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Sewer Rate Study

Mokelumne Hill Sanitary District

Final Report

February 16, 2026

HISTORIC
MOKELUMNE HILL



909 Marina Village Parkway #135 § Alameda, CA 94501 § (510) 545-3182 § www.LTmuniconsultants.com

909 Marina Village Parkway #135 § Alameda, CA 94501
(510) 545-3182 § www.LTmuniconsultants.com

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(510) 545-3182 § www.LTmuniconsultants.com

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SECTION 1: INTRODUCTION AND EXECUTIVE SUMMARY

1.1 Background

The Mokelumne Hill Sanitary District (District or MHSD) is an independent special district governed by the Mokelumne Hill Board of Directors under the Sanitary District Act of 1923. The District owns and operates the wastewater (sewer) collection, treatment, and disposal facilities serving the unincorporated community of Mokelumne Hill. The District's system has sufficient capacity to serve the existing customer base and projected demand. Like many rural communities in California, Mokelumne Hill has a static or declining population base. There have only been two new sewer connections added to the system in the past ten years. Mokelumne Hill Sanitary District last conducted a rate study in 2012 and has since implemented rate increases to adjust for inflation, bringing the current annual bill for a single-family residence to \$849.12.

The Board of Directors is composed of five community members elected to four-year terms. District operations are supported by a working Board and a Board President with a Grade 1 Wastewater operators permit. Three (3) part time employees overseen by the Board President perform maintenance and repairs whenever feasible, reducing the need for expensive contractors.

In 2019, the District applied for and was awarded a \$500,000 Clean Water State Revolving Fund (CWSRF) planning grant to conduct preliminary feasibility and engineering studies to address needed upgrades to the system. At the end of the planning process, the District applied for and was awarded approximately \$11 million in additional construction funding by the State Water Board in the Fall of 2024 to fund the projects. The approximately \$11.5 million improvements are 100% grant funded at no cost to District ratepayers. Construction of the improvements will commence this year and be completed by December 2027. The projects include:

- Replace 3 sewer mainlines (Easy Bird, Maretta Lane and Garden Lane)
- Eliminate the need for two sewer lift stations and replace with a gravity fed main line to the treatment plant
- Upgrade the treatment plant office/lab
- Line two wastewater treatment lagoons (mandated by the Regional Water Quality Board)
- Automate the disposal of treated wastewater on the District's three spray fields

1.2 Requirements of Proposition 218

The implementation of public agency utility rates in California is governed by the substantive and procedural requirements of Proposition 218 the "Right to Vote on Taxes Act" which is codified as Articles XIII C and XIII D of the California Constitution. The District must follow the procedural requirements of Proposition 218 for all utility rate increases. These requirements include:

1. **Noticing Requirement** – The District must mail a notice of the proposed rate increases to all affected property owners. The notice must specify the amount of the fees, the basis upon which they were calculated, the reason for the fees, and the date/time/location of a public rate hearing at which the proposed rates will be considered/adopted.
2. **Public Hearing** – The District must hold a public hearing prior to adopting the proposed rate increases. The public hearing must be held not less than 45 days after the required notices are mailed.
3. **Rate Increases Subject to Majority Protest** – At the public hearing, the proposed rate increases are subject to majority protest. If more than 50% of affected property owners submit written protests against the proposed rate increases, the increases cannot be adopted.

Proposition 218 also established substantive requirements that apply to sewer rates and charges, including:

1. **Cost of Service** – Revenues derived from the fee or charge cannot exceed the funds required to provide the service. In essence, fees cannot exceed the “cost of service”.
2. **Intended Purpose** – Revenues derived from the fee or charge can only be used for the purpose for which the fee was imposed.
3. **Proportional Cost Recovery** – The amount of the fee or charge imposed upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of service attributable to that parcel.
4. **Availability of Service** – No fee or charge may be imposed for a service unless that service is used by, or immediately available to, the owner of the property.
5. **General Government Services** – No fee or charge may be imposed for general governmental services where the service is available to the public at large.

Charges for sewer service are exempt from additional voting requirements of Proposition 218, provided the charges do not exceed the cost of providing service and are adopted pursuant to the procedural requirements of Proposition 218.

