Public Hearing
December 12, 2023

2023 Cost-of-Service Study

City of

Sierra Madre

IB CONSULTING

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Executive Summary

The City of Sierra Madre (City) provides water and wastewater services to customers within its incorporated boundary. The City must collect sufficient revenues from its customers to pay the costs to (1) operate each of its enterprise systems/"utilities" – water and wastewater; (2) repair and replace its infrastructure; and (3) ensure a healthy reserve of funds.

The City collects revenues primarily through user fees (rates and charges) that are designed to ensure that each customer pays their fair share of the City's utilities. This cost-of-service study (Study) is intended to (1) establish the total projected cost for each utility over a five-year period (the financial plan); (2) allocate those costs among customers in a way that ensures that each customer pays its fair share of those costs in compliance with California Constitution Article XIII D, section 6, also known as Proposition 218 (the rate structure).

The last cost-of-service study in 2018 set rates for Fiscal Year (FY) 2019 through FY 2023. IB Consulting was hired to conduct a comprehensive cost-of-service analysis to establish rates for each utility for the five-year period from FY 2024 through FY 2028 (Rate Setting Period).

Water Utility Summary

Updating the water utility's long-term financial plan and performing a comprehensive cost-of-service analysis is a prudent business practice to ensure that the City can fully fund its revenue needs through FY 2028 and beyond. In reviewing and updating water rates, the first step is to thoroughly check the financial health of the water utility. Based on a financial review of the water utility at current rates, the water utility is projected to end FY 2024 with positive net operating income around $2.2M, which will decrease to approximately $745k by FY 2028. Separate from operating expenses, the water utility also has capital projects over the next five years totaling $13.3M. Without any rate adjustments, reserves would be used to cover the required capital spending and dip below the minimum reserve targets by FY 2026 and continue to deplete through FY 2028. The proposed financial plan generates an additional $4.4M in rate revenue, phased in over the Rate Setting Period. The additional revenue will cover the five-year Capital Improvement Plan (CIP) and maintain healthy reserves, over the recommended minimum reserve requirement.

The City water supplies include groundwater and imported purchased water. The City is within an adjudicated water basin (East Raymond Basin) and has groundwater rights of 940 AF[1]. The City has 4 wells which deliver groundwater to the water system. The City's annual water demand has historically exceeded its groundwater rights and is projected to equal 1,975 AF for each year of the Rate Setting Period. The City purchases imported water from Metropolitan Water District (MWD) through the San Gabriel Valley Municipal Water District (SGVMWD) to meet total water demand. However, the City and the City of Arcadia are in partnership to build a Joint Well Facility that will reduce both cities' reliance on imported water and provide cost savings over the long-term. The Joint Well Facility is anticipated to be online by FY 2027. Therefore, this Study and corresponding rates incorporates the transition from imported water costs to the cost of water from the Joint Well Facility in FY 2027 and FY 2028. While this water will initially have a higher per unit cost when compared to the current cost of imported water from SGVMWD, it will provide a more stable long-term water source and eliminate the requirement of purchasing replacement water. The cost-of-service analysis includes a restructuring of rates that correlates to the available water supplies and adjudicated groundwater rights, with all customers subject to a two-tiered rate structure. The two-tiered rate structure reflects the groundwater rights, with Tier 1 allotment based on available groundwater and Tier 2 recovering purchased water costs.

[1] 1 AF = 435.6 HCF or 325,851 gallons

Each account will receive a proportionate share of the available groundwater supply in Tier 1 and Tier 2 will capture any water usage above Tier 1.

The current water rate structure has both fixed and variable components. The fixed components include a base fixed charge and a separate infrastructure charge. Both fixed charges vary by meter size and are charged to all customers. These two components will continue, and the infrastructure charge total cost recovery will increase from approximately $1.4M to $1.5M. The infrastructure charge provides dedicated funding towards mainline replacements that has already reduced the City's water loss from 30% to 11%. As the City continues with its mainline replacement schedule, it is anticipated that the water loss will drop below 10%.

Currently, variable rates differ by customer class with Single-Family customers subject to a two-tiered rate structure, charged in Hundred Cubic Feet[2] (HCF) increments. All other customer classes pay their proportionate share of costs through uniform rates per HCF. The proposed variable rates will reflect a two-tiered rate structure applied to all customers based on water supplies.

The proposed rates have been incorporated into a Proposition 218 Notice and mailed to each customer. A Public Hearing is scheduled for December 12, 2023, on the proposed rates identified in Table 1 through Table 3. If there is no majority protest, the City Council may approve the proposed rates. For FY 2024, the proposed rates will go into effect on January 1, 2024, with subsequent adjustments occurring each July 1st thereafter.

Table 1: Proposed Monthly Water Base Fixed Charges

Base Fixed Meter Charges ($/Month)					
Meter Size	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
≤3/4"	$46.25	$48.10	$50.03	$49.43	$50.92
1"	$57.72	$60.03	$62.44	$61.61	$63.46
1 1/2"	$86.41	$89.87	$93.47	$92.06	$94.83
2"	$120.83	$125.67	$130.70	$128.60	$132.46
3"	$229.82	$239.02	$248.59	$244.31	$251.64
4"	$390.45	$406.07	$422.32	$414.83	$427.28

Table 2: Proposed Monthly Water Infrastructure Fixed Charges

Infrastructure Fixed Meter Charges ($/Month)					
Meter Size	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
≤3/4"	$23.55	$24.50	$25.48	$26.50	$27.30
1"	$39.25	$40.82	$42.46	$44.17	$45.50
1 1/2"	$78.50	$81.64	$84.91	$88.33	$90.98
2"	$125.60	$130.63	$135.86	$141.33	$145.57
3"	$274.75	$285.74	$297.17	$309.17	$318.45
4"	$494.55	$514.34	$534.92	$556.50	$573.20

[2] 1 HCF = 748 gallons

Table 3: Proposed Water Variable Rates

Variable Rates ($/HCF)					
Customer Class	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
All Customers					
Tier 1	$3.34	$3.48	$3.62	$3.63	$3.74
Tier 2	$4.61	$4.80	$5.00	$5.73	$5.91

Wastewater Utility Summary

Based on a financial review, the wastewater utility is projected to end FY 2024 with positive net operating income of approximately $14k which will become an operating deficit of (-$217k) by FY 2028. Separate from operating expenses, capital projects over the Rate Setting Period total $1.5M and would require the use of reserves as the sole funding source, which is not sustainable. Without any rate adjustments, reserves will dip below the minimum reserve requirements in FY 2027 and be fully depleted by FY 2028. The proposed financial plan generates an additional $736k in rate revenue that is phased in over the Rate Setting Period.

The existing wastewater rate structure consists of flat monthly fixed charges to residential customers for each dwelling unit. Commercial and Institutional customers (together referred to as Non-Residential) are charged a monthly fixed charge per account and variable rates based on water usage in HCF. The proposed rates maintain the current rate structure but are updated to recover the wastewater utility's revenue requirements.

The recommended wastewater rates are included within the Proposition 218 Notice, and a Public Hearing is scheduled for December 12, 2023, on the proposed rates identified in Table 4 and Table 5. If there is no majority protest, the City Council may approve the proposed rates. For FY 2024, the proposed rates will go into effect on January 1, 2024, with subsequent adjustments occurring each July 1st thereafter.

Table 4: Proposed Monthly Wastewater Fixed Charges

Fixed Charges ($/Month)					
Customer Class	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Residential	$20.67	$21.50	$22.36	$23.25	$24.18
Commercial	$14.15	$14.72	$15.30	$15.92	$16.55
Institutional	$14.15	$14.72	$15.30	$15.92	$16.55

Table 5: Proposed Monthly Wastewater Variable Charges

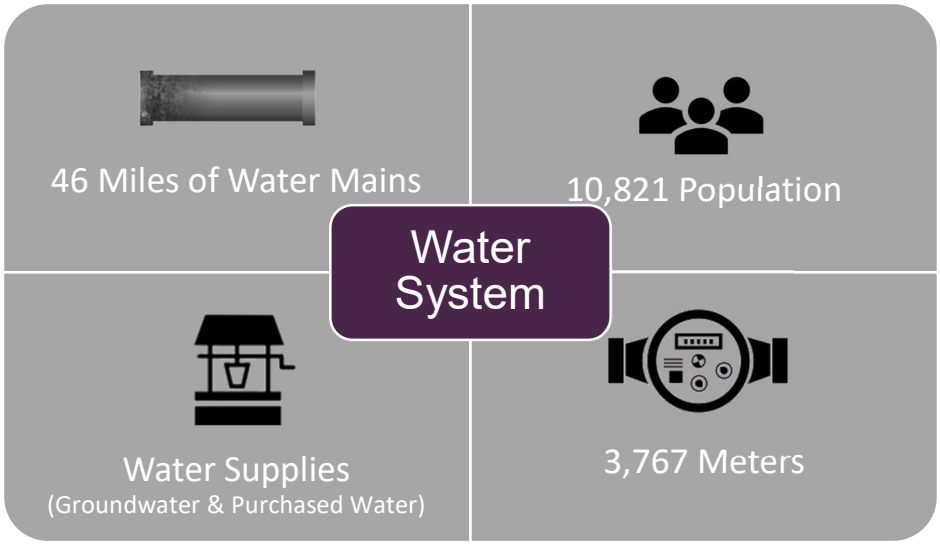
Variable Rates ($/HCF)					
Customer Class	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Commercial	$0.90	$0.94	$0.97	$1.01	$1.05
Institutional	$0.90	$0.94	$0.97	$1.01	$1.05

Water Utility

Water System

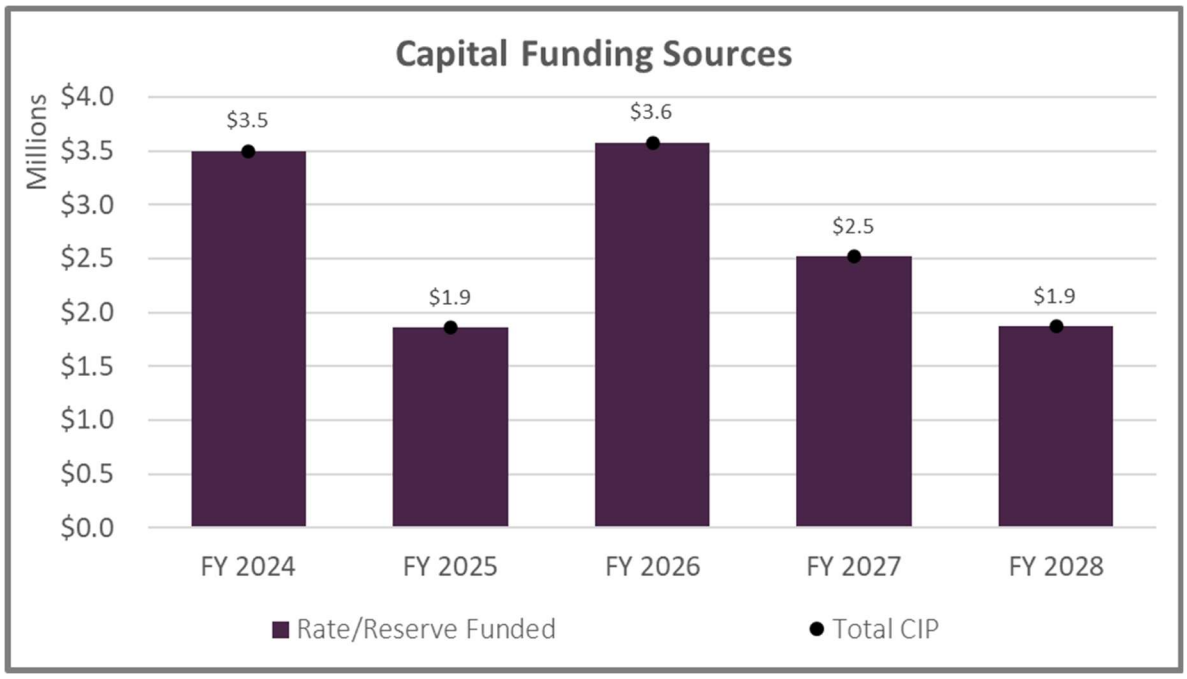
The City is located in the foothills of the San Gabriel Valley and its water service area encompasses approximately 2.9 square miles. Groundwater is produced from four wells and imported treated water comes from SGVMWD. The water facilities also include 46 miles of water mains, two pump stations, eight reservoirs, nine pressure regulating stations, and a water treatment facility with approximately 3,767 service connections.

Figure 1: Water System



The water system's net capital assets, based on 2022 Audited Financial Statement, are approximately $27.2M with an annual depreciation of $728k. The City developed a detailed CIP through FY 2028 that continues a contribution to system reinvestment that outpaces the annual deprecation of capital assets and totals approximately $13.3M ($2.6M annual average) over the Rate Setting Period, with $1.5M going towards mainline replacement. Figure 2 shows the City's CIP through FY 2028 with funding sources.

Figure 2: Water Capital Improvement Plan



Customers

The existing rate structure consists of a monthly base fixed meter charge, a monthly infrastructure charge, and variable rates that vary by customer class, with Residential subject to a two-tiered rate structure and non-residential customer classes charged uniform rates. Current monthly fixed charges are identified in Table 6 and Table 7, followed by variable rates shown in Table 8. The City provides assistance to low-income households that is funded by non-rate revenues.

Table 6: Existing Water Monthly Base Fixed Water Charges

Base Fixed Meter Charges ($/Month)		
Meter Size	Existing	Existing Low Income
≤3/4"	$46.24	$30.10
1"	$56.50	$40.42
1 1/2"	$81.89	$57.62
2"	$112.50	$78.27
3"	$209.52	$126.43
4"	$352.28	$195.24

Table 7: Existing Water Monthly Infrastructure Fixed Water Charges

Infrastructure Fixed Meter Charges ($/Month)	
Meter Size	Existing
≤3/4"	$22.13
1"	$36.95
1 1/2"	$73.68
2"	$117.92
3"	$258.20
4"	$464.62

Table 8: Existing Water Variable Water Rates[3]

Variable Rates ($/HCF)		
Customer Class	Tier Width (HCF)	Existing
Single-Family		
Tier 1	0 - 14	$3.14
Tier 2	>14	$4.92
Multi-Family	Uniform	$4.33
Non-Residential	Uniform	$4.31
Irrigation	Uniform	$4.42
Institutional	Uniform	$4.77

[3] The City recently switched from bi-monthly billing to monthly billing. When the switch occurred, the Tier 1 allotment should have been reduced by half because the 14 HCF is for a 60-day billing period.

Financial Plan Overview – Water Utility

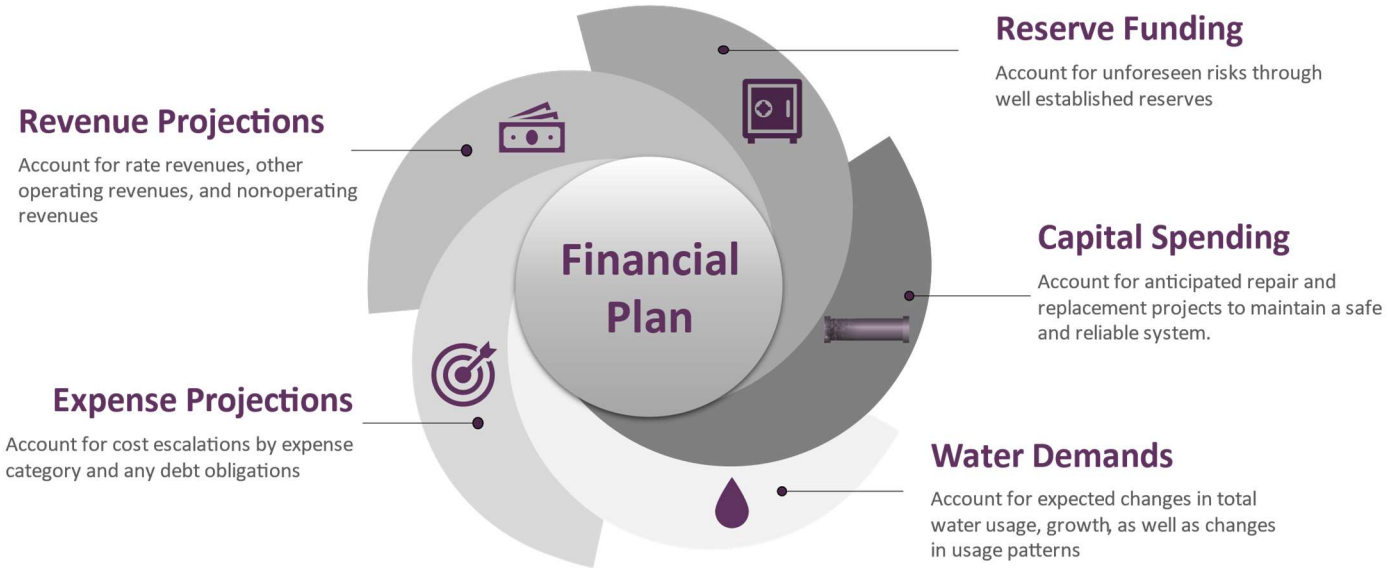
Financial Planning

Financial planning incorporates numerous considerations, including projecting revenues and forecasting expected costs using various inflationary adjustments. Utilities also need to account for changes in water demand driven by variations in weather, changes to water supplies and water availability, state mandates, growth, and economic factors. In addition, system maintenance and reinvestment, reserves, and debt service requirements all influence the revenues needed in future years. Therefore, a comprehensive financial plan reviews the following:

1) Historical water sales and consumption patterns to determine an appropriate usage level for projecting future water demands.
2) Operational costs that may change over the planning period because of inflation, unique circumstances of the agency, new expenditures added to meet strategic goals, state mandates, or changes in operations.
3) Multi-year system improvement needs, and scheduling based on priority. This review also considers available funding sources to complete projects such as PAYGO, grants, loans, and debt financing.
4) Reserve funding to meet recommended reserve requirements. The goal is to generate adequate cash on hand to mitigate financial risks related to operating cashflow needs, unexpected increases in expenses, shortages in system reinvestment, and mitigating potential system failures.

Figure 3 illustrates the key elements when developing a long-term financial plan.

Figure 3: Financial Plan Key Elements



Financial Planning Assumptions

Developing a long-term financial plan requires an understanding of the water utility's financial position by evaluating existing revenue streams, ongoing expenses, how those expenses will change over time, including existing debt requirements, and reserves. With these considerations, certain assumptions are required for projecting revenues, expenses, and expected ending fund balances. Through discussions with staff and their understanding of historical budget data and future obligations, Table 9 identifies assumptions used for forecasting revenues. Table 10 provides details on the number of accounts by meter size and customer class and Table 11 identifies projected usage by customer class and tier. For forecasting revenues, our analysis assumes no growth in accounts as the City is substantially built out and new connections will be captured on an annual basis.

Table 9: Water Assumptions for Forecasting Revenues

Revenue Assumptions					
Key Assumptions	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Revenue Escalation					
Non-Rate Revenues	0.0%	0.0%	0.0%	0.0%	0.0%
Reserve Interest	1.5%	1.5%	1.5%	1.5%	1.5%
Account Growth	0.0%	0.0%	0.0%	0.0%	0.0%

Table 10: Water Accounts by Meter Size

Account Data							
Meter Size	Single-Family	Multi-Family	Non-Residential	Irrigation	Institutional	Low Income	Total
≤3/4"	2,620	70	65	4	8	28	2,795
1"	547	57	20	3	4	19	650
1 1/2"	146	46	11	1	5	10	219
2"	30	25	10	5	8	15	93
3"	1	1	2	0	1	4	9
4"	0	1	0	0	0	0	1
Total	3,344	200	108	13	26	76	3,767

Table 11: Water Projected Consumption (HCF)

Usage Data Consumption by Customer Class	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Single-Family					
Tier 1	411,953	411,953	411,953	411,953	411,953
Tier 2	251,588	251,588	251,588	251,588	251,588
Subtotal Single-Family Consumption	663,541	663,541	663,541	663,541	663,541
Multi-Family	93,698	93,698	93,698	93,698	93,698
Non-Residential	41,143	41,143	41,143	41,143	41,143
Irrigation	25,775	25,775	25,775	25,775	25,775
Institutional	36,153	36,153	36,153	36,153	36,153
Total Consumption by Customer Class (HCF)	**860,310**	**860,310**	**860,310**	**860,310**	**860,310**
Total Usage (AF)	1,975 AF	1,975 AF	1,975 AF	1,975 AF	1,975 AF

Table 12 identifies assumptions used for forecasting increases in expenses over the Rate Setting Period.

