DRAFT FINAL

WATER AND WASTEWATER RATE STUDY

B&V PROJECT NO. 409534.0100

PREPARED FOR

City of Banning, CA

AUGUST 30, 2022

BLACK & VEATCH
Building a world of difference.®

Table of Contents

List of Tables

Table of Figures

Acronyms

AB	Assembly Bill
ADD	Average Daily Demand
AWWA	American Water Works Association
Black & Veatch	Black & Veatch Management Consulting LLC
BOD	Biochemical Oxygen Demand
CIP	Capital Improvement Program
City	City of Banning
EDU	Equivalent Dwelling Unit
FY	Fiscal Year (July 1 to June 30)
gpcd	gallons per capita per day
gpm	gallons per minute
HCF	Hundred Cubic Feet
M	Million
M1	AWWA Manual - Principles of Water Rates, Fees, and Charges
Max Day	Maximum Day
Max Hour	Maximum Hour
MGD	Million Gallons per Day
O&M	Operation and Maintenance
SB	Senate Bill
SBx7-7	Senate Bill X7-7 (State of California in the Water Conservation Act of 2009)
SGPWA	San Gorgonio Pass Water Agency
Study	Water and Wastewater Rate Study
TSS	Total Suspended Solids
TY	Test Year
UWMP	Urban Water Management Plan
WEF	Water Environment Federation
WWTP	Wastewater Treatment Plant

Disclaimer

This report was prepared for the City of Banning by Black & Veatch Management Consulting, LLC Black & Veatch) and is based on information provided by the City, not within the control of Black & Veatch. While it is believed that the information, data, and opinions contained herein will be reliable under the conditions and subject to the limitations set forth in this report, Black & Veatch does not guarantee the accuracy thereof. Black & Veatch has assumed that the information provided by others, both verbal and written, is complete and correct. The projections set forth in this report are intended as "forward-looking statements." In formulating these projections, Black & Veatch has made certain assumptions with respect to conditions, events, and circumstances that may occur in the future. While Black & Veatch believes the assumptions are reasonable, actual results may differ materially from those projected, as influenced by the conditions, events, and circumstances that occur. As such, Black & Veatch does not take responsibility for the accuracy of data or projections provided by or prepared on behalf of the City, nor does Black & Veatch have any responsibility for updating this report for events occurring after the date of this report.

Use of this report or any information contained therein by any party other than the City shall constitute a waiver and release by such third party of Black & Veatch from and against all claims and liability, including but not limited to liability for special, incidental, indirect, or consequential damages in connection with such use. Such use of this report by a third party shall constitute agreement by the third-party user that its rights, if any, arising from this report shall be subject to the terms of this Report Limitations, and in no event shall the third party's rights, if any, exceed those of the City under its contract with Black & Veatch. The benefit of such releases, waivers, or limitations of liability shall extend to the related companies and subcontractors of any tier of Black & Veatch, and the shareholders, directors, officers, partners, employees, and agents of all released or indemnified parties.

1 Executive Summary

The City of Banning (City) commissioned Black & Veatch Management Consulting, LLC (Black & Veatch) to perform a Water and Wastewater Rate Study (Study) for its Water and Wastewater Utilities. The Study included the development of a five-year financial plan, a cost-of-service analysis, and the design of rates. 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 five years for 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 FINANCIAL PLAN

The City owns and manages both a water utility and wastewater utility 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 five-year planning period beginning July 1, 2022 and ending June 30, 2027. The financial plans project future rate revenues under existing rates, operation 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 of California under Senate Bill 7x-7 (SB7x-7) and the City's Water Shortage Contingency Plan (WSCP) identified in the 2020 Urban Water Management Plan (UWMP) and codified in the City of Banning Municipal Code, Chapter 13.16.

1.1.1 Water Utility

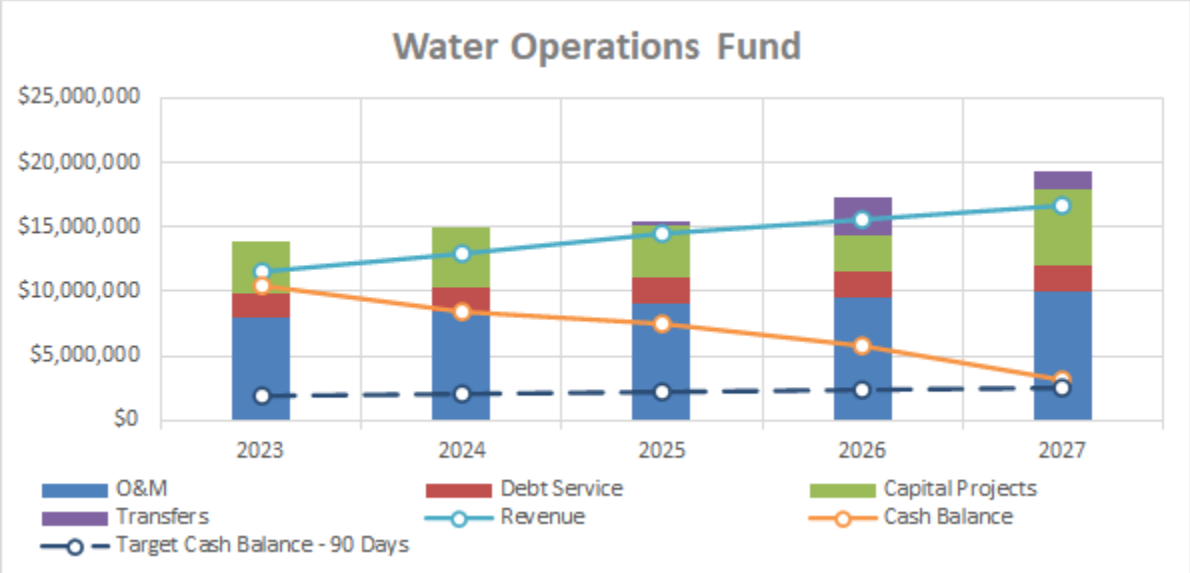
The Water Utility's revenue requirements are summarized below:

- **Operation and Maintenance Expenses:** The O&M expenses increase from $7.9M in FY 2023 to $10.0M in FY 2027. Salaries and benefits represent an average of 38% of O&M expenses.
- **Debt Service:** There is an existing revenue bond with an annual payment of $2.0M. There is no future debt planned.

- **Capital Improvements**: The CIP identified an average of $6.2M per year in capital projects from FY 2023 to FY 2027.
- **Reserves:** Continue to maintain the operating fund reserve level. The operating fund reserve is designed to help cover fluctuations in day-to-day expenses. The new target, consistent with industry reserve guidelines, will be 90 days of O&M expenses, a change from the existing 10% of O&M expenses and debt service payments.

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

Figure 1-1 Water Operating Cash Flow



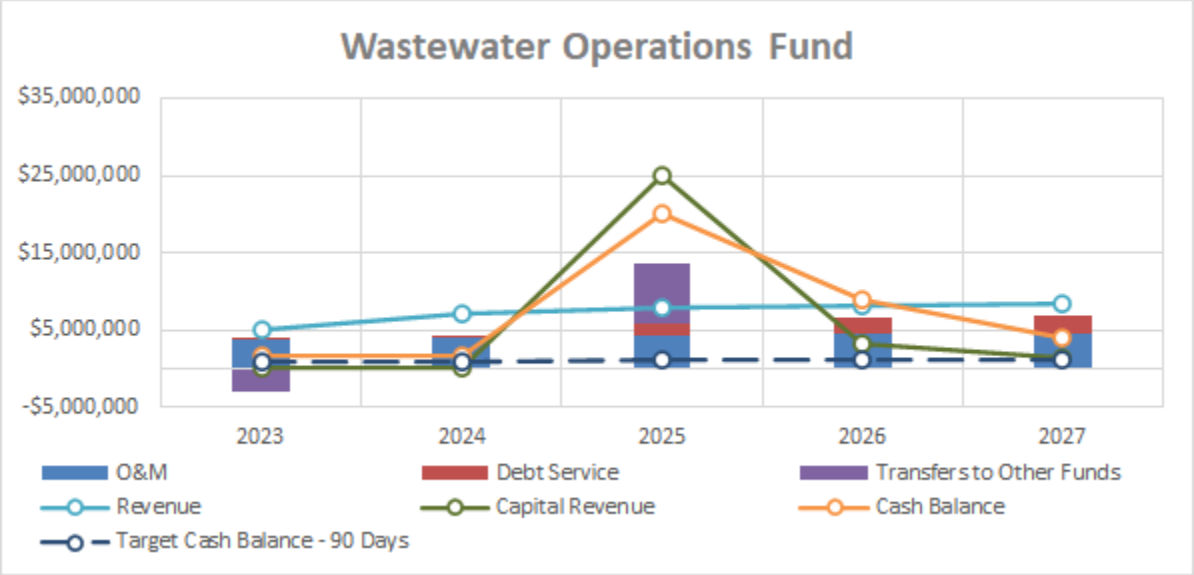
1.1.2 Wastewater Utility

The Wastewater Utility's revenue requirements are summarized below:

- **Operation and Maintenance Expenses:** The O&M expenses increase from $3.7M in FY 2023 to $4.6M in FY 2027. Salaries and benefits represent an average of 36% of O&M expenses.
- **Debt Service:** There is an existing revenue bond with an annual payment of $290k. The City anticipates a net debt issuance of $25.0M in FY 2025, which will add an annual payment of $1.9M starting in FY 2025.
- **Capital Improvements**: The CIP identified an average of $12.1M per year in capital projects from FY 2023 to FY 2027.
- **Reserves:** Continue to maintain the operating fund reserve level. The operating fund reserve is to help cover fluctuations in day-to-day expenses. The scheduled target will be 90 days of O&M expenses, a change from the existing 10% of O&M expenses and debt service payment.

The Wastewater Utility is proposing revenue adjustments to allow it to operate on a revenue-neutral basis and meet reserve targets, as shown in Figure 1-2.

Figure 1-2 Wastewater Operating Cash Flow



1.2 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 2023 to FY 2027. These do not represent proposed rate increases to customers. Rather, these represent the overall revenue increases the utilities need to meet their obligations and maintain current service levels.

Table 1-1 Proposed Revenue Adjustments

Fiscal Year	Effective Month	Water Utility	Wastewater Utility
FY 2023	January	10.75%	40.00%
FY 2024	July	0.00%	25.00%
FY 2024	January	10.75%	25.00%
FY 2025	January	10.75%	3.00%
FY 2026	January	10.75%	3.00%
FY 2027	January	10.75%	3.00%

1.3 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 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 wastewater 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 wastewater system. As recommended by WEF, Black & Veatch distributed functional costs to volume, capacity, strength, and customer-related parameters. This allocation methodology produces unit costs for allocation to individual customer classes based on the projected customer service requirements.

1.4 RATE DESIGN

The Right to Vote on Taxes Act, also known as Proposition 218, was passed by California voters in 1996 and added Article XIIIC and Article XIIID 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.

1.4.1 Water Utility

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

- **Service Charge**: Retain the monthly service charge based on meter sizes for all customers. The monthly service charge recovers portions of fixed cost elements such as meter maintenance and services, meter reading, issuing bills, and maintenance and capacity costs associated with public fire protection.
- **Fire Service Charge**: Implement a new monthly 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.
- **Commodity Charge**: Maintain the three-tier commodity charge for all customers and amend the brekapoints to Tier 1 (0-7 HCF), Tier 2 (8-15 HCF) and Tier 3 (16+ HCF). The commodity charge recovers costs associated with the base and extra capacity demands. Treat parks and City customers in the same manner as all other customers, subject to the three-tier rate structure.

Table 1-2summarizes the recommended five-year rate schedules for all Water Utility components. Rates become effective every January 1st.

Table 1-2 Proposed Five-Year Water Rate Schedule

Customer Class	Fiscal Year Ending June 30,				
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Service Charge ($/Month)					
5/8"	25.74	27.75	30.92	33.64	35.66
3/4"	25.74	27.75	30.92	33.64	35.66
1"	38.36	41.08	44.84	48.97	51.91
1-1/2"	69.90	74.39	79.63	87.31	92.53
2"	107.75	114.37	121.38	133.31	141.27
3"	208.68	220.97	232.72	255.98	271.25
4"	322.23	340.91	357.97	393.98	417.48
6"	637.64	674.05	705.90	777.33	823.68
8"	1,016.14	1,073.82	1,123.41	1,237.34	1,311.11
Fire Service ($/Month)					
2"	24.25	25.45	25.56	28.78	30.69
4"	38.79	40.72	40.89	46.05	49.10
6"	77.59	81.43	81.78	92.09	98.21
8"	121.23	127.24	127.79	143.89	153.45
10"	242.46	254.48	255.57	287.79	306.90
12"	387.94	407.16	408.91	460.46	491.04
Commodity Charges ($/HCF)					
Tier 1 (0-7 HCF)	2.42	2.76	3.10	3.48	3.96
Tier 2 (8-15 HCF)	2.62	2.97	3.31	3.72	4.23
Tier 3 (16+ HCF)	3.15	3.52	3.88	4.31	4.83

1.4.2 Wastewater Utility

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

- **Fixed Charge**: Retain the monthly fixed charge based on equivalent dwelling units (EDUs) for all customers. Residential and commercial customers have independent rates.

Table 1-3 summarizes the recommended five-year rate schedules for the Wastewater Utility. Rates become effective every January 1st, except in FY 2024, where there is an increase on July 1st and January 1st.

Table 1-3 Proposed Five-Year Wastewater Rate Schedules

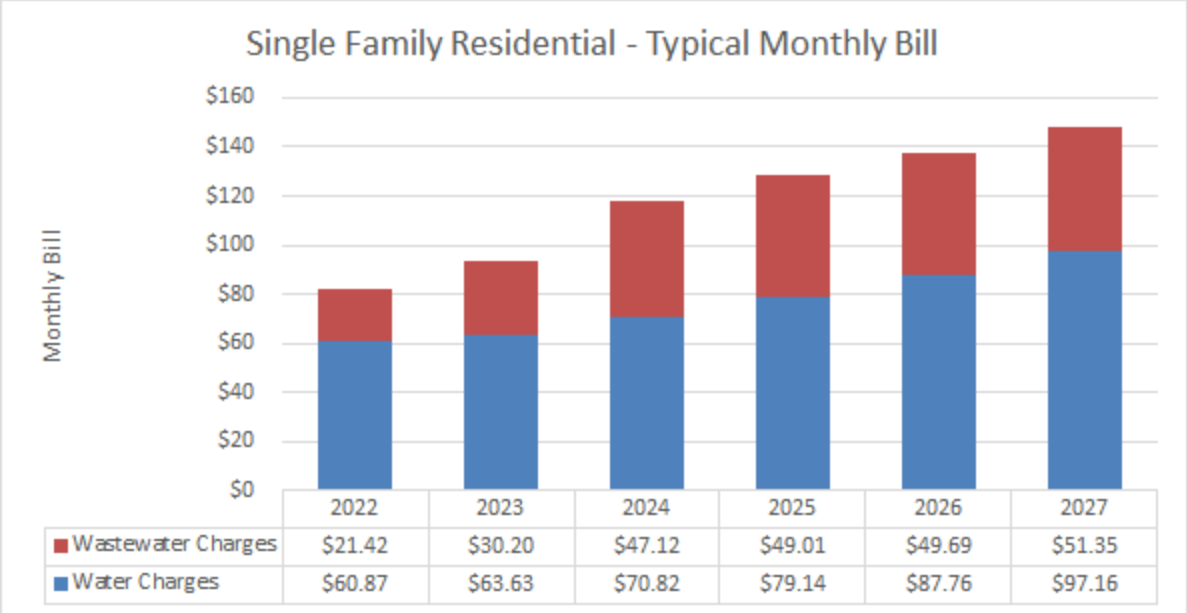
Customer Class	Fiscal Year Ending June 30,					
	FY 2023	FY 2024	FY 2024	FY 2025	FY 2026	FY 2027
Fixed Charge ($/Month/EDU)						
Effective Date	1/1/2023	7/1/2023	1/1/2024	1/1/2025	1/1/2026	1/1/2027
Residential	30.20	37.75	47.12	49.01	49.69	51.35
Commercial	32.81	41.01	51.57	51.03	56.06	56.98
Tertiary Surcharge	2.32	2.32	2.32	2.32	2.32	2.32

1.4.3 Typical Bill

To understand the impact on the rate increases, a typical bill for a single-family residential is shown in Figure 1-3. For water, a single-family residential account represents a customer with a ¾”

meter connection consuming 15 HCF per month. For wastewater, a single-family residential account represents a customer with one EDU or a customer returning 12 HCF per month of wastewater flow.

Figure 1-3 Single Family Residential Combined Typical Bill



	2022	2023	2024	2025	2026	2027
Wastewater Charges	$21.42	$30.20	$47.12	$49.01	$49.69	$51.35
Water Charges	$60.87	$63.63	$70.82	$79.14	$87.76	$97.16

2 Introduction

2.1 PURPOSE

The purpose of this report is (1) to project the future revenues of the water and wastewater utilities under existing rates and charges, as well as the operating expenses and capital financing revenue requirements of the two utilities, and to examine the adequacy of projected revenues to meet these revenue requirements through FY 2027; (2) to allocate these revenue requirements, or costs of service, for a representative test year to the various customer classes in accordance with the respective service requirements that each class places on the systems; and (3) to develop a suitable schedule of water and wastewater rates that will produce revenues adequate to meet the financial needs of the utility on a basis that recognizes customer costs of service and practical bill impact considerations.

2.2 WATER SYSTEM

The Water Utility provides water services to about 10,820 residential, commercial, irrigation, institutional, and fire service customers. The water infrastructure system consists of 19 groundwater wells, 165 miles of transmission and distribution mains, eight storage tanks totaling 19.55 million gallons of storage capacity, two booster pump stations, five pressure reducing valve stations, and six pressure zones.

The primary water supply source for the City comes from groundwater wells that extract water from five groundwater basins in the area. The groundwater basins consist of West Banning Storage Unit, Banning Bench Storage Unit, Cabazon Storage Unit, Beaumont Storage Unit (Beaumont Basin) and the Banning Water Canyon Storage Unit. The Beaumont Basin which is the primary source of water supply for the City accounting for 70% of the water supply, is the only adjudicated basin with a Watermaster Committee that monitors the basin from overdraft. The 19 wells have a total capacity of 14,950 gallons per minute (gpm). However, three wells are considered non-potable wells; therefore, the actual potable well capacity is 11,500 gpm.

In addition to groundwater, the City imports State Water Project (SWP) water through the San Gorgonio Pass Water Agency (SGPWA). SGPWA is one of the 29 water agencies with a SWP Water Supply Contract. Water purchased from SGPWA is used to recharge the Beaumont Basin at SGPWA's Brookside Recharge Facility.

2.3 WASTEWATER SYSTEM

The Wastewater Utility provides wastewater services to about 13,400 residential and commercial equivalent dwelling units. Services include collecting and treating wastewater flow and constructing and maintaining the wastewater infrastructure system. Wastewater flows throughout the City are collected and transported through more than 112 miles of wastewater mains and four lift stations to the City-owned Wastewater Treatment Plant (WWTP). The WWTP has a rated capacity of 3.5 million gallons a day (MGD) but averages a daily flow of about 2.0 MGD.

2.4 METHODOLOGY

The rate setting methodology employed by Black & Veatch is consistent with industry guidelines established by AWWA and WEF in their national industry manuals. The manuals make recommendations on generally accepted practices in the water and wastewater industries. An overview of the methodology is outlined in below.

