Borrego Water District

Water and Sewer Rate Studies

REPORT / APRIL 2025

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BORREGO WATER DISTRICT
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April 30, 2025

Geoff Poole
General Manager
Borrego Water District
806 Palm Canyon Drive
Borrego Springs, CA 92004-1807

Subject: Water and Sewer Rate Studies

Dear Mr. Poole:

Raftelis is pleased to provide this Water and Sewer Rate Studies Report (Report) for the Borrego Water District (District). The Studies develop long-term financial plans, cost of service analyses, and rate design with technically sound industry standard methodologies to align with the requirements of California Constitution Article XIII D, commonly referred to as Proposition 218.

The major objectives of the studies include:

1. Development of a long range financial plan for each utility fund that meets the utilities' revenue requirements, including operations and maintenance (O&M) costs and the capital improvement plan (CIP) while adequately funding reserves in accordance with District policy and achieving debt coverage requirements.
2. Conducting cost of service analyses that demonstrates a nexus between the cost to serve customers and the responsibility of each class, per Proposition 218 and industry standards
3. Review of the current rate structures and evaluation of alternative rate structures, customer classes, and fixed and variable cost recovery for the water and wastewater operations to achieve District objectives.
4. Design of water and sewer rates including five year rate schedules and identifying customer bill impacts
5. Documentation of the studies in a detailed Report to clearly illustrate rate derivation from start to finish and to serve as part of the District's administrative record

It has been a pleasure working with you, and we thank you, District staff, and the Board of Directors for the support provided during these studies.

Sincerely,

Kevin Kostiuk
Senior Manager

Cameron Okie
Manager

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1. Executive Summary

1.1. Background of the Study

The Borrego Water District (District) is located approximately 50 miles northeast of the City of San Diego and serves the census designated place of Borrego Springs, as well as other adjacent unincorporated areas of San Diego County. The District provides potable water service to a seasonal and year-round population of approximately 3,500 through approximately 2,000 water service connections. On an annual basis, the District delivers approximately 1,100 acre-feet of potable water, which is obtained from groundwater pumped from the Borrego Springs Subbasin of the Borrego Valley Groundwater Basin.

The District's water utility, like other agencies in San Diego County, is faced with challenges related to the economic challenges around inflation and materials costs, increasing capital improvement costs related to infrastructure and facilities at the end of their useful lives, and declining per capita water usage relative to historical levels. More specific to the District, future water production from the groundwater basin will be limited based on the Basin Pumping Allocation (BPA) determined through a Sustainable Groundwater Management Act (SGMA) compliant Stipulated Agreement approved by a California Superior Court on April 8, 2021. This situation is not unique to the District, as many agencies throughout the state are faced with issues involving water availability, conservation, the need for capital reinvestment to continue providing reliable water services, adhering to new regulations and mandates, and meeting service demands with limited water supplies and groundwater overdraft.

The current water rate structure of the District consists of two components: a monthly fixed service charge that varies based on meter size and a water usage, or "commodity", rate. Single-family residential (SFR) customers are charged volumetric water rates based on a three-tier structure. All other customers pay uniform commodity rates based on the class of customer.

The District maintains a separate sewer utility, providing wastewater collection and treatment within its service areas to both residential and non-residential customers. The District provides sewer service to three separate Service Areas (SAs). These areas are: SA1, SA2, and SA5. All sewer users pay a monthly fixed charge per Equivalent Dwelling Unit (EDU) that varies depending on the Service Area. The District assesses separate charges on wastewater dischargers in SA2. SA2 customers consist of SA2 EDU "Holders" and SA2 EDU "Users". SA2 EDU Holders are customers who have bought into the wastewater system but have not yet connected and do not contribute flows to the wastewater system. These SA2 EDU Holders have agreed to pay certain operating and maintenance costs of the wastewater system. SA2 EDU Users, those connected to and using the wastewater system, pay the sum of both the Holder and User charge.

This Executive Summary compiles the proposed financial plans, proposed water and sewer charges, and contains a description of the rate study process, legal requirements, and rate-setting methodology. In this Study, the District wishes to establish fair and equitable rates that:

- Provide revenue stability and financial sufficiency
- Meet the District's fiscal needs in terms of operational expenses, capital investment to maintain the water and sewer systems, and maintain prudent cash reserves
- Objectively and proportionately allocate the costs of providing service in accordance with Proposition 218

- Maintain affordable water and sewer charges for all customers
- Are easy for customers to understand
- Are easy for the District to administer

1.2. Objectives of the Study

The major components of the Study include:

1. Development of a long-range financial plan for each utility fund that meets the utilities' revenue requirements, including operations and maintenance (O&M) costs and the capital improvement plan (CIP) while adequately funding reserves in accordance with industry best practices, and achieving debt coverage requirements.
2. Conducting cost of service analyses that demonstrates the nexus between the cost to serve customers and the responsibility of each class, per Proposition 218 and industry standards.
3. Review of the current rate structures and evaluation of alternative rate structures, customer classes, and fixed and variable cost recovery for the water and sewer utilities
4. Implementation of five-year rate schedules that align with Proposition 218 while ensuring financial sufficiency to fund operating and capital costs over the Rate Study period (Study period)

The water COS analysis was prepared using the principles established by the American Water Works Association's (AWWA) "Principles of Water Rates, Fees, and Charges, 7th edition" (M1 Manual). The M1 Manual's general principles of rate structure design and the objectives of the Study are described below.

According to the M1 Manual, the first step in the ratemaking process is to determine the adequate and appropriate level of funding for a given utility. This is referred to as determining the "revenue requirement." This analysis considers the short-term and long-term service objectives of the utility over a given planning horizon, including capital facilities, system operations and maintenance, and financial reserve policies to determine the adequacy of a utility's existing rates to fully recover its costs. Several factors affect these projections, including the number of customers served, water-use trends, one-time sales, weather, water availability, conservation, use restrictions, inflation, interest rates, capital finance needs, and other changes in operating and economic conditions. Next, utilizing an agency's approved budget, financial reports, operating data, engineering data, and capital improvement plans, a system costs are categorized (i.e., functionalized) including O&M and capitalized asset costs, among major operating functions (e.g., treatment, storage, pumping, etc.) to determine the relative share of each.

After the assets and the costs of operating those assets are properly categorized by function, these "functionalized costs" are apportioned first to cost causation components, and then to the various customer classes (e.g., single-family residential, multi-family residential, commercial, and irrigation) by determining the characteristics of those classes and the contribution of each to incurred costs such as groundwater production costs, base delivery costs, extra capacity costs, meter costs, and customer costs.

Rate design is the final step of the M1 Manual's rate-making process and uses the results of the cost of service analysis to determine cost-justified rates for each customer class and tier. Rates utilize "rate components" that build up to rates for commodity charges and fixed charges, for the various customer classes and meter sizes serving customers. In the case of inclining tier water rates, the rate components themselves allocate the cost of service within each class of customer, effectively treating each tier as a sub-class and determining the cost to serve each tier.

For the sewer COS analysis, Raftelis follows the guidelines for allocating costs detailed in the Water Environment Federation (WEF) "Manual of Practice No. 27, Financing and Charges for Wastewater Systems, 4th edition" (MOP 27).

A wastewater COS analysis follows a very similar approach to the water COS whereby the revenue requirements (costs) are distributed to each customer class in proportion to their cost responsibility on the system. After determining the revenue requirements, the next step is to functionalize the O&M costs based on the District's O&M classification. Functionalized costs are then allocated to the cost causation components. Unit costs are then calculated, and cost responsibility is distributed among all customer classes; rates are then designed to proportionately recover the costs in compliance with Proposition 218 requirements, which are described in more detail in Section 1.3.1 below.

1.3. Legal Requirements and Rate Setting Methodology

1.3.1. CALIFORNIA CONSTITUTION – ARTICLE XIII D, SECTION 6 (PROPOSITION 218)

Proposition 218 was enacted by voters in 1996 to ensure, in part, that fees and charges imposed for ongoing delivery of a service to a property (property-related fees and charges) are proportional to, and do not exceed, the cost of providing service. Water and wastewater service fees and charges are property-related fees and charges subject to the provisions of California Constitution Article XIII D, Section 6 (Proposition 218). The principal requirements, as they relate to public water and wastewater service fees and charges are as follows:

1. Revenues derived from the fee or charge shall not exceed the costs required to provide the property-related service.
2. Revenues derived from the fee or charge shall not be used for any purpose other than that for which the fee or charge was imposed.
3. The amount of the fee or charge imposed upon any parcel shall not exceed the proportional cost of service attributable to the parcel.
4. No fee or charge may be imposed for a service unless that service is actually used or immediately available to the owner of property.
5. A written notice of the proposed fee or charge shall be mailed to the record owner of each parcel not less than 45 days prior to a public hearing, when the agency considers all written protests against the charge.

As stated in AWWA's M1 Manual, "water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers." Raftelis follows industry standard rate setting methodologies set forth by the AWWA M1 Manual to align the Study with the requirements of Proposition 218 requirements and develop rates that are cost-justified and do not exceed the proportionate cost of providing service.

The District utilizes tiered water rates (also known as "inclining tier" or "inclining block") water rates for the Single Family Residential (SFR) class. The inclining tier rates (as well as rates for uniform rate classes) are based on the proportionate costs incurred to provide water to customer to each class and each tier. Inclining tier rate structures allow a water utility to objectively apportion costs incurred to serve different levels of water use including average use and peak use.

1.3.2. COST-BASED RATE-SETTING METHODOLOGY

Four major steps are used to develop water and sewer rates that align with Proposition 218 and industry standards while harmonizing with goals and objectives of the District:

1.3.2.1. Calculate the Revenue Requirement

The rate-making process starts by determining the base year (Test Year) revenue requirement, which for this Study is Fiscal Year (FY) 2025 which runs from July 1, 2024 through June 30, 2025. The revenue requirement should sufficiently fund the utility's O&M expenses, debt service, capital expenses, and reserve funding.

1.3.2.2. Cost of Service Analysis

The annual cost of providing water and wastewater service is distributed among customer classes commensurate with their service requirements. A COS analysis involves the following:

1. Functionalize costs. Examples of functions are groundwater pumping, treatment, transmission and distribution, meter servicing, and billing and customer service for water; and collection, treatment, lift, and billing and customer service for wastewater.
2. Allocate functionalized costs to cost components. Cost components include variable supply, base delivery, maximum day and maximum hour[1], meter servicing, and customer service and billing costs for water; and fixed, Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS), lift, and customer service for wastewater.
3. Distribute the cost components. Using unit costs, each component is distributed to customer classes in proportion to their demands and burdens on the water or sewer system. This is described in the M1 Manual published by AWWA and the MOP 27 published by WEF.

A COS analysis for water considers both the average quantity of water consumed (base costs) and the peak rate at which it is consumed (peaking or capacity costs as identified by maximum day and maximum hour demands[2]). Peaking costs are incurred during peak times of consumption. There are additional costs associated with designing, constructing, and operating and maintaining facilities to meet peak demands. These peak demand costs are allocated based on the relative water usage patterns of each class and tier. In other words, not all customer classes and not all customers share the same responsibility for peaking related costs.

1.3.2.3. Rate Design and Calculations

Rates do more than simply recover costs. Within the legal framework and industry standards, properly designed rates support and optimize a blend of utility objectives. Rates act as a public information tool in communicating these objectives to customers.

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[1] Collectively maximum day and maximum hour costs are known as peaking costs or extra-capacity costs.

[2] System capacity is the system's ability to supply water to all delivery points at the time when demanded. Coincidental peaking factors are calculated for each customer class at the time of greatest system demand. The time of greatest demand is known as peak demand. Both the operating costs and capital asset related costs incurred to accommodate the peak flows are generally allocated to each customer class based upon the class's relative demands during the peak month, day, and hour event.

1.3.2.4. Rate Adoption

Rate adoption is the last step of the rate-making process. Raftelis documents the rate study results in this Report which reflects the basis upon which the rates were calculated, the rationale and justifications behind the proposed charges, any changes to rate structures, and the anticipated financial impacts to ratepayers.

1.4. Water – Results and Recommendations

Table 1-1 shows the proposed revenue adjustments which are used in part to calculate the proposed rates. All revenue adjustments would take effect at the beginning of each fiscal year, beginning July 1, 2025. The assumptions used in calculating the revenue adjustments are described in more detail in Section 4.

Table 1-1: Proposed Water Revenue Adjustments

	Revenue Adjustments				
Effective Year	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**	**FY 2030**
Effective Month	July	July	July	July	July
Percentage Adjustment	9.5%	9.5%	9.5%	7.0%	7.0%

1.4.1. FACTORS AFFECTING REVENUE REQUIREMENTS

The following items affect the District's revenue requirement (i.e., costs) and thus its water rates. The District's expenses include O&M expenses and capital expenses, including debt service.

- **Infrastructure Reinvestment**: The District has approximately $8.8 million in replacement capital expenditures over the next five years and $19.2 million over the 10-year financial planning horizon of this study (through FY 2035). The capital replacement projects are anticipated to be funded through a combination of cash reserves from rates, grant funding, and future debt. The District will pursue state and federal grants for the capital improvement program (CIP), where available. The District may elect to accelerate or postpone the CIP timeline based on available funds, favorable terms, or other conditions. A more detailed discussion of the projected capital improvement projects to be funded through the five-year financial plan is provided in Section 4.1.3.

- **Baseline water demand:** The District experiences variation in water sales year-to-year. Since the prior rate study the District has experienced a roughly 17 percent reduction in normal condition expected water sales. A combination of passive conservation, consecutive wet years (yielding lower water sales than planned), and loss of a significant Public Agency customer contribute to a lower sales estimate in future years. Raftelis and District staff re-evaluated normal condition water demand based on historical use and recent years. The result is an expected supply requirement of approximately 1,200 acre-feet per year (AFY) versus the prior study's estimate of 1,440 AFY.

- **Inflationary pressure:** The District's operating environment is not immune to the effects of inflation. The price of materials, energy, chemicals, construction costs, personnel, professional services, and other costs have increased at an historic pace over the last several years. The financial plan assumes continued pressure on both operating and capital costs, albeit at historic rates of change.

» **Reserve Funding**: The District has reserve policies to meet cash flow needs, ensure adequate funding of repairs and replacements in the event of asset failure or other unforeseen circumstances or events, and to protect ratepayers from rate spikes. The District's reserves are further discussed in Section 3 and total reserve balances for the selected Financial Plan are identified in Section 4.3. The total cash reserve target for the District's water utility in FY 2025 is $5.8 million. The reserve target for future years is dynamic and depends on how the components of the reserve policy change year-to-year.

1.4.2. PROPOSED MONTHLY SERVICE CHARGES

Table 1-2 shows the current and proposed rates for the monthly service charge[3], by meter size, over the Study period. The proposed rates are inclusive of all metered connections. The rates for the current and proposed monthly service charges are based on the size of the meter serving a property. Proposed FY 2026 rates (effective July 1, 2025) reflect the updated cost of service rates and the revenue adjustment percentage shown in Table 1-1. The proposed rates beginning in FY 2027 are adjusted by the revenue adjustment percentage found in Table 1-1. All rates are rounded up to the nearest whole penny.

Table 1-2: Current and Proposed Water Monthly Service Charges ($/Month)

Meter Size	Current	Proposed FY 2026	Proposed FY 2027	Proposed FY 2028	Proposed FY 2029	Proposed FY 2030
3/4"	$49.39	$52.76	$57.78	$63.27	$67.70	$72.44
1"	$66.41	$72.07	$78.92	$86.42	$92.47	$98.95
1.5"	$108.93	$120.33	$131.77	$144.29	$154.40	$165.21
2"	$159.98	$178.26	$195.20	$213.75	$228.72	$244.74
3"	$321.63	$361.67	$396.03	$433.66	$464.02	$496.51
4"	$559.83	$631.98	$692.02	$757.77	$810.82	$867.58
6"	$1,129.85	$1,278.79	$1,400.28	$1,533.31	$1,640.65	$1,755.50

1.4.3. PROPOSED COMMODITY RATES[4]

Table 1-3 shows the proposed rates for commodity charges, also referred to as water use rates, by customer class. Proposed FY 2026 rates (effective July 1, 2025) reflect the updated cost of service rates and the revenue adjustment. The proposed rates beginning in FY 2027 are adjusted by the revenue adjustment percentage found in Table 1-1. The rates for the current and proposed commodity charge are based on the amount of water delivered in one hundred cubic feet (HCF). One HCF is approximately 748 gallons. All rates are rounded up to the nearest whole penny.

[3] The District's rate schedule refers to this component as the *Monthly Ready to Serve Meter Charge*. We refer to it as the Monthly Service Charge here to be concise.

[4] The District's rate schedule refers to this component as the *Water Rates*. We refer to them as either *Commodity Rates* or *Water Use Rates* to denote that they are variable and dependent on the volume of metered water use.

Table 1-3: Current and Proposed Water Commodity Rates ($/HCF)

Customer Class	Current	Proposed FY 2026	Proposed FY 2027	Proposed FY 2028	Proposed FY 2029	Proposed FY 2030
Single Family Residential						
Tier 1	$4.16	$4.41	$4.83	$5.29	$5.67	$6.07
Tier 2	$5.23	$5.45	$5.97	$6.54	$7.00	$7.49
Tier 3	$6.03	$7.89	$8.64	$9.47	$10.14	$10.85
Multi Unit	$5.21	$5.23	$5.73	$6.28	$6.72	$7.20
Irrigation	$5.45	$6.45	$7.07	$7.75	$8.30	$8.89
Commercial/Public Agency	$5.21	$5.06	$5.55	$6.08	$6.51	$6.97

1.5. Sewer – Results and Recommendations

Table 1-4 shows the proposed revenue adjustments and used in part to calculate the proposed rates. All revenue adjustments would take effect at the start of each fiscal year, beginning July 1, 2025. The assumptions used in calculating the revenue adjustments are described in more detail in Section 5.4.

Table 1-4: Proposed Sewer Revenue Adjustments

	Revenue Adjustments				
Effective Year	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**	**FY 2030**
Effective Month	July	July	July	July	July
Percentage Adjustment	9.75%	9.75%	9.75%	9.75%	9.75%

1.5.1. FACTORS AFFECTING REVENUE REQUIREMENTS

The following items affect the District's revenue requirement (i.e., costs) and thus its wastewater rates. The District's expenses include O&M expenses and capital expenses, including debt service.

- **Infrastructure Reinvestment**: The District has approximately $1.6 million in replacement capital expenditures over the next five years and $2.2 million over the 10-year financial planning horizon of this study (through FY 2035). The capital replacement projects will be funded through a combination of cash reserves from rates, grant funds, and future debt. The District will pursue state and federal grants for the CIP, where available. The District may elect to accelerate or postpone the CIP timeline based on system requirements, available funds, favorable terms, and other conditions. A more detailed discussion of the projected capital improvement projects to be funded through the five-year financial plan is provided in Section 7.1.3.

- **Inflationary pressure:** The District's operating environment is not immune to the effects of inflation. The price of materials, energy, chemicals, construction costs, personnel, professional services, and other costs have increased at an historic pace over the last several years. The financial plan assumes continued pressure on both operating and capital costs, albeit at historic rates of change.

- **Reserve Funding**: The District has reserve policies to meet cash flow needs, ensure adequate funding of repairs and replacements in the event of asset failure or other unforeseen circumstances or events, and to protect ratepayers from rate spikes. The District's reserves are further discussed in

Section 3 and total reserve balances for the selected Financial Plan are identified in Section 7.3. The total cash reserve target for the District's sewer utility in FY 2025 is $883,495. The reserve target for future years is dynamic and depends on how the components of the reserve policy change year-to-year.

1.5.2. PROPOSED SEWER CHARGES

Table 1-5 shows the current and proposed sewer rates for the Study period. The proposed rates are adjusted by the revenue adjustment percentage found in Table 1-4. Proposed FY 2026 rates (effective July 1, 2025) reflect the updated cost of service rates and revenue adjustment. The proposed rates beginning in FY 2027 are adjusted by the revenue adjustment percentage found in Table 1-4. All rates are rounded up to the nearest whole penny.

Table 1-5: Current and Proposed Wastewater Charges ($/Month/EDU)

Customer Class	Current	Proposed FY 2026	Proposed FY 2027	Proposed FY 2028	Proposed FY 2029	Proposed FY 2030
SA1	$53.91	$59.93	$65.78	$72.20	$79.24	$86.97
SA2 EDU Holder	$25.85	$28.68	$31.48	$34.55	$37.92	$41.62
SA2 EDU User	$32.12	$34.56	$37.93	$41.63	$45.69	$50.14
SA5	$57.96	$63.24	$69.41	$76.18	$83.61	$91.77

2. General Assumptions

2.1. Inflation

Raftelis developed a ten-year financial plan and cash flow model to inform the next five years of revenue needs. FY 2025 is the base year and relies on the District's adopted operating and capital budgets. FY 2026 begins on July 1, 2025 and ends on June 30, 2026. This section of the Report show key variables, inflationary escalation assumptions, and estimates used to forecast revenues and expenses.

