

MONTECITO WATER DISTRICT

Water Cost of Service and Rate Study

Final Report / May 7, 2020

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May 7, 2020

Mr. Nicholas Turner
General Manager
Montecito Water District
583 San Ysidro Road
Montecito, CA 93108

Subject: Water Cost of Service and Rate Study Report

Dear Mr. Turner,

Raftelis is pleased to provide this Water Cost of Service and Rate Study Report to the Montecito Water District. This report presents the analyses, rationales, and methodologies utilized in the study to determine cost of service-based water rates that meet the requirements of California Constitution Article XIII D, Section 6 (commonly referred to as Proposition 218).

The study involved a comprehensive review of the District's current rate structure and cost requirements, a cost of service analysis to fairly and equitably allocate costs, and a rate design process to determine proposed water rates that are in line with the District's policy objectives.

The main objectives that informed the study include:

- » Adequately recovering all cost requirements to maintain the District's financial sufficiency
- » Evaluating the financial impacts of, and incorporating the costs for, the District's Water Supply Agreement with the City of Santa Barbara
- » Minimizing rate impacts to customers while maintaining adequate reserves for all years of the study
- » Fairly and equitably allocating costs between customer classes
- » Developing an alternative rate structure that is defensible, promotes the efficient use of water, and is easy for customers to understand

We are confident that the proposed rates developing within this study are fair and equitable to the District's water customers and are compliant with Proposition 218. It has been a pleasure working with you and your team, and we wish to express the gratitude for the support you, other District staff, and the Board of Directors provided to us during the study.

Sincerely,

Raftelis Financial Consultants, Inc.

A handwritten signature in black ink, appearing to read 'Sanjay'.

Sanjay Gaur
Vice President

A handwritten signature in black ink, appearing to read 'Kevin'.

Kevin Kostiuk
Manager

A handwritten signature in black ink, appearing to read 'Nancy'.

Nancy Phan
Senior Consultant

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1. Executive Summary

Study Background

Montecito Water District (District) engaged Raftelis in 2019 to complete a Water Cost of Service and Rate Study. The study consists of reviewing the District's long-range financial plan, developing a cost of service analysis, and designing and calculating water rates for the study period.

The study encompasses a six-year financial planning period from fiscal year (FY) 2020 to FY 2025 and five years of proposed rates, for adoption beginning July 2020 and in July of every year thereafter. For the purposes of this study, FY 2020 is the year starting on July 1, 2019 and ending on June 30, 2020.

Raftelis collaborated closely with the District's staff and Board of Directors to design and derive rates that meet the District's policy objectives. The main objectives that informed the study include:

- » Adequately recovering all cost requirements to maintain the District's financial sufficiency
- » Evaluating the financial impacts of, and incorporating the costs for, the District's Water Supply Agreement (WSA) with City of Santa Barbara
- » Minimizing rate impacts to customers while maintaining adequate reserves for all years of the study
- » Fairly and equitably allocating costs between customer classes
- » Developing an alternative rate structure that is defensible, promotes the efficient use of water, and is easy for customers to understand

District Background

Montecito Water District was formed in 1921 and currently provides water service to the communities of Montecito, Summerland, and Toro Canyon. The District serves over 4,600 connections, the majority of which are Residential customers. In addition to serving single family and multi-family residences, the District supplies water to schools, institutions, businesses, restaurants, hotels, and the community at large.

Water supplied to the District comes from various sources, which include water from the California State Water Project, supplemental water purchases from around California, surface water from Lake Cachuma, surface water from Jameson Lake and Doulton Tunnel, and local groundwater. Lake Cachuma water has historically served as the District's primary source of water, followed by Jameson Lake water. To increase drought resilience and water supply availability, the District is evaluating new local and reliable sources of supply such as a long term WSA with the City of Santa Barbara and recycled water.

The District's water is treated by the Bella Vista, Doulton, and Cater Treatment Plants. The Bella Vista and Doulton Treatment Plants are owned and operated by the District; the Cater Treatment Plant serves the District under a Joint Powers Agreement with the City of Santa Barbara and Carpinteria Valley Water District.

Current Rates

The District’s existing water rate structure consists of the following components:

1. Monthly meter charge – for all water customers, based on meter size
2. Monthly private fire charge – for all customers with private firelines, based on fire line size
3. Water usage rate – for all customers, per one hundred cubic feet (hcf) of usage, customer class, and tier
 - » Single Family Residential (SFR) – four tier rate structure
 - » Multi-Family Residential (MFR) – three tier rate structure, based on usage per dwelling unit (DU)
 - » Commercial and Institutional – allotment-based rate structure unique to each customer, based on the historical use of the account
 - » Agriculture – domestic and agricultural usage rates, based on DU and hcf per acre, respectively
 - » Non-Potable – uniform rate for all usage
4. Water shortage emergency (WSE) surcharge – uniform rate for all potable water customers, per hcf of usage

Table 1-1 shows the District’s current monthly meter charges.

Table 1-1: Current Monthly Meter Charges

A	B	C
Line	Monthly Meter Charge	FY 2020
1	3/4-inch	\$44.59
2	1-inch	\$74.34
3	1 1/2-inch	\$133.79
4	2-inch	\$237.84
5	3-inch	\$535.14
6	4-inch	\$891.90
7	6-inch	\$1,486.51

Table 1-2 shows the District’s current monthly private fire charges.

Table 1-2: Current Monthly Private Fire Charges

A	B	C
Line	Monthly Private Fire Charge	FY 2020
1	2-inch	\$37.50
2	4-inch	\$49.28
3	6-inch	\$61.68
4	8-inch	\$84.93

Table 1-3 shows the District’s current variable water usage rates by class and tier; the table also shows the WSE surcharge. Effective rates consist of the water usage rates for each class and tier plus the WSE surcharge.

Table 1-3: Current Variable Water Rates

A	B	C	D	E	F
Line	Variable Water Rates (\$/hcf)	Monthly Tier (hcf)	Water Usage Rate	WSE Surcharge	Total Rate FY 2020
1	Water Usage Rates				
2	Single Family				
3	Tier 1	0-25 hcf	\$5.40	\$3.45	\$8.85
4	Tier 2	26-60 hcf	\$5.98	\$3.45	\$9.43
5	Tier 3	61-120 hcf	\$7.06	\$3.45	\$10.51
6	Tier 4	> 121 hcf	\$8.50	\$3.45	\$11.95
7					
8	Multi-Family (per dwelling unit)				
9	Tier 1	0-9 hcf/DU	\$5.40	\$3.45	\$8.85
10	Tier 2	10-30 hcf/DU	\$5.98	\$3.45	\$9.43
11	Tier 3	> 31 hcf/DU	\$7.06	\$3.45	\$10.51
12					
13	Commercial/Institutional				
14	Base Allotment		\$5.98	\$3.45	\$9.43
15	Over Base Allotment		\$7.06	\$3.45	\$10.51
16					
17	Agriculture				
18	Domestic (dwelling unit)	20 hcf/DU	\$5.40	\$3.45	\$8.85
19	Ag 1	< 870 hcf/acre/yr	\$3.00	\$3.45	\$6.45
20	Ag 2	> 870 hcf/acre/yr	\$5.40	\$3.45	\$8.85
21					
22	Non-Potable				
23	All Usage		\$1.40	\$0.00	\$1.40

Legal Framework¹

The rate-making process, especially for water agencies in California, begins with a review of the legal requirements and framework currently in place. The major legal requirements include Proposition 218 and Article X, Section 2 of the California Constitution, which are outlined in the following sections.

California Constitution – Article XIII D, Section 6 (Proposition 218)

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

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

As stated in the American Water Works Association’s Manual of Water Supply Practices M1, *Principles of Water Rates, Fees, and Charges, Seventh Edition* (M1 Manual), “water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers.” Proposition 218 requires that water rates cannot be “arbitrary and capricious,” meaning that the rate-setting methodology must establish a clear nexus between costs and the rates charged.

California Constitution – Article X, Section 2

Article X, Section 2 of the California Constitution was established in 1976 and states the following:

“It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare.”

Article X, Section 2 of the California Constitution institutes the need to preserve the State’s water supplies and to discourage the wasteful or unreasonable use of water by encouraging conservation. As such, public agencies are constitutionally mandated to maximize the beneficial use of water, prevent waste, and encourage conservation.

Process and Approach

The process and approach Raftelis utilized in the study is informed by the District’s policy objectives, the current water system and rates, and the legal requirements in California (namely, Proposition 218). The resulting cost of service analysis and rate design process considers all these factors and follows four key steps, outlined below, to derive proposed rates that fulfill the District’s policy objectives, meets industry standards, and complies with Proposition 218.

¹ Raftelis does not practice law nor does it provide legal advice. The above discussion provides a general overview of Raftelis’ understanding as rate practitioners and is labeled “legal framework” for literary convenience only. The District should consult with its legal counsel for clarification and/or specific guidance.

Step 1: Revenue Requirement Calculation

The rate-making process begins by determining the revenue requirement for the base year, also known as the rate-setting year. The base year for this study is FY 2021 (July 1, 2020 to June 30, 2021). The revenue requirement should sufficiently fund the utility's operation and maintenance (O&M) costs, annual debt service, capital project expenses, and reserve funding as projected in the District's budgets.

Step 2: Cost of Service Analysis

The annual cost of providing water service, or the revenue requirement, is then distributed among customer classes commensurate with their use of and burden on the system. A cost of service analysis involves the following steps:

1. Functionalize costs – the O&M expense budget is categorized into functions such as supply, treatment, pumping, transmission and distribution (T&D), etc.
2. Allocate to cost components – the functionalized costs are then allocated to system cost components such as supply, delivery, peaking, conservation, etc.
3. Develop unit costs – unit costs for each cost component is determined using appropriate units of service for each.
4. Distribute cost components – the cost components are allocated to each customer class using the unit costs in proportion to their demand and burden on the system.

A cost of service analysis considers both the average water demand and peak demand. Peaking costs² are incurred during maximum periods of consumption, most often coinciding with summertime irrigation usage. There are additional capacity-related³ costs associated with designing, constructing, operating, maintaining, and replacing and refurbishing facilities to meet peak demand. These peaking costs must be allocated to the customer classes whose water demand patterns generate additional costs for the utility, proportionate to their burden on the peaking-related facilities.

Step 3: Rate Design and Calculation

After allocating the revenue requirement to each water system and its corresponding customer classes, the rate design and calculation process can begin. Rates do more than simply recover costs; within the legal framework and industry standards, properly designed rates should support the District's policy objectives, while adhering to cost of service principles. Rates are not only a financial instrument but act as a public information tool in communicating policy objectives to customers. The rate design process also includes a rate impact analysis to all customer classes and sample customer bill impact analysis.

Step 4: Administrative Record Preparation and Rate Adoption

The final step in a cost of service and rate study is to develop the administrative record in preparation for the rate adoption process. The administrative record, also known as the study report, documents the rate study results and presents the methodologies, rationale, justifications, and calculations utilized to derive the proposed rates. A thorough and methodical administrative record serves two important functions: maintaining defensibility in a litigious environment and communicating the rate adoption process to customers and important stakeholders.

² Collectively, maximum day and maximum hour costs are known as peaking costs.

³ System capacity is the system's ability to supply water to all delivery points at the time when demanded. The time of greatest demand is known as peak demand. Both the operating and capital costs incurred to accommodate peak flows are generally allocated to each customer class based upon the relative demand during the peak day and peak hour event.

Results and Recommendations

The results and recommendations that Raftelis developed during the study in collaboration with District staff and the Board of Directors include the following:

- » Revenue adjustments (gross revenue increases) of 2.8 percent per year in FY 2021 to FY 2025
- » Water Supply Agreement pre-funding equal to the five-year average annual cost of the WSA
- » Update of capacity ratios for meters and fire lines based on data provided by District staff and AWWA standard methodologies
- » Elimination of the WSE surcharge
- » Consolidation of the SFR and MFR classes into one Residential customer class, tiered per dwelling unit
- » Development of a three-tier water usage rate structure and rates for Residential customers based on efficient indoor and average outdoor usage
- » Development of uniform water rate structures and usage rates for all non-Residential customer classes

The proposed revenue adjustment for the rate-making year, FY 2021, is 2.8 percent. The revenue adjustment, or percentage increase of total revenues is based upon factors affecting the revenue adjustments and thus the water rates. The three main drivers affecting revenue adjustments for this study include reserve funding, debt coverage on existing debt, and capital project funding. Without additional revenue adjustments, the District cannot maintain adopted Board allocated unrestricted reserve levels, achieve minimum debt coverage requirements, or adequately fund the long-term capital improvement plan (CIP) expenditures.

For this study period, the District will pre-fund the average annual costs over the five-year period of the WSA, starting in FY 2021. The payments officially begin in the second half of FY 2022 with five-year costs estimated at approximately \$17.6 million in total, or \$3.5 million per year. Long-term, the average annual cost of the WSA is approximately \$5 million. The WSA costs represent a significant portion of annual fixed O&M expenses for FY 2026 and beyond. Given this, the District should maintain adequate reserves throughout this study period to ensure financial sufficiency in later years.

Proposed Rates

This section shows the resulting water rates based on the recommendations previously outlined. The proposed rates for FY 2021, the rate-setting year, is a result of the cost of service analysis developed during the study. Rates for all years after FY 2021 are adjusted based on the proposed 2.8 percent revenue adjustment per year.

Table 1-4 shows the proposed monthly meter charges for the study period.

Table 1-4: Proposed Monthly Meter Charges

A	B	C	D	E	F	G
Line	Monthly Meter Charge	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
1	3/4-inch	\$46.86	\$48.18	\$49.53	\$50.92	\$52.35
2	1-inch	\$76.69	\$78.84	\$81.05	\$83.32	\$85.66
3	1 1/2-inch	\$135.04	\$138.83	\$142.72	\$146.72	\$150.83
4	2-inch	\$212.83	\$218.79	\$224.92	\$231.22	\$237.70
5	3-inch	\$731.49	\$751.98	\$773.04	\$794.69	\$816.95
6	4-inch	\$1,431.67	\$1,471.76	\$1,512.97	\$1,555.34	\$1,598.89
7	6-inch	\$3,246.97	\$3,337.89	\$3,431.36	\$3,527.44	\$3,626.21

Table 1-5 shows the proposed monthly private fire charges for the study period.