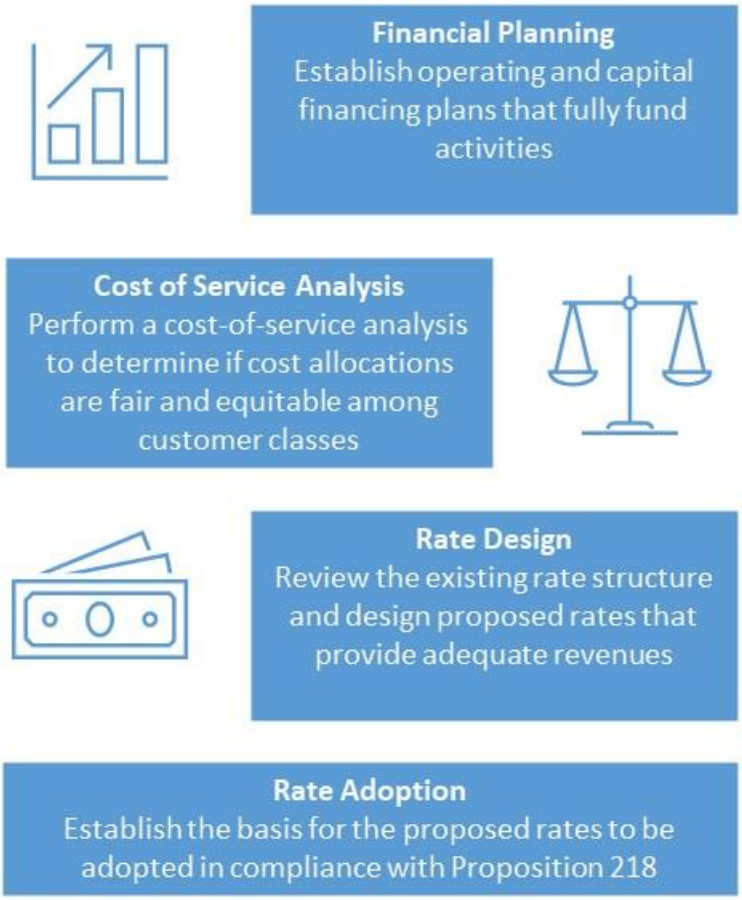
The key components of our methodology consist of the following:

2.4.1 Financial Planning

Financial planning compares the projected revenues of the utility under existing conditions to its projected operating expenses and capital expenditures. This step tests the adequacy of the existing rates to recover the utility's forecasted costs. If there are shortfalls, increases to revenue are recommended until the utility is financial stable.

2.4.2 Cost of Service Analysis

Cost-of-service analysis builds a link between the utility's cost of service and the proposed rates for each customer. This process takes individual budget cost item and allocates them based on the function that is serves. Organizing the budget in terms of end function allows the creation of a nexus between the budget cost item and the rate.



2.4.3 Rate Design

Rate design involves developing a rate structure that equitably and proportionately recovers costs from the customers. Rate equity is inherently built upon each customer's relative use of the system. The rate structure must be tailored to customer account and demand profiles and should be resilient and flexible enough to handle changing cost and demand scenarios. By designing different rate components, the utility can balance affordability and equity.

2.4.4 Rate Adoption

In California ratemaking, public utilities are required to meet procedural requirements for adoption of new or increased rates for property-related fees under Proposition 218. Proposition 218 states that the utility must hold a public hearing to consider the proposed rates and must provide written notice to all customers at least 45 days in advance of said hearing. Any property owner or tenant

that is directly liable to the public agency for payment of the property-related fees may submit a written protest against the new or increased rates at any time until the close of the public hearing. The City Council may not adopt the proposed new or increased rates if property owners or tenants directly liable for payment submit written protests on behalf of more than 50 percent of the properties upon which the proposed rates may be imposed.

Water Rate Study

3 Revenue and Revenue Requirements

To meet the costs associated with providing water services to its customers, the Water Utility derives revenue from a variety of sources, including water user charges (rates), capital facilities fees, special programs, interest earned from the investment of available funds, and other miscellaneous revenues. The City is 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 system costs.

3.1 CUSTOMER AND WATER CONSUMPTION PROJECTIONS

3.1.1 Customer Connections and Bills

The Water Utility provides water service to about 10,820 residential and non-residential customer connections, grouped into All Customers or Fire Service customer types. All Customers are connected to the water system through a metered connection. Fire Service customers are connected to the water system but are not metered as water through the connection is only for emergency conditions. All connections are billed monthly; therefore, there is an average of 12 bills per year per customer.

The number of bills is used in this analysis to determine the service charge. The projected total number of bills is expected to have minimal growth over the five-year Study period at 0.5% per year. In evaluating the City's General Plan, large potential developments were identified throughout the City. Recently, the City experienced growth associated with new residential development at Atwell. While there is a potential for the Ranch San Gorgonio master-planned community development, the analysis only projects growth associated with Atwell and the associated commercial.

Table 3-1 summarizes the projected number of bills for the utility.

Table 3-1 Customer Bills

Line No.	Description	Fiscal Year Ending June 30,				
		FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
		(Bills)	(Bills)	(Bills)	(Bills)	(Bills)
	Number of Bills					
1	All Customers	128,726	129,338	129,952	130,569	131,190
2	Total	128,726	129,338	129,952	130,569	131,190
3	Estimated Accounts	10,727	10,778	10,829	10,881	10,933

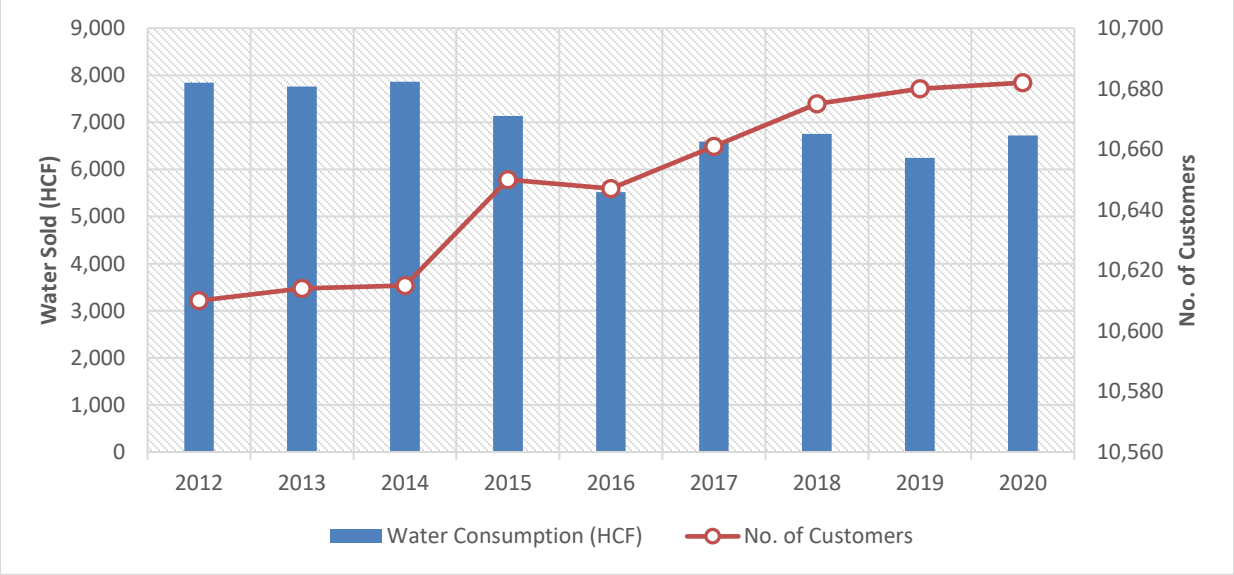
3.1.2 Water Consumption

Table 3-2 shows the projected water consumption for the Study period. In determining the projected 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 (WSCP) and the requirement of SB 7x-7. In 2022 after another three years of dry weather, Governor

Newsom issued Executive Order N-7-22, which called for local water suppliers to move to Level 2 of their WSCPs to drive water conservation. The City moved to Level 2 on June 10, 2022. The State of California and its Governor continue to monitor drought conditions which can lead to further water cutbacks and conservation measures for water consumption.

Based on the City's WSCP, a Level 2 declaration means an additional 10% water conservation must be targeted on top of the 10% expected in Level 1. While the utility has seen a reduced overall consumption since 2016, the utility has experienced new customers, which have placed a greater demand on the water system, as shown in Figure 3-1. The primary conservation restrictions can be found in the WSCP described in the City of Banning Municipal Code, Chapter 13.16. To mitigate water demand, the City plans to expand the use of recycled water to new customers. Recycled water would come from the existing Wastewater Treatment Plant (WWTP) after upgrading to tertiary treatment. Overall, City customers have done well to increase efficiency in the use of water resources.

Figure 3-1 Water Sold and Number of Customers



The analysis conducted herein incorporates a reduction of 10% in FY 2023 followed by a steady rebound of 2.3% per year, as shown in Table 3-2. The utility currently bills water consumption in hundred cubic feet (HCF). The utility has met and will continue to meet the SB 7x-7 requirements set for by the State of California.

Table 3-2 Billed Water Consumption

Line No.	Description	Fiscal Year Ending June 30,				
		FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
		(HCF)	(HCF)	(HCF)	(HCF)	(HCF)
	Billed Water Sold					
1	All Customers	2,742,522	2,806,356	2,871,854	2,939,060	3,008,023
2	Total Usage (HCF)	2,742,522	2,806,356	2,871,854	2,939,060	3,008,023
3	Total Usage (Acre-Feet)	6,296	6,443	6,593	6,747	6,905

3.2 REVENUE UNDER EXISTING RATES

Water rates serve as the primary source of revenue for the Water Utility. 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 bills and billed water consumption is multiplied by the applicable rates to determine water rate revenue.

Table 3-3 shows the current water rate schedule. Typical customers are charged a monthly service charge based on meter size and a commodity charge based on consumption.

Table 3-3 Existing Water Rates

Description	Fiscal Year 2023
Service Charge ($/Month)	
5/8"	24.28
3/4"	24.28
1"	36.81
1-1/2"	68.10
2"	105.66
3"	193.33
4"	318.60
6"	631.56
8"	1,007.21
Monthly Commodity Charges ($/HCF)	
All Customers	
Tier 1 (0-12 HCF)	2.13
Tier 2 (13-25 HCF)	2.71
Tier 3 (26+ HCF)	3.06
City/Parks [a]	0.67
a. The City does not charge City/Parks a fixed monthly charge and does not impose tier structure on these customers.	

Table 3-4 summarizes projected 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 bills and water consumption. The projected revenues increase from $10.7M in FY 2023 to $11.5M in FY 2027, representing an overall increase of 6.6% over the Study period.

Table 3-4 Projected Revenue under Existing Rates

Line No.	Description	Fiscal Year Ending June 30, FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
		($)	($)	($)	($)	($)
	Revenue					
1	All Customers	10,742,200	10,903,100	11,083,200	11,267,800	11,456,500
2	Total	$ 10,742,200	$ 10,903,100	$ 11,083,200	$ 11,267,800	$ 11,456,500

3.3 OTHER REVENUE

The Water Utility generates other sources of operating revenue from charges for backflow tests, turn-on/off, water installation and connection, interest on investments, and other miscellaneous revenues. In total, other operating revenues represent an average of 1.5% of the total revenue. It is expected that these revenues will remain relatively constant for the duration of the Study period.

3.4 OPERATING AND MAINTENANCE EXPENSES

Table 3-5 summarizes the Water Utility's projected O&M expense for the Study period. These expenses include costs related to salaries and benefits, supplies and services, water supply costs, repair & maintenance, and transfers. The following provides a brief overview of the O&M expenses:

- **Salaries and Benefits** - These costs are associated with salaries and fringe benefits paid to employees. The utility has about 16.49 full-time equivalents (FTEs) employees dedicated to operating and maintaining the water system. It plans to add 10 FTEs over the Study period to increase field operations staff that can handle meter replacement, leaks, flushing, valve turning, etc.
- **Supplies and Services** - These costs are associated with materials and supplies, contract services, utilities, special programs, and routine capital outlay. The largest cost element is associated with purchased power from the City's Electric Utility and Southern California Edison. The utility relies heavily on power to pump water from the 19 groundwater wells.
- **Water Supply Costs** - These costs are associated with purchasing import water from the San Gorgonio Water Pass Agency (SGPWA) used to recharge the Beaumont Basin.
- **Repair & Maintenance** - These costs are associated with repairs and maintenance of buildings, equipment, software, etc., throughout the water system.
- **Transfers** - These costs are associated with interfund services provided to the utility by other departments in the City such as legal, finance, human resources, etc.

Table 3-5 O&M Expenses

Line No.	Description	Fiscal Year Ending June 30,				
		FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
		($)	($)	($)	($)	($)
	Operation & Maintenance					
1	Salaries & Benefits	2,710,900	2,974,200	3,510,500	3,744,200	3,984,600
2	Supplies & Services	2,363,800	2,477,000	2,581,400	2,690,500	2,804,100
3	Water Supply Costs	616,500	634,500	654,000	673,500	693,000
4	Repair & Maintenance	136,100	143,000	150,300	158,000	166,100
5	Transfers Out	2,063,500	2,130,300	2,200,000	2,272,700	2,348,500
6	Total	$ 7,890,800	$ 8,359,000	$ 9,096,200	$ 9,538,900	$ 9,996,300

Table 3-5 shows O&M expenses increase from $7.9M in FY 2023 to $10.0M in FY 2027. That represents a total increase of 26.7% over the Study period.

3.5 LONG-TERM DEBT

Table 3-6 summarizes the Water Utility's existing and proposed debt service obligations over the Study period. Existing debt is associated with a 2015 Revenue Bond. It is common practice for utilities to

utilize debt to finance large multi-year capital improvement projects, but financing options depend on the utility's financial conditions. By financing the cost of the capital improvements, the utility can fund major projects immediately and spread the payment over a specified time frame, thereby providing a better match between the age of the asset and paying for the asset. The utility will not issue new debt financing for the Study period.

Table 3-6 Debt Service

Line No.	Description	Fiscal Year Ending June 30,				
		FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
		($)	($)	($)	($)	($)
	Long-Term Debt					
1	Existing Loan/Bonds	1,979,600	1,976,300	1,975,200	1,976,100	1,976,100
2	Proposed Loan/Bonds	0	0	0	0	0
3	Total	$ 1,979,600	$ 1,976,300	$ 1,975,200	$ 1,976,100	$ 1,976,100

3.6 CAPITAL IMPROVEMENT PROGRAM

The Water Utility developed a five-year Capital Improvement Plan annually to identify water system needs, including assessments, inspections, maintenance, and rehabilitation and replacement requirements.

The CIP was developed based on the City's Capital Improvement Budget between FY 21-25 and amended to add new identified capital projects. Table 3-7 summarizes the CIP for FY 2023 through FY 2027 with a total cost of $31.0M in CIP over the Study period. The detailed CIP by project is shown in Appendix A, Table 9-1. The following provides a brief overview of key CIP projects:

- **Wells and Pumping Equipment** - These projects are related to repairing and rehabilitating the 19 groundwater wells and ancillary equipment adjacent to the wells throughout the City.
- **Water Mains** - These projects are related to the annual replacement of mains, the addition of new mains to service future expansion, and fire flow improvements.
- **Treatment** - These projects are related to taking the WWTP to tertiary treatment. By having the WWTP treat to tertiary standards, the Water Utility will be able to obtain recycled water to help offset potable water demands.

Table 3-7 Capital Improvement Projects

Line No.	Description	Fiscal Year Ending June 30, FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
		($)	($)	($)	($)	($)
	Capital Improvement Program					
1	Property Acquisition	0	317,000	0	0	286,900
2	Fencing Improvements	0	52,800	0	55,800	0
3	Building Construction	154,200	686,800	543,100	0	0
4	Automotive Equipment	0	0	0	0	0
5	Machinery/Equipment	452,300	824,200	505,100	591,800	74,600
6	Planning/Design-Capital	488,300	422,700	325,900	335,000	344,300
7	Wells/Pumping Equipment	1,786,500	2,127,900	750,200	1,544,500	1,223,300
8	Reservoirs	36,000	237,800	0	39,100	269,700
9	Water Mains	1,927,400	1,717,100	1,900,900	279,100	3,816,300
10	Water Reg. Valves, Etc	539,700	554,800	570,300	0	0
11	SCADA/Telemetry	30,800	31,700	32,600	0	0
12	Smart Meter Project	0	0	0	0	0
13	Treatment	0	0	353,000	3,266,000	1,492,100
14	Total	$ 5,415,200	$ 6,972,800	$ 4,981,100	$ 6,111,300	$ 7,507,200

3.6.1 Capital Improvement Financing Plan

The Water Utility funds annual expenditures for the CIP from a combination of revenue derived from user rates, capital facilities fees, interest earnings, grants, and available funds. The utility funds CIP through the Operating Fund and the Capital Facilities Fund. Shown in Table 3-8 is the capital financing plan for projects in the Capital Facilities Fund. The average annual CIP expenditure is $1.9M, and the utility plans on obtaining a grant for 20% of the total costs associated with the WWTP project. The capital financing for projects in the Operating Fund is shown in Table 3-9.

Table 3-8 Capital Facilities Fund Financing Plan

Line No.	Description	Fiscal Year Ending June 30, FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
	Source of Funds					
1	Trsf from/(to) Water Ops (660)	0	0	325,000	2,925,000	1,300,000
2	Grant Funding	0	0	70,600	653,200	298,400
3	Other Revenue	1,500	1,500	1,500	1,500	1,500
4	Interest Income	47,600	29,800	16,200	15,400	17,700
5	Total Sources	$ 49,100	$ 31,300	$ 413,300	$ 3,595,100	$ 1,617,600
	Use of Funds					
6	Capital Improvements Projects	1,362,000	2,271,900	896,100	3,266,000	1,492,100
7	Total Uses	$ 1,362,000	$ 2,271,900	$ 896,100	$ 3,266,000	$ 1,492,100
8	Net Annual Cash Balance	(1,312,900)	(2,240,600)	(482,800)	329,100	125,500
9	Beginning Fund Balance	5,415,920	4,103,020	1,862,420	1,379,620	1,708,720
10	Net Cumulative Fund Balance	$ 4,103,020	$ 1,862,420	$ 1,379,620	$ 1,708,720	$ 1,834,220

3.7 TRANSFERS

The Water Utility will transfer funds to the Capital Facilities Fund over the Study period for projects that are growth related. Table 3-9, Line 24 summarizes the associated amounts. The Capital Facilities Fund transfers represent money to cover planned CIP project expenditures. These transfers do not represent direct operating expenses for either fund; therefore, Black & Veatch includes these costs as "below-the-line" cash flow items and does not include them as O&M expenses.