Various types of assumptions and inputs are incorporated into the Study based on discussions with and/or direction from District staff. These include the projected number of service connections, water demand over time, and inflationary factors, among others. Cost escalations are based on the District's analysis of historical trends and data, as well as projections from external sources like San Diego Gas & Electric (SDGE).
The inflationary factors show projected increases in various cost categories across the Study period. The factors are applied to all years beginning in FY 2026. FY 2025 relies on the District's adopted budgets. Raftelis worked with District staff to escalate individual budget line items according to appropriate escalation factors. Inflationary factors are presented in Table 2-1 and Table 2-2 for Water and Sewer respectively.

A general inflation rate of 2.5 percent is based on the long-term change in the Consumer Price Index (CPI). Salaries and benefits tend to outpace general inflation, and District staff have estimated annual increases of 8 and 5 percent for salaries and benefits, respectively. Power costs reflect the price trends of electricity from SDGE for water production, system pumping, wastewater lift station pumping, and other District uses of energy. Groundwater Management reflects the anticipated increase in the cost of watermaster expenses. Capital cost escalation is shown as N/A as the District's CIP provided to Raftelis reflects anticipated future cost increases and is therefore in future dollars.

Table 2-1: Water Inflationary Escalation Estimates

Escalation Factors	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
General	2.5%	2.5%	2.5%	2.5%	2.5%
Salary	8.0%	8.0%	8.0%	8.0%	8.0%
Benefits	5.0%	5.0%	5.0%	5.0%	5.0%
Power	9.0%	9.0%	9.0%	9.0%	9.0%
Groundwater Management	3.0%	3.0%	3.0%	3.0%	3.0%
Capital	N/A	N/A	N/A	N/A	N/A

Table 2-2: Sewer Inflationary Escalation Estimates

Escalation Factors	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
General	2.5%	2.5%	2.5%	2.5%	2.5%
Salary	8.0%	8.0%	8.0%	8.0%	8.0%
Benefits	5.0%	5.0%	5.0%	5.0%	5.0%
Power	9.0%	9.0%	9.0%	9.0%	9.0%
Capital	N/A	N/A	N/A	N/A	N/A

2.2. Projected Water Demand and Growth Rates

To estimate future water demand, two primary factors are used – account growth from new connections and water demand relative to the most recent complete year of water use, which is FY 2024 (July 1, 2023 to June 30, 2024). As shown in Table 2-3, the financial plan projects no growth in new water service connections for the Study period. The demand factor for water represents the change in water consumption per account. The assumption for the Study period is that there will be no change in the consumption per account (per capita demand). Baseline water demand is based on FY 2024 which is estimated to represent normal condition expectations in future years. This update to baseline water demand captures both passive reductions in water use experienced over the past five year as well as the reduction of a significant Public Agency user, which now serves its own water needs.

To estimate non-operating revenues, the Study assumes that all recurring non-rate water revenues (miscellaneous revenues) will not increase in future years and reserve interest earnings will increase at 2 percent per year through FY 2030. These revenue growth assumptions are presented below in Table 2-3.

Table 2-3: Account, Demand, and Miscellaneous Revenue Growth Estimates - Water

	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Account Growth					
Single Family Residential	0%	0%	0%	0%	0%
Multiple Units	0%	0%	0%	0%	0%
Commercial/Public Agency	0%	0%	0%	0%	0%
Irrigation	0%	0%	0%	0%	0%
Demand Factor	100%	100%	100%	100%	100%
Revenue Escalation Factors					
Non-Inflated	0%	0%	0%	0%	0%
Non-Rate Revenues	0%	0%	0%	0%	0%
Interest Income	2%	2%	2%	2%	2%

2.3. Projected Sewer Demand and Growth Rates

Future sewer revenues rely on the change in the number of connections/EDUs served, relative to the prior year. The District anticipates the number of sewer accounts to remain flat over the Study period. To predict non-operating revenues, the Study assumes that all recurring non-rate sewer revenues (miscellaneous revenues) will not increase in future years and reserve interest earnings will increase at 2 percent per year through FY 2030, the same estimate as for water. These revenue growth assumptions are presented below in Table 2-4.

Table 2-4: Account, Demand, and Miscellaneous Revenue Growth Estimates - Sewer

	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Account Growth					
SA1	0%	0%	0%	0%	0%
SA2	0%	0%	0%	0%	0%
SA 5	0%	0%	0%	0%	0%
Revenue Escalation Factors					
Non-Inflated	0%	0%	0%	0%	0%
Non-Rate Revenues	0%	0%	0%	0%	0%
Interest Income	2%	2%	2%	2%	2%

3. Financial Reserve Policies

Reserve policies provide guidelines for sound financial management with an overall long-range perspective to maintain financial solvency and mitigate financial risks associated with revenue instability, volatile capital costs, and emergencies. These risks include fiscal emergencies, water shortages, asset failure, and natural disasters, among others. The District has adopted reserve policies for the utilities to meet cash flow needs (operating), avoid rate spikes during periods of depressed demand (rate stabilization), protect against revenue shortfalls (contingency), purchase future water (water supply), replace damaged assets (emergency), ensure adequate funding of capital repairs and replacements (capital), and fund certain liabilities as part of bond covenants (debt).

3.1. Financial Reserves Policy - Water

The overall water reserve policy consists of seven component policies.

Operating: The defined operating reserve policy is a minimum of 90 with a target of 120 days of operating expenses to meet cash flow needs for the day-to-day operations of the utility. The water operating reserve target for FY 2025 is approximately $1.2 million.

Rate Stabilization: The District has a rate covenant stabilization reserve with a defined policy target of 25 percent of annual debt service to stabilize water revenues in times of reduced water demand to maintain adequate debt coverage ratios and avoid abrupt increases in rates. The water rate stabilization reserve target for FY 2025 is approximately $233,000.

Contingency: The District has a contingency reserve with a defined policy minimum of 5 percent and a target of 10 percent of operating expenses in cash to accommodate unexpected operation changes and costs. The water contingency reserve maximum target (i.e., 10% of operating expenses) for FY 2025 is approximately $351,000.

Capital: The District has a capital repair and replacement reserve that allows the utility to award contracts and provides flexibility in the timing of projects. The capital reserve has a policy equal to the greater of $1,000,000 and the budgeted PAY-GO capital needs for water and wastewater in the following fiscal year. With the District's input, Raftelis set a water utility target equal to the greater of $800,000 and the following year's water PAY-GO capital needs (i.e., 80% of the total capital reserve target for the water utility). The water capital reserve target for FY 2025 is approximately $1.3 million for the water utility.

Debt: The District has a debt reserve for repaying previously issued bonds with a defined policy equal to the annual principal and interest for debt obligations. The debt reserve target for FY 2025 is approximately $933,000.

Emergency: The District has an emergency reserve with a policy target equal to 2% of the replacement cost of the District's capital assets to replace damaged assets in the case of a catastrophic event. Approximately 69 percent of the District's asset value belongs to the water utility (measured in replacement cost of assets) which translates into a water emergency reserve target in FY 2025 of approximately $822,000.

Water Supply: The District has a water supply purchase reserve with a target of $1.0 million to purchase future Baseline Pumping Allocation (BPA) to supply long-term customer demand. The supply requirements established under the Borrego Springs Subbasin California Superior Court Adjudicated Judgement will reduce the District's BPA over time. Additional supply for water production will be required by purchasing land to acquire additional BPA.

Table 3-1 shows the total target for all water reserves is approximately $5.8 million in FY 2025. The reserve balance for future years is dynamic and depends on how the components of the reserve policy change year-to-year. The District's beginning FY 2025 water reserve balance was approximately $4.3 million. As existing funds are spent on the replacement CIP, additions in annual reserve funding will allow the District to achieve the adopted reserve targets over the Study period.

Table 3-1: Financial Reserves Policy - Water

Reserve	Policy	FY 2025 Target Level
Operating Reserve	Minimum 90 days, Target of 120 days of O&M Expenses	$1,152,829
Rate Stabilization Reserve	25% of Current Year's Debt Service	$233,300
Contingency Reserve	Minimum of 5%, Maximum of 10% of O&M Expenses	$350,652
Debt Reserve	One Year of Debt Service	$933,201
Capital Replacement Reserve	Greater of $800k and next year PAYGO CIP	$1,308,995
Emergency Reserve	2% of District Water Assets Replacement Cost	$821,746
Water Supply Reserve	$1,000,000	$1,000,000
Total Reserves		**$5,800,722**

Minimum Reserve Policy - Water: The District has an informal minimum water reserve policy to assist with future planning. This minimum reserve consists of the summation of the target water operating reserve (i.e., 120 days of O&M), target water contingency reserve (i.e., 10% of O&M), and water debt reserve.

3.2. Financial Reserves Policy - Sewer

The overall wastewater reserve policy consists of six component policies.

Operating: The defined operating reserve policy is a minimum of 90 with a target of 120 days of operating expenses to meet cash flow needs for the day-to-day operations of the utility. The wastewater operating reserve target for FY 2025 is approximately $203,000.

Rate Stabilization: The District has a rate covenant stabilization reserve with a defined policy of 25 percent of annual debt service to stabilize wastewater revenues in times of reduced wastewater revenue to maintain adequate debt coverage ratios and avoid abrupt increases in rates. The wastewater rate stabilization reserve target for FY 2025 is approximately $10,000.

Contingency: The District has a contingency reserve with a defined policy minimum of 5 percent and a target of 10 percent of operating expenses in cash to accommodate unexpected operation changes and costs. The wastewater contingency reserve maximum target for FY 2025 is approximately $62,000.

Capital: The District has a capital repair and replacement reserve that allows the utility to award contracts and provides flexibility in the timing of projects. The capital reserve has a policy equal to the greater of $1,000,000 and the budgeted PAY-GO capital needs for water and wastewater in the following fiscal year. With the District's input, Raftelis set a wastewater utility target equal to the greater of $200,000 and the following year's wastewater PAY-GO capital needs (i.e., 20% of the total capital reserve target for the wastewater utility). The wastewater capital reserve target for FY 2025 is $200,000 for the wastewater utility.

Debt: The District has a debt reserve for repaying previously issued bonds with a defined policy equal to the annual principal and interest for debt obligations. The debt reserve target for FY 2025 is approximately $41,000.

Emergency: The District has an emergency reserve with a policy target equal to 2% of the replacement cost of the District's capital assets to replace damaged assets in the case of a catastrophic event. Approximately 31 percent of the District's asset value belongs to the wastewater utility (measured in replacement cost of assets) which translates into a wastewater emergency reserve target in FY 2025 of approximately $367,000.

Table 3-1 shows the total target for all wastewater reserves is $883,495 in FY 2025. The reserve balance for future years is dynamic and depends on how the components of the reserve policy change year-to-year. The District's beginning FY 2025 wastewater reserve balance was approximately $475,000. As existing funds are spent on the replacement CIP, additions in annual reserve funding will allow the District to achieve the adopted reserve targets over the Study period.

Table 3-2: Financial Reserves Policy - Sewer

Reserve	Policy	FY 2025 Target Level
Operating Reserve	Minimum 90 days, Target of 120 days of O&M Expenses	$203,055
Rate Stabilization Reserve	25% of Current Year's Debt Service	$10,285
Contingency Reserve	Minimum of 5%, Maximum of 10% of O&M Expenses	$61,762
Debt Reserve	One Year of Debt Service	$41,139
Capital Replacement Reserve	Greater of $200k or next year PAYGO CIP	$200,000
Emergency Reserve	2% of District Water Assets Replacement Cost	$367,253
Total Reserves		**$883,495**

Minimum Reserve Policy - Sewer: The District has an informal minimum sewer reserve policy to assist with future planning. The minimum reserve consists of the target sewer operating reserve (i.e., 120 days of sewer O&M) plus the sewer debt reserve.

4. Water Financial Plan

This section describes the District's customer account and water use data and the corresponding financial plan. To develop the financial plan, Raftelis projects annual revenues and expenses; models reserve balances; incorporates capital expenditures, debt service, and inflationary pressures; and calculates debt service coverage ratios to estimate any additional rate revenue required in each year of the Study. This section includes a discussion of O&M expenses, the CIP, reserve funding, projected revenue under existing rates, and the revenue adjustments required to ensure the fiscal sustainability and solvency of the utility. This section shows results over a five-year horizon to correspond with the five-year rate setting period. Appendix A of the Report provides ten-year cash flow projections and financial plan results.

4.1. Water Revenue Requirements

A review of a utility's revenue requirements is a key first step in the rate study process. The review involves an analysis of annual rate revenues from existing rates, O&M expenses, capital expenditures, and reserve requirements.

4.1.1. REVENUES FROM CURRENT WATER RATES

The District's rate structure has two main components: a fixed charge component (monthly service charge) and a variable volumetric charge component (commodity charge). The monthly fixed service charge is determined based on the size of the water meter serving a property and increases with meter size. As described in more detail in Section 6.2 larger meters generally consume more water on average, have the capacity to consume more water instantaneously, and are more costly to install, maintain, repair, and replace, so the costs to provide service to these customers are higher. A typical Single-Family Residential (SFR) home is served by a 3/4" meter with a monthly fixed service charge of $49.39. Most of the District water connections are 3/4". The rates for the current fixed service charges are shown in Table 4-1.

Table 4-1: Current Water Monthly Service Charges ($/Month)

Meter Size	Current Charge
3/4"	$49.39
1"	$66.41
1 1/2"	$108.93
2"	$159.98
3"	$321.63
4"	$559.83
6"	$1,129.85
Construction	$147.17

The volumetric component of a customer's water bill is calculated based on the number of units of water delivered to a property, measured in HCF, multiplied by the rates that vary by customer class and tier. The current tier widths and rates are shown in Table 4-2. The rates in Table 4-2, multiplied by the amount of use in each respective tier, determine the volumetric component of a customer's bill. Tiers are discussed in detail in Section 6.3.

Table 4-2: Current Water Commodity Rates ($/HCF)

Class	Current Tier Definition	Current Rate ($/HCF)
Single-Family Residential (SFR)		
Tier 1	0-7	$4.16
Tier 2	8-22	$5.23
Tier 3	>22	$6.03
Multiple Units	Uniform	$5.21
Commercial / Public Agency	Uniform	$5.21
Irrigation	Uniform	$5.45
Construction	Uniform	$11.37
Bulk Water	Uniform	$15.21

Table 4-3 shows the projected number of water connections by meter size, by fiscal year. The number of connections remains the same in each year based on the connection growth assumptions identified in Section 2.2 and Table 2-3.

Table 4-3: Projected Water Meters by Meter Size

Meter Size	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
5/8"[5]	3	3	3	3	3	3
3/4"	1,466	1,466	1,466	1,466	1,466	1,466
1"	473	473	473	473	473	473
1 1/2"	72	72	72	72	72	72
2"	28	28	28	28	28	28
3"	4	4	4	4	4	4
4"	7	7	7	7	7	7
6"	7	7	7	7	7	7
Construction	4	4	4	4	4	4
Total	**2,064**	**2,064**	**2,064**	**2,064**	**2,064**	**2,064**

Water demand projections through FY 2030 are shown in Table 4-4. The water demand and revenue growth assumptions are identified in Table 2-3. The projected water usage is shown in Table 4-4 for current tiers widths to calculate projected revenues most accurately under "status quo" conditions. The "status quo" financial plan does not include revenue adjustments and assesses whether the District's current rates, at the projected level of usage, is sufficient to support operations, capital projects, debt servicing, and reserve funding.

[5] These 5/8" entries are due to legacy meter coding. Going forward the District will not have 5/8" metered connections and proposed rates will reflect 3/4" as the smallest meter size.

Table 4-4: Projected Water Demand by Class and Tiers

Class	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Single-Family Residential						
Tier 1	105,164	105,164	105,164	105,164	105,164	105,164
Tier 2	101,888	101,888	101,888	101,888	101,888	101,888
Tier 2	85,862	85,862	85,862	85,862	85,862	85,862
Multiple Units	65,514	65,514	65,514	65,514	65,514	65,514
Commercial / Public Agency	59,675	59,675	59,675	59,675	59,675	59,675
Irrigation	65,623	65,623	65,623	65,623	65,623	65,623
Construction	471	471	471	471	471	471
Bulk Water	141	141	141	141	141	141
Total Water Sales (HCF)	**484,338**	**484,338**	**484,338**	**484,338**	**484,338**	**484,338**
Total Water Sales (AF)	1,112	1,112	1,112	1,112	1,112	1,112

Table 4-5 shows the rate revenue generated in each fiscal year at projected demand and the current rates. Note that revenues for FY 2025 and beyond use existing rates from Table 4-1 and Table 4-2. The overall adequacy of water revenues is measured by comparing the projected annual revenue required from rates with projected revenues from the existing rates.

Table 4-5: Projected Water Rate Revenue at Current Rates

Revenue Source	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Fixed Service Charges	$1,557,368	$1,557,368	$1,557,368	$1,557,368	$1,557,368	$1,557,368
Commodity Charges	$2,505,480	$2,465,480	$2,465,480	$2,465,480	$2,465,480	$2,465,480
Total Rate Revenues	**$4,062,848**	**$4,022,848**	**$4,022,848**	**$4,022,848**	**$4,022,848**	**$4,022,848**

The utility also derives revenues from other non-rate sources. These revenues consist of fees, taxes, interest income, and other operating revenues and are summarized in Table 4-6.

Table 4-6: Projected Non-Rate Revenues - Water

Revenue Source	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Interest	$74,853	$78,343	$47,133	$15,488	$0	$0
Fees	$111,945	$111,945	$111,945	$111,945	$111,945	$111,945
Taxes	$118,896	$118,896	$118,896	$118,896	$118,896	$118,896
Other	$41,825	$41,825	$41,825	$41,825	$41,825	$41,825
Miscellaneous	$0	$0	$0	$0	$0	$0
Total Non-Operating Revenues	**$347,518**	**$351,008**	**$319,798**	**$288,153**	**$272,665**	**$272,665**

4.1.2. OPERATING AND MAINTENACE (O&M) EXPENSES

Total projected water O&M expenses are shown in Table 4-7 and are summarized by department. Other expenses are projected from the District's adopted FY 2025 budget. Expenses beyond FY 2025 use District estimated costs, where known, or rely on FY 2025 budgeted values inflated by the assumptions from Table 2-1. In addition to O&M expenses, the District must fund its Water Supply Reserve to purchase future Baseline Pumping Allocation (BPA) to meet supply requirements established under the Borrego Springs Subbasin California Superior Court Adjudicated Judgement – the costs of these multi-year purchase agreements are included in the CIP.

Table 4-7: Projected Water O&M Expenses

O&M Expense Summary	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Repairs & Maintenance	$937,230	$994,376	$1,055,986	$1,122,443	$1,194,166	$1,271,613
Professional Services	$324,649	$256,369	$262,778	$269,348	$276,082	$282,984
Insurance	$136,126	$139,529	$143,017	$146,593	$150,257	$154,014
Personnel Expense	$1,538,775	$1,649,496	$1,768,480	$1,896,361	$2,033,818	$2,181,587
Office Expense	$155,583	$160,065	$164,712	$169,534	$174,540	$179,740
Groundwater Management	$414,158	$424,907	$435,938	$447,256	$458,870	$470,787
Total O&M	**$3,506,521**	**$3,624,743**	**$3,830,912**	**$4,051,534**	**$4,287,734**	**$4,540,725**

4.1.3. PROJECTED CAPITAL IMPROVEMENT PLAN (CIP)

The District has approximately $8.8 million in replacement capital expenditures over the next five fiscal years (FY 2026 – FY2030). A summary of these capital expenditures, by anticipated funding source, is shown in Table 4-8. A detailed version of the capital improvement plan is provided in Appendix B. Project costs, inclusive of anticipated construction cost inflation, were provided by District Staff.

Table 4-8: Projected Capital Improvement Plan - Water

Project Description	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Future Bond Projects	$0	$0	$0	$0	$0	$0
Grant Funded Projects	$4,667,000	$1,828,800	$1,058,240	$600,000	$0	$0
Cash Reserve Funded Projects	$969,344	$1,308,995	$1,521,349	$868,484	$830,042	$828,215
Total Capital Projects	**$5,636,344**	**$3,137,795**	**$2,579,589**	**$1,468,484**	**$830,042**	**$828,215**

4.1.4. DEBT SERVICE

The District has three existing debt instruments:

- Compass Bank Note 2018A
- Compass Bank Note 2018B (final repayment is in FY 2025)
- 2021 COPF Loan

Debt service schedules for each obligation were provided by the District. Table 4-9 shows the annual debt service payment obligation of each debt instrument for each year of the Study period. While the Compass Bank Notes wholly benefits the water utility, a small portion of the COPF Loan (7 percent) benefits the wastewater utility. The amount shown in the table is the 93 percent benefiting the water utility.