Table 1-5: Proposed Monthly Private Fire Charges

A	B	C	D	E	F	G
Line	Monthly Private Fire Charge	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
1	2-inch	\$19.35	\$19.90	\$20.46	\$21.04	\$21.63
2	4-inch	\$91.89	\$94.47	\$97.12	\$99.84	\$102.64
3	6-inch	\$256.70	\$263.89	\$271.28	\$278.88	\$286.69
4	8-inch	\$540.96	\$556.11	\$571.69	\$587.70	\$604.16

Table 1-6 shows the water usage rates under the proposed rate structure. Please note that the proposed rates eliminate the WSE surcharge component. Proposed rates in the table represent base, non-shortage, rates.

Table 1-6: Proposed Water Usage Rates

A	B	C	D	E	F	G	H
Line	Water Usage Rates (\$/hcf)	Monthly Tiers (hcf)	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
1	Residential (per DU)						
2	Tier 1	9	\$6.56	\$6.75	\$6.94	\$7.14	\$7.34
3	Tier 2	35	\$11.14	\$11.46	\$11.79	\$12.13	\$12.47
4	Tier 3	35+	\$12.31	\$12.66	\$13.02	\$13.39	\$13.77
5	Commercial		\$9.63	\$9.90	\$10.18	\$10.47	\$10.77
6	Institutional		\$10.58	\$10.88	\$11.19	\$11.51	\$11.84
7	Agriculture		\$5.50	\$5.66	\$5.82	\$5.99	\$6.16
8	Non-Potable		\$1.80	\$1.86	\$1.92	\$1.98	\$2.04

Customer Impacts

Figure 1-1 shows the monthly customer bill impacts for all Residential customers, based on FY 2019 customer data provided by District staff. This chart shows that over 50 percent of SFR bills will experience a reduction in their monthly water charge.

Figure 1-1: Monthly Customer Bill Impacts – Residential

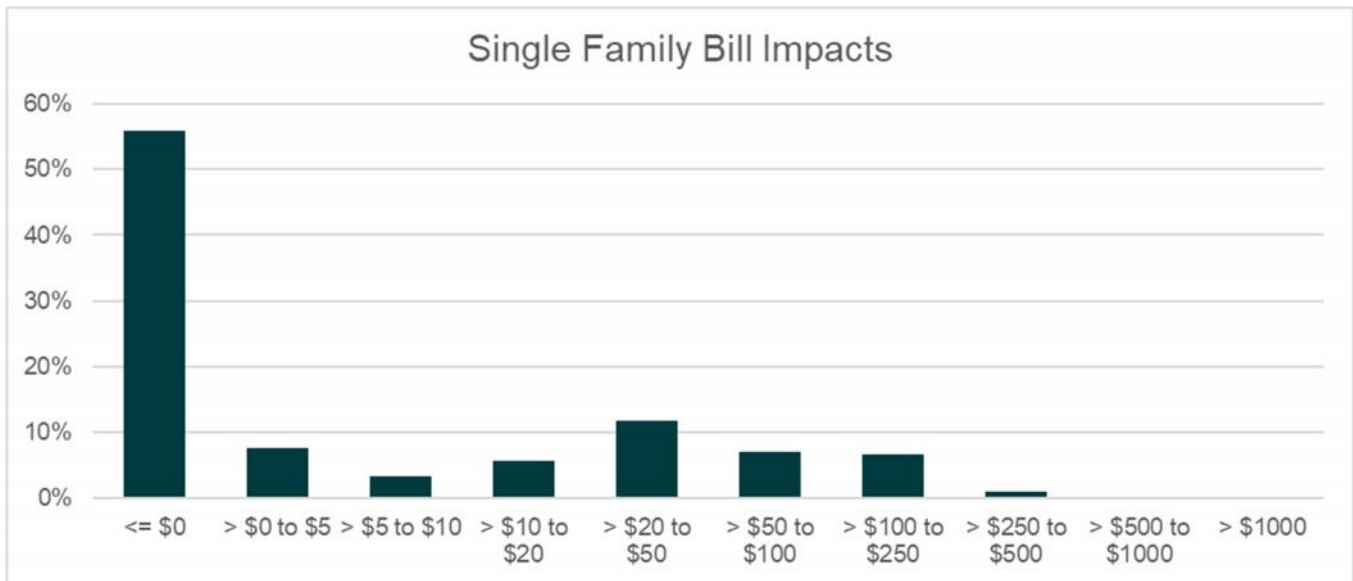
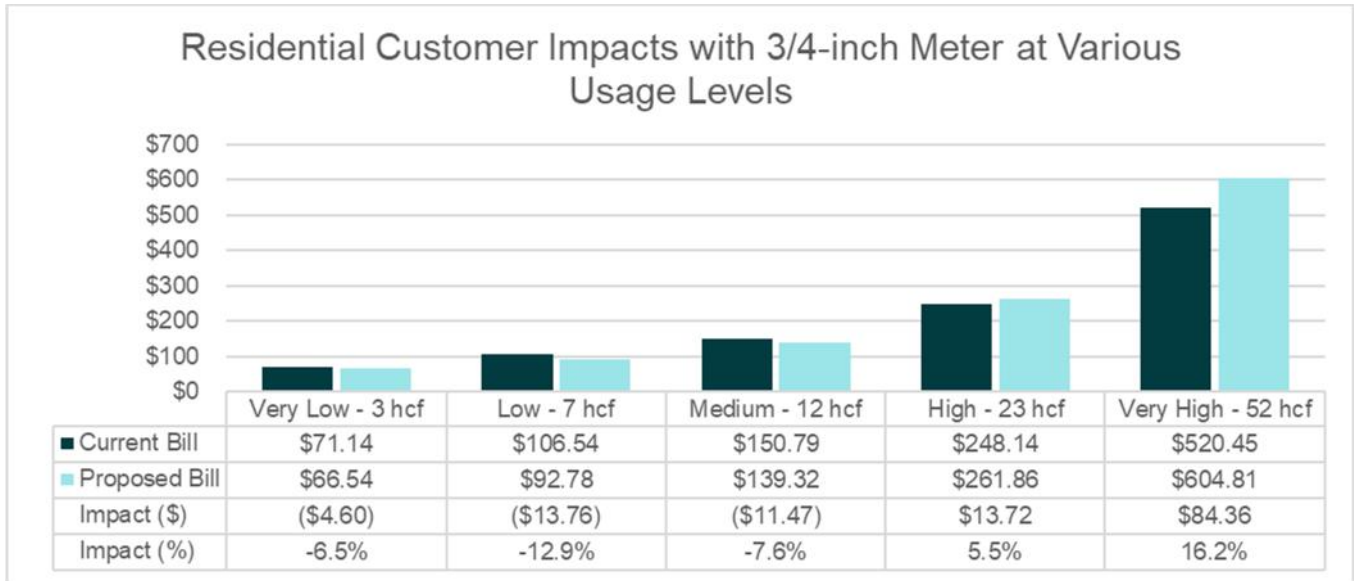


Figure 1-2 shows the monthly bill impacts at various levels of usage for a Residential customer with a 3/4 -inch meter, based on FY 2019 customer data provided by District staff. The median Residential customer uses 12 hcf of water per month and will see a reduction of \$11.47 in their monthly water bill.

Figure 1-2: Monthly Bill Impacts at Various Levels of Usage – Residential, 3/4-inch Meter



2. Financial Plan Overview

This section of the report discusses the District’s long-range financial plan. All financial plan projections were developed by District staff and the Board of Directors and provided to Raftelis for analysis. Numbers shown in the tables of this section are rounded. Therefore, hand calculations based on the displayed numbers, such as summing or multiplying, may not equal the exact results shown in this report.

Revenues

Table 2-1 shows the projected revenues for the study period, as provided by District staff.

Table 2-1: Projected Revenues

A	B	C	D	E	F	G	H
Line	Revenues	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
1	Water Sales	\$9,482,843	\$9,530,257	\$9,577,909	\$9,625,798	\$9,673,927	\$9,722,297
2	Service Charges	\$4,265,070	\$4,286,395	\$4,307,827	\$4,329,366	\$4,351,013	\$4,372,768
3	WSE Surcharge	\$5,667,868	\$5,696,207	\$5,724,688	\$5,753,312	\$5,782,078	\$5,810,989
4	Impact of AMI	\$0	\$456,794	\$459,078	\$461,373	\$463,680	\$465,999
5	Water Availability Charge	\$305,676	\$305,676	\$305,676	\$305,676	\$305,676	\$305,676
6	Other Revenue	\$298,313	\$570,566	\$573,419	\$576,324	\$301,309	\$304,433
7	Interest Revenue - General	\$200,000	\$225,000	\$225,000	\$225,000	\$225,000	\$225,000
8	Total - Revenues	\$20,219,770	\$21,070,896	\$21,173,597	\$21,276,849	\$21,102,684	\$21,207,161

Expenses

Table 2-2 shows the projected O&M expenses for the study period, as provided by District staff. The WSA with the City of Santa Barbara is listed as “Water Supply Agreement” (Line 4).

Table 2-2: Projected O&M Expenses

A	B	C	D	E	F	G	H
Line	O&M Expenses	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
1	JPA Operating	\$7,836,423	\$6,251,725	\$7,116,782	\$6,086,779	\$6,138,440	\$6,255,464
2							
3	Montecito Water District O&M						
4	Water Supply Agreement	\$0	\$0	\$2,631,240	\$5,092,707	\$4,918,889	\$4,983,161
5	Jameson Lake	\$235,978	\$261,672	\$277,945	\$274,428	\$281,520	\$288,830
6	Bell Vista/Doulton	\$1,222,029	\$1,264,072	\$1,305,803	\$1,345,970	\$1,390,290	\$1,436,370
7	Transmission Lines	\$1,489,059	\$1,513,970	\$1,546,468	\$1,582,579	\$1,633,630	\$1,686,700
8	Meter Reading/Customer Service	\$352,491	\$368,394	\$380,023	\$392,122	\$405,460	\$419,370
9	Fleet and Equipment	\$205,332	\$211,490	\$217,866	\$224,510	\$231,710	\$239,200
10	Water Resource Management	\$945,254	\$945,389	\$718,385	\$744,560	\$530,830	\$697,740
11	Administrative and General	\$1,923,560	\$1,795,755	\$1,882,366	\$1,867,651	\$1,902,593	\$1,971,628
12	Public Information	\$139,991	\$147,491	\$151,487	\$155,619	\$160,171	\$164,878
13	Subtotal - MWD O&M	\$6,513,695	\$6,508,234	\$9,111,583	\$11,680,146	\$11,455,093	\$11,887,877
14							
15	Total - O&M Expenses	\$14,350,118	\$12,759,959	\$16,228,365	\$17,766,926	\$17,593,534	\$18,143,341

Debt Service

Table 2-3 shows the annual debt service costs for the study period, as provided by District staff. The District expects to pay down \$5 million in additional debt in FY 2021 (Column D, Line 5), which results in refinancing cost savings (Line 6) beginning in FY 2023.

Table 2-3: Debt Service

A	B	C	D	E	F	G	H
Line	Debt Service	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
1	CCWA Debt Service	\$1,831,100	\$1,828,563	\$1,826,313	\$0	\$0	\$0
2	JPA Debt Service	\$595,362	\$595,362	\$501,714	\$501,714	\$501,714	\$501,714
3	MWD Debt Service	\$1,642,000	\$1,100,392	\$1,167,669	\$2,337,669	\$2,341,044	\$2,341,169
4	Future Debt Service (Reservoirs)	\$0	\$0	\$0	\$0	\$103,820	\$219,854
5	Debt Paydown	\$0	\$5,000,000	\$0	\$0	\$0	\$0
6	Refinancing Savings	\$0	\$0	\$0	(\$519,706)	(\$547,856)	(\$576,007)
7	Total - Existing Debt Service	\$4,068,462	\$8,524,317	\$3,495,696	\$2,319,678	\$2,398,722	\$2,486,730

Capital Projects

Table 2-4 shows the projected CIP spending over the study period, as provided by District staff. Capital project costs for FY 2021 and beyond are inflated by a factor of 3 percent per year based on the average of the Engineering News Record's Construction Cost Index (CCI).

Table 2-4: Capital Projects

A	B	C	D	E	F	G	H
Line	Capital Projects	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
1	Pipeline Replacements	\$1,015,000	\$2,163,000	\$1,648,000	\$954,000	\$2,057,375	\$2,226,000
2	Reservoir Repairs	\$15,000	\$0	\$0	\$0	\$0	\$0
3	Pumping/Wells/Valving/Treatment	\$10,000	\$226,600	\$319,300	\$26,500	\$10,900	\$28,000
4	Generators	\$10,000	\$10,300	\$103,000	\$0	\$0	\$112,000
5	Water Meter Enhancements	\$10,000	\$10,300	\$0	\$0	\$0	\$0
6	Large Equipment/Vehicles	\$275,000	\$0	\$188,490	\$392,200	\$103,550	\$154,560
7	Other	\$0	\$154,500	\$51,500	\$742,000	\$0	\$0
8	Total - Capital Projects	\$1,335,000	\$2,564,700	\$2,310,290	\$2,114,700	\$2,171,825	\$2,520,560

Financial Plan Considerations

As part of the study, Raftelis developed several financial plan scenarios that allowed the District to adjust rate revenues, O&M expense funding, debt paydown timing, and reserve levels, among other considerations. The key variables include:

- » Revenue adjustments – this variable allows the District to estimate rate revenues, by percentage increases of existing revenues, to fund operating costs, capital projects, and reserve requirements.
- » WSA funding – the WSA costs officially begin in the second half of FY 2022; the District has opted to pre-fund WSA costs in the beginning of the study period to smooth rate increases, mitigate rate impacts, and maintain steady reserve balances.
- » Principal repayment timing – the District plans to pay down \$5 million in existing debt during the study period; paying the debt down earlier will allow the District to realize refinancing and interest cost savings but will affect reserve balances in the short-term.
- » Reserve policy – the District’s existing reserve policy and target reserve balance is defined for Board allocated cash reserves (i.e. unrestricted and unencumbered cash reserves). No modification to the Board policy of \$5 million in unrestricted cash is proposed in this study. Revenues derived in WSA pre-funding will contribute to cash reserves in the near-term and will be drawn upon in future years when payments to the City of Santa Barbara come due, beginning in FY 2022.