Table 12: Water Assumptions for Forecasting Expense Requirements[4]

Expense Assumptions Key Assumptions	*Source:*		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Expenditure Escalation							
Benefits			3.0%	3.0%	3.0%	3.0%	3.0%
Capital Construction	*ENR 20-City*	*5-Year Average*	6.9%	3.9%	3.9%	3.9%	3.9%
General Costs	*CPI - LA (BLS)*	*5-Year Average*	6.2%	4.0%	4.0%	4.0%	4.0%
LiUNA Pension			5.0%	5.0%	5.0%	5.0%	5.0%
Salaries			15.0%	5.0%	5.0%	5.0%	5.0%
Utilities			5.0%	5.0%	5.0%	5.0%	5.0%
PERS			15.0%	5.0%	5.0%	5.0%	5.0%
Treatment			5.0%	5.0%	5.0%	5.0%	5.0%

Current Financial Position

Revenues

Based on the forecasting assumptions, fixed revenues were calculated by multiplying the existing fixed charges (Table 6 and Table 7) by the account data by meter size (Table 10), which remain constant each year, over twelve billing periods. Variable revenues were calculated using existing variable rates (Table 8) and projected total water sales by customer class (Table 11). Table 13 shows the calculated rate revenues through the Rate Setting Period. Table 14 summarizes calculated rate revenues from Table 13 and other operating and non-rate revenues available through the Rate Setting Period with projections rounded to the nearest thousands.

[4] Capital Construction inflation and General Costs for FY 2024 were increased to 6.9% and 6.2%, respectively, to account for recent increases due to inflation. Outer years reduce to 3.9% and 4.0%, reflecting the 5-year average of the Engineering News-Record – Construction Cost index and the Los Angeles Area Consumer Price Index, respectively.

Table 13: Water Calculated Rate Revenues

Calculated Rate Revenue					
Fixed Revenue	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Base Fixed Charge					
Single-Family	$2,011,137	$2,011,137	$2,011,137	$2,011,137	$2,011,137
Multi-Family	$163,182	$163,182	$163,182	$163,182	$163,182
Non-Residential	$78,965	$78,965	$78,965	$78,965	$78,965
Irrigation	$11,986	$11,986	$11,986	$11,986	$11,986
Institutional	$25,379	$25,379	$25,379	$25,379	$25,379
Low Income	$46,401	$46,401	$46,401	$46,401	$46,401
Total Base Fixed Charge	$2,337,051	$2,337,051	$2,337,051	$2,337,051	$2,337,051
Infrastructure Fixed Charges					
Single-Family	$1,112,944	$1,112,944	$1,112,944	$1,112,944	$1,112,944
Multi-Family	$128,584	$128,584	$128,584	$128,584	$128,584
Non-Residential	$56,202	$56,202	$56,202	$56,202	$56,202
Irrigation	$10,352	$10,352	$10,352	$10,352	$10,352
Institutional	$22,738	$22,738	$22,738	$22,738	$22,738
Low Income	$58,321	$58,321	$58,321	$58,321	$58,321
Total Infrastructure Fixed Charges	$1,389,141	$1,389,141	$1,389,141	$1,389,141	$1,389,141
Variable Revenue	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Single-Family					
Tier 1	$1,293,532	$1,293,532	$1,293,532	$1,293,532	$1,293,532
Tier 2	$1,237,813	$1,237,813	$1,237,813	$1,237,813	$1,237,813
Single-Family Variable Revenue	$2,531,345	$2,531,345	$2,531,345	$2,531,345	$2,531,345
Multi-Family	$405,712	$405,712	$405,712	$405,712	$405,712
Non-Residential	$177,326	$177,326	$177,326	$177,326	$177,326
Irrigation	$113,926	$113,926	$113,926	$113,926	$113,926
Institutional	$172,450	$172,450	$172,450	$172,450	$172,450
Total Variable Rate Revenue	$3,400,759	$3,400,759	$3,400,759	$3,400,759	$3,400,759
Total Rate Revenue	$7,126,951	$7,126,951	$7,126,951	$7,126,951	$7,126,951

Table 14: Water Projected Revenues

Projected Revenues					
Revenue Summary	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Rate Revenues					
Base Fixed Charge	$2,337,000	$2,337,000	$2,337,000	$2,337,000	$2,337,000
Infrastructure Charge	$1,389,000	$1,389,000	$1,389,000	$1,389,000	$1,389,000
Variable Revenue	$3,401,000	$3,401,000	$3,401,000	$3,401,000	$3,401,000
Subtotal Rate Revenues	$7,127,000	$7,127,000	$7,127,000	$7,127,000	$7,127,000
Other Revenues	$45,000	$24,000	$26,000	$25,000	$19,000
Total Revenues	**$7,172,000**	**$7,151,000**	**$7,153,000**	**$7,152,000**	**$7,146,000**

Expenses

Water Supply

The current water usage is 1,975 AF per year, as shown in Table 11. The water supplies available to meet customer demand consist of groundwater and purchased water from SGVMWD. Beginning in FY 2027, the water utility will transition its purchased water supply from SGVWMD to a Joint Well Facility with the City of Arcadia.

The City must pay electrical costs for every AF of groundwater pumped from the basin. The current water demand is greater than the available groundwater rights; therefore, the City must purchase imported water from SGVWD or through the Joint Well Facility (commencing in FY 2027). Additionally, the City has a solar project scheduled to go online in FY 2024 that will result in energy savings and offset electrical costs associated with groundwater pumping. Table 15 summarizes water supply costs and the detailed calculations can be found in Table 79 in Appendix A.

Table 15: Water Projected Supply Costs

Water Supply Summary					
Purchased Water Costs	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Purchased Water Costs					
SGVMWD	$588,000	$630,000	$662,000	$0	$0
Joint Well Facility	$0	$0	$0	$965,000	$1,013,000
Subtotal Purchased Water Costs	$588,000	$630,000	$662,000	$965,000	$1,013,000
Electrical Costs					
Solar Credits	($38,000)	($48,000)	($53,000)	($58,000)	($62,000)
SGVMWD	$395,000	$415,000	$435,000	$0	$0
Joint Well Facility	$0	$0	$0	$470,000	$493,000
Groundwater	$297,000	$312,000	$328,000	$344,000	$361,000
Subtotal Purchased Water Costs	$654,000	$679,000	$710,000	$756,000	$792,000
Total Water Supply Costs	**$1,242,000**	**$1,309,000**	**$1,372,000**	**$1,721,000**	**$1,805,000**

Operating Expenses

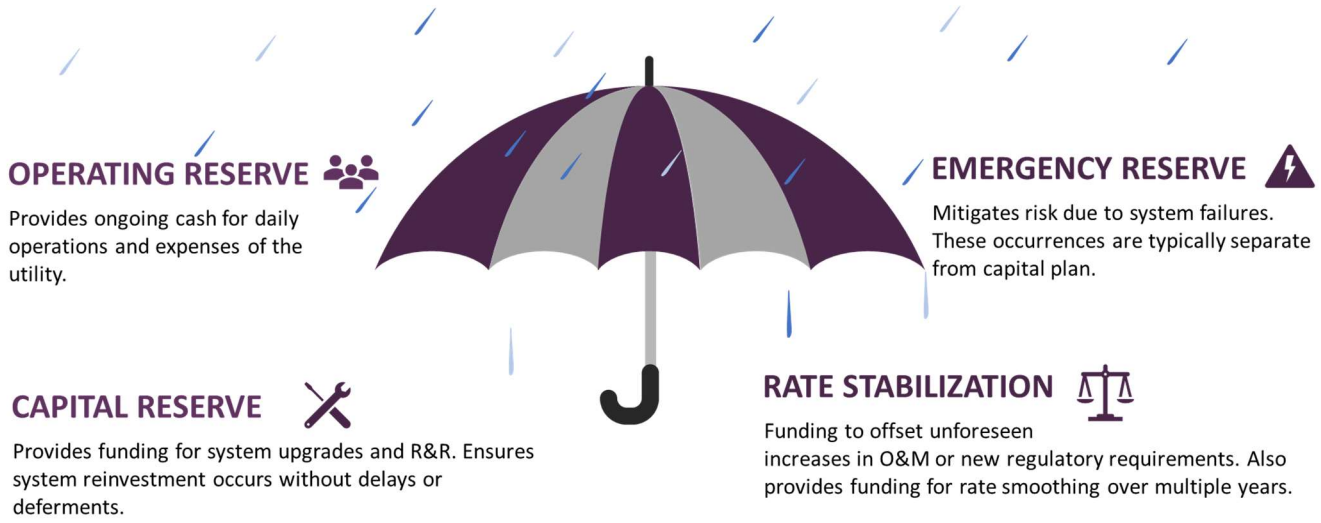
The FY 2023 budget was used as the baseline expenses of the utility and adjusted in subsequent years based on the escalation factors shown in Table 12. Table 16 provides projected Operational & Maintenance (O&M) costs through the Rate Setting Period, with future projections rounded to the nearest thousands. Each O&M expense category includes detailed line-item expenditures that were discussed with staff to determine the appropriate escalation factor for forecasting how costs will increase over time.

Table 16: Water Projected O&M Expenses

Projected Expenses						
O&M Expenses	*Source*	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Purchased Water Costs						
SGVMWD	Table 15	$588,000	$630,000	$662,000	$0	$0
Joint Well Facility		$0	$0	$0	$965,000	$1,013,000
Subtotal Purchased Water Costs		$588,000	$630,000	$662,000	$965,000	$1,013,000
Electrical Costs						
Solar Credits	Table 15	($38,000)	($48,000)	($53,000)	($58,000)	($62,000)
SGVMWD		$395,000	$415,000	$435,000	$0	$0
Joint Well Facility		$0	$0	$0	$470,000	$493,000
Groundwater		$297,000	$312,000	$328,000	$344,000	$361,000
Subtotal Electrical Costs		$654,000	$679,000	$710,000	$756,000	$792,000
Operating Expenses						
Personnel Services - Finance		$516,000	$540,000	$564,000	$590,000	$617,000
Personnel Services - Water		$668,000	$699,000	$731,000	$764,000	$799,000
Purchased Services - Finance		$13,000	$13,000	$14,000	$14,000	$15,000
Purchased Services - Water		$504,000	$524,000	$546,000	$569,000	$592,000
Purchased Materials - Finance		$33,000	$34,000	$36,000	$37,000	$38,000
Purchased Materials - Water		$375,000	$392,000	$410,000	$429,000	$448,000
Cost Allocations - Finance		$38,000	$40,000	$41,000	$43,000	$45,000
Cost Allocations - Admininstrative		$292,000	$304,000	$316,000	$328,000	$341,000
Cost Allocations - Water		$750,000	$779,000	$810,000	$842,000	$875,000
Utilities		$6,000	$6,000	$6,000	$7,000	$7,000
Subtotal Operating Expenses		$3,195,000	$3,331,000	$3,474,000	$3,623,000	$3,777,000
Debt Service						
Existing Debt		$565,000	$833,000	$831,000	$829,000	$827,000
New/Proposed Debt		$0	$0	$0	$0	$0
Subtotal Debt Service		$565,000	$833,000	$831,000	$829,000	$827,000
Total Expenses		**$5,002,000**	**$5,473,000**	**$5,677,000**	**$6,173,000**	**$6,409,000**

Reserves

Figure 4: Water Utility Reserves



Currently, the water utility maintains a water operating fund. As part of best management practices, it is recommended that the City establish the following reserves for the water utility: Operating, Capital, Rate Stabilization, and Emergency. These reserves will help mitigate risks to the utility by ensuring sufficient cash is on hand for daily operations, funding for annual system improvements, cover any unforeseen cost increases, and address any unanticipated system failures. In addition, these reserves help smooth rates and mitigate rate spikes. Table 17 summarizes the minimum reserve requirements and ideal targets of each reserve.

Table 17: Water Reserve Requirements and Targets

Reserve	Minimum Requirement	Reserve Target
Operating	90 days of operating expenses	120 days of operating expenses
Capital	1 year of CIP costs based on 5-year average	2 years of CIP costs based on 5-year average
Rate Stabilization	5% of Rate Revenues	10% of Rate Revenues
Emergency	3% of System Assets	5% of System Assets

The reserve balance as of July 1, 2022, equaled approximately $7.5M.

Financial Outlook at Existing Rates

Calculating revenue using existing rates and projecting expenses helps determine the current financial health of the utility. Revenues from current rates will cover operating expenses. However, net operating income is limited, reduces annually as projected expenses increase and can only fund a portion of capital needs. Therefore, reserves would need to cover the remaining capital costs, which would not be sustainable in the long term, as reserves would be below the minimum target beginning in FY 2026. Table 18 forecasts existing revenues and expenses through the Rate Setting Period. Table 19 identifies reserve transfers and reserve activity, with projected FY 2024 starting reserve balances shown for each reserve.

Table 18: Water Financial Plan at Existing Rates

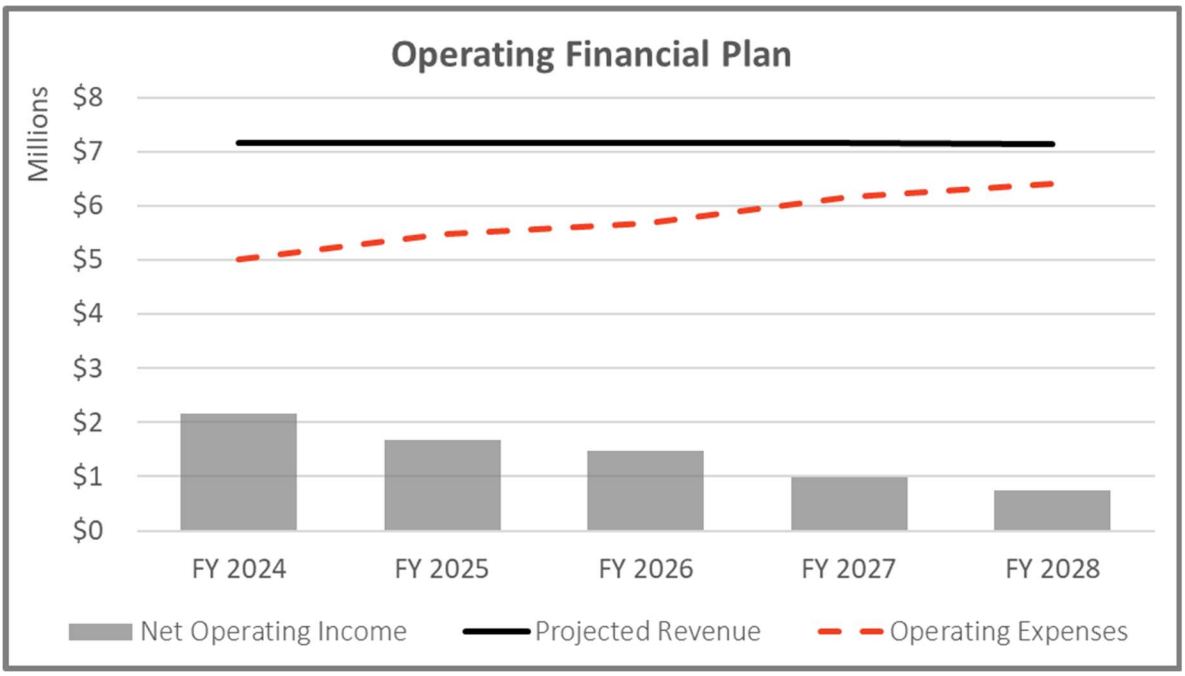
Financial Plan at Existing Rates						
Revenue	*Source*	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Rate Revenues						
Base Fixed Charge	Table 14	$2,337,000	$2,337,000	$2,337,000	$2,337,000	$2,337,000
Infrastructure Charge		$1,389,000	$1,389,000	$1,389,000	$1,389,000	$1,389,000
Variable Revenue		$3,401,000	$3,401,000	$3,401,000	$3,401,000	$3,401,000
Total Rate Revenues		$7,127,000	$7,127,000	$7,127,000	$7,127,000	$7,127,000
Other Revenues	Table 14	$45,000	$24,000	$26,000	$25,000	$19,000
Total Revenues		**$7,172,000**	**$7,151,000**	**$7,153,000**	**$7,152,000**	**$7,146,000**
O&M Expenses		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Purchased Water Costs						
SGVMWD	Table 16	$588,000	$630,000	$662,000	$0	$0
Joint Well Facility		$0	$0	$0	$965,000	$1,013,000
Subtotal Purchased Water Costs		$588,000	$630,000	$662,000	$965,000	$1,013,000
Electrical Costs						
Solar Credits	Table 16	($38,000)	($48,000)	($53,000)	($58,000)	($62,000)
SGVMWD		$395,000	$415,000	$435,000	$0	$0
Joint Well Facility		$0	$0	$0	$470,000	$493,000
Groundwater		$297,000	$312,000	$328,000	$344,000	$361,000
Subtotal Electrical Costs		$654,000	$679,000	$710,000	$756,000	$792,000
Operating Expenses						
Personnel Services - Finance	Table 16	$516,000	$540,000	$564,000	$590,000	$617,000
Personnel Services - Water		$668,000	$699,000	$731,000	$764,000	$799,000
Purchased Services - Finance		$13,000	$13,000	$14,000	$14,000	$15,000
Purchased Services - Water		$504,000	$524,000	$546,000	$569,000	$592,000
Purchased Materials - Finance		$33,000	$34,000	$36,000	$37,000	$38,000
Purchased Materials - Water		$375,000	$392,000	$410,000	$429,000	$448,000
Cost Allocations - Finance		$38,000	$40,000	$41,000	$43,000	$45,000
Cost Allocations - Admininstrative		$292,000	$304,000	$316,000	$328,000	$341,000
Cost Allocations - Water		$750,000	$779,000	$810,000	$842,000	$875,000
Utilities		$6,000	$6,000	$6,000	$7,000	$7,000
Subtotal Operating Expenses		$3,195,000	$3,331,000	$3,474,000	$3,623,000	$3,777,000
Debt Service						
Existing Debt	Table 16	$565,000	$833,000	$831,000	$829,000	$827,000
New/Proposed Debt		$0	$0	$0	$0	$0
Subtotal Debt Service		$565,000	$833,000	$831,000	$829,000	$827,000
Total Expenses		**$5,002,000**	**$5,473,000**	**$5,677,000**	**$6,173,000**	**$6,409,000**
Net Operating Income		**$2,170,000**	**$1,678,000**	**$1,476,000**	**$979,000**	**$737,000**

Table 19: Water Transfers and Reserve Activity at Existing Rates

Line No.	Transfers & Reserve Activity						
	Direct Transfers	*Source*	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
1	Net Operating Income	**Table 18**	$2,170,000	$1,678,000	$1,476,000	$979,000	$737,000
2	Transfers (to)/from Capital Reserve		($1,500,000)	($1,561,000)	($1,623,000)	($1,688,000)	($1,756,000)
3	**Net Operating Income (after Direct Transfers)**		**$670,000**	**$117,000**	**($147,000)**	**($709,000)**	**($1,019,000)**
	Operating Fund		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
4	Beginning Balance		$1,509,370	$1,644,493	$1,761,493	$1,614,493	$905,493
5	Transfers (Net Operating Income)	*Line 3*	$670,000	$117,000	($147,000)	($709,000)	($1,019,000)
6	Transfers from/(to) Capital Reserve		($534,877)	$0	$0	$0	$0
7	**Ending Balance**		**$1,644,493**	**$1,761,493**	**$1,614,493**	**$905,493**	**($113,507)**
	Capital Reserve		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
8	Beginning Balance		$6,571,779	$5,192,435	$4,967,626	$3,069,892	$2,276,740
9	Plus:						
10	Direct transfers to/(from) Capital Reserve	*Line 2*	$1,500,000	$1,561,000	$1,623,000	$1,688,000	$1,756,000
11	Transfers from/(to) Operating Fund	*Line 6*	$534,877	$0	$0	$0	$0
12	Less:						
13	CIP		($3,501,795)	($1,861,442)	($3,580,567)	($2,520,953)	($1,871,510)
14	Subtotal Capital Reserve		$5,104,861	$4,891,993	$3,010,059	$2,236,938	$2,161,230
15	Interest Earnings		$87,575	$75,633	$59,833	$39,801	$33,285
16	**Ending Balance**		**$5,192,435**	**$4,967,626**	**$3,069,892**	**$2,276,740**	**$2,194,514**
	Rate Stabilization Reserve		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
17	Beginning Balance		$0	$0	$0	$0	$0
18	Direct transfers to/(from) Rate Stabilization Reserve		$0	$0	$0	$0	$0
19	**Ending Balance**		**$0**	**$0**	**$0**	**$0**	**$0**
	Emergency Reserve		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
20	Beginning Balance		$0	$0	$0	$0	$0
21	Direct transfers to/(from) Emergency Reserve		$0	$0	$0	$0	$0
22	**Ending Balance**		**$0**	**$0**	**$0**	**$0**	**$0**
23	**All Reserves Ending Balance**		**$6,836,928**	**$6,729,119**	**$4,684,385**	**$3,182,233**	**$2,081,008**