3.8 RESERVES

A water 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 by the City, the Water Utility will maintain the following reserve:

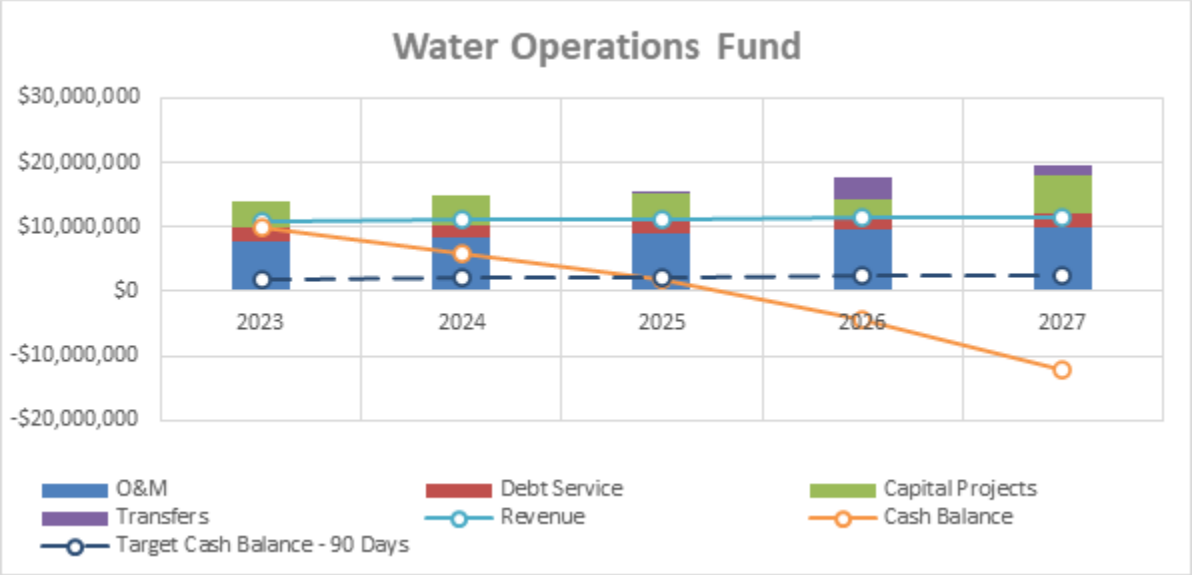
- Operating Reserve represents working capital maintained by the Operating Fund to cover day-to-day expenses in case of issues with delays in accounts receivables, periods of lower-than-expected water sales, or unforeseen cost increases. The reserve will change to a minimum balance of 90 days of operating expenses from the existing 10% of operating expenses and debt service payment.

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

3.9 PROJECTED OPERATING RESULTS

To fully understand the current condition of the Water Utility, it is important to examine the cash flow projections under the status quo scenario. As shown in Figure 3-2, the status quo conditions would project that the utility would operate from an annual deficit position, thus requiring the use of reserves to keep operating until FY 2025, when the utility will no longer have sufficient revenues to meet expenses and financial obligations associated with debt service. In the status quo scenario, the utility would not impose any revenue increases over the Study Period yet continue to incur O&M expenses, pay for the execution of the planned CIP, and meet reserve targets.

Figure 3-2 Status Quo Operating Cash Flow



Understanding that the status quo scenario is unsustainable for the utility to meet its goals and objectives, the analyses performed in the Study indicate that the utility should implement the proposed revenue increases shown in Table 3-9 if it wishes to keep the utility in a balanced financial condition. The revenue increases represent the 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 utility's obligations.

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

- Meet budgeted operating obligations and capital investments in the five FYs.
- Maintain an operating reserve of 90 days of operating expenses.

Table 3-9 summarizes the proposed Operating Fund for the Study Period. The 10-year long-term Operating Fund is shown in Appendix B, Table 10-1 and Figure 10-1 Long-Term Water Operating Cash FlowThe Operating Fund consists of 1) Revenue and 2) Revenue Requirements.

Revenue

- Line 1 is the revenue under existing rates.
- Lines 2 through 7 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 8 is the total revenue generated from the existing rates and additional revenues.
- Line 11 is the other operating revenues.
- Line 12 represents total revenues for the utility.

Revenue Requirements

- Line 14 is the total O&M expenses.

- Line 17 is the long-term debt service payments.
- Line 19 is the CIP that the Operating Fund funds.
- Line 20 is the transfer to the Capital Facilities Fund to help fund CIP projects.
- Line 22 represents the total revenue requirements for the utility.

Line 25 represents the net cumulative cash balance within the Operating Fund. The net cumulative cash balance intends to match, to the extent possible, Line 26. 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.

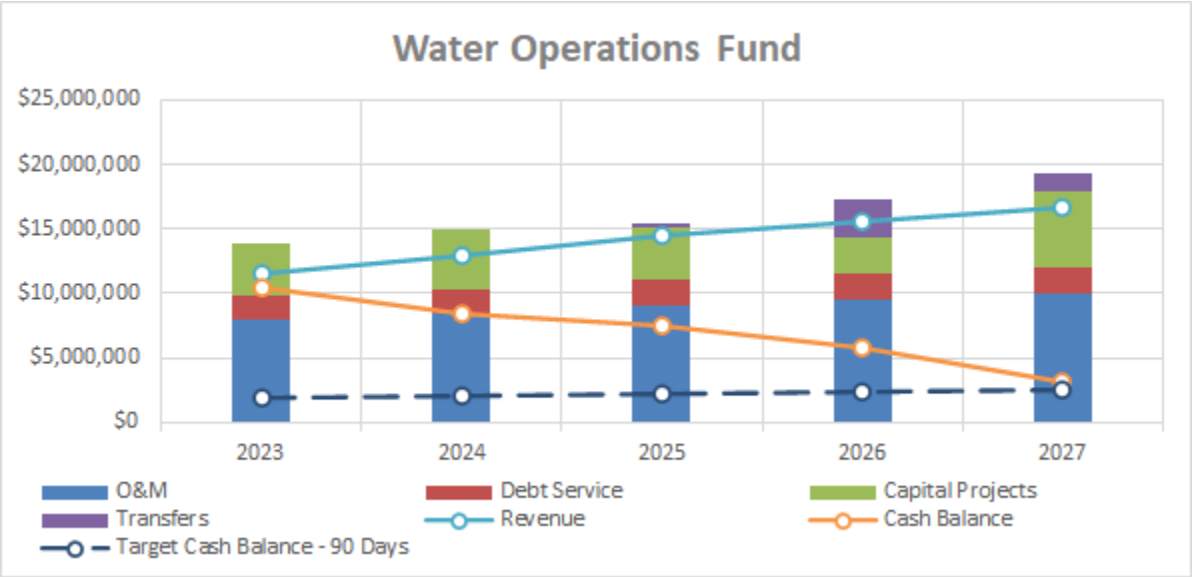
Line 27 represents the debt service coverage. Currently, the debt coverage requirement is 1.20x. Since the Water Utility will not issue new debt financing, the requirement will remain unchanged.

Table 3-9 Operating Fund

Line No.	Description	Fiscal Year Ending June 30, FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
	Revenue					
	Rate Revenue					
1	Revenue from Existing Rates	10,730,400	10,906,600	11,086,900	11,271,500	11,460,400
	Year Months Rate Adj					
2	2023 6 10.75%	576,800	1,172,500	1,191,800	1,211,700	1,232,000
3	2024 6 10.75%		649,300	1,320,000	1,341,900	1,364,400
4	2025 6 10.75%			730,900	743,100	755,600
5	2026 6 10.75%				783,000	796,200
6	2027 6 10.75%					839,000
7	Increased Rev Due to Adj's	576,800	1,821,800	3,242,700	4,079,700	4,987,200
8	Subtotal Rate Revenue	$ 11,307,200	$ 12,728,400	$ 14,329,600	$ 15,351,200	$ 16,447,600
	Other Operating Revenue					
9	Other Income	137,100	137,100	137,100	137,100	137,100
10	Interest Income	116,600	94,400	79,300	66,000	44,000
11	Subtotal Other Operating Rev	$ 253,700	$ 231,500	$ 216,400	$ 203,100	$ 181,100
12	**Total Revenue**	**$ 11,560,900**	**$ 12,959,900**	**$ 14,546,000**	**$ 15,554,300**	**$ 16,628,700**
	Revenue Requirements					
	Operating & Maintenance					
13	O&M Expenses	7,890,800	8,359,000	9,096,200	9,538,900	9,996,300
14	Subtotal O&M	$ 7,890,800	$ 8,359,000	$ 9,096,200	$ 9,538,900	$ 9,996,300
	Debt Service					
	Senior Debt					
15	Existing Revenue Bonds	1,979,600	1,976,300	1,975,200	1,976,100	1,976,100
16	Proposed Revenue Bonds	0	0	0	0	0
17	Total Debt Service	$ 1,979,600	$ 1,976,300	$ 1,975,200	$ 1,976,100	$ 1,976,100
	Capital Projects					
18	Capital Improvement Program	4,053,200	4,700,900	4,084,900	2,845,300	6,015,300
19	Total Capital Projects	$ 4,053,200	$ 4,700,900	$ 4,084,900	$ 2,845,300	$ 6,015,300
	Transfers					
20	Trsf to/(from) Wtr Cap Fund	0	0	325,000	2,925,000	1,300,000
21	Total Transfers	$ 0	$ 0	$ 325,000	$ 2,925,000	$ 1,300,000
22	**Total Revenue Requirements**	**$ 13,923,600**	**$ 15,036,200**	**$ 15,481,300**	**$ 17,285,300**	**$ 19,287,700**
23	Net Annual Cash Balance	(2,362,700)	(2,076,300)	(935,300)	(1,731,000)	(2,659,000)
24	Beginning Fund Balance	12,839,280	10,476,580	8,400,280	7,464,980	5,733,980
25	Net Cumulative Fund Balance	$ 10,476,580	$ 8,400,280	$ 7,464,980	$ 5,733,980	$ 3,074,980
26	Min. Operating Resvs (90 Days)	1,945,700	2,061,100	2,242,900	2,352,100	2,464,800
27	Debt Service Coverage (1.2x)	1.85	2.33	2.76	3.04	3.36

Figure 3-3 presents the proposed Operating Fund.

Figure 3-3 Water Operating Cash Flow



4 Cost of Service Analysis

The cost-of-service analysis requires recovery of the Water Utility's needed revenues from 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 bills, and other relevant factors.

In analyzing the utility's cost of service for allocation to its customer classes, Black & Veatch selected the annual revenue requirements for FY 2023 as the Test Year (TY) requirements to demonstrate the development of cost-of-service water rates. Table 4-1 summarizes the total costs of service that need to be recovered from water rates. The table represents TY 2023.

Table 4-1 Cost of Service Revenue from Rates

Line No.	Description	Operating Expense	Capital Cost	Total Cost
		($)	($)	($)
	Revenue Requirements			
1	O&M Expenses	7,890,800	0	7,890,800
2	Debt Service	0	1,979,600	1,979,600
3	Capital Projects	0	4,053,200	4,053,200
4	Transfers	0	0	0
5	Subtotal	$ 7,890,800	$ 6,032,800	$ 13,923,600
	Less Revenue Requirements Met from Other Sources			
6	Other Income	0	0	0
7	Other Intergov't Revenues	29,200	0	29,200
8	Utility Funds	92,900	0	92,900
9	Miscellaneous	15,000	0	15,000
10	Interfund Transfers	0	0	0
11	Interest	116,600	0	116,600
12	Debt Financing	0	0	0
13	Subtotal	$ 253,700	$ 0	$ 253,700
	Adjustments			
14	Adj for Annual Cash Balance	2,362,700	0	2,362,700
15	Adj to Annualize Rate Increase	(576,700)	0	(576,700)
16	Subtotal	$ 1,786,000	$ 0	$ 1,786,000
17	COS to be Recovered from Rates	$ 5,851,100	$ 6,032,800	$ 11,883,900

The total revenue requirement is shown in Line 5, which corresponds with Table 3-9, Line 22. As shown in Line 13, we deduct revenues from other sources to derive the net revenue requirement recovered through rates, which correspond with Table 3-9, Line 11.

Line 14 represents the net annual cash balance during the TY. This number is positive if the enterprise is drawing down funds already in the Operating Fund. The number will be negative if the enterprise is replacing funds. Line 15 represents the additional revenues generated if the revenue

increase was effective for a full year versus only 6 months. In the utility's case, the $2.4M figure indicates that the forecast is projecting a negative cash balance for the year.

4.1 FUNCTIONAL COST COMPONENTS

The first step in conducting a cost-of-service analysis involves analyzing the cost of providing 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 in excess of 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 conservation, SGPWA, and fire protection.

4.2 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 customer classes based on their responsibilities for each type of service.

4.2.1 System Base, Max Day, and Max Hour Allocations

The water system consists 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 simultaneously, the capacities of the various facilities must meet the maximum coincidental demand of all customers. Each water service facility within the system has an underlying average demand exerted by the customers for whom the base cost component applies. 100% of the costs go to the base cost component for those facilities designed solely to meet average day demand. Extra capacity requirements associated with coincidental demands in excess of 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 2018 Integrated Master Plan, the Water Utility's maximum day

(max day) demand is 1.7 times the ADD, and the maximum hourly (max hour) demand is 3.0 times the ADD.

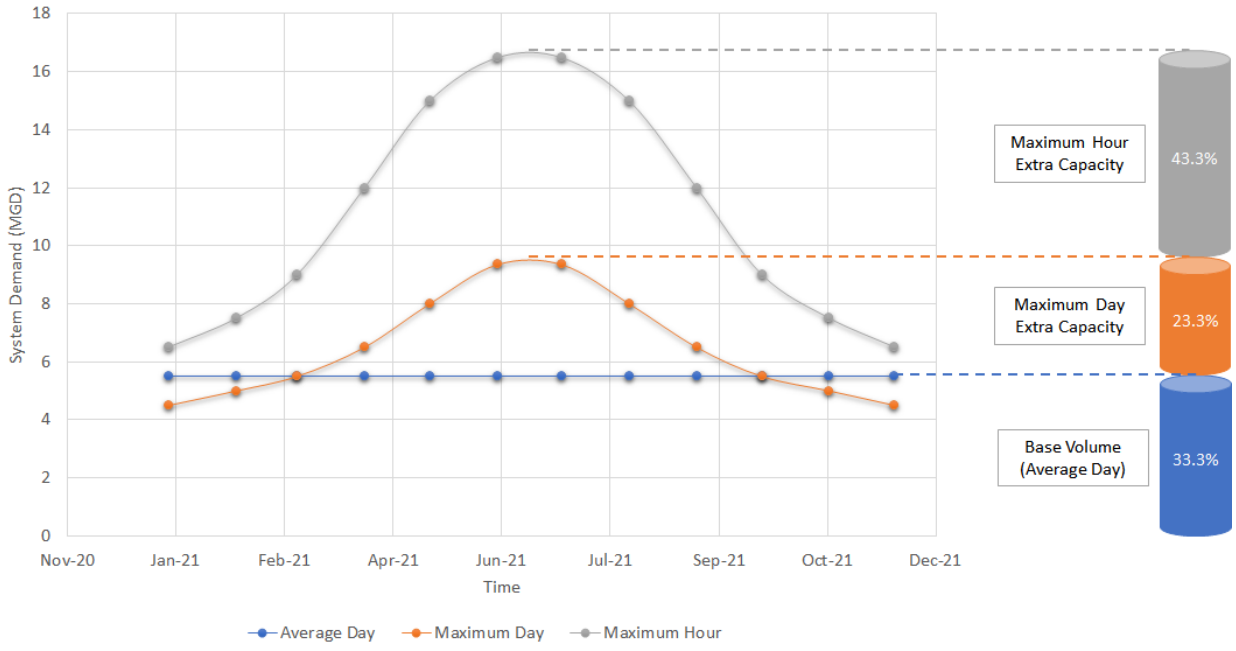
The costs associated with facilities required to meet maximum day demand are allocable to base and maximum day extra capacity, as shown below.

- Base = (1.0/1.7) x 100 = 58.8%
- Max Day = (1.7 – 1.0)/1.7 x 100 = 41.2%

These calculations indicate that the average or base use requires 58.8% of the capacity of facilities designed and generated to meet maximum day demand, and the remaining 41.2% 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 = (1.0/3.0) x 100 = 33.3%
- Max Day = (1.7 – 1.0)/3.0 x 100 = 23.3%
- Max Hour = (3.0 – 1.7)/3.0 x 100 = 43.3%



4.2.2 Allocation of Operating and Maintenance Expenses

In allocating O&M expenses for TY 2023, costs are directly allocated to the cost components to the extent possible. The Water Utility book does not record operating costs by functional categories such as water supply, pumping, treatment, transmission and distribution, meters, and hydrants. Therefore, Black & Veatch allocated O&M expenses to the cost factors noted in Section 3.1 based on engineering experience. Table 4-2 identifies the allocation basis used and the associated percentage in each cost component for the utility.

Table 4-3 represents the dollar allocation of O&M expenses to the cost components. Next, revenues are subtracted from other sources, as shown in Table 4-1, Lines 13 and 16. 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 the utility.

4.2.3 Allocation of Capital Investments

In allocating the capital investment for TY 2023, 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 system facilities. Plan capital costs can be allocated using the total net system investment distribution across the functional cost components. Table 4-4 identifies the allocation basis used and the associated percentage in each cost component for the utility.

Table 4-5 shows the allocation of existing system investment serving water customers. The total net system investment of $35.8M shown on Line 14 represents the Test Year original cost less accumulated depreciation of the system in service. The total net system investment reflects the Water Utility fixed asset listing ending June 30, 2021. This value represents the original cost (book value) of the assets.