Reserve Policy

The District’s adopted reserve policy includes the O&M, Emergency, Capital, and WSA reserves. The total target balance for all four reserves is \$5 million for each year of the study period. **Table 2-5** shows the adopted Board assigned reserve policy.

Table 2-5: Board Assigned Reserve Policy

A	B	C
Line	Proposed Board Assigned Reserves ⁴	Target Amount
1	O&M Reserve ⁵	\$4,000,000
2	Emergency Reserve	\$500,000
3	Capital Reserve ⁶	\$500,000
4	Desal Reserve ⁷	\$300,000 per year, up to \$1,200,000
5	Total - Board Assigned Reserves	\$5,000,000

⁴ Proposed reserve targets as recommended by the Finance Committee.

⁵ Initially set at \$4,000,000 and declines by \$300,000 per year to fund the Desal reserve target of \$1,200,000.

⁶ Escalator not included.

⁷ Desal reserve set for \$300,000 per year to accumulate for four years up to \$1,200,000, funded through O&M reserve transfers.

Status Quo Financial Plan

Table 2-6 shows the District’s financial plan under the status quo or “do nothing” scenario, which includes no revenue adjustments (Line 3), no pre-funding of WSA costs (Line 13), and the \$5 million debt principal paydown occurring in FY 2021 (Line 29). Revenues (Lines 1-8) are from **Table 2-1**. O&M expenses (Lines 10-22) are from **Table 2-2**. Annual debt service (Lines 25-30) are from **Table 2-3**. Capital expenditures (Line 31) are from **Table 2-4**. Net cash flow (Line 34) is negative from FY 2021 to FY 2025, while net revenue (Line 35) is positive for all years of the study. This signifies that the District’s existing revenues are sufficient to fund operating but not capital expenses. Debt coverage (Line 37) also falls below the required ratio of 1.25 beginning in FY 2024.

Table 2-6: Financial Plan – Status Quo

A	B	C	D	E	F	G	H
Line	Water Financial Plan	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
1	Revenues						
2	Rate Revenues	\$19,415,781	\$19,512,860	\$19,610,424	\$19,708,476	\$19,807,019	\$19,906,054
3	Revenue Adjustments	\$0	\$0	\$0	\$0	\$0	\$0
4	Impact of AMI	\$0	\$456,794	\$459,078	\$461,373	\$463,680	\$465,999
5	Water Availability Charge	\$305,676	\$305,676	\$305,676	\$305,676	\$305,676	\$305,676
6	Other Revenue	\$298,313	\$570,566	\$573,419	\$576,324	\$301,309	\$304,433
7	Interest Revenue - General	\$200,000	\$225,000	\$225,000	\$225,000	\$225,000	\$225,000
8	Total - Revenues	\$20,219,770	\$21,070,896	\$21,173,597	\$21,276,849	\$21,102,684	\$21,207,161
9							
10	O&M Expenses						
11	JPA Operating	\$7,836,423	\$6,251,725	\$7,116,782	\$6,086,779	\$6,138,440	\$6,255,464
12	Montecito Water District O&M						
13	Water Supply Agreement	\$0	\$0	\$2,631,240	\$5,092,707	\$4,918,889	\$4,983,161
14	Jameson Lake	\$235,978	\$261,672	\$277,945	\$274,428	\$281,520	\$288,830
15	Bell Vista/Doulton	\$1,222,029	\$1,264,072	\$1,305,803	\$1,345,970	\$1,390,290	\$1,436,370
16	Transmission Lines	\$1,489,059	\$1,513,970	\$1,546,468	\$1,582,579	\$1,633,630	\$1,686,700
17	Meter Reading/Customer Service	\$352,491	\$368,394	\$380,023	\$392,122	\$405,460	\$419,370
18	Fleet and Equipment	\$205,332	\$211,490	\$217,866	\$224,510	\$231,710	\$239,200
19	Water Resource Management	\$945,254	\$945,389	\$718,385	\$744,560	\$530,830	\$697,740
20	Administrative and General	\$1,923,560	\$1,795,755	\$1,882,366	\$1,867,651	\$1,902,593	\$1,971,628
21	Public Information	\$139,991	\$147,491	\$151,487	\$155,619	\$160,171	\$164,878
22	Total - O&M Expenses	\$14,350,118	\$12,759,959	\$16,228,365	\$17,766,926	\$17,593,534	\$18,143,341
23							
24	Debt and Capital						
25	CCWA Debt Service	\$1,831,100	\$1,828,563	\$1,826,313	\$0	\$0	\$0
26	JPA Debt Service	\$595,362	\$595,362	\$501,714	\$501,714	\$501,714	\$501,714
27	MWD Debt Service	\$1,642,000	\$1,100,392	\$1,167,669	\$2,337,669	\$2,341,044	\$2,341,169
28	Future Debt Service (Reservoirs)	\$0	\$0	\$0	\$0	\$103,820	\$219,854
29	Debt Paydown	\$0	\$5,000,000	\$0	\$0	\$0	\$0
30	Refinancing Savings	\$0	\$0	\$0	(\$519,706)	(\$547,856)	(\$576,007)
31	CIP Expenditures	\$1,335,000	\$2,564,700	\$2,310,290	\$2,114,700	\$2,171,825	\$2,520,560
32	Total - Debt and Capital	\$5,403,462	\$11,089,017	\$5,805,986	\$4,434,378	\$4,570,547	\$5,007,290
33							
34	Net Cash Flow	\$466,190	(\$2,778,079)	(\$860,754)	(\$924,454)	(\$1,061,396)	(\$1,943,471)
35	Net Revenue	\$5,869,652	\$8,310,937	\$4,945,232	\$3,509,924	\$3,509,151	\$3,063,820
36							
37	Calculated Debt Coverage	1.44	2.36	1.41	1.24	1.19	1.00
38	Required Debt Coverage	1.25	1.25	1.25	1.25	1.25	1.25

Table 2-7 shows the District’s fund balances under the status quo scenario. Without additional revenue, the District’s funds are nearly depleted by the end of the study period (Column H, Line 25). The fund balances are below reserve target levels starting in FY 2021 (Column D, Line 28).

Table 2-7: Fund Balances – Status Quo

A	B	C	D	E	F	G	H
Line	Water Fund Balances	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
1	Beginning Balance	\$7,128,337	\$7,594,527	\$4,816,448	\$3,955,694	\$3,031,240	\$1,969,844
2							
3	Sources of Funds						
4	Rate Revenues	\$19,415,781	\$19,512,860	\$19,610,424	\$19,708,476	\$19,807,019	\$19,906,054
5	Revenue Adjustments	\$0	\$0	\$0	\$0	\$0	\$0
6	Impact of AMI	\$0	\$456,794	\$459,078	\$461,373	\$463,680	\$465,999
7	Water Availability Charge	\$305,676	\$305,676	\$305,676	\$305,676	\$305,676	\$305,676
8	Other Revenue	\$298,313	\$570,566	\$573,419	\$576,324	\$301,309	\$304,433
9	Interest Revenue - General	\$200,000	\$225,000	\$225,000	\$225,000	\$225,000	\$225,000
10	Total - Sources of Funds	\$20,219,770	\$21,070,896	\$21,173,597	\$21,276,849	\$21,102,684	\$21,207,161
11							
12	Uses of Funds						
13	JPA Operating	\$7,836,423	\$6,251,725	\$7,116,782	\$6,086,779	\$6,138,440	\$6,255,464
14	Water Supply Agreement	\$0	\$0	\$2,631,240	\$5,092,707	\$4,918,889	\$4,983,161
15	Montecito Water District O&M	\$6,513,695	\$6,508,234	\$6,480,343	\$6,587,439	\$6,536,204	\$6,904,716
16	CCWA Debt Service	\$1,831,100	\$1,828,563	\$1,826,313	\$0	\$0	\$0
17	JPA Debt Service	\$595,362	\$595,362	\$501,714	\$501,714	\$501,714	\$501,714
18	MWD Debt Service	\$1,642,000	\$1,100,392	\$1,167,669	\$2,337,669	\$2,341,044	\$2,341,169
19	Future Debt Service (Reservoirs)	\$0	\$0	\$0	\$0	\$103,820	\$219,854
20	Debt Paydown	\$0	\$5,000,000	\$0	\$0	\$0	\$0
21	Refinancing Savings	\$0	\$0	\$0	(\$519,706)	(\$547,856)	(\$576,007)
22	CIP Expenditures	\$1,335,000	\$2,564,700	\$2,310,290	\$2,114,700	\$2,171,825	\$2,520,560
23	Total - Uses of Funds	\$19,753,579	\$23,848,975	\$22,034,351	\$22,201,304	\$22,164,081	\$23,150,632
24							
25	Ending Balance	\$7,594,527	\$4,816,448	\$3,955,694	\$3,031,240	\$1,969,844	\$26,373
26	Unrestricted Reserve Target	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000
27							
28	Over/(Under) Reserve Target	\$2,594,527	(\$183,552)	(\$1,044,306)	(\$1,968,760)	(\$3,030,156)	(\$4,973,627)

Proposed Financial Plan

Table 2-8 shows the proposed rate revenues for the study period, which includes revenue adjustments of 2.8 percent per year starting in FY 2021. Current rate revenues (Lines 2-4) are equal to the projected rate revenues for the study period (**Table 2-1**, Lines 1-3).

Table 2-8: Proposed Revenue Adjustments

A	B	C	D	E	F	G	H
Line	Revenue Adjustments	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
1	Rate Revenues						
2	Water Sales	\$9,482,843	\$9,530,257	\$9,577,909	\$9,625,798	\$9,673,927	\$9,722,297
3	Service Charges	\$4,265,070	\$4,286,395	\$4,307,827	\$4,329,366	\$4,351,013	\$4,372,768
4	WSE Surcharge	\$5,667,868	\$5,696,207	\$5,724,688	\$5,753,312	\$5,782,078	\$5,810,989
5	Total - Rate Revenues	\$19,415,781	\$19,512,860	\$19,610,424	\$19,708,476	\$19,807,019	\$19,906,054
6							
7	Revenue Adjustments						
8	FY 2021 - 2.8%		\$546,360	\$549,092	\$551,837	\$554,597	\$557,370
9	FY 2022 - 2.8%			\$564,466	\$567,289	\$570,125	\$572,976
10	FY 2023 - 2.8%				\$583,173	\$586,089	\$589,019
11	FY 2024 - 2.8%					\$602,499	\$605,512
12	FY 2025 - 2.8%						\$622,466
13	Total - Revenue Adjustments	\$0	\$546,360	\$1,113,558	\$1,702,299	\$2,313,310	\$2,947,342

Table 2-9 shows the financial plan under the proposed scenario, which includes the following adjustments:

- » Revenue adjustments of 2.8 percent per year
- » Pre-funding of WSA costs – each year of pre-funding is equal to the five-year average cost from FY 2021 to FY 2025

Total revenue adjustments (Line 3) are equal to the sum of annual revenue adjustments (Table 2-8, Line 13) for each year. Net cash flow (Line 34) is positive for all years of the study except for FY 2021 and FY 2022. The District is opting to pay down debt (Line 29) from existing cash reserves balances, which does not impact cost of service rates.

Table 2-9: Financial Plan – Proposed Adjustments

A	B	C	D	E	F	G	H
Line	Water Financial Plan	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
1	Revenues						
2	Rate Revenues	\$19,415,781	\$19,512,860	\$19,610,424	\$19,708,476	\$19,807,019	\$19,906,054
3	Revenue Adjustments	\$0	\$546,360	\$1,113,558	\$1,702,299	\$2,313,310	\$2,947,342
4	Impact of AMI	\$0	\$456,794	\$459,078	\$461,373	\$463,680	\$465,999
5	Water Availability Charge	\$305,676	\$305,676	\$305,676	\$305,676	\$305,676	\$305,676
6	Other Revenue	\$298,313	\$570,566	\$573,419	\$576,324	\$301,309	\$304,433
7	Interest Revenue - General	\$200,000	\$225,000	\$225,000	\$225,000	\$225,000	\$225,000
8	Total - Revenues	\$20,219,770	\$21,617,256	\$22,287,156	\$22,979,148	\$23,415,994	\$24,154,503
9							
10	O&M Expenses						
11	JPA Operating	\$7,836,423	\$6,251,725	\$7,116,782	\$6,086,779	\$6,138,440	\$6,255,464
12	Montecito Water District O&M						
13	WSA Pre-funding	\$0	\$3,525,199	\$3,525,199	\$3,525,199	\$3,525,199	\$3,525,199
14	Jameson Lake	\$235,978	\$261,672	\$277,945	\$274,428	\$281,520	\$288,830
15	Bell Vista/Doulton Treatment	\$1,222,029	\$1,264,072	\$1,305,803	\$1,345,970	\$1,390,290	\$1,436,370
16	Transmission Lines	\$1,489,059	\$1,513,970	\$1,546,468	\$1,582,579	\$1,633,630	\$1,686,700
17	Meter Reading/Customer Service	\$352,491	\$368,394	\$380,023	\$392,122	\$405,460	\$419,370
18	Fleet and Equipment	\$205,332	\$211,490	\$217,866	\$224,510	\$231,710	\$239,200
19	Water Resource Management	\$945,254	\$945,389	\$718,385	\$744,560	\$530,830	\$697,740
20	Administrative and General	\$1,923,560	\$1,795,755	\$1,882,366	\$1,867,651	\$1,902,593	\$1,971,628
21	Public Information	\$139,991	\$147,491	\$151,487	\$155,619	\$160,171	\$164,878
22	Total - O&M Expenses	\$14,350,118	\$16,285,158	\$17,122,325	\$16,199,418	\$16,199,844	\$16,685,380
23							
24	Debt and Capital						
25	CCWA Debt Service	\$1,831,100	\$1,828,563	\$1,826,313	\$0	\$0	\$0
26	JPA Debt Service	\$595,362	\$595,362	\$501,714	\$501,714	\$501,714	\$501,714
27	MWD Debt Service	\$1,642,000	\$1,100,392	\$1,167,669	\$2,337,669	\$2,341,044	\$2,341,169
28	Future Debt Service (Reservoirs)	\$0	\$0	\$0	\$0	\$103,820	\$219,854
29	Debt Paydown	\$0	\$5,000,000	\$0	\$0	\$0	\$0
30	Refinancing Savings	\$0	\$0	\$0	(\$519,706)	(\$547,856)	(\$576,007)
31	CIP Expenditures	\$1,335,000	\$2,564,700	\$2,310,290	\$2,114,700	\$2,171,825	\$2,520,560
32	Total - Debt and Capital	\$5,403,462	\$11,089,017	\$5,805,986	\$4,434,378	\$4,570,547	\$5,007,290
33							
34	Net Cash Flow	\$466,190	(\$5,756,919)	(\$641,155)	\$2,345,353	\$2,645,603	\$2,461,833
35	Net Revenue	\$5,869,652	\$5,332,098	\$5,164,831	\$6,779,730	\$7,216,150	\$7,469,124
36							

37	Calculated Debt Coverage	1.44	1.51	1.48	2.39	2.45	2.44
38	Required Debt Coverage	1.25	1.25	1.25	1.25	1.25	1.25

Table 2-10 shows the WSA pre-funding reserve balances for the study period. The WSA pre-funding amount (Line 4) is equal to the five-year average cost of the WSA from FY 2021 to FY 2025. The actual estimated costs (Line 7) are equal to that shown in the status quo scenario (Table 2-6, Line 13). The ending balance for the WSA pre-funding reserves are included in the District’s total reserve balance to achieve target levels.

