SJRA
SAN JACINTO RIVER AUTHORITY

GROUNDWATER REDUCTION PLAN DIVISION

2024 Water Rate Study

2024 Water Rate Study and Financial Planning Report

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carollo
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Abbreviations

AWWA	American Water Works Association
CIP	Capital Improvement Plan
Carollo	Carollo Engineers
EDU	equivalent dwelling units
FY	fiscal year
GPCD	gallons per capita day
GRP or Division	Groundwater Reduction Plan
kgal	thousand gallons
M1	M1 Manual: Principles of Water Rates, Fees, and Charges
mg/L	milligrams per liter
MG	million gallons
mgd	million gallons per day
O&M	operations and maintenance
R&R	repair and replacement
RCNLD	replacement cost new, less depreciation
Study	Water Rate Study
SJRA	San Jacinto River Authority
WEF	Water Environment Federation
WTP	water treatment plant
WIP	work in progress

SECTION 1 INTRODUCTION

The San Jacinto River Authority (SJRA) manages water supply for the Highlands, Lake Conroe, Woodlands, Flood Management, Raw Water, and Groundwater Reduction Plan (GRP) Divisions. The GRP Division is located at the Lake Conroe Dam and is named for the countywide program aimed at substantially reducing future groundwater usage from the Gulf Coast Aquifer by diversifying its portfolio of water supply sources. The GRP Division's total demand for FY 2024 is 54.54 million gallons per day (mgd), 13 mgd of which is surface water from Lake Conroe. The remaining 41.54 mgd is groundwater and is not provided by SJRA GRP.

1.1 Study Purpose

SJRA retained Carollo Engineers, Inc. (Carollo) to perform a comprehensive financial plan and revenue requirements analysis (Study) of the GRP Division to recommend revenue requirements for the upcoming five-year period (fiscal year (FY) 2025 through FY 2029) and develop a rate differential recommendation. The findings and recommendations of this analysis are detailed within this report. A manual for using and updating the model which calculated these findings is provided separately.

1.2 Study Approach

Revenue Requirement analyses are performed periodically so that revenues continue to adequately fund utility operations, maintenance, and necessary capital improvements. The last rate study GRP conducted was in 2019 and provided rates for FY 2020. Staff updated the revenue requirements annually to dictate necessary increases and added the rate differential to the increased groundwater rate to calculate surface water rates.

Carollo uses a methodology consistent with industry standards established by the *Principles of Water, Rates, Fees, and Charges: Manual of Water Supply Practices M1* (M1 Manual), which is published by the American Water Works Association (AWWA), a national industry trade group that makes recommendations on generally accepted practices in the water and sewer industry.

From a high level, the Study follows a multi-step process, supported by the guidance in the M1 Manual, starting from a financial forecast and ending with rate adoption, shown in Figure 1.