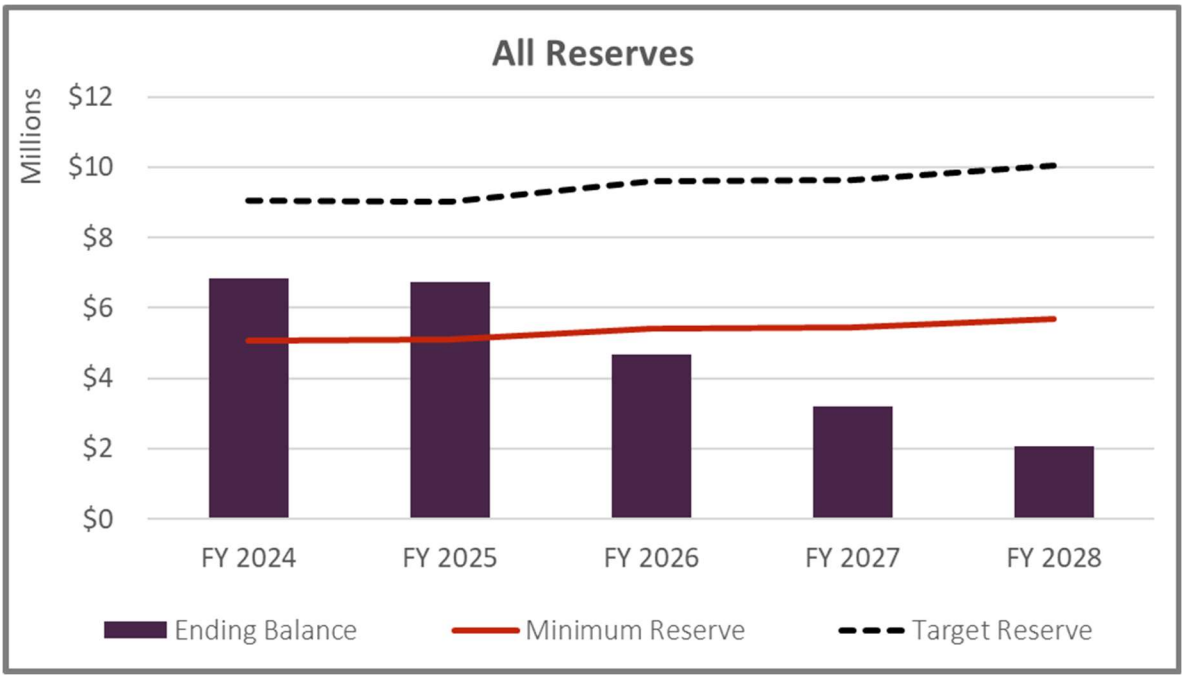
Figure 5 illustrates the operating position of the utility, where O&M expenses are identified with the dashed red trendline, and the horizontal black trendline shows total revenues at existing rates. The bars represent the net operating income, with grey bars reflecting positive net operating income for capital spending and reserve funding and red bars reflecting an operating deficit absorbed by reserves.

Figure 5: Water Current Operating Financial Position



With capital spending of $13.3M over the Rate Setting Period, as shown in Figure 2, reserves would be utilized to cover the capital expenses. By FY 2026, reserves are below the recommended minimum target. Figure 6 reflects the projected ending balances of all reserves after funding operating and capital projects. All reserves include Operating, Capital, Rate Stabilization, and Emergency reserves.

Figure 6: Water Projected Ending Reserves at Existing Rates



Proposed Financial Plan – Water Utility

From our review of the utility's financial outlook at existing rates, a proposed financial plan is developed to fund the multi-year revenue requirements. The proposed financial plan generates approximately $4.4M in additional revenue over the Rate Setting Period. The additional revenue generates positive net operating income to go towards capital spending and satisfy reserve requirements. Table 20 forecasts projected revenues, ***with annual revenue adjustments***, and expenses through FY 2028. Table 21 identifies the projected FY 2024 total starting reserve balances, activity within each reserve (including net operating income transfer from Table 20, transfers between reserves, and annual CIP), and projected ending balances for each fiscal year of the Rate Setting Period.

Table 20: Proposed Water Financial Plan

Proposed Financial Plan						
Revenue	*Source*	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Rate Revenues						
Base Fixed Charge	Table 14	$2,337,000	$2,337,000	$2,337,000	$2,337,000	$2,337,000
Infrastructure Charge		$1,389,000	$1,389,000	$1,389,000	$1,389,000	$1,389,000
Variable Revenue		$3,401,000	$3,401,000	$3,401,000	$3,401,000	$3,401,000
Total Rate Revenues		$7,127,000	$7,127,000	$7,127,000	$7,127,000	$7,127,000
Additional Revenue (from revenue adjustments):						
Fiscal Year / Revenue Adjustment / Effective Month						
FY 2024 — 4.0% — January		$142,000	$285,000	$285,000	$285,000	$285,000
FY 2025 — 4.0% — July			$296,000	$296,000	$296,000	$296,000
FY 2026 — 4.0% — July				$308,000	$308,000	$308,000
FY 2027 — 5.0% — July					$400,000	$400,000
FY 2028 — 3.0% — July						$252,000
Total Additional Revenue		$142,000	$581,000	$889,000	$1,289,000	$1,541,000
Projected Rate Revenue *(including revenue adjustments)*		**$7,269,000**	**$7,708,000**	**$8,016,000**	**$8,416,000**	**$8,668,000**
Other Revenues	Table 14	$45,000	$29,000	$40,000	$46,000	$48,000
Total Revenues		**$7,314,000**	**$7,737,000**	**$8,056,000**	**$8,462,000**	**$8,716,000**
O&M Expenses		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Purchased Water Costs						
SGVMWD	Table 16	$588,000	$630,000	$662,000	$0	$0
Joint Well Facility		$0	$0	$0	$965,000	$1,013,000
Subtotal Purchased Water Costs		$588,000	$630,000	$662,000	$965,000	$1,013,000
Electrical Costs						
Solar Credits	Table 16	($38,000)	($48,000)	($53,000)	($58,000)	($62,000)
SGVMWD		$395,000	$415,000	$435,000	$0	$0
Joint Well Facility		$0	$0	$0	$470,000	$493,000
Groundwater		$297,000	$312,000	$328,000	$344,000	$361,000
Subtotal Electrical Costs		$654,000	$679,000	$710,000	$756,000	$792,000
Operating Expenses						
Personnel Services - Finance	Table 16	$516,000	$540,000	$564,000	$590,000	$617,000
Personnel Services - Water		$668,000	$699,000	$731,000	$764,000	$799,000
Purchased Services - Finance		$13,000	$13,000	$14,000	$14,000	$15,000
Purchased Services - Water		$504,000	$524,000	$546,000	$569,000	$592,000
Purchased Materials - Finance		$33,000	$34,000	$36,000	$37,000	$38,000
Purchased Materials - Water		$375,000	$392,000	$410,000	$429,000	$448,000
Cost Allocations - Finance		$38,000	$40,000	$41,000	$43,000	$45,000
Cost Allocations - Admininstrative		$292,000	$304,000	$316,000	$328,000	$341,000
Cost Allocations - Water		$750,000	$779,000	$810,000	$842,000	$875,000
Utilities		$6,000	$6,000	$6,000	$7,000	$7,000
Subtotal Operating Expenses		$3,195,000	$3,331,000	$3,474,000	$3,623,000	$3,777,000
Debt Service						
Existing Debt	Table 16	$565,000	$833,000	$831,000	$829,000	$827,000
New/Proposed Debt		$0	$0	$0	$0	$0
Subtotal Debt Service		$565,000	$833,000	$831,000	$829,000	$827,000
Total Expenses		**$5,002,000**	**$5,473,000**	**$5,677,000**	**$6,173,000**	**$6,409,000**
Net Operating Income		**$2,312,000**	**$2,264,000**	**$2,379,000**	**$2,289,000**	**$2,307,000**

Table 21: Water Proposed Transfers and Reserves Activity

Line No.	Transfers & Reserve Activity						
	Direct Transfers	*Source*	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
1	Net Operating Income	**Table 20**	$2,312,000	$2,264,000	$2,379,000	$2,289,000	$2,307,000
2	Transfers (to)/from Capital Reserve		($1,500,000)	($1,561,000)	($1,623,000)	($1,688,000)	($1,756,000)
3	Transfers (to)/from Rate Stabilization Reserve		($433,400)	$0	$0	$0	$0
4	Transfers (to)/from Emergency Reserve		($818,286)	$0	$0	$0	$0
5	**Net Operating Income (after Direct Transfers)**		**($439,686)**	**$703,000**	**$756,000**	**$601,000**	**$551,000**
	Operating Fund		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
6	Beginning Balance		$1,509,370	$1,069,683	$1,772,683	$1,866,411	$2,029,479
7	Transfers (Net Operating Income)	*Line 5*	($439,686)	$703,000	$756,000	$601,000	$551,000
8	Transfers from/(to) Capital Reserve		$0	$0	($662,272)	($437,932)	($473,411)
9	**Ending Balance**		**$1,069,683**	**$1,772,683**	**$1,866,411**	**$2,029,479**	**$2,107,068**
	Capital Reserve		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
10	Beginning Balance		$6,571,779	$4,653,547	$4,420,655	$3,181,955	$2,831,700
11	Plus:						
12	Direct transfers to/(from) Capital Reserve	*Line 2*	$1,500,000	$1,561,000	$1,623,000	$1,688,000	$1,756,000
13	Transfers from/(to) Operating Fund	*Line 8*	$0	$0	$662,272	$437,932	$473,411
14	Less:						
15	CIP		($3,501,795)	($1,861,442)	($3,580,567)	($2,520,953)	($1,871,510)
16	Subtotal Capital Reserve		$4,569,984	$4,353,105	$3,125,360	$2,786,933	$3,189,601
17	Interest Earnings		$83,563	$67,550	$56,595	$44,767	$45,160
18	**Ending Balance**		**$4,653,547**	**$4,420,655**	**$3,181,955**	**$2,831,700**	**$3,234,761**
	Rate Stabilization Reserve		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
19	Beginning Balance		$0	$433,400	$433,400	$433,400	$433,400
20	Direct transfers to/(from) Rate Stabilization Reserve	*Line 3*	$433,400	$0	$0	$0	$0
21	**Ending Balance**		**$433,400**	**$433,400**	**$433,400**	**$433,400**	**$433,400**
	Emergency Reserve		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
22	Beginning Balance		$0	$818,286	$818,286	$818,286	$818,286
23	Direct transfers to/(from) Emergency Reserve	*Line 4*	$818,286	$0	$0	$0	$0
24	**Ending Balance**		**$818,286**	**$818,286**	**$818,286**	**$818,286**	**$818,286**
23	**All Reserves Ending Balance**		**$6,974,917**	**$7,445,025**	**$6,300,052**	**$6,112,866**	**$6,593,516**

The operating position based on the proposed financial plan is identified in Figure 7. Figure 8 and Figure 9 show the capital plan with funding sources and projected ending reserve balances, respectively.

Figure 7: Water Proposed Operating Position

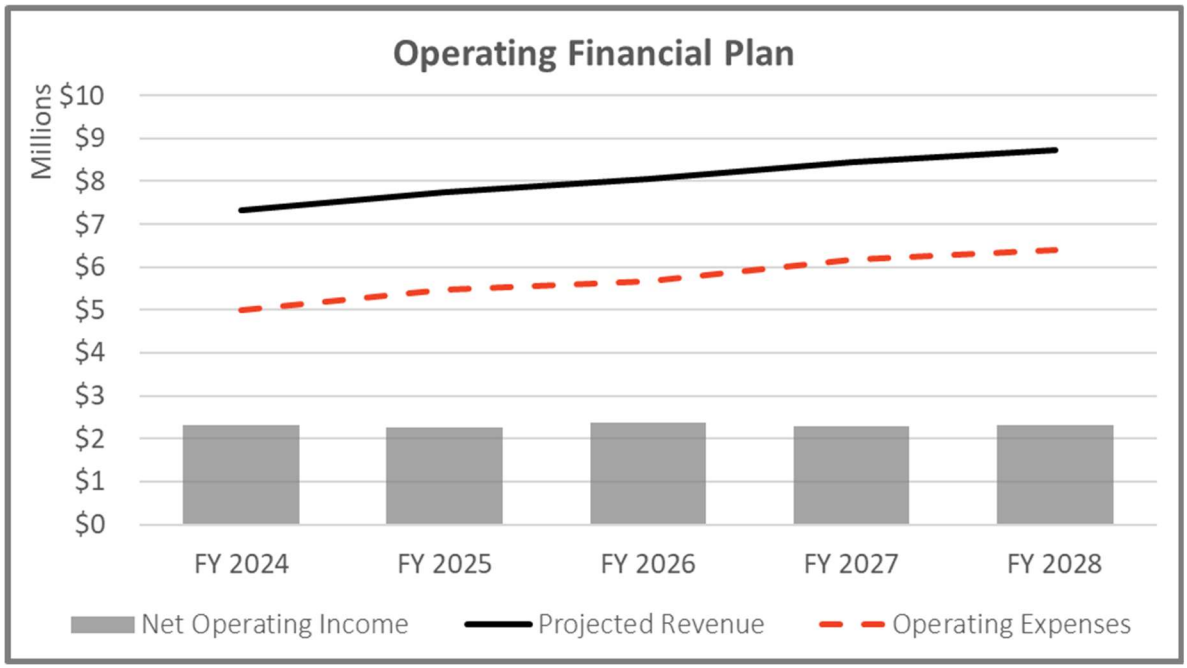


Figure 8: Water Capital Improvement Plan with Funding Sources

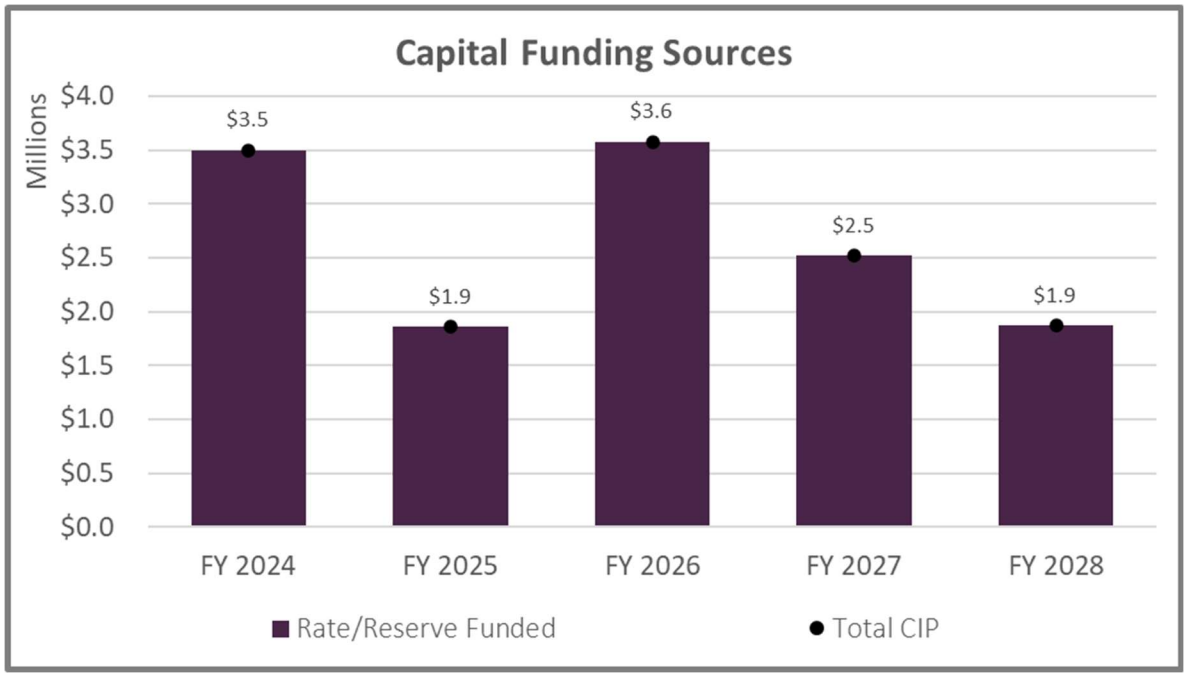
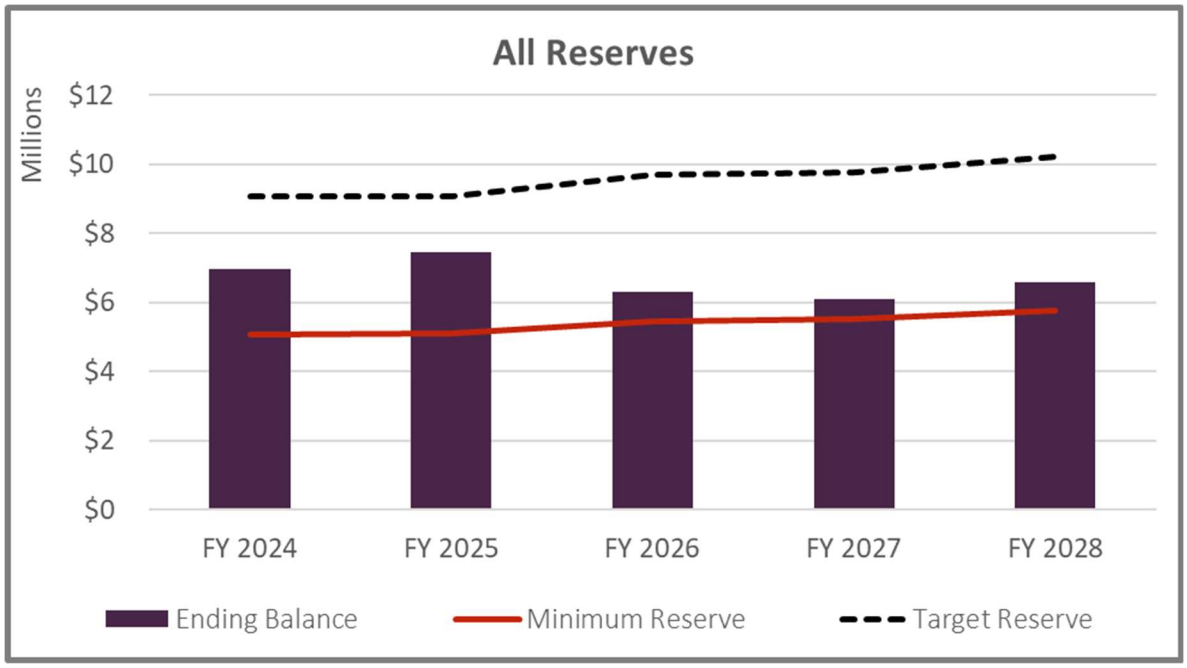


Figure 9: Water Proposed Ending Reserves



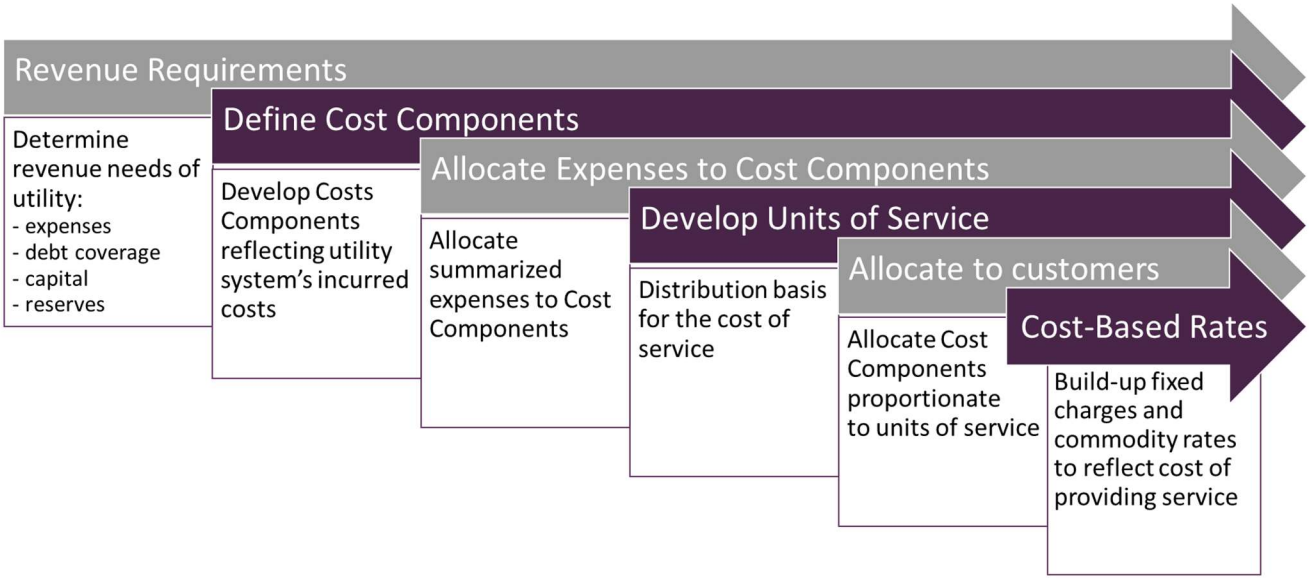
Cost-of-Service Analysis – Water Utility

Cost-of-Service Process

The next step in developing rates is to perform a cost-of-service analysis. This step develops proposed water rates that are cost-based and equitable. Meeting the requirements of Proposition 218 is of paramount importance in developing utility rates. Proposition 218 does not provide a particular methodology for establishing cost-based rates. This Study and analysis herein allocates costs proportionately to each parcel served by the City and derives water rates that adhere to the cost-of-service provisions of Proposition 218.

