

Public Hearing
August 24, 2021

Comprehensive Water Rate Study



IB Consulting, LLC
31938 Temecula Parkway, Suite A #350
Temecula, CA. 92592

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Executive Summary

Rainbow Municipal Water District (District) periodically reviews the financial position of its utilities. This review is essential to determine if adjustments are required to continue meeting operational costs, pay for much-needed system repairs and replacements, and adequately fund reserves based on Board adopted policies. The District has not increased water rates for almost three years and only passed through the San Diego County Water Authority (SDCWA) increases in January 2021. The District hired IB Consulting to conduct a comprehensive cost of service analysis to develop proposed water rates for Fiscal Year 2022 (FY 2022) through FY 2026 (Rate Setting Period). Setting rates for five years allows the District to meet its annual operating expenses and capital needs while slowly building up reserves through a measured approach over the Rate Setting Period.

Updating the long-term financial plan and performing a comprehensive cost of service analysis is a prudent business practice to ensure a utility can fully fund its revenue needs over the Rate Setting Period and beyond. As part of reviewing and updating utility rates, the first step is to conduct a thorough review of the utility's financial health at current rates. Based on a 10-year financial plan (Financial Plan Period), revenues from existing water rates will be less than operating expenses beginning in FY 2022, generating an annual operating deficit. In addition, projected annual capital spending over the Rate Setting Period averages \$5.3M, which would deplete reserves by the end of FY 2022. Revenues will not be sufficient to fund necessary system improvements at existing rates while meeting reserve requirements over the Rate Setting Period.

The District has held off water rate increases over the last few years in the hopes of providing relief by switching water wholesalers/suppliers. The District has filed for detachment from SDCWA to switch suppliers to Eastern Municipal Water District (EMWD). Doing so would reduce imported water costs through a more direct connection to Metropolitan Water District (MWD), potentially reducing the need for proposed rate increases. Another driving factor to not increasing rates was the COVID-19 pandemic and providing rate relief to customers during these uncertain economic times. However, the detachment application review process has been delayed due largely to procedural obstructions placed by SDCWA. With expenses continuing to increase while rates remain constant, the District requires rate adjustments to meet its revenue requirements. If a detachment occurs during the Rate Setting Period, an updated rate schedule will follow to reflect the change in water supply expenses.

The District establishes water rates in compliance with Section 6 of Article XIII D of the California Constitution (Proposition 218).¹ The District's current water rate structure includes monthly fixed charges that vary by meter size and variable rates by customer class. The rate structure includes eight distinct customer classes, including Single-Family, Multi-Family, Commercial, Institutional, Agricultural with Residence, Agricultural without Residence, Permanent Special Agricultural Water Rate (PSAWR)² – Domestic, and PSAWR – Commercial. Single-Family, Agricultural with Residence, and PSAWR - Domestic customers are on a three-tiered rate structure. Multi-Family, Commercial, Institutional, and Agricultural without Residence customers have uniform rates that vary by customer class. PSAWR customers are agricultural accounts that qualify for SDCWA's discounted rate. PSAWR customers may receive less water during water shortages and emergencies. Therefore, PSAWR customers are exempt from paying emergency storage and supply reliability

¹ Article XIII D was added to the California Constitution by Proposition 218.

² The special agriculture water rate program was previously identified as Transitional Special Agricultural Water Rate (TSAWR) but has transitioned during the current year to PSAWR.

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fixed charges imposed by SDCWA and receive a commodity credit from SDCWA. The District also has pumping fixed charges and pumping variable rates to recover the costs associated with pumping water to higher elevations.

The proposed financial plan within this Report projects five years of adjustments, with the first adjustment beginning on September 1, 2021, and subsequent rate adjustments occurring on July 1 of each fiscal year. By adopting the proposed financial plan through FY 2026, the utility will generate positive net income above operating expenses and fully fund its capital projects through a combination of cash on hand, capacity fees, and an inter-fund loan from wastewater. The District would also meet minimum reserve requirements by FY 2026.

During the study, IB Consulting met several times with District staff, the District's ratepayer-led Budget and Finance Committee, and the Board of Directors to present results and obtain feedback and direction. Through these workshops, the proposed financial plan and recommended rates were finalized. The proposed rates include updated fixed charges using a similar approach to current rates. Based on detailed consumption analysis, discussions with District staff and the Board of Directors, variable rates will adjust to uniform rates for all customers. The recommended rates were included within a notice and mailed to each property owner in compliance with Proposition 218. A Public Hearing on August 24, 2021 will consider the proposed rates identified in Table 1 through Table 3. Variable rates are charged per one Hundred Cubic Feet (HCF) or unit of water. One HCF equals 748 gallons of water. These rates do not include any future increases in purchased water costs. Incremental increases or decreases in water costs will be passed through to customers when known and charged to the District.

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Table 1: Proposed Monthly Fixed Charges

Fixed Meter Charge (\$/Month)					
Meter Size	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Single-Family, Multi-Family, Commercial, Institutional					
5/8"	\$68.29	\$71.71	\$74.94	\$77.19	\$79.51
3/4"	\$68.29	\$71.71	\$74.94	\$77.19	\$79.51
1"	\$113.82	\$119.51	\$124.89	\$128.64	\$132.50
1 1/2"	\$227.63	\$239.02	\$249.78	\$257.28	\$265.00
2"	\$364.21	\$382.43	\$399.64	\$411.63	\$423.98
3"	\$796.72	\$836.56	\$874.21	\$900.44	\$927.46
4"	\$1,434.09	\$1,505.80	\$1,573.57	\$1,620.78	\$1,669.41
6"	\$2,959.23	\$3,107.20	\$3,247.03	\$3,344.45	\$3,444.79
Agricultural w/ Residence, and Agricultural w/o Residence					
5/8"	\$115.64	\$121.43	\$126.90	\$130.71	\$134.64
3/4"	\$115.64	\$121.43	\$126.90	\$130.71	\$134.64
1"	\$192.73	\$202.37	\$211.48	\$217.83	\$224.37
1 1/2"	\$385.47	\$404.74	\$422.96	\$435.65	\$448.72
2"	\$616.75	\$647.59	\$676.74	\$697.05	\$717.97
3"	\$1,349.13	\$1,416.59	\$1,480.34	\$1,524.76	\$1,570.51
4"	\$2,428.44	\$2,549.87	\$2,664.62	\$2,744.56	\$2,826.90
6"	\$5,011.07	\$5,261.62	\$5,498.40	\$5,663.36	\$5,833.27
PSAWR					
5/8"	\$99.09	\$104.05	\$108.74	\$112.01	\$115.38
3/4"	\$99.09	\$104.05	\$108.74	\$112.01	\$115.38
1"	\$165.15	\$173.41	\$181.22	\$186.66	\$192.26
1 1/2"	\$330.30	\$346.82	\$362.43	\$373.31	\$384.51
2"	\$528.48	\$554.91	\$579.89	\$597.29	\$615.21
3"	\$1,156.05	\$1,213.86	\$1,268.49	\$1,306.55	\$1,345.75
4"	\$2,080.89	\$2,184.94	\$2,283.27	\$2,351.77	\$2,422.33
6"	\$4,293.90	\$4,508.60	\$4,711.49	\$4,852.84	\$4,998.43



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Table 2: Proposed Variable Rates

Variable Rates (\$/HCF)					
Customer Class	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Single-Family	\$4.77	\$5.01	\$5.24	\$5.40	\$5.57
Multi-Family	\$4.77	\$5.01	\$5.24	\$5.40	\$5.57
Commercial	\$4.77	\$5.01	\$5.24	\$5.40	\$5.57
Institutional	\$4.77	\$5.01	\$5.24	\$5.40	\$5.57
Ag w/ Residence	\$3.90	\$4.10	\$4.29	\$4.42	\$4.56
Agricultural	\$3.90	\$4.10	\$4.29	\$4.42	\$4.56
PSAWR - Domestic	\$3.53	\$3.71	\$3.88	\$4.00	\$4.12
PSAWR - Commercial	\$3.53	\$3.71	\$3.88	\$4.00	\$4.12

Table 3: Proposed Pumping Charges and Pumping Rates

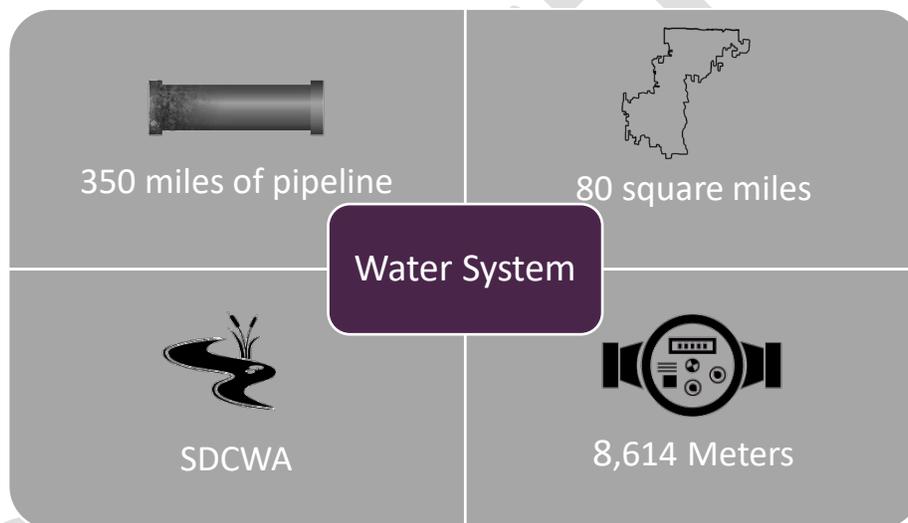
Pumping						
Zones		FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Fixed (\$/Month)						
All Zones		\$6.80	\$7.14	\$7.47	\$7.70	\$7.94
Variable (\$/HCF)						
Pump Zone 1	Rainbow Heights	\$0.97	\$1.02	\$1.07	\$1.11	\$1.15
Pump Zone 2	Improvement District U-1	\$0.60	\$0.63	\$0.66	\$0.68	\$0.71
Pump Zone 3	Vallecitos	\$0.34	\$0.36	\$0.38	\$0.40	\$0.42
Pump Zone 4	Northside	\$0.13	\$0.14	\$0.15	\$0.16	\$0.17
Pump Zone 5	Morro Tank	\$0.18	\$0.19	\$0.20	\$0.21	\$0.22
Pump Zone 6	Huntley	\$0.71	\$0.75	\$0.79	\$0.82	\$0.85
Pump Zone 7	Magee Tank	\$3.15	\$3.31	\$3.46	\$3.57	\$3.68

Rainbow Municipal Water District

Water System

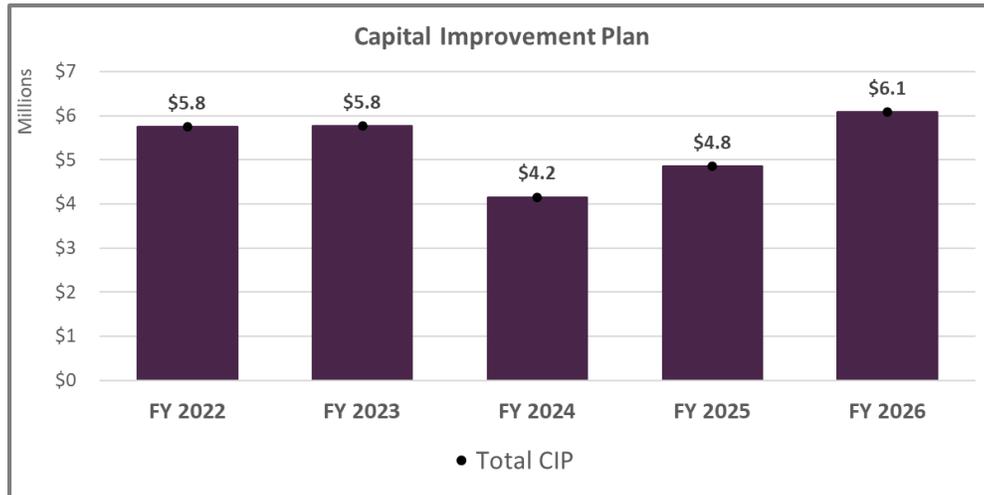
The District provides water to a service area encompassing approximately 80 square miles, located in northern San Diego County. The District has one of the largest agricultural areas in the county. The District is 100% dependent on imported water, currently provided by SDCWA, which purchases the vast majority of its water from MWD. MWD imports water from the Colorado River Aqueduct and Northern California via the State Water Project. The District's water system includes 350 miles of transmission & distribution lines, 13 water tanks, 7 pump stations, and 4 reservoirs.

Figure 1: District Water System



The District's actual annual capital spending is typically 80% of budgeted capital expenses. The most recent Capital Improvement Plan (CIP) includes approximately \$33.3M over the Rate Setting period, averaging around \$6.6M per year. 80% of the current CIP reflects approximately \$26.6M with an annual average of \$5.3M for capital projects. Figure 2 shows the District's projected capital spending through FY 2026.

Figure 2: Capital Improvement Plan



Customers

The District currently serves 8,614 active meters, with approximately 70% classified as residential (Single-Family and Multi-Family). Table 4 summarizes accounts by meter size, separated between Non-Agricultural accounts (Single-Family, Multi-Family, Commercial, and Institutional), Non-PSAWR accounts, and PSAWR accounts. Agricultural customers are charged a higher fixed charge and receive a lower variable rates. In addition, PSAWR customers do not incur certain fixed charges and receive a credit on the variable rates from SDCWA.

