2021 Water and Wastewater Rate Study Report

January 29, 2021

THE REED GROUP, INC.

HILDEBRAND CONSULTING

THE REED GROUP, INC.

January 29, 2021

Jennifer Burke, Director of Santa Rosa Water
Santa Rosa Water
69 Stony Circle
Santa Rosa, CA 95401

Re: 2021 Water and Wastewater Rate Study Report

Dear Ms. Burke,

The Reed Group, Inc. and Hildebrand Consulting, LLC are pleased to present this 2021 Water and Wastewater Rate Study (Study) for Santa Rosa Water. We appreciate the fine assistance provided by you and all of the members of the Santa Rosa Water staff who participated in the Study, as well as the input and guidance provided by the Board of Public Utilities (BPU).

If you or others at the Santa Rosa Water have any questions, please do not hesitate to contact us at:

Bob@TheReedGroup.org
(916) 444-9622

mhildebrand@hildco.com
(510) 316-0621

We appreciate the opportunity to be of continued service and look forward to the opportunity to present the study's recommendations to the Board of Public Utilities and the City Council.

Sincerely,

Robert Reed
The Reed Group, Inc.

Mark Hildebrand
Hildebrand Consulting, LLC

Enclosure

Executive Summary

The Reed Group and Hildebrand Consulting were retained by Santa Rosa Water to develop a four-year rate plan for the water and wastewater utilities. The purpose of the Study is to develop ten-year financial plans to help ensure that each utility fund will meet financial obligations for ongoing operation and maintenance, debt service, and capital improvements while maintaining prudent financial reserves. The financial plans provide an opportunity to assess the potential implications of future operating and maintenance costs, capital improvement program needs, current and future debt obligations, changing customer demands, and other variables. Santa Rosa's water and wastewater utilities are self-supporting independent enterprises of the City. That is, the utilities are expected to generate the revenues (through user charges, demand fees, and other revenues) to cover the ongoing costs of operations, maintenance, administration, regulatory compliance, debt service, capital improvements, and maintenance of prudent financial reserves.

The full report describes in detail the assumptions, procedures, and results of the Study, including conclusions and recommendations.

Project Scope, Objectives, and Methodology - The scope of this Study is to prepare multi-year financial plans for the water and wastewater enterprises, review and update the water and wastewater cost-of-service analysis (COSA) and rate structures, and propose a four-year rate plan. The Study identifies future annual adjustments to water and wastewater rates to help ensure adequate revenues to meet each utility's ongoing financial obligations, updates the cost of providing water and wastewater services using industry-accepted methodologies, and ensures that Santa Rosa Water continues to equitably recover the cost of service and comporting with industry standards and California's legal requirements.

The Study applied methodologies that are aligned with industry standard practices for rate setting as laid out in the American Water Works Association (AWWA) M1 Manual,

and applicable law, including California Constitution Article XIII D, Section 6(b), commonly known as Proposition 218.

To assist in the development of the water and wastewater rate study, the project team conferred with the Board of Public Utilities (BPU) Budget Subcommittee. Santa Rosa Water's Director and rate consultant facilitated the meetings and BPU members provided input on the development of the financial plans and reviewed the proposed updates to the rate structure to ensure fairness and equity across Santa Rosa Water's customer base within the constraints of legal requirements and Santa Rosa Water's revenue needs.

Cost Escalation Assumptions - Annual cost escalation factors for the various types of expenses were developed based upon a review of historical inflation trends, industry experience, and discussions with Santa Rosa Water staff. During the projection period, expenses are generally projected to increase between 2 percent and 3 percent, with exception of the cost of purchased water which is anticipated to increase at 5 percent per year.

Water Utility Financial Plan - Santa Rosa Water collects rate revenue from water customers based on a fixed "Service Charge" (assessed based on meter sizes) and water "Usage Rates" (applied to each thousand gallons (TGAL) of water use). The Water Utility financial plan starts with fiscal year (FY[1]) 2020/21 budgeted rate revenues. Estimated future water demand and rate revenues include the small amount of customer growth as well as the annual rate revenue adjustments proposed by the Study.

[1] Fiscal years (FY) in this report are generally shown in the format with the beginning and ending year (such as "FY 2020/21") but sometimes just with the ending year (in this example "FY2021") when space is constrained (namely in charts and graphs).

The Study assumes that recent growth rates of approximately 0.86 percent per year will continue for the duration of the next ten years and that per capita water usage will remain stable.

In addition to rate revenue, the Water Utility receives additional "non-rate revenue" from sources such as private fire service charges, miscellaneous service fees/charges, penalties, leases, demand fees, and interest revenue on investments. Projections of all non-rate revenues were based on FY 2021/22 budgeted revenues except for interest income which was calculated annually based upon projected fund balances and an assumed interest earnings rate of 1.5 percent.

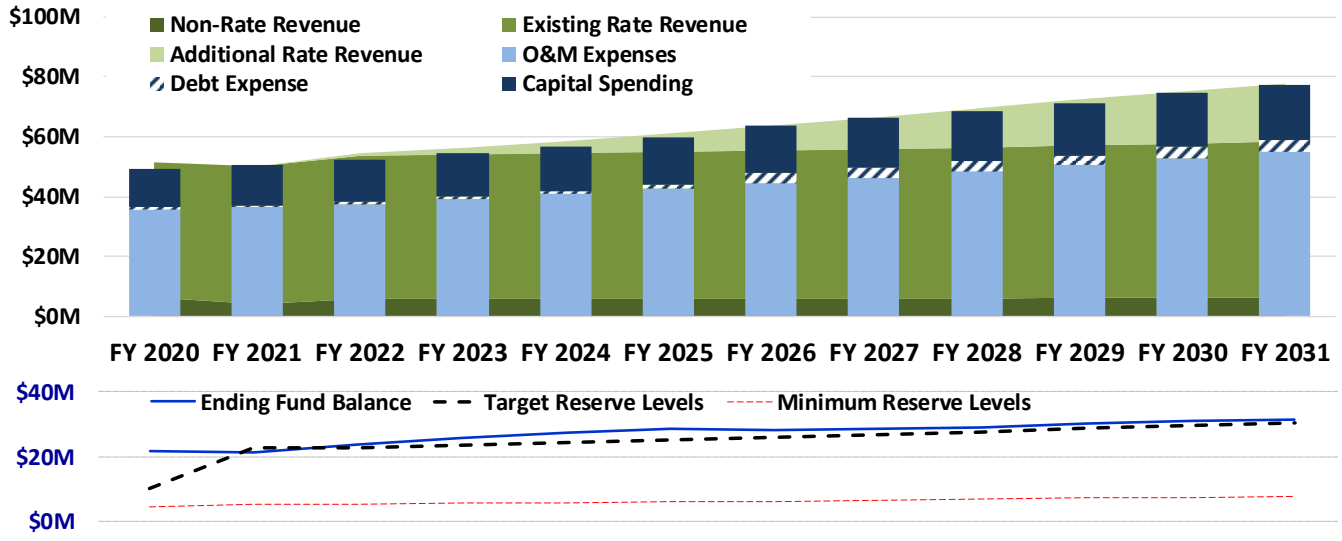
The financial plan models are based on current operating and maintenance costs as reflected in the FY 2020/21 operating budget with future estimates influenced by growth and water demand assumptions and cost escalation. The Water Utility's primary operating expense is water purchases from Sonoma County Water Agency (Sonoma Water). Sonoma Water adjusts its water rates and charges annually. The Sonoma Water long range financial plan, as well as conversations between Sonoma Water staff and Santa Rosa Water staff, indicate that wholesale water prices may increase by 4 to 6 percent per year. Based on a review of the past few years of Sonoma Water rate increases and direction from Santa Rosa Water staff, this report assumes future Sonoma Water rate increases of 5 percent annually.

Estimated annual CIP appropriations, as developed by staff for the next ten years, are included in the financial plan. The capital appropriation budget in FY 2020/21 is $13.4 million and is anticipated to increase by assumed construction inflation rate of 3.0 percent per year. The financial plan proposes that all capital spending be funded on a "pay-as-you-go" (PayGo) basis rather than issuing new debt.

Annual debt service is scheduled to increase from about $0.8 million in FY 2023/24 to about $3.3 million in FY 2025/26 and to about $3.8 million by FY 2030-31. While recommendations for the 4-year rate plan presented herein seek to minimize rate

increases, slightly higher increases may be needed beginning in FY 2025-26 to cover the increases debt service costs.

Based upon the financial data, assumptions, policies, and PayGo strategy, the Study proposes a four-year plan with annual rate adjustments as detailed in the table at the bottom of the figure below. The financial plan, provided in detail in the full report, is summarized graphically below. It shows that the target reserves are essentially maintained over the course of the planning period and the debt coverage ratio remains at healthy levels throughout the period as well.



	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
	Recommended				Projected					
Water Rate Revenue Increases:	2.0%	3.0%	3.0%	4.0%	4.0%	4.0%	4.0%	4.0%	3.0%	3.0%
Debt Coverage Ratio:	20.64	21.09	21.43	11.02	5.73	6.00	6.31	6.62	5.98	6.01
Capital Spending:	$13.8M	$14.6M	$15.1M	$15.5M	$16.0M	$16.5M	$17.0M	$17.5M	$18.0M	$18.5M

Water Utility Financial Projection with Recommended Rate Increases

Proposed Water Rates – The Study's proposed water rates are intended to meet the utility's financial needs, satisfy legal requirements, encourage water conservation, and achieve other rate-setting objectives. The study remains consistent with the rate-setting objectives established in 2015 by Santa Rosa Water staff and the BPU Budget Subcommittee. The proposed rates retain the same general structure as the rates that were adopted in 2016 and last adjusted in July 2020. The current rate structure includes

a fixed service charge for all connections based on size of the water meter, a 2-tier structure for single-family residential, duplex and irrigation accounts, and uniform rates for multi-family, commercial, industrial, and institutional accounts. Rate adjustments in July 2020 included automatic adjustments to water usage rates to reflect increased costs associated with Sonoma Water's FY 2020/21 rates and charges, as well as a 5 percent increase to the fixed service charges.

The following table summarizes the proposed schedule for water rates to be effective July 2021. The proposed water rates reflect a proportionate distribution of costs to all customers and customer classes and reflect the cost of providing service. The service charges, uniform water rate, and 2-tier water rate structures reflect a reasonable allocation of costs on a proportionate basis to each water user, as required by Section 6(b)(3) of Article XIIID of the California Constitution, as well as the overall limit that rates not exceed the cost of service required by Section 6(b)(1). The complete four-year plan of proposed water rates is presented in the full report.

Proposed Water Rate Schedule for FY 2021/22 (effective July 1, 2021)

		July 2021
Water Usage Rates ($/TGAL)		
Single Family Residential & Duplex		
Tier 1	Use up to Sewer Cap (1)	$5.99
Tier 2	Above Sewer Cap	$6.79
Single Family with No Irrigation Needs (Z=Y) (2)		
	All water use	$5.99
Multi-Family, Commercial, Industrial, and Institutional		
	All water use	$6.33
Irrigation (potable water) (3)		
Tier 1	Use up to 125% of water budget	$6.09
Tier 2	Over 125% of water budget	$7.54
Irrigation (recycled water) (3)		
Tier 1	Use up to 125% of water budget	$5.79
Tier 2	Over 125% of water budget	$7.54
Monthly Service Charges (Potable Water)		
	5/8" meter	$14.09
	1" meter	$31.63
	1 1/2" meter	$60.86
	2" meter	$95.95
	3" meter	$177.81
	4" meter	$294.76
	6" meter	$587.13
Monthly Service Charges (Recycled Water)		
	5/8" meter	$12.68
	1" meter	$28.47
	1 1/2" meter	$54.77
	2" meter	$86.36
	3" meter	$160.03
	4" meter	$265.28
	6" meter	$528.42

(1) The Sewer Cap is calculated for each customer based on the average monthly water use during November through March.

(2) "Z=Y" accounts are single family or duplex accounts with no outdoor usage.

