

San Dieguito
**Water
District**

Water & Recycled Rate Study

FINAL Report / February 15, 2024





February 15, 2024

Mr. Isam Hireish
General Manager
San Dieguito Water District
160 Calle Magdalena
Encinitas, CA 92024

Subject: Water and Recycled Water Financial Plan Study Report

Dear Mr. Hireish,

Raftelis is pleased to provide this Water and Recycled Water Rate Study Report (Report) for the San Dieguito Water District (District). This Report includes an updated three-year financial plan for fiscal year (FY) 2025 to FY 2027.

The Study objectives include the following:

1. Update the District's three-year financial plan to ensure financial sufficiency, meet operation and maintenance (O&M) costs, and ensure funding to meet debt obligations and fund necessary capital expenditures
2. Conduct a current water cost-of-service review
3. Calculate updated water and recycled water rates for FY 2025, FY 2026, and FY 2027
4. Update drought rates to ensure collection of sufficient revenue during periods of reduced water demand due to drought or other water shortage emergencies
5. Conduct a customer impact analysis for the proposed rates

It has been a pleasure working with you, Mary Kazungu, and other District staff during this Study.

Sincerely,

A handwritten signature in blue ink that reads 'Steve Gagnon'.

Steve Gagnon, PE (AZ)
Senior Manager

A handwritten signature in blue ink that reads 'Sarah Wingfield'.

Sarah Wingfield
Staff Consultant

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1. Executive Summary

In 2023, San Dieguito Water District engaged Raftelis to conduct a Water Rate Study (Study) consisting of a financial plan update, cost of service, and rate derivation for fiscal years (FY) FY 2025 through FY 2027. This report describes the resulting proposed water, recycled water, private fire, and drought rates for implementation on July 1st of each fiscal year in the study period.

1.1. Methodology

Raftelis and the District developed rates using cost of service (COS) principles set forth by the American Water Works Association M1 Manual titled *Principles of Water Rates, Fees and Charges* (AWWA M1 Manual). COS principles endeavor to distribute costs to customer classes in proportion to the way each class uses the water system.

Performing a COS study provides the rate basis to meet Proposition 218 requirements – that rates must be based on costs. This Study uses the AWWA Base-Extra Capacity Method to distribute costs to customer classes and tiers. This method separates costs into four main cost causation components: base costs, extra capacity costs, customer costs, and fire protection costs. Base costs (which can be further divided into supply and delivery) are associated with meeting average daily demand needs and include operations and maintenance costs and capital costs designed to meet average load conditions. Extra capacity costs are costs (both operating and capital costs) associated with meeting peak demand. Customer costs are costs associated with serving customers, such as meter reading, billing and customer service, etc. Direct fire protection costs are related solely to the fire protection function, such as fire hydrants, fire connections, and related mains and valves.

1.2. Proposed Financial Plan and Revenue Adjustments

The proposed financial plan enables the District to set rates and charges to generate water revenue to meet the District’s short-term and long-term obligations and avoid significant rate fluctuations. It shows the revenues that will maintain appropriate reserves and provide adequate debt service coverage while minimizing customer bill impacts.

Table 1-1 shows the proposed revenue adjustments and CIP accomplishment rate selected by the Board of Directors at the January 17, 2024, Board Meeting. The proposed financial plan implements a gradual increase of revenue adjustments on July 1 for each year. The revenue adjustments are possible due to the capital accomplishment rate of 75%. The blue box shows the revenue adjustments that the District will implement for the next three years. For example, for FY 2025, the District will implement rates such that it collects nine percent more revenue compared to FY 2024.

Table 1-1: Proposed Revenue Adjustments and Capital Accomplishment Rate

Fiscal Year	Proposed Potable Revenue Adjustments	Proposed Recycled Revenue Adjustments	Proposed CIP Accomplishment
2025	9.0%	9.0%	75%
2026	12.0%	6.0%	75%
2027	12.0%	6.0%	75%

Figure 1-1 graphically illustrates the operating Financial Plan. It compares current and proposed revenues with projected expenses. Total revenues at existing and proposed rates are shown by the horizontal blue and green lines,

respectively. The various stacked bars show expenses, including O&M expenses, debt service, and rate-funded CIP. Net cashflow under proposed rates (proposed revenues less expenses) is shown by the red portion of the bar.

Figure 1-1: Proposed Financial Plan

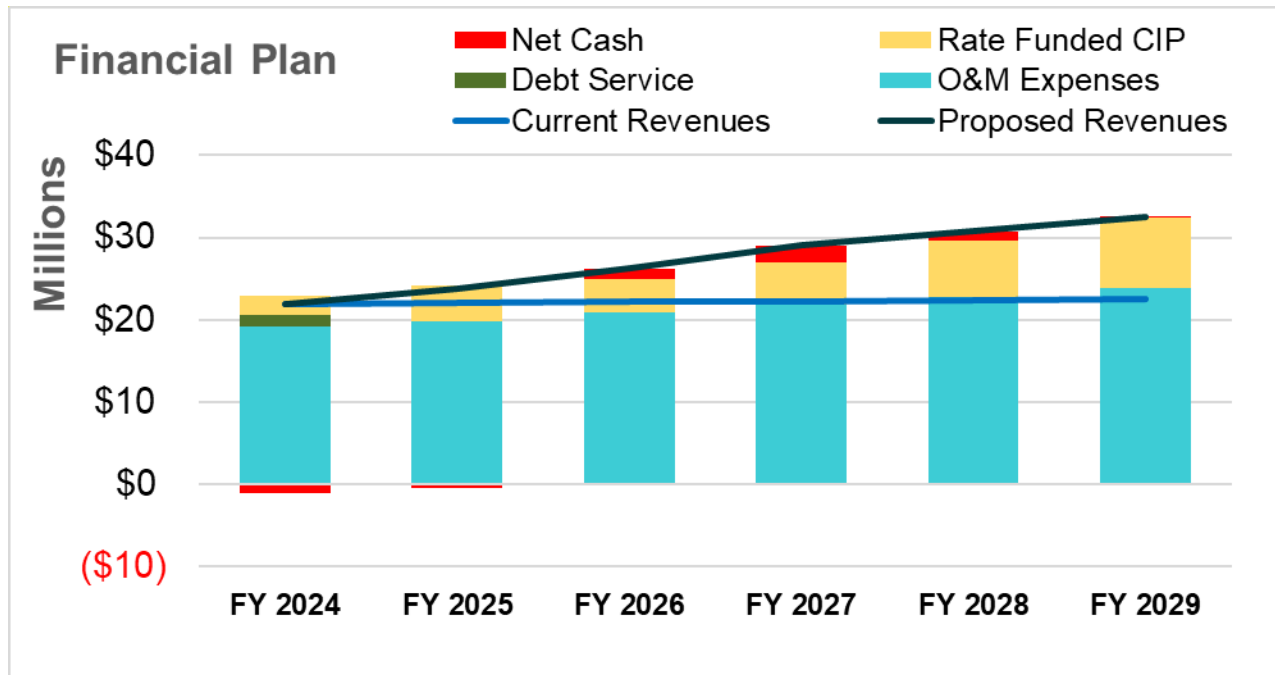
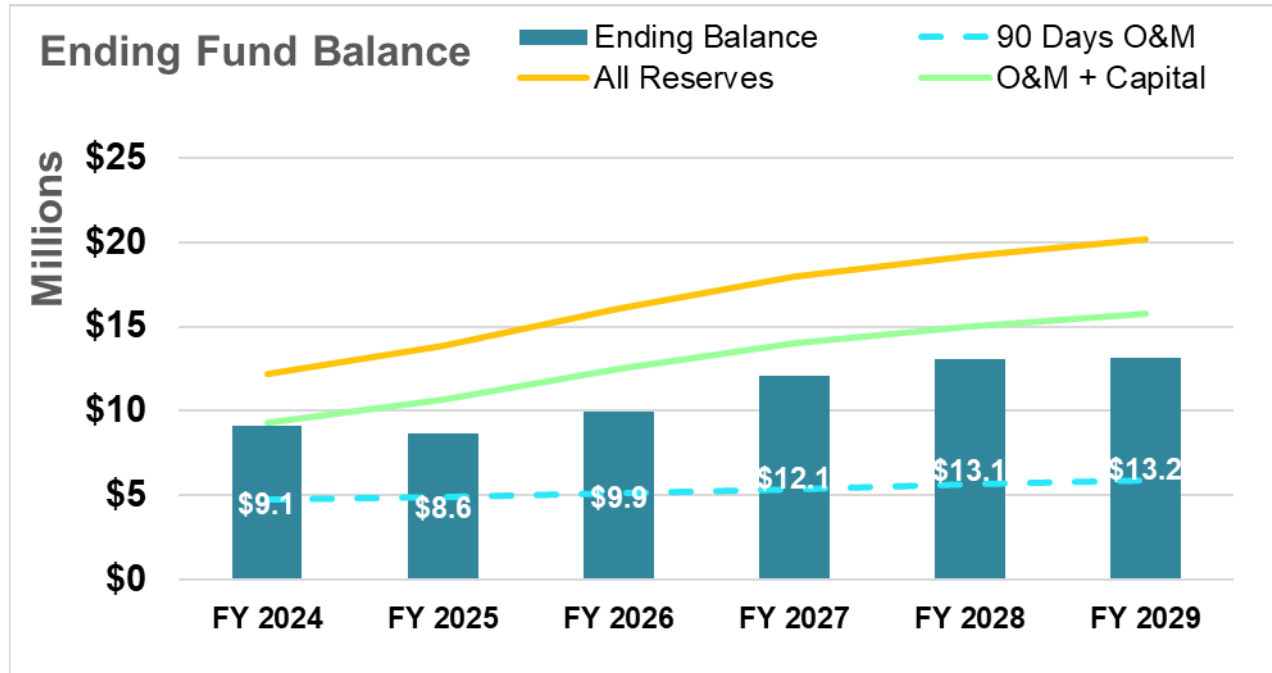


Figure 1-2 shows the projected Water Utility Fund ending balances and reserve targets. The operating reserve target is 90 days of operating expenses and is shown below as a dashed light blue line. The combined O&M and capital target, shown below as the green line, represents the sum of the operating reserve target (blue dashed line) and the capital reserve target. The orange line represents the sum of these reserve targets plus the rate stabilization reserve target (described later in Section 3). The ending balances were reviewed with the Board in January of 2024. The District will maintain reserve balances at this level in order to mitigate impacts to ratepayers while still meeting its operating reserve target and nearly funding the capital reserve.

Figure 1-2: Projected Fund Ending Balances



1.3. Proposed Three-Year Rates

1.3.1. FIXED POTABLE BI-MONTHLY SERVICE CHARGES

Table 1-2 shows the proposed bi-monthly service charge. Table 1-3 shows the proposed fire service charges. FY 2025 charges shown incorporate the revenue adjustments shown in Table 1-1. However, the charges for FY 2025 are set using the cost of service analysis and do not equate to increasing the current rates by the revenue adjustment. The cost of service analysis is detailed in Section 4 and Section 5. Charges for FY 2026 and FY 2027 can be calculated by increasing FY 2025 rates by the proposed revenue adjustments. The proposed fire service charges apply to all customers with private fire service connections. The rates for the current and proposed bi-monthly service charges and fire service charges are calculated based on the meter size and diameter of the fire line serving a property, respectively. The proposed rates are rounded to the nearest cent.

Table 1-2: Proposed Bi-Monthly Service Charges

Meter Size	FY 2024	FY 2025	FY 2026	FY 2027
	Current	Proposed	Proposed	Proposed
5/8"	\$52.78	\$57.93	\$64.88	\$72.66
3/4"	\$52.78	\$57.93	\$64.88	\$72.66
1"	\$78.06	\$86.44	\$96.82	\$108.43
1.5"	\$140.72	\$157.10	\$175.95	\$197.07
2"	\$216.21	\$242.23	\$271.30	\$303.85
3"	\$392.47	\$441.00	\$493.92	\$553.19
4"	\$644.23	\$724.91	\$811.90	\$909.32
6"	\$1,273.05	\$1,434.03	\$1,606.11	\$1,798.84
8"	\$2,027.93	\$2,285.31	\$2,559.55	\$2,866.70

Table 1-3: Proposed Fire Service Charges

Line No.	Line Diameter	FY 2024 Current	FY 2025 Proposed	FY 2026 Proposed	FY 2027 Proposed
1	1"	\$11.08	\$11.80	\$13.21	\$14.80
2	1.5"	\$9.86	\$10.60	\$11.87	\$13.29
3	2"	\$17.10	\$18.55	\$20.77	\$23.26
4	3"	\$43.07	\$47.07	\$52.72	\$59.05
5	4"	\$87.84	\$96.27	\$107.83	\$120.77
6	6"	\$248.55	\$272.86	\$305.60	\$342.28
7	8"	\$525.75	\$577.44	\$646.73	\$724.34

1.3.2. PROPOSED POTABLE COMMODITY RATES

Table 1-4 shows commodity rates for the next three years. FY 2025 charges shown incorporate the revenue adjustments shown in Table 1-1. However, the rates for FY 2025 are set using the cost of service analysis and do not equate to increasing the current rates by the revenue adjustment. The cost of service analysis is detailed in Section 4 and Section 5. Charges for FY 2026 and FY 2027 can be calculated by increasing FY 2025 rates by the proposed revenue adjustments. Commodity rates are charged for each unit (HCF) of water. All rates are rounded to the cent.

Table 1-4: Proposed Commodity Rates by Class/Tier

Class/Tier	Tier	FY 2024 Current	FY 2025 Proposed	FY 2026 Proposed	FY 2027 Proposed
Single Family Residence					
Tier 1	12	\$3.68	\$5.00	\$5.60	\$6.27
Tier 2	20	\$6.61	\$7.25	\$8.12	\$9.09
Tier 3	40	\$7.47	\$7.50	\$8.40	\$9.41
Tier 4	>40	\$8.87	\$7.84	\$8.78	\$9.83
Single Family - Agriculture					
Tier 1	12	\$3.68	\$5.00	\$5.60	\$6.27
Tier 2	20	\$6.61	\$7.25	\$8.12	\$9.09
Tier 3	40	\$7.47	\$7.50	\$8.40	\$9.41
Tier 4	>40	\$7.85	\$7.69	\$8.61	\$9.65
Single Family - Commercial					
Tier 1	12	\$3.68	\$5.00	\$5.60	\$6.27
Tier 2	20	\$6.61	\$7.25	\$8.12	\$9.09
Tier 3	40	\$7.47	\$7.50	\$8.40	\$9.41
Tier 4	>40	\$7.85	\$7.69	\$8.61	\$9.65
Multi-family					
Tier 1	8	\$3.68	\$5.00	\$5.60	\$6.27
Tier 2	12	\$6.61	\$7.25	\$8.12	\$9.09
Tier 3	16	\$7.47	\$7.50	\$8.40	\$9.41
Tier 4	>16	\$8.87	\$7.84	\$8.78	\$9.83
Multi-family - Agriculture					
Tier 1	8	\$3.68	\$5.00	\$5.60	\$6.27
Tier 2	12	\$6.61	\$7.25	\$8.12	\$9.09
Tier 3	16	\$7.47	\$7.50	\$8.40	\$9.41
Tier 4	>16	\$7.85	\$7.69	\$8.61	\$9.65
Multi-family - Commercial					
Tier 1	8	\$3.68	\$5.00	\$5.60	\$6.27
Tier 2	12	\$6.61	\$7.25	\$8.12	\$9.09
Tier 3	16	\$7.47	\$7.50	\$8.40	\$9.41
Tier 4	>16	\$7.85	\$7.69	\$8.61	\$9.65
Commercial/AG	Uniform	\$6.34	\$6.40	\$7.17	\$8.03
Institutional	Uniform	\$6.99	\$7.31	\$8.19	\$9.17
Landscaping	Uniform	\$7.33	\$7.54	\$8.44	\$9.46
Construction	Uniform	\$7.48	\$7.66	\$8.58	\$9.61

1.3.3. PROPOSED RECYCLED WATER RATES AND CHARGES

Table 1-5 shows recycled water charges for the next three fiscal years. Recycled water customers are billed monthly. The fixed charge is set to be half the potable bi-monthly fixed charge and is based on the meter size serving the customer. The bottom half of the table shows the commodity rate per hundred cubic feet. All rates are rounded to the cent.

Table 1-5: Proposed Monthly Recycled Water Rates

Line No.	Fixed Meter Charges	FY 2024 Current	FY 2025 Proposed	FY 2026 Proposed	FY 2027 Proposed
1	Meter Size				
2	5/8"	\$26.39	\$26.39	\$27.97	\$29.65
3	3/4"	\$26.39	\$26.39	\$27.97	\$29.65
4	1"	\$39.03	\$39.03	\$41.37	\$43.85
5	1.5"	\$70.36	\$70.36	\$74.58	\$79.06
6	2"	\$108.11	\$108.11	\$114.59	\$121.47
7	3"	\$196.24	\$196.24	\$208.01	\$220.49
8	4"	\$322.12	\$322.12	\$341.44	\$361.93
9	6"	\$636.53	\$636.53	\$674.72	\$715.20
10	8"	\$1,013.97	\$1,013.97	\$1,074.80	\$1,139.29
11	Commodity Rates (\$/HCF)				
12	All Customers	\$6.08	\$5.56	\$5.90	\$6.25

1.3.4. DROUGHT RATES

Drought rates allow the District to recover fixed costs when customers curtail water use during a drought. The percent reduction in water demand during each water shortage emergency stage is defined in the District’s Water Shortage Contingency Plan, approved by the Board as a part of the 2020 Urban Water Management Plan and Municipal Code. Table 1-6 shows the estimated revenue losses at each stage in the Water Shortage Contingency Plan and the percent increase required to recover the lost revenue. A more detailed calculation of these estimates is provided later in Section 9.

Table 1-6: Estimated Revenue Losses at Each Stage/Level of Drought

Stage	1	2	3	4		
Level	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
% Increase in Volumetric Rate	5%	11%	20%	32%	46%	71%
Estimated Revenues Lost	\$1,643,487	\$3,265,824	\$5,037,471	\$6,612,499	\$8,058,999	\$9,598,156

Table 1-7 shows the proposed drought rates for the first year of the study at each level of reduction (no reduction, 10%, 20%, etc.). All rates are shown in \$/HCF terms.