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Table 4: Accounts by Meter Size

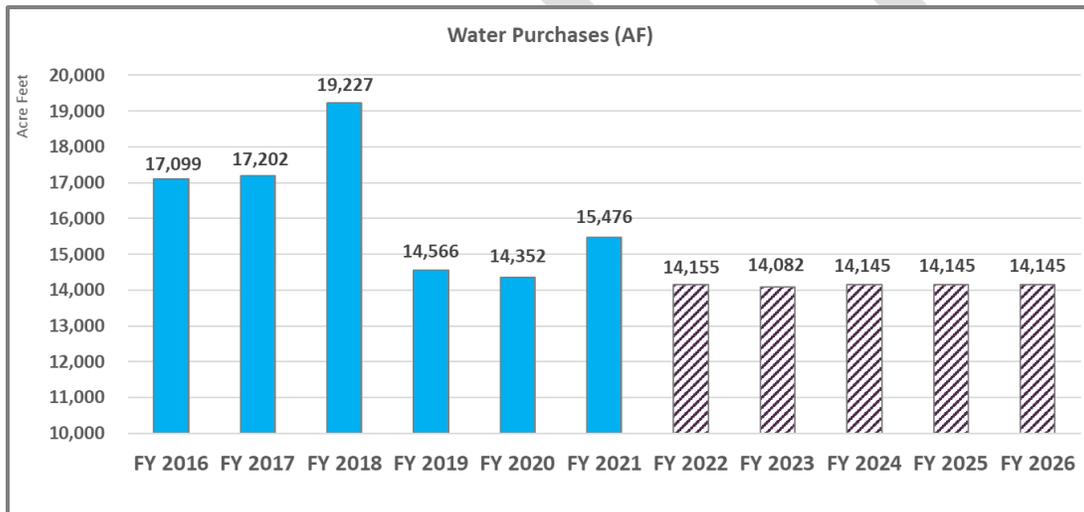
Meter Sizes	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Single-Family, Multi-Family, Commercial, Institutional					
≤ 3/4"	3,476	3,593	3,695	3,695	3,695
1"	2,533	2,540	2,547	2,547	2,547
1 1/2"	228	229	229	229	229
2"	203	203	203	203	203
3"	38	38	38	38	38
4"	9	9	9	9	9
6"	1	1	1	1	1
Subtotal Non-Agricultural	6,488	6,613	6,722	6,722	6,722
Agricultural (Non-PSAWR)					
≤ 3/4"	134	134	134	134	134
1"	583	583	583	583	583
1 1/2"	118	118	118	118	118
2"	107	107	107	107	107
3"	11	11	11	11	11
4"	5	5	5	5	5
6"	1	1	1	1	1
Subtotal Agricultural (Non-PSAWR)	959	959	959	959	959
PSAWR					
≤ 3/4"	110	110	110	110	110
1"	706	706	706	706	706
1 1/2"	282	282	282	282	282
2"	219	219	219	219	219
3"	18	18	18	18	18
4"	4	4	4	4	4
6"	0	0	0	0	0
Subtotal PSAWR	1,339	1,339	1,339	1,339	1,339
Total	8,786	8,911	9,020	9,020	9,020

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Figure 3 shows historical water purchases (blue bars) from FY 2016 and projected water purchases (purple bars) in acre-feet (1 acre-foot = 325,851 gallons) through the Rate Setting Period. Water purchases have drastically changed from year to year primarily due to agricultural use within the District's service area. While residential customers make up nearly 70% of the accounts, agricultural customers usage accounts for 66%-80% of the total water usage. This volatility creates revenue instability in variable revenues collected by the District. The District mitigated some of this revenue volatility in their last rate study by shifting more cost recovery from Agricultural and PSAWR accounts to their fixed charges. As such, Agricultural and PSAWR fixed charges are more than non-agricultural accounts. Proposed rates will continue this approach to ensure revenue stability.

The projected FY 2022 water purchases reflect 14,155 AF, with modest changes through FY 2026. The study used conservative projections for water purchases given the uncertainty faced by the District. The District anticipates a small amount of land-use conversions from agricultural use to residential developments over the coming years, but such conversions frequently decrease rather than increase demands. The District also reviewed pending developments on the horizon with tentative or final maps recorded. The anticipated additional units due to new developments were factored into the financial plan and cost of service analysis.

Figure 3: Water Purchases



As previously mentioned, the existing rate structure consists of monthly fixed meter charges and variable rates that vary by customer class. Existing metered fixed charges and variable rates are shown in Table 5 and Table 6, respectively, followed by pumping charges in Table 7.

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Table 5: FY 2021 Metered Fixed Charges

Existing	
Fixed Charges	(\$/Month)
SFR, MFR, COM, INST	
5/8"	\$67.09
3/4"	\$67.09
1"	\$108.14
1 1/2"	\$210.72
2"	\$333.83
3"	\$723.66
4"	\$1,298.17
6"	\$2,672.85
AG & AG w/ Res	
5/8"	\$95.78
3/4"	\$95.78
1"	\$155.91
1 1/2"	\$306.30
2"	\$486.77
3"	\$1,058.22
4"	\$1,900.38
6"	\$3,915.48
PSAW R	
5/8"	\$78.41
3/4"	\$78.41
1"	\$126.96
1 1/2"	\$248.40
2"	\$394.13
3"	\$855.57
4"	\$1,535.61
6"	\$3,162.78

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Table 6: FY 2021 Variable Rates

Existing	
Customer Class	(\$/HCF)
Single-Family	
Tier 1	\$3.89
Tier 2	\$4.15
Tier 3	\$4.64
Multi-Family	\$4.03
Commercial	\$4.19
Institutional	\$4.30
Ag w/ Residence	
Tier 1	\$3.89
Tier 2	\$4.15
Tier 3	\$3.79
Agricultural	\$3.79
PSAWR - Domestic	
Tier 1	\$4.14
Tier 2	\$4.41
Tier 3	\$3.35
PSAWR - Commercial	\$3.35

Table 7: FY 2021 Pumping Charges and Pumping Rates

Existing		
Pumping		
Fixed (\$/Month)		
All Zones		\$9.24
Variable (\$/HCF)		
Pump Zone 1	Rainbow Heights	\$1.03
Pump Zone 2	Im provem ent District U-1	\$0.64
Pump Zone 3	Vallecitos	\$0.36
Pump Zone 4	Northside	\$0.13
Pump Zone 5	Morro Tank	\$0.19
Pump Zone 6	Huntley	\$0.75
Pump Zone 7	Magee Tank	\$3.37

Financial Plan Overview

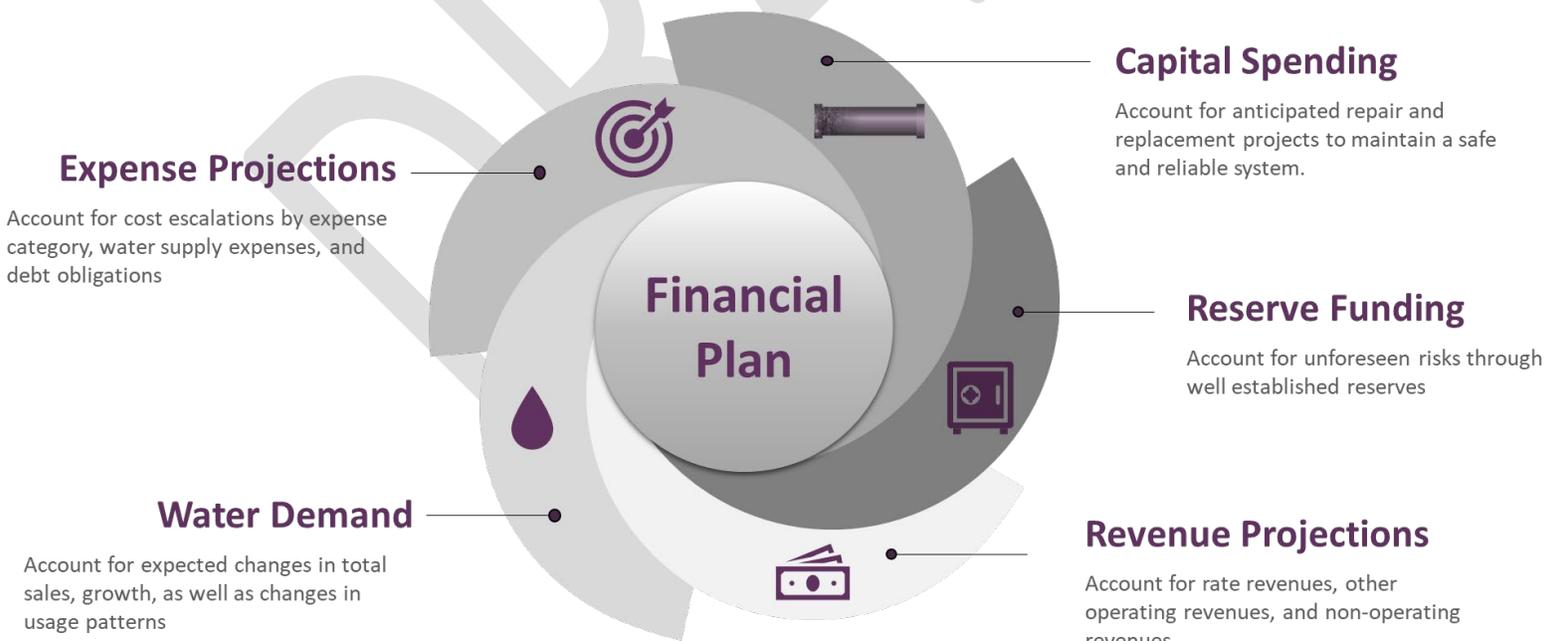
Financial Planning

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

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

Figure 4 illustrates the key elements when developing a long-term financial plan.

Figure 4: Financial Plan Key Elements



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Financial Planning Assumptions

Developing a long-term financial plan requires an understanding of the utility’s financial position by evaluating existing revenue streams, expected growth (when applicable), ongoing expenses, how those expenses will change over time, existing debt coverage requirements, and reserve policies. With these considerations, certain assumptions are required for projecting revenues, expenses, and expected ending fund balances. Table 8 identifies assumptions used for forecasting revenues, with only Single-Family accounts expected to increase from proposed developments. Table 9 identifies assumptions used for forecasting increases in expenses over the Rate Setting Period.

Table 8: Assumptions for Forecasting Revenues

Key Assumptions	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Revenue Escalation					
Non-Inflated	0%	0%	0%	0%	0%
Reserve Interest	15%	15%	15%	15%	15%
Account Growth					
Single-Family	2.9%	2.1%	1.8%	0%	0%
Projected Accounts					
Meter Size					
5/8"	250	250	250	250	250
3/4"	3,470	3,587	3,689	3,689	3,689
1"	3,822	3,829	3,836	3,836	3,836
1 1/2"	628	629	629	629	629
2"	529	529	529	529	529
3"	67	67	67	67	67
4"	18	18	18	18	18
6"	2	2	2	2	2
Total	8,786	8,911	9,020	9,020	9,020
Consumption by Customer Class (HCF)					
Single-Family					
Tier 1	542,188	553,388	563,155	563,155	563,155
Tier 2	380,312	388,169	395,020	395,020	395,020
Tier 3	570,302	582,083	592,356	592,356	592,356
Multi-Family	133,483	133,483	133,483	133,483	133,483
Commercial	329,860	329,860	329,860	329,860	329,860
Institutional	21,970	21,970	21,970	21,970	21,970
Agricultural (with Residence)					
Tier 1	51,981	51,981	51,981	51,981	51,981
Tier 2	52,896	52,896	52,896	52,896	52,896
Tier 3	182,977	182,977	182,977	182,977	182,977
Agricultural (without Residence)	1,020,668	1,020,668	1,020,668	1,020,668	1,020,668
PSAWR (Domestic)					
Tier 1	114,372	114,372	114,372	114,372	114,372
Tier 2	14,1467	14,1467	14,1467	14,1467	14,1467
Tier 3	1,257,554	1,257,554	1,257,554	1,257,554	1,257,554
PSAWR (Commercial)	1,10,1737	1,10,1737	1,10,1737	1,10,1737	1,10,1737
Construction	17,411	17,411	17,411	17,411	17,411
Total Consumption by Customer Class	5,919,178	5,950,016	5,976,907	5,976,907	5,976,907

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Table 9: Assumptions for Forecasting Expenses

Key Assumptions	Source:	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Expenditure Escalation						
Benefits		3.0%	3.0%	3.0%	3.0%	3.0%
Capital Construction	20-Cities ENR CCI (10-Year Average)	2.8%	2.8%	2.8%	2.8%	2.8%
Energy Costs		5.0%	5.0%	5.0%	5.0%	5.0%
General Costs	LA CPI (10-Year Average)	2.1%	2.1%	2.1%	2.1%	2.1%
Non-Inflated		0.0%	0.0%	0.0%	0.0%	0.0%
Retirement - CalPers		5.0%	5.0%	5.0%	5.0%	5.0%
Salaries		5.0%	5.0%	5.0%	5.0%	5.0%
Purchased Water	SDCWA	<i>Pass-Through</i>				
Water Loss						
% of total Production		4.0%	3.0%	3.0%	3.0%	3.0%

Current Financial Position

Revenues

Based on the forecasting assumptions, revenues were calculated using existing rates and account data, with projected total water sales shown in Table 8. Table 10 shows the calculated rate revenues through the Rate Setting Period. The detailed calculations can be found in the rate model on file with the District. Table 11 summarizes calculated rate revenues and other non-rate revenues available through the Rate Setting Period with future projections rounded to the nearest thousands.