(3) The landscape water budget varies for each customer each month and is determined using the site's square footage for the types of plants and the evapotranspiration rate for the billing period.

Wastewater Utility Financial Plan - The Wastewater Utility is composed of two systems: the Local Wastewater system, which collects and conveys wastewater from the City's customers and the Regional Water Reuse System ("Regional System"), which is comprised of the Laguna Treatment Plant (WWTP), Water Reuse Operations and Biosolids Distribution System. The City of Santa Rosa owns and operates the Regional System as a wholesale operation for the benefit of the City and the surrounding communities of Rohnert Park, Cotati, Sebastopol, and the South Park County Sanitation District ("Member Agencies"). The Regional System and Local Wastewater system are treated as separate financial enterprises in this study for the purposes of financial planning and rate setting.

Since the Regional System is treated as a wholesale wastewater treatment service to the City of Santa Rosa (and the other member agencies), there are no Regional System rates, per se, charged to wastewater customers. Rather, the City's share of Regional System service costs is treated simply as part of Local Wastewater's annual costs. As such, the report describes separate financial plans for each system, with the Regional System costs ultimately informing a significant part of the costs to the Local Wastewater financial plan.

The structure of the Regional Fund is very similar to the structure of the Water Utility Fund and the Local Wastewater Fund, with the important distinction that the Regional System does not collect rate revenue from customers, rather each member agency is charged for its proportionate share of operating and maintenance costs, capital program expenditures, and debt service obligations, in accordance with the Subregional Agreement.

Rate revenue is the revenue generated from customers for wastewater service. Santa Rosa Water collects rate revenue from wastewater customers based on a fixed "Service Charge" for each connection and a wastewater "Usage Rate" applied to estimates of wastewater flow generated by each customer. The Local Wastewater financial plan starts with FY 2020/21 budgeted rate revenues. Estimated future water demand, sewer

flows, and rate revenues reflect the small amount of customer growth as well as the annual rate revenue adjustments proposed by the Study.

In addition to rate revenue, both the Local Wastewater Fund and Regional Fund receive additional "non-rate revenue" from sources such as miscellaneous service fees/charges, penalties, leases, demand fees, and interest revenue on investments. In addition to the above, the Regional Fund also derives additional revenues from energy rebates, recycled water sales, an annual stipend from Calpine related to the Geysers project, payments from the Town of Windsor for use of the Geysers Pipeline, and payments from other entities for accepting various types of high strength waste trucked into the wastewater treatment plant from surrounding areas.

Projections of all non-rate revenues were based on FY 2021/22 budgeted revenues except for interest income which was calculated annually based upon projected fund balances and assumed interest earnings rate of 1.5 percent.

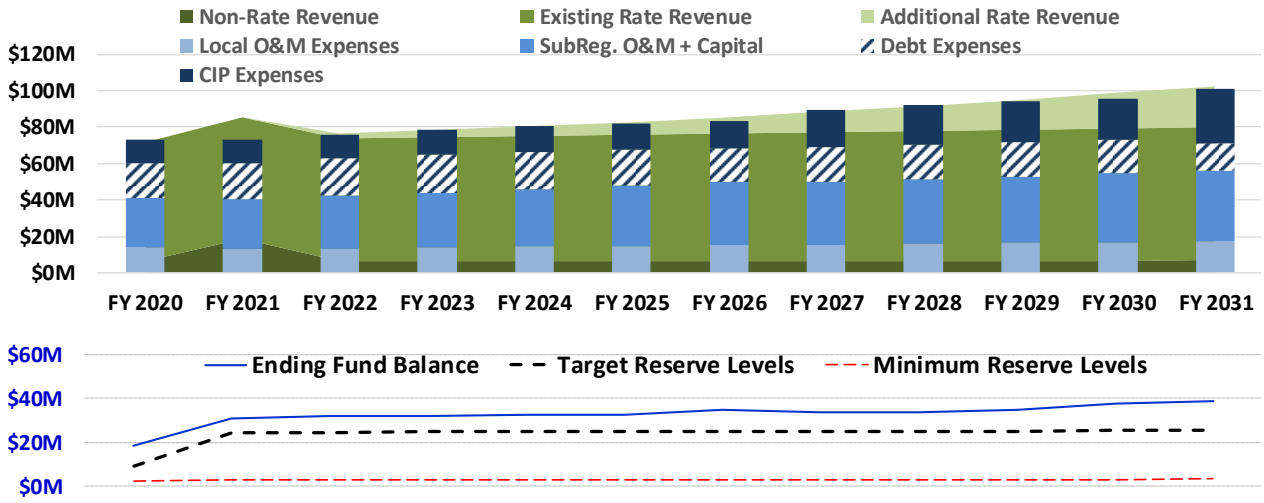
The financial plan models are based on current operating and maintenance costs as reflected in the FY 2020/21 operating budget with future estimates influenced by growth assumptions and cost escalation. In November 2020, Santa Rosa Water issued the 2020 Series A Wastewater Revenue Bond to provide the Regional System with about $70 million for the Ultraviolet (UV) treatment replacement project. The Local Wastewater system's share of new annual debt service for the UV project is approximately $1.85 million. A separate, but coincident, debt issue included the refunding of the 2012 Wastewater Revenue Bond. This 2020 Series B Wastewater Revenue Bond will result in approximately $16.2 million in savings over 14 years.

The Local Wastewater capital appropriation budget in FY 2020/21 is $12.4 million. Going forward, the capital appropriation budget is anticipated to increase by the assumed construction inflation rate of 3.0 percent until FY 2026/27 at which time the fund's annual debt service will decrease substantially, allowing for an increase in capital spending of about $5 million per year over current levels. In FY 2030/31 the debt

service decreases even further, allowing for an additional $5 million in capital spending per year (for a total of $10 million per year over current capital spending levels).

The Regional System capital appropriation budget in FY 2020/21 is $7.0 million. Thereafter, the capital appropriation budget is forecasted to increase by $1 million per year until FY 2025/26, after which time it is assumed that the capital budget will increase with the assumed construction inflation rate (3.0 percent). In addition, the debt-financed $70 million UV project is expected to start construction in FY 2020/21.

Based upon the previously discussed financial data, assumptions, policies, and debt strategy, this Study proposes a four-year rate plan with annual rate adjustments of 2.0 percent as detailed in the table at the bottom of the figure below. It shows that the target reserves are maintained over the course of the planning period and the debt coverage ratio remains at healthy levels throughout the period as well.



	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
	Recommended				Projected					
Wastewater Rate Increases:	2.00%	2.00%	2.00%	2.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Combined Debt Coverage Ratio:	4.58	4.86	4.46	4.48	4.70	5.08	5.74	5.93	6.49	6.64
Local WW CIP:	$12.9M	$12.4M	$12.7M	$13.5M	$13.9M	$14.3M	$14.8M	$21.0M	$21.6M	$22.3M	$22.9M	$30.2M
Regional CIP:	$3.4M	$5.1M	$5.9M	$6.6M	$7.3M	$8.1M	$8.8M	$9.1M	$9.3M	$9.6M	$9.9M	$10.2M

Wastewater Utility Financial Projection with Recommended Rate Increases

Proposed Wastewater Rates – Proposed wastewater rates are intended to meet the utility's financial needs, satisfy legal requirements, encourage water conservation, and achieve other rate-setting objectives. The proposed wastewater rates retain the same general structure as the rates that were adopted in 2016 and last increased in July 2020 by 2.5 percent. Current wastewater rates include a fixed monthly service charge. Fixed service charges for multi-family (including duplex units), commercial, industrial, and institutional accounts have been adjusted across the range of water meter sizes to reflect the capacity relationship across meter sizes. This equitably assigns service charge costs to each customer in relation to the potential demand they place on the wastewater system. Single-family customers continue to pay a single service charge, regardless of meter size (larger meters are generally required for irrigation demands or fire flow considerations, rather than water use related to wastewater generation).

For residential customers, wastewater flow is estimated with the sewer cap. The sewer cap is calculated annually for each residential account as the average water use from complete billing cycles that fall within the period from November through March. The wastewater usage charge each month is based on the lesser of the sewer cap or actual water use during the billing period. In general, non-residential accounts are billed for wastewater service based on actual monthly water usage.

The wastewater utility ten-year financial plan (see Section 3.1) was used to identify the wastewater rate revenue required to meet financial obligations for each fiscal year of the planning period. Once the annual wastewater rate revenue requirement is determined, the next step in the rate-setting process is to evaluate the cost of providing service. The cost-of-service analysis (COSA) is the process of allocating the costs of providing wastewater service to customers in proportion to the extent to which each customer contributes to the utility's incursion of costs. The COSA evaluates the cost of providing wastewater and allocates those costs to rate structure components to ensure the proposed rates are proportionate with the costs to provide service.

The table below summarizes the proposed wastewater rate schedule for wastewater rates to be effective in July 2021. The proposed wastewater rates reflect the cost of

providing wastewater service to customers. In particular, the proposed wastewater rates reflect a proportionate distribution of costs to all customers and customer classes and reflects the cost of providing service. A complete schedule of proposed wastewater rates for the four-year schedule are provided in the full report.

Proposed Wastewater Rates for FY 2021/22, effective July 1, 2021

	July 2021
Wastewater Usage Rates ($/TGAL) (1)	
Single Family and Multi-Family (2)	$15.12
Commercial, Industrial, and Institutional	
Low Strength	$12.42
Standard Strength	$15.12
Medium Strength	$16.85
High Strength	$21.01
Monthly Service Charges	
Single Family	$26.06
Multi-Family, Commercial, Industrial, Institutional	
5/8" & 3/4" meters	$26.06
1" meter	$60.15
1 1/2" meter	$116.96
2" meter	$185.14
3" meter	$344.22
4" meter	$571.48
6" meter	$1,139.63

Notes:

(1) Wastewater usage charge applies to the estimated wastewater generated. For single-family residential accounts and multi-family accounts without a separate irrigation meter the esimated wastewater is based on the lower of current water use or the Sewer Cap. The Sewer Cap is calculated for these residential accounts based on the average water use from complete billing periods within the months of November through March. For Multi-family accounts with a dedicated irrigation meter or no irrigation from City water, as well as non-residential accounts, wastewater charges are based on actual monthly water usage from the domestic meter.
(2) Multifamily accounts include duplex, and triplex accounts.

In Conclusion - This 2021 water and wastewater rate study proposes updated utility rates for Santa Rosa Water. The report recommends modest annual increases in water

and wastewater rates over the next four years, as well as updates to the existing rate structures to reflect the updates COSA. The rate increases are driven primarily by general cost inflation, including the escalating cost of water from Sonoma Water, new debt service costs associated with debt financing of the UV project, and maintenance of prudent financial reserves. Santa Rosa Water is also planning for increases in capital spending to pro-actively repair and replace critical and aging infrastructure to ensure that Santa Rosa Water can continue to provide safe and reliable utility services.

This Study used methodologies that are aligned with industry standard practices for rate setting as promulgated by AWWA and all applicable laws, including California's Proposition 218. The water and wastewater rates will need to be adopted in accordance with Proposition 218, which requires a detailed notice describing the proposed charges to be mailed to each affected property owner or customer at least 45 days prior to conducting a public hearing to adopt the rates.