It is important to understand **how** costs are incurred to determine the most appropriate way to recover them. The following graphic summarizes the cost-of-service process. This process allocates costs incurred to customer classes and tiers based on their proportional share. As a result, the proposed rates are cost-based and reflect the costs incurred to deliver water service to all customers.

Figure 10: Cost-of-Service Process



Revenue Requirements

Revenue requirements are determined for FY 2024 through FY 2028 are shown in Table 22. and used for the cost-of-service. With FY 2024 as the first year of the proposed rate schedule, revenue requirements are determined for FY 2024 and used for the cost-of-service. Due to the change in water supplies that will occur in FY 2027, an additional cost-of-service analysis was performed for that year. Revenue requirements include O&M expenses, debt service, available offsets from non-rate revenues, annual net operating income, and any mid-year adjustments, if rates are implemented after the start of the fiscal year. The mid-year adjustment annualizes the proposed revenue adjustment to account for the time elapsed before new rates take effect.

Funding the capital plan and replenishing reserves to meet or exceed the minimum reserve requirement is achieved over the Rate Setting Period. The proposed revenue adjustments and corresponding rates collectively accumulate the necessary funding over the Rate Setting Period to fund the utility's total revenue requirements. The results of the financial plan analysis are summarized in Table 22 and represent the revenue required from rates over the Rate Setting Period.

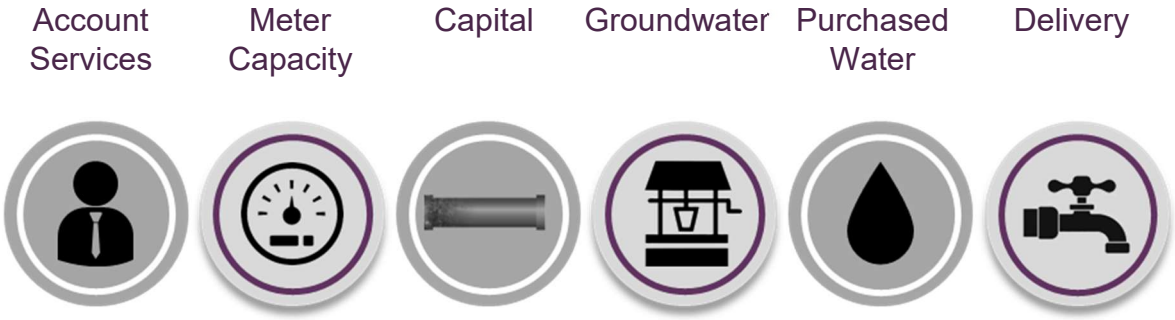
Table 22: Water Revenue Requirements

Revenue Requirements	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Revenue Requirements	Total	Total	Total	Total	Total
Water Supply Costs					
Purchased Water Costs					
SGVMWD	$588,000	$630,000	$662,000	$0	$0
Joint Well Facility	$0	$0	$0	$965,000	$1,013,000
Electrical Costs					
Solar Credits	($38,000)	($48,000)	($53,000)	($58,000)	($62,000)
SGVMWD	$395,000	$415,000	$435,000	$0	$0
Joint Well Facility	$0	$0	$0	$470,000	$493,000
Groundwater	$297,000	$312,000	$328,000	$344,000	$361,000
Total Water Supply Costs	$1,242,000	$1,309,000	$1,372,000	$1,721,000	$1,805,000
Operating Expenses					
Personnel Services - Finance	$516,000	$540,000	$564,000	$590,000	$617,000
Personnel Services - Water	$668,000	$699,000	$731,000	$764,000	$799,000
Purchased Services - Finance	$13,000	$13,000	$14,000	$14,000	$15,000
Purchased Services - Water	$504,000	$524,000	$546,000	$569,000	$592,000
Purchased Materials - Finance	$33,000	$34,000	$36,000	$37,000	$38,000
Purchased Materials - Water	$375,000	$392,000	$410,000	$429,000	$448,000
Cost Allocations - Finance	$38,000	$40,000	$41,000	$43,000	$45,000
Cost Allocations - Admininstrative	$292,000	$304,000	$316,000	$328,000	$341,000
Cost Allocations - Water	$750,000	$779,000	$810,000	$842,000	$875,000
Utilities	$6,000	$6,000	$6,000	$7,000	$7,000
Total Operating Expenses	$3,195,000	$3,331,000	$3,474,000	$3,623,000	$3,777,000
Debt Service					
Existing Debt	$565,000	$833,000	$831,000	$829,000	$827,000
New/Proposed Debt	$0	$0	$0	$0	$0
Total Debt Service	$565,000	$833,000	$831,000	$829,000	$827,000
Other Funding					
Transfers					
Transfers to/(from) Capital Reserve	$1,500,000	$1,561,000	$1,623,000	$1,688,000	$1,756,000
Transfers to/(from) Rate Stabilization Reserve	$433,400	$0	$0	$0	$0
Transfers to/(from) Emergency Reserve	$818,286	$0	$0	$0	$0
Subtotal Transfers	$2,751,686	$1,561,000	$1,623,000	$1,688,000	$1,756,000
Revenue Offsets					
Other Revenues	($45,000)	($29,000)	($40,000)	($46,000)	($48,000)
Adjustments					
Reserve Funding	($439,686)	$703,000	$756,000	$601,000	$551,000
Adjustment for Mid-Year Increase	$142,000	$0	$0	$0	$0
Subtotal Adjustments	($297,686)	$703,000	$756,000	$601,000	$551,000
Total Other Funding	$2,409,000	$2,235,000	$2,339,000	$2,243,000	$2,259,000
Revenue Requirement from Rates	**$7,411,000**	**$7,708,000**	**$8,016,000**	**$8,416,000**	**$8,668,000**

Define Cost Components

The utility incurs costs to accommodate total water demand throughout the year. Therefore, to determine the most appropriate way to recover the utility's expenses, cost components are identified to allocate expenses based on how they are incurred. The cost components shown in Figure 11 reflect the cost components used for this Study.

Figure 11: Water Cost Components



Account Services – Fixed expenses that do not necessarily fluctuate based on usage or meter size. These expenses include expenses incurred based on having an account.
Meter Capacity – Fixed expenses associated with operating the system.
Capital – Dedicated funding for a portion of the City's CIP.
Groundwater – Expenses associated with groundwater production associated with the City's 940 AF of water rights.
Purchased Water – Expenses associated with purchased water costs from SGVMWD or the Joint Well Facility, including electrical costs for pumping.
Delivery – Operating expenses of the water system associated with conveying water to customers throughout the year. These costs tend to vary with the total water used.

Allocate Expenses to Cost Components

The analysis herein establishes cost components for developing fixed charges and variable rates. When allocating expenses to the defined costs components, it is important to identify which expenses were allocated to fixed versus variable or split between both fixed and variable. The distribution of expenses to the cost components should be straight-forward to ensure the method of apportionment is **understandable** and easily **correlates to how expenses are incurred**.

Table 23 summarizes the percent allocation of water supply revenue requirements to the cost components, and Table 24 uses the percent allocations in Table 23 to allocate expenses in dollars to each cost component.

Table 23: Water Supply Allocation to Cost Components (%)

Water Supply Costs	Methodology / Allocation Basis	Cost Components: Account Services	Meter Capacity	Capital	Groundwater	Purchased Water	Delivery	Total
Purchased Water Costs								
SGVMWD	Specific	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Joint Well Facility	Specific	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Electrical Costs								
Solar Credits	Specific	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%
SGVMWD	Specific	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Joint Well Facility	Specific	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Groundwater	Specific	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%

Table 24: Water Supply Allocation to Cost Components ($)

Water Supply Costs	Methodology / Allocation Basis	Cost Components: Account Services	Meter Capacity	Capital	Groundwater	Purchased Water	Delivery	Total
Purchased Water Costs								
SGVMWD	Specific	$0	$0	$0	$0	$588,000	$0	$588,000
Joint Well Facility	Specific	$0	$0	$0	$0	$0	$0	$0
Electrical Costs								
Solar Credits	Specific	$0	$0	$0	($38,000)	$0	$0	($38,000)
SGVMWD	Specific	$0	$0	$0	$0	$395,000	$0	$395,000
Joint Well Facility	Specific	$0	$0	$0	$0	$0	$0	$0
Groundwater	Specific	$0	$0	$0	$297,000	$0	$0	$297,000
Total Allocation ($)		**$0**	**$0**	**$0**	**$259,000**	**$983,000**	**$0**	**$1,242,000**

Table 25 summarizes the percent allocation of operating expenses to the cost components, and Table 26 uses the percent allocations in Table 25 to allocate expenses in dollars to each cost component.

Table 25: Water Operating Expense Allocation to Cost Components (%)

Operating Expenses	Methodology / Allocation Basis	Cost Components: Account Services	Meter Capacity	Capital	Groundwater	Purchased Water	Delivery	Total
Personnel Services - Finance	Specific	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Personnel Services - Water	Specific	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
Purchased Services - Finance	Specific	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Purchased Services - Water	Specific	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
Purchased Materials - Finance	Specific	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Purchased Materials - Water	Specific	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
Cost Allocations - Finance	Specific	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Cost Allocations - Admininstrative	Specific	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Cost Allocations - Water	Specific	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Utilities	Specific	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%

Table 26: Water Operating Expense Allocation to Cost Components ($)

Operating Expenses	Methodology / Allocation Basis	Cost Components: Account Services	Meter Capacity	Capital	Groundwater	Purchased Water	Delivery	Total
Personnel Services - Finance	Specific	$516,000	$0	$0	$0	$0	$0	$516,000
Personnel Services - Water	Specific	$0	$0	$0	$0	$0	$668,000	$668,000
Purchased Services - Finance	Specific	$13,000	$0	$0	$0	$0	$0	$13,000
Purchased Services - Water	Specific	$0	$0	$0	$0	$0	$504,000	$504,000
Purchased Materials - Finance	Specific	$33,000	$0	$0	$0	$0	$0	$33,000
Purchased Materials - Water	Specific	$0	$0	$0	$0	$0	$375,000	$375,000
Cost Allocations - Finance	Specific	$38,000	$0	$0	$0	$0	$0	$38,000
Cost Allocations - Admininstrative	Specific	$292,000	$0	$0	$0	$0	$0	$292,000
Cost Allocations - Water	Specific	$0	$750,000	$0	$0	$0	$0	$750,000
Utilities	Specific	$6,000	$0	$0	$0	$0	$0	$6,000
Total Allocation ($)		**$898,000**	**$750,000**	**$0**	**$0**	**$0**	**$1,547,000**	**$3,195,000**
O&M Allocation (%)		*28.1%*	*23.5%*	*0.0%*	*0.0%*	*0.0%*	*48.4%*	*100.0%*

The Debt Service revenue requirements are shown as a separate section to identify the existing debt obligation of the water utility; however, debt service payments are part of the City's operating budget. Therefore, Debt Service is allocated based on the operating expense percentages derived at the bottom of Table 26. Table 27 identifies the percent allocation of the debt expense to the cost components, and Table 28 reflects the debt expense in dollars.

Table 27: Water Debt Service Allocation to Cost Components (%)

Debt Service	Methodology / Allocation Basis	Cost Components: Account Services	Meter Capacity	Capital	Groundwater	Purchased Water	Delivery	Total
Existing Debt	O&M Allocation	28.1%	23.5%	0.0%	0.0%	0.0%	48.4%	100.0%
New/Proposed Debt	O&M Allocation	28.1%	23.5%	0.0%	0.0%	0.0%	48.4%	100.0%

Table 28: Water Debt Service Allocation to Cost Components ($)

Debt Service	Methodology / Allocation Basis	Cost Components: Account Services	Meter Capacity	Capital	Groundwater	Purchased Water	Delivery	Total
Existing Debt	O&M Allocation	$158,801	$132,629	$0	$0	$0	$273,570	$565,000
New/Proposed Debt	O&M Allocation	$0	$0	$0	$0	$0	$0	$0
Total Allocation ($)		**$158,801**	**$132,629**	**$0**	**$0**	**$0**	**$273,570**	**$565,000**

Other Funding includes transfers, other revenues, reserve funding, and mid-year adjustment. Transfers to the Capital reserve are specifically allocated to the Capital cost component. All remaining items under "Other Funding" are allocated based on O&M percentages derived in Table 26. Table 29 summarizes the percent allocation to the cost components, and Table 30 uses the percent allocations in Table 29 to allocate other funding in dollars to each cost component. Table 31 summarizes the revenue requirement derived in Table 22 by cost component.

Table 29: Water Other Funding to Cost Components (%)

Other Funding	Methodology / Allocation Basis	Cost Components: Account Services	Meter Capacity	Capital	Groundwater	Purchased Water	Delivery	Total
Transfers								
Transfers (to)/from Capital Reserve	Specific	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%
Transfers (to)/from Rate Stabilization Reserve	O&M Allocation	28.1%	23.5%	0.0%	0.0%	0.0%	48.4%	100.0%
Transfers (to)/from Emergency Reserve	O&M Allocation	28.1%	23.5%	0.0%	0.0%	0.0%	48.4%	100.0%
Revenue Offsets								
Other Revenues	O&M Allocation	28.1%	23.5%	0.0%	0.0%	0.0%	48.4%	100.0%
Adjustments								
Reserve Funding	O&M Allocation	28.1%	23.5%	0.0%	0.0%	0.0%	48.4%	100.0%
Adjustment for Mid-Year Increase	O&M Allocation	28.1%	23.5%	0.0%	0.0%	0.0%	48.4%	100.0%

Table 30: Water Other Funding Allocation to Cost Components ($)

Other Funding	Methodology / Allocation Basis	Cost Components: Account Services	Meter Capacity	Capital	Groundwater	Purchased Water	Delivery	Total
Transfers								
Transfers (to)/from Capital Reserve	*Specific*	$0	$0	$1,500,000	$0	$0	$0	$1,500,000
Transfers (to)/from Rate Stabilization Reserve	*O&M Allocation*	$121,813	$101,737	$0	$0	$0	$209,850	$433,400
Transfers (to)/from Emergency Reserve	*O&M Allocation*	$229,991	$192,086	$0	$0	$0	$396,209	$818,286
Revenue Offsets								
Other Revenues	*O&M Allocation*	($12,648)	($10,563)	$0	$0	$0	($21,789)	($45,000)
Adjustments								
Reserve Funding	*O&M Allocation*	($123,580)	($103,213)	$0	$0	$0	($212,894)	($439,686)
Adjustment for Mid-Year Increase	*O&M Allocation*	$39,911	$33,333	$0	$0	$0	$68,756	$142,000
Total Allocation ($)		**$255,487**	**$213,380**	**$1,500,000**	**$0**	**$0**	**$440,132**	**$2,409,000**

Table 31: FY 2024 Water Cost-of-Service Requirements by Cost Component

Revenue Requirement		Fixed Components: Account Services	Meter Capacity	Capital	Variable Components – Water Supply: Groundwater	Purchased Water	Delivery	Total
Water Supply Costs	**Table 25**	$0	$0	$0	$259,000	$983,000	$0	$1,242,000
Operating Expenses	**Table 27**	$898,000	$750,000	$0	$0	$0	$1,547,000	$3,195,000
Debt Service	**Table 29**	$158,801	$132,629	$0	$0	$0	$273,570	$565,000
Other Funding	**Table 31**	$255,487	$213,380	$1,500,000	$0	$0	$440,132	$2,409,000
COS Requirements		**$1,312,289**	**$1,096,009**	**$1,500,000**	**$259,000**	**$983,000**	**$2,260,702**	**$7,411,000**

A separate cost-of-service analysis was completed using the FY 2027 revenue requirements. This additional analysis was done only in FY 2027 due to the change in purchased water supplies in that year. The total revenue requirements by cost component for FY 2027 can be found in Appendix B-1. The same approach shown for FY 2024 was used for FY 2027 and all related tables are included, reflecting that year's revenue requirement.

Rate Design – Water Utility

Develop Units of Service

Unit rates for the cost components are derived by spreading the corresponding revenue requirements over appropriate units of service (distribution basis). This approach provides a clear connection between costs incurred and the proportionate share attributable to each corresponding meter, tier, and customer account. When designing rates, the most critical component is connecting the proposed rates to the costs incurred, resulting in a rate structure that is cost-based and in compliance with Proposition 218. The previous section summarized costs by expense category and then allocated them to cost components based on how each cost is incurred. The next step in designing rates is to apportion each cost component to customers in relation to their use of the system and facilities. The method of apportionment considers each customer's share of system costs and is reflected by the units of service used to equitably distribute the cost components to each customer account. The distribution basis varies by cost component and includes Annual Bills, Meter Equivalents (MEs), which reflect demand placed on the system based on meter size, total water sales, and usage by tier.

For the cost-of-service analysis and future customer bills, the City performed an audit on its new meter inventory from the meter replacement program that was completed over the last few years. The audit ensured that the new meters installed for each connection were captured correctly within the City's separate billing system. Some accounts received different sized meters and the new meter inventory is identified in Table 32.

Each meter size was assigned an equivalency factor using the flow characteristics of a 3/4" meter. Based on discussion with staff regarding the City's meter inventory, each meter size was assigned an equivalency factor based on the 'flow characteristics' of the meter types used by the City. The safe maximum operating flow capacity for these meter types, as identified in the AWWA M1 Manual, 6th Edition, Table B-2, were used for determining total meter equivalencies when compared to a ≤ 3/4" meter.

The safe maximum operating flow capacity for each meter was divided by the 3/4" meters' safe operating flow capacity of 30 gallons per minute (gpm) to determine the equivalent meter ratio. In other words, the calculations convert all larger sized meters to an equivalent number of 3/4" meters based on the safe operating flow capacity of 30 gpm. The Capacity Ratio represents the potential flow through each meter size compared to the flow through the base 3/4" meter to establish parity between meter sizes. Annual MEs are determined by multiplying the number of meters by the Capacity Ratio and then multiplying the result by the billing periods in a year (12 billing periods). Table 32 summarizes the units of service related to Annual Bills and Annual MEs.

Table 32: Water Accounts and Meter Equivalents

Accounts & Meter Equivalents						
Meter Size	AWWA Capacity (gpm) [A]	Capacity Ratio [B] = A ÷30	Accounts [C]	Meter Equivalents [D] = B x C	Annual Bills [E] = B x 12	Annual ME's [F] = D x 12
≤3/4"	30	1.00	2,733	2,733	32,796	32796
1"	50	1.67	688	1,147	8,256	13760
1 1/2"	100	3.33	238	793	2,856	9520
2"	160	5.33	100	533	1,200	6400
3"	350	11.67	7	82	84	980
4"	630	21.00	1	21	12	252
Total			3,767	5,309	45,204	63,708

Total usage by customer class and tier must be known to derive the units of service for allocating variable costs. The Tier 1 definition is based on the amount of available groundwater . Each customer account will receive a proportionate share of the groundwater rights in Tier 1 (8 HCF). The Tier 1 definition was determined by dividing the amount of groundwater available, net of water loss, by the Annual Bills (accounts x 12 billing periods) shown in Table 32. Tier definitions were rounded up to the nearest whole HCF. Table 33 shows the proposed tier definitions.