Table 4-2 Allocation Basis for O&M Expenditures

Line No.	Description	Common to All Customers					Conservation	SGWPA Water Supply	Fire Protection	Allocation Basis
		Base	Extra Capacity		Customer					
		Base	Max. Day	Max. Hour	Meters	Cust/Bill.				
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	
	Operating Expenses									
1	Salary & Wages	46%	16%	7%	12%	15%	2%	0%	0%	Average O&M
2	Fringe Benefits	46%	16%	7%	12%	15%	2%	0%	0%	Average O&M
3	Contractural Services	47%	17%	7%	13%	16%	0%	0%	0%	Average O&M (less Cons)
4	Contract Services-Employee SPC	47%	17%	7%	13%	16%	0%	0%	0%	Average O&M (less Cons)
5	Contract Services-Utilities	47%	17%	7%	13%	16%	0%	0%	0%	Average O&M (less Cons)
6	Utilities-Banning	58%	41%	0%	0%	0%	0%	0%	1%	Pumping
7	Electricity-Edison	58%	41%	0%	0%	0%	0%	0%	1%	Pumping
8	Contract Services-Rental	47%	17%	7%	13%	16%	0%	0%	0%	Average O&M (less Cons)
9	Contract Services-Professional	47%	17%	7%	13%	16%	0%	0%	0%	Average O&M (less Cons)
10	Departmental Supplies	47%	17%	7%	13%	16%	0%	0%	0%	Average O&M (less Cons)
11	Special Programs	0%	0%	0%	0%	100%	0%	0%	0%	Customer
12	Conservation Programs	0%	0%	0%	0%	0%	100%	0%	0%	Conservation
13	Special Utility Costs	39%	10%	47%	3%	0%	0%	0%	1%	Average Net Plant
14	Wells/Pump Equip Expense	99%	0%	0%	0%	0%	0%	0%	1%	Wells
15	Reservoir Expenses	10%	0%	89%	0%	0%	0%	0%	1%	Reservoirs
16	Wtr Distribution Sys Exp	32%	23%	43%	0%	0%	0%	0%	1%	T&D
17	Meters Expense	0%	0%	0%	100%	0%	0%	0%	0%	Meters & Services
18	Water Reg, Valves, Etc.	0%	0%	0%	100%	0%	0%	0%	0%	Meters & Services
19	Non-Capitalized	39%	10%	47%	3%	0%	0%	0%	1%	Average Net Plant
20	Cost of Goods	0%	0%	0%	0%	0%	0%	100%	0%	Purchased Water
21	Contract Services-Repair	39%	10%	47%	3%	0%	0%	0%	1%	Average Net Plant
22	Bad Debt	47%	17%	7%	13%	16%	0%	0%	0%	Average O&M (less Cons)
23	Interfund Service Payments	47%	17%	7%	13%	16%	0%	0%	0%	Average O&M (less Cons)
24	Interfund Svc-Bill/Coll	0%	0%	0%	0%	100%	0%	0%	0%	Customer
25	Interfund Svc-Mtr Read Svc	0%	0%	0%	100%	0%	0%	0%	0%	Meters & Services
26	Interfund Transfers	47%	17%	7%	13%	16%	0%	0%	0%	Average O&M (less Cons)
27	Contra Expenditure	47%	17%	7%	13%	16%	0%	0%	0%	Average O&M (less Cons)

Table 4-3 Allocation of O&M Expenditures

Line No.	Description	Total Costs	Common to All Customers					Conservation	SGWPA Water Supply	Fire Protection
			Base	Extra Capacity		Customer				
			Base	Max. Day	Max. Hour	Meters	Cust/Bill.			
		($)	($)	($)	($)	($)	($)	($)	($)	($)
	Operating Expenses									
1	Salary & Wages	1,321,900	611,400	212,800	96,600	164,500	199,800	31,200	0	5,600
2	Fringe Benefits	1,389,000	642,600	223,600	101,500	172,800	209,900	32,700	0	5,900
3	Contractural Services	128,000	60,500	21,100	9,600	16,300	19,900	0	0	600
4	Contract Services-Employee SPC	13,300	6,200	2,200	1,000	1,700	2,100	0	0	100
5	Contract Services-Utilities	37,400	17,600	6,200	2,800	4,800	5,800	0	0	200
6	Utilities-Banning	1,063,600	615,000	438,000	0	0	0	0	0	10,600
7	Electricity-Edison	22,600	13,100	9,300	0	0	0	0	0	200
8	Contract Services-Rental	41,600	19,600	6,900	3,100	5,300	6,500	0	0	200
9	Contract Services-Professional	189,500	89,600	31,300	14,200	24,200	29,400	0	0	800
10	Departmental Supplies	47,600	22,400	7,900	3,600	6,100	7,400	0	0	200
11	Special Programs	158,900	0	0	0	0	158,900	0	0	0
12	Conservation Programs	83,300	0	0	0	0	0	83,300	0	0
13	Special Utility Costs	68,000	26,900	6,600	31,800	2,100	0	0	0	600
14	Wells/Pump Equip Expense	82,200	81,400	0	0	0	0	0	0	800
15	Reservoir Expenses	25,700	2,500	0	22,900	0	0	0	0	300
16	Wtr Distribution Sys Exp	231,300	74,800	54,000	100,200	0	0	0	0	2,300
17	Meters Expense	102,800	0	0	0	102,800	0	0	0	0
18	Water Reg, Valves, Etc.	25,700	0	0	0	25,700	0	0	0	0
19	Non-Capitalized	42,300	16,700	4,100	19,800	1,300	0	0	0	400
20	Cost of Goods	616,500	0	0	0	0	0	0	616,500	0
21	Contract Services-Repair	136,100	53,700	13,300	63,700	4,200	0	0	0	1,200
22	Bad Debt	0	0	0	0	0	0	0	0	0
23	Interfund Service Payments	989,300	467,700	163,400	74,200	126,300	153,400	0	0	4,300
24	Interfund Svc-Bill/Coll	334,300	0	0	0	0	334,300	0	0	0
25	Interfund Svc-Mtr Read Svc	269,900	0	0	0	269,900	0	0	0	0
26	Interfund Transfers	470,000	222,300	77,600	35,200	60,000	72,900	0	0	2,000
27	Contra Expenditure	0	0	0	0	0	0	0	0	0
28	Total O&M Expenses	$ 7,890,800	$ 3,044,000	$ 1,278,300	$ 580,200	$ 988,000	$ 1,200,300	$ 147,200	$ 616,500	$ 36,300
	Less Other Revenue									
29	Miscellaneous Revenues	253,700	117,400	40,800	18,500	31,600	38,300	6,000	0	1,100
30	Other Adjustments	1,786,000	844,400	295,000	133,900	228,000	277,000	0	0	7,700
31	Net Operating Expenses	$ 5,851,100	$ 2,082,200	$ 942,500	$ 427,800	$ 728,400	$ 885,000	$ 141,200	$ 616,500	$ 27,500

Table 4-4 Allocation Basis for Capital Costs

Line No.	Description	Common to All Customers					Fire Protection	Allocation Basis
		Base	Extra Capacity		Customer			
		Base	Max. Day	Max. Hour	Meters	Cust/Bill.		
		(%)	(%)	(%)	(%)	(%)	(%)	
	Plant Assets							
1	Land	39%	10%	47%	3%	0%	1%	Average Net Plant
2	Wells	99%	0%	0%	0%	0%	1%	Wells
3	Pumping	58%	41%	0%	0%	0%	1%	Pumping
4	Reservoirs	10%	0%	89%	0%	0%	1%	Reservoirs
5	Treatment	58%	41%	0%	0%	0%	1%	Treatment
6	Transmission & Distribution	32%	23%	43%	0%	0%	1%	T&D
7	Meters & Services	0%	0%	0%	100%	0%	0%	Meters & Services
8	Hydrants	0%	0%	0%	0%	0%	100%	Hydrants
9	Flume	100%	0%	0%	0%	0%	0%	Flume
10	General Plant	39%	10%	47%	3%	0%	1%	Average Net Plant

Table 4-5 Allocation of Capital Costs

Line No.	Description	Total Costs	Common to All Customers					Fire Protection
			Base	Extra Capacity		Customer		
			Base	Max. Day	Max. Hour	Meters	Cust/Bill.	
		($)	($)	($)	($)	($)	($)	($)
	Plant Assets							
1	Land	2,679,800	1,055,400	261,400	1,255,000	83,500	0	24,500
2	Wells	5,162,300	5,110,700	0	0	0	0	51,600
3	Pumping	96,500	55,800	39,700	0	0	0	1,000
4	Reservoirs	9,655,800	965,500	0	8,593,700	0	0	96,600
5	Treatment	0	0	0	0	0	0	0
6	Transmission & Distribution	12,230,300	3,954,500	2,853,700	5,299,800	0	0	122,300
7	Meters & Services	924,400	0	0	0	924,400	0	0
8	Hydrants	0	0	0	0	0	0	0
9	Flume	1,597,800	1,597,800	0	0	0	0	0
10	General Plant	3,452,900	1,359,900	336,800	1,617,000	107,600	0	31,600
11	Total Plant Assets	$ 35,799,800	$ 14,099,600	$ 3,491,600	$ 16,765,500	$ 1,115,500	$ 0	$ 327,600
	Less Other Revenue							
12	Miscellaneous Revenues	0	0	0	0	0	0	0
13	Other Adjustments	0	0	0	0	0	0	0
14	Net Capital Expenses	$ 35,799,800	$ 14,099,600	$ 3,491,600	$ 16,765,500	$ 1,115,500	$ 0	$ 327,600

4.3 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 their respective service requirements. 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.

- Base costs vary with consumption of water and distributed to the customers on that basis.
- Extra Capacity costs are related with meeting peak demand rates of water use and distributed to the customers based on the respective class capacity requirements in excess of 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 billing system, which helps estimate maximum day and peak hour ratios.
- Customer costs related to meter services are allocated on an equivalent meter 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. Customer costs related to generating and distributing customer bills are based on the number of bills.
- Private fire-protection costs allocations use equivalent meters similar to meter services.

Table 4-6 summarizes the estimated TY 2023 units of service for the various customers.

4.4 COST OF SERVICE ALLOCATIONS

The Study applies the unit costs of service to each customer class' 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.

4.4.1 Units Costs of Service

The TY 2023 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 4-7. On Line 3, the total costs represent the cost that rates need to recover, as demonstrated in Table 4-1, Line 17. 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 Capital Facilities Fund. Line 5 represents the unit costs for the entire water system regardless of customer classes. After that, the unit costs are used to allocate the costs to the specific customer classes.

4.4.2 Distribution of Costs of Service to Customer Classes

Applying the unit costs to each customer class' number of units produces the customer class costs. This process is illustrated in Table 4-8, in which unit costs are applied to the customer class units of service

for TY 2023. The costs attributable to each customer class reflect the functional cost components described in Section 4.1. Each customer class places a burden on the system in different ways; 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 4-7, Line 5)	$	1.63	per HCF
All Customer Consumption (Table 4-8, Line 1)		2,742,522	HCF
Total Allocated Cost	$	4,458,200	

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 4-6 Units of Service

Line No.	Description	Consumption		Maximum Day			Maximum Day			Meters	Cust/Bills	Fire Protection
		Annual	Avg. Day	Factor	Total	Extra	Factor	Total	Extra			
	Column Reference	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Units of Measure	(HCF)	(HCF/day)		(HCF/day)	(HCF/day)		(HCF/day)	(HCF/day)	(EMs)	(bills)	(EMs)
1	All Customers	2,742,522	7,514	174%	13,074	5,560	247%	18,559	5,485	13,030	128,726	
2	Subtotal	2,742,522	7,514		13,074	5,560		18,559	5,485	13,030	128,726	
	Fire Service											
3	Public Fire				1,234	1,234		7,407	6,172	0	0	7,695
4	Private Fire				49	49		294	245	0	1,128	305
5	Subtotal	0	0		1,283	1,283		7,701	6,417	0	1,128	8,000
6	Total Water System	2,742,522	7,514		14,357	6,844		26,260	11,902	13,030	129,854	8,000

Table 4-7 Units Cost of Service

Line No.	Description	Total Costs	Common to All Customers					Conservation	SGPWA Water Supply	Fire Protection
			Base	Extra Capacity		Customer				
			Base	Max. Day	Max. Hour	Meters	Cust/Bill.			
		($)	($)	($)	($)	($)	($)	($)	($)	($)
	Water Utility									
1	Net Operating Expense	5,851,100	2,082,200	942,500	427,800	728,400	885,000	141,200	616,500	27,500
2	Capital Costs	6,032,800	2,376,000	588,400	2,825,200	188,000	0	0	0	55,200
3	Total Cost of Service	$ 11,883,900	$ 4,458,200	$ 1,530,900	$ 3,253,000	$ 916,400	$ 885,000	$ 141,200	$ 616,500	$ 82,700
4	Units of Service (Total)		2,742,522 HCF	6,844 HCF/Day	11,902 HCF/Day	13,030 Eq. Meters	129,854 Bills	2,742,522 HCF	2,742,522 HCF	8,000 Eq. Meters
5	Cost per Unit		$ 1.63 per HCF	$ 223.70 per HCF/Day	$ 273.31 per HCF/Day	$ 70.33 per Eq. Meter	$ 6.82 per Bill	$ 0.05 per HCF	$ 0.22 per HCF	$ 10.34 per Eq. Meter

Table 4-8 Distribution of Costs to Customer Classes

Line No.	Description	Total Costs	Common to All Customers					Conservation	SGPWA Water Supply	Fire Protection
			Base	Extra Capacity		Customer				
			Base	Max. Day	Max. Hour	Meters	Cust/Bill.			
		($)	($)	($)	($)	($)	($)	($)	($)	($)
	All Customers									
1	Units		2,742,522	5,560	5,485	13,030	128,726	2,742,522	2,742,522	0
2	Allocation of costs of service	9,752,500	4,458,200	1,243,800	1,499,100	916,400	877,300	141,200	616,500	0
	Fire Service									
	Public Fire									
3	Units			1,234	6,172					7,695
4	Allocation of costs of service	2,042,600		276,100	1,687,000					79,500
	Private Fire Service									
5	Units			49	245		1,128			305
6	Allocation of costs of service	88,800		11,000	66,900		7,700			3,200
7	TOTAL COSTS OF SERVICE	$ 11,883,900	$ 4,458,200	$ 1,530,900	$ 3,253,000	$ 916,400	$ 885,000	$ 141,200	$ 616,500	$ 82,700

5 Rate Design

The initial consideration in deriving rate schedules for 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.

5.1 EXISTING RATES

The existing rates for the Water Utility consist of a fixed component in the form of a monthly service charge and a variable component in the form of a commodity charge. The monthly service charge is based on meter size and applied regardless of consumption. The commodity charge is based on units of consumption (1 unit = 1 HCF = 748 gallons). Table 3-3, presented earlier in this report, summarizes the existing water rates.

5.2 PROPOSED RATES

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

5.2.1 Service Charge

The monthly service charge recovers costs associated with meter maintenance and services, meter reading, customer billing, and maintenance and capacity costs associated with public fire protection regardless of the water consumed. 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 expect 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.

Table 5-1 demonstrates the water cost elements incorporated into the monthly service charge for FY 2023. Table 5-2 shows the five-year fixed service charge rate schedule.

Table 5-1 Costs within the Service Charge for FY 2023

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"	5.86	13.06	1.00	18.92	6.82	1.00	6.82	25.74
1"	5.86	13.06	1.00	18.92	6.82	1.00	6.82	25.74
1-1/2"	5.86	13.06	1.67	31.54	6.82	1.00	6.82	38.36
2"	5.86	13.06	3.33	63.08	6.82	1.00	6.82	69.90
3"	5.86	13.06	5.33	100.93	6.82	1.00	6.82	107.75
4"	5.86	13.06	10.67	201.86	6.82	1.00	6.82	208.68
6"	5.86	13.06	16.67	315.41	6.82	1.00	6.82	322.23
8"	5.86	13.06	33.33	630.83	6.82	1.00	6.82	637.64
10"	5.86	13.06	53.33	1,009.32	6.82	1.00	6.82	1,016.14

Table 5-2 Proposed Service Charge

Customer Class	Fiscal Year Ending June 30,				
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Service Charge ($/Month)					
5/8"	25.74	27.75	30.92	33.64	35.66
3/4"	25.74	27.75	30.92	33.64	35.66
1"	38.36	41.08	44.84	48.97	51.91
1-1/2"	69.90	74.39	79.63	87.31	92.53
2"	107.75	114.37	121.38	133.31	141.27
3"	208.68	220.97	232.72	255.98	271.25
4"	322.23	340.91	357.97	393.98	417.48
6"	637.64	674.05	705.90	777.33	823.68
8"	1,016.14	1,073.82	1,123.41	1,237.34	1,311.11

5.2.2 Private Fire Service

The study determined that a fixed charge should be imposed on private fire service connections. The water system is sized to deal with public and private fire demands. Public fire demand costs are recovered through the service charge, while the fire service charge is designed to recover private fire demand costs. Customers with private fire connections have the expectation and guarantee that water will be available at the connection in case of an emergency. By having a dedicated private fire connection, these customers benefit from reduced insurance costs. The Water Utility provides private fire service to approximately 94 private fire service customers.

Private fire service connections do not have a meter at the point of connection therefore the charge is based on the connection size to the water system. The fire service charge will increase as pipeline diameter size increases. Table 5-3 demonstrates the costs incorporated into the private fire service charge, and Table 5-4 shows the five-year rate schedule.

Table 5-3 Costs within the Fire Service Charge for FY 2023

Meter Size	Private Fire Protection			Total Service Charge
	Unit Cost	Meter Ratio	Adjusted Unit Cost	
	per EM			$/Month
2"	24.25	1.00	24.25	24.25
4"	24.25	1.60	38.79	38.79
6"	24.25	3.20	77.59	77.59
8"	24.25	5.00	121.23	121.23
10"	24.25	10.00	242.46	242.46
12"	24.25	16.00	387.94	387.94

Table 5-4 Proposed Fire Service Charge

Customer Class	Fiscal Year Ending June 30,				
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Fire Service ($/Month)					
2"	24.25	25.45	25.56	28.78	30.69
4"	38.79	40.72	40.89	46.05	49.10
6"	77.59	81.43	81.78	92.09	98.21
8"	121.23	127.24	127.79	143.89	153.45
10"	242.46	254.48	255.57	287.79	306.90
12"	387.94	407.16	408.91	460.46	491.04

5.2.3 Commodity Charge

The commodity charge which is based on consumption is designed to recover costs associated with the base, extra capacity demands, conservation, and water supply.

5.2.3.1 Tiers

The commodity charge is determined based on an inclining three-tier structure. The existing rate structure consist of Tier 1 (0-12 HCF), Tier 2 (13-25 HCF) and Tier 3 (26 and greater HCF). In the rate analysis, the tier breakpoints were revised to Tier 1 (0-7 HCF), Tier 2 (8-15 HCF) and Tier 3 (16 and greater HCF). The derivation of the new tier breakpoints are described below:

- Tier 1: The breakpoint of 7 HCF was determined by using 3.3 people per household[1] times 55 gallons[2] per capital per day times 30.4 days per month.
- Tier 2: The breakpoint of 15 HCF was determined by analyzing th aveareg typical usage for a single family residential account.
- Tier 3: All consumption above 15 HCF is captured in Tier 3.

The following process was followed to determine the cost of each tier.

5.2.3.2 Base Cost

Base costs are associated with extracting groundwater water supply and delivering water through the infrastructure system to the customers during average day demand. The unit cost is derived in Table 5-5.

[1] Based on U.S. Census Bureau, Quickfacts for San Bernardino County, California.
[2] Based on Senate Bill 606 and Assembly Bill 1668 which established standards for indoor residential water use.

Table 5-5 Base Unit Charge

Line No.	Description	FY 2023 Base Costs	Reference
1	Allocated Costs	$ 4,458,200	(Table 4-7, Line 3)
2	Units of Service (HCF)	2,742,522	(Table 4-6, Line 6)
3	Unit Cost of Service	$ 1.63	

5.2.3.3 Peaking Cost

Peaking costs are associated with providing water during peak demands such as maximum day and maximum hours. Customers peak the water system differently, therefore the utility needs to ensure that the system can handle high water demands as well as fire flow demands. To determine the peaking factors, an analysis of maximum month consumption by tier for the previous completed FY 2021 and dividing it by the average monthly consumption by tier is performed as shown in

Table 5-6. As water demand increases in the higher tiers, the greater demand it places on the system and thus the greater peaking.

Using the total TY 2023 consumption and the derived peaking factors in

Table 5-6, the total peaking consumption is determined as shown in Table 5-7. The unit cost is derived in Table 5-8.

Table 5-6 Peaking Factors

Line No.	Description	FY 2021 Max Month Use	FY 2021 Annual Use	FY 2021 Avg Monthly Use	FY 2021 Peaking Factor
	Column Reference	(a) (HCF)	(b) (HCF)	(c) = (b)/30.4 (HCF)	(d) = (a)/(c)
	All Customers				
1	Tier 1	66,192	762,055	63,505	1.04
2	Tier 2	56,861	529,380	44,115	1.29
3	Tier 3	265,467	2,271,850	189,321	1.40

Table 5-7 Peaking Units of Service

Line No.	Description	FY 2023 Annual Use	Peaking Factor	FY 2023 Peaking Use
	Column Reference	(a) (HCF)	(b)	(c) = (a)*(b) (HCF)
	All Customers			
1	Tier 1	621,865	1.04	646,740
2	Tier 2	430,957	1.29	555,472
3	Tier 3	1,689,699	1.40	2,369,308

Table 5-8 Peaking Unit Charge

Line No.	Description	FY 2023 Peaking Costs	Reference
1	Allocated Costs	$ 2,742,900	(Table 4-8, Line 2, MD&MH)
2	Units of Service (HCF)	3,571,519	(Table 5-7, Sum of Column c)
3	Unit Cost of Service	$ 0.77	

5.2.3.4 Conservation Cost

The conservation unit cost recovers conservation program-related costs. The utility manages water conservation programs to help promote water savings and participates in the Beaumont Basin Wastemaster to ensure that the basin isn't over-drafted. These current water savings program consists of smart irrigation rebates, which provide rebates for customers to install weather-based irrigation controllers. The conservation factor shown in Table 5-9 allocates all costs to Tier 3 since the conservation programs are designed to promote water conservation by reducing inefficient water use. The unit cost is derived Table 5-10.