Table 2-10: WSA Pre-funding Reserves

A	B	C	D	E	F	G	H
Line	WSA Pre-funding Reserves	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
1	Beginning Balance	\$0	\$0	\$3,525,199	\$4,419,159	\$2,851,651	\$1,457,962
2							
3	Sources of Funds						
4	WSA Pre-funding	\$0	\$3,525,199	\$3,525,199	\$3,525,199	\$3,525,199	\$3,525,199
5							
6	Uses of Funds						
7	Water Supply Agreement	\$0	\$0	\$2,631,240	\$5,092,707	\$4,918,889	\$4,983,161
8							
9	Ending Balance	\$0	\$3,525,199	\$4,419,159	\$2,851,651	\$1,457,962	\$0

Table 2-11 shows the District’s fund balances under the proposed scenario. The ending balance (Line 25) is added to the WSA pre-funding reserve balance (Line 26) to determine the total reserve balance (Line 28). Please note that the WSA pre-funding reserve balance is equal to that shown in the WSA pre-funding reserve projections (**Table 2-10**, Line 9). The District’s reserves are above target levels for all years of the study (Line 31).

Table 2-11: Fund Balances – Proposed Adjustments

A	B	C	D	E	F	G	H
Line	Water Fund Balances	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
1	Beginning Balance	\$7,128,337	\$7,594,527	\$1,837,609	\$1,196,454	\$3,541,806	\$6,187,409
2							
3	Sources of Funds						
4	Rate Revenues	\$19,415,781	\$19,512,860	\$19,610,424	\$19,708,476	\$19,807,019	\$19,906,054
5	Revenue Adjustments	\$0	\$546,360	\$1,113,558	\$1,702,299	\$2,313,310	\$2,947,342
6	Impact of AMI	\$0	\$456,794	\$459,078	\$461,373	\$463,680	\$465,999
7	Water Availability Charge	\$305,676	\$305,676	\$305,676	\$305,676	\$305,676	\$305,676
8	Other Revenue	\$298,313	\$570,566	\$573,419	\$576,324	\$301,309	\$304,433
9	Interest Revenue - General	\$200,000	\$225,000	\$225,000	\$225,000	\$225,000	\$225,000
10	Total - Sources of Funds	\$20,219,770	\$21,617,256	\$22,287,156	\$22,979,148	\$23,415,994	\$24,154,503
11							
12	Uses of Funds						
13	JPA Operating	\$7,836,423	\$6,251,725	\$7,116,782	\$6,086,779	\$6,138,440	\$6,255,464
14	WSA Pre-funding	\$0	\$3,525,199	\$3,525,199	\$3,525,199	\$3,525,199	\$3,525,199
15	Montecito Water District O&M	\$6,513,695	\$6,508,234	\$6,480,343	\$6,587,439	\$6,536,204	\$6,904,716
16	CCWA Debt Service	\$1,831,100	\$1,828,563	\$1,826,313	\$0	\$0	\$0
17	JPA Debt Service	\$595,362	\$595,362	\$501,714	\$501,714	\$501,714	\$501,714
18	MWD Debt Service	\$1,642,000	\$1,100,392	\$1,167,669	\$2,337,669	\$2,341,044	\$2,341,169
19	Future Debt Service (Reservoirs)	\$0	\$0	\$0	\$0	\$103,820	\$219,854
20	Debt Paydown	\$0	\$5,000,000	\$0	\$0	\$0	\$0
21	Refinancing Savings	\$0	\$0	\$0	(\$519,706)	(\$547,856)	(\$576,007)
22	CIP Expenditures	\$1,335,000	\$2,564,700	\$2,310,290	\$2,114,700	\$2,171,825	\$2,520,560
23	Total - Uses of Funds	\$19,753,579	\$27,374,175	\$22,928,311	\$20,633,796	\$20,770,391	\$21,692,670
24							
25	Ending Balance	\$7,594,527	\$1,837,609	\$1,196,454	\$3,541,806	\$6,187,409	\$8,649,242
26	WSA Pre-funding Reserve	\$0	\$3,525,199	\$4,419,159	\$2,851,651	\$1,457,962	\$0
27							
28	Total Reserves	\$7,594,527	\$5,362,808	\$5,615,613	\$6,393,457	\$7,645,371	\$8,649,242
29	Unrestricted Reserve Target	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000
30							
31	Over/(Under) Reserve Target	\$2,594,527	\$362,808	\$615,613	\$1,393,457	\$2,645,371	\$3,649,242

3. Cost of Service Analysis

This section of the report outlines the cost of service analysis, which allocates the revenue requirement to each cost component and customer class. Numbers shown in the tables of this section are rounded. Therefore, hand calculations based on the displayed numbers, such as summing or multiplying, may not equal the exact results shown in this report.

Proposed Changes

Raftelis recommends that the District adopt a proposed rate structure for water usage rates, which includes the following changes:

- » Consolidation of SFR and MFR into a Residential customer class – there is very little water usage in the MFR customer class, which consists almost exclusively of indoor usage
- » Three-tier rate structure for Residential customers, based on water efficiency standards and actual District customer usage characteristics
- » Uniform rate structure for all non-Residential customers
- » Elimination of the WSE surcharge – the District’s current water demand reflects the “new normal” demand

Residential Tiers

For Residential customers, the proposed Tier 1 will change from 25 hcf to 9 hcf per month, which represents the indoor water use efficiency standard. The first tier is based on the 55 gallons per capita per day (gpcd) standard set forth by Senate Bill 606 and Assembly Bill 1668 for a family of four. The first tier breakpoint is calculated as such:

$$55 \text{ gallons/per person per day} \times 30 \text{ days/month} \times 4 \text{ people/household} \times 1 \text{ hcf/748 gallons} = 9 \text{ hcf (rounded up to nearest hcf)}$$

The proposed Tier 2 will change from 60 hcf to 35 hcf, which is equal to average summer use for Residential customers. Tier 2 represents the usage associated with average outdoor irrigation beyond indoor needs. The proposed Tier 3 is any usage above 35 hcf; Tier 4 is proposed to be eliminated to simplify the Residential tiers and better reflect indoor use, outdoor use, and demands greater than average outdoor use.

In addition, Raftelis proposes to consolidate MFR and SFR customer classes into a singular Residential customer class. MFR customer usage represents approximately 2 percent of total Residential usage. The majority of all usage within this class is for indoor usage and falls within Tier 1. The water usage characteristics of the MFR customer class closely resembles the proposed Tier 1 definition. Consolidating both classes will also simplify the rate structure and make it easier to administer and understand. For these reasons, Raftelis proposes to combine the SFR and MFR classes into a Residential class.

Non-Residential

Raftelis recommends uniform rates for all non-Residential customers, which includes Commercial, Institutional, Agriculture, and Non-Potable classes.

Commercial: The water use for Commercial customers tends not to vary widely throughout the year. That is, they use water consistently and have low rates of peaking. Currently the class is charged on a two-tier water rate structure based on the historical water use of each individual account. This structure is difficult to administer and difficult for some customers to understand. Tenant turnover may take place, and new types of commercial use may replace a former use with different demands. For these reasons, Raftelis proposes a uniform rate for the Commercial class which is both fair and easy to understand and administer.

Institutional: The demand patterns and peaking characteristics of the Institutional class varies widely throughout the year. These accounts represent hotel, golf courses, schools, and university accounts, among others, whose water use varies based on seasonality of travelers and students, as well as irrigation demands. Just like Commercial users, the Institutional class is currently charged on a two-tier structure based on historical use which suffers from similar challenges, namely the administrative burden to District staff and concerns over fairness and understanding of historical allocations. For these reasons, Raftelis proposes a uniform rate for the Institutional class.

Agriculture: The District's current Agriculture rate structure includes an allotment for any dwelling units on the connection (20 hcf per DU) and an allotment for acreage (within 870 hcf per acre per year and over 870 hcf per acre per year). All Agriculture usage not associated with dwelling unit usage falls within the 870 hcf per acre per year allotment. To simplify the rate structure, Raftelis proposes a uniform rate for the Agriculture customer class. Each dwelling unit on an Agriculture connection would receive 9 hcf of water charged at the Residential Tier 1 rate. Every additional unit of water above the residential allotment will be charged the Agriculture rate.

Water Shortage Emergency (WSE) Surcharge

This study proposes to eliminate the WSE surcharge. The surcharge was implemented during the recent seven year historic drought, that being the County of Santa Barbara's driest seven consecutive years on record spanning from 2012 to 2018. Implementing the surcharged allowed the District to promote conservation of critical water supplies while mitigating revenue losses from reduced sales to cover fixed costs and to help fund extraordinary drought-related costs such as the purchase of supplemental water. While the District's water sources continue to recover, permanent demand reductions have taken place. Both behavioral changes and changes in land cover and irrigation practices have resulted in a permanent reduction in demand.

Historical pre-drought District-wide demand ranged from 5,000 acre-feet per year (AFY) to greater than 6,000 AFY. During FY 2019, post-drought water sales were recorded as 3,415 AFY and current year water sales are forecasted to be just shy of 3,900 AFY. For the cost of service analysis, and as the baseline to derive long-term rates, normal year water demand is estimated at 3,750 AFY, or approximately a 15 percent increase from the record low demand of approximately 3,250 AFY experienced during the drought. Raftelis believes 3,750 AFY to be a realistic expectation of future water demand based on short-term and long-term influences including state efficiency standards, cyclical drought, passive conservation via irrigation practices and indoor fixture replacement, active customer outreach and messaging efforts by the District, the increasing cost of water service, and the District's historical demand.

The elimination of the WSE surcharge represents a desire of the District Board to be proactive in District management of water supplies and finances and to reduce the need for emergency management-based rates.

Customer Data

District staff provided customer data for FY 2019; FY 2021 estimates factor in account growth of 0.5 percent between the two years. **Table 3-1** shows the projected meter counts for all water customers in FY 2021.

Table 3-1: Projected Meter Counts

A	B	C	D	E	F	G	H
Line	Meter Size	Residential	Commercial	Institutional	Agriculture	Non-Potable	FY 2021 Meters
1	3/4-inch	2,166	66	31	1	0	2,264
2	1-inch	1,532	38	22	11	2	1,605
3	1 1/2-inch	462	17	23	11	3	516
4	2-inch	147	9	40	19	3	218
5	3-inch	5	4	4	2	0	15
6	4-inch	2	0	0	0	0	2
7	6-inch	0	3	2	0	0	5
8	Total	4,314	137	122	44	8	4,625

Table 3-2 shows the projected fire line counts for all private fire customers in FY 2021.

Table 3-2: Projected Fire Line Counts

A	B	C
Line	Fire Line Size	FY 2021 Fire Lines
1	Private Fire Lines	
2	2-inch	4
3	4-inch	55
4	6-inch	37
5	8-inch	10
6	Total - Private Fire Lines	106
7		
8	Public Fire Hydrants	
9	6-inch	875
10	Total - Public Fire Hydrants	875
11		
12	Total - Fire Protection	981

Table 3-3 shows the estimated water usage for FY 2021 based on the current rate structure. The District expects approximately 10 percent higher usage in FY 2021 compared to FY 2019.

Table 3-3: Estimated Water Usage, Current Rate Structure

A	B	C	D
Line	Customer Class	Monthly Tier (hcf)	FY 2021 Estimated Usage (hcf)
1	Single Family		
2	Tier 1	0-25 hcf	715,842
3	Tier 2	26-60 hcf	271,994
4	Tier 3	61-120 hcf	115,308
5	Tier 4	> 121 hcf	95,726
6			
7	Multi-Family (per DU)		
8	Tier 1	0-9 hcf/DU	27,424
9	Tier 2	10-30 hcf/DU	1,137
10	Tier 3	> 31 hcf/DU	41
11			
12	Commercial/Institutional		
13	Base Allotment		152,901
14	Over Base Allotment		72,098
15			
16	Agriculture		
17	Domestic (dwelling unit)	20 hcf/DU	13,278
18	Ag 1	< 870 hcf/acre/yr	114,904
19	Ag 2	> 870 hcf/acre/yr	0
20			
21	Non-Potable		
22	All Usage		55,794
23			
24	Total - Water Usage (hcf)		1,636,446

Table 3-4 shows the estimated water usage for FY 2021 based on the proposed rate structure. Please note that the total water usage (Line 9) remains unchanged from the projections based on the current rate structure (**Table 3-3**, Line 24).

