Lake Hemet Municipal Water District

Comprehensive Water and Wastewater Cost of Service Study

Final Report / December 20, 2018

RAFTELIS

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December 20, 2018

Mr. Mike Gow
General Manager/Chief Engineer
Lake Hemet Municipal Water District
26385 Fairview Ave.
Hemet, CA 92544

Subject: Comprehensive Water and Wastewater Cost of Service Study Report

Dear Mr. Gow,

Raftelis Financial Consultants, Inc. (Raftelis) is pleased to provide this Comprehensive Water and Wastewater Cost of Service Study Report (Report) for the Lake Hemet Municipal Water District (District). This Study includes a comprehensive review of the District's financial plan, usage trends, accounts, customer types, available water supplies, capital improvement plan, and reserves to establish rates that provide sufficient revenue over a five-year planning period. The recommended rate structures and resulting rates were derived based on the cost of service principles and are proportionate and in compliance with Proposition 218.

The major objectives of the study include the following:

- Develop financial plans for each utility system and service area to meet operation and maintenance (O&M) costs and ensure sufficient funding for capital replacement and refurbishment (R&R) needs.
- Develop sound and sufficient reserve fund targets.
- Review current rate structures for the water and wastewater utilities and determine if any adjustments to the rates are required to more closely reflect costs incurred and adequately recover the utility's revenue requirements over the planning period.

The Report summarizes the key findings and recommendations related to the development of the financial plans for the Water and Wastewater utilities and the development of updated rates.

Sincerely,
RAFTELIS FINANCIAL CONSULTANTS, INC.

Habib Isaac	**Franklin Gonzalez**	**Lauren Demine**
Senior Manager	Associate Consultant	Associate Consultant

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GLOSSARY

Acre feet	Unit of volume of water equal to 43,560 cubic feet or 325,850 gallons of water
American Water Works Association (AWWA)	American Water Works Association is the largest nonprofit, scientific and educational association dedicated to managing and treating water
Base Demand	Average demand
CalPERS	California Public Employees' Retirement System that manages pension and health benefits for California public Employees, retirees, and their families.
CalPERS Fund	Reserve maintained by the District to fund employees' retirement.
Capital Expenses	Expenditures for capital assets
Capital Fund	Reserve maintained by the district to fund capital expenses
Capital R&R	Capital Repair & Replacement
Commodity Charge	Charge for per unit of water (ccf) consumed
Debt Service	The principal and interest payments on debt issued
Disaster Fund	Emergency reserved maintained by the District.
Pumping Charge	Charge assessed on each unit (ccf) of water delivered to recover the cost to pump water to higher elevations
Fixed Charge	Portion of the customer monthly charge that does not vary with water use. For water charges, sometimes referred to as the meter charge. For wastewater charges, sometimes referred to as the service charge
Hundred Cubic Feet (ccf)	Volume of water or wastewater equal to 100 cubic feet or 748 gallons
M1 Manual	Principles of Water Rates, Fees, and Charges Seventh Edition published by the AWWA
Million Gallons Per Day (MGD)	Equal to 1 million gallons over the period of one day
Multi-Family Residential	Customer Class for multi-dwelling residential building without individual water meters for each dwelling unit
Non-Residential	Customers who are not in the Single Family or Multi-Family customer classes for wastewater billing purposes
Operating Fund	Reserve maintained by the district to fund daily operations and maintenance of the water or wastewater system
Operations and Maintenance (O&M) Expenses	Expenditures for daily operations and maintenance of the water or wastewater system
Peak Demand	Demand that exceeds average demand
Private Fire Line Charge	Meter charge for water meters that supply water exclusively to private fire protection systems

Proposition 218	This constitutional amendment passed in 1996 that limits the methods by which local governments can create or increase taxes, fees and charges without taxpayer consent
Rate Revenue Requirement	The portion of annual operating, maintenance and capital-related expenses that are must be recovered from annual water and wastewater rates and charges
Reserves	District cash that is not part of current year revenues
Revenue Offsets	Non-water and wastewater revenue that is used to pay a portion of the annual operating, maintenance and capital related expenses
Revenue Requirement	Annual operating, maintenance, and capital-related expenses that are required to provide water and wastewater service
Service Charge - Water	Fixed monthly water charge also known as the meter charge
Single Family Residential	Residential customers with one dwelling unit with an individual water meter
Test year	A 12-month period used by a utility to serve as a basis for comparison of revenues, expenses, and investment in order to determine revenue requirements in a general rate case.
Tier Breakpoints	Volume of water that is allowed in each water rate tier, sometimes referred to as block
Volume - Water	Volume (ccf) for a given billing period (usually one month) that is used to calculate the water commodity rate
Volume Rate	Charge for per unit of water (ccf) consumed

1. EXECUTIVE SUMMARY

1.1 BACKGROUND

In 2017, Lake Hemet Municipal Water District (District) engaged Raftelis to conduct a Comprehensive Water and Wastewater Cost of Service Study (Study) to update the District's financial plans and rates for the District's utilities over the next five years. The District serves approximately 14,000 customers in a 26-square mile service area that has annexed several other areas, including Hemet, San Jacinto, Garner Valley, and adjacent unincorporated areas of Riverside County. The customer base consists of residential, commercial, institutions, and agriculture (potable and non-potable). The District currently provides potable water, irrigation water, and wastewater collection services to its customers. In addition, the District operates a water utility for Garner Valley, serving approximately 242 customers. The District also provides wastewater collection services in the Hemet/San Jacinto area, which is then treated by the Eastern Municipal Water District.

1.1.1 Objectives of the Study

The major objectives of the study include the following:

- Develop financial plans for each utility system and service area to meet operation and maintenance (O&M) costs and ensure sufficient funding for capital replacement and refurbishment (R&R) needs.
- Develop sound and sufficient reserve fund targets.
- Review current rate structures for the water and wastewater utilities and determine if any adjustments to the rates are required to more closely reflect costs incurred and adequately recover the utility's revenue requirements over the planning period.

1.2 CURRENT RATES

1.2.1 Water Rates

The District's water utility serves approximately 14,000 accounts in the Hemet / San Jacinto area, as shown in Table 1-1.

Table 1-1: Water Utility Meter Count

Meter Size	Hemet / San Jacinto Active Meters
5/8"	10,590
3/4"	1,464
1"	1,595
1 1/2"	120
2"	228
3"	6
4"	32
6"	9
8"	4
10"	1
12"	4
Total	**14,053**

The current Hemet/San Jacinto water rate structure consists of six main components:

1. Monthly water service charge that varies by meter size ($/month).
2. Water consumption charge[1] that varies by tier allotment (hcf[2]).
3. Backflow charge of $6.66 for specific customers that currently own a backflow device in their water system.
4. Non-potable charge that varies by type of non-potable customer ($/AF).
5. Power Lift charge that varies by elevation zones within the service area.
6. Fire service charge that varies by size of connection line.

The following tables summarize the current rate structure of the Hemet / San Jacinto area. Table 1-2 provides a summary of the monthly charges by meter size. Table 1-3 and Table 1-4 summarize the current variable unit charges by tier as well as the tier widths, and non-potable variable unit charges per customer code, respectively. As shown, the Hemet / San Jacinto current variable rate structure is comprised of five inclining tiers for potable customers and a uniform variable charges for non-potable customers based on customer type. Table 1-5 details the power lift charges that vary by power zones identified by the District. Table 1-6 details the monthly Private Fire Line charges by connection size.

Table 1-2: Current Hemet / San Jacinto Monthly Water Charges

Meter Size	FYE 2018 Water Service Charge ($/Month)
5/8"	$31.50
3/4"	$31.50
1"	$35.51
1 1/2"	$45.51
2"	$57.50
3"	$89.61
4"	$125.69
6"	$282.92
8"	$502.62
10"	$785.54
12"	$1,131.66
16"	$2,011.51

[1] Current variable charge includes an EDU (equivalent dwelling unit) multiplier for commercial customers. The multiplier has a maximum of 10 EDUs.
[2] One unit of water is equal to 748 gallons or 100 cubic feet (1 hcf).

Table 1-3: Current Hemet / San Jacinto Variable Usage Charge

Tiers	Tier Width (hcf)	Commodity Charge ($/hcf) [A]	Imported Surcharge ($/hcf) [B]	Capital Surcharge ($/hcf) [C]	FYE 2018 Water Usage Charge ($/hcf) [D] (A+B+C)
1	0 ≤ 7	$1.980	$0.304	$0.100	**$2.384**
2	7.01 ≤ 13	$2.025	$0.339	$0.104	**$2.468**
3	13.01 ≤ 25	$2.145	$0.453	$0.110	**$2.708**
4	25.01 ≤ 38	$2.265	$0.610	$0.114	**$2.989**
5	> 38	$2.499	$0.840	$0.120	**$3.459**

Table 1-4: Current Hemet / San Jacinto Non-Potable Water Charges

Customer Code	FYE 2018 Non-Potable Charges ($/AF)[3]
501AF	$860
502AF	$865
503AF	$736
504AF	$854
Washburn	$25
McMillan	$50

Table 1-5: Current Power Lift Charges

Customer Code	FYE 2018 Power Lift Charges ($/hcf)
1000	$0.26
1100	$0.33
1101	$0.26
1200	$0.32
1201	$0.32
1300	$0.17
1301	$0.17
1400	$0.35
1500	$0.40
1600	$0.08

[3] The 501AF and 502AF rates were increased to their current charge as of April 1st, 2018.

Table 1-6: Current Hemet / San Jacinto Fire Line Service Charge

Connection Size / Type	FYE 2018 Fire Service Charges
4"	$4.00
6"	$6.00
8"	$8.00
10"	$10.00
12"	$12.00
Fire Hydrant Construction	$25.00

1.2.2 Wastewater Rates

Currently, the District collects wastewater for approximately 14,767 equivalent dwelling units at a rate of $4.07 per month.

1.2.3 Garner Valley Rates

The District's water utility in Garner Valley serves approximately 242 customers, as shown in Table 1-7.

Table 1-7: Water Utility Meter Count

Meter Size	Number of Meters
5/8"	2
3/4"	5
1	231
1 ½"	1
2"	1
3"	0
4"	2
Total	**242**

The current water rate structure consists of two main components:

1. Uniform Bi-monthly Water Service Charge.
2. Water Consumption Charge that varies by tier allotment (hcf) for all customers.

The following tables summarize the current rate structure of the Garner Valley water utility. Table 1-8 shows the current bi-monthly charge for all customers. Table 1-9 summarizes the current variable unit charges by customer class and by tier as well as the tier widths. As shown, the current variable rate structure is comprised of five inclining tiers for all customers.

Table 1-8: Current Bi-Monthly Water Service Charge

Meter Size	FYE 2018 Water Service Charge ($ / Bi-Month)
All Meters	$37.26

Table 1-9: Current Variable Usage Charge

Tiers	Tier Width (hcf)	FYE 2018 Water Usage Charge ($/hcf)
1	0-20	$1.63
2	20.01-50	$1.91
3	50.01-150	$2.27
4	150.01-250	$2.98
5	>250.01	$3.71

1.3 FINANCIAL HEALTH AND RECOMMENDATIONS

As part of the financial plan development, Raftelis first reviewed the District's projected revenues over a 10-year planning horizon to determine the financial health of the District's utility over the short-term and long-term and to determine if the current rates could support the utility's revenue needs.

1.3.1 Hemet / San Jacinto Water Utility Financial Health

For the fiscal year commencing July 1, 2017 (FYE 2018), the Hemet / San Jacinto Service Area total beginning reserve balance is approximately $14,290,195, which consists of Operating, Capital Replacement & Refurbishment, CalPERS, and Disaster Funds. As part of Best Management Practices of utilities, it is recommended that a utility have at least 60 to 90 days of operating reserves as well as sufficient funds available to ensure the utility's capital plan can move forward as scheduled without any delays due to insufficient funds on hand.

The Hemet / San Jacinto water service area is currently in a strong financial position and is projected to generate total rate revenue of $17,169,279 in FYE 2019 at current rates, with a total of $19,091,279 when accounting for non-operating revenue of $1,922,000. The District is currently meeting its operating costs as shown in Figure 1-1; however, the Hemet / San Jacinto service area's annual planned capital projects are approximately $930K, which would require the use of reserves to partially fund the improvements. Without any revenue adjustments in subsequent years, the service areas total reserves will continue to deplete over time.

Figure 1-2 identifies the service area's capital plan, where 1 years' worth of capital is based on 33% of the total depreciation of the water utility and is inflated each fiscal year by 2%. Figure 1-3 illustrates the total reserves balances for each fiscal year after operating, capital, CalPERS, and Disaster is funded. As shown, the service area will draw down its reserves over the planning horizon to cover capital costs.

Figure 1-1: Water Utility Operating Financial Plan

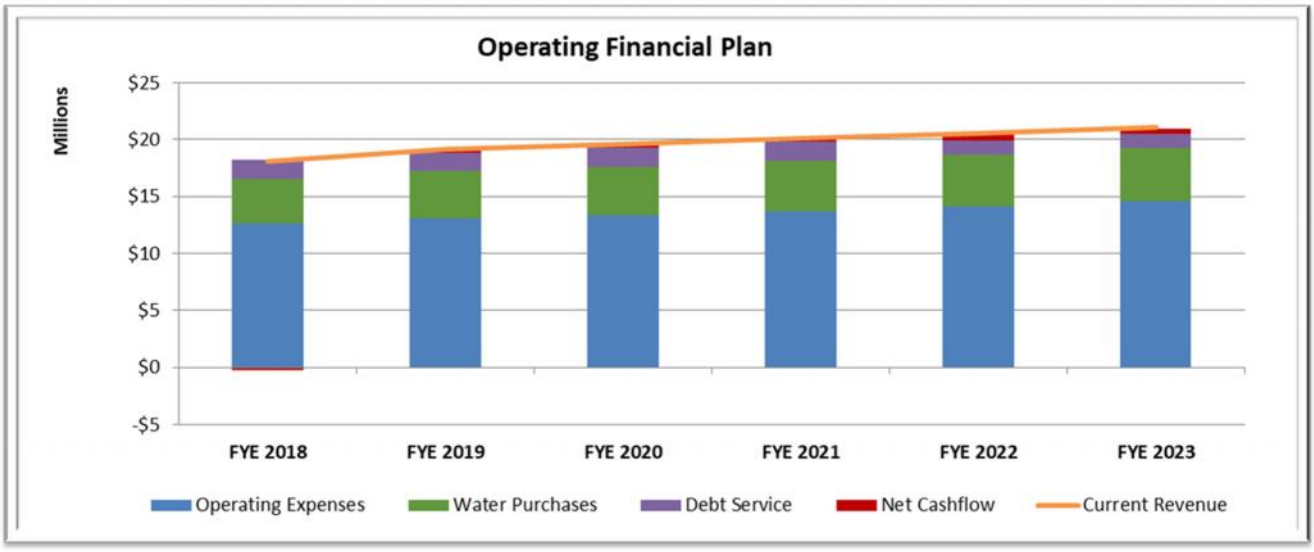


Figure 1-2: Baseline Water Capital Improvement Plan and Funding Source

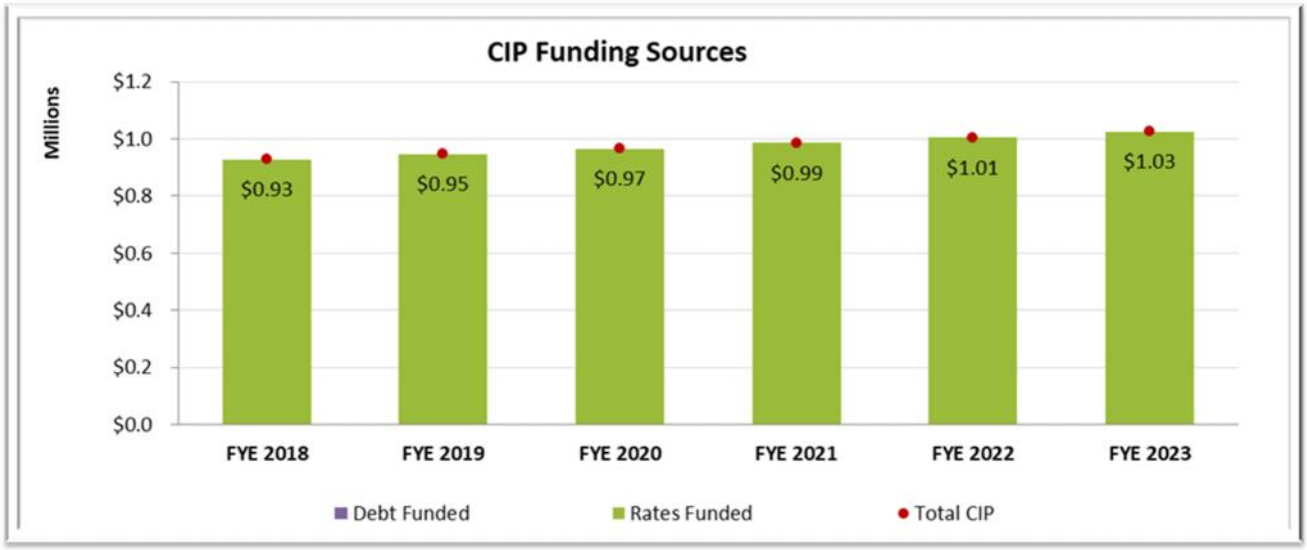
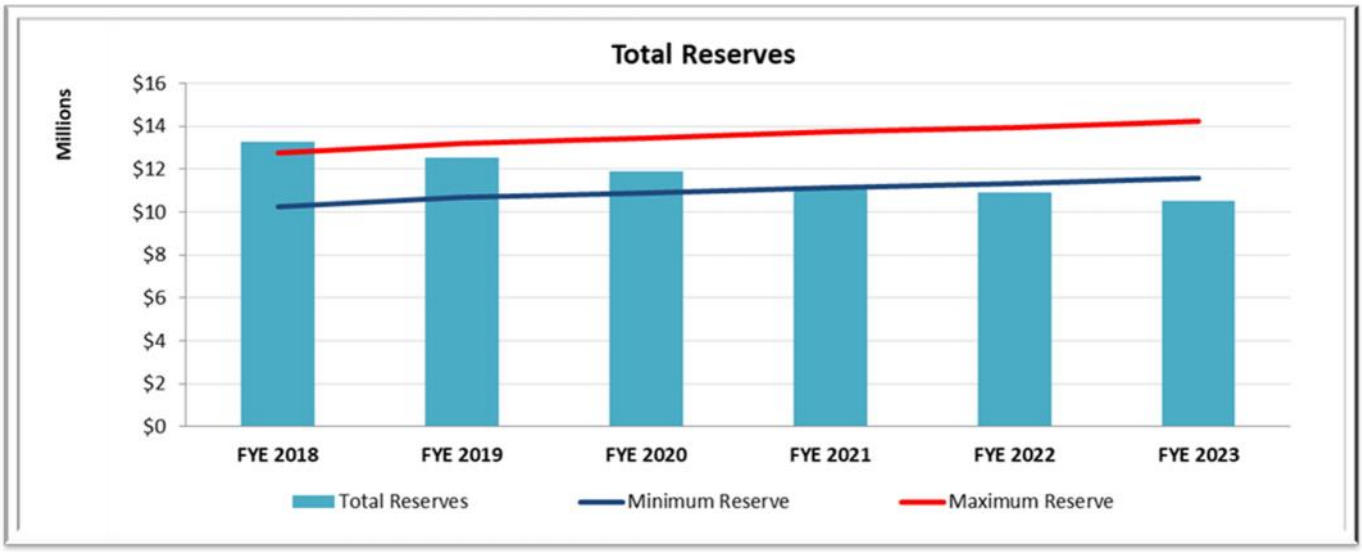


Figure 1-3: Water Utility Total Reserves



To meet the ongoing revenue requirements for Hemet / San Jacinto, we recommend the District continue to adjust rates based on the percentage change of the Consumer Price Index for Los Angeles – Orange – Riverside (CPI). Doing so should allow the District to maintain its strong financial position for the next five years and ensure the following criteria is achieved:

- Cover increases of imported water through pass-through charges.
- Ensure positive annual net operating cash income for each Fiscal Year (FY) of the planning period.
- Fully fund planned capital projects.
- Establish and maintain the following reserves by the end of the Study Period (FYE 2019 – 2023):
    - Water Operating Fund – minimum of 60 days of operating expenses.
    - Water Repair & Replacement Fund – 1 years' worth of depreciation inflated by 2% for each subsequent year.

After discussing with District staff, Raftelis also recommends allocating a portion of General Administration to the Wastewater utility to account for the services provided to wastewater customers by the General Administration division of the District. As such, 2% of General Administration costs were shifted to the Wastewater utility which is approximately the percent of total operational costs associated with wastewater when compared to Hemet / San Jacinto.

Besides determining the appropriate amount of revenue recovery, Raftelis also evaluated the current rate structure, recent consumption data to evaluate current usage trends, and worked closely with District staff on policy considerations and objectives. Through this review, Raftelis recommends the following adjustments to the current rate structure:

- Move from a 5-tiered rate structure for potable accounts to a 3-tiered rate structure with modifications to the Tier 1, Tier 2, and Tier 3 allotments (also referred to as tier widths) that directly correlate to the amount of water supplies available to the service area. The District has groundwater from Canyon Basin and Upper Basin and covers the remaining water demand through water purchases.

- Tier 1 would correspond to the amount of groundwater available from the Canyon Basin on a per account basis. The result provided 5 hcf per account, which is the Tier 1 allotment for potable customers. Tier 2 would correspond to the amount of groundwater from the Upper Basin on a per account basis. The result provided 8 hcf per account, which is the Tier 2 allotment (5.01 - 13 hcf). Tier 3 would be for any usage over the 13 hcf and would reflect the cost of remaining Upper Canyon groundwater availability, water transfers, and treated imported water supplied by EMWD.
- Uniform rate structure for non-potable customers.
- Update pumping charges by lift zone based on most recent actuals of pumping per zone.
- Maintain backflow device charges for specific customers with backflow devices installed.

The proposed variable rate structure is set forth in Table 1-10. The proposed monthly service charges are shown in

Table 1-11, the proposed variable charges can be seen in Table 1-12, and proposed pumping charges are shown in Table 1-13.

Table 1-10: Current and Proposed Variable Rate Structure

Customer Class / Tiers	Current Tier Width (hcf)	Recommended Tier Width (hcf)
District Potable		
Tier 1	0 – 7	0 – 5
Tier 2	7.01 – 13	5.01 – 13
Tier 3	13.01 – 25	>13.01
Tier 4	25.01 – 38	N/A
Tier 5	>38	N/A
Non-Potable	Uniform	Uniform

Table 1-11: FYE 2019 Proposed Monthly Service Charges

Meter Size	FYE 2019 Proposed Fixed Charge
5/8"	$29.92
3/4"	$29.92
1"	$34.45
1 1/2"	$45.68
2"	$59.20
3"	$102.05
4"	$165.12
6"	$316.08
8"	$654.08
10"	$969.56
12"	$1,217.45
16"	$1,780.76

Table 1-12: FYE 2019 Proposed Variable Charge ($/hcf)

Customer Class / Tier	Proposed Tier	FYE 2019 Proposed Variable Charge
Total District		
Tier 1	0-5 hcf	$2.12
Tier 2	5.01 -13 hcf	$2.28
Tier 3	> 13	$3.43
Non-Potable	Uniform	$2.01

Table 1-13: FYE 2019 Proposed Pumping Charge

Lift Zone	FYE 2019 Proposed Pumping Charge
1000 & 1101	$0.44
1100	$0.33
1200 & 1201	$0.29
1300 & 1301	$0.11
1400	$0.19
1500	$0.56
1600	$0.07

1.3.2 Garner Valley Financial Health

For Fiscal Year 2017-18 (FYE 2018) the District's total beginning reserve balance for the Garner Valley water utility is approximately $144,662. As part of Best Management Practices of utilities, it is recommended that a utility with bi-monthly billing establish an Operating Reserve equal to at least 120 to 180 days of operating reserves. In addition, a capital reserve should also be in place to sufficiently funds the utility's capital plan as scheduled without any delays due to insufficient funds on hand.

The Garner Valley water utility is projected to generate total rate revenue of $233,628 in FYE 2019 at current rates and $305,444 in total revenue, when accounting for other revenue of $71,817. For FYE 2019, the District is currently meeting its operating costs and has positive net income each year over operational costs but would not be able to adequately fund its capital needs or be able to address a historical deficit in Garner Valley, associated with previous advancement of funds from reserves for the Hemet – San Jacinto service area, of approximately $1.7M (see Appendix C – Exhibit A for deficit detail).

The District's annual funded depreciation is approximately $100,000 and there may be additional asset repair & replacement required above and beyond what is currently planned. The District Board also decided to move forward with Garner Valley repaying an accumulated historic deficit of approximately $ 1.7M, as shown by the purple stacked bar in Figure 1-4, in FYE 2020.

Figure 1-5 identifies the District's capital plan, where 1 years' worth of capital is based on two-thirds (67%) of the Annual Depreciation Value, which is approximately $100,000, and is inflated each year by 2%. Figure 1-6 illustrates the reserves balances for each fiscal year after operating (including the $1.7M obligation over 20 years) and capital are funded. As shown in the figure, the Garner Valley water utility will have negative reserve balances starting in FYE 2020.