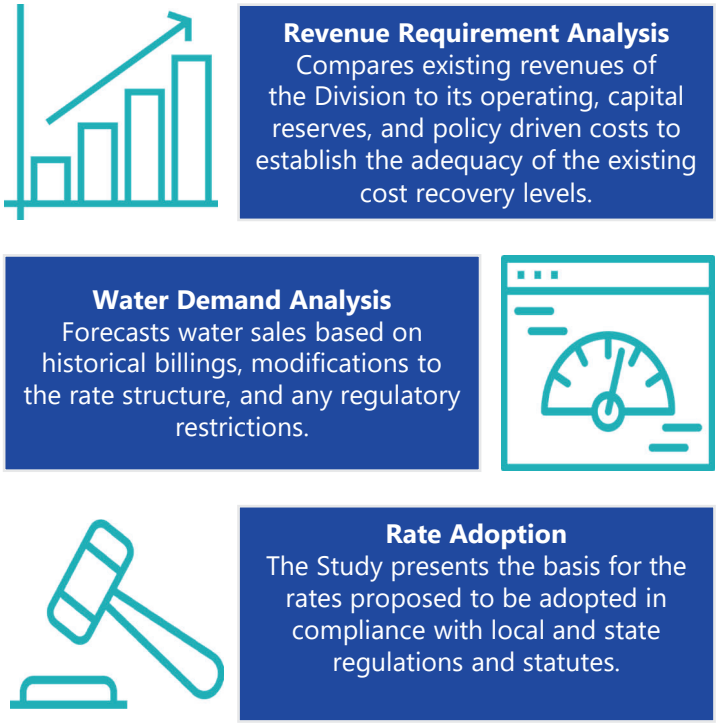

Figure 1 Conceptual Overview of the Rate-Setting Process

The overall goals of the Study were focused on developing a financial plan that meets the Division's financial, operational, and capital needs in a manner that equitably distributes costs between groundwater and surface water Participants. Specific goals included:

1. Forecast groundwater and surface water consumption.
2. Forecast O&M budget for at least the next five years.
3. Determine any existing or future debt service requirements.
4. Determine appropriate funding level of reserves.
5. Calculate and recommend any revenue increases needed to sufficiently meet reserve and debt service requirements for the next five years.

1.2.1 Revenue Requirement Analysis

The revenue requirement analysis compares GRP's forecasted revenues (under existing rates and forecasted water demands) to its forecasted operating and capital costs. This step assesses the adequacy of existing rates to fund GRP's anticipated expenditures. If any shortfalls exist, rates may need to increase.

1.2.2 Water Demand Analysis

Forecasting groundwater and surface water sales is essential in determining revenue requirements. As part of the budget process, GRP forecasts the expected water usage based on water supply, growth projections, and previous demand. GRP has a set level of water supply available to allocate across Participants, of which no more than 13.0 mgd can come from Lake Conroe's surface water due to a limitation set by the GRP Review Committee to keep the plant operational at a low cost. Therefore, for the purposes of revenue requirements analysis, the groundwater demand is simply that year's total available supply minus the GRP Review Committee's surface water annual limit.

1.2.3 Rate Calculation

The rate design involves developing a rate structure that proportionately recovers costs from Participants. This structure must be resilient enough to handle changing cost and demand scenarios, and flexible enough to meet other unique criteria.

The rate calculation is intended to quantify the nexus between the Revenue Requirements and the final rate that Participants are charged. This process establishes rates to match the estimated revenue generation with expenditures.

This Study did not include a reassessment of the current rate structure and therefore maintained the current rates or proposed an increase proportional to the revenue requirement deficit.

1.3 Current Rate Calculation

GRP provides wholesale treated surface water to Participants rather than directly to individual customers. Currently, the GRP provides treated surface water to seven Participants and receives revenue from Surface Water Delivery Fees as well as Groundwater Pumpage Fees from all 149 Participants. These provide the majority of GRP's revenue and are supplemented with Industrial Reservation Fees and other minor miscellaneous revenues.

The groundwater rate is a uniform charge per thousand gallons. Surface water is also a uniform rate charged as the groundwater rate plus a rate differential, to account for the costs that surface water Participants would have incurred had they continued pumping groundwater. These avoided costs are accounted for in an equitable surface water rate calculated as the estimated weighted average of groundwater pumping costs associated with the operations and maintenance (O&M) of wells. The details of this calculation are provided later in this report.

Table 1 Existing Rates (2024)

Participant Class	Rate ($/kgal)
Groundwater	$2.99
Rate Differential	0.42
Surface Water	3.41

SECTION 2 INPUTS AND ASSUMPTIONS

2.1 Rate Differential

GRP's surface water rate is calculated as the groundwater rate plus a rate differential, to account for the costs that surface water Participants would have incurred had they continued pumping groundwater. In the 2019 Study, the rate differential was calculated using a weighted average of groundwater pumping costs associated with Water Wells O&M from three Participants. During this Study, 12 Participants responded to the survey with sufficient data to be used in calculating an updated differential which, if adopted, will go into effect for the five-year duration of this Study.