Table 1-7: Proposed Drought Rates

Line No.		1 Up to 10%	2 Up to 20%	3 Up to 30%	4 Up to 40%	5 Up to 50%	6 Over 50%
1	Single Family Residence						
2	Tier 1	\$5.25	\$5.55	\$6.02	\$6.58	\$7.30	\$8.54
3	Tier 2	\$7.61	\$8.05	\$8.73	\$9.55	\$10.59	\$12.38
4	Tier 3	\$7.87	\$8.33	\$9.03	\$9.88	\$10.95	\$12.80
5	Tier 4	\$8.23	\$8.71	\$9.44	\$10.33	\$11.45	\$13.38
6	Single Family - Agriculture						
7	Tier 1	\$5.25	\$5.55	\$6.02	\$6.58	\$7.30	\$8.54
8	Tier 2	\$7.61	\$8.05	\$8.73	\$9.55	\$10.59	\$12.38
9	Tier 3	\$7.87	\$8.33	\$9.03	\$9.88	\$10.95	\$12.80
10	Tier 4	\$8.07	\$8.54	\$9.26	\$10.13	\$11.23	\$13.13
11	Single Family - Commercial						
12	Tier 1	\$5.25	\$5.55	\$6.02	\$6.58	\$7.30	\$8.54
13	Tier 2	\$7.61	\$8.05	\$8.73	\$9.55	\$10.59	\$12.38
14	Tier 3	\$7.87	\$8.33	\$9.03	\$9.88	\$10.95	\$12.80
15	Tier 4	\$8.07	\$8.54	\$9.26	\$10.13	\$11.23	\$13.13
16	Multi-family						
17	Tier 1	\$5.25	\$5.55	\$6.02	\$6.58	\$7.30	\$8.54
18	Tier 2	\$7.61	\$8.05	\$8.73	\$9.55	\$10.59	\$12.38
19	Tier 3	\$7.87	\$8.33	\$9.03	\$9.88	\$10.95	\$12.80
20	Tier 4	\$8.23	\$8.71	\$9.44	\$10.33	\$11.45	\$13.38
21	Multi-family - Agriculture						
22	Tier 1	\$5.25	\$5.55	\$6.02	\$6.58	\$7.30	\$8.54
23	Tier 2	\$7.61	\$8.05	\$8.73	\$9.55	\$10.59	\$12.38
24	Tier 3	\$7.87	\$8.33	\$9.03	\$9.88	\$10.95	\$12.80
25	Tier 4	\$8.07	\$8.54	\$9.26	\$10.13	\$11.23	\$13.13
26	Multi-family - Commercial						
27	Tier 1	\$5.25	\$5.55	\$6.02	\$6.58	\$7.30	\$8.54
28	Tier 2	\$7.61	\$8.05	\$8.73	\$9.55	\$10.59	\$12.38
29	Tier 3	\$7.87	\$8.33	\$9.03	\$9.88	\$10.95	\$12.80
30	Tier 4	\$8.07	\$8.54	\$9.26	\$10.13	\$11.23	\$13.13
31	Ag/Commercial	\$6.72	\$7.11	\$7.70	\$8.43	\$9.35	\$10.93
32	Institutional	\$7.67	\$8.12	\$8.80	\$9.63	\$10.67	\$12.48
33	Landscaping	\$7.92	\$8.38	\$9.08	\$9.93	\$11.01	\$12.87
34	Construction	\$8.04	\$8.51	\$9.22	\$10.09	\$11.19	\$13.08

1.3.4.1. Drought Rate Adoption

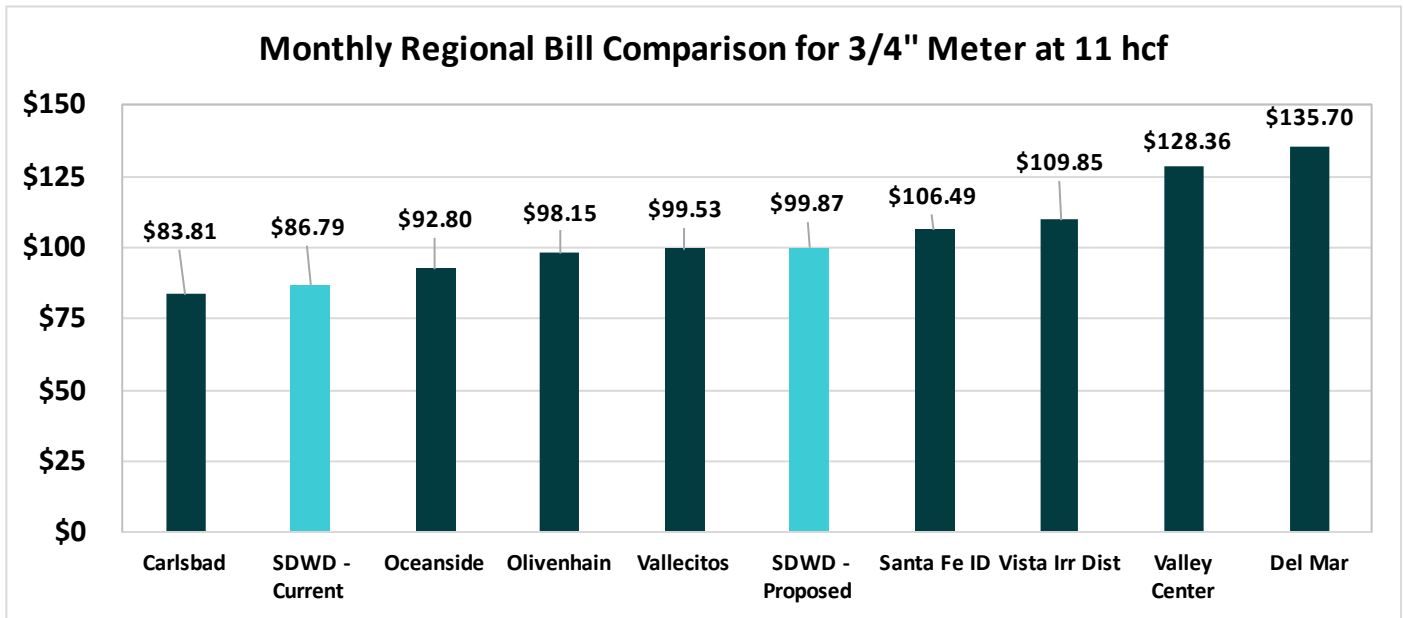
The Board would adopt the drought rates separately from any other type of rate increase. For the duration of the rate proposal period (3 years), the Board would have the ability to adopt drought rates by increasing the then-current commodity rate without having to re-issue the Proposition 218 notice.

1.3.5. WATER RATE SURVEY

Raftelis conducted a rate survey to benchmark current and proposed water rates against eight neighboring water providers. While a useful benchmark, it is worth noting that such comparisons only paint a partial picture since many factors, such as water sources, infrastructure age and replacement of infrastructure, service area characteristics, revenue sources (some agencies receive property tax revenue while others do not), and other local conditions, affect the total cost of providing water services.

Figure 1-3 shows a monthly¹ water bill comparison for the current (2024) and proposed (2025) rates against eight neighboring agencies. The survey assumes a single-family residential customer using 11 HCF of water per month, with a 3/4” metered connection. This survey was conducted in January 2024 and should only be used as a reference point or as a snapshot in time.

Figure 1-3: Monthly Bill Comparisons for Neighboring Agencies



¹ Agencies with a bi-monthly billing cycle are adjusted to a monthly billing cycle by dividing fixed charges and tier widths in half.

2. Introduction

2.1. Study Background

The San Dieguito Water District (District) provides potable water to Leucadia, Old Encinitas, Cardiff, and portions of New Encinitas. The Olivenhain Municipal Water District serves the remainder of the City. The San Dieguito Water District is a subsidiary district of the City of Encinitas. The City Council serves as the Board of Directors of the District. The District operates and maintains 175 miles of pipelines, the 7.5 million-gallon (MG) Encinitas Ranch reservoir, the 2.5 MG Balour Reservoir, 19 pressure reducing stations, 1 pump station, and 12,108 water meters. In addition, the District also jointly owns, with the Santa Fe Irrigation District, the 40 MGD Badger Filtration Plant, a 13 MG clear well, a hydroelectric plant, the San Dieguito Pump Station, the 850 AF San Dieguito Reservoir, and 14 miles of transmission mains.

The District receives local water from Lake Hodges and imported raw water from the San Diego County Water Authority (SDCWA) for potable water. Both sources are treated at the R.E. Badger Filtration Plant located in Rancho Santa Fe. The District and Santa Fe Irrigation District jointly own the treatment facility. Treated water from the San Diego County Water Authority can also be delivered directly to the District. The amount of water available from Lake Hodges varies from year to year; in FY 2024, the District projects to use 500 to 1,000 acre-feet (AF) of local water from Lake Hodges and approximately 4,887 AF of imported water from SDCWA. The District also sells recycled water received from the San Elijo Joint Powers Authority (SEJPA). The District's current conservation objectives are driven by limited water resources, regional drought conditions, rapidly increasing costs of imported water, and the volatility of local water supply.

The District strives to conduct water rate studies every two or three years because its water purchase costs can vary significantly from year to year based on local water availability. The District's local surface water is more economical than purchased imported water from the SDCWA. Water from Lake Hodges Dam is the least expensive District water source². Currently, Lake Hodges is operating at reduced capacity under restrictions imposed by the California Department of Water Resources - Division of Safety of Dams. The District, Santa Fe Irrigation District, and the City of San Diego are preparing to participate in a large-scale Capital Project to conduct long-term repairs to the Lake Hodges dam. This capital project will be jointly funded and a primary driver of District capital project costs in future years. The decreased water from Lake Hodges has unfortunately affected the cost of water. Since less Lake Hodges water is available, the District has to purchase more imported water.

The District conducted this water rate study to ensure that water rates and charges are sufficient to meet enterprise revenue requirements. Additionally, the District would like to minimize rate increases and large fluctuations to mitigate potential impacts on the ratepayers after the COVID-19 pandemic that began in spring 2020. The last Board-approved study recommended revenue increases of 5.5%, 6.0%, and 6.5% for fiscal years³ (FY) 2022, 2023, and 2024, respectively.

In the 2023, the San Dieguito Water District engaged Raftelis to conduct a Water Rate Study (Study) consisting of a financial plan update, cost of service, and three years of rate adjustments for FY 2025 through FY 2027. This Report presents the financial plan, Cost of Service, and the resulting rates for implementation on July 1st of each fiscal year in the three-year Study period. This report describes the resulting proposed water, recycled water, private fire, and drought rates.

² Lake Hodges water is referred to as local raw water in this report.

³ Note, this report will refer to fiscal years as those ending June 30th of the selected year.

2.2. Methodology

Raftelis and the District developed rates using Cost of Service (COS) principles set forth by the American Water Works Association M1 Manual titled *Principles of Water Rates, Fees and Charges* (AWWA M1 Manual). COS principles endeavor to distribute costs to customer classes in proportion to the way each class uses the water system.

Performing a COS study provides the rate basis to meet Proposition 218 requirements – that rates must be based on costs. It is common to set rates for several years before revisiting the COS to minimize customer rate and bill fluctuations. This Study uses the AWWA Base-Extra Capacity Method to distribute costs to customer classes and tiers. This method separates costs into four main cost causation components: base costs (which can be further divided into supply and delivery), extra capacity costs, customer costs, and fire protection costs. Base costs are associated with meeting average daily demand needs and include operations and maintenance costs and capital costs designed to meet average load conditions. Extra capacity costs are costs (both operating and capital costs) associated with meeting peak demand. Customer costs are costs associated with serving customers, such as meter reading, billing and customer service, etc. Direct fire protection costs are related solely to the fire protection function, such as fire hydrants, fire connections, and related mains and valves.

2.3. Key Study Assumptions

The Study period is from FY 2025 to FY 2027. This Study develops rates for each year beginning in FYE 2025 based on the COS, financial plan, and revenue adjustment analysis described in later sections. Table 2-1 shows the cost escalation factors assumed in the Study. Inflationary assumptions were developed in consultation with District Staff and historical data. The capital inflation rate is based on Engineering News-Record Construction Cost Index average inflation in the past ten years.

Table 2-1: Cost Escalation Factors

Line No.	Inflationary Category	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	General	4%	3%	3%	3%	3%
2	Salary	5%	3%	2%	3%	3%
3	Benefit - General	5%	5%	5%	5%	5%
4	Benefits - Medical	5%	5%	5%	5%	5%
5	Benefits - CalPers	3%	3%	3%	3%	3%
6	Benefits- OPEB	5%	5%	5%	5%	5%
7	Utilities	8%	6%	5%	5%	5%
8	Capital	5%	4%	4%	4%	4%

Table 2-2 shows the water supply inflationary factors used to calculate water purchase costs. The SDCWA escalation factors are estimated using the historical compound annual growth rate of the charges from 2021 to 2024. District staff estimates no inflation of Lake Hodges O&M costs during the Study period.

Table 2-2: Water Supply Escalation Factors

Line No.	Inflationary Category	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	SDCWA Raw Water Rate	8.5%	8.5%	7.5%	7.0%	6.5%
2	SDCWA Treatment Rate	10.7%	9.0%	8.0%	8.0%	8.0%
3	SDCWA Infrastructure Access Charge	5.0%	5.0%	5.0%	5.0%	5.0%
4	SDCWA Customer Service Charge	6.7%	5.5%	5.0%	5.0%	5.0%
5	SDCWA Storage Charge	4.1%	3.0%	3.0%	3.0%	3.0%
6	SDCWA Supply Reliability Charge	8.3%	7.0%	6.0%	8.0%	8.0%
7	SDCWA Transportation Rate	8.0%	7.0%	7.0%	7.0%	7.0%
8	MWD Tier 2 Supply Rate	10.4%	8.0%	6.0%	5.0%	5.0%
9	MWD Capacity Charge	3.1%	3.1%	3.1%	3.1%	3.1%
10	MWD Readiness To Serve	13.3%	11.0%	8.0%	6.0%	6.0%
11	City of San Diego LH O&M	0.0%	0.0%	0.0%	0.0%	0.0%

2.3.1. ACCOUNT AND WATER USE GROWTH ASSUMPTIONS

Two items affecting future water rate revenue are new account growth and annual water demand. Table 2-3 shows the financial plan assumptions for new water service connections and water use growth for the study period. District Staff anticipates low account growth since the District is nearly built out and new construction is primarily infill projects. The District estimates a 6.8% water loss assumption for the study period. This accounts for water losses in the system, such as during transmission/delivery due to leaking pipes, water losses during the treatment process, etc. Water loss is used to estimate the total amount of water purchased.

Table 2-3: Account Growth, Water Use, and Water Loss Assumptions

	FY 2024 Projected	FY 2025 Projected	FY 2026 Projected	FY 2027 Projected	FY 2028 Projected	FY 2029 Projected
Account Growth (Residential)	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Water Use Growth	6.8%	0.0%	0.0%	0.0%	0.0%	0.0%
Water Loss	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%

Table 2-4 shows the projected number of water accounts (excluding Private Fire) by meter size for the study period. The projected number of accounts is used to forecast the amount of fixed revenue the District can expect from Meter Service Charges. The projections shown below escalate FY 2023 actuals provided by the District using the account growth estimates described in Table 2-3. District staff estimates that most customer growth will occur in the 3/4-inch meter size.

Table 2-4: Projected Accounts by Meter Size

Meter Size	FY 2024 Projected	FY 2025 Projected	FY 2026 Projected	FY 2027 Projected	FY 2028 Projected	FY 2029 Projected
5/8"	3,517	3,517	3,517	3,517	3,517	3,517
3/4"	6,203	6,234	6,265	6,296	6,327	6,358
1"	1,554	1,554	1,554	1,554	1,554	1,554
1.5"	435	435	435	435	435	435
2"	422	422	422	422	422	422
3"	3	3	3	3	3	3
4"	3	3	3	3	3	3
6"	1	1	1	1	1	1
8"	1	1	1	1	1	1
Total	12,139	12,170	12,201	12,232	12,263	12,294

Table 2-5 shows the projected water use totals by class for the study period. It is based on FY 2023 actual water use and increased by 6.8% so that it reflects a more normal year since 2023 was the wettest year on record which lowered water use. The study assumes that water use will remain constant for the next three years.

Table 2-5: Projected Water Use by Customer Class (HCF)

Customer Class	FY 2024 Projected
Single Family Residence (SFR)	1,303,662
SFR -w- Agriculture	10,251
SFR -w- Commercial	1,458
Multi-Family Residence (MFR)	475,767
MFR -w- Agriculture	8,064
MFR -w- Commercial	1,082
Agriculture	51,400
Commercial	245,660
Public	48,689
Government	9,589
Landscaping	143,035
Construction	10,023
Total	2,308,680

3. Financial Plan

This section describes the Water Financial Plan and the assumptions used to project operating and capital expenses, as well as reserve policies and debt coverage requirements that determine the overall rate increases needed for a sustainable water enterprise.

3.1. Reserve Policies

The District maintains three different reserves for operating, capital, and rate stabilization, respectively. The first two reserves help the District meet its operational and capital needs; the third reserve provides additional cash on-hand that allow the District to maintain financial stability should revenue decline, such as during a recession or drought. A funded rate stabilization reserve would reduce bill impacts to ratepayers by allowing the District to use these reserves to cover costs.

The reserve targets for each are as follows:

1. Operating Reserve – 90 days of the annual operating budget.
2. Capital Replacement Reserve – the minimum being 100% of the average yearly capital improvement plan expenses over five years and the maximum being 200% of the average yearly capital improvement plan expenses over five years
3. Rate Stabilization Reserve – 15 % of annual water revenue from rates and charges

3.2. Capital Improvement Program

Table 3-1 summarizes the District's six-year Capital Improvement Plan. The District will need to finance approximately \$36 Million in Capital Expenditures over six years. These repairs are necessary to maintain the structural and functional integrity of the District's water system. The District plans to finance its capital projects over the Study period through System Development Charges (Capacity Fees) and rate revenue (also known as PAY-GO funding). The Capital Improvement Plan shown below is adjusted for inflation and reduced by the capital accomplishment rate shown in Line 13 (described later in Table 3-4). This assumes the District will execute 75% of its projects for the study period. The final adjusted annual CIP costs, accounting for the execution factors, are shown in Line 14 of the table.

Table 3-1: Proposed Capital Improvement Plan⁴

Line No.	Capital Project Category	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	SCADA Automation Upgrade Program	\$20,000	\$21,000	\$21,840	\$22,714	\$23,622	\$24,567
2	Transmission Line Maintenance	\$150,000	\$1,050,000	\$218,400	\$227,136	\$236,221	\$245,670
3	Joint Facilities Master Plan Projects (Annual)	\$500,000	\$1,050,000	\$1,638,000	\$1,987,440	\$2,066,938	\$4,299,230
4	Joint Facilities Capital Acquisitions (Annual)	\$150,000	\$157,500	\$163,800	\$170,352	\$177,166	\$184,253
5	Water Infrastructure Improvements (Annual)	\$730,000	\$1,312,500	\$1,299,480	\$1,703,520	\$1,157,485	\$386,931
6	Meter Replacement and Automation Program (Annual)	\$100,000	\$472,500	\$327,600	\$340,704	\$590,554	\$614,176
7	Water Rate Study Update (3-Year)	\$100,000	\$0	\$0	\$113,568	\$0	\$0
8	Lake Hodges Capital Repairs	\$500,000	\$787,500	\$819,000	\$851,760	\$1,181,107	\$1,228,351
9	Urban Water Management Plan Update (5-Years)	\$0	\$105,000	\$0	\$0	\$0	\$0
10	Asbestos Pipe Repair	\$0	\$525,000	\$819,000	\$1,135,680	\$1,181,107	\$1,228,351
11	Recycled Water Loan Retrofit Program	\$200,000	\$346,500	\$218,400	\$227,136	\$236,221	\$245,670
12	Total Inflated CIP	\$2,450,000	\$5,827,500	\$5,525,520	\$6,780,010	\$6,850,422	\$8,457,200
13	Capital Accomplishment Rate	100%	75%	75%	75%	100%	100%
14	Reduced Planned Capital Expenses	\$2,450,000	\$4,370,625	\$4,144,140	\$5,085,007	\$6,850,422	\$8,457,200

3.3. Financial Plan without Revenue Adjustments

Table 3-3 shows the financial plan without revenue adjustments. The purpose of showing the financial plan without revenue increases is to show that revenue is not sufficient to cover costs as shown by the net cashflow in Line 20. Table 3-2 describes each line item in the financial plan (Table 3-3).

⁴ All values have been adjusted for inflation (see “Capital” inflation factors from Table 2-1) and reduced by the capital accomplishment rate values shown in Line 13 of the table.

Table 3-2: Description of Line Items in Financial Plan Cashflow

Category	Line(s)	Description
Revenues		
Revenue from Current Rates	1	All revenues from CURRENT fixed rates and volumetric charges, assuming no rate increase. Rate revenue from current rates and charges include water, recycled water, and private fire customers where applicable. Rate revenues were calculated using the water use and customer account assumptions shown in Section 2.3
Revenue from Rate Increases	2	Revenue from proposed rate increases
Miscellaneous Revenues	3-6	Additional revenues which lowers the revenue required from rate revenue. Examples are interest revenues or revenues from property taxes.
Expenses		
O&M Expenses	9-15	<p>Costs associated with maintenance and operations (O&M), as well as water supply costs. The O&M budget is projected using the inflationary factors discussed in Table 2-1. Administration expenses include general, salary, benefits, and utilities administrative costs, in addition to the 15-year repayment schedule for the CalPERS Unfunded Accrued Liability Payment Plan. This payment level was assumed in the last rate study and is scheduled to end in FY 2033.</p> <p>The water purchase and treatment expenses are calculated using the projected water use assumptions shown in Table 2-2. SDCWA water supply unit and fixed costs are inflated based on the historical averages shown in the table.</p>
Debt	16	<p>Costs associated with existing debt service. Annual debt service includes two revenue bonds:</p> <ul style="list-style-type: none"> • 2007 Water Revenue Refunding Bonds (2007 Bond) • Water Revenue Refunding Bonds, Series 2014 (2014 Bond)
CIP	17	Costs associated with capital repair and replacement projects
Net Cashflow		
	20	
Debt Coverage	21	Equal to the net operating revenue (all revenues less O&M) divided by the total debt service payments (Lines 15-16 of Table 3-3).
Target Coverage	22	The target or minimum required debt coverage value for the calculation in Line 21. Maintaining target debt coverage helps assure the utility's credit rating and overall financial stability.

