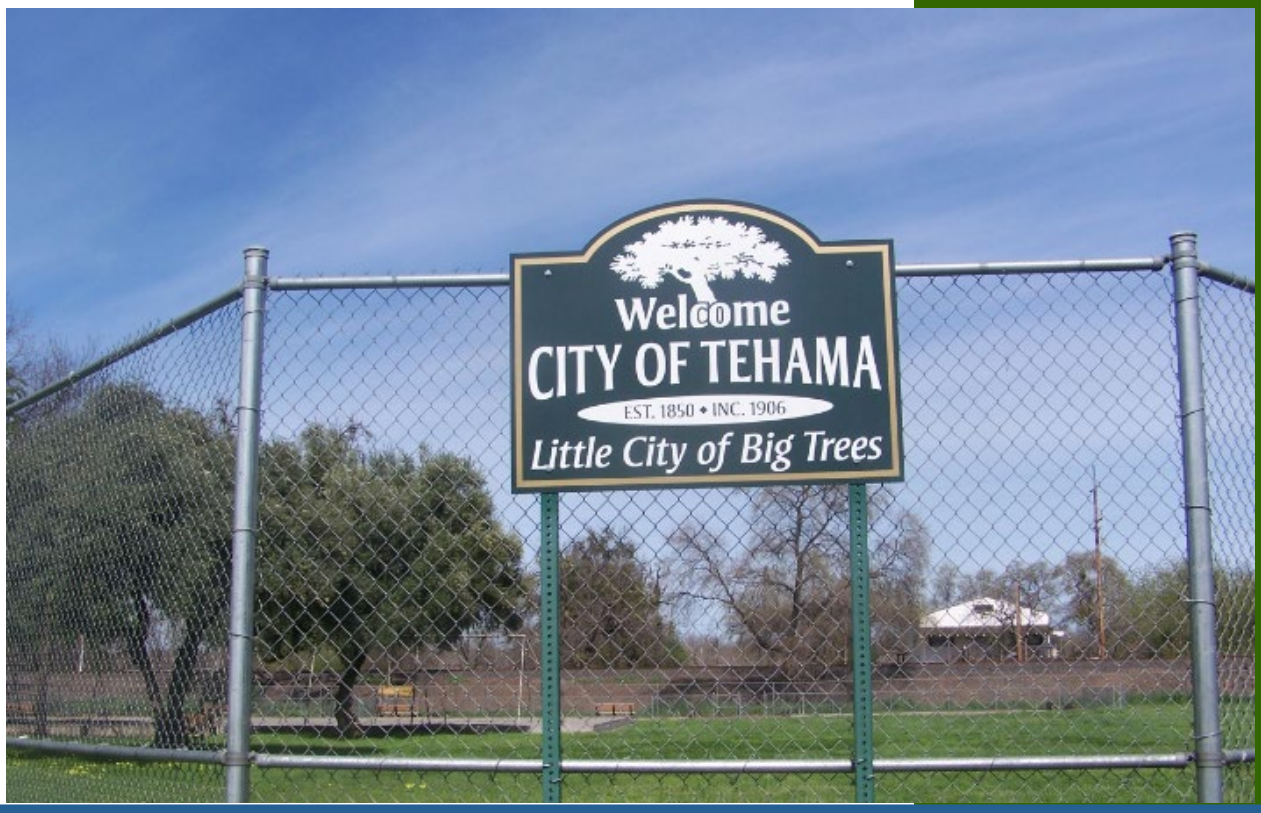

City of Tehama
Rate Study Report 2024

""The project described was support by Grant Number 90EF0080-04-00 from Health and Human Services."

Rural Community Assistance Corporation

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September 16, 2024

Table of Contents

1 Introduction

1.1 Rural Community Assistance Corporation

Founded in 1978, RCAC provides training, technical, and financial resources and advocacy so rural communities can achieve their goals. 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.

1.2 Purpose of this Rate Study

This drinking water rate study was conducted on behalf of the City of Tehama (City) by RCAC to assess the community's rate structure and financial sustainability into 2029. A comprehensive analysis of the community's drinking water enterprise's revenue, expenses and assets was undertaken to holistically evaluate the rate structure for sustainability, fairness and equity to its customer base.

1.3 Board Responsibilities

All findings and conclusions of this rate study are the professional assessment of RCAC and is not a directive for action to the community. Whereas RCAC strongly recommends its findings to the community, the board of directors for City of Tehama must act in accordance with applicable state laws to enact RCAC recommendations in whole or in part.

1.4 Guiding Principles in a Rate Study

System sustainability - Rates should cover the costs to the system to provide water services for the foreseeable future.

Fairness to users - Rates should be fair to all rate payers. The City should not charge more for water than the cost to provide the service. However, the costs should include operations, repairs, interest, loan principal and all other costs related to the acquisition, treatment and distribution of drinking water now and in the foreseeable future.

Justifiability - Rates must be based on the actual needs of the enterprise system. Revenue generated from drinking water rates should not be used for anything but to pay for the costs of pumping, treating and distributing the treated water within its service area, plus any administrative costs.