Table 33: Water Proposed Tier Definitions (HCF)

Tier Definitions		
Groundwater Allocation		
Groundwater Available	Appendix A	940 AF
Water Loss		11.2%
Groundwater Available after Water Loss		835 AF
Converted to HCF (multiplied by 435.6)		363,604
÷ Annual Bills	Table 32	45,204
Groundwater Allocation per Account		**8.0 HCF**
Tier Definitions		
All Customers		
Tier 1		0 - 8 HCF
Tier 2		>8 HCF

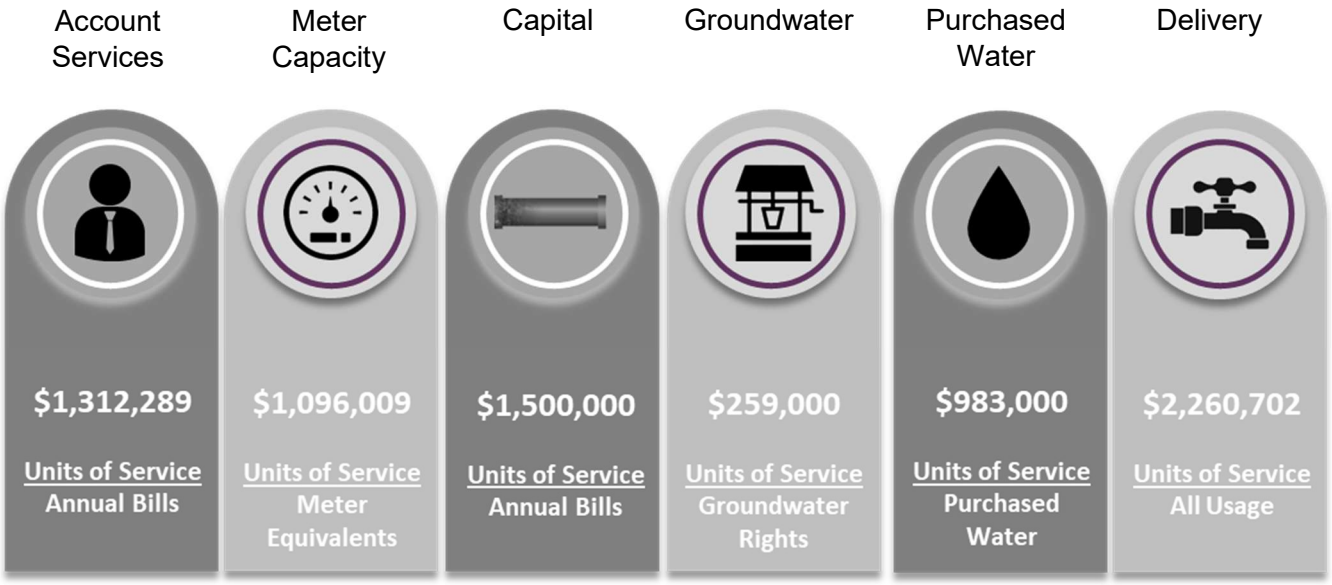
The projected Tier 1 usage was calculated by multiplying the number of Annual Bills (Table 32) by the Tier 1 allocation of 8 HCF in Table 33. The remaining usage then falls into Tier 2. Table 34 provides the projected usage for FY 2024 from Table 11 broken out by proposed tiers.

Table 34: Water Projected Usage by Tier (HCF)

Projected Usage by Tier	
Customer Class / Tier	Projected Usage (HCF)
All Customers	
Tier 1	363,604
Tier 2	496,706
Total	**860,310**

With the units of service shown in Table 32 and Table 34, we can select the appropriate distribution basis for each cost component. Figure 12 identifies the total revenue requirements by cost component from Table 31 and the corresponding units of service.

Figure 12: Water Distribution Basis and Units of Service by Cost Component



Using the revenue requirements, the cost-of-service allocates expenses to customers based on the service demands that each place on the system (cost causation). This approach was repeated for FY 2027 revenue requirements (as shown in Appendix B-2) and ensures that each customer proportionately shares in the financial obligation of the water utility. For the following unit rate computations for each cost component, unit rates were rounded up to the nearest penny.

Fixed Cost Recovery

Account Services

Each customer incurs Account Services costs regardless of the type of land use, meter size, or total amount of water used. These costs should be spread equally across all accounts. This is achieved by using the distribution basis of Annual Bills. Annual Bills are determined by multiplying the total accounts by the number of billing periods over the fiscal year (12 billing periods). Therefore, the revenue requirement for Account Services is apportioned based on the Annual Bills (Table 32) to determine the monthly unit cost-of-service shown in Table 35.

Table 35: FY 2024 Water Account Services Monthly Unit Rate

Account Services Component Unit Rate	
Revenue Requirement	$1,312,289
÷ Annual Bills	45,204
Monthly Unit Rate	**$29.04**

Meter Capacity

The Meter Capacity component includes operational costs, debt and a portion of system-wide operations capital and reserve funding. The revenue requirement for Meter Capacity is apportioned based on meter size. Larger sized meters can generate a greater demand on the system from the amount of potential water flow that may pass through the meter in gpm. The revenue requirement for Meter Capacity is apportioned to meter size as represented by Annual MEs as shown in Table 36.

Table 36: FY 2024 Water Meter Capacity Monthly Unit Rate

Meter Capacity Component Unit Rate	
Revenue Requirement	$1,096,009
÷ Annual ME's	63,708
Monthly Unit Rate	**$17.21**

Capital

The Capital component includes costs for a portion of ongoing capital costs. The revenue requirement for Capital is apportioned to meter size to account for the potential demand each meter can place on infrastructure, as represented by Annual MEs shown in Table 41.

Table 37: FY 2024 Water Capital Monthly Unit Rate

Capital Component Unit Rate	
Revenue Requirement	$1,500,000
÷ Annual ME's	63,708
Monthly Unit Rate	**$23.55**

Variable Cost Recovery

The remaining cost components are recovered through the variable rates. The proposed variable rate structure includes tiers for all customers.

Water Supply

The available water supplies are groundwater and purchased water from SGVMWD or the Joint Well facility. The City has groundwater rights of 940 AF per year.

Supplemental water is required to serve total water demand. Currently, the City purchases water from the SGVMWD. However, in FY 2027, the Joint Well Facility with the City of Arcadia is expected to be online, and the City will purchase water from this new source instead of SGVMWD.

Tiered rates reflect the different water supply costs by source to serve each tier, with the groundwater rights serving Tier 1 followed by the more expensive purchased water to serve Tier 2. The City's water loss is 11.2%, which is caused by evaporation, exfiltration, and leaks/breaks in the distribution system. The water loss percentage was applied to the water production to derive the net amount of each water supply available to serve customer demands. Table 38 summarizes the unit rates for each water supply available to the City for FY 2024.

Table 38: FY 2024 Water Supply Unit Rates

Water Supply Unit Rates						
Water Supplies	Production / Purchases (AF) [A]	Water Loss [B]	Net Water Supply (AF) [C] = A x (1-B)	Available Supply (HCF) [D] = C x 435.6	Revenue Requirement [E]	Unit Rate [F] = E ÷ D
Groundwater	940	11.2%	835	363,604	$259,000	$0.71
Purchased Water	1,284	11.2%	1,140	496,706	$983,000	$1.98
	2,224		1,975	860,310	$1,242,000	

Unit rates must be determined for each tier that corresponds to the water source serving the usage within each tier. Table 39 summarizes the amount of water - by source - used to serve total water demand in each tier for FY 2024. The corresponding unit rate is rounded up to the nearest penny. Groundwater is used to cover the total demand in Tier 1.

Table 39: FY 2024 Water Supply Unit Rates by Tier

Tier Water Supply Unit Rates							
Water Supply Allocation	Projected Usage (HCF) [A]	GW Allocation [B]	Purchased Water Allocation [C]	Groundwater [D] = B x $.71	Purchased Water [E] = C x $1.98	Total Cost [F] = D + E	Unit Rate [G] = F ÷ A
Available Supply		Table 38		*363,604*	*496,706*		
Unit Cost				*$0.71*	*$1.98*		
All Customers							
Tier 1	363,604	363,604	0	$259,000	$0	$259,000	**$0.71**
Tier 2	496,706	0	496,706	$0	$983,000	$983,000	**$1.98**
Total All Customers	860,310	363,604	496,706	$259,000	$983,000	$1,242,000	

Delivery

Delivery costs are incurred based on the total volume of water produced and delivered to customers throughout the year. Therefore, the revenue requirement for Delivery is apportioned based on the projected total usage identified in Table 34 to determine the unit cost-of-service, irrespective of tier, as shown in Table 40.

Table 40: FY 2024 Water Delivery Cost Unit Rate per HCF

Delivery Component Unit Rate	
Revenue Requirement	$2,260,702
÷ All Usage	860,310
Monthly Unit Rate	$2.63

FY 2024 Cost-of-Service Rates – Water Utility

Proposed FY 2024 Monthly Fixed Charges

Table 41 reflects the combined proposed base fixed charge of Account Services and Meter Capacity for FY 2024. Account Services are constant for all meter sizes. Meter Capacity is multiplied by the corresponding Capacity Ratios of each meter size to derive the FY 2024 fixed charges. The fixed charges were determined for FY 2027 using the same approach shown for FY 2024 (Appendix B-2).

Table 41: FY 2024 Water Monthly Base Fixed Charges by Meter Size

Base Fixed Charge					
Meter Size	Capacity Ratio [A]	Meters	Account Services [B] = $29.04	Meter Capacity [C] = $17.21 x A	FY 2024 Proposed Base Fixed Charge [D] = B + C
≤3/4"	1.00	2,733	$29.04	$17.21	**$46.25**
1"	1.67	688	$29.04	$28.68	**$57.72**
1 1/2"	3.33	238	$29.04	$57.37	**$86.41**
2"	5.33	100	$29.04	$91.79	**$120.83**
3"	11.67	7	$29.04	$200.78	**$229.82**
4"	21.00	1	$29.04	$361.41	**$390.45**

Table 43 shows the Infrastructure fixed charge. The Capital component is multiplied by the corresponding Capacity Ratios of each meter size to derive the FY 2024 infrastructure charges. The infrastructure charges were determined for FY 2027 using the same approach shown for FY 2024 (Appendix B-2).

Table 42: FY 2024 Water Monthly Infrastructure Fixed Charges by Meter Size

Infrastructure Fixed Charge				
Meter Size	Capacity Ratio [A]	Meters	Capital [B] = $23.55 x A	FY 2024 Proposed Infrastructure Fixed Charge
≤3/4"	1.00	2,733	$23.55	**$23.55**
1"	1.67	688	$39.25	**$39.25**
1 1/2"	3.33	238	$78.50	**$78.50**
2"	5.33	100	$125.60	**$125.60**
3"	11.67	7	$274.75	**$274.75**
4"	21.00	1	$494.55	**$494.55**

Proposed FY 2024 Variable Rates

The proposed variable rates for FY 2024 are shown in Table 43 for each tier, reflecting the combined rate components of Water Supply and Delivery. The variable rates were determined for FY 2027 using the same approach shown for FY 2024 (Appendix B-2).

Table 43: FY 2024 Water Variable Rates by Tier (HCF)

Variable Rates					
Customer Class & Tier	Tier Definitions (HCF)	Projected Usage (HCF)	Water Supply [A]	Delivery [B]	FY 2024 Proposed Variable Rate [C] = A = B
All Customers					
Tier 1	0 - 8	363,604	$0.71	$2.63	**$3.34**
Tier 2	>8	496,706	$1.98	$2.63	**$4.61**

Wastewater Utility

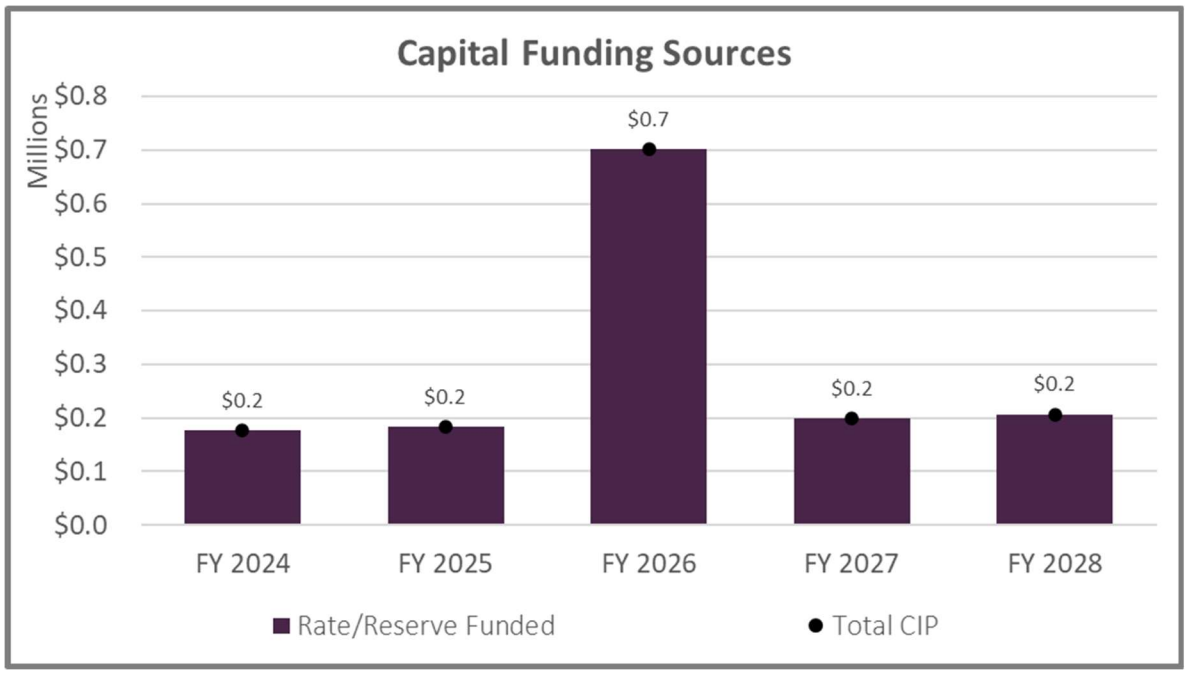
Wastewater System

The wastewater collection system is comprised of 32 miles of gravity pipelines and serves an estimated population of 11,100. Flows from the wastewater collection system are discharged directly or through the adjacent City of Arcadia into the Los Angeles County Sanitation District (LACSD) facilities for treatment and disposal.

Figure 13: Wastewater System

The annual depreciation of the wastewater collection system is $165k, but the annual system reinvestment has been less in recent years. Therefore, the wastewater system's depreciation value, inflated annually by the 20-City Engineer's News Record – Construction Cost Index, was used as the annual amount of capital spending. In FY 2026, the City anticipates that it will purchase a new Jetter Truck, which was added to that year's capital needs (indexed depreciation + Jetter Truck). The wastewater capital spending will average just under $300k annually over the Rate Setting Period. Figure 14 shows the wastewater capital spending plan through FY 2028.

Figure 14: Wastewater Capital Improvement Plan



Customers

The City serves 4,913 wastewater billing units, comprised of 4,758 residential dwelling units and 155 Commercial and Institutional (collectively Non-Residential) accounts, totaling 58,956 annual wastewater billing units, as shown in Table 44.

Table 44: Wastewater Billing Units

Wastewater Billing Units		
Customer Class	Wastewater Billing Units [A]	Annual Wastewater Billing Units [B] = A x 12
Residential	4,758	57,096
Commercial	115	1,380
Institutional	40	480
Total	**4,913**	**58,956**

The existing wastewater rate structure consists of a fixed monthly charge per residential dwelling unit for Residential customers, a fixed monthly charge per account for Non-Residential customers (Table 45), and a variable rate charged for Non-Residential water usage (Table 46).

Table 45: Existing Wastewater Monthly Fixed Charges

Fixed Charges ($/Month)		
Customer Class		Existing
Residential	*per Dwelling Unit*	$19.90
Commercial	*per Account*	$16.15
Institutional	*per Account*	$16.15

Table 46: Existing Wastewater Variable Rate

Variable Rates ($/HCF)	
Customer Class	Existing
Commercial	$0.73
Institutional	$0.73

Financial Plan Overview – Wastewater Utility

Financial Planning Assumptions

Developing a long-term financial plan requires understanding the utility's financial position by evaluating existing revenue streams, ongoing expenses, how those expenses will change over time, new strategic objectives, and reserve policies. These considerations require certain assumptions for projecting revenues, expenses, and expected ending fund balances. Table 47 identifies assumptions used for forecasting revenues, and Table 48 identifies assumptions used for forecasting increases in expenses through the Rate Setting Period.

Table 47: Wastewater Assumptions for Forecasting Revenues

Revenue Assumptions					
Key Assumptions	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Revenue Escalation					
Reserve Interest	1.5%	1.5%	1.5%	1.5%	1.5%
Account Growth					
All Customers	0.0%	0.0%	0.0%	0.0%	0.0%
Residential Dwelling Units	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**
Residential	4,758	4,758	4,758	4,758	4,758
Non-Residential Accounts	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**
Commercial	115	115	115	115	115
Institutional	40	40	40	40	40
Total Non-Residential Accounts	**155**	**155**	**155**	**155**	**155**
Consumption by Customer Class	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**
Commercial	30,459	30,459	30,459	30,459	30,459
Institutional	19,032	19,032	19,032	19,032	19,032
Total Consumption by Customer Class (HCF)	**49,491**	**49,491**	**49,491**	**49,491**	**49,491**

Table 48: Wastewater Assumptions for Forecasting Expense Requirements[5]

Expense Assumptions							
Key Assumptions	*Source:*		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Expenditure Escalation							
Benefits			3.0%	3.0%	3.0%	3.0%	3.0%
Capital Construction	*ENR 20-City*	*5-Year Average*	6.9%	3.9%	3.9%	3.9%	3.9%
General Costs	*CPI - LA (BLS)*	*5-Year Average*	6.2%	4.0%	4.0%	4.0%	4.0%
LiUNA Pension			5.0%	5.0%	5.0%	5.0%	5.0%
Salaries			15.0%	5.0%	5.0%	5.0%	5.0%
PERS			15.0%	5.0%	5.0%	5.0%	5.0%

[5] Capital and General Costs for FY 2024 were increased to 6.9% and 6.2%, respectively, to account for recent annual increases due to inflation. Outer years reduce to 3.9% and 4.0%, reflecting the 5-year average of the Engineering News-Record – Construction Cost index and the Los Angeles Consumer Price Index, respectively.

Current Financial Position

Revenues

Based on the forecasting assumptions, fixed revenues were calculated by multiplying existing fixed charges (Table 45) by Billing Units (Residential Dwelling Units and Non-Residential Accounts in Table 47) over twelve billing periods. Variable revenues were calculated using the variables rates shown in Table 46 and water usage shown in Table 47. Table 49 shows the calculated revenues for FY 2024 through the Rate Setting Period. Table 50 summarizes calculated rate revenues (rounded to thousands) and other non-rate revenues available through the Rate Setting Period.

Table 49: Wastewater Calculated Rate Revenues

Calculated Rate Revenue					
Fixed Revenue	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**
Billing Unit Charge					
Residential	$1,136,210	$1,136,210	$1,136,210	$1,136,210	$1,136,210
Commercial	$22,287	$22,287	$22,287	$22,287	$22,287
Institutional	$7,752	$7,752	$7,752	$7,752	$7,752
Total Fixed Revenue	**$1,166,249**	**$1,166,249**	**$1,166,249**	**$1,166,249**	**$1,166,249**
Variable Revenue	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**
Commercial	$22,235	$22,235	$22,235	$22,235	$22,235
Institutional	$13,893	$13,893	$13,893	$13,893	$13,893
Total Variable Rate Revenue	**$36,128**	**$36,128**	**$36,128**	**$36,128**	**$36,128**
Total Rate Revenue	**$1,202,378**	**$1,202,378**	**$1,202,378**	**$1,202,378**	**$1,202,378**

Table 50: Wastewater Projected Revenues

Projected Revenues					
Revenue Summary	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**
Rate Revenues					
Fixed Revenue	$1,166,000	$1,166,000	$1,166,000	$1,166,000	$1,166,000
Variable Revenue	$36,000	$36,000	$36,000	$36,000	$36,000
Subtotal Rate Revenues	$1,202,000	$1,202,000	$1,202,000	$1,202,000	$1,202,000
Other Revenues	$11,000	$5,000	$5,000	$4,000	$2,000
Total Revenues	**$1,213,000**	**$1,207,000**	**$1,207,000**	**$1,206,000**	**$1,204,000**

Expenses

The FY 2023 budget was used as the utility's baseline expenses and adjusted over the Rate Setting Period based on the escalation factors shown in Table 48. Table 51 provides projected O&M expenses through the Rate Setting Period (rounded to thousands). Each expense category includes detailed line-item expenditures that were discussed with staff to determine the appropriate escalation factor to use for forecasting how costs will increase over time.