The first step of calculating the rate differential is to determine the costs associated with Well O&M and select only the line items related to groundwater pumpage. After conversations with GRP Division staff, this Study included the following general categories of line item costs (specific verbiage may differ by Participant):

- Water Plant Maintenance and Repairs.
- Well Maintenance and Repairs.
- Well Rehabilitation Planning and Costs.
- Water Well Performance / Water Quality Testing.
- Chemicals:
  - Chlorination.
  - Well Lubrication.
  - Other Chemicals.
- Utilities:
  - Electrical.
  - Natural Gas.
  - Fuel (Gas and Diesel).
- Auxiliary Power Costs.

The following table summarizes the costs included in the Rate Differential calculation:

Table 2 Groundwater Pumpage Costs Associated by Participant

Participant	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
City of Conroe	$843,334	$1,161,074	$1,478,619	$2,134,431	$2,133,789
Conroe ISD	-	-	-	22,154	126,960
Del Lago Estates	81,348	20,139	37,121	22,631	35,801
Domestic Water Company	47,435	33,107	60,247	63,860	121,349
Montgomery County MUD 89	184,658	217,928	275,400	261,201	326,767
Montgomery County MUD 83	163,807	172,846	151,361	210,757	174,693
Montgomery County WCID #1	169,255	294,223	232,305	222,191	161,077
San Jo Utilities	25,095	32,916	32,218	84,526	65,373
SJRA Woodlands	1,066,001	1,432,690	954,418	1,478,184	1,486,564
Southern Montgomery County	127,692	153,267	218,811	132,459	127,090
Quadvest	-	699,678	786,117	1,049,384	1,251,617
City of Willis	215,071	206,975	163,666	215,920	331,340
Total	**$2,923,696**	**$4,424,843**	**$4,390,283**	**$5,897,698**	**$6,342,420**

The second variable in the rate differential equation is groundwater volume, by percentage. The following tables summarize groundwater volume by gallons and percentage per Participant:

Table 3 Groundwater Volume by Participant (gallons)

Participant	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
City of Conroe	2,418,459,000	2,836,589,000	2,890,729,000	3,656,425,000	4,165,294,000
Conroe ISD(1)	14,865,500	15,569,700	16,098,800	21,277,200	26,742,975
Del Lago Estates(1)	14,058,400	16,294,102	14,269,907	16,367,510	17,613,433
Domestic Water Company	34,509,000	37,050,000	38,760,000	42,683,000	44,518,909(2)
Montgomery County MUD 89	345,000,000	441,000,000	398,000,000	482,000,000	501,000,000
Montgomery County MUD 83	193,670,000	213,480,000	199,590,000	237,120,000	233,900,000(1)
Montgomery County WCID #1	130,009,000	154,555,000	141,114,000	158,574,000	167,445,000
San Jo Utilities(1)	18,135,800	19,695,000	18,142,000	18,891,000	24,488,000
SJRA Woodlands	3,277,689,000	3,355,754,000	2,810,265,000	3,621,614,000	3,177,771,000
Southern Montgomery County	283,802,000	270,589,000	256,511,000	268,835,000	278,923,000(1)
Quadvest	1,090,930,000	1,189,575,000	1,041,003,000	1,421,868,358	1,583,380,000(2)
City of Willis	304,574	304,648	253,224	294,672	339,931
Total	**7,821,432,274**	**8,550,455,450**	**7,824,735,931**	**9,945,949,740**	**10,221,416,248**

Notes:
(1) Participant did not provide volume data; Calculation uses demands from Participant-entered data in SJRA's billing software.
(2) Participant did not provide a full year of volume data; Calculation uses an annualized value.

Table 4 Groundwater Volume by Participant (percent)

Participant	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
City of Conroe	30.9%	33.2%	36.9%	36.8%	40.8%
Conroe ISD	0.2%	0.2%	0.2%	0.2%	0.3%
Del Lago Estates	0.2%	0.2%	0.2%	0.2%	0.2%
Domestic Water Company	0.4%	0.4%	0.5%	0.4%	0.4%
Montgomery County MUD 89	4.4%	5.2%	5.1%	4.8%	4.9%
Montgomery County MUD 83	2.5%	2.5%	2.6%	2.4%	2.3%
Montgomery County WCID #1	1.7%	1.8%	1.8%	1.6%	1.6%
San Jo Utilities	0.2%	0.2%	0.2%	0.2%	0.2%
SJRA Woodlands	41.9%	39.2%	35.9%	36.4%	31.1%
Southern Montgomery County	3.6%	3.2%	3.3%	2.7%	2.7%
Quadvest	13.9%	13.9%	13.3%	14.3%	15.5%
City of Willis	0.0%	0.0%	0.0%	0.0%	0.0%

The second step of the Rate Differential is to calculate a unit cost per thousand gallons of groundwater pumpage. The results of dividing costs in Table 2 by volume in Table 3 is summarized below.

