 600.22 | 623.63 | 648.01 | 676.01 |
| 3 Inch | 1,150.40 | 1,200.44 | 1,247.26 | 1,296.03 | 1,352.02 |
| 4 Inch | 1,797.50 | 1,875.69 | 1,948.84 | 2,025.04 | 2,112.52 |
| 6 Inch | 3,595.00 | 3,751.38 | 3,897.69 | 4,050.09 | 4,225.05 |
| Usage per 100 Cubic Feet | 2.25 | 2.35 | 2.44 | 2.53 | 2.64 |

| LLCWD #1 Rate Adjustment Water Rates Against Projected Water Costs | | | | | | |
|--|-----------|-----------|-----------|-----------|-----------|--------------|
| | Year #1 | Year #2 | Year #3 | Year #4 | Year #5 | 5-Year Total |
| Total Operating Revenue | 1,065,705 | 1,112,063 | 1,155,434 | 1,200,611 | 1,252,478 | 5,786,291 |
| Total Operating Costs | 1,164,738 | 1,211,327 | 1,259,781 | 1,310,172 | 1,362,579 | 6,308,596 |

| LLCWD #1 Rate Adjustment Water Rates Against Projected Water Costs | | | | | | |
|--|-----------|-----------|-----------|-----------|-----------|--------------|
| | Year #1 | Year #2 | Year #3 | Year #4 | Year #5 | 5-Year Total |
| Debt Service | 88,271 | 88,177 | 82,978 | 77,762 | 77,762 | 14,950.00 |
| CRP Reserves | 50,231 | 50,000 | 50,115 | 50,098 | 49,558 | 250,002 |
| Total Costs | 1,303,224 | 1,349,582 | 1,392,953 | 1,438,130 | 1,489,997 | 6,973,886 |
| Operating Revenue Over/(Under) Operating Costs | (237,519) | (237,519) | (237,519) | (237,519) | (237,519) | (1,187,595) |
| Non-Operating Revenue | 237,519 | 237,519 | 237,519 | 237,519 | 237,519 | 1,187,595 |
| Net Profit/(Loss) | -0- | -0- | -0- | -0- | -0- | -0- |

RCAC recommends LLCWD #1 monitor rate revenue against costs monthly to manage cash flow and review the rates annually. A comprehensive rate analysis should be conducted if there are any significant changes in the cost of service or no later than five years.

1. Introduction

Rural Community Assistance Corporation

Founded in 1978, RCAC provides training, technical, and financial resources, and advocacy so rural communities can achieve their goals and visions. Since 1978, our dedicated staff and active board, coupled with our key values: leadership, collaboration, commitment, quality, and integrity, have helped effect positive change in rural communities across the West.

RCAC's work includes environmental infrastructure (water, wastewater, and solid waste facilities), affordable housing development, economic and leadership development, and community development finance. These services are available to communities with populations of fewer than 50,000, other nonprofit groups, tribal organizations, farmworkers, colonias and other specific populations. Headquartered in West Sacramento, California, RCAC's employees serve rural communities in 13 western states and the Pacific islands.

Purpose of this study

An accurate and useful rate analysis not only identifies the total annual revenue required by a utility to conduct its normal day-to-day operations, but it also anticipates and plans for future operating and capital needs. Furthermore, the analysis attempts to determine whether the projected revenue under existing rates will satisfy those needs. The primary objective of this process is to ensure that the utility has the ability to obtain sufficient funds to develop, construct, operate, maintain, and manage its water system on a continuing basis, in full compliance with federal, state and local requirements.

Board responsibilities

Board responsibilities for the system operation include maintaining sufficient revenue and reserves to provide for ongoing maintenance for the foreseeable future. The ultimate responsibility of the board is to ensure preserved public health and compliance with environmental regulations.

Guiding principles in a rate study

Sustainability

Water rates should cover the costs to the water utility to allow it to provide water services for the near future and prepare for system repair and replacement. This will allow the system to continue to provide safe drinking water to future generations.

Fairness

Water rates should be fair to all rate payers. The utility should not charge more for water than the cost to provide the water. However, the costs should include operations, maintenance, reserves, and all other costs related to the production, treatment and distribution of potable water now and in the foreseeable future. Therefore, the proposed rates are based on the water utility budget, needed capital repair and replacement, and historic water consumption.

Water conservation

Water conservation is a key element of rate studies. Clean and safe water is limited, and inappropriate use of this resource negatively impacts community members.

Justifiability

Rates should be easily justifiable. When determining rate recommendations, RCAC considers if the proposed rates are needed, and justifiable, given the true costs of operating the system safely.

State or funder specific requirements

The Lower Lakes County Water District #1 water system is not under funder requirements for reserves and rates. However, the board is obligated by its responsibilities to provide for sufficient reserves and long-term sustainability.

Disclaimer

The findings, recommendations and conclusions contained in this rate analysis are based on financial information provided to RCAC by Lower Lakes County Waterworks District #1. Although reasonable care was taken to ensure the reliability of this information, no warranty is expressed or implied as to the correctness, accuracy or completeness of the information contained herein. Any action taken on the basis of such findings, recommendations or conclusions is undertaken at the discretion of Lower Lake County Waterworks District #1. In no event will RCAC or its partners, employees or agents be liable for any decision made or action taken in reliance on the information contained in this analysis.

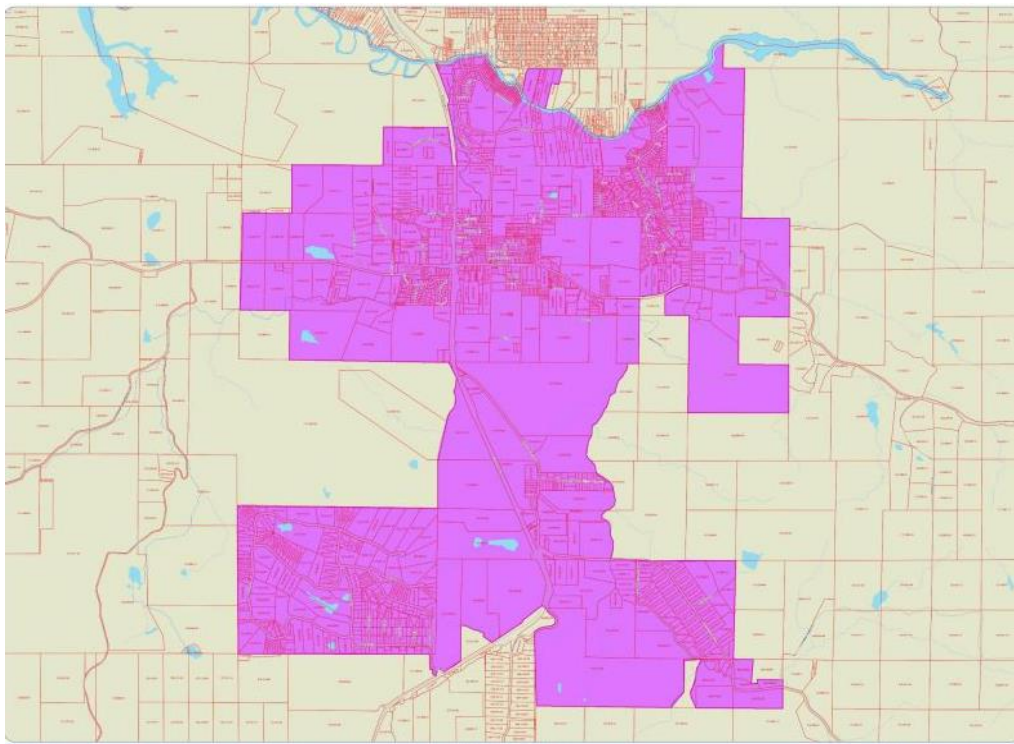
2. Lower Lake County Waterworks District #1

Community

Lower Lake is a census-designated place (CDP) in the southern Clear Lake regions of Lake County in northern California. It is located at the intersection of State Highways 29 and 53 near the south shore of Clear Lake at an elevation of 1,378 feet above sea level. The population, at the time of the 2020 census, was 3,231. According to the Lake County General Plan, “This community contains some of the County’s prime historic structures along its Main Street and other areas within the community.” One example of the historic structures is the Lower Lake Stone Jail.

