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COACHELLA VALLEY WATER DISTRICT
WEST WHITEWATER REPLENISHMENT ASSESSMENT CHARGE
COST OF SERVICE STUDY

FINAL | May 2021

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EXECUTIVE SUMMARY

The Coachella Valley Water District (District or CVWD) retained Carollo Engineers Inc. (Carollo), an independent consultant, to conduct a comprehensive cost of service study for Fiscal Years (FY) 2021/22 through FY 2025/26. The comprehensive study includes the District's Canal, Replenishment, and Domestic water operations. Given that recommendations for the Canal water operations have carry through impacts on Replenishment Assessment Charges and subsequently Domestic water costs, the Canal analysis was prioritized as the first study component completed, followed by replenishment. This report details the West Whitewater Replenishment Assessment Charge (RAC) Cost of Service Study (Study) and its results.

Study Approach

Carollo's rate-setting methodology is consistent with industry guidelines established by the *M1 Manual*, as published by the American Water Works Association (AWWA), a national industry trade group that makes recommendations on generally accepted rate-making practices within the water industry. Using AWWA guidelines as a framework, the methodology was further tailored to reflect the unique service provided by the West Whitewater Replenishment Fund, as well as the prescriptive nature of Sections 31630 through 31639 of the California Water Code, which govern the RACs and define the rate structure as a variable charge per acre-ft (AF) pumped. The work completed for the Study can be broken down into the following key elements:

- **Revenue Requirements Analysis:** Compares existing revenues of the West Whitewater Replenishment Fund to its operating, capital, reserve, and policy driven costs to establish the adequacy of the existing cost recovery levels and determine the necessary rate revenue.
- **Rate Design Analysis:** Considers both the level and structure of the rates to collect the distributed revenue requirements from each class of service.

The overall goals of the study were focused on developing a financial plan and proposed rate structure that meets the District's financial, operational, and capital needs in a manner that equitably distributes costs and maintains the affordability of groundwater.

Financial Plan

Over the course of the study, several financial forecast and rate increase scenarios were developed. The initial scenarios presented to the Board tested the rate impact of various levels of capital funding. Subsequent to gathering feedback from the initial scenarios it was determined that the proposed rate increases required were not feasible and as such, a second set of scenarios was developed to more adequately balance rate increases and capital funding by reevaluating the CIP and deferring projects to mitigate rate increases. Additional scenarios were developed to include a share of State Water Project (SWP) costs, as allowed by the California Water Code governing the RACs, to be recovered via the West Whitewater and Mission Creek RACs. After the presentation of those scenarios, the Board directed District staff and Carollo to move forward with the scenario that included a 15-percent RAC revenue increase in FY 2022 followed by 20-percent RAC revenue annual increases for FY 2023 through FY 2026.

Table 1 presents a summary of the financial forecast including proposed rate adjustments. The District's updated reserve policy allows projected year-end reserve balances to fall below targeted levels but requires implementation of a plan that adequately meets targeted year end reserve balances within five fiscal years. The proposed rate plan incorporates this provision to smooth and mitigate rate increases over the study period. As shown below, reserves would be drawn down in FY 2022 through FY 2025 with the projected ending balance falling below targeted levels in those years. Reserves are projected to rebound in FY 2026, and will exceed the target level in FY 2027, without the need for additional rate increases beyond those proposed for FY 2022 through FY 2026.

Table 1 Summary of Financial Forecast with Proposed Rates (\$1,000s)

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
RAC Revenue Increase	15.0%	20.0%	20.0%	20.0%	20.0%
Operating Revenues					
RAC Revenues	\$16,968	\$16,634	\$16,210	\$16,296	\$16,296
Revenues from RAC Increases	<u>\$2,545</u>	<u>\$6,321</u>	<u>\$10,634</u>	<u>\$16,087</u>	<u>\$22,564</u>
Subtotal: Rate and Surcharge Revenue	\$19,514	\$22,955	\$26,844	\$32,383	\$38,860
Non-Potable Sales	\$3,737	\$4,380	\$5,195	\$5,195	\$5,195
Other Revenues	<u>\$3,137</u>	<u>\$2,971</u>	<u>\$2,614</u>	<u>\$2,524</u>	<u>\$2,554</u>
Total Revenues	\$26,388	\$30,306	\$34,653	\$40,102	\$46,608
Operating Expenses	\$30,423	\$37,316	\$38,796	\$39,102	\$40,107
Net Operating Revenues	(\$4,035)	(\$7,009)	(\$4,143)	\$1,000	\$6,501
Interfund Debt Service	\$1,200	\$1,200	\$1,200	\$1,200	\$1,200
Capital Expenses					
Capital Projects	\$2,901	\$8,514	\$0	\$0	\$0
District Wide Projects	\$163	\$66	\$31	\$31	\$20
Motor Pool Capital	<u>\$62</u>	<u>\$93</u>	<u>\$99</u>	<u>\$91</u>	<u>\$59</u>
Total Capital Expenses	\$3,126	\$8,673	\$129	\$122	\$78
Total Revenue Requirements	\$34,749	\$47,189	\$40,125	\$40,423	\$41,385
Surplus/(Deficit)	(\$8,361)	(\$16,882)	(\$5,472)	(\$321)	\$5,223
Projected Reserves					
Beginning Balance	\$36,512	\$28,151	\$11,268	\$5,796	\$5,475
Ending Balance	\$28,151	\$11,268	\$5,796	\$5,475	\$10,698
<i>Reserve Target</i>	\$11,562	\$13,838	\$13,979	\$14,364	\$15,214
<i>Unrestricted Reserves</i>	\$16,589	(\$2,570)	(\$8,182)	(\$8,889)	(\$4,516)

Note:

(1) Presented totals may not foot due to rounding.

Proposed Rates

Proposed rates, summarized in Table 2, do not exceed the proportional cost of service, and have been developed through a collaborative effort with the Board to balance operating and capital needs with customer affordability. Throughout completion of the Study, refinements aimed at mitigating increases and maintaining customer affordability were identified and incorporated into the analysis. Some of these refinements included revisiting the initially developed CIP and identification of additional sources of revenue that could be used to offset the need for rate increases.

Table 2 Summary of Proposed Rates

	Existing Rate	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
RAC Revenue Increase	n/a	15.0%	20.0%	20.0%	20.0%	20.0%
Proposed West Whitewater RAC (\$/AF)	\$143.80	\$165.37	\$198.45	\$238.14	\$285.76	\$342.91

Section 1

INTRODUCTION

The Coachella Valley Water District (District or CVWD) retained Carollo Engineers Inc. (Carollo) to conduct a comprehensive cost of service study for Fiscal Years (FY) 2021/22 through FY 2025/26. The comprehensive study includes the District's Canal, Replenishment, and Domestic water operations. Given that recommendations for the Canal water operation have carry through impacts on Replenishment Assessment Charges and subsequently Domestic water costs, the Canal analysis was prioritized as the first study component completed, followed by replenishment. This report details the West Whitewater River Subbasin Area of Benefit (AOB) Replenishment Assessment Charge (RAC) Cost of Service Study (Study) and its results.

1.1 Background

CVWD has served as a steward of Coachella Valley's groundwater resources for more than 100 years. Ensuring that a reliable supply of water is available for the Coachella Valley's future families and businesses is a cornerstone of CVWD's mission.

The RAC is a key component of the Coachella Valley Water Management Plan, a blueprint for ensuring there is a reliable and sustainable long-term supply of high-quality water for Coachella Valley. The RAC generates revenue from those groundwater producers that the District is authorized to charge, such as water agencies, golf courses, HOAs and agriculture to fund the replenishment of groundwater with imported water and the expansion of water delivery systems for supplying Colorado River water and recycled water for non-potable uses to assist in reducing or eliminating groundwater pumping.

The West Whitewater River Subbasin AOB (West Whitewater) is replenished using a combination of source substitution projects and projects using natural run-off and imported water from the SWP, water purchased from Metropolitan Water District (MWD), Rosedale-Rio Bravo Water Storage District, and other available water purchase opportunities. Other water purchases include the MWD Quantification Settlement Agreement (QSA) 35,000 Acre-foot transfer. Beginning in early 2019, Colorado River water pumped from the Coachella Canal to the Palm Desert Groundwater Replenishment Facility, through the Mid-Valley pipeline, is also used to replenish the West Whitewater River Subbasin AOB.

As dictated by the California Water Code Sections 31630 through 31639, RACs are charged to all pumpers who produce more than 25 AF of groundwater from a single or multiple wells in a given year. The current amount of pumping from West Whitewater subject to RAC charges is approximately 118,000 acre-ft per year (AFY). The largest single pumper subject to the West Whitewater RAC is the District's Domestic water system, which produces approximately 67,000 AFY from the West Whitewater. The remaining pumping is primarily for irrigation use by golf courses or other entities with large irrigated areas such as homeowner associations.