Table 5 Unit Cost of Groundwater Pumpage ($/kgal)

Participant	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
City of Conroe	$0.35	$0.41	$0.51	$0.58	$0.51
Conroe ISD	$-	$-	$-	$1.04	$4.75
Del Lago Estates	$5.79	$1.24	$2.60	$1.38	$2.03
Domestic Water Company	$1.37	$0.89	$1.55	$1.50	$2.73
Montgomery County MUD 89	$0.54	$0.49	$0.69	$0.54	$0.65
Montgomery County MUD 83	$0.85	$0.81	$0.76	$0.89	$0.75
Montgomery County WCID #1	$1.30	$1.90	$1.65	$1.40	$0.96
San Jo Utilities	$1.38	$1.67	$1.78	$4.47	$2.67
SJRA Woodlands	$0.33	$0.43	$0.34	$0.41	$0.47
Southern Montgomery County	$0.45	$0.57	$0.85	$0.49	$0.46
Quadvest	$-	$0.59	$0.76	$0.74	$0.79
City of Willis	$706.14	$679.39	$646.33	$732.75	$974.73

Finally, the weighted average unit cost is derived from multiplying the unit cost by percentage of groundwater volume and summing the result. Carollo recommends using the three-year average weighted average cost of $0.59 as the rate differential for the next five years.

Table 6 Rate Differential Calculation ($/kgal)

Participant	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
City of Conroe	$0.11	$0.14	$0.19	$0.21	$0.21
Conroe ISD	$-	$-	$-	$0.00	$0.01
Del Lago Estates	$0.01	$0.00	$0.00	$0.00	$0.00
Domestic Water Company	$0.01	$0.00	$0.01	$0.01	$0.01
Montgomery County MUD 89	$0.02	$0.03	$0.04	$0.03	$0.03
Montgomery County MUD 83	$0.02	$0.02	$0.02	$0.02	$0.02
Montgomery County WCID #1	$0.02	$0.03	$0.03	$0.02	$0.02
San Jo Utilities	$0.00	$0.00	$0.00	$0.01	$0.01
SJRA Woodlands	$0.14	$0.17	$0.12	$0.15	$0.15
Southern Montgomery County	$0.02	$0.02	$0.03	$0.01	$0.01
Quadvest	$-	$0.08	$0.10	$0.11	$0.12
City of Willis	$0.03	$0.02	$0.02	$0.02	$0.03
Weighted Average Cost ($/kgal)	**$0.37**	**$0.52**	**$0.56**	**$0.59**	**$0.62**
Three-Year Average Weighted Cost			**$0.48**	**$0.56**	**$0.59**

2.2 Operating Revenues & Expenditures

2.2.1 Revenues

2.2.1.1 Water Sales

Water demand is the key component to the revenue requirement analysis, as a large portion of the Division's water revenues are from groundwater production by the Participants for which GRP does not pay O&M costs. Lake Conroe's surface water supply is allocated to both the City of Houston and SJRA. Per the GRP Review Committee's annual limit, SJRA GRP is currently limited to 13.0 mgd of surface water available to allocate to the seven surface water Participants. All remaining demand generating revenue applicable to this Study is met by groundwater produced by the GRP Participants. Due to weather conditions, GRP had 69.25 mgd in water sales in FY 2023.

Total sales are budgeted at 54.54 mgd in FY 2024 and are anticipated to increase to 58.62 mgd in FY 2025 through the rest of the Study, as shown in the table below. Note that this Study modeled a conservate scenario and the actual sales will be reviewed annually to account for growth within the Participant service areas.