Table 4-9: Existing Debt Service - Water

Existing Debt	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Compass Bank Note 2018A	$246,203	$246,967	$242,547	$241,959	$246,053	$0
Compass Bank Note 2018B	$140,755	$0	$0	$0	$0	$0
2021 COPF Loan	$546,242	$546,566	$546,612	$546,364	$545,832	$545,938
Total Existing Debt Service	**$933,201**	**$793,534**	**$789,159**	**$788,323**	**$791,885**	**$545,938**

4.2. Existing Water Financial Plan – No Revenue Adjustments

Table 4-10 displays the operating cash flow detail from current rates for the District's water utility over the Study period. The cash flow incorporates revenues and expenses to show the overall position of the utility. All projections shown in the table are based upon the District's current rate structure and do not include revenue adjustments or any new debt. Table 4-10 incorporates data shown in the preceding tables of this section. Under the "status-quo" no revenue adjustment-scenario, revenues generated from rates and other miscellaneous revenues are inadequate to maintain reserves at even minimum levels or fund planned capital improvement projects over the Study period. With current rates and existing expenses, the water utility's net cash flow is projected to be negative in all years of the Study period, and reserves will turn negative in FY 2029 and fall $8.4 million short of reserve targets in FY 2030. Additionally, debt coverage is projected to fail minimum requirements for all years in the Study period.

Table 4-10: Water Financial Plan at Current Rates

	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Revenues						
Revenue from Existing Rates	$4,062,848	$4,022,848	$4,022,848	$4,022,848	$4,022,848	$4,022,848
Total Revenue Adjustments	$0	$0	$0	$0	$0	$0
Other Revenue	$272,665	$272,665	$272,665	$272,665	$272,665	$272,665
Interest	$74,853	$78,343	$47,133	$15,488	$0	$0
Total Revenues	**$4,410,366**	**$4,373,855**	**$4,342,646**	**$4,311,001**	**$4,295,513**	**$4,295,513**
Total O&M Expenses	**$3,506,521**	**$3,624,743**	**$3,830,912**	**$4,051,534**	**$4,287,734**	**$4,540,725**
Net Operating Revenue	**$903,845**	**$749,113**	**$511,734**	**$259,466**	**$7,779**	**($245,212)**
Debt and Capital						
Existing Debt Service	$933,201	$793,534	$789,159	$788,323	$791,885	$545,938
Rate Funded CIP	$969,344	$1,308,995	$1,521,349	$868,484	$830,042	$828,215
Total Debt and Capital	**$1,902,545**	**$2,102,528**	**$2,310,509**	**$1,656,807**	**$1,621,927**	**$1,374,153**
Net Cash Flow	**($998,699)**	**($1,353,415)**	**($1,798,775)**	**($1,397,341)**	**($1,614,148)**	**($1,619,364)**
Beginning Balance[6]	**$5,631,707**	**$4,633,008**	**$3,279,592**	**$1,480,817**	**$83,476**	**($1,530,671)**
Net Cashflow	($998,699)	($1,353,415)	($1,798,775)	($1,397,341)	($1,614,148)	($1,619,364)
Grant Funding	$4,667,000	$1,828,800	$1,058,240	$600,000	$0	$0
Grant Funded CIP	($4,667,000)	($1,828,800)	($1,058,240)	($600,000)	$0	$0
Ending Balance	**$4,633,008**	**$3,279,592**	**$1,480,817**	**$83,476**	**($1,530,671)**	**($3,150,036)**
Board Policy Target	*$5,800,722*	*$5,889,183*	*$5,319,248*	*$5,374,356*	*$5,478,256*	*$5,264,438*
Minimum Target	N/A	*$2,347,704*	*$2,431,728*	*$2,525,488*	*$2,630,324*	*$2,492,852*
Calculated Debt Coverage Ratio	97%	94%	65%	33%	1%	-45%
Required Debt Coverage Ratio	125%	125%	125%	125%	125%	125%

[6] FY 2025 beginning balance is adjusted to include cash at July 1, 2024 plus the sale of Viking Ranch Property, twin tank reimbursement from DWR, and Prop 68 Grant reimbursement

4.3. Proposed Water Financial Plan

The proposed financial plan calls for adoption of 9.5% percent revenue adjustments for three years from FY 2026 through FY 2028 and 7.0% revenue adjustments for two years from FY 2029 through FY 2030. The revenue adjustments for all years of the Study are proposed to be implemented at the start of the fiscal year in July. Table 4-11 shows the proposed revenue adjustment plan. The rates presented in Section 6 are based on the proposed financial plan below.

The proposed revenue adjustments help to ensure adequate revenue to fund operating expenses, achieve reserve policy targets, fund the long-term capital program, and comply with existing debt covenants. Revenue adjustments represent the average increase in rates for the utility. Actual percentage increases (or decreases) in rates are dependent upon the cost of service analysis and are unique to each customer class and meter size.

Table 4-11: Proposed Revenue Adjustments - Water

	Revenue Adjustments				
Effective Year	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**	**FY 2030**
Effective Month	July	July	July	July	July
Percentage Adjustment	9.5%	9.5%	9.5%	7%	7%

Primary factors requiring the proposed adjustments include:

- **Infrastructure Reinvestment**: The District has approximately $8.8 million in replacement capital expenditures over the next five fiscal years (FY 2026 – FY2030) and $19.2 million over the 10 year financial planning horizon of this study (FY 2026 – FY2035). The capital replacement projects are anticipated to be funded through a combination of cash reserves from rates, grant funding, and new debt issuance. The District will pursue state and federal grants for the capital improvement program (CIP), where available. The District may elect to accelerate or postpone the CIP timeline based on available funds, favorable terms, or other conditions.
- **Baseline water demand:** The District experiences variation in water sales year-to-year. Since the prior rate study the District has experienced a roughly 20 percent reduction in normal condition expected water sales. A combination of passive conservation, consecutive wet years (yielding lower water sales than planned), and loss of a significant Public Agency customer all yield a lower sales estimate looking forward. Raftelis and District staff re-evaluated normal condition water demand based on historical use and recent years. The result is an expected supply requirement of approximately 1,200 acre-feet per year (AFY) versus the prior study's estimate of 1,440 AFY.
- **Inflationary pressure:** The District's operating environment is not immune to the effects of inflation. The price of materials, energy, chemicals, construction costs, personnel, professional services, and other costs have increased at an historic pace over the last several years. The financial plan assumes continued pressure on both operating and capital costs, albeit at historic rates of change.
- **Reserve Funding**: The District has reserve policies to meet cash flow needs, ensure adequate funding of repairs and replacements in the event of asset failure or other unforeseen circumstances or events, and to protect ratepayers from rate spikes. The District's reserves are further discussed in Section 3 and total reserve balances for the selected Financial Plan are identified in Section 4.3. The total cash

reserve target for the District's water utility in FY 2025 is $5.8 million. The reserve target for future years is dynamic and depends on how the components of the reserve policy change year-to-year.

Table 4-12 shows the five-year cash flow detail for the water utility, including additional revenues from the proposed financial plan. The proposed financial plan estimates rate revenues and expenses on a cash flow basis. The proposed financial plan yields positive net cash flow in FY 2029, maintains reserves at minimum levels, and achieves debt coverage minimums. While the plan is only shown for the five rate years, there is new debt proposed in year 10 of the financial plan, in FY 2035. The financial plan builds sufficient cash and debt capacity to execute the projects at that time The terms of the debt are a 20 year term, 4.5% interest rate, and 2% issuance cost.

Table 4-12: Proposed Financial Plan - Water

	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Revenues						
Revenue from Existing Rates	$4,062,848	$4,022,848	$4,022,848	$4,022,848	$4,022,848	$4,022,848
Total Revenue Adjustments	$0	$382,171	$800,647	$1,258,879	$1,628,600	$2,024,202
Other Revenue	$272,665	$272,665	$272,665	$272,665	$272,665	$272,665
Interest	$74,853	$82,164	$62,859	$52,124	$51,772	$57,000
Total Revenues	**$4,410,366**	**$4,759,848**	**$5,159,019**	**$5,606,516**	**$5,975,885**	**$6,376,714**
Total O&M Expenses	**$3,506,521**	**$3,624,743**	**$3,830,912**	**$4,051,534**	**$4,287,734**	**$4,540,725**
Net Operating Revenue	**$903,845**	**$1,135,105**	**$1,328,107**	**$1,554,982**	**$1,688,151**	**$1,835,990**
Debt and Capital						
Existing Debt Service	$933,201	$793,534	$789,159	$788,323	$791,885	$545,938
Rate Funded CIP	$969,344	$1,308,995	$1,521,349	$868,484	$830,042	$828,215
Total Debt and Capital	**$1,902,545**	**$2,102,528**	**$2,310,509**	**$1,656,807**	**$1,621,927**	**$1,374,153**
Net Cash Flow	**($998,699)**	**($967,423)**	**($982,401)**	**($101,825)**	**$66,224**	**$461,837**
Beginning Balance[7]	**$5,631,707**	**$4,633,008**	**$3,665,584**	**$2,683,183**	**$2,581,358**	**$2,647,582**
Net Cashflow	($998,699)	($967,423)	($982,401)	($101,825)	$66,224	$461,837
Grant Funding	$4,667,000	$1,828,800	$1,058,240	$600,000	$0	$0
Grant Funded CIP	($4,667,000)	($1,828,800)	($1,058,240)	($600,000)	$0	$0
Ending Balance	**$4,633,008**	**$3,665,584**	**$2,683,183**	**$2,581,358**	**$2,647,582**	**$3,109,419**
Board Policy Target	*$5,800,722*	*$5,889,183*	*$5,319,248*	*$5,374,356*	*$5,478,256*	*$5,264,438*
Minimum Target	N/A	*$2,347,704*	*$2,431,728*	*$2,525,488*	*$2,630,324*	*$2,492,852*
Calculated Debt Coverage Ratio	97%	143%	168%	197%	213%	336%
Required Debt Coverage Ratio	125%	125%	125%	125%	125%	125%

Figure 4-1 through Figure 4-3 display the proposed five-year financial plan in a graphical format.

Figure 4-1 illustrates the Operating Financial Plan. It compares existing and proposed revenues with projected expenses. The expenses, represented by stacked bars, represent O&M expenses, annual debt service costs,

[7] FY 2025 beginning balance is adjusted to include cash at July 1, 2024 plus the sale of Viking Ranch Property, twin tank reimbursement from DWR, and Prop 68 Grant reimbursement

PAYGO (i.e., cash-funded) CIP, and use/funding of reserves (net cashflow). Total revenues at existing and proposed rates are shown by the horizontal dashed and solid black lines, respectively. Figure 4-1 shows that current revenue from existing rates will not meet future total expenses, including reserve funding for future capital projects and risk mitigation.

Figure 4-1: Projected Operating Financial Plan - Water

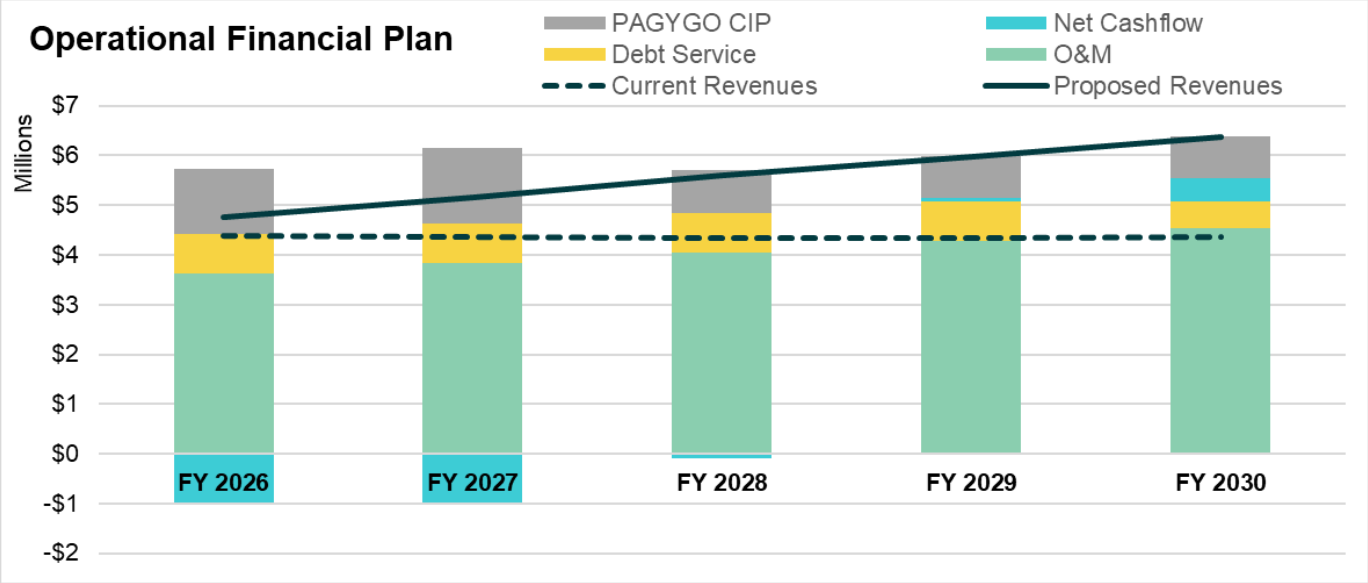


Figure 4-2 shows the District's projected ending cash reserve balance by fiscal year. The grey bars indicate the total ending balance, while the solid orange and solid blue lines indicate the total minimum target reserve balances and the Board Policy target reserves balances, respectively. With the proposed financial plan, the District achieves minimum reserve target balances throughout the Study period and begins building back towards the Board Policy in FY 2030.

Figure 4-2: Projected Ending Cash Balance - Water

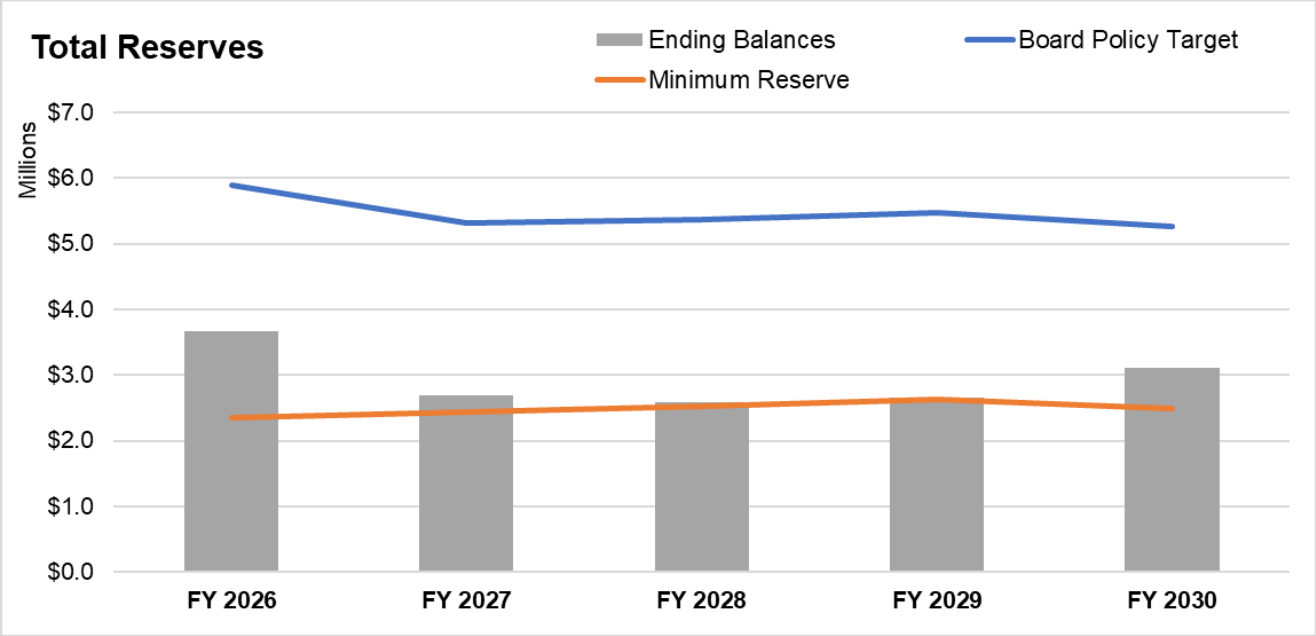
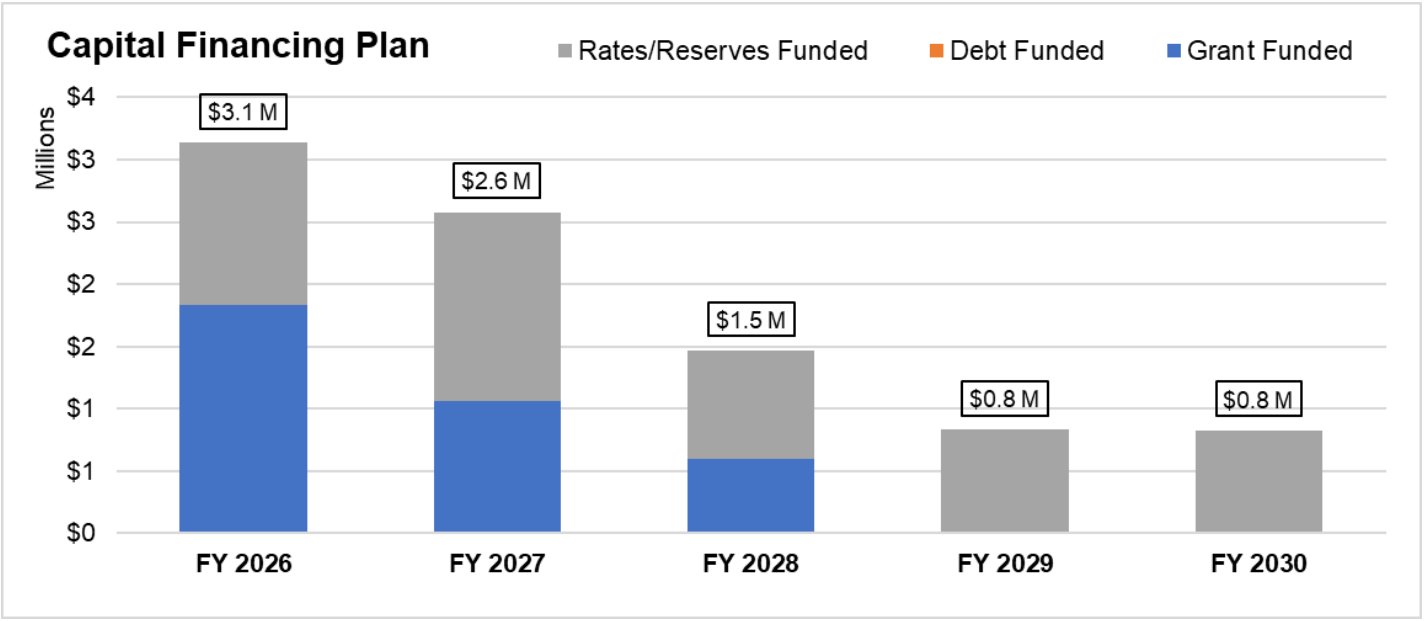


Figure 4-3 shows the total CIP of the water utility over the Study period, by funding source. The blue portion of the bars represent grant funded capital projects, the grey portions of the bars represent rate funded capital on a pay-as-you-go (PAYGO) basis. No water CIP is anticipated to be debt funded within the five-year rate period.

Figure 4-3: Projected CIP and Funding Sources - Water



5. Water Cost of Service Analysis

5.1. Methodology

The principles and methodology of a COS analysis were described in Section 1.3.2 and are detailed in this sub-section. The annual cost of providing water service is distributed among customer classes commensurate with their service requirements. A COS analysis involves the following:

1. Functionalize costs. Examples of functions are pumping, treatment, transmission and distribution, groundwater management, meter service, and customer service.
2. Allocate functionalized costs to cost components. Cost components include base delivery, maximum day (Max Day), maximum hour[8] (Max Hour), groundwater management, meter service, and customer servicing and billing costs.
3. Develop unit costs for each cost component using appropriate units of service for each component.
4. Distribute the cost components. Distribute using unit costs to customer classes in proportion to their demands and burdens on the water system. This is described in the M1 Manual published by AWWA.

A COS analysis considers both the average quantity of water consumed (base costs) and the peak rate at which it is consumed (peaking or capacity costs as identified by Max Day and Max Hour demands). Peaking costs are costs that are incurred during peak times of consumption. There are additional costs associated with designing, constructing, operating, and maintaining facilities to meet peak demands. These peak demand costs should be allocated to those customers whose water usage patterns generate additional costs for the utility. In other words, not all customer classes and not all customers share the same responsibility for peaking related costs.

The functionalization of costs allows us to better allocate to the **cost causation components** (i.e., cost components). Organizing the costs in terms of end function allows direct correlation between the cost component and the rate, coupling the cost incurred by the utility to the demand and burden that the customer places on the utility's system and water resources. The costs incurred are generally responsive to the specific service requirements or cost drivers imposed on the system and its water resources by its customers. The O&M **functions** (i.e., cost categories) for the cost of service analysis include:

1. **Pumping**, or electrical costs associated with producing groundwater from the Borrego Valley basin and moving water through treatment and distribution facilities.
2. **Treatment**, or costs associated with treating groundwater to drinking water standards.
3. **Transmission and Distribution**, or costs associated with operating, maintaining, and eventual replacement of transmission and distribution pipelines.
4. **Groundwater Management**, or costs associated with water master expenses charges.
5. **Meters**, or costs associated with meter servicing and maintenance.
6. **Billing and Customer Service**, or costs associated with customer service, billing, and collections.
7. **General**, or indirect costs associated with administration and management of the water system.

