

DRAFT

WATER AND SEWER RATE STUDY

BLACK & VEATCH PROJECT NO. 410918

PREPARED FOR



City of Santa Clara, CA

6 JUNE 2023



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Legal Notice

Black & Veatch has prepared this report for the City, and it is based on information not within the control of Black & Veatch. The City has not requested Black & Veatch to make an independent analysis, verify the information provided to us, or render an independent judgment of the validity of the information provided by others. Because of this, Black & Veatch cannot, and does not, guarantee the accuracy thereof to the extent that such information, data, or opinions were based on information provided by others.

In conducting these analyses and in forming an opinion of the projection of future financial operations summarized in this report, Black & Veatch made certain assumptions on the conditions, events, and circumstances that may occur in the future. The methodology utilized in performing the analyses follows generally accepted practices for such projections. Such assumptions and methodologies are reasonable and appropriate for the purpose for which they are used. While we believe the assumptions are reasonable and the projection methodology valid, actual results may differ materially from those projected, as influenced by the conditions, events, and circumstances that occur. Such factors may include the utilities' ability to execute the capital improvement program as scheduled and within budget, regional climate and weather conditions affecting the demand for water, discharge of sewage flow, and adverse legislative, regulatory, or legal decisions (including environmental laws and regulations) affecting the utilities' ability to manage the system and meet water quality requirements.

1.0 Executive Summary

The City of Santa Clara (City) commissioned Black & Veatch Management Consulting, LLC (Black & Veatch) to perform an update of the Water and Sewer Rate Study (Study) for its Water, Recycled Water, and Sewer Utilities. The Study included the development of a three-year financial plan, a cost-of-service analysis, and the design of rates. In addition, a ten-year financial plan was developed to provide the City with a high-level view of each utility's operations. The specific objectives of the Study were to:

- Evaluate the adequacy of projected revenues under existing rates to meet projected revenue requirements.
- Develop sound financial plans for the utilities covering a three and ten-year period for both ongoing operations and planned capital improvements.
- Allocate the utilities' projected revenue requirements to the various customer classes in accordance with their respective service requirements.
- Develop a suitable rate schedule that produces revenues adequate to meet financial needs while recognizing customer costs of service and regulatory considerations such as Proposition 218 and applicable judicial decisions.

1.1 Water System

The Water Utility provides water services to approximately 26,000 residential, commercial, irrigation, educational, and agricultural customers. The City obtains potable water from three primary sources: local groundwater, surface water from the Santa Clara Valley Water District (Valley Water) and imported water from the Hetch Hetchy watershed through the San Francisco Public Utilities Commission (SFPUC). The water system infrastructure consists of 335 miles of transmission and distribution mains, 7 storage tanks totaling 28.8 million gallons of storage capacity, 19 active wells, and 3 booster pump stations.

1.2 Recycled Water System

The Recycled Water Utility, operating since 1989, provides recycled water services to over 361 commercial, irrigation, and industrial customers. The City obtains recycled water from South Bay Water Recycling. The recycled water comes from the San Jose-Santa Clara Regional Wastewater Facility (RWF), an advanced tertiary treatment facility located in San Jose, of which the City is a co-owner. The recycled water infrastructure within the City limit boundary mainly consists of 33 miles of recycled water pipelines. A portion of the recycled water from the RWF supplies the Valley Water's Silicon Valley Advanced Water Purification Center for advanced treatment (microfiltration, reverse osmosis, and advanced oxidation) to create a mix of high-quality recycled water that is blended back into the recycled water system.

1.3 Sewer System

The Sewer Utility provides sewer services to approximately 26,000 residential, commercial, industrial, and municipal customers. Services include the construction and maintenance of the sewer system and installing sewer lateral clean-outs at the property line. Sanitary sewer flows in the City are collected and transported through more than 288 miles of sewer main by way of six pumping stations to the San Jose-Santa Clara Regional Wastewater Facility. The RWF is a regional treatment facility that receives waste from seven agencies in Santa Clara County and can treat 167 million gallons a day (MGD) of liquid waste.

1.4 Financial Plan

The City operates the utilities as individual self-supporting enterprises. Therefore, the utilities must develop financial plans that provide sufficient revenues to meet all operation and maintenance expenses, water purchases, wastewater treatment, debt service requirements, capital improvements funded from current revenues, and other expenditures.

The Study develops financial plans that project operating revenue, expenses, and capital financing costs for the utilities over a ten-year planning period beginning July 1, 2023 and ending June 30, 2033. This report will focus on a three-year planning period for discussion, beginning July 1, 2023 and ending June 30, 2026. The full ten-year financial plans can be found in Appendix A.

The financial plans project future rate revenues under existing rates, operations, and maintenance (O&M) expenses, principal and interest expense on debt, transfers, and capital improvement program (CIP) requirements. In the projection of rate revenues, annual projections of customers and water consumption rely upon the City's historical data and estimates of growth. In addition, the Water Utility's forecast incorporates efforts to continue to meet the conservation goals as established by the State Senate Bill 7x-7 (SB7x-7) and the City's Water Shortage Contingency Plan.

On July 12, 2021, the City declared a Drought Emergency and moved into Stage 2 of the Water Shortage Contingency Plan. It amended the City's Water Use Rules and Regulations, calling for an ongoing voluntary 20% reduction based on 2013 water usage. The City took this action as of result of Valley Water's action on June 9, 2021, which called for a mandatory 15% reduction in water usage countywide.¹ With water conservation restrictions in place and despite the growth projections, the Water Utility will continue to be under the conservation levels set forth by SB7x-7. On May 9, 2023, the City Council took action to terminate the Drought Emergency that had been declared, but also took action to remain in Stage 2 of the Water Shortage Contingency Plan to align with state actions and to encourage water conservation as a way of life in Santa Clara. Council also took action to call for a 15% voluntary reduction in water usage to align with Valley Water.

1.4.1 Water Utility

The Water Utility's revenue requirements are summarized below:

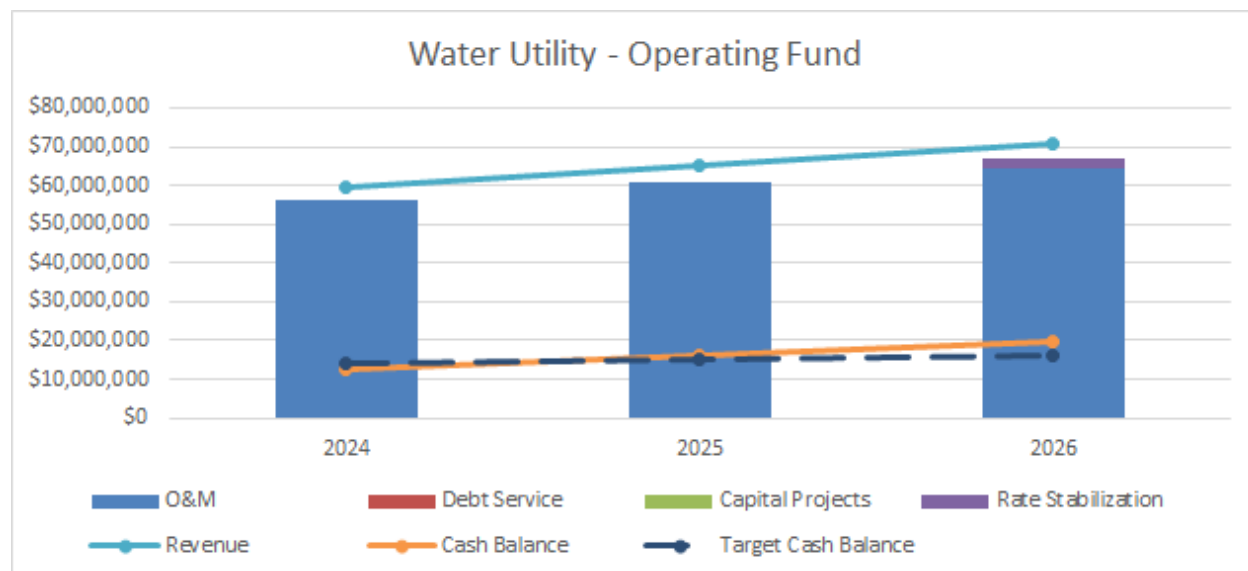
- Operation and Maintenance Expenses: The Water Utility anticipates O&M expenses to increase from \$56.2M in FY 2024 to \$64.6M in FY 2026. Water production and water purchases account for most of this increase, representing an average of 64.4% of O&M expenses.
- Debt Service: The Water Utility has no existing debt service, and no future debt is planned.
- Capital Improvements: The Water Utility plans to execute an average of \$4.5M per year in capital projects from FY 2024 to FY 2026.
- Reserves: The Water Utility plans to continue funding the operating fund reserve, construction fund reserve, rate stabilization fund reserve, and pension stabilization reserve.
 - The operating fund reserve is to help cover fluctuations in day-to-day expenses. The scheduled target is 90 days of O&M expenses.

¹ On March 28, 2022, Governor Newsom called on local water suppliers to move to level 2 of their Water Shortage Contingency Plans. Valley Water had implemented level 2 in June of 2021; therefore, the water projections already incorporate a level of conservation. Any further restrictions are not part of the baseline analysis.

- The construction fund reserve is to help maintain enough funds on hand to help mitigate unexpected capital costs. The scheduled target is 12-months of the following year’s CIP.
- The rate stabilization fund reserve is to help mitigate future increases in drought-stricken years. The scheduled target is 10% of the prior year’s rate revenues.
- The pension fund reserve is to pay for the unfunded pension liabilities and the increase in the City’s share of pension costs due to factors such as higher CalPERS rates and negotiated pay increases.

The Water Utility is proposing revenue adjustments to allow it to operate the enterprise on a revenue-neutral basis and meet reserve targets, as shown in Figure 1-1.

Figure 1-1 Water Operating Cashflow



1.4.2 Recycle Water Utility

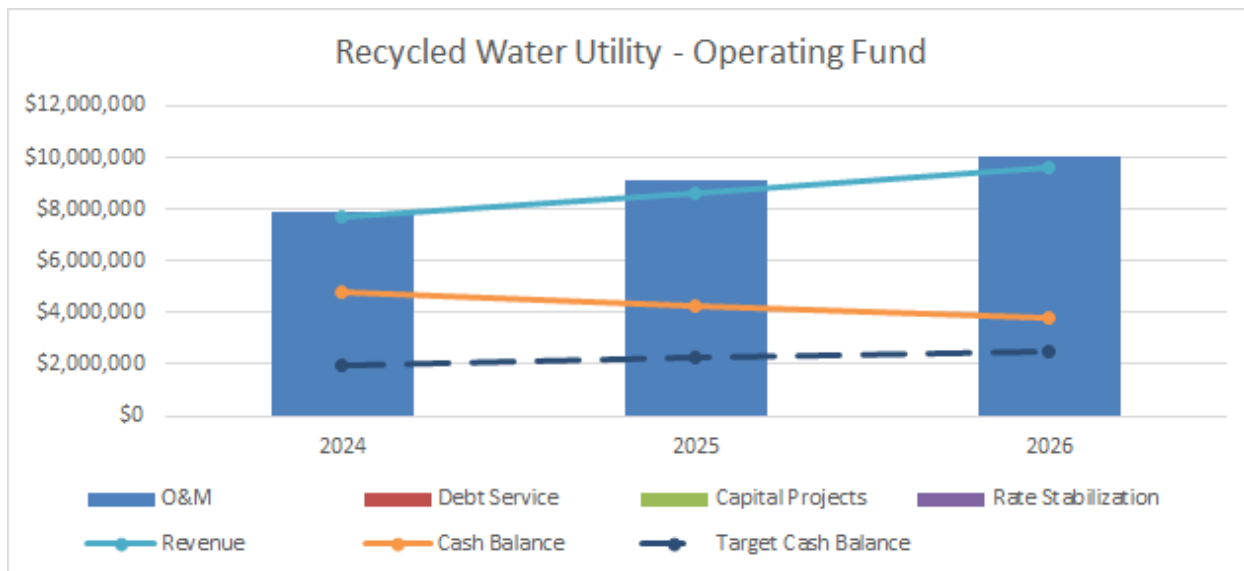
The Recycled Water Utility’s revenue requirements are summarized below:

- **Operation and Maintenance Expenses:** The Recycled Water Utility anticipates O&M expenses to increase from \$7.9M in FY 2024 to \$10.1M in FY 2026. Recycled water purchase costs constitute most of the increase, averaging 86.2% of O&M expenses.
- **Debt Service:** The Recycled Water Utility has no existing debt service, and no future debt is planned.
- **Capital Improvements:** The Recycled Water Utility plans to execute an average of \$53.9k per year in capital projects from FY 2024 to FY 2026.
- **Reserves:** The City plans to continue funding the operating fund reserve, construction fund reserve, rate stabilization fund reserve, and pension stabilization reserve.
 - The operating fund reserve is to help cover fluctuations in day-to-day expenses. The scheduled target is 90 days of O&M expenses.
 - The construction fund reserve is to help maintain enough funds on hand to help mitigate unexpected capital costs. The scheduled target is 12-months of the following year’s CIP.

- The rate stabilization fund reserve is to help mitigate future increases in drought-stricken years. The scheduled target is 10% of the prior year’s rate revenues.
- The pension fund reserve is to pay for the unfunded pension liabilities and the increase in the City’s share of pension costs due to factors such as higher CalPERS rates and negotiated pay increases

The Recycled Water Utility is proposing revenue adjustments and drawing down on reserves to allow it to operate the enterprise on a revenue-neutral basis and meet reserve targets, as shown in Figure 1-2.

Figure 1-2 Recycled Water Operating Cash Flow



1.4.3 Sewer Utility

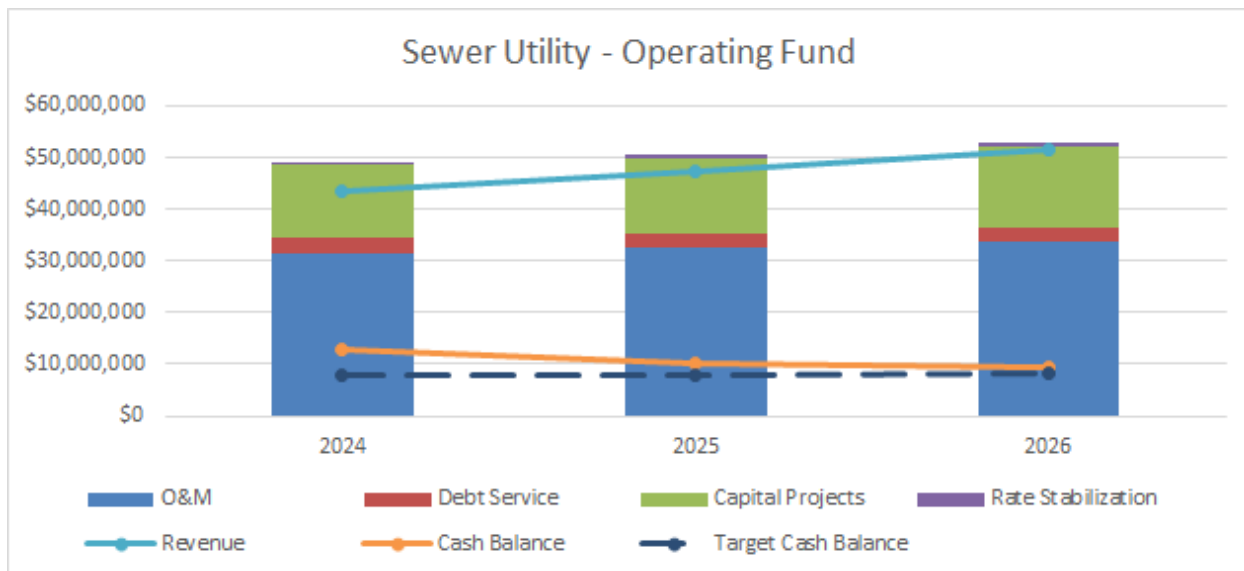
The Sewer Utility’s revenue requirements are summarized below:

- **Operation and Maintenance Expenses:** The Sewer Utility anticipates O&M expenses to increase from \$30.1M in FY 2024 to \$32.1M in FY 2026. RWF-related costs represent an average of 63.0% of O&M expenses.
- **Debt Service:** The Sewer Utility anticipates an average debt service payment of \$2.8M per year from FY 2024 to FY 2026 associated with existing and proposed debt issuances. The City anticipates no debt issuances from FY 2024 to FY 2026.
- **Capital Improvements:** The Sewer Utility plans to execute an average of \$17.0M per year in capital projects from FY 2024 to FY 2026.
- **Reserves:** The Sewer Utility plans to continue funding the operating fund reserve, construction fund reserve, rate stabilization fund reserve, and pension stabilization reserve.
 - The operating fund reserve is to help cover fluctuations in day-to-day expenses. The scheduled target is 90 days of O&M expenses.
 - The construction fund reserve is to help maintain enough funds on hand to help mitigate unexpected capital costs. The scheduled target is 12-months of the following year’s City CIP and 6-months of the following year’s SJSCRWF CIP.

- The rate stabilization fund reserve is to help mitigate future increases in drought-stricken years. The scheduled target is 10% of the prior year’s rate revenues.
- The pension fund reserve is to pay for the unfunded pension liabilities and the increase in the City’s share of pension costs due to factors such as higher CalPERS rates and negotiated pay increases.

The Sewer Utility is proposing revenue adjustments and drawing down on reserves to allow it to operate the enterprise on a revenue-neutral basis and meet reserve targets, as shown in Figure 1-3.

Figure 1-3 Sewer Operating Cash Flow



1.5 Adequacy of Existing Rates to Meet Costs of Service

Based on the financial plans, Black & Veatch recommends the revenue adjustments shown in Table 1-1 to meet the projected revenue requirements for FY 2024 to FY 2026. These do not represent proposed rate increases to customers. Rather, these represent the overall revenue increases the utilities need to meet their overall obligations and maintain current service levels.

Table 1-1 Proposed Revenue Adjustments

Fiscal Year	Effective Month	Water Utility	Recycled Water	Sewer Utility
FY 2024	July	8.35%	10.00%	6.25%
FY 2025	July	9.00%	11.00%	9.00%
FY 2026	July	9.00%	11.00%	9.00%

1.6 Cost of Service Analysis

The cost-of-service analysis allocates the costs to the various customer classes of service in a fair and equitable manner. The methodologies used in the Study are specific to the respective utility operations. The following is a brief description of the methodologies.

The water and recycled water cost-of-service allocation performed in this Study uses the Base-Extra Capacity Method endorsed by the American Water Works Association (AWWA) Principles of Water Rates, Fees, and Charges, M1 (M1) manual. Under cost-of-service principles, costs are allocated to the different customer classes in proportion to their water system use. As recommended by AWWA, Black & Veatch distributed functional costs to the base (average load conditions), extra capacity (peaking), and customer-related parameters. This allocation methodology produces unit costs for allocation to individual customer classes based on the projected customer service requirements.

The sewer cost-of-service allocation performed in this Study follows the Functional Cost Allocation Method endorsed by the Water Environment Federation (WEF) Financing and Charges for Wastewater Systems, Manual of Practice 27 (MoP27) manual. Like the methodology used for water systems, the sewer cost of service analysis allocates costs to the different customer classes in proportion to their use of the sewer system. As recommended by WEF, Black & Veatch distributed functional costs to volume, strength, and customer-related parameters. This allocation methodology produces unit costs for allocation to individual customer classes based on the projected customer service requirements.

1.7 Rate Design

The Right to Vote on Taxes Act, also known as Proposition 218, was passed by California voters in 1996 and added Article XIII C and Article XIII D to the California Constitution. These articles provide the regulatory framework that guides and informs the rate-setting process. The cost-of-service analyses provide the cost nexus for the proposed rate structures. The regulatory framework helps ensure cost recovery is proportionate to the cost of providing the service.

1.7.1 Water and Recycled Water Utilities

To minimize impacts, retain simplicity, and ensure the reasonable stability of revenue, Black & Veatch recommends the following rate structure.

- **Monthly Service Charge:** The Water and Recycled Water Utilities should retain the minimum monthly service charge based on meter sizes for all customer classes. The minimum monthly service charge includes a minimum consumption allowance and recovers portions of fixed cost elements such as operating and capital components, meter maintenance and services, meter reading, issuing bills, and maintenance and capacity costs associated with public fire protection. The minimum consumption allowance accommodates water considered essential for health and safety.
- **Consumption Charge:** The Water and Recycled Water Utilities should maintain the uniform consumption charge for all customer classes. The consumption charge recovers costs associated with the base and extra capacity demands.
- **Fire Service Charge:** The Water Utility should continue to utilize the fire service charge based on meter size for private fire service connections. The fire service charge will recover maintenance and capacity costs associated with private fire protection costs.
- **Cross Connection Charge:** The Water Utility should continue to utilize the cross-connection charge based on meter size for backflow connections. The cross-connection charge will recover the costs of maintenance associated with backflow devices.

Table 1-2 summarizes the recommended three-year rate schedules for all Water Utility components.