Table 3-4: Estimated Water Usage, Proposed Rate Structure

A	B	C	D
Line	Customer Class	Monthly Tier (hcf)	FY 2021 Estimated Usage (hcf)
1	Residential (SFR/MFR)		
2	Tier 1	9	405,934
3	Tier 2	35	455,590
4	Tier 3	35+	365,947
5	Commercial		111,070
6	Institutional		113,928
7	Agriculture		128,182
8	Non-Potable		55,794
9	Total - Water Usage (hcf)		1,636,446

Process and Approach

The first step in the cost of service analysis process is to determine the revenue requirement, which is based on the results of the financial plan and the proposed revenue adjustments. The framework and methodology utilized to develop the cost of service analysis and apportion the revenue requirement to each customer class and tier is informed by the processes outlined in the M1 Manual.

Cost of service analyses are tailored specifically to meet the unique needs of each utility. However, there are four distinct steps in every analysis to recover costs from customer classes in an accurate, equitable, and defensible manner:

1. Cost functionalization – O&M expenses and capital expenditures are categorized by their function in the system. Functions include supply, production, T&D, customer service, billing, etc.
2. Cost component allocation – the functionalized costs are then allocated to cost causation components (cost components) based on their burden on the system. The cost components include supply, peaking, delivery, meter, customer, etc. The revenue requirement is allocated accordingly to the cost components and results in the total revenue requirement for each cost component.
3. Unit cost development – the revenue requirement for each cost component is divided by the appropriate units of service such as total usage, peaking units, equivalent meters, number of customers, etc. for each customer class and dividing the costs for each cost component by the respective service units to determine the unit cost for each cost component.
4. Revenue requirement distribution – the unit costs are utilized to distribute the revenue requirement for each cost component to customer classes and tiers based on their individual service units. The District's customer classes include Residential, Commercial, Institutional, Agriculture, and Non-Potable.

Cost Components

The cost components used in this study are:

- » Base Delivery – represents costs of delivering water to customers under average daily demand conditions
- » Peaking (Max Day and Max Hour) – represents the costs of delivering water to customer at peak capacity and peak times of use
- » WSA – represents the costs of the WSA pre-funding program and Water Supply Agreement costs
- » State Water Project (SWP) – represents the costs of purchasing imported water from the District's wholesaler, Central Coast Water Authority (CCWA)
- » Local Supply – represents the costs associated with water supply from Jameson Lake/Doulton Tunnel, Lake Cachuma, and groundwater
- » Treatment – represents costs of treating water to potable standards
- » Conservation – represents the costs of the District's water conservation program
- » Non-Potable – represents the costs associated with non-potable water production and delivery
- » Meters – represents costs of servicing, installing, and replacing meters
- » Customer – represents the costs of customer service staff, billing, and collections
- » Private Fire – represents costs of providing private fire protection
- » General – represents all other costs that have a general or administrative function

Revenue Requirement

Table 3-5 shows the District’s revenue requirement for the rate-setting year, which for this study is FY 2021. The revenue requirements (Lines 1-6), also known as costs, are equal to the O&M expenses, debt service, and CIP expenditures shown in the financial plan for FY 2021 (

Table 2-9, Column D, Lines 11-21, 25-28, and 31) less debt paydown and refinancing savings. Revenue offsets (Lines 9-12), also known as non-rate revenues, are also equal to that shown in the financial plan for FY 2021 (

Table 2-9, Column D, Lines 4-7). The adjustment for cash balance is equal to the net cash flow (

Table 2-9, Column D, Line 34) excluding debt paydown (

Table 2-9, Column D, Line 29).

The revenue required from rates (Line 16) is equal to revenue requirements (Line 6) less revenue offsets and adjustments (Line 14) and is separated into Operating (Column C) and Capital (Column D) components, which will be allocated to the cost components based on O&M expenses and CIP expenditures, respectively.

Table 3-5: Revenue Requirement Derivation

A	B	C	D	E
Line	Revenue Requirement - FY 2021	Operating	Capital	Total
1	Revenue Requirements			
2	JPA Operating	\$6,251,725	\$0	\$6,251,725
3	Montecito Water District O&M	\$10,033,433	\$0	\$10,033,433
4	Debt Service	\$0	\$3,524,317	\$3,524,317
5	CIP Expenditures	\$0	\$2,564,700	\$2,564,700
6	Total - Revenue Requirements	\$16,285,158	\$6,089,017	\$22,374,175
7				
8	Revenue Offsets and Adjustments			
9	Impact of AMI	(\$456,794)	\$0	(\$456,794)
10	Water Availability Charge	(\$305,676)	\$0	(\$305,676)
11	Other Revenue ⁸	(\$570,566)	\$0	(\$570,566)
12	Interest Revenue - General	(\$225,000)	\$0	(\$225,000)
13	Adjustment for Cash Balance ⁹	(\$756,919)	\$0	(\$756,919)
14	Total - Revenue Offsets and Adjustments	(\$2,314,955)	\$0	(\$2,314,955)
15				
16	Revenue Required From Rates	\$13,970,203	\$6,089,017	\$20,059,220

⁸ Other revenues include revenues for late charges, service connection fees, reimbursements, and other miscellaneous non-rate revenues.

⁹ Adjustment for cash balance is the difference in reserves, which includes any increases to reserves through revenue adjustments and uses of reserves, such as for additional debt paydown.

Peaking Factors

Table 3-6 shows the system-wide peaking factors used to derive the cost component allocation bases for Base (Delivery), Max Day, and Max Hour costs. Base represents average daily demand during the year, which has been normalized to a factor of 1.00 (Column C, Line 1). District staff provided Max Day and Max Hour peaking factors. The Max Day peaking factor (Column C, Line 2) shows that the system-wide Max Day demand is 1.79 times greater than the average daily demand. The Max Hour peaking factor (Column C, Line 3) signifies that the system-wide Max Hour demand is 3.48 times greater than average demand.

The allocation bases (Columns D to F) are calculated using the equations outlined in this section. Columns are represented in these equations as letters and rows are represented as numbers. For example, Column D, Line 2 is shown as D2.

The Max Day allocations are calculated as follows:

- » Base Delivery: $C1 / C2 \times 100\% = D2$
- » Max Day: $(C2 - C1) / C2 \times 100\% = E2$

The Max Hour allocations are calculated as follows:

- » Base Delivery: $C1 / C3 \times 100\% = D3$
- » Max Day: $(C2 - C1) / C3 \times 100\% = E3$
- » Max Hour: $(C3 - C2) / C3 \times 100\% = F3$

Table 3-6: System-Wide Peaking Factors

A	B	C	D	E	F	G
Line	Peaking Factors	Factor	Base	Max Day	Max Hour	Total
1	Base	1.00	100%			100%
2	Max Day	1.79	56%	44%		100%
3	Max Hour	3.48	29%	23%	49%	100%

Table 3-7 shows the customer-specific peaking factors based on the maximum monthly usage divided by average monthly usage for each class and tier. The maximum month peaking factor is used as a proxy for the class and tier-specific Max Day peaking factors. The peaking factors for Residential customers are based on the proposed tiers. All other customers are proposed to have a uniform rate and therefore have a class-specific peaking factor.

Table 3-7: Customer-Specific Peaking Factors

A	B	C
Line	Customer Class	Peaking Factor
1	Residential	1.68
2	Tier 1	1.14
3	Tier 2	1.62
4	Tier 3	2.35
5	Commercial	1.31
6	Institutional	2.32
7	Agriculture	2.09
8	Non-Potable	2.13

Table 3-8 shows the calculation of additional capacity required to meet Max Day and Max Hour demands of each customer class and tier. Annual use is derived from water usage projections for FY 2021 (**Table 3-4**). First, annual use (Column D) is converted to average daily use (Column E), assuming 365 days in a year. The capacity factors (Column F) are the customer-specific peaking factors (**Table 3-7**, Column C) and are multiplied by the average daily use (Column E) to arrive at the total capacity required to meet each class and tier's Max Day demand (Column G). The extra capacity required to meet Max Day demands (Column H) is calculated by subtracting the average daily use (Column E) from the total capacity for Max Day (Column G).

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

$$\text{Max Day peaking factor (Column F)} \times [\text{System-wide Max Hour peaking factor (Table 3-6, Column C, Line 3)} / \text{System-wide Max Day peaking factor (Table 3-6, Column C, Line 2)}]$$

The total capacity for Max Hour demands (Column J) is calculated by multiplying the average daily use (Column E) by the Max Hour peaking factors (Column I). The extra capacity required for Max Hour demands (Column K) is equal to the Max Hour total capacity (Column J) less the Max Day total capacity (Column G).

Table 3-8: Water Usage and Capacity

A	B	C	D	E	F	G	H	I	J	K
Line	Customer Class	Monthly Tiers (hcf)	Annual Use (hcf)	Average Daily Use (hcf/day)	Capacity/Peaking Factor	Max Day		Max Hour		
						Total Capacity (hcf/day)	Extra Capacity (hcf/day)	Capacity Factor	Total Capacity (hcf/day)	Extra Capacity (hcf/day)
1	Residential	hcf/DU	1,227,471	3,363	1.68	5,635	2,272	3.26	10,955	5,320
2	Tier 1	9	405,934	1,112	1.14	1,264	152	2.21	2,458	1,194
3	Tier 2	35	455,590	1,248	1.62	2,017	769	3.14	3,922	1,904
4	Tier 3	35+	365,947	1,003	2.35	2,353	1,351	4.56	4,575	2,222
5	Commercial		111,070	304	1.31	400	95	2.55	777	377
6	Institutional		113,928	312	2.32	725	413	4.51	1,409	684
7	Agriculture		128,182	351	2.09	735	384	4.07	1,430	694
8	Non-Potable		55,794	153	2.13	325	172	4.14	632	307
9	Total		1,636,446	4,483		7,820	3,337		15,203	7,383

Equivalent Meters

Equivalent meter units are used to allocate meter-related costs appropriately and equitably. Larger meters have the capacity to impose larger demands on the system and are more expensive to install, maintain, and replace than smaller meters.

Equivalent meter units are based on meter hydraulic capacity and are calculated to represent the potential demand on the water system compared to a base meter size. A ratio of hydraulic capacity is calculated by dividing larger meter capacities by the base meter capacity. The base meter in this study is the 3/4-inch meter, which is also the most common meter size.

Table 3-9 shows the equivalent meters for FY 2021. The number of total meters (Column E) is derived from the meter count projections for FY 2021 (**Table 3-1**).

The capacity in gallons per minute (gpm) is based on actual capacity ratings from the manufacturer for the District’s meters, with data provided by District staff. The capacity ratios (Column D) are calculated by dividing the capacity in gpm for each meter size (Column C) by the capacity in gpm for the 3/4-inch meter (Column C, Line 1). The meter count (Column E) is multiplied by the capacity ratio (Column D) to arrive at the number of equivalent meters (Column F).

Table 3-9: Equivalent Meters

A	B	C	D	E	F
Line	Meter Size	Capacity (gpm)	Capacity Ratio	Total Meters	Equivalent Meters
1	3/4-inch	32	1.00	2,264	2,264
2	1-inch	55	1.72	1,605	2,759
3	1 1/2-inch	100	3.13	516	1,613
4	2-inch	160	5.00	218	1,090
5	3-inch	560	17.50	15	263
6	4-inch	1,100	34.38	2	69
7	6-inch	2,500	78.13	5	391
8	Total			4,625	8,447

Similar to equivalent water meters, private fire lines and public fire hydrants are also converted to equivalent lines based on fire line capacities. **Table 3-10** shows the equivalent lines for private fire lines and public fire hydrants. Private fire line and public hydrant counts are derived from the account projections in FY 2021 (**Table 3-2**).

The fire line capacity ratios (Column C) are determined based on the Hazen-Williams equation for flow through pressure conduits, as explained in the M1 Manual. The flow potential is dependent on the diameter of the fire line raised to the power of 2.63. The fire line capacity ratio is normalized based on the capacity of a 6-inch fire line to be consistent with the most common fire conduit, a 6-inch public hydrant.

Table 3-10: Equivalent Fire Lines

A	B	C	D	E	F
Line	Fire Line Size	Fire Ratio	Total Fire Lines	Equivalent Lines	Percent of Total
1	Private Fire Lines				
2	2-inch	0.06	4	0	0%
3	4-inch	0.34	55	19	2%
4	6-inch	1.00	37	37	4%
5	8-inch	2.13	10	21	2%
6	Total - Private Fire Lines		106	77	8%
7					
8	Public Fire Hydrants				
9	6-inch	1.00	875	875	92%
10	Total - Public Fire Hydrants		875	875	92%
11					
12	Total		981	952	100%

Operating and Capital Allocations

Table 3-11 shows the allocation of operating expenses to each cost component, as developed from the District's O&M expense budget for FY 2021.

O&M expenses are used in the cost of service analysis to derive the relative share of costs under each cost component. The resulting percentage allocation for each cost component (Line 32) is later used to allocate the operating revenue requirement (**Table 3-5**, Column C, Line 16) between the different cost components.

Please note that the total operating expenses (Column O, Line 31) are equal to the FY 2021 budget (**Table 3-5**, Column C, Lines 2-3).