In addition to the O&M functions listed above, there are three additional capital functions derived from the District's asset and infrastructure database. The three are:

[8] Collectively maximum day and maximum hour costs are known as peaking costs or extra-capacity costs.

1. **Wells**, or assets associated with producing groundwater from District infrastructure in the Borrego Valley basin.
2. **Fire Protection**, or assets associated with the water system's ability to provide firefighting capacity and protect improvements connected to the District's water system.
3. **Storage**, or the assets associated with tanks and reservoirs for providing water during peak day and peak hour demands (including fire flows).

The functionalized costs are then allocated to the cost components[9]. The cost components include:

1. **Base** also known as delivery costs, vary with the total quantity of water used within the water system under average daily conditions. These costs may include a portion of treatment, transmission and distribution facilities, storage costs, groundwater pumping costs, and capital costs associated with serving customers at a constant, or average, rate of use. Base costs recovered through the commodity rates are, therefore, spread over all units of water uniformly.
2. **Peaking** costs are divided into Max Day and Max Hour demand. The Max Day demand is the maximum amount of water used in a single day in a year. The Max Hour demand is the maximum usage in an hour on the maximum usage day. Different infrastructure, such as distribution lines and storage facilities, and the capital and O&M costs associated with those facilities, are designed to meet the peak demands placed on the system by customers, plus fire protection. Therefore, extra capacity costs include the O&M and capital costs associated with meeting customer demand more than the average rate of use, or base use, requirements.
3. **Groundwater Management** costs include costs associated with water master expenses and related expenditures of managing and producing groundwater
4. **Meter** costs include maintenance and capital costs related to servicing and replacing meters and associated assets.
5. **Customer** costs are those directly associated with serving customers, irrespective of the amount of water used, and generally include meter reading, bill generation, accounting, customer service, and collection expenses.
6. **Fire** costs related to providing fire flow capacity for private fire connections on customer improvements
7. **General** and administrative costs are incurred in operating and maintaining the water system not otherwise recovered in the other functionalized cost components. These indirect costs are distributed to the other cost components in proportion to the cost responsibility of the other components.

This method of functionalizing costs is consistent with the AWWA M1 Manual and is widely used in the water industry to perform cost of service analyses.

5.2. Revenue Requirement - Water

Table 5-1 shows the FY 2025 revenue requirement. The revenue requirement represents all O&M and capital and is equal to the cost of service to be recovered through rates. The O&M revenue requirement includes costs directly related to the supply, treatment, and distribution of water, as well as routine maintenance of system facilities. The Capital revenue requirement includes costs directly related to funding the capital program and debt service obligations associated with capital re-investment.

[9] This Study uses the Base-Extra Capacity methodology set forth in the M1 Manual for functionalizing and allocating costs.

The rate revenue offsets are non-rate revenues, that are accounted for to determine the net amount required to be recovered from rates. The adjustment for cash balance is equal to the net cash change for FY 2025 in Table 4-12, which represents the amount by which the reserves are increasing during the test year. As discussed previously in Section 4.3, FY 2025 (current fiscal year) represents the test year for determining cost of service allocations. To arrive at the Operating, Capital, and total revenue requirements, we subtract revenue offsets (non-rate revenues) and adjustments from the sub-total revenue requirement for each category (represented here as columns); the resulting calculation is the total revenue required from rates. This total is the amount that monthly meter service charges and commodity charges are designed to collect.

Table 5-1: Revenue Requirement - Water

Revenue Requirements	Operating	Capital	Total
Operating Expenditures	$3,506,521		$3,506,521
Debt Service		$933,201	$933,201
PAYGO CIP		$969,344	$969,344
Subtotal Revenue Requirements	**$3,506,521**	**$1,902,545**	**$5,409,065**
Revenue Offsets			
Other Revenue	$272,665		$272,665
Interest Income		$74,853	$74,853
Total Revenue Offsets	**$272,665**	**$74,853**	**$347,518**
Adjustments			
Adjustments to Annual Cash Balance		$998,699	$998,699
Total Adjustments	**$0**	**$998,699**	**$998,699**
COS to be Recovered from Water Rates	**$3,233,856**	**$828,992**	**$4,062,848**

5.3. O&M Expense Functionalization - Water

The next step in the cost of service analysis is to determine the operating cost allocations by function and cost component. The O&M expenses shown in Table 4-7 were allocated to the respective functions by District Staff based on the percentages shown in Table 5-2. Functions include pumping, treatment, transmission and distribution, billing and customer service, meter service, groundwater management, and administrative and general. Table 5-3 shows a summary of the functionalization of District O&M expenses for the test year FY 2025. A detailed version of the functionalized water expenses as provided by the District is provided in an appendix to this report. Functionalizing O&M expenses follows the principles of rate setting set forth in the M1 Manual and allows for the allocation of individual costs to system cost causation components, based on the function that each respective cost serves. Note that the total functionalized O&M expenses are equal to the O&M expenses shown in Table 5-1 and Table 4-12.

Table 5-2: O&M Costs to System Functions Allocation

O&M Expense	Pumping	Treatment	Transmission & Distribution	Billing & Customer Service	Meter Service	Groundwater Management	Admin. & General
Repairs & Maintenance							
R&M Buildings and Equipment	10%	10%	40%		25%	15%	
Telemetry Services	75%		25%				
Trash Removal							100%
Vehicle Expense	15%	15%	20%	30%	10%	10%	
Fuel & Oil	15%	15%	20%	30%	10%	10%	
Lab/Testing		75%				25%	
Permit Fees							100%
Pumping Electricity	100%						
Professional Services							
Accounting							100%
Payroll Services							100%
Audit Fees							100%
IT & Cyber Security							100%
Financial Consulting							100%
Engineering		10%	80%			10%	
Legal Services							100%
Federal & State Legislative Advocacy							100%
Administrative Services							100%
Computer Billing				100%			
Consulting-Technical/Financial							100%
Air Quality Study							100%
Grant Acquisitions							100%
Testing/Lab		75%				25%	
Permit Fees							100%
Insurance							100%
Personnel Expense							
Board Meeting Expense							
Salaries & Wages	5%	10%	25%	30%	25%	5%	100%
Salaries & Wages Contra Acct	5%	10%	25%	30%	25%	5%	
Contract labor/Consulting							
Taxes on Payroll	5%	10%	25%	30%	25%	5%	100%
Employee Medical Benefits	5%	10%	25%	30%	25%	5%	

O&M Expense	Pumping	Treatment	Transmission & Distribution	Billing & Customer Service	Meter Service	Groundwater Management	Admin. & General
Employee Retirement Benefits	5%	10%	25%	30%	25%	5%	
Conference/Training							
Uniforms							100%
Safety Compliance & Emergency Prep							100%
Workers Compensation	5%	10%	25%	30%	25%	5%	100%
Accrued Sick/Vacation Expense	5%	10%	25%	30%	25%	5%	
Office Expense							100%
Groundwater Management						100%	

Table 5-3: Functionalization of O&M Expenses

Cost Function	O&M Expenses by Function ($)
Pumping	$633,906
Treatment	$215,607
Transmission & Distribution	$531,644
Billing & Customer Service	$462,229
Meter Service	$445,494
Groundwater Management	$549,554
General	$668,086
Total	**$3,506,521**

5.4. Allocation of Functionalized Expenses to Water Cost Components

After functionalizing expenses, the next step is to allocate the functionalized expenses to system cost components. To do so, we start with identifying system-wide peaking factors. Water systems are designed to serve connections during Max Day and Max Hour demands. Different facilities, such as distribution and storage facilities, are designed to meet the peaking demands of customers. Therefore, peaking costs, also known as extra capacity costs, are associated with meeting peak customer demand. Peaking costs are based on Max Day and Max Hour demands. The system-wide factor for Max Day demand and Max Hour demand were calculated based on the system peak using actual well production log data. Max Day and Max Hour factors are shown in Table 5-4 relative to the base factor. Base, or average daily demand, is represented by the factor 1.00.

Table 5-4: Water System Peaks – Maximum Day and Maximum Hour

Cost Components	Ratio (relative to Base)
Base	1.00
Maximum Day	1.86
Maximum Hour	2.78

Calculated water system peaking factors from Table 5-4 are shown in column B of Table 5-5. The system-wide peaking factors are used to derive the cost causation component allocation bases (i.e., percentages) shown in columns C, D, and E of Table 5-5. The numbers and calculations outlined in the following sections are rounded and may not equal to the exact amounts shown.

Line 1 "Base" represents the average day demand throughout the year and is, therefore, a factor of 1.00.

- Base = 1.00 / 1.00 = 100%

Line 2 "Max Day" is the ratio of maximum day demand relative to base demand, or 1.86 The percentage allocated to Max Day is the incremental responsibility above base demand.

- Base = 1.00 / 1.86 = 54%
- Max Day = (1.86 – 1.00) / 1.86 = 46%

Similarly, Line 3, "Max Hour" is the ratio of maximum hour demand, on the maximum day, relative to base demand. The Max Hour factor is 2.78.

- Base = 1.00 / 2.78 = 36%

- Max Day = (1.86 – 1.00) / 2.78 = 31%
- Max Hour = (2.78 – 1.86) / 2.78 = 33%

These factors indicate how much additional capacity is required to meet demand above average daily use. As demand, and therefore capacity, increases, so must the sizing of facilities and pipelines, which incur greater costs to construct, maintain, repair, and ultimately replace. To understand the interpretation of the percentages shown in columns C through E, "Base" is established as the average daily demand during the year. These allocation bases are used to allocate certain functionalized costs to the cost causation components including pumping, storage, transmission and distribution, and treatment functions.

Table 5-5: Water System Peaking Allocation

	Allocation Factor	System Wide Factors	Base	Max Day	Max Hour
	A	B	C	D	E
1	Base	1.00	100%	0%	0%
2	Max Day	1.86	54%	46%	0%
3	Max Hour	2.78	36%	31%	33%
4	Average Max Day/Max Hour		45%	38%	17%

Table 5-6 shows the derivation of the peaking factors by customer class and tier, determined by dividing the total maximum monthly usage (Column C) by the average monthly usage (Column D) for each customer class and tier. FY 2022 through 2024 District water consumption data was used for this analysis. These peaking factors are used to apportion the peaking costs to each customer class and tier based on the relative responsibility of each. The maximum month peaking factor is used in conjunction with the water system-wide peaking factors to identify Max Day and Max Hour peaking factors utilized in the allocation to customers classes. For Single Family Residential customers District water demand *within* the tiers (sub-class) is used to identify peaking factors. See the Rate Derivation section of this report for a detailed discussion of the use of peaking factors in developing rates.

Table 5-6: Customer Class and Tier Peak Calculations

Customer Class	Selected Tier Widths (HCF)	Max Month	Average Month	Peaking Factor
A	B	C	D	E
Single Family Residential	*N/A*	*37,011*	*26,281*	*1.41*
Tier 1	7	9,474	8,959	1.06
Tier 2	22	11,775	9,012	1.31
Tier 3	>22	15,762	8,311	1.90
Multiple Units	Uniform	7,411	5,901	1.26
Commercial/Public Agency	Uniform	6,470	5,326	1.21
Irrigation	Uniform	8,528	5,496	1.55

Table 5-7 and Table 5-8 show the allocation basis for O&M expenses in percentages and dollars, respectively. The top row of Table 5-7 shows the cost causation components and the left-most column shows the cost functions, equal to that shown in Table 5-3. The numbers shown in this section of the report are rounded to the nearest dollar and tenth of a percent; therefore, if hand calculated the calculations shown in the tables of this section may not equal to the precise numbers shown within the tables.

Pumping and treatment costs are proportionally allocated between Base and Max Day based on the maximum day allocation shown in Table 5-5. These costs are allocated based on maximum day because they are constructed and/or operated to meet maximum day demands.

Transmission and distribution costs are proportionally allocated between Base, Max Day, and Max Hour based on the Average Max Day/Max Hour costs from Table 5-5. These costs are allocated based on the average maximum day and maximum hour because transmission infrastructure is constructed to meet maximum day demand and distribution pipelines are constructed to meet maximum hour demand plus fire flow.

All other allocations are a one to one (i.e. 100% basis) between the function and the cost component.

Table 5-7: Allocation of Functionalized O&M Expenses to Cost Causation Components (%)

Function	FY 2025	Groundwater Management	Base	Max Day	Max Hour	Meters	Customer	General
Pumping	$633,906		54%	46%				
Treatment	$215,607		54%	46%				
Transmission & Distribution	$531,644		45%	38%	17%			
Billing & Customer Service	$462,229						100%	
Meter Service	$445,494					100%		
Ground Water Management	$549,554	100%						
General	$668,086							100%
Total ($)	**$3,506,521**	**$549,554**	**$696,710**	**$595,796**	**$88,652**	**$445,494**	**$462,229**	**$668,086**
Total (%)		*15.7%*	*19.9%*	*17.0%*	*2.5%*	*12.7%*	*13.2%*	*19.1%*

Table 5-8: Allocation of Functionalized O&M Expenses to Cost Causation Components ($)

Function	FY 2025	Groundwater Management	Base	Max Day	Max Hour	Meters	Customer	General
Pumping	$633,906	$0	$341,699	$292,207	$0	$0	$0	$0
Treatment	$215,607	$0	$116,220	$99,387	$0	$0	$0	$0
Transmission & Distribution	$531,644	$0	$238,790	$204,203	$88,652	$0	$0	$0
Billing & Customer Service	$462,229	$0	$0	$0	$0	$0	$462,229	$0
Meter Service	$445,494	$0	$0	$0	$0	$445,494	$0	$0
Ground Water Management	$549,554	$549,554	$0	$0	$0	$0	$0	$0
General	$668,086	$0	$0	$0	$0	$0	$0	$668,086
Total ($)	**$3,506,521**	**$549,554**	**$696,710**	**$595,796**	**$88,652**	**$445,494**	**$462,229**	**$668,086**
Total (%)		*15.7%*	*19.9%*	*17.0%*	*2.5%*	*12.7%*	*13.2%*	*19.1%*

5.5. Asset Functionalization - Water

Table 5-9 presents the functionalization of the District's water system asset base. Each asset from the master capitalized asset database is assigned to one of the cost functions. The column furthest right in Table 5-9 shows the total asset valuation by category. Assets are shown valued at replacement cost, less depreciation (RCLD) to illustrate book value (i.e. original cost less depreciation) in today's dollars.

Table 5-9: Functionalization of System Assets - Water

Asset Category	Cost Function	Assets by Function ($)
Wells	Max Day	$4,190,513
Pumping	Max Day	$243,830
Treatment	Max Day	$8,042
Transmission & Distribution	Average Max Day/Max Hour	$8,285,845
Fire Protection	Fire	$530,943
Customer Service & Billing	Customer	$9,122
General & Admin	General	$5,291,231
Storage	Max Day	$974,604
Total		**$19,534,130**

5.6. Allocation of Functionalized Assets to Water Cost Components

Like the O&M cost allocation, the District's functionalized capitalized assets are allocated to the same cost components, which is representative of future project costs. Capital costs are allocated by the asset base of the water system in recognition that assets need to be refurbished and replaced over time. Correspondingly, capital expenses over time generally correlate to the asset base and mix of infrastructure. This means that the allocations to the cost causation components are stable over time, until revisited in a future cost of service analysis. Table 5-10 and Table 5-11 shows the functionalized assets allocated to the cost components in both dollar and percentage terms. The numbers shown in this section of the report are rounded to the nearest dollar and tenth of a percent; therefore, the calculations shown in the tables of this section may not equal to the precise numbers shown if hand calculated.

Table 5-10: Allocation of Functionalized Asset Valuation to Cost Causation Components (%)

Description	Value ($)	Groundwater Management	Base	Max Day	Max Hour	Fire	Meters	Customer	General
Wells	$4,190,513		54%	46%					
Pumping	$243,830		54%	46%					
Treatment	$8,042		54%	46%					
Transmission & Distribution	$8,285,845		45%	38%	17%				
Fire Protection	$530,943					100%			
Customer Service & Billing	$9,122							100%	
General & Admin	$5,291,231								100%
Storage	$974,604		54%	46%					
Total ($)	**$19,534,130**	**$0**	**$6,641,578**	**$5,679,591**	**$1,381,665**	**$530,943**	**$0**	**$9,122**	**$5,291,231**
Total (%)		0.0%	34.0%	29.1%	7.1%	2.7%	0.0%	0.0%	27.1%

Table 5-11: Allocation of Functionalized Asset Valuation to Cost Causation Components ($)

Description	Value ($)	Groundwater Management	Base	Max Day	Max Hour	Fire	Meters	Customer	General
Wells	$4,190,513	$0	$2,258,845	$1,931,667	$0	$0	$0	$0	$0
Pumping	$243,830	$0	$131,434	$112,396	$0	$0	$0	$0	$0
Treatment	$8,042	$0	$4,335	$3,707	$0	$0	$0	$0	$0
Transmission & Distribution	$8,285,845	$0	$3,721,615	$3,182,565	$1,381,665	$0	$0	$0	$0
Fire Protection	$530,943	$0	$0	$0	$0	$530,943	$0	$0	$0
Customer Service & Billing	$9,122	$0	$0	$0	$0	$0	$0	$9,122	$0
General & Admin	$5,291,231	$0	$0	$0	$0	$0	$0	$0	$5,291,231
Storage	$974,604	$0	$525,348	$449,255	$0	$0	$0	$0	$0
Total ($)	**$19,534,130**	**$0**	**$6,641,578**	**$5,679,591**	**$1,381,665**	**$530,943**	**$0**	**$9,122**	**$5,291,231**
Total (%)		0.0%	34.0%	29.1%	7.1%	2.7%	0.0%	0.0%	27.1%

5.7. Public and Private Fire Protection Estimates

Peak capacity, as represented by Max Day and Max Hour, also includes capacity required to meet demands for firefighting. Max Day and Max Hour costs encompass capacity required to meet peak customer demands, public fire service, and private fire service. Table 5-12 derives the allocation of Max Day and Max Hour costs to these three components, as outlined in the M1 Manual. The Max Hour fire capacity for this study assumes a hypothetical fire of two hours duration with 1,500 gallons per minute (gpm) of capacity required.

The total Max Day capacity demanded for fire (Column C, Line 4) is calculated as follows, with letters representing columns and numbers representing rows:

*C2 kgal/min * 60 min/hour * C1 hours * 1000 gal/kgal * 1 HCF/748 gal*

The Max Hour capacity demanded for fire represents the additional capacity needed above Max Day capacity demanded for fire. Thus, the calculation multiplies the Max Hour capacity by 24 hours to convert it into Max Day increments to subtract the Max Day capacity demanded for fire (Column C, Line 4). The total Max Hour capacity demanded for fire (Column D, Line 4) is calculated as follows:

*[D2 kgal/min * 60 min/hour * 24 hours/day * 1000 gal/kgal * 1 HCF/748 gal] - C4 HCF/day*

Public fire hydrants account for most of the total fire capacity (Table 5-12, Line 5) based on the proportionate share of the equivalent fire lines (Table 5-16, Line 3). The total capacity demanded for fire in Table 5-12 (Line 4) is multiplied by the public fire allocation (Line 5) to determine the additional capacity required for public fire service (Line 8). The remaining capacity demanded for fire is allocated to private fire service (Line 9). The customer demand capacity is equal to the extra capacity for Max Day and Max Hour demand for all other customers (Table 5-14, Line 10). The proportion of system capacity for each of these components (Table 5-12, Lines 13-17) is later used to allocate Max Day and Max Hour costs across the different components.

Table 5-12: Fire Capacity Estimate

A Line	B Fire Capacity Estimate	C Max Day	D Max Hour
1	Hours for Fire	2	0
2	Gallons per minute (gpm)	1,500	1,500
3			
4	Capacity Demanded for Fire (HCF)	241	2,647
5	Allocation to Public Fire	98.8%	98.8%
6			
7	**System Capacity**		
8	Public Fire Capacity	238	2,615
9	Private Fire Capacity[10]	3	33
10	Customer Demand Capacity[11]	493	910
11	**Total**	**734**	**3,557**
12			
13	**Proportion of System Capacity**		
14	Public Fire Capacity	32.4%	73.5%
15	Private Fire Capacity	0.4%	0.9%
16	Customer Demand Capacity	67.2%	25.6%
17	**Total**	**100.0%**	**100.0%**

5.8. Allocation of Revenue Requirement - Water

Table 5-13 shows the revenue requirement by cost component. The operating expenses shown on Line 1 are from the allocations in Table 5-7. The capital expense allocation shown on Line 2 is calculated by multiplying the capital revenue requirement from Table 5-1 and the percentage allocations at the bottom of Table 5-10.

Public Fire Costs are distributed from Max Day and Max Hour to the Meters Cost Component based on percentages in Line 14 of Table 5-12; in addition, the Fire Cost Component costs (i.e., public fire costs) are distributed to the Meters Cost Component. Private Fire Costs from the Max Day and Max Hour are distributed to the Fire Cost Component based on the percentages in Line 15 of Table 5-12. General costs are distributed to all cost causation components on a pro rata basis as shown in Line 6. The numbers shown in this section of the report are rounded to the nearest dollar and tenth of a percent; therefore, the calculations shown in the tables of this section may not equal to the precise numbers shown.