Based on the California Water Code, only those pumpers who produce more than 25 AFY are subject to the RACs. Minimal pumpers, those who produce 25 AFY or less, are exempt from the RAC. While these minimal producers are not a driver of the need to replenish the basin, they do receive an ancillary benefit from the District's replenishment activities. Given the relatively small amount of production from minimal users, approximately 500 AFY based on historical estimates, the discretionary property taxes allocated to the West Whitewater Replenishment Fund are sufficient to cover the costs associated with those benefits.

1.2 Study Approach and Goals

To develop updated RAC rates, Carollo conducted an in-depth study of the West Whitewater Replenishment Fund's revenue needs, customer usage characteristics, capital improvement program (CIP), and additional future drivers of service costs and revenues. This Study documents the methodology and assumptions used to develop the financial plan and cost of service analysis, outlines the policy decisions reached, and summarizes proposed rates.

The overall goal of the Study was to develop a financial plan and proposed rate structure that meets the District's financial, operational, and capital needs in a manner that equitably distributes costs and maintains the affordability of groundwater, while ensuring that pumpers do not pay more than their proportional cost of service.

Specific goals included:

1. Recover a share of allocable SWP costs via RACs to recognize the benefit that replenishment AOBs receive by utilizing SWP water for replenishment and to relieve financial pressure on the SWP Fund.
2. Utilize reserves to fund capital projects and ongoing costs throughout the study period to mitigate and smooth rate increases.
3. Set rates such that the West Whitewater Replenishment Fund reserves will adequately meet the target level within five years of initially falling below the target.

1.2.1.1 Forward-Looking Statement

The projections and forecasts of this analysis are based on reasonable expectations of future events. Should the proposed revenue increases be delayed or postponed, or cost escalation, operating expenditures, or capital needs exceed forecasted levels prior to FY 2026, or should revenues not materialize as projected, the District may be required to begin a new rate study and adoption process to increase rates above currently projected levels.

1.2.2 Overview of Water Rate-Setting Process

Carollo’s rate-setting methodology is consistent with industry guidelines established by the *M1 Manual*, as published by the American Water Works Association (AWWA), a national industry trade group that makes recommendations on generally accepted rate-making practices within the water industry, adjusted as necessary to comply with laws specific to rate setting in California. A brief overview of this approach is outlined in Figure 1.

1.2.2.1 Revenue Requirement Analysis

The revenue requirement analysis compares the forecasted revenues of the West Whitewater Replenishment Fund (under existing rates and forecasted water demands) to its forecasted operating and capital costs. This step tests the adequacy of the existing rates to recover the West Whitewater Replenishment Fund’s forecasted costs. If there are shortfalls, increases to rate revenue are recommended until the tests are passed.



Revenue Requirement Analysis
Compares existing revenues of the West Whitewater Fund to its operating, capital reserves, and policy driven costs to establish the adequacy of the existing cost recovery levels.

1.2.2.2 Cost of Service Analysis

This step builds a link between the West Whitewater Replenishment Fund’s cost of providing service and the proposed RAC rates for each customer. After determining the revenue requirement, this step outlines the cost to deliver each unit of water and to serve each customer. Given the prescriptive nature of the California Water Code as related to the RACs, this step is most focused on determining the amount of revenues that need to be collected via the RACs to satisfy the West Whitewater Replenishment Fund’s revenue requirements.

Cost of Service Analysis
Identifies and apportions annual revenue requirements to functional components based on its application to the District’s system, and then allocates to customer rates based on system usage.



Rate Design & Calculation
Considers both the level and structure of the rate design to collect the distributed revenue requirements from each class of service

Rate Adoption
The Study presents the basis for the rates proposed to be adopted in compliance with Proposition 218



Figure 1 Conceptual Overview of the Rate-Setting Process

1.2.2.3 Rate Design & Calculation

Rate design involves developing a rate structure that equitably and proportionately recovers costs from customers. This rate equity is built upon each customer’s relative use of the system. The rate structure must be tailored to the District’s unique operation and customers. In the District’s case, the California Water Code dictates that the RACs are to be uniform volumetric charge per AF pumped.

The rate calculation provides the final nexus between the revenue requirements, cost of service analysis, and final rates charged to customers. This process connects planned expenditures to the designed rates by establishing rates to match estimated revenue generation with expenditures.

1.2.2.4 Rate Adoption

Proposition 218 requires public agencies in California to meet procedural requirements for adoption of new or increased rates for property-related fees. The District has elected to follow Proposition 218 for RAC increases and will hold a public hearing to consider the proposed rate increases, and will provide written notice to all customers subject to the proposed new or increased rates at least 45 days in advance of said hearing. Any property owner or tenant directly liable to the District for payment of the proposed RAC may submit a written protest against the new or increased rates at any time until the close of the public hearing. The Board will not adopt the proposed or increased rates if property owners or tenants directly liable for payment submit written protests on behalf of more than 50 percent of the properties upon which the proposed rates will be imposed.

1.3 Current Rate Structure

The structure of the RAC is prescribed by the California Water Code as a uniform rate per acre-ft. The most recent rate study was completed in 2016 while the last rate adjustment, based on that study, was implemented in FY 2017/18. The current West Whitewater RAC is \$143.80 per AF pumped.

Section 2

REVENUE REQUIREMENTS ANALYSIS

The revenue requirement analysis sets the basis for short- and long-term rate planning. More importantly, the analysis serves as a means to test the West Whitewater Replenishment Fund's fiscal health and adequacy of existing RAC rates. If revenue projections under existing rates do not meet forecasted requirements, rates need to be adjusted.

The analysis is based on financial information provided by District staff, including existing and projected revenues, water usage, operating and capital costs, and financial policies that impact the Fund. Notably, projected groundwater pumping and water purchase projections play a key underlying role as they are a primary driver of several of the District's expenditures and revenue streams.

The revenue requirement is comprised of five components: operating expenses, annual debt service; policy requirements and coverage; capital expenditures; and offsetting revenues.

Typically, there are three tests utilized to define the annual revenues necessary to provide sufficient (1) cash flow, (2) debt coverage, and (3) reserves. These sufficiency tests are commonly used to determine the amount of annual revenue that must be generated from an agency's rates.

The cash flow test identifies projected annual cash requirements. Cash requirements include operating expenses, debt service payments, policy-driven additions to working capital, miscellaneous capital outlays, replacement funding, and rate-funded capital expenditures. These expenses are compared to total annual projected revenues. Any annual shortfalls are used to calculate required rate revenue increases.

The debt coverage test measures the ability of a utility to meet legal and policy-driven revenue obligations. Because the West Whitewater Replenishment Fund does not currently have any outstanding debt obligations, other than interfund debt which is not subject to debt coverage requirements, and is not expected to issue any debt within the rate setting period, the coverage test was omitted for purposes of this analysis.

The reserve sufficiency test measures the ability of rates to meet the District's target cash reserve balance based on the adopted reserve policy. Based on the policy, the year-end cash reserve balance should meet or exceed the target annually. If actual cash reserves are projected to fall below targeted levels, the District is required to implement a plan that illustrates cash reserves will reach the target level within 5 years of the initial shortfall.

Revenues must be sufficient to satisfy all applicable tests. If revenues are found to be insufficient through one or more of the tests, then the greater deficiency (shortfall) drives the minimum required rate revenue increase.

2.1 Projected Pumping and Sales

Under existing rates, approximately 71-percent of the West Whitewater Replenishment Fund's revenues are generated by RACs with an additional 16-percent attributable to non-potable water sales, thus, the projected pumping and water sales volumes are a key component of the analysis.

Table 3 shows the projected groundwater pumping and non-potable water sales for each year of the rate study period (FY 2022 through 2026). As shown, annual pumping by the District's Domestic Water system is expected to remain unchanged at approximately 67,000 AFY. Irrigation pumping is expected to decrease over the study period as users transition from groundwater pumping to non-potable usage. As projected, irrigation pumping is expected to decrease from approximately 51,000 AF in FY 2022 to approximately 46,323 in FY 2026.

The District is currently in the process of completing several projects to transition current pumpers to non-potable service, with connections being completed in FY 2022 through FY 2023. Those users will be served with a combination of direct Canal water or blended Canal and recycled water. Non-potable water sales are expected to increase from approximately 22,000 AFY in FY 2022 to approximately 30,809 in FY 2026 as users transition to that type of service. Non-potable users will include those receiving direct canal water as well as those receiving a blend of canal and recycled water. Additional details regarding projected water sales are included in Appendix A.

Table 3 Projected Pumping and Sales (AF)

User Type	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Groundwater Production					
CVWD Domestic	67,000	67,000	67,000	67,000	67,000
Irrigation and Other Domestic	<u>51,000</u>	<u>48,674</u>	<u>45,727</u>	<u>46,323</u>	<u>46,323</u>
Total West Whitewater Production	118,000	115,674	112,727	113,323	113,323
Non-Potable Water Sales	22,165	25,977	30,809	30,809	30,809

Note:

(1) Presented totals may not foot due to rounding.

2.2 Current RAC and Non-potable Revenues

The revenue requirement analysis compares revenues under the existing rate structure to projected revenue requirements. The West Whitewater Replenishment Fund's current revenues include RAC and non-potable revenues as well as other sources of revenue such as property taxes, investment income, and other miscellaneous revenues.