As shown below, the resulting net cashflow under current rates is negative for all years of the study. This demonstrates the need for additional rate increases to meet operating, capital, and debt-related costs.

Table 3-3: Financial Plan Cashflow *without* Revenue Adjustments

Line No.		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	Revenue from Rates	\$19,366,325	\$19,403,688	\$19,413,505	\$19,423,322	\$19,433,139	\$19,442,956
2	Additional Revenue from Rev. Adj.	\$0	\$81,452	\$140,641	\$203,381	\$269,886	\$340,381
3	Misc Operating Revenue	\$874,528	\$883,584	\$892,779	\$902,115	\$911,595	\$921,223
4	Property Taxes	\$1,433,426	\$1,433,426	\$1,433,426	\$1,433,426	\$1,433,426	\$1,433,426
5	Capital Revenue	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
6	Interest Revenue (Pooled Invst. Earnings)	\$190,346	\$159,006	\$109,352	\$32,975	\$0	\$0
7	Total Revenue	\$21,964,625	\$22,061,156	\$22,089,703	\$22,095,219	\$22,148,046	\$22,237,986
8							
9	Expenses						
10	Administration	\$2,797,520	\$2,872,922	\$2,931,965	\$2,992,390	\$3,054,746	\$3,119,006
11	Customer Service	\$958,582	\$1,004,119	\$1,039,441	\$1,070,300	\$1,108,154	\$1,147,438
12	Water Purchases and Treatment	\$11,171,894	\$11,523,208	\$12,281,724	\$13,050,839	\$13,791,796	\$14,575,312
13	Recycled Water Program	\$800,370	\$839,860	\$878,641	\$918,034	\$960,555	\$1,005,102
14	Field Operations	\$2,619,237	\$2,741,773	\$2,834,743	\$2,916,285	\$3,015,611	\$3,118,518
15	Planning and Engineering	\$798,060	\$836,958	\$865,788	\$889,719	\$920,519	\$952,452
16	Existing Debt Service	\$1,406,016	\$0	\$0	\$0	\$0	\$0
17	Rate Funded CIP	\$2,450,000	\$4,370,625	\$4,144,140	\$5,085,007	\$6,850,422	\$8,457,200
18	Total - Expenses	\$23,001,679	\$24,189,464	\$24,976,441	\$26,922,575	\$29,701,803	\$32,375,029
19							
20	Net Cash Flow	(\$1,037,054)	(\$2,128,308)	(\$2,886,739)	(\$4,827,356)	(\$7,553,756)	(\$10,137,043)
21	Debt Service Coverage	200%	N/A	N/A	N/A	N/A	N/A
22	Target Coverage	115%	115%	115%	115%	115%	115%

3.4. Proposed Financial Plan with Revenue Adjustments

Table 3-4 shows the proposed revenue adjustments and CIP accomplishment rate selected by the Board of Directors at the January 17, 2024 meeting. The blue box shows the proposed revenue adjustments during the Study period. The proposed financial plan implements the revenue adjustments on July 1 of each respective fiscal year beginning in FY 2025. The revenue adjustments assume the capital accomplishment rate of 75% in FY 2025 and for the duration of the Study period. This allows the District to maintain reserves and minimize ratepayer bill impacts.

Table 3-4: Proposed Revenue Adjustments and Capital Accomplishment Rate

Fiscal Year	Proposed Potable Revenue Adjustments	Proposed Recycled Revenue Adjustments	Proposed CIP Accomplishment
2025	9.0%	9.0%	75%
2026	12.0%	6.0%	75%
2027	12.0%	6.0%	75%

Table 3-5 shows the proposed financial plan *incorporating the proposed revenue adjustments* and CIP accomplishment rate. The description of each component of the financial plan was previously provided in Table 3-2. The District will continue operating at a deficit until FY 2026. The net cashflow is projected to remain positive through FYE 2029. This will allow the District to slowly begin accruing reserves for its operating and capital reserve targets, respectively. The debt coverage ratio is projected to exceed the target debt coverage ratio in FY 2024 and is not applicable in subsequent years due to no proposed debt service in future years. The proposed financial plan ensures financial sufficiency and solvency for the District to meet projected expenditures and financial obligations, including debt service, debt coverage, and most reserve targets while funding CIP projects at a reduced capacity.

Table 3-5: Proposed Financial Plan Cashflow

Line No.		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	Revenue from Rates	\$19,366,325	\$19,403,688	\$19,413,505	\$19,423,322	\$19,433,139	\$19,442,956
2	Additional Revenue from Rev. Adj.	\$0	\$1,746,332	\$4,227,313	\$7,005,077	\$8,595,192	\$10,282,157
3	Misc Operating Revenue	\$874,528	\$883,584	\$892,779	\$902,115	\$911,595	\$921,223
4	Property Taxes	\$1,433,426	\$1,433,426	\$1,433,426	\$1,433,426	\$1,433,426	\$1,433,426
5	Capital Revenue	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
6	Interest Revenue (Pooled Invest. Earnings)	\$190,346	\$175,655	\$183,849	\$217,846	\$249,332	\$260,081
7	Total Revenue	\$21,964,625	\$23,742,684	\$26,250,872	\$29,081,786	\$30,722,685	\$32,439,843
8							
9	Expenses						
10	Administration	\$2,797,520	\$2,872,922	\$2,931,965	\$2,992,390	\$3,054,746	\$3,119,006
11	Customer Service	\$958,582	\$1,004,119	\$1,039,441	\$1,070,300	\$1,108,154	\$1,147,438
12	Water Purchases and Treatment	\$11,171,894	\$11,523,208	\$12,281,724	\$13,050,839	\$13,791,796	\$14,575,312
13	Recycled Water Program	\$800,370	\$839,860	\$878,641	\$918,034	\$960,555	\$1,005,102
14	Field Operations	\$2,619,237	\$2,741,773	\$2,834,743	\$2,916,285	\$3,015,611	\$3,118,518
15	Planning and Engineering	\$798,060	\$836,958	\$865,788	\$889,719	\$920,519	\$952,452
16	Existing Debt Service	\$1,406,016	\$0	\$0	\$0	\$0	\$0
17	Rate Funded CIP	\$2,450,000	\$4,370,625	\$4,144,140	\$5,085,007	\$6,850,422	\$8,457,200
18	Total - Expenses	\$23,001,679	\$24,189,464	\$24,976,441	\$26,922,575	\$29,701,803	\$32,375,029
19							
20	Net Cash Flow	(\$1,037,054)	(\$446,780)	\$1,274,431	\$2,159,210	\$1,020,882	\$64,815
21	Debt Service Coverage	200%	N/A	N/A	N/A	N/A	N/A
22	Target Coverage	115%	115%	115%	115%	115%	115%

Figure 3-1 graphically illustrates the operating financial plan, which compares existing (current) and proposed revenues with projected expenses. The stacked bars show expenses, including O&M expenses, debt service, and rate-funded CIP. Total revenues at existing and proposed rates are shown by blue and black lines, respectively. Current revenue from existing rates, shown in blue, does not meet future total expenses and demonstrates the need for revenue adjustments.

Figure 3-1: Proposed Financial Plan

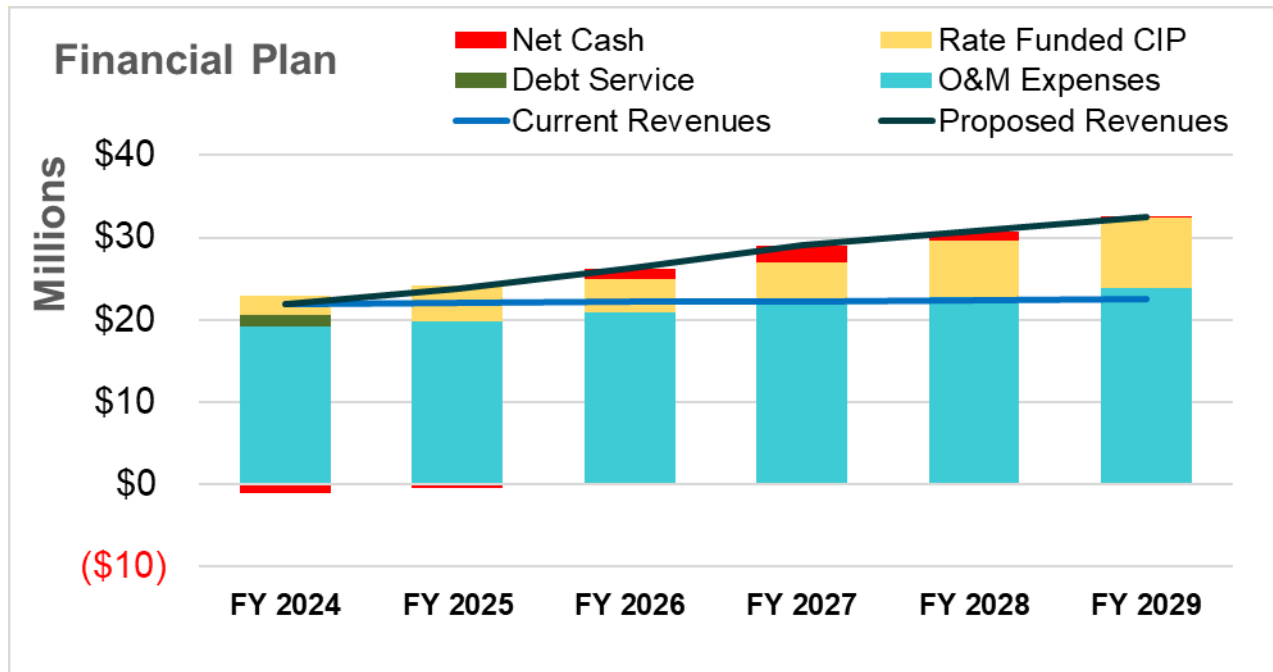


Figure 3-2 summarizes the projected CIP. The CIP is funded solely from rate revenue. The CIP expenses are inflated and are adjusted for the CIP accomplishment rate proposed in Table 3-4.

Figure 3-2: Proposed Capital Financing Plan

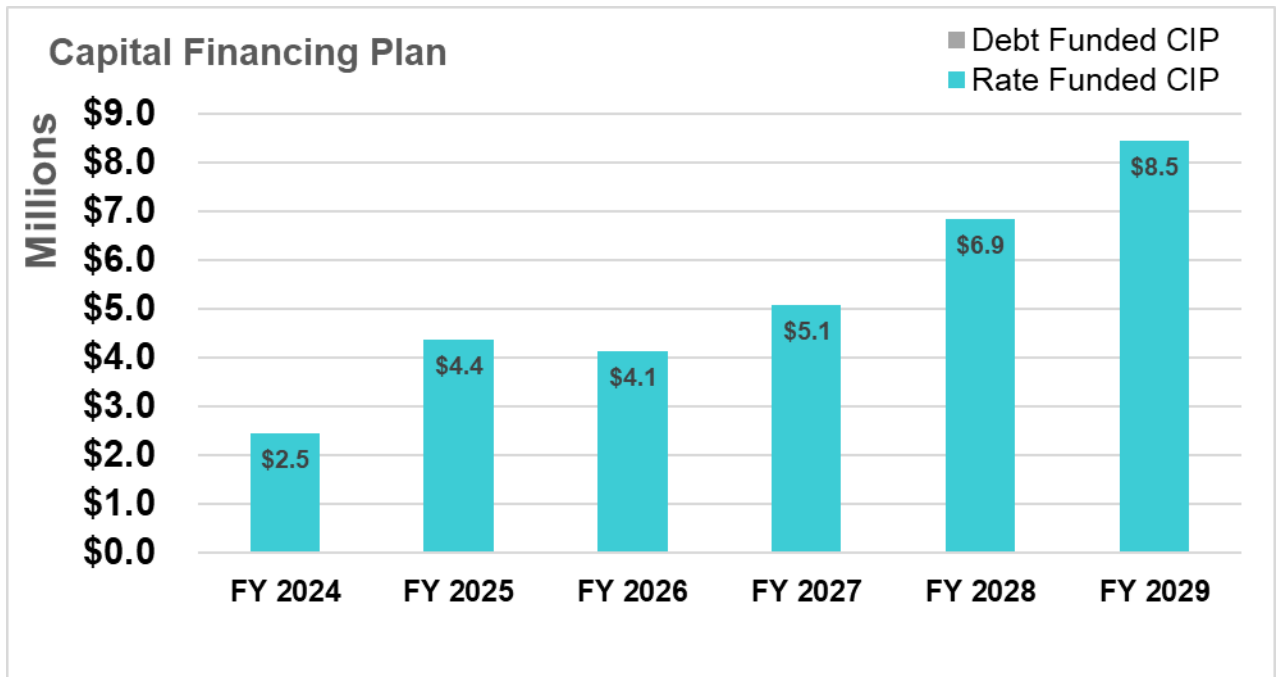
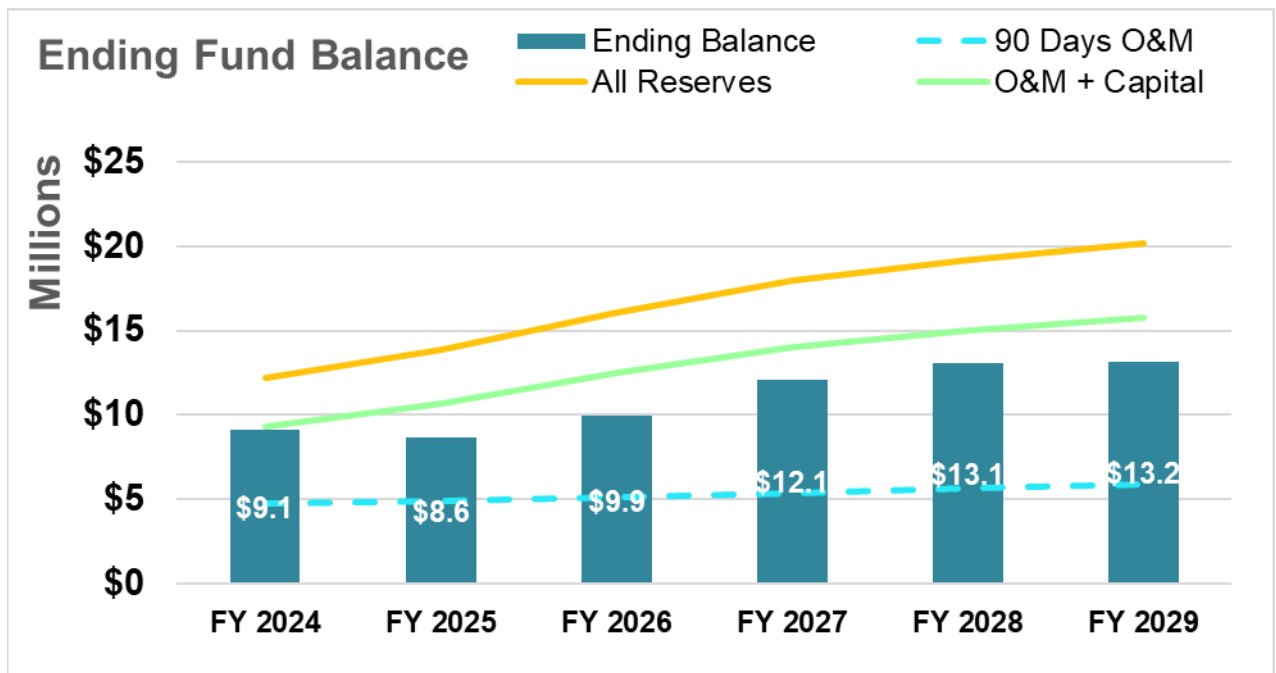


Figure 3-3 shows the projected Water Utility Fund ending balances – they exceed the 90 Days O&M reserve target, as depicted by the light blue dashed line. The ending balances are near, but do not meet the O&M + Capital reserve target (shown below as a green line) or the overall target (orange line). The District is implementing rate increases that gradually work toward meeting the O&M + Capital reserve target in order to minimize large rate increases for its customers.

Figure 3-3: Projected Fund Ending Balances



4. Cost of Service Analysis

A Cost of Service (COS) analysis distributes a utility’s revenue requirement, i.e., the yearly revenue needed, to each customer class by first allocating the District’s revenue requirement to the cost causation components. The cost causation components include:

1. Base (average) costs (can be further divided into supply and delivery)
2. Peaking costs
3. Meter service
4. Billing and customer service
5. Fire protection
6. Conservation
7. Recycled Water
8. General and administrative costs

Peaking costs can be further divided into maximum day and maximum hour demand. The maximum day demand is the maximum amount of water used in a single day in a year. The maximum hour demand is the maximum hour usage on the maximum usage day. Both maximum day and maximum hour peaking demand are used to calculate peaking unit rates to distribute costs to customer classes. Peaking costs are allocated in proportion to how the different customer classes use water during peak day and hour demands. Different facilities, such as distribution and storage facilities, are designed to meet the peaking demands of customers. Extra capacity costs include the O&M and capital costs associated with meeting peak customer demand. This method is consistent with the AWWA M1 Manual and is widely used in the water industry to perform a cost of service analyses.

4.1. Allocation to Cost Components

In a COS analysis, expenses are allocated to the cost causation components. Table 4-1 shows the system-wide peaking factors. The system-wide peaking factors are used to derive the cost component allocation bases (i.e., percentages) developed later in Table 4-2 and Table 4-3 . To understand the interpretation of the percentages, we must first establish the base as the average daily demand during the year – which is assigned an allocation basis of 1. If the base allocation basis is used to allocate an expense, the costs associated with that expense are to meet average daily demand (base) related costs. Expenses that are allocated to the cost causation components using the Maximum Day bases attribute 68% ($1.00/1.48$) of the demand (and therefore costs) to base (average daily demand) use and the remaining 32% to maximum day (peaking) use. Expenses allocated using the maximum hour bases assume 37% ($1.00/2.73$) of costs are due to base demands, 18% due to max day ($((1.48-1.00)/2.73)$), and 46% ($((2.73-1.48)/2.73)$) are due to max hour costs. Collectively the maximum day and hour cost components are known as peaking costs. These allocation bases are used to assign O&M Functions, shown in Column A of Table 4-2, to the cost causation components, shown in column headers of Table 4-2.

Table 4-1: System-Wide Peaking Factors

System Peaking	Factor	Base	Max Day	Max Hour
Base	1.00	100%	0%	0%
Max Bi-monthly / Avg Bi-monthly	1.24	81%	19%	0%
Max Day	1.48	68%	32%	0%
Max Hour	2.73	37%	18%	46%

Table 4-2 shows the allocation of the District's O&M expenses to the cost causation components. The percentages shown in Lines 1 through 20 are used to allocate the functionalized costs to each cost causation component. The allocation basis is selected based on the type of cost for each line item and the proportion of those costs associated with each cost causation component (max day, max hour, general, customer, etc.). For example, Transmission & Distribution (Line 14) is allocated using the max hour basis; in proportion to max hour allocations identified in Table 4-1. This is because the distribution and storage system must be sized and operated to meet max hour demands. Certain cost bases are identical to the cost causation components – such as Meter Service – and are easily allocated to the cost component with the same name. Line 42 shows the result of the allocation of all expenses to the cost causation components. Line 44 shows the total percentage allocated to each cost component, excluding Recycled Water. This reflects the fact that Recycled Water costs are recovered through recycled water rates. The Operating portion of the revenue requirement is allocated to the cost causation components using the allocation shown in Line 44 – this is shown later in Table 4-6.