1.5 Disclaimer

The findings, recommendations, and conclusions contained in this financial analysis are based on financial information provided to RCAC by the City of Tehama. 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

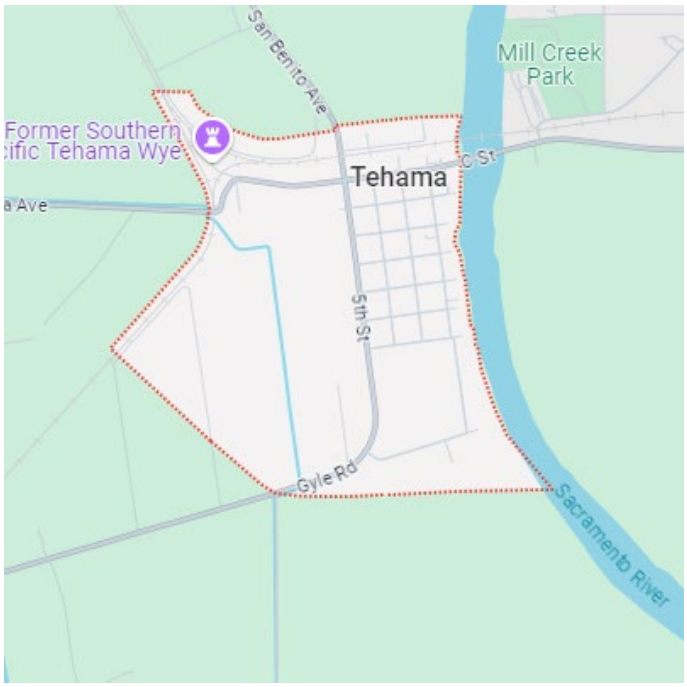
the basis of such findings, recommendations, or conclusions is undertaken at the discretion of the City of Tehama. In no event will RCAC or its partners, employees, or agents, be liable for any decision made or action taken in reliance on the information contained in this analysis.

2 System Basis Statistics

2.1 Community

2.1.1 Location & Maps

The City of Tehama is a publicly owned entity in Tehama County located along Highway 99 at an elevation of 210 feet. According to the U.S. Census Bureau, the city has a total area of 0.8 square miles (2.1 km2), of which all is land.



2.1.2 History

The City was incorporated in 1906 when plans were being made for an electric railway through the Sacramento Valley, however the railway was never built. A disastrous fire in 1908 combined with the decline of riverboat traffic, caused the city to gradually lose prominence and population. The City of Tehama is defined less by boundaries on a map than by the sense of pride of their residence. They have a deep commitment to the preservation of their environment and respect for their rich cultural history. Tehama County is the central point of widespread recreational areas that provide hiking, camping, scenic tours, golfing, boating, hunting and fishing.

2.1.3 Legal Entity

The City of Tehama was incorporated in 1906 as a municipality under state law.

2.1.4 Governing Body/Staff

Tehama is an incorporated city represented by a mayor and city council. The mayor of Tehama is a council member that is elected each December by the Council. City Council members are elected by voters residing in the district and are elected to serve four-year terms with elections held in November of even-numbered years. The City Clerk and Treasurer are elected officials that serve a term of four years. The system has a part-time Water Operator, City Engineer and City Attorney.

2.1.5 MHI

The Median Household Income (MHI) for City of Tehama is estimated to be $50,104 based on the 2022 American Community Survey 5-year estimates.

2.2 System Description

The City's drinking water enterprise serves all parcels within their service area. The water system has two ground water sources. A third well is currently under construction and anticipates completion by 2025. Water is pumped from the two wells into the distribution system.

2.3 Customer Base Description

For this rate study, 12 undeveloped lots with no connection (stand-by), were classified as non-residential and the remaining 193 were classified as residential. Of the 193 active connections, 100 percent are full-time residents.

2.4 Future Population and Usage Projections

2.4.1 Community Growth

No growth is anticipated other than the potential 12 undeveloped lots building out.

2.4.2 Conservation Efforts

The City of Tehama is committed to providing safe, high quality water services to their community, while maintaining a standard of excellence in customer service and environmental conservation. The City encourages conservation on their website stating "It's our most precious natural resource. Every drop counts…"

2.4.3 Sales Forecast

Sales forecasts are expected to remain steady over the next five years.

3 Current Financial Condition and Analysis

3.1 Current Rate Schedule/Structure

3.1.1 Rate Description

The City of Tehama for the last 20 years has used the Construction Cost Index percentage rate for increasing rates. The City's rate structure is a flat base rate and a tiered usage rate. The system bills are sent at the end of each month and are due by the 15th of each month.

Current Monthly Water Rates		
¾" Meter Base Rate	$40.50	
Usage Rate – Tier 1	0 – 10,000 gallons	Included in Base Rate
Usage Rate – Tier 2	10,0001 – 40,000 gallons	$0.49 / 1000 gallons
Usage Rate – Tier 3	40,001 – 70,000 gallons	$0.65 / 1000 gallons
Usage Rate – Tier 4	> 70,0000 gallons	$0.81 / 1000 gallons
Undeveloped Residential Customers	$8.00	

Undeveloped residential customers are charged a stand-by fees of $8.00 per month. Stand-by charges are defined as an assessment under Proposition 218 and require a separate process to increase them.

3.1.2 Late/Unpaid Accounts Impact

Late and unpaid accounts have a minimal impact on the budget. The amount of uncollected revenue increased from zero to $112.00 this last year.

3.1.3 Non-user fees that are not used in the revenue calculations

No non-user fees are collected or included in the revenue calculations.

3.1.4 Non-user fees that are used in revenue calculations

The city collects tower rent that is included in the revenue calculations.

3.1.5 Rate Equity and Affordability Criteria of Current Rates

The State Water Resources Control Board looks at affordability as the percent of the median household income (% MHI) that the average annual water bill requires.

State Water Resources Control Board Affordability Criteria		
<1.5% of the MHI	1.5% - 2.5% of the MHI	>2.5% of the MHI
No risk	Medium Risk	High Risk

The City of Tehama current rates are considered to have no risk for affordability at 1.06% of the MHI. The MHI for the City is $50,104 based on the California 2018-2022 American Community Survey.

3.1.6 Compatibility with current laws and regulations

The current tiered rate structure is not recommended due to current Proposition 218 case law. While tiered rates are allowable, the water system must demonstrate that the tiered rates are based on the actual cost of providing water service.

3.1.7 Analysis of Current Rate Structure

It is recommended that the city reviews their rates every five years to ensure that the fees and charges imposed do not exceed the proportional cost of the service attributable to each parcel.

In all, water sales appear to adequately cover ongoing operation and maintenance until FYE 2029; however, in FYE 2026 the City will not be able to fully fund reserve contributions.

However, the current rate structure could be improved for fairness by not including any usage in the base rate and by setting a flat usage rate per 1,000 gallons.