1.3 Rate Study Process

The following is a brief description of the rate study process:

- **Revenue Requirement** – Revenue requirements are analyzed via a cash flow projection based on the best information currently available such as the District’s historical operating results, budgets, audits, and input from District staff. The cash flow serves as a roadmap for funding future operating costs and capital expenditures while maintaining long-term fiscal stability, all of which is calculated in this study to produce rates that will be necessary to recover only the cost of the sewer service per parcel under the proposed sewer rates.
- **Cost of Service Allocation** - The cost of service process builds on the revenue requirement analysis and assigns costs based on wastewater flow where one equivalent dwelling unit is 200 gallons per day of flow.
- **Rate Design** - Rate design involves developing a rate structure that fairly recovers costs from customers but does not exceed the proportional cost of the service attributable to the parcel. Final rate recommendations are designed to fund the District’s short- and long-term costs of providing service and fairly allocate costs to all customers.

The rates developed in this report are based on the best available information gathered from District budgets, audits, and input from staff. The cost allocations proposed herein are based on industry standard practice. The proposed rates are based on the reasonable cost of providing service and do not exceed the proportional cost of the service attributable to each parcel.

1.4 Proposed Rates

Current and proposed rates are provided in Table 1. Rate changes are proposed to be implemented July 1 of each year for the next five years beginning on July 1, 2026 and be billed annually on the Calaveras County tax roll. Each customer is assigned a number of equivalent dwelling units (EDU) based on the number of dwelling units (for residential customers) or metered winter water usage (for non-residential customers). Winter water usage is used as a proxy for sewer flows because it primarily reflects indoor water use that is discharged to the sewer, unlike summer usage, which may include outdoor irrigation. The District defines one EDU as an amount of sewage equal to 200 gallons of sewage discharge per day (stated in Resolution No. 2022-04). Each non-residential customer is subject to a minimum of 1 EDU.