2.2.1 Rate and Surcharge Revenues Under Existing Rates

RAC and non-potable revenues currently account for approximately 87-percent of current West Whitewater Replenishment Fund revenues. Table 4 presents the projected RAC and non-potable revenues assuming no RAC increases and projected sales shown in Table 3. As shown, the projected decrease in pumping by irrigation users is expected to result in decreased RAC revenues under existing rates. Non-potable revenues are projected to increase due to additional sales. Rates paid by non-potable water customers are set by contractual agreements and as such have been excluded from this study. Calculations for the projected revenues are included in Appendix A.

Table 4 Rate Revenue under Current Rates (\$1,000s)

User Type	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Replenishment Assessment Charges	\$16,968	\$16,634	\$16,210	\$16,296	\$16,296
Water Sales – Non-potable	<u>\$3,737</u>	<u>\$4,380</u>	<u>\$5,195</u>	<u>\$5,195</u>	<u>\$5,195</u>
Total RAC and Non-potable Revenue	\$20,706	\$21,014	\$21,405	\$21,490	\$21,491

Note:

(1) Presented totals may not foot due to rounding.

2.2.2 Other Revenues

Table 5 shows projected non-rate revenue for the West Whitewater Replenishment Fund. In total, other revenues are expected to produce approximately \$3.14 million in FY 2022, and without RAC increases, other revenues would decrease through FY 2026 due to cash reserves being depleted and consequently producing less investment income.

Other revenues are expected to change as described below:

- Property and Redevelopment Agency (RDA) taxes are the largest source of non-rate and surcharge revenues for the West Whitewater Replenishment Fund. Property and RDA taxes are projected at approximately \$2.04 million for FY 2022 and are expected to increase to \$2.17 million by FY 2026.
- Charges for Services – Non-potable revenues compensate the West Whitewater Replenishment Fund for services provided to the District’s non-potable water operations that are not recovered through non-potable water sales revenues. This category of other revenues is expected to remain unchanged at \$5,000 throughout the study period.
- Without increases to the RAC, cash reserves would be depleted by FY 2024 and the Fund would require an infusion of cash from other sources to remain financially viable. Due to the resulting drop in cash reserves, investment income would drop significantly. The negative investment income for FY 2025 and FY 2026 reflects that in the event that cash reserves were drawn into the negative, the West Whitewater Replenishment Fund would be required to pay interest toward another fund or source of revenue (as a result of temporarily borrowing funds) that would be needed to support it.
- Intergovernmental revenues are revenues the West Whitewater Replenishment Fund receives from other funds to compensate it for service provided. Intergovernmental revenues are expected to remain at \$250,000 per year throughout the study period.

Table 5 Projected Non-rate Revenue (\$1,000s)

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Property Taxes – General	\$2,042	\$2,069	\$2,100	\$2,136	\$2,173
Charges for Services – Non-potable	\$5	\$5	\$5	\$5	\$5
Intergovernmental Revenue	\$250	\$250	\$250	\$250	\$250
Investment Income	<u>\$840</u>	<u>\$589</u>	<u>\$54</u>	<u>(\$321)</u>	<u>(\$709)</u>
Total Other Revenues	\$3,137	\$2,913	\$2,409	\$2,070	\$1,719

Note:

(1) Presented totals may not foot due to rounding.

2.3 Projected Water Purchase Costs

Along with natural runoff, the District utilizes water from several sources and agreements to replenish the West Whitewater AOB. Each of these sources and agreements has specific water costs that are supported by the RACs. Specific sources include Canal water, water purchased from MWD, SWP water, and water from the Rosedale-Rio Bravo Water Storage District.

2.3.1 Interfund Canal Purchases

Canal water is purchased by the West Whitewater Replenishment Fund for groundwater replenishment at the Palm Desert Groundwater Replenishment Facility and to serve non-potable water customers. Total purchases of Canal water are expected to increase from approximately 31,400 AF in FY 2022 to just over 45,000 AF in FY 2026. Over half of the total increase in Canal purchases (8,000 AFY) is driven by the expected increase in usage at the Palm Desert Groundwater Replenishment Facility beginning in FY 2023 when the Phase 2 expansion is anticipated to be complete. The remaining increase in Canal water purchases is driven by the increase in non-potable water sales. Projected purchases of Canal water for the non-potable system account for increased sales to non-potable customers as new non-potable projects come online.

All Canal water purchased by the West Whitewater Replenishment Fund is considered to be Class 2 Canal water and is therefore subject to charges necessary for Canal water service, including the Irrigation Water Commodity Charge, the Water Supply Surcharge, and the Quagga Surcharge. The Irrigation Water Commodity Charge is designed to recover costs for basic Canal water service, such as operating costs, customer billing and collections, pumping, and water supply. The Water Supply Surcharge funds costs of the QSA water purchases. The Quagga Surcharge recovers the District's costs of monitoring and preventing the colonization of Quagga mussels in the Canal and pipeline distribution system.

Based on the proposed Canal water rates, the total FY 2022 cost of Canal water will be \$105.30 per AF and will increase to \$117.47 per AF by FY 2026. The total cost for Canal water based on projected purchases and proposed Canal rates is expected to increase from \$3.3 million in FY 2022 to \$5.3 million in FY 2026.

Table 6 shows projected Canal water purchases, rates, and costs for the study period. Canal water purchases are calculated by multiplying the total AFY to be purchased by the total rate for Canal water.

Table 6 Projected Canal Water Purchases

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
AFY to be Purchased					
Palm Desert Groundwater Replenishment Facility (AF)	15,000	23,000	23,000	23,000	23,000
Non-Potable Water System (AF)	16,368	18,694	21,641	22,023	22,023
Total Canal Water Purchases (AF)	31,368	41,694	44,641	45,023	45,023
Proposed Canal Water Rates					
Irrigation Water Commodity Charge	\$34.32	\$35.21	\$36.13	\$37.07	\$38.03
Water Supply Surcharge	\$67.80	\$69.56	\$71.37	\$73.23	\$75.13
Quagga Surcharge	\$3.18	\$3.63	\$4.15	\$4.22	\$4.31
Total Rate for Canal Water	\$105.30	\$108.40	\$111.65	\$114.52	\$117.47

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Canal Water Purchases (\$1,000s)					
Palm Desert Groundwater Replenishment Facility	\$1,580	\$2,493	\$2,568	\$2,634	\$2,702
Non-Potable Water System	\$1,724	\$2,026	\$2,416	\$2,522	\$2,587
Total Canal Water Purchases	\$3,303	\$4,520	\$4,984	\$5,156	\$5,289

Note:

(1) Presented totals may not foot due to rounding.

2.3.2 Glorious Land Company Purchases

Water for replenishment is purchased from the Rosedale-Rio Bravo Water Storage District via an agreement with the Glorious Land Company (GLC). Per the agreement, the District purchases 12,000 AFY. The FY 2022 rate for GLC water is expected to be \$676.50 per AF and this Study assumes this rate will escalate at 2.5-percent annually, based on historical cost escalation. Based on this assumption, the annual cost for GLC water is projected to increase from \$8.1 million in FY 2022 to approximately \$9.0 million in FY 2026. Table 7 shows the projected GLC water purchases for each year of the study period.

Table 7 Glorious Land Company Purchases

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Acre-ft to be Purchased	12,000	12,000	12,000	12,000	12,000
Rate per Acre-ft	\$676.50	\$693.41	\$710.75	\$728.52	\$746.73
Total Cost (\$1,000s)	\$8,118	\$8,321	\$8,529	\$8,742	\$8,961

Note:

(1) Presented totals may not foot due to rounding.

2.3.3 MWD QSA Transfer Purchases

Each year, 35,000 AF of MWD QSA Transfer water is used to replenish the West Whitewater AOB basin. The expected FY 2022 rate for MWD QSA Transfer water is \$314.68 per AF and this Study assumes this rate will escalate at 2.5-percent annually based on historical cost escalation. The cost of MWD QSA water is partially offset to account for the SWP fund bearing a portion of the costs determined by multiplying the MWD QSA Transfer AF by the SWP variable rate. The FY 2022 SWP variable rate is \$197 per AF and this rate is projected to increase to \$203 per AF in FY 2023 and \$209 per AF in FY 2024 with subsequent years expected to increase at 3-percent annually thereafter, based on historical cost escalation for SWP rates.

Based on these assumptions, the annual cost for West Whitewater's share of MWD QSA Transfer water is projected to increase from \$4.1 million in FY 2022 to approximately \$4.4 million in FY 2026. Table 8 shows the projected MWD QSA Transfer water purchases for each year of the study period.