Figure 1-4: Garner Valley Water Utility Operating Financial Plan

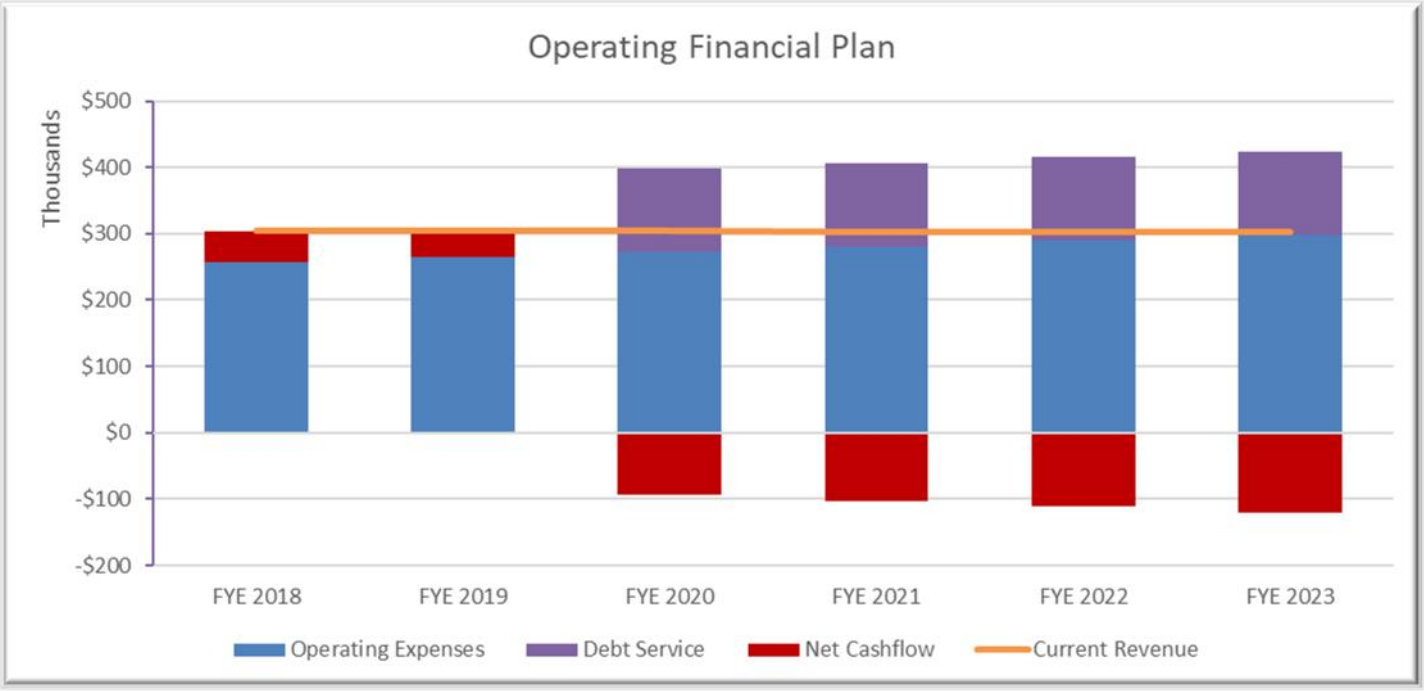


Figure 1-5: Garner Valley Water Capital Improvement Plan and Funding Source

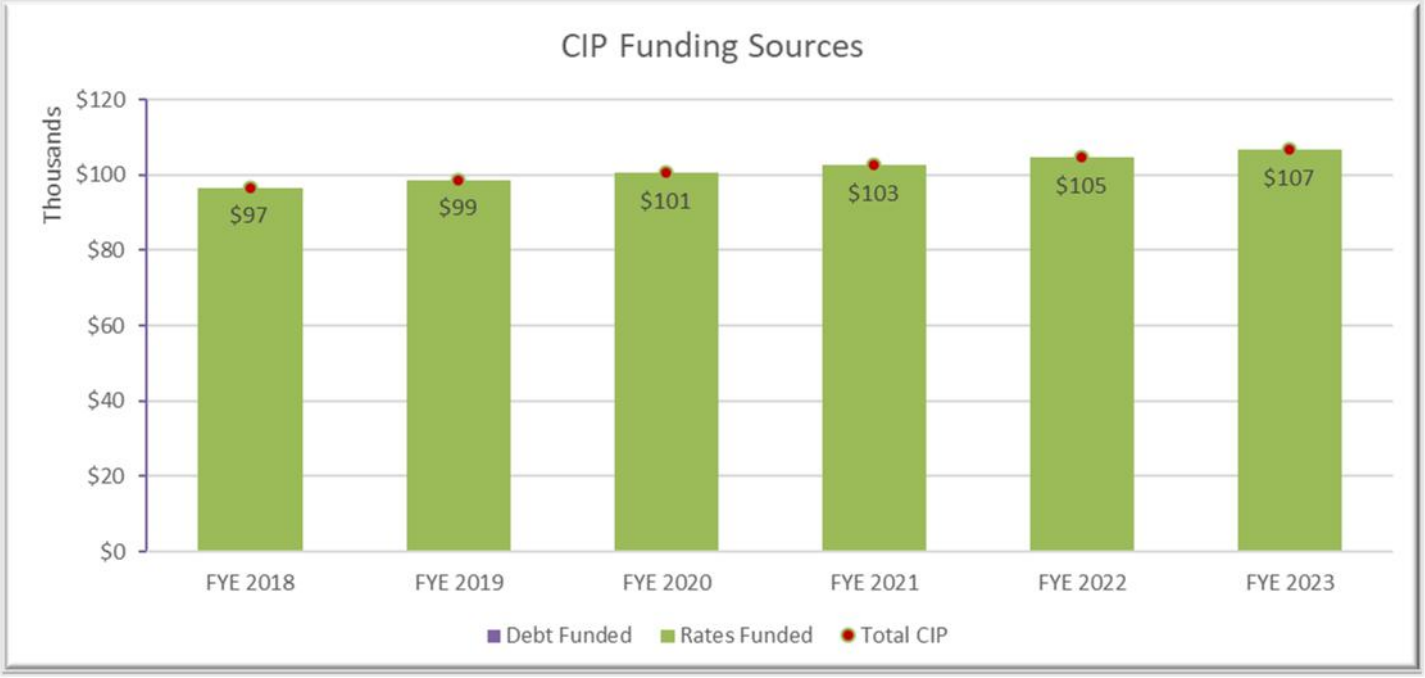
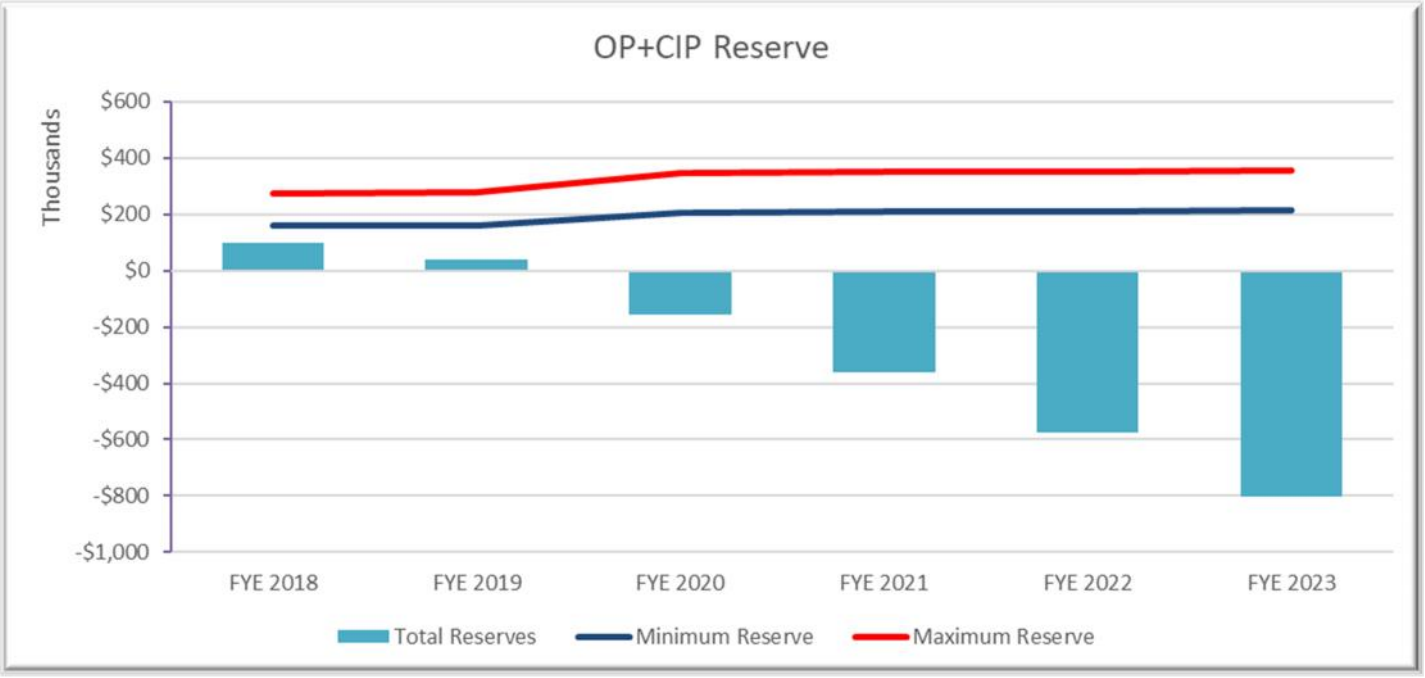


Figure 1-6: Garner Valley Water Utility Operating & Capital Reserves



To maintain a financially healthy outlook for the Garner Valley Water Enterprise, the proposed financial plan would require significant revenue adjustments to meet and/or maintain the following criteria:

- Ensure positive net operating cash income each Fiscal Year (FY) of the planning period with rate revenue adjustments.
- Fully fund planned capital projects.
- Begin to payback the accumulated deficit of $1.7M over 20-years with annual payments starting in FYE 2020 at an interest rate equal to 1.8%, which is the latest return on investment for Local Agency Investment Fund.
- Establish and maintain the following reserves by the end of the Study Period (FYE 2019 – 2032):
    - Garner Valley Operating Reserve – minimum of 120 days of operating expenses.
    - Garner Valley Capital Improvement Reserve – 67% of 1 years' worth of depreciation.

After discussing with District Staff and the District's Finance Committee, the committee approved two years of 35% revenue adjustments in January of FYE 2019 and January of FYE 2020. Followed by an indexing for revenue adjustments based on the percentage change in the consumer price index (CPI) beginning in FYE 2021 (July 1, 2020). Under the recommended plan, the District will maintain a positive net income and would quickly build up cash over the first two years of the study to cover the $1.7M amortization schedule over 20 years.

Besides determining the appropriate amount of revenue recovery, Raftelis also evaluated the current rate structure for Garner Valley, recent consumption data to evaluate current usage trends, and worked closely with District staff on policy considerations and objectives. Through this review, Raftelis recommends the following adjustments to the current rate structure:

- Collapse the five-tier rate structure to a single uniform tier to reflect available water supplies within the service area.
- Since Garner Valley is only served by groundwater, a single tier would be in-line and similar to how rates were determined for Hemet / San Jacinto.
- Updated fixed charges to vary based on meter size and be equivalent to what is charged in Hemet / San Jacinto over 2 months.

The proposed fixed rates are set forth in Table 1-14 and the proposed variable rates are shown in Table 1-15.

Table 1-14: FYE 2019 Proposed Bi-Monthly Service Charges

Meter Size	FYE 2019 Proposed Bi-Monthly Service Charge
3/4" or less	$59.84
1"	$68.92
1 1/2"	$91.39
2"	$118.47
3"	$204.28
4"	$330.55

Table 1-15: FYE 2019 Proposed Variable Charge ($/hcf)

Customer Class	FYE 2019 Recommended Variable Charge
All Customers	$2.68

1.3.3Wastewater Utility Financial Health

In FYE 2018, the District's total beginning reserve balance for the wastewater utility is $0; however, reserves will be built back up over time and will be used to fund necessary upcoming capital projects totaling approximately $900K during the next five years. Based on the District's revenue requirements, reserve policies, capital planning schedule, and current revenue, the existing wastewater rates will:

- Result in positive net operating cash for FYE 2018 and for each subsequent fiscal year.
- Fully fund capital projects through PAYGO for FYE 2018.
- The existing rates are sufficient to fund the following reserves beyond FYE 2022:
  - Wastewater Operating Fund – minimum of 60 days of operating expenses.
  - Wastewater Replacement Fund – target of a full years' worth of funded depreciation.

Figure 1-7 illustrates the current operating financial plan with current revenues depicted by the orange horizontal trend line and expenses symbolized by the blue stacked bars. Figure 1-8 identifies the District's capital plan and Figure 1-9 details the total reserves balance for each fiscal year.

Figure 1-7: Current Wastewater Operating Financial Plan

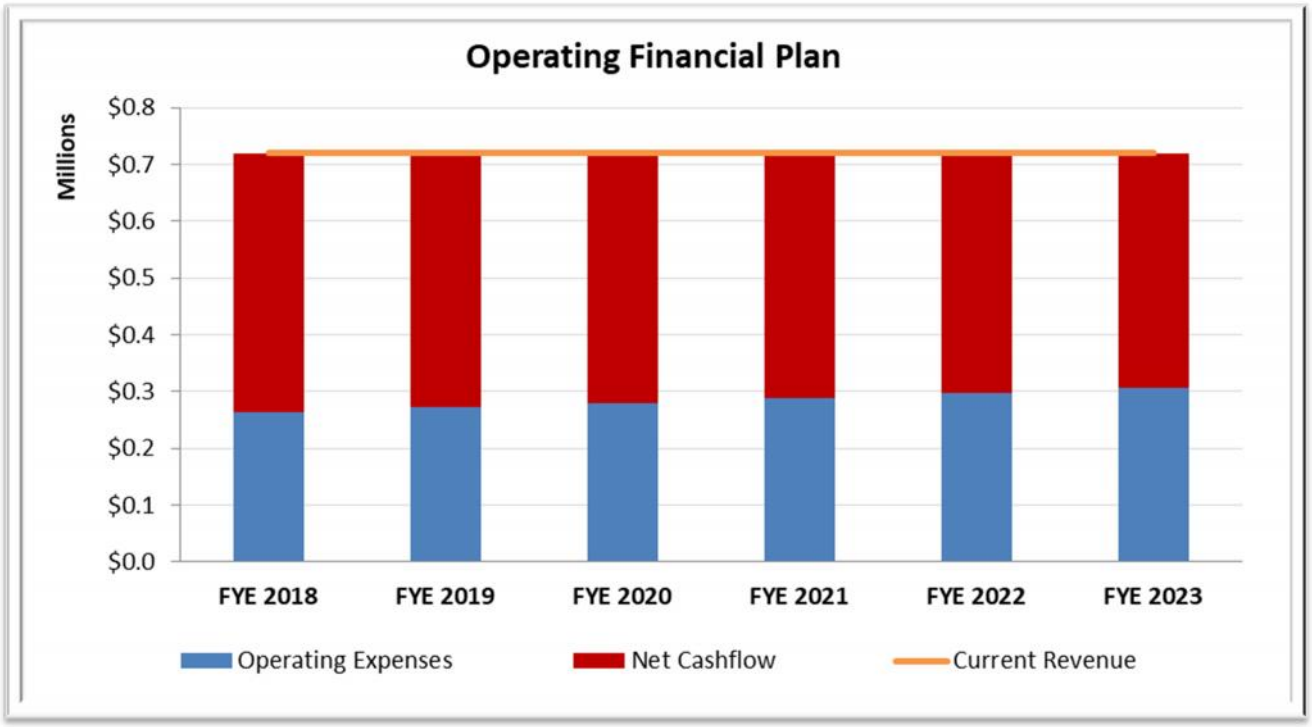


Figure 1-8: Wastewater Capital Improvement Plan

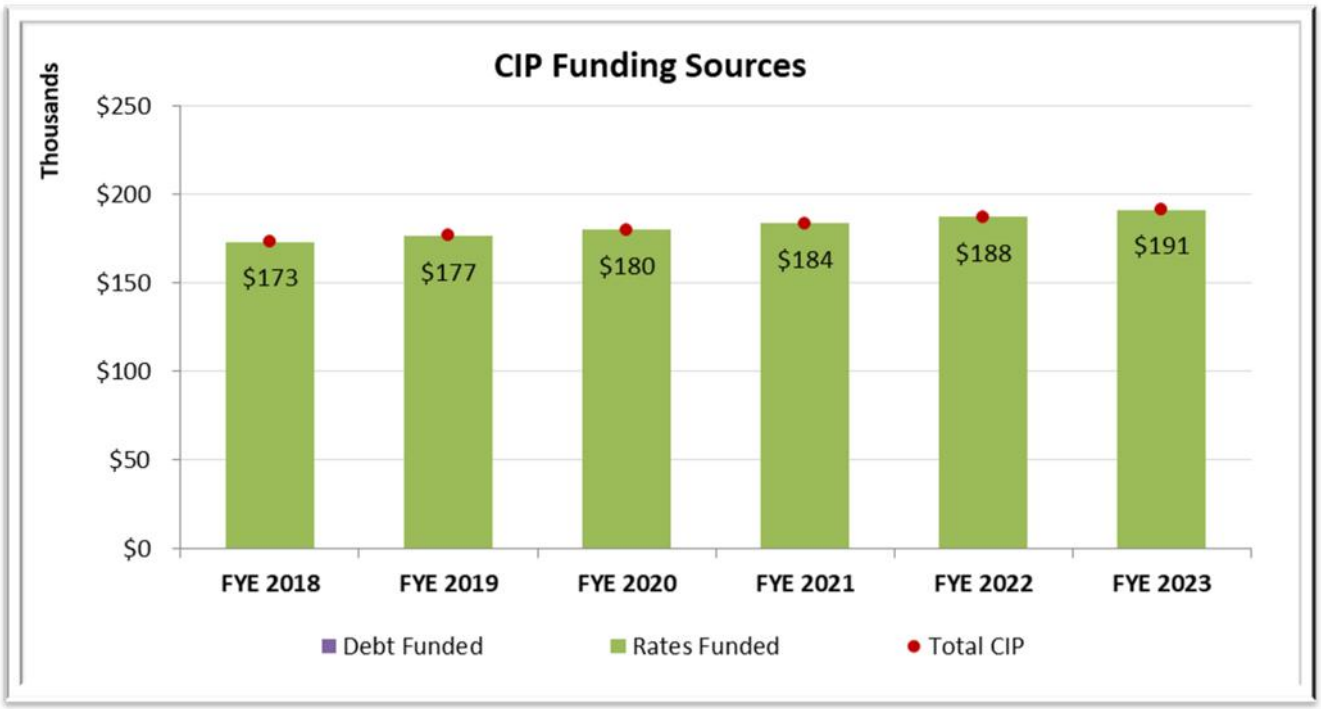
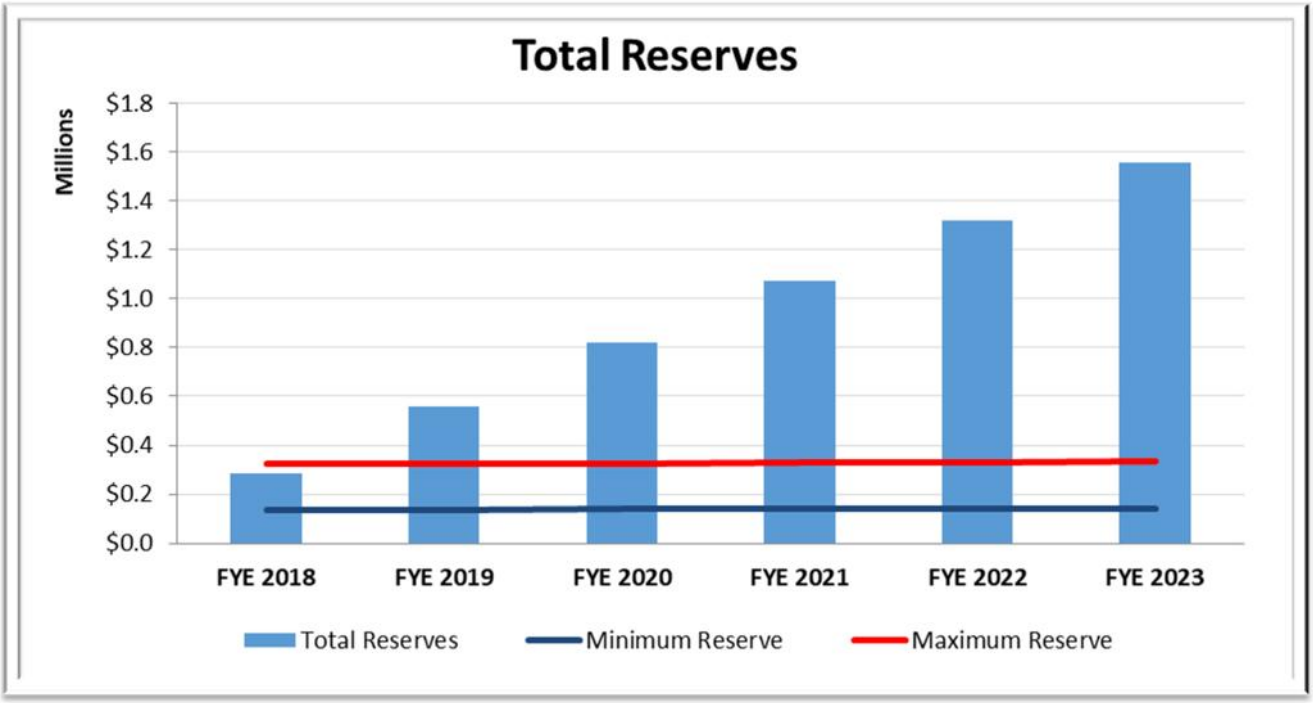


Figure 1-9: Current Wastewater Total Reserve Balance



Under the recommended financial plan, Raftelis recommends maintaining the current wastewater rate without any revenue adjustments and the District should re-evaluate the wastewater rate in a future Cost of Service Study.

2. INTRODUCTION

2.1 STUDY APPROACH

This report was prepared using principles established by the American Water Works Association (AWWA) and our review of the specific characteristics and costs of the District to ensure compliance with Proposition 218 when establishing rates for the next five years. The AWWA "Principles of Water Rates, Fees, and Charges: Manual of Water Supply Practices M1 Manual (M1 Manual) establishes commonly accepted professional standards for cost of service studies.

As stated in the AWWA M1 Manual, "the costs of water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers." To develop utility rates that comply with Proposition 218 and industry standards while meeting other emerging goals and objectives of the District, there are four major steps discussed below.

1. **Calculate Revenue Requirement**
   The rate-making process starts by determining the test year (rate setting year) revenue requirement, which for this study is FYE 2019. The revenue requirement should sufficiently fund the utility's O&M, debt service, capital expenses, and reserves.

2. **Cost of Service Analysis (COS)**
   The annual cost of providing service is distributed among customer classes commensurate with their service requirements. A COS analysis involves the following:
   a) Functionalize costs. Examples of functions are supply, treatment, transmission, distribution, storage, meter servicing, and customer billing and collection
   b) Allocate functionalized costs to cost causation components. Cost causation components include, but are not limited to, supply, base[4], maximum day, maximum hour[5], fire protection, meter capacity, and customer service
   c) Distribute the cost causation components. Distribute cost components, using unit costs, to customer classes in proportion to their demands on the system.

   A COS analysis for water considers both the average quantity of water consumed (base costs) and the peak rate at which it is consumed (peaking or capacity costs as identified by maximum day and maximum hour demands).[6] Peaking costs are costs that are incurred during peak times of consumption. There are additional costs associated with designing, constructing, and operating and maintaining facilities large enough to meet peak demands. These peak demand costs need to be allocated to those imposing such costs on the utility. In other words, not all customers share the same

[4] Base costs are those associated with meeting average day demands and unrelated to meeting peaking demands.
[5] Collectively maximum day and maximum hour costs are known as peaking costs or capacity costs.
[6] System capacity is the system's ability to supply water to all delivery points at the time when demanded. Coincident peaking factors are calculated for each customer class at the time of greatest system demand. The time of greatest demand is known as peak demand. Both the operating costs and capital asset related costs incurred to accommodate the peak flows are generally allocated to each customer class based upon the class's relative demands during the peak month, day, and hour event.

responsibility for peaking related costs. In addition, the proposed redesign rate structure, herein, also accounts for the limited amount of groundwater available to the District and the amount of imported water the District purchases to cover the overall water demand of District customers.

3. **Rate Design and Calculations**

   Rates do more than simply recover costs. Within the legal framework and industry standards, properly designed rates should support and optimize a blend of various utility objectives, such as deterring water waste, supporting affordability for essential needs, and ensuring revenue stability among other objectives. Rates may also act as a public information tool in communicating these objectives to customers. Rates uses the revenue requirements and cost of service analysis to set equitable rates for each customer reflecting the cost of providing service. Rates utilize "rate components" to build-up to the total fixed charges and commodity rates. In the case of tiered rates, the rate components allocate the cost of service to each tier, reflecting a build-up cost approach.

4. **Rate Adoption**

   Rate adoption is the last step of the rate-making process to comply with Proposition 218. Raftelis documents the rate study results in this Study Report to serve as the District's administrative record and a public education tool about the recommended changes, the rationale and justifications behind the changes, and their anticipated financial impacts.

3. KEY ASSUMPTIONS

The Study uses the District's FYE 2018 budget as the base year and the model projects the District's revenue requirements through FYE 2027; however, the recommended water rates herein are for FYE 2019 through FYE 2023, as the District will continue to periodically review rates and take a measured approach with any potential rate adjustments. Certain cost escalation assumptions and inputs based on discussions with District Staff were incorporated into the Study to adequately model expected future costs of the Hemet / San Jacinto service area's and Garner Valley's expenses, as seen in Table 3-1. The District currently has access to groundwater in two basins: Canyon Basin and Upper Basin. The distinct difference between both basins is their depths, with Canyon Basin being the shallower of the two, reducing production costs within the Canyon Basin. Based on FYE 2017 production data provided by District staff, approximately 2,224 AF of groundwater is available in Canyon Basin, whereas approximately 5,054 AF of groundwater is available in Upper Canyon. The District has contract agreements with two customers know as McMillian and Washburn, in which, the District obtain additional water from wells on each contract customer's property. Water transferred from McMillian is used to serve potable customers and water transferred from Washburn is used to serve non-potable customers. Historically, the District receives approximately 2,000 AF of water from McMillian (Contract Water) for potable use. Water supplies are further discussed in Section 4.2.4.1.

Table 3-1: Inflationary Factor Assumptions

Inflationary Factors	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023
General	3%	3%	3%	3%	3%
Salary	3%	3%	3%	3%	3%
Benefits	3%	3%	3%	3%	3%
Capital	2%	2%	2%	2%	2%
Energy	5%	5%	5%	5%	5%
Reserve Interest Rate	1%	1%	1%	1%	1%
Purchased Water	3.5%	3.5%	3.5%	3.5%	3.5%
GWMP Imported Water	3.0%	3.0%	3.0%	3.0%	3.0%
Non-Inflated	0%	0%	0%	0%	0%
Water Loss	10%	10%	10%	10%	10%
Growth & Demand					
Customer Growth	0%	0%	0%	0%	0%
Water Demand	100%	100%	100%	100%	100%

4. HEMET / SAN JACINTO WATER RATE STUDY

4.1 WATER UTILITY – FINANCIAL PLAN

This section describes the development of the water utility financial plan, the results of which were used to determine the revenue adjustments needed to meet ongoing expenses and provide fiscal sustainability to the service area. Establishing a utility's revenue requirement is a key step in the rate setting process. The review involves analysis of projected annual operating revenues under the current rates, O&M expenses, capital expenditures, transfers between funds, and reserve requirements. This section of the report provides a discussion of the projected revenues, O&M and capital expenditures, the capital improvement financing plan, and overall revenue requirements required to ensure the fiscal sustainability of the Water Utility.

4.1.1 Revenue from Current Rates

The current water rate structure consists of the following components:

1. Monthly Fixed Charge that varies by meter size (Table 4-1 summarizes the projected revenue).
2. District Usage Charge that includes the Commodity Charge, Imported Surcharge, and Capital Surcharge, that varies by customer class and water usage (Table 4-2 summarizes the projected revenue).
3. Non-Potable Usage Charge that varies by customer type (Table 4-9 summarizes the projected revenue).
4. Monthly Backflow Charges for specific customers that possess backflow devices in their water systems (Table 4-4 summarizes the projected revenue).
5. Power Lift Charge that varies by pump zone (Table 4-5 summarizes the projected revenue).

In addition to these components, the District also charges a fire protection charge to those customers with private fire lines in the service area. Private fire lines customers are charged a monthly charge that varies by connection size. s rounded to the nearest dollar.

Table 4-6 summarizes the connections by size, the current monthly Private Fire Line charges, and the projected fire revenue).

Table 4-1: FYE 2019 Projected Annual Water Service Charge Revenue

Meter Size	# of Meters	Current Monthly Water Service	Projected Annual Water Service Charge Revenue[1]
5/8"	10,590	$31.50	$4,002,676
3/4"	1,464	$31.50	$553,344
1"	1,595	$35.51	$679,703
1 1/2"	120	$45.50	$65,532
2"	228	$57.50	$157,326
3"	6	$89.61	$6,452
4"	32	$125.69	$48,266
6"	9	$282.91	$30,555
8"	4	$502.62	$24,126
10"	1	$785.54	$9,426
12"	4	$1,131.66	$54,320
16"	0	$2,011.50	$0
Total	**14,053**		$5,632,056

[1]Revenue was rounded to the nearest dollar.

Table 4-2: FYE 2019 Projected Annual Water Usage Charge Revenue

Tier	Current Tier Width (hcf)	Usage (hcf)	Current Commodity Usage Rate ($/hcf)	Current Imported Surcharge ($/hcf)	Current Capital Surcharge ($/hcf)	Projected Annual Water Usage Charge Revenue[1]
Tier 1	0 ≤ 7	1,254,209	$2.018	$0.310	$0.102	$3,047,728
Tier 2	7.01 ≤ 13	590,411	$2.063	$0.345	$0.106	$1,484,293
Tier 3	13.01 ≤ 25	538,296	$2.186	$0.462	$0.112	$1,485,697
Tier 4	25.01 ≤ 38	225,221	$2.308	$0.622	$0.116	$686,023
Tier 5	> 38	309,524	$2.546	$0.856	$0.122	$1,090,763
Total		**2,917,661**				$7,794,504

[1]Revenue was rounded to the nearest dollar.

Table 4-3: FYE 2019 Projected Annual Non-Potable Water Usage Charge Revenue

Rate Code	Usage	Current Non-Potable Rate	Projected Annual Non-Potable Usage Charge Revenue[1]
501AF	307 AF	$876/AF	$165,695
502AF	1,594 AF	$881/AF	$2,263,377
503AF	1,410 AF	$852/AF	$929,941
504AF	53 AF	$972/AF	$51,370
503HCF*	20,087 hcf	$1.69/hcf	$33,939
504HCF*	9,239 hcf	$1.96/hcf	$18,113
Washburn	1,363 AF	$25/AF	$34,079
McMillan	2,000 AF	$50/AF	$100,000
Total			**$3,544,462**

*Non-Potable customers that are part of the potable system.

[1]Revenue was rounded to the nearest dollar.

Table 4-4: FYE 2019 Projected Backflow Device Charge Revenue

# of Backflow Devices	Monthly Backflow Device Charge ($/Month)	Projected Annual Backflow Device Charge Revenue[1]
633	$6.66	**$50,589**

[1]Revenue was rounded to the nearest dollar.

Table 4-5: FYE 2019 Projected Power Lift Zone Charge Revenue

Power Lift Zone	Usage (hcf)	Power Lift Rates ($/hcf)	Annual Power Lift Charge Revenue[1]
1000	17,280	$0.26	$4,493
1100	1,773	$0.33	$585
1101	36,860	$0.26	$9,584
1200	984	$0.32	$315
1201	79,103	$0.32	$25,313
1300	69,196	$0.17	$11,763
1301	5,698	$0.17	$969
1400	19,914	$0.35	$6,970
1500	53,591	$0.40	$21,436
1600	12,625	$0.08	$1,010
Total	**297,024**		**$83,674**

[1]Revenue was rounded to the nearest dollar.

Table 4-6: FYE 2019 Fire Service Charge Revenue

Fire Protection Type	# of Hydrants	Monthly Fire Protection Charges ($)	Annual Fire Service Charge Revenue[1]
Fire Hydrant Construction			
4”	20	$25.00	$6,090
Private Fire Lines			
4"	21	$4.00	$1,023
6"	30	$6.00	$2,192
8"	36	$8.00	$3,508
10"	1	$10.00	$122
12"	3	$12.00	$438
Total	**111**		**$13,374**

[1]Revenue was rounded to the nearest dollar.

Using account growth, water demand factors, and other revenue assumptions from Table 3-1, Raftelis projected the revenues for the water utility[7]. Table 4-7 summarizes the rate revenue as well as other revenues. As shown in the table, since Raftelis assumed zero growth and no increase in water demand, the rates and rate revenue are projected to increase each fiscal year by CPI of 2%. The projected water sales by customer class and tier remained constant and were based on the total FYE 2017 usage.

Table 4-7: Projected Water Revenues

Line #	Revenues[1]	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023
1	Fixed Charges	$5,645,232	$5,758,137	$5,873,300	$5,990,766	$6,110,581
2	Commodity Charges	$6,285,638	$6,411,350	$6,539,577	$6,670,369	$6,803,776
3	Imported Surcharges	$1,246,229	$1,271,154	$1,296,577	$1,322,509	$1,348,959
4	Capital Surcharges	$314,690	$320,983	$327,403	$333,951	$340,630
5	Non-Potable	$3,544,463	$3,612,671	$3,682,242	$3,753,206	$3,825,588
6	Backflow	$50,589	$51,601	$52,633	$53,686	$54,760
7	Power Lift	$82,438	$84,086	$85,768	$87,483	$89,233
8	**Subtotal Rate Revenue**	$17,169,279	$17,509,983	$17,857,501	$18,211,969	$18,573,527
9	Other Revenues	$1,922,000	$1,922,000	$1,922,000	$1,922,000	$1,922,000
10	**Total Revenues**	**$19,091,279**	**$19,431,983**	**$19,779,501**	**$20,133,969**	**$20,495,527**

[1]Revenue was rounded to the nearest dollar.