Raftelis worked with District staff to determine the appropriate allocation to each cost component:

- » JPA Operating Expenses (COMB & CCRB) – costs for local Cachuma Lake water, entirely to Local Supply
- » JPA Operating Expenses (CCWA) – costs for SWP water, entirely to SWP component
- » JPA Operating Expenses (Cater) – costs for Cater Treatment Plant, allocated based on Max Day (**Table 3-6**, Line 2) because treatment plant capacity is based on Max Day demand
- » JPA Operating Expenses (Suppl. Water) – costs for local supplemental water if acquired (for FY 2021, the District does not expect to purchase supplemental water), entirely to Local Supply
- » WSA Agreement/Pre-funding – entirely to WSA component
- » Jameson Lake – costs for local Jameson Lake/Doulton Tunnel water, entirely to Local Supply
- » Treatment Operations – a portion of costs to Local Supply and Non-Potable for groundwater treatment, remainder to Treatment component; actual groundwater treatment costs were provided by District staff and were used to allocate costs to the three components
- » System Pipelines – allocated based on Max Hour (**Table 3-6**, Line 3) because pipelines are designed to meet maximum hour demand, plus fire flow
- » Meter Reading / Customer Service – a portion of costs to Meter, Customer, and General based on District's detailed operating budget
- » Fleet & Equipment – entirely to General, which is ultimately reallocated based on the proportional responsibility of each cost component
- » Water Resource Management (Engineering) – a portion of costs to Local Supply and Non-Potable which represent costs associated with Sustainable Groundwater Management Act (SGMA), the remainder to Base; actual costs related to SGMA were provided by District staff for potable and non-potable users and were used to allocate costs between the three components
- » Admin & General – entirely to General, which is ultimately reallocated based on the proportional responsibility of each cost component
- » Public Information – entirely to Conservation

Table 3-12 shows the allocation of capital expenses to each cost component, as developed by the District's 10-year CIP from FY 2020 to FY 2029. The average costs for the 10-year CIP are used to allocate the capital revenue requirement to reduce the annual fluctuations in CIP expenditures and to maintain a relatively stable cost allocation.

The 10-year average CIP costs are used in the cost of service analysis to derive the proportion of costs related to each cost component. The resulting percentage allocation for each cost component (Line 20) is later used to allocate the capital revenue requirement (**Table 3-5**, Column D, Line 16) between the different cost components.

The District's 10-year CIP costs are shown in **Appendix A**. The 10-year CIP is divided into several functions, which are then allocated to the various cost components:

- » Pipeline Replacements – allocated based on Max Hour (**Table 3-6**, Line 3) because pipelines are designed to meet maximum hour demand, plus fire flow
- » Reservoir Repairs – allocated based on Max Day (**Table 3-6**, Line 2) because system storage is designed to meet maximum day demand, plus fire flow
- » Pumping/Wells/Valving/Treatment – allocated based on Max Day (**Table 3-6**, Line 2) as these facilities are designed to meet maximum day demands
- » Generators – allocated based on Max Day (**Table 3-6**, Line 2)
- » Water Meter Enhancements – entirely to Meter
- » Large Equipment/Vehicles – entirely to General
- » Other – entirely to General

Table 3-11: Operating Expense Allocation

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Line	Operating Expense Allocation	Base	Max Day	Max Hour	WSA	SWP	Local Supply	Treatment	Conser- vation	Non- Potable	Meter	Customer	General	Total
1	Percent Allocation													
2	JPA Oper. Expenses (COMB & CCRB)						100%							100%
3	JPA Oper. Expenses (CCWA)					100%								100%
4	JPA Oper. Expenses (Cater)	56%	44%											100%
5	JPA Oper. Expenses (Suppl. Water)						100%							100%
6	WSA Pre-funding				100%									100%
7	Jameson Lake						100%							100%
8	Treatment Operations						11%	84%		5%				100%
9	System Pipelines	29%	23%	49%										100%
10	Meter Reading / Customer Service										8%	85%	7%	100%
11	Fleet & Equipment												100%	100%
12	Water Resource Management	86%					10%			5%				100%
13	Admin & General												100%	100%
14	Public Information								100%					100%
15														
16	Dollar Allocation													
17	JPA Oper. Expenses (COMB & CCRB)						\$1,113,745 ¹⁰							\$1,113,745
18	JPA Oper. Expenses (CCWA)					\$3,733,120								\$3,733,120
19	JPA Oper. Expenses (Cater)	\$784,838	\$620,022											\$1,404,860
20	JPA Oper. Expenses (Suppl. Water)						\$0							\$0
21	WSA Pre-funding				\$3,525,199									\$3,525,199
22	Jameson Lake						\$261,672 ¹¹							\$261,672
23	Treatment Operations						\$143,166 ¹²	\$1,060,757		\$60,148				\$1,264,072
24	System Pipelines	\$435,049	\$343,689	\$735,233										\$1,513,970
25	Meter Reading / Customer Service										\$30,255	\$312,799	\$25,340	\$368,394
26	Fleet & Equipment												\$211,490	\$211,490
27	Water Resource Management	\$809,389					\$93,400 ¹³			\$42,600				\$945,389
28	Admin & General												\$1,795,755	\$1,795,755
29	Public Information								\$147,491					\$147,491
30														
31	Operating Allocation	\$2,029,276	\$963,711	\$735,233	\$3,525,199	\$3,733,120	\$1,611,984	\$1,060,757	\$147,491	\$102,748	\$30,255	\$312,799	\$2,032,585	\$16,285,158
32	Percent Allocated	12.5%	5.9%	4.5%	21.6%	22.9%	9.9%	6.5%	0.9%	0.6%	0.2%	1.9%	12.5%	100.0%

¹⁰ Budgeted O&M costs for Lake Cachuma water.

¹¹ Budgeted O&M costs for Jameson Lake/Doulton Tunnel water.

¹² Budgeted O&M costs for groundwater treatment.

¹³ Budgeted O&M costs for groundwater management (SGMA).

Table 3-12: Capital Expense Allocation

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Line	Capital Expense Allocation	Base	Max Day	Max Hour	WSA	SWP	Local Supply	Treatment	Conser- vation	Non- Potable	Meter	Customer	General	Total
1	Percent Allocation													
2	Pipeline Replacements	29%	23%	49%										100%
3	Reservoir Repairs	56%	44%											100%
4	Pumping/Wells/Valving/Treatment	56%	44%											100%
5	Generators	56%	44%											100%
6	Water Meter Enhancements										100%			100%
7	Large Equipment/Vehicles												100%	100%
8	Other												100%	100%
9														
10	Dollar Allocation													
11	Pipeline Replacements	\$553,005	\$436,874	\$934,578										\$1,924,458
12	Reservoir Repairs	\$863	\$682											\$1,545
13	Pumping/Wells/Valving/Treatment	\$59,201	\$46,769											\$105,970
14	Generators	\$19,922	\$15,738											\$35,660
15	Water Meter Enhancements										\$2,060			\$2,060
16	Large Equipment/Vehicles												\$153,310	\$153,310
17	Other												\$94,800	\$94,800
18														
19	Capital Allocation (10-Year Average)	\$632,991	\$500,063	\$934,578	\$0	\$0	\$0	\$0	\$0	\$0	\$2,060	\$0	\$248,110	\$2,317,803
20	Percent Allocated	27.3%	21.6%	40.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	10.7%	100.0%

Fire Service Allocation

Peak capacity, as represented by Max Day and Max Hour, also include capacity required to meet demands for firefighting. Max Day and Max Hour costs encompass capacity required to meet peak customer demands, public fire service, and private fire service. **Table 3-13** derives the allocation of Max Day and Max Hour costs to these three components, as outlined in the M1 Manual. The Max Hour fire capacity assumes a four hour fire with 6,000 gpm of capacity required.

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

$$C2 \text{ kgal/min} * 60 \text{ min/hour} * C1 \text{ hours} * 1000 \text{ gal/kgal} * 1 \text{ hcf/748 gal}$$

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

$$[D2 \text{ kgal/min} * 60 \text{ min/hour} * 24 \text{ hours/day} * 1000 \text{ gal/kgal} * 1 \text{ hcf/748 gal}] - C4 \text{ hcf/day}$$

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

Table 3-13: Fire Capacity Estimate

A	B	C	D
Line	Fire Capacity Estimate	Max Day	Max Hour
1	Hours for Fire	4	0
2	kgals/min	6	6
3			
4	Capacity Demanded for Fire (hcf/day)	1,925	9,626
5	Allocation to Public Fire	92%	92%
6			
7	System Capacity		
8	Public Fire Capacity	1,769	8,843
9	Private Fire Capacity	157	783
10	Customer Demand Capacity	3,337	7,383
11	Total	5,262	17,009
12			
13	Proportion of System Capacity		
14	Public Fire Capacity	34%	52%
15	Private Fire Capacity	3%	5%
16	Customer Demand Capacity	63%	43%
17	Total	100%	100%

Unit Cost and Allocation to Classes

Table 3-14 shows the units of service for each cost component by customer class and tier (when applicable). The units of service for Base, Local Supply, Treatment, and Conservation (Columns C, H, I, and J) are equal to potable water usage (**Table 3-4**, Lines 1-7). The units of service for Max Day and Max Hour (Columns D and E) are equal to the extra capacity demanded for potable water (**Table 3-8**, Columns H and K, Lines 1-7). The units of service for WSA and SWP (Columns F and G) are equal to potable water usage less Agriculture (**Table 3-4**, Lines 1-6). Non-Potable units of service (Column K) are equal to non-potable water usage (**Table 3-4**, Line 8). Equivalent meters per year (Column L) are equal to equivalent meters (**Table 3-9**, Column F) multiplied by 12 months. Customer bills per year (Column M) are equal to water meters (**Table 3-9**, Column E) and private fire lines (**Table 3-10**, Column D, Line 6) multiplied by 12 months. Private Fire units of service are equal to equivalent lines for private fire (**Table 3-10**, Column E, Line 6) multiplied by 12 months.

Table 3-15 shows the allocation of the revenue requirement to each cost component. Please note that the revenue requirement (Column P, Lines 3, 6, 8, and 10) is equal to the revenue required from rates (**Table 3-5**, Column E, Line 16). Operating expenses (Line 1) are derived from the operating revenue requirement (**Table 3-5**, Column C, Line 16) and are allocated to each cost component based on the operating expense allocation (**Table 3-11**, Line 32). Capital expenses (Line 2) are based on the capital revenue requirement (**Table 3-5**, Column D, Line 16) and are allocated based on the capital expense allocation (**Table 3-12**, Line 20).

Public fire costs (Line 4) are reallocated to Meter from Max Day and Max Hour based on the public fire protection of system capacity (**Table 3-13**, Line 14). The cost of service for Max Day and Max Hour (Columns D and E, Line 3) is multiplied by the public fire protection system capacity and subtracted from Max Day and Max Hour costs. Public fire service is a benefit shared by all customers and connections to the water system.

Similarly, private fire costs (Line 5) are reallocated to the Private Fire cost component from Max Day and Max Hour based on the private fire proportion of system capacity (**Table 3-13**, Line 15). The cost of service for Max Day and Max Hour (Columns D and E, Line 3) is multiplied by the private fire protection system capacity and subtracted from Max Day and Max Hour costs.

Next, General costs (Line 7) are reallocated to all cost components. Total General costs (Column O, Line 6) are divided into each cost component based on the proportion of total costs. For example, the equation used to determine the Base-related General cost reallocation is as follows:

$$\text{General costs (Column O, Line 6)} \times [\text{Base costs (Column C, Line 6)} / \text{Total costs less General (sum of Columns C through N, Line 6)}] = \text{Base portion of General costs (Column C, Line 7)}$$

Peaking costs, along with base delivery costs and fixed water system costs to meet average demand, are generally considered as fixed water system costs. To balance between affordability and revenue stability, it is a common practice that a portion of the peaking costs are recovered in the monthly service charge, along with customer-related costs and meter-related costs. 50 percent of peaking costs are reallocated to Meters (Line 9) to maintain the historical fixed charge revenue recovery percentage of 24 percent.

The resulting allocation of costs (Line 10) are then divided by units of service for each component (Line 12) to determine the unit cost per cost component (Line 15). Units of service are from **Table 3-14**.

Table 3-16 shows the allocation of the revenue requirement to each customer class and tier based on the unit costs for each component (**Table 3-15**, Line 15). The unit costs for each cost component are multiplied by the units of service for each class and tier (**Table 3-14**). Please note that the total cost of service (Column O, Line 10) is equal to the total revenue required from rates (**Table 3-5**, Column E, Line 16).