Table 51: Wastewater Projected O&M Expenses

Projected Expenses					
O&M Expenses	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Operating Expenses					
Personnel Services - Finance	$293,000	$307,000	$321,000	$336,000	$351,000
Personnel Services - Sewer	$459,000	$479,000	$501,000	$524,000	$548,000
Purchased Services - Finance	$29,000	$31,000	$32,000	$33,000	$34,000
Purchased Services - Sewer	$34,000	$36,000	$37,000	$38,000	$40,000
Purchased Materials - Sewer	$13,000	$13,000	$14,000	$14,000	$15,000
Cost Allocations - Finance	$10,000	$10,000	$11,000	$11,000	$12,000
Cost Allocations - Sewer	$361,000	$375,000	$390,000	$405,000	$421,000
Subtotal Operating Expenses	$1,199,000	$1,251,000	$1,306,000	$1,361,000	$1,421,000
Total Expenses	**$1,199,000**	**$1,251,000**	**$1,306,000**	**$1,361,000**	**$1,421,000**

Reserves

Currently, the City maintains a wastewater operating fund. As part of Best Management Practices of utilities, it is recommended that the City establish Operating, Capital, and Emergency Reserves for the wastewater utility. A Rate Stabilization Reserve is not necessary for wastewater as over 95% of wastewater's revenue recovery is fixed with negligible volatility in revenue. These reserves help mitigate risks to the utility by ensuring sufficient cash is on hand for daily operations and to fund annual system improvements, including unforeseen system failures. Table 52 summarizes the recommended minimum reserve requirements and the ideal funding targets of each proposed reserve.

Table 52: Wastewater Reserve Requirements and Targets

Reserve	Minimum Requirement	Reserve Target
Operating	90 days of operating expenses	120 days of operating expenses
Capital	1 year of CIP costs based on 5-year average	2 years of CIP costs based on 5-year average
Emergency	3% of System Assets	5% of System Assets

The reserve balance as of July 1, 2022, equaled approximately $1.9M.

Financial Outlook at Existing Rates

Calculating revenue using existing rates and projecting expenses helps determine the current financial health of the utility. Revenues from current rates will not cover operating expenses through the Rate Setting Period. The wastewater utility is projected to end FY 2024 with a positive net operating income of $14k which will become a net operating deficit in FY 2025 increasing annually up to (-$217k) by FY 2028. Therefore, with an operating deficit, reserves would need to cover the operating shortfall as well as wastewater's capital spending needs. Reserves would be below the minimum target in FY 2027 and be fully depleted in FY 2028. Table 53 forecasts existing revenues and expenses through the Rate Setting Period. Table 54 identifies reserve transfers and reserves activity, with projected FY 2024 starting reserve balances shown for each reserve.

Table 53: Wastewater Financial Plan at Existing Rates

Financial Plan at Existing Rates						
Revenue		**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**
Rate Revenues						
Fixed Revenue	Table 50	$1,166,000	$1,166,000	$1,166,000	$1,166,000	$1,166,000
Variable Revenue		$36,000	$36,000	$36,000	$36,000	$36,000
Total Rate Revenues		$1,202,000	$1,202,000	$1,202,000	$1,202,000	$1,202,000
Other Revenues	Table 50	$11,000	$5,000	$5,000	$4,000	$2,000
Total Revenues		**$1,213,000**	**$1,207,000**	**$1,207,000**	**$1,206,000**	**$1,204,000**
O&M Expenses		**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**
Operating Expenses						
Personnel Services - Finance	Table 51	$293,000	$307,000	$321,000	$336,000	$351,000
Personnel Services - Sewer		$459,000	$479,000	$501,000	$524,000	$548,000
Purchased Services - Finance		$29,000	$31,000	$32,000	$33,000	$34,000
Purchased Services - Sewer		$34,000	$36,000	$37,000	$38,000	$40,000
Purchased Materials - Sewer		$13,000	$13,000	$14,000	$14,000	$15,000
Cost Allocations - Finance		$10,000	$10,000	$11,000	$11,000	$12,000
Cost Allocations - Sewer		$361,000	$375,000	$390,000	$405,000	$421,000
Subtotal Operating Expenses		$1,199,000	$1,251,000	$1,306,000	$1,361,000	$1,421,000
Total Expenses		**$1,199,000**	**$1,251,000**	**$1,306,000**	**$1,361,000**	**$1,421,000**
Net Operating Income		**$14,000**	**($44,000)**	**($99,000)**	**($155,000)**	**($217,000)**

Table 54: Wastewater Transfers and Reserve Activity at Existing Rates

Line No.	Transfers & Reserve Activity						
	Operating Fund		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
4	Beginning Balance		$359,014	$373,014	$329,014	$230,014	$75,014
2	Transfers (Net Operating Income)	Table 53	$14,000	($44,000)	($99,000)	($155,000)	($217,000)
3	Transfers from/(to) Capital Reserve		$0	$0	$0	$0	$0
4	**Ending Balance**		**$373,014**	**$329,014**	**$230,014**	**$75,014**	**($141,986)**
	Capital Reserve		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
5	Beginning Balance		$1,501,428	$1,345,990	$1,181,220	$492,355	$299,944
6	Plus:						
7	Transfers from/(to) Operating Fund	*Line 3*	$0	$0	$0	$0	$0
8	Less:						
9	CIP		($176,635)	($183,583)	($701,323)	($198,309)	($206,109)
10	Subtotal Capital Reserve		$1,324,793	$1,162,407	$479,897	$294,046	$93,835
11	Interest Earnings		$21,197	$18,813	$12,458	$5,898	$2,953
12	**Ending Balance**		**$1,345,990**	**$1,181,220**	**$492,355**	**$299,944**	**$96,788**
	Emergency Reserve		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
13	Beginning Balance		$0	$0	$0	$0	$0
14	Direct transfers to/(from) Emergency Reserve		$0	$0	$0	$0	$0
15	**Ending Balance**		**$0**	**$0**	**$0**	**$0**	**$0**
16	**All Reserves - Ending Balance**		**$1,719,004**	**$1,510,234**	**$722,369**	**$374,958**	**($45,198)**

Figure 15 illustrates the operating position of the utility, where O&M expenses are identified with the dashed red trendline, and the horizontal black trendline shows total revenues at existing rates. The bars represent the amount of net operating income available, with grey bars reflecting positive net operating income for capital spending and reserve funding and red bars reflecting an operating deficit absorbed by reserves. Figure 16 reflects the projected ending balances of all reserves after funding operating and capital projects through the Rate Setting Period. All reserves include the Operating, Capital, and Emergency reserves.

Figure 15: Wastewater Current Operating Financial Position

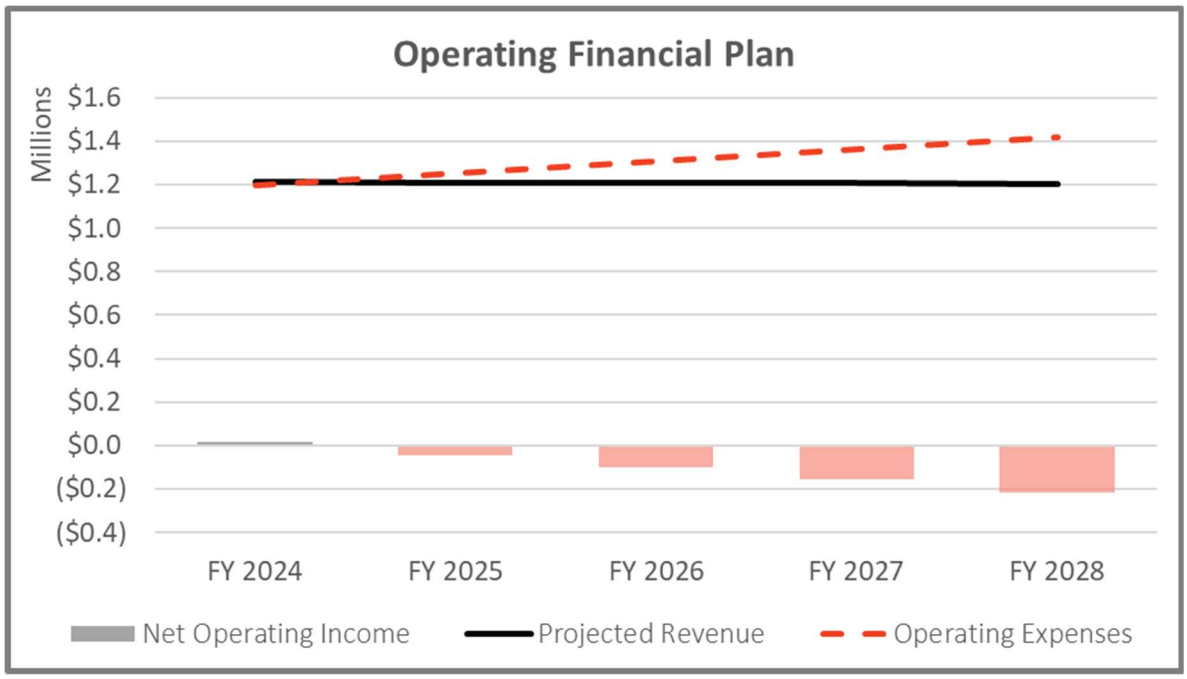
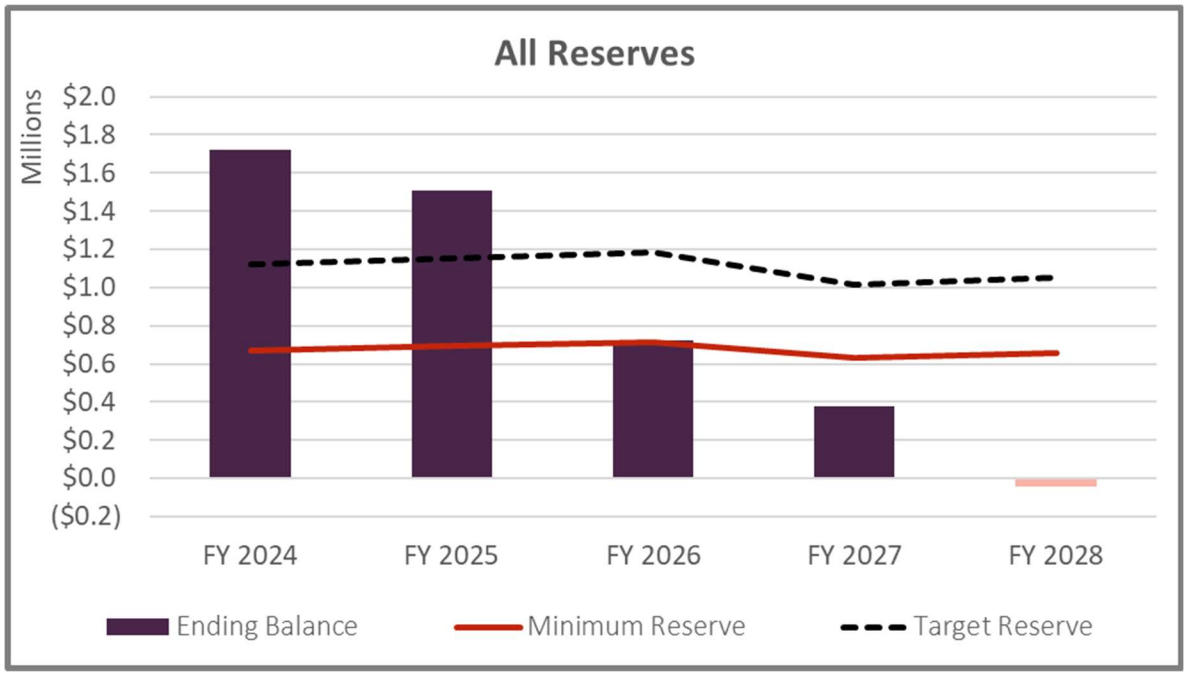


Figure 16: Wastewater Projected Ending Reserves at Existing Rates



Proposed Financial Plan – Wastewater Utility

From the financial outlook at existing rates, a proposed financial plan can be developed to adequately fund the multi-year revenue requirements, while meeting reserve requirements. The proposed financial plan generates approximately $736k in additional revenue over the Rate Setting Period. The additional revenue generates positive net operating income each year to go towards capital spending and satisfy reserve requirements. Table 55 forecasts projected revenues, ***with annual revenue adjustments***, and expenses through FY 2028. Table 56 identifies the projected FY 2024 total starting reserve balances, activity within each reserve (including net operating income transfer from Table 55, transfers between reserves, and annual CIP), and projected ending balances for each fiscal year of the Rate Setting Period.

Table 55: Proposed Wastewater Financial Plan

Proposed Financial Plan							
Revenue			FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Rate Revenues							
Fixed Revenue		Table 50	$1,166,000	$1,166,000	$1,166,000	$1,166,000	$1,166,000
Variable Revenue			$36,000	$36,000	$36,000	$36,000	$36,000
Total Rate Revenues			$1,202,000	$1,202,000	$1,202,000	$1,202,000	$1,202,000
Additional Revenue (from revenue adjustments):							
Fiscal Year	Revenue Adjustment	Effective Month					
FY 2024	4.0%	January	$24,000	$48,000	$48,000	$48,000	$48,000
FY 2025	4.0%	July		$50,000	$50,000	$50,000	$50,000
FY 2026	4.0%	July			$52,000	$52,000	$52,000
FY 2027	4.0%	July				$54,000	$54,000
FY 2028	4.0%	July					$56,000
Total Additional Revenue			$24,000	$98,000	$150,000	$204,000	$260,000
Projected Rate Revenue	*(including revenue adjustments)*		**$1,226,000**	**$1,300,000**	**$1,352,000**	**$1,406,000**	**$1,462,000**
Operating Revenues		Table 50	$0	$0	$0	$0	$0
Other Revenues			$11,000	$6,000	$6,000	$7,000	$8,000
Total Revenues			**$1,237,000**	**$1,306,000**	**$1,358,000**	**$1,413,000**	**$1,470,000**
O&M Expenses			FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Operating Expenses							
Personnel Services - Finance		Table 51	$293,000	$307,000	$321,000	$336,000	$351,000
Personnel Services - Sewer			$459,000	$479,000	$501,000	$524,000	$548,000
Purchased Services - Finance			$29,000	$31,000	$32,000	$33,000	$34,000
Purchased Services - Sewer			$34,000	$36,000	$37,000	$38,000	$40,000
Purchased Materials - Sewer			$13,000	$13,000	$14,000	$14,000	$15,000
Cost Allocations - Finance			$10,000	$10,000	$11,000	$11,000	$12,000
Cost Allocations - Sewer			$361,000	$375,000	$390,000	$405,000	$421,000
Subtotal Operating Expenses			$1,199,000	$1,251,000	$1,306,000	$1,361,000	$1,421,000
Total Expenses			**$1,199,000**	**$1,251,000**	**$1,306,000**	**$1,361,000**	**$1,421,000**
Net Operating Income			**$38,000**	**$55,000**	**$52,000**	**$52,000**	**$49,000**

Table 56: Wastewater Proposed Transfers & Reserve Activity

Line No.	Transfers & Reserve Activity						
	Direct Transfers		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
1	Net Operating Income	Table 55	$38,000	$55,000	$52,000	$52,000	$49,000
2	Transfers (to)/from Emergency Reserve		($82,892)	$0	$0	$0	$0
3	**Net Operating Income (after Direct Transfers)**		**($44,892)**	**$55,000**	**$52,000**	**$52,000**	**$49,000**
	Operating Fund		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
4	Beginning Balance		$359,014	$314,121	$369,121	$421,121	$447,452
5	Transfers (Net Operating Income)	*Line 3*	($44,892)	$55,000	$52,000	$52,000	$49,000
6	Transfers from/(to) Capital Reserve		$0	$0	$0	($25,669)	($29,274)
7	**Ending Balance**		**$314,121**	**$369,121**	**$421,121**	**$447,452**	**$467,178**
	Capital Reserve		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
8	Beginning Balance		$1,501,428	$1,345,990	$1,181,220	$492,355	$325,806
9	Plus:						
10	Transfers from/(to) Operating Fund	*Line 6*	$0	$0	$0	$25,669	$29,274
11	Less:						
12	CIP		($176,635)	($183,583)	($701,323)	($198,309)	($206,109)
13	Subtotal Capital Reserve		$1,324,793	$1,162,407	$479,897	$319,716	$148,971
14	Interest Earnings		$21,197	$18,813	$12,458	$6,091	$3,561
15	**Ending Balance**		**$1,345,990**	**$1,181,220**	**$492,355**	**$325,806**	**$152,532**
	Emergency Reserve		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
16	Beginning Balance		$0	$82,892	$82,892	$82,892	$82,892
17	Direct transfers to/(from) Emergency Reserve	*Line 2*	$82,892	$0	$0	$0	$0
18	**Ending Balance**		**$82,892**	**$82,892**	**$82,892**	**$82,892**	**$82,892**
19	**All Reserves - Ending Balance**		**$1,743,004**	**$1,633,234**	**$996,369**	**$856,151**	**$702,602**

The operating position based on the proposed financial plan is identified in Figure 17. Figure 18 shows the capital plan with funding sources. Figure 19 identifies the ending reserve balances after funding capital expenses.