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Table 10: Calculated Rate Revenues

Fixed Revenues	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Single-Family	\$6,678,198	\$6,784,005	\$6,875,207	\$6,875,207	\$6,875,207
Multi-Family	\$329,877	\$329,877	\$329,877	\$329,877	\$329,877
Commercial	\$887,190	\$887,190	\$887,190	\$887,190	\$887,190
Institutional	\$82,221	\$82,221	\$82,221	\$82,221	\$82,221
Agriculture (w/ Residence)	\$1,209,245	\$1,209,245	\$1,209,245	\$1,209,245	\$1,209,245
Agriculture (w/o Residence)	\$1,394,943	\$1,394,943	\$1,394,943	\$1,394,943	\$1,394,943
PSAWR (Domestic)	\$2,230,382	\$2,230,382	\$2,230,382	\$2,230,382	\$2,230,382
PSAWR (Commercial)	\$1,083,596	\$1,083,596	\$1,083,596	\$1,083,596	\$1,083,596
Total Fixed Revenues	\$13,895,652	\$14,001,459	\$14,092,661	\$14,092,661	\$14,092,661
Fixed Charges - Pumping Component					
Fixed Pumping Revenue	\$146,805	\$146,805	\$146,805	\$146,805	\$146,805
Variable Revenues	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Single-Family					
Tier 1	\$2,110,670	\$2,154,271	\$2,192,293	\$2,192,293	\$2,192,293
Tier 2	\$1,579,390	\$1,612,018	\$1,640,469	\$1,640,469	\$1,640,469
Tier 3	\$2,647,841	\$2,702,539	\$2,750,236	\$2,750,236	\$2,750,236
Subtotal Single-Family	\$6,337,901	\$6,468,828	\$6,582,998	\$6,582,998	\$6,582,998
Multi-Family	\$538,320	\$538,320	\$538,320	\$538,320	\$538,320
Commercial	\$1,383,062	\$1,383,062	\$1,383,062	\$1,383,062	\$1,383,062
Institutional	\$94,471	\$94,471	\$94,471	\$94,471	\$94,471
Agricultural					
Tier 1	\$202,356	\$202,356	\$202,356	\$202,356	\$202,356
Tier 2	\$219,671	\$219,671	\$219,671	\$219,671	\$219,671
Tier 3	\$694,009	\$694,009	\$694,009	\$694,009	\$694,009
Subtotal Agricultural	\$1,116,035	\$1,116,035	\$1,116,035	\$1,116,035	\$1,116,035
Agricultural	\$3,868,332	\$3,868,332	\$3,868,332	\$3,868,332	\$3,868,332
PSAWR					
Tier 1	\$473,986	\$473,986	\$473,986	\$473,986	\$473,986
Tier 2	\$624,470	\$624,470	\$624,470	\$624,470	\$624,470
Tier 3	\$4,218,144	\$4,218,144	\$4,218,144	\$4,218,144	\$4,218,144
Subtotal PSAWR	\$5,316,599	\$5,316,599	\$5,316,599	\$5,316,599	\$5,316,599
PSAWR	\$3,695,495	\$3,695,495	\$3,695,495	\$3,695,495	\$3,695,495
Construction	\$93,323	\$93,323	\$93,323	\$93,323	\$93,323
Total Variable Rate Revenue	\$22,443,539	\$22,574,466	\$22,688,635	\$22,688,635	\$22,688,635
Pumping - Variable					
Pump Zone 1	Rainbow Heights	\$188,004	\$188,004	\$188,004	\$188,004
Pump Zone 2	Improvement District U-1	\$25,238	\$25,238	\$25,238	\$25,238
Pump Zone 3	Vallecitos	\$28,705	\$28,705	\$28,705	\$28,705
Pump Zone 4	Northside	\$49,991	\$49,991	\$49,991	\$49,991
Pump Zone 5	Morro Tank	\$25,511	\$25,511	\$25,511	\$25,511
Pump Zone 6	Huntley	\$113,359	\$113,359	\$113,359	\$113,359
Pump Zone 7	Magee Tank	\$44,147	\$44,147	\$44,147	\$44,147
Total Variable Pumping Revenue		\$474,954	\$474,954	\$474,954	\$474,954
Total Rate Revenue		\$36,960,950	\$37,197,684	\$37,403,056	\$37,403,056

Rainbow Municipal Water District – Comprehensive Water Rate Study

Table 11: Projected Revenues

Revenue Summary	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Rate Revenues					
RMWD O&M Charge	\$8,434,000	\$8,489,000	\$8,537,000	\$8,537,000	\$8,537,000
SDCWA Fixed Charge	\$5,462,000	\$5,512,000	\$5,556,000	\$5,556,000	\$5,556,000
Variable Revenue	\$22,444,000	\$22,574,000	\$22,689,000	\$22,689,000	\$22,689,000
Pumping Revenue	\$622,000	\$622,000	\$622,000	\$622,000	\$622,000
Subtotal Rate Revenues	\$36,962,000	\$37,197,000	\$37,404,000	\$37,404,000	\$37,404,000
Operating Revenues					
R.P. Charges	\$245,665	\$246,000	\$246,000	\$246,000	\$246,000
Plans And Specs	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
Install Fees, Hyd	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
Miscellaneous	\$7,000	\$7,000	\$7,000	\$7,000	\$7,000
New Meter Sales/Install Parts	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000
Notice Delivery Revenue	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Subtotal Operating Revenues	\$319,665	\$320,000	\$320,000	\$320,000	\$320,000
Other Revenues					
NSF Ck Fees	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
Recycling Revenue	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000
Miscellaneous Revenue	\$95,000	\$95,000	\$95,000	\$95,000	\$95,000
Property Tax Rev. - Ad Valorem	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000
Readiness-To-Serve Rev Id#1	\$295,130	\$295,000	\$295,000	\$295,000	\$295,000
Subtotal Other Revenues	\$851,130	\$851,000	\$851,000	\$851,000	\$851,000
Total Water Revenues	\$38,132,795	\$38,368,000	\$38,575,000	\$38,575,000	\$38,575,000

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Expenses

The FY 2021 mid-year update and FY 2022 adopted budget were used as the utility's baseline Operational & Maintenance (O&M) expenses and adjusted in subsequent years based on the escalation factors shown in Table 9. Table 12 provides projected O&M expenses through the Rate Setting Period with projections rounded to the nearest thousands. Each expense category includes detailed line-item expenditures that we discussed with staff to determine the appropriate escalation factor for forecasting how costs will increase over time.

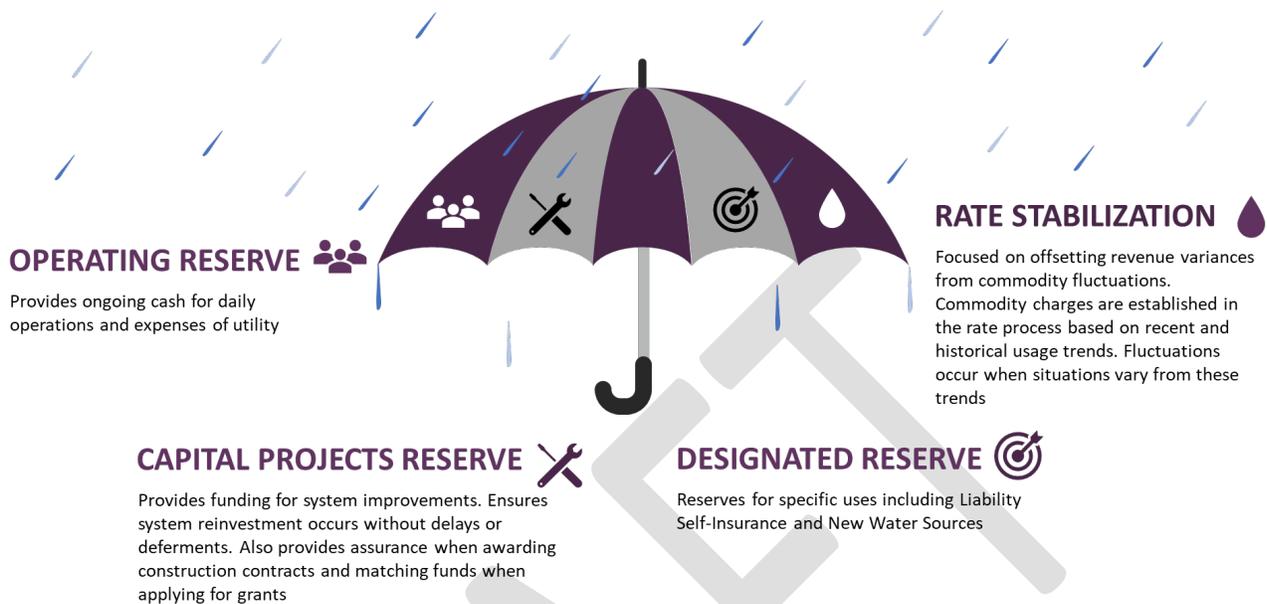
Table 12: Projected O&M Expenses

O&M Expenses	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Purchased Water Costs					
MWD Capacity	\$444,000	\$444,000	\$444,000	\$444,000	\$444,000
Customer Service	\$1,074,000	\$1,074,000	\$1,074,000	\$1,074,000	\$1,074,000
Infrastructure Access	\$746,000	\$746,000	\$746,000	\$746,000	\$746,000
Supply Reliability	\$963,000	\$963,000	\$963,000	\$963,000	\$963,000
Emergency Storage	\$1,531,000	\$1,531,000	\$1,531,000	\$1,531,000	\$1,531,000
MWD Readiness-to-Serve	\$494,000	\$494,000	\$494,000	\$494,000	\$494,000
Subtotal Fixed Purchased Water Costs	\$5,252,000	\$5,252,000	\$5,252,000	\$5,252,000	\$5,252,000
Variable Purchased Water Costs					
Variable Purchased Water Costs	\$18,754,000	\$18,657,000	\$18,742,000	\$18,742,000	\$18,742,000
PSAWR Credit	(\$979,000)	(\$979,000)	(\$979,000)	(\$979,000)	(\$979,000)
Subtotal Variable Purchased Water Costs	\$17,775,000	\$17,678,000	\$17,763,000	\$17,763,000	\$17,763,000
Operating Expenses w/o Pumping					
Administration Expenses	\$1,765,000	\$1,816,000	\$1,869,000	\$1,923,000	\$1,979,000
Board of Directors	\$38,000	\$39,000	\$40,000	\$41,000	\$42,000
Customer Service Expenses	\$437,000	\$452,000	\$468,000	\$484,000	\$501,000
Distribution Expenses	\$2,338,000	\$2,423,000	\$2,513,000	\$2,607,000	\$2,704,000
Engineering Expenses	\$937,000	\$973,000	\$1,010,000	\$1,049,000	\$1,089,000
IT Expenses	\$1,199,000	\$1,238,000	\$1,279,000	\$1,321,000	\$1,364,000
Finance Expenses	\$785,000	\$818,000	\$852,000	\$887,000	\$923,000
Fleet Expenses	\$629,000	\$645,000	\$661,000	\$677,000	\$694,000
Human Resources Expenses	\$317,000	\$327,000	\$338,000	\$349,000	\$361,000
Meter Expenses	\$1,211,000	\$1,256,000	\$1,302,000	\$1,350,000	\$1,401,000
Operating Expenses	\$2,159,000	\$2,233,000	\$2,309,000	\$2,388,000	\$2,470,000
Safety Expenses	\$822,000	\$842,000	\$862,000	\$882,000	\$904,000
Valve Maintenance Expense	\$497,000	\$517,000	\$538,000	\$560,000	\$583,000
Subtotal Operating Expenses w/o Pumping	\$13,134,000	\$13,579,000	\$14,041,000	\$14,518,000	\$15,015,000
Pumping Expenses					
Pumping Operations	\$108,000	\$110,000	\$112,000	\$114,000	\$116,000
Pumping/Energy Costs	\$450,000	\$475,000	\$501,000	\$526,000	\$552,000
Subtotal Pumping Expenses	\$558,000	\$585,000	\$613,000	\$640,000	\$668,000
Debt Service	\$2,359,246	\$2,359,003	\$2,358,755	\$2,358,497	\$2,358,231
Total Expenses	\$39,078,246	\$39,453,003	\$40,027,755	\$40,531,497	\$41,056,231

Rainbow Municipal Water District – Comprehensive Water Rate Study

Reserves

Figure 5: Water Utility Reserves



Established reserves include Operating Reserve, Capital Project Reserve, Rate Stabilization Reserve, and two Designated Reserves. These reserves help mitigate risks to the utility by ensuring sufficient cash is on hand for daily operations and to fund annual system improvements. In addition, these reserves help smooth rates and mitigate rate spikes due to emergencies or above-average system costs. The most recent adopted reserve policies identify the function of each reserve. Table 13 summarizes the minimum reserve requirements and the ideal funding targets of each reserve. In addition, the District has a separate account for capacity fees from new connections that funds a portion of capital projects.

Table 13: Water Reserve Requirements and Targets

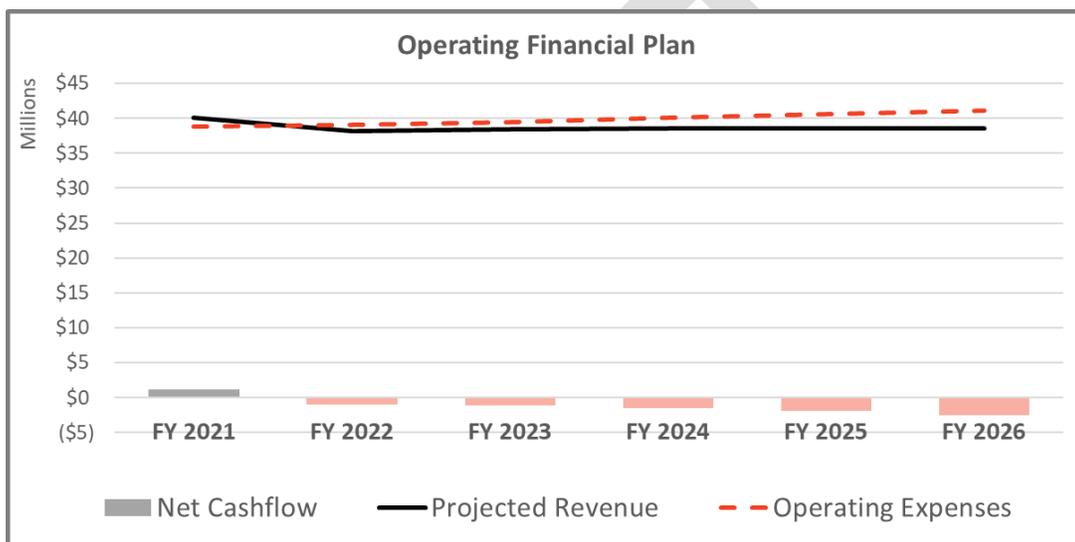
Reserve	Minimum Requirement	Reserve Target
Operating	60 days of operating costs	90 days of operating costs
Capital Projects	1-year of CIP based on 5-year average	2-years of CIP based on 5-year average
Rate Stabilization	10% of rate revenue	N/A
Liability Self-Insurance	Fixed amount of \$100,000	N/A
New Source Water	N/A	N/A

The estimated reserve balance as of July 1, 2021, equals approximately \$5.2M.

Financial Outlook at Existing Rates

Calculating revenue using existing rates and projecting expenses helps determine the current financial health of the utility. Revenues from existing rates can cover operating expenses for FY 2021. However, operating expenses will outpace current revenues, causing an annual deficit throughout the Rate Setting Period. The annual operating deficit would reduce operating reserves, and scheduled capital projects must be deferred or funded solely by available reserves. Figure 6 illustrates the operating position of the utility, where O&M expenses are identified with the dashed red trendline, and the horizontal black trendline shows total revenues at existing rates. The bars represent net operating income (or loss), which will increase or (reduce) the operating reserve.