Table 8 MWD QSA Water Purchases

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Acre-ft to be Purchased	35,000	35,000	35,000	35,000	35,000
Rate per Acre-ft	\$314.68	\$322.54	\$330.61	\$338.87	\$347.34
Total Cost MWD QSA Costs (\$1,000s)	\$11,014	\$11,289	\$11,571	\$11,860	\$12,157
State Water Project Share of MWD (Acre-ft)	35,000	35,000	35,000	35,000	35,000
State Water Project Rate	\$197.00	\$203.00	\$209.00	\$215.27	\$221.73
State Water Project Share of MWD Costs (\$1,000s)	\$6,895	\$7,105	\$7,315	\$7,534	\$7,760
West Whitewater Share of Costs (\$1,000s)	\$4,119	\$4,184	\$4,256	\$4,326	\$4,396

Note:

(1) Presented totals may not foot due to rounding.

2.3.4 MWD Conservation Agreement Wheeling

The District is currently in an agreement with MWD to utilize MWD's infrastructure to move 15,000 AFY of conservation agreement water to West Whitewater where it can be used for groundwater replenishment. The District pays a transportation or wheeling rate to MWD for this service. As shown in Table 9 the cost of this water will increase from approximately \$4.7 million in FY 2022 to approximately \$5.2 million in FY 2026.

Table 9 MWD Conservation Agreement Wheeling Costs

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Acre-ft to be Wheeled	15,000	15,000	15,000	15,000	15,000
Rate per Acre-ft	\$314.68	\$322.54	\$330.61	\$338.87	\$347.34
Total Cost (\$1,000s)	\$4,720	\$4,838	\$4,959	\$5,083	\$5,210

Note:

(1) Presented totals may not foot due to rounding.

2.3.5 State Water Project Costs

Section 31633 of the California Water Code defines the specific costs that can be recovered by the District through the RACs. Specifically, the allocable costs include the SWP's delta water charge, the variable operation, maintenance, power, and replacement (OMP&R) component of the transportation charge, and the off-aqueduct power facilities component of the transportation charge. Based on the District's SWP cost projections, the total allocable costs over the study period are \$96.8 million.

In order to reflect benefits West Whitewater AOB receives from the importation of SWP water, which is used for replenishment, the District proposes to collect a portion of the allocable SWP costs through the RACs beginning in FY 2023. Based on an analysis of the SWP Fund, the District determined that 21.3-percent of the allocable costs through FY 2026 or a total of approximately \$20.6 million, will be collected via the RACs.

The amount of allocable costs to be recovered via the RACs is then allocated to the West Whitewater and Mission Creek Replenishment Funds based on the expected pumping from each AOB over the Study period. Using this metric, the West Whitewater Replenishment Fund would be allocated 96.3-percent, or approximately \$19.9 million of the SWP costs to be recovered via the RACs. Table 10 shows the determination of the annual SWP costs to be allocated to the West Whitewater Replenishment Fund.

Table 10 State Water Project Costs (\$1,000s)

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
RAC Allocable SWP Costs					
Delta Water Charge	\$4,617	\$4,617	\$4,617	\$4,617	\$4,617
Off-Aqueducts Power OMP&R	\$30	\$8	\$8	\$8	\$8
Transportation Charge OMP&R Variable	<u>\$6,284</u>	<u>\$17,142</u>	<u>\$16,527</u>	<u>\$17,203</u>	<u>\$16,520</u>
Total RAC Allocable SWP Costs	\$10,931	\$21,767	\$21,152	\$21,828	\$21,145
21.3% Share Based on SWP Fund Needs	\$2,328	\$4,636	\$4,505	\$4,649	\$4,504
Redistribution of FY 2022 Costs	(\$2,328)	\$590	\$573	\$592	\$573
Costs to Recover through RACs	\$0	\$5,227	\$5,079	\$5,241	\$5,077
West Whitewater Share (96.3% based on projected pumping)	\$0	\$5,033	\$4,891	\$5,047	\$4,889

Note:

(1) Presented totals may not foot due to rounding.

2.3.6 QSA Mitigation Payments

QSA mitigation payments are allocated to the East Whitewater and West Whitewater Replenishment Funds based on the amount of QSA water used in each AOB for groundwater replenishment or non-potable sales in-lieu of replenishment. QSA mitigation payments will continue throughout the Study period with the last payments scheduled to take place in FY 2026. Table 11 shows the West Whitewater Replenishment Fund's share of QSA mitigation payments for the study period.

Table 11 QSA Mitigation Payments (\$1,000s)

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
QSA Mitigation – West RAC	\$138	\$183	\$199	\$12	\$45
QSA Mitigation – Non-potable	<u>\$637</u>	<u>\$635</u>	<u>\$716</u>	<u>\$46</u>	<u>\$171</u>
Total West Whitewater QSA Mitigation Payments	\$775	\$818	\$915	\$58	\$216

Note:

(1) Presented totals may not foot due to rounding.

2.4 Projected Operating Expenses

Operating expenses are costs the District incurs for day-to-day operations such as employee salaries and benefits, fuel, chemicals, and power. Other costs in the operating budget include indirect costs from the District's other cost centers such as administration, human resources, and business technology, etc.

The District's FY 2020/21 operating budget served as the basis for forecasting future operating expenses for the West Whitewater Replenishment Fund. The budget was compared to prior year actual financial information to identify any anomalies or one-time expenditures that should be excluded when forecasting future years. Unless otherwise calculated, future years were forecasted using the escalation factors the District typically includes in its internal budget modelling, which reflect typical historic escalation as well as understood future increases in specific costs such as salary step increases and benefits costs. Escalation factors are described in Table 12. Water purchase costs and SWP costs are calculated, as shown earlier in this report, in Table 6 through Table 10.

Table 12 Cost Escalation Factors

Escalation Factor	
Operations	The operations escalator is 2-percent per year. It is applied to all Supplies and Services costs.
COLA/Step/Merit	The Cost of Living Adjustment (COLA)/Step/Merit escalator is used to project annual increases in salary costs. This escalator is set at 4.1-percent per year.
Benefits	The benefits escalator accounts for increases in medical plan expenses, CalPERS costs, workers compensation, and dental coverage. This escalator is set between 8.8-percent and 9.4-percent per year based on anticipated benefits costs.
Utilities – IID	This escalator is applied to costs for utility services provided by IID. It is set at 3-percent per year.
Utilities – SCE	This escalator is applied to costs for utility services provided by Southern California Edison. It is set at 3-percent per year.
Utilities – Other	This escalator is applied to costs for utility services from all other providers. It is set at 7-percent per year.
Capital Escalation	The capital escalation factor is applied to capital outlay costs and is set at 2-percent per year.

Note:

(1) Presented totals may not foot due to rounding.

Total operating expenses are expected to increase from \$30.4 million in FY 2022 to \$40.1 million in FY 2026. Primary drivers of this increase are increased water purchase costs as well as the inclusion of SWP costs. Table 13 includes a summary of the projected operating expenses. Additional details are included in Appendix B.

Table 13 Projected Operating Costs (\$1,000s)

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Salaries and Benefits	\$4,038	\$4,118	\$4,640	\$4,926	\$5,236
Supplies and Services	\$4,804	\$4,922	\$5,043	\$5,167	\$5,295
Utilities	\$480	\$495	\$511	\$527	\$544
QSA Mitigation Payments	\$775	\$818	\$915	\$58	\$216
Water Purchases					
Canal Water Purchases	\$3,303	\$4,520	\$4,984	\$5,156	\$5,289
Glorious Land Company Purchases	\$8,118	\$8,321	\$8,529	\$8,742	\$8,961
Metropolitan Water District Purchases	\$4,119	\$4,184	\$4,256	\$4,326	\$4,396
MWD Conservation Agreement Water Wheeling	\$4,720	\$4,838	\$4,959	\$5,083	\$5,210
State Water Project Costs	\$0	\$5,033	\$4,891	\$5,047	\$4,889
Capital Outlay	<u>\$66</u>	<u>\$67</u>	<u>\$68</u>	<u>\$70</u>	<u>\$71</u>
Total Operating Costs	\$30,423	\$37,316	\$38,796	\$39,102	\$40,107

Note:

(1) Presented totals may not foot due to rounding.

2.5 Capital Improvement Costs

In addition to funding day-to-day operations, the District invests in the West Whitewater system's infrastructure to maintain the system's efficiency and integrity, and to develop infrastructure to expand replenishment activities.

2.5.1 Identified Capital Needs

The CIP included in the financial forecast for this Study includes approximately \$10.8 million in capital infrastructure projects for the study period related to the Palm Desert Groundwater Replenishment Facility Phase II project, as well as \$292,000 in general district projects and \$373,000 in motor pool capital purchases (all 2021 dollars).

The analysis accounts for inflationary increases in construction and capital costs by applying an escalation factor to the planned CIP costs. Capital escalation has been set at 2-percent per year, in line with the capital escalation factor used in the operating cost projections. With this factor applied, the escalated cost of the planned capital infrastructure improvements totals \$11.4 million with \$310,000 and \$403,000 in general district and motor pool spending, respectively. Table 14 summarizes capital projects included in the financial forecast. Additional details can be found in Appendix C.

Table 14 Projected CIP Costs (Escalated) (\$1,000s)

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Palm Desert Groundwater Replenishment Facility	\$2,901	\$8,514	\$0	\$0	\$0
General District Projects	\$163	\$66	\$31	\$31	\$20
Motor Pool Capital	\$62	\$93	\$99	\$91	\$59
Total Capital Expenditures	\$3,128	\$8,673	\$129	\$122	\$78

Note:

(1) Presented totals may not foot due to rounding.