Further analysis is needed to determine if the current monthly rate for undeveloped lots covers their fair portion of fixed costs. These undeveloped lots are considered assessments under Proposition 218 and are not being analyzed as part of this rate study.

3.2 Current Budget

3.2.1 Historical Revenue and Expenses

The City of Tehama provided working documents to RCAC detailing historical revenues and expenses. Revenues and expenses were consistent over the years provided.

3.2.2 Current Budget as Approved by the Board

The City of Tehama currently operates on a minimal expense budget for operations and maintenance. The current approved budget for FYE 2024 lays out total expenses of $107,302. This includes $30,195 for capital improvement reserves and increased expenses for the new well; totaling $6,100 for electricity, water analysis, and contract services for SCADA.

3.2.3 Budget Projection Discussion

For FYE 2025 through FYE 2029, costs are assumed to go up 4 percent annually due to inflation. Additionally, the current part-time operator will retire in FYE 2027. The City will replace them with a full-time contract operator in FYE 2027, increasing expenses by $20,000. The City would like to increase their capital replacement reserve funding from $30,195 annually to $30,567.

3.2.4 Uncollectable Accounts

Uncollected receivables continue to be a very small negative factor on budget revenues. The city has policies in place that are enforced, which reduce the amount of uncollected fees. There were $112.00 uncollected receivables accounted for in this model.

3.2.5 Analysis of Current Budget

Current rates fully fund the expenditure reviewed by RCAC over the past three years, including $30,195 annually for capital improvement reserves.

The City is expected to have expenses that increase by 4 percent annually from FYE 2025 through FYE 2029. It is also expected that an additional $20,000 will be needed in FYE 2027 to hire a contract operator and that the City would like to increase their capital replacement reserve funding from $30,195 annually to $30,567. In FYE 2026, expenses will begin to exceed revenue and reserve funding goals will not be met. If the rates do not increase, by FYE 2029 the City will no longer be meeting annual O&M expenses and will need to draw from reserves to balance the annual budget.

The table below shows operation and maintenance expenses, reserves, debt, etc. with a total dollar amount or revenue requirement. These projections are if no rate changes are made.

Budget Summary with Current Rates						
	FYE 2025	FYE 2026	FYE 2027	FYE 2028	FYE 2029	5 Years
Total Expenses	$110,760	$113,968	$137,304	$141,774	$146,432	$650,238
Total Revenue	$113,453	$113,448	$113,444	$113,438	$113,433	$567,216
Net Loss or Gain (Short/Over to Reserves)	$2,693	-$520	-$23,860	-$28,336	-$32,999	-$83,022
Net Cash Flow (Contribution to Reserves)	$30,567	$30,567	$30,567	$30,567	$30,567	$152,835

While under current rates the City of Tehama can cover operation and maintenance expenses and contribute some funds to reserves through the first four years, by FYE 2029 the City will fall short of covering O&M expenses by $2,432 and not fund any reserves. Over the five years, it is estimated the City will fall short of its goal to set aside $152,835 for capital improvements by $83,022.

Additionally, the City is planning to rely heavily on grants and loans for the replacement of their distribution system. The City should understand that applying for grants or loans will take staff time and financial resources, as well as,

- Loans – Obtaining loans will come with debt service payments and debt reserve requirements that may increase expenses in future years.
- Grants - During this current economic climate, it is not advised to assume grants in the budgeting process.

Further discussion on the City's capital replacement plans are discussed in further detail in the next two sections.

3.3 Current Dedicated Reserves

The City of Tehama does not currently have policies in place to fund reserve contributions, but the utility was able to fund reserves over the last few years. The City has a corporate checking and savings account. These accounts are maintained by the City Treasurer who provides a report at each monthly City Council meeting. Revenues are collected and recorded by the City Administrator and all deposits are copied and provided to the City Treasurer. The City Treasurer writes checks for expenses, and they are presented to the City Council for approval and signatures. The combined account balance is $690,631, as of June 30, 2024.

3.3.1 Operations & Maintenance Reserves

RCAC advises that the utility, at a minimum, maintains an operating reserve equal to one and a half times the operating expenses accrued in a given billing cycle. For the City, this would result in a minimum of $10,024 being set aside as an operations and maintenance reserve.

3.3.1.1 Seasonal Fluctuations Effecting Cash Flow

The City of Tehama has adequate operating reserves to accommodate fluctuations during the fiscal year and has no significant effect on the budget for the drinking water enterprise.

3.3.2 Emergency Reserves

RCAC advises setting aside emergency reserves to cover the most expensive piece of equipment that, if it failed, would render the system unable to deliver clean, safe drinking water to its customers. Emergency reserves should be easily accessible, such as in a savings account, so that they can be withdrawn quickly when needed. RCAC and the City determined $100,000 in emergency reserves would be adequate.

3.3.3 Debt Reserves

The City of Tehama currently has no debt.

3.3.4 Capital Improvement Reserves

Currently the City sets aside $30,195 annually as a depreciation expense to set aside for capital replacements. RCAC and the City created an asset list including the year installed, estimated current cost, estimated replacement year, and estimated replacement cost for each asset. It is estimated that the current costs to replace the system would total $14,262,535. Assuming 4% inflation, it is estimated the future replacement costs as each asset reaches the end of its useful life would total $84,474,336. To fund the future replacement costs of assets fully with cash would require the City to set aside $1,421,276 annually. Failure to save cash for replacement means the infrastructure will need to be replaced with grants/loans. The utility may not qualify for grants or loans. Grants may be unavailable, and loans may be more costly than anticipated in the future. The City plans to leverage grants and loans to ease this burden.

The long-term asset replacement plan requires the system to set aside $30,567 per year beginning in FYE 2025 in order to fund 2 percent in matching funds, 77 percent with grants, and the remaining 21 percent funded from low interest loans.