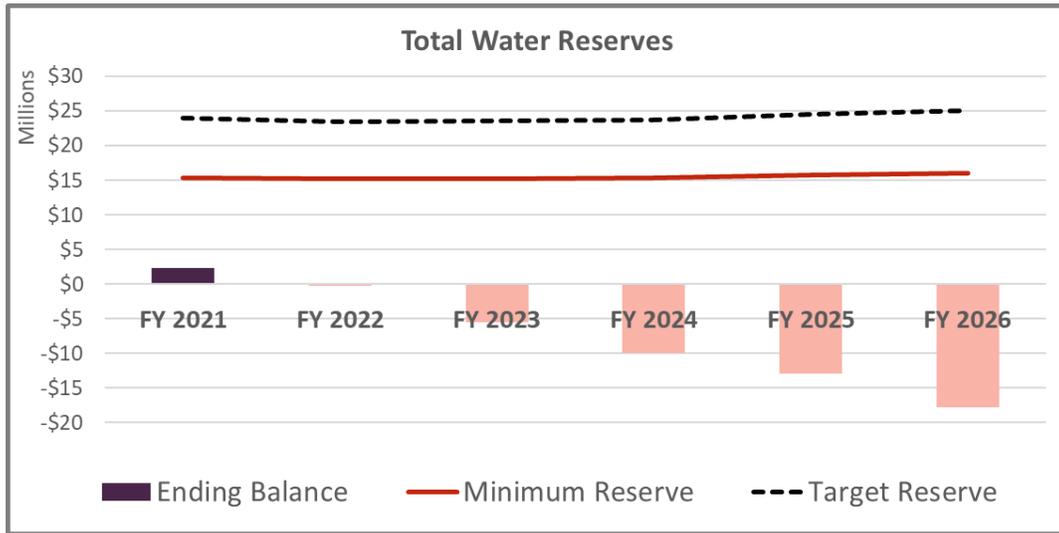
Figure 6: Current Operating Financial Position



With the capital spending over \$26.6M over the Rate Setting Period, as shown in Figure 2, reserves would need to cover capital expenses to ensure capital projects continue to move forward as scheduled. Figure 7 reflects the projected ending balances of reserves after operating and capital projects are funded. By the end of FY 2022, reserves are depleted, and capital projects can no longer be funded.

Rainbow Municipal Water District – Comprehensive Water Rate Study

Figure 7: Projected Ending Reserves at Existing Rates



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Proposed Financial Plan

A proposed financial plan can be developed from the financial outlook at existing rates to fund the multi-year revenue requirements while meeting reserve requirements. The proposed financial plan assumes a \$5 million dollar loan from the wastewater utility in FY 2022. This loan will be paid back over a period of 10 years beginning in FY 2027. Based on funding the capital plan over the Rate Setting Period and ensuring reserves meet minimum targets, [Table 14](#) forecasts projected revenues and expenses over the Rate Setting Period, including projected revenue adjustments.

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Rainbow Municipal Water District – Comprehensive Water Rate Study

Table 14: Proposed Financial Plan

Revenue	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Revenue from Rates						
RMWD O&M Charge	\$8,356,380	\$8,434,000	\$8,489,000	\$8,537,000	\$8,537,000	\$8,537,000
SDCWA Fixed Charge	\$5,186,416	\$5,462,000	\$5,512,000	\$5,556,000	\$5,556,000	\$5,556,000
Variable Revenue	\$23,386,391	\$22,444,000	\$22,574,000	\$22,689,000	\$22,689,000	\$22,689,000
Pumping Revenue	\$608,311	\$622,000	\$622,000	\$622,000	\$622,000	\$622,000
Total Baseline Rate Revenue	\$37,537,498	\$36,962,000	\$37,197,000	\$37,404,000	\$37,404,000	\$37,404,000
Additional Revenue (from revenue adjustments):						
Fiscal Year	Revenue Adjustment	# of Months Effective				
FY 2022	9.0%	10	\$2,772,000	\$3,348,000	\$3,366,000	\$3,366,000
FY 2023	5.0%	12		\$2,027,000	\$2,039,000	\$2,039,000
FY 2024	4.5%	12			\$1,926,000	\$1,926,000
FY 2025	3.0%	12				\$1,342,000
FY 2026	3.0%	12				\$1,382,000
Total Additional Revenue	\$0	\$2,772,000	\$5,375,000	\$7,331,000	\$8,673,000	\$10,055,000
Other Operating Revenues (Table 11)	\$319,665	\$319,665	\$320,000	\$320,000	\$320,000	\$320,000
Other Revenues (Table 11)	\$2,183,512	\$851,130	\$851,000	\$851,000	\$851,000	\$851,000
Total Revenues	\$40,040,675	\$40,904,795	\$43,743,000	\$45,906,000	\$47,248,000	\$48,630,000
O&M Expenses						
Purchased Water Costs						
MWD Capacity	\$419,934	\$444,000	\$444,000	\$444,000	\$444,000	\$444,000
Customer Service	\$1,109,124	\$1,074,000	\$1,074,000	\$1,074,000	\$1,074,000	\$1,074,000
Infrastructure Access	\$694,944	\$746,000	\$746,000	\$746,000	\$746,000	\$746,000
Supply Reliability	\$976,920	\$963,000	\$963,000	\$963,000	\$963,000	\$963,000
Emergency Storage	\$1,603,380	\$1,531,000	\$1,531,000	\$1,531,000	\$1,531,000	\$1,531,000
MWD Readiness-to-Serve	\$498,780	\$494,000	\$494,000	\$494,000	\$494,000	\$494,000
Subtotal Fixed Purchased Water Costs	\$5,303,082	\$5,252,000	\$5,252,000	\$5,252,000	\$5,252,000	\$5,252,000
Variable Purchased Water Costs						
Variable Purchased Water Costs	\$19,986,478	\$18,754,000	\$18,657,000	\$18,742,000	\$18,742,000	\$18,742,000
PSAWR Credit	(\$1,009,721)	(\$979,000)	(\$979,000)	(\$979,000)	(\$979,000)	(\$979,000)
Subtotal Variable Purchased Water Costs	\$18,976,757	\$17,775,000	\$17,678,000	\$17,763,000	\$17,763,000	\$17,763,000
Operating Expenses w/o Pumping						
Administration Expenses	\$1,592,854	\$1,765,000	\$1,816,000	\$1,869,000	\$1,923,000	\$1,979,000
Board of Directors	\$8,335	\$38,000	\$39,000	\$40,000	\$41,000	\$42,000
Customer Service Expenses	\$560,280	\$437,000	\$452,000	\$468,000	\$484,000	\$501,000
Distribution Expenses	\$2,237,398	\$2,338,000	\$2,423,000	\$2,513,000	\$2,607,000	\$2,704,000
Engineering Expenses	\$737,071	\$937,000	\$973,000	\$1,010,000	\$1,049,000	\$1,089,000
IT Expenses	\$778,517	\$1,199,000	\$1,238,000	\$1,279,000	\$1,321,000	\$1,364,000
Finance Expenses	\$607,120	\$785,000	\$818,000	\$852,000	\$887,000	\$923,000
Fleet Expenses	\$698,908	\$629,000	\$645,000	\$661,000	\$677,000	\$694,000
Human Resources Expenses	\$252,732	\$317,000	\$327,000	\$338,000	\$349,000	\$361,000
Meter Expenses	\$1,138,313	\$1,211,000	\$1,256,000	\$1,302,000	\$1,350,000	\$1,401,000
Operating Expenses	\$1,965,893	\$2,159,000	\$2,233,000	\$2,309,000	\$2,388,000	\$2,470,000
Safety Expenses	\$772,496	\$822,000	\$842,000	\$862,000	\$882,000	\$904,000
Valve Maintenance Expense	\$357,267	\$497,000	\$517,000	\$538,000	\$560,000	\$583,000
Subtotal Operating Expenses w/o Pumping	\$11,707,183	\$13,134,000	\$13,579,000	\$14,041,000	\$14,518,000	\$15,015,000
Pumping Expenses						
Pumping Operations	\$91,958	\$108,000	\$110,000	\$112,000	\$114,000	\$116,000
Pumping/Energy Costs	\$412,370	\$450,000	\$475,000	\$501,000	\$526,000	\$552,000
Subtotal Pumping Expenses	\$504,329	\$558,000	\$585,000	\$613,000	\$640,000	\$668,000
Debt Service	\$2,359,481	\$2,359,246	\$2,359,003	\$2,358,755	\$2,358,497	\$2,358,231
Total Expenses	\$38,850,832	\$39,078,246	\$39,453,003	\$40,027,755	\$40,531,497	\$41,056,231
Net Cashflow	\$1,189,843	\$1,826,549	\$4,289,997	\$5,878,245	\$6,716,503	\$7,573,769

Rainbow Municipal Water District – Comprehensive Water Rate Study

Figure 8 identifies the operating position based on the proposed financial plan and Figure 9 shows the capital plan with funding sources. Figure 10 identifies the ending reserve balances for reserves after funding capital projects.

Figure 8: Proposed Operating Position

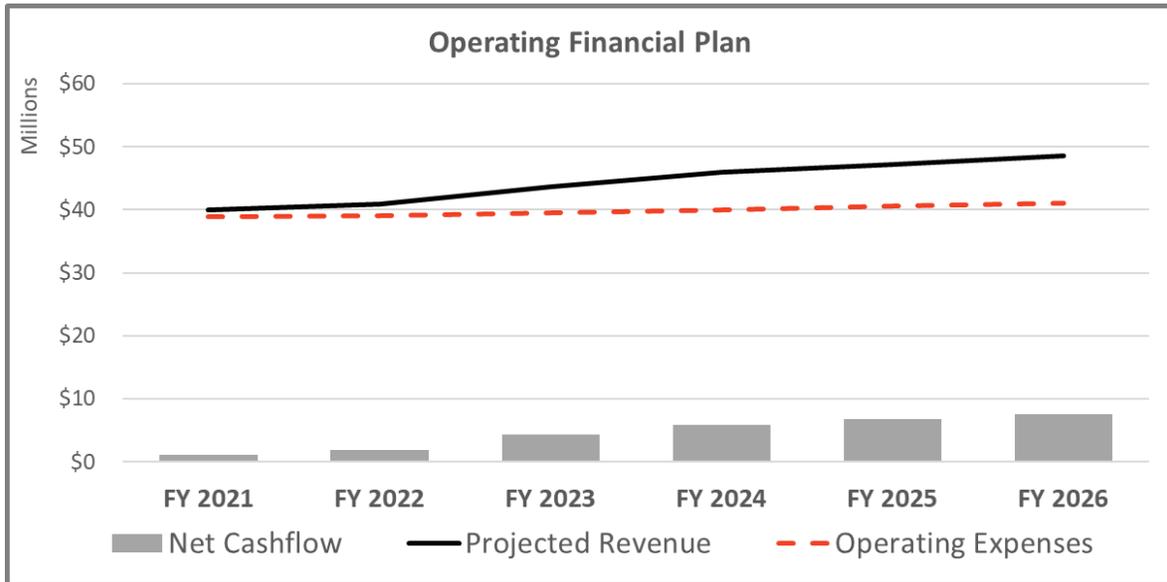


Figure 9: Capital Improvement Plan with Funding Sources

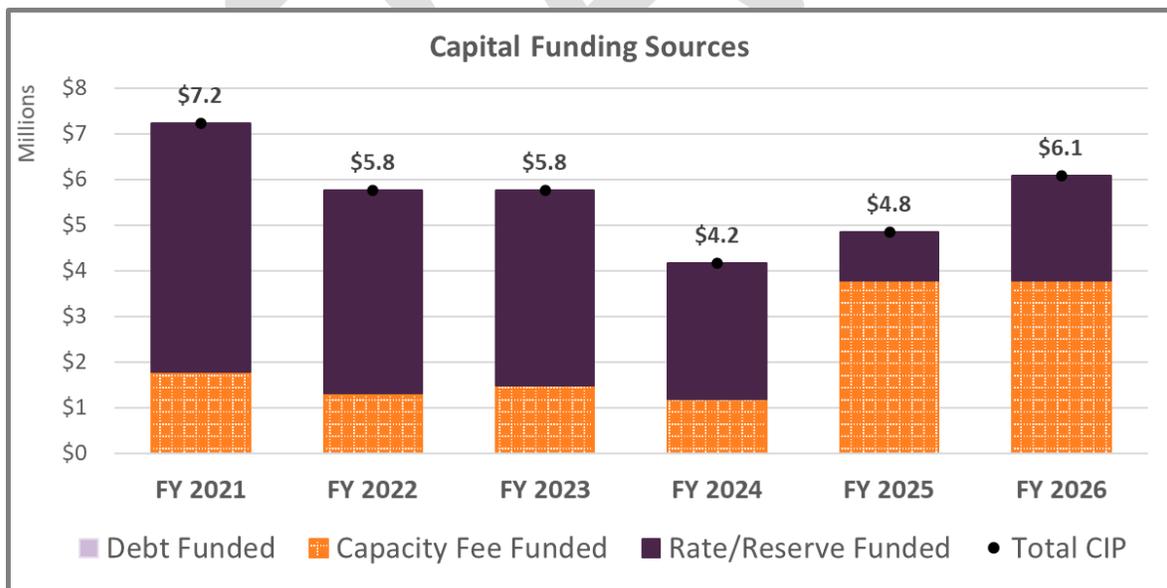
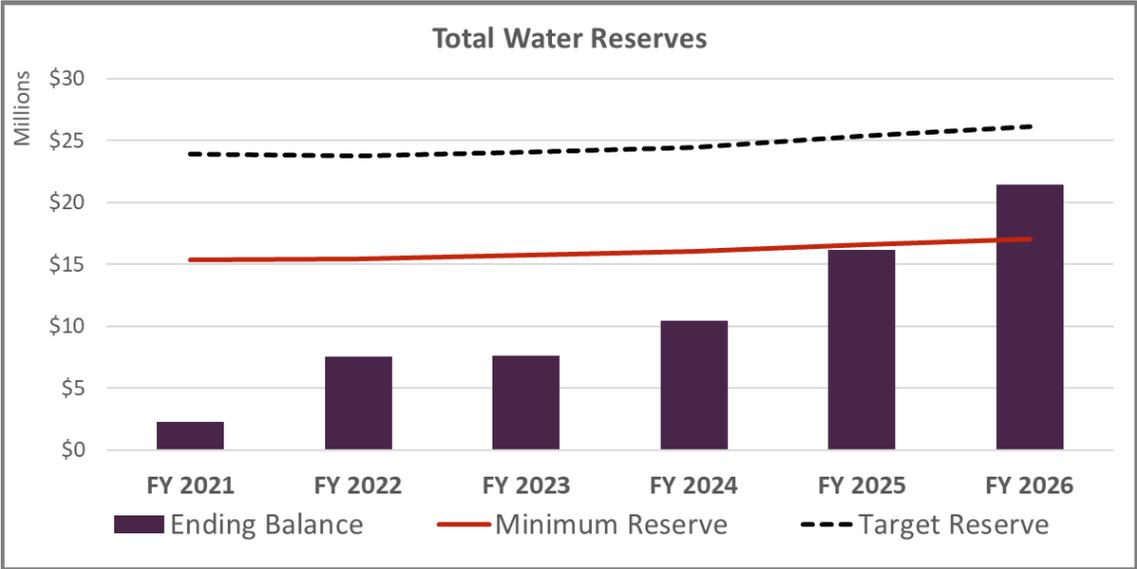