Table 5-9 Conservation Units of Service

Line No.	Description	FY 2023 Annual Use	Water Conservation Factor	FY 2023 Conservation Use
	Column Reference	(a) (HCF)	(b)	(c) = (a)*(b) (HCF)
	All Customers			
1	Tier 1	621,865	0.0	0
2	Tier 2	430,957	0.0	0
3	Tier 3	1,689,699	1.0	1,689,699

Table 5-10 Conservation Unit Charge

Line No.	Description	FY 2023 Conservation Costs	Reference
1	Allocated Costs	$ 141,200	(Table 4-7, Line 3)
2	Units of Service (HCF)	1,689,699	(Table 5-9, Sum of Column c)
3	Unit Cost of Service	$ 0.08	

5.2.3.5 Water Supply Cost

The water supply unit cost recovers water supply costs associated with purchased water from SGPWA. Every year the utility can purchase import water from SGPWA to help recharge the Beaumont Basin at the Brookside Recharge Facility. By recharging the Beaumont Basin, the City can secure future water supply by banking it as groundwater for future growth and drought conditions. The water supply factor shown in Table 5-11 allocates all costs to Tier 3 since purchased water is designed to ensure water supply as demand increases and drought conditions occur. The unit cost is derived in Table 5-12.

Table 5-11 Water Supply Units of Service

Line No.	Description	FY 2023 Annual Use	SGWPA Water Supply Factor	FY 2023 Water Supply Use
	Column Reference	(a) (HCF)	(b)	(c) = (a)*(b) (HCF)
	All Customers			
1	Tier 1	621,865	0.0	0
2	Tier 2	430,957	0.0	0
3	Tier 3	1,689,699	1.0	1,689,699

The SGPWA water supply factor allocates all costs to Tier 3. The intent of purchasing water supply from SGPWA is to help ensure water supply for future demands and during drought conditions.

Table 5-12 Water Supply Unit Charge

Line No.	Description	FY 2023 SGWPA Water Supply Costs	Reference
1	Allocated Costs	$ 616,500	(Table 4-7, Line 3)
2	Units of Service (HCF)	1,689,699	(Table 5-11, Sum of Column c)
3	Unit Cost of Service	$ 0.36	

5.2.3.6 Total Commodity Cost

Table 5-13 shows the combination of unit costs to arrive at the commodity rates for FY 2023.

Table 5-13 Total Unit Charge, FY 2023

Line No.	Description	FY 2023 Base Costs	Peaking Costs	Conservation Costs	Water Supply Costs	Total Costs
	Column Reference	(a) ($/HCF)	(b) ($/HCF)	(c) ($/HCF)	(d) ($/HCF)	(a)+(b)+(c)+(d) ($/HCF)
1	Unit Cost ($/HCF)	$ 1.63	$ 0.77	$ 0.08	$ 0.36	
	All Customers					
2	Tier 1	1.63	0.80	0	0	2.42
3	Tier 2	1.63	0.99	0	0	2.62
4	Tier 3	1.63	1.08	0.08	0.36	3.15

(a) Base unit cost derived in Table 5-5. Applied to all tiers.
(b) Peaking unit cost derived in Table 5-8. Multiply unit cost to factors in Table 5-6, Column d.
(c) Conservation unit cost derived in Table 5-10. Multiply unit cost to factors in Table 5-9, Column b.
(d) Water supply unit cost derived in Table 5-12. Multiply unit cost to factors in Table 5-11, Column b.

Table 5-14 shows the five-year rate schedule for the utility.

Table 5-14 Proposed Commodity Charges

Customer Class	Fiscal Year Ending June 30,				
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Commodity Charges ($/HCF)					
All Customers					
Tier 1 (0-7 HCF)	2.42	2.76	3.10	3.48	3.96
Tier 2 (8-15 HCF)	2.62	2.97	3.31	3.72	4.23
Tier 3 (16+ HCF)	3.15	3.52	3.88	4.31	4.83

5.3 DROUGHT CONDITIONS

5.3.1 Water Shortage Contingency Plan

The City developed a six-stage Water Shortage Contingency Plan in the 2020 Urban Water Management Plan that is codified in the City of Banning Municipal Code, Chapter 13.16, which complies with the State of California's regulations. Table 5-15 shows that the plan includes the percent supply reduction and water supply condition for the different stages within the WSCP.

Table 5-15 Stages of Water Shortages Contingency Plan

STAGES	PERCENT SUPPLY REDUCTION	DROUGHT RESPONSE
1	≤10%	Mandatory Conservation Measures. Warnings Issued.
2	11-20%	Mandatory Conservation Measures. Penalties Enforced.
3	21-30%	Mandatory and Restrictive Conservation Measures. Penalties Enforced.
4	31-40%	Mandatory and Restrictive Conservation Measures. Penalties Enforced.
5	41-50%	Health & Sanitation Water Use Only. City Water Staff Actions.
6	>50%	Health & Sanitation Water Use Only. City Water Staff Actions.

Source: 2020 Urban Water Management Plan, Figure 8.5

5.3.2 Drought Surcharges

For this Study, current conditions represent the projected baseline consumption for each fiscal year. The projected baseline provides an expected revenue for the fiscal year. Under drought conditions, consumption decreases, and thus additional revenue is required for recovery via a drought surcharge. The drought surcharge is calculated by dividing the revenue loss by the reduced usage after accounting for the reduction in water supply costs associated with SGPWA water purchases. Table 5-16 shows the drought surcharges that have been developed for each 10 percent water supply reduction associated with transitioning through the stages in the WSCP.

Table 5-16 Proposed First Year Drought Charges, FY 2023

Description	Baseline	Additional Conservation compared to Baseline					
		10%	20%	30%	40%	50%	60%
Shift in Consumption by Tier							
Tier 1 (0-7 HCF)		0.0%	0.3%	0.5%	0.8%	1.0%	1.3%
Tier 2 (8-15 HCF)		1.0%	1.3%	1.5%	1.8%	2.0%	2.5%
Tier 3 (16+ HCF)		-1.0%	-1.5%	-2.0%	-2.5%	-3.0%	-3.8%
Reduction in Consumption by Tier							
Tier 1 (0-7 HCF)		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Tier 2 (8-15 HCF)		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Tier 3 (16+ HCF)		16.5%	32.9%	49.3%	65.6%	82.0%	98.5%
Projected Consumption (HCF)	2,742,522	2,742,522	2,742,522	2,742,522	2,742,522	2,742,522	2,742,522
Reduction in Consumption (HCF)		274,252	548,504	822,757	1,097,009	1,371,261	1,645,513
Net Consumption (HCF)	2,742,522	2,468,270	2,194,018	1,919,765	1,645,513	1,371,261	1,097,009
Projected Consumption by Tier (HCF)							
Tier 1 (0-7 HCF)	621,865	621,865	623,420	624,975	626,529	628,084	629,639
Tier 2 (8-15 HCF)	430,957	435,267	436,344	437,422	438,499	439,576	441,731
Tier 3 (16+ HCF)	1,689,700	1,411,138	1,134,254	857,368	580,485	303,601	25,639
Total Consumption	2,742,522	2,468,270	2,194,018	1,919,765	1,645,513	1,371,261	1,097,009
Projected Consumption Rates ($/HCF)							
Tier 1 (0-7 HCF)	$2.42	$2.42	$2.42	$2.42	$2.42	$2.42	$2.42
Tier 2 (8-15 HCF)	$2.62	$2.62	$2.62	$2.62	$2.62	$2.62	$2.62
Tier 3 (16+ HCF)	$3.15	$3.15	$3.15	$3.15	$3.15	$3.15	$3.15
Projected Consumption Revenue							
Tier 1 (0-7 HCF)	$1,507,586	$1,507,585	$1,511,355	$1,515,125	$1,518,892	$1,522,662	$1,526,431
Tier 2 (8-15 HCF)	$1,127,156	$1,138,428	$1,141,245	$1,144,064	$1,146,881	$1,149,698	$1,155,334
Tier 3 (16+ HCF)	$5,324,060	$4,446,343	$3,573,911	$2,701,473	$1,829,045	$956,614	$80,786
Total Revenue	$7,958,801	$7,092,355	$6,226,511	$5,360,662	$4,494,818	$3,628,973	$2,762,551
Revenue Lost		$866,446	$1,732,291	$2,598,139	$3,463,983	$4,329,828	$5,196,250
Reduced Water Sold + Water Loss		309,905	619,810	929,715	1,239,620	1,549,525	1,859,430
Production/Purchased Water Costs		$1.33	$1.33	$1.33	$1.33	$1.33	$1.33
Reduced Cost of Water Production/Purchased		($410,600)	($821,300)	($1,231,900)	($1,642,600)	($2,053,200)	($2,463,800)
Revenue Lost due to Reduction		$866,446	$1,732,291	$2,598,139	$3,463,983	$4,329,828	$5,196,250
Less Reduction of Water Production/Purchased		($410,600)	($821,300)	($1,231,900)	($1,642,600)	($2,053,200)	($2,463,800)
Revenue to be recovered by drought surcharges		$455,846	$910,991	$1,366,239	$1,821,383	$2,276,628	$2,732,450
Drought Surcharge on Consumption ($/HCF)		**$0.18**	**$0.42**	**$0.71**	**$1.11**	**$1.66**	**$2.49**

Using the same methodology per fiscal year, Table 5-17 shows the proposed five-year drought surcharges for each additional percentage of savings.

Table 5-17 Proposed Five-Year Drought Charges

Description	Additional Conservation compared to Baseline					
	10%	20%	30%	40%	50%	Greater than 50%[1]
FY 2023	$0.18	$0.42	$0.71	$1.11	$1.66	$2.49
FY 2024	$0.22	$0.49	$0.84	$1.30	$1.95	$2.93
FY 2025	$0.25	$0.57	$0.98	$1.52	$2.28	$3.43
FY 2026	$0.30	$0.66	$1.14	$1.77	$2.65	$3.98
FY 2027	$0.34	$0.77	$1.32	$2.05	$3.07	$4.61

1. Greater than 50% represents surcharge up to 60%. Anything larger will need to be calculated.

5.4 TYPICAL MONTHLY COSTS UNDER PROPOSED CHARGES

Table 5-18 compares typical monthly costs under existing rates and the proposed schedule of water user rates derived in this Study.

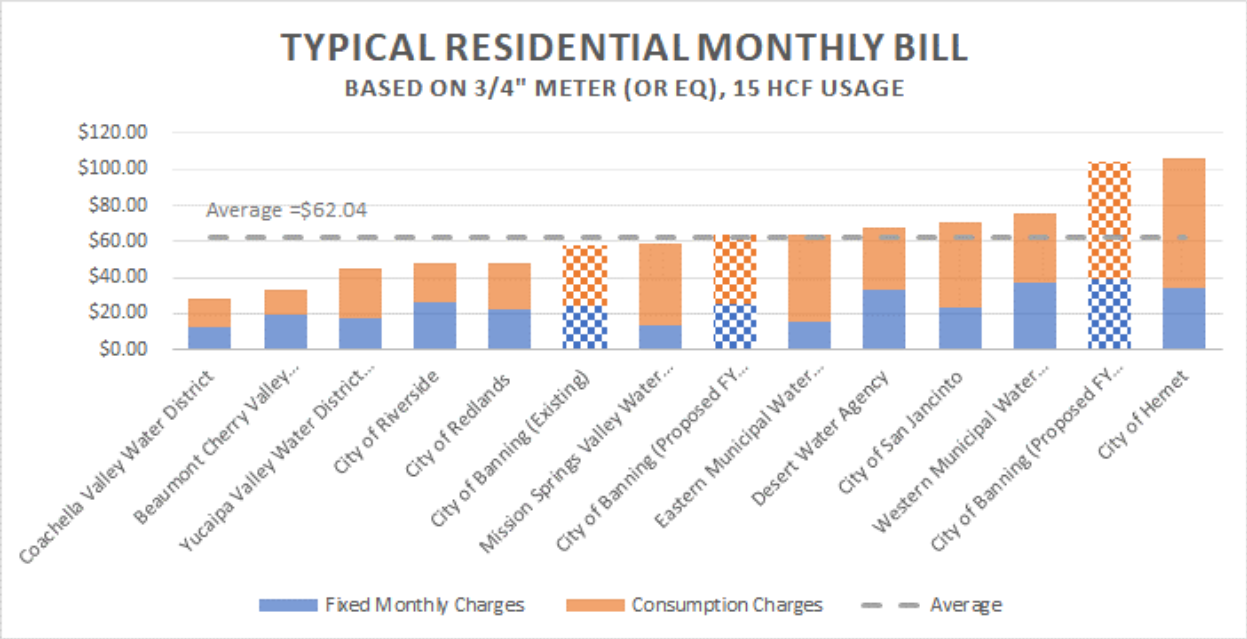
Table 5-18 Typical Monthly Bill

Monthly Usage	FY 2023 Existing Rates	FY 2023 Proposed Rates	Difference
(HCF)	($)	($)	($)
Typical Bill by Consumption			
0	$24.28	$25.74	$1.46
3	$30.67	$33.01	$2.34
5	$34.93	$37.86	$2.93
10	$45.58	$50.56	$4.98
15	$57.97	$63.63	$5.66
20	$71.52	$76.77	$5.25
30	$97.66	$108.28	$10.62
40	$128.26	$139.79	$11.53
50	$158.86	$171.30	$12.44

5.5 NEIGHBORING WATER UTILITIES

Presented in Figure 5-1 are the proposed rates compared to rates of neighboring utilities for a single-family residential customer with a ¾" meter consuming 15 HCF of water. Based on the comparison, the City's typical bill is currently in the middle of the water providers in the area. With the proposed rate increases for FY 2023, the City remains in the middle. When the City implements the FY 2027 increase, it will trend towards the higher end of the water providers if none of the neighboring utilities increase their rates. The likelihood of any neighboring utilities freezing rates for five years is highly improbable. All surveyed neighboring utility rates are current as of June 2022.

Figure 5-1 Comparison to Neighboring Water Utilities



Wastewater Rate Study

6 Revenue and Revenue Requirements

To meet the costs associated with providing wastewater services to its customers, the Wastewater Utility derives revenue from various sources, including wastewater user charges (rates), capital facilities fees, interest earned from the investment of available funds, and other miscellaneous revenues. The 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 equivalent dwelling units. 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 wastewater system expenses.

6.1 CUSTOMER PROJECTIONS

6.1.1 Equivalent Dwelling Units

The Wastewater Utility provides wastewater service to about 13,400 residential and commercial equivalent dwelling units. The utility identifies customers into two types: Residential and Commercial yet are considered one customer class. All customers are billed monthly based on equivalent dwelling units (EDU). An EDU represents a single-family residential customer equivalent with a flow of 225 gallons per day. Based on their wastewater discharge, a non-residential customer may be equal to several EDUs.

The number of EDUs is used in the analysis to determine the fixed charge. The projected total number of EDUs is expected to have a minimal growth rate of 0.4% per year over the five-year Study period. Like the Water Utility, the City's General Plan identified large potential developments. Recently, the utility has experienced growth associated with new residential development at Atwell, and there is the potential for the Ranch San Gorgonio master-planned community development. For the analysis, the new growth projected is only associated with Atwell and the associated commercial.

Table 6-1 summarizes the projected number of EDUs for the utility.

Table 6-1 Equivalent Dwelling Units

Line No.	Description	Fiscal Year Ending June 30,				
		FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
		(EDUs)	(EDUs)	(EDUs)	(EDUs)	(EDUs)
	Equivalent Dwelling Units					
1	Residential	131,921	132,581	133,244	133,910	134,580
2	Commercial	30,027	30,087	30,147	30,207	30,267
3	Total	161,948	162,668	163,391	164,117	164,847

6.2 REVENUE UNDER EXISTING RATES

Wastewater user rates serve as the primary source of revenue for the Wastewater 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 (number of EDUs) by the applicable rates to determine wastewater rate revenue.

Table 6-2 shows the current schedule of charges. In the schedule of charges, the utility applies a tertiary surcharge per EDU to fund improvements associated with taking the WWTP from secondary to tertiary treatment.

Table 6-2 Existing Wastewater Rates

Description	Fiscal Year 2023
Fixed Charge ($/Month/EDU)	
Residential	21.42
Commercial	21.42
Tertiary Surcharge	2.32

Table 6-3 summarizes projected wastewater rate revenue under existing rates. As shown, the revenue generated stays relatively stable over the Study period in conjunction with the number of EDUs. The projected utility revenues increase from $3.55M in FY 2023 to $3.61M in FY 2027.

Table 6-3 Revenue under Existing Rates

Line No.	Description	Fiscal Year Ending June 30, FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
		($)	($)	($)	($)	($)
	Revenue					
1	Residential	2,891,200	2,905,600	2,920,200	2,934,800	2,949,400
2	Commercial	658,100	659,400	660,700	662,000	663,300
3	Total	$ 3,549,300	$ 3,565,000	$ 3,580,900	$ 3,596,800	$ 3,612,700

6.3 OTHER REVENUE

The Wastewater Utility generates other operating sources, including charges for revenue from capital facilities fees, interest on investments, and other miscellaneous revenues. In total, other operating revenues represent 0.3% of the total revenue. It is expected that these revenues will remain relatively constant for the duration of the Study period.

6.4 OPERATING AND MAINTENANCE EXPENSES

Table 6-4 summarizes the Wastewater Utility's projected O&M expense for the Study period. These expenses include costs related to salaries and benefits, supplies and services, repair & maintenance, and transfers. The following provides a brief overview of the O&M expenses:

- **Salaries and Benefits** - These costs are associated with salaries and fringe benefits paid to employees. The utility has about 5.86 full-time employees (FTEs) dedicated to operating and maintaining the wastewater system. It plans to add 4 FTEs over the Study period to assist with field operations and to perform technical analysis and execute capital projects.
- **Supplies and Services** - These costs are associated with materials and supplies, contract services, utilities, special programs, and routine capital outlay. The largest cost element is contract services with Veolia to operate and maintain the WWTP.
- **Repair & Maintenance** - These costs are associated with repairs and maintenance of buildings, equipment, software, radios, etc., throughout the wastewater system.

- **Transfers** - These costs are associated with interfund services provided to the utility by other departments in the City such as legal, finance, human resources, etc.

Table 6-4 O&M Expenses

Line No.	Description	Fiscal Year Ending June 30, FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
		($)	($)	($)	($)	($)
	Operation and Maintenance					
1	Salaries & Benefits	1,241,600	1,463,100	1,640,500	1,681,600	1,723,700
2	Supplies & Services	1,559,900	1,646,000	1,701,600	1,759,200	1,818,700
3	Repair & Maintenance	131,300	137,900	145,000	152,400	160,200
4	Transfers Out	803,000	829,000	856,200	884,600	914,200
5	Total	$ 3,735,800	$ 4,076,000	$ 4,343,300	$ 4,477,800	$ 4,616,800

As shown in Table 6-4, the O&M expenses increase from $3.7M in FY 2023 to $4.6M in FY 2027. That represents a total increase of 23.6% over the Study period.