Cost per customer for capital reserves	
Annual Capital Reserves	$30,567
Number of Customers	193
Amount per customer per month	$30,567/12 = $2547.25/193 = $13.20

The City of Tehama has no capital projects scheduled in the next five years. Any major upgrades to improve the City of Tehama's ability to deliver water to its customers are in the final construction stage. Below is a list of assets that are expected to need replacing within the next 20 years.

Assets Expected to Need Replacement Over the Next 20 Years			
Asset	Year Acquired	Estimated Remaining Life	Estimated Future Replacement Costs
3 Stage Pump - Well #4	2022	8	$16,994
Motor Control Panel Well #3	2002	8	$105,673
3 Stage Pump Well #3	2021	10	$0
50 hp 3-Phase Motor - Well 3#	2021	12	$38,582
40 hp 3-phase Motor -Well #4	2022	13	$38,768
A/C at Well #3	2023	14	$13,542

Assets Expected to Need Replacement Over the Next 20 Years			
Asset	Year Acquired	Estimated Remaining Life	Estimated Future Replacement Costs
1" Galvanized (install poly – 744 LF)	1973	15	$812,766
Badger Model 35 Water Meters (200 meters)	2002	18	$184,296
Badger Water Meter Endpoints (AMR)	2022	18	$103,739
Total			**$1,314,359**

3.3.5 Analysis of Current Reserves

When comparing account balances and reserve targets outlined in the model, the City of Tehama can fully fund reserves and keep service rates below 1.5 percent based on the MHI of $50,104 according to the 2022 ACS census data. The utility has a goal to set aside $152,835 in the next five years for capital improvement projects.

RCAC recommends keeping separate accounts for the different reserve requirements.

Total Existing Reserve Amount Broken into Separate Accounts		
Reserve	Amount	Typical Source
Debt Reserves	$0	As per lending agreement(s)
Operating Reserves	$10,024	Often in Checking Account
Emergency Reserves	$100,000	Often in Savings Account
Capital Reserves	$580,607	Mostly in CDs or other investments
Total Reserves	$690,631	

If the City can hit their capital reserve targets over the next five years, there will be $733,442 at the end of capital reserves in FYE2029.

The utility should have a reserve policy in place to clarify:

- The establishment of these four reserve accounts.
- Who, how and under what circumstances can these funds be accessed.
- How the accounts are to be funded.
- When funds accumulate in the operating accounts, policies should be in place to periodically transfer funds to the reserve accounts.

The capital reserve portion of the policy should include a capitalization threshold, in which items below the certain threshold would be replaced as part of the O&M budget and items above the threshold would be replaced with cash reserves, loans or grants. For many smaller water systems, a capitalization threshold of $5,000 is recommended. A sample reserve policy can be found in the appendices of this report.

3.4 Current Financial Condition Analysis Summary

It is recommended that the city reviews their rates every five years to ensure that the fees and charges imposed do not exceed the proportional cost of the service attributable to each parcel.

RCAC recommends that the City of Tehama consider a rate increase and rate structure revision. A summary of these reasons include:

- Water sales appear to adequately cover ongoing operation and maintenance until FYE 2029; however, in FYE 2026 the City will not be able to fully fund reserve contributions.
  - The City is expecting to have a $20,000 increase in expenses in FYE 2027 when a contract operator is hired
- The current rate structure could be improved for fairness by not including any usage in the base rate and by setting a flat usage rate per 1,000 gallons.
- The City is planning to rely heavily on grants and loans for the replacement of their distribution system and other water system assets. The City should understand that applying for grants or loans will take staff time and financial resources, as well as,
  - Loans – Obtaining loans will come with debt service payments and debt reserve requirements that may increase expenses in future years.
  - Grants - During this current economic climate, it is not advised to assume grants in the budgeting process.

RCAC recommends the City adopt a reserve policy to establish reserve accounts and set the purpose and parameters of these reserve accounts. This includes establishing a capitalization threshold.

4 Methodology of Setting Rates

The revenue requirements mentioned above are allocated to ensure that the rate structures are designed to collect costs fairly from all customers

4.1 Fixed vs Variable Expenses

Fixed expenses are costs that do not fluctuate with changes in sales volume or production. They include expenses such as insurance, dues and subscriptions, equipment leases, payments on loans, depreciation, management salaries, and advertising. In contrast, variable expenses respond directly to changes in volume or production. Good examples of variable charges include utility energy costs and consumable water treatment supplies. In practice, most utility charges contain both fixed and variable elements.

Fixed costs are typically collected through a base rate, which is a fixed monthly charge. Variable costs are typically collected through a usage rate, which a dollar amount per unit of water used by the customer.

4.2 Base Rate and Usage Rates

4.2.1 Base Rates

Fixed costs are typically collected through a base rate. These base rates can be calculated using several different methods including:

- **Flat base rate** – all customers pay the same amount regardless of service connection size.
- **American Water Works Association Meter Ratios** - standard meter ratios that are used to estimate the equivalent cost of service based on the capacity of a water meter.

Meter Capacity Ratios		
Meter Size	Operating Capacity (GPM)	Meter Ratio
1/2"	15	1.00
5/8"	20	1.33
3/4"	30	2.00
1"	50	3.33
1.5"	100	6.67
2"	160	10.67
3"	320	21.33
4"	500	33.33
6"	1000	66.67
8"	1600	106.67
10"	2400	160.00
12"	3375	225.00

- **Meter ratios based on actual usage seen in water system** – custom meter ratios that are calculated on historical usage data of different meter sizes.

4.2.2 Usage Rates

Variable expenses are typically collected through the usage rate. These usage rates can be calculated using several different methods including:

- **Uniform usage rate** - customers are charged a single, constant rate for each unit of service
- **Tiered usage rate** - the cost per unit of service changes as a customer's consumption exceeds certain thresholds or "tiers." Variations of tiered rates include increasing block rate and decreasing block rate. Tiered usage rates are not recommended for public entity water systems due to current Proposition 218 case law.