[7] Although only the Study period is shown here, Raftelis projected the revenues through FYE 2027.

4.1.2 O&M Expenses

The District's FYE 2018 budget values and the assumed inflation factors (Table 3-1) for the study period were used as the basis for projecting O&M costs. Table 4-8 shows the total projected O&M expenses for FYE 2019 through FYE 2023[8]. Water purchase costs are calculated by taking the product of purchased water and the rate charged by Eastern Municipal Water District. In FYE 2017, the District purchased approximately 3,898 AF of non-potable water from Eastern Municipal Water District. Since McMillian produced approximately 1,193 AF and the historical annual water exchange between McMillian and the District is 2,000 AF, the District is expected to purchase water above the amount currently supplied by McMillian, which is approximately 807 AF. Therefore, the District purchased about 4,705 AF in FYE 2017. EMWD increases the rate for non-potable water every January by 3.5%. Total Pumping is the cost of electrical energy required to pump groundwater from both basins to serve District customers. Also, as shown in the table (Line 14), the water utility currently has outstanding debt obligation.

Table 4-8: Projected O&M Expenses

Line #	O&M Categories	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023
1	Water Purchase Charge	$4,102,652	$4,246,245	$4,394,864	$4,548,684	$4,707,888
	Expenditures					
2	Total Source of Supply	$568,560	$585,617	$603,185	$621,281	$639,919
3	Total GWMP Expense	$1,719,328	$1,770,907	$1,824,035	$1,878,756	$1,935,118
4	Total GWMP Recharge Purchases	$1,100,000	$1,100,000	$1,100,000	$1,100,000	$1,100,000
5	Total Pumping	$1,287,385	$1,346,975	$1,409,401	$1,474,801	$1,543,319
6	Total Purification	$357,925	$368,663	$379,723	$391,114	$402,848
7	Total Transmission & Distribution	$1,637,546	$1,686,672	$1,737,272	$1,789,390	$1,843,072
8	Total Commercial Expenses	$150,500	$150,500	$150,500	$150,500	$150,500
9	Total General and Admin	$5,675,553	$5,845,820	$6,021,195	$6,201,830	$6,387,885
10	Total Water Master Costs	$463,500	$477,405	$491,727	$506,479	$521,673
11	Total Non-Operating Costs	$16,600	$16,600	$16,600	$16,600	$16,600
12	Total Campground	$122,000	$122,000	$122,000	$122,000	$122,000
13	**Total Operating Expenditures**	**$17,079,549**	**$17,459,404**	**$17,992,501**	**$18,543,436**	**$19,112,823**
14	Debt Service	$1,650,460	$1,649,385	$1,652,598	$1,233,579	$1,234,079
15	**Total Expenses**	**$18,730,009**	**$19,108,789**	**$19,645,099**	**$19,777,014**	**$20,346,902**

Revenues were rounded to the nearest dollar.

[8] Although only the Study Period is shown here, Raftelis projected the expenses through FYE 2027.

4.1.3 Capital Improvement Plan

The District provided the asset management plan to address future water capital improvement project (CIP) needs. Raftelis worked closely with District staff to adjust the CIP to reflect a measured multi-year approach. Based on discussions with District Staff, one-third of the depreciation value of the water utility assets were used as the baseline CIP costs for each year of the Study Period. Raftelis indexed the capital expenditures by a 2% inflationary compounding rate from Table 3-1 to account for increased construction costs in future years. Table 4-9 summarizes the annual CIP (Line 1), the cumulative inflationary factor (Line 2), and the resulting total anticipated CIP costs (Line 3).

Table 4-9: Water Utility Capital Improvement Plan[9]

Line #		FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023
1	1/3 of Depreciation Value	$928,776	$928,776	$928,776	$928,776	$928,776
2	Cumulative Inflationary Factor	102%	104%	106%	108%	110%
3	**Inflated CIP**	**$947,351**	**$966,298**	**$985,624**	**$1,005,337**	**$1,025,444**

4.1.4 Reserve Requirements

In FYE 2018, the service area's projected beginning reserve balance for the water utility is approximately $14,290,195. Currently, it maintains a water operating fund, a capital fund, a CalPERS fund, and a Disaster Reserve. As part of Best Management Practices of utilities, it is recommended that a utility have at least 60-90 days of operating reserves as well as sufficient funds available to ensure that the utility's capital plan can move forward as scheduled and is not delayed due to insufficient funds on hand.

4.1.5 Current Financial Outlook

Based on the financial plan review, the Hemet / San Jacinto service area is currently able to fund operational and debt expenses, as shown in Figure 4-1. Expenses are shown by stacked bars and the total revenues at current rates are shown by the orange trend line. However, the water utility's total reserves will deplete each fiscal year, as the service area needs to fund annual capital costs of approximately $1M as shown in Figure 4-2. Figure 4-3 illustrates the total reserves balance for each fiscal year after operating and capital is funded and Appendix A – Exhibit A details the cashflow for each fiscal year end.

[9] There may be slight differences due to rounding.

Figure 4-1: Operating Financial Position at Current Rates

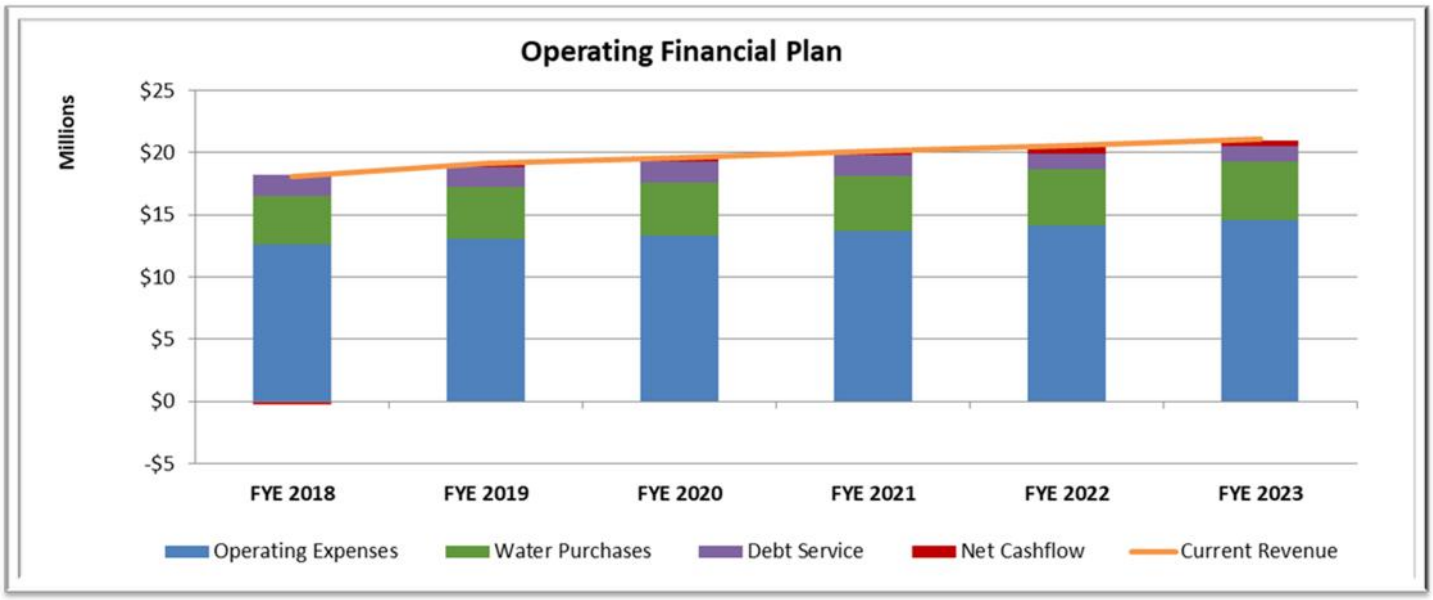


Figure 4-2: Baseline Water Capital Improvement Plan and Funding Source

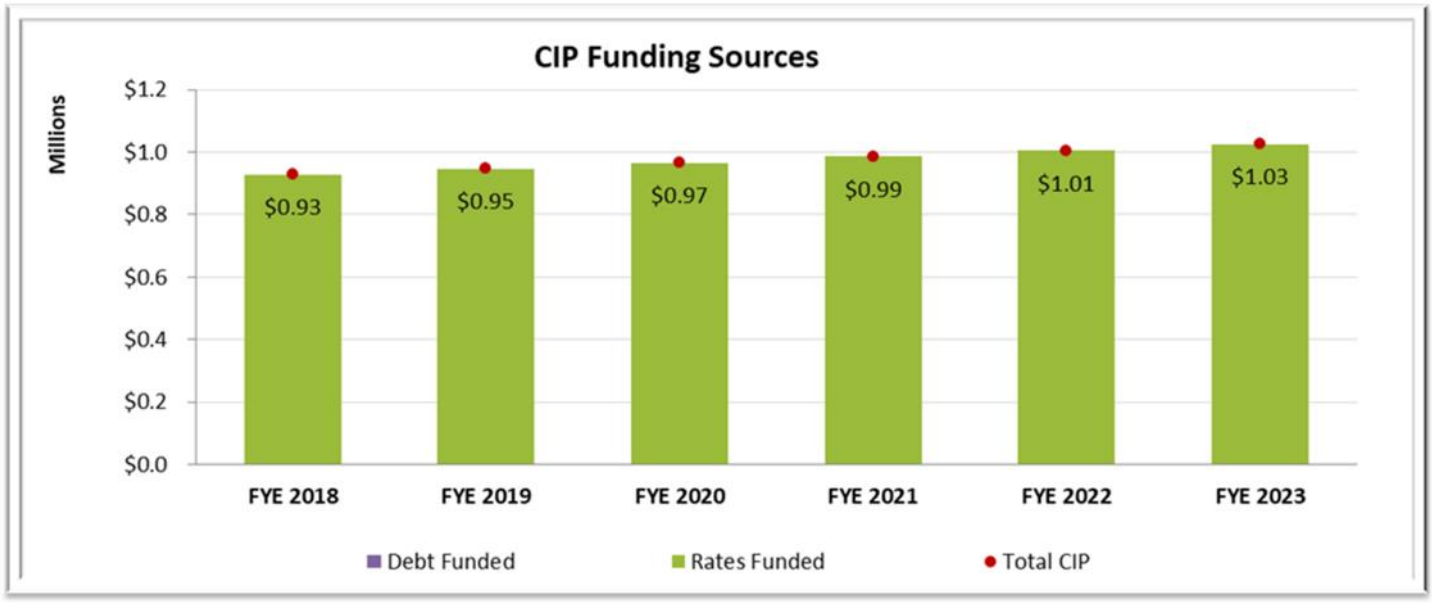
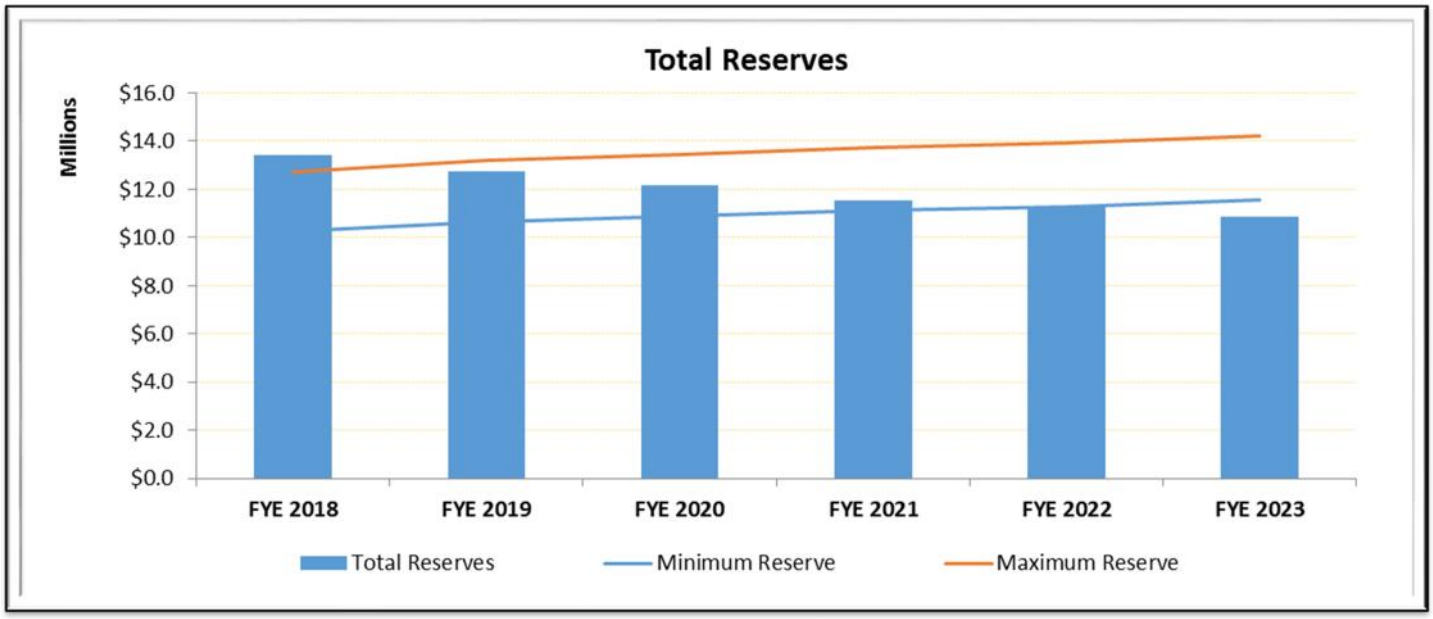


Figure 4-3: Projected Ending Water Reserves at Current Rates



4.1.6 Financial Plan Recommendations

After reviewing the service area's revenue requirements, reserve policies, capital planning schedule, and current revenues, a financial plan was developed to meet the following criteria:

- Ensure positive net operating cash income each Fiscal Year (FY) of the planning period by continuing to index rate adjustments to the percentage change in CPI beginning in FYE 2020 (July 1, 2019). This will allow revenues to continue exceeding operational and maintenance expenses for each fiscal year and annual capital costs.
- Meet the bond covenants for each fiscal year by meeting the required debt coverage of 120%.
- Pass-through increases to purchased water costs due to increase in unit prices of EMWD.
- Maintain reserves through the Study Period (FYE 2019 – FYE 2023) with the following targets:
    - Water Operating Fund – minimum of 60 days of operating expenses.
    - Water Replacement Fund – 1 years' worth of capital based annual depreciation.
    - This District may slightly dip below the minimum reserve; however, District staff is comfortable with reserves equal to approximately $10M in FYE 2023

4.1.6.1 Recommended Reserves

Raftelis recommends maintaining the following reserves:

Water Operating Reserve: The operating reserve is used primarily to meet ongoing cash flow requirements. Raftelis recommends establishing an operating reserve target of 60 days of O&M expenses. A 60-day reserve ensures working capital to support the operation, maintenance, and administration of the utility. Maintaining this level of reserves also provides liquid funds for the continued ongoing operations of the utility in the event of unforeseen costs or interruption with the utility or the billing system.

Water Replacement Reserve: The replacement reserve is used primarily to meet the service area's capital improvement requirements. The revised capital improvement plan-over the five-year period-is approximately $4.9M. The ideal target for the capital reserve should be to have a reserve sufficient to fund a year's worth of capital costs, which would ensure that the service area can continue to reinvest in the water system and that necessary capital improvements are not delayed or deferred due to cash flow concerns. Raftelis recommends establishing a capital reserve based on one year's worth of depreciation, which is approximately $1.93M.

4.1.6.2 Pass-Through Provision

The District relies on imported water from the Eastern Municipal Water District to cover a portion of the District's total water usage. The proposed financial plan projects increases in the cost of imported water that the District purchases; however, the proposed rates only include the current costs of purchased water because Raftelis recommended that the District include authorization for automatic pass-through adjustments to the rates for any increase in imported water costs above the rate known today (a Pass-Through). Authorizing automatic Pass-Through adjustments mitigates the risk of unknown rate increases by EMWD as the District's water wholesaler. Automatic Pass-Through adjustments in the rates are allowed through the provisions of Government Code Section 53756 and provide the following benefits to the District:

- Clear transparency between costs that are controlled by the District versus uncontrolled costs from outside agencies.
- Provides increased revenue stability.
- Tracks increases in costs to the District from EMWD and recovers the incremental increase though a direct rate adjustment.
    - The "Pass Through" adjustments would increase as EMWD imported water rates increase and would also apply to increases in electric charges from Southern California Edison.
    - The "Pass Through" would also apply to increases in electric charges from Southern California Edison.

Table 4-10 summarizes the recommended financial plan (see Appendix A – Exhibit A for a detailed financial plan). Figure 4-4 illustrates the operating position of the District where expenses, inclusive of reserve funding, are shown by stacked bars and total revenues at both current rates and recommended rates are shown by the horizontal trend lines. Figure 4-5 summarizes the projected CIP and its funding sources (100% PAYGO). Figure 4-6 displays the ending total reserve balance for the water utility, inclusive of operating and capital funds. The horizontal trends line indicates the minimum and target reserve balances and the bars indicate ending reserve balance. No new debt is recommended to be issued as part of the recommended five-year financial plan.

Table 4-10: Recommended Water Financial Plan

Line #	Category	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023
1	Wheeling Revenue	$134,079	$134,079	$134,079	$134,079	$134,079
2	Rate Revenue	$17,035,200	$17,035,200	$17,035,200	$17,035,200	$17,035,200
3	Proposed Additional Rate Revenue	**$0**	**$340,704**	**$688,222**	**$1,042,690**	**$1,404,248**
4	Total Pass Through Revenue	$0	$143,593	$292,211	$446,032	$605,236
5	Other Misc. Revenue	**$1,922,000**	**$1,922,000**	**$1,922,000**	**$1,922,000**	**$1,922,000**
6	**Total Revenues**	**$19,091,279**	**$19,575,576**	**$20,071,712**	**$20,580,001**	**$21,100,763**
	Less: Expenditures					
7	Water Purchases	$4,102,652	$4,246,245	$4,394,864	$4,548,684	$4,707,888
8	Operating Expenditures	$17,079,549	$17,459,404	$17,992,501	$18,543,436	$19,112,823
9	Debt Service	$1,650,460	$1,649,385	$1,652,598	$1,233,579	$1,234,079
10	**Total Expenditures**	**$18,730,009**	**$19,108,789**	**$19,645,099**	**$19,777,014**	**$20,346,902**
11	**Net Cashflow** *(Line 6 – Line 10)*	**$361,270**	**$466,787**	**$426,613**	**$802,987**	**$753,861**
12	Campground Expenses	$122,000	$122,000	$122,000	$122,000	$122,000
13	**Net Cashflow (after Direct Transfers)**	**$239,270**	**$344,787**	**$304,613**	**$680,987**	**$631,861**
	Operating Reserve					
14	Beginning Balance	$3,056,056	$3,152,557	$3,216,485	$3,306,637	$3,329,183
15	Net Cashflow (Line 11)	$239,270	$344,787	$304,613	$680,987	$631,861
16	Transfers In/Out - Capital Improvement Reserve	-$173,658	-$312,545	-$246,915	-$691,454	-$569,894
17	**Ending Balance**	**$3,121,668**	**$3,184,798**	**$3,274,183**	**$3,296,169**	**$3,391,150**
18	*Interest Income*	$30,889	$31,687	$32,453	$33,014	$33,602
	Capital Improvement Reserve					
19	Beginning Balance	$5,252,120	$4,478,427	$3,824,674	$3,085,964	$2,772,081
20	Transfer In/(Out) - from Operating Reserve (Line 16)	$173,658	$312,545	$246,915	$691,454	$569,894
21	Direct Transfer - Depreciation	$0	$0	$0	$0	$0
22	New Debt Issue	$0	$0	$0	$0	$0
	Less:					
23	Capital Projects	-$947,351	-$966,298	-$985,624	-$1,005,337	-$1,025,444
24	**Ending Balance before Transfer to CalPERS Fund**	**$4,478,427**	**$3,824,674**	**$3,085,964**	**$2,772,081**	**$2,316,532**
25	Target Balance	$966,677	$966,677	$966,677	$966,677	$966,677
26	Transfer to CalPERS	$7,438	$8,537	$8,543	$8,543	$8,543
27	Interest	$46,945	$48,925	$41,803	$34,805	$29,507
28	**Ending Balance**	**$4,532,810**	**$3,882,136**	**$3,136,310**	**$2,815,429**	**$2,354,582**
	CalPERS Fund					
29	Beginning Balance	$857,438	$858,537	$858,543	$858,543	$858,543
30	Transfer In/Out - from Capital Reserve (Line 26)	-$7,438	-$8,537	-$8,543	-$8,543	-$8,543
31	**Balance Before Transfer to Disaster Fund**	**$850,000**	**$850,000**	**$850,000**	**$850,000**	**$850,000**
32	Target Balance	$850,000	$850,000	$850,000	$850,000	$850,000
33	Transfer to Disaster Fund	-$7,438	-$8,537	-$8,543	-$8,543	-$8,543
34	*Interest*	*$7,438*	*$8,537*	*$8,543*	*$8,543*	*$8,543*
35	Ending Balance	**$850,000**	**$850,000**	**$850,000**	**$850,000**	**$850,000**
	Disaster Fund					
36	Beginning Balance	$4,284,860	$4,292,298	$4,300,835	$4,309,378	$4,317,920

37	Transfer In/Out - from CalPERS Reserve (Line 33)	$7,438	$8,537	$8,543	$8,543	$8,543
38	**Ending Balance**	**$4,292,298**	**$4,300,835**	**$4,309,378**	**$4,317,920**	**$4,326,463**
39	*Total Reserves – Ending Balance*	$12,742,393	$12,160,307	$11,519,525	$11,236,171	$10,884,145
40	*Reserve Target*	$13,193,241	$13,433,225	$13,716,143	$13,901,609	$14,200,309

Figure 4-4: Operating Financial Position at Recommended Rates

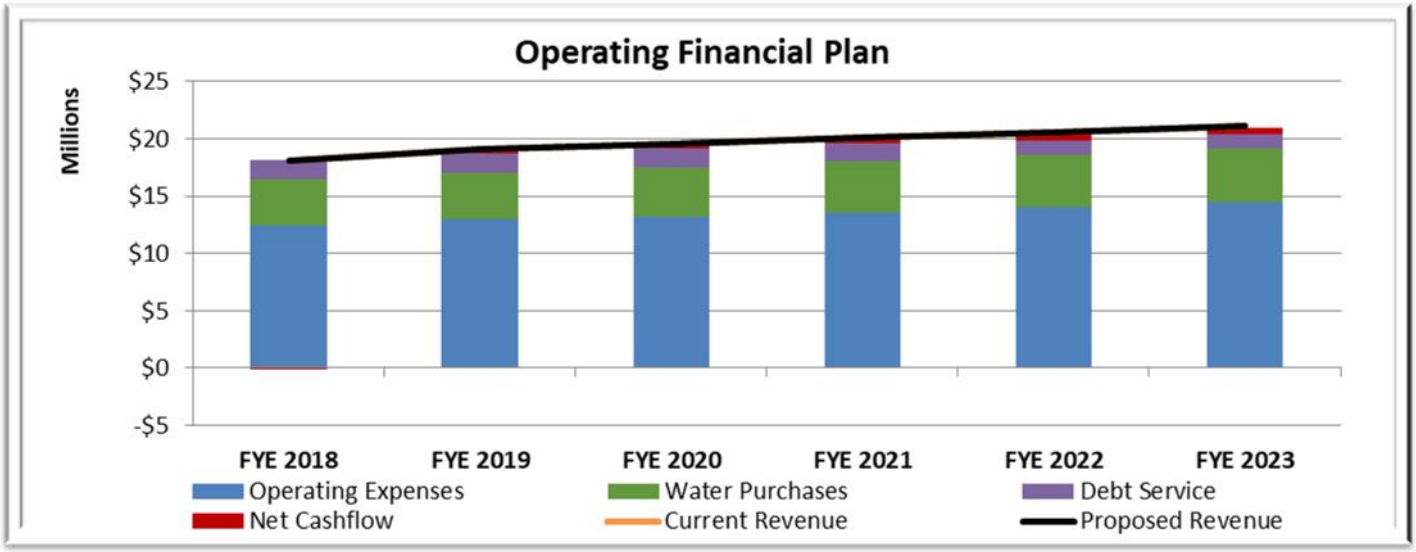


Figure 4-5: Recommended Water Capital Improvement Plan and Funding Source

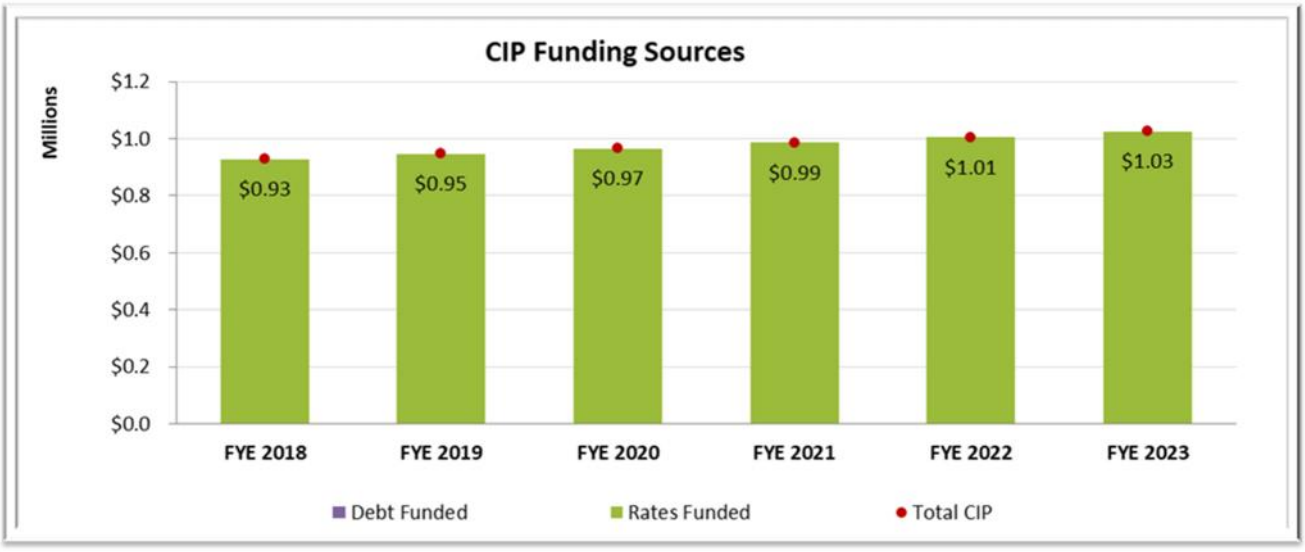
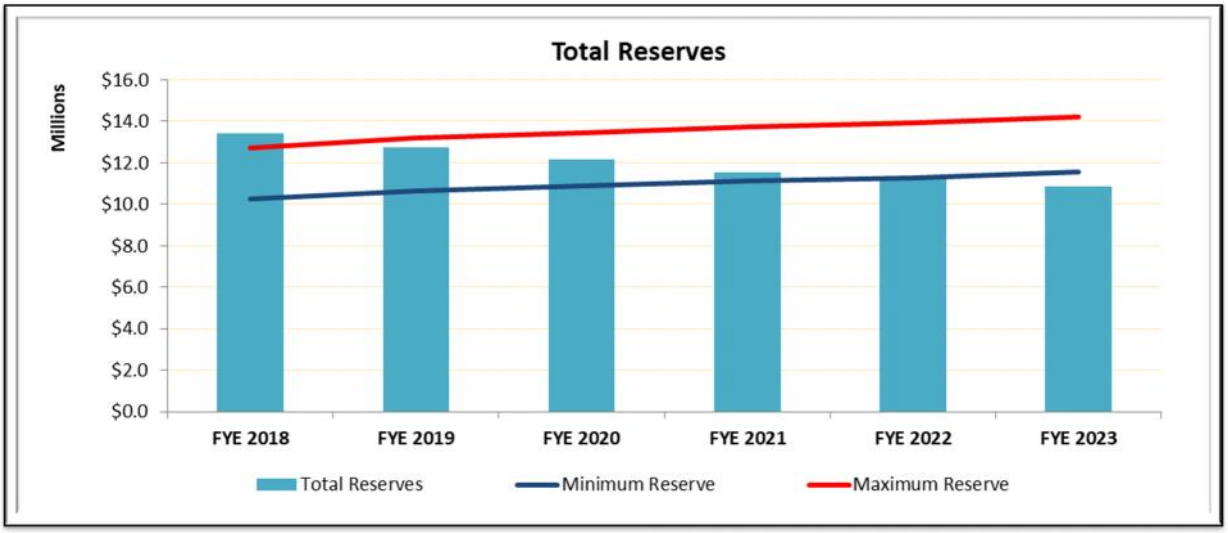


Figure 4-6: Projected Ending Water Reserves at Proposed Rates



4.2 WATER UTILITY – COST OF SERVICE STUDY

4.2.1 Proportionality

Demonstrating proportionality when calculating rates is a critical component of ensuring compliance with Proposition 218. For costs that are recovered through the Hemet / San Jacinto service area's recommended fixed meter charge, the Study spreads the costs either over all accounts or by meter size, depending on the type of expense. As such, customer classes and usage are not considered nor necessary for calculating each customer's fixed charge. Conversely, costs that were determined as variable are allocated among customer classes based on their demand on the system and water supply. As stated in the M1 Manual, the AWWA Rates and Charges Subcommittee agree with Proposition 218 that "the costs of water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers." The service area's revenue requirements are, by definition, the cost of providing service. This cost is then used as the basis to develop unit costs for the water components and to allocate costs to the various customer classes in proportion to the water services rendered.