6.5 LONG-TERM DEBT

Table 6-5 represents the Wastewater Utility's existing and proposed debt service obligations over the Study period. Existing debt is associated with a 2019 Refunding Revenue Bond. It is common practice for utilities to utilize debt to finance large multi-year capital improvement projects, but financing options depend on the utility's financial conditions. By financing the cost of the capital improvements, the utility can fund major projects immediately and spread the payment over a specified time frame. The utility plans to issue a new Revenue Bond in 2025. The City estimates debt financing terms reflecting an interest rate of 5.5% for a 30-year term, with 1% issuance costs, and a debt service coverage requirement of 1.25x.

Table 6-5 Long-Term Debt Service

Line No.	Description	Fiscal Year Ending June 30, FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
		($)	($)	($)	($)	($)
	Long-Term Debt					
1	Existing Loan/Bonds	286,740	287,630	288,430	289,140	289,760
2	Proposed Loan/Bonds	0	0	1,089,258	1,867,300	1,867,300
3	Total	$ 286,740	$ 287,630	$ 1,377,688	$ 2,156,440	$ 2,157,060

6.6 CAPITAL IMPROVEMENT PROGRAM

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

The CIP was developed based on the City's Capital Improvement Budget between FY 21-25 and amended to add new identified capital projects. Table 6-6 summarizes the CIP for FY 2023 through FY 2027. The total CIP is projected at $59.2M in CIP over the Study period. The detailed CIP by project is shown in Appendix A, Table 9-2. The following provides a brief overview of key CIP projects:

- **Treatment Plant** - These projects are associated with upgrading the WWTP. The WWTP requires upgrades to comply with nitrogen removal regulations and to allow the WWTP to achieve

tertiary treatment. As a tertiary treatment plant, the WWTP can produce Title 22 recycled water to be used to offset potable water demands.

- **Sewer Mains & Collection System** - These projects are associated with the annual replacement of mains, sewer main lining, and the addition of new mains to service future expansion.

Table 6-6 Capital Improvement Projects

Line No.	Description	Fiscal Year Ending June 30,				
		FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
		($)	($)	($)	($)	($)
	Capital Improvement Program					
1	Building Improvements	51,400	237,800	162,900	0	0
2	Fencing Improvements	0	31,700	0	33,500	0
3	Vehicles	118,200	121,500	124,900	128,400	132,000
4	Machinery/Equipment	102,800	31,700	0	55,800	0
5	Planning/Design-Capital	462,500	1,299,700	1,254,500	1,016,100	149,200
6	Treatment Plant Improvement	812,100	1,014,400	309,600	33,748,300	15,460,400
7	Sewer Mains & Collection System	102,800	951,000	108,600	228,900	935,400
8	Total	$ 1,649,800	$ 3,687,800	$ 1,960,500	$ 35,211,000	$ 16,677,000

The capital projects shown in Table 6-6 exclude the CIP associated with the BUA WW Capital Project Bond Fund as those already have an identified funding source and are therefore not shown.

6.6.1 Capital Improvement Financing Plan

The Wastewater Utility funds annual expenditures for the CIP from revenue derived from user rates, capital facilities fee, interest earnings, grants, and available funds on hand. The utility funds CIP through three funds, the Operating Fund, Capital Facilities Fund, and the Wastewater Tertiary Fund. The capital financing for projects in the Operating Fund is shown in Table 6-9. Table 6-7 shows the capital financing for projects in the Capital Facilities Fund. The Capital Facilities Fund will lend $3.0M to the Operating Fund to minimize rate impacts in FY 2023 and will be repaid in FY 2025 after Revenue Bonds are issued. Table 6-8 shows the capital financing for projects in the Wastewater Tertiary Fund. The average annual CIP expenditure is $3.8M in the Capital Facilities Fund and $1.8M in the Wastewater Tertiary Fund. The utility plans on obtaining a grant for 20% of the total costs associated with taking the WWTP to help offset the upgrade costs.

Table 6-7 Capital Facilities Fund Financing Plan

Line No.	Description	Fiscal Year Ending June 30, FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
	Source of Funds					
1	Trsf from/(to) WW Ops (680)	(3,000,000)	0	8,000,000	0	0
2	Grant Funding	26,700	137,400	141,200	2,678,100	846,000
3	Other Revenue	7,300	7,300	7,300	7,300	7,300
4	Interest Income	88,400	71,000	106,400	91,000	21,200
5	Total Sources	$ (2,877,600)	$ 215,700	$ 8,254,900	$ 2,776,400	$ 874,500
	Use of Funds					
6	Capital Improvements Projects	133,600	686,800	706,000	13,390,400	4,230,100
7	Total Uses	$ 133,600	$ 686,800	$ 706,000	$ 13,390,400	$ 4,230,100
8	Net Annual Cash Balance	(3,011,200)	(471,100)	7,548,900	(10,614,000)	(3,355,600)
9	Beginning Fund Balance	10,343,100	7,331,900	6,860,800	14,409,700	3,795,700
10	Net Cumulative Fund Balance	$ 7,331,900	$ 6,860,800	$ 14,409,700	$ 3,795,700	$ 440,100

Table 6-8 Wastewater Tertiary Fund Financing Plan

Line No.	Description	Fiscal Year Ending June 30, FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
	Source of Funds					
1	Tertiary Revenue	366,100	367,600	369,200	370,900	372,600
2	Grant Funding	13,700	72,600	76,700	1,012,900	796,300
3	Interest Income	73,400	75,900	77,600	58,300	32,600
4	Total Sources	$ 453,200	$ 516,100	$ 523,500	$ 1,442,100	$ 1,201,500
	Use of Funds					
5	Capital Improvements Projects	66,800	343,400	353,000	4,536,100	3,469,100
6	Total Uses	$ 66,800	$ 343,400	$ 353,000	$ 4,536,100	$ 3,469,100
7	Net Annual Cash Balance	386,400	172,700	170,500	(3,094,000)	(2,267,600)
8	Beginning Fund Balance	7,153,500	7,539,900	7,712,600	7,883,100	4,789,100
9	Net Cumulative Fund Balance	$ 7,539,900	$ 7,712,600	$ 7,883,100	$ 4,789,100	$ 2,521,500

6.7 TRANSFERS

The Wastewater Utility will perform transfers from the Operating Fund to the Capital Facilities Fund over the Study period for projects that are growth related. The Capital Facilities 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 as O&M expenses. Table 6-9, Line 24 for the utility reflects these associated amounts.

6.8 RESERVES

A wastewater 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 City's reserve policy, the Wastewater Utility will maintain the following reserve:

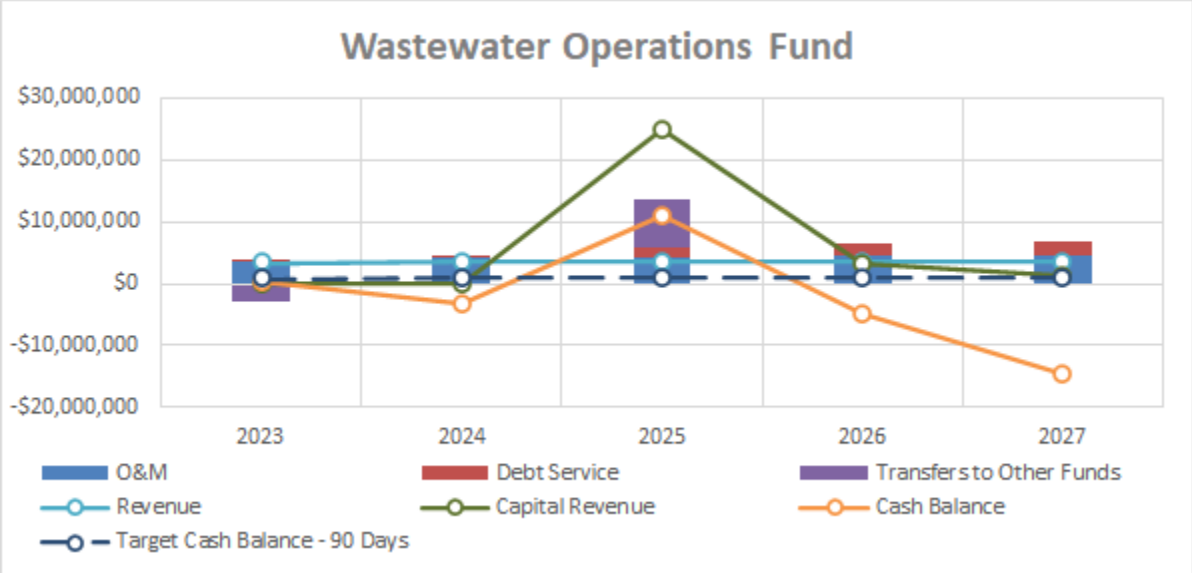
- Operating Reserve represents working capital maintained by the Operating Fund to cover day-to-day expenses and maintain enough funds to cover delayed accounts receivables, periods of lower-than-expected wastewater revenues, or unforeseen cost increases. The reserve will change to a minimum balance of 90 days of operating expenses from the existing 10% of operating expenses and debt service payment.

Appropriate reserve levels help the 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.

6.9 PROJECTED OPERATING RESULTS

It is important to examine the cash flow projections of the Wastewater Utility under the status quo scenario to fully understand the current condition of the utility and the need for revenue adjustments. As shown in Figure 6-1, the status quo conditions would project that the utility would operate from an annual deficit position, thus requiring the use of reserves to keep operating until FY 2024, when the utility will no longer have sufficient revenues to meet expenses and financial obligations associated with debt service. In this scenario, the 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 meet reserve targets.

Figure 6-1 Status Quo Operating Cash Flow



Understanding that the status quo scenario is unsustainable for the utility to meet its goals and objectives, the analyses performed in the Study indicate that the utility should implement the proposed revenue increases shown in Table 6-9 if it wishes to keep the utility in a balanced financial position. 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 utility's obligations.

The suggested revenue increases help the utility meet the following goals:

- Meet budgeted operating obligations and capital investment in the five FYs.
- Maintain an operating reserve of 90 days of operating expenses.

Shown in Table 6-9 is a summary of the proposed Operating Fund for the Study Period. The 10-year long-term Operating Fund is shown in Appendix B, Table 10-2 and Figure 10-2. The Operating Fund consists of 1) Revenue and 2) Revenue Requirements.

Revenue

- Line 1 is the revenue under existing rates.
- Lines 2 through 8 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 9 is the total revenue generated from user charges.
- Line 12 is the other operating revenues.
- Line 15 is the capital financing for CIP.
- Line 16 represents total revenues for the enterprises.

Revenue Requirements

- Line 17 is the O&M expenses.
- Line 21 is the existing and proposed debt service payments.
- Line 22 is the Capital Improvement Program.
- Line 24 is the interfund transfer. The transfer reflects the funding of the Capital Facilities Fund.
- Line 26 represents total revenue requirements.

Line 29 represents the net cumulative cash balance within the Operating Fund. The net cumulative cash balance intends to match, to the extent possible, Line 30. 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.

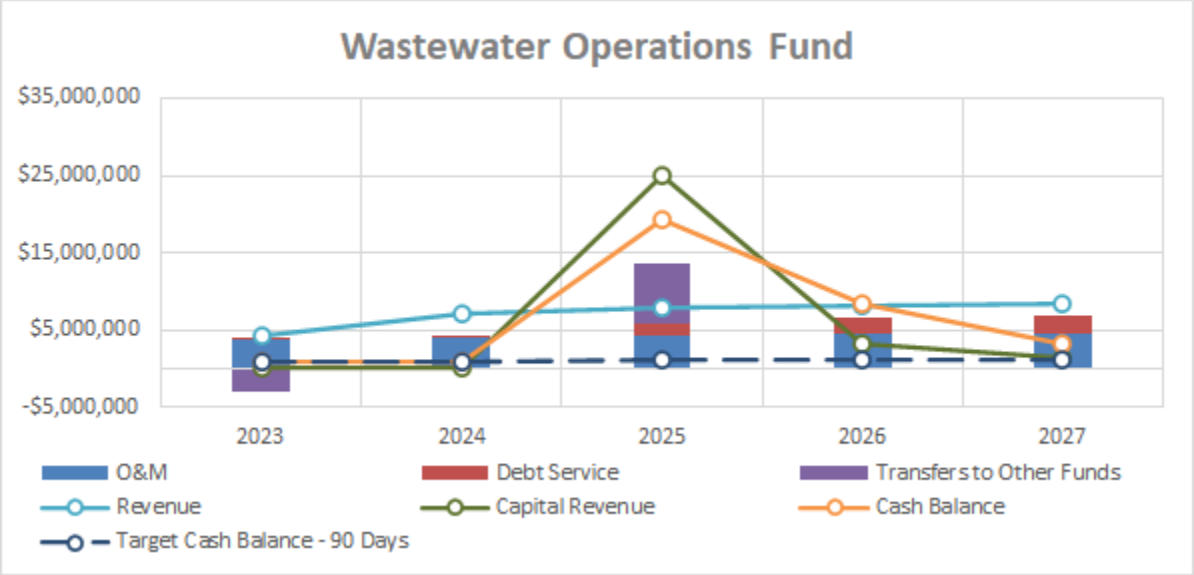
Line 31 represents the debt service coverage. The City currently has a debt coverage requirement of 1.15x, but the operating cash flow is designed to achieve a debt service coverage of 1.25x in all years. The new requirement will become effective when new long-term debt is issued in FY 2025. The lending financial institution sets the debt service coverage ratio through rate covenants that obligate the City to increase revenues to meet the minimum debt service coverage requirement

Table 6-9 Operating Fund

Line No.	Description			Fiscal Year Ending June 30, FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
	Revenue							
	Rate Revenue							
1	Revenue from Existing Rates			3,549,300	3,565,000	3,580,900	3,596,800	3,612,700
	Year	Months Effective	Rate Adj					
2	2023	6	40.00%	709,900	1,426,000	1,432,400	1,438,700	1,445,100
3	2024	12	25.00%		1,247,800	1,253,300	1,258,900	1,264,500
4	2024	6	25.00%		779,900	1,566,700	1,573,600	1,580,600
5	2025	6	3.00%			117,500	118,000	118,500
6	2026	6	3.00%				119,800	120,300
7	2027	6	3.00%					122,100
8	Increased Revenue Due to Adj			709,900	3,453,700	4,369,900	4,509,000	4,651,100
9	Subtotal Rate Revenue			$ 4,259,200	$ 7,018,700	$ 7,950,800	$ 8,105,800	$ 8,263,800
	Other Operating Revenue							
10	Other Income			0	0	0	0	0
11	Interest Income			0	9,600	0	122,800	50,900
12	Subtotal Other Operating Rev			$ 0	$ 9,600	$ 0	$ 122,800	$ 50,900
	Capital Financing							
13	Grant Funding			26,700	27,500	28,200	3,222,400	1,399,600
14	Revenue Bonds			0	0	25,000,000	0	0
15	Subtotal Capital Financing			$ 26,700	$ 27,500	$ 25,028,200	$ 3,222,400	$ 1,399,600
16	**Total Revenue**			**$ 4,285,900**	**$ 7,055,800**	**$ 32,979,000**	**$ 11,451,000**	**$ 9,714,300**
	Revenue Requirements							
	Operating & Maintenance							
17	O&M Expenses			3,735,800	4,076,000	4,343,300	4,477,800	4,616,800
18	Subtotal O&M			$ 3,735,800	$ 4,076,000	$ 4,343,300	$ 4,477,800	$ 4,616,800
	Debt Service							
19	Existing Revenue Bonds			286,700	287,600	288,400	289,100	289,800
20	Proposed Revenue Bonds			0	0	1,089,300	1,867,300	1,867,300
21	Total Debt Service			$ 286,700	$ 287,600	$ 1,377,700	$ 2,156,400	$ 2,157,100
	Capital Projects							
22	Capital Improvement Projects			1,449,400	2,585,300	853,200	15,912,600	8,040,600
23	Total Capital Projects			$ 1,449,400	$ 2,585,300	$ 853,200	$ 15,912,600	$ 8,040,600
	Transfers							
24	Trsf to/(from) WW Cap Fund			(3,000,000)	0	8,000,000	0	0
25	Total Transfers			$ (3,000,000)	$ 0	$ 8,000,000	$ 0	$ 0
26	**Total Revenue Requirements**			**$ 2,471,900**	**$ 6,948,900**	**$ 14,574,200**	**$ 22,546,800**	**$ 14,814,500**
27	Net Annual Cash Balance			1,814,000	106,900	18,404,800	(11,095,800)	(5,100,200)
28	Beginning Fund Balance			(891,000)	923,000	1,029,900	19,434,700	8,338,900
29	Net Cumulative Fund Balance			$ 923,000	$ 1,029,900	$ 19,434,700	$ 8,338,900	$ 3,238,700
30	Min Operating Reserves (90 Day			$ 921,200	$ 1,005,000	$ 1,071,000	$ 1,104,100	$ 1,138,400
31	Debt Service Coverage (1.25x)			1.83	10.27	2.62	1.74	1.71

Figure 6-2 presents the proposed Operating Fund.

Figure 6-2 Operating Cash Flow



7 Cost of Service Analysis

The cost-of-service analysis requires that the utility recover needed revenues from rates for wastewater 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, capacity, strengths, number of customer connections, and other relevant factors.

In analyzing the Wastewater Utility's cost of service for allocation to its customer classes, Black & Veatch selected the annual revenue requirements for FY 2023 as the Test Year requirements to demonstrate the development of cost-of-service wastewater rates. Table 7-1 summarizes the total costs of service that need to be recovered from wastewater user rates. The table represents TY 2023.

Table 7-1 Cost of Service Revenue from Rates

Line No.	Description	Operating Expense	Capital Cost	Total Cost
		($)	($)	($)
	Revenue Requirements			
1	O&M Expense	3,735,800	0	3,735,800
2	Debt Service Requirements	0	286,700	286,700
3	Capital Projects	0	1,449,400	1,449,400
4	Transfers	0	(3,000,000)	(3,000,000)
5	Subtotal	$ 3,735,800	$ (1,263,900)	$ 2,471,900
	Less Revenue Requirements Met from Other Sources			
6	Miscellaneous	0	0	0
7	Interfund Transfers	0	0	0
8	Other Income	0	0	0
9	Interest	0	0	0
10	Capital Financing	0	26,700	26,700
11	Subtotal	$ 0	$ 26,700	$ 26,700
	Adjustments			
12	Adj for Annual Cash Balance	(1,814,000)	0	(1,814,000)
13	Adj to Annualize Rate Increase	(709,800)	0	(709,800)
14	Subtotal	$ (2,523,800)	$ 0	$ (2,523,800)
15	COS to be Recovered from Rates	$ 6,259,600	$ (1,290,600)	$ 4,969,000

It is necessary to deduct revenues from other sources, as shown in Line 11, which corresponds with Table 6-9, Lines 12 and 15, to derive the net revenue requirements recovered from rate revenue properly. Shown in Line 5 is the total revenue requirement that corresponds with Table 6-9, Line 26. Line 12 represents the net annual cash balance during the TY. This number is positive if the enterprise is drawing down funds already in the Operating Fund. The number will be negative if the enterprise is replacing funds. In the case of the Wastewater Utility, the $1.8M figure indicates that the forecast is projecting a positive cash balance for the year. Line 13 represents the additional revenues generated if the revenue increase was effective for a full year versus only 6 months.