Water District

Lower Lake County Waterworks District #1, (LLCWD#1) serves the unincorporated community of Lower Lake. The Board of Directors is appointed by the Lake County Board of Supervisors and serve four-year terms. The General Manager oversees daily operations. The greater service area comprises roughly three-square miles, of which a large portion is rural and not presently receiving LLCWD #1 water. Major users of LLCWD #1 water include the schools within the Lower Lake community and Lake County office buildings. LLCWD #1 was organized under the County Water District Law, California Water Code §30000 et seq. in 1946, with the first well (#1) constructed in 1948 and a service area including only the immediate town of Lower Lake. The Copsey Creek subdivision (northeast of the town) was added approximately in 1965. The Rancho Sendero subdivision (one mile south and east of Highway 29) was annexed in 1986 (but running separate facilities) and was connected to the LLCWD #1’s supply as a subsystem in 1996. The Twin Lakes area (1.5 miles south and west of Highway 29) was added in 1996 and included an upper zone water storage tank for Twin Lakes. The first water treatment plant (Plant A) was built in the 1980s, and Water Treatment Plant B was added in 1996.



Water System Description

Water Supply: Water is drawn from a variety of wells, with pumping abilities ranging from 10 to 200 gallons per minute (gpm), per well. There are eight wells in production within the district. According to the district, there are no issues regarding the ability of the aquifer to regenerate. All active wells are listed in either “fair” or “good” condition. LLCWD #1 also has water rights by capture.

Water Well #1: Well #1 is the original well, predating the Copsey Creek subdivision, and is located on district-owned property within the Copsey Creek subdivision, near Copsey Creek. Well #1 is currently inactive due to high levels of arsenic.

Other Water Wells: Two other wells are located within the District in the Rancho Sendero subdivision but were retired from use when the Rancho Sendero subsystem was connected to the LLCWD #1 water system in 1996. These wells were legally abandoned, and the easements returned to their original properties.

Wells #4 and #5A: Two wells (wells #4 and #5A) need a filtration and chlorination plant and are located on LLCWD #1-owned property. These wells are used with Water Treatment Plant A.

Wells #6 - #10: Wells #6 through # 10 also need a filtration and chlorination plant and are located on district-owned property. These wells feed Water Treatment Plant B.

Water Treatment Plant A: Water Treatment Plant A is located northeast of Well #1, on a northerly extension of Bonham Road, near the confluence of Herndon Creek and Cache Creek. Plant A uses KMNO₄ in addition to chlorine for treatment. Wells #4 and #5 feed the plant, filling a local ground storage tank, which is pumped into the distribution system and ultimately into the main District Water Storage Tanks. Plant A is capable of pumping water into the system at a rate approaching 100 - 120 gallons per minute.

Water Treatment Plant B: Water Treatment Plant B is located northwest of Lower Lake, on a northerly extension of North Drive behind Jonas Oil. Wells #6 through #10 feed this plant, filling a local ground storage tank, which is pumped into the distribution system and ultimately into the main district water storage tanks. Plant B also uses KMNO₄ for treatment. Water Treatment Plant B is capable of pumping into the system at a rate of 200 - 250 gallons per minute. There is only one water transmission line into this plant and the LLCWD #1 plans to upgrade to two lines in the future.

Water Quality: The water quality for the service area is good and meets the less than the Regulatory Action Level (AL) for lead and copper.

Water Storage: LLCWD #1 has one booster pump station with two pumps that help feed the twin lakes area.

Tank #4 and Tank #5: Water Storage Tank #4 (Mill Street) is a steel tank of 500,000-gallon capacity that was added in 2007 to replace an inadequate redwood tank which was demolished after the new tank was placed into service. Water Storage Tank #5 Tank #5 is a 500,000-gallon welded steel tank (50 feet diameter, 34 feet usable height) with a floor elevation of 1,600. This tank was installed in 1983 and is in

good condition. These tanks are filled from the treatment plants by means of two pipelines, (eight-inch and twelve-inch) under the access road, and feed the distribution system through those same pipelines plus a ten-inch pipeline going west, then south to Clayton Creek Road, Rancho Sendero, and Twin Lakes. The two water storage tanks are connected by undocumented valves between the tanks. LLCWD #1 needs to identify and document the valves so that each tank can be quickly isolated from the system, either tank can be filled independently of the other, and either tank can be connected to the system as a supply while the other tank is being maintained. Normally, both tanks float on the system, providing both flow and pressure when the wells and plants are off. The main water storage tanks have a rim elevation of 1634 feet above sea level which provides a static head of about 300 feet (132 psi) above the lowest served elevations near Cache Creek. LLCWD #1 has a SCADA system to electronically monitor the storage tanks.

The Rancho Sendero subsystem: The Rancho Sendero subsystem has one 30,000-gallon redwood water storage tank. This water storage tank is located northeast of the subdivision off a dirt road extension of Sendero Way at an elevation of 1550 feet above sea level. While the tank is still standing, it is no longer online.

The Twin Lakes water storage tank is steel and has a capacity of 205,000 gallons. This tank has a floor elevation of 1782 feet above sea level and a diameter of 39 feet. The tank was installed in 1996 and is filled by means of a booster pump station location on Candy Lane in the Twin Lakes subdivision. The booster pump feeds the Twin Lakes upper zone distribution system, which in turn fills the tank through an auxiliary chlorinator and top-fill line.

The Twin Lakes water storage tank is capable of supplying the lower zone portion of Twin Lakes as well as supplying the Rancho Sendero tanks in the event that the Clayton Creek line is shut down for maintenance. This back-supply is accomplished by a pressure reducing station co-located with the booster station. Thus, the Twin Lakes tank can contribute to fire reserves for the general system as well as fire reserves for the Twin Lakes area.

Water Supply Infrastructure: Water mains are typically concrete, ranging from four to 12 inches, with lateral lines to provide for individual connections.

Main Zone: The distribution piping provides water from Plants A and B to the main zone tanks and from the tanks to the consumers. These transmission lines were built between 1985 and 1996 using C900 PVC. There are some enhanced lines for both transmission and distribution.

Clayton Creek Road Line to Rancho Sendero and Twin Lakes: The southern area is supplied by the Clayton Creek Road transmission line which branches from the twelve-inch Mill Street tank line and proceeds westerly and southerly to Clayton Creek Road as a ten-inch line. The ten inch line branches into three six-inch lines. These lines are all C900 PVC and were built in 1996.

Distribution to Specific Areas 1. Original System: Most of the distribution system in the Lower Lake town area is asbestos-cement pipe (AC) which was commonly used until better grades of PVC became available. The water lines are mostly four-inch lines or smaller.

Copsey Creek Area: The Copsey Creek Ranch subdivision plats are dated 1965 and it is assumed the water system was built as each unit of the subdivision was offered for sale. The water lines are principally four-inch AC pipe with six-inch lines in a few places and three-inch dead-end lines.

Cache Creek Area: The Cache Creek area is served by a newer eight-inch PVC water line on Lake Street with older four-inch lines on the residential streets. Some Bryant Road parcels are served from a branch line north of Winchester and the Bryant Road water line (eight-inch C900 PVC) should be extended and connected to the Copsey Creek area to serve these parcels and provide a water line loop to the area.

Bell Park Area: Bell Park pipelines are principally four-inch AC and have inadequate cover.

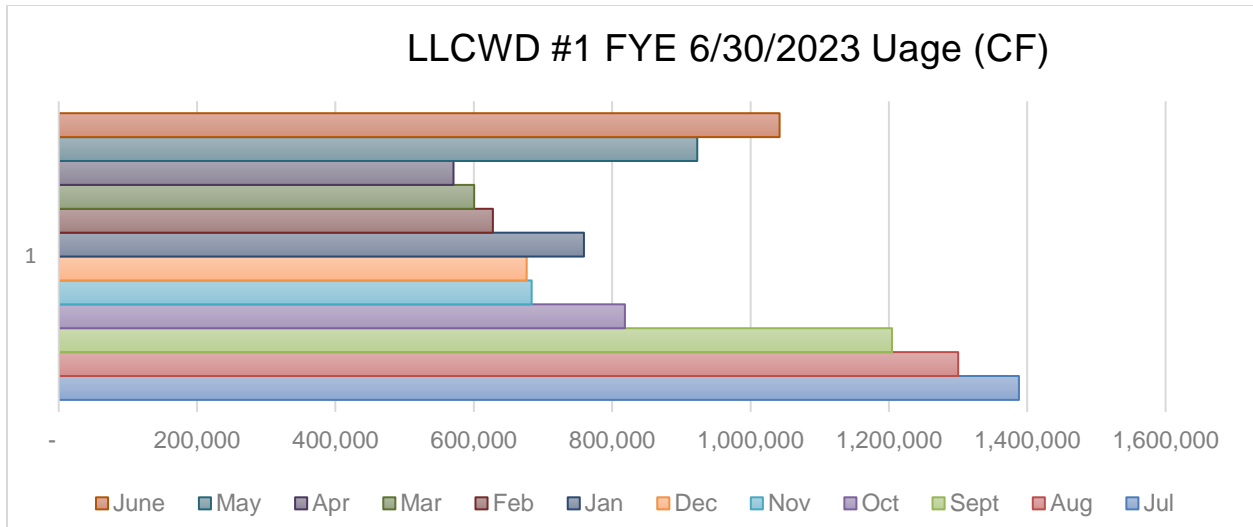
Rancho Sendero Area: Rancho Sendero lines are thin-wall PVC, dating from the 1980's and include an eight-inch line from the tanks to the residential area, a six-inch loop on Spruce Grove and Old Spruce Grove roads and a four-inch extension southerly on Spruce Grove Road.