TABLE OF CONTENTS

SECTION 1. INTRODUCTION 4

1.1 Utility Background 4
1.2 Scope & Objectives of Study 5
1.3 Study Methodology 6
1.4 Board of Public Utilities Participation 7
1.5 Planning and Adoption Process 8
1.6 Rate Setting Objectives 8
1.7 Report Organization 9
1.8 General Assumptions 9
1.8.1 Santa Rosa Water Cash Reserve Policies 10
1.8.2 Cost Escalation 10
1.8.3 Debt Service Coverage 11

SECTION 2. WATER RATE STUDY 12

2.1 Water Utility Financial Plan 12
2.1.1 Water Utility Fund & Reserve Structure 12
2.1.2 Water Utility Rate Revenue 14
2.1.3 Customer Growth, Water Demands, and Water Losses 14
2.1.4 Water Utility Non-Rate Revenues 16
2.1.5 Water Utility Operating and Debt Expenses 17
2.1.6 Water Utility Capital Appropriations 19
2.1.7 Proposed Water Rate Revenue Increases 20
2.2 Water Cost of Service and Rate Structure 24
2.2.1 Rate Setting Objectives 24
2.2.2 Current Water Rates 25
2.2.3 Customer Account Data and Water Use Estimates 28
2.2.4 Cost-of-Service Analysis 29
2.2.5 Water Rate Design 34
2.2.6 Proposed Water Rate Schedule 38

SECTION 3. WASTEWATER RATE STUDY 40

3.1 Wastewater Financial Plan 40
3.1.1 Local Wastewater Fund & Reserve Structure 41
3.1.2 Regional Fund & Reserve Structure 43
3.1.3 Wastewater Rate Revenue 45
3.1.4 Customer Growth 46
3.1.5 Wastewater Non-Rate Revenues 46
3.1.6 Wastewater Operating and Debt Expenses 47
3.1.7 Wastewater Capital Appropriations 50
3.1.8 Proposed Wastewater Rate Revenue Increases 52
3.2 Wastewater Cost of Service & Rate Structure 56
3.2.1 Rate Setting Objectives 56

3.2.2 Current Wastewater Rates 57
3.2.3 Customer Account Data and Wastewater Flow and Loading Estimates 58
3.2.4 Wastewater Cost-of-Service Analysis and Rate Design 62
3.2.5 Proposed Wastewater Rate Schedule 69
3.2.6 Additional Surcharges for Extraordinary Loads and Other Special Situations 70

SECTION 4. CUSTOMER BILL IMPACTS OF PROPOSED RATES 73

SECTION 5. CONCLUSION 74

LIST OF SCHEDULES

Schedule W-1: Water Utility Cash Flow Proforma

Schedule W-2: Four-Year Schedule of Proposed Water Rates

Schedule WW-1: Local Wastewater Fund Cash Flow Proforma

Schedule WW-2: Regional Fund Cash Flow Proforma

Schedule WW-3: Four-year Schedule of Proposed Wastewater Rates

List of Acronyms & Defined Terms

AF	acre-feet (measure of water volume)
AWWA	American Water Works Association
BOD	biochemical oxygen demand
BPU	Board of Public Utilities
CIP	capital improvement program
COSA	cost-of-service analysis
DCR	debt service coverage ratio
DU	dwelling unit
ESFD	equivalent single-family dwellings
FY	fiscal year (which ends on June 30 for Santa Rosa Water)
gpm	gallons per minute
Member Agencies	Members of the Regional System, including the City of Santa Rosa, the City of Rohnert Park, the City of Cotati, the City of Sebastopol, and the South Park County Sanitation District.
O&M	operations and maintenance
pay-go	"pay-as-you-go" (i.e., cash financing for capital projects)
Regional System	Regional Water Reuse System
SJC decision	*Capistrano Taxpayer Association v. City of San Juan Capistrano* Appellate Court decision
SWRCB	California State Water Resources Control Board
TGAL	thousand gallons
TKN	total Kjeldahl nitrogen
TSS	total suspended solids
WWTF	wastewater treatment facility (i.e. Laguna Treatment Facility)

Section 1. INTRODUCTION

The Reed Group and Hildebrand Consulting have been retained by Santa Rosa Water to develop four-year rate plans for the water and wastewater utilities. The Reed Group has assisted Santa Rosa Water on a variety of utility rate, cost of service, demand fee, and related issues for more than twenty years.

The purpose of this Study is to develop ten-year financial plans to help ensure that each utility will meet financial obligations for ongoing operation and maintenance, debt service, and capital improvements while maintaining prudent financial reserves. The financial plans provide an opportunity to assess the potential implications of future operating and maintenance costs, capital improvement program needs, current and future debt obligations, changing customer demands, and other variables. The last comprehensive rate study was completed in 2015 and the most recent adjustments to the water and wastewater rates occurred in July 2020.

This report describes in detail the assumptions, procedures, and results of the Study, including conclusions and recommendations.

1.1 UTILITY BACKGROUND

The Wastewater Utility is composed of two systems: the Local Wastewater system, which collects and conveys wastewater from the City's customers and the Regional Water Reuse System ("Regional System"), which is comprised of the Laguna Treatment Plant (WWTP), Water Reuse Operations and Biosolids Distribution System. The City of Santa Rosa owns and operates the Regional System as a wholesale operation for the benefit of the City and the surrounding communities of Rohnert Park, Cotati, Sebastopol, and the South Park County Sanitation District ("Member Agencies"). The Regional System and Local Wastewater system are treated as separate financial enterprises in this study for the purposes of financial planning and rate setting.

Santa Rosa Water delivers approximately six billion gallons of drinking water each year to over 53,000 customer accounts and maintains the sanitary sewer system for over 49,000 customer accounts serving a population of just over 173,000[2]. These systems include roughly 1,200 miles of water and sewer pipelines. The Regional System includes water reuse (i.e., agricultural and urban irrigation, and the Geysers geothermal power plant), and biosolids beneficial reuse. These operations are carried out at the Laguna Treatment Plant. The Laguna Treatment Plant serves a regional population of 230,000 in the communities of Santa Rosa, Rohnert Park, Sebastopol, Cotati, the South Park County Sanitation District, and some unincorporated parts of Sonoma County.

1.2 SCOPE & OBJECTIVES OF STUDY

The scope of this Study is to prepare multi-year financial plans for the water and wastewater enterprises, review and update the water and wastewater cost of service analysis (COSA) and rate structures, and propose four-year rate plans for the water and wastewater utilities.

The primary objectives of this Study are to:

i. Develop multi-year water and wastewater financial plans that integrate operational and capital project funding needs with a funding strategy.

ii. Identify future annual adjustments to water and wastewater rates to help ensure adequate revenues to meet each utility's ongoing financial obligations.

iii. Update the cost of providing water and wastewater services using industry-accepted methodologies.

iv. Recommend specific updates to Santa Rosa Water's existing rate structures to ensure that Santa Rosa Water is equitably recovering the cost of service and comporting with industry standards and California's legal requirements.

[2] CA Dept of Finance, Demographic Research Unit, Report E-1 (released May 1, 2020)

1.3 STUDY METHODOLOGY

This Study applied methodologies that are aligned with industry standard practices for rate setting as laid out in the AWWA M1 Manual, and applicable law, including California Constitution Article XIII D, Section 6(b), commonly known as Proposition 218.

The Study began with a review of the financial dynamics of both utilities and the latest available data for the utilities' operations. Multi-year financial management plans were then developed to determine the level of annual rate revenue required to cover projected annual operating expenses, debt service (including coverage targets), and capital cost requirements while maintaining adequate reserves. The financial plans were developed through analyses using an annual cash flow planning model developed for each utility. As a cash flow model, it differs from standard accounting income statements and balance sheets. The financial plan models reflect sources and uses of funds into, out of, and between the various funds and reserves of each utility.

This portion of the Study was conducted using MS Excel©-based financial planning models which were customized to reflect financial dynamics and latest available data for Santa Rosa Water's operations to develop a long-term financial management plan, inclusive of projected annual revenue requirements and corresponding annual rate adjustments.

The financial plan models reflect each utility's current fund and reserve structure and incorporate specific reserve recommendations. The fund and reserve structure common to both utilities is depicted in **Figure 1** below, which shows the funds, reserves, and major cash flows associated with the financial plan models. The structure provides a helpful framework for evaluating the financial needs of the utilities and for clearly demonstrating how operating and maintenance costs, debt service obligations, and capital program needs are addressed.

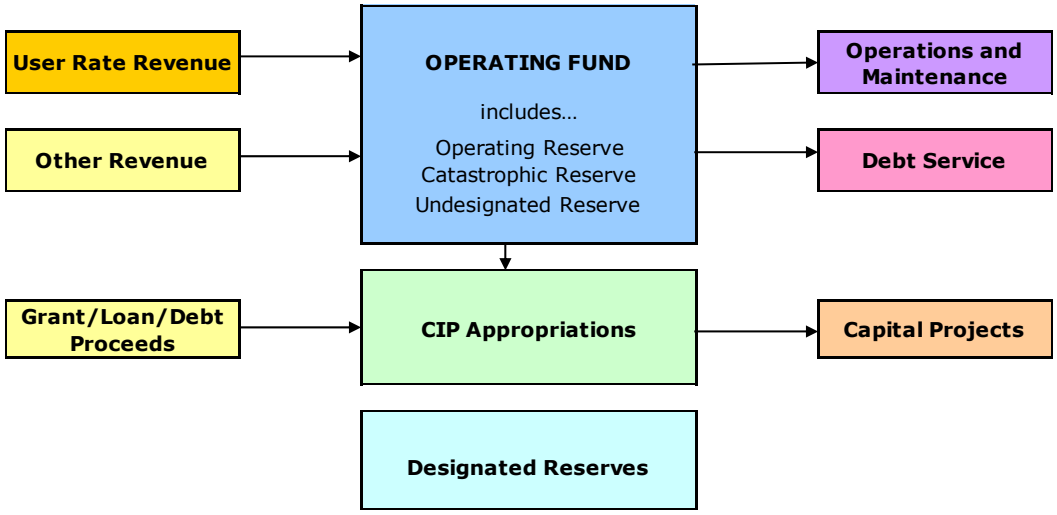


Figure 1 – Schematic Drawing of Water and Wastewater Fund/Reserve Structures and Cash Flows

The COSA and rate structure design were conducted based upon principles outlined by the AWWA, legal requirements (Proposition 218) and other generally accepted industry practices to develop rates that reflect the cost of providing service.

1.4 BOARD OF PUBLIC UTILITIES PARTICIPATION

To assist in the development of the water and wastewater rate study, the project team conferred with the Board of Public Utilities (BPU) Budget Subcommittee (BPU Subcommittee). Santa Rosa Water's Director and rate consultant facilitated the meetings and the BPU Subcommittee provided input on the development of the financial plans and reviewed the proposed updates to the rate structure to ensure fairness and equity across Santa Rosa Water's customer base within the constraints of legal requirements and Santa Rosa Water's revenue needs. In addition, presentations were scheduled to be provided to the full BPU in February of 2021 and to the Santa Rosa City Council in March of 2021.

1.5 PLANNING AND ADOPTION PROCESS

Santa Rosa Water generally adjusts water and wastewater rates annually to meet the financial and service needs of the utilities. Santa Rosa Water's water and wastewater rate adjustments in July 2020 were the last of the five-year rate adoption plans proposed by The Reed Group in the 2015 rate study.

This Study recommends four-year rate plans based on the ten-year financial plans developed by this study. The ten-year planning horizon enables greater confidence in making near-term decisions, improves rate certainty and stability over time, and reduces financial risk. The four-year rate adoption period provides customers with adequate notice regarding the level of rates in the future, while also acknowledging that financial conditions may change with time and that regular rate updates are prudent for managing the utilities' reserve balances.

Annually, during the budget process, Santa Rosa Water staff should review the need for each planned water and wastewater rate increase. That annual review should consider operating and maintenance costs, debt service obligations, planned capital improvement needs, the status of financial reserves, and anticipated system demands. Based on this review, staff may determine that the projected revenue needs in a given year are less than those that would be generated by the proposed water and/or wastewater rates presented herein. As a result, it would be appropriate to recommend rate adjustments be limited to the cost of service as determined with consideration of all the preceding financial and service obligations.

1.6 RATE SETTING OBJECTIVES

The rate setting process was guided by the following considerations:

Legal Requirements – Based on the California Constitution and relevant case law that water rates not exceed the cost of providing service, and that rates reflect a proportionate share of costs attributable to each parcel.

Financial sufficiency and sustainability – Water and wastewater rates should generate sufficient revenues to meet each utility's service and financial obligations including covering operating and maintenance costs, meeting debt service obligations, and rehabilitating and upgrading the respective systems to provide high quality utility services to customers.

Fiduciary Responsibility – Santa Rosa Water seeks to minimize rate increases and limit the issuance of debt.