Table 1-2 Proposed Three-Year Water Rate Schedule

Customer Class	Proposed		
	FY 2024	FY 2025	FY 2026
Minimum Monthly Meter Rates (\$/Month)	\$/month	\$/month	\$/month
5/8" x 3/4"	21.48	23.36	25.42
1"	33.66	36.73	40.05
1-1/2"	64.10	70.16	76.63
2"	100.64	110.28	120.53
3"	198.07	217.27	237.60
4"	307.67	337.63	369.29
6"	612.14	671.96	735.12
8"	977.49	1,073.16	1,174.12
10"	1,464.63	1,608.10	1,759.44
12"	2,058.33	2,260.05	2,472.81
Fire Service (\$/Month)	\$/month	\$/month	\$/month
2"	2.95	3.12	3.29
4"	16.71	17.66	18.67
6"	49.15	51.93	54.91
8"	104.68	110.61	116.97
10"	188.23	198.89	210.32
12"	304.21	321.45	339.92
Cross Connection (\$/Month)	\$/month	\$/month	\$/month
1"	6.73	6.97	7.39
2"	10.78	11.15	11.82
3"	21.55	22.29	23.64
4"	33.67	34.83	36.94
6"	67.34	69.67	73.88
8"	107.75	111.47	118.21
10"	161.63	167.20	177.32
Consumption Charges (\$/HCF)			
General Customer	7.97	8.70	9.49

Table 1-3 summarizes the recommended three-year rate schedules for all Recycled Water Utility components.

Table 1-3 Proposed Three-Year Recycled Water Rate Schedule

Customer Class	Proposed		
	FY 2024	FY 2025	FY 2026
Minimum Monthly Meter Rates (\$/Month)	\$/month	\$/month	\$/month
5/8" x 3/4"	16.64	18.28	20.23
1"	27.03	29.78	33.02
1-1/2"	53.02	58.53	64.99
2"	84.21	93.03	103.36
3"	167.37	185.04	205.69
4"	260.93	288.55	320.80
6"	520.82	576.08	640.55
8"	832.68	921.11	1,024.26
10"	1,248.50	1,381.16	1,535.87
12"	1,755.27	1,941.83	2,159.39
Consumption Charges (\$/HCF)			
General Customers	4.53	5.03	5.58

1.7.2 Sewer Utility

To minimize impacts, retain simplicity, and ensure the reasonable stability of revenue, Black & Veatch recommends the following rate structure.

- **Monthly Service Charge:** The Sewer Utility should retain the monthly service charge based on equivalent dwelling units (EDUs) for all residential customer classes. In addition, the monthly service charge serves as the base amount, or minimum, for all non-residential customer classes.
- **Consumption Charge:** The Sewer Utility should retain its uniform consumption charges for each non-residential customer class. The recommended rate structure should be based on customer class.
- **Major Commercial and Industrial Users:** The Sewer Utility should retain the major commercial and industrial user charge for customers with high discharge quantities and/or high strength loadings.

Table 1-4 summarizes the recommended three-year rate schedules for all Sewer Utility components.

Table 1-4 Proposed Three-Year Sewer Rate Schedules

Line No.	Customer Class	Proposed		
		FY 2024	FY 2025	FY 2026
	Monthly Service Charge (\$/EDU)	\$/month	\$/month	\$/month
1	Single Family	48.28	53.06	57.82
2	Multi-Family	45.88	50.38	54.90
	Minimum Commercial Bill Charge (\$/Month)	\$/month	\$/month	\$/month
3	All Customers	48.28	53.06	57.82
	Commodity Charge (\$/HCF)	\$/HCF	\$/HCF	\$/HCF
1	Amusement Parks	6.15	6.53	7.15
2	Auto Dealers & Service Station	6.76	7.30	7.96
3	Churches	5.55	5.87	6.44
4	Com/Ind/Misc	5.87	6.22	6.82
5	Electric & Electronic Equip.	5.55	5.80	6.40
6	Food and Kindred Products	13.45	15.27	16.31
7	Hospitals & Convalescent Homes	6.72	7.22	7.87
8	Industrial Chemical	10.02	11.14	12.00
9	Laundries	6.02	6.39	7.00
10	Machinery Manufacturers	8.16	8.99	9.72
11	Metal Plating	4.50	4.63	5.13
12	Motels & Hotels	7.09	7.66	8.33
13	Paper	13.82	15.70	16.77
14	Repair Shops & Car Washes	5.15	5.52	6.01
15	Restaurants	13.70	15.57	16.63
16	Schools & Colleges	6.54	7.02	7.66
	Major Commercial and Industrial Users			
	Operating and Maintenance Cost Recovery			
1	Volume (\$/MG)	3,314.83	3,810.64	4,219.49
2	BOD (\$/1,000 lbs)	501.88	575.41	635.86
3	SS (\$/1,000 lbs)	625.18	716.78	792.12
4	NH3 (\$/1,000 lbs)	5,124.55	5,875.81	6,493.18
	Annual Capital Cost Recovery			
5	Volume (\$/MGD)	1,147,617	1,029,684	1,145,855
6	BOD (\$/1,000 lbs/day)	85,145	113,507	105,097
7	SS (\$/1,000 lbs/day)	77,042	97,947	91,665
8	NH3 (\$/1,000 lbs/day)	466,740	556,410	528,615

Water and Recycled Water Utilities

2.0 Revenue and Revenue Requirements

To meet the costs associated with providing water services to its customers, the Water and Recycled Water Utilities derive revenue from a variety of sources, including water user charges (rates), developer contributions, solar water heating, interest earned from the investment of available funds, engineering fees, and other miscellaneous revenues. Both utilities are constantly looking for other sources of revenue, such as grants, to fund infrastructure investments. Black & Veatch has projected the level of future revenue generated in the Study through an analysis of historical and future system growth in terms of the number of bills and water consumption. This section also projects the expenses, or revenue requirements, necessary to operate and maintain the system, invest in capital improvements, make debt service payments, and cover other water and recycled water systems expenses.

2.1 Customer and Water Consumption

2.1.1 Customer Classes

The Water Utility’s customer base includes both residential and non-residential accounts. The City has three distinct customer classes: General Customer, Fire Service, and Cross Connection.

The Recycled Water Utility’s customers are mainly non-residential. All Recycled Water customers are in the General Customer class.

2.1.2 Minimum Bills

The City provides potable water services to approximately 26,000 customers and recycled water services to 361 customers. All customers connected to the water and recycled water systems do so through metered connections. The City bills customers based on water consumption, but several bills do not meet the consumption allowance identified by meter size. Therefore, the City refers to these bills as minimum monthly service bills. Since the City bills customers based on minimum bills generated, the analysis included a review of historical bill patterns for customers and anticipated growth within the City. The projected total number of bills is expected to increase by an average of 0.3% per year for the Water Utility and an average of 1.6% for the Recycled Water Utility.

Table 2-1 summarizes the projected number of minimum bills for the Water and Recycled Water Utilities.

Table 2-1 Minimum Bills

Line No.	Description	Fiscal Year Ending June 30,		
		FY 2024	FY 2025	FY 2026
		(Bills)	(Bills)	(Bills)
Water Utility				
1	General Customers	47,758	47,878	47,998
2	Total	47,758	47,878	47,998
Recycled Water Utility				
3	General Customers	601	613	620
4	Total	601	613	620

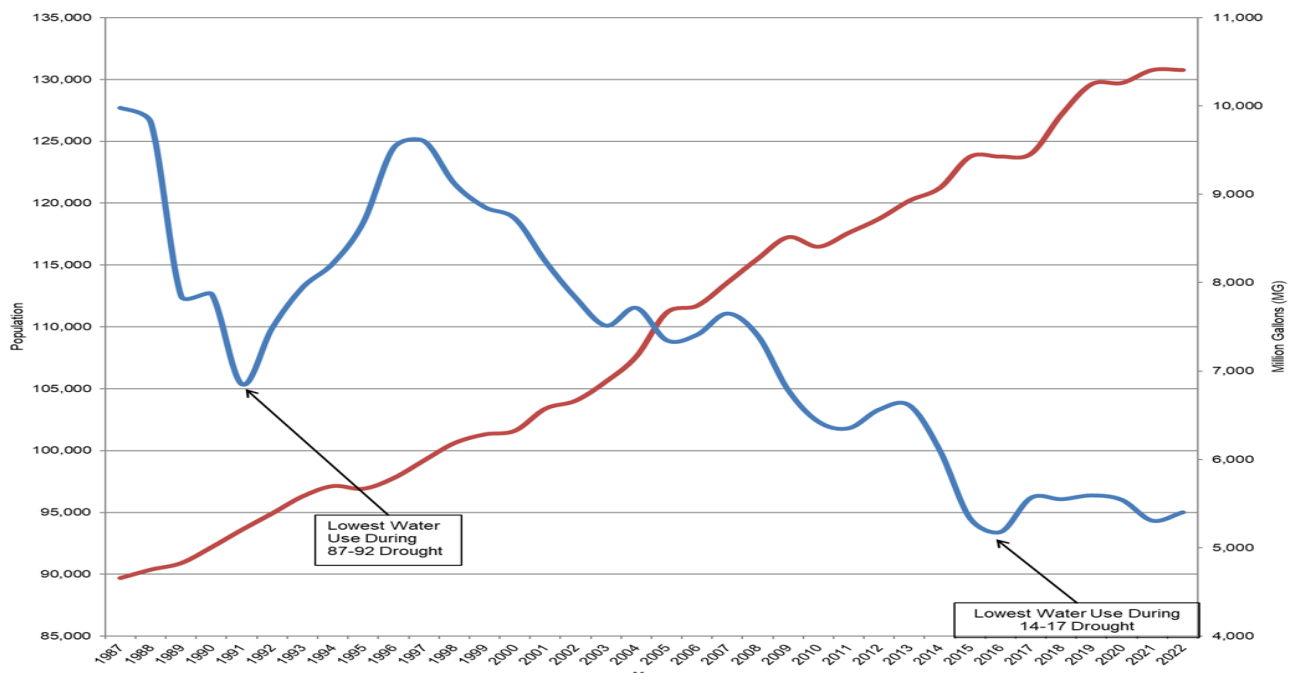
2.1.3 Water Consumption

Table 2-2 shows the projected water and recycled water consumption for the Study period. In determining the projected water and recycled water consumption, Black & Veatch analyzed historical water consumption patterns in conjunction with future water conservation requirements set by the City’s Water Shortage Contingency Plan and the continual requirement of SB 7x-7. In 2017, the State of California formally lifted the water restrictions as it declared the drought over. Unfortunately, in 2022 after another three year of dry weather, Governor Newsom called for local water suppliers to move to Level 2 of their Water Shortage Contingency Plans to drive water conservation. The City has been operating in Level 2 since June 2021 when Valley Water moved to Level 2. The State of California and Governor continue to monitor drought conditions which can lead to further water cutbacks and conservation measures for water consumption.

Many factors have contributed to the City’s steady decline in consumption. The City’s primary conservation goals can be found in the Water Shortage Contingency Plan, and Santa Clara’s Council codified the continuing goal to conserve in July of 2017. The City offers a rain barrel rebate program and works with the Valley Water on other outreach and rebate programs for water conservation. Expanding the use of recycled water to existing and new customers is important for the City in supplementing the use of potable water. Overall, customers have done well to increase efficiency in the use of water resources.

Figure 2-1 below represents the population growth and a decline in water consumption.

Figure 2-1 Water Sales



Recognizing that the City has met SB 7x-7 requirements and water consumption was at historic lows, the City anticipates a steady increase of 0.4% per year for the Water Utility and 1.1% per year for the Recycled Water Utility over the Study period. The City currently bills water consumption in hundred cubic feet (HCF) and only charges for consumption more than the allowance.

Table 2-2 Billed Water Consumption

Line No.	Description	Fiscal Year Ending June 30,		
		FY 2024 (HCF)	FY 2025 (HCF)	FY 2026 (HCF)
Water Utility				
1	General Customers	6,643,364	6,676,580	6,693,272
2	Total Usage (HCF)	6,643,364	6,676,580	6,693,272
3	Total Usage (AF)	15,251	15,327	15,366
Recycled Water Utility				
4	General Customers	1,570,538	1,588,899	1,604,788
5	Total	1,570,538	1,588,899	1,604,788
6	Total Usage (AF)	3,605	3,648	3,684

2.2 Revenue under Existing Rates

Water and recycled water user rates serve as the primary source of revenue for the Water and Recycled Water Utilities. Therefore, the level of future rate revenue is important in developing a long-range financial plan. To determine rate revenue, the projected system growth in terms of the number of minimum bills and billed water consumption is multiplied by the applicable rates to determine water and recycled water rate revenue.

Table 2-3 shows the current Water and Recycled Water Utilities rate schedules. It is important to note that the minimum monthly service charge applies to customers that do not exceed the consumption allowance within the meter sizes. Therefore, the minimum monthly service charge serves as a baseline cost that the City needs to recover.

Table 2-3 Existing Water and Recycled Water Rates

Description	All City FY 2023	Description	All City FY 2023
Minimum Monthly Meter Rates (\$/mo)		Consumption Charges	
5/8" x 3/4"	20.54	Water Utility (\$/HCF)	
1"	32.00	General Customers	7.33
1-1/2"	60.65	Recycled Water Utility (\$/HCF)	
2"	95.03	General Customers	4.12
3"	186.71	Industrial Process	4.12
4"	289.85		
6"	576.36		
8"	920.17		
10"	1,378.58		
12"	1,937.26		
Fire Service Charges (\$/mo)			
2"	2.87		
4"	16.25		
6"	47.80		
8"	101.82		
10"	183.09		
12"	295.91		
Cross Connection Charges (\$/mo)			
1"	7.33		
2"	11.73		
3"	23.47		
4"	36.67		
6"	73.33		
8"	117.33		
10"	175.99		

Table 2-4 summarizes projected water and recycled water rate revenue under existing rates. As shown, the revenue generated is projected to increase over the Study period in conjunction with the increase in the number of minimum bills and water consumption. The projected Water Utility revenues increase from \$52.7M in FY 2024 to \$53.1M in FY 2026, representing an overall increase of 0.7% over the three-year study period. The projected Recycled Water Utility revenue increases from \$6.5M in FY 2024 to \$6.7M in FY 2026, reflecting an overall increase of 2.2% over the three-year Study period.

Table 2-4 Projected Revenue under Existing Rates

Line No.	Description	Fiscal Year Ending June 30,		
		FY 2024	FY 2025	FY 2026
		(\$)	(\$)	(\$)
Water Utility				
1	General Customers	50,593,500	50,841,700	50,968,800
2	Fire Service	1,003,600	1,004,500	1,005,500
3	Cross Connection	1,140,700	1,141,900	1,143,200
4	Total	\$ 52,737,800	\$ 52,988,100	\$ 53,117,500
Recycled Water Utility				
5	General Customers	6,533,500	6,610,300	6,676,400
6	Total	\$ 6,533,500	\$ 6,610,300	\$ 6,676,400

2.3 Other Revenue

Other sources of operating revenue include charges for hydrant flow tests, meter tests, engineering plan review, water installation and relocation, interest on investments, and other miscellaneous revenues. In total, other operating revenues represent 3.3% of the Water Utility’s total revenue and 6.2% of the Recycled Water Utility’s total revenue. The City anticipates that these revenues will remain relatively constant for the duration of the Study period.

2.4 Operating and Maintenance Expenses

Table 2-5 summarizes the Water and Recycled Water Utilities’ projected O&M expense for the Study period. These expenses include costs related to salaries and benefits, materials and supplies, contract and professional services, water supply costs, indirect and direct costs, and routine capital outlay. The City anticipates that all O&M expenditures, excluding water supply costs, will increase on average by 3.3% annually for the Water Utility and an average of 4.5% annually for the Recycled Water Utility from the FY 2024.

Water supply costs include water produced and water purchased costs. In the case of the Water Utility, the City has three main sources of water: 1) groundwater pumped from City-owned wells; 2) surface water from the Valley Water and 3) imported water from the Hetch Hetchy watershed from SFPUC. The City operates 26 groundwater wells that tap the underground aquifers, which make up a targeted amount of approximately 59% of the City’s water supply. The City imports the remainder of its water supplies from the two wholesale water agencies. Based on estimates of groundwater and wholesale rates provided by Valley Water and SFPUC, the City expects water production and purchased water costs to increase by at least 19.8% over the Study period.

Recycled water is a reliable drought-proof source of water that helps offset the use of potable sources, especially in drought-prone years in California. In the case of the Recycled Water Utility, the City has one main source of recycled water: The San Jose-Santa Clara Regional Wastewater Facility. This facility produces highly treated water delivered through separate pipelines. Based on estimates from the facility, the City expects purchased recycled water costs to increase by at least 30.1% over the Study period.

Table 2-5 O&M Expenses

Line No.	Description	Fiscal Year Ending June 30,		
		FY 2024	FY 2025	FY 2026
		(\$)	(\$)	(\$)
Water Utility				
1	Salaries	6,134,300	6,318,300	6,507,600
2	Benefits	3,540,600	3,720,300	3,909,300
3	Materials/Services/Supplies	3,205,700	3,269,600	3,335,000
4	Interfund Services	7,905,910	8,306,610	8,436,460
5	Resource & Production	35,426,000	39,377,500	42,439,200
6	Capital Outlay	0	0	0
7	Total	\$ 56,212,510	\$ 60,992,310	\$ 64,627,560
Recycled Water Utility				
8	Salaries	410,800	433,000	450,800
9	Benefits	236,500	248,700	261,500
10	Materials/Services/Supplies	39,300	40,000	40,700
11	Interfund Services	493,430	525,005	535,723
12	Resource & Production	6,738,500	7,861,400	8,764,300
13	Capital Outlay	0	0	0
14	Total	\$ 7,918,530	\$ 9,108,105	\$ 10,053,023

As shown in Table 2-5, the Water Utility’s O&M expenses increase from \$56.2M in FY 2024 to \$64.6M in FY 2026, while the Recycled Water Utility’s O&M expenses increase from \$7.9M in FY 2024 to \$10.1M in FY 2026.

2.5 Capital Improvement Program

The Water and Recycled Water Utilities develop five-year Capital Improvement Plans annually to identify water and recycled water system needs, including assessments, inspections, maintenance, and rehabilitation and replacement requirements.

Table 2-6 summarizes the Water and Recycled Water Utilities CIP for FY 2024 through FY 2026. The Water Utility is projecting \$13.4M in CIP, and the Recycled Water Utility is projecting \$161.7k in CIP over the Study period, which includes both capital and replacement projects. The City has posted the CIP Budget on its website for complete details associated with each CIP project.

Table 2-6 Capital Improvement Projects

Line No.	Description	Fiscal Year Ending June 30,		
		FY 2024	FY 2025	FY 2026
		(\$)	(\$)	(\$)
Water Utility				
1	7005 Buildings and Grounds	1,572,300	791,700	318,600
	7054 Distribution System			
2	Replacement/Restoration	2,075,700	2,154,200	2,235,700
3	7057 Asset Management Program	155,700	161,600	167,700
4	7058 SCADA Improvements	518,900	538,600	558,900
5	7059 New and Replacement Wells	1,037,800	538,600	558,900
6	Total	\$ 5,360,400	\$ 4,184,700	\$ 3,839,800
Recycled Water Utility				
	7505 Recycled Water System Mains and			
7	Services	51,900	53,900	55,900
8	Total	\$ 51,900	\$ 53,900	\$ 55,900

2.5.1 Capital Improvement Financing Plan

The City funds annual expenditures for the CIP from a combination of available funds on hand, connection charges, developer contributions, and revenues derived from user rates. As shown in Table 2-7 and Table 2-8, the average annual CIP expenditure is \$4.5M for the Water Utility and \$53.9k for the Recycled Water Utility. There is no planned annual CIP contribution from the Water Utility Operating Fund and Recycled Water Utility over the Study period. The CIP will be funded through funds on hand.