Table 4-2: Allocation of O&M Expenses to Cost Causation Components

Line No.	Function (A)	Alloc. Basis (B)	Base (C)	Max Day (D)	Max Hour (E)	Meter (F)	Customer (G)	General (H)	Recycled (I)	Private Fire (J)	Total (K)
1	Water Purchase and Treatment										
2	Treatment Costs	Max Bi-mo./ Avg. Bi-mo.	81%	19%							100%
3	Imported Treated Water	Base	100%								100%
4	Imported Untreated Water	Base	100%								100%
5	Local Untreated Water	Base	100%								100%
6	MWD Readiness to Serve	Base	100%								100%
7	SDCWA Infrastructure Acces	Base	100%								100%
8	SDCWA Emergency Storage Fee	Meter				100%					100%
9	MWD Capacity Reservation	Max Day	68%	32%							100%
10	SDCWA Customer Service Fee	Meter				100%					100%
11	SDCWA Supply Reliability	Max Day	68%	32%							100%
12	Treatment	Max Bi-mo./ Avg. Bi-mo.	81%	19%							100%
13	Transmission & Distribution	Max Hour	37%	18%	46%						100%
14	Distribution Storage	Max Hour	37%	18%	46%						100%
15	Customer Service & Meter Reading	Customer					100%				100%
16	Meter Service	Meter Service				100%					100%
17	Admin & General	General						100%			100%
18	Recycled Water	Recycled							100%		100%
19	Private Fire Meter Maintenance	Private Fire								100%	100%
	Function (A)	Alloc. Basis (B)	Base (C)	Max Day (D)	Max Hour (E)	Meter (F)	Customer (G)	General (H)	Recycled (I)	Private Fire (J)	Total (K)
20	Water Purchase and Treatment										
21	Treatment Costs	Max Bi-mo./ Avg. Bi-mo.	\$2,073,290	\$497,590							\$2,570,880
22	Imported Treated Water	Base	\$555,648								\$555,648
23	Imported Untreated Water	Base	\$6,654,830								\$6,654,830
24	Local Untreated Water	Base	\$317,000								\$317,000
25	MWD Readiness to Serve	Base	\$44,868								\$44,868
26	SDCWA Infrastructure Acces	Base	\$879,266								\$879,266
27	SDCWA Emergency Storage Fee	Meter Service				\$616,520					\$616,520
28	MWD Capacity Reservation	Max Day	\$61,742	\$29,636							\$91,378
29	SDCWA Customer Service Fee	Meter				\$265,111					\$265,111
30	SDCWA Supply Reliability	Max Day	\$274,981	\$131,991							\$406,972
31	Treatment	Max Bi-mo./ Avg. Bi-mo.									\$0
32	Transmission & Distribution	Max Hour	\$686,103	\$329,329	\$857,629						\$1,873,061
33	Distribution Storage	Max Hour	\$231,520	\$111,130	\$289,400						\$632,050
34	Customer Service & Meter Reading	Customer					\$1,131,166				\$1,131,166
35	Meter Service	Meter				\$714,304					\$714,304
36	Admin & General	General						\$2,914,770			\$2,914,770
37	Recycled Water	Recycled							\$839,860		\$839,860
38	Private Fire Meter Maintenance	Private Fire								\$75,844	\$75,844
39	Total		\$11,779,249	\$1,099,676	\$1,147,029	\$1,595,935	\$1,131,166	\$2,914,770	\$839,860	\$75,844	\$20,583,529
40	Allocation (Omitting Recycled)		60%	6%	6%	8%	6%	15%	0%	0%	100%

The District’s functionalized assets are allocated to the same cost components as the O&M expenses. Capital costs are allocated in proportion to the functionalized assets to recognize that all assets need to be refurbished and replaced over time. This ensures that the allocations to the cost causation components and the rates remain relatively stable over time.

Raftelis, with the assistance of District staff, functionalized and allocated capital assets to the cost causation components. The assets were valued using the replacement cost less depreciation by escalating cost with the Engineering News-Record Construction Cost Index. Table 4-3 summarizes the allocation of the District’s capital assets to the cost causation components. The resulting total asset allocation is derived in the same manner as the O&M allocation in Table 4-2. Raftelis functionalized the District’s assets (Lines 1 through 7 of Table 4-3) and then allocated the value to the cost causation components (Lines 11 - 17). Part of the District’s revenue requirement includes rate-funded capital projects. This capital portion of the revenue requirement is allocated to the cost causation components using the asset allocation shown in Line 20. Line 20 shows the total percentage allocated to each cost component, excluding Admin and General. This reflects the fact that general and administrative costs support the other functions in proportion to their share of costs.

Table 4-3: Allocation of Capital Assets to Cost Causation Components

Line No.	Description	Allocation Basis	Base	Max Day	Max Hour	Meter Service / Capacity	Customer Billing	Conservation	General	Total
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
1	Supply	Base	100%							100%
2	Treatment	Base	100%							100%
3	Transmission & Distribution	Max Hour	37%	18%	46%					100%
4	Reservoir/Storage	Max Day	68%	32%						100%
5	Customer Billing	Billing & Customer Service					100%			100%
6	Meter Service	Meter Service				100%				100%
7	Admin & General	General & Administration							100%	100%
8										
9			Base	Max Day	Max Hour	Meter Service / Capacity	Customer Billing	Conservation	General	Total
10										
11	Supply		\$3,393,630							\$3,393,630
12	Treatment		\$353,282							\$353,282
13	Transmission & Distribution		\$3,453,408	\$1,657,636	\$4,316,760					\$9,427,803
14	Reservoir/Storage		\$4,288,265	\$2,058,367						\$6,346,633
15	Customer Billing									\$0
16	Meter Service					\$1,137,649				\$1,137,649
17	Admin & General								\$9,649,953	\$9,649,953
18										
19	Total Assets		\$11,488,585	\$3,716,003	\$4,316,760	\$1,137,649	\$0	\$0	\$9,649,953	\$30,308,949
20	Resulting Allocation (Omitting General)		56%	18%	21%	6%	0%	0%	0%	100%

4.2. Revenue Requirement Determination

Table 4-4 shows the revenue requirement determination. Line 28 shows the total revenue required from rates, calculated by subtracting revenue offsets (Line 22) and adjustments (Line 27) from the operating, capital, and recycled revenue requirements (Line 11). Raftelis calculated the revenue requirement using the FY 2024 budget, including water purchases, O&M expenses, capital expenses, and existing debt service, as shown in Lines 1 – 10. Lines 13 – 22 show the revenue offsets from non-rate revenues. The adjustments in Line 25 ensures the COS accounts for the annual cash balances and that the impending rate adjustment will take place at the start of FY 2025.

Table 4-4: Revenue Requirement Determination

Line No.	Description (A)	Operating (B)	Capital (C)	Subtotal (D)	Recycled (E)	Total (F)
1	Revenue Requirement					
2	Administration	\$2,872,922		\$2,872,922		
3	Customer Service	\$1,004,119		\$1,004,119		
4	Water Purchases and Treatment	\$11,523,208		\$11,523,208		
5	Recycled Water Program	\$0		\$0	\$839,860	
6	Field Operations	\$2,741,773		\$2,741,773		
7	Planning and Engineering	\$836,958		\$836,958		
8	Infrastructure Access Charge (Pass Through)	\$0		\$0		
9	Total Debt Service Expenses		\$0	\$0		
10	Rate Funded Capital Projects		\$4,370,625	\$4,370,625		
11	Total Revenue Requirement	\$18,978,979	\$4,370,625	\$23,349,604	\$839,860	
12						
13	Revenue Offsets					
14	Infrastructure Access Charge (Pass Through)	\$0		\$0		
15	Misc Operating Revenue	\$883,584		\$883,584		
16	Property Taxes - Applied to Specific Tiers	\$1,433,426		\$1,433,426		
17	Property Taxes - General Offset	\$0		\$0		
18	Capital Revenue		\$100,000	\$100,000		
19	Interest Revenue (Pooled Investment Earnings)	\$175,655		\$175,655		
20	Debt Service Revenue	\$0		\$0		
21	Non Budget Revenues	\$0		\$0		
22	Total Revenue Offsets	\$2,492,664	\$100,000	\$2,592,664	\$0	
23						
24	Adjustments					
25	Adjustment for Cash Balance		\$446,780	\$446,780		
26	Total Adjustments	\$0	\$446,780	\$446,780	\$0	
27						
28	Revenue Required from Rates	\$16,486,315	\$3,823,845	\$20,310,160	\$839,860	\$21,150,020

4.3. Preliminary Allocation of Revenue Requirements to Cost Components

Table 4-5 shows the allocation of the revenue offsets to cost components. Non-rate revenue and a portion of property taxes are allocated to O&M, based on the expense allocation percentages derived in Table 4-2. Capital Revenue is allocated to capital, based on asset allocation percentages derived in Table 4-3. A portion of property tax revenue is allocated to the Revenue Offset cost component and used as a rate offset to decrease rates for low-volume users.

Table 4-5: Allocation of Revenue Offsets to Cost Components

Line No.	Description	Allocation Basis	Base	Max Day	Max Hour	Meter Service / Capacity	Customer Billing	General	Private Fire Meter	Revenue Offset	Total
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)
1	Misc Operating Revenue	O&M	59.7%	5.6%	5.8%	8.1%	5.7%	14.8%	0.4%		100%
2	Property Taxes - Applied to Specific Tiers	Revenue Offset								100.0%	100%
3	Property Taxes - General Offset	O&M	59.7%	5.6%	5.8%	8.1%	5.7%	14.8%	0.4%		100%
4	Capital Revenue	Capital	55.6%	18.0%	20.9%	5.5%					100%
5	Interest Revenue (Pooled Invst. Earnings)	O&M	59.7%	5.6%	5.8%	8.1%	5.7%	14.8%	0.4%		100%
6	Debt Service Revenue	O&M	59.7%	5.6%	5.8%	8.1%	5.7%	14.8%	0.4%		100%
7	Non Budget Revenues	O&M	59.7%	5.6%	5.8%	8.1%	5.7%	14.8%	0.4%		100%
8											
9			Base	Max Day	Max Hour	Meter Service /	Customer Billing	General	Private Fire Meter	Revenue Offset	Total
10	Misc Operating Revenue		\$527,154	\$49,214	\$51,333	\$71,422	\$50,623	\$130,444	\$3,394		\$883,584
11	Property Taxes - Applied to Specific Tiers									\$1,433,426	\$1,433,426
12	Property Taxes - General Offset										\$0
13	Capital Revenue		\$59,661	\$5,570	\$5,810	\$8,083	\$5,729	\$14,763	\$384		\$100,000
14	Interest Revenue (Pooled Invst. Earnings)		\$97,683	\$31,596	\$36,704	\$9,673					\$175,655
15	Debt Service Revenue										\$0
	Non Budget Revenues										\$0
16	Total Revenue Offsets		\$684,498	\$86,379	\$93,846	\$89,179	\$56,352	\$145,207	\$3,778	\$1,433,426	\$2,592,664

Table 4-6 shows a preliminary allocation of costs, including O&M Expenses (Table 4-2), Capital Expenses (Table 4-3), and Revenue Offsets (Table 4-5) based on the revenue requirement determined in Table 4-4, prior to an adjustment for fire-related capacity costs. Line 1 in Table 4-6 allocates the operating revenue requirement to the cost components using the percentages shown in Table 4-2 (Line 44, Column C). The total amount, in column L, was calculated with the total operating revenue requirement less the adjustments (equal to cell B29 in Table 4-4). Line 2 in Table 4-6 allocates the capital revenue requirement, in column L, to the cost components using the percentages shown in Table 4-3. Line 3 subtracts the allocated revenue offset (Table 5-5). Line 4 allocates the recycled water revenue requirement fully to the recycled water cost component. Line 5 shows the preliminary allocation of revenue requirements to the cost components.

Table 4-6: Preliminary Allocation of Costs to Cost Components

Line No.	Description (A)	Base (B)	Max Day (C)	Max Hour (D)	Meter Service / (E)	Customer Billing (F)	Conservation (G)	General (H)	Recycled Water (I)	Private Fire Meter (J)	Revenue Offset (K)	Total (L)
1	Operating Expenses	\$11,323,029	\$1,057,085	\$1,102,604	\$1,534,123	\$1,087,355		\$2,801,878		\$72,906		\$18,978,979
2	Capital Expenses	\$2,182,072	\$705,795	\$819,899	\$216,078							\$3,923,845
3	Revenue Offsets	(\$684,498)	(\$86,379)	(\$93,846)	(\$89,179)	(\$56,352)		(\$145,207)		(\$3,778)	(\$1,433,426)	(\$2,592,664)
4	Recycled Water								\$839,860			\$839,860
5	Total Cost of Service	\$12,820,604	\$1,676,501	\$1,828,657	\$1,661,022	\$1,031,003	\$0	\$2,656,671	\$839,860	\$69,128	(\$1,433,426)	\$21,150,020

4.4. Equivalent Meters

The concept of equivalent meters is used to allocate meter-related costs appropriately. By using equivalent meters instead of a total meter count, the analysis accounts for the fact that larger meters impose greater demands on the system and are more expensive to install, maintain, and replace than smaller meters. Equivalent meters are used in calculating a portion of customer bills known as meter service.

Equivalent meters are based on meter hydraulic capacity. Equivalent meters represent the potential demand on the water system in terms of the base meter size. A ratio of hydraulic capacity is calculated by dividing large meter capacities by the base meter capacity. The capacity ratio is calculated using the meter capacity in gallons per minute (GPM) provided in the AWWA M1 Manual Principles of Water Rates, Fees, and Charges (7th Edition).

The base meter is the most common smallest meter, in this case, a 3/4-inch meter. The capacity ratio (in column B) is proportional to the potential flow through each meter size as established by the American Water Works Association (AWWA) hydraulic capacity ratios. For example, the flow through a 4-inch meter is 16.67 times that of a 3/4-inch meter, and therefore, the meter capacity component of the fixed meter charge should be 16.67 times that of the 3/4-inch meter. Table 4-7 shows the total equivalent meters (Column D), calculated by taking the number of meters by size (Column C) and multiplied by the corresponding capacity ratio (Column B). The number of annual equivalent meters is calculated by multiplying the equivalent meters by six bi-monthly billing periods. These totals are used as the denominator in developing unit costs for the rate components of the bi-monthly fixed service charges.

Table 4-7: Water Equivalent Meters

Meter Size	Capacity Ratios	Total Meters	Equivalent Meters	Annual Equivalent Meters
(A)	(B)	(C)	(D)	(E)
5/8"	1.00	3,517	3,517	21,102
3/4"	1.00	6,234	6,234	37,404
1"	1.67	1,554	2,595	15,571
1.5"	3.33	435	1,449	8,691
2"	5.33	422	2,249	13,496
3"	10.00	3	30	180
4"	16.67	3	50	300
6"	33.33	1	33	200
8"	53.33	1	53	320
Total		12,170	16,211	97,264

4.5. Allocation of Private Fire Costs

Water systems provide two types of fire protection: private fire protection that provides water for fires to buildings and sprinkler systems for fire suppression as well as public fire protection for firefighting, visible as hydrants on the street. Raftelis uses the potential flow of private fire lines and public hydrants to determine the share of total fire costs responsible for each.

Table 4-8 shows the equivalent potential demand from private fire lines. Different fire connection sizes have a different fire flow demand factor like the hydraulic capacity factor of a water meter⁵. The count of connections by

⁵ Total demand for fire connections is based on line diameter and will vary from potable demand, based on meter size.

size (Column C) is multiplied by the fire flow demand factor (Column B) to derive total equivalent fire demand units (Column D). The Hazen-Williams equation is used to calculate equivalent potential demand by raising the pipeline's diameter to the power of 2.63⁶.

Table 4-8: Private Fire Connections

Line No.	Private Fire Connection Size (A)	Fire Demand Ratio (B)	Number of Lines (C)	Equivalent Potential Private Demand (D)
1	5/8"	0.30	0	0
2	3/4"	0.47	0	0
3	1"	1.00	2,260	2,260
4	1.5"	2.90	1	3
5	2"	6.19	31	192
6	3"	17.98	0	0
7	4"	38.32	92	3,525
8	6"	111.31	64	7,124
9	8"	237.21	20	4,744
10	Total Fire Lines		2,468	17,848

Table 4-9 shows the equivalent potential demand from public fire hydrants. Fire hydrant fire ratios are based on the size and number of ports to calculate the fire flow demand factor. The fire ratio for each hydrant type can be calculated by summing all the hydrant ports raised to the power of 2.63⁷. The total equivalent potential demand (Column D) is calculated by multiplying the number of hydrants (Column C) by the calculated fire flow demand factor (Column B).

Table 4-9: Public Fire Hydrants

Line No.	Fireline Size (inch diameter) (A)	Fire Ratio based on Port Size/Count (B)	Number of Hydrants (C)	Equivalent Potential Demand (D)
1	1 x 2.5", 1 x 4"	49.45	125	6,181
2	1 x 2.5", 1 x 4"	49.45	953	47,127
3	1 x 2.5", 2 x 4"	87.77	370	32,475
4	1 x 2.5", 4 x 4"	164.41	1	164
5	2 x 2.5", 1 x 4"	60.58	9	545
6	2 x 2.5", 2 x 4"	98.90	1	99
7	Total Public Fire Hydrants		1,459	86,593

Table 4-10 summarizes the equivalent potential demand through private fire connections (Table 4-8) and public hydrants (Table 4-9). The potential fire demand percentage, and therefore cost allocation to public and private fire (Column C), is calculated by dividing the equivalent potential demand (Line 1 or Line 2, column B) by the total

⁶ Hazen-Williams equation via AWWA M1 Manual

⁷ Hazen-Williams equation via AWWA M1 Manual

potential demand (Line 3, column B). Eighty-three percent of fire capacity, and therefore costs, relate to public fire and will be recovered on the bi-monthly fixed charges. The remaining seventeen percent is attributable to private fire service and recovered through private fire service charges.

Table 4-10: Allocation of Private Fire Costs

Line No.	Description	Equivalent Potential Demand	Percent of Total Demand
	(A)	(B)	(C)
1	Private Fire	17,848	17%
2	Public Fire	86,593	83%
3	Total	104,441	100%

4.6. Unit Cost Derivation

The end goal of a cost-of-service analysis is to distribute the revenue requirement to each customer class. Raftelis calculated unit costs for each component by assessing the total water demanded, meter count (number of accounts/bills), or equivalent service units. Table 4-11 shows the derivation of the units of service, which are used in calculating unit costs. Projected FY 2025 water use was divided by 365 days to determine daily use (Column C & D). The max day and max hour capacities are calculated by multiplying the average daily use by the max day or max hour peaking factor. This results in the total capacity, with extra capacity calculated by subtracting the average daily use from the total capacity for the max day and by subtracting the total capacity for the max day from the total capacity for a max hour, respectively. The flow unit of HCF/Day is used for both max day and max hour calculations. The values shown are rounded to the nearest HCF. Columns K through M summarize the total number of customers and equivalent meters for potable water (previously shown in Table 4-7) and private fire (Table 4-8).