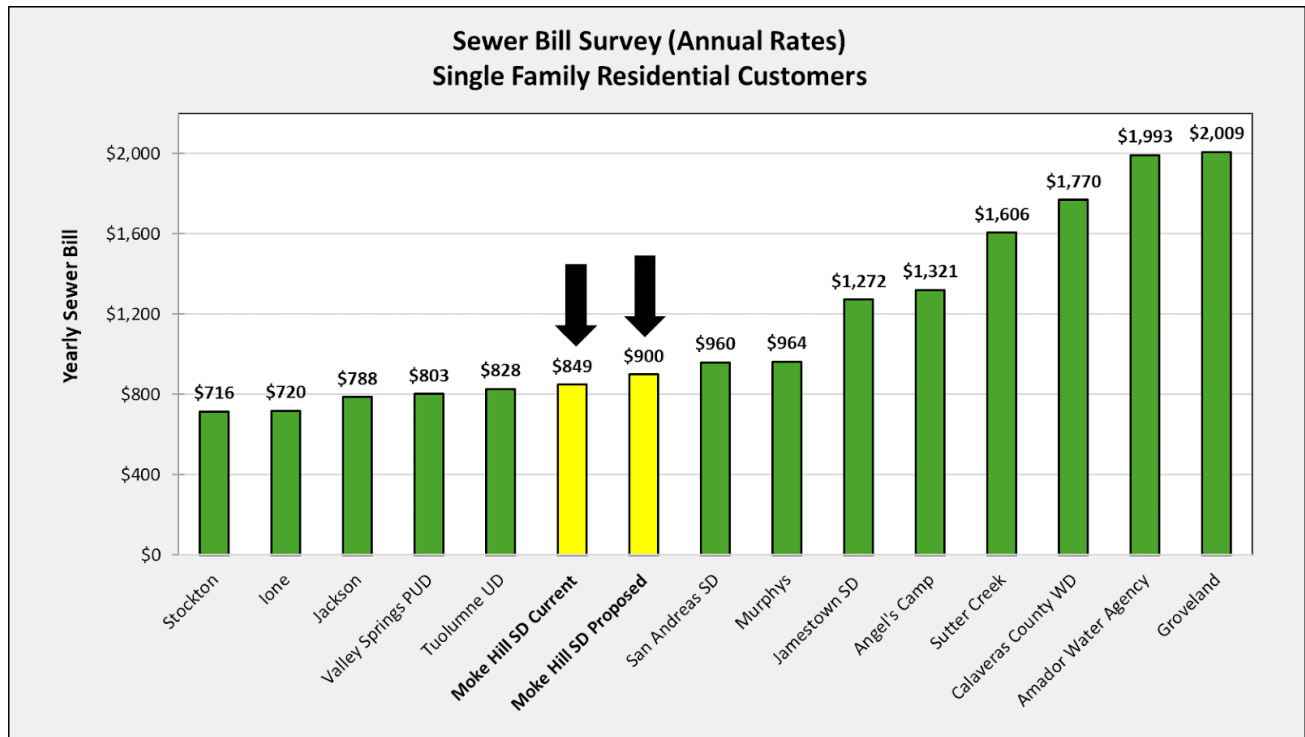
Table 1: Proposed 5-Year Rate Plan

	Current	Proposed				
		FY2027	FY2028	FY2029	FY2030	FY2031
Effective Date		July 1, 2026	July 1, 2027	July 1, 2028	July 1, 2029	July 1, 2030

		+6%	+6%	+6%	+6%	+6%
Rate per EDU (\$/year)	\$849.12	\$900	\$954	\$1,012	\$1,072	\$1,137
EDU – Equivalent Dwelling Unit equal to 200 gallons per day of sewer flow FY – fiscal year Each residential dwelling unit (including single-family homes, each unit of a duplex, apartments, and accessory dwelling units) is assigned one EDU. Non-residential customers are assigned EDUs based on metered winter water usage where an EDU equals 200 gallons. Each non-residential customer is subject to a minimum of 1 EDU.						

Figure 1 provides a bill survey comparing MHSD's current and proposed single-family residential rate with the rates of other local sewer systems. For comparison purposes, all rates have been converted to the equivalent annual cost. July 1, 2026, it is proposed that the single-family residential sewer rate will increase from \$849.12 (current) to \$900.00 per year. With the proposed rate increase, MHSD's rates will remain in the lower half of comparable rates charged by neighboring agencies.

Figure 1: Annual Sewer Bill Survey



Rates effective as of January 1, 2026

Future rate increases by other agencies not reflected

SECTION 2: CUSTOMER BASE AND CURRENT RATE REVENUES

The District last conducted an in-depth evaluation of its rates in 2012. From 2012 to 2016, the rate per equivalent dwelling unit (EDU) was increased by \$12 per year (or \$1 per month). From 2017 to present the rate was increased by inflation as measured by the annual change in the Consumer Price Index (CPI), see Table 2. The District charges all customers fixed rates for sewer service which are billed annually on the Calaveras County tax roll. The current rate per equivalent dwelling unit (EDU) is \$849.12.

Table 2: Historical Rate Increases

Effective Date	Annual Rate per EDU
July 1, 2012	\$648
July 1, 2013	\$660
July 1, 2014	\$672
July 1, 2015	\$684
July 1, 2016	\$696
2017 to 2022	Annual change in the Consumer Price Index (CPI)
July 1, 2023	\$823.56 (CPI)
July 1, 2024 to present	\$849.12 (CPI)

EDU – equivalent dwelling unit

The District provides wastewater collection, treatment, and disposal to 287 parcels including single-family homes, duplexes, multifamily homes, apartments, commercial customers, and a school. The District's customer base is heavily residential with 263 residential customers and 24 non-residential customers currently. As shown in Table 3, the District provides service to about 339 EDUs and collects about \$287,500 in annual sewer rate revenues. Each residential dwelling is billed as one EDU. Per Resolution No. 2022-04, one equivalent dwelling is defined as 200 gallons per day of sewer flow. For non-residential customers, sewer flow is estimated as the three-month average of metered water usage of December, January, and February of the prior year. Non-residential customers are subject to a minimum charge of one EDU.