Rate Structure - Utility rates should strike an appropriate balance between fixed and usage-based charges, with consideration of:

- Revenue stability
- Conservation incentive
- Affordability for basic usage
- Customer bill impacts of rate structure changes
- Customer understanding and administrative simplicity
- Public understanding

1.7 REPORT ORGANIZATION

This report contains two major sections: Section 2 is the water rate study and Section 3 is the wastewater rate study. By design there is considerable redundancy in the language between Section 2 and Section 3; they are meant to stand-alone to avoid the need to cross-reference between them.

1.8 GENERAL ASSUMPTIONS

As explained above, this report includes some redundancies in format and content between Section 2 (Water Utility) and Section 3 (Wastewater Utility). In the interest of minimizing this redundancy, the following subsections describes some assumptions that apply identically to both utilities.

1.8.1 Santa Rosa Water Cash Reserve Policies

Santa Rosa Water's reserve policies help protect its utilities and customers from financial risk and catastrophic events, including the risk of long-term drought. Cash reserve policies are reserve balance targets that are retained for specific needs. The target for reserves is an important component when developing a multi-year financial plan for both the Water Utility and the Wastewater Utility, and maintaining prudent reserves is an essential component of any sound financial management strategy. Utilities rely on reserves to provide working capital and manage cash flow needs, mitigate financial risk, and maintain financial stability; address the interests of credit rating agencies regarding adherence to formally adopted reserve targets; and satisfy debt covenants that require utilities to maintain specific debt reserves for outstanding loans.

Financial reserve policies were last formally reviewed by the BPU and the City Council in 2016 and amended by Council Resolution 28785. The Catastrophic Reserve policies are currently being evaluated. The current reserves for the Water Utility and Wastewater Utility are discussed in detail in Section 2.1.1 (Water), Section 3.1.1 (Local Wastewater), and Section 3.1.2 (Regional System).

1.8.2 Cost Escalation

Annual cost escalation factors for the various types of expenses were developed based upon a review of historical inflation trends, industry experience, and discussions with Santa Rosa Water staff. During the projection period, expenses are projected to increase at the inflation rates listed in Table 1. For context, general inflation is currently about 2.5 percent per year, as reported by the Bureau of Labor Statistics for the San Francisco-Oakland-Hayward area. Construction inflation, as indicated by the *Engineering News Record*'s 20-Cities Construction Cost Index, is also currently about 2.5 percent per year. As discussed in more detail in Section 2.1.5 , Sonoma Water rates are projected to increase by 5 percent per year.

Table 1: Assumed Cost Inflation Rates

Cost Category	Inflation Rate
Salaries	2.0%
Benefits	3.0%
Professional Services	3.0%
Utilities	4.0%
Supplies/Materials	3.0%
Chemicals	3.0%
Sonoma Water Rates	5.0%
Construction Inflation	3.0%

Both general inflation and construction inflation have historically been higher than the current levels. The percentages listed above are reasonable for the planning period.

1.8.3 Debt Service Coverage

One of the requirements associated with bond financing is to maintain rates and other revenues at levels sufficient to meet debt service coverage ratio (DCR) requirements. At present, Santa Rosa Water is required to maintain utility revenues including Demand Fee revenue at a level that covers all ongoing operating and maintenance costs, as well as 1.25 times annual debt service (or 1.0 times when excluding Demand Fee revenue)[3]. Based on published guidance from Fitch Ratings[4], utility systems with *midrange* financial profiles should maintain a DCR greater than 1.50 times annual debt service. Because the Water Utility holds minimal debt relative to its revenue profile, this Water Utility financial plan demonstrates that a DCR that is well above prudent target levels will be maintained throughout the planning period. The Regional System carries a significant amount of debt, a majority of which is allocated to the Local Wastewater system. However, the wastewater DCR is also well above prudent target levels. The DCR should not be interpreted as "excessive" but rather an indication that Santa Rosa Water has made it a policy to limit its reliance on debt to finance capital projects.

[3] Per email correspondence with Scott Wagner March 28, 2018.

[4] As published on July 31, 2013.

Section 2. WATER RATE STUDY

The following subsections include the Water Utility's financial plan, cost of service, rate design and proposed rates schedule.

2.1 WATER UTILITY FINANCIAL PLAN

Santa Rosa's Water Utility is a self-supporting independent enterprise of the City. That is, the Water Utility is expected to generate sufficient revenues (through user charges, demand fees, and other revenues) to cover the ongoing costs of operations, maintenance, administration, regulatory compliance, debt service, capital improvements, and maintenance of prudent financial reserves.

This section presents the Water Utility's ten-year financial plan, including a description of the source data, assumptions, and Santa Rosa Water's financial policies. Santa Rosa Water provided historical and budgeted financial information, including historical and budgeted operating costs, a multi-year capital improvement program (CIP), and outstanding debt service obligations. Santa Rosa Water staff also assisted in providing other assumptions and policies, such as reserve targets and escalation rates for operating costs (all of which are described in the following subsections).

2.1.1 Water Utility Fund & Reserve Structure

The basic structure of the Water Utility Fund was depicted previously in Figure 1. A more detailed description of the fund structure and reserves clarifies the financial plan and the mechanics of the annual cash flows. The Water Utility Fund is comprised of the following elements and reserves:

- *Operating Fund* – The Operating Fund is the primary fund within the Water Utility. Most of the water system's revenues, including user rate revenues, flow into the Operating Fund. All operating and maintenance costs, including debt service payments, are paid out of this fund.

- *Operating Reserves* – Within the Operating Fund is an Operating Reserve. Under Santa Rosa Water's current reserve policy, the Water Utility Fund maintains an Operating Reserve equal to 15 percent of annual operating and maintenance costs, excluding debt service costs. The purpose of the Operating Reserve is to provide sufficient funds for working capital and to manage cash flow, as well as to provide funds for unanticipated expenditures or revenue shortfalls and for minor emergencies. As of June 30, 2019, the Water Utility had an audited operating reserve of about $4.5 million. The estimated operating reserve balance on June 30, 2020 was $5.0 million.
- *Catastrophic Reserves* – Catastrophic reserves are intended to help protect the Water Utility from financial risk associated with major disruptive events such as earthquakes, fires, floods, pandemics, or other catastrophic events. These reserves are intended to be available in the event of a reduction in revenues and/or an increase in costs. The amounts held in catastrophic reserves are currently being reviewed by the City's engineering consultant (GHD Engineers) based on an engineering analysis of the amounts needed to restore "basic services" of the water system following a major earthquake.

  Since 2016 the Water Utility has held $5.75 million in the Water Utility Fund catastrophic reserve. GHD Engineers has recommended that the Water Utility Fund catastrophic reserve be increased to $17.5 million (an increase of $11.75 million). As discussed below, the Water Utility Fund has sufficient undesignated fund balance to nearly meet this increase to the reserve requirement. That being said, Santa Rosa Water staff and the BPU are reviewing GHD's recommendations, as well as whether to partially or completely assign undesignated reserves to the catastrophic reserve. It may be that the full catastrophic reserve target is not achieved immediately.

  It is recommended that Santa Rosa Water increase the catastrophic reserve target amount annually to account for the effects of inflation based on the 20-cities construction cost index (CCI), published by the *Engineering News Record*. Otherwise, the value of reserve diminishes with time.
- *Undesignated Fund Balance* – The balance in the Operating Fund in excess of the target amounts for the Operating Reserve and the Catastrophic Reserve is shown in the financial plan as Undesignated Fund Balance. After all other

obligations are met this available balance can be used to offset rate increases. This surplus provides important flexibility in managing the financial needs of the utility.

The Water Utility Fund Undesignated Fund Balance was about $9.0 million as of June 30, 2019. For purposes of this financial plan, the entire undesignated balance is shown to be absorbed by the increase in the Catastrophic Reserve although a decision to do so has not yet been made (as discussed above).

- *Capital Project Appropriations* – Each year Santa Rosa Water appropriates funds for specific capital improvement projects. When appropriations are made funds are set aside to cover project costs. For the Water Utility Fund, this cash sits in Fund 1614 until capital project expenditures are incurred and bills are paid. As of June 30, 2020, it is estimated that the Water Utility had about $37.1 million appropriated for capital projects.
- *Rate Stabilization Fund* – Unlike Local Wastewater (see Section 3.1.1), the water utility has not funded its Rate Stabilization Reserve.

2.1.2 Water Utility Rate Revenue

Rate revenue is the revenue generated from customers for water service. Santa Rosa Water collects rate revenue from water customers based on a fixed "Service Charge" (assessed based on meter sizes) and water "Usage Rates" (applied to each thousand gallons (TGAL) of water use). Customers receive a monthly bill. The Water Utility financial plan starts with FY 2020/21 budgeted rate revenues. Estimated future water demand and rate revenues include the small amount of customer growth (see Section 2.1.3) as well as the annual rate revenue adjustments proposed by this Study. Other than demand increases associated with customer growth, water demand is anticipated to remain constant. Budgeted and projected rate revenues (including proposed rate adjustments) are listed in **Schedule W-1** (cash flow proforma), at the end of this report.

2.1.3 Customer Growth, Water Demands, and Water Losses

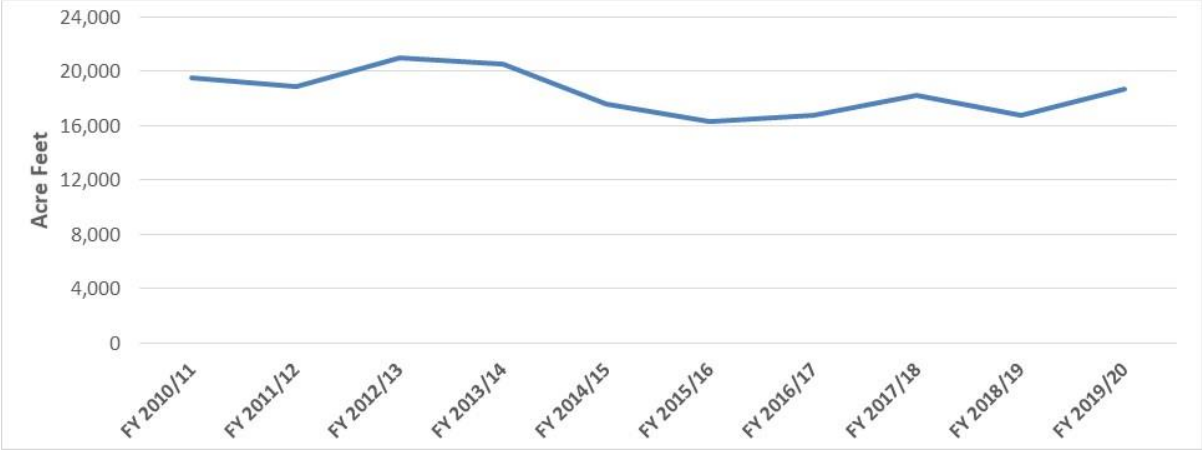
In recent years, Santa Rosa Water has collected an average of approximately $2.5 million per year in Water Demand Fee revenue from new customers connecting to the

system, which equates to a growth rate of approximately 0.86 percent per year. This Study assumes that this trend will continue for the duration of the next 10 years and that the entirety of this revenue will be made available for funding water capital projects.

The state of California emerged from a historical drought in 2017. As seen in Figure 2, Santa Rosa Water's overall water demands dropped by 25 percent compared to FY 2012/13 as a result of the drought but have remained relatively stable since FY 2015/16. The financial plan assumes that average customer water demand over the planning period will remain stable.

It is important to recognize that this graph shows that water demand can (and does) fluctuate by material amounts based on weather, economic conditions, and other factors. There are fluctuations in both revenues and expenses as demand fluctuates which may result in financial deficits, which underlines the importance of robust reserve polices (see Section 2.1.1).

Figure 2 – Santa Rosa Water Total Water Production by Year



Future water demand and wastewater flows are uncertain and may be influenced by emerging drought conditions, conservation and environmental ethics of customers, economic conditions, State water conservation regulations, weather patterns, and other factors. The assumptions used in the financial analysis are believed to be reasonable. Sensitivity analyses performed on the water demand and wastewater flow

assumptions suggest that these assumptions are consistent with risk posture expressed by BPU Budget Subcommittee members.