Twin Lakes Area: Twin Lakes distribution piping was installed in 1996. Record plans show C900 PVC to have been used throughout, with Class 200 in a few high-pressure areas. Sizes are generally six inches with eight inches in the upper zone tank line and four inches on the Strawn Road extension.

Fire Protection: The original system included a number of wharf hydrants with a few dry barrel hydrants. Only dry barrel hydrants have been added recently. In most areas, the frequency of hydrants along streets is normal; but in some areas there are too few hydrants. Flows and pressures at hydrants on six inch or larger water lines are good due to the high prevailing static pressures. Hydrants on small diameter lines will produce substandard flows and residual pressures (under 500 gpm, under 20 psi) despite the high prevailing static pressures. The California Department of Health Services suggests that a commercial district should have a fire flow of 2,000 gpm for two hours which can be obtained by using two dry barrel hydrants that are on separate small mains, or on the same large main. Lake County requires 750 gpm in urban residential areas and 500 gpm in rural residential areas. These values are not attainable in many areas of the LLCWD #1 service area. The storage tank at the Mill Street location will provide the additional water needed for fire protection. Considering the rural grassland and woodland nature of the Rancho Sendero and Twin Lakes areas, the proximity of grasslands and woodlands to the town of Lower Lake, supporting maximum possible fire flows and large fire reserves for property protection the event of wildfires should be a priority.

Customer water use

When analyzing water rates, it is important to understand existing patterns of consumption among the system's customers. A substantial portion of customers may use a small percentage of water, and a small portion of customers may use a sizable percentage. Understanding how customers use water is important when you are considering seasonal operational needs, infrastructure replacement and water use efficiency, to name a few considerations. The water usage by connection for the year ended June 30, 2023, was the assumed future usage in this in this rate analysis. The highest amount of usage was between May and October, with lower usage between November and April.



LLCWD #1 Usage by Tier FYE 6/30/2023

| Usage (Cubic Feet) | Total Annual Usage | Average Customers | % of Usage | % of Customers |
|--------------------|--------------------|-------------------|----------------|----------------|
| 0 -1,100 | 5,884,985 | 648 | 55.55% | 75.43% |
| 1,101 – 2,600 | 2,158,607 | 142 | 20.38% | 16.51% |
| 2,601 – 4,600 | 1,049,900 | 41 | 9.91% | 4.74% |
| 4,601 – 7,100 | 572,437 | 16 | 5.40% | 1.86% |
| 7,101 – 9,600 | 286,333 | 5 | 2.70% | 0.54% |
| Over 9,600 | 641,497 | 8 | 6.06% | 0.91% |
| Total | 10,593,819 | 859 | 100.00% | 100.00% |

Future population and usage projections

Continuing high demand for housing in the San Francisco Bay Area (including the North Bay counties of Sonoma, Napa and Solano) together with abnormally high residential housing and land prices in the Bay Area has caused rising land and housing prices in the adjacent San Joaquin and Sacramento Valleys, and also in parts of Lake County. It is reasonable to believe that this trend will continue; however, at a slower rate. Also, Lake County is attractive for retirement housing in discussion with the general manager and executive assistant, an annual population increase of 0.5 percent seems a reasonable assumption. Current customer usage is not expected to decline after the rate adjustment.

| Estimated Growth of Consumption over Base Year | | | | | |
|--|--------|--------|--------|--------|--------|
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| Conservation Factor | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |

| | | | | | |
|------------------------------|------|------|------|------|------|
| Community Growth Factor | 0.5% | 0.5% | 0.5% | 0.5% | 0.5% |
| Total Consumption Adjustment | 0.5% | 0.5% | 0.5% | 0.5% | 0.5% |

3. Current financial condition and analysis

Rate structures

The following are types of rates structures common to drinking water systems:

- **Uniform flat rate:** Customers pay the same amount regardless of the quantity of water used. This type of rate is easiest to administer; however, it is not fair to the lowest water users and can promote high consumption, which then may cost the utility more to provide that water.
- **Single or uniform block rate:** Customers are charged a constant price per volume regardless of the amount of water used. The cost per block of water is often added to a minimum charge, or base rate, for having service available. This rate tends to be more equitable to customers as the cost to customer is in direct proportion to the amount use.
- **Inclining or increasing block rate:** This rate is designed to promote water use efficiency, as the price of water increases as the amount used increases or may promote industry as the price of water decreases as the amount increases.

LLCWD #1 current water rate structure

The LLCWD #1 water enterprise currently uses an inclining block rate (tiered rates) structure. Because the current rate structure cannot be mathematically justified under California Proposition 218 regulations, RCAC recommends implementing a uniform block rate structure. The system serves a total of eight hundred and fifty-nine (859) connections,

| # Connections by Size | |
|-----------------------|---------------|
| Meter Size | # Connections |
| 0.625 “ | 815 |
| 0.750” | 22 |
| 1.00” | 10 |
| 1.50” | 5 |
| 2.00” | 6 |
| 3.00” | 0 |
| 4.00” | 1 |
| Total | 859 |

While revenue for the water enterprise is derived primarily from customer rates, property tax revenue is used to recover some of the operating costs, serving to lower customer rates. LLCWD #1 categorizes its water base rates by meter size. Base rates for different meter sizes are typically different due to the cost of the device, maintenance costs and the amount of water the meter can manage. There is also a cost for the infrastructure needed to deliver an amount of water to a customer.

| LLCWD #1 Current Monthly Base Rate by Meter Size | | | | | | | |
|--|----------|-----------|-----------|-----------|-------------|-------------|-------------|
| 0.625” | 0.750” | 1.00” | 1.50” | 2.00” | 3.00” | 4.00” | 6.00” |
| \$ 69.94 | \$ 69.84 | \$ 162.48 | \$ 323.99 | \$ 518.57 | \$ 1,008.97 | \$ 1,621.92 | \$ 3,243.07 |

| LLCWD #1 Current Usage Rate | |
|-----------------------------|--------------|
| Usage (Cubic Feet) | Rate Per CCF |
| 0 – 400 | \$ 0.00 |
| 401 – 1,100 | \$ 1.64 |
| 1,101 – 2,600 | \$ 2.02 |
| 2,601 – 4,600 | \$ 2.18 |
| 4,601 – 7,100 | \$ 2.73 |
| 7,101 – 9,600 | \$ 3.27 |
| Over 9,600 | \$ 4.36 |

Affordability risk and index

The affordability risk and index measure the burden of costs passed from the water utility to the users against the median household income for the area and is used by funding agencies to determine grant and low interest loan eligibility. According to the California State Water Resources Control Board (SWRCB) affordability risk guidelines, rates with affordability up to 1.5% of the MHI are considered no risk. Rates between 1.5% to 2.5% are considered a medium risk. According to the 2020 US Census Bureau, the LLCWD #1 has Median Household Income (MHI) of \$45,721.

Affordability risk=

Annual residential bill for 600 CF of water usage monthly divided by the community annual MHI.

The affordability risk of the current rate structure is 1.92%.