Figure 10: Proposed Ending Reserves



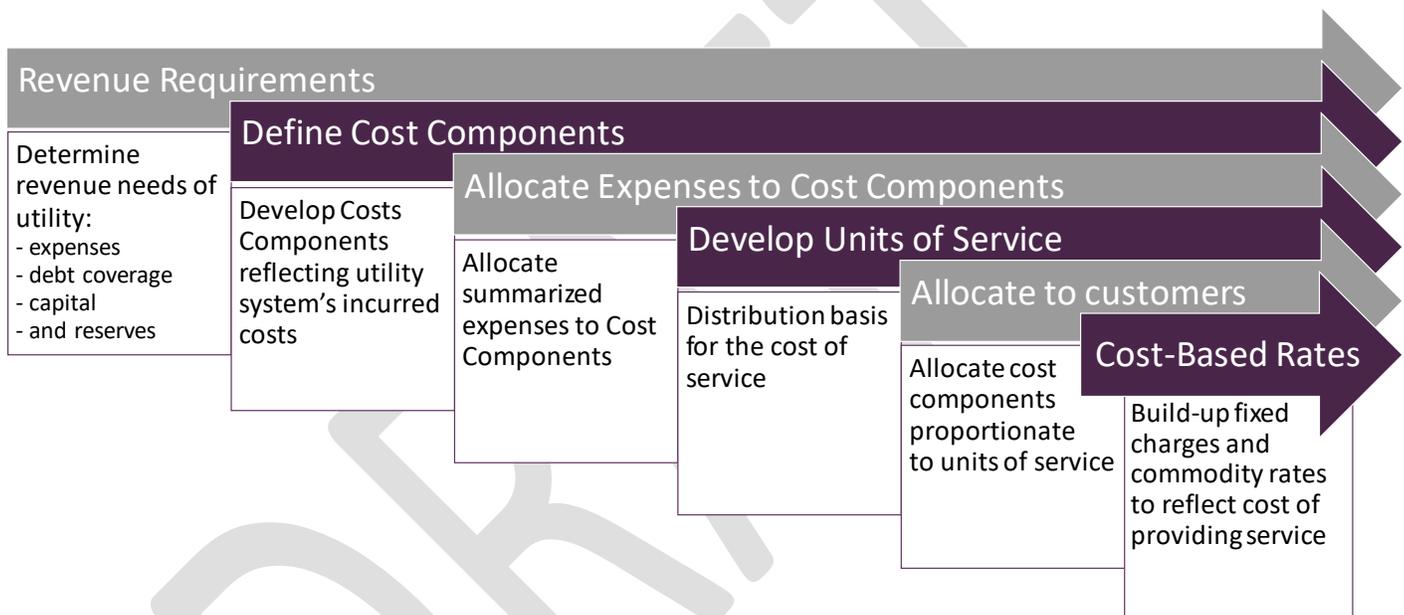
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Cost of Service Analysis

Cost of Service Process

The next step in developing rates is to perform a cost of service analysis. It is important to understand **how** costs are incurred in order to determine the most appropriate way to recover these costs. The following graphic summarizes the cost of service process. Through this process, costs incurred are first allocated to customer classes based on their proportional share and then apportioned to corresponding accounts within each customer class. As a result, proposed rates are cost-based and reflect the costs incurred to provide service to customers.

Figure 11: Cost of Service Process



Revenue Requirements

With FY 2022 as the first year of the proposed rate schedule, revenue requirements are determined for FY 2022 and used for the cost of service. Revenue requirements include Purchased Water Costs, O&M expenses, available revenue offsets from other revenues, and reserve funding. Funding capital projects and replenishing reserves to meet or exceed the minimum reserve requirement is achieved over the Rate Setting Period. Purchased water rates from SDCWA were held constant during the Rate Setting Period. Any increases shown below were due to assumed changes in demand and water loss. Any incremental increases in purchased water costs from SDCWA will be in addition to what is shown in the following table and captured through pass through adjustments. The results of the financial plan analysis are summarized in Table 15 and represent the revenue required from rates over the Rate Setting Period.

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Table 15: FY 2022 Revenue Requirements

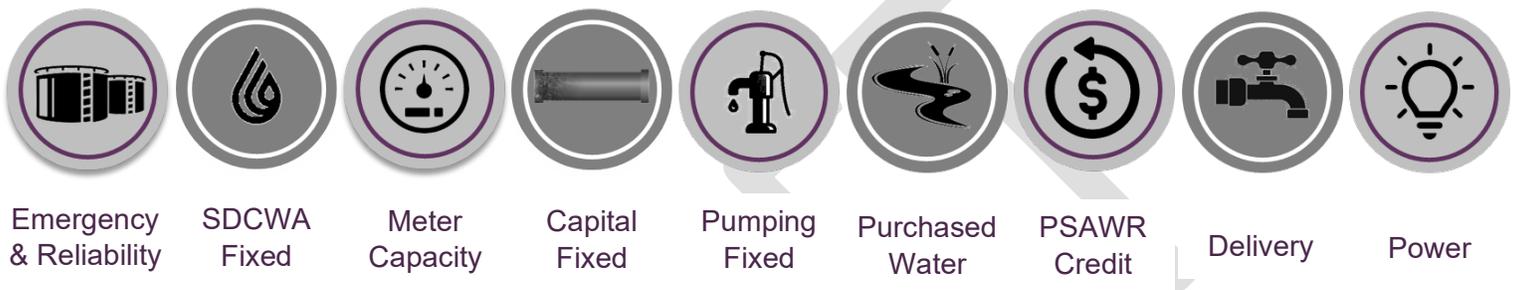
Revenue Requirements	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Purchased Water Costs					
MWD Capacity	\$444,000	\$444,000	\$444,000	\$444,000	\$444,000
Customer Service	\$1,074,000	\$1,074,000	\$1,074,000	\$1,074,000	\$1,074,000
Infrastructure Access	\$746,000	\$746,000	\$746,000	\$746,000	\$746,000
Supply Reliability	\$963,000	\$963,000	\$963,000	\$963,000	\$963,000
Emergency Storage	\$1,531,000	\$1,531,000	\$1,531,000	\$1,531,000	\$1,531,000
MWD Readiness-to-Serve	\$494,000	\$494,000	\$494,000	\$494,000	\$494,000
Variable Purchased Water Costs	\$18,754,000	\$18,657,000	\$18,742,000	\$18,742,000	\$18,742,000
PSAWR Credit	(\$979,000)	(\$979,000)	(\$979,000)	(\$979,000)	(\$979,000)
Total Purchased Water Costs	\$23,027,000	\$22,930,000	\$23,015,000	\$23,015,000	\$23,015,000
Operations and Maintenance					
Administration Expenses	\$1,765,000	\$1,816,000	\$1,869,000	\$1,923,000	\$1,979,000
Board of Directors	\$38,000	\$39,000	\$40,000	\$41,000	\$42,000
Customer Service Expenses	\$437,000	\$452,000	\$468,000	\$484,000	\$501,000
Distribution Expenses	\$2,338,000	\$2,423,000	\$2,513,000	\$2,607,000	\$2,704,000
Engineering Expenses	\$937,000	\$973,000	\$1,010,000	\$1,049,000	\$1,089,000
IT Expenses	\$1,199,000	\$1,238,000	\$1,279,000	\$1,321,000	\$1,364,000
Finance Expenses	\$785,000	\$818,000	\$852,000	\$887,000	\$923,000
Fleet Expenses	\$629,000	\$645,000	\$661,000	\$677,000	\$694,000
Human Resources Expenses	\$317,000	\$327,000	\$338,000	\$349,000	\$361,000
Meter Expenses	\$1,211,000	\$1,256,000	\$1,302,000	\$1,350,000	\$1,401,000
Operating Expenses	\$2,159,000	\$2,233,000	\$2,309,000	\$2,388,000	\$2,470,000
Safety Expenses	\$822,000	\$842,000	\$862,000	\$882,000	\$904,000
Valve Maintenance Expense	\$497,000	\$517,000	\$538,000	\$560,000	\$583,000
Total Operations and Maintenance	\$13,134,000	\$13,579,000	\$14,041,000	\$14,518,000	\$15,015,000
Pumping Costs					
Pumping Operations	\$108,000	\$110,000	\$112,000	\$114,000	\$116,000
Pumping/Energy Costs	\$450,000	\$475,000	\$501,000	\$526,000	\$552,000
Total Pumping Costs	\$558,000	\$585,000	\$613,000	\$640,000	\$668,000
Total Debt Service	\$2,359,246	\$2,359,003	\$2,358,755	\$2,358,497	\$2,358,231
Total Revenue Requirements	\$39,078,246	\$39,453,003	\$40,027,755	\$40,531,497	\$41,056,231
Revenue Offsets					
R.P. Charges	(\$245,665)	(\$246,000)	(\$246,000)	(\$246,000)	(\$246,000)
Plans And Specs	(\$20,000)	(\$20,000)	(\$20,000)	(\$20,000)	(\$20,000)
Install Fees, Hyd	(\$2,000)	(\$2,000)	(\$2,000)	(\$2,000)	(\$2,000)
Miscellaneous	(\$7,000)	(\$7,000)	(\$7,000)	(\$7,000)	(\$7,000)
New Meter Sales/Install Parts	(\$40,000)	(\$40,000)	(\$40,000)	(\$40,000)	(\$40,000)
Notice Delivery Revenue	(\$5,000)	(\$5,000)	(\$5,000)	(\$5,000)	(\$5,000)
NSF Ck Fees	(\$3,000)	(\$3,000)	(\$3,000)	(\$3,000)	(\$3,000)
Recycling Revenue	(\$8,000)	(\$8,000)	(\$8,000)	(\$8,000)	(\$8,000)
Miscellaneous Revenue	(\$95,000)	(\$95,000)	(\$95,000)	(\$95,000)	(\$95,000)
Property Tax Rev. - Ad Valorem	(\$450,000)	(\$450,000)	(\$450,000)	(\$450,000)	(\$450,000)
Readiness-To-Serve Rev Id#1	(\$295,130)	(\$295,000)	(\$295,000)	(\$295,000)	(\$295,000)
Total Revenue Offsets	(\$1,170,795)	(\$1,171,000)	(\$1,171,000)	(\$1,171,000)	(\$1,171,000)
Adjustments					
Capital / Reserve Funding	\$1,826,549	\$4,289,997	\$5,878,245	\$6,716,503	\$7,573,769
Adjustment for Mid-Year Increase	\$554,400	\$0	\$0	\$0	\$0
Total Adjustments	\$2,380,949	\$4,289,997	\$5,878,245	\$6,716,503	\$7,573,769
Revenue Required from Rates	\$40,288,400	\$42,572,000	\$44,735,000	\$46,077,000	\$47,459,000

Rainbow Municipal Water District – Comprehensive Water Rate Study

Define Cost Components

The utility incurs costs to accommodate total water demand that varies throughout the year. Therefore, to determine the most appropriate way to recover the utility's expenses, cost components are identified to allocate expenses based on how they are incurred. Based on a review of the revenue requirements and an understanding of the utility system, it is appropriate and reasonable to utilize the base-extra capacity methodology outlined in the American Water Works Association (AWWA) M1 Manual. This methodology accounts for utility systems costs as a function of meeting revenue needs based on average annual usage and total demand. The cost components shown in Figure 12 reflect the cost components used for this study.

Figure 12: Cost Components



Emergency & Reliability – Fixed monthly water supply costs associated with Emergency Storage and Supply Reliability that are incurred by the District from SDCWA. These two fixed components are separated out from other SDCWA fixed charges because PSAWR customers do not pay these fixed costs.

SDCWA Fixed – Fixed monthly water supply costs incurred by the District from SDCWA, including MWD Capacity, Customer Service, Infrastructure Access, and MWD Ready-to-Serve.

Meter Capacity – Expenses associated with operating and maintaining the system, planning, customer services, support services, reserves, and overhead.

Capital Fixed – Expenses associated with debt and reserves related to system capital.

Pumping Fixed – Fixed expenses associated with the District Pumping division, including staffing, equipment & building maintenance, and supplies.

Purchased Water – Water supply costs from the purchase of treated water from SDCWA.

PSAWR Credit – Credits from SDCWA for usage associated with PSAWR customers.

Delivery – Expenses associated with distribution, engineering, fleet, operating, valves, safety, a portion of debt, and reserve funding.

Power – Energy costs incurred to pump water to higher elevations.

Rainbow Municipal Water District – Comprehensive Water Rate Study

Allocate Expenses to Cost Components

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

Table 16 summarizes the percent allocation of purchased water costs from SDCWA to the cost components, and Table 17 uses the percent allocations in Table 16 to allocate expenses in dollars to each cost component.

Table 16: SDCWA Expense Allocation to Cost Components (%)

Functionalized Expenses	Cost Components				Total
	Emergency & Reliability	SDCWA Fixed	Purchased Supply	PSAWR Credit	
MWD Capacity	0.0%	100.0%	0.0%	0.0%	100.0%
Customer Service	0.0%	100.0%	0.0%	0.0%	100.0%
Infrastructure Access	0.0%	100.0%	0.0%	0.0%	100.0%
Supply Reliability	100.0%	0.0%	0.0%	0.0%	100.0%
Emergency Storage	100.0%	0.0%	0.0%	0.0%	100.0%
MWD Readiness-to-Serve	0.0%	100.0%	0.0%	0.0%	100.0%
Variable Purchased Water Costs	0.0%	0.0%	100.0%	0.0%	100.0%
PSAWR Credit	0.0%	0.0%	0.0%	100.0%	100.0%

Table 17: SDCWA Expense Allocation to Cost Components (\$)

Functionalized Expenses	Cost Components				Total
	Emergency & Reliability	SDCWA Fixed	Purchased Supply	PSAWR Credit	
MWD Capacity	\$0	\$444,000	\$0	\$0	\$444,000
Customer Service	\$0	\$1,074,000	\$0	\$0	\$1,074,000
Infrastructure Access	\$0	\$746,000	\$0	\$0	\$746,000
Supply Reliability	\$963,000	\$0	\$0	\$0	\$963,000
Emergency Storage	\$1,531,000	\$0	\$0	\$0	\$1,531,000
MWD Readiness-to-Serve	\$0	\$494,000	\$0	\$0	\$494,000
Variable Purchased Water Costs	\$0	\$0	\$18,754,000	\$0	\$18,754,000
PSAWR Credit	\$0	\$0	\$0	(\$979,000)	(\$979,000)
Purchased Water Allocation (\$)	\$2,494,000	\$2,758,000	\$18,754,000	(\$979,000)	\$23,027,000

Table 18 summarizes the percent allocation of O&M Revenue Requirements to the cost components, and Table 19 uses the percent allocations in Table 18 to allocate O&M expenses in dollars to each cost component.