Table 4-11: Derivation of Cost Causation Components Units of Service

Line No.	Customer Class	Tier Width (hcf)	Annual Use (hcf)	Average Daily Usage (hcf)	Max Day			Max Hour			Equivalent Meters	Number of Customers	Number of Private Fire Customers	Number of Bi-monthly Bills
					Capacity Factor	Total Capacity	Extra Capacity	Capacity Factor	Total Capacity	Extra Capacity				
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)
1	Single Family Residence		1,303,662	3,572	1.47	5,245	1,674	2.71	9,676	4,430	10,492	9,469		
2	Tier 1	12	608,141	1,666	1.24	2,067	401	2.29	3,813	1,746				
3	Tier 2	20	244,501	670	1.41	946	276	2.60	1,745	799				
4	Tier 3	40	282,155	773	1.67	1,292	519	3.08	2,383	1,091				
5	Tier 4	>40	168,865	463	2.03	940	478	3.75	1,735	794				
6	Single Family - Agriculture		10,251	28	1.68	47	19	3.10	87	40	82	23		
7	Tier 1	12	1,775	5	1.24	6	1	2.29	11	5				
8	Tier 2	20	984	3	1.41	4	1	2.60	7	3				
9	Tier 3	40	1,900	5	1.67	9	3	3.08	16	7				
10	Tier 4	>40	5,592	15	1.88	29	13	3.46	53	24				
11	Single Family - Commercial		1,458	4	1.47	6	2	2.71	11	5	12	9		
12	Tier 1	12	731	2	1.24	2	0	2.29	5	2				
13	Tier 2	20	179	0	1.41	1	0	2.60	1	1				
14	Tier 3	40	234	1	1.67	1	0	3.08	2	1				
15	Tier 4	>40	314	1	1.88	2	1	3.46	3	1				
16	Multi-family		475,767	1,303	1.38	1,802	498	2.55	3,323	1,522	2,913	1,709		
17	Tier 1	8	320,959	879	1.24	1,091	212	2.29	2,012	921				
18	Tier 2	12	68,222	187	1.41	264	77	2.60	487	223				
19	Tier 3	16	35,977	99	1.67	165	66	3.08	304	139				
20	Tier 4	>16	50,609	139	2.03	282	143	3.75	520	238				
21	Multi-family - Agriculture		8,064	22	1.80	40	18	3.32	73	34	27	8		
22	Tier 1	8	641	2	1.24	2	0	2.29	4	2				
23	Tier 2	12	285	1	1.41	1	0	2.60	2	1				
24	Tier 3	16	272	1	1.67	1	1	3.08	2	1				
25	Tier 4	>16	6,865	19	1.88	35	16	3.46	65	30				
26	Multi-family - Commercial		1,082	3	1.51	4	2	2.78	8	4	20	7		
27	Tier 1	8	469	1	1.24	2	0	2.29	3	1				
28	Tier 2	12	166	0	1.41	1	0	2.60	1	1				
29	Tier 3	16	109	0	1.67	0	0	3.08	1	0				
30	Tier 4	>16	339	1	1.88	2	1	3.46	3	1				
31	Agriculture	Uniform	51,400	141	1.59	225	84	2.94	414	190	210	49		
32	Commercial	Uniform	245,660	673	1.32	888	215	2.43	1,638	750	1,207	535		
33	Ag/Commercial	Uniform	297,061	814	1.38	1,121	298	2.48	2,015	939	1,417	584		
34														
35	Public	Uniform	48,689	133	1.54	206	72	2.85	380	174	280	85		
36	Government	Uniform	9,589	26	1.87	49	23	3.45	91	42	85	21		
37	Institutional	Uniform	58,278	160	1.61	257	95	2.97	474	215	365	106		
38														
39	Landscaping	Uniform	143,035	392	1.83	718	326	3.38	1,324	606	883	255		
40	Construction	Uniform	10,023	27	1.83	50	23	3.43	94	44				73,020
41	All Classes (No Fire)	Uniform												73,020
42	Fire Protection Meters	Uniform											2,468	14,808
43	Recycled Water	Uniform												
44	Total		2,308,680	6,325			2,954		7,839	16,211	12,170	2,468		87,828

Table 4-12 shows the calculated public and private fire service capacity. Line 1 and 2 show that we assumed a commercial fire would last four hours and require a fire flow of 4,000 gallons per minute (GPM). Line 4 shows the percentage of the District’s fire flow capacity allocated to Public Fire (Table 4-10). Max day capacity demanded by fire protection is determined by converting 4,000 GPM to gallons per hour, then multiplying by the four-hour duration of a typical fire, and then converting to HCF per day as shown in Line 5, Column B. A similar calculation is done for the max hour capacity, multiplying the max day capacity by 24 hours less the capacity already allocated to Max Day. This is converted to HCF per day in Line 5, Column C. Public Fire is allocated 83 percent of each of those capacities (Line 6), and private fire is allocated the remaining amount of those capacities (Line 7). The values for max day and max hour total extra capacity shown in Line 9 are calculated by adding the total fire service capacity in Line 8 to the respective max day and max hour extra capacities shown in Columns G and J of Table 4-11. Line 9 is the system wide extra capacity. Lines 10 and 11 show the percent of system wide Max Day and Max Hour capacity allocated to public and private fire. As shown, 25% of the Max Day capacity is for public fire and 37% of the Max Hour capacity (in excess of Max Day) is for public fire.

Table 4-12: Calculation of Fire Service Capacity

Line No.	Fire Estimate (A)	Max Day (B)	Max Hour In Excess of Max Day (C)
1	Hours for Typical Fire: 4		
2	Fireflow Required for Typical Fire: 4,000 (gallons per minute)		
3			
4	Cost to Public Fire	83%	83%
5	Capacity Demanded for Fire (hcf/day)	1,283	6,417
6	Public Fire	1,064	5,320
7	Private Fire	219	1,097
8	Total Fire (hcf /day)	1,283	6,417
9	Total Extra Capacity - Fire and Potable (hcf/day)	4,238	14,256
10	Percent of Extra Capacity for Public Fire (line 6/9)	25.1%	37.3%
11	Percent of Extra Capacity for Private Fire (line 7/9)	5.2%	7.7%

4.7. Final Allocation of Revenue Requirement to Cost Components

The COS can now be completed by making the final adjustments shown in Table 4-13. Line 5 is the result of the preliminary cost allocation to cost components in Table 4-6. Line 7 allocates General costs to all cost components except Recycled Water and Revenue Offset, based on the percentage of costs allocated in the preliminary cost of service (Line 6). Line 9 reallocates public fire costs (Columns C & D) to potable meter capacity (Column E), meaning it will be collected through the fixed meter charge. The costs for public fire is calculated by multiplying the subtotals shown in Columns C & D, by the percentages shown in line 10 of Table 4-12. Line 10 allocates costs from the max day and max hour (Column C & D) to private fire (Column I). The portion of extra capacity costs allocated to private fire is calculated by multiplying the subtotals in Line 8 by the percentages shown in Line 11 of Table 4-12. Line 11 allocates a portion of max day and max hour costs to the meter component so that these costs can be collected through a fixed charge; this is so the District meets its revenue stability goals and collects a portion of capacity through a fixed charge. Line 12 allocates a portion of Customer Billing to private fire for

billing associated costs since Private Fire customers receive customer service and bills. The final adjusted COS allocation to the cost components is shown in Line 13.

Utilizing the final COS (Line 13) as the numerator and the units of service derived in Table 4-11 as the denominators (Line 15), we derive unit costs of service in Line 17 for each cost component. Meter costs are divided by total meter equivalencies in Table 4-7 and number of lines in Table 4-8 then multiplied by six bi-monthly bills to determine a cost per equivalent meter. Annual customer costs are divided by the estimated number of annual bi-monthly bills to arrive at a cost per bill. The unit costs are used to distribute the cost components to service and commodity rates. Once the District's expenses have been allocated to the cost causation components, rates are derived to collect the total amount shown in Column K of Table 4-13.

Table 4-13: Final Cost of Service Allocation to Cost Components⁸

Line No.	Description (A)	Base (B)	Max Day (C)	Max Hour (D)	Meter Service (E)	Customer Billing (F)	General (G)	Recycled Water (H)	Private Fire Meter (I)	Revenue Offset (J)	Total (K)
1	Operating Expenses	\$11,323,029	\$1,057,085	\$1,102,604	\$1,534,123	\$1,087,355	\$2,801,878		\$72,906	\$0	\$18,978,979
2	Capital Expenses	\$2,182,072	\$705,795	\$819,899	\$216,078	\$0	\$0	\$0	\$0	\$0	\$3,923,845
3	Revenue Offsets	(\$684,498)	(\$86,379)	(\$93,846)	(\$89,179)	(\$56,352)	(\$145,207)	\$0	(\$3,778)	(\$1,433,426)	(\$2,592,664)
4	Recycled Water							\$839,860			\$839,860
5	Total Cost of Service	\$12,820,604	\$1,676,501	\$1,828,657	\$1,661,022	\$1,031,003	\$2,656,671	\$839,860	\$69,128	(\$1,433,426)	\$21,150,020
6	Allocation of General Cost %	67%	9%	10%	9%	5%			0%		100%
7	Allocation of General Cost	\$1,784,475	\$233,349	\$254,527	\$231,195	\$143,503	(\$2,656,671)	\$0	\$9,622	\$0	\$0
8	Subtotal	\$14,605,079	\$1,909,850	\$2,083,184	\$1,892,217	\$1,174,506	\$0	\$839,860	\$78,750	(\$1,433,426)	\$21,150,020
9	Allocation of Public Fire to Meter		(\$479,524)	(\$777,426)	\$1,256,949						\$0
10	Allocation to Private Fire		(\$98,838)	(\$160,241)					\$259,079		\$0
11	Allocation Peak to Meter		(\$532,595)	(\$458,207)	\$990,802						\$0
12	Allocation of Customer Bills to Private Fire					(\$52,853)			\$52,853		\$0
13	Adjusted Cost of Service	\$14,605,079	\$798,893	\$687,311	\$4,139,969	\$1,121,654	\$0	\$839,860	\$390,681	(\$1,433,426)	\$21,150,020
14											
15	Units of Service	2,308,680	2,954	7,839	97,264	73,020			17,848	2,097,344	
16	Unit	hcf	hcf/day	hcf/day	eq. meters	customer bills			equivalent demand	hcf use (w/o Institutional)	
17	Unit Cost	\$6.33	\$270.40	\$87.68	\$42.56	\$15.36				(\$0.68)	
18	Unit	\$/hcf	hcf/day	hcf/day	eq. meter/month	\$/bill					

⁸ Note that both General and Recycled are excluded from the unit cost calculation. General is reallocated to other cost components in Lines 6-7, so there are no costs available to develop a unit cost calculation in Line 18. The Recycled category represents the recycled revenue requirement used to calculate recycled rates later in Section 6, and is therefore excluded from potable unit costs as well.

5. Potable Water Rate Design

This section calculates potable water rates based on the Cost of Service (Section 4). The rates developed in this section will be referred to as the Cost of Service rates.

5.1. Existing Rate Structure and Rates

The District’s current rate structure has a fixed and variable component for all customers. The fixed service charge is comprised of a bi-monthly Meter Service Charge, a San Diego County Water Authority (SDCWA) Infrastructure Access Charge (IAC), and Fire Line Service Charge. The Fire Line Service Charge is only for those customers with private fire protection connections. The variable rates for water consumption are tiered volumetric charges for residential customer classes and uniform volumetric charges for non-residential customer classes. Table 5-1 shows the current fixed service charges. Table 5-2 shows the current volumetric rate per hundred cubic feet (HCF)⁹.

Table 5-1: Current Potable Bi-Monthly Fixed Charges

Meter Size	Water Meter Service Charge	SDCWA Infrastructure Access Charge	Fire Line / Meter Service Charge
Effective Date	1/1/2024	1/1/2024	1/1/2024
5/8"	\$52.78	\$8.82	\$11.08
3/4"	\$52.78	\$8.82	\$11.08
1"	\$78.06	\$14.10	\$11.08
1.5"	\$140.72	\$26.46	\$9.86
2"	\$216.21	\$45.86	\$17.10
3"	\$392.47	\$84.66	\$43.07
4"	\$644.23	\$144.64	\$87.84
6"	\$1,273.05	\$264.60	\$248.55
8"	\$2,027.93	\$458.64	\$525.75

⁹ One hundred cubic foot is equivalent to 748 gallons.

Table 5-2: Current Potable Commodity Rates

Class/Tier	Tier	FY 2024 Current
Single Family Residence		
Tier 1	12	\$3.68
Tier 2	20	\$6.61
Tier 3	40	\$7.47
Tier 4	>40	\$8.87
Single Family - Agriculture		
Tier 1	12	\$3.68
Tier 2	20	\$6.61
Tier 3	40	\$7.47
Tier 4	>40	\$7.85
Single Family - Commercial		
Tier 1	12	\$3.68
Tier 2	20	\$6.61
Tier 3	40	\$7.47
Tier 4	>40	\$7.85
Multi-family		
Tier 1	8	\$3.68
Tier 2	12	\$6.61
Tier 3	16	\$7.47
Tier 4	>16	\$8.87
Multi-family - Agriculture		
Tier 1	8	\$3.68
Tier 2	12	\$6.61
Tier 3	16	\$7.47
Tier 4	>16	\$7.85
Multi-family - Commercial		
Tier 1	8	\$3.68
Tier 2	12	\$6.61
Tier 3	16	\$7.47
Tier 4	>16	\$7.85
Commercial/AG	Uniform	\$6.34
Institutional	Uniform	\$6.99
Landscaping	Uniform	\$7.33
Construction	Uniform	\$7.48

5.2. Bi-Monthly Water Meter Service Charge

The bi-monthly water meter fixed charge by meter size for potable water has two cost components that comprise the total proposed bi-monthly fixed charge:

1. Customer Billing
2. Meter Service & Capacity

The Customer Billing component recovers costs associated with meter reading, customer billing, as well as customer service costs. These costs are the same for all meter sizes as it costs the District the same to provide billing and customer services to any account, regardless of meter size. The Meter Service / Capacity cost component recognizes the fact that the District incurs fixed costs related to maintaining/replacing meters. These costs increase with meter size increases, as it takes less time and resources to repair and maintain smaller meters compared to a larger meter. Table 5-3 shows the derivation of the components for the base meter size (3/4-inch).

Table 5-3: Derivation of Bi-Monthly Fixed Water Meter Service Charge

Line No.	Description	Charge Basis
1	Customer Service Charge Component	Per Account
2	Customer Service Costs	\$1,121,654
3	Number of Annual Bills	73,020
4	Bi-monthly Customer Service Charge	\$15.36
5		
6	Meter Service + Capacity	Per Equivalent Meter
7	Meter Service + Capacity Costs	\$4,139,969
8	Number of Equivalent Meters	97,264
9	Bi-monthly Meter Service	\$42.56

Table 5-4 shows the calculation of the total bi-monthly fixed charge for each meter size. The Meter Service/Capacity component is based on the equivalent meter ratio for each meter size. It reflects the fact that larger meters have the potential to demand more capacity compared to smaller meters. The potential capacity demanded is proportional to the potential flow through each meter size (as established by the AWWA hydraulic capacity ratios). The resulting potential capacity values are shown in Column C. The ratios show the potential flow through each meter size compared to the flow through a 3/4-inch meter. Meter Service and Capacity (Column D) is calculated by multiplying the capacity ratio by the bi-monthly potable meter capacity charge, as derived in Line 9 of Table 5-3. Allocating capacity costs by meter size is a common way to recover the fixed costs and increase revenue stability. The Customer Billing (Column E) and Meter Service / Capacity components are combined to yield the total proposed fixed charge by meter size (Column F).

Table 5-4: Calculation of Bi-Monthly Fixed Water Meter Charge

Line No.	Meter Size	Number of Accounts (Potable)	Meter Ratio	Meter Service and Capacity	Customer Billing	Proposed Bi-Monthly Service Charge
	(A)	(B)	(C)	(D)	(E)	(F)
1	5/8"	3,517	1.00	\$42.56	\$15.36	\$57.93
2	3/4"	6,234	1.00	\$42.56	\$15.36	\$57.93
3	1"	1,554	1.67	\$71.08	\$15.36	\$86.44
4	1.5"	435	3.33	\$141.74	\$15.36	\$157.10
5	2"	422	5.33	\$226.87	\$15.36	\$242.23
6	3"	3	10.00	\$425.64	\$15.36	\$441.00
7	4"	3	16.67	\$709.55	\$15.36	\$724.91
8	6"	1	33.33	\$1,418.67	\$15.36	\$1,434.03
9	8"	1	53.33	\$2,269.95	\$15.36	\$2,285.31
	Total	12,170				

5.3. Private Fire

Private Fire bi-monthly fixed charges are composed of three cost components: Meter Maintenance, Billing & Customer Service, and Fire Fighting Capacity components. The Meter Maintenance cost component recovers fixed costs related to reading, maintaining, and replacing the 3/4-inch and 1-inch fire meters. Meter maintenance costs increase with meter size, as it takes less time and resources to repair and maintain smaller meters compared to a larger meter. The Customer Billing component recovers costs associated with meter reading and customer billing. These costs are the same for all meter sizes as it costs the District the same to provide billing and customer services to Private Fire accounts, regardless of fire line meter size.

Table 5-5 shows the derivation of the private fire rate components. Lines 2 - 4 show the fire meter maintenance charge for the customers with fire meters. This accounts for the expense of reading and repairs to the meter. The charge (Line 4) can be calculated by dividing the amount allocated¹⁰ to private fire (Line 2), including the General reallocation in the COS, by the total amount of fire meters (Line 3). Lines 7 – 9 show the calculation of the Billing/Customer Service charge component. The Billing Customer Service charge component (Line 9) is calculated by dividing the amount allocated¹¹ to private fire from Customer Billing (Line 7) by the number of annual fire bills (Line 8). Lines 12 – 14 show the calculation of the Fire Fighting Capacity charge component. The charge (Line 14) is calculated by dividing the amount allocated¹² to private fire for firefighting capacity from Peaking (Line 12) by the equivalent potential demand (Line 13 derived by dividing Line 10, Column D of Table 4-8 by 6 bi-monthly periods). Line 16 shows the total amount collected through all charges for fire protection.¹³

¹⁰ The allocation to Private Fire Meter from the Cost of Service and General Allocation is found in Line 5 and Line 7 of Table 5-13.

¹¹ The allocation to Private Fire Meter from Customer Billing is found in Line 13 of Table 5-13.

¹² The allocation to Private Fire Meter from Peaking is found in Line 9 of Table 5-13.

¹³ The total Private Fire Costs allocated in the COS are found in Line 14 of Table 5-13.

Table 5-5: Calculation of Private Fire Charges

Line No.	Description	Charge Basis
1	Meter Maintenance	Per Fire Meter
2	Cost to Maintain Private Fire Meters	\$78,750
3	Number of Fire Meters	2,260
4	Bi-Monthly Fire Meter Maintenance	\$5.81
5		
6	Billing/Customer Service	Per Bill
7	Costs to Bill Private Fire Customers	\$52,853
8	Number of Fire Bills (Annual):	14,808
9	Bi-Monthly Billing Component	\$3.57
10		
11	Fire Fighting Capacity	Per Equivalent Demand
12	Fire Capacity Costs	\$259,079
13	Equivalent Potential Demand (Private Fire):	2,975
14	Fire Fighting Capacity Component	\$2.42
15		
16	Total Private Fire Costs	\$390,681

Table 5-6 shows the calculation of the total bi-monthly private fire charge for each private fire connection size. The total proposed private fire charge is calculated by combining the firefighting capacity costs (Column E), Billing/Customer Service (Column F), and Meter Maintenance (Column G). The Meter Maintenance component (Line 4, Table 5-5) applies to 1” compound meter customers. It reflects the fact that Private Fire customers with fire meters have periodic maintenance performed on the meter. The Customer Billing component (Line 9, Table 5-5) applies uniformly to all private fire customers. Firefighting capacity costs (Column E) are proportional to the potential flow through each private fire line or size (Column B), shown in Table 4-8. The firefighting capacity costs are calculated by multiplying the capacity ratio (Column C) by the bimonthly firefighting capacity cost (Line 14, Table 5-5).

Table 5-6: Derivation of Private Fire Rates

Line No.	Meter Size/Line Diameter	Number of Accounts	Fire Demand Ratio	Equivalent Demand	Private Fire Protection Component	Bi-Monthly Billing Component	Bi-Monthly Fire Meter Maintenance	Proposed Rates
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
1	1"	2,260	1.00	2,260	\$2.42	\$3.57	\$5.81	\$11.80
2	1.5"	1	2.90	3	\$7.03	\$3.57		\$10.60
3	2"	31	6.19	192	\$14.98	\$3.57		\$18.55
4	3"	0	17.98	0	\$43.50	\$3.57		\$47.07
5	4"	92	38.32	3,525	\$92.71	\$3.57		\$96.27
6	6"	64	111.31	7,124	\$269.29	\$3.57		\$272.86
7	8"	20	237.21	4,744	\$573.87	\$3.57		\$577.44

5.4. Commodity Rates (\$/HCF)

There are no changes proposed to the existing commodity rate structure and tier breakpoints. The District has a tiered commodity rate for residential customers and a uniform commodity rate for non-residential customers. The commodity rate has five cost components:

1. Water Supply
2. Delivery
3. Peaking
4. Conservation
5. Revenue Offset

Water Supply costs are costs associated with obtaining and treating water to make it ready for transmission and distribution. The District has three sources of water; local water from Lake Hodges¹⁴ (local raw), SDCWA imported treated, and SDCWA imported untreated.