Affordability index=

Annual residential bill for given usage divided by the community MHI

| Current Rate Affordability by Usage | | | | | |
|-------------------------------------|-----------|------------------|--------------------|----------|---------------------|
| Monthly Usage (Cubic Feet) | Base Rate | Usage Fee | Total Monthly Bill | MHI | Affordability Index |
| Up to 400 CF | \$ 69.94 | \$ 0.00 | \$ 69.94 | \$45,721 | 1.84% |
| 1,100 CF | \$ 69.94 | \$11.48 | \$ 81.42 | \$45,721 | 2.14% |
| 2,600 CF | \$ 69.94 | \$41.78 | \$111.72 | \$45,721 | 2.93% |
| 4,600 CF | \$ 69.94 | \$85.38 | \$155.32 | \$45,721 | 4.08% |
| 7,100 CF | \$ 69.94 | \$153.63 | \$223.57 | \$45,721 | 5.87% |
| 9,600 CF | \$ 69.94 | \$235.38 | \$305.32 | \$45,721 | 8.01% |
| Over 9,600 CF | \$ 69.94 | Depends on Usage | | | |

Five-year budget forecast

Because LLCWD #1 does not expect unusual changes in costs over the next five years, the budget was developed by using the actual operating costs for the year ended 6/30/2023 and assuming an annual inflation rate of 4 percent for each subsequent year.

- Operations – annual increase of 4% based on projected inflation rates.
- Debt Service

| LLCWD #1 Budgeted Debt Service | | | |
|--------------------------------|-----------|-----------|----------------------|
| FYE June 30 | USDA Bond | DWR Loan | Total Annual Payment |
| 2025 | \$ 77,876 | \$ 10,395 | \$ 88,271 |
| 2026 | \$ 77,782 | \$ 10,395 | \$ 88,177 |
| 2027 | \$ 77,781 | \$ 5,197 | \$ 82,978 |
| 2028 | \$ 77,762 | \$ 0 | \$ 77,762 |
| 2029 | \$ 77,762 | \$ 0 | \$ 77,762 |

- Operating Reserves - On June 30, 2023, LLCWD #1 had adequate cash in bank to designate 12.5% (\$145,592) of the 2025 projected operating budget as Operating Reserves. This is approximately 45 days of operating costs. No further Operating Reserve funding was included in the budget projections.
- Emergency reserves – On June 30, 2023, LLCWD #1 had adequate cash in bank to designate \$100,000 as Emergency Reserves. The utility decided that was an adequate amount and no further Emergency Reserve funding was included in the budget projections.
- Capital Replacement Reserve (CRP)–In considering affordability of rates, LLCWD #1 determined to set aside \$50,000 in CRP reserves annually.

| Lower Lake County Waterworks District #1 | | | | | |
|--|---------------------|---------------------|---------------------|---------------------|---------------------|
| Budget Projections | | | | | |
| | Projected 2025 | Projected 2026 | Projected 2027 | Projected 2028 | Projected 2029 |
| Operating Expenses | | | | | |
| Salaries & Wages, Personnel | \$ 379,608 | \$ 394,793 | \$ 410,584 | \$ 427,008 | \$ 444,088 |
| Retirement Contribution - FICA | \$ 29,049 | \$ 30,211 | \$ 31,419 | \$ 32,676 | \$ 33,983 |
| Retirement Contribution - PERS | \$ 57,624 | \$ 59,929 | \$ 62,326 | \$ 64,819 | \$ 67,411 |
| PERS - Co. Emp. Contributions | \$ 5,352 | \$ 5,566 | \$ 5,789 | \$ 6,020 | \$ 6,261 |
| Emp. Health/Life Insurance | \$ 63,435 | \$ 65,972 | \$ 68,611 | \$ 71,356 | \$ 74,210 |
| Unemployment Insurance | \$ 4,306 | \$ 4,478 | \$ 4,657 | \$ 4,844 | \$ 5,037 |
| Workers Compensation Ins. | \$ 4,975 | \$ 5,174 | \$ 5,381 | \$ 5,597 | \$ 5,820 |
| Clothing & Personal Supplies | \$ 1,380 | \$ 1,436 | \$ 1,493 | \$ 1,553 | \$ 1,615 |
| Communications | \$ 7,831 | \$ 8,145 | \$ 8,470 | \$ 8,809 | \$ 9,161 |
| Household Expenses | \$ 3,231 | \$ 3,361 | \$ 3,495 | \$ 3,635 | \$ 3,780 |
| Insurance - Other | \$ 29,744 | \$ 30,934 | \$ 32,171 | \$ 33,458 | \$ 34,796 |
| Maintenance - Equipment | \$ 134,537 | \$ 139,919 | \$ 145,516 | \$ 151,336 | \$ 157,390 |
| Maintenance - Bldgs. & Improvement | \$ 8,741 | \$ 9,090 | \$ 9,454 | \$ 9,832 | \$ 10,225 |
| Memberships | \$ 4,217 | \$ 4,386 | \$ 4,561 | \$ 4,744 | \$ 4,934 |
| Office Supplies | \$ 15,885 | \$ 16,521 | \$ 17,181 | \$ 17,869 | \$ 18,583 |
| Postage | \$ 7,589 | \$ 7,892 | \$ 8,208 | \$ 8,536 | \$ 8,878 |
| Books & Periodicals | \$ 154 | \$ 160 | \$ 167 | \$ 174 | \$ 180 |
| Services - Professional & Specialized | \$ 28,600 | \$ 29,744 | \$ 30,934 | \$ 32,172 | \$ 33,458 |
| Publications & Legal Notices | \$ 32 | \$ 33 | \$ 35 | \$ 36 | \$ 38 |
| Rents & Leases - Equipment | \$ 2,708 | \$ 2,817 | \$ 2,929 | \$ 3,046 | \$ 3,168 |
| Small Tools & Instruments | \$ 260 | \$ 270 | \$ 281 | \$ 292 | \$ 304 |
| Special Departmental (Water) | \$ 86,977 | \$ 90,456 | \$ 94,074 | \$ 97,837 | \$ 101,750 |
| Transportation & Travel | \$ 16,427 | \$ 17,084 | \$ 17,767 | \$ 18,478 | \$ 19,217 |
| Utilities | \$ 152,163 | \$ 158,250 | \$ 164,580 | \$ 171,163 | \$ 178,010 |
| Loans/Principal & Interest | \$ - | \$ - | \$ - | \$ - | \$ - |
| Taxes & Assessments | \$ 174 | \$ 181 | \$ 188 | \$ 196 | \$ 203 |
| F.A. Bldgs. & Improvements | \$ 106,959 | \$ 111,238 | \$ 115,687 | \$ 120,315 | \$ 125,127 |
| Plant - Replace Tank | \$ - | \$ - | \$ - | \$ - | \$ - |
| F.A. Equipment - Other | \$ 2,352 | \$ 2,447 | \$ 2,544 | \$ 2,646 | \$ 2,752 |
| Services - Professional/Specialized | \$ 10,425 | \$ 10,842 | \$ 11,276 | \$ 11,727 | \$ 12,196 |
| Total Operating Costs | \$ 1,164,738 | \$ 1,211,327 | \$ 1,259,781 | \$ 1,310,172 | \$ 1,362,579 |
| Loans - Principal & Interest | \$ 88,271.00 | \$ 88,177.00 | \$ 82,978.00 | \$ 77,762.00 | \$ 77,762.00 |
| CIP Reserves/Depreciation | \$ 50,000 | \$ 50,000 | \$ 50,000 | \$ 50,000 | \$ 50,000 |
| Total Cost of Service | \$ 1,303,009 | \$ 1,349,504 | \$ 1,392,759 | \$ 1,437,934 | \$ 1,490,341 |

Fixed versus variable expenses

Water must be available to customers at all times whether the customer is using the water or not. A large share of water system costs are associated with bringing the first drop of water to the customer's tap, regardless of whether any water is used. Fixed costs are those that must be recovered by LLCWD #1 to ensure that drinking water is available to its customers.

Fixed costs are usually recovered from each customer on an equal basis through the use of a minimum fee (a minimum monthly bill). Fixed costs may cover 100% of some expenses in a system's budget, but only a portion of other types of expenses. For example, fixed expenses generally include all debt service expenses on construction loans, financial reserves for emergencies or equipment replacement, and overhead costs, like insurance and bonding. Fixed costs should also include a portion of other system operating expenses. For example, a percentage of chemical costs are fixed since they are associated with making sure that water available to connections is safe to drink. But as the water is delivered, more treatment is required and more chemical costs are incurred based on this usage. These additional chemical costs based on usage are not typically considered fixed costs

The method for identifying all or part of some expenses as fixed costs involves determining to what extent each of the line item expenses in the budget benefits every customer of the system regardless of their level of usage. This is a determination that each utility must make for itself. Fixed costs should generally be recovered in a system's minimum bill, the minimum monthly fee charged equally to each customer within each customer meter size (5/8 -inch, 1-inch, etc.).