7.1 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) Capacity; (3) Strength; (4) Customer; and (5) 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.
- Capacity costs represent capital costs related to investment in system facilities which are sized based on, or required because of, maximum rates of sewage flow and the operation and maintenance expense related to those facilities.
- 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, and Total Suspended Solids.
- Customer costs are those expenditures that tend to vary in proportion to the number of customers connected to the system. These include billing, collecting, accounting and capital costs associated with services.
- Directly assigned costs are specifically identified as those incurred to serve specific customers. The Wastewater Utility has no directly assigned categories.

7.2 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 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 customer classes based on their responsibilities for each type of service.

7.2.1 Volume, Capacity, and Strength Allocations

The wastewater 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 wastewater service facility within the system has an underlying volume demand exerted by all customers for whom the base cost component applies. 100% of the costs go to the base cost component for those facilities designed solely to meet volume demand. Specific facilities are designed to meet maximum flow, including infiltration and inflow (I/I); therefore, these facilities are allocated 100% to capacity. 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.

7.2.2 Allocation of Operating and Maintenance Expenses

In allocating O&M expenses for TY 2023, costs are directly allocated to the cost components to the extent possible. The Wastewater Utility book does not record operating costs by functional categories such as collection, lift stations, WWTP, solids handling, and disposal. Therefore, Black & Veatch allocated O&M expenses to the cost factors noted in Section 5.1 based on discussions with City staff and engineering experience observed with other wastewater systems. Table 7-2 identifies the allocation basis used and the associated percentage in each cost component for the utility.

Table 7-3 represents the dollar allocation of O&M expenses to the cost components. Next, revenues are subtracted from other sources as shown in Table 7-1, Lines 11 and 14. 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 the utility.

7.2.3 Allocation of Capital Investments

In allocating the capital investment for TY 2023, 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 wastewater system facilities. Plan capital costs can be allocated using the total net system investment distribution across the functional cost components. Table 7-4 identifies the allocation basis used and the associated percentage in each cost component for the utility.

Table 7-5 shows the allocation of existing system investment serving wastewater customers. The total net system investment of $5.7M shown on Line 9 represents the Test Year original cost less accumulated depreciation of the system in service. The total net system investment reflects the Wastewater Utility fixed asset listing ending June 30, 2021. This value represents the original cost (book value) of the assets.

Table 7-2 Allocation Basis for O&M Expenditures

Line No.	Description	Common to All Customers					Allocation Basis
		Volume	Capacity	BOD	TSS	Customer	
		(%)	(%)	(%)	(%)	(%)	
	Operation & Maintenance						
1	Salary & Wages-Fringe Benefits	0%	100%	0%	0%	0%	Collection
2	Contractual Services	0%	100%	0%	0%	0%	Collection
3	Laboratory Services	20%	0%	40%	40%	0%	Strengths
4	Sludge Hauling	0%	0%	52%	48%	0%	Sludge
5	Contracted Wwtr Plant Svc	34%	0%	33%	33%	0%	Treatment
6	Contract Services-Employee SPC	17%	47%	13%	13%	10%	Average O&M
7	Contract Services-Utilities	100%	0%	0%	0%	0%	Volume
8	Contract Services-Rental	17%	47%	13%	13%	10%	Average O&M
9	Contract Services-Professional	17%	47%	13%	13%	10%	Average O&M
10	Departmental Supplies	0%	100%	0%	0%	0%	Collection
11	Laboratory Supplies	20%	0%	40%	40%	0%	Strengths
12	Special Programs	0%	0%	0%	0%	100%	Customer
13	Special Utility Costs	0%	100%	0%	0%	0%	Collection
14	Non-Capitalized	16%	54%	15%	15%	0%	Average Net Plant
15	Contract Services-Repair	16%	54%	15%	15%	0%	Average Net Plant
16	Bad Debt	17%	47%	13%	13%	10%	Average O&M
17	Interfund Service Payments	17%	47%	13%	13%	10%	Average O&M
18	Interfund Svc-Bill/Coll	0%	0%	0%	0%	100%	Customer
19	Interfund Transfers	17%	47%	13%	13%	10%	Average O&M
20	Contra Expenditure	17%	47%	13%	13%	10%	Average O&M

Table 7-3 Allocation of O&M Expenditures

Line No.	Description	Total Cost	Common to All Customers				
			Volume	Capacity	BOD	TSS	Customer
		($)	($)	($)	($)	($)	($)
	Operation & Maintenance						
1	Salary & Wages-Fringe Benefits	1,241,600	0	1,241,600	0	0	0
2	Contractual Services	33,700	0	33,700	0	0	0
3	Laboratory Services	26,000	5,200	0	10,400	10,400	0
4	Sludge Hauling	26,000	0	0	13,500	12,500	0
5	Contracted Wwtr Plant Svc	1,055,200	358,800	0	348,200	348,200	0
6	Contract Services-Employee SPC	3,100	500	1,500	400	400	300
7	Contract Services-Utilities	134,400	134,400	0	0	0	0
8	Contract Services-Rental	10,400	1,900	4,900	1,300	1,300	1,000
9	Contract Services-Professional	113,900	19,700	53,400	14,700	14,700	11,400
10	Departmental Supplies	22,000	0	22,000	0	0	0
11	Laboratory Supplies	5,200	1,000	0	2,100	2,100	0
12	Special Programs	71,400	0	0	0	0	71,400
13	Special Utility Costs	57,600	0	57,600	0	0	0
14	Non-Capitalized	1,000	100	500	200	200	0
15	Contract Services-Repair	131,300	20,700	70,600	20,000	20,000	0
16	Bad Debt	0	0	0	0	0	0
17	Interfund Service Payments	404,600	69,900	189,700	52,400	52,200	40,400
18	Interfund Svc-Bill/Coll	217,400	0	0	0	0	217,400
19	Interfund Transfers	181,000	31,300	84,800	23,400	23,400	18,100
20	Contra Expenditure	0	0	0	0	0	0
21	Total O&M Expenses	$ 3,735,800	$ 643,500	$ 1,760,300	$ 486,600	$ 485,400	$ 360,000
	Less Other Revenue						
22	Miscellaneous Revenues	0	0	0	0	0	0
23	Other Adjustments	(2,523,800)	(436,000)	(1,183,000)	(326,700)	(325,900)	(252,200)
24	Net Operating Expenses	$ 6,259,600	$ 1,079,500	$ 2,943,300	$ 813,300	$ 811,300	$ 612,200

Table 7-4 Allocation Basis for Capital Costs

Line No.	Description	Common to All Customers					Allocation Basis
		Volume	Capacity	BOD	TSS	Customer	
		(%)	(%)	(%)	(%)	(%)	
	Plant Assets						
1	Land	34%	0%	33%	33%	0%	Treatment
2	Collection	0%	100%	0%	0%	0%	Collection
3	Pumping	0%	100%	0%	0%	0%	Pumping
4	Treatment	34%	0%	33%	33%	0%	Treatment
5	General Plant	16%	54%	15%	15%	0%	Average Net Plant

Table 7-5 Allocation of Capital Costs

Line No.	Description	Total Cost	Common to All Customers				
			Volume	Capacity	BOD	TSS	Customer
		($)	($)	($)	($)	($)	($)
	Plant Assets						
1	Land	677,800	230,400	0	223,700	223,700	0
2	Collection	2,905,800	0	2,905,800	0	0	0
3	Pumping	101,900	0	101,900	0	0	0
4	Treatment	1,908,900	649,100	0	629,900	629,900	0
5	General Plant	114,700	18,000	61,700	17,500	17,500	0
6	Total Plant Assets	$ 5,709,100	$ 897,500	$ 3,069,400	$ 871,100	$ 871,100	$ 0
	Less Other Revenue						
7	Miscellaneous Revenues	26,700	4,100	4,100	4,100	0	0
8	Other Adjustments	0	0	0	0	0	0
9	Net Plant Assets	$ 5,682,400	$ 893,400	$ 3,065,300	$ 867,000	$ 871,100	$ 0

7.3 UNITS OF SERVICE

To properly recognize the cost of service, each customer class receives its share of base, capacity, 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. 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.

- Volume costs vary with the volume of wastewater and I/I flow contributed to the wastewater system and distributed to customer classes on that basis. Since the utility does not use wastewater flow information for billing, estimates were incorporated for flow based on the number of people in a household, the amount of water consumed, and estimated return factors.

  To determine I/I flow, an analysis of available historical treatment plant influent volume data was performed. It is estimated that the amount of flow entering the wastewater system through I/I averages approximately 2.5% of the total wastewater flow reaching the treatment plant. Each customer class should bear its proportionate share of the costs associated with I/I in an equitable manner. Recognizing that the major cost responsibility for I/I is typically allocable on an individual connection basis, two-thirds of the total I/I volume projected for customers is allocated to customer classes based on the number of individual connections, with the remaining one-third allocated based on customer wastewater flow.

- Capacity costs are associated with providing maximum capacity for wastewater and I/I flows and are distributed to customer classes based on the estimated maximum rates of flow.

  Wastewater system capacity requirements are predicated on estimated peak wastewater and I/I rates of flow. The total peak sanitary and I/I rate of flow is based on the 2018 Integrated Master Plan and the presumed benefits accruing from the I/I reduction program. The cumulative peak rate of wastewater flow is estimated based on a peak rate of wastewater flow of 1.25 times the average, and a peak rate of I/I of 5.4 times the average.

- Strength costs are associated with wastewater and I/I flow. Wastewater flow pollutant characteristics are based on a system average BOD concentration of 277 milligram per liter (mg/L) and an average TSS concentration of 258 mg/L. I/I flow pollutant characteristics are based on average I/I concentration of 50 mg/L for both BOD and TSS. These wastewater and I/I strength concentrations are obtained from a review of plant inflow data.

  Individually a BOD concentration of 250 mg/L and TSS concentration of 250 mg/L was assigned to residential based on California Revenue Program Guidelines and a BOD concentration of 396 mg/L and TSS concentration of 293 mg/L was assigned to commercial based on a mass balance analysis. Using volume and concentrations, loadings are calculated in pounds (lbs.) which are used to allocate costs to customer classes.

- Customer costs related to generating and distributing customer bills are based on the number of bills.

Table 7-6 summarizes the estimated TY units of service for the various customer classes.

7.4 COST OF SERVICE ALLOCATIONS

Unit costs of service are applied to each customer class' 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.

7.4.1 Units Costs of Service

The TY 2023 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 7-7. On Line 3, the total costs represent the cost that rates need to recover, as demonstrated in Table 7-1, Line 15. The net O&M cost includes O&M less revenue from other sources and adjustments. The total capital cost includes debt service payments and transfers to the Capital Facilities Fund. Line 5 represents the unit costs for the entire wastewater system regardless of customer classes. After that, these unit costs are applied in allocating the costs to the specific customer classes.

7.4.2 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 7-8, in which the analysis 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; thus, the allocation of the units is representative of this burden.

An example of the application of unit costs to the commercial customer class is shown below for illustrative purposes.

	Vol Component	
Unit Cost (Table 7-7, Line 5)	$ 0.90	per HCF
Consumption (Table 7-8, Line 2)	181,901	HCF
Total Allocated Cost	$ 163,100	

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 7-6 Units of Service

Line No.	Description	Contributed Units	Contributed Volume	Total Volume	Capacity	Loadings		Bills
						BOD	TSS	
	Units of Measure	(EDUs)	(HCF)	(HCF)	(HCF/day)	(lbs)	(lbs)	(bills)
1	Residential	10,993	779,186	799,165	2,964	1,352,766	1,260,405	131,921
2	Commercial	2,502	177,353	181,901	674	307,908	286,886	30,027
3	Total	13,496	956,539	981,066	3,638	1,660,674	1,547,291	161,948

Table 7-7 Units Cost of Service

Line No.	Description	Total Cost	Common to All Customers				
			Volume	Capacity	BOD	TSS	Customer
1	Net Operating Expense	6,259,600	1,079,500	2,943,300	813,300	811,300	612,200
2	Capital Costs	(1,290,600)	(199,700)	(697,100)	(196,900)	(196,900)	0
3	Total Cost of Service	$ 4,969,000	$ 879,800	$ 2,246,200	$ 616,400	$ 614,400	$ 612,200
4	Units of Service		981,066 HCF	3,638 per HCF/Day	1,660,674 lbs	1,547,291 lbs	161,948 bills
5	Cost per Unit		$ 0.90 per HCF	$ 617.43 per HCF/Day	$ 0.37 per lbs	$ 0.40 per lbs	$ 3.78 per bill

Table 7-8 Distribution of Costs to Customer Classes

Line No.	Description	Total Cost	Common to All Customers				
			Volume	Capacity	BOD	TSS	Customer
1	Cost per Unit		$ 0.90 per HCF	$ 617.43 per HCF/Day	$ 0.37 per lbs	$ 0.40 per lbs	$ 3.78 per bill
	Residential						
2	Units		799,165	2,964	1,221,516	1,221,516	131,921
3	Allocation of costs of service	3,983,800	716,700	1,830,100	453,200	485,100	498,700
	Commercial						
4	Units		181,901	674	439,577	325,612	30,027
5	Allocation of costs of service	985,200	163,100	416,100	163,200	129,300	113,500
6	TOTAL COSTS OF SERVICE	$ 4,969,000	$ 879,800	$ 2,246,200	$ 616,400	$ 614,400	$ 612,200

8 Rate Design

The initial consideration in deriving rate schedules for wastewater 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.

8.1 EXISTING RATES

The Wastewater Utility's existing rates consist of a fixed component in the form of a monthly fixed charge. The fixed charge is a flat fee based on EDUs and is applied to residential and commercial customers. Table 6-2, presented earlier in this report, summarizes the current wastewater rates.

8.2 PROPOSED RATES

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

8.2.1 Fixed Charge

The monthly fixed charge is designed to recover all costs associated with contributed sewage flow, capacity, strength loadings, billing, collecting, accounting, and maintenance and capital costs. The charge is a fixed monthly fee based on EDUs and by customer class. An EDU is defined in Section 5.1. In addition, the utility will continue to impose a tertiary surcharge based on EDUs.[3] The analysis performed herein validated that the existing tertiary surcharge is expected to generate sufficient revenue to fund the capital costs allocated to the Wastewater Tertiary Fund; therefore, it will remain unchanged during the Study period.

Table 8-1 shows the forecasted proposed five-year fixed charge rate schedule.

Table 8-1 Proposed Fixed Charge

Customer Class	Fiscal Year Ending June 30,					
	FY 2023	FY 2024	FY 2024	FY 2025	FY 2026	FY 2027
Fixed Charge ($/Month/EDU)						
Effective Date	1/1/2023	7/1/2023	1/1/2024	1/1/2025	1/1/2026	1/1/2027
Residential	30.20	37.75	47.12	49.01	49.69	51.35
Commercial	32.81	41.01	51.57	51.03	56.06	56.98
Tertiary Surcharge	2.32	2.32	2.32	2.32	2.32	2.32

[3] The tertiary surcharge was last updated in the 2018 Rate Study performed by Willdan Financial Consultants.

8.3 TYPICAL MONTHLY COSTS UNDER PROPOSED CHARGES

Table 8-2 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. The total typical bill includes the tertiary surcharge that remains unchanged.

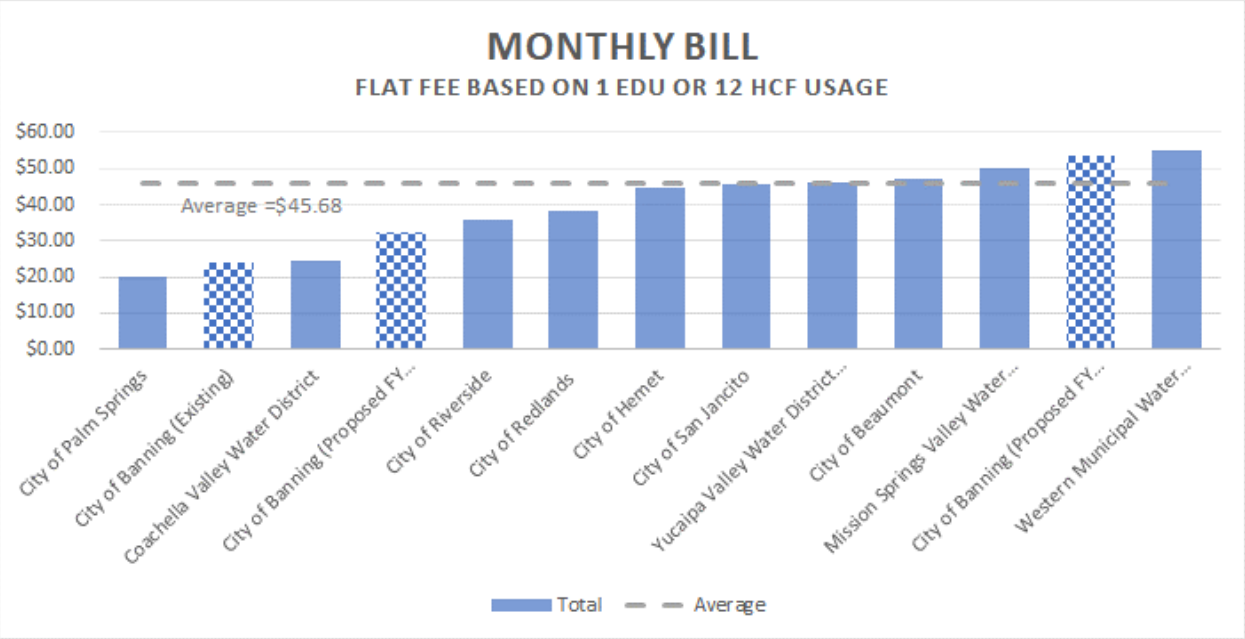
Table 8-2 Typical Monthly Bill

Customer Class	FY 2023 Existing Rates	FY 2023 Proposed Rates	Difference
	($/EDU)	($/EDU)	($/EDU)
Typical Bill			
Residential	21.42	30.20	8.78
Commercial	21.42	32.81	11.39
Teritary Surcharge	2.32	2.32	0

8.4 NEIGHBORING WASTEWATER UTILITIES

Presented in Figure 8-1 are the proposed rates compared to rates of neighboring utilities for a single-family residential customer representing one EDU or using returning wastewater flow of 12 HCF. Based on the comparison, the City's typical bill is currently on the lower end of the wastewater providers in the area. With the proposed rate increases for FY 2023, the City remains on the lower end. When the City implements the FY 2027, it will trend towards the higher end of the wastewater providers. Like the situation for the Water Utility, Black & Veatch fully expects that neighboring utilities will increase rates sometime over the next five years. All surveyed neighboring utility rates are current as of June 2022.