Rainbow Municipal Water District – Comprehensive Water Rate Study

Table 18: O&M Expenses Allocation to Cost Components (%)

Functionalized Expenses	Cost Components					Total
	Meter Capacity	Capital Fixed	Pumping Fixed	Delivery	Energy	
Administration Expenses	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Board of Directors	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Customer Service Expenses	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Distribution Expenses	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Engineering Expenses	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
IT Expenses	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Finance Expenses	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Fleet Expenses	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Human Resources Expenses	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Meter Expenses	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Operating Expenses	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Safety Expenses	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Valve Maintenance Expense	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%

Table 19: O&M Expenses Allocation to Cost Components (\$)

Functionalized Expenses	Cost Components					Total
	Meter Capacity	Capital Fixed	Pumping Fixed	Delivery	Energy	
Administration Expenses	\$1,765,000	\$0	\$0	\$0	\$0	\$1,765,000
Board of Directors	\$38,000	\$0	\$0	\$0	\$0	\$38,000
Customer Service Expenses	\$437,000	\$0	\$0	\$0	\$0	\$437,000
Distribution Expenses	\$0	\$0	\$0	\$2,338,000	\$0	\$2,338,000
Engineering Expenses	\$0	\$0	\$0	\$937,000	\$0	\$937,000
IT Expenses	\$1,199,000	\$0	\$0	\$0	\$0	\$1,199,000
Finance Expenses	\$785,000	\$0	\$0	\$0	\$0	\$785,000
Fleet Expenses	\$0	\$0	\$0	\$629,000	\$0	\$629,000
Human Resources Expenses	\$317,000	\$0	\$0	\$0	\$0	\$317,000
Meter Expenses	\$1,211,000	\$0	\$0	\$0	\$0	\$1,211,000
Operating Expenses	\$0	\$0	\$0	\$2,159,000	\$0	\$2,159,000
Safety Expenses	\$0	\$0	\$0	\$822,000	\$0	\$822,000
Valve Maintenance Expense	\$0	\$0	\$0	\$497,000	\$0	\$497,000
O&M Allocation (\$)	\$5,752,000	\$0	\$0	\$7,382,000	\$0	\$13,134,000
O&M Allocation (%)	43.8%	0.0%	0.0%	56.2%	0.0%	100.0%

Table 20 summarizes the percent allocation of Pumping expenses to the cost components, and Table 21 uses the percent allocations in Table 20 to allocate Pumping expenses in dollars to each cost component.

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Table 20: Pumping Expense Allocation to Cost Components (%)

Functionalized Expenses	Cost Components					Total
	Meter Capacity	Capital Fixed	Pumping Fixed	Delivery	Energy	
Pumping Operations	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%
Pumping/Energy Costs	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%

Table 21: Pumping Expense Allocation to Cost Components (\$)

Functionalized Expenses	Cost Components					Total
	Meter Capacity	Capital Fixed	Pumping Fixed	Delivery	Energy	
Pumping Operations	\$0	\$0	\$108,000	\$0	\$0	\$108,000
Pumping/Energy Costs	\$0	\$0	\$0	\$0	\$450,000	\$450,000
Pumping Allocation (\$)	\$0	\$0	\$108,000	\$0	\$450,000	\$558,000

Table 22 summarizes the percent allocation of Debt to the cost components, and Table 23 uses the percent allocations in Table 22 to allocate Debt in dollars to each cost component.

Table 22: Debt Allocation to Cost Components (%)

Functionalized Expenses	Cost Components					Total
	Meter Capacity	Capital Fixed	Pumping Fixed	Delivery	Energy	
Existing Debt	0.0%	50.0%	0.0%	50.0%	0.0%	100.0%
New/Proposed Debt	0.0%	50.0%	0.0%	50.0%	0.0%	100.0%

Table 23: Debt Allocation to Cost Components (\$)

Functionalized Expenses	Cost Components					Total
	Meter Capacity	Capital Fixed	Pumping Fixed	Delivery	Energy	
Existing Debt	\$0	\$1,179,623	\$0	\$1,179,623	\$0	\$2,359,246
New/Proposed Debt	\$0	\$0	\$0	\$0	\$0	\$0
Debt Service Allocation (\$)	\$0	\$1,179,623	\$0	\$1,179,623	\$0	\$2,359,246

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Other Funding includes other operating revenues and non-operating revenues, reserve funding, and mid-year adjustments. Most items were allocated to the cost components based on O&M percentages derived in Table 19 to maintain proportionality in how expenses were allocated to each cost component. There were three exceptions. R.P Charges (backflow charge revenue) were allocated 100% to Meter Capacity, Recycled Revenues were allocated 100% to Delivery as an offset to all potable customers, and Capital/Reserve Funding was based on the O&M percentages; however, the fixed portion (43.8%) was assigned to Capital Fixed. Table 24 summarizes the percent allocation of Other Revenue to the cost components, and Table 25 uses the percent allocations in Table 24 to allocate expenses in dollars to each cost component.

Table 24: Other Funding Allocation to Cost Components (%)

Functionalized Expenses	Cost Components					Total
	Meter Capacity	Capital Fixed	Pumping Fixed	Delivery	Energy	
R.P. Charges	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Plans And Specs	43.8%	0.0%	0.0%	56.2%	0.0%	100.0%
Install Fees, Hyd	43.8%	0.0%	0.0%	56.2%	0.0%	100.0%
Miscellaneous	43.8%	0.0%	0.0%	56.2%	0.0%	100.0%
New Meter Sales/Install Parts	43.8%	0.0%	0.0%	56.2%	0.0%	100.0%
Notice Delivery Revenue	43.8%	0.0%	0.0%	56.2%	0.0%	100.0%
NSF Ck Fees	43.8%	0.0%	0.0%	56.2%	0.0%	100.0%
Recycling Revenue	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Miscellaneous Revenue	43.8%	0.0%	0.0%	56.2%	0.0%	100.0%
Property Tax Rev. - Ad Valorem	43.8%	0.0%	0.0%	56.2%	0.0%	100.0%
Readiness-To-Serve Rev Id#1	43.8%	0.0%	0.0%	56.2%	0.0%	100.0%
Capital / Reserve Funding	0.0%	43.8%	0.0%	56.2%	0.0%	100.0%
Adjustment for Mid-Year Increase	43.8%	0.0%	0.0%	56.2%	0.0%	100.0%

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Table 25: Other Funding Allocation to Cost Components (\$)

Functionalized Expenses	Cost Components					Total
	Meter Capacity	Capital Fixed	Pumping Fixed	Delivery	Energy	
R.P. Charges	(\$245,665)	\$0	\$0	\$0	\$0	(\$245,665)
Plans And Specs	(\$8,759)	\$0	\$0	(\$11,241)	\$0	(\$20,000)
Install Fees, Hyd	(\$876)	\$0	\$0	(\$1,124)	\$0	(\$2,000)
Miscellaneous	(\$3,066)	\$0	\$0	(\$3,934)	\$0	(\$7,000)
New Meter Sales/Install Parts	(\$17,518)	\$0	\$0	(\$22,482)	\$0	(\$40,000)
Notice Delivery Revenue	(\$2,190)	\$0	\$0	(\$2,810)	\$0	(\$5,000)
NSF Ck Fees	(\$1,314)	\$0	\$0	(\$1,686)	\$0	(\$3,000)
Recycling Revenue	\$0	\$0	\$0	(\$8,000)	\$0	(\$8,000)
Miscellaneous Revenue	(\$41,605)	\$0	\$0	(\$53,395)	\$0	(\$95,000)
Property Tax Rev. - Ad Valorem	(\$197,076)	\$0	\$0	(\$252,924)	\$0	(\$450,000)
Readiness-To-Serve Rev Id#1	(\$129,251)	\$0	\$0	(\$165,879)	\$0	(\$295,130)
Capital / Reserve Funding	\$0	\$799,932	\$0	\$1,026,617	\$0	\$1,826,549
Adjustment for Mid-Year Increase	\$242,798	\$0	\$0	\$311,602	\$0	\$554,400
Other Funding (\$)	(\$404,522)	\$799,932	\$0	\$814,743	\$0	\$1,210,154

Table 26 summarizes the total revenue requirement derived in Table 15 by cost component.

Table 26: FY 2022 Cost of Service Requirements by Cost Component

Functionalized Expenses	Cost Components									Total
	Emergency & Reliability	SDCWA Fixed	Meter Capacity	Capital Fixed	Pumping Fixed	Purchased Supply	PSAWR Credit	Delivery	Energy	
Purchased Water	\$2,494,000	\$2,758,000	\$0	\$0	\$0	\$18,754,000	(\$979,000)	\$0	\$0	\$23,027,000
Operations and Maintenance	\$0	\$0	\$5,752,000	\$0	\$0	\$0	\$0	\$7,382,000	\$0	\$13,134,000
Pumping	\$0	\$0	\$0	\$0	\$108,000	\$0	\$0	\$0	\$450,000	\$558,000
Debt Service	\$0	\$0	\$0	\$1,179,623	\$0	\$0	\$0	\$1,179,623	\$0	\$2,359,246
Other Funding	\$0	\$0	(\$404,522)	\$799,932	\$0	\$0	\$0	\$814,743	\$0	\$1,210,154
Total Allocation (\$)	\$2,494,000	\$2,758,000	\$5,347,478	\$1,979,555	\$108,000	\$18,754,000	-\$979,000	\$9,376,366	\$450,000	\$40,288,400

Rate Design

Develop Units of Service

Unit rates for each cost component are derived by spreading the corresponding revenue requirements over appropriate units of service (distribution basis). This approach provides a clear connection between costs incurred and the proportionate share attributable to each customer class and customer account. When designing rates, the most critical component is to connect costs to the proposed rates, resulting in a rate structure that is cost-based and in compliance with Proposition 218. In the previous section, costs were summarized by expense category and allocated to cost components based on how each cost is incurred. The next step in designing rates is to allocate each cost component to customers in relation to their use of the system and facilities. The method of apportionment considers each customer’s share of system costs and is reflected by the units of service used to equitably distribute the cost components to each customer account.

The distribution basis varies by cost component and includes total accounts, Meter Equivalents (MEs) which reflects demand placed on the system, and total water usage. In Table 27 each meter size was assigned an equivalency factor based on the flow characteristics of a 3/4” meter using the safe maximum operating flow capacity by meter type, as identified in the AWWA M1 Manual, 6th Edition, Table B-2.

The safe maximum operating flow capacity for each meter was divided by the base meters flow capacity of 30 gallons per minute (gpm) (3/4”) to determine the equivalent meter ratio. The Capacity Ratio represent the potential flow through each meter size compared to the flow through a 3/4” meter to establish parity between meter sizes. Total MEs are determined by multiplying the number of meters by the Capacity Ratio and multiplying the result by the billing periods in a year. Table 27 summarizes the units of service related to total Accounts and MEs.

Table 27: Accounts and Meter Equivalents

Line #	Meter Size	AWWA Capacity (gpm) [A]	Capacity Ratio [B] = A / 30	Number of Accounts [C]	Meter Equivalents (MEs) [D] = B x C	Agricultural MEs [E]	PSAWR MEs [F]	Agricultural and PSAWR MEs [G] = E + F	Non-PSAWR MEs [H] = D - F
1	3/4"	30	100	3,720	3,720.00	134.00	110.00	244.00	3,610.00
2	1"	50	167	3,822	6,370.00	971.67	1,176.67	2,148.33	5,193.33
3	1 1/2"	100	3.33	628	2,093.33	393.33	940.00	1,333.33	1,153.33
4	2"	160	5.33	529	2,821.33	570.67	1,168.00	1,738.67	1,653.33
5	3"	350	11.67	67	781.67	128.33	210.00	338.33	571.67
6	4"	630	21.00	18	378.00	105.00	84.00	189.00	294.00
7	6"	1,300	43.33	2	86.67	43.33	-	43.33	86.67
8	Total			8,786	16,251	2,346	3,689	6,035	12,562
9	Annual Units (Line 8 x 12 months)			105,432	195,012	28,156	44,264	72,420	150,748

Total usage for each customer class and pumping zone is shown in Table 28 to derive the units of service for allocating variable costs. Table 28 summarizes the FY 2022 projected usage from Table 8, broken out by customer class, and usage within each pumping zone.