Table 3: Current Annual Rates and Rate Revenue

Customer Class	Count of Parcels	Total EDUs
Residential		
Single-family Residential	242	242.00
Duplex	17	34.00
Multifamily Quad	4	16.00
Multi-plex Apartment	<u>1</u>	<u>8.00</u>
Total Residential	264	300.00
Non-residential		
Ball Park	1	1.00
Church	2	2.00
Ciderworks	1	1.00
Elementary School	1	3.39
Hotel & Restaurant	1	4.40
Market and Strip Mall	1	4.00
Offices/Govt Buildings		
Commercial Offices	3	5.00
Fire Department	1	1.00
Library	1	1.00
Post Office	1	1.00
Retail	7	9.00
Town Hall	1	1.00
Winery & Bistro	1	2.00
Other	<u>1</u>	<u>2.79</u>
Total Non-residential	23	38.58
Total Customers	287	338.58
Current FY2026 Annual Rate per EDU		\$849.12
Total EDUs		<u>338.58</u>
Total Revenue		\$287,494
EDU – equivalent dwelling unit		

SECTION 3: COST OF SERVICE

This section provides an analysis of revenues and expenses to determine the total cost of service to be recovered via rates. The cost of service is expressed in a cash flow table that illustrates revenue increases needed to keep up with expenses and maintain financial health. Over the five-year rate study period, rate increases are proposed so that the District can fund operating costs, debt service, capital expenses, and maintain reasonable reserves, all of which are calculated in this study to produce rates that will be necessary to recover only the cost of sewer service per parcel.

3.1 Revenues

The District's revenues primarily consist of sewer service charges paid by ratepayers, about \$287,500 at the current rates. In FY2026, the District also expects to receive other revenues of about \$33,700 from property taxes, \$28,500 in interest revenue, and \$2,800 in miscellaneous fees. These other revenues are expected to remain constant throughout the rate study period. Beginning July 1, 2026, it is proposed that annual rate revenue increases of 6% take effect each year to fund the costs described below.

3.2 Expenses

3.2.1 Operating Costs

In FY2026, the District expects to incur about \$298,600 in expenses to operate and maintain the sewer system, see Table 4. Operating expenses consist of staffing, County fees, administration, State Water Board permits, State Department of Water Resources fees, outside and professional services, insurance, equipment and maintenance, and utilities. County fees are expected to remain at 1% of total sewer rate revenue each year. State Department of Water Resources fees have increased 64% from \$8,984 in 2017 to \$14,635 in 2025, and State Water Resources Control Board licenses and permits have doubled in the past 10 years from \$16,505 to \$36,450. Utilities are expected to increase by 40% in FY2027 and 3% in following years. The large increase in utility expenses in FY2027 is due to a new office/lab building becoming operational and new spray fields coming online. All other operating expenses are projected to increase by 3% annually. It should be noted that operations and maintenance costs are currently under the market cost due to the working board, and MHSD president's Grade I wastewater license that allows for in-house maintenance and supervision of the 3 part-time employees.

Table 4: Operating Expense Projection

	Budget	Escalatio n	PROJECTED				
Description	FY2026	Factor	FY2027	FY2028	FY2029	FY2030	FY2031
Staffing	\$112,000	3%	\$115,400	\$118,900	\$122,500	\$126,200	\$130,000
County Fees	\$2,900	[1]	\$3,000	\$3,200	\$3,400	\$3,600	\$3,800
Administration & Licenses	\$84,900	3%	\$87,400	\$90,000	\$92,700	\$95,500	\$98,400
Outside & Professional Services	\$52,700	3%	\$54,300	\$55,900	\$57,600	\$59,300	\$61,100
Equip. & Maint. & Lab	\$31,100	3%	\$34,000	\$35,000	\$36,100	\$37,200	\$38,300
Utilities [2]	\$15,000	3%	\$21,000	\$21,600	\$22,200	\$22,900	\$23,600
Total Operational Expenses	\$298,600		\$315,100	\$324,600	\$334,500	\$344,700	\$355,200
1 - Calculated as 1% of future sewer service revenues							
2 - Utilities are projected to increase 40% in FY2027 and 3% in subsequent years							

3.2.2 Capital Projects

Table 5 shows planned rate-funded capital improvement needs determined by the District over the rate study period. Table 5 does not include the over \$11 million wastewater treatment system upgrades that are fully funded by State grants at no cost to the ratepayers. Moreover, 90% of the District's 3.6 miles of collection system pipelines have been replaced with standard dimension ratio (SDR 35) pipe within the past 30 years – thus, no new pipeline projects are needed. Projects to be funded in the next five years consist of rate studies, equipment, and sewer line inspection camera. Rate studies are typically conducted every five years. A potential future rate study is budgeted for FY2031. During the rate study period, capital improvement costs that will be funded via rate revenues total to \$95,000.