2.6 Interfund Loan

The West Whitewater Replenishment Fund holds one outstanding interfund debt obligation based on a loan from the Domestic Fund that was used to pay for the Mid Valley Pipeline. As of the beginning of FY 2021, the outstanding balance on the loan is \$51.7 million. Throughout the study period, the District has elected to pay only the interest payments on the loan in the amount of \$1.2 million per year.

Table 15 Interfund Loan Payments (\$1,000s)

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Mid Valley Pipeline Loan (Domestic)	\$1,200	\$1,200	\$1,200	\$1,200	\$1,200

Note:

(1) Presented totals may not foot due to rounding.

2.7 Reserve Requirements

The District maintains a robust reserve policy to ensure it can provide reliable service to its customers, finance long-term capital projects, and react to emergencies if they arise. The reserve policy is reviewed periodically and adjusted based on the District's needs. The current policy sets an overall reserve target for the West Whitewater Replenishment Fund based on five components. Each component is described below.

2.7.1.1 Operating Reserve

The operating reserve ensures continuity of service regardless of cash flow, and is considered working capital to be used to fund current expenses, as needed. Operating reserves shall be maintained at 90 days, or 25 percent of current year budgeted operating expenses (less depreciation and capital outlay). This balance will fluctuate from month-to-month. However, the year-end objective remains 90 days of budgeted operating expenses.

2.7.1.2 Rate Stabilization Reserve

The rate stabilization reserve covers the smoothing of rates in the event of short to mid-term rate revenue loss, and/or higher than anticipated operating expenses that cannot be supported by normal revenues.

Rate stabilization reserves can be used to balance the budget if revenues are projected to be 10 percent less than prior year actual rate revenues, or if operating expenses are projected to be 10 percent more than prior year actual expenses. The rate stabilization reserve shall be established at the higher of 10 percent of current year budgeted rate revenues or 10% of total budgeted operating expenses (less depreciation and capital outlay).

2.7.1.3 Capital Improvement Reserve

Ongoing replacement of capital facilities and additional investment in capital is essential in maintaining the desired level of service for District customers and to meet increased demand. The capital improvement reserve is designated for funding the capital improvement program and any unforeseen capital projects. It is designed to stabilize funding for capital by accumulating "pay-as-you-go" reserves. This reserve can also be used concurrently with outside funding sources. The capital improvement reserve shall be established at 25% of the average five year forecasted "pay-as-you-go" capital improvement expenditures.

2.7.1.4 Emergency Reserve

The emergency reserve helps ensure continued service to the District's customers and service areas for events which are impossible to anticipate or budget. The ability of the District to quickly restore facilities and services is critical to the public health and safety of their residents. The emergency reserve will assist in covering emergency cash needs for any reason. Reserves for the Canal Fund are set at 1 percent of net capital assets.

2.7.1.5 Vehicle Replacement Reserve

The Vehicle Replacement reserve provides capital replacement funding as the District's rolling stock is depreciated over its useful life. The target amount should be set at the average of the five-year CIP for replacement vehicles for that fund.

2.7.1.6 Combined Reserve Target

Table 16 shows the combined reserve target throughout the study period. As shown, the combined target reserve balance will increase from \$11.6 million in FY 2022 to \$15.2 million in FY 2026, as the costs bases of the component targets are projected to increase, with the addition of SWP costs having the largest impact by increasing the required operating reserve target.

Table 16 Combined Reserve Targets (\$1,000s)

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Operating Reserve	\$7,589	\$9,312	\$9,682	\$9,758	\$10,009
Rate Stabilization Reserve	\$3,036	\$3,725	\$3,873	\$3,903	\$4,004
Capital Improvement Reserve	\$607	\$464	\$68	\$323	\$811
Emergency Reserve	\$249	\$258	\$267	\$277	\$286
Vehicle Replacement Reserve	<u>\$81</u>	<u>\$79</u>	<u>\$89</u>	<u>\$103</u>	<u>\$104</u>
Combined Reserve Target	\$11,562	\$13,838	\$13,978	\$14,364	\$15,214

Note:

(1) Presented totals may not foot due to rounding.

2.8 Financial Forecast

Once the revenue requirement elements described above are developed, they are combined into a financial forecast to assess the ability of the District's rates to meet the goals of the cash flow and reserve tests. The key goals for the revenue requirements tests for this study were:

1. Recover a share of allocable SWP costs via the RACs to recognize the benefit that the replenishment AOBs receive by utilizing SWP water for replenishment and to relieve financial pressure on the SWP Fund.
2. Utilize reserves to fund capital projects and ongoing costs through the study period to mitigate and smooth rate increases.
3. Set rates such that the West Whitewater Replenishment Fund cash reserves will adequately meet the target level within five years of initially falling below the target.

2.8.1 Forecast without Rate Revenue Increases

Table 17 (page 19) presents results of the financial forecast under existing rates and surcharges, assuming no increases are implemented. As shown, existing rates are insufficient to meet projected revenue requirements. Operating expenses would exceed revenues beginning in FY 2022 and the resulting deficit would continue to grow as inflationary increases in operating expenses continue. Reserves would be drawn down and fail to meet the policy target by FY 2023 and would be entirely depleted by FY 2024.

2.8.2 Proposed Financial Plan

Over the course of the study, several financial forecast and rate increase scenarios were developed. The initial scenarios presented to the Board tested the rate impact of various levels of capital funding. Subsequent to gathering feedback from the initial scenarios it was determined that the proposed rate increases required were not feasible and as such, a second set of scenarios was developed to more adequately balance rate increases and capital funding by reevaluating the CIP and deferring projects to mitigate rate increases. Additional scenarios were developed to include a share of SWP costs, as allowed by the California Water Code governing the RACs, to be recovered via the West Whitewater and Mission Creek RACs. After the presentation of those scenarios, the Board directed District staff and Carollo to move forward with the scenario that included a 15-percent increase in FY 2022 followed by 20-percent annual increases for FY 2023 through FY 2026.

Table 18 (page 20) presents a summary of the financial forecast including proposed rate adjustments. The District's updated reserve policy allows projected year-end reserve balances to fall below targeted levels but requires implementation of a plan that adequately meets targeted year end reserve balances within five fiscal years. The proposed rate plan incorporates this provision to smooth and mitigate rate increases over the study period. As shown below, reserves would be drawn down in FY 2022 through FY 2025 with the projected ending balance falling below targeted levels in those years. Reserves are projected to rebound in FY 2026, and will exceed the target level in FY 2027, without the need for additional rate increases beyond those proposed for FY 2022 through FY 2026. Additional details of the financial forecast are included in Appendix D

Table 17 Financial Forecast without Rate Revenue Increases (\$1,000s)

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Operating Revenues					
RAC Revenues	\$16,968	\$16,634	\$16,210	\$16,296	\$16,296
Revenues from RAC Increases	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
Subtotal: Rate and Surcharge Revenue	\$16,968	\$16,634	\$16,210	\$16,296	\$16,296
Non-Potable Sales	\$3,737	\$4,380	\$5,195	\$5,195	\$5,195
Other Revenues	<u>\$3,137</u>	<u>\$2,913</u>	<u>\$2,409</u>	<u>\$2,070</u>	<u>\$1,719</u>
Total Revenues	\$23,842	\$23,927	\$23,814	\$23,560	\$23,209
Operating Expenses	\$30,423	\$37,316	\$38,796	\$39,102	\$40,107
Net Operating Revenues	(\$6,580)	(\$13,389)	(\$14,982)	(\$15,541)	(\$16,898)
Interfund Debt Service	\$1,200	\$1,200	\$1,200	\$1,200	\$1,200
Capital Expenses					
Capital Projects	\$2,901	\$8,514	\$0	\$0	\$0
District Wide Projects	\$163	\$66	\$31	\$31	\$20
Motor Pool Capital	<u>\$62</u>	<u>\$93</u>	<u>\$99</u>	<u>\$91</u>	<u>\$59</u>
Total Capital Expenses	<u>\$3,126</u>	<u>\$8,673</u>	<u>\$129</u>	<u>\$122</u>	<u>\$78</u>
Total Revenue Requirements	\$34,749	\$47,189	\$40,125	\$40,423	\$41,385
Surplus/(Deficit)	(\$10,906)	(\$23,262)	(\$16,311)	(\$16,863)	(\$18,176)
Projected Reserves					
Beginning Balance	\$36,512	\$25,606	\$2,344	(\$13,967)	(\$30,831)
Ending Balance	\$25,606	\$2,344	(\$13,967)	(\$30,831)	(\$49,006)
<i>Reserve Target</i>	\$11,562	\$13,838	\$13,979	\$14,364	\$15,214
<i>Unrestricted Reserves</i>	\$14,044	(\$11,494)	(\$27,946)	(\$45,194)	(\$64,220)

Note:

(1) Presented totals may not foot due to rounding.