Rainbow Municipal Water District – Comprehensive Water Rate Study

Table 28: FY 2022 Projected Usage by Customer Class and Pumping Zone

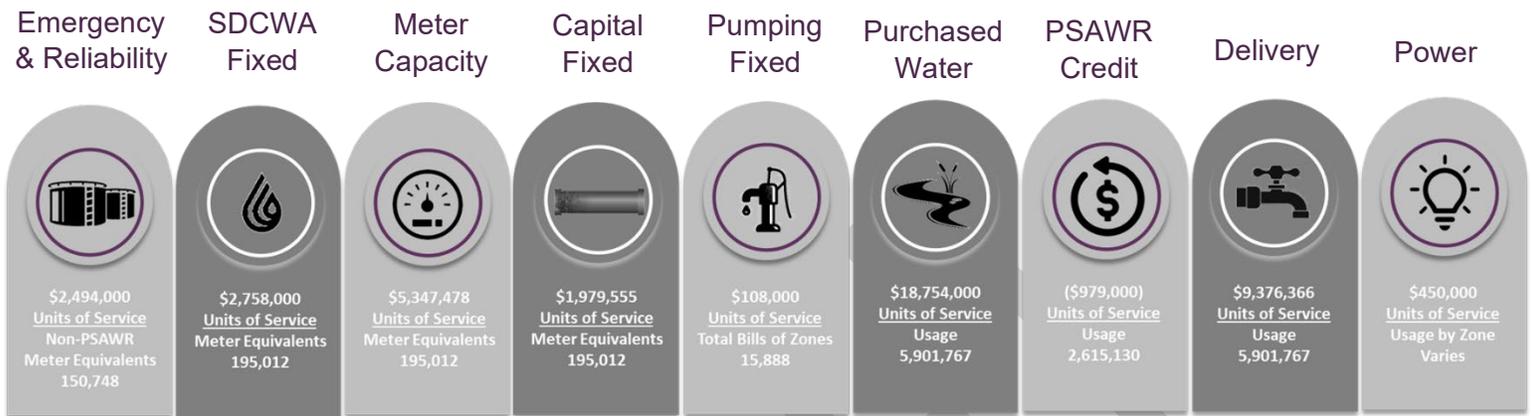
Line #	Customer Class	Projected Usage (HCF)	Pump Zones	Zone Description	Pumping Accounts	Projected Usage (HCF)
1	Single-Family	1,492,802	Pump Zone 1	Rainbow Heights	180	180,501
2	Multi-Family	133,483	Pump Zone 2	Improvement District U-1	106	39,868
3	Commercial	329,860	Pump Zone 3	Vallecitos	59	72,959
4	Institutional	21,970	Pump Zone 4	Northside	426	377,453
5	AG w/ Residence	287,854	Pump Zone 5	Morro Tank	345	135,254
6	AG	1,020,668	Pump Zone 6	Huntley	152	165,176
7	PSAWR - Domestic	1,513,393	Pump Zone 7	Magee Tank	56	13,544
8	PSAWR - Commercial	1,101,737				
9	Total	5,901,767			1,324	984,755
10				<i>Annual Units (Line 9 x 12 billing cycles)</i>	15,888	

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With the units of service shown in Table 27 and Table 28, the distribution basis can be identified for each cost component. Figure 13 identifies the total revenue requirements by cost component from Table 26 and the corresponding units of service.

Figure 13: Distribution Basis and Units of Service by Cost Component



Using the FY 2022 revenue requirements, the cost of service allocates expenses to customers based on the service demands that each place on the system (cost causation). This cost causation approach ensures that each customer proportionately shares in the financial obligation of the utility. For each cost component's unit rate computations, unit rates were rounded up to the nearest penny.

Fixed Cost Recovery

Emergency and Reliability

SDCWA Fixed costs include six separate charges to its member agencies, including MWD Capacity, Customer Service, Infrastructure Access, Emergency Storage, Supply Reliability, and MWD Ready-to-Serve. The SDCWA PSAWR program allows eligible agricultural customers to participate and receive a lower level of water service during water shortages or emergencies. In exchange, PSAWR customers are exempt from paying Emergency Storage and Supply Reliability fixed charges. Therefore, the SDCWA's Emergency Storage and Supply Reliability charges incurred by the District are only spread over meter equivalents of Non-PSAWR accounts. The revenue requirement for Emergency Storage and Supply Reliability is apportioned based on meter size as represented by total Non-PSAWR MEs (Table 27, Column H - Line 9) in Table 29.

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Table 29: FY 2022 Emergency and Reliability Monthly Unit Rate

Emergency & Reliability Component - Unit Rate	
Revenue Requirement	\$2,494,000
÷ Non-PSAWR MEs	150,748
Monthly Unit Rate	\$16.55

Customer Class	Non-PSAWR MEs	% Allocation	Allocation to Customer Class
Single-Family	101,956	67.6%	\$1,686,777
Multi-Family	5,236	3.5%	\$86,625
Commercial	14,088	9.3%	\$233,074
Institutional	1,312	0.9%	\$21,706
AG w/ Residence	12,992	8.6%	\$214,942
AG	15,164	10.1%	\$250,876
PSAWR - Domestic	-	0.0%	\$0
PSAWR - Commercial	-	0.0%	\$0
Total	150,748	100.0%	\$2,494,000

SDCWA Fixed

The remaining SDCWA fixed charges of MWD Capacity, Customer Service, Infrastructure Access, and MWD Ready-to-Serve (SDCWA Fixed) are incurred by the District based on the total number of accounts and meter equivalents regardless of the total amount of water used. Therefore, these fixed costs are spread to all customers based on meter size. The revenue requirement for SDCWA Fixed is apportioned based on meter size as represented by Total MEs (Table 27, Column D - Line 9) in Table 30.

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Table 30: FY 2022 SDCWA Fixed Monthly Unit Rate

SDCWA Fixed Component - Unit Rate	
Revenue Requirement	\$2,758,000
÷ Total MEs	195,012
Monthly Unit Rate	\$14.15

Customer Class	Total MEs	% Allocation	Allocation to Customer Class
Single-Family	101,956	52.3%	\$1,441,935
Multi-Family	5,236	2.7%	\$74,051
Commercial	14,088	7.2%	\$199,243
Institutional	1,312	0.7%	\$18,555
AG w/ Residence	12,992	6.7%	\$183,742
AG	15,164	7.8%	\$214,460
PSAWR - Domestic	29,688	15.2%	\$419,869
PSAWR - Commercial	14,576	7.5%	\$206,144
Total	195,012	100.0%	\$2,758,000

Meter Capacity

The Meter Capacity includes system-wide operating, system maintaining, planning, customer service, support services, reserves, and overhead. The revenue requirement for Meter Capacity is apportioned based on meter size. Larger-sized meters can generate a greater demand on the system from the amount of water flow that may pass through the meter in gpm. The revenue requirement for Meter Capacity is apportioned to meter size as represented by Total MEs (Table 27, Column D - Line 9) in Table 31.

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Table 31: FY 2022 Meter Capacity Monthly Unit Rate

Meter Capacity Component - Unit Rate	
Revenue Requirement	\$5,347,478
÷ Total MEs	195,012
Monthly Unit Rate	\$27.43

Customer Class	Total MEs	% Allocation	Allocation to Customer Class
Single-Family	101,956	52.3%	\$2,795,764
Multi-Family	5,236	2.7%	\$143,578
Commercial	14,088	7.2%	\$386,311
Institutional	1,312	0.7%	\$35,977
AG w/ Residence	12,992	6.7%	\$356,257
AG	15,164	7.8%	\$415,816
PSAWR - Domestic	29,688	15.2%	\$814,083
PSAWR - Commercial	14,576	7.5%	\$399,693
Total	195,012	100.0%	\$5,347,478

Capital Fixed

The Capital Fixed component includes expenses associated with debt and reserves related to system capital. Debt payment obligations are secured by District rate revenues. Therefore, 50% of the annual debt is part of the total monthly fixed charge. The revenue requirement for Capital Fixed is apportioned based on meter size to reflect the system capacity taken by each connection. The District's system is configured to accommodate and serve all meter sizes and demands. Therefore, the revenue requirement for Capital Fixed is apportioned to meter size as represented by Total MEs (Table 27, Column D - Line 9) in Table 32.

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Table 32: FY 2022 Capital Fixed Monthly Unit Rate

Capital Fixed Component - Unit Rate	
Revenue Requirement	\$1,979,555
÷ Total MEs	195,012
Monthly Unit Rate	\$10.16

Customer Class	Total MEs	% Allocation	Allocation to Customer Class
Single-Family	101,956	52.3%	\$1,034,949
Multi-Family	5,236	2.7%	\$53,150
Commercial	14,088	7.2%	\$143,006
Institutional	1,312	0.7%	\$13,318
AG w/ Residence	12,992	6.7%	\$131,881
AG	15,164	7.8%	\$153,929
PSAWR - Domestic	29,688	15.2%	\$301,361
PSAWR - Commercial	14,576	7.5%	\$147,960
Total	195,012	100.0%	\$1,979,555

Pumping Fixed

The Pumping Fixed component includes expenses associated with the District Pumping division, including staffing, equipment & building maintenance, and supplies that do not vary by usage. Therefore, the revenue requirement for Pumping Fixed is apportioned to all accounts within the seven pumping zones as represented by Total Pumping Accounts (Table 28, Column B - Line 10) in Table 33.

Table 33: FY 2022 Pumping Fixed Monthly Unit Rate

Pumping Fixed Component - Unit Rate	
Revenue Requirement	\$108,000
÷ Pumping Accounts	15,888
Monthly Unit Rate	\$6.80

Variable Cost Recovery

The remaining cost components of Purchased Water, PSAWR Credit, Delivery, and Power make up the proposed variable rates. Proposed variable rates for each customer class are uniform.

Each customer classes variable rates are uniform and vary between non-agricultural accounts, agricultural accounts, and PSAWR accounts. Non-agricultural accounts include Single-Family, Multi-Family, Commercial, and Institutional. Agricultural and PSAWR customers may vary drastically from year-to-year based on weather, crop type, and total crop area. With agriculture's inherent usage volatility, the District is susceptible to revenue instability from their Agricultural and PSAWR customer classes. To combat this risk in revenue

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recovery, a portion of the variable costs allocated to these customer classes are shifted from variable recovery to fixed recovery and included as part of their monthly fixed charges. This shift in cost recovery causes higher monthly fixed charges and a lower variable rate to Agricultural and PSAWR customers. However, the total revenue requirements allocated to these customer classes do not change and maintains their proportionate cost of service. PSAWR customers also receive a variable credit from the SDCWA as part of the PSAWR program (PSAWR Credit). This PSAWR Credit is applied to their variable rates.

Purchased Water

Purchased Water is the treated water from SDCWA. **Error! Reference source not found.** Table 34 allocates the revenue requirement of Purchased Water to each customer class based on projected usage for FY 2022, identified in Table 27, which results in the same unit rate per HCF, where one HCF is equivalent to 748 gallons of water.

Table 34: FY 2022 Purchased Water Allocation to Customer Classes and Unit Rate

Purchased Supply Component - Unit Rate				
Revenue Requirement			\$18,754,000	
÷ All Usage			5,901,767	
Unit Rate (\$/HCF)				\$3.18

Customer Class	All Usage	% Allocation	Revenue Requirement	Unit Rate \$/HCF
Single-Family	1,492,802	25.3%	\$4,743,665	\$3.18
Multi-Family	133,483	2.3%	\$424,168	\$3.18
Commercial	329,860	5.6%	\$1,048,194	\$3.18
Institutional	21,970	0.4%	\$69,814	\$3.18
AG w/ Residence	287,854	4.9%	\$914,711	\$3.18
AG	1,020,668	17.3%	\$3,243,369	\$3.18
PSAWR - Domestic	1,513,393	25.6%	\$4,809,097	\$3.18
PSAWR - Commercial	1,101,737	18.7%	\$3,500,981	\$3.18
Total	5,901,767	100.0%	\$18,754,000	

PSAWR Credit

PSAWR customers receive a credit from SCDWA based on total water usage from these customers. This credit is only applied to PSAWR water usage (Table 28, Column A - Lines 7 and 8). Table 35 derives the unit rate for the PSAWR Credit per HCF.

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Table 35: FY 2022 PSAWR Credit Allocation to Customer Classes and Unit Rate

PSAWR Credit Component - Unit Rate	
Revenue Requirement	(\$979,000)
÷ PSAWR Usage	2,615,130
Unit Rate (\$/HCF)	-\$0.37

Customer Class	PSAWR Usage	% Allocation	Revenue Requirement	Unit Rate \$/HCF
Single-Family	-	0.0%	\$0	\$0.00
Multi-Family	-	0.0%	\$0	\$0.00
Commercial	-	0.0%	\$0	\$0.00
Institutional	-	0.0%	\$0	\$0.00
AG w/ Residence	-	0.0%	\$0	\$0.00
AG	-	0.0%	\$0	\$0.00
PSAWR - Domestic	1,513,393	57.9%	(\$566,554)	(\$0.37)
PSAWR - Commercial	1,101,737	42.1%	(\$412,446)	(\$0.37)
Total	2,615,130	100.0%	-\$979,000	

Delivery

Conveyance costs are incurred based on the total volume of water produced and delivered to customers throughout the year. Therefore, the revenue requirement for Delivery is apportioned based on projected total water usage identified in Table 27 to determine the total cost allocated to each customer class and corresponding unit rate, as shown in Table 36. Agricultural and PSAWR Delivery component is reapportioned between fixed and variable within the next section, but the total revenue recovery from these customer classes does not change.

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Table 36: FY 2022 Delivery Allocation to Customer Classes and Unit Rate

Delivery Component - Unit Rate	
Revenue Requirement	\$9,376,366
÷ All Usage	5,901,767
Unit Rate (\$/HCF)	\$1.59

Customer Class	All Usage	% Allocation	Revenue Requirement	Unit Rate \$/HCF
Single-Family	1,492,802	25.3%	\$2,371,672	\$1.59
Multi-Family	133,483	2.3%	\$212,070	\$1.59
Commercial	329,860	5.6%	\$524,061	\$1.59
Institutional	21,970	0.4%	\$34,905	\$1.59
AG w/ Residence	287,854	4.9%	\$457,325	Reapportioned
AG	1,020,668	17.3%	\$1,621,575	Reapportioned
PSAWR - Domestic	1,513,393	25.6%	\$2,404,386	Reapportioned
PSAWR - Commercial	1,101,737	18.7%	\$1,750,372	Reapportioned
Total	5,901,767	100.0%	\$9,376,366	

Power

Power costs are associated with pumping water to higher elevations within the District’s service area. Current pumping rates still reflect the cost differential between pumping facilities and energy needed to convey water to higher elevations as the existing facilities have not changed since the last cost of service study. Therefore, the existing variable pumping rates are used as a weighting factor and applied to the projected FY 2022 zone usage to apportion the Power revenue requirement to each pumping zone. Table 37 derives the unit rate per HCF for each Pumping Zone.