It should be noted that the Water Utility expected to see a reduction in water usage because of the loss of over 2,500 accounts from the 2017 Tubbs Fire. While perhaps a small reduction in water usage occurred, it was not as noticeable as originally anticipated. This might have been a result of displaced residents relocating within Santa Rosa. Service Charge revenue did not decrease during that period either, but perhaps did not increase as quickly as would have occurred without the loss of those units.

The water financial plan reflects estimated non-revenue water[5] of 8 percent of the total water produced. This estimate aligned with the evidence in the amount of water sold versus the amount of water produced and is consistent with assumptions included in the *2015 Urban Water Management Plan*.

2.1.4 Water Utility Non-Rate Revenues

In addition to rate revenue, the Water Utility receives additional "non-rate revenue" from sources such as private fire service charges, miscellaneous service fees/charges, penalties, leases, Demand Fees[6], and interest revenue on investments. Projections of all non-rate revenues were based on FY 2021/22 budgeted revenues with the exception of interest income which was calculated annually based upon projected fund balances and an assumed interest rate of 1.5 percent, which is consistent with Santa Rosa Water's historical interest earnings relative to its total reserve levels.

Budgeted water rate and non-rate revenues are depicted in Figure 3 below and listed in more detail in **Schedule W-1**.

[5] NRW includes all water not billed due to water losses (real losses from distribution system leaks and apparent losses from metering errors) or authorized unbilled water use (for example, water for firefighting and main flushing).

[6] Santa Rosa Water's "Demand Fees" are known as "Capacity Charges" per Government Code Section 66013.

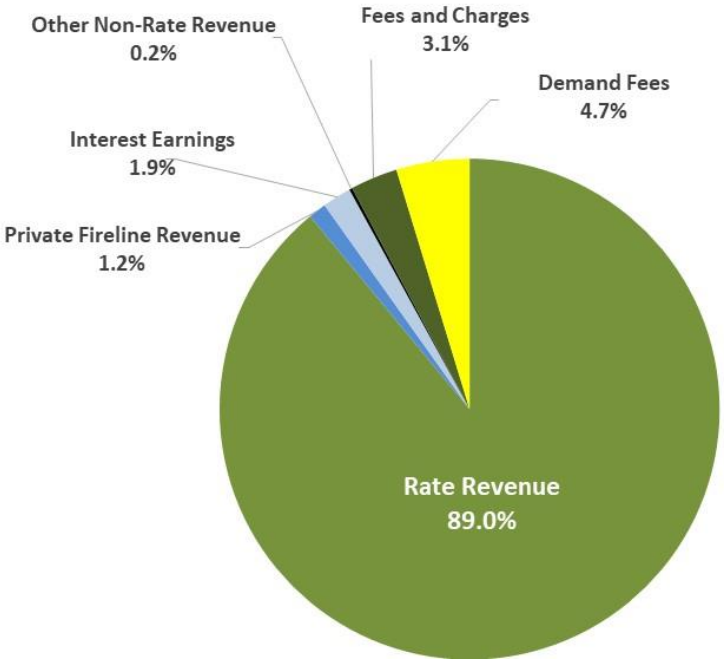


Figure 3: Budgeted Water Utility Revenue Categories (FY 2021/22)

2.1.5 Water Utility Operating and Debt Expenses

The financial plan models are based on current operating and maintenance costs as reflected in the FY 2020/21 operating budget with future estimates influenced by growth and water demand assumptions (see Section 2.1.3) and cost escalation (see Section 1.8.2), with the exceptions listed below.

- *Sonoma Water Purchases* – About 95 percent of the Water Utility's water supply is purchased from the Sonoma County Water Agency (Sonoma Water). Sonoma Water adjusts its water rates and charges annually, and the financial plan assumes that the rate for Sonoma Water purchases will increase by 5.0 percent per year through the planning period based on Sonoma Water's long range financial plan and indications from Sonoma Water staff. Santa Rosa Water budgets for water purchases based on normal water demands, even if lower water demands are anticipated. For rate calculation purposes, assumptions for water supply and demand must align (with consideration for non-revenue

water). For this reason, budgeted water supply costs are effectively reduced by subtracting Sonoma Water purchase contingency costs (difference between budgeted water purchases and the amount that aligns with estimated water demand).

- *Existing Debt Obligations* – Existing long-term debt repayment obligations are summarized in Schedule W-1 (see Row 27). The Water Utility is responsible for the repayment on three outstanding bonds (Refunding Water Revenue Bonds Series 2018, Water Revenue Bonds Series 2008, and New Money 2002B). As of September 2020, the outstanding principal on long-term debt totaled about $46.7 million, and the annual debt service in FY 2020/21 was about $830 thousand (although the annual debt service is scheduled to grow to a peak of $3.8 million by FY 2029/30).
- *New Long-Term Debt* – This financial plan does not include any additional debt for the Water Utility.
- *"Turnback" Rate* – Historically, Santa Rosa Water under-spends the operating budget by as much as 10 percent. Because the financial plan and rate calculations are based on budget figures it is necessary to include an adjustment to avoid excessive rates. In recent years staff have adjusted budgeting practices to reflect actual needs more closely. It is not known which part of the budget may be over-budgeted; therefore, this financial plan reduces the annual operating budget by 5 percent (as seen in Row 24 of Schedule W-1).

Major budgeted expense categories for FY 2021/22 are depicted in **Figure 4**. Budgeted and projected operating and maintenance costs as well as debt service expenses are listed in detail in **Schedule W-1**.

Capital spending is addressed separately in Section 2.1.6.

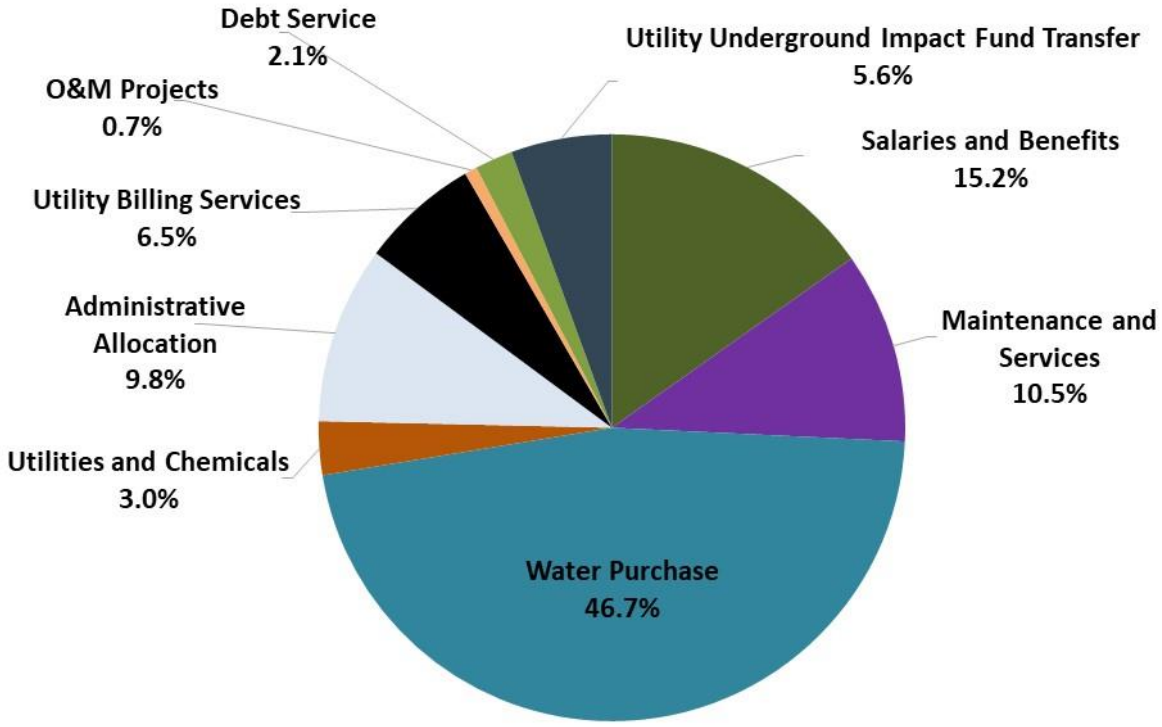


Figure 4: Water Utility Operating and Debt Expense Categories (FY 2021/22)

2.1.6 Water Utility Capital Appropriations

Santa Rosa Water appropriates funds for capital improvement projects within each of the utilities each year. Estimated annual CIP appropriations, as developed by staff for the next ten years, are included in the financial plan.

The capital appropriation budget in FY 2020/21 is $13.4 million. Going forward, the capital appropriation budget is forecasted to increase by the assumed construction cost inflation rate of 3.0 percent per year. Figure 5 and Schedule W-1 (see Rows 26 - 29) summarize the annual capital program appropriations included in the financial plan model. The proposed level of capital expenditures is designed to meet the general level of capital spending described by the *2014 Water Master Plan* and the *2017 Santa Rosa Water Infrastructure Report*, as currently interpreted by City staff.

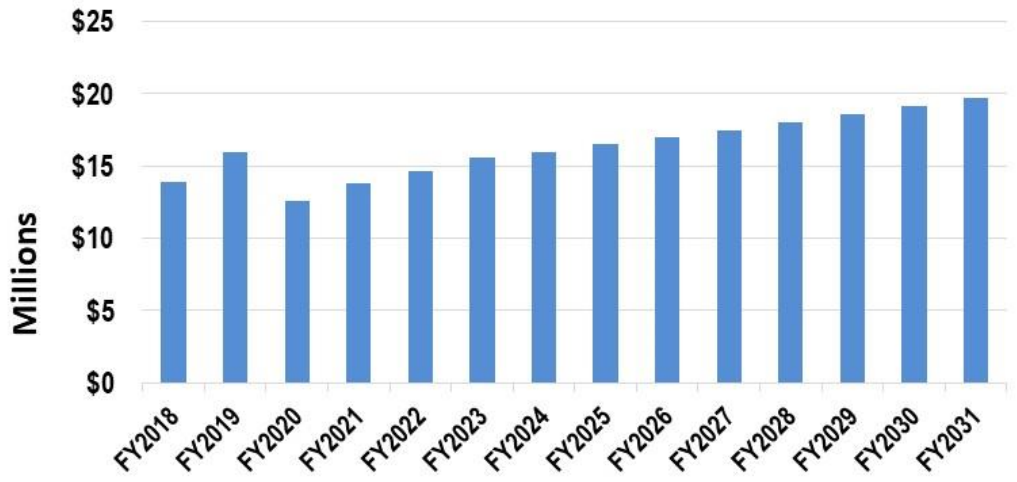


Figure 5: Recent and Projected Water Utility Capital Spending

This financial plan is proposing that all capital spending be funded on a "pay-as-you-go" (PayGo) basis as opposed to issuing new debt. This recommendation is based on the fact that debt financing is generally avoided unless there is an anomalous spike in capital spending that cannot be afforded without a significant rate increase (which is not the case for this financial plan).

The Water Utility financial plan assumes that Demand Fee reserves and revenues will be used to pay for capital projects. This is appropriate given the "buy-in" methodology used to calculate Demand Fees (see *2014 Water and Wastewater Demand Fee Study*, The Reed Group, Inc. August 11, 2014).

2.1.7 Proposed Water Rate Revenue Increases

All of the above information was entered into a financial planning model to produce a ten-year projection of the sufficiency of current rate revenues to meet projected financial requirements and determine the level of rate revenue increases necessary in each year of the projection period. Specific findings and recommendations pertaining to the Water Utility's financial plan are presented below, beginning with a description of the current situation.

