

NORTHWEST REGIONAL WASTEWATER SYSTEM

Sewer Rate Study 2024

FINAL REPORT

July 30, 2024



LECHOWICZ + TSENG
MUNICIPAL CONSULTANTS

909 Marina Village Parkway #135

Alameda, CA 94501

(510) 545-3182

www.LTmunicconsultants.com

TABLE OF CONTENTS

SECTION 1:	EXECUTIVE SUMMARY	1
1.1	Background	1
1.2	Requirements of Proposition 218.....	1
1.3	Rate Study Process.....	3
1.4	Summary of Proposed Rates.....	4
SECTION 2:	CURRENT RATES AND CUSTOMER BASE.....	6
2.1	History of Sewer Rate Increases	6
2.2	Current Rates	6
2.3	Customer Base and Current Rate Revenues	7
SECTION 3:	REVENUE REQUIREMENT	11
3.1	Reserves	11
3.2	Revenues.....	12
3.3	Operating Expenses	12
3.4	Capital Improvement Plan	12
3.5	Cash Flow Projection.....	13
SECTION 4:	COST ALLOCATION AND RATE DESIGN	16
4.1	Methodology.....	16
4.2	Proposed Cost Allocation.....	16
4.3	Rate Structure Considerations.....	17
4.4	Sewer Rate Design	17
4.5	Proposed Sewer Rates	20

LIST OF TABLES

Table 1:	Current and Proposed Bimonthly Rates.....	5
Table 2:	Past Rate Increases	6
Table 3:	Current Bimonthly Sewer Rates	7
Table 4:	Historical Customer Counts and Rate Revenues.....	8
Table 5:	Reserve Fund Balances.....	11
Table 6:	Sewer Capital Improvement Plan.....	13
Table 7:	Sewer Cash Flow	15
Table 8:	Cost Allocation	17
Table 9:	Total Flow and Load Estimates.....	19
Table 10:	Unit Cost Calculation	20
Table 11:	FY 24-25 Proposed Rate Impacts	21
Table 12:	Proposed Bimonthly Sewer Rates	22

SECTION 1: EXECUTIVE SUMMARY

1.1 Background

The Northwest (NW) Regional Wastewater Collection and Treatment System is administered by the Lake County Sanitation District (District) and serves the communities of North Lakeport, Upper Lake, Nice, Lucerne, Kono Tayee, and Paradise Valley. In total, the NW system provides service to about 4,200 accounts. Most of the system was constructed around 1975 as part of Lake County Improvements District No. 3. Major improvements were constructed in 2001 and 2002. The NW system includes nearly fifteen hundred manholes and 70 miles of pipe within the gravity collection system as well as 23 lift stations, over 16 miles of force main piping, and two effluent pump stations conveying wastewater to the NW treatment plant. The facility receives and treats primarily domestic and resort wastewater, with little commercial and industrial contribution.

The NW system's rate structure consists of a fixed bimonthly charge that varies based on customer class. Each year on January 1, the District has historically implemented minimal, inflationary cost increases. The last inflationary rate adjustment was January 1, 2024 when rates were increased by 3.70%. Despite these increases, the NW system's revenues have fallen behind the cost of service and rate adjustments are recommended. In addition to meeting the cost of service, the proposed sewer rate adjustments are designed to better reflect current flows and pollutant loading of customers. In particular, it is recommended that the multifamily residential customers be split into a separate category from single family residential and domestic strength commercial customers. The multifamily sewer rate is proposed to be a lower charge than the single family rate due to lower average flows.

1.2 Requirements of Proposition 218

The implementation of 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 or ratepayers. The notice must specify the amount of the fee, the basis upon which it was calculated, the reason for the fee, 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 are 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 or ratepayers 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:

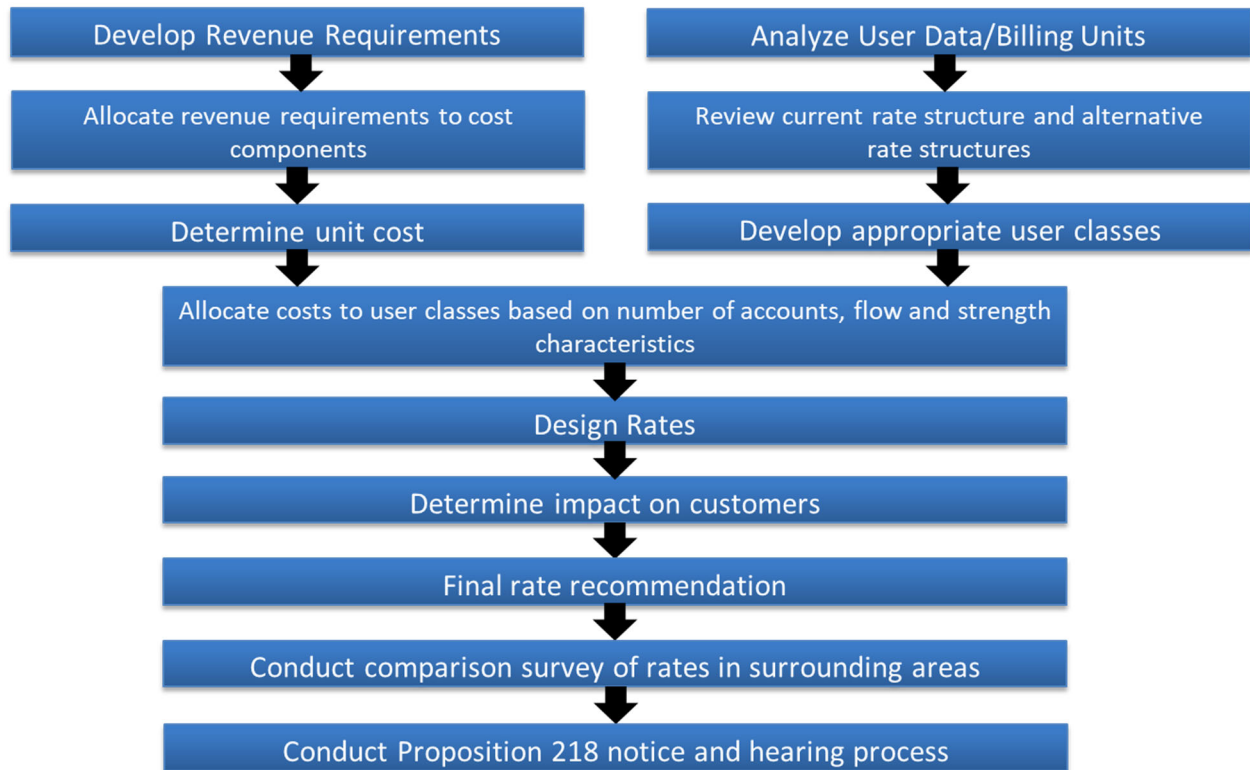
1. **Cost of Service** - Revenues derived from the fee or charge cannot exceed the funds required to provide the service. In essence, fees cannot exceed the “cost of service”.
2. **Intended Purpose** - Revenues derived from the fee or charge can only be used for the purpose for which the fee was imposed.
3. **Proportional Cost Recovery** - The amount of the fee or charge levied on any customer shall not exceed the proportional cost of service attributable to that customer.
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 procedural requirements of Proposition 218.