Table 2-7 Construction Fund Financing Plan (Water)

Line No.	Description	Fiscal Year Ending June 30,		
		FY 2024	FY 2025	FY 2026
		(\$)	(\$)	(\$)
Source of Funds				
1	Intra Transfer In - Debt Financing	0	0	0
2	Intra Transfer In - Customer Service Charge	0	0	0
3	Connection Charges	0	0	0
4	Developer Contributions	0	0	0
5	Total Sources	\$ 0	\$ 0	\$ 0
Use of Funds				
6	Improvements Projects	5,360,400	4,184,700	3,839,800
7	Total Uses	\$ 5,360,400	\$ 4,184,700	\$ 3,839,800
8	Net Annual Cash Balance	(5,360,400)	(4,184,700)	(3,839,800)
9	Beginning Unrestricted Fund Balance	17,146,900	11,786,500	7,601,800
10	Net Cumulative Fund Balance	\$ 11,786,500	\$ 7,601,800	\$ 3,762,000
11	Minimum Construction Reserves	\$ 4,184,700	\$ 3,839,800	\$ 3,985,100

Table 2-8 Construction Fund Financing Plan (Recycled Water)

Line No.	Description	Fiscal Year Ending June 30,		
		FY 2024	FY 2025	FY 2026
		(\$)	(\$)	(\$)
Source of Funds				
1	Intra Transfer In - Debt Financing	0	0	0
2	Intra Transfer In - Customer Service Charge	0	0	0
3	Connection Charges	0	0	0
4	Developer Contributions	0	0	0
5	Total Sources	\$ 0	\$ 0	\$ 0
Use of Funds				
6	Improvements Projects	51,900	53,900	55,900
7	Total Uses	\$ 51,900	\$ 53,900	\$ 55,900
8	Net Annual Cash Balance	(51,900)	(53,900)	(55,900)
9	Beginning Unrestricted Fund Balance	1,922,900	1,871,000	1,817,100
10	Net Cumulative Fund Balance	\$ 1,871,000	\$ 1,817,100	\$ 1,761,200
11	Minimum Construction Reserves	\$ 53,900	\$ 55,900	\$ 58,000

2.6 Transfers

The Water and Recycled Water Utilities will each conduct transfers from their respective Operating Funds and other funds over the Study period. Table 2-9, Lines 18 to 20 for the Water Utility and Table 2-10, Lines 15 to 17 for Recycled Water Utility summarize these associated amounts, respectively. The other funds consist of the Rate Stabilization Fund, Pension Stabilization Fund, and Construction Fund. See Section 2.7 for further explanation on Rate Stabilization and Pension Stabilization Funds. The Construction Fund transfers represent money to cover planned CIP project expenditures. These transfers do not represent direct operating expenses for either enterprise; therefore, Black & Veatch includes these costs as “below-the-line” cash flow items and does not include them as O&M expenses.

2.7 Reserves

A utility typically establishes reserves for several reasons, such as covering shortfalls in operating revenues, maintaining strong bond ratings, covering day-to-day operating costs, and easing the burden on ratepayers associated with large rate increases. Per the reserve level recommendations, the Water and Recycled Water Utilities will maintain the following four reserves:

- Operating Reserve represents working capital maintained by the Operating Fund to cover day-to-day expenses and maintain enough funds to cover accounts receivables if there are supplier issues, periods of lower-than-expected water sales, or unforeseen cost increases. The reserve will maintain a minimum balance of 90 days of operating expenses once fully funded
- Construction Reserve represents funds used for unforeseen and unbudgeted capital costs. Once fully funded, this reserve will maintain a minimum balance of 12-months of the following year’s planned CIP.
- Rate Stabilization Reserve represents funds used to absorb revenue shortfall due to short-term decreases in water sales. This reserve stabilizes water and recycled water rate revenue and is an

effort to avoid wide swings in rates charged to customers over time. The reserve will maintain a minimum balance of 10% of water and recycled water sales revenue when fully funded.

- Pension Stabilization Reserve represents funds used to pay for the unfunded pension liabilities and the increase in the City’s share of pension costs due to factors such as higher CalPERS rates and negotiated pay increases. The reserve target is \$3.0M for the Water Utility and \$150,000 for the Recycled Water Utility by FY 2030.

Appropriate reserve levels help the Water and Recycled Water Utilities with liquidity, provide operational flexibility, and demonstrate fiscal responsibility to the rating agencies, which allows the City to access lower-cost funds.

2.8 Projected Operating Results

The revenue requirements of the Water and Recycled Water Utilities consist of O&M expenses, debt service, capital expenditures, and reserve requirements.

To fully understand the current condition of the Water and Recycled Water Utilities, it is important to examine the cash flow projections under the status quo scenario. As shown in Figure 2-2 and Figure 2-3, the status quo conditions would project that both utilities would operate from an annual deficit position, thus requiring the use of reserves to keep operating. In this scenario, the Water and Recycled Water Utilities would not impose any revenue increases over the Study Period and continue to incur O&M expenses, pay for the execution of the planned CIP, and transfer to reserves.

Figure 2-2 Status Quo Operating Cash Flow (Water)

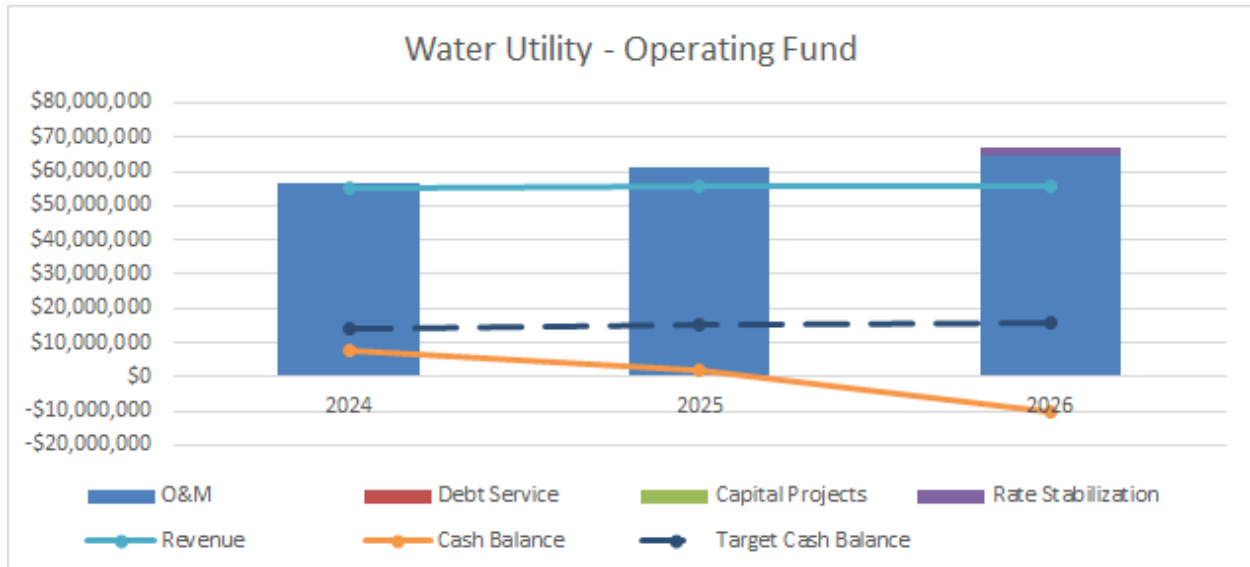
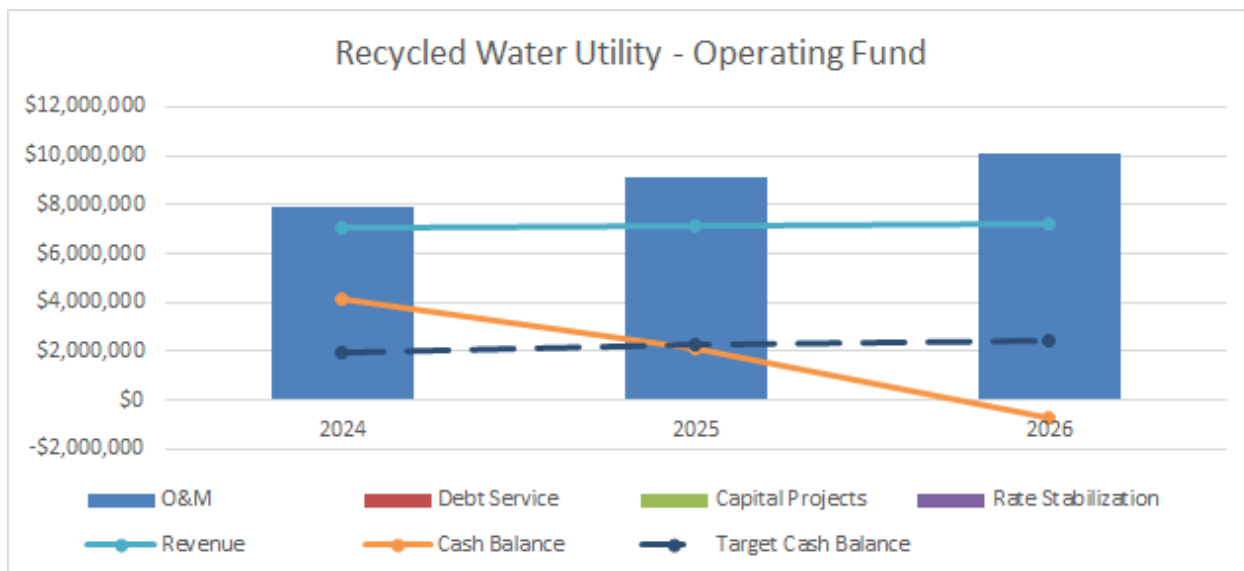


Figure 2-3 Status Quo Operating Cash Flow (Recycled Water)



The analyses performed for the Study indicate that the City should implement the proposed revenue increases shown in Table 2-9 and Table 2-10 if it wishes to keep the Water and Recycled Water Utilities in a balance financial condition. The revenue increases represent the overall total revenue adjustment needed to meet revenue requirements. The revenue adjustment does not represent adjustments to the individual rates but reflects the overall level of revenue needed to meet the Water and Recycled Water Utilities’ obligations.

The suggested revenue increases help the Water and Recycled Water Utilities meet the following goals:

- Meet budgeted operating obligations in the three FYs.
- Meet planned capital investments in the three FYs.
- Maintain an operating reserve of 90 days of operating expenses.
- Maintain construction reserve of 12-months of next year’s CIP.
- Continue transfers for the rate stabilization reserve to meet the goal of 10% of rate revenues.
- Continue transfers for the pension stabilization reserve to meet the FY 2030 goal.

Table 2-9 and Table 2-10 summarize proposed Operating Funds for the Study Period. The Operating Funds consist of 1) Revenue and 2) Revenue Requirements.

Revenue

- Line 1 is the revenue under existing rates.
- Lines 2 through 4 are the additional revenues generated from the required annual revenue increases. The additional revenue generated is a direct reflection of the number of months the increase is effective for, and therefore amount might calculate at less than that stated amount.
- Line 6 is the total revenue generated from user charges.
- Line 14 for the Water Utility and Line 9 for the Recycled Water Utility represent other operating revenues.

- Line 11 for the Recycled Water Utility represents transfers into operating.
- Line 15 for the Water Utility and Line 12 for the Recycled Water Utility represent total revenues for the enterprises.

Revenue Requirements

- Line 17 for the Water Utility and Line 14 for the Recycled Water Utility represent O&M expenses. The O&M expenses include water production and water purchase.
- Line 21 for the Water Utility and Line 18 for the Recycled Water Utility represent transfers. The transfers include money to the Rate Stabilization Fund, Pension Fund, and Construction Fund.
- Line 22 for the Water Utility and Line 19 for the Recycled Water Utility represent total revenue requirements for the enterprises.

Line 25 for the Water Utility and Line 22 for the Recycled Water Utility represent the net cumulative cash balance within the Operating Funds. The net cumulative cash balance intends to match, to the extent possible, Line 26 for the Water Utility and Line 23 for the Recycled Water Utility. The cash balance reserve is required to ensure the Operation Fund can continue in the event of a supplier interruption, market price fluctuations of critical equipment or supplies, or an abrupt drop in account receivables. The reserve target minimum is 90 days of O&M expenses.

Table 2-9 Operating Fund (Water)

Line No.	Description	Fiscal Year Ending June 30,		
		FY 2024	FY 2025	FY 2026
		(\$)	(\$)	(\$)
Revenue				
Rate Revenue				
1	Revenue from Existing Rates	53,104,700	53,356,800	53,487,100
	Year Months Effective Rate Adj			
2	FY 2024 12 8.35%	4,434,200	4,455,300	4,466,200
3	FY 2025 12 9.00%		5,203,100	5,215,800
4	FY 2026 12 9.00%			5,685,200
5	Increased Revenue Due to Adjustments	4,434,200	9,658,400	15,367,200
6	Subtotal Rate Revenue	\$ 57,538,900	\$ 63,015,200	\$ 68,854,300
Other Operating Revenue				
7	Solar System Maintenance	80,100	80,100	80,100
8	Water System Maintenance	1,070,500	1,070,500	1,070,500
9	Water Construction	0	0	0
10	Water System Operations	0	0	0
11	Administration Design	905,400	912,300	919,300
12	Water Quality	0	0	0
13	Water Resources	76,900	76,900	76,900
14	Subtotal Other Operating Revenue	\$ 2,132,900	\$ 2,139,800	\$ 2,146,800
15	Total Revenue	\$ 59,671,800	\$ 65,155,000	\$ 71,001,100
Revenue Requirements				
Operating & Maintenance				
16	O&M Expenses	56,212,500	60,992,300	64,627,600
17	Subtotal O&M	\$ 56,212,500	\$ 60,992,300	\$ 64,627,600
Transfers				
18	Transfer to Rate Stabilization Fund	0	0	2,250,000
19	Transfer to Pension Stabilization Fund	199,400	199,400	199,400
20	Transfer to Water Construction Fund	0	0	0
21	Total Transfers	\$ 199,400	\$ 199,400	\$ 2,449,400
22	Total Revenue Requirements	\$ 56,411,900	\$ 61,191,700	\$ 67,077,000
23	Net Annual Cash Balance	3,259,900	3,963,300	3,924,100
24	Beginning Fund Balance	9,386,600	12,367,600	16,052,000
25	Net Cumulative Fund Balance	\$ 12,646,500	\$ 16,330,900	\$ 19,976,100
26	Minimum Operating Reserves (90 Days)	\$ 13,860,600	\$ 15,039,200	\$ 15,935,600

Table 2-10 Operating Fund (Recycled Water)

Line No.	Description	Fiscal Year Ending June 30,		
		FY 2024	FY 2025	FY 2026
		(\$)	(\$)	(\$)
Revenue				
Rate Revenue				
1	Revenue from Existing Rates	6,533,500	6,610,300	6,676,400
	Year Months Effective Rate Adj			
2	FY 2024 12 10.00%	653,400	661,000	667,600
3	FY 2025 12 11.00%		799,800	807,800
4	FY 2026 12 11.00%			896,700
5	Increased Revenue Due to Adjustments	653,400	1,460,800	2,372,100
6	Subtotal Rate Revenue	\$ 7,186,900	\$ 8,071,100	\$ 9,048,500
Other Operating Revenue				
7	System Maintenance	94,700	96,600	98,500
8	South Bay Water Recycling System Maintenance	421,500	438,400	453,900
9	Subtotal Other Operating Revenue	\$ 516,200	\$ 535,000	\$ 552,400
Transfers From				
10	RW Capital Fund	0	0	0
11	Subtotal Transfers From	\$ -	\$ -	\$ -
12	Total Revenue	\$ 7,703,100	\$ 8,606,100	\$ 9,600,900
Revenue Requirements				
Operating & Maintenance				
13	O&M Expenses	7,918,500	9,108,100	10,053,000
14	Subtotal O&M	7,918,500	9,108,100	10,053,000
Transfers				
15	Transfer to Rate Stabilization Fund	0	0	0
16	Transfer to Pension Stabilization Fund	0	0	9,800
17	Transfer to Recycled Water Const Fund	0	0	0
18	Total Transfers	0	0	9,800
19	Total Revenue Requirements	\$ 7,918,500	\$ 9,108,100	\$ 10,062,800
20	Net Annual Cash Balance	(215,400)	(502,000)	(461,900)
21	Beginning Fund Balance	4,980,400	4,765,000	4,263,000
22	Net Cumulative Fund Balance	\$ 4,765,000	\$ 4,263,000	\$ 3,801,100
23	Minimum Operating Reserves (90 Days)	\$ 1,952,500	\$ 2,245,800	\$ 2,478,800

Figure 2-4 presents the proposed Water Utility Operating Fund, and Figure 2-5 presents the Recycled Water Utility Operating Fund.

Figure 2-4 Water Operating Cash Flow

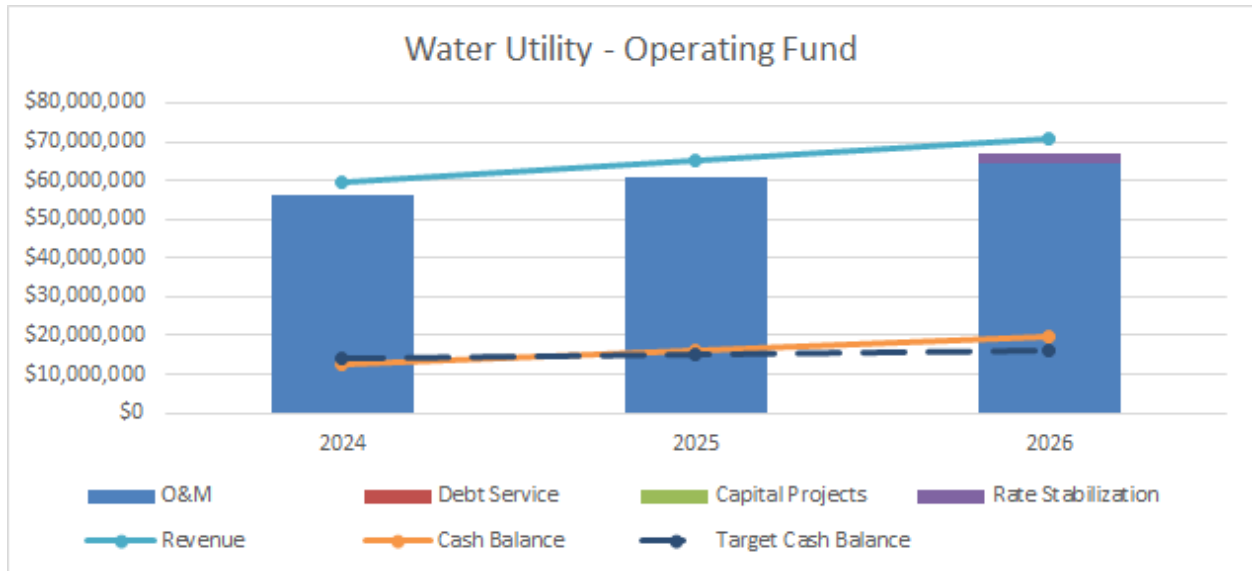
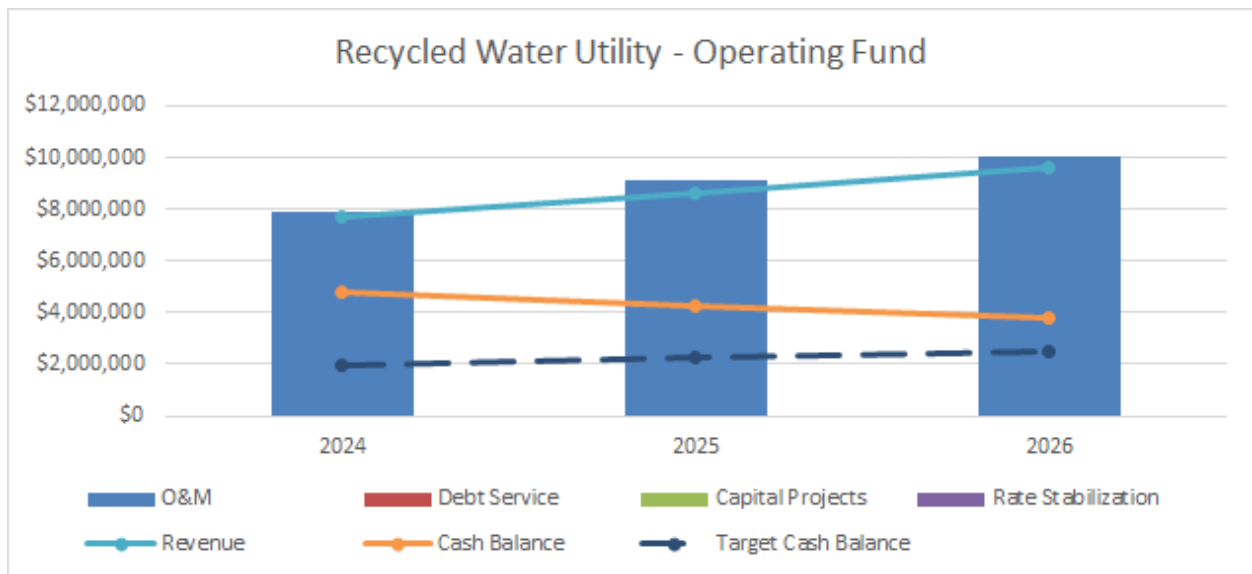


Figure 2-5 Recycled Water Operating Cash Flow



3.0 Cost of Service Analysis

The cost-of-service analysis requires recovery of the City’s needed revenues from water and recycled water service rates, allocated to customer classes according to the service rendered. An equitable rate structure allocates the capture of revenue requirements to customer classes based on the quantity of water consumed, peak flows, the number of customer connections, and other relevant factors.

In analyzing the Water and Recycled Water Utilities’ cost of service for allocation to its customer classes, Black & Veatch selected the annual revenue requirements for FY 2024 as the Test Year (TY) requirements to demonstrate the development of cost-of-service water and recycled water rates. Table 3-1 summarizes the total costs of service that need to be recovered from water user rates. Table 3-2 summarizes the total costs of service that need to be recovered from recycled water user rates. Both tables represent TY 2024.