Table 7 Water Demand by Supply Source

Source	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
million gallons per day						
Groundwater	41.54	45.62	45.62	45.62	45.62	45.62
Surface Water	13.00	13.00	13.00	13.00	13.00	13.00
Total Sales	**54.54**	**58.62**	**58.62**	**58.62**	**58.62**	**58.62**
thousand gallons per year						
Groundwater	15,162,100	16,651,300	16,651,300	16,651,300	16,651,300	16,651,300
Surface Water	4,745,000	4,745,000	4,745,000	4,745,000	4,745,000	4,745,000
Total Sales	**19,907,100**	**21,396,300**	**21,396,300**	**21,396,300**	**21,396,300**	**21,396,300**

2.2.1.2 Projected Revenues

Using the Rate Differential calculated in Table 6 and water sales in Table 7, Carollo determined GRP's baseline rate revenues, prior to any other revenue increases.

Table 8 Rate Revenues Before Increase

Revenue Item	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Rates ($/kgal)					
Groundwater	$2.67	$2.67	$2.67	$2.67	$2.67
Rate Differential	0.59	0.59	0.59	0.59	0.59
Surface Water	3.26	3.26	3.26	3.26	3.26
Sales (kgal)					
Groundwater	16,651,300	16,651,300	16,651,300	16,651,300	16,651,300
Surface Water	4,745,000	4,745,000	4,745,000	4,745,000	4,745,000
Revenue ($ mil)					
Groundwater	$44.49	$44.26	$44.26	$44.26	$44.26
Surface Water	15.71	15.71	15.71	15.71	15.71
Total Rate Revenues ($ mil)	**$59.98**	**$59.98**	**$59.98**	**$59.98**	**$59.98**

With the addition of other operating and non-operating revenues, GRP's total revenues without rate increases beyond the adjusted rate differential are presented in Table 9.

Table 9 Revenues Before Increase ($ millions)

Revenue Item	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Operating Revenues					
Groundwater Revenues	$44.49	$44.26	$44.26	$44.26	$44.26
Surface Water Revenues	15.71	15.71	15.71	15.71	15.71
Other Operating Revenues	0.10	0.10	0.10	0.10	0.10
Non-Operating Revenues					
Interest Income	$0.09	$0.09	$0.09	$0.09	$0.09
Other Non-Operating Revenues	0.03	0.03	0.03	0.03	0.03
Total Revenues	**$60.43**	**$60.20**	**$60.20**	**$60.20**	**$60.20**

2.2.2 Expenses

To forecast GRP's budget for the duration of this Study, Carollo chose escalation factors based on long-term and recent inflation and substantiated with input from Division staff. All expenses in this Study are escalated by three percent annually, except chemicals, which are escalated at five percent annually for the Study period.

2.2.2.1 Capital Improvement Plan Funding

The GRP Division has two projects in the current 10-Year Project Plan: the Wastewater Discharge Optimization, funded by O&M, and a Membrane Replacement, funded by the Repair and Replacement (R&R) Fund. These two projects total approximately $8.2 million over the Study period, shown in Table 10.

Table 10 Capital Improvement Plan Expenditures ($ millions)

Project(1)	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Wastewater Discharge Optimization	$0.30	$1.25	$1.27	$-	$-
Membrane Replacement	1.80	1.80	1.80	-	-
Total Plan Projects	**$2.10**	**$3.05**	**$3.07**	**$-**	**$-**
Transfers to R&R Fund	$0.24	$1.80	$1.80	$-	$-
R&R Ending Fund Balance(2)	**$5.16**	**$6.96**	**$8.76**	**$8.76**	**$8.76**

Notes:
(1) These projects are not listed as a cash flow line item because the Water Discharge Optimization is captured within Capital Outlay and the Membrane Replacement is a line-item transfer to the R&R Fund.
(2) Total planned projects are funded through the R&R Fund. R&R Fund balance as of 1/31/2024 is $4.8 million. GRP Division anticipates transferring $0.07 to R&R Fund in FY 2024.