5 Suggested Rates

5.1 Proposed Rate Structure and Schedule

The rates outlined below were developed closely with the board members of the City of Tehama in alignment with the calculation of the rate model to increase revenue and obtain grants and loans for major infrastructure replacement.

Proposed Monthly Water Rates					
	FYE 2025	FYE 2026	FYE 2027	FYE 2028	FYE 2029
¾" Meter Base Rate	$44.15	$45.03	$45.93	$46.85	$47.79
Usage Rate ($/1,000 gallons)	$0.63	$0.64	$0.66	$0.67	$0.68

The board did decide to delay the rate increase until FYE 2025. The board does agree with eliminating the tiered rate and adopting a base rate of $44.15 that includes zero usage and a flat usage rate of $0.63 per 1,000 gallons.

This rate study did not evaluate the assessment of undeveloped residential customers. These rates will remain unchanged at $8.00 per customer per month.

Undeveloped Parcel Monthly Assessments					
	FYE 2025	FYE 2026	FYE 2027	FYE 2028	FYE 2029
Undeveloped Residential Customers	$8.00	$8.00	$8.00	$8.00	$8.00

5.2 Impact of Suggested Rates on 5-year Budget

The proposed changes would increase revenue by approximately $96,934 over five years if the rates were implemented at the beginning of FYE 2025. If the rates are implemented in FYE 2026, the overall increase in revenue will be $82,521. The table below shows the impact on the budget of the proposed rates, at the end of five years, if rates were implemented starting FYE 2025.

Budget Summary with Proposed Rates						
Results of new rates	FYE 2025	FYE 2026	FYE 2027	FYE 2028	FYE 2029	5 Years
Total Expenses	$110,758	$114,768	$138,978	$144,398	$150,090	$658,992
Total Revenue	$127,866	$130,299	$132,780	$135,312	$137,893	$664,150
Net Loss or Gain: (Short/Over to Reserves)	$17,108	$15,531	-$6,197	-$9,087	-$12,196	$5,158
Net Cash Flow (Contribution to Reserves)	$47,675	$46,098	$24,370	$21,480	$18,371	$157,993

5.3 Impact of Suggested Rates on Customer Bills

The City of Tehama is considered a severely disadvantaged community at less than 60% of the statewide median household income. Because of this, it is important for the City to consider the percent increase and affordability of its water bills to its customers.

5.3.1 Percent Increase Analysis

The table below shows the percentage increase in base rate, usage rate, and average customer bill for each fiscal year starting with FYE 2025. The percentage values chosen will ensure the "Net Loss/Net Gain" over the five-year period is above zero but as close to zero as possible. This demonstrates that the rates cover annual O&M costs and meeting the City's reserve goals while not charging the customers more than the cost of service.

Percent Increase of Proposed Rates					
	FYE 2025	FYE 2026	FYE 2027	FYE 2028	FYE 2029
Base Rate % Increase	9%	2%	2%	2%	2%

Percent Increase of Proposed Rates					
	FYE 2025	FYE 2026	FYE 2027	FYE 2028	FYE 2029
Usage Rate % Increase	Variable	2%	2%	2%	2%
Average Bill % Increase	18%	2%	2%	2%	2%

5.3.2 Affordability Analysis

The State Water Resources Control Board looks at affordability as the percent of the median household income (% MHI) that the average annual water bill requires.

State Water Resources Control Board Affordability Criteria		
<1.5% of the MHI	1.5% - 2.5% of the MHI	>2.5% of the MHI
No risk	Medium Risk	High Risk

The table below shows the average customer bill given the proposed rate increase and the percentage of the median household income that the average annual water bill would require. The City of Tehama rates are considered at no risk for affordability based on the California 2018-2022 American Community Survey Statewide MHI estimate of $50,104

Average Monthly Customer Bill & Affordability						
	Current	FYE 2025	FYE 2026	FYE 2027	FYE 2028	FYE 2029
¾" Meter Bill	$44.21	$52.13	$53.17	$54.24	$55.32	$56.43
Affordability	1.06%	1.25%	1.27%	1.30%	1.32%	1.35%

5.4 Alternative Rate Structures

Alternative rate structures were discussed between RCAC and the City of Tehama. One option being to include 5,000 gallons in the base rate of $44.15 and establish a usage rate of $0 .90 per 1,000 gallons. It would only decrease the amount to reserves by $356 over the five-year. The city did express the desire to have a base rate with no usage included to make rates fairer and more equitable to all customers. RCAC supports this decision.

6 Recommendations

6.1 Summary of Rates, Reserve Funding, Other Recommendations

6.1.1 Recommendations for Improving Financial Position

The City of Tehama is a severely disadvantaged community and is relying on 78 percent grant funding for the replacement of their critical infrastructure. The City has done a great job setting aside reserve funds over the years and their financial outlook is positive.

RCAC recommends that the City reviews their rates every five years to ensure that the fees and charges imposed do not exceed the proportional cost of the service attributable to each parcel. RCAC recommends that the City of Tehama consider a rate increase and rate structure revision. A summary of these reasons include:

- Water sales appear to adequately cover ongoing operation and maintenance until FYE 2029; however, in FYE 2026 the City will not be able to fully fund reserve contributions.

- The City is expecting to have a $20,000 increase in expenses in FYE 2027 when a contract operator is hired
- The current rate structure could be improved for fairness by not including any usage in the base rate and by setting a flat usage rate per 1,000 gallons.
- The City is planning to rely heavily on grants and loans for the replacement of their distribution system and other water system assets. The City should understand that applying for grants or loans will take staff time and financial resources, as well as,
  - Loans – Obtaining loans will come with debt service payments and debt reserve requirements that may increase expenses in future years.
  - Grants - During this current economic climate, it is not advised to assume grants in the budgeting process.