Figure 17: Wastewater Proposed Operating Position

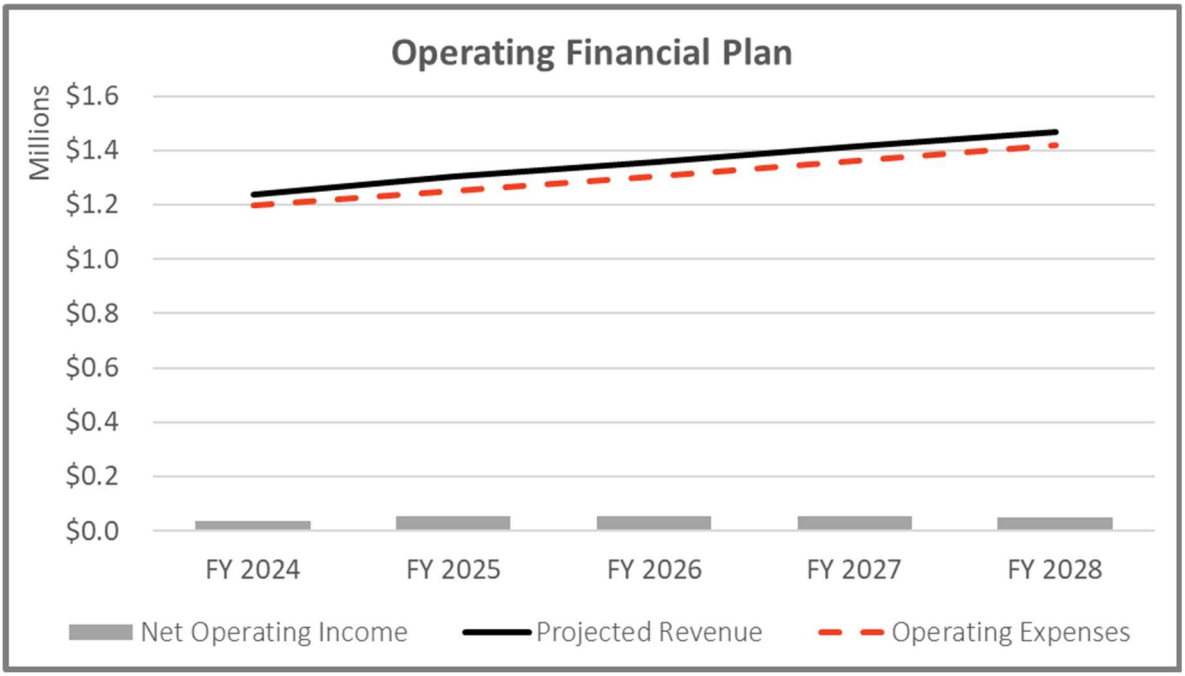


Figure 18: Wastewater Capital Improvement Plan with Funding Sources

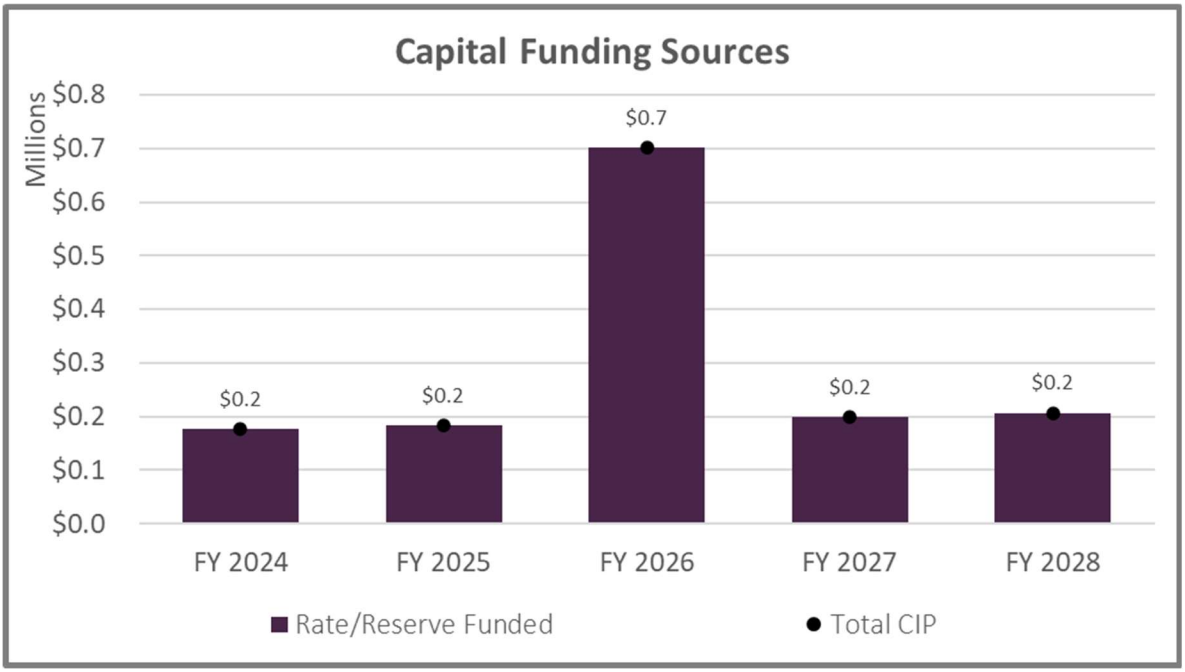
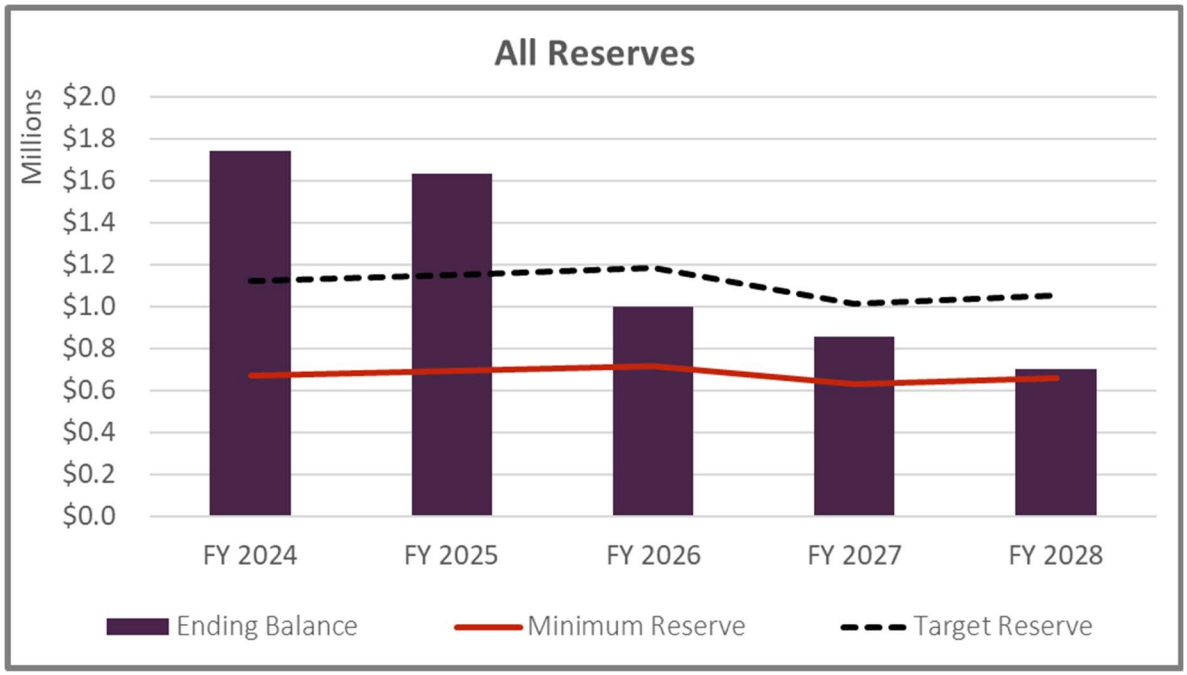


Figure 19: Wastewater Proposed Ending Reserves



Cost-of-Service Analysis – Wastewater Utility

Cost-of-Service Process

The next step in developing wastewater rates is to perform a cost-of-service analysis. Through this process, costs incurred are allocated to customer classes based on their proportional share. As a result, the proposed rates are cost-based and reflect the costs incurred to provide service to customers.

Revenue Requirements

With FY 2024 as the first year of the proposed rate schedule, revenue requirements are determined for FY 2024 and used for the cost-of-service. Revenue requirements include O&M expenses, available offsets from other revenues, annual net operating income, and any mid-year adjustments if rates are implemented after the start of the fiscal year. The proposed revenue adjustments and corresponding rates accumulate the necessary funding over the Rate Setting Period to fund total revenue requirements, including capital replacement, while meeting minimum reserve requirements. The results of the financial plan analysis are summarized in Table 57 and represent the revenue required from rates over the Rate Setting Period.

Table 57: Wastewater Revenue Requirements

Revenue Requirements	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Revenue Requirements	Total	Total	Total	Total	Total
Operating Expenses					
Personnel Services - Finance	$293,000	$307,000	$321,000	$336,000	$351,000
Personnel Services - Sewer	$459,000	$479,000	$501,000	$524,000	$548,000
Purchased Services - Finance	$29,000	$31,000	$32,000	$33,000	$34,000
Purchased Services - Sewer	$34,000	$36,000	$37,000	$38,000	$40,000
Purchased Materials - Sewer	$13,000	$13,000	$14,000	$14,000	$15,000
Cost Allocations - Finance	$10,000	$10,000	$11,000	$11,000	$12,000
Cost Allocations - Sewer	$361,000	$375,000	$390,000	$405,000	$421,000
Total Operating Expenses	$1,199,000	$1,251,000	$1,306,000	$1,361,000	$1,421,000
Other Funding					
Transfers					
Transfers to/(from) Emergency Reserve	$82,892	$0	$0	$0	$0
Revenue Offsets					
Other Revenues	($11,000)	($6,000)	($6,000)	($7,000)	($8,000)
Adjustments					
Reserve Funding	($44,892)	$55,000	$52,000	$52,000	$49,000
Adjustment for Mid-Year Increase	$24,000	$0	$0	$0	$0
Total Adjustments	($20,892)	$55,000	$52,000	$52,000	$49,000
Total Other Funding	$51,000	$49,000	$46,000	$45,000	$41,000
Revenue Requirement from Rates	**$1,250,000**	**$1,300,000**	**$1,352,000**	**$1,406,000**	**$1,462,000**

Define Cost Components

The wastewater cost-of-service requirements were allocated to cost components and then to customers classes to develop cost-based rates in compliance with Proposition 218. The utility incurs costs to accommodate the total flow demand generated by different customer classes. Therefore, to determine the most appropriate way to recover the utility's expenses, cost components are identified and used to allocate expenses based on how they are incurred. Through our review of the revenue requirements and understanding of the wastewater system, the cost-of-service allocation documented in this report is based on total billing units (Residential dwelling units plus Non-Residential accounts) and flow (volume influent in HCF). The City does not treat sewer flows and conveys it to LACSD for treatment and disposal.

The cost components shown in Figure 20 are used within the cost-of-service to allocate costs to customer classes in relation to the demand that each place on the system.

Figure 20: Wastewater Cost Components

Account Services – Fixed expenses related to the collection system that are incurred based on having an account.
Flow – Expenses associated with operating the collection system and conveyance of sewer flows to LACSD.

Allocate Expenses to Cost Components

When allocating expenses to the defined cost components, it is important to have a sound basis as to why an expense was allocated to a certain fixed cost component versus a variable cost component or split between both fixed and variable. The distribution of expenses to the cost components should be straightforward to ensure the method of apportionment is **understandable** and easily **correlates to how expenses are incurred**. A description of each expense category is identified below.

Table 58 summarizes the percent allocation of operating expenses to the cost components with Account Services as a fixed component and Flow as a variable cost component. . Based on the City's review, 20.4% of Personnel Services - Sewer costs were salaries and benefits related to administration. Administration costs should be shared equally across all accounts/billing units because all accounts receive a bill and receive customer support. Table 59 uses the percent allocations in Table 58 to allocate expenses in dollars to each cost component.

Table 58: Wastewater Operating Expense Allocation to Cost Components (%)

		Cost Components		
Operating Expenses	Methodology / Allocation Basis	Account Services	Flow	Total
Personnel Services - Finance	Account Services	100.0%	0.0%	100.0%
Personnel Services - Sewer	Specific	20.4%	79.6%	100.0%
Purchased Services - Finance	Account Services	100.0%	0.0%	100.0%
Purchased Services - Sewer	Flow	0.0%	100.0%	100.0%
Purchased Materials - Sewer	Account Services	100.0%	0.0%	100.0%
Cost Allocations - Finance	Account Services	100.0%	0.0%	100.0%
Cost Allocations - Sewer	Account Services	100.0%	0.0%	100.0%

Table 59: Wastewater Operating Expense Allocation to Cost Components ($)

		Cost Components		
Operating Expenses	Methodology / Allocation Basis	Account Services	Flow	Total
Personnel Services - Finance	*Account Services*	$293,000	$0	$293,000
Personnel Services - Sewer	*Specific*	$93,700	$365,300	$459,000
Purchased Services - Finance	*Account Services*	$29,000	$0	$29,000
Purchased Services - Sewer	*Flow*	$0	$34,000	$34,000
Purchased Materials - Sewer	*Account Services*	$13,000	$0	$13,000
Cost Allocations - Finance	*Account Services*	$10,000	$0	$10,000
Cost Allocations - Sewer	*Account Services*	$361,000	$0	$361,000
Total Allocation ($)		**$799,700**	**$399,300**	**$1,199,000**
O&M Allocation (%)		*66.7%*	*33.3%*	*100.0%*

Other Funding includes other transfers, other revenue, reserve funding, and mid-year adjustments. The mid-year adjustment annualizes the proposed revenue adjustment to account for the time elapsed before new rates take effect to connect to the annual units of service used for deriving rates. All line items under "Other Funding" are allocated based on O&M percentages derived in Table 59 to allocate each line item to the cost components proportionately to how O&M costs were allocated. Table 60 summarizes the percent allocation to the cost components, and Table 61 uses the percent allocations in Table 60 to allocate other funding in dollars to each cost component. Table 62 summarizes the FY 2024 revenue requirement derived in Table 57 by cost component.

Table 60: Wastewater Other Funding to Cost Components (%)

Other Funding	Methodology / Allocation Basis	Cost Components: Account Services	Cost Components: Flow	Total
Transfers				
Transfers (to)/from Emergency Reserve	O&M Allocation	66.7%	33.3%	100.0%
Revenue Offsets				
Other Revenues	O&M Allocation	66.7%	33.3%	100.0%
Adjustments				
Reserve Funding	O&M Allocation	66.7%	33.3%	100.0%
Adjustment for Mid-Year Increase	O&M Allocation	66.7%	33.3%	100.0%

Table 61: Wastewater Other Funding to Cost Components ($)

Other Funding	Methodology / Allocation Basis	Cost Components: Account Services	Cost Components: Flow	Total
Transfers				
Transfers (to)/from Emergency Reserve	*O&M Allocation*	$55,287	$27,605	$82,892
Revenue Offsets				
Other Revenues	*O&M Allocation*	($7,337)	($3,663)	($11,000)
Adjustments				
Reserve Funding	*O&M Allocation*	($29,942)	($14,950)	($44,892)
Adjustment for Mid-Year Increase	*O&M Allocation*	$16,007	$7,993	$24,000
Total Allocation ($)		**$34,016**	**$16,984**	**$51,000**

Table 62: FY 2024 Wastewater Cost-of-Service Requirements by Cost Component

Revenue Requirement		Account Services	Flow	Total
Operating Expenses	Table 59	$799,700	$399,300	$1,199,000
Other Funding	Table 61	$34,016	$16,984	$51,000
COS Requirements		**$833,716**	**$416,284**	**$1,250,000**

Rate Design – Wastewater Utility

Develop Units of Service

Residential customer flows were projected using expected indoor use based on a gallons per capita per day (gpcd) and people per household (pph) basis. Residential pph was based on the Department of Finance E-5 report for 2022, reflecting 2.28 pph, which is the average for the City. Residential projected flows were based on 55 gpcd for indoor use. The annual residential flow reflects the product of Projected Monthly Flow per dwelling unit in HCF, total residential dwelling units, multiplied by 12 billing periods, as shown in Table 63.

Table 63: Wastewater Residential Projected Flows (HCF)

Residential Projected Flows	
Residential Flow Projections	
People per household	2.28
x Efficient Indoor Usage (gpcd)	55
x 30 days	30
Projected Monthly Flow per Dwelling Unit (gallons)	3,754
Converted to HCF (÷ 748.052)	6
x Dwelling Units	4,758
x Billing Periods	12
Projected Annual Residential Flow (HCF)	**342,576**

Non-residential customer flows were determined by applying flow return factors to the Non-Residential water use, equal to 82%, based on our review of the winter average water use of Non-Residential accounts[6]. Table 64 derives the amount of projected flow generated by Non-Residential customers, which is used for allocating a proportionate share of costs to the Non-Residential customer classes.

Table 64: Wastewater Non-Residential Projected Flows (HCF)

Non-Residential Projected Flows			
Customer Class	Water Usage (HCF) [A]	Flow Return Factor [B]	Projected Flow (HCF) [C] = A x B
Commercial	30,459	82.0%	24,976
Institutional	19,032	82.0%	15,606
Total	**49,491**		**40,583**

[6] Using the winter average limits capturing outdoor water usage for irrigation as irrigation does not enter the wastewater system.

Unit rates for the cost components are derived by identifying the units of service for each cost component (distribution basis). The distribution basis varies by cost component and includes billing units and projected flow. Table 65 summarizes the fixed units of service. Table 66 summarizes the variable units of service from Table 63 and Table 64. Table 67 summarizes all the annual units of service for each cost component.

Table 65: Wastewater Fixed Units of Service

Wastewater Fixed Units of Service		
Customer Class	Wastewater Billing Units [A]	Annual Wastewater Billing Units [B] = A x 12
Residential	4,758	57,096
Commercial	115	1,380
Institutional	40	480
Total	**4,913**	**58,956**

Table 66: Wastewater Variable Units of Service

Wastewater Variable Units of Service		
Customer Class	Water Usage (HCF)	Projected Flow (HCF)
Residential	N/A	342,576
Non-Residential	49,491	40,583
Variable Units of Service	**49,491**	**383,159**

Table 67: Wastewater Annual Units of Service

Wastewater Annual Units of Service		
Customer Class	Annual Wastewater Billing Units	Projected Flow (HCF)
Residential	57,096	342,576
Non-Residential	1,860	40,583
Annual Units of Service	**58,956**	**383,159**

With the units of service shown in Table 67, the distribution basis can be identified for each cost component. The total revenue requirements by cost component from Table 62 is shown in Figure 21 with the corresponding units of service.

Figure 21: Wastewater Distribution Basis and Units of Service by Cost Component

Allocate to Customer Class

Using the FY 2024 revenue requirements, the cost-of-service allocates expenses to customer classes based on the service demands that each place on the system (cost causation). Using this approach provides a clear connection between costs incurred and the proportionate share attributable to each customer class. When designing rates, the most critical component is to connect costs to the proposed rates, resulting in a cost-based rate structure in compliance with Proposition 218. In the previous section, costs were summarized by expense category and allocated to cost components based on how each cost is incurred. The next step in designing rates is to allocate each cost component to customers in relation to their use of the system and facilities. This ensures that each customer proportionately shares in the financial obligation of the wastewater utility. For the following unit rate computations, unit rates were rounded up to the nearest penny.

Fixed Cost Recovery

Account Services

Account Services costs are spread equally across all billable units over 12 months. Therefore, the revenue requirement for Account Services is apportioned based on the annual billing units to determine the monthly unit cost-of-service shown in Table 68.

Table 68: FY 2024 Wastewater Account Services Monthly Unit Rate

Account Services Component Unit Rate	
Revenue Requirement	$833,716
÷ Annual Wastewater Billing Units	58,956
Monthly Unit Rate	**$14.15**

Variable Cost Recovery

Flow

Flow is a function of total volume of influent conveyed through the collection system. Therefore, the revenue requirement for Flow is apportioned to each customer class based on their percentage of the total projected flow, as summarized in Table 69.

Table 69: FY 2024 Wastewater Flow Allocation by Customer Class

Flow Component Unit Rate	
Revenue Requirement	$416,284
÷ Projected Flow (HCF)	383,159
Monthly Unit Rate	**$1.09**

Wastewater Flow Allocation			
Customer Class	Projected Flow (HCF) [A]	% Allocation [B] = A as a %	Revenue Requirement [C] = $416,284 x B
Residential	342,576	89.4%	$372,193
Non-Residential	40,583	10.6%	$44,091
Total	383,159	100%	$416,284

Collectively, the total allocation of costs associated with Account Services and Flow (Total Revenue Requirement) derives the cost of providing service to each customer class. Table 70 summarizes the combined revenue requirement by customer class.

Table 70: FY 2024 Wastewater Total Revenue Requirement by Customer Class

Allocation by Customer Class			
Customer Class	Account Services	Flow	Allocated Revenue Requirements
Residential	$807,413	$372,193	$1,179,606
Non-Residential	$26,303	$44,091	$70,394
Total	**$833,716**	**$416,284**	**$1,250,000**

Residential accounts are charged a flat monthly charge, as residential flows are relatively constant throughout the year. Table 71 derives the flat monthly charge for Residential customers.

Table 71: FY 2024 Wastewater Residential Flat Monthly Charge

Residential Flat Charge				
Customer Class	Annual Wastewater Billing Units [A]	Account Services [B]	Flow [C]	Total Monthly Flat Charge [D] = (B+C) ÷ A
Residential	57,096	$807,413	$372,193	$20.67

Non-residential accounts are charged a monthly fixed amount for Account Services and a variable rate based on water use. Variable rates are derived by dividing the Flow component by total water usage as wastewater flows are not metered. Table 72 and Table 73 derive the monthly fixed charge and variable rate for Non-Residential customers, respectively.

Table 72: FY 2024 Wastewater Non-Residential Monthly Fixed Charge

Non-Residential Fixed Charge			
Customer Class	Annual Wastewater Billing Units [A]	Account Services [B]	Total Monthly Fixed Charge [C] = B ÷ A
Non-Residential	1,860	$26,303	$14.15

Table 73: FY 2024 Wastewater Non-Residential Variable Rates

Non-Residential Variable Rate			
Customer Class	Water Usage (HCF) [A]	Flow [B]	Total Variable Rates [C] = B ÷A
Non-Residential	49,491	$44,091	$0.90

Cost-Based Rates – Water and Wastewater

Cost-of-Service and Rate Summary

The comprehensive cost-of-service analysis and rate development meet the requirements of Proposition 218 and identify the cost components that make up the proposed water and wastewater rates. Proposition 218 requires the following conditions:

1. An agency cannot collect revenue beyond what is necessary to provide service.

   The long-term financial plan identifies the City's revenue requirements for each utility, including operating expenses, capital improvement programs, debt, and reserves.