For small systems with fewer customers, spreading these costs among its customers, the proportion of fixed costs will be higher than larger systems. Many small systems find it impossible to recover all fixed costs in a monthly minimum, so they tend to shift a certain percentage to the variable side. Fixed costs for small systems are usually in the range of one-third to two-thirds of the system's total operating costs and may run even higher for very small systems. In reviewing LLCWD's costs with staff, it was determined that LLCWD #1 water system's percentage of fixed costs is 86%.

Variable costs are system expenses that are more directly related to how much water is pumped, treated, stored and distributed. Most costs for electricity, chemicals and repairs can be classified as variable costs because they are directly related to the amount of water customers use. To recover variable expenses, rate structures use a "consumption charge" or "flow charge" per volume, such as per thousand gallons or hundred cubic feet.

| LLCWD #1 | 5-Year Average | % Fixed | \$ Fixed | \$ Variable |
|---|----------------|---------|--------------|-------------|
| OPERATIONS & MAINTENANCE EXPENSES | | | | |
| Salaries & Wages, Personnel | \$ 411,216 | 100% | \$ 411,216 | \$ - |
| Retirement Contribution - FICA | \$ 31,467 | 100% | \$ 31,467 | \$ - |
| Retirement Contribution - PERS | \$ 62,422 | 100% | \$ 62,422 | \$ - |
| PERS - Co. Emp. Contributions | \$ 5,798 | 100% | \$ 5,798 | \$ - |
| Emp. Health/Life Insurance | \$ 68,717 | 100% | \$ 68,717 | \$ - |
| Unemployment Insurance | \$ 4,664 | 100% | \$ 4,664 | \$ - |
| Workers Compensation Ins. | \$ 5,390 | 100% | \$ 5,390 | \$ - |
| Clothing & Personal Supplies | \$ 1,495 | 100% | \$ 1,495 | \$ - |
| Communications | \$ 8,483 | 100% | \$ 8,483 | \$ - |
| Household Expenses | \$ 3,501 | 100% | \$ 3,501 | \$ - |
| Insurance - Other | \$ 32,221 | 100% | \$ 32,221 | \$ - |
| Maintenance - Equipment | \$ 145,740 | 75% | \$ 109,305 | \$ 36,435 |
| Maintenance - Bldgs. & Improvement | \$ 9,468 | 100% | \$ 9,468 | \$ - |
| Memberships | \$ 4,568 | 100% | \$ 4,568 | \$ - |
| Office Supplies | \$ 17,208 | 100% | \$ 17,208 | \$ - |
| Postage | \$ 8,221 | 100% | \$ 8,221 | \$ - |
| Books & Periodicals | \$ 167 | 100% | \$ 167 | \$ - |
| Services - Professional & Specialized | \$ 30,982 | 100% | \$ 30,982 | \$ - |
| Publications & Legal Notices | \$ 35 | 100% | \$ 35 | \$ - |
| Rents & Leases - Equipment | \$ 2,934 | 100% | \$ 2,934 | \$ - |
| Small Tools & Instruments | \$ 282 | 100% | \$ 282 | \$ - |
| Special Departmental (Water) | \$ 94,219 | 100% | \$ 94,219 | \$ - |
| Transportation & Travel | \$ 17,794 | 100% | \$ 17,794 | \$ - |
| Utilities | \$ 164,833 | 2% | \$ 3,297 | \$ 161,536 |
| Taxes & Assessments | \$ 188 | 100% | \$ 188 | \$ - |
| F.A. Bldgs. & Improvements | \$ 115,865 | 100% | \$ 115,865 | \$ - |
| F.A. Equipment - Other | \$ 2,548 | 100% | \$ 2,548 | \$ - |
| Services - Professional/Specialized | \$ 11,293 | 100% | \$ 11,293 | \$ - |
| Total Operation and Maintenance Expenses: | \$ 1,261,719 | | \$ 1,063,748 | \$ 197,971 |
| GENERAL & ADMINISTRATIVE EXPENSES | | | | |
| Operating Reserve Funding | \$ - | 100% | \$ - | \$ - |
| Emergency Reserve Funding | \$ - | 100% | \$ - | \$ - |
| Replacement of Existing Capital Assets | \$ 50,000 | 100% | \$ 50,000 | \$ - |
| Debt Service | \$ 82,990 | 100% | \$ 82,990 | \$ - |
| Total General and Administrative Expenses: | \$ 132,990 | | \$ 132,990 | \$ - |
| Total All Expenses | \$ 1,394,709 | | \$ 1,196,738 | \$ 197,971 |
| Fixed-Variable as % of all Expenses | | | 86% | 14% |

4. Water system reserves

Reserves overview

Reserves are an accepted way to stabilize and support a utility's fiscal management. Small systems usually fund the operating expenses but often do not consider putting money aside for a specific upcoming financial need or project, or for an amount that can be used to provide rate stabilization in years when revenues are unusually low, or expenditures are unusually high. The rationale for maintaining adequate reserve levels is two-fold. First, it helps to ensure that the utility will have adequate funds available to meet its financial obligations in times of varying needs. Second, it provides a framework around which financial decisions can be made to determine when reserve balances are inadequate or excessive and what specific actions need to be taken to remedy the situation.

Utility reserve levels can be thought of as a savings account. Reserve balances are funds that are set aside for a specific cash flow requirement, financial need, project, task, or legal covenant. Common reserve balances are established around the following five areas: operating reserve, capital improvements and replacement, short-lived assets, emergency, and debt service reserve. These balances are maintained to meet short-term cash flow requirements, and at the same time, minimize the risk associated with meeting financial obligations and continued operational needs under adverse conditions.

Debt service reserve

Water utilities that have issued debt to pay for capital assets will often have required reserves that are specifically defined to meet the legal covenants of the debt. Normally, debt service reserve represents an amount equal to one full annual loan payment and can be accumulated to this level over a period of five to 10 years. LLCWD #1's water enterprise had two long-term debts at the time of this analysis. On April 9, 1995, LLCWD #1 borrowed \$220,500 (which included a 5% administrative fee) under the Safe Drinking Water Bond Law of 1986 for The State Revolving Fund. The loan is to be repaid in semi-annual payments of \$5,197 including interest at 2.4175%. This loan matures on September 30, 2026. On June 28, 1994, the Board of Directors adopted resolution No. 8-94 which provided for the issuance of improvement bonds upon the security of unpaid assessments, pursuant to the provisions of the Improvement Bond Act of 1915. On July 26, 1995, LLCWD #1 issued Bond Anticipation Notes (the Note), Series 1995. The proceeds of the loan were used to finance the construction and acquisition of public improvements within the Assessment District. LLCWD #1 then entered into a Loan Agreement, Series 1996, dated July 9, 1996, with the United States Department of Agriculture (USDA) to refund the Note. The loan amount was issued in the aggregate principal amount of \$1,295,000, with a per annum interest rate of 5.125% and is scheduled to mature September 2035. Neither loan requires debt service reserve funds.

Operating reserve

Operating reserves are established to provide the utility with the ability to withstand short-term cash flow fluctuations. There can be a significant length of time between when a system provides a service and when a customer pays for that service. In addition, a system's cash flow can be affected by weather and seasonal demand patterns.

The State of California Water Resources Control Board conducted a needs assessment in 2024. The results of their findings are outlined in the table below.

| State Water Resources Control Board Needs Assessment – Cash on Hand Valuation | | |
|---|--------------|-----------|
| No Risk | Medium Risk | High Risk |
| >90 Days | 30 – 90 Days | < 30 Days |

Because of potential delays in collecting payment, many utilities attempt to keep an amount of cash equal to at least 90 days or 25 percent of their annual O&M expenses in an operating reserve to mitigate potential cash flow problems. The water enterprise cash on hand on June 30, 2023, was \$802,520, an inadequate amount to fund day-to-day operations and reserve accounts. LLCWD #1 decided that a target of a 45-day operating reserve (\$145,592) would be an adequate cushion while not affecting customer rates.