RCAC recommends the following rate structure and schedule

Proposed Monthly Water Rates					
	FYE 2025	FYE 2026	FYE 2027	FYE 2028	FYE 2029
¾" Meter Base Rate	$44.15	$45.03	$45.93	$46.85	$47.79
Usage Rate ($/1,000 gallons)	$0.63	$0.64	$0.66	$0.67	$0.68

RCAC recommends the City adopt a reserve policy to establish reserve accounts and set the purpose and parameters of these reserve accounts. This includes establishing a capitalization threshold.

6.2 Implementation of Rate Adjustments

6.2.1 General Implementation Advice

Revenue projections are based on a full year of implemented new rates. The City should keep this in mind in its budgeting if rates are not adopted at the beginning of the fiscal year.

Every year revenues versus expenditures should be reviewed to ensure that the rates cover all costs to the system. If the water system is at risk of expenditures exceeding revenue, the City should consider reviewing its rates even if it has not been 5 year since the last rate study.

If possible, CIP reserves should be moved to and maintained in the highest interest-bearing accounts available to offset inflation unless the cost of doing so is more than the interest earned on the account.

6.2.2 Public Outreach/Education

Public outreach and education are imperative to successfully raising rates. It is never easy to raise rates, but customers are more likely to accept increases when their leaders have been transparent with their needs and pending costs.

7 Appendices

7.1 Financial Spreadsheet for Suggested Rate Option

7.2 Capital Replacement Plan for Suggested Rate Option

7.3 Sample Reserve Policy

7.1 Financial Spreadsheet for Suggested Rate Option

Key:		Other Notes: This Budget	Standard Assumptions	
Line items that vary based on rate options			Inflation Factor (%)	4.00
Line items that vary from standard assumptions			Loan Interest Rate (%)	2.00

Budget Projections for [Water System Name]									
	Actual	Actual	Budgeted		Projected	Projected	Projected	Projected	Projected

EXPENSES									
OPERATIONS & MAINTENANCE EXPENSES									
	2022	2023	2024	% Belonging to Water	2025	2026	2027	2028	2029
Gas, Diesel, Oil	388	403	316	100%	328	345	362	380	399
Milage, Meetings, Trainings	240	252	239	100%	248	260	273	287	301
Repair & Replace - >5000 greater than	1,997	5,373	0	100%	0	0	0	0	0
Repair & Replace - <5000 less than	988	5,865	1,258	100%	1,308	1,373	1,442	1,514	1,590
Subscriptions, Dues, Licenses	465	488	513	100%	534	560	588	618	648
Permits / Fees	4,408	7,374	7,411	100%	7,707	8,092	8,497	8,922	9,368
Salaries + Benefits	27,061	27,662	28,125	100%	29,250	30,713	32,248	33,861	35,554
Contract Personnel	0	4,563	13,020	100%	13,540	14,217	14,928	15,675	16,458
Testing / Analysis	1,098	825	1,800	100%	1,872	1,966	2,064	2,167	2,275
Utilities - Gas	160	404	206	100%	214	225	236	248	260
Utilities - Electricity	13,806	16,071	18,476	100%	19,215	20,176	21,185	22,244	23,356
Insurance - Lability	2353	669	2,637	100%	2,742	2,879	3,023	3,174	3,333
Office Supplies / Postage	0	0	1,108	100%	1,152	1,210	1,271	1,334	1,401
Audit / Legal Fees	1000	1,060	2,000	100%	2,080	2,184	2,293	2,408	2,528
Contract Operator	0	0	0	100%	0	0	20,000	21,000	22,050
Total Operation and Maintenance Expenses:	53,964	71,009	77,107		80,191	84,201	108,411	113,831	119,523

GENERAL & ADMINISTRATIVE EXPENSES									
	2022	2023	2024	% Belonging to Water	2025	2026	2027	2028	2029
Operating Reserve Funding	0	0	0	100%	0	0	0	0	0
Emergency Reserve Funding	0	0	0	100%	0	0	0	0	0
Debt Reserve Funding	0	0	0	100%	0	0	0	0	0
Replacement of Existing Capital Assets	0	0	0	100%	30,567	30,567	30,567	30,567	30,567
Replacement of Funded Project Assets	0	0	0	100%	0	0	0	0	0

GENERAL & ADMINISTRATIVE EXPENSES									
	2022	2023	2024	% Belonging to Water	2025	2026	2027	2028	2029
Reserves for Additional Capital Assets	0	0	0	100%	0	0	0	0	0
Depreciation Expense	30,195	30,195	30,195	100%	0	0	0	0	0
Debt Service Payment				100%	0	0	0	0	0
Total General and Administrative Expenses:	30,195	30,195	30,195		30,567	30,567	30,567	30,567	30,567

TOTAL EXPENSES	84,159	101,204	107,302		110,758	114,768	138,978	144,398	150,090

REVENUES									
Sales Revenue (Base Rate + Usage Rate)	98,765	104,611	107,477	100%	121,889	124,327	126,814	129,350	131,937
Tower Rent	1,960	2,857	5,981	100%	6,220	6,220	6,220	6,220	6,220
Uncollectable Receivables	0	0	112	100%	-244	-249	-254	-259	-264
Water Fund - Other	0	0	0	100%	0	0	0	0	0
TOTAL REVENUE	100,725	107,468	113,570		127,866	130,299	132,780	135,312	137,893

NET INCOME									
NET LOSS OR GAIN	16,566	6,264	6,268		17,108	15,531	-6,197	-9,087	-12,196
NET CASH FLOW (CONTRIBUTIONS TO RESERVES)	16,566	6,264	6,268		47,675	46,098	24,370	21,480	18,371

7.2 Capital Replacement Plan for Suggested Rate Option

	Key:		Notes:	Standard Assumptions		
	Line items that vary based on rate options			Inflation Factor (%)	4.00	
	Line items that vary from standard assumptions			Loan Interest Rate (%)	2.00	
	*Cost Type: H=Historic, C=Current, F=Future					