- While the Water Utility's debt service obligations are currently relatively low ($830 thousand), the obligation will increase over time until it reaches $3.8 million by FY 2029/30.
- Sonoma Water purchase costs represent nearly one-half of the operating budget and one-third of the total revenue requirement. Based on forecasts provided by Sonoma Water, the financial plan incorporates 5 percent annual increases in the rates for Sonoma Water purchases.
- While the Water Utility has used a pass-through adjustment over the past 12 years to automatically adjust water usage rates based on changes in wholesale water costs, this current rate study is proposing to adopt a fixed rate schedule for the next 4 years. This recommendation is based on the fact that Sonoma Water has become much more transparent and predictable with future wholesale water rates, coupled with the fact that the pass-through adjustment process creates administrative complexities and costs, as well as reduces the transparency of the proposed rates.
- Many conditions can and will change over the ten-year planning period, and it would be imprudent to adopt a schedule of water rate adjustments for the entire ten-year period. However, a four-year rate plan could be adopted with reasonable confidence. Adopting a multi-year rate plan would enable the Water Utility to reduce costs associated with rate development and approval processes. It would also help ensure the financial stability of the utility and rate confidence for customers. Nevertheless, it is recommended that Santa Rosa Water staff review its financial condition and recommend annual rate adjustments as part of the annual budget process.
- Santa Rosa Water acknowledges the financial hardship on rate payers that is being created by the on-going Covid-19 pandemic. The water rate increases proposed by this study for the next four years are generally expected to keep pace with cost inflation. However, scheduled increases in annual debt service

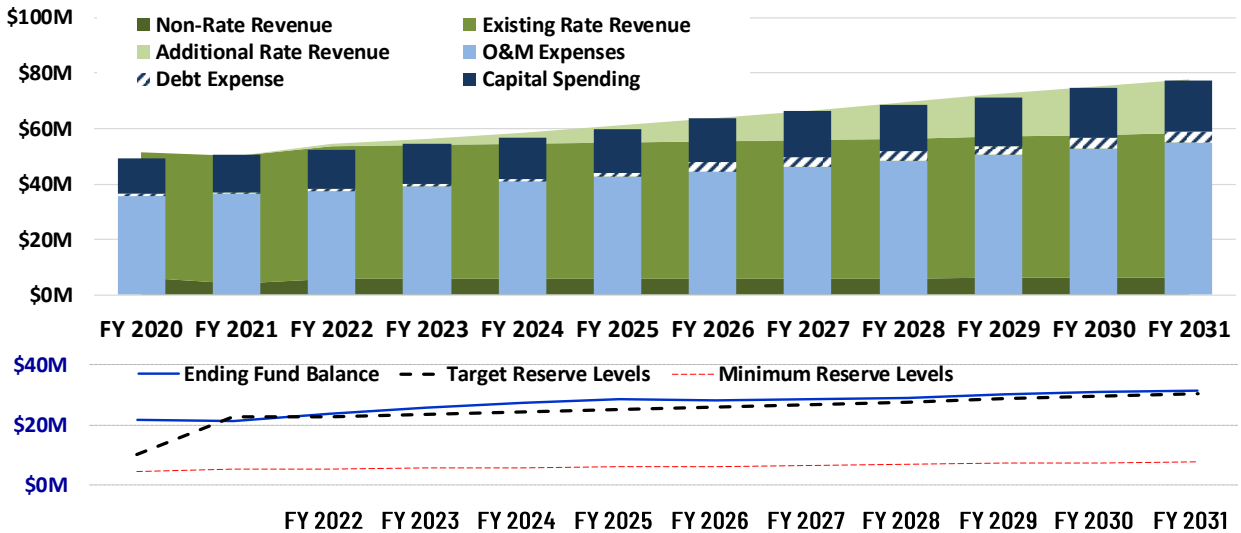
beginning in FY 2024/25 may necessitate somewhat larger rate increases in the next rate plan cycle, as shown in Figure 6.

Based upon the previously discussed financial data, assumptions, policies, and PayGo strategy, this Study proposes a four-year schedule of annual rate adjustments as detailed in Table 2.

Table 2: Recommended Water Rate Revenue Increase

Rate Adjustment Date	Proposed Rate Increase
July 1, 2021	2.0%
July 1, 2022	3.0%
July 1, 2023	3.0%
July 1, 2024	4.0%

The numbers provided in Schedule W-1 (cash flow proforma) are summarized graphically in Figure 6, which shows that the target reserves are essentially maintained over the course of the planning period and the DCR remains at healthy levels throughout the planning period.



	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
	Recommended				Projected					
Water Rate Revenue Increases:	2.0%	3.0%	3.0%	4.0%	4.0%	4.0%	4.0%	4.0%	3.0%	3.0%
Debt Coverage Ratio:	20.64	21.09	21.43	11.02	5.73	6.00	6.31	6.62	5.98	6.01
Capital Spending:	$13.8M	$14.6M	$15.1M	$15.5M	$16.0M	$16.5M	$17.0M	$17.5M	$18.0M	$18.5M

Figure 6: Water Utility Financial Projection with Recommended Rate Increases

Proposed rate structure changes and rate schedules for the next four years are presented in Section 2.2 of this report.

2.2 WATER COST OF SERVICE AND RATE STRUCTURE

This section of the report provides the COSA and design of water rates intended to meet the water utility's service and financial obligations for FY 2021/22 and beyond. Proposed water rates are intended to meet the utility's financial needs, satisfy legal requirements, encourage water conservation, and achieve other rate-setting objectives. The water rate analyses and related recommendations address each of the following:

- Identification of water rate-setting objectives
- Evaluation of customer account and water usage data
- A COSA used to allocate costs to each customer and customer class in proportion with service demands
- Design of a water rate structure to meet revenue needs, satisfy legal requirements, and achieve rate-setting objectives in a fair and reasonable manner

2.2.1 Rate Setting Objectives

This study remains consistent with the rate-setting objectives that were established in 2015 by Santa Rosa Water staff and the BPU Budget Subcommittee. There are two rate setting objectives that are primary and fundamental to guiding the rate-setting process. They include (1) water rates must generate sufficient revenue to meet the utility's service and financial obligations, and (2) water rates must be calculated consistent with the requirements of the California Constitution, Article XIIID (Proposition 218) and relevant case law. Other rate-setting objectives are secondary and can be addressed so long as the primary objectives are first achieved. Beyond the primary objectives, other rate-setting objectives identified to help guide the rate design process included the following:

- Water rates should be viewed as fair and equitable by the public
- Water rates should be simple, understandable, and easy to administer

- Water rates should strike an appropriate balance between fixed and usage-based charges, with consideration of:
  - Revenue stability
  - Conservation incentive
  - Affordability for basic usage
  - Customer bill impacts of rate structure changes

2.2.2 Current Water Rates

Santa Rosa Water's current water rates were last adjusted in July 2020 with automatic adjustments to water usage rates to reflect increased costs associated with Sonoma Water's FY 2020/21 rates and charges, as well as a 5 percent increase to the fixed service charges. The current water rates are presented in Table 3. Current water rates include a fixed service charge for all connections based on size of the water meter, a 2-tier structure for single-family, duplex, and irrigation accounts, and uniform rates for multi-family, commercial, industrial, and institutional accounts.

The current 2-tier structure for single-family customers and duplexes is designed to encourage water conservation as well as to help maintain the affordability of basic water service. The water allocation for the first tier is based on each customer's winter water use, or sewer/water[7] cap. The sewer/water cap is calculated as the average water use for complete billing periods from November through March, when water is essentially used for domestic (indoor) purposes. In addition to providing the basis for the allocation of water in the first tier, the sewer cap is also used for wastewater billing (see Section 3). The second tier is intended to provide the remaining water needs at the cost of providing the service. Approximately 58 percent of single-family water use occurs within the first tier and the remainder in the second tier.

The 2-tier structure for irrigation customers was designed to encourage water conservation and efficient irrigation practices. The water allocation in Tier 1 is based on a landscape water budget determined for each connection, which incorporates the

[7] Customers without sewer service have a water cap calculated to determine tiered usage.

irrigated area, plant types, and actual evapotranspiration rates per billing period. The first tier includes water usage up to 125 percent of the water budget (allowing for inherent inefficiency in irrigation systems), while the second tier provides for any additional water usage. At present, about 83 percent of irrigation water use occurs in the first tier, with the remainder in the second tier.

A small number of customers use recycled water for irrigation purposes. Recycled water users are obligated to monitor water use, post signs, avoid runoff, and take other special precautions. Because of these requirements, monthly service charges for recycled water accounts are set 10 percent below potable water service charges. In addition, the Tier 1 water usage rate for irrigation with recycled is set 5. percent below the Tier 1 irrigation rate for recycled water. No reduction is provided for Tier 2 rate since it represents excessive use, which needs to be avoided. These pricing practices effectively serve to compensate recycled water customers for the extra burdens placed on them.

About 25 percent of water rate revenue is generated from fixed service charges and about 75 percent from water usage charges.

Table 3: Current Water Rate Schedule

		Current
Water Usage Rates ($/TGAL)		
Single Family Residential & Duplex		
Tier 1	Use up to Sewer Cap (1)	$5.84
Tier 2	Above Sewer Cap	$6.79
Single Family with No Irrigation Needs (Z=Y) (2)		
	All water use	$5.84
Multi-Family, Commercial, Industrial, and Institutional		
	All water use	$6.20
Irrigation (potable water) (3)		
Tier 1	Use up to 125% of water budget	$5.90
Tier 2	Over 125% of water budget	$7.34
Irrigation (recycled water) (3)		
Tier 1	Use up to 125% of water budget	$5.60
Tier 2	Over 125% of water budget	$7.34
Monthly Service Charges (Potable Water)		
	5/8" meter	$13.76
	1" meter	$30.86
	1 1/2" meter	$59.36
	2" meter	$93.57
	3" meter	$173.36
	4" meter	$287.36
	6" meter	$572.36
Monthly Service Charges (Recycled Water)		
	5/8" meter	$12.39
	1" meter	$27.77
	1 1/2" meter	$53.42
	2" meter	$84.21
	3" meter	$156.03
	4" meter	$258.63
	6" meter	$515.12

(1) The Sewer Cap is calculated for each customer based on the average monthly water use during November through March.

(2) "Z=Y" accounts are single family or duplex accounts with no outdoor usage.

(3) The landscape water budget varies for each customer each month and is determined using the site's square footage for the types of plants and the evapotranspiration rate for the billing period.

2.2.3 Customer Account Data and Water Use Estimates

Table 4 summarizes customer account and water usage data used in water rate calculations for this report. Account information is based on the utility billing data from FY 2019/20.

Table 4: Summary of Water Accounts for 2021 Rate Calculations

		Meter Size (1)								Est. Ann. Wtr.
	Customer Class	5/8"	1"	1 1/2"	2"	3"	4"	6"	Total	Use (tg) (2)
1	Single Family	41,419	2,604	60	15	0	0	0	**44,098**	3,052,000
2	Duplexes	1,468	162	1	0	0	0	0	**1,631**	158,000
3	Multi-Family	385	529	111	447	66	19	14	**1,571**	849,000
4	Comm./Indus./Inst.	1,228	875	161	484	62	24	12	**2,846**	902,000
5	Irrigation (Potable)	394	647	77	424	21	17	1	**1,581**	722,000
6	Irrigation (Recycled Water)	3	8	3	16	0	0	2	**32**	23,000
7	**Total Accounts**	**44,897**	**4,825**	**413**	**1,386**	**149**	**60**	**29**	**51,759**	**5,706,000**
8	No. of 5/8" Equiv. Mtrs.	44,897	12,063	2,065	11,088	2,235	1,500	1,450	**75,298**	
9	Hydraulic Capacity Factor (3)	1.0	2.5	5.0	8.0	15.0	25.0	50.0		

Notes:

(1) Summary of active water accounts during June of 2020

(2) Actual water use from FY 2019/20

(3) AWWA M1 Manual 7th Edition, Table B-2

Water rate calculations are based on several factors related to Santa Rosa Water's customer base. Factors include the number of customers, customer classes, meter size, and monthly water usage. Santa Rosa Water provides water service through about 51,760 water service connections, including about 44,100 single-family accounts, about 1,600 duplex accounts, about 1,600 multi-family accounts, about 2,850 non-residential service accounts, and about 1,600 irrigation accounts. Single-family customers comprise about 85 percent of the customer accounts and about 54 percent of annual water usage. Duplex accounts make up about 3 percent of the customer accounts and 3 percent of the annual water usage. Multi-family customer accounts make up about 3 percent of the customer accounts and 15 percent of annual water usage. Non-residential customer accounts make up about 6 percent of the customers and 16 percent of annual water usage. Irrigation accounts make up about 3 percent of the customer accounts and 13 percent of the water use.