Table 3-1 Cost of Service Revenue from Rates (Water)

Line No.	Description	Operating Expense	Capital Cost	Total Cost
		(\$)	(\$)	(\$)
Revenue Requirements				
1	O&M Expenses	56,212,500	0	56,212,500
2	Debt Service	0	0	0
3	Transfers	478,300	0	478,300
4	Subtotal	56,690,800	0	56,690,800
Less Revenue Requirements Met from Other Sources				
5	Solar System Maintenance	80,100	0	80,100
6	Water System Maintenance	1,070,500	0	1,070,500
7	Water Construction	0	0	0
8	Water System Operations	0	0	0
9	Administration Design	905,400	0	905,400
10	Water Quality	0	0	0
11	Water Resources	76,900	0	76,900
12	Subtotal	2,132,900	0	2,132,900
Adjustments				
13	Adjustment for Annual Cash Balance	(2,981,000)	0	(2,981,000)
14	Subtotal	(2,981,000)	0	(2,981,000)
15	Cost of Service to be Recovered from Rates	\$ 57,538,900	\$ 0	\$ 57,538,900

Table 3-2 Cost of Service Revenue from Rates (Recycled Water)

Line No.	Description	Operating Expense (\$)	Capital Cost (\$)	Total Cost (\$)
Revenue Requirements				
1	O&M Expenses	7,918,500	0	7,918,500
2	Debt Service	0	0	0
3	Transfers	0	0	0
4	Subtotal	7,918,500	0	7,918,500
Less Revenue Requirements Met from Other Sources				
5	System Maintenance	94,700	0	94,700
6	South Bay Water Recycling System Maintenance	421,500	0	421,500
7	Subtotal	516,200	0	516,200
Adjustments				
8	Adjustment for Annual Cash Balance	215,400	0	215,400
9	Subtotal	215,400	0	215,400
10	Cost of Service to be Recovered from Rates	\$ 7,186,900	\$ 0	\$ 7,186,900

The total revenue requirement is shown in Line 4, which corresponds with Table 2-9, Line 22, and Table 2-10, Line 19. As shown in Line 12 for the Water Utility and Line 7 for the Recycled Water Utility, we deduct revenues from other sources to derive the net revenue requirement recovered through rates, which correspond with Table 2-9, Line 14 and Table 2-10, Lines 9 and 10, respectively.

Line 13 for the Water Utility and Line 8 for the Recycled Water Utility represent the net annual cash balance during the TY. If the enterprise is drawing down funds already in the Operating Fund, this number is positive. The number will be negative if the enterprise is replacing funds. In the case of the Water Utility, the \$3.0M figure indicates that the forecast is projecting a positive cash balance for the year. In the case of the Recycled Water Utility, the \$215.4k figure indicates that the forecast is projecting a negative cash balance for the year.

3.1 Functional Cost Components

The first step in conducting a cost-of-service analysis involves analyzing the cost of providing water and recycled water service by system function to properly allocate the costs to the various customer classes and, subsequently, design rates. As a basis for allocating costs of service among customer classes, the study separates costs into the following four basic functional cost components: (1) Base; (2) Extra Capacity; (3) Customer; and (4) Direct Assignment, described as follows:

- Base costs represent operating and capital costs of the system associated with service to customers to the extent required under constant or average annual load conditions without the elements necessary to meet water consumption variations or peak demands.
- Extra Capacity costs represent those operating and capital costs incurred in meeting peaking demands. Peaking demands represent water consumption more than the average rate of use.
- Customer costs are those expenditures that tend to vary in proportion to the number of customers connected to the system. These include meter reading, billing, collecting, accounting, maintenance, and capital costs associated with meters and services.

- Directly assigned costs are specifically identified as those incurred to serve specific customers. These costs include fire protection and cross-connections for the Water Utility. The Recycled Water Utility has no direct assigned categories.

3.2 Allocation to Cost Components

The next step of the cost-of-service process involves allocating each cost element to functional cost components based on the parameter or parameters having the most significant influence on the magnitude of that cost element. O&M expenses are allocated directly to appropriate cost components. A detailed allocation of related capital investment is used as a proxy for allocating capital and replacement costs. The separation of costs into functional components provides a means for distributing such costs to the various classes of customers based on their respective responsibilities for each type of service.

3.2.1 System Base, Max Day, and Max Hour Allocations

The water and recycled water systems consist of various facilities designed and operated to fulfill a given function. For the systems to provide adequate service to its customers, it must be capable of meeting the annual volume requirements and the maximum demand rates placed on the system. Because not all customers and types of customers exert maximum demand at the same time, the capacities of the various facilities must meet the maximum coincidental demand of all classes of customers. Each water and recycled water service facility within the systems has an underlying average demand exerted by the customers for whom the base cost component applies. For those facilities designed solely to meet average day demand, 100% of the costs go to the base cost component. Extra capacity requirements associated with coincidental demands more than average use consist of maximum daily and maximum hourly demand subcomponents.

The first step in determining the allocation percentages for volume-related cost allocations is to assign system peaking factors. The base element is equal to the average daily demand (ADD) and assigned a value of 1.0. Based on the City's 2002 Water Master Plan, the Water Utility's maximum day (max day) demand is 1.5 times the ADD. The maximum hourly (max hour) demand is 1.8 times the ADD. Based on the City's 2014 Strategic and Master Planning Report, 2002 Water Master Plan, the Recycled Water Utility's max day demand is 1.7 times the ADD. The max hour demand is 2.38 times the ADD.

The costs associated with facilities required to meet maximum day demand are allocable to base and maximum day extra capacity as shown below for the Water Utility. Recycled Water Utility would use a similar allocation based on its respective max day and max hour ratios.

- Base = $(1.0/1.5) \times 100 = 66.7\%$
- Max Day = $(1.5 - 1.0)/1.5 \times 100 = 33.3\%$

These calculations indicate that the average or base use requires 66.7% of the capacity of facilities designed and generated to meet maximum day demand, and the remaining 33.3% meets maximum day extra capacity requirements.

The costs associated with facilities required to meet maximum hour demand are allocable to base, maximum day extra capacity and maximum hour extra capacity as follows:

- Base = $(1.0/1.8) \times 100 = 55.6\%$
- Max Day = $(1.5 - 1.0)/1.8 \times 100 = 27.7\%$
- Max Hour = $(1.8 - 1.5)/1.8 \times 100 = 16.7\%$

3.2.2 Allocation of Operating and Maintenance Expenses

In allocating O&M expenses for TY 2024, costs are directly allocated to the cost components to the extent possible. The Water and Recycled Water Utilities book operating costs by functional categories. Therefore, Black & Veatch used the factors noted in Section 3.1 to allocate the operating expenses to the cost components. The study based the allocation of Administration and Transfer cost elements on the average of all other costs. The direct assignment represents fire protection and cross-connections for the Water Utility. Table 3-3 and Table 3-4 represent the allocation of O&M to the cost components. Next, revenues are subtracted from other sources as shown in Table 3-1, Lines 12 and 15 and Table 3-2, Lines 7 and 10. The analysis deducts any drawdown of available cash balances and normalizes the rate adjustments for a full year to determine the net O&M costs for each utility.

Table 3-3 Allocation of O&M Expenditures (Water)

Line No.	Description	Total Costs	Common to All Customers					Fire Protection	Cross Connection
			Base	Extra Capacity		Customer			
			Base	Max. Day	Max. Hour	Meters	Cust./Bill.		
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	
Water Utility									
Operating Expenses									
	1532 Solar System Maintenance	283,900	0	0	0	283,900	0	0	0
1	1422 Water System Maintenance								
2	Customer Service	325,500	0	0	0	0	325,500	0	0
3	Backflow Prevention	845,000	0	0	0	0	0	0	845,000
4	All Other	689,300	376,500	191,000	114,900	0	0	6,900	0
	1423 Water Construction	3,806,500	2,079,100	1,054,900	634,400	0	0	38,100	0
5	1424 Water System Operations								
6	Generation & Pumping	1,153,200	758,200	383,500	0	0	0	11,500	0
7	Customer Billing & Meter Reading	745,400	0	0	0	0	745,400	0	0
8	Meters	357,700	0	0	0	357,700	0	0	0
	Hydrants	1,385,400	0	0	0	0	0	1,385,400	0
9	All Other	7,017,100	3,832,700	1,944,700	1,169,500	0	0	70,200	0
10	1411 Administration Design	4,459,200	3,029,600	308,000	165,300	630,600	92,300	160,600	72,800
11	1412 Water Quality	270,800	216,600	0	0	51,500	0	2,700	0
12	1413 Water Resources								
	Water Purchase	34,272,800	27,418,300	0	0	6,511,800	0	342,700	0
13	All Other	600,700	480,600	0	0	114,100	0	6,000	0
14	Transfers	478,300	325,100	33,000	17,700	67,600	9,900	17,200	7,800
15	Total O&M Expenses	\$ 56,690,800	\$ 38,516,700	\$ 3,915,100	\$ 2,101,800	\$ 8,017,200	\$ 1,173,100	\$ 2,041,300	\$ 925,600
Less Other Revenue									
16	Miscellaneous Revenues	2,132,900	1,449,200	147,300	79,100	301,600	44,100	76,800	34,800
17	Other Adjustments	(2,981,000)	(2,025,300)	(205,900)	(110,500)	(421,600)	(61,700)	(107,300)	(48,700)
18	Net Operating Expenses	\$ 57,538,900	\$ 39,092,800	\$ 3,973,700	\$ 2,133,200	\$ 8,137,200	\$ 1,190,700	\$ 2,071,800	\$ 939,500

Table 3-4 Allocation of O&M Expenditures (Recycled Water)

Line No.	Description	Total Costs	Common to All Customers				
			Base	Extra Capacity		Customer	
			Base	Max. Day	Max. Hour	Meters	Cust./Bill.
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Recycled Water Utility							
Operating Expenses							
1	1522 System Maintenance						
2	Water Purchase	6,738,500	6,738,500	0	0	0	0
3	Customer Billing & Meter Reading	3,700	0	0	0	0	3,700
4	Meters	477,200	0	0	0	477,200	0
5	All Other	343,200	144,200	100,900	98,100	0	0
6	1525 South Bay Water Recycling System	355,900	209,400	146,500	0	0	0
7	Transfers	0	0	0	0	0	0
8	Total O&M Expenses	\$ 7,918,500	\$ 7,092,100	\$ 247,400	\$ 98,100	\$ 477,200	\$ 3,700
Less Other Revenue							
9	Miscellaneous Revenues	516,200	462,400	16,100	6,400	31,100	200
10	Other Adjustments	215,400	192,900	6,700	2,700	13,000	100
11	Net Operating Expenses	\$ 7,186,900	\$ 6,436,800	\$ 224,600	\$ 89,000	\$ 433,100	\$ 3,400

3.2.3 Allocation of Capital Investments

In allocating the capital investment for TY 2024, the existing fixed assets (which serve as a proxy for the current capital investments) are allocated directly to cost components to the extent possible. The allocation of costs in this manner provides a basis for annual investment in water and recycled water system facilities. Plan capital costs can be allocated using the distribution of total net system investment across the functional cost components. Table 3-5 and Table 3-6 show the total allocation of existing system investment serving water and recycled water customers. The total net system investment of \$61.8M shown on Line 11 for the Water Utility and \$1.1M on Line 9 for the Recycled Water Utility represents the Test Year original cost less accumulated depreciation of the system in service. The total net system investment reflects the Water and Recycled Water Utilities fixed asset listing ending June 30, 2022. This value represents the original cost (book value) of the assets.

Table 3-5 Allocation of Capital Costs (Water)

Line No.	Description	Total Costs	Common to All Customers					Fire Protection	Cross Connection
			Base	Extra Capacity		Customer			
			Base	Max. Day	Max. Hour	Meters	Cust./Bill.		
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	
Water Utility									
Plant Assets									
1	Water Production	20,088,400	16,070,700	0	0	3,816,800	0	200,900	0
2	Pumping	3,262,100	2,144,700	1,084,800	0	0	0	32,600	0
3	Treatment	1,870,500	1,229,700	622,100	0	0	0	18,700	0
4	Transmission & Distribution	27,476,400	15,007,600	7,614,600	4,579,400	0	0	274,800	0
5	Meters & Services	6,993,600	0	0	0	6,993,600	0	0	0
6	Fire Hydrants	563,600	0	0	0	0	0	563,600	0
7	General Plant	1,584,500	906,000	245,100	120,400	284,300	0	28,700	0
8	Total Plant Assets	\$61,839,100	\$35,358,700	\$ 9,566,600	\$ 4,699,800	\$11,094,700	\$ 0	\$ 1,119,300	\$ 0
Less Other Revenue									
9	Miscellaneous Revenues	0	0	0	0	0	0	0	0
10	Other Adjustments	0	0	0	0	0	0	0	0
11	Net Capital Expenses	\$61,839,100	\$35,358,700	\$ 9,566,600	\$ 4,699,800	\$11,094,700	\$ 0	\$ 1,119,300	\$ 0

Table 3-6 Allocation of Capital Costs (Recycled Water)

Line No.	Description	Total Costs	Common to All Customers				
			Base	Extra Capacity		Customer	
			Base	Max. Day	Max. Hour	Meters	Cust./Bill.
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Recycled Water Utility							
Plant Assets							
1	Water Production	0	0	0	0	0	0
2	Pumping	0	0	0	0	0	0
3	Treatment	0	0	0	0	0	0
4	Transmission & Distribution	1,097,700	461,200	322,900	313,600	0	0
5	Meters	0	0	0	0	0	0
6	Total Plant Assets	\$ 1,097,700	\$ 461,200	\$ 322,900	\$ 313,600	\$ 0	\$ 0
Less Other Revenue							
7	Miscellaneous Revenues	0	0	0	0	0	0
8	Other Adjustments	0	0	0	0	0	0
9	Net Capital Expenses	\$ 1,097,700	\$ 461,200	\$ 322,900	\$ 313,600	\$ 0	\$ 0

3.3 Units of Service

To properly recognize the cost of service, each customer class receives its share of base, maximum day, peak hour, and customer costs. Following the allocation of costs, the total cost responsibility for each customer class is developed using unit costs of service for each cost function and subsequently assigning those costs to the customer classes based on the respective service requirements of each. The

number of units of service required by each customer class provides a means for the proportionate distribution of costs previously allocated to respective cost categories.

Table 3-7 summarizes the estimated TY 2024 units of service for the various customers. Base costs vary with the volume of water consumed and distributed to the customers on that basis. Extra Capacity costs are those associated with meeting peak demand rates of water use and distributed to the customers based on the respective class capacity requirements more than average rates of use. Black & Veatch followed the capacity factor methodology outlined in Appendix A of the AWWA M1 Manual to derive peak consumption information from the monthly consumption records in the City’s Customer Information System which helps provide the basis for estimating maximum day and peak hour ratios. The number of bills for each customer serves as the basis for distributing customer billing requirements. Customer meter requirements are allocated on an equivalent meter’s basis for each customer. The estimated number of equivalent meters for each customer relies on the total number of meters serving respective classes and the hydraulic capacity ratio of the meters to the 5/8 x 3/4-inch meter. The equivalent meter ratios adopted in this analysis are consistent with the AWWA M1 Manual. Private fire-protection costs allocations use equivalent fire hydrants.

3.4 Cost of Service Allocations

The Study applies the unit costs of service to each customer class’s respective service requirements to determine the cost of service for each customer class. The total unit costs of service applied to the respective requirements for each customer class results in the total cost of service for each customer class.

3.4.1 Units Costs of Service

The TY 2024 unit cost of service for each functional cost component is simply the total cost divided by the applicable units of service, as shown in Table 3-8 and Table 3-10. On Line 4, the total costs represent the cost that rates need to recover, as demonstrated in Table 3-1, Line 16 for the Water Utility, and Table 3-2, Line 11 for the Recycled Water Utility. The net O&M cost includes O&M (including water purchase) less revenue from other sources and adjustments. The total capital cost includes debt service payments and transfers to the Construction Fund. Line 6 represents the unit costs for the entire water and recycled water systems regardless of customer classes. After that, the unit costs are used to allocate the costs to the specific customer classes.

3.4.2 Distribution of Costs of Service to Customer Classes

Applying the unit costs to the units for each customer class produces the customer class costs. This process is illustrated in Table 3-9 and Table 3-11, in which unit costs are applied to the customer class units of service for TY 2024. The costs attributable to each customer class reflect the functional cost components described in Section 3.1. Each customer class places a burden on the system in different ways, and thus the allocation of the units is representative of this burden.

An example of the application of unit costs is shown below for illustrative purposes.

	Base Component
Unit Cost (Table 3-5, Line 6)	\$ 5.83 per HCF
General Customer Consumption (Table 3-6, Line 2)	6,704,673 HCF
Total Allocated Cost	\$ 39,092,800

Please note that the numbers within the tables are rounded, yet the calculations are done based on non-rounded values; therefore, results might vary.

Table 3-7 Units of Service (Water and Recycled Water)

Line No.	Description	Consumption		Maximum Day			Maximum Day			Meters	Cust/Bills	Fire Protection	Cross Connection
		Annual	Avg. Day	Factor	Total	Extra	Factor	Total	Extra				
	Column Reference	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Units of Measure	(HCF)	(HCF/day)		(HCF/day)	(HCF/day)		(HCF/day)	(HCF/day)	(EMs)	(bills)	(EHs)	(EMs)
Water Utility													
1	General Customer	6,704,673	18,369	168%	30,860	12,491	252%	46,290	15,430	45,924	321,646	0	0
2	Subtotal	6,704,673	18,369		30,860	12,491		46,290	15,430	45,924	321,646		
Fire Service													
3	Public Fire	0	0		558	558		4,465	3,907	0	0	3,437	0
4	Private Fire	0	0		284	284		2,273	1,989	0	15,354	1,750	0
5	Subtotal	0	0		842	842		6,738	5,896	0	15,354	5,187	0
Cross Connection													
6	Cross Connection										33,665	0	8,102
7	Subtotal	0	0		0	0		0	0	0	33,665	0	8,102
8	Total Water System	6,704,673	18,369		31,702	13,333		53,028	21,326	45,924	370,665	5,187	8,102
Recycled Water Utility													
9	General Customer	1,570,538	4,303	133%	5,723	1,420	200%	8,606	2,883	2,315	3,257	0	0
10	Subtotal	1,570,538	4,303		5,723	1,420		8,606	2,883	2,315	3,257	0	0

Table 3-8 Units Cost of Service (Water)

Line No.	Description	Total Costs	Common to All Customers					Fire Protection	Cross Connection	
			Base	Extra Capacity		Customer				
			Base	Max. Day	Max. Hour	Meters	Cust/Bill.			
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	
Water Utility										
1	Net Operating Expense	57,538,900	39,092,800	3,973,700	2,133,200	8,137,200	1,190,700	2,071,800	939,500	
2	Debt Service	0	0	0	0	0	0	0	0	
3	Capital Costs	0	0	0	0	0	0	0	0	
4	Total Cost of Service	\$ 57,538,900	\$ 39,092,800	\$ 3,973,700	\$ 2,133,200	\$ 8,137,200	\$ 1,190,700	\$ 2,071,800	\$ 939,500	
5	Units of Service (Total)		6,704,673	13,333	21,326	45,924	370,665	5,187	8,102	
			HCF	HCF/Day	HCF/Day	Eq. Meters	Bills	Eq. Hydrants	Eq. Meters	
6	Cost per Unit		\$ 5.83	\$ 298.03	\$ 100.03	\$ 177.19	\$ 3.21	\$ 399.46	\$ 115.96	
			per HCF	per HCF/Day	per HCF/Day	per Eq. Meter	per Bill	per Eq. Hydrant	per Eq. Meter	

Table 3-9 Distribution of Costs to Customer Classes (Water)

Line No.	Description	Total Costs (\$)	Common to All Customers					Fire Protection (\$)	Cross Connection
			Base	Extra Capacity		Customer			
			Base (\$)	Max. Day (\$)	Max. Hour (\$)	Meters (\$)	Cust/Bill. (\$)		
Water Utility									
General Customer									
1	Units		6,704,673	12,491	15,430	45,924	321,646	0	0
2	Allocation of costs of service	53,529,500	39,092,800	3,722,700	1,543,500	8,137,200	1,033,300	0	0
Public Fire									
3	Units		0	558	3,907	0	0	3,437	0
4	Allocation of costs of service	1,930,000	0	166,300	390,800	0	0	1,372,900	0
Private Fire									
5	Units		0	284	1,989	0	15,354	1,750	0
6	Allocation of costs of service	1,031,800	0	84,700	198,900	0	49,300	698,900	0
Cross Connection									
7	Units		0	0	0	0	33,665	0	8,102
8	Allocation of costs of service	1,047,600	0	0	0	0	108,100	0	939,500
7	TOTAL COSTS OF SERVICE	\$ 57,538,900	\$ 39,092,800	\$ 3,973,700	\$ 2,133,200	\$ 8,137,200	\$ 1,190,700	\$ 2,071,800	\$ 939,500

Table 3-10 Units Cost of Service (Recycled Water)

Line No.	Description	Total Costs	Common to All Customers				
			Base	Extra Capacity		Customer	
			Base	Max. Day	Max. Hour	Meters	Cust/Bill.
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Recycled Water Utility							
1	Net Operating Expense	7,186,900	6,436,800	224,600	89,000	433,100	3,400
2	Debt Service	0	0	0	0	0	0
3	Capital Costs	0	0	0	0	0	0
4	Total Cost of Service	\$ 7,186,900	\$ 6,436,800	\$ 224,600	\$ 89,000	\$ 433,100	\$ 3,400
5	Units of Service (Total)		1,570,538	1,420	2,883	2,315	3,257
			HCF	HCF/Day	HCF/Day	Eq. Meters	Bills
6	Cost per Unit		\$ 4.10	\$ 158.18	\$ 30.87	\$ 187.12	\$ 1.04
			per HCF	per HCF/Day	per HCF/Day	per Eq. Meter	per Bill

Table 3-11 Distribution of Costs to Customer Classes (Recycled Water)

Line No.	Description	Total Costs	Common to All Customers				
			Base	Extra Capacity		Customer	
			Base	Max. Day	Max. Hour	Meters	Cust/Bill.
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Recycled Water Utility							
General Customer							
1	Units		1,570,538	1,420	2,883	2,315	3,257
2	Allocation of costs of service	7,186,900	6,436,800	224,600	89,000	433,100	3,400
3	TOTAL COSTS OF SERVICE	\$ 7,186,900	\$ 6,436,800	\$ 224,600	\$ 89,000	\$ 433,100	\$ 3,400

4.0 Rate Design

The initial consideration in the derivation of rate schedules for water and recycled water service is establishing equitable charges to the customers commensurate with the cost of providing that service. While the cost-of-service allocations to customer classes should not be construed as literal or exact determinations, they offer a guide to the necessity for, and the extent of, rate adjustments. Practical considerations sometimes modify rate adjustments by considering additional factors such as the extent of bill impacts, existing contracts, and historical local policies and practices.