Capital Improvement Plan

Replacement of Existing Capital Assets

Qty	Asset	Year Acquired	Unit Cost	Cost Type*	% Belonging to Water	Estimated Historic Cost (Water only)	Normal Estimated Life	Current Age	Estimated Current Cost	Planned Remaining Life	Estimated Remaining Life	Estimated Future Cost	Fund with Cash	Fund with Grant	Fund with Loan	Existing Reserves	Annual Reserve Required
1	3 Stage Pump - Well #4	2022	$11,200	H	100%	$11,200	10	3	12,418	7	8	16,994	100%	0%	0%	10,667	754
1	Motor Control Panel Well #3	2002	$35,000	H	100%	$35,000	30	23	77,214	7	8	105,673	100%	0%	0%	66,328	4,689
	3 Stage Pump Well #3	2021	$11,200	H	100%	$0	10	4	0	6	10	0	100%	0%	0%	0	Not Cap.
1	50 hp 3-Phase Motor - Well 3#	2021	$21,000	H	100%	$21,000	15	4	24,098	11	12	38,582	100%	0%	0%	20,701	1,403
1	40 hp 3-phase Motor -Well #4	2022	$21,000	H	100%	$21,000	15	3	23,283	12	13	38,768	100%	0%	0%	20,001	1,355
1	A/C at Well #3	2023	$7,300	H	100%	$7,300	15	2	7,820	13	14	13,542	100%	0%	0%	6,717	456
1	1" Galvanized (install poly – 744 LF)	1973	$75,434	H	100%	$75,434	50	52	451,300	-2	15	812,766	0%	80%	20%	0	0
1	Badger Model 35 Water Meters (200 meters)	2002	$41,237	H	100%	$41,237	40	23	90,974	17	18	184,296	100%	0%	0%	78,148	5,469
1	Badger Water Meter Endpoints (AMR)	2022	$46,187	H	100%	$46,187	20	3	51,208	17	18	103,739	100%	0%	0%	43,989	3,078
1	5000-gallon Hydro- Pneumatic Storage Tank	1994	$28,000	H	100%	$28,000	40	31	81,341	9	20	178,228	100%	0%	0%	69,873	5,002
1	50kw Kohler Natural Gas Standby Generator Well #4	1994	$47,600	H	100%	$47,600	50	31	138,279	19	20	302,987	30%	0%	70%	35,635	2,551
1	6" AC Pipe – 1,655 LF (replace with C-900)	1971	$200,255	H	100%	$200,255	65	54	1,283,401	11	20	2,812,089	0%	80%	20%	0	0
1	6" AC Pipe - 1,654 LF (replace with C-900)	1971	$200,134	H	100%	$200,134	65	54	1,282,625	11	20	2,810,390	0%	80%	20%	0	0
1	6" AC Pipe – 1,654 LF (replace with C-900)	1971	$200,134	H	100%	$200,134	65	54	1,282,625	11	20	2,810,390	0%	80%	20%	0	0
1	6" AC Pipe – 1,654 LF (replace with C-900)	1971	$200,134	H	100%	$200,134	65	54	1,282,625	11	20	2,810,390	0%	80%	20%	0	0
1	5000-gallon Hydro- Pneumatic Storage Tank - Well #3	2002	$28,000	H	100%	$28,000	40	23	61,771	17	28	185,234	100%	0%	0%	53,063	4,285
1	50kw Kohler Natural Diesel Standby Generator - Well #3	2002	$47,600	H	100%	$47,600	50	23	105,011	27	28	314,897	30%	0%	70%	27,062	2,185
1	Motor Control Panel - Well #4	1994	$35,000	H	100%	$35,000	30	31	101,676	-1	30	329,776	30%	0%	70%	26,202	2,191
1	6" C-900 Pipe - 361 LF	1973	$43,681	H	100%	$43,681	75	52	261,331	23	30	847,600	0%	80%	20%	0	0
1	6" LAKOS Sand Separator - Well #4 below ground	2022	$21,000	H	100%	$21,000	35	3	23,283	32	33	84,946	100%	0%	0%	20,001	1,768

1	6" LAKOS Sand Separator Well #4 above ground	1994	$21,000	H	100%	$21,000	35	31	61,006	4	35	240,734	30%	0%	70%	15,721	1,444
1	Building Improvements - Well #4	1994	$42,000	H	100%	$42,000	60	31	122,011	29	40	585,779	0%	80%	20%	0	0
1	6' Chain Link Fencing with Gates Well #4	1994	$7,000	H	100%	$7,000	70	31	20,335	39	40	97,630	100%	0%	0%	17,468	1,774
1	6" C-900 Pipe - 380 LF	1984	$45,980	H	100%	$45,980	75	41	188,418	34	45	1,100,585	0%	80%	20%	0	0
1	Generator Transfer Switch - Well #4	2022	$28,000	H	100%	$28,000	50	3	31,044	47	48	203,976	30%	0%	70%	8,000	964
1	6" C-900 Pipe – 1,482 LF	1988	$179,322	H	100%	$179,322	75	37	640,363	38	49	4,375,827	0%	80%	20%	0	0
1	Wellhouse building Well #3	2002	$42,000	H	100%	$42,000	80	23	92,657	57	50	658,483	0%	80%	20%	0	0
1	6' Chain Link Fencing with Gates - Well #3	2002	$7,000	H	100%	$7,000	70	23	15,443	47	50	109,747	100%	0%	0%	13,266	1,672
1	6" Waterous Hydrants (10)	2002	$35,476	H	100%	$35,476	50	23	78,264	27	50	556,198	0%	80%	20%	0	0
1	6" Waterous Hydrants (11)	2002	$39,024	H	100%	$39,024	50	23	86,091	27	50	611,824	0%	80%	20%	0	0
1	6" Waterous Hydrants (21)	2002	$74,500	H	100%	$74,500	50	23	164,356	27	50	1,168,023	0%	80%	20%	0	0
1	6" Gate Valves (13)	1985	$27,664	H	100%	$27,664	50	40	109,529	10	50	778,388	0%	80%	20%	0	0
1	6" Gate Valves (40)	1985	$85,120	H	100%	$85,120	50	40	337,012	10	50	2,395,039	0%	80%	20%	0	0
1	6" Gate Valves (80)	1985	$170,240	H	100%	$170,240	50	40	674,024	10	50	4,790,078	0%	80%	20%	0	0
1	New well #5	2024	$1,300,000	H	100%	$1,300,000	50	1	1,345,500	49	50	9,562,042	0%	80%	20%	0	0
1	6" C-900 Pipe – 1,021 LF	1993	$123,541	H	100%	$123,541	75	32	371,452	43	54	3,088,180	0%	80%	20%	0	0
1	1" Poly (1,017 LF)	2002	$103,114	H	100%	$103,114	70	23	227,481	47	60	2,393,018	0%	80%	20%	0	0
1	2" Poly (117 LF)	2002	$11,940	H	100%	$11,940	70	23	26,341	47	60	277,098	30%	0%	70%	6,788	1,078
1	6" C-900 Pipe – 9,644 LF	2002	$1,166,924	H	100%	$1,166,924	75	23	2,574,368	52	63	30,462,882	0%	80%	20%	0	0
1	6" C-900 Pipe – 2,007 LF	2010	$242,847	H	100%	$242,847	75	15	406,853	60	71	6,588,781	0%	80%	20%	0	0
1	XiO SCADA System	2016	$35,000	H	100%	$35,000	25	9	47,701	16		47,701	100%	0%	0%	40,976	0
Subtotal Replacement of Existing Capital Assets						$5,097,588			$14,262,535			$84,893,297	2%	77%	21%	$580,607	$42,119