Individual customer demands vary depending on the nature of the utility use at the location where service is provided. For example, water service demand for a family residing in a typical single-family home is different than the water service demand for an irrigation customer, primarily due to peak use behavior which drives the need for and costs of sizing infrastructure to meet this demand. The concept of proportionality requires that cost allocations consider both the average quantity of water consumed (base) and the peak rate at which it is consumed (peaking). Use of peaking is consistent with the cost of providing service because a water system is designed to meet peak demands and the additional costs associated with designing, constructing, and maintaining facilities required to meet these peak demands need to be allocated to those customers whose usage requires the need to size facilities to meet peak demand.

In allocating the costs of service, the industry standard, as promulgated by AWWA's M1 Manual, is to group customers with similar system needs and demands into customer classes. Rates are then developed for each customer class, with each individual customer paying the customer class' proportionate, average allocated cost of service.

Generally speaking, customers place the following demands on the District's water system and water supply:

- The system capacity[10] (for treatment, storage, and distribution) that must be maintained to provide reliable service to all customers at all times.
- The level of water efficiency as a collective group.
- The number of customers requiring customer services such as bill processing, customer service support, and other administrative services.

A customer class consists of a group of customers, with common characteristics, who share responsibility for certain costs incurred by the utility. Joint costs are proportionately shared among all customers in the system based on their service requirements.

[10] 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.

4.2.2 Cost of Service Process

A cost of service analysis distributes a utility's revenue requirements (costs) to each customer class. Figure 4-7 provides a general overview of a cost-of-service analysis. Each step shown below will be described in greater detail in the next section.

Figure 4-7: Cost of Service Process

4.2.3 Cost of Service Analysis

4.2.3.1 Step One – Determine Revenue Requirement

In this Study as described in Section 4.1, water rates are calculated for FYE 2019 (known as the Test Year), by calculating water purchase costs and by using the service areas' FYE 2018 budget and inflationary factors. Test Year revenue requirements are used in the cost allocation process. Subsequent years' revenue adjustments are incremental and the rates for future years are based on indexed rate increases and are applied across-the-board. The District should review the cost of service analysis at least once every five years to ensure that the rates are consistent with the costs of providing service. The revenue requirement determination is based upon the premise that the utility must generate annual revenues to meet Supply, O&M expenses, any debt service needs, reserve levels, and capital investment needs.

4.2.3.2 Step 2 – Functionalize O&M Costs

A cost of service analysis distributes a utility's revenue requirements (costs) to each customer class. After determining a utility's revenue requirement, the total cost of water service is analyzed by system functions to proportionately distribute costs in relation to how that cost is generally incurred. The water utility costs were categorized into the following **functions** (note: revenue requirements will be further detailed by specific line items):

- **Non-Potable Water Purchases** – variable costs incurred to import water from the Eastern Municipal Water District.
- **Groundwater Master Plan Imported Water Purchases** – imported water for Soboba Tribe based on GWMP Agreement.
- **Power Purchased** – energy costs incurred for pumping groundwater and pumping water through elevation zones.
- **Groundwater Recharge Expense** – variable cost incurred to recharge both Canyon and Upper basins.
- **Operations & Maintenance (O&M) Expenses** – operating expenses incurred from the following departments: sources of supply, pumping, transmission and distributions, commercial expenses, general and administration costs, and costs incurred per Water Master Plan.
- **Debt Service** – principle and interest costs related to existing/outstanding debt.

Table 4-11: Functionalized Expenses

Revenue Requirements	FYE 2019
Non-Potable Water Purchases	$2,863,072
Contract Water	$1,865,690
GWMP Imported Purchases	$2,396,428
Power Purchased	$845,214
Operating Expenses	$9,109,144
Debt Service	$1,650,460
Total Revenue Requirements[11]	**$18,730,009**

4.2.3.3 Step 3 – Allocate Functionalized Costs to Cost Components

The functionalization of costs allows Raftelis to better allocate the costs based on how they are incurred. This is commonly referred to as **cost causation**. Essentially, cost causation means that the service area incurs a cost of providing service because of the demands or burdens the customer places on the system and water resources. Raftelis used the Base-Extra Capacity method to allocate the functionalized costs to various rate components (cost causation components), as described in the M1 Manual. The service area's costs were allocated to the following cost causation components:

1. **Customer Service** includes customer related costs such as billing, collecting, customer accounting, and customer call center. These costs are incurred at the same level regardless of the type of land use or the total amount of water that the utility delivers.
2. **Meter Capacity** includes maintenance and capital costs associated with serving meters. These costs are assigned based on the meter size or equivalent meter capacity.
3. **Groundwater Supply** represents the costs to pump available groundwater to all District customers to meet demands.
4. **Contract Water** represents the cost of importing water specifically for contract customers (McMillian).
5. **Treated Imported Water** represents the cost of imported treated water from EMWD.
6. **Groundwater Recharge** represents the cost of replenish groundwater supply for all District customers.
7. **Non-Potable Imported Supply** represents the cost of imported non-potable water from the Eastern Municipal Water District.
8. **Fire** represents the costs incurred as a result of sizing the distribution infrastructure in order to be able to serve fire protection infrastructure.
9. **Base/Delivery** are those operating and capital costs of the water system associated with serving customers at a constant, or average, rate of use. These costs tend to vary with the total quantity of water used.
10. **Pumping** represents the cost of energy required to pump water to District customers.
11. **Peaking Costs** or Extra Capacity Costs represent those costs incurred to meet customer peak demands for water in excess of average day usage. Total extra capacity costs are subdivided into costs associated with maximum day and maximum hour demands. The maximum day demand is the maximum amount

[11] There may be a slight difference due to rounding.

of water used in a single day in a year. The maximum hour (Max Hour) demand is the maximum usage in an hour on the maximum usage day (Max Day). Various facilities are designed to meet customer peaking needs. For example, reservoirs are designed to meet Max Day requirements and have to be designed larger than they would be if the same amount of water were being used at a constant rate throughout the year. The cost associated with constructing a reservoir is based on system wide peaking factors. For example, if the Max Day factor is 2.0, then certain system facilities must be designed larger than what would be required if the system only needed to accommodate average daily demand. In this case, half of the cost would be allocated to Base (or average day demand) and the other half allocated to Max Day. The calculation of the Max Hour and Max Day demands is explained below.

To obtain Contract Water from McMillian, the District purchases non-potable water from EMWD to serve a portion of McMillian demand plus other non-potable customers. McMillian obtains their water from the Upper Basin and is, therefore, included in the 5,054 AF contained in the Upper Basin. The District also provided Raftelis pumping costs associated for each basin. The cost of pumping water from Canyon Basin and Upper Basin is $81/AF and $132/AF, respectively. Therefore, the pumping factor for Canyon Basin is approximately 0.61 times the full pumping cost for Upper Basin ($81/132= 0.61). The production costs for each basin were determined by multiplying the total production for each basin by their respective pumping factor. The weighted production was then used to allocate groundwater supply. Groundwater availability is 10% less than production to account for water loss. Therefore, groundwater availability for Canyon and Upper Basin is approximately 2,002 AF and 3,199 AF, respectively (with McMillian Contract Water accounted for as a separate water supply). Calculations for groundwater supply can be seen in Table 4-26.

Specific Allocation

The Specific Allocation of expenses places costs into four functionalized categories: Non-Potable Water Purchases, GWMP Imported Purchases, Power Purchased, and Groundwater Recharge Expense. For non-potable water purchases, approximately 45.48% of non-potable water purchases are allocated as Contract Water to potable customers reflecting the portion of non-potable water that is used to serve McMillian, providing additional groundwater for District customers. The remaining amount of purchased water is allocated to non-potable customers, as shown in Table 4-12. Based on the District's Groundwater Management Plan and obligation to mitigate pumping overdraft, the District purchases imported water, equal to approximately $1.7M. Since all units of water pumped out of the ground impact groundwater availability, the costs associated with the District Groundwater Management Plan and Groundwater Recharge were allocated on a pro rata basis using water production. Therefore, 15% of imported GWMP purchases were allocated to non-potable customers, while 85% is allocated to potable customers.

Purchased power costs are allocated between groundwater supply, non-potable imported supply, and pumping as calculated in Table 4-13. Based on the power lift costs Raftelis calculated, approximately 9% of the District's budgeted energy costs are from power lift charges. From our consumption analysis for McMillan, it was determined that 19% of energy costs are based on the amount of water McMillan uses for his own purposes. The rest of the energy costs were allocated to groundwater supply, reflecting the amount of energy costs required to pump water from both basins.

Table 4-12: Calculation of Non-Potable Water Purchase Percentages

Factors	Units of Water
Average Historical Exchange w/ McMillian	2,000 AF
McMillan Well Water Exchange	1,500 AF
+ Purchased Non-Potable Water from EMWD	3,898 AF
Total Purchased Water	**4,398 AF**
% of Contract Water	**2,000 / 4,398 = 45.48%**
Remaining Supply Purchased from EMWD	**100% - 45.48% = 54.52%**

Table 4-13: Calculation of Pumping Cost Percentages

Factors	Calculations
Power Lift % **(Power Lift Cost ÷ Total Purchased Power Costs)**	$90,211 / $1,048,425 = **9%**
Total McMillan Usage (based on Usage Data)	3,250 AF
Less: Well Water Exchange with District	1,500 AF
Remaining Water for McMillan's Personal Use	**1,750 AF**
Total Water from Basins + McMillian Personal Usage	2,224 + 5,054 + 1,750 = **9,028 AF**
% of Power Costs for Pumping McMillan Water	1,750 / 9,028 = **19.4%**
Remaining Power Costs for District Customers	100% - 9% - 19% = **72%**

Table 4-14: Water Specific Allocation (% & $)

Line #	Functionalized Expenses	Groundwater Supply	Contract Water	Non-Potable Imported Supply	Groundwater Recharge	Pumping	Total
1	Non-Potable Water Purchases		45.48%	54.52%			100%
2	GWMP Imported Purchases			15%	85%		100%
3	Power Purchased	72.01%		19.38%		8.60%	100%
4	GW Recharge Expense			15%	85%		100%
5	Non-Potable Water Purchases	$0	$1,865,690	$2,236,962	$0	$0	$4,102,652
6	GWMP Imported Purchases	$0	$0	$257,899	$1,461,428	$0	$1,719,328
7	Power Purchased	$755,003	$0	$203,211	$0	$90,211	$1,048,425
8	GW Recharge Expense	$0	$0	$165,000	$935,000	$0	$1,100,000
9	**Total Specific Allocation**	**$755,003**	**$1,865,690**	**$2,863,072**	**$2,396,428**	**$90,211**	**$7,970,405**
10	**Specific Allocation (%)**	**9%**	**23%**	**36%**	**30%**	**1%**	**100%**

O&M Allocation

The O&M expenses consist of several functionalized categories: Source of Supply, Pumping, Transmission and Distribution, Commercial Expense, General and Admin costs, Water Master cost, non-operating expenses, depreciation, and debt service. Each functionalized category's line item was then allocated to specific cost components. Allocating costs into these components allows us to distribute costs to the various customer classes based on their respective base, extra capacity, and customer requirements for service.

To allocate costs to delivery and extra capacity cost components, system peaking factors are used. The base demand is assigned a value of 1.0 signifying no peaking demands. The Max Day and Max Hour factors shown in Table 4-15 were based on historical data and discussions with District staff. The peaking factors were calculated based on system-wide max months and average months of recent consumption data provided by the District. A max day peaking factor of 1.45 means that the system delivers approximately 1.45 times the average daily demand during a peak day. A max hour peaking factor of 2.18 means that delivery during the max hour is approximately 1.5 times the average hour during the max day. Since certain facilities are designed to meet max hour requirements while also meeting fire flow requirements, an allocation is provided for fire flow. Based on Raftelis and District staff, the portion of costs allocated to fire flow was 6% of max day and max hour demands. Six percent is viewed as the minimum allocation for fire protection based on a study published by the Maine Public Utilities Commission, which is summarized within the M1 Manual under Chapter 8 – Rate for Fire Protection Services.

Table 4-15: System-Wide Peaking Factors[12]

	Factor	Base	Max Day	Max Hour	Fire
Base	1.00	100%	0%	0%	0%
Max Day[1]	1.45	66%	28%	0%	6%
Max Hour[2]	2.18	44%	19%	31%	6%

[1] Max Day = 1.45 times average day
[2] Max Hour = 1.5 times the average hour during the max day

Using the relationship between Base, Max Day, Max Hour, and Fire, Raftelis allocated the O&M costs. Table 4-16 summarizes the percent allocations for the service area's O&M expenses. Table 4-17 details the costs (prior to offsets and adjustments) allocated to the cost components and the resulting O&M allocation (%).

[12] System-wide peaking factors were calculated based on consumption data provided by the District.

Table 4-16: Water O&M Allocation (%)

Dept.	Functionalized Expenses	Customer Service	Meter Capacity	Fire	Base	Max Day	Max Hour	Total
Source of Supply	Labor				100%			**100%**
Source of Supply	Supplies & Repairs				100%			**100%**
Source of Supply	Spreading Basins				100%			**100%**
Pumping	Supplies				100%			**100%**
Pumping	Repairs				100%			**100%**
Pumping	Electrical Training/Classes				100%			**100%**
Purification	Labor	100%						**100%**
Purification	Supplies	100%						**100%**
Purification	Repairs				100%			**100%**
Transmission and Distribution	Patrolling Storage				100%			**100%**
Transmission and Distribution	Customer Premise				100%			**100%**
Transmission and Distribution	Misc Supplies & Expenses				100%			**100%**
Transmission and Distribution	WRD Training/Classes				100%			**100%**
Transmission and Distribution	Meter Dept. Training/Classes		100%					**100%**
Transmission and Distribution	Meter Dept. Expense				100%			**100%**
Transmission and Distribution	Construction Training/Classes				100%			**100%**
Transmission and Distribution	Construction Tools/Equipment				100%			**100%**
Transmission and Distribution	Pre-Construction Expense				100%			**100%**
Transmission and Distribution	Repairs to Transmission			6%	66%	28%	0%	**100%**
Transmission and Distribution	Repairs to Storage			6%	66%	28%	0%	**100%**
Transmission and Distribution	Repairs to Distribution Lines			6%	44%	19%	31%	**100%**
Transmission and Distribution	Repairs - servs & Hydrants				100%			**100%**
Commercial Expense	Collections & Meter Readings				100%			**100%**
	General and Admin	80%			20%			**100%**
	Water Master Cost				100%			**100%**
	Non-Operating Expense	100%						**100%**
	Depreciation			6%	66%	28%	0%	**100%**
	Debt Service		50%		50%			**100%**

Table 4-17: O&M Water Allocation ($)

Dept.	Functionalized Expenses	Customer Service	Meter Capacity	Fire	Base	Max Day	Max Hour	Total
Source of Supply	Labor	$0	$0	$0	$302,820	$0	$0	$302,820
Source of Supply	Supplies & Repairs	$0	$0	$0	$255,440	$0	$0	$255,440
Source of Supply	Spreading Basins	$0	$0	$0	$10,300	$0	$0	$10,300
Pumping	Supplies	$0	$0	$0	$1,030	$0	$0	$1,030
Pumping	Repairs	$0	$0	$0	$235,870	$0	$0	$235,870
Pumping	Electrical Training/Classes	$0	$0	$0	$2,060	$0	$0	$2,060
Purification	Labor	$202,910	$0	$0	$0	$0	$0	$202,910
Purification	Supplies	$154,500	$0	$0	$0	$0	$0	$154,500
Purification	Repairs	$0	$0	$0	$515	$0	$0	$515
Transmission and Distribution	Patrolling Storage	$0	$0	$0	$177,160	$0	$0	$177,160
Transmission and Distribution	Customer Premise	$0	$0	$0	$10,300	$0	$0	$10,300
Transmission and Distribution	Misc Supplies & Expenses	$0	$0	$0	$265,740	$0	$0	$265,740
Transmission and Distribution	WRD Training/Classes	$0	$0	$0	$5,150	$0	$0	$5,150
Transmission and Distribution	Meter Dept. Training/Classes	$0	$2,060	$0	$0	$0	$0	$2,060
Transmission and Distribution	Meter Dept. Expense	$0	$0	$0	$248,230	$0	$0	$248,230
Transmission and Distribution	Construction Training/Classes	$0	$0	$0	$15,450	$0	$0	$15,450
Transmission and Distribution	Construction Tools/Equipment	$0	$0	$0	$39,140	$0	$0	$39,140
Transmission and Distribution	Pre-Construction Expense	$0	$0	$0	$1,906	$0	$0	$1,906
Transmission and Distribution	Repairs to Transmission	$0	$0	$3,306	$36,369	$15,429	$0	$55,105
Transmission and Distribution	Repairs to Storage	$0	$0	$7,354	$80,896	$34,320	$0	$122,570
Transmission and Distribution	Repairs to Distribution Lines	$0	$0	$32,661	$239,516	$103,427	$168,750	$544,355
Transmission and Distribution	Repairs - servs & Hydrants	$0	$0	$0	$150,380	$0	$0	$150,380
Commercial Expense	Collections & Meter Readings	$0	$0	$0	$150,500	$0	$0	$150,500
	General and Admin	$4,540,443	$0	$0	$1,135,111	$0	$0	$5,675,553
	Water Master Cost	$0	$0	$0	$463,500	$0	$0	$463,500
	Non-Operating Expense	$16,600	$0	$0	$0	$0	$0	$16,600
	Depreciation	$0	$0	$0	$0	$0	$0	$0
	Debt Service[1]	$0	$825,230	$0	$825,230	$0	$0	$1,650,460
	Total O&M Allocation[2]	**$4,914,453**	**$827,290**	**$43,322**	**$4,652,613**	**$153,176**	**$168,750**	**$10,759,604**
	O&M Allocation (%)	**46%**	**8%**	**0%**	**43%**	**1%**	**2%**	**100%**

[1]Debt service was allocated between meter capacity and base cost components.

[2]There may be differences due to rounding.

Deductions are made to account for the required net cashflows (found in Table 4-10 Line - 13) [13] and any mid-year adjustment[14]. FYE 2019 cost of service to be recovered from the Hemet / San Jacinto service area's water customers is shown in Table 4-19.

Table 4-18: Water Revenue Requirements

Revenue Requirements	Specific Allocation	Operating	Capital	FYE 2019
Non-Potable Water Purchases	$2,863,072			$2,863,072
Contract Water	$1,865,690			$1,865,690
GWMP Imported Purchases	$2,396,428			$2,396,428
Power Purchased	$845,214			$845,214
Operating Expenses		$9,109,144		$9,224,972
Debt Service			$1,650,460	$1,650,460
Total Revenue Requirements	**$7,970,405**	**$9,109,144**	**$1,650,460**	**$18,730,009**
Less: Revenue Offsets				
Water Purchase Pass Through				
Rent & Interest		$238,000		$238,000
Tax & Standby Revenue	$696,021	$562,979		$1,259,000
Lake Hemet Campground	$303,000			$303,000
Wheeling Contract Revenue	$134,079			$134,079
Total Revenue Offsets	**$1,133,100**	**$800,979**	**$0**	**$1,934,079**
Less: Adjustments				
Adjustment for Cash Balance		-$239,270		-$239,270
Adjustment for Mid-Year Increase		$0		$0
Total Adjustments	**$0**	**-$239,270**	**$0**	**-$239,270**
Revenue Requirements from Rates	**$6,837,305**	**$8,547,435**	**$1,650,460**	**$17,035,200**

The O&M allocation (%) from Table 4-17 will be used to allocate the operating requirements, including any revenue offsets or adjustments, from the revenue requirements in Table 4-18.

[13] For the purposes of this Study, capital investments are funded through the Water Replacement Reserve. Meeting the minimum replacement reserve target ensures the capital projects can be funded each year of the Study Period.
[14] No revenue adjustment is required for Hemet / San Jacinto in the current fiscal year (FYE 2019) and, therefore, no mid-year adjustment will apply for FYE 2019.

Table 4-19: Water Allocation of Costs to Cost Components

Revenue Requirements	Customer Service	Meter Capacity	GW Supply	Contract Water	Non-Potable Imported Supply	GW Recharge	Fire	Base	Max Day	Max Hour	Pumping	Revenue Offset	Total
Specific	$0	$0	$755,003	$1,865,690	$2,863,072	$2,396,428	$0	$0	$0	$0	$90,211	$0	$7,970,405
Operating	$3,904,044	$657,200	$0	$0	$0	$0	$34,415	$3,696,038	$121,683	$134,055	$0	$0	$8,547,435
Capital	$0	$825,230	$0	$0	$0	$0	$0	$825,230	$0	$0	$0	$0	$1,650,460
Cost of Service Requirement	**$3,904,044**	**$1,482,430**	**$755,003**	**$1,865,690**	**$2,863,072**	**$2,396,428**	**$34,415**	**$4,521,268**	**$121,683**	**$134,055**	**$90,211**	**$0**	**$18,168,300**
Revenue Offsets	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0	-$1,133,100	-$1,133,100
Total Cost of Service Requirements	$0	$0	$755,003	$1,865,690	$2,863,072	$2,396,428	$0	$0	$0	$0	$90,211	$0	$7,970,405

[1]There may be differences due to rounding.

Table 4-20 summarizes the derivation of the allocation percentage for the Private Fire Protection. Raftelis calculated the Private Fire Equivalent Units (or connections) and compared it to System-Wide Fire Equivalents. The demand factor for each fire line size was calculated by using the Hazen-William equation, which calculates the total flow capacity of a pipe, given its size (diameter). The diameter for each meter size is raised to the 2.63 power to determine its hydraulic capacity, per the Hazen-Williams equation. The demand factor was then multiplied by the number of connections for each respective size to determine the fire demand equivalents. 15,180 fire equivalent connections were private lines compared to 208,263 being fire hydrants. This resulted in 7% allocation to Private lines and 93% to Public Fire Hydrants. The updated Private Fire Line schedule is presented in Appendix B – Exhibit A.

Table 4-20: Private Fire Protection Allocation

Hydrants/Lines [A]	Demand Factor (A^2.63) [B]	# of Connections [C]	Fire Demand Equivalents[1] (B x C) [D]	Percent Allocation (D ÷ 223,443) [E]	Requirement (E x $34,415)[3] [F]
Private Fire Lines					
4"	38.32	21	805		
6”	111.31	30	3,340		
8”	237.21	36	8,540		
10”	426.58	1	427		
12"	689.04	3	2,068		
Subtotal Private Equivalent Connections			**15,180**	7.0%	$2,409
Public Fire Hydrants[2]	111.31	1,871	**208,263**	93.0%	$32,006
			223,443	**100%**	**$34,415**

[1] Rounded up to the nearest equivalent.
[2] Based on historical data, assuming no new fire connections have occurred.
[3] There may be slight differences due to rounding.

Before the net revenue requirements from Table 4-18 can be allocated to customer class and tiers, Raftelis first needs to define the rate structure; therefore, Step 4 will be discussed in Section 5.2.2.2.

4.2.4 Rate Design

A key component of the Study includes evaluating the current rate structures and determining the most appropriate structures to model moving forward. The following subsections discuss the recommended rate structures, customer classes, and tier definitions for the water utility. Similar to the District's current rate structure, the recommended rates will include a monthly Service Charge, a Variable Usage Charge, and a pumping charge by lift zone.

Tiered rates, when properly designed are built up based on cost and allow a water utility to send consistent price incentives for conservation to customers. Due to the heightened interest in water conservation, tiered rates have seen widespread use, especially in the State of California. The recommended variable rate structure is discussed below.

4.2.4.1 Potable Water Rate Structure and Tiered Allotments

All potable customers in the Hemet / San Jacinto service area are currently charged a volumetric user rate on an inclining 5-tier rate structure, where price per unit increases with each tier. Raftelis recommends moving to a 3-tiered rate structure for all potable customers that provides a straight forward connection between available water supplies and tiered allotments. Currently, the service area's main sources of water supply are the Canyon and Upper Basins. Based on recent production data, the Canyon basin had approximately 2,224 AF of water available, whereas the Upper Basin had approximately 3,554 AF of non-contract water available. However, due to water loss, the amount of available groundwater to serve customers is approximately 2,002 AF and 3,199 AF for Canyon and Upper Basins, respectively. As part of the water rate design restructuring, the net amount of available groundwater is apportioned evenly to all accounts for each basin. Doing so resulted in each account receiving a fair share amount of Canyon groundwater equal to 5 hcf per account by billing period. For Upper Basin, each account will receive a fair share amount of groundwater equal to 8 hcf. Therefore, the tiers for all potable customers will account for the amount of available groundwater in the Canyon and Upper Basins for setting the Tier 1 and Tier 2 allotments.

For potable customers, Tier 1 is based on the amount of Canyon Basin groundwater allocated to the number of potable accounts. Through this method, the Tier 1 allotment is 5 hcf and is designed to recover costs associated with delivering Canyon Basin groundwater for all potable accounts. Similar to Tier 1, Tier 2 is based on the amount of Upper Basin groundwater allocated to the number of potable accounts. Through this method, the Tier 2 allotment is 13 hcf and is designed to recover costs associated with delivering Upper Canyon groundwater for all potable accounts. Tier 3 would capture any usage above Tier 2, which will be fulfilled through remaining Upper Basin groundwater, contract water supplied by the exchange with McMillan, and the treated imported water supply. The current and recommended tier widths are shown in Table 4-21.

Table 4-21: Residential Tier Adjustments

Customer Class / Tiers	Current Tier Width (hcf)	Recommended Tier Width (hcf)
Single Family Residential		
Tier 1	(0-7)	(0-5)
Tier 2	(7.01-13)	(5.01-13)
Tier 3	(13.01-25)	(>13)
Tier 4	(25.01-38)	
Tier 5	(>38)	

4.2.4.2 Non-Potable Rate Structure

Raftelis recommends a uniform rate for non-potable accounts. Although implementing a uniform rate is recommended, it is important to note that non-potable customers are still paying their proportionate share of the costs of providing the service based on the demand and burdens the class places on the non-potable system and is not being subsidized by any increase in rates to other customers.

4.2.4.3 Usage Under Recommended Tiers

The recommended tier structure decreases the width of Tier 1 for potable customers, leading to less usage in the first tier (assuming the same level of usage). For example, a residential customer using 30 units under the current structure will be billed 7 units at the Tier 1 rate, 6 units at the Tier 2 rate, 12 units at the Tier 3 rate, and 5 units at the Tier 4 rate. Under the recommended tier structure, the same customer using 30 units would be billed 5 units at the Tier 1 rate, 8 units at the Tier 2 rate, and 17 units at the Tier 3 rate. As previously mentioned, the proposed Tier 3 usage will be the combination of remaining Upper Canyon water, contract water supplied through the exchange with McMillian, and treated imported water purchased from EMWD.

Total usage that occurred in Tier 3 is approximately 1,432,700 hcf. Remaining Upper Canyon Water for Tier 3 was calculated by subtracting groundwater availability from usage that occurred in Tier 2 (1,393,266.64 hcf – 756,153 hcf = 637,113 hcf). The projected amount of contract water the District expects to use from McMillian to supply Tier 3 for FYE 2019 is 653,000 hcf (1,500 AF). The remaining amount of water usage, 142,186.36 hcf will be supplied by treated imported water from EMWD. (1,432,700 hcf – 637,113.64 hcf – 653,000 hcf = 142,186.36 hcf). In summary, 44.47% of Tier 3 is remaining Upper Canyon Water, 45.61% is contract water, and 9.92% will be supplied by treated imported water. Performing this same analysis for all accounts yields the tier totals found in Table 4-22. Note that the total usage of 4,646,951 hcf is the same regardless of tier structure – only the usage distribution in each tier is affected. In addition, the consumption analysis for the proposed tiers does not take into account EDU multipliers for commercial classes used by the current variable rates structure.

Table 4-22: Usage by Customer Class and Tier

Customer Classes	Current Tier Usage (hcf)	Proposed Tier Usage (hcf)
Potable Customers		
Tier 1	1,283,535	758,134
Tier 2	590,411	756,153
Tier 3	538,296	1,432,700
Tier 4	225,221	-
Tier 5	309,524	-
Non-Potable	1,699,964	1,699,964
Total Water Usage	**4,646,951**	**4,646,951**

4.2.4.4 Step 4 – Distribute Cost Components to Customer Classes and Tiers

To allocate costs to different customer classes, unit costs of service need to be developed for each cost causation component. The unit costs of service are developed by dividing the total annual costs allocated to each parameter by the total annual service units of the respective component. The annual units of service for each cost component from Table 4-19 are derived below and have been rounded up to the nearest whole penny.

Customer Service Component

These costs are incurred at the same level regardless of the type of land use or the total amount of water that the utility delivers; therefore, the Customer Service component is based on the number of bills and does not fluctuate with increases in meter size. The number of bills can be determined by multiplying the number of accounts, 14,053, times the number of billing periods, 12, in a year. The total Customer Service revenue requirement from Table 4-19 of $3,904,044 is divided by the number of bills to determine the unit cost of service shown in Table 4-23.

Table 4-23: Customer Service Component - Unit Rate

Customer Service Component	
Customer Service Revenue Requirements[1]	$3,904,044
÷ # of Bills (14,053 x 12)	168,636
Monthly Unit Rate[2]	**$23.16**

[1]Customer Service Component from Table 4-19.