4.1 Existing Rates

The existing rates of the Water and Recycled Water Utilities consist of a fixed component in the form of a minimum monthly service charge and a variable component in the form of a consumption charge. The minimum monthly service charge is based on meter size and applied when consumption does not exceed the consumption allowance. The consumption charge is based on units of consumption (1 unit = 1 HCF = 748 gallons). The City has separate fixed charges for fire services and cross-connections. Table 2-3, presented earlier in this report, summarizes the existing water and recycled water rates.

4.2 Proposed Rates

The cost-of-service analysis described in the preceding sections of this report provides a basis for the design of water and recycled water rates.

4.2.1 Monthly Service Charge

Black & Veatch used meter ratios based on maximum operating capacities by meter size as shown in AWWA M1, Table B-1, which recognizes that as meter size increases, so does the capacity. For example, customers with a 4" meter expects to be able to use more water (at a higher flow capacity) than customers with a ¾" meter. Consequently, the City's water system must maintain assets sized accordingly and capable of providing customers the level of service expected from their meter connection when the tap turns on. The minimum monthly service charge recovers a portion of the costs associated with wholesale water purchase, meter maintenance and services, meter reading, bill issuance, and maintenance and capacity costs associated with public fire protection regardless of the level of water consumed.

Table 4-1 demonstrates the water cost elements incorporated into the minimum monthly service charge for FY 2024. Table 4-2 shows the Water Utility three-year fixed service charge rate schedule.

Table 4-1 Costs within the Minimum Monthly Service Charge for FY 2024 (Water)

Meter Size	Meter & Public Fire Protection				Billing			Total Service Charge
	Mtr Unit Cost	FP Unit Cost	Meter Ratio	Adjusted Unit Cost	Unit Cost	Bill Ratio	Adjusted Unit Cost	
	per EM	per EM		\$	per Bill		\$	\$/Month
5/8" x 3/4"	14.77	3.50	1.00	18.27	3.21	1.00	3.21	21.48
1"	14.77	3.50	1.67	30.45	3.21	1.00	3.21	33.66
1-1/2"	14.77	3.50	3.33	60.89	3.21	1.00	3.21	64.10
2"	14.77	3.50	5.33	97.43	3.21	1.00	3.21	100.64
3"	14.77	3.50	10.67	194.86	3.21	1.00	3.21	198.07
4"	14.77	3.50	16.67	304.46	3.21	1.00	3.21	307.67
6"	14.77	3.50	33.33	608.92	3.21	1.00	3.21	612.14
8"	14.77	3.50	53.33	974.28	3.21	1.00	3.21	977.49
10"	14.77	3.50	80.00	1,461.41	3.21	1.00	3.21	1,464.63
12"	14.77	3.50	112.50	2,055.11	3.21	1.00	3.21	2,058.33

Table 4-2 Proposed Minimum Monthly Service Charge (Water)

Customer Class	Proposed		
	FY 2024	FY 2025	FY 2026
Minimum Monthly Meter Rates (\$/Month)	\$/month	\$/month	\$/month
5/8" x 3/4"	21.48	23.36	25.42
1"	33.66	36.73	40.05
1-1/2"	64.10	70.16	76.63
2"	100.64	110.28	120.53
3"	198.07	217.27	237.60
4"	307.67	337.63	369.29
6"	612.14	671.96	735.12
8"	977.49	1,073.16	1,174.12
10"	1,464.63	1,608.10	1,759.44
12"	2,058.33	2,260.05	2,472.81

Table 4-3 demonstrates the recycled water cost elements incorporated into the minimum monthly service charge for FY 2024. Table 4-4 shows the Recycled Water Utility three-year fixed service charge rate schedule.

Table 4-3 Costs within the Minimum Monthly Service Charge for FY 2024 (Recycled Water)

Meter Size	Meter Services			Billing			Total Service Charge
	Mtr Unit Cost	Meter Ratio	Adjusted Unit Cost	Unit Cost	Bill Ratio	Adjusted Unit Cost	
	per EM		\$	per Bill		\$	\$/Month
5/8" x 3/4"	15.59	1.00	15.59	1.04	1.00	1.04	16.64
1"	15.59	1.67	25.99	1.04	1.00	1.04	27.03
1-1/2"	15.59	3.33	51.98	1.04	1.00	1.04	53.02
2"	15.59	5.33	83.16	1.04	1.00	1.04	84.21
3"	15.59	10.67	166.33	1.04	1.00	1.04	167.37
4"	15.59	16.67	259.89	1.04	1.00	1.04	260.93
6"	15.59	33.33	519.77	1.04	1.00	1.04	520.82
8"	15.59	53.33	831.64	1.04	1.00	1.04	832.68
10"	15.59	80.00	1,247.45	1.04	1.00	1.04	1,248.50
12"	15.59	112.50	1,754.23	1.04	1.00	1.04	1,755.27

Table 4-4 Proposed Minimum Monthly Service Charge (Recycled Water)

Customer Class	Proposed		
	FY 2024	FY 2025	FY 2026
Minimum Monthly Meter Rates (\$/Month)	\$/month	\$/month	\$/month
5/8" x 3/4"	16.64	18.28	20.23
1"	27.03	29.78	33.02
1-1/2"	53.02	58.53	64.99
2"	84.21	93.03	103.36
3"	167.37	185.04	205.69
4"	260.93	288.55	320.80
6"	520.82	576.08	640.55
8"	832.68	921.11	1,024.26
10"	1,248.50	1,381.16	1,535.87
12"	1,755.27	1,941.83	2,159.39

4.2.2 Fire Service

The fire service charge includes costs of issuing bills and maintenance and capacity costs associated with private fire protection. The fire service charge increases as pipeline diameter size increases. The Water Utility provides fire service to approximately 1,280 private fire service accounts. These customers have a water line connection to the water system specifically for fire protection. The Water Utility must design, operate, and maintain a water system that can meet peak fire demand requirements to meet fire protection demands. The Water Utility charges these accounts a fire service charge based on the diameter of the line that connects their fire protection system to the water system. Table 4-5 demonstrates the costs incorporated into the fire service charge, and Table 4-6 shows the three-year rate schedule based on unit costs in future years.

Table 4-5 Costs within the Fire Service Charge for FY 2024

Meter Size	Private Fire Protection			Total Service Charge
	Unit Cost	Meter Ratio	Adjusted Unit Cost	
	per EH			\$/Month
2"	49.15	0.06	2.95	2.95
4"	49.15	0.34	16.71	16.71
6"	49.15	1.00	49.15	49.15
8"	49.15	2.13	104.68	104.68
10"	49.15	3.83	188.23	188.23
12"	49.15	6.19	304.21	304.21

Table 4-6 Proposed Fire Service Charge

Customer Class	Proposed		
	FY 2024	FY 2025	FY 2026
Fire Service (\$/Month)	\$/month	\$/month	\$/month
2"	2.95	3.12	3.29
4"	16.71	17.66	18.67
6"	49.15	51.93	54.91
8"	104.68	110.61	116.97
10"	188.23	198.89	210.32
12"	304.21	321.45	339.92

4.2.3 Cross Connection

The cross-connection charge includes costs of issuing bills and maintenance and replacement costs associated with backflow devices. The cross-connection charge increases as pipeline diameter size increases. The Water Utility provides backflow services to approximately 2,805 accounts. These customers have a backflow device that prevents possible contaminated water from entering the water system. The Water Utility maintains and replaces the devices accordingly to ensure that the devices are working properly. The Water Utility charges the accounts a cross-connection charge based on the diameter of the line that connects their service to the water system. Table 4-7 demonstrates the costs incorporated into the cross-connection charge, and Table 4-8 shows the three-year rate schedule.

Table 4-7 Costs within the Cross-Connection Charge for FY 2024

Meter Size	Cross Connection			Total Service Charge
	Unit Cost	Meter Ratio	Adjusted Unit Cost	
	per EM			\$/Month
1"	10.78	0.63	6.73	6.73
2"	10.78	1.00	10.78	10.78
3"	10.78	2.00	21.55	21.55
4"	10.78	3.13	33.67	33.67
6"	10.78	6.25	67.34	67.34
8"	10.78	10.00	107.75	107.75
10"	10.78	15.00	161.63	161.63

Table 4-8 Proposed Cross Connection Charge

Customer Class	Proposed		
	FY 2024	FY 2025	FY 2026
Cross Connection (\$/Month)	\$/month	\$/month	\$/month
1"	6.73	6.97	7.39
2"	10.78	11.15	11.82
3"	21.55	22.29	23.64
4"	33.67	34.83	36.94
6"	67.34	69.67	73.88
8"	107.75	111.47	118.21
10"	161.63	167.20	177.32

4.2.4 Consumption Charge

This consumption charge is designed to recover costs associated with the base and extra capacity demands. These costs include fixed and variable costs incurred by the water and recycled water system while providing the average annual usage and peaking demands. While most of the costs are fixed, such as personnel and direct and indirect charges, variable costs represent most of the costs through water production and water purchase. Table 4-9 shows the three-year rate schedule for both the Water and Recycled Water Utilities. For the Recycled Water Utility, the industrial process is part of general customers.

Table 4-9 Proposed Consumption Charges

Customer Class	Proposed		
	FY 2024	FY 2025	FY 2026
	\$/HCF	\$/HCF	\$/HCF
Consumption Charges (\$/HCF)			
Water Utility			
General Customer	7.97	8.70	9.49
Recycled Water Utility			
General Customers	4.53	5.03	5.58

4.3 Typical Monthly Costs under Proposed Charges

Table 4-10 and Table 4-11 compare typical monthly costs under existing rates and the proposed schedule of water and recycled water user rates derived in this study.

Table 4-10 Typical Monthly Bill (Water)

Customer Class	Typical Monthly Usage (HCF)	FY 2023 Existing Rates (\$)	FY 2024 Proposed Rates (\$)
Water Utility			
General Customer	0	\$20.54	\$21.48
	3	\$20.54	\$21.48
	5	\$36.65	\$39.84
	10	\$73.30	\$79.67
	12	\$87.96	\$95.61
	20	\$146.60	\$159.34
	30	\$219.90	\$239.02
	40	\$293.20	\$318.69
	50	\$366.50	\$398.36

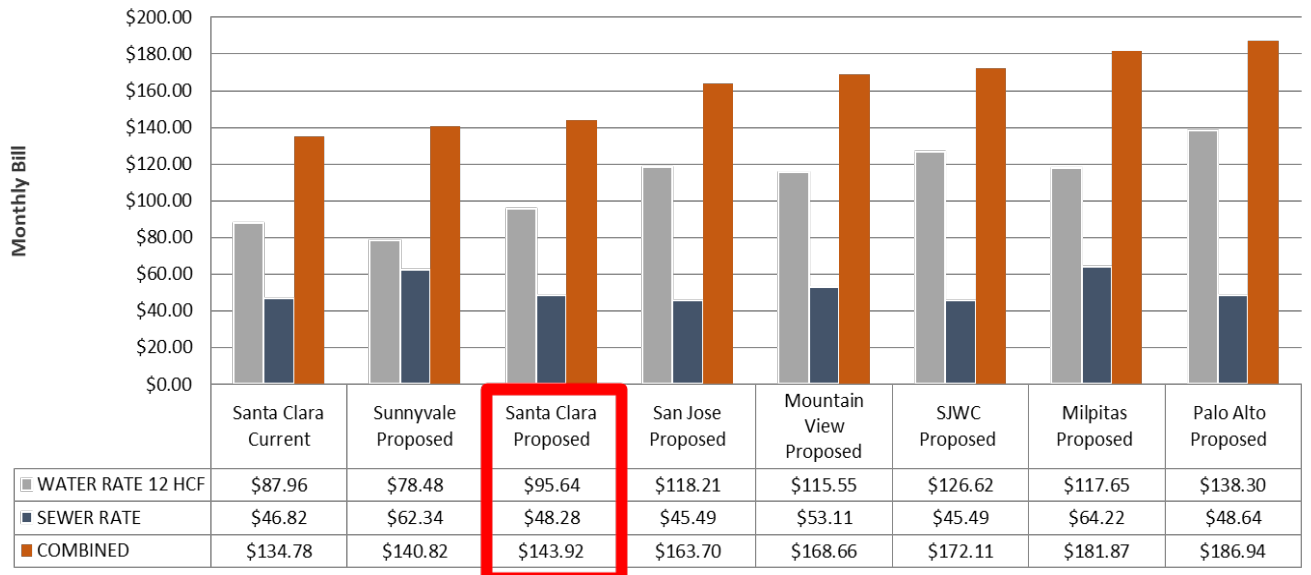
Table 4-11 Typical Monthly Bill (Recycled Water)

Customer Class	Typical Monthly Usage (HCF)	FY 2023 Existing Rates (\$)	FY 2024 Proposed Rates (\$)
Recycled Water Utility			
General Customer	0	\$15.50	\$16.64
	3	\$15.50	\$16.64
	5	\$20.60	\$22.66
	10	\$41.20	\$45.33
	12	\$49.44	\$54.39
	20	\$82.40	\$90.65
	30	\$123.60	\$135.98
	40	\$164.80	\$181.31
	50	\$206.00	\$226.64

4.4 Neighboring Water Utilities

Presented in Figure 4-1 are the proposed rates compared to rates of neighboring cities for a single-family residential customer with a 5/8" x 3/4" meter consuming 12 units of water. Based on the comparison, the City is currently one of the lowest water providers in the area. With the proposed rate increases, the City remains the lowest water provider of the surveyed communities. All surveyed community rates are current as of June 1, 2023.

Figure 4-1 Comparison to Neighboring Water Utilities



Sewer Utility

5.0 Revenue and Revenue Requirements

To meet the costs associated with providing sewer services to its customers, the Sewer Utility derives revenue from a variety of sources, including sewer user charges (rates), outlet charges, conveyance fees, connection charges, interest earned from the investment of available funds, engineering fees, and other miscellaneous revenues. The Sewer Utility is constantly looking for other sources of revenue, such as loans, bonds, and grants. Black & Veatch has projected the level of future revenue generated in the Study through an analysis of historical and future system growth in terms of the number of EDUs, bills, and contributed sewage flow. This section also projects the expenses, or revenue requirements, necessary to operate and maintain the system, invest in capital improvements, make debt service payments, and cover other sewer system expenses.

5.1 CUSTOMER AND WATER CONSUMPTION PROJECTIONS

5.1.1 Customer Classes

The Sewer Utility's customers include both residential and non-residential customers. The City has the following customer classes:

- Residential: Single-family residential and multi-family residential.
- Non-Residential: Amusement Parks; Auto Dealers & Service Stations; Churches; Electric & Electronic Equipment; Food & Kindred Products; Hospitals & Convalescent Homes; Industrial Chemical; Industrial Water Treatment; Laundries; Machinery Manufacturers; Metal Plating; Motels & Hotels; Paper; Repair Shops & Car Washes; Restaurants; Schools & Colleges; and Commercial/Industrial/Miscellaneous (catch-all for remainder of non-residential customers).
- Major Users: Major Users customer class is composed of major commercial and industrial users who are identified based on the following:²
 - Have a sewage discharge of at least 25,000 gallons per day; or
 - Have a daily discharge that is intermittent or irregular in strength, amount, or nature.

5.1.2 Equivalent Dwelling Units

The City provides sewer services to approximately 26,000 customers. All customers generating sewage flow connect to the sewer system. Since the City bills residential customers based on EDUs, a review of historical EDUs patterns for customers, and anticipated growth within the City, the projected total number of EDUs is expected to grow at 0.1% annually over the Study period. An EDU represents a single-family residential customer equivalent with a flow of 245 gallons per day and strengths of 250 mg/L of Biological Oxygen Demand (BOD), 250 mg/L of Total Suspended Solids (TSS), and 35 mg/L of Ammonia (NH₃).

Table 5-1 summarizes the projected number of EDUs for the Sewer Utility.

² City Website, Schedule S-16 Monthly Sewer Service Charges, <<http://www.santaclaraca.gov/government/departments/water-sewer-utilities/water-sewer-and-recycled-water-rates/sewer-rates>>

Table 5-1 EDUs

Line No.	Description	Fiscal Year Ending June 30,		
		FY 2024 (EDUs)	FY 2025 (EDUs)	FY 2026 (EDUs)
1	Single Family	247,975	248,223	248,471
2	Multi Family	297,188	297,485	297,782
3	Total	545,163	545,708	546,253

5.1.3 Minimum Bills

The City bills non-residential customers primarily on contributed sewage flow and imposes a minimum bill on those whose flow charges do not exceed the included volume allowance within the monthly service charge. The City refers to these bills as minimum monthly service bills. Therefore, a review of historical minimum bills patterns for non-residential customers and anticipated growth within the City, the projected total number of minimum bills are expected to grow 0.5% annually over the Study period.

Table 5-2 summarizes the projected number of minimum monthly service bills for the Sewer Utility.

Table 5-2 Minimum Monthly Service Bills

Line No.	Description	Fiscal Year Ending June 30,		
		FY 2024 (Bills)	FY 2025 (Bills)	FY 2026 (Bills)
1	Amusement Parks	111	112	113
2	Auto Dealers & Service Station	370	372	374
3	Churches	238	239	240
4	Commercial/Industrial/Miscellaneous	9,710	9,759	9,808
5	Electric & Electronic Equip.	396	398	400
6	Food and Kindred Products	24	24	24
7	Hospitals & Convalescent Homes	299	300	302
8	Industrial Chemical	47	47	47
9	Laundries	121	122	123
10	Machinery Manufacturers	671	674	677
11	Metal Plating	91	91	91
12	Motels & Hotels	43	43	43
13	Paper	13	13	13
14	Repair Shops & Car Washes	462	464	466
15	Restaurants	234	235	236
16	Schools & Colleges	500	503	506
17	Total	13,330	13,396	13,463

5.1.4 Contributed Sewage Flow

The City charges all its non-residential customers based on contributed sewage flow, which is determined by multiplying water consumption by a return factor. In determining the projected sewage flow, Black & Veatch analyzed historical sewage flow patterns in conjunction with a projected estimate of future water consumption. Since 2016, water consumption has slowly increased from historic lows experienced during mandated drought restrictions. Despite the increase, the City's Water Shortage Contingency Plan remains in effect, and customers have made conservation a way of life. The Water Utility, therefore, expects consumption to continue to rebound slowly. Experience would indicate that after strict water

conservation measures are lifted, the rebound in consumption is usually associated with discretionary water such as irrigation. Much of this water does not make it to the sewer system; therefore, the City projects that sewage flow will grow by 0.5% annually over the Study period.

Table 5-3 shows the projected sewage flow generated for the Study period. The City contributed sewage flow in units of HCF for non-residential customers.