[10] See Table 5-16

[11] See Table 5-14

Table 5-13: Revenue Requirement by Cost Component (Cost of Service)

	Cost of Service	Groundwater Management	Base	Max Day	Max Hour	Fire	Meters	Customer	General	Total
1	Operating Expenses	$506,821	$642,534	$549,467	$81,758	$0	$410,853	$426,287	$616,136	$3,233,856
2	Capital Expenses	$0	$281,856	$241,031	$58,635	$22,532	$0	$387	$224,550	$828,992
3	Sub-total Cost of Service	$506,821	$924,390	$790,498	$140,393	$22,532	$410,853	$426,674	$840,686	$4,062,848
4	Allocation of Public Fire Costs	$0	$0	($255,996)	($103,193)	($22,532)	$381,721	$0	$0	$0
5	Allocation of Private Fire Costs	$0	$0	($3,186)	($1,284)	$4,471		$0	$0	$0
6	Allocation of General Costs	$132,233	$241,180	$138,624	$9,371	$1,166	$206,788	$111,322	($840,686)	$0
7	**Total Cost of Service**	**$639,054**	**$1,165,570**	**$1,338,724**	**$235,058**	**$5,637**	**$999,363**	**$537,996**	**$0**	**$4,062,848**

5.9. Unit Costs Derivation - Water

The end goal of a cost of service analysis is to proportionately distribute the cost components to each user class and tier. To do so, unit costs for each component must be calculated. This starts by assessing the total water demanded (or equivalent service units) for each cost component. Table 5-14 shows the calculation of additional capacity required to meet Max Day and Max Hour demands of each customer class and tier. Annual usage (Column A) is derived from water usage projections for FY 2025. Daily usage (Column B) is calculated as annual use divided by 365 days. The capacity or peaking factor (Column C) are the customer specific peaking factors derived in Table 5-6. The total Max Day units of capacity are calculated by multiplying the average daily use (Column B) by the Max Day peaking factor (Column C) for each class and tier. The extra capacity required to meet Max Day demand (Column E) is calculated by subtracting the average daily use (Column B) from the total capacity for Max Day (Column D).

For Max Hour demands, the customer-specific peaking factors (Column C) reflect the ratio between the system-wide Max Day and Max Hour peaking factors to determine the Max Hour peaking factors (Column F) for all classes and tiers. This is calculated using the following equation:

Max Day peaking factor (Column C) x [System-wide Max Hour peaking factor (Table 5-5) / System-wide Max Day peaking factor (Table 5-5)]

The total units of capacity for Max Hour demands (Column G) are calculated by multiplying the average daily use (Column B) by the Max Hour peaking factors (Column F). The extra capacity required for Max Hour demands (Column H) is equal to the Max Hour total capacity (Column G) less the Max Day total capacity (Column D) (the incremental units of capacity additional to Max Day). Demand requirements are detailed by proposed rate class. Values are rounded to the nearest HCF and may not equal the exact values shown in the table.

Table 5-14: FY 2025 Projected Water Demand by Class

				Max Day			Max Hour		
1	Customer Class	FY 2025 Annual Usage (HCF)	Daily Usage (HCF)	Capacity Factor	Total Capacity (HCF/day	Extra Capacity (HCF/day)	Capacity Factor	Total Capacity (HCF/day	Extra Capacity (HCF/day)
2		A	B	C	D	E	F	G	H
3	Single Family Residential								
4	Tier 1	105,164	288	1.06	305	17	1.59	457	152
5	Tier 2	101,888	279	1.31	365	86	1.96	547	183
6	Tier 3	85,862	235	1.90	446	211	2.85	669	223
7	Multiple Units	65,514	179	1.26	225	46	1.88	338	113
8	Commercial/Public Agency	59,675	163	1.21	199	35	1.82	298	99
9	Irrigation	65,623	180	1.55	279	99	2.33	419	140
10	**Total**	**483,726**	**1,325**		**1,819**	**493**		**2,729**	**910**

Table 5-15 shows the total equivalent meters (discussed in detail in Section 6.2.1 and annual number of bills issued (discussed in Section 6.2.2). These totals are used as the denominator in developing unit costs for the rate components of the monthly fixed service charges.

Table 5-15: Derivation of Equivalent Meters

Meter Size	FY 2025 Meter Count	Hydraulic Capacity Factor	Equivalent Meters	Annual Bills
5/8"	3	1.00	3	36
3/4"	1,466	1.00	1,466	17,593
1"	473	1.67	788	5,674
1.5"	76	3.33	254	916
2"	28	5.33	151	339
3"	4	11.67	47	48
4"	7	21.00	137	78
6"	7	43.33	303	84
Total	**2,064**		**3,149**	**24,768**

Table 5-16 shows the calculation of equivalent fire demand associated with public hydrants and private fire lines. Each connection size has a fire flow demand factor like the hydraulic capacity factor of a water meter. The diameter of the connection (in inches) is divided by 6", to equate the demand factor in terms of 6" connection sizes (the standard hydrant conduit diameter), and then raised to the 2.63 power to determine the fire flow demand factor.[12] The fire flow demand factor is multiplied by the number of connections by size to

[12] Hazen-Williams equation and AWWA Manual M1

calculate equivalent fire demand. Total equivalent fire demand is shown for public hydrants and private fire lines in Lines 3 and 8 respectively.

Table 5-16: Derivation of Equivalent Fire Flow

Line	Connection Size	Demand Factor	Unit Counts	Equivalent Fire Demand	Percent of Total
1	**Public Hydrants**				
2	6-inch	1.00	432	432	98.8%
3	**Total**		**432**	**432**	**98.8%**
4					
5	**Private Fire Lines**				
6	4-inch	0.34	4	1.38	0.3%
7	6-inch	1.00	4	4.00	0.9%
8	**Total**		**8**	**5.38**	**1.2%**

Utilizing the final cost of service from Table 5-13 as the numerator and Table 5-14 and Table 5-15 as the denominators allows us to derive unit costs of service in Table 5-17. The total cost is divided by the respective units of service to calculate the unit cost of each cost component. For example, the unit cost for the Base component is determined by dividing the total Base costs ($1,165,570) by total annual water use (483,726 HCF) to derive a Base unit cost of $2.41.

Meter costs are divided by total meter equivalencies from Table 5-15 multiplied by 12 monthly bills to determine a cost per equivalent meter per month; and annual customer costs are divided by the estimated number of annual monthly bills, also from Table 5-15. The unit costs are used to distribute the cost components to the meter classes, commodity classes, and Residential commodity tiers.

Table 5-17: Unit Cost Calculation, by Cost Component - Water

Cost of Service	Groundwater Management	Base	Max Day	Max Hour	Fire	Meters	Customer	Total
Total Cost of Service	$639,054	$1,165,570	$669,940	$45,287	$5,637	$999,363	$537,996	**$4,062,848**
Units of Service	483,726	483,726	493	910	5	3,149	2,064	N/A
Unit of Measure	HCF	HCF	HCF/day	HCF/day	Equiv. Connections	Equivalent Meters	Monthly Bills	N/A
Unit Cost	**$1.32**	**$2.41**	**$1,358.06**	**$49.77**	**$87.37**	**$26.45**	**$21.72**	N/A

5.10. Distribution of Cost Components to Customer Classes - Water

The final step in a cost of service analysis is to distribute the cost components to the customer classes using the unit costs derived in Table 5-17. This yields the cost to serve each customer class and sub-class. Table 5-18 shows the derivation of the cost to serve each customer class. The Groundwater Management, Base, and peak (Max Day and Max Hour) cost components are collected through the commodity (volumetric) charges ($/HCF). Meters and Customer cost components are collected through the District's monthly fixed service charge ($/meter/month). Fire will be collected through fixed private fireline charges.

To derive the cost to serve each class, the unit costs from Table 5-17 are multiplied by the respective units of service for each class (Table 5-14 and Table 5-15). For example, the base costs for the Multiple Units class are calculated by multiplying the Base unit cost of $2.41 (rounded up to the nearest penny) by the annual Multiple Units use (65,514 HCF) to arrive at a total of $157,861. Similar calculations for each of the remaining user classes and cost components yield the total cost to serve each user class shown in the furthest right column of Table 5-18. Note that the total cost of service is equal to the test year revenue requirement in Table 5-1 as intended. With the cost to serve each user class, and sub-class, calculated we can proceed to derive rates to collect the cost to serve each commodity class, tier, and meter size.

Table 5-18: Cost of Service by Class and Tier

Customer Class	Groundwater Management	Base	Max Day	Max Hour	Fire	Meters	Customer	Total
Service Charges (All Customers)						$999,363	$537,996	$1,537,359
Single Family Residential								
Tier 1	$138,933	$253,399	$22,477	$7,587				$422,396
Tier 2	$134,605	$245,506	$116,253	$9,083				$505,446
Tier 3	$113,433	$206,890	$286,438	$11,110				$617,870
Multiple Units	$86,551	$157,861	$62,387	$5,614				$312,413
Commercial / Public Agency	$78,837	$143,791	$47,703	$4,946				$275,278
Irrigation	$86,695	$158,123	$134,682	$6,947				$386,448
Private Fire					$5,637			$5,637
Total	**$639,054**	**$1,165,570**	**$669,940**	**$45,287**	**$5,637**	**$999,363**	**$537,996**	**$4,062,848**

6. Water Rate Design

6.1. Existing Rate Structure and Rates

The District's rate structure has two components: a fixed charge component (monthly service charge) and a variable volumetric charge component (commodity charge). The monthly fixed service charge is determined based on the size of the water meter serving a property and increases with meter size. The rates for the current fixed service charge are shown in Table 6-1.

Table 6-1: Current Monthly Service Charges ($/Month)

Meter Size	Current Charge
3/4"	$49.39
1"	$66.41
1 1/2"	$108.93
2"	$159.98
3"	$321.63
4"	$559.83
6"	$1,129.85

The volumetric component of a customer's water bill is calculated based on the number of units of water delivered to a property, measured in HCF, multiplied by the rates that vary by customer class and tier. The current tier widths and rates are shown in Table 6-2.

Table 6-2: Current Commodity Rates ($/HCF)

Class	Current Tier Definition	Current Rate ($/HCF)
Single-Family Residential (SFR)		
Tier 1	0-7	$4.16
Tier 2	7-22	$5.23
Tier 3	>22	$6.03
Multiple Units	Uniform	$5.21
Commercial / Public Agency	Uniform	$5.21
Irrigation	Uniform	$5.45

The District will maintain the same rate structure as established in the prior rate study. This includes the four user classes (SFR, Multiple Units, Commercial/Public Agency, and Irrigation) and the three Single Family Residential tiers. The user classes are based on the unique water demand patterns of each, as reflected in the District's actual customer billing data. Similarly, the SFR tiers are designed based on the District's own data regarding its customers' seasonal demand patterns and the use that falls within the respective tiers.

Tier 1 usage is intended to provide sufficient water for efficient indoor water use for essential needs and to be provided at the most affordable rate that reflects actual cost of service.[13] Tier 2 usage is intended to provide for outdoor usage as represented by the peak summer use characteristics, on average, of the District's SFR customers. Tier 3 usage captures all water use greater than Tier 2. Note that all water usage projections by customer class and tier utilized in this section reflect these tier breakpoints. The original tier definitions were established using FY 2019 and 2020 consumption data for the 2021 Rate Study. Analysis of the most recent FY 2024 consumption data shows similar demand patterns within the SFR class.

6.2. Proposed Monthly Service Charges

There are two components that comprise the meter based fixed charges: meter servicing costs and customer service costs. The fixed charge recognizes that even when a customer does not use water in a billing period, the District incurs fixed costs to operate and maintain the system for each connection.

6.2.1. Meter Services Component

The meter services component collects servicing-related costs. Larger meters are more expensive to install, maintain, repair, and replace and have the potential to demand greater capacity on the system, both in average demand and peak demand; in other words, on average they exert greater peaking characteristics compared to smaller meters. The potential capacity demanded (peaking) is proportional to the potential flow through each meter size as established by the safe operating flow rate in gallons per minute (gpm) described in the AWWA Manual M22 – *Sizing Water Service Lines and Meters*. The capacity in gpm is based on the types of meters utilized by the District and the corresponding capacity ratings from the AWWA.

To create parity across the various meter sizes, each meter size is assigned a factor relative to a 3/4" meter[14], which both have a value of 1.00. This establishes the "base" meter size. A given meter size's capacity ratio relative to the base 3/4" meter determines the *meter equivalency*. Summation of all meter equivalencies for a given size yields total meter equivalents. Table 6-3 shows total meter count for each class as well as the corresponding meter ratio and total meter equivalents. The total number of equivalent meters is calculated by multiplying the number of meters of a specific size by their respective capacity ratio.

[13] The 7 hcf Tier 1 allotment was based on an assumed 55 gallons per capita per day (GPCD) for essential water use needs and an average of 3 people per household, rounded up to the nearest whole hcf. As of January 1, 2025 the current standard for efficient use is 47 GPCD.

[14] Based on discussion with District staff, 5/8" and 3/4" meters are considered equivalents. Any existing 5/8" meters are legacy meters which will be replaced with 3/4" meters in the future.

Table 6-3: Meter Equivalencies Calculation

Meter Size	Total Meters	Meter Type	Capacity (gpm)	Capacity Ratio	Equivalent Meters (Capacity)
3/4"	1,469[15]	Multi-Jet	30	1.00	1,469
1"	473	Multi-Jet	50	1.67	788
1.5"	76	Multi-Jet	100	3.33	254
2"	28	Multi-Jet	160	5.33	151
3"	4	Turbine Class 1	350	11.67	47
4"	7	Turbine Class 1	630	21.00	137
6"	7	Turbine Class 1	1300	43.33	303
Total	**2,064**				**3,149**

Table 6-4 shows the calculation steps in allocating the meter service costs from the cost of service (Table 5-17) to the meters. The Meter capacity component for larger meters is determined using the AWWA capacity ratios shown in the "Capacity Ratio" column. Allocating these costs by meter size equitably recovers the fixed cost of operating the utility across water users.

Table 6-4: Meter Service Charge Component ($/Month)

Meter Size	Capacity Ratio	Meter Charge
3/4"	1.00	$26.45
1"	1.67	$44.08
1.5"	3.33	$88.16
2"	5.33	$141.06
3"	11.67	$308.57
4"	21.00	$555.42
6"	43.33	$1,146.11

6.2.2. Customer Service Component

The customer service component recovers costs associated with meter reading, customer billing and collection, as well as answering customer service calls. These costs are uniform for all meter sizes and classes as it costs the same to bill a small meter as it does a large meter and the same for a SFR customer as it does an Irrigation customer.

Table 6-5 shows the customer service component calculation. To calculate the customer component, Raftelis divides the total billing and customer service costs from Table 5-17 by the total estimated annual bills (unique accounts multiplied by 12 billing periods) generated by the District to determine the monthly customer service charge component.

[15] For rate design and the proposed rates, we consolidate the remaining 3 5/8" meters with the 1,466 3/4".

Table 6-5: Customer Service Component ($/Month)

Customer	FY 2025
Customer Service Costs	$537,996
Annual Bills	24,768
Customer Component (per month)	**$21.72**

Table 6-6 shows the calculation of the Test Year FY 2025 rates for the fixed monthly service charges. The meter services component is the cost per equivalent meter calculated in Table 6-4. The customer component is uniform for all meter sizes. The meter services component and customer component are added together for each meter size yielding the proposed charge. All rates are rounded up to the nearest whole penny. Table 6-6 also includes the current charges to each class and meter size and a comparison of the proposed charges and current charges in both dollar and percentage terms.

Table 6-6: Cost of Service Monthly Service Charges – Test Year FY 2025

Meter Size	Capacity Ratio	Meter Service Component	Customer Component	COS Charge	Current Charge	Difference ($)	Difference (%)
3/4"	1.00	$26.45	$21.72	**$48.18**	$49.39	-$1.21	-2.4%
1"	1.67	$44.08	$21.72	**$65.81**	$66.41	-$0.60	-0.9%
1.5"	3.33	$88.16	$21.72	**$109.89**	$108.93	$0.96	0.9%
2"	5.33	$141.06	$21.72	**$162.79**	$159.98	$2.81	1.8%
3"	11.67	$308.57	$21.72	**$330.29**	$321.63	$8.66	2.7%
4"	21.00	$555.42	$21.72	**$577.15**	$559.83	$17.32	3.1%
6"	43.33	$1,146.11	$21.72	**$1,167.84**	$1,129.85	$37.99	3.4%

Table 6-7 shows proposed fixed monthly service charges for the next five years based on the financial plan developed in Section 4.3. The rates for the fixed monthly service charges are increased uniformly by a percentage increase – that is, relative to the cost of service rates in Table 6-6 – by the selected financial plan of 9.5 percent in FY 2026 to FY 2028 and 7 percent in FY 2029 and FY 2030. All rates are rounded up to the nearest whole penny.

Table 6-7: Proposed Monthly Service Charges (FY 2026–2030)

Meter Size	Proposed FY 2026	Proposed FY 2027	Proposed FY 2028	Proposed FY 2029	Proposed FY 2030
3/4"	$52.76	$57.78	$63.27	$67.70	$72.44
1"	$72.07	$78.92	$86.42	$92.47	$98.95
1.5"	$120.33	$131.77	$144.29	$154.40	$165.21
2"	$178.26	$195.20	$213.75	$228.72	$244.74
3"	$361.67	$396.03	$433.66	$464.02	$496.51
4"	$631.98	$692.02	$757.77	$810.82	$867.58
6"	$1,278.79	$1,400.28	$1,533.31	$1,640.65	$1,755.50

6.3. Private Fire Service Charges

Table 6-8 shows the fire flow demand factor for private fire connections. Each connection size has a fire flow demand factor like the hydraulic capacity factor of a water meter. The diameter of the connection (in inches) is divided by 6”, to normalize to a 6” connection sizes (the base size of a public hydrant conduit), and then raised

to the 2.63 power to determine the fire flow demand factor.[16] The count of private fire lines by connection size is also in the table (from Table 5-16).

Table 6-8: Fire Demand Ratios

Fire Line Diameter	Fireline Count	Fire Demand Ratio
2"	0	0.06
4"	4	0.34
6"	4	1.00
8"	0	2.13

Table 6-9 shows the calculation of the Test Year FY 2025 cost of service monthly private fire service charges. The private fire unit cost (from Table 5-17) is multiplied by the fire demand ratio by each line size to arrive at the proposed charge by fire line diameter size.

Table 6-9: Cost of Service Private Fire Service Charges – Test Year FY 2025

Fire Line Diameter	Fireline Count	Fire Demand Ratio	Private Fire Unit Cost	COS Charge	Current Charge
2"	0	0.06	$87.37	**$4.86**	N/A
4"	4	0.34	$87.37	**$30.08**	N/A
6"	4	1.00	$87.37	**$87.37**	N/A
8"	0	2.13	$87.37	**$186.18**	N/A

Table 6-10 shows proposed monthly private fire service charges for the next five years based on the financial plan developed in Section 4.3. The rates for the monthly private fire service charges are increased uniformly by a percentage increase – that is, relative to the cost of service rates in Table 6-9 – by the selected financial plan of 9.5 percent in FY 2026 to FY 2028 and 7 percent in FY 2029 and FY 2030. All rates are rounded up to the nearest whole penny.

Table 6-10: Proposed Monthly Private Fire Service Charges (FY 2026–2030)

Fire Line Diameter	Proposed FY 2026	Proposed FY 2027	Proposed FY 2028	Proposed FY 2029	Proposed FY 2030
2"	$5.33	$5.84	$6.40	$6.85	$7.33
4"	$32.94	$36.07	$39.50	$42.27	$45.23
6"	$95.67	$104.76	$114.72	$122.76	$131.36
8"	$203.87	$223.24	$244.45	$261.57	$279.88

6.4. Proposed Commodity Rates

6.4.1. UNIT COST COMPONENT DEFINITIONS

The rates for the commodity charges for each customer class and tier are derived by summation of the unit rates ($/HCF) for:

[16]Hazen-Williams equation and AWWA Manual M1

1. Groundwater Supply Costs (Variable Supply / Groundwater Management Cost Component)
2. Delivery Costs (Base Cost Component)
3. Peaking Costs (Max Day & Max Hour Cost Component not recovered on the meter)

6.4.1.1. Groundwater Supply Rate Component

The groundwater supply rate component recovers the costs to manage groundwater supply including direct management costs, legal expenses, watermaster expenses, and ancillary costs attributable to those activities. Dividing total costs from Table 5-18 by estimated annual usage yields the cost to supply groundwater. The calculated supply unit cost is presented in Table 6-11.

Table 6-11: Groundwater Supply Unit Cost Component ($/HCF)

	Unit Cost
Variable Supply Costs	$639,054
Units of Service	483,726
Unit Cost	**$1.32**

6.4.1.2. Base (Delivery) Rate Component

The delivery rate component recovers the costs to supply and deliver water under average daily demand conditions. This includes a portion of costs associated with producing water, treating water, and readying it for transmission and distribution, inclusive of both operating and capital costs. Dividing estimated annual usage by total delivery costs from Table 5-18 yields the cost to deliver water during average conditions. The calculated delivery unit cost is presented in Table 6-12. The delivery rate is uniform for all classes and tiers since costs are based on average use.