[2]Customer Service rate was rounded up to the nearest penny.

Meter Capacity Component

The Meter Capacity Component includes costs related to a portion of personnel and materials, capital outlay, and the public portion for fire protection (hydrants). Raftelis allocated these cost components based on meter size. To create parity across the various meter sizes, each meter size is assigned a factor relative to a 3/4" meter, which is given a value of 1. Larger meters have the potential to demand more capacity or, said differently, exert more peaking characteristics compared to smaller meters. The potential capacity demand

(peaking) is proportional to the potential flow through each meter size. For the purposes of this study, the safe maximum operating capacity by meter type, as identified in the AWWA M1 Manual, 6th Edition, Table B-1, was used as a basis for calculating the equivalent meter ratio. As shown in Table 4-24, the safe maximum operating capacity for each meter was divided by the base meters' safe operating capacity (30 gpm) to determine the equivalent meter ratio. The ratios represent the potential flow through each meter size compared to the flow through a 3/4" meter. Multiplying the number of meters by the AWWA Ratio results in the Equivalent Meter Units (EMUs).

Table 4-24: Hemet / San Jacinto Equivalent Meter Units

Meter Size	AWWA Capacity [A] (gpm)	Capacity Ratio[1] [B] (A ÷ 30)	Number of Accounts [C]	Equivalent Meter Units [D] (B x C)	Annual EMUs [E] (D x 12)[2]
3/4" or less	30	30/30 = 1.00	12,054	12,054	144,648
1"	50	50/30 = 1.67	1,595	2,664	31,964
1 1/2"	100	100/30 = 3.33	120	400	4,795
2"	160	160/30 = 5.33	228	1,215	14,583
3"	350	350/30 = 11.67	6	70	840
4"	630	630/30 = 21.00	32	672	8,064
6"	1300	1,300/30 = 43.33	9	390	4,680
8"	2800	2,800/30 = 93.33	4	373	4,480
10"	4200	4,200/30 = 140.00	1	140	1,680
12"	5300	5,300/30 = 176.67	4	707	8,480
16"	7800	7,800/30 = 260.00	-	-	-
Total			**14,053**	**18,684**	**224,214**

[1]Capacity ratios were rounded to the nearest tenth.
[2]There may be slight differences due to rounding.

Based on these ratios and taking into consideration the number of billing periods, the total annual equivalent meters equals 224,214 (see Table 4-24). Table 4-25 shows the Meter Capacity costs and Fire Protection costs from Table 4-20 allocated over the total annual equivalent meters.

Table 4-25: Meter Capacity Component – Unit Rate

Meter Capacity Component	
Meter Capacity Revenue Requirement	$1,482,430
+ Fire Protection Requirement	$32,006
Total Meter Requirements[1]	**$1,514,435**
÷ Annual Equivalent Units	224,214
Monthly Unit Rate[2]	**$6.76**

[1] Meter Capacity + Fire Protection for Public Fire revenue requirement from Table 4-19.
[2]Monthly meter capacity rate was rounded up to the nearest penny.

Groundwater Supply Component

The Groundwater Supply Component is the cost required to pump water from the Canyon and Upper Basins and deliver to customers. The revenue requirement for each basin was calculated by determining the pumping factor, which is the ratio of pump costs in relation to Upper Basin. Canyon Basin has a pump factor of 0.61, which was calculated by dividing the current pump cost for the Canyon Basin by the current pump cost for Upper Basin ($81/$132 = 0.61)[15]. The weighted production for each basin was determined to split the total groundwater revenue requirement for each basin. The groundwater availability was calculated by determining the ratio for each basin production over total production and multiplying them by the total annual usage of all potable customers. The resulting calculation was then divided by .90 to take into account 10% water loss for the water system. Lastly, the unit rate for groundwater was calculated by dividing each revenue requirement by the amount of available groundwater for each basin. Table 4-26 summarizes the determination of the unit rates for the Groundwater Supply Component.

Table 4-26: Groundwater Supply Component – Unit Rates

Groundwater Supply	Total Production [A]	Pumping Factor [B]	Weighted Production [C] (A x B)	Weighted % [D] (C / 6,111.80)	GW Revenue Requirement [E] (D * $755,003)	GW Availability (AF) [F]	Unit Rate[1] (hcf) [G]
Canyon Basin	2,224	0.61	1,364.91	28%	$209,505	2,002	**$0.25**
Upper Basin	3,554	1	3,553.89	72%	$545,498	3,199	**$0.40**
Total	**5,778**		**4,918.80**	100%	**$755,003**		

[1]Rates were rounded to the nearest penny.

Contract Water Component

The service area incurs purchased water costs at a uniform rate for contract customers; therefore, the Contract Water cost is based on the remaining total units of water required to serve customers that exceed Upper Canyon availability. $1,865,690 was divided by the imported contract water purchased equal to 784,080 hcf for a unit rate of $2.38 per hcf. Table 4-27 summarizes the determination of the unit rate for the Contract Water Component.

Table 4-27: Contract Water Component – Unit Rate

Contract Water Component	
Revenue Requirement	$1,865,690
Contract Supply (hcf)	784,080
Unit Rate	**$2.38**

[1]Contract water rate was rounded to the nearest penny.

Non-Potable Imported Supply

The service area also incurs purchased non-potable water costs at a uniform rate for non-potable customers, therefore, the Non-Potable Imported Supply is based on the total units of non-potable water to serve

[15] Based on FYE 2016 basin pump costs provided by the District.

customers. The revenue requirement of $2,863,072 was divided by the total non-potable usage of 1,699,964 hcf to develop a rate of $1.69 per hcf for all non-potable customers. Table 4-28 summarizes the determination of the unit rate for the Non-Potable Imported Supply Component.

Table 4-28: Non-Potable Imported Supply Component – Unit Rate

Non-Potable Imported Supply Component	
Revenue Requirement	$2,863,072
Non-Potable Water Sales (hcf)	1,699,964
Unit Rate[1]	**$1.69**

[1]Unit rate was rounded to the nearest penny.

Groundwater Recharge Component

The Groundwater Recharge Components were first allocated between potable customers and non-potable customers through the Specific Allocation, 85% and 15%, respectively. The cost of groundwater recharge to potable customers, equal to $2,396,428, was divided by total potable water sales of 2,946,987 hcf from Table 4-22. Because groundwater recharge generates water reliability to all potable customers and potential access to additional groundwater availability, all units of potable water are charged the cost associated with the proportional cost of groundwater recharge specifically allocated to potable customers. Table 4-29 summarizes the calculation of the unit rate for the Groundwater Recharge Component.

Table 4-29: Groundwater Recharge Component – Unit Rate

Groundwater Recharge Component	
Revenue Requirement	$2,396,428
Recharge Supply (hcf)	2,946,987
Unit Rate[1]	**$0.82**

[1]Unit rate was rounded to the nearest penny.

Base/Delivery Component

Delivery Costs are operating and capital costs of the water system associated with delivering water to all customers at a constant average rate of use. Therefore, delivery costs are spread over all units of water, irrespective of customer class or tiers, to calculate a uniform rate. Table 4-30 summarizes the determination of the unit rate for the Base/Delivery Component.

Table 4-30: Base/Delivery Component – Unit Rate

Base/Delivery Component	
Revenue Requirement	$4,521,268
All Units of Water (hcf)	4,646,951
Unit Rate[1]	**$0.98**

[1]Base rate was rounded to the nearest penny.

Revenue Offset Component

The revenue offset component is derived based on the total amount of revenue that could be used to reduce the proposed cost of imported non-potable water. The maximum offset that can be used is -$1,133,100. Table 4-31 details the revenue offset component.

Table 4-31: Revenue Offset Component – Unit Rate

Groundwater Recharge Component	
Revenue Offset	-$1,133,100
Non-Potable	1,699,964
Unit Rate[1]	**-$0.66**

[1]Revenue offset rate was rounded to the nearest penny.

Peaking Component

Extra capacity or peaking costs represent those costs incurred to meet customer peak demands for water in excess of a baseline usage. Total extra capacity costs are apportioned between maximum day and maximum hour demands based on the type of expense. The maximum day demand is the maximum usage in an hour on the maximum usage day. Different facilities are designed to meet different peaking characteristics. Therefore, extra capacity costs include capital improvements and power related costs, and have been apportioned between base, maximum day, and maximum hour. Costs allocated to base are part of the delivery costs as defined above. The Peaking Revenue Requirements of $255,739 was determined by adding the Max Day Requirement of $121,683, and the Max Hour Requirement of $134,055. Costs associated with peaking are apportioned to each tier based on its total demand (total water used, weighted by a peaking factor). Peaking was calculated for each customer class/tier based on District consumption data, which ensures that accounts within each customer class and tier will only recover the costs allocated to their respective customer class/tier in proportion to the cost of providing service.

Table 4-33 shows the peaking costs allocated to each customer class/tier as well as the derivation of the unit rate. The peaking costs allocated to each customer class/tier is derived by weighting the peaking factor based on the total amount of water usage that is generating the peaking factor (product of usage and peaking factor). Since all potable customers peak in the same water system, all customer classes are merged into the customer class labeled "Total District" (Table 4-32) for determining tiered rates for all potable customers (
Table 4-33).

Table 4-32: Total San Jacinto / Hemet Peaking Factor

Customer Class	Projected Usage (hcf) [A]	Peaking Factor [B]	Weighted Peaking Factor [C] (A x B)	% Allocation [D]	Revenue Requirements [E] (D x $261,433)
Total District	2,946,987	1.45	4,273,377	100%	$255,739

Table 4-33: Peaking Component – Unit Rates

Customer Class	Projected Usage (hcf) [A]	Peaking Factor [B]	Weighted Peaking Factor [C] (A x B)	% Allocation [D] (C / 4,272,972)	Revenue Requirements [E] (D x $261,433)	Unit Rate [F] (E÷A)
Total District						
Tier 1	758,134	1.05	793,452	19%	$47,488	**$0.07**
Tier 2	756,153	1.29	975,252	23%	$58,369	**$0.08**
Tier 3	1,432,700	1.75	2,504,268	59%	$149,881	**$0.11**
Subtotal	**2,946,987**		**4,272,972**		**$255,739**	

Pumping Component

The pumping revenue requirements were allocated to pumping zones based on the actual costs of pumps in each zone. District staff provided Raftelis with pumping costs per zone and those costs were used to determine the updated pumping charges. The amount of revenue determined for each rate was calculated by multiplying the cost of pumping ($ per hcf) by the amount of usage per zone, as shown in Table 4-34.

Table 4-34: Proposed Lift Zone Charge Revenue

Lift Zone	Rate ($/hcf)[1] [A]	Usage (hcf) [B]	Revenue [C] (A x B)	% of Total Revenue [D] (C x $90,211)
1000 & 1101	$0.44	54,140	$23,812	26%
1100	$0.33	1,773	$579	1%
1200 & 1201	$0.29	80,087	$23,055	26%
1300 & 1301	$0.11	74,894	$8,043	9%
1400	$0.19	19,914	$3,829	4%
1500	$0.56	53,591	$29,995	33%
1600	$0.07	12,625	$898	1%
Total		**297,024**	**$90,211**	**100%**

[1]Proposed rates were based on actual cost of pumping per zone provided by the district.

4.2.5 Recommended Water Rates

4.2.5.1 Fixed Charges

Currently, the District's fixed monthly water charges generates approximately 35% of total rate revenues. Recovering a portion of the costs over the fixed component will enhanced revenue stability. Table 4-35 summarizes the Monthly Service Charges by meter size based on the unit rates developed in the Rate Design section. The Customer Service component does not vary based on meter size, whereas Meter Capacity increases as the size of the meter increases. The Meter Capacity is determined by multiplying the unit costs of $6.77 (Table 4-25) by the appropriate capacity ratios.

Table 4-35: FYE 2019 Proposed Meter Service Charge ($/Month)

Meter Size	Capacity Ratio	Customer Service	Meter Capacity	Total Fixed Charge	Current Service Charge	Difference ($)
5/8"	1.00	$23.16	$6.76	$29.92	$30.91	-$0.99
3/4"	1.00	$23.16	$6.76	$29.92	$30.91	-$0.99
1"	1.67	$23.16	$11.29	$34.45	$34.85	-$0.40
1 1/2"	3.33	$23.16	$22.52	$45.68	$44.66	$1.02
2"	5.33	$23.16	$36.04	$59.20	$56.43	$2.77
3"	11.67	$23.16	$78.89	$102.05	$87.94	$14.11
4"	21.00	$23.16	$141.96	$165.12	$123.35	$41.77
6"	43.33	$23.16	$292.92	$316.08	$277.64	$38.44
8"	93.33	$23.16	$630.92	$654.08	$493.25	$160.83
10"	140.00	$23.16	$946.40	$969.56	$770.89	$198.67
12"	176.67	$23.16	$1,194.29	$1,217.45	$1,110.56	$106.89
16"	260.00	$23.16	$1,757.60	$1,780.76	$1,974.00	-$193.24

4.2.5.2 Variable Rate

Similar to how costs may be apportioned to different groups of customers based on usage characteristics to shoe proportionality, maximum day and maximum hour costs were apportioned between tiers based on the unique usage characteristics of potable customers within each tier. As part of our consumption analysis, Raftelis analyzed the water usage of each account for a 12-month period and grouped customers based on which tier they fell within ("Tiered Customer Class"). Doing so allowed Raftelis to group "like customers" together based on water usage and to allocate costs to each tier. As such, the peaking costs were only allocated to all potable customers and is further allocated between 3 tiers proportionately. Table 4-36 details the derivation of the unit rates for Tier 1, Tier 2, and Tier 3. The peaking cost allocated to each tier is derived by weighting the peaking factor based on the total amount of water usage that is generating the peaking factor (product of projected usage and peaking factor). The percent allocation is based on the proportionate share of weighted usage, which is then used to calculate the share of revenue requirements for the three tiers. The unit rate is then derived by dividing the revenue requirements by the projected usage for each tier.

Table 4-36: Total Hemet / San Jacinto Tiered Rates

Customer Class	Projected Usage (hcf) [A]	Peaking Factor [B]	Weighted Peaking Factor [C] (A x B)	% Allocation [D]	Revenue Requirements [E]	Unit Rate[1] [F] (E÷A)
Total District						
Tier 1	758,134	1.05	793,452	19%	$47,488	**$0.07**
Tier 2	756,153	1.29	975,252	23%	$58,369	**$0.08**
Tier 3	1,432,700	1.75	2,504,268	59%	$149,881	**$0.11**
Subtotal	**2,946,987**		**4,272,972**		**$255,739**	

[1]Unit rates were rounded to the nearest penny.

The components of the variable rate are added together to produce rates for each customer class and tier. Potable customers in Tiers 1 and 2 are not charged with the imported supply rate as their usage is made up by groundwater allotment. Tier 3 is a blended rate of groundwater and imported water supply.

Table 4-37: Proposed FYE 2019 Hemet / San Jacinto Usage Charges ($/hcf)

Customer Class/Tier	Proposed Tier	Projected Usage	GW Supply	Contract Water	Treated Imported Water	GW Recharge	Non-Potable Imported Supply	Base	Peaking	Revenue Offset	Proposed Commodity Rate (hcf)
Total District											
Tier 1	0-5 hcf	758,134	$0.25			$0.82	$0.00	$0.98	$0.07		**$2.12**
Tier 2	5.01-13 hcf	756,153	$0.40			$0.82	$0.00	$0.98	$0.08		**$2.28**
Tier 3[1]	> 13	1,432,700	$0.40	$2.38	$2.50	$0.82	$0.00	$0.98	$0.11		**$3.43**
Non-Potable	Uniform	1,699,964					$1.69	$0.98	$0.00	-$0.66	**$2.01**

[1]Tier 3 is blended rate of groundwater and imported contract water, where 44.47% of Tier 3 demand is supplied by groundwater water from Upper Canyon, 45.61% supplied by contract water, and 9.92% is supplied by treated imported water from EMWD.

Throughout the Study Period, a 2% revenue adjustment is expected; however, we recommend the District have the proposed rates indexed to CPI for subsequent years, with a cap to not exceed 3%.

Table 4-38: Proposed Fixed Charges

Meter Size	FYE 2019 Proposed Fixed Charge
5/8"	$29.92
3/4"	$29.92
1"	$34.45
1 1/2"	$45.68
2"	$59.20
3"	$102.05
4"	$165.12
6"	$316.08
8"	$654.08
10"	$969.56
12"	$1,217.45
16"	$1,780.76

Table 4-39: Proposed Variable Charges

Customer Class/Tiers	FYE 2019 Variable Charge
District	
Tier 1	$2.12
Tier 2	$2.28
Tier 3	$3.43
Non-Potable	$2.01

Table 4-40: Proposed Pumping Charges

Zone	FYE 2019 Proposed Pumping Charge
1000 & 1101	$0.44
1100	$0.33
1200 & 1201	$0.29
1300 & 1301	$0.11
1400	$0.19
1500	$0.56
1600	$0.07

5. GARNER VALLEY RATE STUDY

5.1 GARNER VALLEY WATER UTILITY – FINANCIAL PLAN

This section describes the development of the Garner Valley water utility financial plan, the results of which were used to determine the revenue adjustments needed to meet ongoing expenses and provide fiscal sustainability to the District. Establishing a utility's revenue requirement is a key step in the rate setting process. The review involves analysis of projected annual operating revenues under the current rates, O&M expenses, capital expenditures, transfers between funds, and reserve requirements. This section of the report provides a discussion of the projected revenues, O&M and capital expenditures, the capital improvement financing plan, and overall revenue requirements required to ensure the fiscal sustainability of the Garner Valley water utility.

5.1.1 Revenue from Current Rates

The current water rate structure consists of two components:

1. Uniform Bi-monthly Water Service Charge. (Table 5-1 summarizes the projected revenue).
1. Water Consumption Charge that varies by tier allotment (hcf) for all customers. (Table 5-2 summarizes the projected District usage revenue).

Table 5-1: Projected Annual Water Service Charge Revenue (Full-Rate)

Meter Size	# of Meters [A]	Current Bi-Monthly Water Service Charges [B]	Projected Annual Water Service Charge Revenue (A x B x 6)
All Sizes	242	$37.26	**$54,102**

Table 5-2: Projected District Usage Charge Revenue

Customer Classes	Current Tiers (width)	Projected Annual Usage [A]	Current District Water Usage Charge [B]	Projected District Usage Charge Revenue[1] (A x B)
Tier 1	(0-20)	19,634	$1.63	$31,925
Tier 2	(20.01-50)	17,159	$1.91	$32,826
Tier 3	(50.01-150)	25,945	$2.27	$58,921
Tier 4	(150.01-250)	8,560	$2.98	$25,517
Tier 5	(>250.01)	8,175	$3.71	$30,337
Usage Charge Revenue		**79,473**		**$179,526**

Table 5-3 summarizes the rate revenue as well as other revenues within Garner Valley. As shown in the table, since Raftelis assumed zero growth and no increase in water demand, the rates and rate revenue remained constant during the Study Period. The projected water sales by customer class and tier remained constant and was based on the total FYE 2017 usage.

Table 5-3: Projected Water Revenues

Revenue	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023
Fixed Revenue	$54,102	$54,102	$54,102	$54,102	$54,102
Variable Revenue	$179,526	$179,526	$179,526	$179,526	$179,526
Subtotal Rate Revenue	**$233,628**	**$233,628**	**$233,628**	**$233,628**	**$233,628**
Other Revenues	$71,817	$70,613	$70,613	$70,613	$70,613
Total Revenues	**$251,370**	**$251,370**	**$251,370**	**$251,370**	**$251,370**

5.1.2 O&M Expenses

The District's FYE 2018 budget values and the assumed inflation factors (Table 3-1) for the study period were used as the basis for projecting O&M costs. Additionally, beginning in FYE 2019, the Garner Valley water enterprise will begin to pay back it's accumulated deficit of $1.7M. Table 5-4 shows the total projected O&M expenses including the annual payment towards the accumulated deficit for FYE 2019 through FYE 2023[16].

Table 5-4: Projected O&M Expenses

O&M Categories	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023
Expenditures					
Total Operating Expenses	$147,820	$152,824	$158,020	$163,415	$169,019
Total General & Admin Expenses	$103,309	$106,408	$109,601	$112,889	$116,275
Total Non-Operating Expenses	$13,000	$13,000	$13,000	$13,000	$13,000
Total Operating Expenditures	**$264,129**	**$272,232**	**$280,620**	**$289,304**	**$298,294**
Accumulated Deficit Repayment	$0	$101,971	$101,971	$101,971	$101,971
Total Expenses	**$264,129**	**$374,203**	**$382,591**	**$391,275**	**$400,265**

5.1.3 Capital Improvement Plan

Raftelis worked closely with District staff to adjust the CIP to reflect a measured multi-year approach. Based on discussions with District Staff, two-thirds of the depreciation value of the Garner Valley assets were used as the baseline CIP costs for each year of the Study Period. Raftelis indexed the capital expenditures by a 2% inflationary compounding rate from Table 3-1 to account for increased construction costs in future years. Table 5-5 summarizes the 5-Year Average CIP, the cumulative inflationary factor, and the resulting total anticipated CIP costs.

[16] Although only the Study Period is shown here, Raftelis projected the expenses through FYE 2032.

Table 5-5: Water Utility Capital Improvement Plan[17]

	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023
2/3 of Depreciation Value	$96,667	$96,667	$96,667	$96,667	$96,667
Cumulative Inflationary Factor	102%	104%	106%	108%	110%
Inflated CIP	**$98,600**	**$100,572**	**$102,583**	**$104,635**	**$106,728**

5.1.4 Reserve Requirements

For FYE 2018, the District's beginning reserve balance is approximately $145,000. Currently, the District maintains a water operating fund and capital improvement fund. As part of Best Management Practices of utilities, it is recommended that a utility have at least 60 to 90 days of operating reserves as well as sufficient funds available to ensure that the utility's capital plan can move forward as scheduled and is not delayed due to insufficient funds on hand.

5.1.5 Current Financial Outlook

Based on the financial plan review, the District would need revenue adjustments of 35% in January of FYE 2019 and FYE 2020 and cost of living adjustments based on the consumer price index (CPI) for subsequent years starting in FYE 2021. For FYE 2019, the District is currently meeting its operating costs and has positive net income each year over operational costs but would not be able to adequately fund its capital needs or be able to address a historical deficit in Garner Valley associated with previous advancement of funds, equal to $1.7M as shown in Figure 5-1, where expenses are shown by stacked bars and the total revenues at current rates are shown by the horizontal orange trend line. Figure 5-2 identifies the District's capital plan, where 1 years' worth of capital is based on two-thirds (67%) of the Annual Depreciation Value, which is approximately $100,000, and is inflated each year by 2%. Figure 5-3 illustrates the reserves balances for each fiscal year after operating and capital are funded, and Appendix A – Exhibit B details the cashflow for each fiscal year end.

[17] There may be differences due to rounding.

Figure 5-1: Operating Financial Position at Current Rates

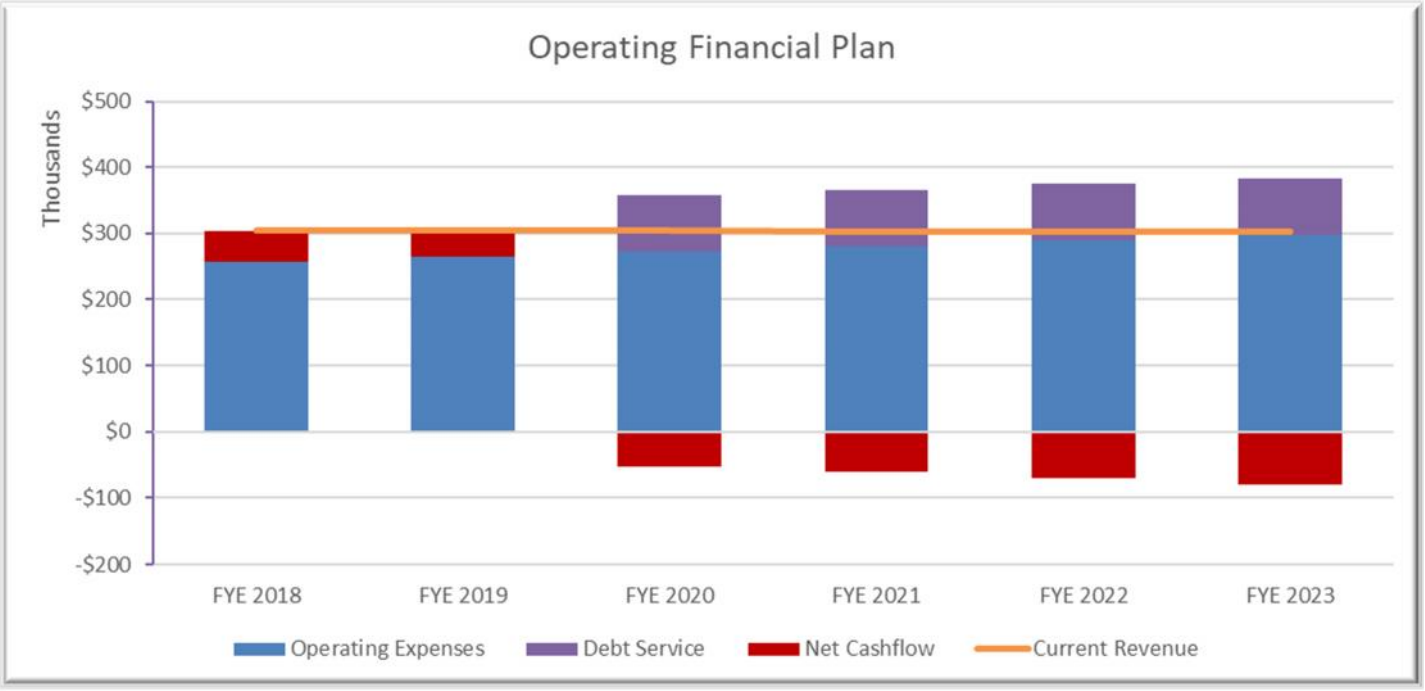


Figure 5-2: Baseline Water Capital Improvement Plan and Funding Source

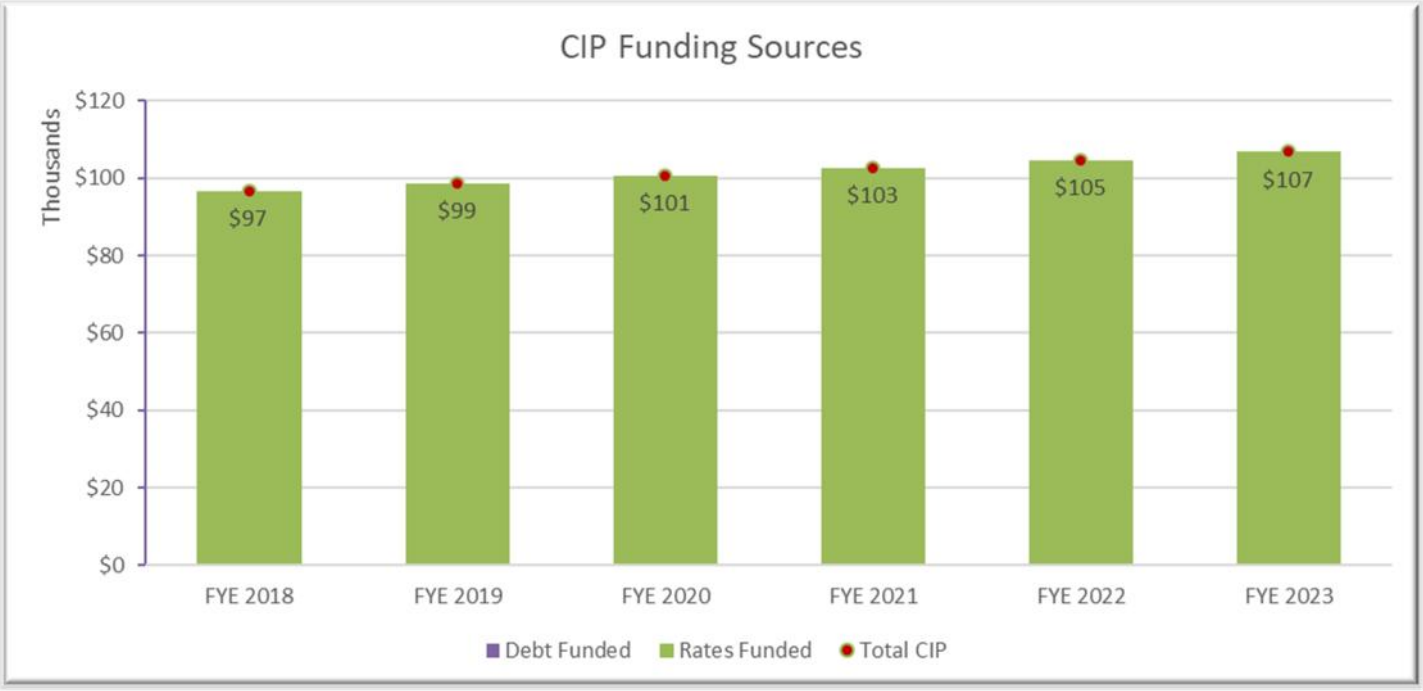
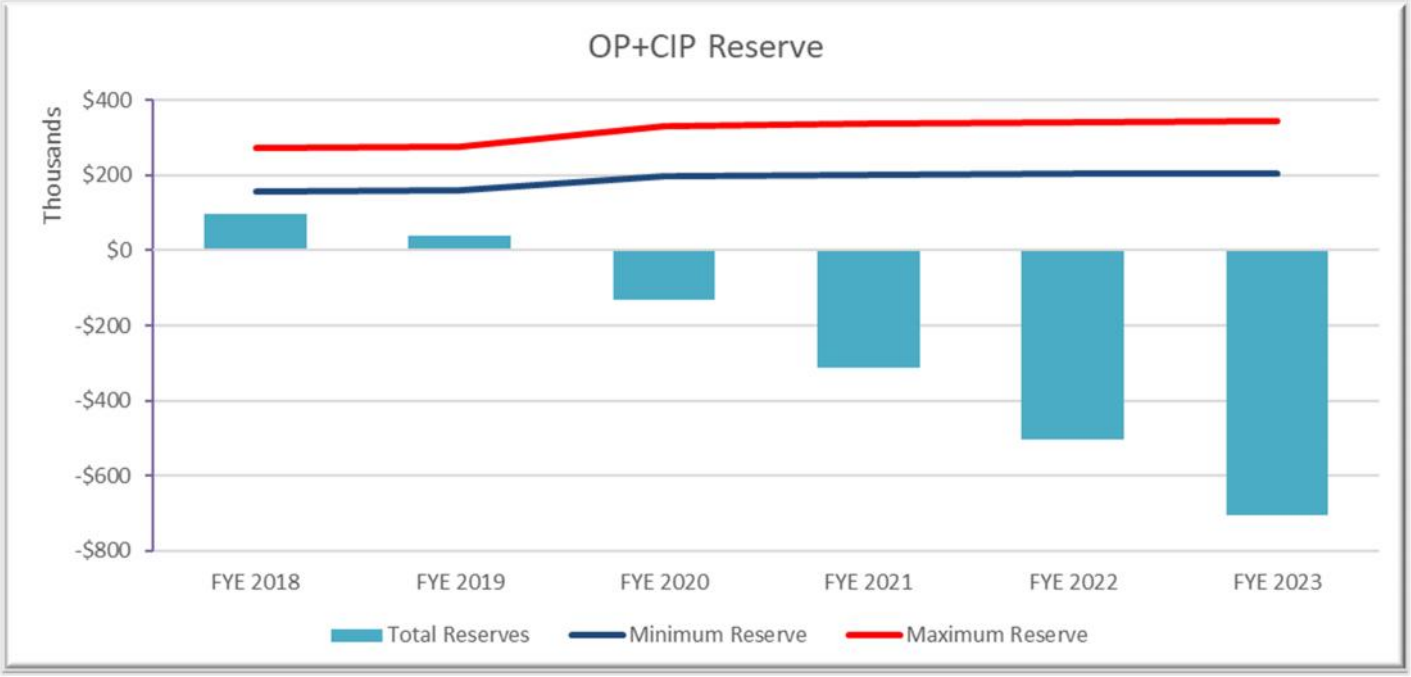


Figure 5-3: Projected Ending Water Reserves at Current Rates



5.1.6 Financial Plan Recommendations

After reviewing the District's revenue requirements, reserve policies, capital planning schedule, and current revenues, a financial plan was developed to meet the following criteria:

- Ensure positive net operating cash income each Fiscal Year (FY) of the planning period with rate revenue adjustments.
- Fully fund planned capital projects and fund a portion of deferred maintenance.
- Begin to payback the accumulated deficit of $1.7M with annual payments starting in FYE 2019.
- build up reserves through the Study Period (FYE 2019 – 2032):
    - Garner Valley Operating Reserve – minimum of 120 days of operating expenses.
    - Garner Valley Capital Improvement Reserve – 67% of 1 years' worth of depreciation.
    - The District will not reach these targets during the study period; however, reserves will continue to build in future years.