Emergency reserve

In addition to operating reserves, emergency reserves are a crucial tool for financial sustainability. Emergency reserves are intended to help utilities deal with short-term emergencies which arise from time to time, such as main breaks or pump failures. The appropriate amount of emergency reserves will vary with the size of the utilities and should depend on major infrastructure assets. An emergency reserve is intended to fund the immediate replacement or reconstruction of the system’s single most critical asset, an asset whose failure will result in an immediate water outage or threat to public safety. In discussing LLCWD #1’s water enterprise needs with the general manager it was determined that an emergency reserve of \$100,000 would be adequate. The cash in bank on June 30, 2023, was sufficient to fund the emergency reserves.

Capital replacement reserve (CRP)

A capital improvement reserve (also called a repair and replacement reserve) is intended to be used for replacing system assets that have become worn out or obsolete. Unlike the emergency reserve fund, these reserves are intended to be used for planned replacements and improvements. Annual depreciation is frequently used to estimate the minimum level of funding for this capital reserve. But it is important to understand that depreciation expense is an accounting concept for estimating the decline of an asset’s useful life and does not represent the current or future replacement cost of that asset. As an example, a brand-new system with a construction cost of \$1 million and a service life of one hundred years would, in theory, be depreciating \$10,000 per year to fully depreciate the equipment at the end of the 100-year period. However, the equipment will cost much more than the initial investment of \$1 million when it is time to replace it.

To initiate a capital replacement plan, a small water or sewer system will start with a list of assets that includes the remaining service life, theoretical replacement costs in today’s dollars and the remaining service life. It then calculates the monthly and annual reserve that must be collected from each customer to fully capitalize the replacement cost of each asset. In reality, the assets will fail and be replaced gradually, but the replacement cost of water system assets is often a shock to small systems that are struggling to keep rates reasonable.

Many smaller systems find that funding even annual depreciation is impossible because of the effect on rates, which explains the substantial number of small systems that are falling into disrepair. One alternative method is to set aside an annual amount equal to 1-2% of the total original cost asset value of the utility's property.

RCAC assisted LLCWD #1 with the development of a Capital Replacement Plan. The results of the plan indicated the CRP reserve account must be funded at an average of \$815,109 to meet the cash

requirements for asset replacement. The ideal amount would clearly result in unaffordable rates for the community. Attempting to fund even 1 percent of the purchase costs resulted in rates that would be untenable. The LLWCD #1 board determined to fund \$50,000 annually.

| Asset | Year Acquired | Purchase Cost | Estimated Current Cost | Estimated Remaining Life | Estimated Future Cost | Fund with Cash | Fund with Grant | Existing Reserves | Annual Reserve Required |
|---------------------------------|---------------|---------------|------------------------|--------------------------|-----------------------|----------------|-----------------|-------------------|-------------------------|
| 2000 Chevy 3500 (Service Truck) | 2001 | \$ 24,197 | 53,381 | 1 | 55,517 | 100% | 0% | 7,446 | 48,070 |
| 2003 Chevy Silverado | 2011 | \$ 15,182 | 23,744 | 3 | 26,709 | 100% | 0% | 3,312 | 7,755 |
| Ram 3500 Crew Cab 4 * 4 | 2016 | \$ 57,000 | 75,058 | 6 | 94,972 | 100% | 0% | 10,470 | 13,887 |
| Buildings & Improvements | 1962 | \$ 267,198 | 2,254,939 | 10 | 3,337,861 | 15% | 85% | 47,183 | 44,233 |
| Additions | 1984 | \$ 32,335 | 128,023 | 10 | 189,505 | 20% | 80% | 3,572 | 3,348 |
| Additions | 1985 | \$ 25,198 | 96,392 | 10 | 142,683 | 20% | 80% | 2,689 | 2,521 |
| Well #6 | 1986 | \$ 7,802 | 28,836 | 5 | 35,084 | 100% | 0% | 4,022 | 6,142 |
| Main St. Line | 1986 | \$ 5,002 | 18,487 | 15 | 33,295 | 100% | 0% | 2,579 | 1,971 |
| Water System Improvement | 1986 | \$ 4,178 | 15,442 | 3 | 17,370 | 100% | 0% | 2,154 | 5,043 |
| Treatment Fac. Cache Creek | 1987 | \$ 5,389 | 19,244 | 5 | 23,414 | 100% | 0% | 2,684 | 4,099 |
| Bryant Road Extension | 1987 | \$ 6,540 | 23,355 | 4 | 27,321 | 100% | 0% | 3,258 | 5,965 |
| Tank #5 | 1987 | \$ 148,467 | 530,179 | 15 | 954,823 | 15% | 85% | 11,094 | 8,479 |
| Main St. Line | 1987 | \$ 67,439 | 240,826 | 15 | 433,715 | 20% | 80% | 6,719 | 5,135 |
| Treatment Fac. Cache Creek | 1988 | \$ 8,501 | 29,331 | 5 | 35,685 | 100% | 0% | 4,091 | 6,248 |
| Well & Facilities #7 | 1990 | \$ 27,045 | 87,108 | 25 | 232,216 | 20% | 80% | 2,430 | 1,651 |
| Treatment Fac. | 1991 | \$ 114,612 | 356,666 | 3 | 401,201 | 20% | 80% | 9,951 | 23,297 |
| Treatment Facilities 6 & 7 | 1992 | \$ 61,493 | 184,891 | 5 | 224,949 | 20% | 80% | 5,158 | 7,877 |
| Treatment Fac. In Suc. | 1992 | \$ 17,887 | 53,781 | 5 | 65,433 | 100% | 0% | 7,502 | 11,456 |
| Water System Replacement | 1992 | \$ 12,188 | 36,646 | 5 | 44,585 | 100% | 0% | 5,112 | 7,806 |
| Chlorine Analyzer | 1993 | \$ 4,718 | 13,706 | 1 | 14,254 | 100% | 0% | 1,912 | 12,342 |
| Lake St. Project | 1996 | \$ 65,104 | 170,584 | 12 | 273,110 | 20% | 80% | 4,759 | 4,031 |
| System Upgrades | 1996 | \$ 20,624 | 54,038 | 5 | 65,746 | 100% | 0% | 7,538 | 11,511 |
| Well #9 | 1997 | \$ 23,084 | 58,439 | 5 | 71,100 | 100% | 0% | 8,152 | 12,448 |
| Highway 53 Project | 1997 | \$ 54,262 | 137,368 | 15 | 247,392 | 20% | 80% | 3,832 | 2,929 |
| Various Small Projects | 1997 | \$ 17,649 | 44,680 | 5 | 54,360 | 100% | 0% | 6,233 | 9,517 |
| Assessment District | 1998 | \$ 3,888,909 | 9,512,110 | 15 | 17,130,773 | 15% | 85% | 199,033 | 152,123 |
| Steel Water Storage Tank | 1999 | \$ 14,782 | 34,933 | 1 | 36,331 | 100% | 0% | 4,873 | 31,458 |
| Well 9 Pump Replacement | 2006 | \$ 6,739 | 12,518 | 1 | 13,018 | 100% | 0% | 1,746 | 11,272 |
| Well | 2003 | \$ 44,615 | 91,882 | 10 | 136,007 | 20% | 80% | 2,563 | 2,403 |
| SCADA | 2003 | \$ 31,777 | 65,443 | 1 | 68,060 | 100% | 0% | 9,129 | 58,931 |
| Building - Office | 2003 | \$ 147,056 | 302,852 | 20 | 663,585 | 15% | 85% | 6,337 | 4,428 |
| SCADA | 2003 | \$ 89,131 | 183,559 | 5 | 223,328 | 20% | 80% | 5,121 | 7,820 |
| Storage Tank | 2006 | \$ 191,576 | 355,850 | 4 | 416,295 | 20% | 80% | 9,928 | 18,177 |
| Pipeline Replacement | 2006 | \$ 5,862 | 10,889 | 1 | 11,324 | 100% | 0% | 1,519 | 9,805 |
| New Well 6A | 2007 | \$ 45,347 | 81,383 | 5 | 99,015 | 100% | 0% | 11,352 | 17,335 |
| Booster Pump | 2009 | \$ 5,118 | 8,574 | 3 | 9,645 | 100% | 0% | 1,196 | 2,800 |
| Well 9 - New Motor | 2009 | \$ 5,565 | 9,323 | 2 | 10,084 | 100% | 0% | 1,301 | 4,379 |
| Well 1 - New Motor | 2009 | \$ 10,394 | 17,414 | 2 | 18,835 | 100% | 0% | 2,429 | 8,179 |
| Well #9 - Pump and Motor | 2010 | \$ 6,903 | 11,174 | 2 | 12,086 | 100% | 0% | 1,559 | 5,248 |
| Chlorine Residual Analyzer | 2012 | \$ 3,706 | 5,600 | 2 | 6,057 | 100% | 0% | 781 | 2,630 |
| Well #* Repairs | 2012 | \$ 7,382 | 11,155 | 1 | 11,601 | 100% | 0% | 1,556 | 10,045 |
| Hydrant Locks | 2014 | \$ 5,308 | 7,487 | 2 | 8,098 | 100% | 0% | 1,044 | 3,517 |
| Well #1 Improvements | 2014 | \$ 24,545 | 34,623 | 5 | 42,124 | 100% | 0% | 4,830 | 7,375 |