2. Revenues derived by the charge shall not be used for any other purpose other than that for which the charge was imposed.

   The City's water and wastewater utilities are analyzed as separate business enterprises to track revenues and expenses and do not fund services other than those necessary for the provision of water and wastewater, respectively.

3. The amount of the fee may not exceed the proportional cost-of-service for the parcel.

   The comprehensive cost-of-service analysis, updated fixed charges, and variable rates reflect each customer's fair share of water and wastewater costs, respectively. Through this updated analysis, each customer will pay the proportional cost of providing service to that parcel.

4. No charge may be imposed for a service unless that service is actually used or immediately available to the owner of a property.

   Only properties that are actually receiving utility service or have service immediately available to them are required to pay the fixed and variable charges described in this study.

5. A written notice of the proposed charge shall be mailed to the record owner of each parcel at least 45 days prior to the public hearing.

   Notices were mailed to each affected parcel owner 45 days before the December 12, 2023, Public Hearing.

The proposed water and wastewater 5-year rate schedules (FY 2024 through FY 2028) are shown in the following section. If a majority protest does not occur by or at the December 12th Public Hearing, the City Council may adopt the rates with an effective date of January 1, 2024.

Rate Schedules – Water and Wastewater

Water

Table 74 through Table 76 provide the rate schedule over the Rate Setting Period for monthly base fixed charges, monthly infrastructure fixed charges, and variable rates, respectively. For FY 2025 through FY 2026, the revenue adjustments are applied across the board to the cost-of-service rates derived for FY 2024. FY 2027 rates are based on the cost-of-service and derivation of rates in Appendix B-1 and Appendix B-2, respectively, to account for the projected change in water supplies. For FY 2028, the revenue adjustment is applied across the board to the cost-of-service rates derived for FY 2027, as account growth and usage characteristics are projected to remain constant throughout the Rate Setting Period.

Table 74: FY 2024 – FY 2028 Proposed Water Monthly Fixed Charges

Base Fixed Meter Charges ($/Month)					
Revenue Adjustment:		4.0%	4.0%		3.0%
Meter Size	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
≤3/4"	$46.25	$48.10	$50.03	$49.43	$50.92
1"	$57.72	$60.03	$62.44	$61.61	$63.46
1 1/2"	$86.41	$89.87	$93.47	$92.06	$94.83
2"	$120.83	$125.67	$130.70	$128.60	$132.46
3"	$229.82	$239.02	$248.59	$244.31	$251.64
4"	$390.45	$406.07	$422.32	$414.83	$427.28

Table 75: FY 2024 – FY 2028 Proposed Water Monthly Infrastructure Fixed Charges

Infrastructure Fixed Meter Charges ($/Month)					
Revenue Adjustment:		4.0%	4.0%		3.0%
Meter Size	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
≤3/4"	$23.55	$24.50	$25.48	$26.50	$27.30
1"	$39.25	$40.82	$42.46	$44.17	$45.50
1 1/2"	$78.50	$81.64	$84.91	$88.33	$90.98
2"	$125.60	$130.63	$135.86	$141.33	$145.57
3"	$274.75	$285.74	$297.17	$309.17	$318.45
4"	$494.55	$514.34	$534.92	$556.50	$573.20

Table 76: FY 2024 – FY 2028 Proposed Water Variable Rates

Variable Rates ($/HCF)					
Revenue Adjustment:		4.0%	4.0%		3.0%
Customer	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
All Customers					
Tier 1	$3.34	$3.48	$3.62	$3.63	$3.74
Tier 2	$4.61	$4.80	$5.00	$5.73	$5.91

Wastewater

Table 77 and Table 78 provide the five-year wastewater rate schedule over the Rate Setting Period for monthly fixed charges and variable rates. For FY 2025 through FY 2028, the revenue adjustments are applied across the board to the cost-of-service rates derived for FY 2024 as account growth and usage characteristics are projected to remain constant for financial planning.

Table 77: FY 2024 – FY 2028 Proposed Wastewater Monthly Fixed Charges

Fixed Charges ($/Month)					
Revenue Adjustment:		4.0%	4.0%	4.0%	4.0%
Customer Class	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Residential	$20.67	$21.50	$22.36	$23.25	$24.18
Commercial	$14.15	$14.72	$15.30	$15.92	$16.55
Institutional	$14.15	$14.72	$15.30	$15.92	$16.55

Table 78: FY 2024 – FY 2028 Proposed Wastewater Monthly Variable Rates

Variable Rates ($/HCF)					
Revenue Adjustment:		4.0%	4.0%	4.0%	4.0%
Customer Class	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Commercial	$0.90	$0.94	$0.97	$1.01	$1.05
Institutional	$0.90	$0.94	$0.97	$1.01	$1.05

Appendix A – Water Supply Cost Analysis

The annual variable water supply costs were calculated through the following analysis. First, the water loss percentage was applied to the water billings/sales to derive the total amount of water needed to meet customer demand. Next, the amount of imported water needed to meet the remaining demand was calculated by subtracting the available amount of groundwater from the total water demand. The SGVMWD variable water supply rates have an effective date of January 1 of each year. In order to calculate the variable purchase water costs for SGVMWD, the amount of water purchased or produced from July to January (% at Prior Rate) and the amount of water purchased or produced from January to June (% at Current Rate) must be determined. Once the amount of water used at the prior and current rates are determined, the volumes were then multiplied by the corresponding variable purchase water costs in order to calculate the total annual variable water supply costs for SGVMWD. The City anticipates purchasing water from the Joint Well Facility beginning in FY 2027. The variable water supply rates have an effective date of July 1 of each year. The volumes purchased from this source in each fiscal year were multiplied by the corresponding variable purchase water costs to calculate the total annual variable water supply costs for the Joint Well Facility. Electricity costs were calculated in the same manner. The combined purchased water costs and electricity costs equal the total water supply cost in each year.

Table 79: FY 2024 – FY 2028 Projected Purchased Water Costs

Purchased Water Costs						
Key Inputs /Assumptions	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**
Escalation Factors						
Energy Costs	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Purchased Water	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Joint Well Facility	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Effective Date						
SGVMWD	1/1/2023	1/1/2024	1/1/2025	1/1/2026	1/1/2027	1/1/2028
Joint Well Facility	7/1/2022	7/1/2023	7/1/2024	7/1/2025	7/1/2026	7/1/2027
Electricity	7/1/2022	7/1/2023	7/1/2024	7/1/2025	7/1/2026	7/1/2027
% of Usage at prior rate						
SGVMWD	56.0%	56.0%	56.0%	56.0%	56.0%	56.0%
Joint Well Facility	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Groundwater	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
System/Supply Characteristics						
Water Loss		11.2%	11.2%	11.2%	11.2%	11.2%
SGVMWD		1,500 AF	1,500 AF	1,500 AF	AF	AF
Joint Well Facility		AF	AF	AF	1,500 AF	1,500 AF
Groundwater		940 AF	940 AF	940 AF	940 AF	940 AF
Water Supply Rates	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**
Variable Rates ($/AF)						
SGVMWD	$440.00	$480.00	$504.00	$529.20	$555.66	$583.44
Joint Well Facility	$0.00	$0.00	$0.00	$0.00	$751.00	$788.55
Electricity	$300.59	$315.62	$331.40	$347.97	$365.37	$383.64
Variable Purchased Water Costs	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**
Water Billings/Sales (AF)		1,975 AF	1,975 AF	1,975 AF	1,975 AF	1,975 AF
Water Demand		2,224 AF	2,224 AF	2,224 AF	2,224 AF	2,224 AF
Less: Groundwater		940 AF	940 AF	940 AF	940 AF	940 AF
Water Purchases (Imported Water)		1,284 AF	1,284 AF	1,284 AF	1,284 AF	1,284 AF
SGVMWD		1,284 AF	1,284 AF	1,284 AF	AF	AF
Joint Well Facility		AF	AF	AF	1,284 AF	1,284 AF
Total Production		1,284 AF	1,284 AF	1,284 AF	1,284 AF	1,284 AF
Purchased Water Characteristics						
Groundwater						
% at Prior Rate		AF	AF	AF	AF	AF
% at Current Rate		940 AF	940 AF	940 AF	940 AF	940 AF
SGVMWD						
% at Prior Rate		719 AF	719 AF	719 AF	AF	AF
% at Current Rate		565 AF	565 AF	565 AF	AF	AF
Joint Well Facility						
% at Prior Rate		AF	AF	AF	AF	AF
% at Current Rate		AF	AF	AF	1,284 AF	1,284 AF
Calculated Variable Purchased Water Costs						
SGVMWD		$587,604	$629,928	$661,424	$0	$0
Joint Well Facility		$0	$0	$0	$964,358	$1,012,576
Groundwater Recharge (SGVWMD)		$0	$0	$0	$0	$0
Subtotal Calculated Variable Purchased Water Costs		$587,604	$629,928	$661,424	$964,358	$1,012,576
Calculated Electricity Costs						
Electricity - Groundwater		$296,680	$311,514	$327,090	$343,445	$360,617
Electricity - SGVMWD		$394,477	$414,200	$434,910	$0	$0
Electricity - Joint Well Facility		$0	$0	$0	$469,167	$492,625
Subtotal Calculated Electricity Costs		$691,157	$725,715	$762,001	$812,612	$853,242
Total Calculated Water Costs		**$1,278,761**	**$1,355,642**	**$1,423,425**	**$1,776,970**	**$1,865,819**

Appendix B-1 – FY 2027 Cost-of-Service Analysis – Water Utility

Table 80: FY 2027 Water Supply Costs Allocation to Cost Components (%)

Water Supply Costs	Methodology / Allocation Basis	Cost Components						
		Account Services	Meter Capacity	Capital	Groundwater	Purchased Water	Delivery	Total
Purchased Water Costs								
SGVMWD	Specific	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Joint Well Facility	Specific	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Electrical Costs								
Solar Credits	Specific	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%
SGVMWD	Specific	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Joint Well Facility	Specific	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Groundwater	Specific	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%

Table 81: FY 2027 Water Supply Costs Allocation to Cost Components ($)

Water Supply Costs	Methodology / Allocation Basis	Cost Components						
		Account Services	Meter Capacity	Capital	Groundwater	Purchased Water	Delivery	Total
Purchased Water Costs								
SGVMWD	Specific	$0	$0	$0	$0	$0	$0	$0
Joint Well Facility	Specific	$0	$0	$0	$0	$965,000	$0	$965,000
Electrical Costs								
Solar Credits	Specific	$0	$0	$0	($58,000)	$0	$0	($58,000)
SGVMWD	Specific	$0	$0	$0	$0	$0	$0	$0
Joint Well Facility	Specific	$0	$0	$0	$0	$470,000	$0	$470,000
Groundwater	Specific	$0	$0	$0	$344,000	$0	$0	$344,000
Total Allocation ($)		**$0**	**$0**	**$0**	**$286,000**	**$1,435,000**	**$0**	**$1,721,000**

Table 82: FY 2027 Water Operating Expense Allocation to Cost Components (%)

Operating Expenses	Methodology / Allocation Basis	Cost Components						
		Account Services	Meter Capacity	Capital	Groundwater	Purchased Water	Delivery	Total
Personnel Services - Finance	Specific	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Personnel Services - Water	Specific	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
Purchased Services - Finance	Specific	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Purchased Services - Water	Specific	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
Purchased Materials - Finance	Specific	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Purchased Materials - Water	Specific	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
Cost Allocations - Finance	Specific	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Cost Allocations - Admininstrative	Specific	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Cost Allocations - Water	Specific	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Utilities	Specific	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%

Table 83: FY 2027 Water Operating Expense Allocation to Cost Components ($)

Operating Expenses	Methodology / Allocation Basis	Cost Components: Account Services	Meter Capacity	Capital	Groundwater	Purchased Water	Delivery	Total
Personnel Services - Finance	Specific	$590,000	$0	$0	$0	$0	$0	$590,000
Personnel Services - Water	Specific	$0	$0	$0	$0	$0	$764,000	$764,000
Purchased Services - Finance	Specific	$14,000	$0	$0	$0	$0	$0	$14,000
Purchased Services - Water	Specific	$0	$0	$0	$0	$0	$569,000	$569,000
Purchased Materials - Finance	Specific	$37,000	$0	$0	$0	$0	$0	$37,000
Purchased Materials - Water	Specific	$0	$0	$0	$0	$0	$429,000	$429,000
Cost Allocations - Finance	Specific	$43,000	$0	$0	$0	$0	$0	$43,000
Cost Allocations - Admininstrative	Specific	$328,000	$0	$0	$0	$0	$0	$328,000
Cost Allocations - Water	Specific	$0	$842,000	$0	$0	$0	$0	$842,000
Utilities	Specific	$7,000	$0	$0	$0	$0	$0	$7,000
Total Allocation ($)		**$1,019,000**	**$842,000**	**$0**	**$0**	**$0**	**$1,762,000**	**$3,623,000**
O&M Allocation (%)		*28.1%*	*23.2%*	*0.0%*	*0.0%*	*0.0%*	*48.6%*	*100.0%*

Table 84: FY 2027 Water Debt Service Expense Allocation to Cost Components (%)

Debt Service	Methodology / Allocation Basis	Cost Components: Account Services	Meter Capacity	Capital	Groundwater	Purchased Water	Delivery	Total
Existing Debt	O&M Allocation	28.1%	23.2%	0.0%	0.0%	0.0%	48.6%	100.0%
New/Proposed Debt	O&M Allocation	28.1%	23.2%	0.0%	0.0%	0.0%	48.6%	100.0%

Table 85: FY 2027 Water Debt Service Expense Allocation to Cost Components ($)

Debt Service	Methodology / Allocation Basis	Cost Components: Account Services	Meter Capacity	Capital	Groundwater	Purchased Water	Delivery	Total
Existing Debt	O&M Allocation	$233,163	$192,663	$0	$0	$0	$403,174	$829,000
New/Proposed Debt	O&M Allocation	$0	$0	$0	$0	$0	$0	$0
Total Allocation ($)		**$233,163**	**$192,663**	**$0**	**$0**	**$0**	**$403,174**	**$829,000**

Table 86: FY 2027 Water Other Funding Allocation to Cost Components (%)

Other Funding	Methodology / Allocation Basis	Cost Components: Account Services	Meter Capacity	Capital	Groundwater	Purchased Water	Delivery	Total
Transfers								
Transfers (to)/from Capital Reserve	Specific	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%
Revenue Offsets								
Other Revenues	O&M Allocation	28.1%	23.2%	0.0%	0.0%	0.0%	48.6%	100.0%
Adjustments								
Reserve Funding	O&M Allocation	28.1%	23.2%	0.0%	0.0%	0.0%	48.6%	100.0%

Table 87: FY 2027 Water Other Funding Allocation to Cost Components ($)

Other Funding	Methodology / Allocation Basis	Cost Components: Account Services	Meter Capacity	Capital	Groundwater	Purchased Water	Delivery	Total
Transfers								
Transfers (to)/from Capital Reserve	Specific	$0	$0	$1,688,000	$0	$0	$0	$1,688,000
Revenue Offsets								
Other Revenues	O&M Allocation	($12,938)	($10,691)	$0	$0	$0	($22,372)	($46,000)
Adjustments								
Reserve Funding	O&M Allocation	$169,036	$139,675	$0	$0	$0	$292,289	$601,000
Total Allocation ($)		**$156,099**	**$128,984**	**$1,688,000**	**$0**	**$0**	**$269,917**	**$2,243,000**

Table 88: FY 2027 Water Cost-of-Service Requirements

		Fixed Components			Variable Components			
					Water Supply			
Revenue Requirement		Account Services	Meter Capacity	Capital	Groundwater	Purchased Water	Delivery	Total
Water Supply Costs	**Table 81**	$0	$0	$0	$286,000	$1,435,000	$0	$1,721,000
Operating Expenses	**Table 83**	$1,019,000	$842,000	$0	$0	$0	$1,762,000	$3,623,000
Debt Service	**Table 85**	$233,163	$192,663	$0	$0	$0	$403,174	$829,000
Other Funding	**Table 87**	$156,099	$128,984	$1,688,000	$0	$0	$269,917	$2,243,000
COS Requirements		**$1,408,262**	**$1,163,647**	**$1,688,000**	**$286,000**	**$1,435,000**	**$2,435,091**	**$8,416,000**

Appendix B-2 – FY 2027 Rate Design – Water Utility

Table 89: FY 2027 Water Projected Usage by Tier (HCF)

Projected Usage by Tier	
Customer Class / Tier	Projected Usage (HCF)
All Customers	
Tier 1	363,604
Tier 2	496,706
Total	860,310

Table 90: FY 2027 Water Account Services Monthly Unit Rate

Account Services Component Unit Rate	
Revenue Requirement	$1,408,262
÷ Annual Bills	45,204
Monthly Unit Rate	$31.16

Table 91: FY 2027 Water Meter Capacity Monthly Unit Rate

Meter Capacity Component Unit Rate	
Revenue Requirement	$1,163,647
÷ Annual ME's	63,708
Monthly Unit Rate	$18.27

Table 92: FY 2027 Water Capital Monthly Unit Rate

Capital Component Unit Rate	
Revenue Requirement	$1,688,000
÷ Annual ME's	63,708
Monthly Unit Rate	$26.50

Table 93: FY 2027 Water Supply Unit Rates

Water Supply Unit Rates						
Water Supplies	Production / Purchases (AF) [A]	Water Loss [B]	Net Water Supply (AF) [C] = A x (1-B)	Available Supply (HCF) [D] = C x 435.6	Revenue Requirement [E]	Unit Rate [F] = E ÷ D
Groundwater	940	11.2%	835	363,604	$286,000	$0.79
Purchased Water	1,284	11.2%	1,140	496,706	$1,435,000	$2.89
	2,224		1,975	860,310	$1,721,000	

Table 94: FY 2027 Water Supply Unit Rates by Tier

Tier Water Supply Unit Rates							
Water Supply Allocation	Projected Usage (HCF) [A]	GW Allocation [B]	Purchased Water Allocation [C]	Groundwater [D] = B x $.79	Purchased Water [E] = C x $2.89	Total Cost [F] = D + E	Unit Rate [G] = F ÷ A
Available Supply		Table 94		*363,604*	*496,706*		
Unit Cost				*$0.79*	*$2.89*		
All Customers							
Tier 1	363,604	363,604	0	$286,000	$0	$286,000	**$0.79**
Tier 2	496,706	0	496,706	$0	$1,435,000	$1,435,000	**$2.89**
Total All Customers	860,310	363,604	496,706	$286,000	$1,435,000	$1,721,000	

Table 95: FY 2027 Water Delivery Cost Unit Rate

Delivery Component Unit Rate	
Revenue Requirement	$2,435,091
÷ All Usage	860,310
Monthly Unit Rate	$2.84

Table 96: FY 2027 Water Monthly Base Fixed Charges by Meter Size

Base Fixed Charge					
Meter Size	Capacity Ratio [A]	Meters	Account Services [B] = $31.16	Meter Capacity [C] = $18.27 x A	FY 2027 Proposed Base Fixed Charge [D] = B + C
≤3/4"	1.00	2,733	$31.16	$18.27	**$49.43**
1"	1.67	688	$31.16	$30.45	**$61.61**
1 1/2"	3.33	238	$31.16	$60.90	**$92.06**
2"	5.33	100	$31.16	$97.44	**$128.60**
3"	11.67	7	$31.16	$213.15	**$244.31**
4"	21.00	1	$31.16	$383.67	**$414.83**

Table 97: FY 2027 Water Monthly Infrastructure Fixed Charges by Meter Size

Infrastructure Fixed Charge				
Meter Size	Capacity Ratio [A]	Meters	Capital [B] = $26.50 x A	FY 2027 Proposed Infrastructure Fixed Charge
≤3/4"	1.00	2,733	$26.50	**$26.50**
1"	1.67	688	$44.17	**$44.17**
1 1/2"	3.33	238	$88.33	**$88.33**
2"	5.33	100	$141.33	**$141.33**
3"	11.67	7	$309.17	**$309.17**
4"	21.00	1	$556.50	**$556.50**

Table 98: FY 2027 Water Variable Rates by Tier (HCF)

Variable Rates					
Customer Class & Tier	Tier Definitions (HCF)	Projected Usage (HCF)	Water Supply [A]	Delivery [B]	FY 2027 Proposed Variable Rate [C] = A = B
All Customers					
Tier 1	0 - 8	363,604	$0.79	$2.84	**$3.63**
Tier 2	>8	496,706	$2.89	$2.84	**$5.73**