Table 18 Financial Forecast with Proposed Increases (\$1,000s)

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
RAC Revenue Increase	15.0%	20.0%	20.0%	20.0%	20.0%
Operating Revenues					
RAC Revenues	\$16,968	\$16,634	\$16,210	\$16,296	\$16,296
Revenues from RAC Increases	<u>\$2,545</u>	<u>\$6,321</u>	<u>\$10,634</u>	<u>\$16,087</u>	<u>\$22,564</u>
Subtotal: Rate and Surcharge Revenue	\$19,514	\$22,955	\$26,844	\$32,383	\$38,860
Non-Potable Sales	\$3,737	\$4,380	\$5,195	\$5,195	\$5,195
Other Revenues	<u>\$3,137</u>	<u>\$2,971</u>	<u>\$2,614</u>	<u>\$2,524</u>	<u>\$2,554</u>
Total Revenues	\$26,388	\$30,306	\$34,653	\$40,102	\$46,608
Operating Expenses	\$30,423	\$37,316	\$38,796	\$39,102	\$40,107
Net Operating Revenues	(\$4,035)	(\$7,009)	(\$4,143)	\$1,000	\$6,501
Interfund Debt Service	\$1,200	\$1,200	\$1,200	\$1,200	\$1,200
Capital Expenses					
Capital Projects	\$2,901	\$8,514	\$0	\$0	\$0
District Wide Projects	\$163	\$66	\$31	\$31	\$20
Motor Pool Capital	<u>\$62</u>	<u>\$93</u>	<u>\$99</u>	<u>\$91</u>	<u>\$59</u>
Total Capital Expenses	\$3,126	\$8,673	\$129	\$122	\$78
Total Revenue Requirements	\$34,749	\$47,189	\$40,125	\$40,423	\$41,385
Surplus/(Deficit)	(\$8,361)	(\$16,882)	(\$5,472)	(\$321)	\$5,223
Projected Reserves					
Beginning Balance	\$36,512	\$28,151	\$11,268	\$5,796	\$5,475
Ending Balance	\$28,151	\$11,268	\$5,796	\$5,475	\$10,698
<i>Reserve Target</i>	\$11,562	\$13,838	\$13,979	\$14,364	\$15,214
<i>Unrestricted Reserves</i>	\$16,589	(\$2,570)	(\$8,182)	(\$8,889)	(\$4,516)

Note:

(1) Presented totals may not foot due to rounding.

Section 3

COST OF SERVICE ANALYSIS AND RATE DESIGN

The purpose of a cost-of-service analysis is to provide a rational basis for distributing the full costs of West Whitewater replenishment service to each customer and rate component in proportion to the demands they place on the system and the benefits that they receive through their service. Given that the prescriptive nature of the California Water Code requires that the RACs are uniform volumetric charges, the cost of service and rate design analysis includes only two main steps. First, RAC rate revenue requirements are determined. Second, those rate revenue requirements are divided by the projected pumping demands to calculate rates.

The RAC rate revenue requirements are the amount of revenue that must be recovered through the RACs in each year. They are determined by subtracting offsetting non-rate revenues from total expenditures or revenue requirements for each year and accounting for any use of or contribution to reserves. Table 19 shows the calculation of the revenue required from RACs for each year of the study period.

Table 19 West Whitewater RAC Rate Revenue Requirements (\$1,000s)

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Operating Expenses	\$30,423	\$37,316	\$38,796	\$39,102	\$40,107
Interfund Debt Service	\$1,200	\$1,200	\$1,200	\$1,200	\$1,200
Capital Expenses	\$3,126	\$8,673	\$129	\$122	\$78
Total Revenue Requirements	\$34,749	\$47,189	\$40,125	\$40,423	\$41,385
Less: Non-Potable Water Sales	(\$3,737)	(\$4,380)	(\$5,195)	(\$5,195)	(\$5,195)
Less: Other Revenues	(\$3,137)	(\$2,971)	(\$2,614)	(\$2,524)	(\$2,554)
Contribution to (Use of) Reserves	(\$8,361)	(\$16,882)	(\$5,472)	(\$321)	\$5,223
Revenue Required from RACs	\$19,514	\$22,955	\$26,844	\$32,383	\$38,860

Note:

(1) Presented totals may not foot due to rounding.

Table 20 shows the calculation of the West Whitewater RAC for each year of the study period. The rate per AF is calculated by dividing the allocated revenue requirements for each year by the respective projected pumping demands. For example, the RAC charge for FY 2022 is calculated by dividing \$19,513,000 by 118,000 AF, yielding a proposed RAC rate of \$165.37 per AF.

Table 20 FY 2023 IWCC Calculation

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2022
Revenue Required from RACs (\$1,000s)		\$19,514	\$22,955	\$26,844	\$32,383	\$38,860
Projected Pumping (AF)		118,000	115,674	112,727	113,323	113,323
Proposed West Whitewater RAC (\$/AF)	\$143.80	\$165.37	\$198.45	\$238.14	\$285.76	\$342.91

Section 4

CONCLUSION

The West Whitewater Replenishment Fund cost of service analysis shows that rate increases are necessary to ensure operating revenues are sufficient to meet operating costs. Furthermore, increases are necessary so the District can reestablish reserves at the policy target level over the next five years.

The proposed rates and surcharges, summarized in Table 21, have been developed through a collaborative effort with the Board to balance the funds operating and capital needs with customer affordability. Throughout the completion of the Study, refinements aimed at mitigating increases and maintaining customer affordability were identified and incorporated into the analysis. Some of these refinements included revisiting the initially developed CIP and identification of additional sources of revenue that could be used to offset required rate increases.

Table 21 Summary of Proposed Rates

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
RAC Revenue Increase	n/a	15.0%	20.0%	20.0%	20.0%	20.0%
Proposed West Whitewater RAC (\$/AF)	\$143.80	\$165.37	\$198.45	\$238.14	\$285.76	\$342.91

Appendix A

PROJECTED PRODUCTION AND SALES VOLUME AND REVENUE

Projected Groundwater Production and Non-potable Water Sales

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Groundwater Production and Non-potable Water Sales						
Groundwater Production (AF)						
CVWD Domestic Production	67,000	67,000	67,000	67,000	67,000	67,000
Irrigation and Non-CVWD Municipal Production	51,000	51,000	48,674	45,727	46,323	46,323
Total Groundwater Production	118,000	118,000	115,674	112,727	113,323	113,323
Non-Potable Water Sales	22,165	22,165	25,977	30,809	30,809	30,809
Groundwater Production and Non-potable Water Revenues Under Existing Rates						
Existing West Whitewater RAC (\$/AF)	\$ 143.80	\$ 143.80	\$ 143.80	\$ 143.80	\$ 143.80	\$ 143.80
Groundwater Production Revenues						
CVWD Domestic Production Revenues	\$ 9,634,600	\$ 9,634,600	\$ 9,634,600	\$ 9,634,600	\$ 9,634,600	\$ 9,634,600
Irrigation and Non-CVWD Municipal Production Revenues	7,333,800	7,333,800	6,999,321	6,575,543	6,661,247	6,661,247
Total Groundwater Production Revenues	16,968,400	16,968,400	16,633,921	16,210,143	16,295,847	16,295,847
Non-Potable Water Rate (\$/AF)	\$ 168.61	\$ 168.61	\$ 168.61	\$ 168.61	\$ 168.61	\$ 168.61
Non-Potable Water Sales Revenues	\$ 3,737,241	\$ 3,737,241	\$ 4,379,982	\$ 5,194,705	\$ 5,194,705	\$ 5,194,705

Appendix B

PROJECTED OPERATING EXPENSES

Coachella Valley Water District

Budget Forecasted ---->

Growth Factor		Budget	Forecasted ---->				
		FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Operating Expenses Detail							
Salaries and Benefits							
Salaries and Wages	COLA/Step/Merit	\$ 2,465,000	\$ 2,566,065	\$ 2,671,274	\$ 2,780,796	\$ 2,894,809	\$ 3,013,496
Fringe Benefit	Benefits	1,438,000	1,564,358	1,704,354	1,860,004	2,031,810	2,222,602
Supplemental Personnel Costs - Salaries	No Increase	-	-	-	-	-	-
Supplemental Personnel Costs - Benefits	No Increase	-	-	-	-	-	-
Subtotal Salaries and Benefits		\$ 3,903,000	\$ 4,130,423	\$ 4,375,628	\$ 4,640,800	\$ 4,926,618	\$ 5,236,097
Less Capitalized Labor	[Calculated]	(60,000)	(91,906)	(257,390)	(919)	(937)	(591)
Total Salaries and Benefits		\$ 3,843,000	\$ 4,038,517	\$ 4,118,238	\$ 4,639,881	\$ 4,925,681	\$ 5,235,506
Supplies and Services							
Supplies and Services	Operations	\$ 4,710,000	\$ 4,804,200	\$ 4,921,704	\$ 5,042,578	\$ 5,166,890	\$ 5,294,707
SWP Costs to Recover Via West Whitewater RAC	[Calculated]	-	-	5,033,126	4,890,901	5,047,224	4,889,298
Total Supplies and Services		\$ 4,710,000	\$ 4,804,200	\$ 9,954,830	\$ 9,933,479	\$ 10,214,113	\$ 10,184,006
Supplemental Motor Pool Costs - Added to Supplies and Services							
Motor pool (linked one year ahead in budget model)	Operations	-	21,000	22,000	23,000	24,000	25,000