Table 5: Rate-Funded Capital Improvements Projection

Project	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	Total
Rate Study	\$25,000					\$30,000	\$55,000
Equipment	\$25,000						\$25,000
Sewer line inspection camera	\$15,000						\$15,000
Total Projects	\$65,000	\$0	\$0	\$0	\$0	\$30,000	\$95,000

3.2.3 Debt Service Costs

The District has two outstanding loans which require the District to fund annual debt service costs of approximately \$54,700. The loans are a USDA Rural Development Loan (\$746,400) and a Clean Water

State Revolving Fund Loan (\$278,500), both of which will be paid off in 2045. It is proposed that all upcoming capital improvement projects be rate funded. Therefore, the District will not have any additional debt service costs, and current debt service costs are projected to remain constant.

Most forms of public agency debt require that the issuer maintain a coverage ratio of 1.2 times or greater. This is calculated as net operating revenues divided by the total annual debt service cost. In FY2026 it is projected that the debt service coverage ratio will be 0.99, which does not meet the recommended target of 1.2. However, over the course of the rate study period, it is projected that the District will increase net operating revenues, therefore increasing its debt service coverage to meet the recommended target. By the end of FY2031 it is estimated that the District will have a debt service coverage ratio of 1.73.

A chief covenant for the District to secure any future loans, grants, or revenue bonds/Certificates of Participation (COPs) is to maintain a specific debt service coverage ratio. A debt service coverage ratio is a financial measure of an agency's ability to repay outstanding debt. For MHSD, the debt service coverage ratio means that annual net revenues (gross revenues less operating and maintenance expenses) must be at least 1.2 times the combined annual debt service payments on all parity obligations. Failure to meet the debt service coverage ratio on an annual basis is considered to be technical default, thereby making the loans callable or payable upon demand. Thus, rates and fees must be set to meet this legal requirement.

3.2.4 Reserves

Accumulation of appropriate reserves is one component of the cost of service recovered from customers via rates. The proposed target reserve balance is equal to 6 months of operating costs, annual debt service costs, and an additional emergency fund of \$100,000. The District's current reserve balance exceeds the proposed target, and it is projected the District will continue to have sufficient reserves for each of the five years of the rate study period. July 1, 2025, the District had about \$1.44 million in cash reserves. By June 30, 2031 (i.e., the conclusion of the 5th year of the rate study period), it is projected that the District will have nearly the same amount in reserves.

3.3 Cash Flow Projection

Table 6 provides the cash flow projection showing revenues and expenses for the five-year rate study period spanning from FY2027 to FY2031. Figure 2 provides a visual representation of the projected cash flows.