Table 6-12: Base Unit Cost Calculation ($/HCF)

	Unit Cost
Base Costs	$1,165,570
Units of Service	483,726
Unit Cost	**$2.41**

6.4.1.3. Extra Capacity (Peak) Rate Component

Peaking costs represent the cost of providing Max Day and Max Hour capacity to each customer class based on the demand characteristics of each (shown in Table 5-6 and Table 5-14). Table 6-13 combines the Max Day and Max Hour costs in Table 5-18 into Peaking Costs. These costs are divided by total annual use by class and tier (from Table 5-14) to arrive at the Peaking unit cost for each.

Table 6-13: Peaking Unit Cost Calculation ($/HCF)

Customer Class	Annual Use (HCF)	Peaking Costs	Peaking Unit Cost ($/HCF)
Single Family Residential			
Tier 1	105,164	$30,064	**$0.29**
Tier 2	101,888	$125,336	**$1.23**
Tier 3	85,862	$297,548	**$3.47**
Multiple Units	65,514	$68,001	**$1.04**
Commercial/Public Agency	59,675	$52,649	**$0.88**
Irrigation	65,623	$141,629	**$2.16**

6.4.1.4. Final Commodity Rate Derivation

To determine the rates for the commodity charge, the three rate components described above are added together. The resulting summation constitutes the final cost of service rates. The cost of service rates are shown in bold in Table 6-14. Rates are rounded up to the nearest whole penny.

Table 6-14: Cost of Service Commodity Rates – Test Year FY 2025

Class	Tier Definition (HCF)	Supply	Base Delivery	Peaking	COS Rate ($/HCF)	Current Rate ($/HCF)	Difference ($/HCF)	Difference (%)
Single Family Residential								
Tier 1	7	$1.32	$2.41	$0.29	**$4.02**	$4.16	-$0.14	-3%
Tier 2	22	$1.32	$2.41	$1.23	**$4.97**	$5.23	-$0.26	-5%
Tier 3	>22	$1.32	$2.41	$3.47	**$7.20**	$6.03	$1.17	19%
Multiple Units	Uniform	$1.32	$2.41	$1.04	**$4.77**	$5.21	-$0.44	-8%
Commercial/ Public Agency	Uniform	$1.32	$2.41	$0.88	**$4.62**	$5.21	-$0.59	-11%
Irrigation	Uniform	$1.32	$2.41	$2.16	**$5.89**	$5.45	$0.44	8%

Table 6-15 shows proposed commodity rates for the Study period. The commodity rates are increased in each future year by the annual revenue adjustment of 9.5 percent in FY 2026 to FY 2028 and 7 percent in FY 2029 and FY 2030. All rates in each year are rounded up to the nearest whole penny.

Table 6-15: Proposed Commodity Rates $/HCF (FY 2026–2030)

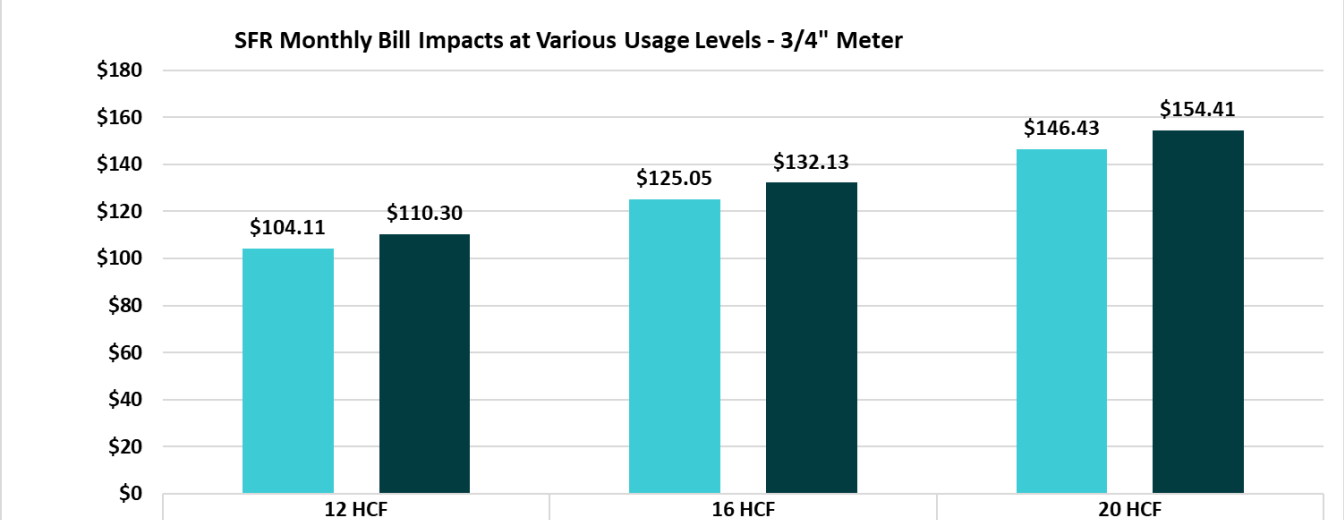
Class	Proposed FY 2026	Proposed FY 2027	Proposed FY 2028	Proposed FY 2029	Proposed FY 2030
Single Family Residential					
Tier 1	$4.41	$4.83	s$5.29	$5.67	$6.07
Tier 2	$5.45	$5.97	$6.54	$7.00	$7.49
Tier 3	$7.89	$8.64	$9.47	$10.14	$10.85
Multiple Units	$5.23	$5.73	$6.28	$6.72	$7.20
Commercial/Public Agency	$5.06	$5.55	$6.08	$6.51	$6.97
Irrigation	$6.45	$7.07	$7.75	$8.30	$8.89

6.5. Estimated Bill Impacts

The rate model calculates water customer impacts for all classes and meter sizes. Customer impacts from the proposed FY 2026 rates are presented below for each class.

Figure 6-1 shows bills for SFR customers with a 3/4" meter at different levels of use. A 3/4" meter is the most common SFR meter size. Bills are calculated at current rates and tiers and compared to proposed rates and tiers. The figure shows the percentage and dollar change between current and proposed rates and tiers. The levels of use shown represent bills from a lower level of water use to a higher level of water us at 12 HCF, 16 HCF, and 20 HCF respectively. These levels approximate usage patterns of the District's customers for average winter, annual average, and average summer consumption for the SFR class.

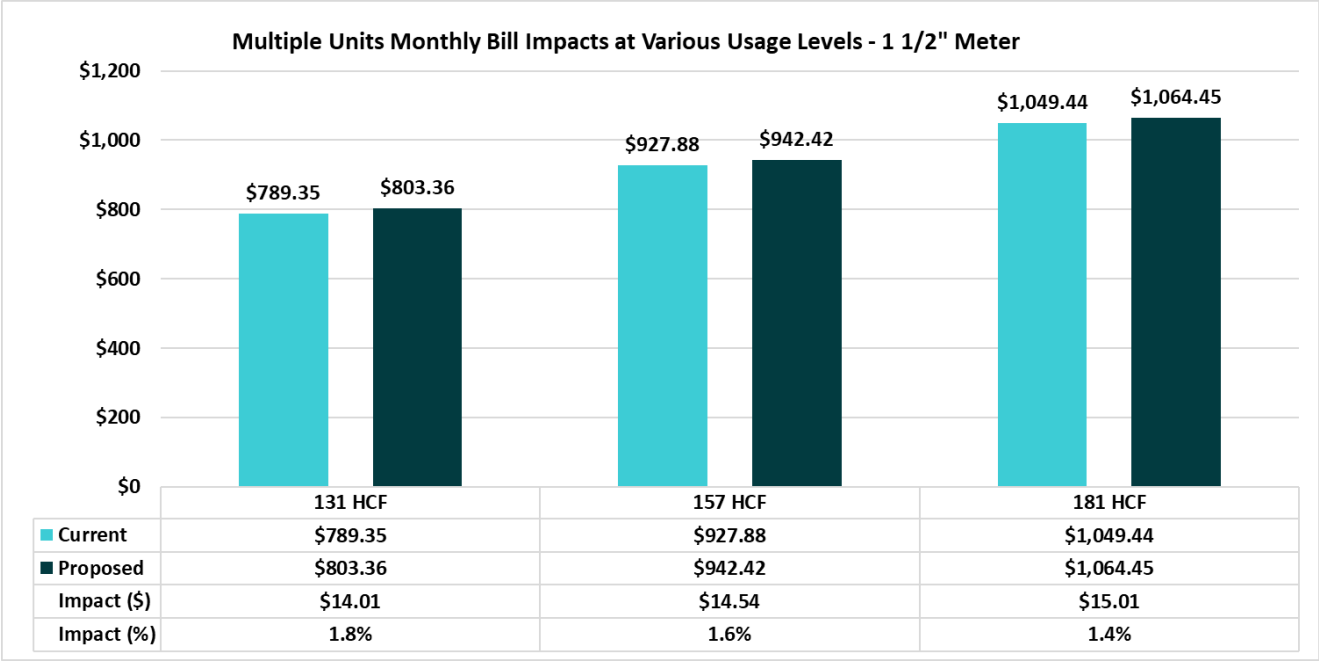
Figure 6-1: Bill Impacts – SFR



	12 HCF	16 HCF	20 HCF
Current	$104.11	$125.05	$146.43
Proposed	$110.30	$132.13	$154.41
Impact ($)	$6.20	$7.08	$7.98
Impact (%)	6.0%	5.7%	5.4%

Figure 6-2 shows bills for Multiple Unit customers with a 1 ½" meter at different levels of use. A 1 ½" meter is the most common meter size for this customer class. Bills are calculated at current rates and compared to proposed rates. The levels of use of 131 HCF, 157 HCF, and 181 HCF represent consumption from average winter, annual average, and average summer consumption for the Multiple Unit class, respectively. The figure shows the percentage and dollar change between current and proposed rates.

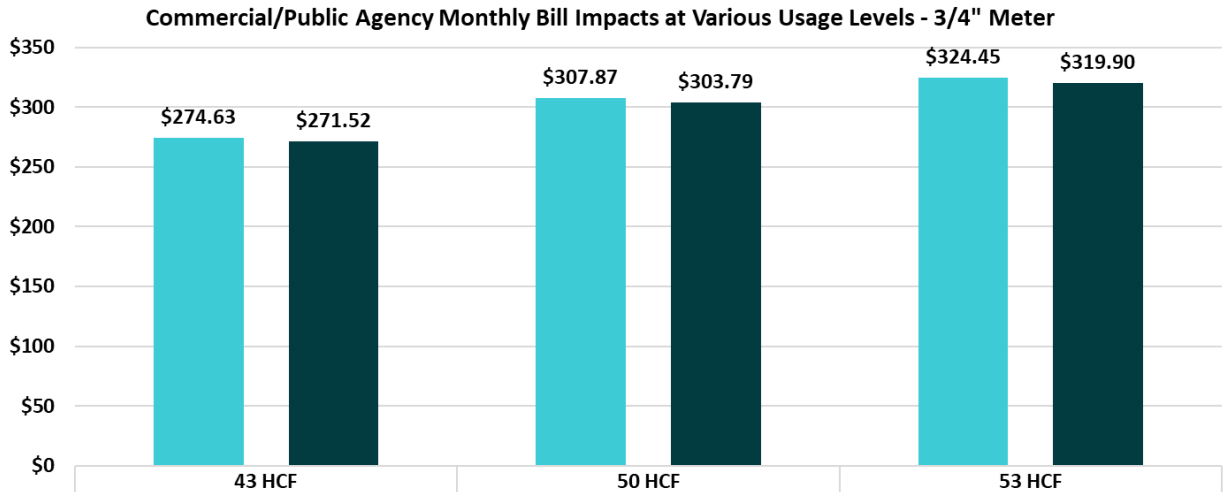
Figure 6-2: Bill Impacts – Multiple Units



	131 HCF	157 HCF	181 HCF
Current	$789.35	$927.88	$1,049.44
Proposed	$803.36	$942.42	$1,064.45
Impact ($)	$14.01	$14.54	$15.01
Impact (%)	1.8%	1.6%	1.4%

Figure 6-3 shows bills for Commercial or Public Agency customer with a ¾" meter at different levels of use. A ¾" meter is the most common size for the Commercial/Public Agency customer class. Bills are calculated at current rates and compared to proposed rates. The levels of use of 43 HCF, 50 HCF, and 53 HCF represent consumption from average winter, annual average, and average summer consumption for the Commercial/Public Agency class, respectively. The figure shows the percentage and dollar change between current and proposed rates.

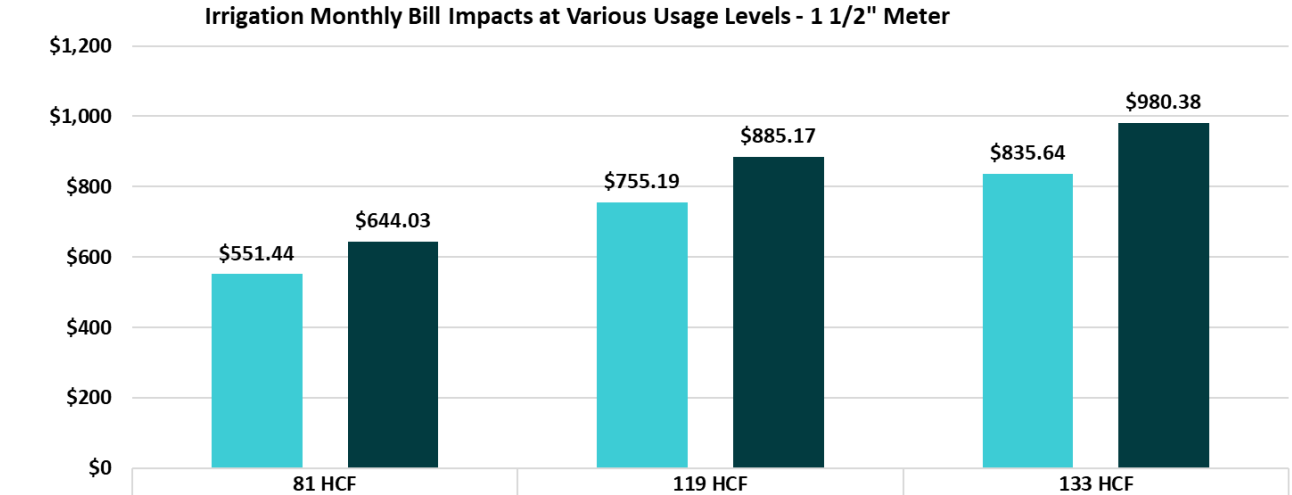
Figure 6-3: Bill Impacts – Commercial / Public Agency



	43 HCF	50 HCF	53 HCF
Current	$274.63	$307.87	$324.45
Proposed	$271.52	$303.79	$319.90
Impact ($)	-$3.11	-$4.07	-$4.55
Impact (%)	-1.1%	-1.3%	-1.4%

Figure 6-4 shows bills for Irrigation customers with a 1 ½" meter at different levels of use. A 1 ½" meter is the most common meter size for this customer class. Bills are calculated at current rates and compared to proposed rates. The levels of use of 81 HCF, 119 HCF, and 133 HCF represent consumption from average winter, annual average, and average summer consumption for the Irrigation class, respectively. The figure shows the percentage and dollar change between current and proposed rates.

Figure 6-4: Bill Impacts – Irrigation



	81 HCF	119 HCF	133 HCF
Current	$551.44	$755.19	$835.64
Proposed	$644.03	$885.17	$980.38
Impact ($)	$92.59	$129.98	$144.74
Impact (%)	16.8%	17.2%	17.3%

7. Sewer Financial Plan

This section describes the District's customer account data and the corresponding financial plan. To develop the financial plan, Raftelis projects annual revenues and expenses; models reserve balances; incorporates capital expenditures, debt service, and inflationary pressures; and calculates debt service coverage ratios to estimate any additional rate revenue required in each year of the Study. This section includes a discussion of O&M expenses, the CIP, reserve funding, projected revenue under existing rates, and the revenue adjustments required to ensure the fiscal sustainability and solvency of the utility.

7.1. Sewer Revenue Requirements

A review of a utility's revenue requirements is a key first step in the rate study process. The review involves an analysis of annual rate revenues from existing rates, O&M expenses, capital expenditures, and reserve requirements.

7.1.1. REVENUES FROM CURRENT SEWER RATES

The District provides wastewater collection and treatment within its service area for both residential and non-residential customers. The District provides wastewater service to three separate Service Areas (SAs). These areas are: SA1 (also known as Ram's Hill), SA2 (also known as Town Center), and SA5 (also known as Club Circle/Borrego Springs Resort). All wastewater users pay a monthly fixed charge per Equivalent Dwelling Unit (EDU) that varies depending on the service area. One EDU is equivalent to the discharge of a typical Single Family Residential home.

The District differentiates charges on wastewater customers in SA2. SA2 customers consist of SA2 EDU Holders and SA2 EDU Users. SA2 EDU Holders are customers that have bought into the system but do not generate wastewater flow to the wastewater system. SA2 EDU Holders are required to pay a Holder charge by contract. SA2 EDU Users, those connected to and using the wastewater system, pay the sum of both the Holder and User charge. The existing rate structure for wastewater customers are shown below in Table 7-1.

Table 7-1: Current Sewer Charges ($/Month/EDU)

Customer Class	Current Charge
SA1	$53.91
SA2 EDU Holder	$25.85
SA2 EDU User	$32.12
SA5	$57.96

Table 7-2 shows the projected number of wastewater EDUs by fiscal year. The number of EDUs each year changes based on the account change assumptions identified in Section 2.3 and Table 2-4. Based on District staff estimates, the number of wastewater connections is anticipated to remain constant over the Study period.

Table 7-2: Projected Sewer EDUs

Customer Class	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
SA1	254	254	254	254	254	254
SA2 EDU Holder	558	558	558	558	558	558
SA2 EDU User	374	374	374	374	374	374
SA5	277	277	277	277	277	277
Total EDUs[1]	**1,089**	**1,089**	**1,089**	**1,089**	**1,089**	**1,089**

1.Total EDUs = SA1 + SA2 Holder + SA5. This is for purposes of total EDUs contributing to the collection capacity and fixed costs of the utility. Total EDUs contributing to wastewater flow generation is equal to SA1 + SA2 User + SA5.

The projected EDUs in Table 7-2 are used to calculate projected revenues under "status quo" conditions. The "status quo" financial plan does not include revenue adjustments and assesses whether the District's current rates, at the projected level of wastewater connections and flow, will be sufficient to support operations, capital, and reserve funding requirements.

Table 7-3 shows the rate revenue generated in each Study year with projected accounts and the current rates. Note that rate revenues for FY 2026 and beyond are based on existing rates from Table 7-1. The overall adequacy of wastewater revenues is measured by comparing the projected annual revenue required from all wastewater rates with projected revenues from the existing rates.

Table 7-3: Projected Sewer Rate Revenue at Current Rates

Revenue Source	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
SA1	$164,318	$164,318	$164,318	$164,318	$164,318	$164,318
SA2 EDU Holder	$173,092	$173,092	$173,092	$173,092	$173,092	$173,092
SA2 EDU User	$144,155	$144,155	$144,155	$144,155	$144,155	$144,155
SA5	$192,659	$192,659	$192,659	$192,659	$192,659	$192,659
Total Rate Revenues	**$674,223**	**$674,223**	**$674,223**	**$674,223**	**$674,223**	**$674,223**

The utility derives some revenues from non-rate sources. These revenues consist of other and interest income and are summarized in Table 7-4.

Table 7-4: Projected Non-Rate Revenues - Sewer

Revenue Source	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Other Income	$41,879	$41,879	$41,879	$41,879	$41,879	$41,879
Interest Income	$9,318	$9,084	$8,327	$6,657	$4,129	$0

7.1.2. OPERATING AND MAINTENANCE (O&M) EXPENSES

Total projected O&M expenses are shown in Table 7-5 and are summarized by department. Expenses are projected from the District's adopted FY 2025 budget. Expenses in FY 2026 and beyond use District estimated costs, where known, or rely on FY 2025 budgeted values inflated by the escalation assumptions from Table 2-2.

Table 7-5: Projected Sewer O&M Expenses

O&M Expense Summary	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Repairs & Maintenance	$170,537	$174,801	$179,171	$183,650	$188,241	$192,947
Professional Services	$44,270	$39,278	$40,260	$41,266	$42,298	$43,355
Insurance	$20,067	$20,568	$21,082	$21,609	$22,150	$22,703
Personnel Expense	$355,235	$380,897	$408,476	$438,119	$469,985	$504,242
Office Expense	$21,216	$21,752	$22,303	$22,867	$23,445	$24,038
Utilities	$6,300	$6,867	$7,485	$8,159	$8,893	$9,693
Total O&M	**$617,624**	**$644,162**	**$678,776**	**$715,670**	**$755,011**	**$796,980**

7.1.3. PROJECTED CAPITAL IMPROVEMENT PLAN (CIP)

The District has proposed approximately $1.6 million in capital replacement expenditures over the next five years (FY 2026 to 2030). A summary of these capital expenditures is shown in Table 7-6 by anticipated funding source. Inflated project costs in all years of the Study period were provided by District Staff.