Table 5-3 Contributed Sewage Flow

Line No.	Description	Fiscal Year Ending June 30,		
		FY 2024 (HCF)	FY 2025 (HCF)	FY 2026 (HCF)
1	Amusement Parks	67,971	68,311	68,653
2	Auto Dealers & Service Station	23,321	23,438	23,555
3	Churches	16,517	16,600	16,683
4	Commercial/Industrial/Miscellaneous	1,251,602	1,257,860	1,264,149
5	Electric & Electronic Equip.	462,397	464,709	467,033
6	Food and Kindred Products	17,978	18,067	18,158
7	Hospitals & Convalescent Homes	91,140	91,596	92,054
8	Industrial Chemical	13,642	13,711	13,780
9	Laundries	24,340	24,462	24,584
10	Machinery Manufacturers	37,858	38,047	38,237
11	Metal Plating	6,682	6,715	6,749
12	Motels & Hotels	107,455	107,992	108,532
13	Paper	140,821	141,525	142,233
14	Repair Shops & Car Washes	11,309	11,366	11,423
15	Restaurants	75,560	75,938	76,318
16	Schools & Colleges	42,427	42,639	42,852
17	Total (HCF)	2,391,020	2,402,976	2,414,993
18	Total (AF)	5,489	5,516	5,544

5.1.5 Major Users

The City charges major commercial and industrial sewer customers based on contributed sewage flow and strength loadings. Major users are identified individually, as each customer places different burdens on the sewer system. The City had one identified Major User customer.

Table 5-4 shows the flow and loadings associated with this customer over the Study period.

Table 5-4 Major Users

Line No.	Description	Fiscal Year Ending June 30,		
		FY 2024	FY 2025	FY 2026
Major Users				
Operating and Maintenance Cost Recovery				
1	Volume (MG)	95	95	95
2	BOD (1,000 lbs)	989	989	989
3	SS (1,000 lbs)	443	443	443
4	NH3 (1,000 lbs)	8	8	8
Annual Capital Cost Recovery				
5	Volume (MGD)	0.26	0.26	0.26
6	BOD (1,000 lbs/day)	2.71	2.71	2.71
7	SS (1,000 lbs/day)	1.21	1.21	1.21
8	NH3 (1,000 lbs/day)	0.02	0.02	0.02

5.2 Revenue under Existing Rates

Sewer user rates serve as the primary source of revenue for the Sewer Utility. Therefore, the level of future rate revenue is important in developing a long-range financial plan. Rate revenue is determined by multiplying the projected system growth in terms of the number of EDUs, minimum monthly service bills, contributed sewage flow, and major user flow and loadings by the applicable rates to determine sewer rate revenue.

Table 5-5 shows the Sewer Utility’s current schedule of charges. It is important to note that the minimum monthly service charge applies to non-residential customers that do not exceed the base amount. Therefore, the minimum monthly service charge serves as a baseline cost that the City needs to recover. The City maintains a separate schedule of rates based on the customer classes identified in Section 5.1.

Table 5-5 Existing Sewer Rates

Description	Existing FY 2023	Description	Existing FY 2023
Residential	(\$/EDU)	Major Commercial and Industrial Users	
Single Family	46.82	Annual Capital Cost Recovery	
Multi-Family	44.69	Volume (per MGD)	1,087,371
Non-Residential [1]	(\$/HCF)	BOD [2] (per 1,000 lbs/day)	75,537
Amusement Parks	5.67	SS [3] (per 1,000 lbs/day)	52,105
Auto Dealers & Service Station	6.17	NH3 [4] (per 1,000 lbs/day)	178,596
Churches	5.15	Operating and Maintenance Cost Recovery	
Com/Ind/Misc	5.41	Volume (per MG)	2,993.84
Electric & Electronic Equip.	5.11	BOD [2] (per 1,000 lbs)	497.33
Food and Kindred Products	12.60	SS [3] (per 1,000 lbs)	628.54
Hospitals & Convalescent Homes	6.21	NH3 [4] (per 1,000 lbs)	5,159.79
Industrial Chemical	9.29		
Laundries	5.57		
Machinery Manufacturers	7.57		
Metal Plating	4.14		
Motels & Hotels	6.59		
Paper	12.94		
Repair Shops & Car Washes	4.77		
Restaurants	12.83		
Schools & Colleges	6.00		

1. In no case shall the minimum charge be less than \$46.82 per month.

Table 5-6 summarizes projected sewer rate revenue under existing rates. As shown, the revenue generated stays relatively flat over the Study period in conjunction with the number of EDUs, minimum bills, billed sewage flow, and major user volume and loadings. The projected Sewer Utility revenues increase from \$39.8M in FY 2024 to \$40.0M in FY 2026.

Table 5-6 Projected Revenue under Existing Rates

Line No.	Description	Fiscal Year Ending June 30,		
		FY 2024	FY 2025	FY 2026
		(\$)	(\$)	(\$)
1	Single Family	11,735,700	11,747,400	11,759,200
2	Multi-Family	13,281,700	13,295,000	13,308,300
3	Amusement Parks	390,600	392,500	394,600
4	Auto Dealers & Service Station	161,200	162,000	162,800
5	Churches	96,200	96,700	97,100
6	Com/Ind/Misc	7,225,800	7,261,900	7,298,200
7	Electric & Electronic Equip.	2,381,300	2,393,300	2,405,200
8	Food and Kindred Products	178,000	179,000	179,800
9	Hospitals & Convalescent Homes	580,000	582,800	585,800
10	Industrial Chemical	67,200	67,500	67,900
11	Laundries	141,300	142,000	142,700
12	Machinery Manufacturers	318,000	319,600	321,200
13	Metal Plating	32,000	32,100	32,200
14	Motels & Hotels	710,100	713,700	717,200
15	Paper	1,213,100	1,219,200	1,225,300
16	Repair Shops & Car Washes	75,500	75,900	76,300
17	Restaurants	980,400	985,300	990,200
18	Schools & Colleges	278,000	279,400	280,800
19	Major Users - Customer 1	0	0	0
20	Total	\$ 39,846,100	\$ 39,945,300	\$ 40,044,800

5.3 Other Revenue

Other operating sources include charges for revenue from other agencies served by Santa Clara, sewer lateral video inspections, sewer clean-out installations, interest on investments, and other miscellaneous revenues. In total, other operating revenues represent 2.5% of the Sewer Utility’s total revenue. The City anticipates that these revenues will remain relatively constant for the duration of the Study period.

5.4 Operating and Maintenance Expenses

Table 5-7 summarizes the Sewer Utility’s projected O&M expenses for the Study Period. These expenses include costs related to salaries and benefits, materials and supplies, contract and professional services, RWF costs, indirect and direct costs, and routine capital outlay. The City anticipates that all O&M expenditures, excluding Water Pollution Control Plant costs, will increase on average by 4.1% annually from the FY 2024.

The Sewer Utility receives treatment services from the RWF operated and maintained by the City of San Jose. While the City has an ownership stake in the RWF, the City must still pay for O&M associated with operating the facility. Based on the City of San Jose estimates, the City expects RWF O&M costs to increase by approximately 3.0% annually over the Study period.

Table 5-7 O&M Expenses

Line No.	Description	Fiscal Year Ending June 30,		
		FY 2024	FY 2025	FY 2026
		(\$)	(\$)	(\$)
1	Salaries	3,151,900	3,296,900	3,415,600
2	Benefits	1,756,500	1,842,300	1,934,200
3	Materials/Services/Supplies	589,000	600,800	612,800
4	Interfund Services	3,404,925	3,532,405	3,685,255
5	Resource & Production	19,912,900	20,510,300	21,125,600
6	Capital Outlay	1,248,000	1,297,900	1,349,800
7	Total	\$ 30,063,225	\$ 31,080,605	\$ 32,123,255

As shown in Table 5-7, the Sewer Utility’s O&M expenses increase from \$30.1M in FY 2024 to \$32.1M in FY 2026.

5.5 Debt Service Requirements

Table 5-8 represents the Sewer Utility’s existing and proposed debt service obligations. This table shows the combined principal and interest requirements on the existing debt over the Study period. It is common practice for utilities to debt finance large capital improvement projects, such as in the case of Trimble Road sewer trunk line replacement in Santa Clara. By financing the cost of the projects, the City can fund large projects immediately and spread the payment over a specified time frame, thereby helping to offset the impact on ratepayers.

Table 5-8 Long-Term Debt Service

Line No.	Description	Fiscal Year Ending June 30,		
		FY 2024	FY 2025	FY 2026
		(\$)	(\$)	(\$)
1	Existing Short and Long-Term Loan	2,842,600	2,842,900	2,843,400
2	Proposed Short-Term and Rev Bonds	0	0	0
3	Total	\$ 2,842,600	\$ 2,842,900	\$ 2,843,400

5.6 Capital Improvement Program

The Sewer Utility annually develops a five-year Capital Improvement Plan to identify sewer system needs, including ongoing assessments, maintenance, and renewal and replacement requirements.

Table 5-9 summarizes the Sewer Utility’s CIP for FY 2024 through FY 2026. The Sewer Utility is projecting \$51.5M in CIP over the Study period, including capital and replacement projects. The City has posted the CIP Budget on its website for complete details associated with each CIP project.

Table 5-9 Capital Improvement Projects

Line No.	Description	Fiscal Year Ending June 30,		
		FY 2024	FY 2025	FY 2026
		(\$)	(\$)	(\$)
1	1908 SJ-SC Regional Wastewater Facility	12,886,300	15,614,300	11,342,900
2	1909 Sanitary Sewer Capacity Improvements	217,400	225,600	234,200
3	1911 Sanitary Sewer System Condition Assessment	518,900	538,600	0
4	1912 Sanitary Sewer System Improvements	6,746,000	0	2,235,700
5	1919 Sanitary Sewer Hydraulic Modeling As Needed Support	124,500	129,300	335,400
6	Total	\$ 20,493,100	\$ 16,507,800	\$ 14,148,200

5.6.1 Capital Improvement Financing Plan

The City funds annual expenditures for the CIP from a combination of available funds on hand, outlet charges, conveyance fees, debt financing, connection charges, developer contributions, and revenues derived from user rates. As shown in Table 5-10, the average annual CIP expenditure is \$17.1 for the Sewer Utility. The planned average annual CIP contribution from the Sewer Utility Operating Fund is \$11.3M per year over the Study period.

Table 5-10 Construction Fund Financing Plan

Line No.	Description	Fiscal Year Ending June 30,		
		FY 2024	FY 2025	FY 2026
Source of Funds				
1	Sanitary Outlet Charge	0	0	0
2	Sewer Conveyance Fee	3,500,000	3,500,000	3,500,000
3	Intra Transfer In - Debt Financing	0	0	0
4	Intra Transfer In - Customer Service Charge	14,000,000	14,000,000	15,000,000
5	Refund from San Jose/Cupertino	0	0	0
6	Total Sources	\$ 17,500,000	\$ 17,500,000	\$ 18,500,000
Use of Funds				
7	Improvements Projects	7,389,400	667,900	2,571,100
8	Total Uses	\$ 7,389,400	\$ 667,900	\$ 2,571,100
9	Net Annual Cash Balance	10,110,600	16,832,100	15,928,900
10	Beginning Unrestricted Fund Balance	12,097,062	9,321,362	10,539,162
11	Net Cumulative Fund Balance	\$ 22,207,662	\$ 26,153,462	\$ 26,468,062
12	Minimum Construction Reserves	\$ 8,475,050	\$ 8,242,550	\$ 17,316,300

5.7 Transfers

The Sewer Utility will perform transfers over the Study period from the Operating Fund and other funds. The other funds consist of the Rate Stabilization Fund, Pension Stabilization Fund, and Construction

Fund. See Section 5.8 for further explanation on Rate Stabilization and Pension Stabilization Funds. The Construction Fund transfers represent money to cover planned CIP project expenditures. All these transfers do not represent direct operating expenses for the enterprise. Therefore Black & Veatch includes these costs as “below-the-line” cash flow items and not included as O&M expenses. Table 5-11, Lines 19 to 21 for the Sewer Utility reflect these associated amounts.

5.8 Reserves

A utility typically establishes reserves for several reasons, such as covering shortfalls in operating revenues, maintaining strong bond ratings, covering day-to-day operating costs, and easing the burden on ratepayers associated with large rate increases. Per the reserve policy, the Sewer Utility will maintain the following four reserves:

- Operating Reserve represents working capital maintained by the Operating Fund to cover day-to-day expenses and maintain enough funds to cover accounts receivables if there are supplier issues, periods of lower-than-expected sewer revenues, or unforeseen cost increases. The reserve will maintain a minimum balance of 90 days of operating expenses once fully funded
- Construction Reserve represents funds used for unforeseen and unbudgeted capital costs. Once fully funded, this reserve will maintain a minimum balance of 12-months of the following year’s planned City CIP and 6-months of the following year’s planned RWF CIP.
- Rate Stabilization Reserve represents funds used to absorb revenue shortfalls due to short-term decreases in sewer sales. This reserve is designed to stabilize sewer rate revenue and avoid wide swings in rates charged to customers over time. The reserve will maintain a minimum balance of 10% of sewer rate revenue when fully funded.
- Pension Stabilization Reserve represents funds used to pay for the unfunded pension liabilities and the increase in the City’s share of pension costs due to factors such as higher CalPERS rates and negotiated pay increases. The reserve target is \$1.2M for the Sewer Utility by FY 2030.

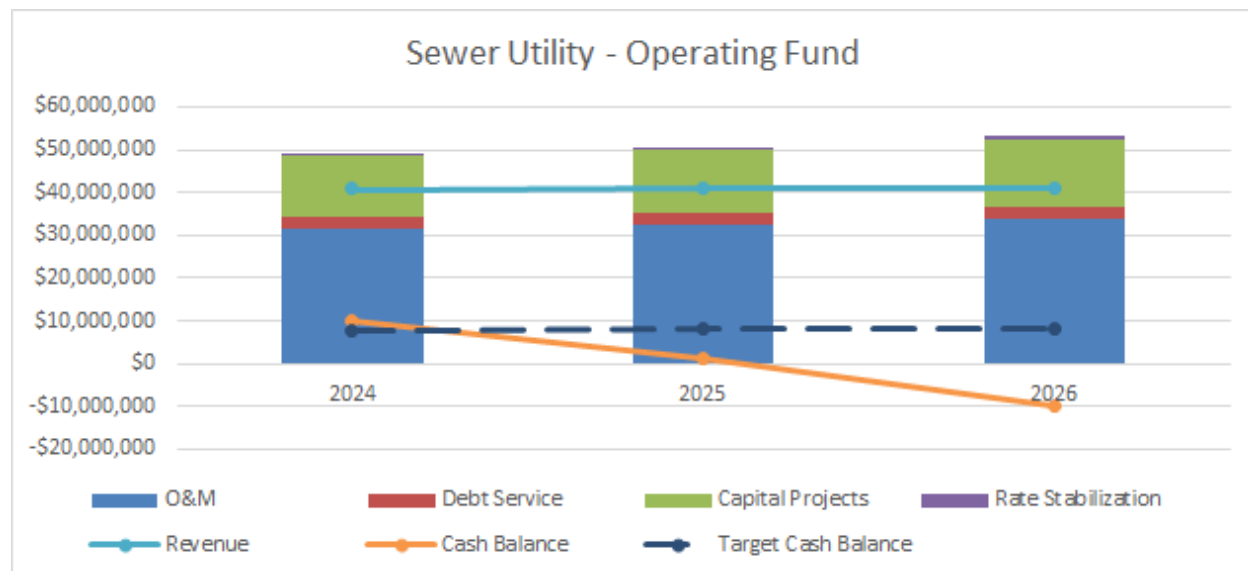
Appropriate reserve levels help the Sewer Utility maintain liquidity and demonstrate to the rating agencies that the City’s financial policies and practices are focused on maintaining a balanced financial position.

5.9 Projected Operating Results

The revenue requirements of the Sewer Utility consist of O&M expenses, debt service, capital expenditures, and reserve requirements.

It is important to examine the cash flow projections under the status quo scenario to fully understand the current condition of the Sewer Utility and the need for revenue adjustments. As shown in Figure 5-1, the status quo conditions would project that the Sewer Utility would operate from an annual deficit position, thus tapping into its reserves. In this scenario, the Sewer Utility would not impose any revenue increases over the Study Period and continue to incur O&M expenses, pay for the execution of the planned CIP, and transfer to reserves.

Figure 5-1 Status Quo Operating Cash Flow



The Sewer Utility will fall into a deficit position if the City does not implement the revenue increases, as shown in Figure 5-1. The revenue increases represent the overall total revenue adjustment needed to meet revenue requirements. The revenue adjustment does not represent adjustments to the individual rates but reflects the overall level of revenue needed to meet the Sewer Utility’s obligations.

The suggested revenue increases help the Sewer Utility meet the following goals:

- Meet budgeted operating obligations in the three FYs.
- Meet planned capital investments in the three FYs.
- Maintain an operating reserve of 90 days of operating expenses.
- Maintain construction reserve of 12-months of next year’s CIP for City projects and 6-months of next year’s CIP for the RWF.
- Continue to fund the rate stabilization reserve to reach its goal of 10% of rate revenues.
- Continue transfers for the pension stabilization reserve to meet the FY 2030 goal.

Shown in Table 5-11 is a summary of the proposed Operating Fund for the Study Period. The Operating Fund consists of 1) Revenue and 2) Revenue Requirements.

Revenue

- Line 1 is the revenue under existing rates.
- Lines 2 through 4 are the additional revenue generated from the required annual revenue increases. The additional revenue generated is a direct reflection of the number of months the increase is effective for, and therefore amount might calculate at less than that stated amount.
- Line 6 is the total revenue generated from user charges.
- Line 12 represents other operating revenues.
- Line 13 represents total revenues for the enterprises.

Revenue Requirements

- Line 15 represents O&M expenses. The O&M expenses include RWF costs.
- Line 18 represents debt service payments.
- Line 22 represents transfers. The transfers include money to the Rate Stabilization Fund, Other Fund, Pension Fund, and Construction Fund.
- Line 23 represents total revenue requirements.

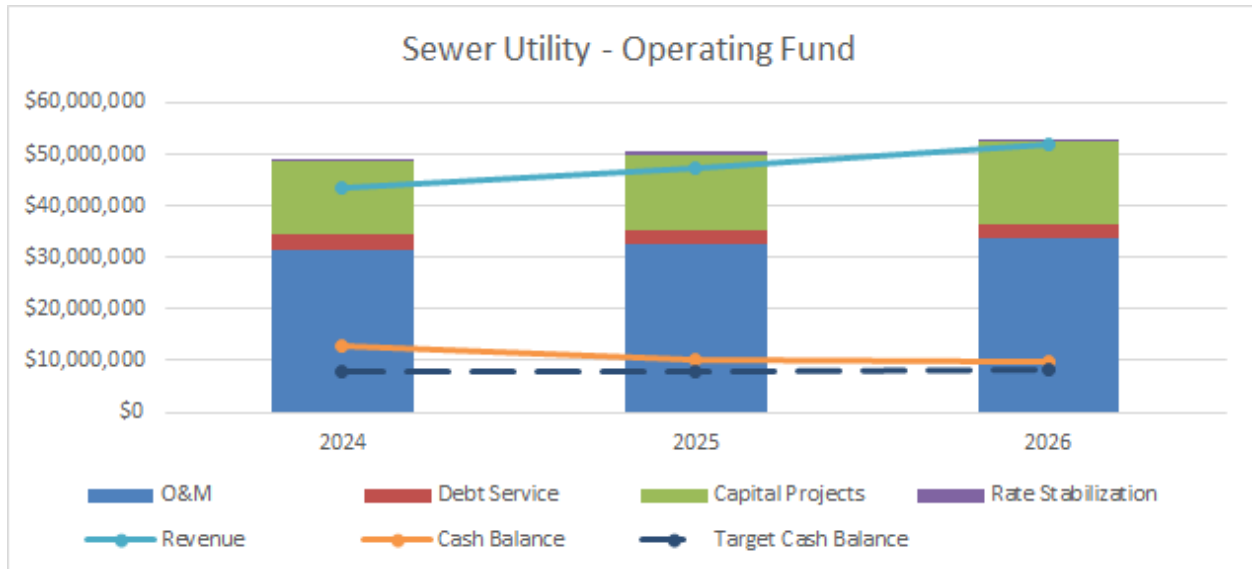
Line 26 represents the net cumulative cash balance within the Operating Funds. The net cumulative cash balance intends to match, to the extent possible, Line 27. The cash balance reserve is required to ensure the Operation Fund can continue in the event of a supplier interruption, market price fluctuations of critical equipment or supplies or an abrupt drop in account receivables. The reserve target minimum is 90 days of O&M expenses. Line 28 represents the debt service coverage. Currently, the City does not have debt coverage requirements for the short-term loans, but the operating cash flow is set up to achieve a debt service coverage of 1.25x requirement is met in all years. The requirement will come into effect when long-term debt is used to refinance the short-term loans. The lending financial institution sets the debt service coverage ratio via a rate covenant that will also obligate the City to increase revenues as needed to meet the minimum debt service coverage requirement.