Figure 2: Cash Flow Projection Chart

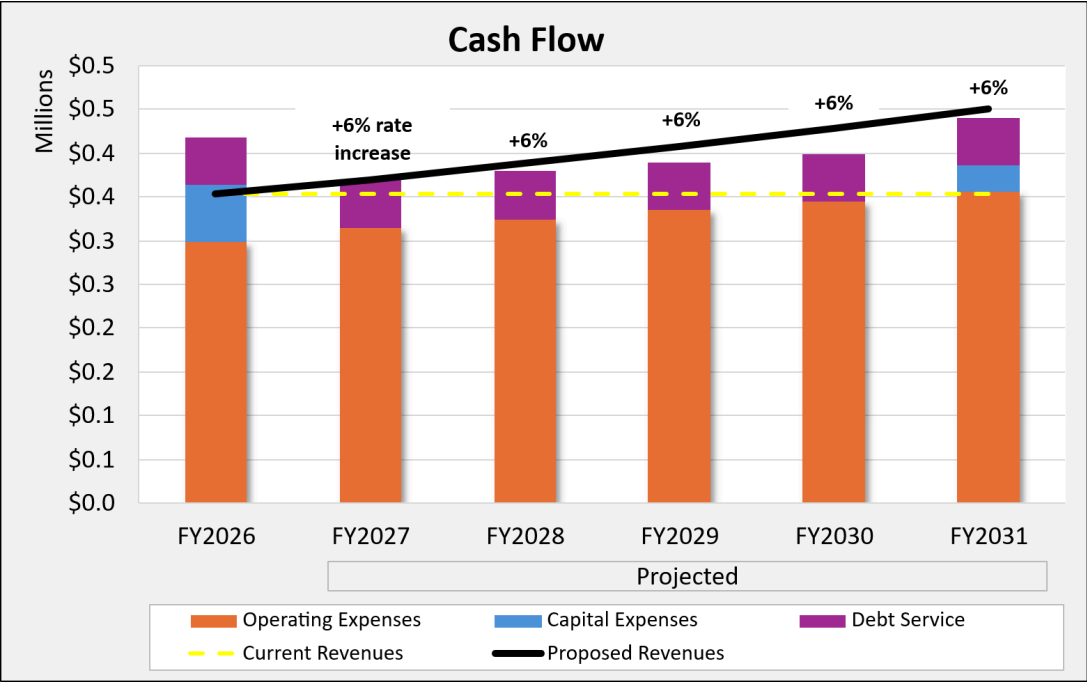


Table 6: Cash Flow Projection

	Budget	PROJECTED				
	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031
Rate Increase %		6%	6%	6%	6%	6%
Rate Increase Effective Date		July 1, 2026	July 1, 2027	July 1, 2028	July 1, 2029	July 1, 2030
Beginning Fund Balance	\$1,439,624	\$1,374,800	\$1,374,800	\$1,383,600	\$1,401,900	\$1,430,600
REVENUES						
Sewer Service Charges	287,500	304,800	323,100	342,500	363,100	384,900
Property Taxes	33,700	33,700	33,700	33,700	33,700	33,700
Interest	28,500	28,500	28,500	28,500	28,500	28,500
Miscellaneous Fees	2,800	2,800	2,800	2,800	2,800	2,800
<u>Grants/Reimbursements</u>	<u>1,000</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Revenue	353,500	369,800	388,100	407,500	428,100	449,900
EXPENSES						
<u>Operating Expenses</u>						
Staffing	112,000	115,400	118,900	122,500	126,200	130,000
County Fees	2,900	3,000	3,200	3,400	3,600	3,800
Administration & Licenses	84,900	87,400	90,000	92,700	95,500	98,400
Outside & Professional Services	52,700	54,300	55,900	57,600	59,300	61,100
Equip. & Maint. & Lab	31,100	34,000	35,000	36,100	37,200	38,300
<u>Utilities</u>	<u>15,000</u>	<u>21,000</u>	<u>21,600</u>	<u>22,200</u>	<u>22,900</u>	<u>23,600</u>
Subtotal Operational Expenses	298,600	315,100	324,600	334,500	344,700	355,200
Net Operating Revenues	53,900	54,700	63,500	73,000	83,400	94,700
<u>Non-Operating Expenses</u>						
Capital Expenses (rate funded)	40,000	0	0	0	0	0
Rate Study	25,000	0	0	0	0	30,000
<u>Debt Service</u>	<u>54,700</u>	<u>54,700</u>	<u>54,700</u>	<u>54,700</u>	<u>54,700</u>	<u>54,700</u>
Subtotal Non-Operating	119,700	54,700	54,700	54,700	54,700	84,700
Total Expenses	418,300	369,800	379,300	389,200	399,400	439,900
Total Net Revenues	(64,800)	0	8,800	18,300	28,700	10,000

Ending Fund Balance	\$1,374,800	\$1,374,800	\$1,383,600	\$1,401,900	\$1,430,600	\$1,440,600
Debt Service Coverage [1]	0.99	1.00	1.16	1.33	1.52	1.73