1.3 Rate Study Process

This section details the development of the District’s sewer rates via the Proposition 218 process as shown in the following figure.

Figure 1: Comprehensive Cost of Service Study Process



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

- **Revenue Requirements** - Revenue requirements are analyzed via a financial plan developed from the NW system’s budget. Based on the best information currently available, the financial plan incorporates projected operations and maintenance costs and capital expenditures, to estimate annual revenue requirements. The plan serves as a roadmap for funding the system’s future operating and capital programs while maintaining long-term fiscal stability.
- **Cost of Service Allocation** - The cost of service process builds on the financial plan analysis and assigns sewer system costs to functional cost components: flow and wastewater pollutant strength.

- **Rate Design** - Rate design involves developing a rate structure that proportionately recovers costs from customers. Final rate recommendations are designed to (a) fund the utility's short- and long-term costs of providing service; (b) proportionately allocate costs to all customers and customer classes; and (c) comply with the substantive requirements of Proposition 218.

The rates developed in this report were 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 are proportional to the benefits received by each customer.

1.4 Summary of Proposed Rates

The proposed rates were developed to fairly recover costs, adhere to California statute, and be affordable to customers. Current and proposed bimonthly sewer rates are provided below in Table 1. The first rate increase is proposed to go into effect prior to the November 15, 2024 billing. Subsequent rate changes are proposed to be implemented on July 1 of each year for the next five years. The rate structure is proposed to remain the same except for the addition of a new multifamily rate category and the combination of the hospital and skilled care facility categories into one singular customer category.

The District's current bimonthly sewer service charge for single family residential customers is \$68.48. After the first proposed increase, the single family residential bimonthly service charge would increase to \$80.20 per billing period, an increase of 17%.

Table 1: Current and Proposed Bimonthly Rates

Rate Code	Description		Current FY23-24	PROPOSED				
				FY24-25 Nov 15, 2024	FY25-26 Jul 1, 2025	FY26-27 Jul 1, 2026	FY27-28 Jul 1, 2027	FY28-29 Jul 1, 2028
KM (R, C, H)	Domestic Strength	Dwelling Unit	\$68.48	\$80.20	\$88.22	\$90.87	\$93.60	\$96.41
KM (M)	Domestic Strength - Multi Family	Dwelling Unit	\$68.48	\$55.52	\$61.07	\$62.90	\$64.79	\$66.73
KN	Commercial Establishments	Each	\$136.98	\$166.27	\$182.90	\$188.39	\$194.04	\$199.86
DG	Restaurant & Bar; per seat over 33	per Seat over 33	\$3.78	\$4.75	\$5.23	\$5.39	\$5.55	\$5.72
DH	Hospital & Skilled Care; per bed	per Bed	\$27.24	\$24.68	\$27.15	\$27.96	\$28.80	\$29.66
DJ	School with Cafeteria; per student	per Student	\$2.96	\$3.08	\$3.39	\$3.49	\$3.59	\$3.70
DK	Water Filter Backwash (9,600 gal)	9,600 gal	\$158.46	\$134.94	\$148.43	\$152.88	\$157.47	\$162.19
DK1	Water Filter Backwash Overage; per 3,200 gal	Per 3,200 gal	\$8.97	\$44.98	\$49.48	\$50.96	\$52.49	\$54.06
KH	Service Station	Each	\$136.98	\$74.03	\$81.43	\$83.87	\$86.39	\$88.98
KI	Fruit Stand	Each	\$17.22	\$9.86	\$10.85	\$11.18	\$11.52	\$11.87
KK	Mobile Home Space	Dwelling Unit	\$68.48	\$55.52	\$61.07	\$62.90	\$64.79	\$66.73
KL	Dump Station	Each	\$45.36	\$196.53	\$216.18	\$222.67	\$229.35	\$236.23
KU/KR	Motel Room, No Kitchen	per Room	\$11.66	\$14.79	\$16.27	\$16.76	\$17.26	\$17.78
KQ	Motel Room/Cabin w/Kitchen	per Room	\$15.24	\$24.68	\$27.15	\$27.96	\$28.80	\$29.66
KS	Laundry; per machine	per Machine	\$48.24	\$54.21	\$59.63	\$61.42	\$63.26	\$65.16
LF	Trailer/Campsite, No Hookups	Each	\$6.84	\$4.93	\$5.42	\$5.58	\$5.75	\$5.92
LG	Trailer w/. Hookups	Each	\$13.64	\$12.34	\$13.57	\$13.98	\$14.40	\$14.83
TLTFC	Add Toilets for Commercial Establishments	per Toilet	\$68.48	\$12.34	\$13.57	\$13.98	\$14.40	\$14.83
CD	Other Commercial Establishments	per 1,000 gpd discharged	\$136.98	\$492.86	\$542.15	\$558.41	\$575.16	\$592.41

SECTION 2: CURRENT RATES AND CUSTOMER BASE

This section provides an overview of the District’s sewer rates, customer base, and current rate revenues. The District bills customers for sewer service on a bimonthly basis such that each billing period covers two months of service.