With these elements, the District will be able to fund its operations and maintenance costs, meet the debt coverage each fiscal year, and fund necessary capital during the Study Period.

5.1.6.1 Recommended Reserves

Raftelis recommends maintaining the following reserves:

Water Operating Reserve – The operating reserve is used primarily to meet ongoing cash flow requirements. Raftelis recommends establishing an operating reserve target of 120-days of O&M expenses for Garner Valley due to its bi-monthly billing frequency. A 120-day reserve ensures working capital to support the operation, maintenance, and administration of the utility. Maintaining this level of reserves also provides liquid funds for

the continued ongoing operations of the utility in the event of unforeseen costs or interruption with the utility or the billing system.

Capital Improvement Reserve – The capital improvement reserve is used primarily to meet the District's capital improvement requirements. The District's capital improvement plan—over the five-year period—is approximately $513K. The ideal target for the capital reserve should be to have a reserve sufficient to fund a year's worth of capital costs, which would ensure that the District can continue to reinvest in the water system and that necessary capital improvements are not delayed or deferred due to cash flow concerns. Raftelis recommends establishing a capital reserve, with a maximum target based on one years' worth of the annual depreciation, which is $145K.

Table 5-6 summarizes the recommended financial plan (see Appendix A – Exhibit B for a detailed financial plan). Figure 5-4 illustrates the operating position of the District where expenses, inclusive of reserve funding, are shown by stacked bars and total revenues at both current rates and recommended rates are shown by the horizontal trend lines. Figure 5-5 summarizes the projected CIP and its funding sources (100% PAYGO). Figure 5-6 displays the ending total reserve balance for the water utility, inclusive of operating and capital funds. The horizontal trends line indicates the minimum and target reserve balances and the bars indicate ending reserve balance. No new debt is recommended to be issued as part of the recommended five-year financial plan.

Table 5-6: Recommended Water Financial Plan

Line #	Category	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023
	Revenues					
1	Rate Revenue	$274,512	$425,786	$434,302	$442,988	$451,848
2	Other Revenues	$71,817	$71,494	$71,661	$71,880	$71,909
3	**Total Revenues**	**$346,329**	**$442,085**	**$505,963**	**$514,867**	**$523,757**
	Less: Expenditures					
4	Total Operating Expenditures	$264,129	$272,232	$280,620	$289,304	$298,294
5	Total Debt Service	$0	$101,971	$101,971	$101,971	$101,971
6	**Total Expenditures**	**$264,129**	**$374,203**	**$382,591**	**$391,275**	**$400,265**
7	**Net Cashflow** *(Line 3 – Line 6)*	**$82,200**	**$67,882**	**$123,372**	**$123,593**	**$123,492**
8	Total Depreciation	$0	$0	$0	$0	$0
9	Total Availability	$23,100	$23,100	$23,100	$23,100	$23,100
10	**Net Cashflow w/ Depreciation & Availability**	**$59,100**	**$44,782**	**$100,272**	**$100,493**	**$100,392**
11	**Operating Reserve**					
12	Beginning Balance	$25,166	$84,813	$125,782	$128,797	$131,721
13	Net Cashflow (Line 10)	$59,100	$44,782	$100,272	$100,493	$100,392
14	Transfers In/Out - Capital Improvement Reserve	$0	-$4,861	-$98,523	-$98,865	-$98,691
15	**Ending Balance**	**$84,266**	**$124,734**	**$127,530**	**$130,425**	**$133,422**
16	*Interest Income*	$547	$1,048	$1,267	$1,296	$1,326
	Capital Improvement Reserve					
17	**Beginning Balance**	$71,095	-$4,405	-$77,015	-$57,975	-$40,646
	Plus:					
18	Transfer In/Out - from Operating Reserve (Line 14)	$0	$4,861	$98,523	$98,865	$98,691
19	Direct Transfer – Availability	$23,100	$23,100	$23,100	$23,100	$23,100
19	New Debt Issue	$0	$0	$0	$0	$0
	Less:					
20	Capital Projects	-$98,600	-$100,572	-$102,583	-$104,635	-$106,728
21	**Ending Balance**	**-$4,405**	**-$77,015**	**-$57,975**	**-$40,646**	**-$25,582**
23	*Interest*	$333	$0	$0	$0	$0
24	*Total Reserves – Ending Balance*	$79,861	$47,719	$69,555	$89,779	$107,839
25	*Total Reserves Target*	$277,065	$332,101	$336,295	$340,637	$345,133

Figure 5-4: Operating Financial Position at Recommended Rates

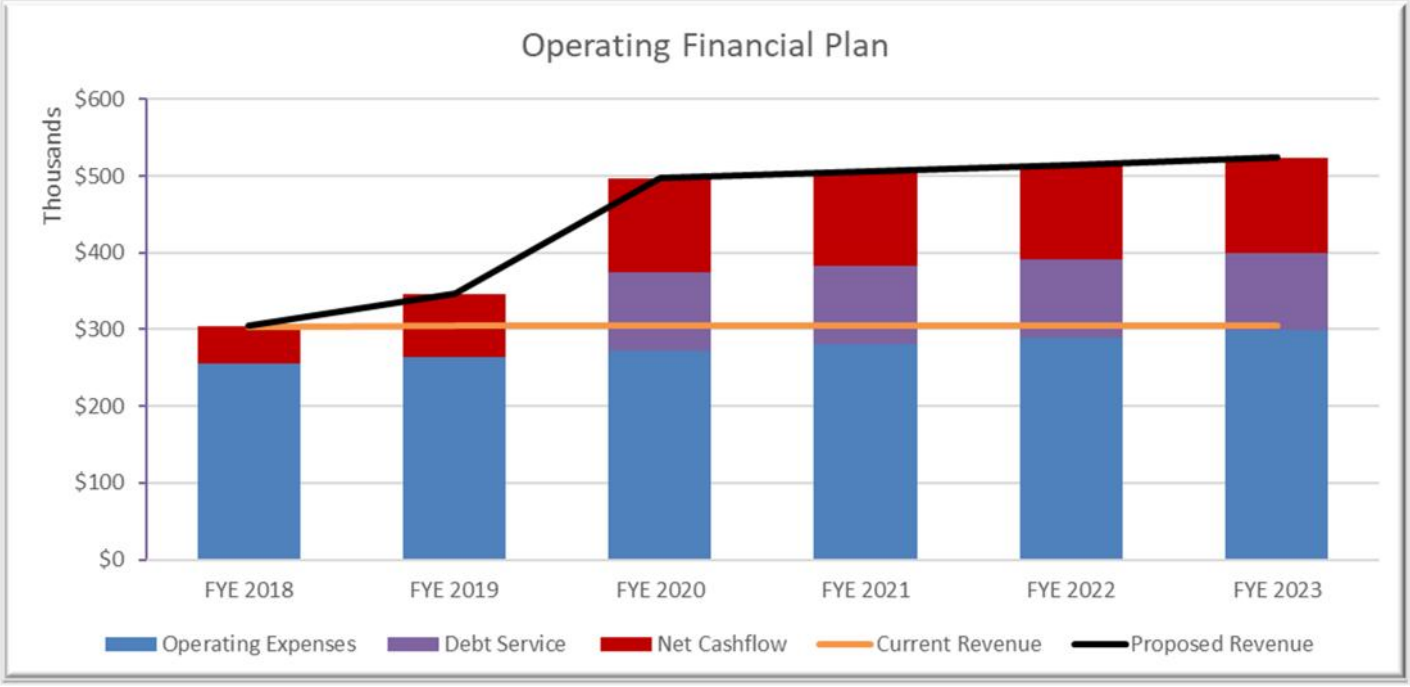


Figure 5-5: Recommended Water Capital Improvement Plan and Funding Source

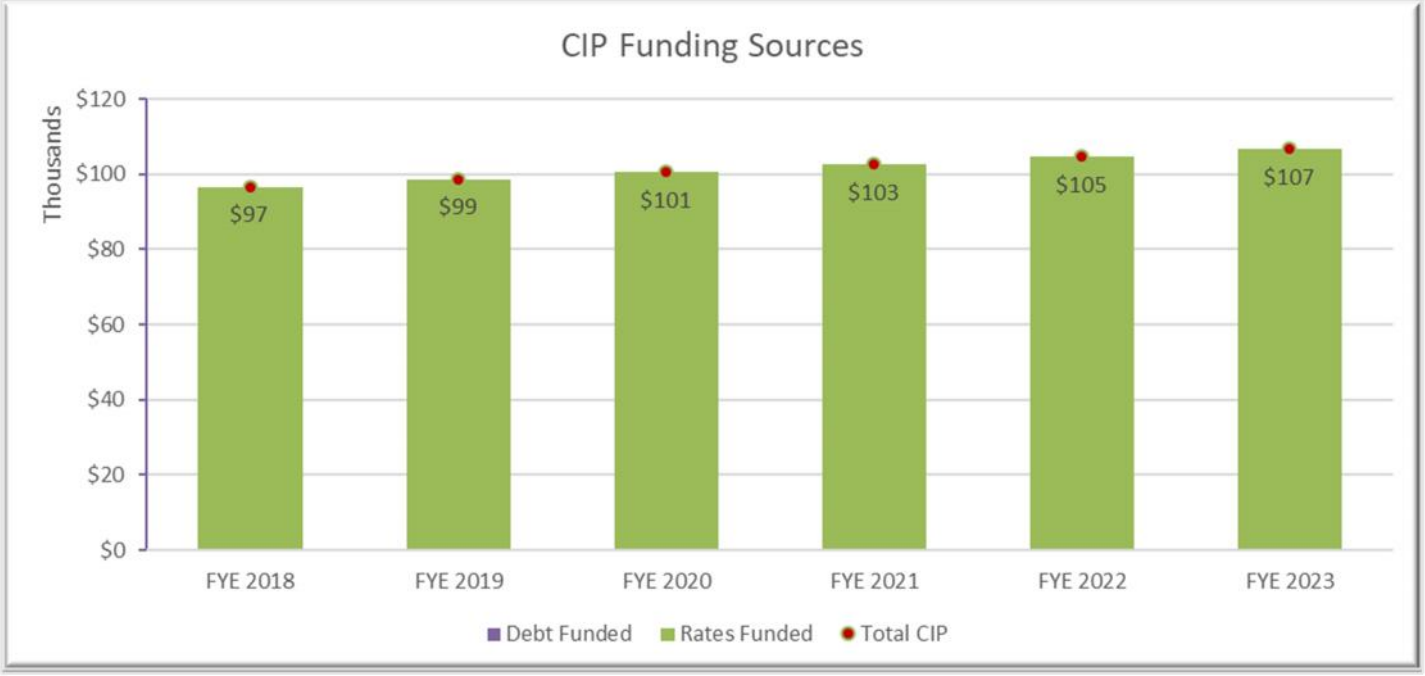
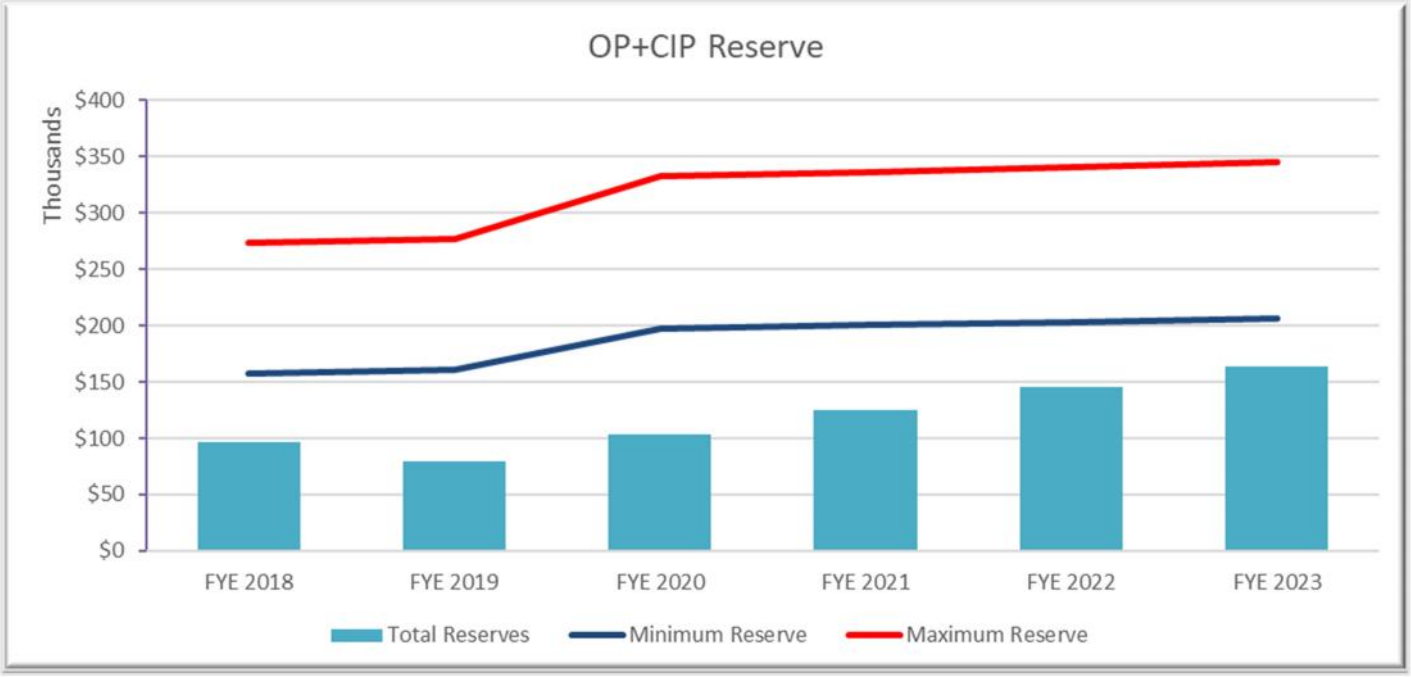


Figure 5-6: Projected Ending Water Reserves at Proposed Rates



5.2 GARNER VALLEY WATER UTILITY – COST OF SERVICE STUDY

Table 5-7 summarizes the functionalized costs prior to any offset adjustments.

Table 5-7: Functionalized Expenses

Functionalized Expenses	FYE 2019 Functionalized Expenses
Power Purchased	$50,400
Operating Supplies & Exp.	$16,480
Repairs to Buildings & Grounds	$5,100
Rep to Grnd Source, Well Facilit.	$8,160
Repair to Pumping Equip.	$18,360
Purification	$20,600
Repair to Tanks	$4,080
Repair to Pipelines	$8,160
Repair to Services	$5,150
Repair to Fire Hydrants	$3,090
Meter Reading	$1,545
Engineering	$515
General Exp.	$5,150
Uncollectible Water Bills	$1,030
General & Admin Expenses	$103,309
Non-Operating Expenses	$13,000
Funded Depreciation	$0
Debt Service	$0
Total O&M Expenses	**$264,129**

5.2.1.1 Step 3 – Allocate Functionalized Costs to Cost Components

The functionalization of costs allows Raftelis to better allocate the costs based on how they are incurred. This is commonly referred to as **cost causation**. Essentially, cost causation means that the District incurs a cost of providing service because of the demands or burdens the customer places on the system and water resources. Raftelis used the Base-Extra Capacity method to allocate the functionalized costs to various rate components (cost causation components), as described in the M1 Manual. The District's costs were allocated to the following cost causation components:

1. **Customer Service** includes customer related costs such as billing, collecting, customer accounting, and customer call center. These costs are incurred at the same level regardless of the type of land use or the total amount of water that the utility delivers.
2. **Meter Capacity** includes maintenance and capital costs associated with serving meters. These costs are assigned based on the meter size or equivalent meter capacity.

3. **Groundwater Supply** represents the costs to pump available groundwater to Garner Valley customers to meet demands.
4. **Fire Protection** represents the costs incurred as a result of sizing the distribution infrastructure in order to be able to serve fire protection infrastructure.
5. **Base/Delivery** are those operating and capital costs of the water system associated with serving customers at a constant, or average, rate of use. These costs tend to vary with the total quantity of water used.
6. **Peaking Costs** or Extra Capacity Costs represent those costs incurred to meet customer peak demands for water in excess of average day usage. Total extra capacity costs are subdivided into costs associated with maximum day and maximum hour demands. The maximum day demand is the maximum amount of water used in a single day in a year. The maximum hour (Max Hour) demand is the maximum usage in an hour on the maximum usage day (Max Day). Various facilities are designed to meet customer peaking needs. For example, reservoirs are designed to meet Max Day requirements and have to be designed larger than they would be if the same amount of water were being used at a constant rate throughout the year. The cost associated with constructing a reservoir is based on system wide peaking factors. For example, if the Max Day factor is 2.0, then certain system facilities must be designed larger than what would be required if the system only needed to accommodate average daily demand. In this case, half of the cost would be allocated to Base (or average day demand) and the other half allocated to Max Day. The calculation of the Max Hour and Max Day demands is explained below.

Allocating costs into these components allows us to distribute these cost components to the various customer classes based on their respective base, extra capacity, and customer requirements for service. To allocate costs to delivery and peaking cost components, system peaking factors are used. The base demand is assigned a value of 1.0 signifying no peaking demands. The Max Day and Max Hour factors shown in Table 4-15 were based on historical data and discussions with District staff. The peaking factors were calculated based on system-wide max months and average months of recent consumption data provided by the District. A max day peaking factor of 1.77 means that the system delivers approximately 1.77 times the average daily demand during a peak day. A max hour peaking factor of 2.66 means that the system delivers approximately 1.5 times the max day during a peak hour. Since certain facilities are designed to meet max hour requirements while also meeting fire flow requirements, an allocation is provided for fire flow. Based on Raftelis and District staff estimates, fire flow was assigned 6% of max day and max hour demands.

Table 5-8: System-Wide Peaking Factors

	Factor	Base	Max Day	Max Hour	Fire
Base	1.00	100%	0%	0%	0%
Max Day[1]	1.77	53%	41%	0%	6%
Max Hour[2]	2.66	36%	27%	31%	6%

[1] Max Day = 1.77 times average day
[2] Max Hour = 1.5 times maximum day

Specific Allocation

The Specific expenses consists of one functionalized category: Power Purchased. Table 5-9 details the breakdown of these specific allocation costs. The Garner Valley water utility obtains all of its water from groundwater. All units of water incur pumping costs to distribute into the system.

Table 5-9: Water Specific Allocation (%)

Functionalized Expenses (%)	Groundwater Supply	Total
Power Purchased	100%	**100%**
Functionalized Expenses ($)		
Power Purchased	$50,400	$50,400
Total Specific Allocations	**100%**	**$50,400**

O&M Allocation

The O&M expenses consist of seventeen functionalized categories as shown in Table 5-10 and Table 5-11. Raftelis reviewed the budget details related to the Operating Expenses to determine the most appropriate method for allocating the functional costs to cost causation components. General Expenses and Non-Operating Expenses were 100% allocated to the Customer Service cost component. Meter Reading was 100% allocated to meter capacity. Repair to Fire Hydrants was allocated 100% allocated to Fire. Operating supplies and expenses, repairs to buildings and grounds, repair to ground source and well facilities, repair to pumping equipment, purification, repair to services, engineering, and uncollectible water bills were 100% allocated to Base. Repair to tanks functionalized expense was allocated based on max day percentages and repair to pipelines was allocated based on max hour percentages from Table 4-15. General and administrative expenses were allocated 58% to Customer Service and 42% to Base and Debt Service was allocated 50% to Meter Capacity and 50% to Base.

Using the relationship between Base, Max Day, Max Hour, and Fire, Raftelis allocated the O&M costs. Table 5-10 summarizes the percent allocations for the District O&M Expenses. The costs (prior to offsets and adjustments) allocated to the cost components and the resulting O&M Allocation (%) are summarized in Table 5-11. The O&M Allocation (%) will be used to allocate the Operating Requirement, including any revenue offsets or adjustments, from the revenue requirements (Table 5-14).

Table 5-10: Allocation of Cost Components – O&M

Functionalized Expenses (%)	Customer Service	Meter Capacity	Fire	Base	Max Day	Max Hour	Total
Operating Supplies & Exp.				100%			**100%**
Repairs to Bldgs & Grounds				100%			**100%**
Rep to Grnd Source, Well Facilities				100%			**100%**
Repair to Pumping Equip.				100%			**100%**
Purification				100%			**100%**
Repair to Tanks			6%	53%	41%		**100%**
Repair to Pipelines			6%	36%	27%	31%	**100%**
Repair to Services				100%			**100%**
Repair to Fire Hydrants			100%				**100%**
Meter Reading		100%					**100%**
Engineering				100%			**100%**
General Exp.	100%						**100%**
Uncollectible Water Bills				100%			**100%**
General & Admin Expenses	58%			42%			**100%**
Non-Operating Expenses	100%						**100%**
Debt Service		50%		50%			**100%**

Table 5-11: Allocation of O&M Expenses to Cost Components

Functionalized Expenses ($)	Customer Service	Meter Capacity	Fire	Base	Max Day	Max Hour	Total
Operating Supplies & Exp.				$16,480			**$16,480**
Repairs to Bldgs & Grounds				$5,100			**$5,100**
Rep to Grnd Source, Well Facilities.				$8,160			**$8,160**
Repair to Pumping Equip.				$18,360			**$18,360**
Purification				$20,600			**$20,600**
Repair to Tanks			$245	$2,162	$1,673		**$4,080**
Repair to Pipelines			$490	$2,938	$2,203	$2,530	**$8,160**
Repair to Services				$5,150			**$5,150**
Repair to Fire Hydrants			$3,090				**$3,090**
Meter Reading		$1,545					**$1,545**
Engineering				$515			**$515**
General Exp.	$5,150						**$5,150**
Uncollectible Water Bills				$1,030			**$1,030**
General & Admin Expenses	$59,762			$43,547			**$103,309**
Non-Operating Expenses	$13,000						**$13,000**
Debt Service							
Total O&M Allocations	**$77,912**	**$1,545**	**$3,824**	**$124,042**	**$3,876**	**$2,530**	**$213,729**
O&M Allocation (%)	**36%**	**1%**	**2%**	**58%**	**2%**	**1%**	**100%**

Capital Allocation

Table 5-12 summarizes the percent allocations for the capital assets. The original cost asset values by asset category as provided within the District's detailed asset listing[18] allocated to the cost components and the resulting Capital Allocation (%) are shown in Table 5-13.

Table 5-12: Allocation of Cost Components – Capital

Functionalized Expenses (%)	Customer Service	Fire	Base	Max Day	Max Hour	General	Total
Buildings						100%	100%
Transmission and Distribution			38%	29%	33%		100%
Pumping			38%	29%	33%		100%
Storage			56%	44%			100%
Land						100%	100%
Fire		100%					100%
Meters	100%						100%
Treatment			100%				100%
Wells			100%				

Table 5-13: Allocation of Capital Expenses to Cost Components

Functionalized Expenses ($)	Customer Service	Fire	Base	Max Day	Max Hour	General	Total
Buildings						$70,800	$70,800
Transmission and Distribution			$181,021	$138,147	$157,202		$476,370
Pumping			$108,741	$82,987	$94,433		$286,162
Storage			$1,388,880	$1,091,263			$2,480,144
Fire		$12,756					$12,756
Meters	$58,832						$58,832
Treatment			$20,893				$20,893
Wells			$232,137				$232,137
Total Assets	**$58,832**	**$12,756**	**$1,931,672**	**$1,312,397**	**$251,635**	**$70,800**	**$3,638,092**
Capital Allocation	**1.6%**	**0.4%**	**53.1%**	**36.1%**	**6.9%**	**1.9%**	**100%**

Deductions are made to account for the required net cashflows (found in Table 5-6 – Line 10) [19] and any mid-year adjustment[20]. FYE 2019 cost of service to be recovered from the District's water customers is shown in Table 5-14.

[18] Detailed Asset listing is on file with the District.
[19] For the purposes of this Study, capital investments are funded through the Capital Improvement Reserve. Meeting the minimum replacement reserve target ensures the capital projects can be funded each year of the Study Period.
[20] The proposed rates are expected to be in effect on November 1st in FYE 2019 and July 1st for the subsequent fiscal years; therefore, a mid-year adjustment will only apply for FYE 2019.

Table 5-14: Water Revenue Requirements

Revenue Requirements	Specific	Operating	Infrastructure	Total
Power Purchased	$50,400			$50,400
Operating Supplies & Exp.		$16,480		$16,480
Repairs to Bldgs & Grounds		$5,100		$5,100
Rep to Grnd Source, Well Facilit.		$8,160		$8,160
Repair to Pumping Equip.		$18,360		$18,360
Purification		$20,600		$20,600
Repair to Tanks		$4,080		$4,080
Repair to Pipelines		$8,160		$8,160
Repair to Services		$5,150		$5,150
Repair to Fire Hydrants		$3,090		$3,090
Meter Reading		$1,545		$1,545
Engineering		$515		$515
General Exp.		$5,150		$5,150
Uncollectible Water Bills		$1,030		$1,030
General & Admin Expenses		$103,309		$103,309
Non-Operating Expenses		$13,000		$13,000
Funded Depreciation				
Debt Service				
Total Revenue Requirements	**$50,400**	**$213,729**	**$0**	**$264,129**
Less: Revenue Offsets				
General Taxes		$47,513		$47,513
Operating Interest Earnings		$1,204		$1,204
Total Revenue Offsets	**$0**	**$48,717**	**$0**	**$48,717**
Less: Adjustments				
Adjustment for Cash Balance		-$59,100		-$59,100
Adjustment for Mid-Year Increase		-$40,885		-$40,885
Total Adjustments	**$0**	**-$99,985**	**$0**	**-$99,985**
Revenue Requirements from Rates	**$50,400**	**$264,997**	**$0**	**$315,397**

Table 5-15 shows the revenue requirements allocated to each of the cost causation components. Specific revenue requirements were allocated based on the Specific Allocation % from Table 5-9, Operating revenue requirements were allocated based on the O&M Allocation % from Table 5-11, and Capital revenue requirements were allocated based on the Capital Allocation % from Table 5-13. The revenue requirement for General costs were reallocated to ensure minimal rate change in the proposed service charge for FYE 2019.