Replacement of Funded Project Assets

Qty	Asset	Year Acquired	Unit Cost	Cost Type*	% Belonging to Water		Normal Estimated Life	Time to Complete	Estimated Current Cost	Planned Remaining Life	Estimated Remaining Life	Estimated Future Cost	Fund with Cash	Fund with Grant	Fund with Loan	Existing Reserves	Annual Reserve Required
Subtotal Replacement of Funded Project Assets																	

Reserves for Additional Capital Assets

Qty	Asset	Year to be Purchased	Unit Cost	Cost Type*	% Belonging to Water		Normal Estimated Life	Years to save	Estimated Current Cost			Estimated Future Cost	Fund with Cash	Fund with Grant	Fund with Loan	Existing Reserves	Annual Reserve Required
Subtotal Reserves for Additional Capital Assets																	
	Total Capital Reserves					$5,097,588			$14,262,535			$84,893,297	2%	77%	21%	$580,607	$42,119

7.3 Sample Reserve Policy

Sample Reserve Policy

(Version 11-30-18)

Purpose

This policy aims to ensure that:

- The "Reserves" are used for their intended purposes,
- Procedures are set up to transfer funds to/from the "Reserve" accounts.

AWWA Reserves

In *M1 Principles of Water Rates, ed5*, page 13, AWWA identifies four reserve types: Debt-, Operating-, Emergency-, and Capital Reserves.

Each enterprise will have its own four reserve accounts.

Debt Reserve

An amount to be set aside as per the agreement between the lender and the borrower.

Operating Reserve

An amount set aside in the operating account to provide working capital. An amount equal to the total expenses over a period of one and a half billing cycle is usually considered an appropriate level. These funds must remain liquid and are usually deposited in a checking account.

Emergency Reserve

An amount set aside for emergencies—not routine maintenance, refurbishing or capital replacement. AWWA recommends an emergency reserve amount equal to the cost of the most expensive piece of equipment that, if it fails, will be catastrophic – rendering the utility unable to get clean, safe water to the community. These funds must remain liquid and are usually deposited in a savings account.

Capital Reserve

An amount set aside for the future replacement of worn-out equipment. The amount of required capital reserves is usually determined by the Capital Asset Replacement program. These funds can be invested with longer-term maturities, which coincide with the cash requirements of the Capital Asset Replacement Program.

Transfers to Reserves

The district shall keep distinct ledger accounts or sub-accounts in the chart of accounts for each CSA for each of the four reserve types (debt, operating, emergency, and capital). However, the time horizon for Debt Reserve is very long (i.e. a long-term CD). For Emergency Reserve the time horizon is very short (i.e. a savings account). The time horizon for Capital Reserve depends on the projects coming up (i.e. a ladder of CDs).

On the accounting books, the district shall have accounts, identifying the four reserve accounts.

Each quarter the accounting staff shall determine the excess cash generated by each enterprise (i.e. water, sewer, solid waste, electricity, etc.). This amount shall be determined by subtracting all items paid from the revenue collected, included any transfers from the reserve accounts, as described in the section below.

Reserve Targets

The targets for each of the reserve accounts will be as determined by the most recent rate study.

Allocation Schedule

This excess cash shall be deposited in the reserve account, in the following order:

1. Any shortfall in the Operating Reserve account
2. Any shortage in the Debt Reserve account
3. Any shortage in the Emergency account
4. The remaining will be deposited in the Capital Reserve account for that CSA.

The district's staff shall report all transactions and the balances in the four reserve accounts to the Board on a quarterly basis.

Transfers from Reserves

Funds in the reserve accounts will not be used for any other purpose than they were intended as set forth above unless approved by the Board. No funds will be transferred between enterprises.

Debt Reserve

Can only be transferred when the associated debt is paid off or the lender authorizes a reduction in Debt Reserve. At that time the Debt Reserve is returned to the operating account and redistributed according to the Allocation Schedule above.

Emergency Reserve

Funds in the Emergency Reserve can only be transferred for emergency purposes. Emergencies are limited to disasters, drought, fire, or any other unforeseeable event. The funds are not to be used for operating capital, pay debts, pay for capital improvements or replacements, maintenance, or any other foreseeable event.

Capital Reserve

Funds in the Capital Reserve account can only be transferred for capital replacement projects for that enterprise. Capital projects are those projects that are above the capitalization threshold of $5,000. The funds are not to be used for operating capital, refurbishing, pay debts or for emergencies.