2.1 History of Sewer Rate Increases

The District has historically used the annual US City Average Consumer Price Index (CPI) as published by the US Department of Labor, Bureau of Labor Statistics to adjust rates for inflation each year on January 1. A summary of the District’s past five CPI rate increases is provided below in Table 2 which shows the bimonthly residential bill for the past five years as well as the annual change in the CPI. The most recent rate increase was a 3.70% rate increase which went into effect on January 1, 2024. The average rate change over the past five years has been 3.50% per year.

Table 2: Past Rate Increases

Year	% Increase (CPI)	Bimonthly Residential Bill
2020	3.30%	\$59.58
2021	1.70%	\$60.58
2022	3.20%	\$62.52
2023	5.60%	\$66.02
2024	3.70%	\$68.48

2.2 Current Rates

The schedule of the current bimonthly sewer rates that went into effect on January 1, 2024 is provided in Table 3. The District charges all customers fixed bimonthly rates for sewer service. Non-residential customers pay rates based on the type and size of the establishment. For example, hospitals pay rates based on the number of beds and restaurants pay a fixed charge plus additional charges per seat based on the number of seats over 33 per establishment. The District does not bill customers for individualized sewer flows (i.e. volume rates) and instead bills fixed fees based on class average usage characteristics.

Table 3: Current Bimonthly Sewer Rates

CODE	FIXED CHARGES	January 1, 2024
KM	General Residential	\$68.48
KN	General Retail & Food	\$136.98
DG	Restaurant & Bar; per seat over 33	\$3.78
DH	Hospital; per bed	\$27.24
DI	Skilled Care; per bed	\$27.24
DJ	School with Cafeteria; per student	\$2.96
DK	Water Filter Backwash (9,600 gal)	\$158.46
DK1	Water Filter Backwash Overage; per 3,200 gal	\$8.97
KH	Not on rate sheet - Service Station	\$136.98
KI	Fruit Stand	\$17.22
KK	Mobile Home Space	\$68.48
KL	Dump Station	\$45.36
KU/KR	Motel Room, No Kitchen	\$11.66
KQ	Motel Room/Cabin w/Kitchen	\$15.24
KS	Laundry; per machine	\$48.24
LF	Trailer/Campsite, No Hookups	\$6.84
LG	Trailer w/. Hookups	\$13.64
TLTFC	Addl Toilets for Commercial Establishments	\$68.48
CD	Other Commercial Establishments	\$136.98

2.3 Customer Base and Current Rate Revenues

Table 4 provides a five year history of the number of billing units and estimated sewer rate revenues for calendar years 2020 through 2024 by customer class. In 2023, the District generated an estimated \$2.45 million in sewer service charge revenues. However, based on past actuals, the District has a delinquency rate of approximately 5%, which would bring estimated 2023 service charge revenues down to about \$2.33 million. Residential customers provide the majority of the revenues.

Table 4: Historical Customer Counts and Rate Revenues

Rate Code	Description	Calendar Year 2020				Calendar Year 2021 (+1.7% rate increase)			
		Bimonthly Fixed Fee	No. of Billing Units	Total Fixed Charge	% of Total Charges	Bimonthly Fixed Fee	No. of Billing Units	Total Fixed Charge	% of Total Charges
KM	General Residential	\$59.58	4,678	\$1,672,391	76.84%	\$60.58	4,720	\$1,715,794	76.61%
KN	General Retail & Food	\$119.18	81	\$57,802	2.66%	\$121.20	90	\$65,390	2.92%
DG	Restaurant & Bar; per seat over 33	\$3.30	424	\$8,389	0.39%	\$3.34	429	\$8,594	0.38%
DH	Hospital; per bed	\$23.70	25	\$3,555	0.16%	\$24.12	25	\$3,618	0.16%
DI	Skilled Care; per bed	\$23.70	297	\$42,233	1.94%	\$24.12	314	\$45,442	2.03%
DJ	School with Cafeteria; per student	\$2.58	1,088	\$16,842	0.77%	\$2.62	1,088	\$17,103	0.76%
DK	Water Filter Backwash (9,600 gal)	\$137.88	77	\$63,701	2.93%	\$140.22	77	\$64,782	2.89%
DK1	Water Filter Backwash Overage; per 3,200 gal	\$7.80	552	\$25,850	1.19%	\$7.94	552	\$26,314	1.17%
KH	Not on rate sheet - Service Station	\$119.18	1	\$715	0.03%	\$121.20	1	\$727	0.03%
KI	Fruit Stand	\$14.98	1	\$90	0.00%	\$15.22	1	\$91	0.00%
KK	Mobile Home Space	\$59.58	688	\$245,827	11.29%	\$60.58	696	\$253,104	11.30%
KL	Dump Station	\$39.46	2	\$434	0.02%	\$40.12	1	\$241	0.01%
KU/KR	Motel Room, No Kitchen	\$10.16	94	\$5,730	0.26%	\$10.32	92	\$5,686	0.25%
KQ	Motel Room/Cabin w/Kitchen	\$13.26	85	\$6,763	0.31%	\$13.48	85	\$6,885	0.31%
KS	Laundry; per machine	\$41.98	23	\$5,795	0.27%	\$42.68	23	\$5,858	0.26%
LF	Trailer/Campsite, No Hookups	\$5.94	47	\$1,675	0.08%	\$6.04	47	\$1,703	0.08%
LG	Trailer w/. Hookups	\$11.86	238	\$16,905	0.78%	\$12.06	227	\$16,461	0.73%
TLTFC	Addl Toilets for Commercial Establishments	\$59.58	3	\$1,072	0.05%	\$60.58	4	\$1,272	0.06%
CD	Other Commercial Establishments	\$119.18	1	\$715	0.03%	\$121.20	1	\$727	0.03%
Total				\$2,176,485	100.00%			\$2,239,794	100.00%