Coachella Valley Water District

Budget Forecasted ---->

	Growth Factor	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Utilities							
Utilities - IID	Utilities - IID	\$ 431,032	\$ 443,963	\$ 457,282	\$ 471,000	\$ 485,130	\$ 499,684
Utilities - SCE	Utilities - SCE	12,902	13,289	13,688	14,098	14,521	14,957
Utilities - Other	Utilities - Other	21,000	22,470	24,043	25,726	27,527	29,454
Total Utilities		\$ 464,934	\$ 479,722	\$ 495,012	\$ 510,825	\$ 527,178	\$ 544,095
QSA Mitigation Payments							
QSA Mitigation - NP	[Calculated]	\$ 194,000	\$ 637,000	\$ 635,000	\$ 716,000	\$ 46,000	\$ 171,000
QSA Mitigation - West RAC	[Calculated]	25,000	138,000	183,000	199,000	12,000	45,000
Total QSA Mitigation Payments	[Calculated]	\$ 219,000	\$ 775,000	\$ 818,000	\$ 915,000	\$ 58,000	\$ 216,000
Water Purchases							
Interfund Canal Purchases - NP	[Calculated]	\$ 1,717,003	\$ 1,723,550	\$ 2,026,430	\$ 2,416,218	\$ 2,522,074	\$ 2,587,042
Interfund Canal Purchases - West RAC	[Calculated]	839,200	1,579,500	2,493,200	2,567,950	2,633,960	2,701,810
MWD & GLC	[Calculated]	10,410,000	16,956,750	17,343,044	17,744,271	18,151,078	18,567,632
Total Water Purchases		\$ 12,966,203	\$ 20,259,800	\$ 21,862,674	\$ 22,728,439	\$ 23,307,112	\$ 23,856,484
Capital Outlay							
Capital Outlay	[Calculated]	\$ 64,260	\$ 65,545	\$ 66,856	\$ 68,193	\$ 69,557	\$ 70,948
Other	Operations	-	-	-	-	-	-
Other	Operations	-	-	-	-	-	-
Total Capital Outlay		\$ 64,260	\$ 65,545	\$ 66,856	\$ 68,193	\$ 69,557	\$ 70,948
Total Operating Expenses		\$ 22,267,397	\$ 30,422,785	\$ 37,315,611	\$ 38,795,817	\$ 39,101,642	\$ 40,107,039

Appendix C

CAPITAL IMPROVEMENT PLAN

West Whitewater Capital Improvement Plan

Project Title	2022	2023	2024	2025	2026
West Whitewater CIP					
Replenishment					
Palm Desert Ground Water Replenishment Facility Project	\$ 2,744,080	\$ 8,023,000	\$ -	\$ -	\$ -
Automated Delivery for the Palm Desert Ground Water Replenishment Facility	44,000	-	-	-	-
Total Replenishment Capital	\$ 2,788,080	\$ 8,023,000	\$ -	\$ -	\$ -
Escalation Factor	104%	106%	108%	110%	113%
Escalated Replenishment Capital	\$ 2,900,718	\$ 8,514,072	\$ -	\$ -	\$ -
Other Capital Expenditures					
Motor Pool					
Projected Motor Pool Capital	\$ 60,000	\$ 88,000	\$ 91,000	\$ 82,000	\$ 52,000
Total Motor Pool	\$ 60,000	\$ 88,000	\$ 91,000	\$ 82,000	\$ 52,000
Escalation Factor	104%	106%	108%	110%	113%
Escalated Motor Pool	\$ 62,424	\$ 93,386	\$ 98,501	\$ 90,535	\$ 58,560
General District					
Projected West Whitewater Share of General District Projects	\$ 156,500	\$ 61,800	\$ 28,300	\$ 28,300	\$ 17,500
Total General District	\$ 156,500	\$ 61,800	\$ 28,300	\$ 28,300	\$ 17,500
Escalation Factor	104%	106%	108%	110%	113%
Escalated General District	\$ 162,823	\$ 65,583	\$ 30,633	\$ 31,245	\$ 19,708

Appendix D

DETAILED FINANCIAL FORECASTS

Financial Forecast Under Existing Rates

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	
RAC Increase	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
RAC Rate (\$/AF)	\$143.80	\$143.80	\$143.80	\$143.80	\$143.80	\$143.80	
Revenues Prior to Increases							
1 RAC Revenues Under Existing Rates	\$ 16,968,400	\$ 16,968,400	\$ 16,633,921	\$ 16,210,143	\$ 16,295,847	\$ 16,295,847	From Appendix A
2 Revenues from RAC Increases	-	-	-	-	-	-	Assumes no increases implemented
3 Subtotal: RAC Revenue	\$ 16,968,400	\$ 16,968,400	\$ 16,633,921	\$ 16,210,143	\$ 16,295,847	\$ 16,295,847	= 1 + 2
4 Non-potable Water Sales Revenues	3,737,241	3,737,241	4,379,982	5,194,705	5,194,705	5,194,705	From Appendix A
5 Property Taxes - General	2,014,000	2,042,000	2,069,000	2,100,000	2,136,000	2,173,000	Based on District projections
6 Charges for Services - NP	5,000	5,000	5,000	5,000	5,000	5,000	Based on District projections
7 Intergovernmental Revenue	250,000	250,000	250,000	250,000	250,000	250,000	Based on District projections
8 Investment Income	782,299	839,774	588,928	53,906	(321,251)	(709,103)	Calculated at 2.3% of previous year's ending balance
9 O&M Grants	50,000	-	-	-	-	-	Based on District projections
10 Total Revenues	\$ 23,806,940	\$ 23,842,414	\$ 23,926,831	\$ 23,813,754	\$ 23,560,302	\$ 23,209,450	= sum (3 through 9)
Operating Expenses							
11 Salaries and Benefits	\$ 3,843,000	\$ 4,038,517	\$ 4,118,238	\$ 4,639,881	\$ 4,925,681	\$ 5,235,506	From Appendix B
12 Supplies and Services	4,710,000	4,804,200	4,921,704	5,042,578	5,166,890	5,294,707	From Appendix B
13 Utilities	464,934	479,722	495,012	510,825	527,178	544,095	From Appendix B
14 QSA Mitigation Payments	219,000	775,000	818,000	915,000	58,000	216,000	From Appendix B
15 Water Purchases	12,966,203	20,259,800	21,862,674	22,728,439	23,307,112	23,856,484	From Appendix D, See Report Section 2.3
16 SWP Costs to Recover Via West Whitewater RAC	-	-	5,033,126	4,890,901	5,047,224	4,889,298	From Appendix B
17 Capital Outlay	64,260	65,545	66,856	68,193	69,557	70,948	From Appendix B
18 Total Operating Expenses	\$ 22,267,397	\$ 30,422,785	\$ 37,315,611	\$ 38,795,817	\$ 39,101,642	\$ 40,107,039	= sum (11 through 17)
19 Net Operating Revenues	\$ 1,539,542	\$ (6,580,370)	\$ (13,388,780)	\$ (14,982,063)	\$ (15,541,340)	\$ (16,897,589)	= 10 - 18
20 Interfund Debt Service	\$ 1,200,000	\$ 1,200,000	\$ 1,200,000	\$ 1,200,000	\$ 1,200,000	\$ 1,200,000	Based on District projections