Delivery costs are the operating and capital costs associated with delivering water to all customers at a constant average rate of use – also known as serving customers under average daily demand conditions. Therefore, delivery costs are spread over all units of water which results in equal delivery unit costs for all classes and tiers.

Peaking costs, or extra-capacity costs, represent costs incurred to meet customer peak demands in excess of a base use (or in excess of average daily demand). Total extra capacity costs are comprised of maximum day and maximum hour demands, as discussed in Section 5. For the portion of extra capacity costs collected through the commodity rate, peaking costs are distributed to each tier and class using peaking factors derived from customer use data – this is shown in columns 4 and 5 of Table 4-1. For the portion of extra capacity costs collected through the fixed charge, AWWA hydraulic capacity factors are used to distribute extra capacity costs to customer classes – this is shown in Column B of Table 4-7.

Revenue Offset is a cost component that applies a credit that applies a portion of property tax revenue to reduce the rates to promote affordability for Tiers 1 and 2 as well as the Commercial class. The District has discretion on how to use this non-rate revenue.

5.4.1. UNIT COST DERIVATION

Water Supply costs are associated with obtaining and treating water to make it ready for delivery. Base Costs are the operating and capital costs associated with delivering water to all customers through the distribution system (not including distribution storage) at a constant average rate of use, also known as serving customers under average daily demand conditions (base use). Table 5-7 shows the Base Rate unit cost in dollars per HCF.

Table 5-7: Calculation of Base Rate Unit Cost

Line No.	Water Supply Unit Cost	
1	Base Cost	\$14,605,079
2	Water Use (hcf)	2,308,680
3	Unit Cost (\$/hcf)	\$6.33

¹⁴ The District retains joint water rights to the surface water stored in Lake Hodges with the Sante Fe Irrigation District and the City of San Diego.

The supply rate for each tier and class is a function of the cost and amount of water allocated from each of the District’s water sources. As stated in the executive summary, the District has less Lake Hodges water due to repairs needed to the Lake Hodges dam. As shown below, we estimated 750 AF from Lake Hodges. Table 5-8 shows the estimated volume purchased and sold from each water source.

Table 5-8: Annual Water Use, Water Purchased, and Total Costs by Source

Line No.	Description	Imported Treated	Imported Raw	Local Raw (Lake Hodges)	Total
1	Volume Purchased (AF)	300	4,637	750	5,687
2	Percent From Each Source	5%	82%	13%	100%
3	Annual Use (HCF)	121,794	1,882,402	304,484	2,308,680
4	Water Purchase Costs	\$555,648	\$6,654,830	\$317,000	\$7,527,478
5	Percent of Water Purchase Costs	7.4%	88.4%	4.2%	100.0%

Table 5-9 shows the unit cost per acre-foot to treat raw water¹⁵ at the R.E. Badger Filtration Plant¹⁶. The unit cost is calculated by dividing the projected test year water treatment costs by the total volume of untreated water from all District water sources.

Table 5-9: Cost to Treat Surface Water

Line No.	Description	
1	Water Treatment Costs	\$2,570,880
2	Untreated Water (AF Imported)	4,637
3	Untreated Water (AF Local)	750
4	Total Untreated Water - AF	5,387
5	Estimated Cost to Treat Untreated Water (\$/AF)	\$477.26

The SDCWA imported water rates for both treated and untreated water are updated on a calendar year (CY) basis. Table 5-10 shows the weighted average rate for FY 2025. Analysis of the District’s customers’ actual water use in FY 2019 and FY 2020 shows 60% and 40% of water use occur in the first and second half of a fiscal year, respectively, and this was applied to FY 2023 and 2024. The weighted average rate for imported treated water, weighed by seasonal water use, is shown in Line 6. Similarly, the weighted average rate for imported raw water is shown in Line 7.

¹⁵The FY 2025 Projected Treatment Costs are found in Table 5-2.

¹⁶ The R.E. Badger Filtration Plant is co-owned by the District and Santa Fe Irrigation System.

Table 5-10: Estimated Imported Water Rate

Line No.	Description	CY 2024 Rate	CY 2025 Rate
1	Months Effective	July-December	January-June
2	Percentage of Water Use	60%	40%
3	Imported Treated	\$1,789	\$1,949
4	Imported Raw	\$1,389	\$1,506
5			
6	Weighted Average Imported Treated Rate		\$1,852
7	Weighted Average Imported Raw Rate		\$1,435

Table 5-11 shows the total water supply cost purchased from each water source. Line 5 and Line 9 show the total supply cost of imported raw and local raw water, including the additional cost of treatment (Table 5-9). This accounts for the treatment of raw water that must be completed prior to distribution to District customers.

Table 5-11: Supply Costs By Source

Line No.	Description	FY 2024
1	Imported Treated Water Rate (Treated M&I Rate)	\$1,852
2		
3	Imported Raw Water Rate (Untreated Rate)	\$1,435
4	Cost to Treat Imported Untreated M&I Water	\$477
5	Cost to Obtain and Treat Untreated Imported Raw Water	\$1,913
6		
7	Local Raw Water (\$/AF)	\$423
8	Cost to Treat Lake Hodges Water (\$/ AF)	\$477
9	Cost to Obtain and Treat Local Raw Water (\$/AF)	\$900

Table 5-12 shows the total cost of water produced by source. Line 1 and Line 2 are the calculated supply and treatment costs (Table 5-11) per AF and HCF, respectively. Line 3 shows the supply cost accounting for lost water¹⁷. Line 5 and Line 6 show the projected amount of water that will be purchased in FY 2025 (Table 5-8). Line 8 shows the total cost of water produced, calculated by multiplying the cost of water (Line 3) by the projected water purchase amount (Line 6).

¹⁷ This cost accounting for lost water maintains the water loss assumptions shown in Table 2-3.

Table 5-12: Total Cost of Water Produced

Line No.	Description	Imported Treated Water	Treated Imported Raw Water	Treated Local Raw Water	Total
1	Cost of Water Produced (\$/AF)	\$1,852	\$1,913	\$900	
2	Cost of Water Produced (\$/HCF)	\$4.25	\$4.39	\$2.07	
3	Cost Accounting for Lost Water (\$/hcf)	\$4.56	\$4.71	\$2.22	
4					
5	Water Purchased (AF)	300	4,637	750	5,687
6	Water Purchased (HCF)	130,680	2,019,744	326,700	2,477,124
7	Total Cost of Water Produced	\$555,648	\$8,867,762	\$674,949	\$10,098,358

Table 5-13 shows the number of accounts and percentage distribution of accounts in each customer class for FY 2025.

Table 5-13: Customer Account Distribution

Line No.	Description	Number of Accounts	% of Accounts
1	Single Family Residence	9,469	78%
2	Single Family - Agriculture	23	0%
3	Single Family - Commercial	9	0%
4	Multi-family	1,709	14%
5	Multi-family - Agriculture	8	0%
6	Multi-family - Commercial	7	0%
7	Subtotal	11,225	92%
8	Ag/Commercial	584	5%
9	Institutional	106	1%
10	Landscaping	255	2%
11	Construction	0	0%
12	All Classes (No Fire)	0	0%
13	Total	12,170	100%

Table 5-14 shows the source and total volume of water allocated to each class in proportion to the number of accounts by class (Table 5-13). For example, Residential is allocated 92% of treated local raw water.

Table 5-14: Use By Source Distributed by Customer Accounts

Line No.	Description	Treated Local Raw Water	Imported Treated Water	Treated Imported Raw Water	Total Use By Class (HCF)
1	Residential	280,841	112,336	1,407,106	1,800,284
2	Ag/Commercial	14,611	5,844	276,605	297,061
3	Institutional	2,652	1,061	54,565	58,278
4	Landscaping	6,380	2,552	134,103	143,035
5	Total	304,484	121,794	1,882,402	2,308,680

Table 5-15 shows the average supply cost by class. Line 1 shows the water supply cost, accounting for water loss (from Table 5-12). The weighted average supply cost for each customer class is calculated by the weighted average - weighted by the use from each source - of the supply cost for each source. The weighted average supply cost, in column F, is calculated by adding the total supply costs (which is the volume from each source multiplied by the rate for each source)¹⁸ and dividing by the total use in each class (Column E). Column F shows the weighted average supply cost for each class. The average cost of water supply for all classes is shown in Line 8.

Table 5-15: Calculation of Supply Costs by Class

Line No.	Description	Treated Local Raw Water	Imported Treated Water	Treated Imported Raw Water	Total Use By Class (HCF)	Average Supply Cost
	(A)	(B)	(C)	(D)	(E)	(F)
1	Water Supply Cost	\$2.22	\$4.56	\$4.71		
2						
3	Residential	280,841	112,336	1,407,106	1,800,284	\$4.31
4	Ag/Commercial	14,611	5,844	276,605	297,061	\$4.59
5	Institutional	2,652	1,061	54,565	58,278	\$4.59
6	Landscaping	6,380	2,552	134,103	143,035	\$4.60
7	Construction	0	0	10,023	10,023	\$4.71
8	Total	304,484	121,794	1,882,402	2,308,680	\$4.37

Table 5-16 shows the calculation of the supply unit cost for each residential tier (Column I). The water allocated to the residential class (line 3 of Table 5-15) is allocated to each tier as shown in column D. Tier 1 (line 2) is allocated all of the local water and portions of imported treated water and treated imported raw water. Tier 2 (line 3) is allocated the remaining amount of treated imported raw water to meet its water demand. Tiers 3 and 4 (lines 4 and 5) are allocated solely treated imported raw water. The weighted average supply cost by tier (Column I) is calculated by taking the weighted average of the supply cost by source (Line 8 & Table 5-12), weighted by the use in each tier to produce the average supply cost by tier. There is less Lake Hodges water compared to prior studies, increasing the rate for Tier 1.

Table 5-16: Calculation of Supply Costs by Residential Tier

Line No.	Tier	Bi-Monthly Break Point	% of Use	Use By Tier (HCF)	Total Water Supply By Source (HCF)			Total	Average Supply Costs	Ratio
					Treated Local Raw Water	Imported Treated Water	Treated Imported Raw Water			
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
1	Water Supply				280,841	112,336	1,407,106			
2	Tier 1	12	52%	932,715	280,841	112,336	539,537	932,715	\$3.94	1.00
3	Tier 2	20	17%	314,337	0	0	314,337	314,337	\$4.71	1.20
4	Tier 3	40	18%	320,648	0	0	320,648	320,648	\$4.71	1.20
5	Tier 4	>40	13%	232,584	0	0	232,584	232,584	\$4.71	1.20
6	Total		100%	1,800,284	280,841	112,336	1,407,106	1,800,284	\$4.31	1.09
7										
8	Average Supply Cost By Water Source (\$/HCF)					\$2.22	\$4.56	\$4.71		

¹⁸ For example, the total supply costs for Residential customers is calculated by summing the multiplication of the amount of water from each source, shown in Line 3, Columns B, C, & D, and unit costs shown in Line 1, Columns B, C, & D.

5.4.2. DELIVERY UNIT COSTS

Delivery (base) costs are spread over all units of water and is the same rate for all classes and tiers. Table 5-17 shows the delivery unit cost. The delivery unit cost is calculated by subtracting the weighted average water supply rate (Table 5-15) from the Base Rate (Table 5-7). The base rate is the cost to obtain, treat and deliver water under average daily demand conditions. By subtracting the average supply rate, we identify the cost to deliver water under the same conditions.

Table 5-17: Calculation of Delivery Unit Cost

Line No.	Description	
1	Base Rate - COS	\$6.33
2	Average Supply & Treatment Cost	\$4.37
3	Delivery Cost (\$/HCF)	\$1.95

5.4.3. PEAKING UNIT COSTS

Table 5-18 shows the derivation of the unit peaking costs for all classes. The peaking costs in Column D are derived in Section 4.¹⁹ The peaking rate is calculated by dividing the peaking costs (Column D) by the water use (Column E) for each class and tier²⁰.

¹⁹ The peaking costs are the sum of the Max Day and Max Hour costs for each class and tier.

²⁰ Peaking rates are correlated with the peaking factor – a higher peaking factor correlates to a higher peaking rate.

Table 5-18: Calculation of Peaking Factor Unit Cost

Line No.	Class/Tier (A)	Tier Breakpoint (B)	Peaking Factor (C)	Peaking Costs (D)	Use (hcf) (E)	Peaking Rate (\$/hcf) (F)
1	Single Family Residence					
2	Tier 1	12	1.04	\$261,538	608,141	\$0.43
3	Tier 2	20	1.18	\$144,669	244,501	\$0.59
4	Tier 3	40	1.40	\$235,968	282,155	\$0.84
5	Tier 4	>40	1.70	\$198,843	168,865	\$1.18
6	Single Family - Agriculture					
7	Tier 1	12	1.04	\$763	1,775	\$0.43
8	Tier 2	20	1.18	\$582	984	\$0.59
9	Tier 3	40	1.40	\$1,589	1,900	\$0.84
10	Tier 4	>40	1.57	\$5,754	5,592	\$1.03
11	Single Family - Commercial					
12	Tier 1	12	1.04	\$314	731	\$0.43
13	Tier 2	20	1.18	\$106	179	\$0.59
14	Tier 3	40	1.40	\$196	234	\$0.84
15	Tier 4	>40	1.57	\$323	314	\$1.03
16	Multi-family					
17	Tier 1	8	1.04	\$138,032	320,959	\$0.43
18	Tier 2	12	1.18	\$40,366	68,222	\$0.59
19	Tier 3	16	1.40	\$30,088	35,977	\$0.84
20	Tier 4	>16	1.70	\$59,594	50,609	\$1.18
21	Multi-family - Agriculture					
22	Tier 1	8	1.04	\$276	641	\$0.43
23	Tier 2	12	1.18	\$169	285	\$0.59
24	Tier 3	16	1.40	\$228	272	\$0.84
25	Tier 4	>16	1.57	\$7,064	6,865	\$1.03
26	Multi-family - Commercial					
27	Tier 1	8	1.04	\$202	469	\$0.43
28	Tier 2	12	1.18	\$98	166	\$0.59
29	Tier 3	16	1.40	\$91	109	\$0.84
30	Tier 4	>16	1.57	\$348	339	\$1.03
31	Commercial/AG	Uniform	1.15	\$163,083	297,061	\$0.55
32	Institutional	Uniform	1.35	\$44,652	58,278	\$0.77
33	Landscaping	Uniform	1.53	\$141,235	143,035	\$0.99
34	Construction	Uniform	1.56	\$10,032	10,023	\$1.00
35	Total			\$1,486,204	2,308,680	

5.4.4. REVENUE OFFSET UNIT COST

Table 5-19 shows the calculation of the revenue offsets to specific classes and tiers. As mentioned in Section 5, a portion of the District’s property tax revenue was allocated specifically to Tier 1 Residential and Commercial (which comprises the former Agricultural and Commercial classes) classes. The District has discretion on how to use property tax as non-rate revenue and has chosen to apply a portion of it to reduce the rates to promote affordability for Residential Tier 1 and the Commercial class. The residential revenue offset is allocated 100% to Tier 1 to help offset the loss of Lake Hodges water which increase the rate in Tier 1. The commercial class revenue offset is calculated by dividing the allocated revenue offset (Column C) by the class use (Column E). The Institutional customer class does not receive a revenue offset since public/government customers do not pay property tax and should not receive associated revenue offset benefits.

Table 5-19: Derivation of the Revenue Offset

Line No.	Class/Tier	Tier Breakpoint	Revenue Offset	Allocation Factor	Use (HCF)	Weighted Allocation Factor	Percent Allocation of Property Tax to Each	Allocated Revenue Offset	Revenue Offset (\$/hcf)
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)
1	Residential Classes (SFR & MFR)								
2	Tier 1		(\$637,462)	1.00	932,715	932,715	100%	(\$1,230,400)	(\$1.32)
3	Tier 2		(\$214,833)		314,337			\$0	
4	Tier 3		(\$219,146)		320,648			\$0	
5	Tier 4		(\$158,959)		232,584			\$0	
6	Total Residential Classes		(\$1,230,400)		1,800,284	932,715	100%	(\$1,230,400)	
7	Commercial/AG	Uniform	(\$203,025)	1.00	297,061	297,061			(\$0.68)
8	Institutional	Uniform			58,278				
9	Landscaping	Uniform			143,035				
10	Construction	Uniform			10,023				
11	Total		(\$1,433,426)		2,308,680				

5.4.5. FINAL RATE DERIVATION

Table 5-20 shows the final rates for the commodity rate derivation by summing each unit cost to the total rate for each tier and class as shown in Column H.

Table 5-20: Derivation of Rates by Tier and Class

Line No.	Class/Tier	Tier Breakpoint	Peaking Factors	Supply (\$/HCF)	Delivery (\$/HCF)	Peaking (\$/HCF)	Revenue Offset (\$/HCF)	Total Proposed Rate (\$/HCF)
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
1	Single Family Residence							
2	Tier 1	12	1.04	\$3.94	\$1.95	\$0.43	(\$1.32)	\$5.00
3	Tier 2	20	1.18	\$4.71	\$1.95	\$0.59	\$0.00	\$7.25
4	Tier 3	40	1.40	\$4.71	\$1.95	\$0.84	\$0.00	\$7.50
5	Tier 4	>40	1.70	\$4.71	\$1.95	\$1.18	\$0.00	\$7.84
6	Single Family - Agriculture							
7	Tier 1	12	1.04	\$3.94	\$1.95	\$0.43	(\$1.32)	\$5.00
8	Tier 2	20	1.18	\$4.71	\$1.95	\$0.59	\$0.00	\$7.25
9	Tier 3	40	1.40	\$4.71	\$1.95	\$0.84	\$0.00	\$7.50
10	Tier 4	>40	1.57	\$4.71	\$1.95	\$1.03	\$0.00	\$7.69
11	Single Family - Commercial							
12	Tier 1	12	1.04	\$3.94	\$1.95	\$0.43	(\$1.32)	\$5.00
13	Tier 2	20	1.18	\$4.71	\$1.95	\$0.59	\$0.00	\$7.25
14	Tier 3	40	1.40	\$4.71	\$1.95	\$0.84	\$0.00	\$7.50
15	Tier 4	>40	1.57	\$4.71	\$1.95	\$1.03	\$0.00	\$7.69
16	Multi-family							
17	Tier 1	8	1.04	\$3.94	\$1.95	\$0.43	(\$1.32)	\$5.00
18	Tier 2	12	1.18	\$4.71	\$1.95	\$0.59	\$0.00	\$7.25
19	Tier 3	16	1.40	\$4.71	\$1.95	\$0.84	\$0.00	\$7.50
20	Tier 4	>16	1.70	\$4.71	\$1.95	\$1.18	\$0.00	\$7.84
21	Multi-family - Agriculture							
22	Tier 1	8	1.04	\$3.94	\$1.95	\$0.43	(\$1.32)	\$5.00
23	Tier 2	12	1.18	\$4.71	\$1.95	\$0.59	\$0.00	\$7.25
24	Tier 3	16	1.40	\$4.71	\$1.95	\$0.84	\$0.00	\$7.50
25	Tier 4	>16	1.57	\$4.71	\$1.95	\$1.03	\$0.00	\$7.69
26	Multi-family - Commercial							
27	Tier 1	8	1.04	\$3.94	\$1.95	\$0.43	(\$1.32)	\$5.00
28	Tier 2	12	1.18	\$4.71	\$1.95	\$0.59	\$0.00	\$7.25
29	Tier 3	16	1.40	\$4.71	\$1.95	\$0.84	\$0.00	\$7.50
30	Tier 4	>16	1.57	\$4.71	\$1.95	\$1.03	\$0.00	\$7.69
31	Commercial/AG	Uniform	1.15	\$4.59	\$1.95	\$0.55	(\$0.68)	\$6.40
32	Institutional	Uniform	1.35	\$4.59	\$1.95	\$0.77	\$0.00	\$7.31
33	Landscaping	Uniform	1.53	\$4.60	\$1.95	\$0.99	\$0.00	\$7.54
34	Construction	Uniform	1.56	\$4.71	\$1.95	\$1.00	\$0.00	\$7.66

6. Recycled Water Rate Design

This section calculates recycled water rates based on the Cost of Service (Section 4). The rates developed in this section will be referred to as the Cost of Service recycled water rates.