Rate Code	Description	Calendar Year 2022 (+3.2% rate increase)				Calendar Year 2023 - ESTIMATE (+5.6% rate increase)			
		Bimonthly Fixed Fee	No. of Billing Units	Total Fixed Charge	% of Total Charges	Bimonthly Fixed Fee	No. of Billing Units	Total Fixed Charge	% of Total Charges
KM	General Residential	\$62.52	4,730	\$1,774,326	76.40%	\$66.02	4,730	\$1,873,657	76.41%
KN	General Retail & Food	\$125.08	95	\$71,554	3.08%	\$132.08	95	\$75,559	3.08%
DG	Restaurant & Bar; per seat over 33	\$3.46	418	\$8,678	0.37%	\$3.64	418	\$9,129	0.37%
DH	Hospital; per bed	\$24.88	25	\$3,732	0.16%	\$26.28	25	\$3,942	0.16%
DI	Skilled Care; per bed	\$24.88	323	\$48,217	2.08%	\$26.28	323	\$50,931	2.08%
DJ	School with Cafeteria; per student	\$2.72	1,088	\$17,756	0.76%	\$2.86	1,088	\$18,670	0.76%
DK	Water Filter Backwash (9,600 gal)	\$144.70	77	\$66,851	2.88%	\$152.82	77	\$70,603	2.88%
DK1	Water Filter Backwash Overage; per 3,200 gal	\$8.19	552	\$27,142	1.17%	\$8.65	552	\$28,667	1.17%
KH	Not on rate sheet - Service Station	\$125.08	1	\$750	0.03%	\$132.08	1	\$792	0.04%
KI	Fruit Stand	\$15.72	1	\$94	0.00%	\$16.60	1	\$100	0.00%
KK	Mobile Home Space	\$62.52	699	\$262,146	11.29%	\$66.02	699	\$276,822	11.29%
KL	Dump Station	\$41.42	2	\$373	0.02%	\$43.74	2	\$394	0.02%
KU/KR	Motel Room, No Kitchen	\$10.66	99	\$6,331	0.27%	\$11.24	99	\$6,676	0.27%
KQ	Motel Room/Cabin w/Kitchen	\$13.92	84	\$7,016	0.30%	\$14.70	84	\$7,409	0.30%
KS	Laundry; per machine	\$44.06	24	\$6,345	0.27%	\$46.52	24	\$6,699	0.27%
LF	Trailer/Campsite, No Hookups	\$6.24	47	\$1,760	0.08%	\$6.58	47	\$1,856	0.08%
LG	Trailer w/. Hookups	\$12.46	232	\$17,357	0.75%	\$13.16	232	\$18,332	0.75%
TLTFC	Addl Toilets for Commercial Establishments	\$62.52	3	\$1,125	0.05%	\$66.02	3	\$1,188	0.05%
CD	Other Commercial Establishments	\$125.08	1	\$750	0.03%	\$132.08	1	\$792	0.03%
Total				\$2,322,306	100.00%			\$2,452,217	100.00%

		Calendar Year 2024 - ESTIMATE (+3.7% rate increase)			
Rate Code	Description	Bimonthly Fixed Fee	No. of Billing Units	Total Fixed Charge	% of Total Charges
KM	General Residential	\$68.48	4,730	\$1,943,472	76.41%
KN	General Retail & Food	\$136.98	95	\$78,362	3.08%
DG	Restaurant & Bar; per seat over 33	\$3.78	418	\$9,480	0.37%
DH	Hospital; per bed	\$27.24	25	\$4,086	0.16%
DI	Skilled Care; per bed	\$27.24	323	\$52,791	2.08%
DJ	School with Cafeteria; per student	\$2.96	1,088	\$19,323	0.76%
DK	Water Filter Backwash (9,600 gal)	\$158.46	77	\$73,209	2.88%
DK1	Water Filter Backwash Overage; per 3,200 gal	\$8.97	552	\$29,727	1.17%
KH	Not on rate sheet - Service Station	\$136.98	1	\$822	0.03%
KI	Fruit Stand	\$17.22	1	\$103	0.00%
KK	Mobile Home Space	\$68.48	699	\$287,137	11.29%
KL	Dump Station	\$45.36	2	\$408	0.02%
KU/KR	Motel Room, No Kitchen	\$11.66	99	\$6,925	0.27%
KQ	Motel Room/Cabin w/Kitchen	\$15.24	84	\$7,681	0.30%
KS	Laundry; per machine	\$48.24	24	\$6,947	0.27%
LF	Trailer/Campsite, No Hookups	\$6.84	47	\$1,929	0.08%
LG	Trailer w/. Hookups	\$13.64	232	\$19,001	0.75%
TLTFC	Addl Toilets for Commercial Establishments	\$68.48	3	\$1,233	0.05%
CD	Other Commercial Establishments	\$136.98	1	<u>\$822</u>	<u>0.03%</u>
Total				\$2,543,457	100.00%

SECTION 3: REVENUE REQUIREMENT

Proposition 218 requires that utility rates be based on the reasonable cost of providing service to customers. The cost of service includes annual operating expenses, debt service payments, capital projects, and the accumulation of appropriate reserves. The sewer utility cost of service was developed based on the fiscal year (FY) 23-24 adopted budget, capital project list developed by staff, and reserve recommendations based on District policies.

3.1 Reserves

The District maintains two reserve funds: 1) a Capacity Expansion Reserve and 2) an O&M Reserve. The Capacity Expansion Reserve is a restricted account and is not reviewed in this study. The O&M Reserve fund balance as of July 1, 2023 was about \$132,000 as shown in Table 5.

Table 5: Reserve Fund Balances

Reserve Fund	Total Proposed for FY 23/24
Capacity Expansion Reserve	\$108,875
<u>O&M Reserve</u>	<u>\$132,086</u>
Total	\$240,961

1 - Form #7 - Budget Request Summary, October 26, 2023

One goal of the proposed rate adjustment is to accumulate reasonable reserves to improve the financial health of the utility. It is proposed that the District adopt an O&M Reserve target equal to 50% of annual operating expenses plus the annual cost of miscellaneous repairs. For FY 23-24, this equates to an operating reserve target of \$1.36 million. This is in line with industry standards and provides a financial runway for the District should it need to approve new rate increases in an emergency.