Table 5-11 Operating Fund (Sewer)

Line No.	Description	Fiscal Year Ending June 30,				
		FY 2024	FY 2025	FY 2026		
Revenue						
Rate Revenue						
1	Revenue from Existing Rates	39,888,000	39,987,300	40,086,800		
	Months					
	Year	Effective	Rate Adj			
2	2024	12	6.25%	2,493,000	2,499,200	2,505,400
3	2025	12	9.00%		3,823,800	3,833,300
4	2026	12	9.00%			4,178,300
5	Increased Revenue Due to Adjustments			2,493,000	6,323,000	10,517,000
6	Subtotal Rate Revenue			\$ 42,381,000	\$ 46,310,300	\$ 50,603,800
Other Operating Revenue						
7	System Administration (Interest Income)			622,300	633,800	645,600
8	System Maintenance			98,300	98,300	98,300
9	Operations			350,000	350,000	350,000
10	SJ SC Water Pollution Control Plant			0	0	0
11	Storm Pump Maintenance			0	0	0
12	Subtotal Other Operating Revenue			\$ 1,070,600	\$ 1,082,100	\$ 1,093,900
13	Total Revenue			\$ 43,451,600	\$ 47,392,400	\$ 51,697,700
Revenue Requirements						
Operating & Maintenance						
14	O&M Expenses			31,491,500	32,537,500	33,609,300
15	Subtotal O&M			\$ 31,491,500	\$ 32,537,500	\$ 33,609,300
Debt Service						
16	Existing Loans/Bonds			2,842,600	2,842,900	2,843,400
17	Proposed Loans/Bonds			0	0	0
18	Total Debt Service			\$ 2,842,600	\$ 2,842,900	\$ 2,843,400
Transfers						
19	Transfer to Rate Stabilization Fund			250,000	500,000	750,000
20	Transfer to Pension Stabilization Fund			78,200	78,200	78,200
21	Transfer to Sewer Construction Fund			14,000,000	14,000,000	15,000,000
22	Total Transfers			\$ 14,328,200	\$ 14,578,200	\$ 15,828,200
23	Total Revenue Requirements			\$ 48,662,300	\$ 49,958,600	\$ 52,280,900
24	Net Annual Cash Balance			(5,210,700)	(2,566,200)	(583,200)
25	Beginning Fund Balance			17,925,987	12,715,287	10,149,087
26	Net Cumulative Fund Balance			\$ 12,715,287	\$ 10,149,087	\$ 9,565,887
27	Minimum Operating Reserves (90 Days)			\$ 7,765,000	\$ 8,022,900	\$ 8,287,200
28	Debt Service Coverage (Min 1.25)			4.21	5.23	6.36

Figure 5-2 presents the proposed Operating Fund.

Figure 5-2 Sewer Operating Cash Flow



6.0 Cost of Service Analysis

The cost-of-service analysis requires that the utility recover needed revenues from rates for sewer service, which are allocated to customer classes according to the service rendered. An equitable rate structure allocates the capture of revenue requirements to customer classes based on contributed sewage volume, strengths, number of customer connections, and other relevant factors.

In analyzing the Sewer Utility’s cost of service for allocation to its customer classes, Black & Veatch selected the annual revenue requirements for FY 2024 as the Test Year requirements to demonstrate the development of cost-of-service sewer rates. Table 6-1 summarizes the total costs of service that need to be recovered from sewer user rates. The table represents TY 2024.

Table 6-1 Cost of Service Revenue from Rates

Line No.	Description	Operating Expense	Capital Cost	Total Cost
		(\$)	(\$)	(\$)
Revenue Requirements				
1	O&M Expense	31,491,500	0	31,491,500
2	Debt Service Requirements	0	2,842,600	2,842,600
3	Transfers	328,200	14,000,000	14,328,200
4	Subtotal	\$ 31,819,700	\$ 16,842,600	\$ 48,662,300
Less Revenue Requirements Met from Other Sources				
5	System Administration	622,300	0	622,300
6	System Maintenance	98,300	0	98,300
7	Operations	350,000	0	350,000
8	SJ SC Water Pollution Control Plant	0	0	0
9	Storm Pump Maintenance	0	0	0
10	Subtotal	\$ 1,070,600	\$ 0	\$ 1,070,600
Adjustments				
11	Adjustment for Annual Cash Balance	5,210,700	0	5,210,700
12	Subtotal	\$ 5,210,700	\$ 0	\$ 5,210,700
13	Cost of Service to be Recovered from Rates	\$ 25,538,400	\$ 16,842,600	\$ 42,381,000

To derive the net revenue requirement recovered through rates, it is necessary to deduct revenues from other sources as shown in Line 10 which corresponds with Table 5-11, Line 12. Shown in Line 4 is the total revenue requirement that corresponds with Table 5-11, Line 23. Line 11 represents the net annual cash balance during the TY. If the enterprise is drawing down funds already in the Operating Fund, this number is positive. The number will be negative if the enterprise is replacing funds. In the case of the Sewer Utility, the \$5.2M figure indicates that the forecast is projecting a negative cash balance for the year.

6.1 Functional Cost Components

The first step in conducting a cost-of-service analysis involves analyzing the cost of providing sewer service by system function to properly allocate the costs to the various customer classes and, subsequently, design rates. As a basis for allocating costs of service among customer classes, costs are

separated into the following four basic functional cost components: (1) Base; (2) Strength; (3) Customer; and (4) Direct Assignment, described as follows:

- Base costs represent operating and capital costs of the system associated with collection. The collection costs vary directly with the quantity of sewage flow.
- Strength costs represent those operating and capital costs associated with treatment. The treatment costs are specifically related to strength parameters such as Biological Oxygen Demand, Total Suspended Solids, and Ammonia.
- Customer costs are those expenditures that tend to vary in proportion to the number of customers connected to the system. These include meter reading, billing, collecting, accounting, maintenance, and capital costs associated with meters and services.
- Directly assigned costs are specifically identified as those incurred to serve specific customers. The Sewer Utility has no directly assigned categories.

6.2 Allocation to Cost Components

The next step of the cost-of-service process involves allocating each cost element to functional cost components based on the parameter or parameters having the most significant influence on the magnitude of that element of cost. O&M expense items are allocated directly to appropriate cost components. A detailed allocation of related capital investment is used as a proxy for allocating capital and replacement costs. The separation of costs into functional components provides a means for distributing such costs to the various classes of customers based on their respective responsibilities for each type of service.

6.2.1 Volume and Strength Allocations

The sewer system consists of various facilities designed and operated to fulfill a given function. For the system to provide adequate service to its customers, it must be capable of meeting not only the annual volume requirements but also the strength loading demands placed on the system. Because not all customers and types of customers exert volume and strength loading demands similarly, the capacities of the various facilities must be designed to accommodate the demands of all classes of customers. Each sewer service facility within the system has an underlying volume demand exerted by all customers for whom the base cost component applies. For those facilities designed solely to meet volume demand, 100% of the costs go to the base cost component. For facilities designed to meet strength loading demands, the percentage of the costs is allocated to the different strength cost components based on their specific function.

6.2.2 Allocation of Operating and Maintenance Expenses

The Sewer Utility books operating costs by functional categories. Therefore, Black & Veatch used the factors noted in Section 5.1 to allocate the operating expenses to the cost components. In allocating O&M expenses for TY 2024, the costs are directly allocated to the cost components to the extent possible. The allocation of Administration and Transfer cost elements is based on the average of all other costs. Table 6-2 represents the allocation of O&M to the cost components. Revenues are subtracted from other sources as shown in Table 6-1, Lines 10, and any drawdown of the cash balance is deducted and normalized for partial rate adjustments as shown in Line 13 to determine the net O&M costs.

Table 6-2 Allocation of O&M Expenditures

Line No.	Description	Total Cost	Common to All Customers				
			Volume	BOD	TSS	NH3	Customer
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Operation & Maintenance							
1	1511 System Administration	5,119,600	2,582,400	814,700	821,000	835,500	66,000
2	1512 System Maintenance	3,914,100	3,914,100	0	0	0	0
3	1514 Operations	1,437,900	1,437,900	0	0	0	0
4	1515 SJ SC Water Pollution Control Plant						
5	Treatment	19,359,500	6,629,800	4,196,800	4,229,100	4,303,800	0
6	Customer Billing & Meter Reading	340,100	0	0	0	0	340,100
7	All Other	1,135,500	1,135,500	0	0	0	0
8	1516 Storm Pump Maintenance	184,800	184,800	0	0	0	0
9	Transfers	328,200	165,600	52,200	52,600	53,600	4,200
10	Total O&M Expenses	\$ 31,819,700	\$ 16,050,100	\$ 5,063,700	\$ 5,102,700	\$ 5,192,900	\$ 410,300
Less Other Revenue							
11	Miscellaneous Revenues	1,070,600	540,000	170,400	171,700	174,700	13,800
12	Other Adjustments	5,210,700	2,628,300	829,200	835,600	850,400	67,200
13	Net Operating Expenses	\$ 25,538,400	\$ 12,881,800	\$ 4,064,100	\$ 4,095,400	\$ 4,167,800	\$ 329,300

6.2.3 Allocation of Capital Investments

In allocating the capital investment for TY 2024, the existing fixed assets (which serve as a proxy for the current capital investments) are allocated directly to cost components to the extent possible. Plan capital costs can be allocated using the distribution of total net system investment across the functional cost components. The allocation of costs in this manner provides a basis for annual investment in sewer system facilities. Table 6-3 shows the total allocation of existing system investment serving sewer customers for the TY 2024. The total net system investment of \$1.3M shown on Line 7 represents the Test Year original cost less accumulated depreciation of the system in service. The total net system investment reflects the Sewer Utility’s fixed asset listing ending June 30, 2022. This value represents the original cost (book value) of the assets.

Table 6-3 Allocation of Capital Costs

Line No.	Description	Total Cost	Common to All Customers				
			Volume	BOD	TSS	NH3	Customer
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Plant Assets							
1	Collection	956,600	956,600	0	0	0	0
2	Lift Station	275,800	275,800	0	0	0	0
3	General Plant	101,100	101,100	0	0	0	0
4	Total Plant Assets	\$ 1,333,500	\$ 1,333,500	\$ 0	\$ 0	\$ 0	\$ 0
Less Other Revenue							
5	Miscellaneous Revenues	0	0	0	0	0	0
6	Other Adjustments	0	0	0	0	0	0
7	Net Operating Expenses	\$ 1,333,500	\$ 1,333,500	\$ 0	\$ 0	\$ 0	\$ 0

6.3 Units of Service

To properly recognize the cost of service, each customer class receives its share of base, strength, and customer costs. Following the allocation of costs, the total cost responsibility for each customer class is developed using unit costs of service for each cost function and subsequently assigning those costs to the customer classes based on the respective service requirements of each. The number of units of service required by each customer class provides a means for the proportionate distribution of costs previously allocated to respective cost categories.

Table 6-4 summarizes the estimated Test Year units of service for the various customer classes. Base costs vary with the volume of sewage flow produced and distributed to customer classes on that basis. Black & Veatch derived sewage flow information from the monthly water consumption records in the City’s CIS multiplied by a return factor. Strength costs are those associated with pollutant characteristics, and the Study allocated these costs to customer classes based on loadings. The pollutant loadings for each customer class come from recommendations of the State Water Resources Control Board, Revenue Program Guidelines, Appendix G, and the City of San Jose. The City’s commercial and industrial class consists of 17 distinct types of businesses such as retail, offices, restaurants, and hospitals. Since sampling is not an immediate possibility, the City has relied on industry standards used by the State of California. The number of bills for each customer class serves as the basis for distributing customer billing requirements.

6.4 Cost of Service Allocations

Unit costs of service are applied to each customer class’s respective service requirements to determine the cost of service for each customer class. The total unit costs of service applied to the respective requirements for each customer class results in the total cost of service for each customer class.

6.4.1 Units Costs of Service

The TY 2024 unit cost of service for each functional cost component is simply the total cost divided by the applicable units of service, as shown in Table 6-5. The capital costs on Line 3 and 4 are associated with City projects and RWF projects. These costs have been separated to determine the collection and treatment costs independently. On Line 5, the total costs represent the cost that rates need to recover, as demonstrated in Table 6-1, Line 14. The net O&M cost includes O&M (including the RWF) less revenue from other sources and adjustments. The total capital cost includes debt service payments and transfers to the Construction Fund. Line 6 represents the unit costs for the entire sewer system regardless of customer classes. After that, these unit costs are applied in allocating the costs to the specific customer classes.

6.4.2 Distribution of Costs of Service to Customer Classes

Applying the unit costs to the units for each customer class produces the customer class costs. This process is illustrated in Table 6-6, in which the study applies the unit costs to the customer class units of service. The costs attributable to each customer class are based on the functional cost components described in Section 6.1. Each customer class places a burden on the system in different ways, and thus the allocation of the units is representative of this burden.

An example of the application of unit costs is shown below for illustrative purposes.

	Vol Component
Unit Cost (Table 6-5, Line 7)	\$ 4.77 per HCF
General Customer Consumption (Table 6-6, Line 5)	67,971 HCF
Total Allocated Cost	\$ 324,200

Please note that the numbers within the tables are rounded, yet the calculations are done based on non-rounded values; therefore, results might vary.

Table 6-4 Units of Service

Line No.	Description	Contributed	Contributed	BOD Loadings		TSS Loadings		NH3 Loadings		Bills
		Units	Volume	Factor	Loading	Factor	Loading	Factor	Loading	
	Units of Measure	(EDUs/M Bills)	(HCF)	(mg/L)	(lbs)	(mg/L)	(lbs)	(mg/L)	(lbs)	(bills)
1	Single Family	251,549	1,358,265	250	2,118,500	250	2,118,500	35	296,600	248,070
2	Multi-Family	297,200	1,578,510	250	2,462,000	250	2,462,000	35	344,700	27,589
3	Amusement Parks	111	67,971	130	55,100	80	33,900	11	4,700	284
4	Auto Dealers & Service Station	370	23,321	180	26,200	280	40,700	11	1,600	727
5	Churches	238	16,517	130	13,400	80	8,200	11	1,100	599
6	Com/Ind/Misc	9,710	1,251,602	130	1,015,100	80	624,700	11	85,900	21,251
7	Electric & Electronic Equip.	396	462,397	30	86,500	15	43,300	15	43,300	1,583
8	Food and Kindred Products	24	17,978	1,120	125,600	690	77,400	0	0	166
9	Hospitals & Convalescent Homes	299	91,140	230	130,800	85	48,300	15	8,500	795
10	Industrial Chemical	47	13,642	360	30,600	720	61,300	0	0	112
11	Laundries	121	24,340	150	22,800	110	16,700	5	800	352
12	Machinery Manufacturers	671	37,858	290	68,500	550	129,900	0	0	1,694
13	Metal Plating	91	6,682	10	400	60	2,500	1	0	199
14	Motels & Hotels	43	107,455	310	207,800	121	81,100	7	4,700	523
15	Paper	13	140,821	1,250	1,098,200	560	492,000	10	8,800	48
16	Repair Shops & Car Washes	462	11,309	180	12,700	280	19,800	0	0	687
17	Restaurants	234	75,560	1,250	589,200	560	264,000	10	4,700	2,094
18	Schools & Colleges	500	42,427	130	34,400	100	26,500	30	7,900	1,074
19	Major Users - Customer 1		0		0		0		0	0
20	Total		5,327,795		8,097,800		6,550,800		813,300	307,847

Table 6-5 Units Cost of Service

Line No.	Description	Total Cost	Common to All Customers				
			Volume	BOD	TSS	NH3	Customer
1	Net Operating Expense	25,538,400	12,881,800	4,064,100	4,095,400	4,167,800	329,300
2	Debt Service	2,842,600	973,500	616,200	621,000	631,900	0
3	Capital Costs (City)	5,196,600	5,196,600	0	0	0	0
4	Capital Costs (SJSC)	8,803,400	6,360,800	1,272,800	761,700	408,100	0
5	Total Cost of Service	\$ 42,381,000	\$ 25,412,700	\$ 5,953,100	\$ 5,478,100	\$ 5,207,800	\$ 329,300
6	Units of Service		5,327,795 HCF	8,097,800 lbs	6,550,800 lbs	813,300 lbs	307,847 bills
7	Cost per Unit		\$ 4.77 per HCF	\$ 0.74 per lbs	\$ 0.84 per lbs	\$ 6.40 per lbs	\$ 1.07 per bill

Table 6-6 Distribution of Costs to Customer Classes

Line No.	Description	Total Cost	Common to All Customers				
			Volume	BOD	TSS	NH3	Customer
1	Cost per Unit		\$ 4.77 per HCF	\$ 0.74 per lbs	\$ 0.84 per lbs	\$ 6.40 per lbs	\$ 1.07 per bill
Single Family							
2	Units		1,358,265	2,118,500	2,118,500	296,600	248,070
3	Allocation of costs of service	11,972,300	6,478,700	1,557,200	1,771,600	1,899,400	265,400
Multi-Family							
4	Units		1,578,510	2,462,000	2,462,000	344,700	27,589
5	Allocation of costs of service	13,634,600	7,529,200	1,809,900	2,058,800	2,207,200	29,500
Amusement Parks							
6	Units		67,971	55,100	33,900	4,700	284
7	Allocation of costs of service	423,400	324,200	40,500	28,300	30,100	300
Auto Dealers & Service Station							
8	Units		23,321	26,200	40,700	1,600	727
9	Allocation of costs of service	175,500	111,200	19,300	34,000	10,200	800
Churches							
10	Units		16,517	13,400	8,200	1,100	599
11	Allocation of costs of service	103,200	78,800	9,900	6,900	7,000	600
Com/Ind/Misc							
12	Units		1,251,602	1,015,100	624,700	85,900	21,251
13	Allocation of costs of service	7,811,300	5,969,900	746,300	522,400	550,000	22,700
Electric & Electronic Equip.							
14	Units		462,397	86,500	43,300	43,300	1,583
15	Allocation of costs of service	2,584,400	2,205,600	63,600	36,200	277,300	1,700
Food and Kindred Products							
16	Units		17,978	125,600	77,400	0	166
17	Allocation of costs of service	243,000	85,800	92,300	64,700	0	200
Hospitals & Convalescent Homes							
18	Units		91,140	130,800	48,300	8,500	795
19	Allocation of costs of service	626,600	434,700	96,200	40,400	54,400	900

Table 6-6 Distribution of Costs to Customer Classes (Con't)

Line No.	Description	Total Cost	Common to All Customers				
			Volume	BOD	TSS	NH3	Customer
1	Cost per Unit		\$ 4.77 per HCF	\$ 0.74 per lbs	\$ 0.84 per lbs	\$ 6.40 per lbs	\$ 1.07 per bill
Industrial Chemical							
20	Units		13,642	30,600	61,300	0	112
21	Allocation of costs of service	139,000	65,100	22,500	51,300	0	100
Laundries							
22	Units		24,340	22,800	16,700	800	352
23	Allocation of costs of service	152,400	116,100	16,800	14,000	5,100	400
Machinery Manufacturers							
24	Units		37,858	68,500	129,900	0	1,694
25	Allocation of costs of service	341,400	180,600	50,400	108,600	0	1,800
Metal Plating							
26	Units		6,682	400	2,500	0	199
27	Allocation of costs of service	34,500	31,900	300	2,100	0	200
Motels & Hotels							
28	Units		107,455	207,800	81,100	4,700	523
29	Allocation of costs of service	763,800	512,500	152,800	67,800	30,100	600
Repair Shops & Car Washes							
30	Units		11,309	12,700	19,800	0	687
31	Allocation of costs of service	80,500	53,900	9,300	16,600	0	700
Restaurants							
32	Units		75,560	589,200	264,000	4,700	2,094
33	Allocation of costs of service	1,046,700	360,400	433,200	220,800	30,100	2,200
Schools & Colleges							
34	Units		42,427	34,400	26,500	7,900	1,074
35	Allocation of costs of service	301,600	202,400	25,300	22,200	50,600	1,100
36	TOTAL COSTS OF SERVICE	\$ 42,381,000	\$ 25,412,700	\$ 5,953,100	\$ 5,478,100	\$ 5,207,800	\$ 329,300

7.0 Rate Design

The initial consideration in the derivation of rate schedules for sewer service is establishing equitable charges to the customers commensurate with the cost of providing that service. While the cost-of-service allocations to customer classes should not be construed as literal or exact determinations, they offer a guide to the necessity for, and the extent of, rate adjustments. Practical considerations sometimes modify rate adjustments by considering additional factors such as the extent of bill impacts, existing contracts, and historical local policies and practices.

7.1 Existing Rates

The Sewer Utility’s existing rates consist of a fixed component in the form of a monthly service charge and a variable component in the form of a consumption charge. The monthly service charge is a flat fee based on EDUs and is applied to residential customers. The monthly service charge also is a minimum for non-residential customers and applies when the consumption charge is less than the monthly service charge. Non-residential customers also have a consumption charge based on units of water consumption (1 unit = 1 HCF = 748 gallons) multiplied by a return factor. The City has separate charges for major users consisting of O&M and capital components. Table 5 5, presented earlier in this report, summarizes the current sewer rates.

7.2 Proposed Rates

The costs of service analysis described in the preceding sections of this report provide a basis for designing sewer rates.

7.2.1 Monthly Service Charge

The monthly service charge is designed to recover residential costs associated with contributed sewage flow, strength loadings, billing, collecting, accounting, and maintenance and capital costs. The charge is a flat monthly fee based on EDUs. An EDU is defined in Section 5.1. In FY 2023, the multi-family rate was separated from single-family and became a stand-alone customer class. In FY 2022, the City obtained EDU information for the multi-family customers, enabling a separation of the customer classes.