2.2.2.2 Debt Service

GRP has seven outstanding debt obligations and does not anticipate any future debt issuances over the duration of this rate-setting period. The summary of the Division's existing debt is presented below:

Table 11 Existing Debt Service ($ millions)

Description	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Interest	$13.24	$12.61	$11.97	$11.28	$10.49
Principal	20.76	21.39	22.06	22.78	23.73
Total Debt Service	**$34.00**	**$34.00**	**$34.02**	**$34.06**	**$34.22**

2.2.2.3 Projected Expenses

The following table presents a summary of GRP's expenditures for the duration of this Study:

Table 12 Expenditures ($ millions)

Expense Item	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Operating Expenses					
Salaries, Wages, & Employee Benefits	$5.11	$5.26	$5.42	$5.58	$5.75
Professional Fees(1)	2.60	2.68	2.76	2.84	2.92
Purchased & Contracted Services	0.31	0.32	0.33	0.34	0.35
Supplies, Materials & Utilities	13.92	14.37	14.83	15.31	15.81
Rentals	0.00	0.00	0.00	0.00	0.00
Maintenance, Repairs & Parts	2.96	2.01	2.07	2.14	2.20
General & Administrative Expenses	0.55	0.55	0.55	0.55	0.55
Non-Operating Expenses					
Debt Service	$34.05	$34.00	$34.02	$34.06	$34.22
O&M Capital Outlay	0.66	0.68	0.70	0.73	0.75
Transfer to R&R Fund	0.24	1.80	1.80	-	-
Total Expenses	**$60.43**	**$61.68**	**$62.49**	**$61.54**	**$62.55**

Note:
(1) Legal Fees are $2.1 million, escalated annually at 3.0%.

SECTION 3 REVENUE REQUIREMENT ANALYSIS

The revenue requirement analysis is a comprehensive test of a utility's fiscal health, scrutinizing the adequacy of current revenues and setting the basis for rate planning. It reviews the utility's revenues, expenses, debts, and reserve policies, assessing the viability of each metric going forward. Where cash flows and balances are insufficient, the revenue requirement analysis determines the needed additional cash flows to meet all funding goals.

Carollo collected FY 2022 through FY 2023 actual and FY 2024 budgeted revenues and expenditures, water sales, reserve fund balances, budgeted CIP, current debt service, and other relevant financial data to forecast funding needs. The FY 2024 budget serves as the base year for O&M costs.

There are three sufficiency tests that can be used to define the annual revenue requirement: (1) operating income, (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.

- **Cash Flow Sufficiency Test:** Assesses whether revenues exceed expenses and looks for a net positive cash flow at the end of each fiscal year. When there is a cash flow deficit, this test recommends additional revenue.
- **Debt Service Coverage Test:** Assesses a utility's ability to meet their annual debt service payments. Bond issuances regularly include a stipulation that the agency must maintain sufficient cash flows to meet annual debt service payments plus an additional amount. Typical debt service coverage ratios (DSCR) range from 1.25 times to 1.50 times annual debt service, depending on an agency's specific financial situation and the type of debt instrument issued. GRP's debt service coverage requirement is 1.00 times (1.00x).
- **Reserve Sufficiency Test:** Measures the ability of the rates to meet the Division's target reserve balance based on the reserve policies adopted by the Board of Directors. Based on those policies, the year-end total unrestricted reserve balance should meet or exceed the total of all targets in each year.

Once the revenues and expenditures forecast was established, this Study used the Debt Service Coverage Test and Reserve Sufficiency test to define GRP's necessary annual revenues. GRP has a sufficient starting fund balance to withstand some negative annual cash flow, thereby easing the pressure for groundwater rate increases. Therefore, this Study also considered cash flow to assess financial health but did not require a net positive cash flow at the end of each fiscal year to determine required revenue increases. The GRP Division will reassess annually to determine when they will return to the practice of targeting an annual net positive cash flow.

3.1 Revenue Requirement Tests

3.1.1 Cash Flow Assessment

A cash flow sufficiency test evaluates if revenues received by the Division are sufficient to cover operating and non-operating expenses.