Adequate fund reserves protect the District when faced with unforeseen financial challenges such as emergency expenses or revenue deficits. Fund reserves allow the District to maintain its financial health and positive credit ratings, especially during emergencies. Moreover, funding can be drawn from reserves to supplement rate revenues lost during unexpected situations. It is acceptable if reserves dip below the target on a temporary basis, provided the District takes action to attain the target over the longer run. The District can also choose to use reserves to smooth cash flows and mitigate impacts to ratepayers.

3.2 Revenues

The District implemented a 3.70% rate increase January 1, 2024. Thus, rate revenues for FY 23-24 will reflect a portion of the fiscal year's revenues at the prior rate and a portion at the increased rate. For FY 23-24, total revenues for the NW system are estimated at \$2.69 million. The vast majority, or about 88%, are made up of bimonthly service charges paid by ratepayers. Additional minor sources of operating revenues include delinquency penalties, interest earnings, and contributions from other agencies for septic dump.

The first rate adjustment proposed in this report will go into effect for the billing period beginning November 15, 2024. Due to the delay in collecting revenues and to be fiscally conservative, it is assumed that the November 15, 2024 rates will be in effect three billing periods of FY 24-25. Future rate adjustments are proposed to go into effect July 1 of each year and revenues are estimated based on five billing periods at the new rates and one billing period at the prior year's rates (again reflecting the delay in receiving billing and receiving bimonthly revenues).

3.3 Operating Expenses

In FY 23-24, sewer operating expenses total approximately \$2.73 million. Major line-items include staffing, utilities, chemicals, and admin & overhead. Utilities are the largest expense for the NW system and are budgeted at about \$964,000 in FY 23-24. Beyond FY 23-24, operating expenses are projected to increase by 3.0% per year due to inflation.

3.4 Capital Improvement Plan

The District's capital improvement plan for FY 23-24 is provided below in Table 6. The plan was developed by County staff. The County anticipates spending about \$588,000 total on capital improvements, of which only about \$62,000 will be funded from rate revenues. The District has been successful in securing grant funding for the remainder of the project costs.

Table 6: Sewer Capital Improvement Plan

Project	Amount Requested	Funding Source	Grant Funded	Rate Funded
LS #4 Generator 80KW	\$33,677	HMGP 455.55-40 (75%); Rate Funded (25%)	\$25,257	\$8,420
LS #5 Generator 80KW	\$33,677	HMGP 455.55-40 (75%); Rate Funded (25%)	\$25,257	\$8,420
LS #15 Generator 80KW	\$33,677	HMGP 455.55-40 (75%); Rate Funded (25%)	\$25,257	\$8,420
LS #16 Generator 80KW	\$33,677	HMGP 455.55-40 (75%); Rate Funded (25%)	\$25,257	\$8,420
LS #17 Generator 80KW	\$33,677	HMGP 455.55-40 (75%); Rate Funded (25%)	\$25,257	\$8,420
Septic Hauler Dump Station	\$400,000	ARPA 502.81-22 (100%)	\$400,000	\$0
Iris Tractor	<u>\$20,000</u>	Sewer Rates (100%)	<u>\$0</u>	<u>\$20,000</u>
Total	\$588,385		\$526,287	\$62,098
% of Total	100.0%		89.4%	10.6%

Source: Form #6 - Capital Asset Detail, October 26, 2023

3.5 Cash Flow Projection

Based on the FY 23-24 adopted budget, the NW system is projected to begin FY 24-25 with a fund balance of about \$32,000. Over the five-year rate study period, rate increases are proposed such that the following objectives are met, in order of importance:

- 1) Fund operating costs
- 2) Fund capital costs
- 3) The fund balance at the end of the five-year rate study period should meet or exceed the operating reserve fund target of 50 percent of annual operating expenses plus the annual cost of miscellaneous repairs

The cash flow for the NW system is provided in Table 7. It is assumed that the first rate increase will go into effect prior to the November 15, 2024 billing and subsequent rate increases will go into effect July 1 of each year thereafter. To cover the costs described above, the first rate increase is proposed to generate 20% more rate revenues than current rates. Not all customers will receive exactly a 20% increase. The 20% increase is the average increase across all customers. The rate change for each customer will depend on the flow and loading characteristics for that customer's class. To be fiscally conservative, the District is assumed to have little to no growth over the next five years and no new

revenues from additional customers connecting to the sewer system. The second rate increase is proposed to be a 10% increase. The final three years of the rate plan are proposed to be 3% annual rate increases.

The major driver for the rate increase is rebuilding the NW system's reserves and reversing the current operating deficit. As shown in Table 7, the District is projected to spend down about \$100,000 of reserves during FY 23-24 and will end the year with low reserves of about \$32,000. Absent a rate increase, the District's operating fund balance will fall into the negative.