While there are extremes on both the low and high ends, average monthly single-family water usage is normally about 5,700 gallons per month. It is recommended that duplex accounts continue to be grouped with single-family customers for water rate and utility billing purposes, since duplex accounts tend to have dual-use meters (indoor and irrigation) and exhibit water use patterns that are more consistent with single-family accounts than with multi-family accounts.

Water usage for multi-family dwellings is generally less than for single-family residences (on a per dwelling unit basis) for a variety of reasons including fewer people per household, limited landscape irrigation (or irrigation that is separately metered), and (therefore) less seasonal peaking.

Larger meters have the capacity to place higher demands on the water system than smaller meters. To relate the potential demands on the water system from customers with different size water meters, hydraulic capacity factors are used to determine the number of equivalent meters represented by the total customer base with variable meter sizes. Table 4 (see Row 10) presents the hydraulic capacity factors (based on the rated flow capacity of various meter sizes) used to determine the number of equivalent meters. For purposes of rate analysis, a 5/8" meter is assigned a hydraulic capacity factor of 1.0. The ratios of rated flow capacities of the various meter sizes to the capacity of a 5/8" meter are used to determine the capacity factors for other meter sizes. This capacity relationship across meter sizes is used to allocate capacity-related fixed costs to various customers; this is a common rate-setting practice used in the water industry.

2.2.4 Cost-of-Service Analysis

There are three steps to determining water rates. These are:

- Determine annual water rate revenue requirements
- Analyze the cost of providing service and proportionately allocate costs to each customer class and customer
- Design water rates to recover costs from each customer class and customer.

The water utility ten-year financial plan (see Section 2.1) was used to identify the water rate revenue required to meet financial obligations for each fiscal year of the planning period. As presented in Section 2.1.7 of this report, a water rate revenue increase of 2 percent is proposed for next fiscal year. The rate structure updates that are proposed by this study will include this rate revenue increase for FY 2021/22.

Once the annual water rate revenue requirement is determined, the next step in the rate-setting process is to evaluate the cost of providing service. The COSA is intended to allocate the costs of providing water service to customers in proportion to the extent to which each customer contributes to the utility's incursion of costs. The COSA evaluates the cost of providing water and allocates those costs to rate structure components to ensure the proposed rates are aligned with the costs to provide service.

There are many approaches to cost-of-service analyses; some are more complex than others. The approach used herein is commensurate with the available data, the distinctions made between various types of customers, and requirements contained in the California Constitution, Article XIIID (Proposition 218), relevant court decisions, and other requirements. The primary provisions of Article XIIID that affect water and wastewater rate calculations include:

- Section 6(b)(1) – Revenues derived from the fee or charge shall not exceed the funds required to provide the service.

- Section 6(b)(3) – The amount of a fee or charge imposed upon any parcel or person shall not exceed the proportional cost of the service attributable to the parcel.

With regard to tiered water rates, in April 2015, the Fourth District Court of Appeal decided the *Capistrano Taxpayer Association v. City of San Juan Capistrano* case (SJC decision) that public agencies have authority to design tiered water rate structures, but that the tiers must be based on calculating the cost of providing water at various levels of usage. The SJC decision is one of several court cases addressing water and wastewater rates since voters approved Proposition 218 in 1996.

The cost allocation methodology used herein follows the methodology that was developed in 2015 and simply updates the financial values (which results in slight changes to the COSA and ultimately the rate structure). The goal of the methodology was to allocate costs in a manner that satisfy not only cost of service (proportionality) requirements, but also the objectives of revenue sufficiency, revenue stability, and encouraging water conservation.

The cost allocation methodology begins by assigning all costs to one of three categories. The cost allocation process is performed with data available in the Water Utility's detailed budget and related financial documents. The three categories include:

- Customer costs, such as meter reading and billing, are fixed costs that tend to vary as a function of the number of customers being served. Customer costs are allocated to customers based on the number of accounts. That is, every customer will pay an equal share of customer-related costs.
- Capacity costs are also fixed costs; however, these tend to vary in relation to the capacity of the water system and the ability to serve the demands of active customers. Customers that place greater or lesser burdens on the capacity of the water system should bear greater or lesser shares of these costs. The sizing of the water system is based on the potential demand that each customer could place on the water system. Capacity costs are allocated to customers based on the hydraulic capacity of the water meter. The hydraulic capacity reflects the potential demand that a customer could place on the water system at any given time and is a general indicator of total system demands. A customer with a large meter size will be assigned a larger share of fixed capacity-related costs than one with a smaller meter. Capacity costs include costs associated with the water system's capacity including contributions to the capital program, debt service, maintenance, and certain fixed operating costs.
- Commodity costs are variable costs that vary entirely or substantially in response to the amount of actual water use or are reasonably allocated based on water use. Water treatment costs and energy costs are two typical examples. However, to

encourage water conservation, some fixed costs are frequently included in commodity components such that a larger portion of cost is recovered on the basis of usage. Even though some commodity costs are fixed, rather than variable, it is reasonable to allocate these costs to customers based on usage, rather than the capacity relationship expressed by meter size and hydraulic capacity. A significant portion of the water utility's fixed costs is currently recovered through water usage charges. Proposed water rates continue this practice to a similar degree.

Table 5 summarizes how the water rate revenue requirement of $48.2 million is comprised of various functional categories of operating and maintenance costs, debt service obligations, and the capital program appropriations with offsetting revenues and the application of available reserves. It also illustrates how the functional cost categories that make up the revenue requirement are each assigned to one or more of the three cost components, previously described.

The costs within each of the functional categories were derived from the detailed budget for FY 2021/22, as prepared by staff, and the financial plan. Once functional cost categories are allocated to the components the total for each component is divided by the number of units to arrive at a total unit costs for each component. The units of demand include the number of customer accounts (service connections), number of 5/8" equivalent meters, and annual water sales for the customer, capacity, and commodity components, respectively.

The allocation of costs to the customer, capacity, and commodity components is shown to be 3.1 percent, 21.9 percent, and 75.0 percent, respectively in Row 31 of Table 5.

Table 5: FY 21-22 Unit Costs of Water Service

		Total Water Rate Revenue	Customer Costs	Capacity Costs	Commodity Costs
1	**Units of Service -->**		**51,759** Accounts	**75,298** 5/8" Equivalent Meters	**5,706,000** TGALs
	Salaries and Benefits				
2	Total	$5,993,000	$0	$0	$5,993,000
3	Unit Cost		$0.00	$0.00	$1.05
	Utility Billing Services				
4	Total	$2,572,000	$2,572,000	$0	$0
5	Unit Cost		$49.69	$0.00	$0.00
	Water Purchases/Production/Chemicals				
6	Total	$18,206,000	$0	$0	$18,206,000
7	Unit Cost		$0.00	$0.00	$3.19
	Utilities				
8	Total	$1,162,000	$0	$0	$1,162,000
9	Unit Cost		$0.00	$0.00	$0.20
	Other Services and Supplies				
10	Total	$4,096,000	$0	$0	$4,096,000
11	Unit Cost		$0.00	$0.00	$0.72
	Indirect Costs				
12	Total	$3,848,000	$0	$3,848,000	$0
13	Unit Cost		$0.00	$51.10	$0.00
	O&M Projects and Capital Outlay				
14	Total	$305,000	$0	$0	$305,000
15	Unit Cost		$0.00	$0.00	$0.05
	To Utility Impact Fee Fund				
16	Total	$2,191,000	$0	$2,191,000	$0
17	Unit Cost		$0.00	$29.10	$0.00
	To Debt Service Fund				
18	Total	$824,000	$0	$824,000	$0
19	Unit Cost		$0.00	$10.94	$0.00
	To Capital Fund				
20	Total	$13,790,000	$0	$6,895,000	$6,895,000
21	Unit Cost		$0.00	$91.57	$1.21
	Turnback				
22	Total	-$900,000	-$44,000	-$234,000	-$623,000
23	Unit Cost		-$0.85	-$3.11	-$0.11
	To/From Operating Reserves				
24	Total	$2,394,000	$116,000	$622,000	$1,656,000
25	Unit Cost		$2.24	$8.26	$0.29
	Charges for Services				
26	Total	-$1,636,000	-$1,050,000	-$586,000	$0
27	Unit Cost		-$20.29	-$7.78	$0.00
	Other Revenue				
28	Total	-$4,672,000	-$109,000	-$2,993,000	-$1,570,000
29	Unit Cost		-$2.11	-$39.75	-$0.28
30	**Totals**	**$48,172,000**	**$1,485,000**	**$10,567,000**	**$36,120,000**
31			3.1%	21.9%	75.0%
32	**Unit Costs of Service -->**		**$28.69** per Account	**$140.34** per Equivalent Meter	**$6.33** per TGAL

Unit costs presented in Table 5 are then used to7 distribute the costs of providing service to each customer class, as presented in Table 6. Customer classes include single-family and duplex accounts; multi-family, commercial, industrial, and institutional accounts; and dedicated irrigation accounts. For each customer class, unit costs for each cost component are multiplied by the units of demand. The resulting allocation of the total water rate revenue requirement to each customer class is shown in Column E of Table 6. This indicates that 59.7 percent of costs are allocated to single-family and duplex customers, 28.5 percent to multi-family, commercial, industrial, and institutional customers, and 11.7 percent to irrigation accounts.

Table 6: Cost Distribution to Customer Classes

	A	B	C	D	E	F
		Customer Costs	**Capacity Costs**	**Commodity Costs**	**Cost of Service**	
1	**Unit Costs of Service -->**	**$28.69** per Account	**$140.34** per Equivalent Meter	**$6.33** per TGAL		
	Customer Classes					
	Single Family and Duplex Accounts					
2	Units of Service	45,729	50,227	3,210,000		
3	Cost of Service	$1,311,995	$7,048,690	$20,319,874	**$28,680,559**	
	Multi-Family, Commercial, Industrial, and Institutional Accounts					
4	Units of Service	4,417	18,226	1,751,000		
5	Cost of Service	$126,727	$2,557,776	$11,084,143	**$13,768,646**	
	Dedicated Irrigation Accounts					
6	Units of Service	1,613	6,845	745,000		
7	Cost of Service	$46,278	$960,534	$4,715,983	**$5,722,796**	
8	**Total Costs**	**$1,485,000**	**$10,567,000**	**$36,120,000**	**$48,172,000**	
9		3.1%	21.9%	75.0%		

2.2.5 Water Rate Design

The third and final step in the rate setting process is the design of water rates to recover costs from each customer class and generate the revenue needed for the utility. Table 7 summarizes the basic elements of the water rate structure for each customer class. Costs that were distributed to each customer class under each rate component are then divided by the units of demand within each class to arrive at basic rate components.

Table 7: Summary of FY 2021/22 Water Rate Calculations

	Single Family and Duplex	Multi-Family, Commercial, Industrial, & Institutional	Irrigation	Totals	
Allocated Costs -->	**$28,680,559**	**$13,768,646**	**$5,722,796**	**$48,172,000**	
Rate Component Calculations					
Customer Costs	$1,311,995	$126,727	$46,278	$1,485,000	3.1%
No. of Accounts	45,729	4,417	1,613		
Monthly Customer Cost -->	**$2.39**	**$2.39**	**$2.39**		
Capacity Costs	$7,048,690	$2,557,776	$960,534	$10,567,000	21.9%
No. of 5/8" Equivalent Meters	50,227	18,226	6,845		
Monthly Capacity Cost -->	**$11.69**	**$11.69**	**$11.69**		
Commodity Costs	$20,319,874	$11,084,143	$4,715,983	$36,120,000	75.0%
Annual Water Use (TGAL)	3,210,000	1,751,000	745,000		
Uniform Water Rate ($/TGAL) -->	$6.33	**$6.33**	$6.33		
Tiered Water Rate ($/TGAL)(1)	**$5.99** Tier 1 **$6.79** Tier 2		**$6.09** Tier 1 **$7.54** Tier 2		

(1) Derivation of tiered rates shown in Table 9

In general, proposed water rates follow the same basic structure as the current water rates, even though the specific rate amounts have been updated to reflect the current COSA. Water rates include fixed service charges based on the size of the water meter, and water usage rates applicable to each customer class.