| Asset | Year Acquired | Purchase Cost | Estimated Current Cost | Estimated Remaining Life | Estimated Future Cost | Fund with Cash | Fund with Grant | Existing Reserves | Annual Reserve Required |
|--|---------------|---------------------|------------------------|--------------------------|-----------------------|----------------|-----------------|-------------------|-------------------------|
| Radio Read Meters | 2014 | \$ 173,831 | 245,206 | 3 | 275,823 | 20% | 80% | 6,841 | 16,016 |
| 180 Meters | 2016 | \$ 20,656 | 27,200 | 5 | 33,093 | 100% | 0% | 3,794 | 5,794 |
| Plant "A" Fencing | 2016 | \$ 4,600 | 6,057 | 15 | 10,909 | 100% | 0% | 845 | 646 |
| Fencing 9317 Riverview | 2016 | \$ 3,850 | 5,070 | 15 | 9,130 | 100% | 0% | 707 | 541 |
| Twin Lakes Well Pump and Motor | 2016 | \$ 8,124 | 10,698 | 3 | 12,034 | 100% | 0% | 1,492 | 3,494 |
| Well #1 Pump and Panel | 2016 | \$ 8,156 | 10,740 | 5 | 13,066 | 100% | 0% | 1,498 | 2,288 |
| Fence at Mill Street Tanks | 2018 | \$ 20,000 | 24,585 | 15 | 44,276 | 100% | 0% | 3,429 | 2,621 |
| Catwalk at Plant B | 2018 | \$ 8,876 | 10,911 | 20 | 23,907 | 100% | 0% | 1,522 | 1,063 |
| Generator and parts for twin lakes booster | 2018 | \$ 14,983 | 18,418 | 2 | 19,921 | 100% | 0% | 2,569 | 8,651 |
| Well 1 submersible pump | 2018 | \$ 5,886 | 7,235 | 1 | 7,525 | 100% | 0% | 1,009 | 6,516 |
| Well 1 Generator | 2019 | \$ 47,262 | 56,133 | 10 | 83,090 | 100% | 0% | 7,830 | 7,341 |
| Twin Lakes Generator | 2019 | \$ 8,638 | 10,260 | 2 | 11,097 | 100% | 0% | 1,431 | 4,819 |
| County of Lake Ftr Bldg meter/pipe | 2019 | \$ 8,290 | 9,846 | 5 | 11,979 | 100% | 0% | 1,373 | 2,097 |
| Twin Lakes Generator solar | 2020 | \$ 3,624 | 4,159 | 5 | 5,060 | 100% | 0% | 580 | 886 |
| Well 1 head rehab | 2020 | \$ 16,228 | 18,622 | 5 | 22,656 | 100% | 0% | 2,598 | 3,967 |
| Well 7 scrubbing and pump | 2020 | \$ 17,114 | 19,639 | 3 | 22,091 | 100% | 0% | 2,739 | 6,414 |
| Rancho Sendero (Spruce Gr.) PRV Project | 2020 | \$ 89,507 | 102,711 | 12 | 164,444 | 20% | 80% | 2,866 | 2,427 |
| Office remodel | 2021 | \$ 583,891 | 647,370 | 30 | 2,099,680 | 15% | 85% | 13,546 | 9,305 |
| Office HVAC | 2021 | \$ 45,000 | 49,892 | 10 | 73,853 | 100% | 0% | 6,960 | 6,525 |
| Office generator | 2021 | \$ 25,981 | 28,806 | 10 | 42,639 | 100% | 0% | 4,018 | 3,767 |
| Office alarm | 2021 | \$ 13,194 | 14,628 | 10 | 21,654 | 100% | 0% | 2,041 | 1,913 |
| Eyewash station | 2021 | \$ 6,282 | 6,965 | 10 | 10,310 | 100% | 0% | 972 | 911 |
| Scada upgrade | 2021 | \$ 11,733 | 13,009 | 10 | 19,256 | 100% | 0% | 1,815 | 1,701 |
| Generator A-substation hohnhar | 2021 | \$ 112,202 | 124,400 | 10 | 184,143 | 20% | 80% | 3,471 | 3,254 |
| Scada Upgrade TL tank | 2022 | \$ 5,667 | 6,071 | 5 | 7,386 | 100% | 0% | 847 | 1,293 |
| New well-Plant B (well 11) | 2016 | \$ 81,326 | 107,091 | 5 | 130,292 | 20% | 80% | 2,988 | 4,562 |
| Building Pad (for Carport at Well 1) | 2017 | \$ 8,350 | 10,624 | 5 | 12,925 | 100% | 0% | 1,482 | 2,263 |
| 33000 gal clearwell tank plant B | 2023 | \$ 135,128 | 139,857 | 30 | 453,613 | 20% | 80% | 3,902 | 2,680 |
| 7916 30 HP Pump Well 10 pumphouse | 2023 | \$ 13,496 | 13,968 | 1 | 14,527 | 100% | 0% | 1,949 | 12,579 |
| Backhoe / Loader | 1987 | \$ 31,814 | 113,609 | 8 | 155,481 | 20% | 80% | 3,170 | 3,423 |
| Shop Trailer | 2014 | \$ 8,211 | 11,582 | 5 | 14,092 | 100% | 0% | 1,616 | 2,467 |
| Compactor & Viber Plate | 2014 | \$ 4,233 | 5,971 | 2 | 6,458 | 100% | 0% | 833 | 2,805 |
| Plant B Generator | 2016 | \$ 52,654 | 69,335 | 10 | 102,633 | 20% | 80% | 1,934 | 1,813 |
| Vac Trailer | 2017 | \$ 64,733 | 82,359 | 5 | 100,202 | 20% | 80% | 2,298 | 3,509 |
| Generator Plant B | 2020 | \$ 72,261 | 82,921 | 10 | 122,744 | 20% | 80% | 2,313 | 2,169 |
| Billing System | 2006 | \$ 9,115 | 16,931 | 3 | 19,045 | 100% | 0% | 2,362 | 5,529 |
| Computer System & Software | 2013 | \$ 11,226 | 16,390 | 1 | 17,045 | 100% | 0% | 2,286 | 14,759 |
| Standby Generator | 2013 | \$ 3,560 | 5,197 | 10 | 7,694 | 100% | 0% | 725 | 680 |
| Leak Detection Equipment | 2014 | \$ 20,414 | 28,796 | 1 | 29,948 | 100% | 0% | 4,017 | 25,931 |
| Total | | \$ 7,407,905 | \$ 17,675,174 | | 30,434,286 | 0% | 0% | 548,816 | 815,109 |

5. Proposed rate adjustment

LLCWDF water enterprise suffered operating losses in FYE 6/30/2022 and FYE 6/30/2023 in the amounts of \$112,153 and \$86,014, respectively. To fully recover operating costs and fund replacement reserves at an average of approximately \$50,000 annually, a rate adjustment is necessary.