Table 7: Sewer Cash Flow

	BUDGET FY23-24	PROP 218				
		PROJECTED FY24-25	PROJECTED FY25-26	PROJECTED FY26-27	PROJECTED FY27-28	PROJECTED FY28-29
Effective Date	Jan 1	Nov 15	July 1	July 1	July 1	July 1
Rate Revenue Increase	3.7%	20%	10%	3%	3%	3%
6 Billing Periods at new rate	\$2,416,000	\$2,899,000	\$3,189,000	\$3,285,000	\$3,384,000	\$3,486,000
5 Billing periods at new rate		\$2,819,000	\$3,141,000	\$3,269,000	\$3,368,000	\$3,469,000
3 Billing periods at new rate		\$2,658,000				
Beginning Fund Balance [1]	\$132,000	\$32,000	\$211,000	\$690,000	\$1,209,000	\$1,738,000
Revenues						
Sales and Services [2]	\$2,358,000	\$2,658,000	\$3,141,000	\$3,269,000	\$3,368,000	\$3,469,000
Delinquencies	\$186,000	\$186,000	\$186,000	\$186,000	\$186,000	\$186,000
Fines, Forfeits, Penalties	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000
Interest	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
Auditing & Accounting Fees	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
<u>Contrib. Other Agencies</u>						
<u>-Septic Dump</u>	<u>\$102,000</u>	<u>\$102,000</u>	<u>\$102,000</u>	<u>\$102,000</u>	<u>\$102,000</u>	<u>\$102,000</u>
Total Revenues	\$2,690,000	\$2,990,000	\$3,473,000	\$3,601,000	\$3,700,000	\$3,801,000
Operating Expenses (+3%/yr)						
Admin & Overhead	\$519,000	\$535,000	\$551,000	\$568,000	\$585,000	\$603,000
Staffing	\$466,000	\$480,000	\$494,000	\$509,000	\$524,000	\$540,000
Professional Services	\$242,000	\$249,000	\$256,000	\$264,000	\$272,000	\$280,000
Maintenance	\$191,000	\$197,000	\$203,000	\$209,000	\$215,000	\$221,000
Equipment	\$14,000	\$14,000	\$14,000	\$14,000	\$14,000	\$14,000
Chemicals	\$333,000	\$343,000	\$353,000	\$364,000	\$375,000	\$386,000
<u>Utilities</u>	<u>\$964,000</u>	<u>\$993,000</u>	<u>\$1,023,000</u>	<u>\$1,054,000</u>	<u>\$1,086,000</u>	<u>\$1,119,000</u>
Total Operating Expenses	\$2,729,000	\$2,811,000	\$2,894,000	\$2,982,000	\$3,071,000	\$3,163,000
Net Revenues	(\$39,000)	\$179,000	\$579,000	\$619,000	\$629,000	\$638,000
Capital Projects (Rate Funded)						
Lift Station #4 Generator	\$8,400	\$0	\$0	\$0	\$0	\$0
Lift Station #5 Generator	\$8,400	\$0	\$0	\$0	\$0	\$0
Lift Station #15 Generator	\$8,400	\$0	\$0	\$0	\$0	\$0
Lift Station #16 Generator	\$8,400	\$0	\$0	\$0	\$0	\$0
Lift Station #17 Generator	\$8,400	\$0	\$0	\$0	\$0	\$0
Iris Tractor	\$19,000	\$0	\$0	\$0	\$0	\$0
Rate Study	\$0	\$0	\$0	\$0	\$0	\$30,000
<u>Miscellaneous Repairs</u>	<u>\$0</u>	<u>\$0</u>	<u>\$100,000</u>	<u>\$100,000</u>	<u>\$100,000</u>	<u>\$100,000</u>
Total Capital Projects	\$61,000	\$0	\$100,000	\$100,000	\$100,000	\$130,000
Ending Fund Balance	\$32,000	\$211,000	\$690,000	\$1,209,000	\$1,738,000	\$2,246,000
Operating Fund Target						
(50% of O&M Exps + Capital)	\$1,364,500	\$1,405,500	\$1,547,000	\$1,591,000	\$1,635,500	\$1,681,500
Target Met?	No	No	No	No	Yes	Yes

1 - Form #7 - Budget Request Summary, October 26, 2023

2 - FY23-24 revenues estimated using 2 billing periods at 2024 rates and 4 billing periods at 2023 rates, with 5% delinquency factor added

SECTION 4: COST ALLOCATION AND RATE DESIGN

The revenue requirements detailed in the previous section determine the amount of revenue to be recovered from sewer rates. The cost of service allocation determines how revenues will be recovered from customers based on their estimated impact on the sewer system. Proposition 218 requires that agencies providing “property-related services” (including sewer service) set rates and charges that are based on the cost of providing those services.

4.1 Methodology

The determination of the sewer flows, sewer loadings, and the revenue requirements of the sewer utility provide the basis for performing the cost of service allocation. The concept of proportionate allocation to each customer class indicates that allocations should take into consideration the quantity of effluent a customer contributes in addition to the strength of sewer effluent.

The key factors used to assign sewer utility costs are estimated effluent (flow) going to the wastewater treatment plant and effluent strengths, measured in biochemical oxygen demand (BOD) and total suspended solids (TSS). Higher levels of BOD or TSS typically equate to increased treatment costs. The total revenue requirement shown in the sewer cash flow projection is the net cost of providing service and is allocated to the flow, BOD, and TSS parameters. These allocations are then used as the basis to develop unit rates for the sewer parameters and to assign costs to each customer class in proportion to the sewer services rendered.

Using the FY 24-25 budget as the base year, sewer expenses are allocated to the following categories (a) Flow, (b) Biochemical Oxygen Demand (BOD), and (c) Total Suspended Solids (TSS).

- *Flow Costs:* Volume- or flow-related costs that vary with the total quantity of wastewater collected. Because most agencies do not meter wastewater discharges, metered water consumption is used to estimate contributed average wastewater volume units of service.
- *Strength Costs:* Strength-related costs are those expenditures associated with the additional handling and treatment of high strength sewer. Sewer strength is typically measured in BOD and TSS. Increased levels of BOD or TSS typically equate to increased treatment costs.

4.2 Proposed Cost Allocation

The budgeted expenses for FY 24-25 were allocated to flow, BOD, and TSS based on the type of expense and how the District incurs cost. For instance, most administrative and equipment expenses are allocated 50% to flow, 25% to BOD, and 25% to TSS based on general industry guidance. Maintenance and utilities are allocated 80% to flow, 10% to BOD, and 10% to TSS because these expenses are related to the collection system and not heavily impacted by pollutants. Chemicals are allocated solely to BOD and TSS. A total of 56.4% of expenses are allocated to flow, 21.8% to BOD, and 21.8% to TSS, see Table 8.