Table 3-14: Units of Service by Cost Component

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Line	Customer Class	Base	Max Day	Max Hour	WSA	SWP	Local Supply	Treatment	Conser- vation	Non- Potable	Meters	Customer	Private Fire
1	Residential										85,610	51,768	
2	Tier 1	405,934	152	1,194	405,934	405,934	405,934	405,934	405,934				
3	Tier 2	455,590	769	1,904	455,590	455,590	455,590	455,590	455,590				
4	Tier 3	365,947	1,351	2,222	365,947	365,947	365,947	365,947	365,947				
5	Commercial	111,070	95	377	111,070	111,070	111,070	111,070	111,070		6,406	1,644	
6	Institutional	113,928	413	684	113,928	113,928	113,928	113,928	113,928		6,803	1,464	
7	Agriculture	128,182	384	694	0	0	128,182	128,182	128,182		2,211	528	
8	Non-Potable									55,794	334	96	
9	Private Fire											1,272	930
10	Total - Units of Service	1,580,652	3,164	7,076	1,452,470	1,452,470	1,580,652	1,580,652	1,580,652	55,794	101,364	56,772	930
11	Units	hcf	hcf/day	hcf/day	hcf	hcf	hcf	hcf	hcf	hcf	EMU/year	bills/year	EL/year

Table 3-15: Unit Cost Derivation

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Line	Revenue Requirement	Base	Max Day	Max Hour	WSA	SWP	Local Supply	Treatment	Conser- vation	Non- Potable	Meter	Customer	Private Fire	General	Total
1	Operating Expenses	\$1,740,812	\$826,718	\$630,719	\$3,024,088	\$3,202,452	\$1,382,838	\$909,969	\$126,525	\$88,142	\$25,954	\$268,334	\$0	\$1,743,651	\$13,970,203
2	Capital Expenses	\$1,662,908	\$1,313,698	\$2,455,198	\$0	\$0	\$0	\$0	\$0	\$0	\$5,412	\$0	\$0	\$651,801	\$6,089,017
3	Total - Cost of Service	\$3,403,721	\$2,140,416	\$3,085,917	\$3,024,088	\$3,202,452	\$1,382,838	\$909,969	\$126,525	\$88,142	\$31,366	\$268,334	\$0	\$2,395,452	\$20,059,220
4	Allocation of Public Fire Costs		(\$719,441)	(\$1,604,358)							\$2,323,799				\$0
5	Allocation of Private Fire Costs		(\$63,695)	(\$142,039)									\$205,734		\$0
6	Total - Cost of Service w/ Fire	\$3,403,721	\$1,357,280	\$1,339,519	\$3,024,088	\$3,202,452	\$1,382,838	\$909,969	\$126,525	\$88,142	\$2,355,165	\$268,334	\$205,734	\$2,395,452	\$20,059,220
7	Allocation of General Costs	\$461,592	\$184,066	\$181,657	\$410,108	\$434,297	\$187,532	\$123,404	\$17,159	\$11,953	\$319,393	\$36,390	\$27,900	(\$2,395,452)	\$0
8	Total - Cost of Service w/ Gen.	\$3,865,312	\$1,541,346	\$1,521,176	\$3,434,196	\$3,636,749	\$1,570,370	\$1,033,374	\$143,684	\$100,096	\$2,674,558	\$304,724	\$233,634	\$0	\$20,059,220
9	Allocation of Peak to Meter		(\$770,673)	(\$760,588)							\$1,531,261				\$0
10	Total - Adjusted Cost of Service	\$3,865,312	\$770,673	\$760,588	\$3,434,196	\$3,636,749	\$1,570,370	\$1,033,374	\$143,684	\$100,096	\$4,205,819	\$304,724	\$233,634	\$0	\$20,059,220
11															
12	Units	1,580,652	3,164	7,076	1,452,470	1,452,470	1,580,652	1,580,652	1,580,652	55,794	101,364	56,772	930		
13	Units of Service	hcf	hcf/day	hcf/day	hcf	hcf	hcf	hcf	hcf	hcf	EMU/year	billings/year	EL/year		
14															
15	Unit Cost	\$2.45	\$243.56	\$107.49	\$2.36	\$2.50	\$0.99	\$0.65	\$0.09	\$1.79	\$41.49	\$5.37	\$251.33		
16	Units of Service	hcf	hcf/day	hcf/day	hcf	hcf	hcf	hcf	hcf	hcf	EMU	bill	EL		

Table 3-16: Cost Allocation to Customer Classes

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Line	Customer Class	Base	Max Day	Max Hour	WSA	SWP	Local Supply	Treatment	Conservation	Non-Potable	Meter	Customer	Private Fire	Total
1	Residential										\$3,552,143	\$277,865		\$16,066,025
2	Tier 1	\$992,668	\$37,069	\$128,310	\$959,784	\$1,016,393	\$403,294	\$265,385	\$36,900					
3	Tier 2	\$1,114,097	\$187,297	\$204,710	\$1,077,190	\$1,140,724	\$452,627	\$297,849	\$41,414					
4	Tier 3	\$894,883	\$329,007	\$238,831	\$865,239	\$916,272	\$363,567	\$239,243	\$33,265					
5	Commercial	\$271,610	\$23,197	\$40,547	\$262,613	\$278,102	\$110,348	\$72,614	\$10,096		\$265,790	\$8,824		\$1,343,742
6	Institutional	\$278,599	\$100,513	\$73,556	\$269,370	\$285,258	\$113,187	\$74,482	\$10,356		\$282,283	\$7,858		\$1,495,461
7	Agriculture	\$313,455	\$93,591	\$74,635	\$0	\$0	\$127,348	\$83,801	\$11,652		\$91,755	\$2,834		\$799,071
8	Non-Potable									\$100,096	\$13,848	\$515		\$114,459
9	Private Fire											\$6,827	\$233,634	\$240,462
10	Total - Cost of Service	\$3,865,312	\$770,673	\$760,588	\$3,434,196	\$3,636,749	\$1,570,370	\$1,033,374	\$143,684	\$100,096	\$4,205,819	\$304,724	\$233,634	\$20,059,220

4. Rate Design and Derivation

This section of the report details the calculation of the proposed water rates that were developed in the study. Numbers shown in the tables of this section are rounded. Therefore, hand calculations based on the displayed numbers, such as summing or multiplying, may not equal the exact results shown in this report. All rates shown in this section are rounded up to the nearest cent.

Proposed Adjustments

Table 4-1 shows the proposed revenue adjustments from the financial plan. The rate-setting year, which the cost of service analysis is based upon, is FY 2021, meaning that the revenue adjustment for that year is already included in the proposed rates shown in this section of the report. The proposed rates for FY 2022 through FY 2025 are calculated by multiplying by the revenue adjustment for those years across-the-board from the previous years' rate¹⁴.

Table 4-1: Proposed Revenue Adjustments

A	B	C	D
Line	Fiscal Year	Month Effective	Proposed Revenue Adjustment
1	FY 2021	July	2.8%
2	FY 2022	July	2.8%
3	FY 2023	July	2.8%
4	FY 2024	July	2.8%
5	FY 2025	July	2.8%

Monthly Meter Charges

Table 4-2 shows the monthly meter charge calculation, which consists of the Meter and Customer cost components. As identified earlier, the Meters cost component is derived based on total equivalent meter units. The Meter unit cost (**Table 3-15**, Column L, Line 15) is multiplied by the capacity ratio for each meter size (Column D) to appropriately reflect the share of cost by meter size (Column E). A connection's share of the Customer cost does not vary with meter size and therefore the Customer unit cost (**Table 3-15**, Column M, Line 15) is applied uniformly across all meter sizes. These components are added together to arrive at the total proposed meter charge for FY 2021 (Column G).

Table 4-2: Monthly Meter Charge Calculation

A	B	C	D	E	F	G	H	I	J
Line	Meter Size	Meter Count	Capacity Ratio	Meter	Customer	Proposed Charge	Current Charge	Difference (\$)	Difference (%)
1	3/4-inch	2,264	1.00	\$41.49	\$5.37	\$46.86	\$44.59	\$2.27	5.1%
2	1-inch	1,605	1.72	\$71.32	\$5.37	\$76.69	\$74.34	\$2.35	3.2%
3	1 1/2-inch	516	3.13	\$129.66	\$5.37	\$135.04	\$133.79	\$1.25	0.9%
4	2-inch	218	5.00	\$207.46	\$5.37	\$212.83	\$237.84	(\$25.01)	-10.5%
5	3-inch	15	17.50	\$726.12	\$5.37	\$731.49	\$535.14	\$196.35	36.7%
6	4-inch	2	34.38	\$1,426.30	\$5.37	\$1,431.67	\$891.90	\$539.77	60.5%
7	6-inch	5	78.13	\$3,241.59	\$5.37	\$3,246.97	\$1,486.51	\$1,760.46	118.4%

¹⁴ $rate_t \times (1+0.028) = rate_{t+1}$ where $t = any\ given\ year$

Monthly Private Fire Charges

Table 4-3 shows the calculation of the monthly private fire charge. The Private Fire unit cost (Table 3-15, Column N, Line 15) is multiplied by the fire ratio (Column D), by each line size to arrive at the Private Fire cost for each meter size (Column E). Like the monthly meter charge calculation, Customer costs do not vary between customer types or meter sizes; therefore, the Customer unit cost is applied uniformly across all line sizes. These two components are added together to arrive at the total proposed private fire charge for FY 2021 (Column G).

Table 4-3: Monthly Private Fire Charge Calculation

A	B	C	D	E	F	G	H	I	J
Line	Fire Line Size	Fireline Count	Fire Ratio	Private Fire	Customer	Proposed Charge	Current Charge	Difference (\$)	Difference (%)
1	2-inch	4	0.06	\$13.98	\$5.37	\$19.35	\$37.50	(\$18.15)	-48.4%
2	4-inch	55	0.34	\$86.52	\$5.37	\$91.89	\$49.28	\$42.61	86.5%
3	6-inch	37	1.00	\$251.33	\$5.37	\$256.70	\$61.68	\$195.02	316.2%
4	8-inch	10	2.13	\$535.59	\$5.37	\$540.96	\$84.93	\$456.03	536.9%

Water Usage Rate Components

The District's water usage rates consist of eight different cost components: Base, Max Day and Max Hour (to form Peaking), WSA, SWP, Local Supply, Treatment, and Conservation. The following section will present the calculations for each of the components.

Table 4-4 shows the Peaking unit cost calculation for all potable water customer classes. Max Day and Max Hour costs (Table 3-16, Columns D and E) are added for each customer class and tier to determine total peaking costs (Column C). Peaking costs are divided by annual use (Column D) to determine the Peaking unit cost (Column E) for each class and tier.

Table 4-4: Peaking Unit Cost Calculation

A	B	C	D	E
Line	Peaking Unit Cost	Peaking Costs	Annual Use (hcf)	Unit Cost
1	Residential			
2	Tier 1	\$165,379	405,934	\$0.41
3	Tier 2	\$392,007	455,590	\$0.86
4	Tier 3	\$567,837	365,947	\$1.55
5	Commercial	\$63,745	111,070	\$0.57
6	Institutional	\$174,068	113,928	\$1.53
7	Agriculture	\$168,226	128,182	\$1.31
8	Total	\$1,531,261	1,580,652	\$0.97¹⁵

¹⁵ This Peaking unit cost is the average for all customer classes and is not used to develop rates for each class and tier.

Table 4-5 shows the WSA unit cost calculation for all potable water customer classes. WSA costs (**Table 3-15**, Column F) are allocated to customers first at the class level and then the tier sub-class. The WSA costs for each (Column C) are divided by the annual use (Column D) to develop the WSA unit cost for each class and tier (Column E).

WSA costs are not allocated to Residential Tier 1 (Line 2) as WSA is a supplemental water source to increase reliability at the system level. Essential indoor demands of the District’s Residential customers can be served by the District’s existing sources, even during shortage conditions. Since Tier 1 represents efficient indoor use, Tier 1 usage is excluded from WSA costs. The WSA costs for Residential customers (Column C, Line 1) are divided between Tiers 2 and 3 based on the proportion of use in each tier, excluding Tier 1 usage.

Similarly, Agricultural users’ water service is interruptible. If water conditions arise where existing sources are unable to meet Agricultural demand, water would not be delivered to these connections, except for Residential purposes if the connection has one or more dwelling units at the service connection. As interruptible users do not benefit from increased system reliability, the Agricultural class is excluded from WSA costs (Line 8).

Table 4-5: WSA Unit Cost Calculation

A	B	C	D	E
Line	WSA Unit Cost	WSA Cost	Annual Use (hcf)	Unit Cost
1	Residential	\$2,902,214	1,227,471	\$2.36
2	<i>Tier 1</i>	\$0	405,934	\$0.00
3	<i>Tier 2</i>	\$1,609,447	455,590	\$3.53
4	<i>Tier 3</i>	\$1,292,767	365,947	\$3.53
5				
6	Commercial	\$262,613	111,070	\$2.36
7	Institutional	\$269,370	113,928	\$2.36
8	Agriculture	\$0	0	\$0.00
9	Total	\$3,434,196	1,452,470	\$2.36

Table 4-6 shows the Local Supply costs by source of supply. The District receives local water from three sources: Jameson Lake/Doulton Tunnel, Lake Cachuma, and groundwater.

District staff provided estimated production amounts for FY 2021 (Line 1) which reflect normal hydrologic conditions and normal condition demand. The estimated potable water demand (Column F, Line 3) is allocated to each source of supply based on the proportion of estimated production (Line 2).

The local water supply costs (Line 5) are derived from the District’s operating budget (**Table 3-11**, Column H). The total local water supply costs (Column F, Line 5) are adjusted (Column F, Line 7) to match the Local Supply¹⁶ cost of service (**Table 3-15**, Column H, Line 10). The adjustment amounts allocated to each source of supply (Line 7) are proportionate to the cost of each source of supply (Line 6).

The unit cost for each source (Line 10) is calculated by dividing the supply costs (Line 8) by the estimated demand (Line 3) from each source. The cheapest source of water is from Jameson Lake, followed by Lake Cachuma water. Groundwater is the most expensive source of water because groundwater costs include both treatment and SGMA-related costs.

Table 4-6: Local Water Supply Costs by Source

A	B	C	D	E	F
Line	Local Water Supply	Jameson Lake/Doulton Tunnel	Lake Cachuma	Groundwater	Total
1	FY 2021 Estimated Production (AF)	1,280	2,450	330	4,060
2	Percent from Source	32%	60%	8%	100%
3	Estimated Demand (hcf)	498,334	953,841	128,477	1,580,652
4					
5	Local Water Supply Cost	\$261,672	\$1,113,745	\$236,566 ¹⁷	\$1,611,984
6	Percent of Local Water Supply Cost	16.2%	69.1%	14.7%	100.0%
7	Plus General & Other Allocation	(\$6,755)	(\$28,751)	(\$6,107)	(\$41,613)
8	Total Local Water Supply Costs	\$254,917	\$1,084,994	\$230,459	\$1,570,370
9					
10	Unit Cost	\$0.51	\$1.14	\$1.79	\$0.99

¹⁶ The Local Water supply cost of service (**Table 4-6**, Column F, Line 8) is equal to the Local Water supply cost from the budget (**Table 4-6**, Column F, Line 5) net of revenue offsets and adjustments.

¹⁷ Groundwater costs include treatment and SGMA-related costs.

Table 4-7 shows the Local Supply unit cost for each customer class and tier. The amount of water available from each source is allocated to each customer class equally based on proportion of water usage.

However, *within* the Residential customer class, Tier 1 receives the cheapest source of water first to promote affordability of essential water use. Jameson Lake/Doulton Tunnel water is the cheapest; all Jameson Lake/Doulton Tunnel water is allocated to Tier 1 (Column D, Line 2). The remainder of Tier 1 usage is served by the second cheapest source, Lake Cachuma (Column E, Line 2). All of Tier 2 is served by Lake Cachuma water (Column E, Line 3). The remaining amount of Lake Cachuma water is allocated to Tier 3 (Column E, Line 4) and the remainder of Tier 3 usage is served by the most expensive source of local water, which is groundwater (Column F, Line 4). Allocating the cheapest source of water for the lower tiers aligns with Article X, Section 2 of the California Constitution, which mandates that water resources are allocated to beneficial use; indoor use for public health and safety (which is represented by Tier 1) is the most essential use of water.