6.1. Existing Rate Structure and Rates

Table 6-1 shows the current fixed and variable recycled water rates. The District charges recycled water customers on a monthly basis²¹. Fixed charges are currently anchored to the potable bi-monthly rate charged on a monthly basis. All recycled water commodity rates are uniform.

Table 6-1: Current Recycled Water Rates

Line No.	Fixed Meter Charges	FY 2024 Current
1	Meter Size	
2	5/8"	\$26.39
3	3/4"	\$26.39
4	1"	\$39.03
5	1.5"	\$70.36
6	2"	\$108.11
7	3"	\$196.24
8	4"	\$322.12
9	6"	\$636.53
10	8"	\$1,013.97
11	Commodity Rates (\$/HCF)	
12	All Customers	\$6.08

6.2. Recycled Water Rates

Rates developed in this section will recover the amount allocated to the Recycled Water cost component in Table 4-13. The District provides recycled water from San Elijo Reclamation facility. The distribution system is managed by the San Elijo Joint Power Authority (SEJPA). The District pays a uniform rate for SEJPA recycled water. The District does not own or maintain the recycled water system costs, however, it does bill customers.

The District proposes to maintain the recycled water fixed charge as shown in Table 6-2. Table 6-2 also shows the total revenue collected from fixed charges.

²¹ The difference in billing cycles make recycled water fixed charges appear to be half of the potable fixed charge.

Table 6-2: Proposed Monthly Recycled Water Fixed Service Charge

Line No.	Meter Size	# of Accounts	Maintain Current Recycled Fixed Charge	Proposed Monthly Service Charge	Total Revenue from Fixed Charges
	(A)	(B)	(C)	(D)	(E)
1	5/8"	0	\$52.78	\$26.39	\$0
2	3/4"	1	\$52.78	\$26.39	\$317
3	1"	16	\$78.06	\$39.03	\$7,494
4	1.5"	11	\$140.72	\$70.36	\$9,288
5	2"	66	\$216.21	\$108.11	\$85,619
6	3"	7	\$392.47	\$196.24	\$16,484
7	4"	4	\$644.23	\$322.12	\$15,462
8	6"	0	\$1,273.05	\$636.53	\$0
9	8"	0	\$2,027.93	\$1,013.97	\$0
10	Total	105			\$134,662

Table 6-3 shows the derivation of the unit rate for all recycled water customers. Line 1 shows the total allocated costs to the Recycled Water utility (Table 4-13). Line 2 shows the total recycled water revenue collected from the fixed service charge (Table 6-2). Line 3 is the amount of revenue remaining to be collected from commodity rates, calculated by subtracting the fixed revenues from the allocated recycled water costs. Line 5 shows the estimated amount of recycled water use. Line 6 shows the recycled water commodity rate for all recycled water customers. The unit rate is calculated by dividing the recycled water costs (Line 3) by the total recycled water use (Line 5).

Table 6-3: Derivation of Recycled Water Commodity Rate

Line No.	Description	
1	Recycled Water Allocated Costs	\$839,860
2	Recycled Revenues from Fixed Charges	\$134,662
3	Remaining Recycled Water Costs	\$705,198
4		
5	Recycled Water Usage (HCF)	126,758
6	Recycled Water Volumetric Rate	\$5.56

7. Proposed Rates

This section shows the proposed rates for FY 2025 through FY 2027. The rates for FY 2025 were calculated above. The rates for FY 2026 and FY 2027 are derived by applying the revenue adjustments shown in Table 3-4 to rates derived for FY 2025 in Section 5 and Section 6. The rates for FY 2025 are set using the cost-of-service analysis and do not equate to increasing the current rates by the revenue adjustment for FY 2025 (9.0%). The cost-of-service analysis is detailed in Section 4.

7.1. Proposed Three-Year Rates

7.1.1. FIXED POTABLE BI-MONTHLY SERVICE CHARGES

Table 7-1 shows the proposed bi-monthly service charges. Table 7-2 shows the proposed fire service charges. The proposed fire service charges apply to all customers with private fire service connections. The rates for the current and proposed bi-monthly service charges and fire service charges are calculated based on the meter size and diameter of the fire line serving a property, respectively. The proposed rates are rounded to the cent.

Table 7-1: Proposed Potable Bi-Monthly Service Charges

Meter Size	FY 2024 Current	FY 2025 Proposed	FY 2026 Proposed	FY 2027 Proposed
5/8"	\$52.78	\$57.93	\$64.88	\$72.66
3/4"	\$52.78	\$57.93	\$64.88	\$72.66
1"	\$78.06	\$86.44	\$96.82	\$108.43
1.5"	\$140.72	\$157.10	\$175.95	\$197.07
2"	\$216.21	\$242.23	\$271.30	\$303.85
3"	\$392.47	\$441.00	\$493.92	\$553.19
4"	\$644.23	\$724.91	\$811.90	\$909.32
6"	\$1,273.05	\$1,434.03	\$1,606.11	\$1,798.84
8"	\$2,027.93	\$2,285.31	\$2,559.55	\$2,866.70

Table 7-2: Proposed Fire Service Charges

Line No.	Line Diameter	FY 2024 Current	FY 2025 Proposed	FY 2026 Proposed	FY 2027 Proposed
1	1"	\$11.08	\$13.21	\$14.80	\$16.57
2	1.5"	\$9.86	\$11.87	\$13.29	\$14.89
3	2"	\$17.10	\$20.77	\$23.26	\$26.05
4	3"	\$43.07	\$52.72	\$59.05	\$66.13
5	4"	\$87.84	\$107.83	\$120.77	\$135.26
6	6"	\$248.55	\$305.60	\$342.28	\$383.35
7	8"	\$525.75	\$646.73	\$724.34	\$811.26

7.1.2. PROPOSED POTABLE COMMODITY RATES

Table 7-3 shows the proposed commodity rates for the next three years. Commodity rates are charged for each unit (HCF) of water. All rates are rounded to the cent.

Table 7-3: Proposed Commodity Rates by Class/Tier

Class/Tier	Tier	FY 2024 Current	FY 2025 Proposed	FY 2026 Proposed	FY 2027 Proposed
Single Family Residence					
Tier 1	12	\$3.68	\$5.00	\$5.60	\$6.27
Tier 2	20	\$6.61	\$7.25	\$8.12	\$9.09
Tier 3	40	\$7.47	\$7.50	\$8.40	\$9.41
Tier 4	>40	\$8.87	\$7.84	\$8.78	\$9.83
Single Family - Agriculture					
Tier 1	12	\$3.68	\$5.00	\$5.60	\$6.27
Tier 2	20	\$6.61	\$7.25	\$8.12	\$9.09
Tier 3	40	\$7.47	\$7.50	\$8.40	\$9.41
Tier 4	>40	\$7.85	\$7.69	\$8.61	\$9.65
Single Family - Commercial					
Tier 1	12	\$3.68	\$5.00	\$5.60	\$6.27
Tier 2	20	\$6.61	\$7.25	\$8.12	\$9.09
Tier 3	40	\$7.47	\$7.50	\$8.40	\$9.41
Tier 4	>40	\$7.85	\$7.69	\$8.61	\$9.65
Multi-family					
Tier 1	8	\$3.68	\$5.00	\$5.60	\$6.27
Tier 2	12	\$6.61	\$7.25	\$8.12	\$9.09
Tier 3	16	\$7.47	\$7.50	\$8.40	\$9.41
Tier 4	>16	\$8.87	\$7.84	\$8.78	\$9.83
Multi-family - Agriculture					
Tier 1	8	\$3.68	\$5.00	\$5.60	\$6.27
Tier 2	12	\$6.61	\$7.25	\$8.12	\$9.09
Tier 3	16	\$7.47	\$7.50	\$8.40	\$9.41
Tier 4	>16	\$7.85	\$7.69	\$8.61	\$9.65
Multi-family - Commercial					
Tier 1	8	\$3.68	\$5.00	\$5.60	\$6.27
Tier 2	12	\$6.61	\$7.25	\$8.12	\$9.09
Tier 3	16	\$7.47	\$7.50	\$8.40	\$9.41
Tier 4	>16	\$7.85	\$7.69	\$8.61	\$9.65
Commercial/AG	Uniform	\$6.34	\$6.40	\$7.17	\$8.03
Institutional	Uniform	\$6.99	\$7.31	\$8.19	\$9.17
Landscaping	Uniform	\$7.33	\$7.54	\$8.44	\$9.46
Construction	Uniform	\$7.48	\$7.66	\$8.58	\$9.61

7.1.3. PROPOSED RECYCLED WATER RATES AND CHARGES

Table 7-4 shows the proposed recycled water charges rates for the next three years. Recycled water customers are billed monthly. Commodity rates are charged for each unit (HCF) of recycled. All rates are rounded to the cent.

Table 7-4: Proposed Monthly Recycled Water Rates

Line No.	Fixed Meter Charges	FY 2024 Current	FY 2025 Proposed	FY 2026 Proposed	FY 2027 Proposed
1	Meter Size				
2	5/8"	\$26.39	\$26.39	\$27.97	\$29.65
3	3/4"	\$26.39	\$26.39	\$27.97	\$29.65
4	1"	\$39.03	\$39.03	\$41.37	\$43.85
5	1.5"	\$70.36	\$70.36	\$74.58	\$79.06
6	2"	\$108.11	\$108.11	\$114.59	\$121.47
7	3"	\$196.24	\$196.24	\$208.01	\$220.49
8	4"	\$322.12	\$322.12	\$341.44	\$361.93
9	6"	\$636.53	\$636.53	\$674.72	\$715.20
10	8"	\$1,013.97	\$1,013.97	\$1,074.80	\$1,139.29
11	Commodity Rates (\$/HCF)				
12	All Customers	\$6.08	\$5.56	\$5.90	\$6.25

8. Bill Impacts

This section discusses bill impacts for each potable water customer class. It is essential to understand how the proposed rates would impact the District’s customers. The customer impact analysis is a powerful tool to assist elected officials in making informed decisions. Note that customer bill impacts will vary with each customers’ meter size and commodity water use.

Of note for this rate study is the reduction in Lake Hodges water. Lake Hodges water was allocated to Tier 1 customers and the loss of this water is impacting residential customers the most.

The monetary impact at various usage levels in sample customer bills below assume bi-monthly billing and compare bills under current rates/charges with proposed rates/charges effective July 1, 2025. The bill impacts assumed that the San Diego County Water Authority Infrastructure Access Charge increases from \$8.48 to \$8.82 for the 5/8” and 3/4” meters.

8.1. Customer Bills Impacts

Table 8-1 shows the water bills for typical Single-Family Residential (SFR) customers with a ¾-inch meter for a bi-monthly billing period at various water consumption levels under current and proposed rates. The average bi-monthly water usage for the SFR customer class is 22 HCF.

Table 8-1: Bill Impacts for Single Family Residence

Line No.	Use (HCF)	Current Bi-Monthly Bill	Proposed Bi-Monthly Bill	Difference (\$)	Difference (%)
1	10	\$98.40	\$116.75	\$18.35	18.6%
2	16	\$132.20	\$155.75	\$23.55	17.8%
3	22	\$173.58	\$199.75	\$26.17	15.1%
4	28	\$218.40	\$244.75	\$26.35	12.1%
5	34	\$263.22	\$289.75	\$26.53	10.1%

Table 8-2 shows the water bills for typical Single-Family – Agricultural customers with a 1½ inch meter for a bi-monthly billing period with average water use under current and proposed rates. The average bi-monthly water usage for the Single-Family - Agricultural customer class is 69 HCF; we applied 70 HCF to use a rounded number.

Table 8-2: Bill Impacts for Single Family - Agricultural

Line No.	Use (HCF)	Current Bi-Monthly Bill	Proposed Bi-Monthly Bill	Difference (\$)	Difference (%)
1	70	\$649.12	\$682.26	\$33.14	5.1%

Table 8-3 shows the water bills for typical Single-Family - Commercial customers with a 1-inch meter for a bi-monthly billing period with average water use under current and proposed rates. The average bi-monthly water usage for the Single-Family - Commercial customer class is 22 HCF.

Table 8-3: Bill Impacts for Single Family - Commercial

Line No.	Use (HCF)	Current Bi-Monthly Bill	Proposed Bi-Monthly Bill	Difference (\$)	Difference (%)
1	22	\$204.14	\$233.54	\$29.40	14.4%

Table 8-4 shows the water bills for typical Multi-Family Residential (MFR) customers with a 3/4-inch meter for a bi-monthly billing period with average water use under current and proposed rates. The bill impacts assume a multi-family residence with two dwelling units. The average bi-monthly water usage for a typical MFR customer with a 3/4-inch meter is 10 HCF.

Table 8-4: Bill Impacts for Multi-Family Residence

Line No.	Use (HCF)	Current Bi-Monthly Bill	Proposed Bi-Monthly Bill	Difference (\$)	Difference (%)
1	10	\$98.40	\$116.75	\$18.35	18.6%

Table 8-5 shows the water bills for typical Multi-Family – Agricultural customers with a 2-inch meter for a bi-monthly billing period with average water use under current and proposed rates. The bill impacts assume a multi-family residence with two dwelling units. The average bi-monthly water usage for the Multi-Family – Agricultural customer class is 161 HCF.

Table 8-5: Bill Impacts for Multi-Family - Agricultural

Line No.	Use (HCF)	Current Bi-Monthly Bill	Proposed Bi-Monthly Bill	Difference (\$)	Difference (%)
1	100	\$967.39	\$1,009.01	\$41.62	4.3%

Table 8-6 shows the water bills for typical Multi-Family – Commercial customers with a 1-inch meter for a bi-monthly billing period with average water use under current and proposed rates. The bill impacts assume a multi-family residence with two dwelling units. The average bi-monthly water usage for the Multi-Family – Commercial customer class is 23 HCF.

Table 8-6: Bill Impacts for Multi-Family - Commercial

Line No.	Use (HCF)	Current Bi-Monthly Bill	Proposed Bi-Monthly Bill	Difference (\$)	Difference (%)
1	12	\$136.32	\$160.54	\$24.22	17.8%

Table 8-7 shows the water bills for typical Agricultural/Commercial customers with a 5/8-inch meter for a bi-monthly billing period with average water use under current and proposed rates. The average bi-monthly water usage for the Agricultural/Commercial customer class is 72 HCF.

Table 8-7: Bill Impacts for Agricultural/Commercial

Line No.	Use (HCF)	Current Bi-Monthly Bill	Proposed Bi-Monthly Bill	Difference (\$)	Difference (%)
1	110	\$759.00	\$770.75	\$11.75	1.5%

Table 8-8 shows the water bills for typical Institutional customers with a 2-inch meter for a bi-monthly billing period at various water consumption levels under current and proposed rates. The average bi-monthly water usage for the Institutional customer class is 88 HCF.

Table 8-8: Bill Impacts for Institutional

Line No.	Use (HCF)	Current Bi-Monthly Bill	Proposed Bi-Monthly Bill	Difference (\$)	Difference (%)
1	100	\$961.07	\$1,019.09	\$58.02	6.0%

Table 8-9 shows the water bills for typical Landscape customers with a 2-inch meter for a bi-monthly billing period at various water consumption levels under current and proposed rates. The average bi-monthly water usage for the Landscape customer class is 74 HCF.

Table 8-9: Bill Impacts for Landscape

Line No.	Use (HCF)	Current Bi-Monthly Bill	Proposed Bi-Monthly Bill	Difference (\$)	Difference (%)
1	74	\$804.49	\$846.05	\$41.56	5.2%

Table 8-10 shows the water bills for typical Construction customers with a ¾-inch meter for a bi-monthly billing period at various water consumption levels under current and proposed rates. The average bi-monthly water usage for the Construction customer class is 100 HCF.

Table 8-10: Bill Impacts for Construction

Line No.	Use (HCF)	Current Bi-Monthly Bill	Proposed Bi-Monthly Bill	Difference (\$)	Difference (%)
1	100	\$809.60	\$832.75	\$23.15	2.9%

9. Drought Rates

9.1. Drought Rate Background

This section details Drought Rates to be implemented during a declared water supply shortage response. This section provides an overview of the water shortage emergency stages, corresponding revenue impacts, drought rate calculations, and a summary of proposed consumption charges at each stage (effective only if a water supply shortage is declared). The drought rates calculated in this section are separate charges independent from the water rates derived in Section 7.

Raftelis updated the drought rates to be assessed per unit (HCF) of water. The percent reduction in water demand during each water shortage emergency stage is defined in the District's Water Shortage Contingency Plan, which was approved by the Board as a part of the 2020 Urban Water Management Plan and Municipal Code. The District can establish drought rates to:

- Recover lost revenue due to decreased consumption during a drought
- Encourage water conservation to meet the desired conservation goals for each drought stage

The District is subject to penalties from the SDCWA should it exceed its water allocation. In addition, the District may be subject to penalties from the State Water Resources Control Board if it does not reach future mandated water use reductions. Drought Rates are designed to promote conservation and maximize the probability that the District will escape penalties. Drought Rates will still be needed to recover lost revenues as District customers curtail their water consumption.

Revenue Collection during a Drought

Water shortage emergencies can have significant impacts on an agency's financial stability. During a drought, the District's revenue requirement (costs) decreases along with revenue. However, the District's revenue decreases more than its costs do. The majority of the District's costs are fixed (salaries, benefits, debt service, etc.). Drought Rates are required to recover lost revenue to cover its fixed costs. Raftelis recommends that the District utilize Drought Rates as part of a cohesive and fiscally sound response to water shortage emergencies. Drought rates are a mechanism to maintain revenue stability and achieve debt coverage requirements during a water shortage emergency.

Customer Bills During a Drought

Provided that customers cut back their water use in line with the drought cutback goal, their total water bill should be equal to or lower than their bill during "normal" water/rainfall years. Conversely, those that do not cut back consumption will face higher charges.

9.2. Derivations of Drought Rates

Drought rates recover the projected decrease in net revenues experienced during each water shortage emergency stage. To calculate drought rates, Raftelis adhered to the following steps:

1. Determine the lost revenue at each stage of reduction
2. Account for variable water supply cost savings to offset a portion of the revenue loss
3. Divide the net revenue loss at each stage by the respective estimated sales volume

Table 9-1 shows the assumed reduction in water sales by customer class and tier at each drought stage.