Table 5-15: Water Allocation of Costs to Cost Components

Revenue Requirements	Customer Service	Meter Capacity	Groundwater Supply	Fire	Base	Max Day	Max Hour	General	FYE 2019
Specific	$0	$0	$50,400	$0	$0	$0	$0	$0	$50,400
Operating	$96,601	$1,916	$0	$4,742	$153,797	$4,806	$3,136	$0	$264,997
Capital	$0	$0	$0	$0	$0	$0	$0	$0	$0
Cost of Service Requirement	**$96,601**	**$1,916**	**$50,400**	**$4,742**	**$153,797**	**$4,806**	**$3,136**	**$0**	**$315,397**
Reallocation of General	$0	$0	$0	$0	$0	$0	$0	$0	$0
Reallocation of Fire Protection	$0	$4,742	$0	-$4,742	$0	$0	$0	$0	$0
Cost of Service Requirement	**$96,601**	**$6,657**	**$50,400**	**$0**	**$153,797**	**$4,806**	**$3,136**	**$0**	**$315,397**

Before the net revenue requirements from Table 5-15 can be allocated to customer class and tiers, Raftelis first needs to define the rate structure; therefore, Step 4 will be discussed in Section 5.2.2.2.

5.2.2 Rate Design

A key component of the Study includes evaluating the current rate structures and determining the most appropriate structures to model moving forward. The following subsections discuss the recommended rate structures, customer classes, and tier definitions for the water utility. Similar to the District's current rate structure, the recommended rates will include a Bi-monthly Service Charge and a Variable Usage Charge.

5.2.2.1 Water Rate Structure

Residential customers are currently charged a volumetric use rate on an inclining 5-tier rate structure, where price per unit increases with each tier. Raftelis recommends moving to a uniform rate structure for all customers that provides a straight-forward connection between the one available water supply (ground water from wells) and the cost per unit of water. As part of the water rate design restructuring, the net amount of available groundwater is apportioned evenly to all accounts.

5.2.2.2 Step 4 – Distribute Cost Components to Customer Classes and Tiers

To allocate costs to different customer classes, unit costs of service need to be developed for each cost causation component. The unit costs of service are developed by dividing the total annual costs allocated to each parameter by the total annual service units of the respective component. The annual units of service for each cost component from Table 5-15 are derived below and have been rounded up to the nearest whole penny.

Fixed Charges

To maintain parity with Hemet / San Jacinto, fixed charges vary by meter size and are equivalent to the Hemet / San Jacinto area but reflect bi-monthly billing. The proposed Garner Valley fixed charges will generate $103,292 over 12 months (33%). The remaining revenue requirement of $212,104 (67%) is recovered through the commodity rate.

The Meter Capacity Component includes costs related to maintenance, capital costs, and fire protection. Raftelis allocated these cost components based on meter size. As shown in Table 5-16, the capacity ratios were calculated by dividing the proposed service charge for each meter size in in Hemet/San Jacinto by the service charge for a 5/8" meter in Hemet/San Jacinto. Multiplying the number of meters by the ratio results in the Equivalent Meter Units (EMUs).

Table 5-16: Equivalent Meter Units

Meter Size	AWWA Capacity [A] (gpm)	Capacity Ratio [B]	Number of Accounts [C]	Equivalent Meter Units [D] (B x C)	Annual EMUs [E] (D x 6)[1]
5/8"	20	1.00	2	2	12
3/4"	30	1.00	5	5	30
1"	50	1.15	231	266	1,596
1 1/2"	100	1.53	1	2	9
2"	160	1.98	1	2	12
3"	350	3.41		0	0
4"	630	5.52	2	11	66
Total			**242**	**288**	**1,726**

[1]There may be slight differences due to rounding.

Based on these ratios and taking into consideration the number of billing periods, the total annual equivalent meters equals 1,726 (see Table 5-16). Table 5-17 shows the Meter Capacity costs from Table 5-15 allocated over the total annual equivalent meters.

Table 5-17: Meter Capacity Component – Unit Rate

Meter Capacity Component	
Meter Capacity Revenue Requirements[1]	$103,258
÷ Annual Equivalent Units	1,726
Bi-Monthly Unit Rate[2]	**$59.84**

[1] Customer Service & Meter Capacity revenue requirement from Table 5-15.

[2]Bi-monthly meter capacity rate was rounded up to the nearest penny.

Groundwater Supply Component

The Groundwater Supply component is the cost required to pump water from the basin and deliver to customers**.** The revenue requirement of $50,484 was divided by 79,473 hcf to develop a rate for all units of groundwater currently available for customers. Table 5-18 summarizes the determination of the unit rate for the Groundwater Supply Component.

Table 5-18: Groundwater Supply Component – Unit Rate

Groundwater Supply Component	
GW Supply Revenue Requirement[1]	$50,400
÷ GW Supply	79,473
Unit Rate (per ccf)[2]	**$0.64**

[1] Groundwater Supply revenue requirement from Table 5-15

[2] Groundwater Supply rate was rounded up to the nearest penny.

Base/Delivery Component

Delivery costs are those operating and capital costs of the water system associated with delivering water to all customers at a constant average rate of use. Therefore, delivery costs are spread over all units of water, irrespective of customer class or tiers, to calculate a uniform rate. Table 5-19 summarizes the determination of the unit rate for the Base/Delivery Component.

Table 5-19: Base/Delivery Component – Unit Rate

Base/Delivery Component	
Base Revenue Requirements[1]	$153,762
÷ Total Projected Water Sales (ccf)	79,473
Unit Rate (per ccf)[2]	**$1.94**

[1]Base/Delivery revenue requirement from Table 5-15

[2]Base/Delivery unit rate was rounded to the nearest penny.

Peaking Component

Extra capacity or peaking costs represent those costs incurred to meet customer peak demands for water in excess of a baseline usage. Total extra capacity costs are apportioned between maximum day and maximum hour demands based on the type of expense. The maximum day demand is the maximum amount of water used in a single day in a year. The maximum hour demand is the maximum usage in an hour on the maximum usage day. Different facilities are designed to meet different peaking characteristics. Therefore, extra capacity costs include capital improvements and power related costs, and have been apportioned between base, maximum day, and maximum hour. Costs allocated to base are part of the delivery costs as defined above. The Peaking Revenue Requirements, $7,942, were determined by adding the Max Day Requirements of $4,806 and the Max Hour Requirements of $3,136.

Table 5-20: Peaking Costs Allocated to Classes

Customer Class	Projected Usage (ccf) [A]	Peaking Factor [B]	Weighted Peaking Factor [C] (A x B)	% Allocation [D]	Revenue Requirements [E] ($14,771 × D)[1]	Unit Rate [F][2] (E ÷ A)
All Classes						
Uniform	79,473	1.77	140,667	100%	$7,942	**$0.10**

[1]There may be slight differences due to rounding.

[2]Unit rates were rounded up to the nearest penny.

5.2.3 Recommended Water Rates

5.2.3.1 Fixed Charges

Currently, the District's fixed monthly water charges generate approximately 23% of total rate revenues. The new rate structure will recover approximately 33% of rate revenues on the fixed bi-monthly charges. Recovering a greater portion of the costs over the fixed component will enhance revenue stability. Table 5-21 summarizes the Bi-Monthly Service Charges by meter size based on the unit rates developed in the Rate Design section. Meter Capacity increases as the size of the meter increases. The Meter Capacity rate is determined by multiplying the unit costs of $59.86 (Table 5-17) by the appropriate capacity ratios.

Table 5-21: FYE 2019 Recommended Meter Service Charge ($/Bi-Month)

Meter Size	Capacity Ratio	Meter Capacity [B]	FYE 2019 Recommended Service Charge [C] (A+B)	Current Rates	Difference
5/8"	1.00	$59.84	**$59.84**	$37.26	$22.58
3/4"	1.00	$59.84	**$59.84**	$37.26	$22.58
1"	1.15	$68.92	**$68.92**	$37.26	$31.66
1 1/2"	1.53	$91.39	**$91.39**	$37.26	$54.13
2"	1.98	$118.47	**$118.47**	$37.26	$81.21
3"	3.41	$204.28	**$204.28**	$37.26	$167.02
4"	5.52	$330.55	**$330.55**	$37.26	$293.29

5.2.3.2 Variable Rates

Table 5-22 details the derivation of the unit rate for all customer classes. The peaking cost allocated to each unit of water is derived by weighting the peaking factor based on the total amount of water usage that is generating the peaking factor (product of Projected Usage and Peaking Factor). The percentage allocation is based on the all weighted usage. The unit rate is then derived by dividing the revenue requirements by the projected usage.

Table 5-22: Peaking Factor for Single-Family Residential Tiers

Customer Class	Projected Usage (ccf) [A]	Peaking Factor [B]	Weighted Peaking Factor [C] (A x B)	% Allocation [D]	Revenue Requirements [E]	Unit Rate[1] [F] (E ÷ A)
All Classes						
Uniform	79,473	1.77	140,667	100%	$7,942	**$0.10**

[1]Unit rates were rounded to the nearest penny.

The components of the variable rate are added together to produce rates for all customer classes. Table 5-23 shows each component rate and the final recommended FYE 2019 District Usage rates.

Table 5-23: Recommended FYE 2019 District Usage Rates ($/ccf)

Customer Classes	GW Supply	Base Component	Peaking Component	Recommended FYE 2018 Variable Charge	Current Charge	Difference
All Classes	$0.64	$1.94	$0.10	**$2.68**	$2.26	$0.42

For FYE 2020, the fixed charge with increase by 2% CPI adjustments similar to the Hemet / San Jacinto service area and the remainder of the revenue requirement will be recovered through the commodity rate. For subsequent years, starting in July of FYE 2021, the fixed rate will be adjusted based on a 2% CPI adjustment. The following tables detail the proposed 5-Year Fixed charges for the Garner Valley water utility.

Table 5-24: Proposed 5-Year Fixed Charges

Meter Size	FYE 2019 Proposed Fixed Charge	FYE 2020 Proposed Fixed Charge	FYE 2021 Proposed Fixed Charge	FYE 2022 Proposed Fixed Charge	FYE 2023 Proposed Fixed Charge
5/8"	$59.84	$61.04	$62.27	$63.52	$64.80
3/4"	$59.84	$61.04	$62.27	$63.52	$64.80
1"	$68.92	$70.30	$71.71	$73.15	$74.62
1 1/2"	$91.39	$93.22	$95.09	$97.00	$98.94
2"	$118.47	$120.84	$123.26	$125.73	$128.25
3"	$204.28	$208.37	$212.54	$216.80	$221.14
4"	$330.55	$337.17	$343.92	$350.80	$357.82

Table 5-25: Proposed 5-Year Variable Charges ($ per HCF)

Customer Class	FYE 2019 Variable Charge	FYE 2020 Variable Charge	FYE 2021 Variable Charge	FYE 2022 Variable Charge	FYE 2023 Variable Charge
All Classes	$2.68	$4.06	$4.15	$4.24	$4.33

6. WASTEWATER RATE UTILITY

6.1 WASTEWATER UTILITY – FINANCIAL PLAN

This section describes the development of the wastewater utility financial plan, the results of which were used to determine the revenue adjustments needed to meet ongoing expenses and provide fiscal sustainability to the District. Establishing a utility's revenue requirement is a key step in the rate setting process. The review involves analysis of projected annual operating revenues under the current rates, O&M expenses, capital expenditures, transfers between funds, and reserve requirements. This section of the report provides a discussion of the projected revenues, O&M and capital expenditures, the capital improvement financing plan, and overall revenue requirements required to ensure the fiscal sustainability of the Wastewater Utility.

6.1.1 Revenue from Current Rates

The current wastewater rate structure consists of a monthly service charge per dwelling unit for all customers. Table 6-1 summarizes the projected number of dwelling units, monthly service charge, and the projected revenue.

Table 6-1: Current Wastewater Monthly Service Charge

Customer Class	# of Dwelling Units [A]	FYE 2018 Base Charge ($/Month) [B]	Projected Base Revenue[1] [C] (A x B x C)
All Customers	14,746	$4.07	**$720,195**

[1]Revenue was rounded to the nearest dollar.

Using account growth, flow factors, and other revenue assumptions from Table 3-1, Raftelis projected the revenues for the wastewater utility[21]. Table 6-2 summarizes the rate revenue as well as other revenues. As shown in the table, since Raftelis assumed zero growth and no increase in wastewater demand, the rate and rate revenue remained constant during the Study Period. The projected wastewater flow by customer class remained constant and was based on FYE 2018 data.

Table 6-2: Projected Wastewater Revenues

Line #	Wastewater Utility Revenues	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023
1	Rate Revenues	$720,195	$720,195	$720,195	$720,195	$720,195
2	**Total Revenues**	**$720,195**	**$720,195**	**$720,195**	**$720,195**	**$720,195**

6.1.2 O&M Expenses

The District's FYE 2018 budget values and the assumed inflation factors (Table 3-1) for the study period were used as the basis for projecting O&M costs beyond FYE 2019. Additionally, based on conversations with District staff, 2% of General and Administrative costs from the water utility were allocated to wastewater.

[21] Although only the Study Period is shown here, Raftelis projected the revenues through FYE 2027.

Table 6-3 shows the total projected O&M expenses for FYE 2018 through FYE 2022[22]. The wastewater utility currently does not have any outstanding debt.

Table 6-3: Projected Wastewater O&M Expenses

Line #	Expenditures	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023
1	Salaries	$54,590	$56,228	$57,915	$59,652	$61,442
2	Sewer Expense & Cleaning	$211,150	$217,485	$224,009	$230,729	$237,651
3	Sewer Dept Training/Classes	$6,180	$6,365	$6,556	$6,753	$6,956
4	General & Admin	$115,828	$119,302	$122,882	$126,568	$130,365
5	**Total Operating Expenses**	**$387,748**	**$399,380**	**$411,361**	**$423,702**	**$436,413**

6.1.3 Capital Improvement Plan

The District provided the asset management plan to address future wastewater capital improvement project (CIP) needs. Raftelis worked closely with District staff to adjust the CIP to reflect a measured multi-year approach. Based on discussions with District Staff, two-thirds of the depreciation value of the Wastewater assets were used as the baseline CIP costs for each year of the Study Period. Raftelis indexed the capital expenditures by a 2% inflationary compounding rate from Table 3-1 to account for increased construction costs in future years. Table 6-4 summarizes the 5-Year Average CIP (Line 1), the cumulative inflationary factor (Line 2), and the resulting total anticipated CIP costs (Line 3).

Table 6-4: Wastewater Utility Capital Improvement Plan[23]

Line #		FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023
1	2/3 of Depreciation Value	$173,244	$173,244	$173,244	$173,244	$173,244
2	Cumulative Inflationary Factor	102%	104%	106%	108%	110%
3	**Inflated CIP**	**$176,708**	**$180,243**	**$183,847**	**$187,524**	**$191,275**

6.1.4 Reserve Requirements

In FYE 2018, the District does not have a beginning reserve balance for the wastewater utility. Currently, the District maintains a wastewater operating fund and a wastewater replacement fund. As part of Best Management Practices of utilities, it is recommended that a utility have at least 60-90 days of operating reserves as well as sufficient funds available to ensure that the utility's capital plan can move forward as scheduled and is not delayed due to insufficient funds on hand.

6.1.5 Financial Outlook at the Current Rate

Revenue generated from the current rate and miscellaneous revenues are approximately $720K in FYE 2019, which exceeds current operational expenses. Without any revenue adjustments in the subsequent years, the District will be able to fund operational expenses, as shown in Figure 6-1. The figure illustrates the operating position of the wastewater utility, where expenses are shown by stacked bars and the total revenues at the

[22] Although only the Study Period is shown here, Raftelis projected the expenses through FYE 2027.
[23] There may be differences due to rounding.

current rate are shown by the horizontal orange trend line. Raftelis recommends the District to reinvest back into its utility system to ensure the continued collection of wastewater. Figure 6-2 summarizes the baseline CIP and its funding sources by fiscal year (currently 100% PAYGO). Based on the financial plan review, the District does not need revenue adjustments for subsequent years.
Figure 6-3 illustrates the total reserves balances for each fiscal year after operating and capital are funded.

Figure 6-1: Wastewater Operating Financial Position at the Current Rate

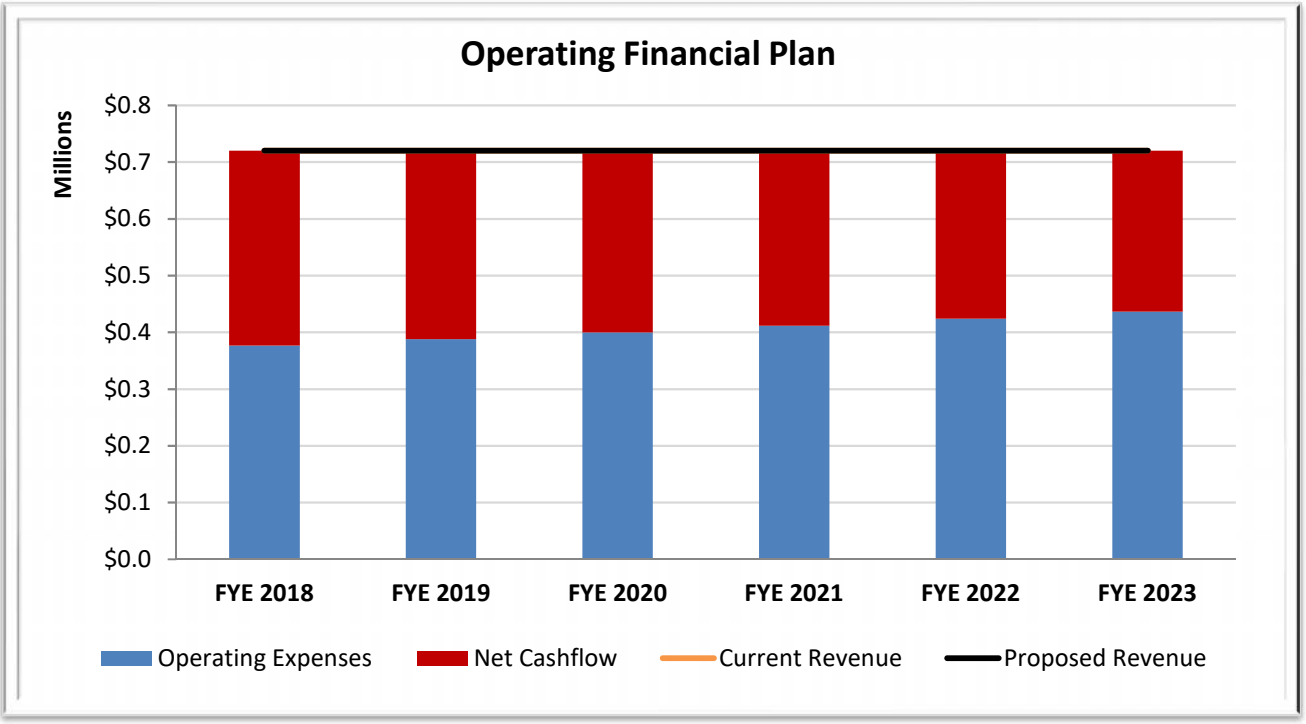


Figure 6-2: Baseline Wastewater Capital Improvement Plan and Funding Source

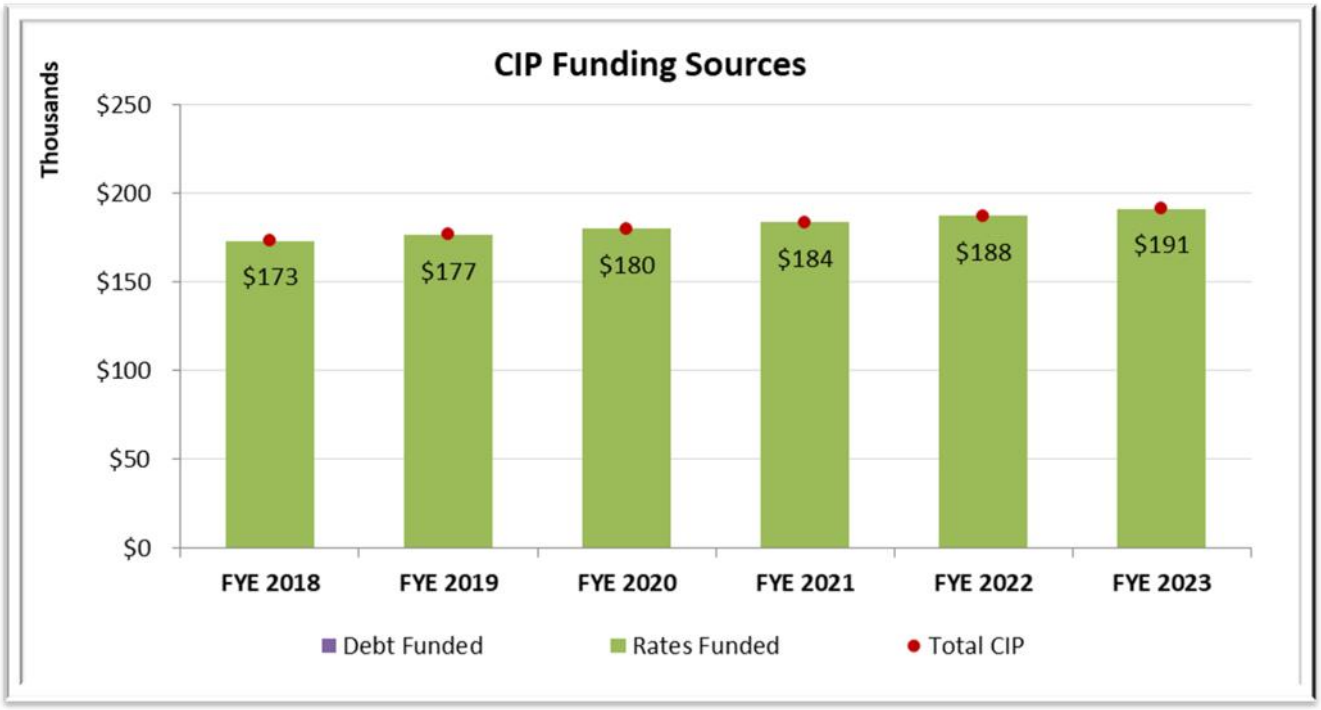
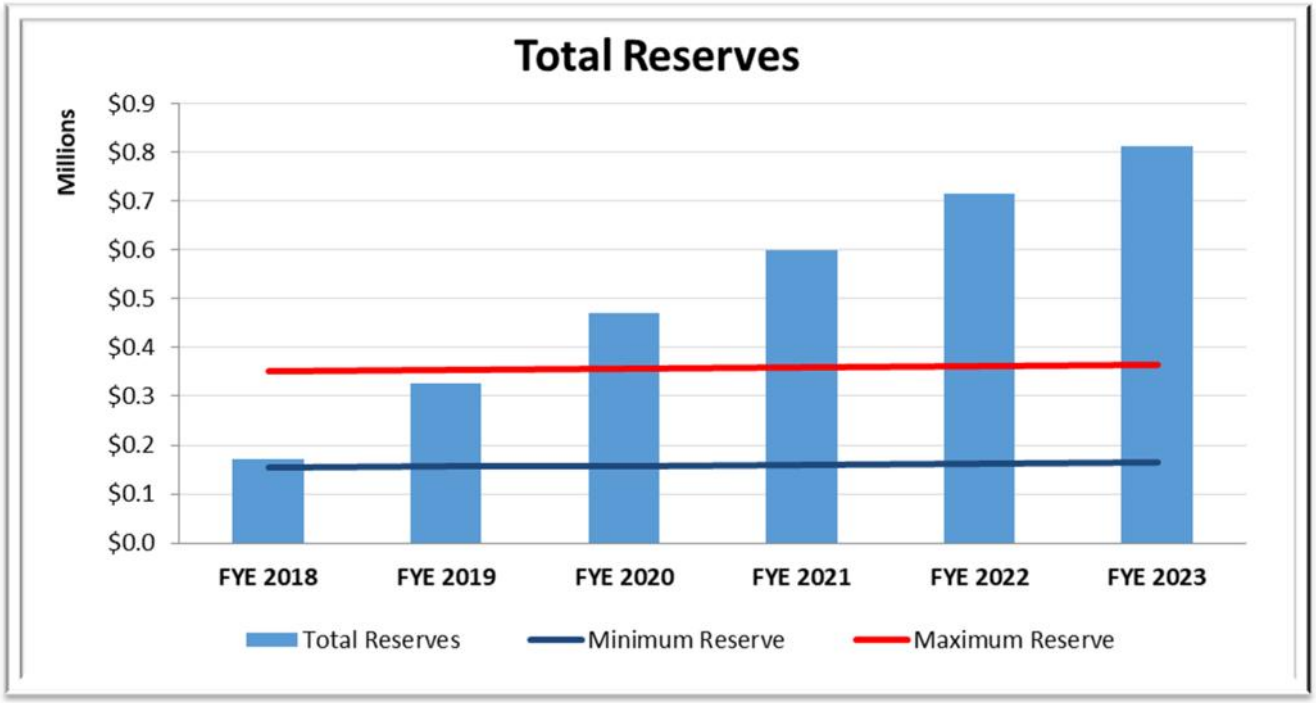


Figure 6-3: Projected Ending Wastewater Reserves at Current Rates



6.1.6 Financial Plan Recommendations

After reviewing the District's revenue requirements, reserve policies, capital planning schedule, and current revenue, a financial plan was developed to meet the following criteria:

- Ensure positive net operating cash income each Fiscal Year (FY) of the planning period.
- Fully fund capital projects and deferred maintenance through Pay-As-You-Go (PAYGO)
- Establish and maintain the following reserves by the end of the Study Period (FYE 2019 – FYE 2023):
    - Wastewater Operating Fund – minimum of 60 days of operating expenses.
    - Repair & Replacement Fund – 1 years' worth of capital based on 5-Year Average of Capital Improvement Plan.

6.1.6.1 Recommended Reserves

Raftelis recommends establishing the same reserves recommended for the water utility:

Wastewater Operating Reserve – The operating reserve is used primarily to meet ongoing cash flow requirements. Raftelis recommends establishing an operating reserve target of at least 60-days of O&M expenses with an ideal target of 90-days of O&M. A 60-day reserve ensures working capital to support the operation, maintenance, and administration of the utility. Maintaining this level of reserves also provides liquid funds for the continued ongoing operations of the utility in the event of unforeseen costs or interruption with the utility or the billing system.

Wastewater Replacement Reserve – The replacement reserve is used primarily to meet the District's capital improvement requirements. The District's revised capital improvement plan—over the five-year period—is approximately $947K. The ideal target for the capital reserve should be to have a reserve sufficient to fund a year's worth of capital costs, which would ensure that the District can continue to reinvest in the wastewater system and that necessary capital improvements are not delayed or deferred due to cash flow concerns. Raftelis recommends establishing a capital reserve based on one years' worth of the average 5-year asset management plan, which is approximately $280K. Based on the current financial plan, the District does not require any rate revenue adjustments, as current revenue exceed operational expenses during the Study Period and subsequent years. No new debt is recommended to be issued as part of the recommended five-year financial plan.

Table 6-5summarizes the recommended financial plan (see Appendix A – Exhibit C for a detailed financial plan).

Table 6-5: Recommended Wastewater Financial Plan

Line #	Category	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023
	Revenues					
1	Rate Revenues	**$720,195**	**$720,195**	**$720,195**	**$720,195**	**$720,195**
2	**Less: Expenditures**					
3	Salaries	$54,590	$56,228	$57,915	$59,652	$61,442
4	Sewer Expense & Cleaning	$211,150	$217,485	$224,009	$230,729	$237,651
5	Sewer Dept Training/Classes	$6,180	$6,365	$6,556	$6,753	$6,956
6	General & Admin	$115,828	$119,302	$122,882	$126,568	$130,365
7	**Total Expenditures**	**$387,748**	**$399,380**	**$411,361**	**$423,702**	**$436,413**
8	**Net Cashflow** *(Line 1 – Line 6)*	**$332,447**	**$320,815**	**$308,833**	**$296,492**	**$283,781**
9	**Operating Reserve**					
10	Beginning Balance	$63,056	$65,263	$67,222	$69,239	$71,316
11	Net Cashflow	$332,447	$320,815	$308,833	$296,492	$283,781
12	Transfers In/Out - Capital Improvement Reserve	-$330,878	-$319,514	-$307,495	-$295,114	-$282,362
13	**Ending Balance**	**$64,625**	**$66,563**	**$68,560**	**$70,617**	**$72,736**
14	*Interest Income*	*$638*	*$659*	*$679*	*$699*	*$720*
15	**Capital Improvement Reserve**					
16	**Beginning Balance**	$108,293	$264,317	$406,928	$535,264	$648,744
	Plus:					
17	Transfer In/(Out) - from Operating Reserve	$330,878	$319,514	$307,495	$295,114	$282,362
18	New Debt Issue	$0	$0	$0	$0	$0
	Less:					
19	Capital Projects	-$176,708	-$180,243	-$183,847	-$187,524	-$191,275
20	**Ending Balance**	**$262,463**	**$403,589**	**$530,576**	**$642,854**	**$739,832**
21	*Interest*	*$1,854*	*$3,340*	*$4,688*	*$5,891*	*$6,943*
22	***Total Reserves – Ending Balance***	**$327,088**	**$470,152**	**$599,137**	**$713,471**	**$812,567**
23	*Reserve Target*	$155,695	$157,633	$159,630	$161,687	$163,806
24	*Maximum Reserve Target* [1]	$352,609	$355,517	$358,513	$361,598	$364,776

[1]Reserve target is based on 90 days of operating plus one year of depreciation.