| LLCWD #1 Current Water Rates Against Projected Water Costs | | | | | | |
|--|-----------|-----------|-----------|-----------|-----------|--------------|
| | Year #1 | Year #2 | Year #3 | Year #4 | Year #5 | 5-Year Total |
| Total Operating Revenue | 937,663 | 937,663 | 937,663 | 937,663 | 937,663 | 4,688,317 |
| Total Operating Costs | 1,164,738 | 1,211,327 | 1,259,781 | 1,310,172 | 1,362,579 | 6,308,596 |
| Debt Service | 88,271 | 88,177 | 82,978 | 77,762 | 77,762 | 14,950.00 |
| CRP Reserves | -0- | -0- | -0- | -0- | -0- | -0- |
| Total Costs | 1,253,009 | 1,299,504 | 1,342,759 | 1,387,934 | 1,440,341 | 6,723,546 |
| Operating Revenue Over/(Under) Operating Costs | (315,346) | (361,841) | (405,095) | (450,270) | (502,677) | (2,035,229) |
| Non-Operating Revenue | 237,519 | 237,519 | 237,519 | 237,519 | 237,519 | 1,187,595 |
| Net Profit/(Loss) | (77,827) | (124,332) | (167,576) | (212,751) | (265,158) | (847,634) |

Rate adjustment

In the rate adjustment the base rates are set according to meter size. Because recovering 100 percent of the fixed costs in the base rate would result in customer rates that are unaffordable, the base rates have been reduced to recover 70 percent of the fixed costs. The usage rate is set at \$2.25 per one-hundred cubic feet regardless of usage in the first year. Subsequent years will require an increase of the greater of approximately 4 percent or the Consumer Price Index for that year to both the base and usage rates.

| Meter Size | Current Rate | Adjusted Rate |
|------------|--------------|---------------|
| 5/8 Inch | 69.94 | 71.90 |
| ¾ Inch | 69.94 | 71.90 |
| 1 Inch | 162.48 | 179.75 |
| 1.5 Inch | 323.99 | 359.50 |
| 2 Inch | 518.57 | 575.20 |

| Meter Size | Current Rate | Adjusted Rate |
|--------------------------|----------------|---------------|
| 3 Inch | 1,008.97 | 1,150.40 |
| 4 Inch | 1,621.92 | 1,797.50 |
| 6 Inch | 3,243.07 | 3,595.00 |
| Usage per 100 Cubic Feet | Based on Usage | \$2.25 |

| LLCWD #1 Rate Adjustment Water Rates Against Projected Water Costs | | | | | | |
|--|-----------|-----------|-----------|-----------|-----------|--------------|
| | Year #1 | Year #2 | Year #3 | Year #4 | Year #5 | 5-Year Total |
| Total Operating Revenue | 1,065,705 | 1,112,063 | 1,155,434 | 1,200,611 | 1,252,478 | 5,786,291 |
| Total Operating Costs | 1,164,738 | 1,211,327 | 1,259,781 | 1,310,172 | 1,362,579 | 6,308,596 |
| Debt Service | 88,271 | 88,177 | 82,978 | 77,762 | 77,762 | 4 14,950 |
| CRP Reserves | 50,215 | 50,078 | 50,194 | 50,196 | 49,856 | 250,339 |
| Total Costs | 1,303,224 | 1,349,582 | 1,392,953 | 1,438,130 | 1,489,997 | 6,973,886 |
| Operating Revenue Over/(Under) Operating Costs | (237,519) | (237,519) | (237,519) | (237,519) | (237,519) | (1,187,595) |
| Non-Operating Revenue | 237,519 | 237,519 | 237,519 | 237,519 | 237,519 | 1,187,595 |
| Net Profit/(Loss) | -0- | -0- | -0- | -0- | -0- | -0- |

| LLCWD #1 Rate Adjustment Affordability by Usage | | | | | |
|---|-----------|-----------|--------------------|----------|---------------------|
| Monthly Usage (Cubic Feet) | Base Rate | Usage Fee | Total Monthly Bill | MHI | Affordability Index |
| 400 CF | \$ 71.90 | \$9.00 | \$ 80.90 | \$45,721 | 2.12% |
| 1,100 CF | \$ 71.90 | \$24.75 | \$ 96.65 | \$45,721 | 2.54% |
| 2,600 CF | \$ 71.90 | \$58.50 | \$130.40 | \$45,721 | 3.42% |
| 4,600 CF | \$ 71.90 | \$103.50 | \$175.40 | \$45,721 | 4.60% |

| LLCWD #1 Rate Adjustment Affordability by Usage | | | | | |
|---|-----------|------------------|--------------------|----------|---------------------|
| Monthly Usage (Cubic Feet) | Base Rate | Usage Fee | Total Monthly Bill | MHI | Affordability Index |
| 7,100 CF | \$ 71.90 | \$159.75 | \$231.65 | \$45,721 | 6.08% |
| 9,600 CF | \$ 71.90 | \$216.00 | \$287.90 | \$45,721 | 7.56% |
| Over 9,600 CF | \$ 71.90 | Depends on Usage | | | |

| Rate Adjustment Monthly 5-Year Rate Schedule | | | | | |
|--|----------|----------|----------|----------|----------|
| Meter Size | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| 0.625 " | 71.90 | 75.03 | 77.95 | 81.00 | 84.50 |
| 0.75" | 71.90 | 75.03 | 77.95 | 81.00 | 84.50 |
| 1.00" | 179.75 | 187.57 | 194.88 | 202.50 | 211.25 |
| 1.50" | 359.50 | 375.14 | 389.77 | 405.01 | 422.50 |
| 2.00" | 575.20 | 600.22 | 623.63 | 648.01 | 676.01 |
| 3.00" | 1,150.40 | 1,200.44 | 1,247.26 | 1,296.03 | 1,352.02 |
| 4.00" | 1,797.50 | 1,875.69 | 1,948.84 | 2,025.04 | 2,112.52 |
| 6.00" | 3,595.00 | 3,751.38 | 3,897.69 | 4,050.09 | 4,225.05 |
| Usage per 100 Cubic Feet | 2.25 | 2.35 | 2.44 | 2.53 | 2.64 |

6. Conclusions and recommendations

Key points to remember with any rate adjustment:

- Successful utilities are those that strive to be transparent. In day-to-day operations, Lower Lake County Water District #1 should strive to promote its services (highlights and the low points), and continuously educate residents on why it is necessary to raise and adjust rates.
- The ability of the recommended rate structures to generate adequate revenue will depend on maintaining a vigorous collection and shut-off policy to keep delinquent accounts at a minimum.
- In order to achieve and maintain long-term viability, Lower Lake County Water District #1 should review its rates annually, or no less than a minimum of every two years. Keeping track of customer seasonal and annual water demands will help determine operations needs, budget forecasts and rate adjustments.
- Lower Lake County Water District should raise rates by as soon as possible to provide sufficient revenues for funding future operations and to adequately fund reserves.
- Lower Lake County Water District #1 should establish policies for reserve accounts as recommended above.
- Lower Lake County Water District #1 should designate reserves on its financial statements.
- CRP reserves should be moved to and maintained in the highest interest bearing accounts available to offset inflation.

7. Proposition 218

California approved Proposition 218 in 1996 requiring agencies to adopt property fees and charges in accordance with a defined public process found in article XIII D or by associated court decision. Water and wastewater rates are user fees under the definition and must meet the following requirements:

- Revenues derived from the fee or charge must not exceed the funds required to provide the property-related service.
- Revenue from the fee or charge must not be used for any purpose other than that for which the fee or charge is imposed.
- No fee or charge may be imposed for general governmental services, such as police, fire, ambulance, or libraries, where the service is available to the public in the same manner as it is to property owners.
- The amount of a fee or charge imposed upon any parcel or person as an incident of property ownership must not exceed the proportional cost of the service attributable to the parcel.
- The fee or charge may not be imposed for service, unless the service is actually used by, or immediately available to, the owner of the property in question.

Written notice should be given to both the record owners and customers within the area subject to the fee or charge. The notice shall include the following:

- The formula or schedule of charges by which the property owner or customer can easily calculate their own potential charge.
- The basis upon which the amount of the proposed fee or charge is to be imposed on each parcel. An explanation of the costs which the proposed fee will cover and how the costs are allocated among property owners.
- Date, time, and location of a public hearing on the rate adjustment. The public hearing must occur 45 or more days after the mailing of the notice.
- A statement that there is a 120-day statute of limitations for challenging any new, increased, or extended fee or charge.

California's Proposition 218 provides that a customer of Lower Lake County Water District #1 or owner of record of a parcel or parcels subject to the proposed rate increases may submit a protest against any or all of the proposed rate increases by filing a written protest with Lower Lake County Water District #1 at or before the time the public hearing has concluded. Only one protest per parcel is counted. If written protests are filed by a majority of the affected parcels, the proposed rate increases will not be imposed.