Table 7-6: Projected Capital Improvement Plan - Sewer

Project Description	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Future Bond Projects	$0	$0	$0	$0	$0	$0
Grant Funded Projects	$0	$0	$650,000	$0	$0	$0
Cash Reserve Funded Projects	$75,267	$54,880	$66,024	$73,155	$72,351	$716,707
Total Capital Projects	**$75,267**	**$54,880**	**$716,024**	**$73,155**	**$72,351**	**$716,707**

7.1.4. DEBT SERVICE

The wastewater utility is partially responsible for one of the District's existing debt obligations, the 2021 COPF Loan. The debt service schedule for the water utility obligation is shown in Table 4-9. Table 7-7 shows the annual debt service payment obligation of the wastewater utility for each year of the Study period. The District is not planning on issuing new debt for the wastewater utility.

Table 7-7: Existing Debt Service - Sewer

Existing Debt	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
2021 COPF Loan	$41,139	$41,143	$41,124	$41,084	$41,092	$41,143

7.2. Existing Sewer Financial Plan – No Revenue Adjustments

Table 7-8 displays the operating cash flow detail for the District's wastewater utility from current rates over the Study period. The cash flow incorporates revenues and expenses to show the overall position of the utility. All projections shown in the table are based upon the District's current rate structure and do not include rate adjustments or new debt issuances. Table 7-8 incorporates data shown in the preceding tables of this section. Under the "status-quo" no revenue adjustment-scenario, revenues generated from rates and other miscellaneous revenues are inadequate to maintain adequate reserves, achieve reserve targets, and fund planned capital improvement projects over the Study period. With current rates and existing expenses, the

wastewater utility's reserves will fall below target in each year of the Study period and will become negative in FY 2030, falling approximately $1.7 million short of the Board reserve policy target in that year.

Table 7-8: Sewer Financial Plan at Current Rates

	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Revenues						
Revenue from Existing Rates	$674,223	$674,223	$674,223	$674,223	$674,223	$674,223
Total Revenue Adjustments	$0	$0	$0	$0	$0	$0
Other Revenue	$41,879	$41,879	$41,879	$41,879	$41,879	$41,879
Interest	$9,318	$9,084	$8,327	$6,657	$4,129	$0
Total Revenues	**$725,420**	**$725,187**	**$724,429**	**$722,760**	**$720,231**	**$716,102**
Total O&M Expenses	**$617,624**	**$644,162**	**$678,776**	**$715,670**	**$755,011**	**$796,980**
Net Operating Revenue	**$107,796**	**$81,024**	**$45,653**	**$7,089**	**($34,780)**	**($80,877)**
Debt and Capital						
Existing Debt Service	$41,139	$41,143	$41,124	$41,084	$41,092	$41,143
Rate Funded CIP	$75,267	$54,880	$66,024	$73,155	$72,351	$716,707
Total Debt and Capital	**$116,406**	**$96,023**	**$107,148**	**$114,239**	**$113,443**	**$757,850**
Net Cash Flow	**($8,610)**	**($14,999)**	**($61,495)**	**($107,150)**	**($148,223)**	**($838,728)**
Beginning Balance[17]	$474,871	$466,261	$451,262	$389,767	$282,617	$134,394
Net Cashflow	($8,610)	($14,999)	($61,495)	($107,150)	($148,223)	($838,728)
Grant Funding	$0	$0	$650,000	$0	$0	$0
Grant Funded CIP	$0	$0	($650,000)	$0	$0	$0
Ending Balance	**$466,261**	**$451,262**	**$389,767**	**$282,617**	**$134,394**	**($704,334)**
Board Policy Target	$883,495	$894,878	$909,695	$925,464	$1,459,050	$960,401
Minimum Target	N/A	$252,922	$264,283	$276,373	$289,315	$303,164
Calculated Debt Coverage Ratio	262%	197%	111%	17%	-85%	-197%
Required Debt Coverage Ratio	125%	125%	125%	125%	125%	125%

7.3. Proposed Sewer Financial Plan

The proposed financial plan calls for adoption of 9.75 percent revenue adjustments in each year of the Study period. The revenue adjustments are proposed to be implemented in July of each year through FY 2030. Table 7-9 shows the proposed revenue adjustment plan. The rates presented in Section 9 are based on the proposed financial plan below.

The proposed revenue adjustments help to ensure adequate revenue to fund operating expenses, achieve reserve policy targets, fund the long-term capital program, and comply with existing debt covenants. Revenue adjustments represent the average increase in rates for the utility. Actual percentage increases (or decreases) in rates are dependent upon the cost of service analysis and are unique to each customer class.

[17] FY 2025 beginning balance is adjusted to include cash at July 1, 2024 plus the sale of Viking Ranch Property, twin tank reimbursement from DWR, and Prop 68 Grant reimbursement

Table 7-9: Proposed Revenue Adjustments - Sewer

	Revenue Adjustments				
Effective Year	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**	**FY 2030**
Effective Month	July	July	July	July	July
Percentage Adjustment	9.75%	9.75%	9.75%	9.75%	9.75%

Primary factors requiring the proposed adjustments include:

- **Infrastructure Reinvestment**: The District has approximately $1.6 million in replacement capital expenditures over the next five fiscal years (FY 2026 – FY 2030) and $2.2 million over the 10-year financial planning horizon of this study (FY 2026 – FY 2035). The capital replacement projects will be funded through a combination of cash reserves from rates, grant funded, and new debt issuance (new debt planned for in the next rate cycle). The District will pursue state and federal grants for the CIP, where available. The District may elect to accelerate or postpone the CIP timeline based on system requirements, available funds, favorable terms, and other conditions. A more detailed discussion of the projected capital improvement projects to be funded through the five-year financial plan is provided in Section 7.1.3.

- **Inflationary pressure:** The District's operating environment is not immune to the effects of inflation. The price of materials, energy, chemicals, construction costs, personnel, professional services, and other costs have increased at an historic pace over the last several years. The financial plan assumes continued pressure on both operating and capital costs, albeit at historic rates of change.

- **Reserve Funding**: The District has reserve policies to meet cash flow needs, ensure adequate funding of repairs and replacements in the event of asset failure or other unforeseen circumstances or events, and to protect ratepayers from rate spikes. The District's reserves are discussed in detail in Section 3 and total reserve balances for the selected Financial Plan are identified in Section 7.3. The total cash reserve target for the District's wastewater utility in FY 2025 is $883,495. The reserve target for future years is dynamic and depends on how the components of the reserve policy change year-to-year.

Table 7-10 shows the five-year cash flow detail for the wastewater utility, including additional revenues from the proposed financial plan. The proposed financial plan estimates rate revenues and expenses on a cash flow basis. The proposed financial plan yields positive net cash flow in most years, maintains reserves at minimum levels, and achieves debt coverage requirements.

The cost of service analysis in Section 8 utilizes the FY 2025 rate revenue requirement to determine unit costs of service and the rate components. The FY 2025 Test Year revenue requirement is discussed in detail in Section 8.

Table 7-10: Proposed Financial Plan - Sewer

	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Revenues						
Revenue from Existing Rates	$674,223	$674,223	$674,223	$674,223	$674,223	$674,223
Total Revenue Adjustments	$0	$65,737	$131,473	$197,210	$262,947	$328,684
Other Revenue	$41,879	$41,879	$41,879	$41,879	$41,879	$41,879
Interest	$9,318	$9,742	$10,970	$12,640	$14,832	$11,135
Total Revenues	**$725,420**	**$791,581**	**$858,545**	**$925,952**	**$993,882**	**$1,055,921**
Total O&M Expenses	**$617,624**	**$644,162**	**$678,776**	**$715,670**	**$755,011**	**$796,980**
Net Operating Revenue	**$107,796**	**$147,418**	**$179,769**	**$210,282**	**$238,870**	**$258,941**
Debt and Capital						
Existing Debt Service	$41,139	$41,143	$41,124	$41,084	$41,092	$41,143
Rate Funded CIP	$75,267	$54,880	$66,024	$73,155	$72,351	$716,707
Total Debt and Capital	**$116,406**	**$96,023**	**$107,148**	**$114,239**	**$113,443**	**$757,850**
Net Cash Flow	**($8,610)**	**$51,395**	**$72,621**	**$96,043**	**$125,428**	**($498,910)**
Beginning Balance[18]	**$474,871**	**$466,261**	**$517,656**	**$590,277**	**$686,320**	**$811,747**
Net Cashflow	($8,610)	$51,395	$72,621	$96,043	$125,428	($498,910)
Grant Funding	$0	$0	$650,000	$0	$0	$0
Grant Funded CIP	$0	$0	($650,000)	$0	$0	$0
Ending Balance	**$466,261**	**$517,656**	**$590,277**	**$686,320**	**$811,747**	**$312,838**
Board Policy Target	$883,495	$894,878	$909,695	$925,464	$1,459,050	$960,401
Minimum Target	N/A	$252,922	$264,283	$276,373	$289,315	$303,164
Calculated Debt Coverage Ratio	262%	358%	437%	512%	581%	629%
Required Debt Coverage Ratio	125%	125%	125%	125%	125%	125%

Figure 7-1 through Figure 7-3 display the proposed financial plan in a graphical format.

Figure 7-1 illustrates the Operating Financial Plan. It compares existing and proposed revenues with projected expenses. The expenses, represented by stacked bars, represent O&M expenses, annual debt service costs, and reserve funding (net cashflow). Total revenues at existing and proposed rates are shown by the dashed and solid black lines, respectively. Figure 7-1 shows that current revenue from existing rates will not meet future total expenses, including reserve funding for future capital projects and risk mitigation.

[18] FY 2025 beginning balance is adjusted to include cash at July 1, 2024 plus the sale of Viking Ranch Property, twin tank reimbursement from DWR, and Prop 68 Grant reimbursement

Figure 7-1: Proposed Operating Financial Plan - Sewer

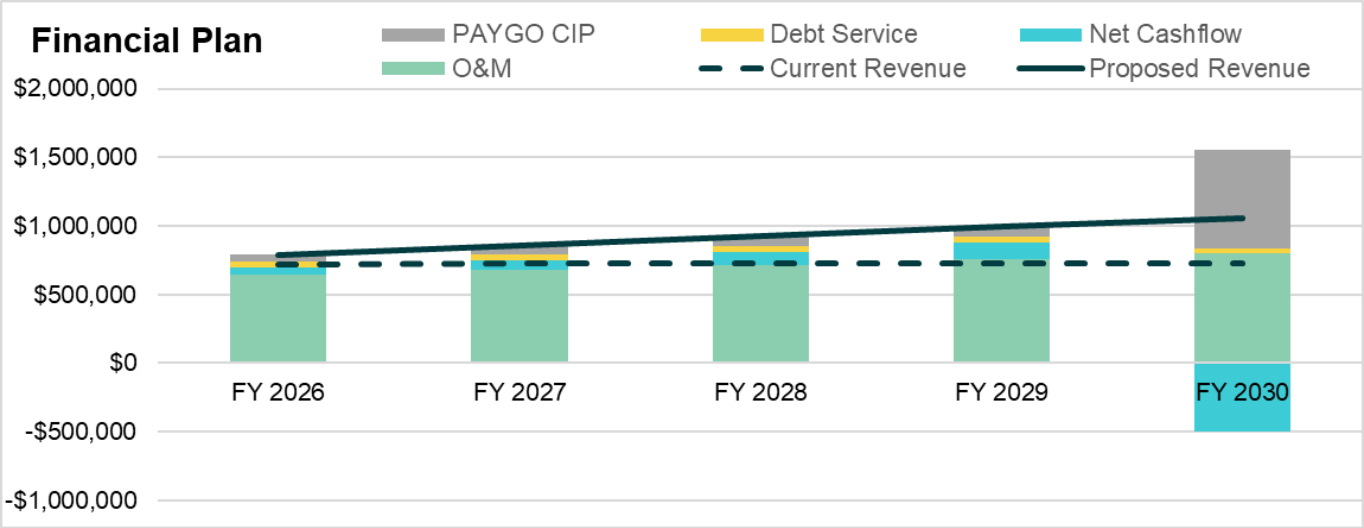


Figure 7-2 shows the District's ending reserve balance by fiscal year. The grey bars indicate the total ending balance, while the solid orange and blue lines indicate the total minimum target reserve balances and target reserves balances, respectively. With the proposed financial plan, the District achieves minimum target balances throughout the Study period.

Figure 7-2: Proposed Ending Cash Balance - Sewer

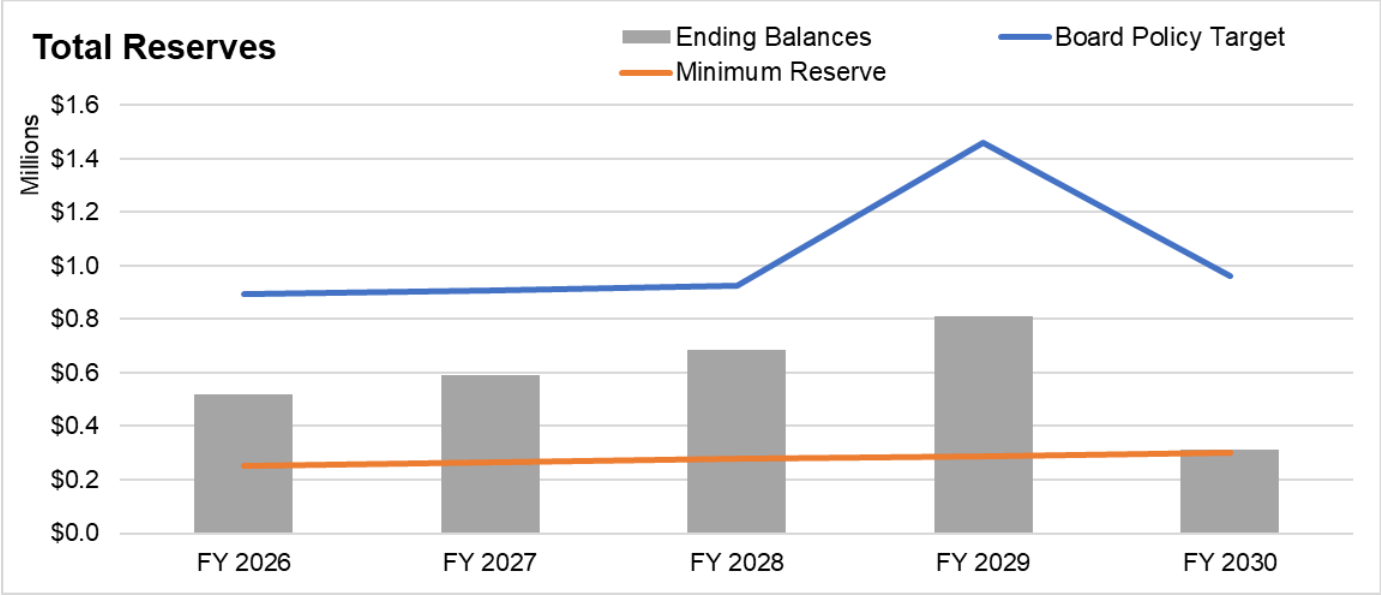
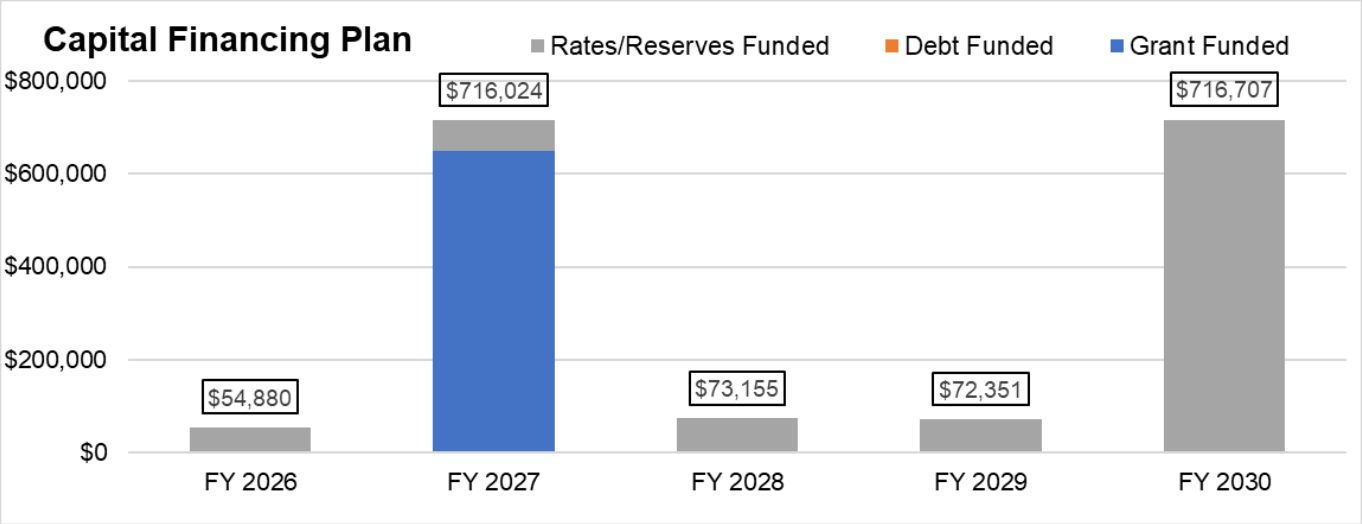


Figure 7-3 shows the total CIP of the wastewater utility over the Study period, by funding source. The light blue portion of the bars represent grant funded capital, and the grey portion of the bars represent rate-funded capital or pay-as-you-go (PAYGO) basis. No wastewater CIP is anticipated to be debt funded.

Figure 7-3: Proposed CIP and Funding Sources - Sewer



8. Sewer Cost of Service Analysis

8.1. Methodology

This section of the report details the cost of service analysis and rate calculation process to determine the proposed wastewater rates. The goal of this process is to determine the cost of providing wastewater service to each of the District's wastewater customer classes and to ensure equity and fairness among the various classes.

The cost of service analysis used to develop the wastewater rates follows the guidelines for allocating costs outlined in the WEF Manual No. 27. The cost of service analysis and rate design process consists of the following major steps:

1. Determine the revenue requirement, equal to the revenue to be recovered from rates.
2. Conduct a treatment plant mass balance analysis to estimate the flows and strength characteristics of wastewater generated.
3. Functionalize O&M expenses and capital assets into functional categories such as collection, treatment, lift, and customer service.
4. Allocate each functional category into cost components such as wastewater flow and strength, which includes biochemical oxygen demand (BOD) and total suspended solids (TSS).
5. Develop customer class characteristics and units of service by cost component.
6. Calculate the cost component unit rates by dividing the total cost in each cost component by the total units of service for that component. For example, wastewater flow is measured in HCF and BOD and TSS are measured in pounds (lbs) per year.
7. Calculate the cost for each customer class by multiplying the unit cost by the units of service for each customer class.

8.2. Revenue Requirements - Sewer

Table 8-1 shows the FY 2025 "Test Year" revenue requirement. The revenue requirement represents all O&M and capital and is equal to the cost of service to be recovered through rates. The O&M revenue requirement includes costs directly related to the collection and treatment of wastewater, as well as routine maintenance of system facilities. The Capital revenue requirement includes costs directly related to funding the capital program and debt service obligations associated with capital re-investment.

The rate revenue offsets are interest and non-rate revenues that are accounted for to determine the net amount required to be recovered from rates. The adjustment for cash balance (i.e., annual reserve funding adjustment) is equal to the net cash change for FY 2025 in Table 7-10, which represents the amount by which the reserves change in the test year. To arrive at the Operating, Capital, and total revenue requirements, revenue offsets (non-rate revenues) and adjustments are subtracted from the sub-total revenue requirement for each category (represented here as columns). The resulting calculation is the total revenue required from rates. This total is the annual amount that wastewater charges are designed to collect.

Table 8-1: Revenue Requirement - Sewer

Revenue Requirements	Operating	Capital	Total
Operating Expenditures	$617,624		$617,624
Debt Service		$41,139	$41,139
PAYGO CIP		$75,267	$75,267
Subtotal Revenue Requirements	**$617,624**	**$116,406**	**$734,031**
Revenue Offsets			
Other Revenue		$41,879	$41,879
Interest		$9,318	$9,318
Total Revenue Offsets	**$0**	**$51,198**	**$51,198**
Adjustments			
Adjustments to Annual Cash Balance		$8,610	$8,610
Total Adjustments	**$0**	**$8,610**	**$8,610**
COS to be Recovered from Wastewater Rates	**$617,624**	**$56,598**	**$674,223**

8.3. Plant Mass Balance

The second step of the cost of service analysis is to conduct a plant mass balance analysis. The plant mass balance analysis is used to estimate and validate the wastewater loadings (flow and strength) generated by each customer class. While wastewater discharged into the District's sewers is not metered when it enters the wastewater system, the total amount of flow and strength entering the treatment plant is a known quantity. The quantity entering the wastewater system is called total plant influent. District staff provided the total plant influent and wastewater strength assumptions for FY 2024 as shown in Table 8-2. Customer strengths are estimated according to industry accepted standards. Flow is measured in gallons per year and converted to HCF per year. BOD and TSS are measured in milligrams per liter (mg/L) and converted to pounds per year (lbs/year).