The monthly service charge also serves as the minimum monthly service charge for non-residential customers. The minimum service charge will recover non-residential costs associated with volume, strength, meter reading, billing, collecting, accounting, and maintenance and capital costs. The minimum monthly service charge incorporates an allowance for sewage flow. Once a customer exceeds the allowance, the minimum monthly service charge goes away.

Table 7-1 shows the forecasted proposed three-year monthly service charge rate schedule.

Table 7-1 Proposed Monthly Service Charge

Line No.	Customer Class	Proposed		
		FY 2024	FY 2025	FY 2026
	Monthly Service Charge (\$/EDU)	\$/month	\$/month	\$/month
1	Single Family	48.28	53.06	57.82
2	Multi-Family	45.88	50.38	54.90
	Minimum Commercial Bill Charge (\$/Month)	\$/month	\$/month	\$/month
3	All Customers	48.28	53.06	57.82

7.2.2 Consumption Charge

The consumption charges are designed to recover the remainder of the cost component costs not recovered through the monthly service charge for non-residential customers. Table 7-2 shows the forecasted proposed three-year rate schedule for the Sewer Utility.

Table 7-2 Proposed Consumption Charges

Line No.	Customer Class	Proposed		
		FY 2024	FY 2025	FY 2026
	Commodity Charge (\$/HCF)	\$/HCF	\$/HCF	\$/HCF
1	Amusement Parks	6.15	6.53	7.15
2	Auto Dealers & Service Station	6.76	7.30	7.96
3	Churches	5.55	5.87	6.44
4	Com/Ind/Misc	5.87	6.22	6.82
5	Electric & Electronic Equip.	5.55	5.80	6.40
6	Food and Kindred Products	13.45	15.27	16.31
7	Hospitals & Convalescent Homes	6.72	7.22	7.87
8	Industrial Chemical	10.02	11.14	12.00
9	Laundries	6.02	6.39	7.00
10	Machinery Manufacturers	8.16	8.99	9.72
11	Metal Plating	4.50	4.63	5.13
12	Motels & Hotels	7.09	7.66	8.33
13	Paper	13.82	15.70	16.77
14	Repair Shops & Car Washes	5.15	5.52	6.01
15	Restaurants	13.70	15.57	16.63
16	Schools & Colleges	6.54	7.02	7.66

7.2.3 Major Users

The major commercial and industrial user charge is designed to recover the costs associated with O&M and capital for major users. Major users are classified based on requirements in Section 5.1. These customers are monitored monthly for volume and strength loadings. Major users are charged the unit charges identified in Table 6-5, Line 7. Note that the major user charges are specifically identified O&M and capital components. Charges for all other customers incorporate these charges, but the City has combined them into a single rate for simplicity. Table 7-3 shows the three-year rate schedule based on unit costs in future years.

Table 7-3 Proposed Major User Charges

Line No.	Customer Class	Proposed		
		FY 2024	FY 2025	FY 2026
Major Commercial and Industrial Users				
Operating and Maintenance Cost Recovery				
1	Volume (\$/MG)	3,314.83	3,810.64	4,219.49
2	BOD (\$/1,000 lbs)	501.88	575.41	635.86
3	SS (\$/1,000 lbs)	625.18	716.78	792.12
4	NH3 (\$/1,000 lbs)	5,124.55	5,875.81	6,493.18
Annual Capital Cost Recovery				
5	Volume (\$/MGD)	1,147,617	1,029,684	1,145,855
6	BOD (\$/1,000 lbs/day)	85,145	113,507	105,097
7	SS (\$/1,000 lbs/day)	77,042	97,947	91,665
8	NH3 (\$/1,000 lbs/day)	466,740	556,410	528,615

7.3 Typical Monthly Costs under Proposed Charges

Table 7-4 compares typical monthly costs under existing rates and the proposed schedule of sewer user rates derived in this study for residential and non-residential customers.

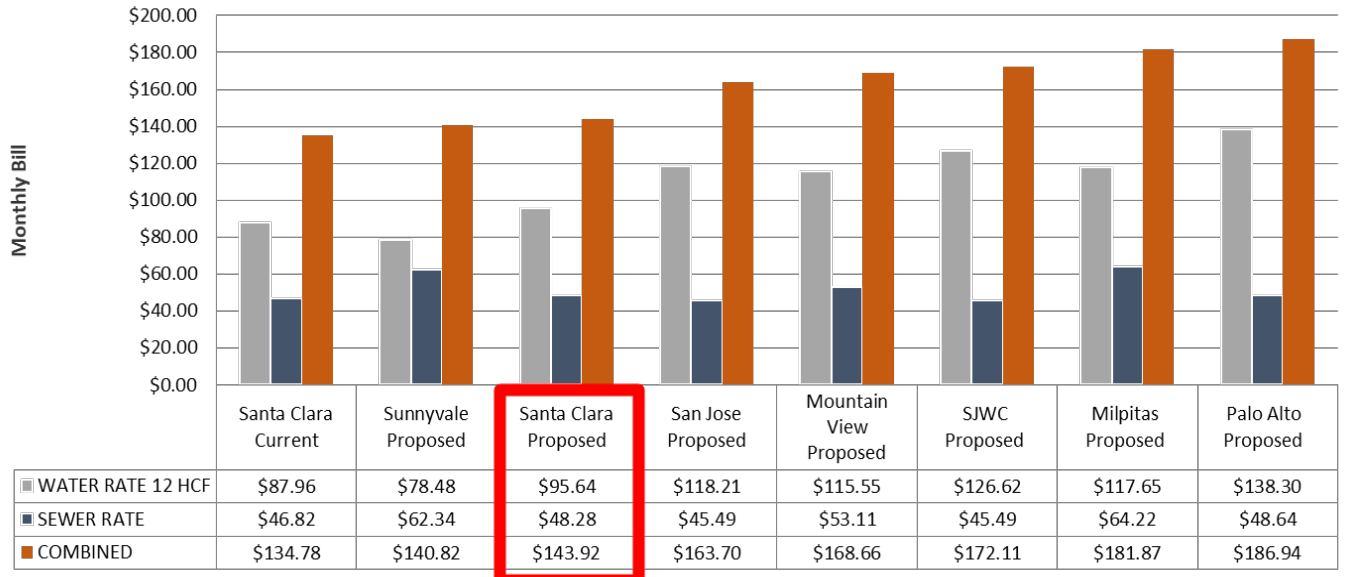
Table 7-4 Typical Monthly Bill

Customer Class	Typical Monthly Usage (HCF)	FY 2023 Existing Rates (\$)	FY 2024 Proposed Rates (\$)
Residential		\$46.82	\$48.28
Non-Residential	0	\$46.82	\$48.28
	10	\$62.02	\$70.15
	20	\$124.04	\$140.31
	30	\$186.05	\$210.46
	40	\$248.07	\$280.62
	50	\$310.09	\$350.77
	100	\$620.18	\$701.55
	250	\$1,550.46	\$1,753.86

7.4 Neighboring Sewer Utilities

Presented in Figure 7-1 is the proposed rates compared to rates of neighboring jurisdictions, for a single-family residential customer. Based on the comparison, the City is currently a higher cost sewer provider in the area. With the proposed rate increases, the City remains one of the higher sewer providers of the surveyed communities. All surveyed community rates are best estimates as of June 1, 2023.

Figure 7-1 Comparison to Neighboring Sewer Utilities



Appendix A – Ten-Year Financial Plan

Water Utility

Line No.	Description	Fiscal Year Ending June 30,									
		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Revenue											
Rate Revenue											
1	Revenue from Existing Rates	53,104,700	53,356,800	53,487,100	53,617,500	53,748,200	53,879,600	54,011,000	54,142,900	54,274,900	54,407,300
2	Increased Revenue Due to Adjustments	4,434,200	9,658,400	15,367,200	20,581,400	26,210,100	31,884,800	37,121,000	41,779,200	46,689,000	49,839,100
3	Subtotal Rate Revenue	\$ 57,538,900	\$ 63,015,200	\$ 68,854,300	\$ 74,198,900	\$ 79,958,300	\$ 85,764,400	\$ 91,132,000	\$ 95,922,100	\$ 100,963,900	\$ 104,246,400
Other Operating Revenue											
4	Solar System Maintenance	80,100	80,100	80,100	80,100	80,100	80,100	80,100	80,100	80,100	80,100
5	Water System Maintenance	1,070,500	1,070,500	1,070,500	1,070,500	1,070,500	1,070,500	1,070,500	1,070,500	1,070,500	1,070,500
6	Water Construction	0	0	0	0	0	0	0	0	0	0
7	Water System Operations	0	0	0	0	0	0	0	0	0	0
8	Administration Design	905,400	912,300	919,300	926,400	933,700	941,100	948,700	956,400	964,300	972,300
9	Water Quality	0	0	0	0	0	0	0	0	0	0
10	Water Resources	76,900	76,900	76,900	76,900	76,900	76,900	76,900	76,900	76,900	76,900
11	Subtotal Other Operating Revenue	\$ 2,132,900	\$ 2,139,800	\$ 2,146,800	\$ 2,153,900	\$ 2,161,200	\$ 2,168,600	\$ 2,176,200	\$ 2,183,900	\$ 2,191,800	\$ 2,199,800
12	Total Revenue	\$ 59,671,800	\$ 65,155,000	\$ 71,001,100	\$ 76,352,800	\$ 82,119,500	\$ 87,933,000	\$ 93,308,200	\$ 98,106,000	\$ 103,155,700	\$ 106,446,200
Revenue Requirements											
Operating & Maintenance											
13	O&M Expenses	56,212,500	60,992,300	64,627,600	68,777,000	73,639,900	78,822,800	84,464,400	88,866,800	93,529,700	98,194,100
14	Subtotal O&M	\$ 56,212,500	\$ 60,992,300	\$ 64,627,600	\$ 68,777,000	\$ 73,639,900	\$ 78,822,800	\$ 84,464,400	\$ 88,866,800	\$ 93,529,700	\$ 98,194,100
Debt Service											
15	Existing Loans/Bonds	0	0	0	0	0	0	0	0	0	0
16	Proposed Loans/Bonds	0	0	0	0	0	0	0	0	0	0
17	Total Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Transfers											
18	Transfer to Rate Stabilization Fund	0	0	2,250,000	2,250,000	2,250,000	500,000	500,000	500,000	500,000	500,000
19	Transfer to Pension Stabilization Fund	199,400	199,400	199,400	199,400	199,400	199,400	199,400	199,400	199,400	199,400
20	Transfer to Water Construction Fund	0	0	0	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	7,000,000	7,000,000
21	Total Transfers	\$ 199,400	\$ 199,400	\$ 2,449,400	\$ 8,449,400	\$ 8,449,400	\$ 6,699,400	\$ 6,699,400	\$ 6,699,400	\$ 7,699,400	\$ 7,699,400
22	Total Revenue Requirements	\$ 56,411,900	\$ 61,191,700	\$ 67,077,000	\$ 77,226,400	\$ 82,089,300	\$ 85,522,200	\$ 91,163,800	\$ 95,566,200	\$ 101,229,100	\$ 105,893,500
23	Net Annual Cash Balance	3,259,900	3,963,300	3,924,100	(873,600)	30,200	2,410,800	2,144,400	2,539,800	1,926,600	552,700
24	Beginning Fund Balance	9,386,600	12,367,600	16,052,000	19,697,200	18,544,700	18,296,000	20,427,900	22,293,400	24,554,300	26,202,000
25	Net Cumulative Fund Balance	\$ 12,646,500	\$ 16,330,900	\$ 19,976,100	\$ 18,823,600	\$ 18,574,900	\$ 20,706,800	\$ 22,572,300	\$ 24,833,200	\$ 26,480,900	\$ 26,754,700
26	Minimum Operating Reserves (90 Days)	\$ 13,860,600	\$ 15,039,200	\$ 15,935,600	\$ 16,958,700	\$ 18,157,800	\$ 19,435,800	\$ 20,826,800	\$ 21,912,400	\$ 23,062,100	\$ 24,212,200

Recycled Water Utility

Line No.	Description	Fiscal Year Ending June 30,									
		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Revenue											
Rate Revenue											
1	Revenue from Existing Rates	6,533,500	6,610,300	6,676,400	6,743,200	6,810,800	6,879,000	6,947,800	7,017,400	7,087,600	7,158,400
2	Increased Revenue Due to Adjustments	653,400	1,460,800	2,372,100	3,446,900	4,665,100	6,102,800	7,737,200	9,594,300	10,529,300	11,524,100
3	Subtotal Rate Revenue	\$ 7,186,900	\$ 8,071,100	\$ 9,048,500	\$ 10,190,100	\$ 11,475,900	\$ 12,981,800	\$ 14,685,000	\$ 16,611,700	\$ 17,616,900	\$ 18,682,500
Other Operating Revenue											
4	System Maintenance	94,700	96,600	98,500	100,500	102,500	104,600	106,700	108,800	111,000	113,200
5	South Bay Water Recycling System Maintena	421,500	438,400	453,900	466,800	479,800	493,100	506,800	520,800	535,400	550,400
6	Subtotal Other Operating Revenue	\$ 516,200	\$ 535,000	\$ 552,400	\$ 567,300	\$ 582,300	\$ 597,700	\$ 613,500	\$ 629,600	\$ 646,400	\$ 663,600
Transfers From											
7	RW Capital Fund	0	0	0	0	0	0	0	0	0	0
8	Subtotal Transfers From	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
9	Total Revenue	\$ 7,703,100	\$ 8,606,100	\$ 9,600,900	\$ 10,757,400	\$ 12,058,200	\$ 13,579,500	\$ 15,298,500	\$ 17,241,300	\$ 18,263,300	\$ 19,346,100
Revenue Requirements											
Operating & Maintenance											
10	O&M Expenses	7,918,500	9,108,100	10,053,000	11,092,200	12,242,600	13,516,900	14,928,700	15,987,600	17,123,000	18,340,400
11	Subtotal O&M	7,918,500	9,108,100	10,053,000	11,092,200	12,242,600	13,516,900	14,928,700	15,987,600	17,123,000	18,340,400
Debt Service											
12	Existing Loans/Bonds	0	0	0	0	0	0	0	0	0	0
13	Proposed Loans/Bonds	0	0	0	0	0	0	0	0	0	0
14	Total Debt Service	0	0	0	0	0	0	0	0	0	0
Transfers											
15	Transfer to Rate Stabilization Fund	0	0	0	0	100,000	100,000	100,000	100,000	100,000	150,000
16	Transfer to Pensiotn Stabilization Fund	0	0	9,800	9,800	9,800	9,800	9,800	9,800	9,800	9,800
17	Transfer to Recycled Water Const Fund	0	0	0	0	100,000	100,000	100,000	100,000	100,000	100,000
18	Total Transfers	0	0	9,800	9,800	209,800	209,800	209,800	209,800	209,800	259,800
19	Total Revenue Requirements	\$ 7,918,500	\$ 9,108,100	\$ 10,062,800	\$ 11,102,000	\$ 12,452,400	\$ 13,726,700	\$ 15,138,500	\$ 16,197,400	\$ 17,332,800	\$ 18,600,200
20	Net Annual Cash Balance	(215,400)	(502,000)	(461,900)	(344,600)	(394,200)	(147,200)	160,000	1,043,900	930,500	745,900
21	Beginning Fund Balance	4,980,400	4,765,000	4,263,000	3,801,100	3,456,500	3,062,300	2,915,100	3,075,100	4,119,000	5,049,500
22	Net Cumulative Fund Balance	\$ 4,765,000	\$ 4,263,000	\$ 3,801,100	\$ 3,456,500	\$ 3,062,300	\$ 2,915,100	\$ 3,075,100	\$ 4,119,000	\$ 5,049,500	\$ 5,795,400
23	Minimum Operating Reserves (90 Days)	\$ 1,952,500	\$ 2,245,800	\$ 2,478,800	\$ 2,735,100	\$ 3,018,700	\$ 3,332,900	\$ 3,681,000	\$ 3,942,100	\$ 4,222,100	\$ 4,522,300

Sewer Utility

Line No.	Description	Fiscal Year Ending June 30,									
		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033
Revenue											
Rate Revenue											
1	Revenue from Existing Rates	39,888,000	39,987,300	40,086,800	40,186,800	40,287,600	40,388,000	40,489,400	40,591,000	40,692,800	40,795,200
2	Increased Revenue Due to Adjustments	2,493,000	6,323,000	10,517,000	14,094,400	17,938,900	19,151,100	20,393,000	20,444,000	20,495,300	20,546,900
3	Subtotal Rate Revenue	\$ 42,381,000	\$ 46,310,300	\$ 50,603,800	\$ 54,281,200	\$ 58,226,500	\$ 59,539,100	\$ 60,882,400	\$ 61,035,000	\$ 61,188,100	\$ 61,342,100
Other Operating Revenue											
4	System Administration (Interest Income)	622,300	633,800	645,600	657,600	669,800	682,300	695,000	708,000	721,200	734,700
5	System Maintenance	98,300	98,300	98,300	98,300	98,300	98,300	98,300	98,300	98,300	98,300
6	Operations	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000
7	SJ SC Water Pollution Control Plant	0	0	0	0	0	0	0	0	0	0
8	Storm Pump Maintenance	0	0	0	0	0	0	0	0	0	0
9	Subtotal Other Operating Revenue	\$ 1,070,600	\$ 1,082,100	\$ 1,093,900	\$ 1,105,900	\$ 1,118,100	\$ 1,130,600	\$ 1,143,300	\$ 1,156,300	\$ 1,169,500	\$ 1,183,000
10	Total Revenue	\$ 43,451,600	\$ 47,392,400	\$ 51,697,700	\$ 55,387,100	\$ 59,344,600	\$ 60,669,700	\$ 62,025,700	\$ 62,191,300	\$ 62,357,600	\$ 62,525,100
Revenue Requirements											
Operating & Maintenance											
11	O&M Expenses	31,491,500	32,537,500	33,609,300	34,692,000	35,806,900	37,068,400	38,376,000	39,730,900	41,135,300	42,481,900
12	Subtotal O&M	\$ 31,491,500	\$ 32,537,500	\$ 33,609,300	\$ 34,692,000	\$ 35,806,900	\$ 37,068,400	\$ 38,376,000	\$ 39,730,900	\$ 41,135,300	\$ 42,481,900
Debt Service											
13	Existing Loans/Bonds	2,842,600	2,842,900	2,843,400	2,842,400	2,844,900	2,845,700	2,844,700	2,846,900	1,904,800	1,908,300
14	Proposed Loans/Bonds	0	0	0	1,314,300	2,253,000	2,253,000	2,253,000	2,253,000	2,253,000	2,253,000
15	Total Debt Service	\$ 2,842,600	\$ 2,842,900	\$ 2,843,400	\$ 4,156,700	\$ 5,097,900	\$ 5,098,700	\$ 5,097,700	\$ 5,099,900	\$ 4,157,800	\$ 4,161,300
Transfers											
16	Transfer to Rate Stabilization Fund	250,000	500,000	750,000	750,000	500,000	300,000	300,000	100,000	100,000	0
17	Transfer to Pension Stabilization Fund	78,200	78,200	78,200	78,200	78,200	78,200	78,200	78,200	78,200	78,200
18	Transfer to Sewer Construction Fund	14,000,000	14,000,000	15,000,000	15,000,000	20,000,000	15,000,000	20,000,000	15,000,000	10,000,000	10,000,000
19	Total Transfers	\$ 14,328,200	\$ 14,578,200	\$ 15,828,200	\$ 15,828,200	\$ 20,578,200	\$ 15,378,200	\$ 20,378,200	\$ 15,178,200	\$ 10,178,200	\$ 10,078,200
20	Total Revenue Requirements	\$ 48,662,300	\$ 49,958,600	\$ 52,280,900	\$ 54,676,900	\$ 61,483,000	\$ 57,545,300	\$ 63,851,900	\$ 60,009,000	\$ 55,471,300	\$ 56,721,400
21	Net Annual Cash Balance	(5,210,700)	(2,566,200)	(583,200)	710,200	(2,138,400)	3,124,400	(1,826,200)	2,182,300	6,886,300	5,803,700
22	Beginning Fund Balance	17,925,987	12,715,287	10,149,087	9,565,887	10,276,087	8,137,687	11,262,087	9,435,887	11,618,187	18,504,487
23	Net Cumulative Fund Balance	\$ 12,715,287	\$ 10,149,087	\$ 9,565,887	\$ 10,276,087	\$ 8,137,687	\$ 11,262,087	\$ 9,435,887	\$ 11,618,187	\$ 18,504,487	\$ 24,308,187
24	Minimum Operating Reserves (90 Days)	7,765,000	8,022,900	8,287,200	8,554,200	8,829,100	9,140,200	9,462,600	9,796,700	10,143,000	10,475,000
25	Debt Service Coverage (Min 1.25)	4.21	5.23	6.36	4.98	4.62	4.63	4.64	4.40	5.10	4.82