All other customers pay for a blended supply source, equal to the Local Supply unit cost (**Table 4-6**, Column F, Line 10 and **Table 3-15**, Column H, Line 15).

Table 4-7: Local Supply Unit Cost Calculation

A	B	C	D	E	F	G	H	I
Line	Local Supply Unit Cost	Annual Use (hcf)	Jameson Lake/Doulton Tunnel	Lake Cachuma	Groundwater	Total Demand	Total Cost	Unit Cost
1	Residential	1,227,471	386,986	740,715	99,770	1,227,471	\$1,219,487	\$0.99
2	Tier 1	405,934	386,986	18,948	0	405,934	\$219,512	\$0.54
3	Tier 2	455,590	0	455,590	0	455,590	\$518,233	\$1.14
4	Tier 3	365,947	0	266,177	99,770	365,947	\$481,742	\$1.32
5	Commercial	111,070	35,017	67,025	9,028	111,070	\$110,348	\$0.99
6	Institutional	113,928	35,918	68,750	9,260	113,928	\$113,187	\$0.99
7	Agriculture	128,182	40,412	77,351	10,419	128,182	\$127,348	\$0.99
8	Total	1,580,652	498,334	953,841	128,477	1,580,652	\$1,570,370	\$0.99

Table 4-8 shows the Conservation unit cost calculation. Conservation costs (**Table 3-16**, Column J) are added together for all customers at the class level. For Residential customers, Conservation costs are entirely allocated to Tier 3 since that tier represents use greater than the average outdoor irrigation demands of the class.

Table 4-8: Conservation Unit Cost Calculation

A	B	C	D	E
Line	Conservation Unit Cost	Conservation Costs	Annual Use	Unit Cost
1	Residential	\$111,579	1,227,471	\$0.09
2	Tier 1	\$0	405,934	\$0.00
3	Tier 2	\$0	455,590	\$0.00
4	Tier 3	\$111,579	365,947	\$0.30
5				
6	Commercial	\$10,096	111,070	\$0.09
7	Institutional	\$10,356	113,928	\$0.09
8	Agriculture	\$11,652	128,182	\$0.09
9	Total	\$143,684	1,580,652	\$0.09

Water Usage Rates

Table 4-9 shows the water usage rate calculation for all customer classes and tiers based on the following unit costs:

- » Base (**Table 3-15**, Column C, Line 15)
- » Peaking (**Table 4-4**, Column E)
- » WSA (**Table 4-5**, Column E)
- » SWP (**Table 3-15**, Column G, Line 15)
- » Local Supply (**Table 4-7**, Column I)
- » Treatment (**Table 3-15**, Column I, Line 15)
- » Conservation (**Table 4-8**, Column E)
- » Non-Potable (**Table 3-15**, Column K, Line 15)

All rates are rounded to the nearest penny.

Table 4-9: Water Usage Rate Calculation

A	B	C	D	E	F	G	H	I	J	K
Line	Customer Class	Monthly Tier (hcf)	Base	Peaking	WSA	SWP	Local Supply	Treatment	Conservation	Proposed Charge
1	Residential (per DU)									
2	Tier 1	9	\$2.45	\$0.41	\$0.00	\$2.50	\$0.54	\$0.65	\$0.00	\$6.56
3	Tier 2	35	\$2.45	\$0.86	\$3.53	\$2.50	\$1.14	\$0.65	\$0.00	\$11.14
4	Tier 3	35+	\$2.45	\$1.55	\$3.53	\$2.50	\$1.32	\$0.65	\$0.30	\$12.31
5	Commercial		\$2.45	\$0.57	\$2.36	\$2.50	\$0.99	\$0.65	\$0.09	\$9.63
6	Institutional		\$2.45	\$1.53	\$2.36	\$2.50	\$0.99	\$0.65	\$0.09	\$10.58
7	Agriculture		\$2.45	\$1.31	\$0.00	\$0.00	\$0.99	\$0.65	\$0.09	\$5.50
8	Non-Potable									\$1.80

Proposed Rates

This section shows the resulting water rates based on the recommendations previously outlined. The proposed rates for FY 2021, the rate-setting year, is a result of the cost of service analysis developed during the study. Rates for all years after FY 2021 are adjusted based on the recommended 2.8 percent revenue adjustment per year.

Table 4-10 shows the proposed monthly meter charges for the study period.

Table 4-10: Proposed Monthly Meter Charges

A	B	C	D	E	F	G
Line	Monthly Meter Charge	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
1	3/4-inch	\$46.86	\$48.18	\$49.53	\$50.92	\$52.35
2	1-inch	\$76.69	\$78.84	\$81.05	\$83.32	\$85.66
3	1 1/2-inch	\$135.04	\$138.83	\$142.72	\$146.72	\$150.83
4	2-inch	\$212.83	\$218.79	\$224.92	\$231.22	\$237.70
5	3-inch	\$731.49	\$751.98	\$773.04	\$794.69	\$816.95
6	4-inch	\$1,431.67	\$1,471.76	\$1,512.97	\$1,555.34	\$1,598.89
7	6-inch	\$3,246.97	\$3,337.89	\$3,431.36	\$3,527.44	\$3,626.21

Table 4-11 shows the proposed monthly private fire charges for the study period.

Table 4-11: Proposed Monthly Private Fire Charges

A	B	C	D	E	F	G
Line	Monthly Private Fire Charge	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
1	2-inch	\$19.35	\$19.90	\$20.46	\$21.04	\$21.63
2	4-inch	\$91.89	\$94.47	\$97.12	\$99.84	\$102.64
3	6-inch	\$256.70	\$263.89	\$271.28	\$278.88	\$286.69
4	8-inch	\$540.96	\$556.11	\$571.69	\$587.70	\$604.16

Table 4-12 shows the proposed water usage rates for the study period.

Table 4-12: Proposed Water Usage Rates

A	B	C	D	E	F	G	H
Line	Water Usage Rates (\$/hcf)	Monthly Tiers (hcf)	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
1	Residential – SFR and MFR (per DU)						
2	Tier 1	9	\$6.56	\$6.75	\$6.94	\$7.14	\$7.34
3	Tier 2	35	\$11.14	\$11.46	\$11.79	\$12.13	\$12.47
4	Tier 3	35+	\$12.31	\$12.66	\$13.02	\$13.39	\$13.77
5	Commercial		\$9.63	\$9.90	\$10.18	\$10.47	\$10.77
6	Institutional		\$10.58	\$10.88	\$11.19	\$11.51	\$11.84
7	Agriculture		\$5.50	\$5.66	\$5.82	\$5.99	\$6.16
8	Non-Potable		\$1.80	\$1.86	\$1.92	\$1.98	\$2.04

Customer Impacts

Figure 4-1 shows the monthly customer bill impacts for all SFR customers, based on FY 2019 customer data provided by District staff. This graph shows that over 50 percent of SFR customers will see a reduction in their monthly water bill.

Figure 4-1: Monthly Customer Bill Impacts – Single Family

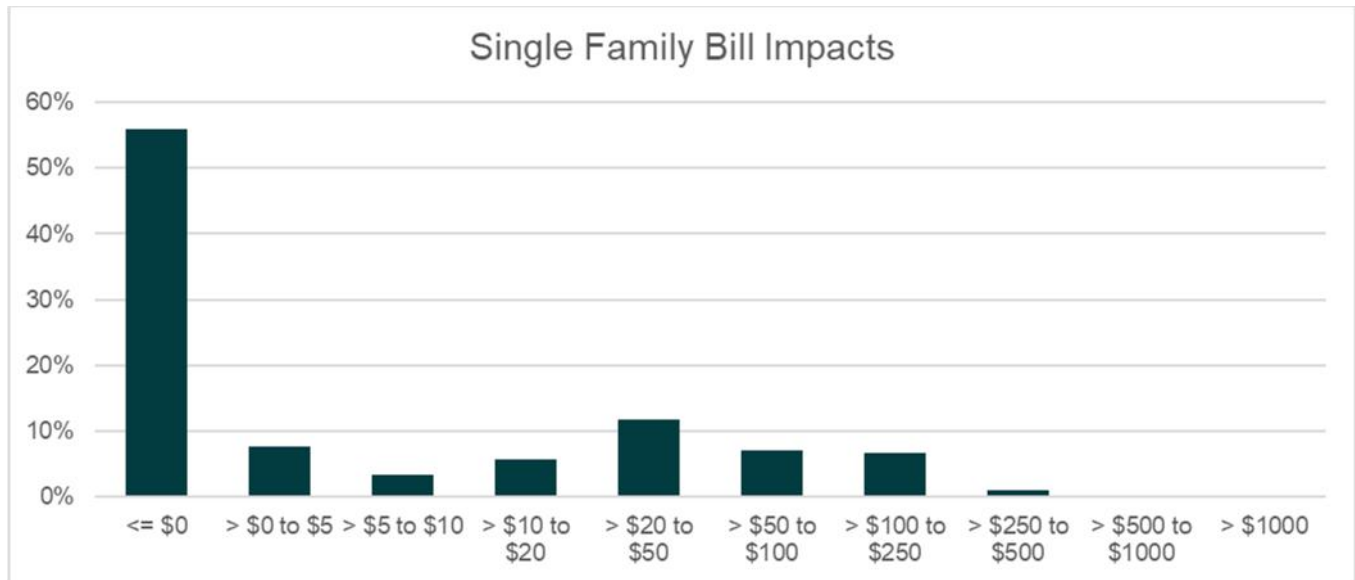
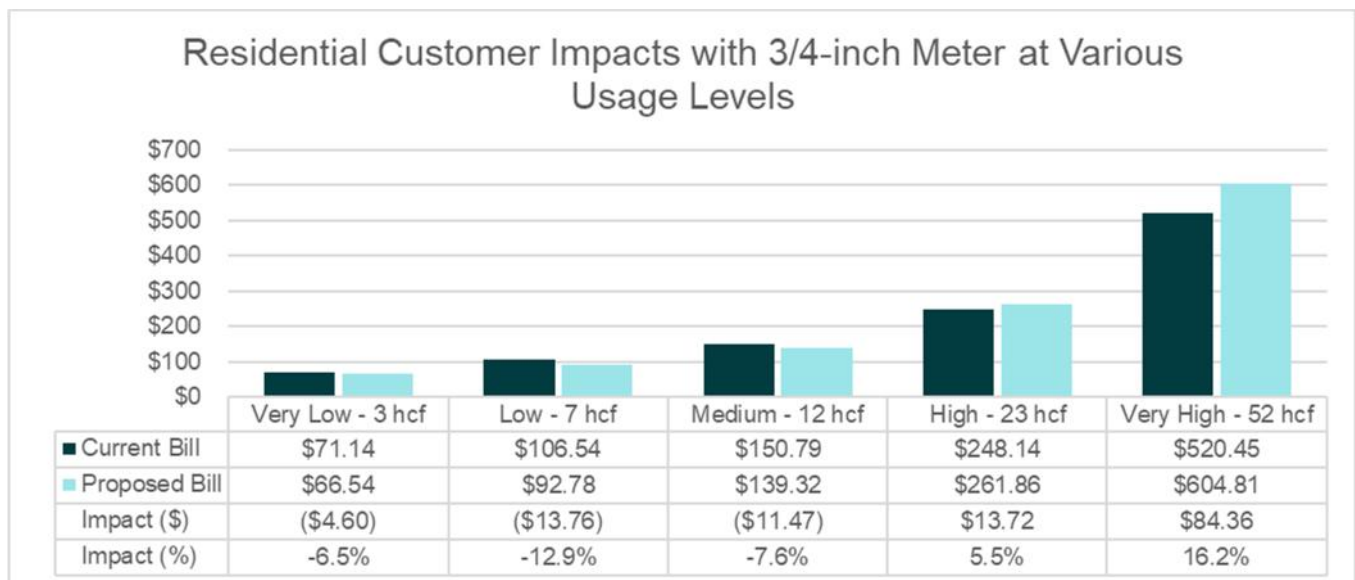


Figure 4-2 shows the monthly bill impacts at various levels of usage for a Residential customer with a 3/4 -inch meter. The median Residential customer uses 12 hcf of water per month and will see a reduction of \$11.47 in their monthly water bill.

Figure 4-2: Monthly Bill Impacts at Various Levels of Usage – Residential, 3/4-inch Meter



Appendices

Appendix A: 10-Year Capital Improvement Plan

A	B	C	D	E	F	G	H	I	J	K	L	M
Line	10-Year CIP	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	10-Year Average
1	Pipeline Replacements	\$1,045,450	\$2,163,000	\$1,648,000	\$954,000	\$2,057,375	\$2,226,000	\$2,170,625	\$2,227,250	\$2,102,375	\$2,650,500	\$1,924,458
2	Reservoir Repairs	\$15,450	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,545
3	Pumping/Wells/Valving/Treatment	\$10,300	\$226,600	\$319,300	\$26,500	\$10,900	\$28,000	\$11,500	\$383,500	\$12,100	\$31,000	\$105,970
4	Generators	\$10,300	\$10,300	\$103,000	\$0	\$0	\$112,000	\$0	\$0	\$121,000	\$0	\$35,660
5	Water Meter Enhancements	\$10,300	\$10,300	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,060
6	Large Equipment/Vehicles	\$283,250	\$0	\$188,490	\$392,200	\$103,550	\$154,560	\$155,250	\$171,100	\$84,700	\$0	\$153,310
7	Other	\$0	\$154,500	\$51,500	\$742,000	\$0	\$0	\$0	\$0	\$0	\$0	\$94,800
8	Total - 10-Year CIP	\$1,375,050	\$2,564,700	\$2,310,290	\$2,114,700	\$2,171,825	\$2,520,560	\$2,337,375	\$2,781,850	\$2,320,175	\$2,681,500	\$2,317,803