Table 8-2: Total Wastewater Treatment Plant Influent

	Flow (gallons)	BOD (mg/L)	TSS (mg/L)	Flow (HCF)	BOD (lbs/year)	TSS (lbs/year)
Total Plant Influent	25,539,000	374	301	34,141	79,738	64,168

As discussed in Section 7.1.1, the District's wastewater customers are divided into different service areas (SA1, SA2, and SA5) and are charged per Equivalent Dwelling Unit (EDU). One EDU is equivalent to the discharge of a typical SFR home and, therefore, each EDU connected to the wastewater system is assumed to contribute the same volume of wastewater flow with similar strength. Wastewater flows per EDU can be estimated as shown in Table 8-3 by dividing the total plant influent (Table 8-2) by the total number of EDUs connected to the wastewater system, and then dividing by 365 days per year. The result is the average gallons per day (gpd) of wastewater generated per EDU. No changes or updates to the EDU definition are proposed in this study.

Table 8-3: Wastewater Flows per EDU

FY 2024 Calculation	
Total Plant Influent (gallons)	25,539,000
÷ EDUs Connected to Wastewater System	905
÷ Days per Year	365
Estimated Wastewater Flow (gpd) per EDU	**77.3**

Using the estimated wastewater flow per EDU in Table 8-3 and the strength assumptions provided by the District in Table 8-2, the total annual units of flow and strength for each service area can be determined for the FY 2025 Test Year using the projected number of EDUs connected to the system (as shown in Table 7-2). The total flow is calculated by multiplying the number of EDUs by the flow per EDU (in gpd) times 365 days. Total flow is measured in gallons per year and converted to HCF per year. BOD and TSS are measured in milligrams per liter and converted to pounds per year. Note that because they are not yet connected to the wastewater system, SA2 EDU Holders do not contribute to wastewater system flows or strength loading.

Table 8-4: Test Year (FY 2025) Plant Balance Estimate

Service Area	EDUs	Flow/EDU (gpd)	Flow (gallons/ year)	BOD (mg/L)	TSS (mg/L)	Flow (HCF/Year)	BOD (lbs/year)	TSS (lbs/year)
SA1	254	77.3	7,167,852	374	301	9,582	22,379	18,009
SA2 EDU Holder	558							
SA2 EDU User	374	77.3	10,554,239	374	301	14,109	32,952	26,518
SA5	277	77.3	7,816,909	374	301	10,450	24,406	19,640
Total	**1,463**		**25,539,000**			**34,141**	**79,738**	**64,168**

8.4. O&M Expense Functionalization - Sewer

District staff provided the allocation of budgeted O&M expenses shown in Table 7-5 by function based on the percentages shown in Table 8-5. Functions include collection, treatment, lift, billing & customer service, and admin. & general. Table 8-6 shows a summary of the functionalization of District O&M expenses for the Test Year, FY 2025. A detailed version of the functionalized wastewater expenses is provided in an appendix to this report. Functionalizing O&M expenses follows the principles of rate setting set forth in the WEF MOP No. 27 and allows for allocation of O&M to cost causation components. Note that the total functionalized O&M expenses are equal to the O&M expenses shown in Table 8-1 and Table 7-5.

Table 8-5: Functionalization of O&M Expenses

O&M Expense	Collection	Treatment	Lift	Billing & Customer Service	Admin. & General
Repairs & Maintenance					
R&M WWTP	25%	75%			
Telemetry Services	50%	50%			
Trash Removal					100%
Vehicle Expense	50%			50%	
Fuel & Oil	40%			40%	20%
Lab/Testing		100%			
Permit Fees					100%
Professional Services					
Accounting					100%
Payroll Services					100%
Audit Fees					100%
IT & Cyber Security					100%
Financial Consulting					100%
Engineering	15%	85%			
Legal Services					100%
Advocacy					100%
Grant Acquisitions					100%
Testing/Lab		100%			
Permit Fees					100%
Insurance					
Program Insurance					100%
Workers Comp					100%
Personnel Expense					
Board Meeting Expense					100%
Salaries & Wages	25%	50%		25%	
Contra Account - Salaries & Wages	25%	50%		25%	
Contract labor/Consulting					100%
Taxes on Payroll	25%	50%		25%	
Employee Medical Benefits	25%	50%		25%	
Employee Retirement Benefits	25%	50%		25%	
Conference/Training					100%
Uniforms					100%
Safety Compliance & Emergency Prep					100%
Workers Compensation	25%	50%		25%	
Office Expense					
Office Supplies					100%
Office Equip/Maint/Agreement					100%
Postage & Freight					100%
Property Tax					100%
Telephone/Answering/Cell					100%
Dues & Subscriptions					100%
Printing, Publication & Notices					100%
Office/Shop utilities					100%
Fees					100%
Uniforms					100%
Safety/OSHA Requirements					100%
Utilities					
Pumping/Electricity	32%		68.2%		

Table 8-6: Functionalization of O&M Expenses

Cost Function	O&M Expenses by Function ($)
Collection	$127,969
Treatment	$292,145
Lift	$4,295
Billing & Customer Service	$90,853
Admin. & General	$102,363
Total	**$617,624**

8.5. Allocation of Functionalized Expenses to Sewer Cost Components

After functionalizing expenses, the next step is to allocate the functionalized expenses to cost causation components. The functionalization of costs allows us to better allocate the functionalized costs to the **cost causation components**. The cost causation components include:

1. **BOD** costs are the costs associated with treating the organic compounds in wastewater. Higher strength wastewater is more costly to treat.
2. **TSS** costs are costs associated with treating the suspended solids in wastewater. Higher levels of suspended solids are also more costly to treat.
3. **Lift** costs are costs associated with wastewater lift stations, as District customers in specific service areas require elevation pumping to move wastewater through the collection system to the treatment facilities.
4. **Customer** costs are associated with customer service and billing.
5. **Fixed** costs are those costs that do not change with respect to the amount of wastewater flow generated (in HCF) or the strength of the wastewater. An example of fixed costs would be costs associated with the operations and maintenance of the wastewater collection system and general administrative costs.

Table 8-7 and Table 8-8 show the allocation basis for O&M expenses in percentages and dollars, respectively. The top row of Table 8-7 shows the cost causation components and the left-most column shows the cost functions, equal to that shown in Table 8-6. The numbers shown in this section of the report are rounded to the nearest dollar and tenth of a percent; therefore, the calculations shown in the tables of this section may not equal to the precise numbers shown due to rounding within the tables.

Collection system costs are allocated between the Lift and Fixed cost components based on the percentage of the wastewater system assets that are associated with lift stations. Treatment costs are allocated proportionally between the strength components, BOD and TSS.

Table 8-7: Allocation of Functionalized O&M Expenses to Cost Causation Components (%)

Function	FY 2025	BOD	TSS	Lift	Customer	Fixed
Collection	$127,969			12.2%		87.8%
Treatment	$292,145	50.0%	50.0%			
Lift	$4,295			100.0%		
Billing & Customer Service	$90,853				100.0%	
Admin & General	$102,363					100.0%
Total ($)	**$617,624**	**$146,073**	**$146,073**	**$19,888**	**$90,853**	**$214,738**
Total (%)		24%	24%	3%	15%	35%

Table 8-8: Allocation of Functionalized O&M Expenses to Cost Causation Components ($)

Function	FY 2025	BOD	TSS	Lift	Customer	Fixed
Collection	$127,969	$0	$0	$15,594	$0	$112,375
Treatment	$292,145	$146,073	$146,073	$0	$0	$0
Lift	$4,295	$0	$0	$4,295	$0	$0
Billing & Customer Service	$90,853	$0	$0	$0	$90,853	$0
Admin & General	$102,363	$0	$0	$0	$0	$102,363
Total ($)	$617,624	$146,073	$146,073	$19,888	$90,853	$214,738
Total (%)		24%	24%	3%	15%	35%

8.6. Asset Functionalization - Sewer

Table 8-9 presents the functionalization of the District's wastewater system asset base. Each asset category from the master capitalized asset database is allocated to one (or more) of the cost functions. The column furthest right in Table 8-9 shows the total asset valuation by category. Assets are shown valued at replacement cost less depreciation (RCLD).

Table 8-9: Functionalization of System Assets - Sewer

Asset Category	Cost Function	Assets by Function ($)
Collection	Lift & Fixed	$2,798,783
Treatment	BOD & TSS	$1,554,417
Billing & Customer Service	Customer	$1,610
Admin & General	Fixed	$843,402
Total		**$5,198,212**

8.7. Allocation of Functionalized Assets to Sewer Cost Components

Like the O&M cost allocation, the District's functionalized capitalized assets are allocated to the same cost components, which are representative of future project costs. Capital costs are allocated by the asset base of the wastewater system in recognition that assets need to be refurbished and replaced over time. Correspondingly, capital expenses over time should correlate to the asset base and mix of infrastructure. This ensures that the allocations to the cost causation components, and ultimately the rates, remain relatively stable over time. Table 8-10 and Table 8-11 show the functionalized assets allocated to the cost components in both dollar and percentage terms. The numbers shown in this section of the report are rounded to the nearest dollar and tenth of a percent; therefore, the calculations shown in the tables of this section may not equal to the precise numbers shown.

Table 8-10: Allocation of Functionalized Asset Valuation to Cost Causation Components (%)

Function	RCLD	BOD	TSS	Lift	Customer	Fixed
Collection	$2,798,783			12.2%		87.8%
Treatment	$1,554,417	50.0%	50.0%			
Billing & Customer Service	$1,610				100.0%	
General	$843,402					100.0%
Total ($)	**$5,198,212**	**$777,209**	**$777,209**	**$341,050**	**$1,610**	**$3,301,136**
Total (%)		15%	15%	7%	0%	64%

Table 8-11: Allocation of Functionalized Asset Valuation to Cost Causation Components ($)

Function	RCLD	BOD	TSS	Lift	Customer	Fixed
Collection	$2,798,783	$0	$0	$341,050	$0	$2,457,734
Treatment	$1,554,417	$777,209	$777,209	$0	$0	$0
Billing & Customer Service	$1,610	$0	$0	$0	$1,610	$0
General	$843,402	$0	$0	$0	$0	$843,402
Total ($)	**$5,198,212**	**$777,209**	**$777,209**	**$341,050**	**$1,610**	**$3,301,136**
Total (%)		15%	15%	7%	0%	64%

8.8. Unit Cost Derivation - Sewer

Table 8-12 shows the wastewater service units by cost component, which are in part from the plant mass balance analysis (Table 8-4). SA2 EDU Holders (Line 2) are not yet contributing wastewater to the system, therefore, no units of service are shown for this customer class for BOD, TSS, and Lift. SA2 EDU Users (Line 3) and SA5 customers (Lines 4) contribute wastewater flows to the system that must be pumped up to a higher elevation (lifted) to the wastewater treatment plant; therefore, only these customer classes have units of service for the Lift cost component. Annual EDUs are calculated in the column on the far right by multiplying the number of EDUs for each service area by twelve months.

Table 8-12: Sewer Units of Service

	Service Area	BOD (lbs/year)	TSS (lbs/year)	Lift (HCF)	EDUs	Annual EDUs
1	SA1	22,379	18,009		254	3,048
2	SA2 EDU Holder Only				558	6,696
3	SA2 EDU User	32,952	26,518	14,109	374	4,488
4	SA5	24,406	19,640	10,450	277	3,324
6	**Total**	**79,738**	**64,168**	**24,559**	**1,089**	**13,068**

1.Total EDUs = SA1 + SA2 Holder + SA5. This is for purposes of total EDUs contributing to the collection capacity and fixed costs of the utility. Total EDUs contributing to wastewater flow generation is equal to SA1 + SA2 User + SA5 (1,089 EDUs).

Table 8-13 shows the revenue requirement by cost component. The operating expenses shown on Line 1 are from the allocations in Table 8-7. The capital expense allocation shown on Line 2 is calculated by multiplying the capital revenue requirement from Table 8-1 and the percentage allocations at the bottom of Table 8-10. The total cost of service for each cost component (Line 3) is divided by the units of service (Line 5) derived from Table 8-12, resulting in the unit cost per cost component (Line 7).

Table 8-13: Unit Cost Calculation by Cost Component - Sewer

	Cost of Service	BOD	TSS	Lift	Customer	Fixed	Total
1	Operating Expenses	$146,073	$146,073	$19,888	$90,853	$214,738	$617,624
2	Capital Expenses	$8,462	$8,462	$3,713	$18	$35,943	$56,598
3	**Total Cost of Service**	**$154,535**	**$154,535**	**$23,602**	**$90,870**	**$250,681**	**$674,223**
4							
5	Units of Service	79,738	64,168	24,559	13,068	13,068	
6	Unit of Measure	BOD (lbs/year)	TSS (lbs/year)	Lift Flow (HCF)	Annual EDUs	Annual EDUs	
7	**Unit Cost**	**$1.94**	**$2.41**	**$0.96**	**$6.95**	**$19.18**	

8.9. Distribution of Cost Components to Customer Classes - Sewer

The final step in a cost of service analysis is to distribute the cost components to the customer classes using the unit costs derived in Table 8-13. This is the end goal of a cost of service analysis and yields the cost to serve each customer class. Table 8-14 shows the derivation of the cost to serve each customer class.

To derive the cost to serve each class, the unit costs from Table 8-13 are multiplied by the respective units of service for each class (Table 8-12). For example, the BOD costs for SA1 are calculated by multiplying the BOD unit cost of $1.94 (rounded to the nearest penny) by the annual BOD (22,379 lbs/year) to arrive at a total of $43,372. The calculation is completed for each of the remaining user classes and cost components to yield the total cost to serve each user class shown in the furthest right column of Table 8-14. Note that SA2 EDU Holders are allocated fixed wastewater collection system and customer billing costs, while SA2 EDU Users are allocated the costs to convey, treat, and dispose of wastewater at the treatment plan. The total cost of service is equal to the revenue requirement in Table 8-1, as intended. With the cost to serve each user class calculated we can proceed to derive rates to collect the cost to serve each customer class.

Table 8-14: Cost of Service by Service Area and User Class

Service Area	BOD	TSS	Lift	Customer	Fixed	Total
SA1	$43,372	$43,372	$0	$21,195	$58,469	$166,408
SA2 EDU Holder	$0	$0	$0	$46,562	$128,448	$175,010
SA2 EDU User	$63,863	$63,863	$13,559			$141,285
SA5	$47,300	$47,300	$10,043	$23,114	$63,764	$191,519
Total	**$154,535**	**$154,535**	**$23,602**	**$90,870**	**$250,681**	**$674,223**

9. Sewer Rate Design

9.1. Existing Rate Structure and Rates

The District provides wastewater service to three separate Service Areas (SAs). These areas are: SA1, SA2, and SA5. All wastewater users pay a monthly fixed charge per EDU that varies depending on the service area.

The District assesses two separate charges on wastewater customers in SA2. SA2 customers consist of SA2 EDU Holders and SA2 EDU Users. SA2 EDU Holders are customers that are not yet contributing wastewater to the system. SA2 EDU Users, those connected to and using the wastewater system, pay the sum of both the Holder and User charge. The existing rate structure for wastewater customers is shown in Table 9-1.

Table 9-1: Current Sewer Charges ($/Month/EDU)

Customer Class	Current Charge
SA1	$53.91
SA2 EDU Holder	$25.85
SA2 EDU User	$32.12
SA5	$57.96

9.2. Rate Calculation & Proposed Rates

Table 9-2 shows the rate calculation for the District's proposed wastewater rates for the FY 2025 test year. The rate for each component is calculated by dividing the cost to serve each customer class (derived in Table 8-14) by the number of EDUs for each service area (from Table 8-4) divided by 12 billing periods. For example:

Monthly SA1 BOD charge = SA1 BOD cost of service / SA1 EDUs / 12 billing periods

To determine the total proposed charge, the five rate components are added together. The resulting summation constitutes the final cost of service rates. The cost of service rates are rounded up to the nearest whole penny.

Table 9-2: Cost of Service Sewer Rates – Test Year FY 2025

Customer Class	BOD	TSS	Lift	Customer	Fixed	COS Charge ($ / EDU / Month)
SA1	$14.23	$14.23	$0.00	$6.95	$19.18	**$54.60**
SA2 EDU Holder	$0.00	$0.00	$0.00	$6.95	$19.18	**$26.14**
SA2 EDU User	$14.23	$14.23	$3.02	$0.00	$0.00	**$31.49**
SA5	$14.23	$14.23	$3.02	$6.95	$19.18	**$57.62**

Table 9-3 shows proposed rates for the next five years based on the financial plan developed in Section 7.3. The rates for the monthly service charges are increased uniformly by the selected financial plan of 9.75 percent per year. All rates are rounded up to the nearest penny.

Table 9-3: Proposed Monthly Sewer Charges $/EDU (FY 2026-2030)

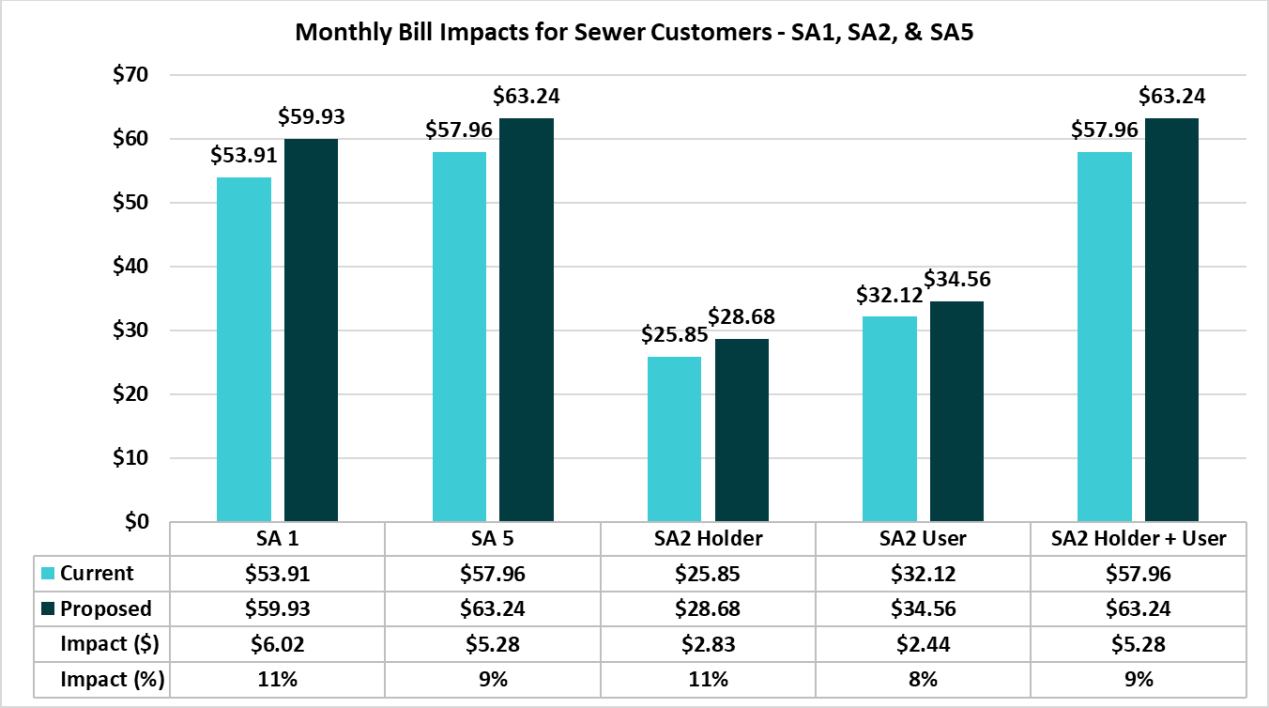
Customer Class	Proposed FY 2026	Proposed FY 2027	Proposed FY 2028	Proposed FY 2029	Proposed FY 2030
SA1	$59.93	$65.78	$72.20	$79.24	$86.97
SA2 EDU Holder	$28.68	$31.48	$34.55	$37.92	$41.62
SA2 EDU User	$34.56	$37.93	$41.63	$45.69	$50.14
SA5	$63.24	$69.41	$76.18	$83.61	$91.77

9.3. Estimated Bill Impacts

The rate model calculates wastewater customer impacts for each service area. Customer impacts from the proposed new rates are presented below.

Figure 9-1 shows FY 2026 bills for customers in each service area. Bills are calculated at current rates and compared to proposed rates, inclusive of both the changes from the cost of service analysis and the first year revenue increase. The figure shows the percentage and dollar change between current and proposed rates.

Figure 9-1: Bill Impacts – SA1, SA2, & SA5



	SA 1	SA 5	SA2 Holder	SA2 User	SA2 Holder + User
Current	$53.91	$57.96	$25.85	$32.12	$57.96
Proposed	$59.93	$63.24	$28.68	$34.56	$63.24
Impact ($)	$6.02	$5.28	$2.83	$2.44	$5.28
Impact (%)	11%	9%	11%	8%	9%