Table 8: Cost Allocation

Expenses	FY24/25	Flow	BOD	TSS
Admin & Overhead	\$535,000	50.0%	25.0%	25.0%
Staffing	\$480,000	50.0%	25.0%	25.0%
Professional Services	\$249,000	50.0%	25.0%	25.0%
Maintenance	\$197,000	80.0%	10.0%	10.0%
Equipment	\$14,000	50.0%	25.0%	25.0%
Chemicals	\$343,000	0.0%	50.0%	50.0%
<u>Utilities</u>	<u>\$993,000</u>	<u>80.0%</u>	<u>10.0%</u>	<u>10.0%</u>
Subtotal Operating Costs	\$2,811,000	\$1,591,000	\$610,000	\$610,000
		56.6%	21.7%	21.7%
5-Year Average Capital Projects	\$86,000	50.0%	25.0%	25.0%
Total	\$2,897,000	\$1,634,000	\$631,500	\$631,500
<i>Total Allocation %</i>		56.4%	21.8%	21.8%

4.3 Rate Structure Considerations

As part of the rate study process, the District reviewed its current rate structure and potential alternative rate structures. Sewer rates in California are typically charged as either a fixed charge per billing unit, a volume rate per unit of wastewater flow, or as a combination of both fixed and volume charges. Ultimately, this study does not recommend any major changes to the current sewer rate structure. Fixed sewer charges provide revenue stability, are easy for customers to understand, and are straightforward to bill.

The amount charged to individual customers is proposed to change each year, but the categories of charges and customer classes are proposed to remain the same apart from two changes. First, a new multifamily rate is proposed because of the relatively lower flows of the typical multifamily residential customer in comparison to the typical single family residential customer. Additionally, the hospital and skilled care facility categories are proposed to be combined into one singular customer category. Rates are apportioned based on the updated flow and pollutant loadings for each class as described below.

4.4 Sewer Rate Design

The District does not directly meter the wastewater flow of individual utility accounts. However, 2023 total influent data from the NW treatment plant was analyzed and flows of each customer class were approximated using a combination of available treatment plant and water use data and industry standard estimates. As part of the rate study process, water usage data for a portion of the NW service area was analyzed to estimate sewer flow based on winter water use which can be used as a proxy for sewer flow. Many customers typically have high water use in the summer due to irrigation for landscaping. This water use occurs outdoors and does not flow into the sewer system. Therefore, it is

necessary to isolate low water use periods during the winter to better estimate water use that flows into the sewer.

Total system flows and pollutant loads are estimated in Table 9. Flows are estimated in gallons per day (gpd). The average domestic strength single family residential or commercial sewer flow is estimated as 130 gpd and the estimated multi-family residential sewer flow per dwelling unit is 90 gpd. Pollutant loads consist of biochemical oxygen demand (BOD) and total suspended solids (TSS). The loading for residential customers is assumed to be 110 milligrams per liter (mg/l) for BOD and 350 mg/l for TSS. Loading estimates for non-residential customers are based on general industry guidelines. The estimates shown below result in a total calculated flow of about 292 million gallons per year. This is roughly equal to the actual flow of 288 million gallons per year. To be fiscally conservative, it is assumed that the District will experience little to no growth over the next five years. Therefore, the flows and loads shown in Table 9 are assumed to remain constant through FY 28-29.

Table 9: Total Flow and Load Estimates

Customer Class	Units	Billing Unit Count	Estimated Flow (gpd)	BOD (mg/L)	TSS (mg/L)	Flow (gal per year)	BOD (lbs/yr)	TSS (lbs/yr)	
Domestic Strength - Single Family & Commercial	Dwelling Unit	4,407	130	110	350	209,113,275	191,965	610,797	
Domestic Strength - Multi Family	Dwelling Unit	323	90	110	350	10,610,550	9,740	30,992	
Commercial Establishments	Each	95	175	300	600	6,090,135	15,247	30,495	
Restaurant & Bar	per Seat over 33	418	5	300	600	762,850	1,910	3,820	
Hospital & Skilled Care [1]	per Bed	348	40	110	350	5,080,800	4,664	14,840	
School with Cafeteria	per Student	1,088	5	110	350	1,985,600	1,823	5,800	
Water Filter Backwash	9,600 gal	77	320	50	50	8,993,600	3,753	3,753	
Water Filter Backwash Overage	Per 3,200 gal	552	107	50	50	21,504,838	8,973	8,973	
Service Station	Each	1	120	110	350	43,800	40	128	
Fruit Stand	Each	1	20	75	150	7,300	5	9	
Mobile Home Space	Dwelling Unit	699	90	110	350	22,956,681	21,074	67,054	
Dump Station	Each	2	100	1000	1000	54,750	457	457	
Motel Room, No Kitchen [2]	per Room	99	30	75	150	812,967	509	1,018	
Motel Room/Cabin w/Kitchen [2]	per Room	84	40	110	350	919,800	844	2,687	
Laundry	per Machine	24	110	75	150	963,600	603	1,206	
Trailer/Campsite, No Hookups	Each	47	10	75	150	171,550	107	215	
Trailer w/ Hookups	Each	232	20	110	350	1,694,817	1,556	4,950	
Add Toilets for Commercial Establishments	per Toilet	3	20	110	350	21,900	20	64	
Other Commercial Establishments	per 1,000 gpd discharged	1	1000	75	150	<u>365,000</u>	<u>228</u>	<u>457</u>	
						292,153,812	263,520	787,715	
						MG	Lbs	Lbs	
						Estimate for rate design	292.154	263,520	787,715
						Estimate from influent records	287.985	251,636	879,702

1 - Combined Hospitals (DH) & Skilled Care (DI) into a single category

2- Assumes 75% occupancy rate

Table 10 provides the unit cost calculation for the flow, BOD, and TSS cost categories. The total proposed rate revenue requirement for FY 24-25 (calculated using the proposed rate increase of 20% from Table 7 applied to FY 23-24 rate revenues) is divided between the categories based on the percentages developed in Table 8. The revenue requirement for each category is then divided by the total annual billing units for flow, BOD, and TSS from Table 9 to calculate a unit charge.