Figure 8-1 Comparison to Neighboring Wastewater Utilities



9 Appendix A – Detailed Capital Improvement Program

Table 9-1 Water Capital Improvement Projects

Line No.	Description	Category	Fiscal Year Ending June 30,				
			FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
			($)	($)	($)	($)	($)
	Capital Improvement Program						
1	Reservoir entrance fencing, M-Wells, new and additional fencing	Fencing Improvements	0	52,800	0	55,800	0
2	Backhoe and Valve Machine	Machinery/Equipment	128,500	0	162,900	0	0
3	Pipeline Rehab Asset Study	Planning/Design-Capital	0	105,700	0	0	0
4	Professional and Technical Service for San Gorgonio Flume	Planning/Design-Capital	308,400	317,000	325,900	335,000	344,300
5	Well Rehab and Upgrades	Wells/Pumping Equipment	282,700	305,200	329,300	355,400	383,700
6	Emergency Power and Safety Retrofits	Machinery/Equipment	36,000	264,200	38,000	279,100	40,200
7	Reservoir Rehabilitation	Reservoirs	36,000	237,800	0	39,100	269,700
8	Hargrave/Ramsey Intersection	Water Mains	0	0	0	0	0
9	Fire Flow Improvements	Water Mains	128,500	1,585,000	0	139,600	1,807,700
10	Annual Water Main Replacement	Water Mains	1,798,900	132,100	1,900,900	139,600	2,008,600
11	Replacement and Repairs of PRVs to split Main Zone	Water Reg. Valves, Etc	25,700	26,400	27,200	0	0
12	Add one new site per year, PRV stations, Canyon Wells	SCADA/Telemetry	30,800	31,700	32,600	0	0
13	AMI/AMR Project	Smart Meter Project	0	0	0	0	0
14	City Share of Flume Restoration	Flume Restoration Project	0	0	0	0	0
15	Mountain Booster Pump Station	Wells/Pumping Equipment	0	89,800	0	993,700	0
16	C-6 VFD	Wells/Pumping Equipment	179,900	0	0	0	0
17	Re-Zoning PRV	Water Reg. Valves, Etc	514,000	528,300	543,100	0	0
18	Well Site Upgrades	Wells/Pumping Equipment	219,000	0	86,900	27,900	739,200
19	Computer Info System (ERP)	Machinery/Equipment	0	264,200	271,600	279,100	0
20	Lower Main Zone Reservoir (Prop Acq, Design, Const)	Property Acquisition	0	317,000	0	0	286,900
21	New Admin Building (Shared cost with WW)	Building Construction	0	0	0	0	0
22	Water Truck (Shared cost with WW)	Machinery/Equipment	102,800	0	0	0	0
23	Machinery/Equipment	Machinery/Equipment	30,800	31,700	32,600	33,500	34,400
24	Dump Truck (Shared with WW)	Machinery/Equipment	0	105,700	0	0	0
25	Generator at Well Sites	Wells/Pumping Equipment	0	0	89,600	0	100,400

Line No.	Description	Category	Fiscal Year Ending June 30,				
			FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
			($)	($)	($)	($)	($)
	Capital Improvement Program						
26	Well Look Down to VFD	Wells/Pumping Equipment	77,100	79,300	81,500	83,700	0
27	Lower Well M3	Wells/Pumping Equipment	0	0	81,500	83,700	0
28	Dozer D6H	Machinery/Equipment	154,200	158,500	0	0	0
29	Well 4 Electric Pump	Wells/Pumping Equipment	0	68,700	81,500	0	0
30	Properties for reservoirs, wells, booster stations	Property Acquisition	0	0	0	0	0
31	PWW-1_Well C8 Planning/Design (PS&E)	Planning/Design-Capital	179,900	0	0	0	0
32	PWW-1_Equip Well C8	Wells/Pumping Equipment	0	1,585,000	0	0	0
33	PWW-1_Pilot and Drill Well C8	Wells/Pumping Equipment	1,027,900	0	0	0	0
34	PWV-1_Altitude Valve Retrofits at San Gorgonio Reservoirs	Reservoirs	0	0	0	0	0
35	PWP-1_New Water Main to Connect C8	Water Mains	0	0	0	0	0
36	WWTP Treatment Upgrades - 3.6 MGD (Const)	Treatment	0	0	353,000	3,266,000	1,492,100
37	New Admin Building (Shared cost with WW)	Building Construction	154,200	686,800	543,100	0	0
38	Total		$ 5,415,300	$ 6,972,900	$ 4,981,200	$ 6,111,200	$ 7,507,200

Table 9-2 Wastewater Capital Improvement Projects

Line No.	Description	Category	Fiscal Year Ending June 30,				
			FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
			($)	($)	($)	($)	($)
	Capital Improvement Program						
1	Buildings	Building Improvements	0	0	0	0	0
2	New gate at WWTP, New Fencing at Westward LS, annual fencing improvements	Fencing Improvements	0	31,700	0	33,500	0
3	New PLCs (SCADA Hardware)	Computer Hardware	0	0	0	0	0
4	Vactor truck lease	Vehicles	118,200	121,500	124,900	128,400	132,000
5	6-inch pump replacement of collections which was used to replace broken one at WWTP, ongoing equipment replacement anticipated with new O&M contract	Machinery/Equipment	0	0	0	0	0
6	SCADA Programming at WWTP	Planning/Design-Capital	77,100	79,300	54,300	0	0
7	WW20B3_Digesters Cleaning, combined with Digesters Re-coating	Treatment Plant Improvement	771,000	792,500	0	725,800	860,800
8	PVC Digester Gas Piping	Treatment Plant Improvement	0	26,400	0	0	0
9	Iron Sponge Media Replacement, biannual	Treatment Plant Improvement	41,100	0	43,400	0	51,600
10	WWTP-2_Repairs to Heat Exchanger (WWTP)	Treatment Plant Improvement	0	37,000	0	0	0
11	Repairs to Boiler Gas Control Valves	Treatment Plant Improvement	0	0	48,900	0	0
12	WWO-1_rollover SCADA project	Sewer Mains & Collection System	0	0	0	0	0
13	Annual sewer lining projects	Sewer Mains & Collection System	0	105,700	108,600	111,700	0
14	Gravity Main Improvements	Sewer Mains & Collection System	102,800	845,300	0	117,200	935,400
15	Digest Cleaning and Coating	Treatment Plant Improvement	0	158,500	217,200	0	0

Line No.	Description	Category	Fiscal Year Ending June 30,				
			FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
			($)	($)	($)	($)	($)
	Capital Improvement Program						
16	I&I Study	Planning/Design-Capital	51,400	52,800	0	0	0
17	WWTP Treatment Upgrades - 3.6 MGD (Design)	Planning/Design-Capital	133,600	137,400	141,200	145,200	149,200
18	WWTP Treatment Upgrades - 3.6 MGD (Const)	Treatment Plant Improvement	0	0	0	15,966,900	6,848,800
19	Machinery/Equipment	Machinery/Equipment	41,100	0	0	55,800	0
20	Water Truck (Shared cost with W)	Machinery/Equipment	20,600	0	0	0	0
21	New Admin Building (Shared cost with W)	Building Improvements	51,400	237,800	162,900	0	0
22	Dump Truck (Shared with W)	Machinery/Equipment	0	31,700	0	0	0
23	Sewer video crawler	Machinery/Equipment	41,100	0	0	0	0
24	WWTP Treatment Upgrades - 3.6 MGD (Design)	Planning/Design-Capital	133,600	686,800	706,000	689,500	0
25	WWTP Treatment Upgrades - 3.6 MGD (Const)	Treatment Plant Improvement	0	0	0	12,701,000	4,230,100
26	WWTP Treatment Upgrades - 3.6 MGD (Design)	Planning/Design-Capital	66,800	343,400	353,000	181,400	0
27	WWTP Treatment Upgrades - 3.6 MGD (Const)	Treatment Plant Improvement	0	0	0	4,354,600	3,469,100
28	Total		$ 1,649,800	$ 3,687,800	$ 1,960,400	$ 35,211,000	$ 16,677,000

10 Appendix B – Long Term Financial Plan

Table 10-1 Long-Term Water Operating Fund

Line No.	Description	Fiscal Year Ending June 30, FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
	Revenue										
	Rate Revenue										
1	Revenue from Existing Rates	10,730,400	10,906,600	11,086,900	11,271,500	11,460,400	11,653,900	11,852,000	12,055,000	12,262,900	12,475,800
2	Increased Rev Due to Adj's	576,800	1,821,800	3,242,700	4,079,700	4,987,200	5,071,300	5,157,600	5,245,900	5,336,400	5,428,900
3	Subtotal Rate Revenue	$ 11,307,200	$ 12,728,400	$ 14,329,600	$ 15,351,200	$ 16,447,600	$ 16,725,200	$ 17,009,600	$ 17,300,900	$ 17,599,300	$ 17,904,700
	Other Operating Revenue										
4	Other Income	137,100	137,100	137,100	137,100	137,100	137,100	137,100	137,100	137,100	137,100
5	Interest Income	116,600	94,400	79,300	66,000	44,000	48,800	61,500	49,100	44,000	46,500
6	Subtotal Other Operating Rev	$ 253,700	$ 231,500	$ 216,400	$ 203,100	$ 181,100	$ 185,900	$ 198,600	$ 186,200	$ 181,100	$ 183,600
7	**Total Revenue**	**$ 11,560,900**	**$ 12,959,900**	**$ 14,546,000**	**$ 15,554,300**	**$ 16,628,700**	**$ 16,911,100**	**$ 17,208,200**	**$ 17,487,100**	**$ 17,780,400**	**$ 18,088,300**
	Revenue Requirements										
	Operating & Maintenance										
8	O&M Expenses	7,890,800	8,359,000	9,096,200	9,538,900	9,996,300	10,289,600	10,592,600	10,906,500	11,229,800	11,565,500
9	Subtotal O&M	$ 7,890,800	$ 8,359,000	$ 9,096,200	$ 9,538,900	$ 9,996,300	$ 10,289,600	$ 10,592,600	$ 10,906,500	$ 11,229,800	$ 11,565,500
	Debt Service										
	Senior Debt										
10	Existing Revenue Bonds	1,979,600	1,976,300	1,975,200	1,976,100	1,976,100	1,979,500	1,973,300	1,978,700	1,974,000	1,976,900
11	Proposed Revenue Bonds	0	0	0	0	0	0	0	0	0	0
12	Total Debt Service	$ 1,979,600	$ 1,976,300	$ 1,975,200	$ 1,976,100	$ 1,976,100	$ 1,979,500	$ 1,973,300	$ 1,978,700	$ 1,974,000	$ 1,976,900
	Capital Projects										
13	Capital Improvement Program	4,053,200	4,700,900	4,084,900	2,845,300	6,015,300	1,033,500	5,716,700	6,005,500	4,186,000	4,435,100
14	Total Capital Projects	$ 4,053,200	$ 4,700,900	$ 4,084,900	$ 2,845,300	$ 6,015,300	$ 1,033,500	$ 5,716,700	$ 6,005,500	$ 4,186,000	$ 4,435,100
	Transfers										
15	Trsf to/(from) Wtr Cap Fund	0	0	325,000	2,925,000	1,300,000	0	0	0	0	0
16	Total Transfers	$ 0	$ 0	$ 325,000	$ 2,925,000	$ 1,300,000	$ 0	$ 0	$ 0	$ 0	$ 0
17	**Total Revenue Requirements**	**$ 13,923,600**	**$ 15,036,200**	**$ 15,481,300**	**$ 17,285,300**	**$ 19,287,700**	**$ 13,302,600**	**$ 18,282,600**	**$ 18,890,700**	**$ 17,389,800**	**$ 17,977,500**
18	Net Annual Cash Balance	(2,362,700)	(2,076,300)	(935,300)	(1,731,000)	(2,659,000)	3,608,500	(1,074,400)	(1,403,600)	390,600	110,800
19	Beginning Fund Balance	12,839,280	10,476,580	8,400,280	7,464,980	5,733,980	3,074,980	6,683,480	5,609,080	4,205,480	4,596,080
20	Net Cumulative Fund Balance	$ 10,476,580	$ 8,400,280	$ 7,464,980	$ 5,733,980	$ 3,074,980	$ 6,683,480	$ 5,609,080	$ 4,205,480	$ 4,596,080	$ 4,706,880
21	Min. Operating Resvs (90 Days)	1,945,700	2,061,100	2,242,900	2,352,100	2,464,800	2,537,200	2,611,900	2,689,300	2,769,000	2,851,800
22	Debt Service Coverage (1.2x)	1.85	2.33	2.76	3.04	3.36	3.35	3.35	3.33	3.32	3.30

Figure 10-1 Long-Term Water Operating Cash Flow

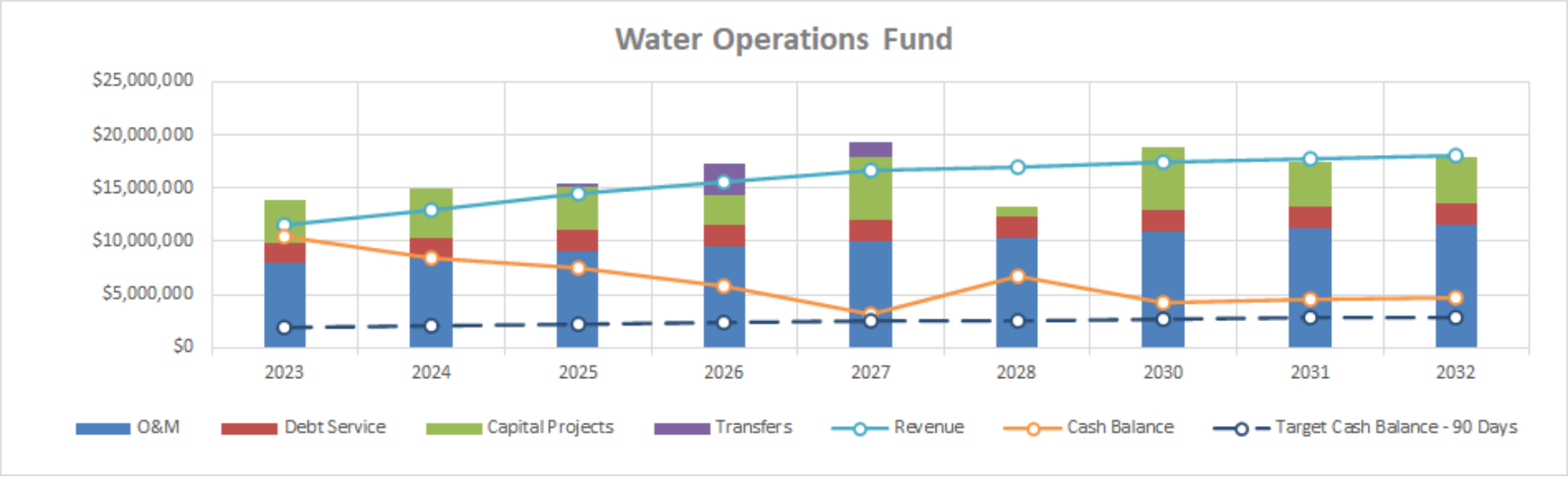


Table 10-2 Long-Term Wastewater Operating Fund

Line No.	Description	Fiscal Year Ending June 30, FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
	Revenue										
	Rate Revenue										
1	Revenue from Existing Rates	3,549,300	3,565,000	3,580,900	3,596,800	3,612,700	3,628,800	3,645,000	3,661,200	3,677,500	3,693,900
2	Increased Revenue Due to Adj	709,900	3,453,700	4,369,900	4,509,000	4,651,100	4,796,400	4,944,700	5,096,000	5,250,700	5,408,600
3	Subtotal Rate Revenue	$ 4,259,200	$ 7,018,700	$ 7,950,800	$ 8,105,800	$ 8,263,800	$ 8,425,200	$ 8,589,700	$ 8,757,200	$ 8,928,200	$ 9,102,500
	Other Operating Revenue										
4	Other Income	0	0	0	0	0	0	0	0	0	0
5	Interest Income	0	9,600	0	122,800	50,900	34,700	38,500	38,600	39,800	44,900
6	Subtotal Other Operating Rev	$ 0	$ 9,600	$ 0	$ 122,800	$ 50,900	$ 34,700	$ 38,500	$ 38,600	$ 39,800	$ 44,900
	Capital Financing										
7	Grant Funding	26,700	27,500	28,200	3,222,400	1,399,600	0	0	0	0	0
8	Revenue Bonds	0	0	25,000,000	0	0	0	0	0	0	0
9	Subtotal Capital Financing	$ 26,700	$ 27,500	$ 25,028,200	$ 3,222,400	$ 1,399,600	$ 0	$ 0	$ 0	$ 0	$ 0
10	**Total Revenue**	**$ 4,285,900**	**$ 7,055,800**	**$ 32,979,000**	**$ 11,451,000**	**$ 9,714,300**	**$ 8,459,900**	**$ 8,628,200**	**$ 8,795,800**	**$ 8,968,000**	**$ 9,147,400**
	Revenue Requirements										
	Operating & Maintenance										
11	O&M Expenses	3,735,800	4,076,000	4,343,300	4,477,800	4,616,800	4,782,500	4,916,700	5,055,100	5,197,500	5,344,200
12	Subtotal O&M	$ 3,735,800	$ 4,076,000	$ 4,343,300	$ 4,477,800	$ 4,616,800	$ 4,782,500	$ 4,916,700	$ 5,055,100	$ 5,197,500	$ 5,344,200
	Debt Service										
13	Existing Revenue Bonds	286,700	287,600	288,400	289,100	289,800	290,300	290,700	291,100	286,400	286,700
14	Proposed Revenue Bonds	0	0	1,089,300	1,867,300	1,867,300	1,867,300	1,867,300	1,867,300	1,867,300	1,867,300
15	Total Debt Service	$ 286,700	$ 287,600	$ 1,377,700	$ 2,156,400	$ 2,157,100	$ 2,157,600	$ 2,158,000	$ 2,158,400	$ 2,153,700	$ 2,154,000
	Capital Projects										
16	Capital Improvement Projects	1,449,400	2,585,300	853,200	15,912,600	8,040,600	1,058,800	1,249,000	1,876,000	1,084,500	1,146,200
17	Total Capital Projects	$ 1,449,400	$ 2,585,300	$ 853,200	$ 15,912,600	$ 8,040,600	$ 1,058,800	$ 1,249,000	$ 1,876,000	$ 1,084,500	$ 1,146,200
	Transfers										
18	Trsf to/(from) WW Cap Fund	(3,000,000)	0	8,000,000	0	0	0	0	0	0	0
19	Total Transfers	$ (3,000,000)	$ 0	$ 8,000,000	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
20	**Total Revenue Requirements**	**$ 2,471,900**	**$ 6,948,900**	**$ 14,574,200**	**$ 22,546,800**	**$ 14,814,500**	**$ 7,998,900**	**$ 8,323,700**	**$ 9,089,500**	**$ 8,435,700**	**$ 8,644,400**
21	Net Annual Cash Balance	1,814,000	106,900	18,404,800	(11,095,800)	(5,100,200)	461,000	304,500	(293,700)	532,300	503,000
22	Beginning Fund Balance	(891,000)	923,000	1,029,900	19,434,700	8,338,900	3,238,700	3,699,700	4,004,200	3,710,500	4,242,800
23	Net Cumulative Fund Balance	$ 923,000	$ 1,029,900	$ 19,434,700	$ 8,338,900	$ 3,238,700	$ 3,699,700	$ 4,004,200	$ 3,710,500	$ 4,242,800	$ 4,745,800
24	Min Operating Reserves (90 Days	$ 921,200	$ 1,005,000	$ 1,071,000	$ 1,104,100	$ 1,138,400	$ 1,179,200	$ 1,212,300	$ 1,246,500	$ 1,281,600	$ 1,317,700
25	Debt Service Coverage (1.25x)	1.83	10.27	2.62	1.74	1.71	1.70	1.72	1.73	1.75	1.77

Figure 10-2 Long-Term Wastewater Operating Cash Flow