APPENDIX A:

Detailed Financial Plan Based on Recommended Rates

Exhibit A – Hemet / San Jacinto Water Utility Detailed Financial Plan

Revenues

Revenues	FYE 2018 Estimated	FYE 2019 Projected	FYE 2020 Projected	FYE 2021 Projected	FYE 2022 Projected	FYE 2023 Projected	FYE 2024 Projected	FYE 2025 Projected	FYE 2026 Projected	FYE 2027 Projected
Wheeling Revenue	$134,079	$134,079	$134,079	$134,079	$134,079	$134,079	$134,079	$134,079	$134,079	$134,079
Rates	$15,990,233	$17,035,200	$17,035,200	$17,035,200	$17,035,200	$17,035,200	$17,035,200	$17,035,200	$17,035,200	$17,035,200
Additional Revenue Required:										
Fiscal Year										
FYE 2016	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
FYE 2017	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
FYE 2018	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
FYE 2019		$0	$0	$0	$0	$0	$0	$0	$0	$0
FYE 2020			$340,704	$340,704	$340,704	$340,704	$340,704	$340,704	$340,704	$340,704
FYE 2021				$347,518	$347,518	$347,518	$347,518	$347,518	$347,518	$347,518
FYE 2022					$354,468	$354,468	$354,468	$354,468	$354,468	$354,468
FYE 2023						$361,558	$361,558	$361,558	$361,558	$361,558
FYE 2024							$368,789	$368,789	$368,789	$368,789
FYE 2025								$376,165	$376,165	$376,165
FYE 2026									$383,688	$383,688
FYE 2027										$391,362
FYE 2028										
FYE 2029										
FYE 2030										
FYE 2031										
FYE 2032										
Total Additional Revenue	**$0**	**$0**	**$340,704**	**$688,222**	**$1,042,690**	**$1,404,248**	**$1,773,037**	**$2,149,202**	**$2,532,890**	**$2,924,252**
Total Pass Through	**$0**	**$0**	**$143,593**	**$292,211**	**$446,032**	**$605,236**	**$770,012**	**$940,555**	**$1,117,067**	**$1,299,757**
Other Revenues										
Rent & Interest	$238,000	$238,000	$238,000	$238,000	$238,000	$238,000	$238,000	$238,000	$238,000	$238,000
Tax & Standby Revenue	$1,259,000	$1,259,000	$1,259,000	$1,259,000	$1,259,000	$1,259,000	$1,259,000	$1,259,000	$1,259,000	$1,259,000
Lake Hemet Campground	$425,000	$425,000	$425,000	$425,000	$425,000	$425,000	$425,000	$425,000	$425,000	$425,000
Placeholder 5										
Other Revenues Subtotal	**$1,922,000**	**$1,922,000**	**$1,922,000**	**$1,922,000**	**$1,922,000**	**$1,922,000**	**$1,922,000**	**$1,922,000**	**$1,922,000**	**$1,922,000**
TOTAL REVENUES	**$18,046,312**	**$19,091,279**	**$19,575,576**	**$20,071,712**	**$20,580,001**	**$21,100,763**	**$21,634,328**	**$22,181,036**	**$22,741,236**	**$23,315,288**

Expenditures and Net Cashflow

Expenses	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023	FYE 2024	FYE 2025	FYE 2026	FYE 2027
Water Purchases	$3,963,915	$4,102,652	$4,246,245	$4,394,864	$4,548,684	$4,707,888	$4,872,664	$5,043,207	$5,219,720	$5,402,410
Operating Expenses										
Total Source of Supply	$552,000	$568,560	$585,617	$603,185	$621,281	$639,919	$659,117	$678,890	$699,257	$720,235
Total GWMP Expense	$1,669,250	$1,719,328	$1,770,907	$1,824,035	$1,878,756	$1,935,118	$1,993,172	$2,052,967	$2,114,556	$2,177,993
Total GWMP Recharge Purchases	$1,100,000	$1,100,000	$1,100,000	$1,100,000	$1,100,000	$1,100,000	$1,100,000	$1,100,000	$1,100,000	$1,100,000
Total Pumping	$1,230,500	$1,287,385	$1,346,975	$1,409,401	$1,474,801	$1,543,319	$1,615,106	$1,690,321	$1,769,130	$1,851,709
Total Purification	$347,500	$357,925	$368,663	$379,723	$391,114	$402,848	$414,933	$427,381	$440,203	$453,409
Total Transmission & Distribution	$1,589,850	$1,637,546	$1,686,672	$1,737,272	$1,789,390	$1,843,072	$1,898,364	$1,955,315	$2,013,974	$2,074,394
Total Commercial Expenses	$150,500	$150,500	$150,500	$150,500	$150,500	$150,500	$150,500	$150,500	$150,500	$150,500
Total General and Admin	$5,374,246	$5,675,553	$5,709,820	$5,885,195	$6,065,830	$6,251,885	$6,443,522	$6,640,908	$6,844,215	$7,053,621
Total Water Master Costs	$450,000	$463,500	$477,405	$491,727	$506,479	$521,673	$537,324	$553,443	$570,047	$587,148
Total Non-Operating Costs	$16,600	$16,600	$16,600	$16,600	$16,600	$16,600	$16,600	$16,600	$16,600	$16,600
Total Depreciation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Operating Expenses	**$16,444,361**	**$17,079,549**	**$17,459,404**	**$17,992,501**	**$18,543,436**	**$19,112,823**	**$19,701,301**	**$20,309,532**	**$20,938,201**	**$21,588,017**
Total Debt Service	**$1,650,948**	**$1,650,460**	**$1,649,385**	**$1,652,598**	**$1,233,579**	**$1,234,079**	**$1,234,079**	**$1,103,345**	**$972,113**	**$975,488**
TOTAL EXPENSES	**$18,095,309**	**$18,730,009**	**$19,108,789**	**$19,645,099**	**$19,777,014**	**$20,346,902**	**$20,935,380**	**$21,412,877**	**$21,910,314**	**$22,563,505**
Net Cashflow	**-$48,997**	**$361,270**	**$466,787**	**$426,613**	**$802,987**	**$753,861**	**$698,948**	**$768,158**	**$830,922**	**$751,783**
Direct Transfers										
Depreciation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Campground Expenses	$122,000	$122,000	$122,000	$122,000	$122,000	$122,000	$122,000	$122,000	$122,000	$122,000
Net Cashflow (after Direct Transfers)	**-$170,997**	**$239,270**	**$344,787**	**$304,613**	**$680,987**	**$631,861**	**$576,948**	**$646,158**	**$708,922**	**$629,783**

Reserves

Reserve Interest Rate	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
	FYE 2018 Estimated	**FYE 2019 Projected**	**FYE 2020 Projected**	**FYE 2021 Projected**	**FYE 2022 Projected**	**FYE 2023 Projected**	**FYE 2024 Projected**	**FYE 2025 Projected**	**FYE 2026 Projected**	**FYE 2027 Projected**
Operating Reserve										
Beginning Balance	$5,018,428	$3,056,056	$3,152,557	$3,216,485	$3,306,637	$3,329,183	$3,424,752	$3,523,800	$3,604,276	$3,687,999
Net Cashflow	-$170,997	$239,270	$344,787	$304,613	$680,987	$631,861	$576,948	$646,158	$708,922	$629,783
Transfers In/Out - Capital Improvement Re	-$1,831,546	-$173,658	-$312,545	-$246,915	-$691,454	-$569,894	-$512,470	-$601,145	-$661,479	-$557,197
Ending Balance	**$3,015,885**	**$3,121,668**	**$3,184,798**	**$3,274,183**	**$3,296,169**	**$3,391,150**	**$3,489,230**	**$3,568,813**	**$3,651,719**	**$3,760,584**
Interest Income	$40,172	$30,889	$31,687	$32,453	$33,014	$33,602	$34,570	$35,463	$36,280	$37,243
O&M Reserve Target (Min)	$3,015,885	$3,121,668	$3,184,798	$3,274,183	$3,296,169	$3,391,150	$3,489,230	$3,568,813	$3,651,719	$3,760,584
O&M Reserve Target (Max)	$4,523,827	$4,682,502	$4,777,197	$4,911,275	$4,944,254	$5,086,725	$5,233,845	$5,353,219	$5,477,578	$5,640,876
Capital Improvement Reserve (R&R)										
Beginning Balance	$4,349,350	$5,252,120	$4,478,427	$3,824,674	$3,085,964	$2,772,081	$2,316,532	$1,783,049	$1,317,323	$890,593
Plus:										
Transfer In/(Out) - from Operating Reserve	$1,831,546	$173,658	$312,545	$246,915	$691,454	$569,894	$512,470	$601,145	$661,479	$557,197
Direct Transfer - Depreciation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
New Debt Issue	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Less:										
Capital Projects	-$928,776	-$947,351	-$966,298	-$985,624	-$1,005,337	-$1,025,444	-$1,045,952	-$1,066,872	-$1,088,209	-$1,109,973
Ending Balance before Transfer to CALPERS	**$5,252,120**	**$4,478,427**	**$3,824,674**	**$3,085,964**	**$2,772,081**	**$2,316,532**	**$1,783,049**	**$1,317,323**	**$890,593**	**$337,817**
Target Balance	$966,677	$966,677	$966,677	$966,677	$966,677	$966,677	$966,677	$966,677	$966,677	$966,677
Transfer to CALPERS	-$212,443	$7,438	$8,537	$8,543	$8,543	$8,543	$8,543	$8,543	$0	$0
Interest	$0	$46,945	$48,925	$41,803	$34,805	$29,507	$25,633	$20,669	$15,648	$11,118
Ending Balance	**$5,039,677**	**$4,532,810**	**$3,882,136**	**$3,136,310**	**$2,815,429**	**$2,354,582**	**$1,817,225**	**$1,346,534**	**$906,241**	**$348,935**
Interest	*$46,945*	*$48,925*	*$41,803*	*$34,805*	*$29,507*	*$25,633*	*$20,669*	*$15,648*	*$11,118*	*$6,198*
R&R Reserve Target	$966,677	$966,677	$966,677	$966,677	$966,677	$966,677	$966,677	$966,677	$966,677	$966,677
Maximum Balance	$1,933,355	$1,933,355	$1,933,355	$1,933,355	$1,933,355	$1,933,355	$1,933,355	$1,933,355	$1,933,355	$1,933,355
CALPERS Fund										
Beginning Balance	$637,557	$857,438	$858,537	$858,543	$858,543	$858,543	$858,543	$858,543	$858,543	$867,085
Plus:										
Transfer In/Out - from Capital Reserve	$212,443	-$7,438	-$8,537	-$8,543	-$8,543	-$8,543	-$8,543	-$8,543	$0	$0
Balance Before Transfer to Disaster Fund	**$850,000**	**$850,000**	**$850,000**	**$850,000**	**$850,000**	**$850,000**	**$850,000**	**$850,000**	**$858,543**	**$867,085**
Target Balance	$850,000	$850,000	$850,000	$850,000	$850,000	$850,000	$850,000	$850,000	$850,000	$850,000
Transfer to Disaster Fund	$0	-$7,438	-$8,537	-$8,543	-$8,543	-$8,543	-$8,543	-$8,543	-$17,085	-$25,628
Interest	*$0*	*$7,438*	*$8,537*	*$8,543*	*$8,543*	*$8,543*	*$8,543*	*$8,543*	*$8,543*	*$8,543*
Ending Balance	**$850,000**	**$850,000**	**$850,000**	**$850,000**	**$850,000**	**$850,000**	**$850,000**	**$850,000**	**$850,000**	**$850,000**
Interest Income	$7,438	$8,537	$8,543	$8,543	$8,543	$8,543	$8,543	$8,543	$8,543	$8,585
CALPERS Reserve Target	$850,000	$850,000	$850,000	$850,000	$850,000	$850,000	$850,000	$850,000	$850,000	$850,000
Disaster Fund										
Beginning Balance	$4,284,860	$4,284,860	$4,292,298	$4,300,835	$4,309,378	$4,317,920	$4,326,463	$4,335,006	$4,343,549	$4,360,634
Plus:										
Transfer In/Out - from CALPERS Reserve	$0	$7,438	$8,537	$8,543	$8,543	$8,543	$8,543	$8,543	$17,085	$25,628
Ending Balance	**$4,284,860**	**$4,292,298**	**$4,300,835**	**$4,309,378**	**$4,317,920**	**$4,326,463**	**$4,335,006**	**$4,343,549**	**$4,360,634**	**$4,386,262**
Target	$5,413,894	$5,727,384	$5,872,673	$6,021,514	$6,174,000	$6,330,229	$6,490,298	$6,654,311	$6,822,371	$6,994,586
Campground Fund										
Beginning Balance	$344,832	$348,280	$351,763	$355,281	$358,834	$362,422	$366,046	$369,707	$373,404	$377,138
Direct Transfer to Campground	$122,000	$122,000	$122,000	$122,000	$122,000	$122,000	$122,000	$122,000	$122,000	$122,000
Less: Campground Expenses	-$122,000	-$122,000	-$122,000	-$122,000	-$122,000	-$122,000	-$122,000	-$122,000	-$122,000	-$122,000
Ending Balance	**$344,832**	**$348,280**	**$351,763**	**$355,281**	**$358,834**	**$362,422**	**$366,046**	**$369,707**	**$373,404**	**$377,138**
Interest Income	*$3,448*	*$3,483*	*$3,518*	*$3,553*	*$3,588*	*$3,624*	*$3,660*	*$3,697*	*$3,734*	*$3,771*

Exhibit B – Garner Valley Water Utility Detailed Financial Plan

Revenues

Revenues	FYE 2018 Estimated	FYE 2019 Projected	FYE 2020 Projected	FYE 2021 Projected	FYE 2022 Projected	FYE 2023 Projected	FYE 2024 Projected	FYE 2025 Projected	FYE 2026 Projected	FYE 2027 Projected
Rates	$233,628	$233,628	$233,628	$233,628	$233,628	$233,628	$233,628	$233,628	$233,628	$233,628
Placeholder										
Subtotal	**$233,628**	**$233,628**	**$233,628**	**$233,628**	**$233,628**	**$233,628**	**$233,628**	**$233,628**	**$233,628**	**$233,628**
Additional Revenue Required:										
Fiscal Year										
FYE 2018	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
FYE 2019		$40,885	$81,770	$81,770	$81,770	$81,770	$81,770	$81,770	$81,770	$81,770
FYE 2020			$55,194	$110,389	$110,389	$110,389	$110,389	$110,389	$110,389	$110,389
FYE 2021				$8,516	$8,516	$8,516	$8,516	$8,516	$8,516	$8,516
FYE 2022					$8,686	$8,686	$8,686	$8,686	$8,686	$8,686
FYE 2023						$8,860	$8,860	$8,860	$8,860	$8,860
FYE 2024							$9,037	$9,037	$9,037	$9,037
FYE 2025								$9,218	$9,218	$9,218
FYE 2026									$9,402	$9,402
FYE 2027										$9,590
FYE 2028										
FYE 2029										
FYE 2030										
FYE 2031										
FYE 2032										
Total Additional Revenue	**$0**	**$40,885**	**$136,964**	**$200,674**	**$209,360**	**$218,220**	**$227,257**	**$236,475**	**$245,877**	**$255,467**
Other Revenues										
Property Tax	$47,513	$47,513	$47,513	$47,513	$47,513	$47,513	$47,513	$47,513	$47,513	$47,513
Bond Taxes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Availability	$23,100	$23,100	$23,100	$23,100	$23,100	$23,100	$23,100	$23,100	$23,100	$23,100
G.V. Depr. Fund Int./Bond Int.	$200	$1,204	$881	$1,048	$1,267	$1,296	$1,326	$1,356	$1,388	$1,426
Placeholder 4										
Placeholder 5										
Other Revenues Subtotal	**$70,813**	**$71,817**	**$71,494**	**$71,661**	**$71,880**	**$71,909**	**$71,939**	**$71,969**	**$72,001**	**$72,039**
TOTAL REVENUES	**$304,441**	**$346,329**	**$442,085**	**$505,963**	**$514,867**	**$523,757**	**$532,823**	**$542,072**	**$551,505**	**$561,134**

Expenditures and Net Cashflow

Expenses	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023	FYE 2024	FYE 2025	FYE 2026	FYE 2027
Operating Expenses										
Total Operating Expenses	$143,000	$147,820	$152,824	$158,020	$163,415	$169,019	$174,840	$180,888	$187,171	$193,701
Total General & Admin Expenses	$100,300	$103,309	$106,408	$109,601	$112,889	$116,275	$119,763	$123,356	$127,057	$130,869
Total Non-Operating Expenses	$13,000	$13,000	$13,000	$13,000	$13,000	$13,000	$13,000	$13,000	$13,000	$13,000
Total Depreciation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Operating Expenses	**$256,300**	**$264,129**	**$272,232**	**$280,620**	**$289,304**	**$298,294**	**$307,604**	**$317,244**	**$327,228**	**$337,570**
Total Debt Service	**$0**	**$0**	**$101,971**	**$101,971**	**$101,971**	**$101,971**	**$101,971**	**$101,971**	**$101,971**	**$101,971**
TOTAL EXPENSES	**$256,300**	**$264,129**	**$374,203**	**$382,591**	**$391,275**	**$400,265**	**$409,574**	**$419,215**	**$429,199**	**$439,540**
Net Cashflow	**$48,141**	**$82,200**	**$67,882**	**$123,372**	**$123,593**	**$123,492**	**$123,249**	**$122,857**	**$122,307**	**$121,593**
Depreciation	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Availability	**$23,100**	**$23,100**	**$23,100**	**$23,100**	**$23,100**	**$23,100**	**$23,100**	**$23,100**	**$23,100**	**$23,100**
Net Cashflow w/ Depreciation & Availability	**$25,041**	**$59,100**	**$44,782**	**$100,272**	**$100,493**	**$100,392**	**$100,149**	**$99,757**	**$99,207**	**$98,493**
Reserve Direct Transfer (Funded Depreciation)	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Reserve Direct Transfer (Availability)	**$23,100**	**$23,100**	**$23,100**	**$23,100**	**$23,100**	**$23,100**	**$23,100**	**$23,100**	**$23,100**	**$23,100**

Reserves

Fund Balances	FYE 2018 Estimated	FYE 2019 Projected	FYE 2020 Projected	FYE 2021 Projected	FYE 2022 Projected	FYE 2023 Projected	FYE 2024 Projected	FYE 2025 Projected	FYE 2026 Projected	FYE 2027 Projected
Operating Reserve										
Beginning Balance	$0	$25,166	$84,813	$125,782	$128,797	$131,721	$134,747	$137,881	$141,126	$144,487
Net Cashflow	$25,041	$59,100	$44,782	$100,272	$100,493	$100,392	$100,149	$99,757	$99,207	$98,493
Transfers In/Out - Capital Improvement Reserve	$0	$0	-$4,861	-$98,523	-$98,865	-$98,691	-$98,372	-$97,900	-$97,267	-$96,467
Ending Balance	**$25,041**	**$84,266**	**$124,734**	**$127,530**	**$130,425**	**$133,422**	**$136,525**	**$139,738**	**$143,066**	**$146,513**
Interest Income	$125	$547	$1,048	$1,267	$1,296	$1,326	$1,356	$1,388	$1,421	$1,455
O&M Reserve Target (Min)	$85,433	$88,043	$124,734	$127,530	$130,425	$133,422	$136,525	$139,738	$143,066	$146,513
O&M Reserve Target (Max)	$128,150	$132,065	$187,101	$191,295	$195,637	$200,133	$204,787	$209,607	$214,599	$219,770
Capital Improvement Reserve (R&R)										
Beginning Balance	$144,662	$71,095	-$4,405	-$77,015	-$57,975	-$40,646	-$25,582	-$12,973	-$3,013	$4,093
Plus:										
Transfer In/(Out) - from Operating Reserve	$0	$0	$4,861	$98,523	$98,865	$98,691	$98,372	$97,900	$97,267	$96,467
Direct Transfer - Funded Depreciation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Direct Transfer - Availability	$23,100	$23,100	$23,100	$23,100	$23,100	$23,100	$23,100	$23,100	$23,100	$23,100
New Debt Issue	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Less:										
Capital Projects	-$96,667	-$98,600	-$100,572	-$102,583	-$104,635	-$106,728	-$108,862	-$111,040	-$113,260	-$115,526
Transfer Out to Interfund										
Ending Balance	**$71,095**	**-$4,405**	**-$77,015**	**-$57,975**	**-$40,646**	**-$25,582**	**-$12,973**	**-$3,013**	**$4,093**	**$8,135**
Interest Income	$1,079	$333	$0	$0	$0	$0	$0	$0	$5	$61
R&R Reserve Target	$72,500	$72,500	$72,500	$72,500	$72,500	$72,500	$72,500	$72,500	$72,500	$72,500
Maximum Balance	$145,000	$145,000	$145,000	$145,000	$145,000	$145,000	$145,000	$145,000	$145,000	$145,000
							$123,552			
Interfund										
Beginning Balance	-$1,700,000	-$1,700,000	-$1,700,000	-$1,598,029	-$1,496,059	-$1,394,088	-$1,292,117	-$1,190,147	-$1,088,176	-$986,206
Plus: Transfer In from Capital	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
GV Accumulated Deficit Repayment	$0	$0	$101,971	$101,971	$101,971	$101,971	$101,971	$101,971	$101,971	$101,971
Ending Balance	**-$1,700,000**	**-$1,700,000**	**-$1,598,029**	**-$1,496,059**	**-$1,394,088**	**-$1,292,117**	**-$1,190,147**	**-$1,088,176**	**-$986,206**	**-$884,235**

Exhibit C – Wastewater Utility Detailed Financial Plan

Revenues

Revenues	FYE 2018 Estimated	FYE 2019 Projected	FYE 2020 Projected	FYE 2021 Projected	FYE 2022 Projected	FYE 2023 Projected	FYE 2024 Projected	FYE 2025 Projected	FYE 2026 Projected	FYE 2027 Projected
Rates	$720,195	$720,195	$720,195	$720,195	$720,195	$720,195	$720,195	$720,195	$720,195	$720,195
Placeholder										
Subtotal	**$720,195**	**$720,195**	**$720,195**	**$720,195**	**$720,195**	**$720,195**	**$720,195**	**$720,195**	**$720,195**	**$720,195**
Additional Revenue Required:										
Fiscal Year / Revenue Adjustment / Effective Month										
FYE 2016 0% July 12	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
FYE 2017 0% July 12	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
FYE 2018 0% July 12	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
FYE 2019 0% July 12		$0	$0	$0	$0	$0	$0	$0	$0	$0
FYE 2020 0% July 12			$0	$0	$0	$0	$0	$0	$0	$0
FYE 2021 0% July 12				$0	$0	$0	$0	$0	$0	$0
FYE 2022 0% July 12					$0	$0	$0	$0	$0	$0
FYE 2023 0% July 12						$0	$0	$0	$0	$0
FYE 2024 0% July 12							$0	$0	$0	$0
FYE 2025 0% July 12								$0	$0	$0
FYE 2026 0% July 12									$0	$0
FYE 2027 0% July 12										$0
FYE 2028 0% July 12										
FYE 2029 0% July 12										
FYE 2030 0% July 12										
FYE 2031 0% July 12										
FYE 2032 0% July 12										
Total Additional Revenue	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
TOTAL REVENUES	**$720,195**	**$720,195**	**$720,195**	**$720,195**	**$720,195**	**$720,195**	**$720,195**	**$720,195**	**$720,195**	**$720,195**

Expenditures and Net Cashflow

Expenses	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023	FYE 2024	FYE 2025	FYE 2026	FYE 2027
Operating Expenses										
Salaries	$53,000	$54,590	$56,228	$57,915	$59,652	$61,442	$63,285	$65,183	$67,139	$69,153
Sewer Expense & Cleaning	$205,000	$211,150	$217,485	$224,009	$230,729	$237,651	$244,781	$252,124	$259,688	$267,479
Sewer Dept Training/Classes	$6,000	$6,180	$6,365	$6,556	$6,753	$6,956	$7,164	$7,379	$7,601	$7,829
General & Admin	$112,454	$115,828	$119,302	$122,882	$126,568	$130,365	$134,276	$138,304	$142,453	$146,727
Total Operating Expenses	**$376,454**	**$387,748**	**$399,380**	**$411,361**	**$423,702**	**$436,413**	**$449,506**	**$462,991**	**$476,881**	**$491,187**
Total Debt Service	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
TOTAL EXPENSES	**$376,454**	**$387,748**	**$399,380**	**$411,361**	**$423,702**	**$436,413**	**$449,506**	**$462,991**	**$476,881**	**$491,187**
Net Cashflow	**$343,741**	**$332,447**	**$320,815**	**$308,833**	**$296,492**	**$283,781**	**$270,689**	**$257,204**	**$243,314**	**$229,008**

Reserves

		FYE 2016 Actuals	FYE 2017 Acutals	FYE 2018 Estimated	FYE 2019 Projected	FYE 2020 Projected	FYE 2021 Projected	FYE 2022 Projected	FYE 2023 Projected	FYE 2024 Projected	FYE 2025 Projected	FYE 2026 Projected	FYE 2027 Projected
Operating Reserve													
Beginning Balance				$0	$63,056	$65,263	$67,222	$69,239	$71,316	$73,456	$75,659	$77,929	$80,267
Net Cashflow		-$249,017	$492,897	$343,741	$332,447	$320,815	$308,833	$296,492	$283,781	$270,689	$257,204	$243,314	$229,008
Transfers In/Out - Capital Improvement Reserve		$0	-$455,014	-$280,998	-$330,878	-$319,514	-$307,495	-$295,114	-$282,362	-$269,227	-$255,698	-$241,763	-$227,410
Ending Balance		**-$249,017**	**$37,883**	**$62,742**	**$64,625**	**$66,563**	**$68,560**	**$70,617**	**$72,736**	**$74,918**	**$77,165**	**$79,480**	**$81,865**
Interest Income		*$0*	*$0*	*$314*	*$638*	*$659*	*$679*	*$699*	*$720*	*$742*	*$764*	*$787*	*$811*
O&M Reserve Target (Min)	60 Days	$41,503	$37,883	$62,742	$64,625	$66,563	$68,560	$70,617	$72,736	$74,918	$77,165	$79,480	$81,865
O&M Reserve Target (Max)	90 Days	$62,254	$56,825	$94,114	$96,937	$99,845	$102,840	$105,926	$109,103	$112,376	$115,748	$119,220	$122,797
Capital Improvement Reserve (R&R)													
Beginning Balance				$0	$108,293	$264,317	$406,928	$535,264	$648,744	$746,774	$828,739	$894,006	$941,921
Plus:													
Transfers In/Out - from Operating Reserve		$0	$455,014	$280,998	$330,878	$319,514	$307,495	$295,114	$282,362	$269,227	$255,698	$241,763	$227,410
New Debt Issue		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Less:													
Capital Projects		$0	$0	-$173,244	-$176,708	-$180,243	-$183,847	-$187,524	-$191,275	-$195,100	-$199,002	-$202,982	-$207,042
Ending Balance		**$0**	**$455,014**	**$107,755**	**$262,463**	**$403,589**	**$530,576**	**$642,854**	**$739,832**	**$820,901**	**$885,435**	**$932,787**	**$962,289**
Interest Income		*$0*	*$0*	*$539*	*$1,854*	*$3,340*	*$4,688*	*$5,891*	*$6,943*	*$7,838*	*$8,571*	*$9,134*	*$9,521*
R&R Reserve Target	1 Year(s)	$91,070	$91,070	$91,070	$91,070	$91,070	$91,070	$91,070	$91,070	$91,070	$91,070	$91,070	$91,070
Maximum Balance	1 Year(s)	$255,672	$255,672	$255,672	$255,672	$255,672	$255,672	$255,672	$255,672	$255,672	$255,672	$255,672	$255,672

APPENDIX B:

Private Fire Line Charges

Exhibit A – Hemet / San Jacinto Private Fire Line Charges

Private Fire Lines	Size (Inches)	Number of Connections	Equivalent Connections (Inches)	Annual Equivalent Connections (Inches)	Revenue Requirements
4”	4	21	84	1008	
6”	6	30	180	2160	
8”	8	36	288	3456	
10”	10	1	10	120	
12”	12	3	36	432	
Total			**598**	**7,176**	**$2,409**

Private Fire Protection – Unit Rate	
Private Fire Protection Revenue Requirement	$2,409
÷ Annual Equivalent Units	7,176
Monthly Unit Rate[1]	**$0.34**

[1] Monthly unit per inch was rounded up to the nearest penny

Connection Size / Type	Proposed Fire Line Charges
4"	$1.36
6"	$2.04
8"	$2.72
10"	$3.40
12"	$4.08

APPENDIX C:

Garner Valley Deficit

Exhibit A – Garner Valley Annual Profit/Losses

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Profit					$86,791	$116,644					$64,808	$121,070	$110,154	$89,282	$29,185	$34,882
Loss	$(65,975)	$(267,443)	$(60,871)	$(101,423)			$(15,778)	$(202,227)	$(48,256)	$(13,851)						
Assets/Capital Projects Paid from General Fund	$(216,286)	$(304,873)	$(414,528)	$(217,072)	$(11,585)	$(98,534)	$(1,416,917)	$(222,936)	$(624,249)	$(112,163)	$(43,918)	$(29,112)	$(100,196)	$(2,213)	$(9,832)	$(23,496)
Garner Valley Profit (Loss)	$(282,261)	$(572,316)	$(475,399)	$(318,495)	$75,206	$18,110	$(1,432,695)	$(425,163)	$(672,505)	$(126,014)	$20,890	$91,958	$9,958	$87,069	$19,353	$11,386
Reimbursement from Depreciation Fund	$3,698	$209,969		$14,081	$89,827		$1,585,000	$76,816	$208,100							
Total Profit (Loss)	**$(278,563)**	**$(362,347)**	**$(475,399)**	**$(304,414)**	**$165,033**	**$18,110**	**$152,305**	**$(348,347)**	**$(464,405)**	**$(126,014)**	**$20,890**	**$91,958**	**$9,958**	**$87,069**	**$19,353**	**$11,386**
Cumulative Total																**$(1,783,426)**