Table 9-1: Estimated Cutback in Use by Percentage Reduction

Line No.	Customer Class	Bi-monthly Tier Breakpoint	FY 2025 Estimated Water Use (HCF)	Up to 10%		Up to 20%		Up to 30%		Up to 40%		Up to 50%		Over 50%	
				Estimated Cutback (%)	Estimated Cutback (HCF)	Estimated Cutback (%)	Estimated Cutback (HCF)	Estimated Cutback (%)	Estimated Cutback (HCF)	Estimated Cutback (%)	Estimated Cutback (HCF)	Estimated Cutback (%)	Estimated Cutback (HCF)	Estimated Cutback (%)	Estimated Cutback (HCF)
1	Single Family Residence		1,303,662												
2	Tier 1	12	608,141	2%	12,163	5%	30,407	8%	48,651	12%	72,977	20%	121,628	25%	152,035
3	Tier 2	20	244,501	5%	12,225	10%	24,450	15%	36,675	25%	61,125	47%	114,916	80%	195,601
4	Tier 3	40	282,155	15%	42,323	25%	70,539	50%	141,078	68%	191,866	88%	248,297	100%	282,155
5	Tier 4	>40	168,865	25%	42,216	50%	84,433	75%	126,649	95%	160,422	100%	168,865	100%	168,865
6	Single Family - Agriculture		10,251												
7	Tier 1	12	1,775	2%	36	5%	89	8%	142	12%	213	20%	355	25%	444
8	Tier 2	20	984	5%	49	10%	98	15%	148	25%	246	47%	462	80%	787
9	Tier 3	40	1,900	15%	285	25%	475	50%	950	68%	1,292	88%	1,672	100%	1,900
10	Tier 4	>40	5,592	25%	1,398	50%	2,796	75%	4,194	95%	5,312	100%	5,592	100%	5,592
11	Single Family - Commercial		1,458												
12	Tier 1	12	731	2%	15	5%	37	8%	58	12%	88	20%	146	25%	183
13	Tier 2	20	179	5%	9	10%	18	15%	27	25%	45	47%	84	80%	144
14	Tier 3	40	234	15%	35	25%	58	50%	117	68%	159	88%	206	100%	234
15	Tier 4	>40	314	25%	79	50%	157	75%	236	95%	298	100%	314	100%	314
16	Multi-family		475,767												
17	Tier 1	8	320,959	2%	6,419	5%	16,048	8%	25,677	12%	38,515	20%	64,192	25%	80,240
18	Tier 2	12	68,222	5%	3,411	10%	6,822	15%	10,233	25%	17,056	47%	32,064	80%	54,578
19	Tier 3	16	35,977	15%	5,397	25%	8,994	50%	17,989	68%	24,464	88%	31,660	100%	35,977
20	Tier 4	>16	50,609	25%	12,652	50%	25,305	75%	37,957	95%	48,079	100%	50,609	100%	50,609
21	Multi-family - Agriculture		8,064												
22	Tier 1	8	641	2%	13	5%	32	8%	51	12%	77	20%	128	25%	160
23	Tier 2	12	285	5%	14	10%	29	15%	43	25%	71	47%	134	80%	228
24	Tier 3	16	272	15%	41	25%	68	50%	136	68%	185	88%	240	100%	272
25	Tier 4	>16	6,865	25%	1,716	50%	3,433	75%	5,149	95%	6,522	100%	6,865	100%	6,865
26	Multi-family - Commercial		1,082												
27	Tier 1	8	469	2%	9	5%	23	8%	38	12%	56	20%	94	25%	117
28	Tier 2	12	166	5%	8	10%	17	15%	25	25%	41	47%	78	80%	132
29	Tier 3	16	109	15%	16	25%	27	50%	54	68%	74	88%	96	100%	109
30	Tier 4	>16	339	25%	85	50%	169	75%	254	95%	322	100%	339	100%	339
31	Ag/Commercial		297,061	10%	29,706	25%	74,265	30%	89,118	40%	118,824	40%	118,824	50%	148,530
32	Institutional		58,278	25%	14,570	40%	23,311	50%	29,139	60%	34,967	60%	34,967	65%	37,881
33	Landscaping		143,035	30%	42,910	60%	85,821	90%	128,731	95%	135,883	95%	135,883	100%	143,035
34	Construction		10,023	0%	0	0%	0	0%	0	100%	10,023	100%	10,023	100%	10,023
35	Total Cutback - HCF		2,308,680		227,800		457,921		703,518		929,202		1,148,732		1,377,349
36	Total Cutback - %				9.9%		19.8%		30.5%		40.2%		49.8%		59.7%

Table 9-2 shows the total consumption rate revenue at each stage, calculated by multiplying projected water sales (Table 9-1) by the proposed commodity rate (Table 7-3). The total estimated lost revenue is shown in line 35.

Table 9-2: Calculation of Lost Revenue

Line No.	Customer Class	FY 2025 Proposed Rate	1	2	3	4	5	6
			Up to 10%	Up to 20%	Up to 30%	Up to 40%	Up to 50%	Over 50%
1	Single Family Residence							
2	Tier 1	\$5.00	\$60,814	\$152,035	\$243,256	\$364,884	\$608,141	\$760,176
3	Tier 2	\$7.25	\$88,632	\$177,263	\$265,895	\$443,158	\$833,138	\$1,418,107
4	Tier 3	\$7.50	\$317,425	\$529,041	\$1,058,082	\$1,438,992	\$1,862,224	\$2,116,164
5	Tier 4	\$7.84	\$330,975	\$661,951	\$992,926	\$1,257,707	\$1,323,902	\$1,323,902
6	Single Family - Agriculture							
7	Tier 1	\$5.00	\$178	\$444	\$710	\$1,065	\$1,775	\$2,219
8	Tier 2	\$7.25	\$357	\$713	\$1,070	\$1,783	\$3,352	\$5,706
9	Tier 3	\$7.50	\$2,138	\$3,563	\$7,126	\$9,691	\$12,542	\$14,252
10	Tier 4	\$7.69	\$10,750	\$21,501	\$32,251	\$40,851	\$43,002	\$43,002
11	Single Family - Commercial							
12	Tier 1	\$5.00	\$73	\$183	\$292	\$438	\$731	\$913
13	Tier 2	\$7.25	\$65	\$130	\$195	\$325	\$611	\$1,041
14	Tier 3	\$7.50	\$263	\$439	\$877	\$1,193	\$1,544	\$1,754
15	Tier 4	\$7.69	\$604	\$1,207	\$1,811	\$2,294	\$2,415	\$2,415
16	Multi-family							
17	Tier 1	\$5.00	\$32,096	\$80,240	\$128,383	\$192,575	\$320,959	\$401,198
18	Tier 2	\$7.25	\$24,731	\$49,461	\$74,192	\$123,653	\$232,467	\$395,688
19	Tier 3	\$7.50	\$40,474	\$67,457	\$134,914	\$183,483	\$237,449	\$269,828
20	Tier 4	\$7.84	\$99,194	\$198,387	\$297,581	\$376,936	\$396,775	\$396,775
21	Multi-family - Agriculture							
22	Tier 1	\$5.00	\$64	\$160	\$256	\$385	\$641	\$801
23	Tier 2	\$7.25	\$103	\$207	\$310	\$517	\$972	\$1,654
24	Tier 3	\$7.50	\$306	\$511	\$1,021	\$1,389	\$1,798	\$2,043
25	Tier 4	\$7.69	\$13,198	\$26,397	\$39,595	\$50,153	\$52,793	\$52,793
26	Multi-family - Commercial							
27	Tier 1	\$5.00	\$47	\$117	\$188	\$281	\$469	\$586
28	Tier 2	\$7.25	\$60	\$120	\$180	\$300	\$564	\$960
29	Tier 3	\$7.50	\$123	\$204	\$409	\$556	\$719	\$817
30	Tier 4	\$7.69	\$651	\$1,302	\$1,953	\$2,474	\$2,604	\$2,604
31	Ag/Commercial	\$6.40	\$190,119	\$475,297	\$570,356	\$760,475	\$760,475	\$950,594
32	Institutional	\$7.31	\$106,504	\$170,406	\$213,007	\$255,609	\$255,609	\$276,910
33	Landscaping	\$7.54	\$323,544	\$647,088	\$970,632	\$1,024,556	\$1,024,556	\$1,078,480
34	Construction	\$7.66	\$0	\$0	\$0	\$76,773	\$76,773	\$76,773
35	Total Lost Revenue		\$1,643,487	\$3,265,824	\$5,037,471	\$6,612,499	\$8,058,999	\$9,598,156
36	Non-Drought Commodity Revenue		\$14,651,325	\$14,651,325	\$14,651,325	\$14,651,325	\$14,651,325	\$14,651,325
37	Percent of Commodity Revenue Lost		11%	22%	34%	45%	55%	66%

As water sales decrease by stage, the District’s volumetric water supply costs will also decrease. Table 9-3 shows the reduction in water purchase costs as water demand is reduced at each stage. The assumed curtailment in water use was previously determined in Table 9-1. Water supply availability and variable unit costs are outlined in Table 5-8. Projected water purchase costs are determined by multiplying the unit rate for each supply source by the corresponding acre-feet supplied for each stage. The total amount saved due to decreased water purchase costs is shown in line 5.

Table 9-3: Drought Savings

Declared Water Supply Shortage Response			1	2	3	4	5	6
Line No.	Description	FY 2025	Up to 10%	Up to 20%	Up to 30%	Up to 40%	Up to 50%	Over 50%
1	Water Supply Costs	\$7,527,478						
2	Treatment Costs	\$2,570,880						
3	Subtotal Variable Costs	\$10,098,358						
4	Cutback (%)		10%	20%	30.5%	40.2%	50%	60%
5	Total Drought Savings		\$996,417	\$2,002,982	\$3,077,246	\$4,064,406	\$5,024,649	\$6,024,637
6								
7	Drought Volumetric Revenue Requirement - All Classes		\$13,654,908	\$12,648,343	\$11,574,079	\$10,586,919	\$9,626,676	\$8,626,688

Table 9-4 shows the derivation of the proposed drought rates. Net revenue loss (Line 3) in each stage is determined by subtracting the projected water purchase cost savings (from Table 9-3) from the projected lost revenue (Table 9-2). The percentage increase required to collect lost revenues is determined by dividing the net revenue loss at each stage by the corresponding projected water sales in HCF (Table 9-2). Drought rates recover the anticipated reduction in net revenues during each water shortage emergency stage by applying the percentage increase (Line 6) to commodity rates to recoup the lost revenue. The percentage increase needed for each drought stage is calculated by dividing the net lost revenue (Line 3) by the expected drought revenue (Line 4). This percentage increase is applied to the proposed commodity (Table 7-3) rates to yield the drought rates. Lines 8 – 41 show the dollar increase for each drought stage, assuming the proposed FY 2025 rates. It is important to note that the percentage increases would be applied to the current commodity rates in place at the time.

Table 9-4: FY 2025 of Drought Rate Calculation

Line No.	Declared Water Supply Shortage Response	FY 2025												
		1 Up to 10%			2 Up to 20%		3 Up to 30%		4 Up to 40%		5 Up to 50%		6 Over 50%	
1	Estimated Lost Revenue		\$1,643,487		\$3,265,824		\$5,037,471		\$6,612,499		\$8,058,999		\$9,598,156	
2	Estimated Drought Savings		\$996,417		\$2,002,982		\$3,077,246		\$4,064,406		\$5,024,649		\$6,024,637	
3	Estimated Lost Revenue After Savings		\$647,069		\$1,262,842		\$1,960,225		\$2,548,092		\$3,034,349		\$3,573,519	
4	Expected Revenue		\$13,007,839		\$11,385,501		\$9,613,854		\$8,038,827		\$6,592,326		\$5,053,169	
5	Drought Revenue Requirement		\$13,654,908		\$12,648,343		\$11,574,079		\$10,586,919		\$9,626,676		\$8,626,688	
6	% Increase		5%		11%		20%		32%		46%		71%	
7		Rate (No Drought)	Drought Rate	\$ Increase	Drought Rate	\$ Increase	Drought Rate	\$ Increase	Drought Rate	\$ Increase	Drought Rate	\$ Increase	Drought Rate	
8	Single Family Residence													
9	Tier 1	\$5.00	\$5.25	\$0.25	\$5.55	\$0.55	\$6.02	\$1.02	\$6.58	\$1.58	\$7.30	\$2.30	\$8.54	
10	Tier 2	\$7.25	\$7.61	\$0.36	\$8.05	\$0.80	\$8.73	\$1.48	\$9.55	\$2.30	\$10.59	\$3.34	\$12.38	
11	Tier 3	\$7.50	\$7.87	\$0.37	\$8.33	\$0.83	\$9.03	\$1.53	\$9.88	\$2.38	\$10.95	\$3.45	\$12.80	
12	Tier 4	\$7.84	\$8.23	\$0.39	\$8.71	\$0.87	\$9.44	\$1.60	\$10.33	\$2.49	\$11.45	\$3.61	\$13.38	
13	Single Family - Agriculture													
14	Tier 1	\$5.00	\$5.25	\$0.25	\$5.55	\$0.55	\$6.02	\$1.02	\$6.58	\$1.58	\$7.30	\$2.30	\$8.54	
15	Tier 2	\$7.25	\$7.61	\$0.36	\$8.05	\$0.80	\$8.73	\$1.48	\$9.55	\$2.30	\$10.59	\$3.34	\$12.38	
16	Tier 3	\$7.50	\$7.87	\$0.37	\$8.33	\$0.83	\$9.03	\$1.53	\$9.88	\$2.38	\$10.95	\$3.45	\$12.80	
17	Tier 4	\$7.69	\$8.07	\$0.38	\$8.54	\$0.85	\$9.26	\$1.57	\$10.13	\$2.44	\$11.23	\$3.54	\$13.13	
18	Single Family - Commercial													
19	Tier 1	\$5.00	\$5.25	\$0.25	\$5.55	\$0.55	\$6.02	\$1.02	\$6.58	\$1.58	\$7.30	\$2.30	\$8.54	
20	Tier 2	\$7.25	\$7.61	\$0.36	\$8.05	\$0.80	\$8.73	\$1.48	\$9.55	\$2.30	\$10.59	\$3.34	\$12.38	
21	Tier 3	\$7.50	\$7.87	\$0.37	\$8.33	\$0.83	\$9.03	\$1.53	\$9.88	\$2.38	\$10.95	\$3.45	\$12.80	
22	Tier 4	\$7.69	\$8.07	\$0.38	\$8.54	\$0.85	\$9.26	\$1.57	\$10.13	\$2.44	\$11.23	\$3.54	\$13.13	
23	Multi-family													
24	Tier 1	\$5.00	\$5.25	\$0.25	\$5.55	\$0.55	\$6.02	\$1.02	\$6.58	\$1.58	\$7.30	\$2.30	\$8.54	
25	Tier 2	\$7.25	\$7.61	\$0.36	\$8.05	\$0.80	\$8.73	\$1.48	\$9.55	\$2.30	\$10.59	\$3.34	\$12.38	
26	Tier 3	\$7.50	\$7.87	\$0.37	\$8.33	\$0.83	\$9.03	\$1.53	\$9.88	\$2.38	\$10.95	\$3.45	\$12.80	
27	Tier 4	\$7.84	\$8.23	\$0.39	\$8.71	\$0.87	\$9.44	\$1.60	\$10.33	\$2.49	\$11.45	\$3.61	\$13.38	
28	Multi-family - Agriculture													
29	Tier 1	\$5.00	\$5.25	\$0.25	\$5.55	\$0.55	\$6.02	\$1.02	\$6.58	\$1.58	\$7.30	\$2.30	\$8.54	
30	Tier 2	\$7.25	\$7.61	\$0.36	\$8.05	\$0.80	\$8.73	\$1.48	\$9.55	\$2.30	\$10.59	\$3.34	\$12.38	
31	Tier 3	\$7.50	\$7.87	\$0.37	\$8.33	\$0.83	\$9.03	\$1.53	\$9.88	\$2.38	\$10.95	\$3.45	\$12.80	
32	Tier 4	\$7.69	\$8.07	\$0.38	\$8.54	\$0.85	\$9.26	\$1.57	\$10.13	\$2.44	\$11.23	\$3.54	\$13.13	
33	Multi-family - Commercial													
34	Tier 1	\$5.00	\$5.25	\$0.25	\$5.55	\$0.55	\$6.02	\$1.02	\$6.58	\$1.58	\$7.30	\$2.30	\$8.54	
35	Tier 2	\$7.25	\$7.61	\$0.36	\$8.05	\$0.80	\$8.73	\$1.48	\$9.55	\$2.30	\$10.59	\$3.34	\$12.38	
36	Tier 3	\$7.50	\$7.87	\$0.37	\$8.33	\$0.83	\$9.03	\$1.53	\$9.88	\$2.38	\$10.95	\$3.45	\$12.80	
37	Tier 4	\$7.69	\$8.07	\$0.38	\$8.54	\$0.85	\$9.26	\$1.57	\$10.13	\$2.44	\$11.23	\$3.54	\$13.13	
38	Ag/Commercial	\$6.40	\$6.72	\$0.32	\$7.11	\$0.71	\$7.70	\$1.30	\$8.43	\$2.03	\$9.35	\$2.95	\$10.93	
39	Institutional	\$7.31	\$7.67	\$0.36	\$8.12	\$0.81	\$8.80	\$1.49	\$9.63	\$2.32	\$10.67	\$3.36	\$12.48	
40	Landscaping	\$7.54	\$7.92	\$0.38	\$8.38	\$0.84	\$9.08	\$1.54	\$9.93	\$2.39	\$11.01	\$3.47	\$12.87	
41	Construction	\$7.66	\$8.04	\$0.38	\$8.51	\$0.85	\$9.22	\$1.56	\$10.09	\$2.43	\$11.19	\$3.53	\$13.08	

9.2.1. DROUGHT RATE ADOPTION

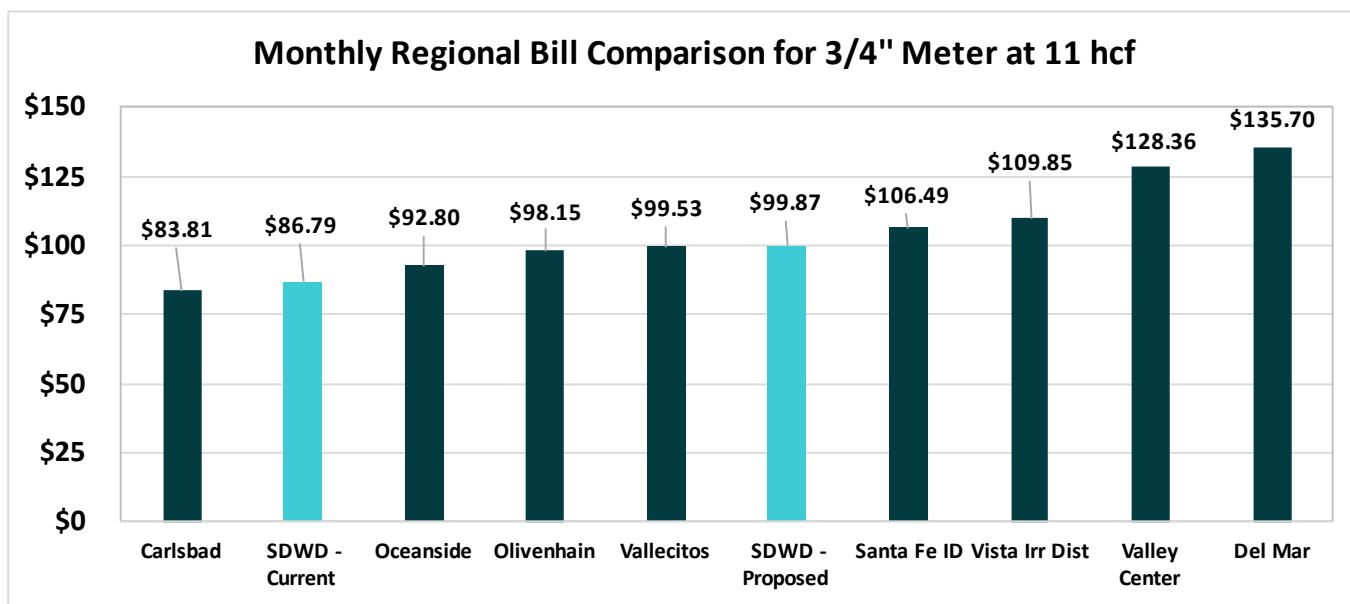
The Board would adopt the drought rates separately from any other type of rate increase. For the duration of the Study period (3 years), the Board would have the ability to adopt drought rates by increasing the then-current commodity rate without having to re-issue the Proposition 218 notice.

10. Water Rate Survey

Raftelis conducted a rate survey to benchmark current and proposed water rates against eight neighboring water providers. While a useful benchmark, it is worth noting that such comparisons only paint a partial picture since many factors, such as water sources, age and replacement of infrastructure, service area characteristics, revenue sources, and other local conditions, affect the total cost of providing water services.

Figure 10-1 shows a monthly²² water bill comparison for the current (2024) and proposed (2025) rates against eight neighboring agencies. The survey assumes a single-family residential customer using 11 HCF of water per month, with a 3/4" metered connection. This survey was conducted in January 2024 and should only be used as a reference point or as a snapshot in time.

Figure 10-1: Monthly Bill Comparisons for Neighboring Agencies



²² Agencies with a bi-monthly billing cycle are adjusted to a monthly billing cycle by dividing fixed charges and tier widths in half.