Table 13 Cash Flow Before Increase ($ millions)

Description	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Starting Fund Balance	$18.65	$18.65	$17.17	$14.88	$13.54
Revenues					
Operating Revenues	$60.30	$60.07	$60.07	$60.07	$60.07
Non-Operating Revenues	0.13	0.13	0.13	0.13	0.13
Total Revenues	**$60.43**	**$60.20**	**$60.20**	**$60.20**	**$60.20**
Expenditures					
Operating Expenditures	$25.44	$25.19	$25.96	$26.76	$27.59
Non-Operating Expenditures	34.99	36.49	36.53	34.78	34.97
Total Expenditures	**$60.43**	**$61.68**	**$62.49**	**$61.54**	**$62.55**
Cash Flow Surplus/(Deficit)	**$(0.00)**	**$(1.48)**	**$(2.29)**	**$(1.34)**	**$(1.28)**
Ending Fund Balance	$18.65	$17.17	$14.88	$13.54	$12.26

As shown, GRP will experience a cash flow deficit in FY 2025 through FY 2029 under the existing groundwater rate and surface water rate adjusted with the proposed rate differential. However, the Division's starting fund balance can delay the need for a GRP groundwater rate increase if other sufficiency tests are met.

3.1.2 Debt Service Coverage Test

The Division's annual debt obligation for FY 2025 through FY 2029 is approximately $173.7 million. These loans carry a DSCR of 1.00x. The DSCR is calculated by dividing the difference between total revenues and operating expenses by the debt service. Prior to any revenue increases, GRP fails to meet its debt coverage obligations beginning in FY 2028, as shown in Table 14.

Table 14 Debt Service Coverage Test ($ millions)

Description	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Total Revenues	$60.43	$60.20	$60.20	$60.20	$60.20
Operating Expenses	25.44	25.19	25.96	26.76	27.59
Net Revenue Available for Coverage Test	**$34.99**	**$35.01**	**$34.24**	**$33.44**	**$32.62**
Debt Service	$34.05	$34.00	$34.02	$34.06	$34.22
Coverage (1.00x)	-	-	-	-	-
DSCR	**1.03 x**	**1.03 x**	**1.01 x**	**0.98 x**	**0.98 x**
Debt Service Coverage Surplus/(Deficit)	*$0.93*	*$1.01*	*$0.21*	*$(0.62)*	*$(0.53)*

3.1.3 Reserve Sufficiency Test

GRP has multiple reserve targets: Operating & Rate Stabilization Fund, Emergency Fund, and Repair & Replacement Fund. However, this Study is only required to test the revenue sufficiency to meet a minimum of three months of O&M for the Operating & Rate Stabilization Fund. Due to the best practices for a utility of this size, Carollo recommends increasing the target to six months. The financial plan models this as an incremental adjustment beginning in FY 2025 and reaching the six-month target in FY 2027.

Table 15 demonstrates that GRP will meet this target in FY 2025 through FY 2028 but will fail to meet the increased six-month target in FY 2029.

Table 15 Reserve Sufficiency Test ($ millions)

Description	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
O&M Fund Target	4 months	5 months	6 months	6 months	6 months
Ending Fund Balance Before Increase	$18.65	$17.17	$14.88	$13.54	$12.26
O&M Expenses (# months)	8.48	10.50	12.98	13.38	13.79
Operating Fund Above/(Below) Target	**$10.17**	**$6.68**	**$1.90**	**$0.16**	**$(1.54)**
Months of O&M	*8.80 months*	*8.18 months*	*6.88 months*	*6.07 months*	*5.33 months*

3.2 Calculated Rates

Under the revenue generated from the existing groundwater rate and the surface water rate adjusted with the recommended rate differential, the GRP Division is not forecasted to meet their debt service coverage obligations or recommended reserve requirement throughout the duration of this Study period.