Table 37: FY 2022 Power Allocation to Pumping Zones and Unit Rate

Pumping Zone		Projected Usage [A]	Existing Rates [B]	Weighted Factor [C] = A x B	% Allocation	Revenue Requirement [D]	Unit Rate \$/HCF [E] = D ÷ A
Pump Zone 1	Rainbow Heights	180,501	\$1.03	185,916	38.6%	\$173,577	\$0.97
Pump Zone 2	Improvement District	39,868	\$0.64	25,516	5.3%	\$23,822	\$0.60
Pump Zone 3	Vallecitos	72,959	\$0.36	26,265	5.4%	\$24,522	\$0.34
Pump Zone 4	Northside	377,453	\$0.13	49,069	10.2%	\$45,812	\$0.13
Pump Zone 5	Morro Tank	135,254	\$0.19	25,698	5.3%	\$23,993	\$0.18
Pump Zone 6	Huntley	165,176	\$0.75	123,882	25.7%	\$115,661	\$0.71
Pump Zone 7	Magee Tank	13,544	\$3.37	45,642	9.5%	\$42,613	\$3.15
Total		984,755		481,988	100.0%	\$450,000	

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Reapportionment of Agricultural Delivery Cost to Fixed

With all the revenue requirements fully allocated to customer classes and corresponding accounts, each customer class is recovering its proportionate share based on the cost of providing service. As such, reapportioning a percentage of Agricultural and PSAWR Delivery costs to those customer’s fix charges does not change the amount of total cost recovered from each customer class. The reapportionment is driven by District policy to mitigate revenue volatility within its agricultural classes. Based on discussions with District staff, 55% of Delivery will be recovered as a fixed component and spread over Agricultural and PSAWR MEs (Table 27, Column G - Line 9). Table 38 identifies the Delivery amount reapportioned to fixed and derives the net Delivery unit rate per HCF. Table 39 derives the Delivery fixed component that will be added to the fixed charges calculated within the Rate Design.

Table 38: Reapportionment of Delivery to Fixed and Delivery Unit Rate

Agriculture and PSAWR Customer Classes	Projected Usage [A]	Delivery Requirement (Table 36) [B]	\$ to Fixed Recovery [C] = B x 55%	Remaining Delivery Requirement [D] = B - C	Delivery Unit Rate \$/HCF [E] = D ÷ A
AG w/ Residence	287,854	\$457,325	\$251,529	\$205,796	\$0.72
AG	1,020,668	\$1,621,575	\$891,866	\$729,709	\$0.72
PSAWR - Domestic	1,513,393	\$2,404,386	\$1,322,412	\$1,081,974	\$0.72
PSAWR - Commercial	1,101,737	\$1,750,372	\$962,705	\$787,668	\$0.72
Total	3,923,652	\$6,233,658	\$3,428,512	\$2,805,146	

Table 39: FY 2022 Agricultural and PSAWR Delivery Fixed Unit Rate

Agriculture Fixed Unit Rate	
Revenue Requirement	\$3,428,512
÷ AG and PSWAR MEs	72,420
Monthly Unit Rate	\$47.35

Water Rate Summary

Financial Plan Summary

The financial plan developed for the District identifies revenue adjustments for FY 2022 through FY 2026. Based on the review of the District's existing rate revenue and multi-year revenue requirements, water rate revenue needs to recover an additional \$2.8M in FY 2022. Forward-looking through FY 2026, future projected revenue adjustments for the subsequent four fiscal years are 5.0%, 4.5%, 3.0%, and 3.0%, respectively.

The District has not increased rates for almost three years and has only passed through SDCWA increases in January 2021. Rates haven't been updated in a few years because the District is in the process of reviewing the feasibility of detaching from SDCWA and switching wholesalers to EMWD. Switching water wholesalers may save the District millions of dollars in purchased water costs. However, the potential detachment from SDCWA requires months of negotiating and a vote by registered voters. Another driving factor to not increasing rates was the COVID-19 pandemic and providing rate relief to customers during these uncertain economic times.

While the District held rates constant over the last three years, operating expenses continued to rise. Operating expenses within the FY 2022 budget slightly exceed existing rate revenue for the first time, generating an annual operating deficit that would continue over the Rate Setting Period. In addition, no additional funding is available for capital projects after covering operating costs. CIP funding would come solely from reserves, causing the depletion of reserves and not meeting minimum requirements.

These recommended revenue adjustments will allow the District to cover its multi-year revenue requirements and slowly build up reserves to satisfy the District's minimum reserve requirements by FY 2026. In addition, the revenue adjustments will generate sufficient funding for capital projects based on an 80% annual spending plan. Annual updates to the financial plan will capture actual revenue recovered, confirm new accounts connected, monitor changes in water usage, and track capital expenses as estimates change. Also, if a detachment occurs during the Rate Setting Period, an updated rate schedule will follow to reflect the change in water supply expenses. As the baseline assumptions change, the effective rate may be less than the proposed rate schedule but may not exceed noticed rates.

Cost-of-Service and Rate Summary

The District's existing water rate structure includes eight distinct customer classes, including Single-Family, Multi-Family, Commercial, Institutional, Agricultural with Residence, Agricultural without Residence, Permanent Special Agricultural Water Rate (PSAWR) – Domestic, and PSAWR – Commercial. The proposed fixed charges maintain a similar approach to current rates and vary by customer class and meter size. Proposed variable rates for each customer class are uniform. With uniform rates, customer classes can consolidate into three groupings of Non-Agricultural, Agricultural, and PSAWR. PSAWR customers are exempt from certain SDCWA fixed charges and receive a credit from SDCWA applied to their variable rates. Agricultural (including PSAWR) rates reflect their proportionate share of total revenue requirements through the cost of service analysis but shifts a portion of their variable cost to a fixed cost recovery to ensure more stable revenue from these customers. The District also has pumping fixed charges and pumping variable rates based on geographic elevation zones (Zones 1 – 7) that will continue.

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The comprehensive cost-of-service analysis and rate development meet the requirements of Proposition 218, which includes:

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

The long-term financial plan identifies the District's revenue requirements, including operating expenses, capital improvement program, debt coverage, and reserves. Projected revenues do not exceed the cost of providing service.

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

The District does not use water rate revenue for any other purpose outside the water enterprise.

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

The comprehensive cost-of-service analysis and updated fixed charges and variable rates allocate total revenue requirements to customers classes and corresponding parcels (accounts) based on the demand each place on the water system. Through this update, each parcel is paying its proportionate share in line with the cost of providing service.

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

Each parcel is paying for it's proportionate share of water system costs, including operating, capital, and reserves.

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

Notices were mailed to each affected parcel at least 45 days prior to the August 24, 2021, Public Hearing.

Cost-Based Rates

Proposed Monthly Fixed Charges

The proposed monthly fixed charges for FY 2022 are shown in Table 40, reflecting the combined fixed charges for each meter size by customer class. Table 41 provides the five-year metered fixed charge schedule through FY 2026. For FY 2023 through FY 2026, the revenue adjustments are applied across-the-board to the cost of service rates derived for FY 2022 while accounting for account growth and an increase in MEs.

Table 40: FY 2022 Monthly Fixed Charges

Meter size by Customer Class	Emergency & Reliability [A]	SDCWA Fixed [B]	Meter Capacity [C]	Capital Fixed [D]	Agriculture Delivery Fixed [E]	Total Proposed Fixed Charge \$/Month [F] = A+B+C+D+E
Single-Family, Multi-Family, Commercial, Institutional						
≤ 3/4"	\$16.55	\$14.15	\$27.43	\$10.16	-	\$68.29
1"	\$27.58	\$23.58	\$45.72	\$16.93	-	\$113.82
1 1/2"	\$55.17	\$47.17	\$91.43	\$33.87	-	\$227.63
2"	\$88.27	\$75.47	\$146.29	\$54.19	-	\$364.21
3"	\$193.08	\$165.08	\$320.02	\$118.53	-	\$796.72
4"	\$347.55	\$297.15	\$576.03	\$213.36	-	\$1,434.09
6"	\$717.17	\$613.17	\$1,188.63	\$440.27	-	\$2,959.23
Agricultural						
≤ 3/4"	\$16.55	\$14.15	\$27.43	\$10.16	\$47.35	\$115.64
1"	\$27.58	\$23.58	\$45.72	\$16.93	\$78.92	\$192.73
1 1/2"	\$55.17	\$47.17	\$91.43	\$33.87	\$157.83	\$385.47
2"	\$88.27	\$75.47	\$146.29	\$54.19	\$252.53	\$616.75
3"	\$193.08	\$165.08	\$320.02	\$118.53	\$552.42	\$1,349.13
4"	\$347.55	\$297.15	\$576.03	\$213.36	\$994.35	\$2,428.44
6"	\$717.17	\$613.17	\$1,188.63	\$440.27	\$2,051.83	\$5,011.07
PSAWR						
≤ 3/4"	-	\$14.15	\$27.43	\$10.16	\$47.35	\$99.09
1"	-	\$23.58	\$45.72	\$16.93	\$78.92	\$165.15
1 1/2"	-	\$47.17	\$91.43	\$33.87	\$157.83	\$330.30
2"	-	\$75.47	\$146.29	\$54.19	\$252.53	\$528.48
3"	-	\$165.08	\$320.02	\$118.53	\$552.42	\$1,156.05
4"	-	\$297.15	\$576.03	\$213.36	\$994.35	\$2,080.89
6"	-	\$613.17	\$1,188.63	\$440.27	\$2,051.83	\$4,293.90

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Table 41: FY 2022 – FY 2026 Proposed Monthly Fixed Charges

Fixed Meter Charge (\$/Month)					
Meter Size	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Single-Family, Multi-Family, Commercial, Institutional					
5/8"	\$68.29	\$71.71	\$74.94	\$77.19	\$79.51
3/4"	\$68.29	\$71.71	\$74.94	\$77.19	\$79.51
1"	\$113.82	\$119.51	\$124.89	\$128.64	\$132.50
1 1/2"	\$227.63	\$239.02	\$249.78	\$257.28	\$265.00
2"	\$364.21	\$382.43	\$399.64	\$411.63	\$423.98
3"	\$796.72	\$836.56	\$874.21	\$900.44	\$927.46
4"	\$1,434.09	\$1,505.80	\$1,573.57	\$1,620.78	\$1,669.41
6"	\$2,959.23	\$3,107.20	\$3,247.03	\$3,344.45	\$3,444.79
Agricultural w/ Residence, and Agricultural w/o Residence					
5/8"	\$115.64	\$121.43	\$126.90	\$130.71	\$134.64
3/4"	\$115.64	\$121.43	\$126.90	\$130.71	\$134.64
1"	\$192.73	\$202.37	\$211.48	\$217.83	\$224.37
1 1/2"	\$385.47	\$404.74	\$422.96	\$435.65	\$448.72
2"	\$616.75	\$647.59	\$676.74	\$697.05	\$717.97
3"	\$1,349.13	\$1,416.59	\$1,480.34	\$1,524.76	\$1,570.51
4"	\$2,428.44	\$2,549.87	\$2,664.62	\$2,744.56	\$2,826.90
6"	\$5,011.07	\$5,261.62	\$5,498.40	\$5,663.36	\$5,833.27
PSAWR					
5/8"	\$99.09	\$104.05	\$108.74	\$112.01	\$115.38
3/4"	\$99.09	\$104.05	\$108.74	\$112.01	\$115.38
1"	\$165.15	\$173.41	\$181.22	\$186.66	\$192.26
1 1/2"	\$330.30	\$346.82	\$362.43	\$373.31	\$384.51
2"	\$528.48	\$554.91	\$579.89	\$597.29	\$615.21
3"	\$1,156.05	\$1,213.86	\$1,268.49	\$1,306.55	\$1,345.75
4"	\$2,080.89	\$2,184.94	\$2,283.27	\$2,351.77	\$2,422.33
6"	\$4,293.90	\$4,508.60	\$4,711.49	\$4,852.84	\$4,998.43

Proposed Variable Rate

The proposed variable charges for FY 2022 are shown in Table 42 for each customer class, reflecting the combined rates of Purchased Water, PSAWR Credit, and Delivery. Table 43 provides the five-year variable rate schedule through FY 2026. For FY 2023 through FY 2026, the revenue adjustments are applied across-the-board to the cost of service rates derived for FY 2022 while accounting for increased usage from account growth.

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Table 42: FY 2022 Variable Rates by Customer Class

Customer Class	Purchased Supply [A]	PSAWR Credit [B]	Delivery [C]	Proposed Variable Rate \$/HCF [D] = A+B+C
Single-Family, Multi-Family, Commercial, Institutional Uniform	\$3.18	-	\$1.59	\$4.77
Agricultural w/ Residence, Agricultural w/o Residence Uniform	\$3.18	-	\$0.72	\$3.90
PSAWR Uniform	\$3.18	(\$0.37)	\$0.72	\$3.53

Table 43: FY 2022 – FY 2026 Proposed Variable Rates

Variable Rates (\$/HCF)					
Customer Class	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Single-Family	\$4.77	\$5.01	\$5.24	\$5.40	\$5.57
Multi-Family	\$4.77	\$5.01	\$5.24	\$5.40	\$5.57
Commercial	\$4.77	\$5.01	\$5.24	\$5.40	\$5.57
Institutional	\$4.77	\$5.01	\$5.24	\$5.40	\$5.57
Ag w/ Residence	\$3.90	\$4.10	\$4.29	\$4.42	\$4.56
Agricultural	\$3.90	\$4.10	\$4.29	\$4.42	\$4.56
PSAWR - Domestic	\$3.53	\$3.71	\$3.88	\$4.00	\$4.12
PSAWR - Commercial	\$3.53	\$3.71	\$3.88	\$4.00	\$4.12

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Proposed Pumping Charges and Pumping Rates

Table 44 provides the five-year pumping charge and pumping rate schedule through FY 2026. For FY 2023 through FY 2026, the revenue adjustments are applied across-the-board to the cost of service rates derived for FY 2022 while accounting for increased usage from account growth.

Table 44: FY 2022 – FY 2026 Proposed Pumping Charges and Pumping Rates

Pumping		FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Zones						
Fixed (\$/Month)						
All Zones		\$6.80	\$7.14	\$7.47	\$7.70	\$7.94
Variable (\$/HCF)						
Pump Zone 1	Rainbow Heights	\$0.97	\$1.02	\$1.07	\$1.11	\$1.15
Pump Zone 2	Improvement District U-1	\$0.60	\$0.63	\$0.66	\$0.68	\$0.71
Pump Zone 3	Vallecitos	\$0.34	\$0.36	\$0.38	\$0.40	\$0.42
Pump Zone 4	Northside	\$0.13	\$0.14	\$0.15	\$0.16	\$0.17
Pump Zone 5	Morro Tank	\$0.18	\$0.19	\$0.20	\$0.21	\$0.22
Pump Zone 6	Huntley	\$0.71	\$0.75	\$0.79	\$0.82	\$0.85
Pump Zone 7	Magee Tank	\$3.15	\$3.31	\$3.46	\$3.57	\$3.68

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