Table 10: Unit Cost Calculation

Cost Allocation	Total	Flow	BOD	TSS
Cost Allocation %		56.4%	21.8%	21.8%
FY24-25 Revenue Requirement [1]	\$2,899,000	\$1,635,000	\$632,000	\$632,000
Billing Units		292,154,000 gal/year	263,520 lbs/year	787,715 lbs/year
Rate		\$5.5964 \$/1000 gal	\$2.3983 \$/lb	\$0.8023 \$/lb

1 - 6 billing periods with proposed FY 24-25 rate increase

4.5 Proposed Sewer Rates

As a first step in calculating the sewer rates, the unit charges detailed in Table 10 above were multiplied by the flow and loading assumptions in Table 9 for each customer class to calculate the total bimonthly rate for FY 24-25 (which will go into effect with the November 15, 2024 billing). Table 11 shows the percentage change for each customer class and the estimated annual rate revenues. It should be noted the District’s actual FY 24-25 revenues will be lower because the proposed rates will not be in place for the full fiscal year. Table 7 shows estimated actual revenues taking into account the first few billing periods for FY 24-25 being billed at current rates.

The rates for future years were calculated as the previous year’s rate increased by the annual percent change to correspond to the increase in revenue requirement shown in Table 7 (10.0% for FY 25-26, for example). The five-year proposed rate plan is provided in Table 12.

Table 11: FY 24-25 Proposed Rate Impacts

Customer Class	Units	Current Bimonthly Rate	Proposed Bimonthly Rate	Rate Change	Projected 2024/25 Revenue	% of Revenue
Domestic Strength - Single Family & Commercial	Dwelling Unit	\$68.48	\$80.20	17%	\$2,120,660	73.0%
Domestic Strength - Multi Family	Dwelling Unit	\$68.48	\$55.52	-19%	\$107,598	3.7%
Commercial Establishments	Each	\$136.98	\$166.27	21%	\$95,118	3.3%
Restaurant & Bar	per Seat over 33	\$3.78	\$4.75	26%	\$11,913	0.4%
Hospital & Skilled Care	per Bed	\$27.24	\$24.68	-9%	\$51,532	1.8%
School with Cafeteria	per Student	\$2.96	\$3.08	4%	\$20,106	0.7%
Water Filter Backwash	9,600 gal	\$158.46	\$134.94	-15%	\$62,342	2.1%
Water Filter Backwash Overage	Per 3,200 gal	\$8.97	\$44.98	401%	\$149,068	5.1%
Service Station	Each	\$136.98	\$74.03	-46%	\$444	0.0%
Fruit Stand	Each	\$17.22	\$9.86	-43%	\$59	0.0%
Mobile Home Space	Dwelling Unit	\$68.48	\$55.52	-19%	\$232,795	8.0%
Dump Station	Each	\$45.36	\$196.53	333%	\$1,769	0.1%
Motel Room, No Kitchen	per Room	\$11.66	\$14.79	27%	\$8,784	0.3%
Motel Room/Cabin w/Kitchen	per Room	\$15.24	\$24.68	62%	\$12,439	0.4%
Laundry	per Machine	\$48.24	\$54.21	12%	\$7,806	0.3%
Trailer/Campsite, No Hookups	Each	\$6.84	\$4.93	-28%	\$1,390	0.0%
Trailer w/ Hookups	Each	\$13.64	\$12.34	-10%	\$17,190	0.6%
Addl Toilets for Commercial Establishments	per Toilet	\$68.48	\$12.34	-82%	\$222	0.0%
Other Commercial Establishments	per 1,000 gpd discharged	\$136.98	\$492.86	260%	<u>\$2,957</u>	<u>0.1%</u>
					\$2,904,193	100.0%

Table 12: Proposed Bimonthly Sewer Rates

Rate Code	Description	Current FY23-24	PROPOSED				
			FY24-25 Nov 15, 2024	FY25-26 Jul 1, 2025	FY26-27 Jul 1, 2026	FY27-28 Jul 1, 2027	FY28-29 Jul 1, 2028
KM (R, C. H)	Domestic Strength	\$68.48	\$80.20	\$88.22	\$90.87	\$93.60	\$96.41
KM (M)	Domestic Strength - Multi Family	\$68.48	\$55.52	\$61.07	\$62.90	\$64.79	\$66.73
KN	Commercial Establishments	\$136.98	\$166.27	\$182.90	\$188.39	\$194.04	\$199.86
DG	Restaurant & Bar; per seat over 33	\$3.78	\$4.75	\$5.23	\$5.39	\$5.55	\$5.72
DH	Hospital & Skilled Care; per bed	\$27.24	\$24.68	\$27.15	\$27.96	\$28.80	\$29.66
DJ	School with Cafeteria; per student	\$2.96	\$3.08	\$3.39	\$3.49	\$3.59	\$3.70
DK	Water Filter Backwash (9,600 gal)	\$158.46	\$134.94	\$148.43	\$152.88	\$157.47	\$162.19
DK1	Water Filter Backwash Overage; per 3,200 gal	\$8.97	\$44.98	\$49.48	\$50.96	\$52.49	\$54.06
KH	Service Station	\$136.98	\$74.03	\$81.43	\$83.87	\$86.39	\$88.98
KI	Fruit Stand	\$17.22	\$9.86	\$10.85	\$11.18	\$11.52	\$11.87
KK	Mobile Home Space	\$68.48	\$55.52	\$61.07	\$62.90	\$64.79	\$66.73
KL	Dump Station	\$45.36	\$196.53	\$216.18	\$222.67	\$229.35	\$236.23
KU/KR	Motel Room, No Kitchen	\$11.66	\$14.79	\$16.27	\$16.76	\$17.26	\$17.78
KQ	Motel Room/Cabin w/Kitchen	\$15.24	\$24.68	\$27.15	\$27.96	\$28.80	\$29.66
KS	Laundry; per machine	\$48.24	\$54.21	\$59.63	\$61.42	\$63.26	\$65.16
LF	Trailer/Campsite, No Hookups	\$6.84	\$4.93	\$5.42	\$5.58	\$5.75	\$5.92
LG	Trailer w/. Hookups	\$13.64	\$12.34	\$13.57	\$13.98	\$14.40	\$14.83
TLTFC	Addl Toilets for Commercial Establishments	\$68.48	\$12.34	\$13.57	\$13.98	\$14.40	\$14.83
CD	Other Commercial Establishments	\$136.98	\$492.86	\$542.15	\$558.41	\$575.16	\$592.41