Financial Forecast Under Existing Rates

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	
Capital Revenues							
21 Capital Grants	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ -	Based on District projections
22 Other	-	-	-	-	-	-	
23 Total Capital Revenues	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ -	= 21 + 22
Capital Expenses							
24 Replenishment Capital Projects	\$ 239,700	\$ 2,900,718	\$ 8,514,072	\$ -	\$ -	\$ -	From Appendix C
25 General District Projects	134,640	162,823	65,583	30,633	31,245	19,708	From Appendix C
26 Motor Pool Capital	66,300	62,424	93,386	98,501	90,535	58,560	From Appendix C
27 Total Capital Expenses	\$ 440,640	\$ 3,125,965	\$ 8,673,041	\$ 129,134	\$ 121,780	\$ 78,268	= sum (24 through 26)
28 Total Revenue Requirements	\$ 23,908,037	\$ 34,748,750	\$ 47,188,652	\$ 40,124,951	\$ 40,423,422	\$ 41,385,307	= 18 + 20 + 27
29 Surplus/(Deficit)	\$ (1,098)	\$ (10,906,336)	\$ (23,261,820)	\$ (16,311,197)	\$ (16,863,120)	\$ (18,175,857)	= 10 + 27 - 28
Projected Reserves							
30 Beginning Balance	\$ 34,013,000	\$ 36,511,902	\$ 25,605,567	\$ 2,343,747	\$ (13,967,450)	\$ (30,830,571)	Beginning balance based on District projections
31 Reserve Adjustment	\$2,500,000						Input based on direction from District to account for lower than budgeted expenses in FY 2021
32 Ending Balance	\$ 36,511,902	\$ 25,605,567	\$ 2,343,747	\$ (13,967,450)	\$ (30,830,571)	\$ (49,006,428)	= 30 + 29 + 31
Reserve Component Targets							
33 Operating Reserve	\$ 5,550,784	\$ 7,589,310	\$ 9,312,189	\$ 9,681,906	\$ 9,758,021	\$ 10,009,023	25% of operating expenses less depreciation and capital outlay higher of 10% of current year budgeted rate revenues or 10% of total budgeted operating expenses less depreciation and capital outlay
34 Rate Stabilization Reserve	2,220,314	3,035,724	3,724,875	3,872,762	3,903,208	4,003,609	25% of five-year average PAYGO
35 Capital Improvement Reserve	1,343,000	606,409	464,010	67,793	322,882	810,851	1% of net capital assets
36 Emergency Reserve	241,000	249,435	258,165	267,201	276,553	286,232	average of the five-year CIP for replacement vehicles
37 Vehicle Replacement Reserve	82,229	80,681	78,764	88,910	102,911	104,308	No debt in West Whitewater Fund
38 Debt Service Reserve	-	-	-	-	-	-	
39 Combined Reserve Target	\$ 9,437,327	\$ 11,561,560	\$ 13,838,004	\$ 13,978,572	\$ 14,363,576	\$ 15,214,024	= sum (33 through 38)
40 Unrestricted Reserves	\$ 27,074,575	\$ 14,044,007	\$ (11,494,258)	\$ (27,946,023)	\$ (45,194,147)	\$ (64,220,452)	= 32 - 39

Financial Forecast Under Proposed Rates

	FYE 2021	FYE 2022	FYE 2023	FYE 2024	FYE 2025	FYE 2026	FYE 2027	
RAC Increase	0.0%	15.0%	20.0%	20.0%	20.0%	20.0%	0.0%	
RAC Rate (\$/AF)	\$143.80	\$165.37	\$198.45	\$238.14	\$285.76	\$342.91	\$342.91	
Revenues Prior to Increases								
1 RAC Revenues Under Existing Rates	\$ 16,968,400	\$ 16,968,400	\$ 16,633,921	\$ 16,210,143	\$ 16,295,847	\$ 16,295,847	\$ 16,295,847	From Appendix A
2 Revenues from RAC Increases	-	2,545,260	6,320,890	10,633,854	16,087,261	22,563,882	22,563,882	Assumes no increases implemented
3 Subtotal: RAC Revenue	\$ 16,968,400	\$ 19,513,660	\$ 22,954,811	\$ 26,843,996	\$ 32,383,108	\$ 38,859,730	\$ 38,859,730	= 1 + 2
4 Non-potable Water Sales Revenues	3,737,241	3,737,241	4,379,982	5,194,705	5,194,705	5,194,705	5,194,705	From Appendix A
5 Property Taxes - General	2,014,000	2,042,000	2,069,000	2,100,000	2,136,000	2,173,000	2,211,000	Based on District projections
6 Charges for Services - NP	5,000	5,000	5,000	5,000	5,000	5,000	5,000	Based on District projections
7 Intergovernmental Revenue	250,000	250,000	250,000	250,000	250,000	250,000	250,000	Based on District projections
8 Investment Income	782,299	839,774	647,469	259,174	133,316	125,927	246,057	Calculated at 2.3% of previous year's ending balance
9 O&M Grants	50,000	-	-	-	-	-	-	Based on District projections
10 Total Revenues	\$ 23,806,940	\$ 26,387,674	\$ 30,306,262	\$ 34,652,876	\$ 40,102,130	\$ 46,608,362	\$ 46,766,492	= sum (3 through 9)
Operating Expenses								
11 Salaries and Benefits	\$ 3,843,000	\$ 4,038,517	\$ 4,118,238	\$ 4,639,881	\$ 4,925,681	\$ 5,235,506	\$ 5,563,941	From Appendix B
12 Supplies and Services	4,710,000	4,804,200	4,921,704	5,042,578	5,166,890	5,294,707	5,426,102	From Appendix B
13 Utilities	464,934	479,722	495,012	510,825	527,178	544,095	561,596	From Appendix B
14 QSA Mitigation Payments	219,000	775,000	818,000	915,000	58,000	216,000	-	From Appendix B
15 Water Purchases	12,966,203	20,259,800	21,862,674	22,728,439	23,307,112	23,856,484	19,116,599	From Appendix D, See Report Section 2.3
16 SWP Costs to Recover Via West Whitewater RAC	-	-	5,033,126	4,890,901	5,047,224	4,889,298	4,404,088	From Appendix B
17 Capital Outlay	64,260	65,545	66,856	68,193	69,557	70,948	72,367	From Appendix B
18 Total Operating Expenses	\$ 22,267,397	\$ 30,422,785	\$ 37,315,611	\$ 38,795,817	\$ 39,101,642	\$ 40,107,039	\$ 35,144,692	= sum (11 through 17)
19 Net Operating Revenues	\$ 1,539,542	\$ (4,035,110)	\$ (7,009,349)	\$ (4,142,941)	\$ 1,000,488	\$ 6,501,323	\$ 11,621,799	= 10 - 18
20 Interfund Debt Service	\$ 1,200,000	\$ 1,200,000	\$ 1,200,000	\$ 1,200,000	\$ 1,200,000	\$ 1,200,000	\$ 1,200,000	Based on District projections

Financial Forecast Under Proposed Rates

	FYE 2021	FYE 2022	FYE 2023	FYE 2024	FYE 2025	FYE 2026	FYE 2027	
Capital Revenues								
21 Capital Grants	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Based on District projections
22 Other	-	-	-	-	-	-	-	
23 Total Capital Revenues	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	= 21 + 22
Capital Expenses								
24 Replenishment Capital Projects	\$ 239,700	\$ 2,900,718	\$ 8,514,072	\$ -	\$ -	\$ -	\$ 114,869	From Appendix C
25 General District Projects	134,640	162,823	65,583	30,633	31,245	19,708	110,274	From Appendix C
26 Motor Pool Capital	66,300	62,424	93,386	98,501	90,535	58,560	52,840	From Appendix C
27 Total Capital Expenses	\$ 440,640	\$ 3,125,965	\$ 8,673,041	\$ 129,134	\$ 121,780	\$ 78,268	\$ 277,982	= sum (24 through 26)
28 Total Revenue Requirements	\$ 23,908,037	\$ 34,748,750	\$ 47,188,652	\$ 40,124,951	\$ 40,423,422	\$ 41,385,307	\$ 36,622,674	= 18 + 20 + 27
29 Surplus/(Deficit)	\$ (1,098)	\$ (8,361,076)	\$ (16,882,389)	\$ (5,472,076)	\$ (321,292)	\$ 5,223,055	\$ 10,143,818	= 10 + 27 - 28
Projected Reserves								
30 Beginning Balance	\$ 34,013,000	\$ 36,511,902	\$ 28,150,827	\$ 11,268,438	\$ 5,796,362	\$ 5,475,070	\$ 10,698,125	Beginning balance based on District projections
31 Reserve Adjustment	\$2,500,000							Input based on direction from District to account for lower than budgeted expenses in FY 2021
32 Ending Balance	\$ 36,511,902	\$ 28,150,827	\$ 11,268,438	\$ 5,796,362	\$ 5,475,070	\$ 10,698,125	\$ 20,841,942	= 30 + 29 + 31
Reserve Component Targets								
33 Operating Reserve	\$ 5,550,784	\$ 7,589,310	\$ 9,312,189	\$ 9,681,906	\$ 9,758,021	\$ 10,009,023	\$ 8,768,081	25% of operating expenses less depreciation and capital outlay higher of 10% of current year budgeted rate revenues or 10% of total budgeted operating expenses less depreciation and capital outlay
34 Rate Stabilization Reserve	2,220,314	3,035,724	3,724,875	3,872,762	3,903,208	4,003,609	3,885,973	25% of five-year average PAYGO
35 Capital Improvement Reserve	1,343,000	606,409	464,010	67,793	322,882	810,851	1,312,991	1% of net capital assets
36 Emergency Reserve	241,000	249,435	258,165	267,201	276,553	286,232	296,251	average of the five-year CIP for replacement vehicles
37 Vehicle Replacement Reserve	82,229	80,681	78,764	88,910	102,911	104,308	113,485	No debt in West Whitewater Fund
38 Debt Service Reserve	-	-	-	-	-	-	-	
39 Combined Reserve Target	\$ 9,437,327	\$ 11,561,560	\$ 13,838,004	\$ 13,978,572	\$ 14,363,576	\$ 15,214,024	\$ 14,376,781	= sum (33 through 38)
40 Unrestricted Reserves	\$ 27,074,575	\$ 16,589,267	\$ (2,569,567)	\$ (8,182,210)	\$ (8,888,506)	\$ (4,515,899)	\$ 6,465,161	= 32 - 39