The GRP Division anticipates decreasing the groundwater rate in FY 2025 by $0.32, thereby decreasing the surface water rate by $0.15. Under these conditions and assuming no change in demand growth throughout the Study, the analysis anticipates needing an annual rate increase beginning in FY 2028 to sufficiently meet the debt service coverage and increased reserve target requirements. The GRP Division will still have a negative cash flow throughout the Study which will be covered by drawing down the Operating Fund and reducing the need for a higher rate increase. With the recommended rate differential of $0.59, Carollo calculated the following rate schedule:

Table 16 Calculated Rates (FY 2025 through FY 2029)

Participant Class	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Calculated Rate Increase ($)	$(0.32)	$-	$-	$0.05	$0.05
Groundwater	$2.67	$2.67	$2.67	$2.72	$2.77
Surface Water	$3.26	$3.26	$3.26	$3.31	$3.36

3.2.1 Revenue Requirement Tests After Calculated Rate Increase

As stated previously, the calculated rate increases will result in a negative cash flow throughout the Study period, shown in Table 17 which will be covered by the Operating Fund.

Table 17 Cash Flow After Increase ($ millions)

Description	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Starting Fund Balance	$18.65	$18.65	$17.17	$14.88	$14.61
Revenues					
Operating Revenues	$60.30	$60.07	$60.07	$61.14	$62.23
Non-Operating Revenues	0.13	0.13	0.13	0.13	0.13
Total Revenues	$60.43	$60.20	$60.20	$61.27	$62.36
Expenditures					
Operating Expenditures	$25.44	$25.19	$25.96	$26.76	$27.59
Non-Operating Expenditures	34.99	36.49	36.53	34.78	34.97
Total Expenditures	$60.43	$61.68	$62.49	$61.54	$62.55
Cash Flow Surplus/(Deficit)	$(0.00)	$(1.48)	$(2.29)	$(0.27)	$(0.19)
Ending Fund Balance	$18.65	$17.17	$14.88	$14.61	$14.42

Under the calculated rates, both the debt service coverage and reserve sufficiency tests are met throughout the duration of the Study period as shown in Table 18 and Table 19, respectively.

Table 18 Debt Service Coverage Test After Increase ($ millions)

Description	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Total Revenues	$60.43	$60.20	$60.20	$60.20	$61.27
Operating Expenses	25.44	25.19	25.96	26.76	27.59
Net Revenue Available for Coverage Test	**$34.99**	**$35.01**	**$34.24**	**$33.44**	**$33.69**
Debt Service	$34.05	$34.00	$34.02	$34.06	$34.22
Coverage (1.00x)	-	-	-	-	-
DSCR	**1.03 x**	**1.03 x**	**1.01 x**	**1.01 x**	**1.02 x**
Debt Service Coverage Surplus/(Deficit)	$1.93	$0.93	$1.01	$0.21	$0.45

Table 19 Reserve Sufficiency Test After Increase ($ millions)

Description	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
O&M Fund Target	4 months	5 months	6 months	6 months	6 months
Ending Fund Balance Before Increase	$18.65	$17.17	$14.88	$14.61	$14.42
O&M Expenses (# months)	8.48	10.50	12.98	13.38	13.79
Operating Fund Above/(Below) Target	**$10.17**	**$6.68**	**$1.90**	**$1.23**	**$0.62**
Months of O&M	*8.80 months*	*8.18 months*	*6.88 months*	*6.55 months*	*6.27 months*

SECTION 4 FINDINGS AND RECOMMENDATIONS

After completing a thorough analysis of the GRP Division's revenues, expenditures, and anticipated capital projects, Carollo recommends the following rates and targets for FY 2025:

- **Reserve Target:** Increase the Operating & Rate Stabilization Reserve from three months to six months of O&M expenses. This can be achieved incrementally by increasing the target to four months in FY 2025, five months in FY 2026, and six months beginning in FY 2027.
- **Rate Differential:** Carollo conducted a Rate Assessment earlier in the year which calculated a rate differential of $0.59/kgal. This differential is added to the groundwater pumpage fee to establish the flat surface water rate.
- **Rate Change:** Carollo has determined that the GRP Division is able to decrease its groundwater rate by $0.32/kgal in FY 2025, which subsequently decreases the surface water rate by $0.15/kgal under the recommended rate differential. This would result in a groundwater pumpage fee of $2.67/kgal and a surface water rate of $3.26/kgal.