SECTION 4: RATE DESIGN

4.1 Rate Calculation

MHSD defines one equivalent dwelling unit (EDU) as an amount of sewage equal to 200 gallons of sewage discharge per day (stated in Resolution No. 2022-04). No significant growth is expected in the District's customer base over the next five years. Therefore, it is projected that the total number of EDUs in the District, about 338.6, will remain the same throughout the rate study period. However, it is possible that the winter water use of non-residential customers will fluctuate from year to year which could increase or decrease the non-residential EDU count. Rates are calculated by dividing the proposed revenue requirement for the given year (Table 6) by the total number of EDUs (Table 3). In FY2027, the proposed revenue requirement of \$304,800 divided by 338.6 EDUs results in a rate of \$900 per EDU annually (rounded to the nearest dollar), see Table 7. This equates to a 6% increase over the current rate of \$849.12.

Should any additional non-residential customers connect to the system, their EDU assignment will be calculated by the District based on each EDU being defined as having sewage flow of 200 gallons per day. Once the number of EDUs is determined for that customer, it can be multiplied by the rate per one EDU rate to generate an appropriate rate for that customer.

Table 7: Proposed Annual Rate per EDU

	Current	FY2027	FY2028	FY2029	FY2030	FY2031
% Increase in Total Rate Revenue		6%	6%	6%	6%	6%
Revenue Requirement	\$287,500	\$304,800	\$323,100	\$342,500	\$363,100	\$384,900
# of EDUs	338.58	338.6	338.6	338.6	338.6	338.6
Rate per EDU	\$849.12	\$900	\$954	\$1,012	\$1,072	\$1,137
EDU – Equivalent Dwelling Unit equal to 200 gallons per day of sewer flow FY – fiscal year Each residential dwelling unit (including single-family homes, each unit of a duplex, apartments, and accessory dwelling units) is assigned one EDU. Non-residential customers are assigned EDUs based on metered winter water usage where an EDU equals 200 gallons. Each non-residential customer is subject to a minimum of 1 EDU.						

4.2 Proposed FY2027 Rates and Revenues

Proposed rates for existing customers with established EDU assignments are calculated by multiplying the annual rate per EDU (Table 7) by the number of EDUs assigned to each customer (Table 8). This calculation results in the annual rate for each customer class. Table 8 lists the proposed resulting rates for FY2027 for each existing customer class and the estimated annual rate revenues based on the number of customers in the District and current EDU assignments.

Table 8: Proposed Fiscal Year 2027 Rates and Revenue

Customer	Count of Parcels	Total EDUs	Proposed Annual Rate (FY2027)	% of Total
<u>Residential</u>				
Single-family Residential	242	242.00	\$217,800	71.48%
Duplex	17	34.00	\$30,600	10.04%
Multifamily Quad	4	16.00	\$14,400	4.73%
Multi-plex Apartment	1	8.00	\$7,200	2.36%
<u>Non-residential</u>				
Ball Park	1	1.00	\$900	0.30%
Church	2	2.00	\$1,800	0.59%
Ciderworks	1	1.00	\$900	0.30%
Elementary School	1	3.39	\$3,050	1.00%
Hotel & Restaurant	1	4.40	\$3,960	1.30%
Market and Strip Mall	1	4.00	\$3,600	1.18%
Commercial Offices	3	5.00	\$4,500	1.48%
Fire Department	1	1.00	\$900	0.30%
Library	1	1.00	\$900	0.30%
Post Office	1	1.00	\$900	0.30%
Retail	7	9.00	\$8,100	2.66%
Town Hall	1	1.00	\$900	0.30%
Winery & Bistro	1	2.00	\$1,800	0.59%
Other	1	2.79	<u>\$2,511</u>	0.82%
	287	338.58	\$304,721	100.00%

The District evaluated its housing inventory, population, and typical occupancy and proposes that all residential customers including multifamily customers and potential future accessory dwelling units be charged one EDU per dwelling. The typical single-family housing stock in Mokelumne Hill consists of older, smaller, historical homes with average occupancy of two people per household. Home size and number of occupants is not significantly different between multifamily and single-family homes. Therefore, a separate multifamily rate is not recommended.