2.2.5.1 SERVICE CHARGES

Table 8 presents the calculation of monthly service charges for the proposed water rates. Service charges are intended to recover the customer and capacity costs identified through the COSA. Service charges apply to all customer water bills, regardless of the amount of water used. Customers that use no water during a billing period should still be required to pay the service charge, as service is immediately available to them. In calculating service charges customer costs are allocated equally to all customers and capacity costs are allocated based on meter size in relation to the hydraulic capacity associated with the various meter sizes.

The proposed service charge for a 5/8” meter (typical for single-family homes) is $14.09. All proposed service charges reflect the capacity relationship across meter sizes, as well as the revenue needs of the utility. The changes to the service charges across the range

of meter sizes objectively reflect a consistent proportioning of the cost of providing service to customers of varying meter sizes.

Table 8: FY 2021/22 Water Utility Monthly Service Charge Calculations

Meter Size	Customer Cost	Hydraulic Capacity Factor	Capacity Cost	Monthly Service Charge
5/8" & 3/4"	$2.39	1.0	$11.69	$14.09
1"	$2.39	2.5	$29.24	$31.63
1 1/2"	$2.39	5.0	$58.47	$60.86
2"	$2.39	8.0	$93.56	$95.95
3"	$2.39	15.0	$175.42	$177.81
4"	$2.39	25.0	$292.37	$294.76
6"	$2.39	50.0	$584.74	$587.13

The service charge for a 3/4" water meter is the same as for a 5/8" meter. On occasion, customers are required by the Fire Code to upsize from a 5/8" meter to a 3/4" meter. In these instances, charging the same service charge is reasonable and appropriate.

2.2.5.2 WATER USAGE RATES

Current water rates include a 2-tier rate structures for single-family and duplex accounts, as well as for dedicated irrigation accounts. Table 9 shows the calculation of these 2-tier water rate structures.

The price difference between Tier 1 and Tier 2 is based on the cost of the Water Utility's water supply as well as the conservation program. Santa Rosa Water obtains its water supplies from three different sources, including water purchased from Sonoma Water, groundwater produced from local wells, and recycled water purchased from the Regional System. The cost to purchase or produce an acre-foot (AF) of water from Sonoma Water is about $1,015 per AF, ground water is about $129 per AF, and recycled water is about $310 per AF. At present water imports from Sonoma Water makes up about 94.5 percent of total water supply, groundwater about 5.0 percent, and recycled water about 0.5 percent. The cost difference between Tier 1 and Tier 2 is created based on the fact that Tier 1 water is calculated based on the blended cost of imported water, groundwater, and recycled water, while Tier 2 rates are based entirely on the cost of imported water. Tier 2 also includes the cost of the conservation program. Water

conservation costs have been assigned only to usage in the second tier, because usage in the first tier generally reflects reasonable water use. Water conservation program costs are assigned equally to each customer class at $0.21 per TGAL for all water usage (see Row 13 of Table 9). However, the allocated costs are recovered only from second tier usage for single-family and duplex accounts, as well as for irrigation accounts. Because the percentage of usage in Tier 2 differs between these two customer classes, the Tier 2 water conservation cost differs as well. Commodity costs not related to water supply or water conservation costs are equally allocated across all water usage (see Row 10 of Table 9).

As discussed in Section 2.2.2, the water allocation of Tier 1 water for single-family and duplex accounts is based on the sewer/water cap for each account and represents water for indoor purposes (necessary for health and safety). Water use above the sewer cap is generally for irrigation and more discretionary. The Tier 1 water allocation for dedicated irrigation accounts is based on 125 percent of the water budget for each account and represents efficient irrigation water use (no irrigation system is 100 percent efficient). Water use above 125 percent of the water budget exceeds the need for the landscape. Because the sewer cap and the water budget are derived separately the water supply mix in the first tier differs slightly for single-family and duplex accounts than it does for irrigation accounts. As a result, the water supply costs and hence the water usage tier rates for each customer class are somewhat different.

Because of the broad diversity of water use and water using characteristics exhibited by multi-family, commercial, industrial, and institutional customers, it continues to be appropriate to use a uniform water rate for these customer classes. However, both single-family accounts (including duplex accounts) and dedicated irrigation accounts (with defined water budgets) have relatively predictable and homogeneous water usage patterns, and tier rates that appropriately reflect costs for each level of usage can satisfy not only cost of service (and proportionality) requirements, but also source of water supply and water conservation objectives as well.

Table 9: FY 2021/22 Water Usage Rate Calculations

			Single Family and Duplex			Multi-Family, Comm., Industrial, & Institions	Dedicated Irrigation		
			Tier 1 (2)	**Tier 2**	**Total**	**Total**	**Tier 1** (3)	**Tier 2**	**Total**
1	Water Usage (TGAL) (1)		1,847,000 57.6%	1,363,000 42.4%	3,210,000	1,751,000 100%	620,000 83.2%	125,000 16.8%	745,000
	Water Supply (AF)	$/AF							
2	Sonoma Water	$1,015.30	5,530	4,548	10,078	5,496	1,922	417	2,339
3	Groundwater	$128.96	540		540	295	125		125
4	Recycled Water	$309.55	43		43	24	10		10
5	Total Supply		6,113	4,548	10,661	5,815	2,057	417	2,474
	Water Supply (%)								
6	Sonoma Water		90.5%	100%	94.5%	94.5%	93.4%	100%	94.5%
7	Groundwater		8.8%	0%	5.1%	5.1%	6.1%	0%	5.1%
8	Recycled Water		0.7%	0%	0.4%	0.4%	0.5%	0%	0.4%
9	Total Supply		100%	100%	100%	100%	100%	100%	100%
	Water Usage Rates ($/TGAL)								
10	Gen'l. w/o Supply/Conserv.		$2.91	$2.91	$2.91	$2.91	$2.91	$2.91	$2.91
11	Sonoma Water		$3.04	$3.39	$3.19	$3.19	$3.15	$3.39	$3.19
12	Groundwater & Rec. Wtr.		$0.04		$0.03	$0.03	$0.03		$0.03
13	Water Conservation			$0.49	$0.21	$0.21		$1.24	$0.21
14	**Total Cost per TGAL** (4)		**$5.99**	**$6.79**	$6.33	**$6.33**	**$6.09**	**$7.54**	$6.33

Notes:
(1) Total water sales estimated at 5,706,000 TGAL, as distributed across the customer classes based on sales from FY 19-20. One acre foot (AF) is equal to 325,851 gallons.
(2) The first tier allocation for single family and duplex accounts is equal to the Sewer Cap, and represents indoor water needs.
(3) The first tier allocation for irrigation accounts is equal to 125 percent of the individual water budget, and represents efficient water usage.

2.2.6 Proposed Water Rate Schedule

Table 10 summarizes the proposed water rate schedule for water rates to be effective in July 2021. The proposed water rates reflect a proportionate distribution of costs to all customers and customer classes and reflect the cost of providing service. The service charges, uniform water rate, and 2-tier water rate structures reflect a reasonable allocation of costs on a proportionate basis to each water user, as required by Section 6(b)(3) of Article XIIID of the California Constitution, as well as the overall limit that rates not exceed the cost of service required by Section 6(b)(1).

The four-year schedule of proposed water rates is presented in Schedule W-2. If adopted, the initial rate increase will be effective 30 days after approved by the City Council, as early as July 1, 2021.

Table 10: Proposed Water Rate Schedule for FY 2021/22 (effective on or after July 1, 2021)

		July 2021
Water Usage Rates ($/TGAL)		
Single Family Residential & Duplex		
Tier 1	Use up to Sewer Cap (1)	$5.99
Tier 2	Above Sewer Cap	$6.79
Single Family with No Irrigation Needs (Z=Y) (2)		
	All water use	$5.99
Multi-Family, Commercial, Industrial, and Institutional		
	All water use	$6.33
Irrigation (potable water) (3)		
Tier 1	Use up to 125% of water budget	$6.09
Tier 2	Over 125% of water budget	$7.54
Irrigation (recycled water) (3)		
Tier 1	Use up to 125% of water budget	$5.79
Tier 2	Over 125% of water budget	$7.54
Monthly Service Charges (Potable Water)		
	5/8" meter	$14.09
	1" meter	$31.63
	1 1/2" meter	$60.86
	2" meter	$95.95
	3" meter	$177.81
	4" meter	$294.76
	6" meter	$587.13
Monthly Service Charges (Recycled Water)		
	5/8" meter	$12.68
	1" meter	$28.47
	1 1/2" meter	$54.77
	2" meter	$86.36
	3" meter	$160.03
	4" meter	$265.28
	6" meter	$528.42

(1) The Sewer Cap is calculated for each customer based on the average monthly water use during November through March.

(2) "Z=Y" accounts are single family or duplex accounts with no outdoor usage.

(3) The landscape water budget varies for each customer each month and is determined using the site's square footage for the types of plants and the evapotranspiration rate for the billing period.

Section 3. WASTEWATER RATE STUDY

The following subsections include the Wastewater Utility's financial plan, cost of service, rate design, and proposed rates schedule. As previously mentioned, the following information is somewhat redundant with Section 2; the following is meant to stand-alone to avoid the need to cross-reference.

3.1 WASTEWATER FINANCIAL PLAN

Santa Rosa's Wastewater Utility is a self-supporting independent enterprise of the City. That is, the Wastewater Utility is expected to generate the revenues (through user charges, demand fees, and other revenues) to cover the ongoing costs of operations, maintenance, administration, regulatory compliance, debt service, capital improvements, and maintenance of prudent financial reserves.

This section presents the Wastewater Utility's ten-year financial plan, including a description of the source data, assumptions, and Santa Rosa Water's financial policies. Santa Rosa Water provided historical and budgeted financial information, including historical and budgeted operating costs, a multi-year capital improvement program (CIP), and outstanding debt service obligations. Santa Rosa Water staff also assisted in providing other assumptions and policies, such as reserve targets and escalation rates for operating costs.

The Regional System and Local Wastewater are treated as separate financial enterprises. Since the Regional System is treated as a wholesale wastewater treatment service to the City of Santa Rosa (and the other member agencies), there are no Regional System rates per se that are charged to wastewater customers. Rather, the City's share of Regional System service costs is treated simply as part of Local Wastewater's annual costs. As such, this report will describe separate financial plans for each system, with the Regional System costs ultimately informing a significant part of the costs to the Local Wastewater financial plan.

3.1.1 Local Wastewater Fund & Reserve Structure

The basic structure of the Local Wastewater Fund was depicted previously in Figure 1 (see Section 1.3). A more detailed understanding of the fund structure and reserves is helpful in understanding the financial plan and the mechanics of the annual cash flows. The Local Wastewater Fund is comprised of the following elements and reserves:

- *Operating Fund* – The Operating Fund is the primary fund within the Wastewater Utility. Most of the wastewater system's revenues, including user rate revenues, flow into the Operating Fund and all operating and maintenance costs, including debt service payments, are paid out of this fund.
- *Operating Reserves* – Within the Operating Fund is an Operating Reserve. Under Santa Rosa Water's current reserve policy, the Local Wastewater Fund maintains an Operating Reserve equal to 15 percent of annual operating and maintenance costs, excluding debt service costs. The purpose of the Operating Reserve is to provide sufficient funds for working capital and to manage cash flow, as well as to provide funds for unanticipated expenditures or revenue shortfalls and for minor emergencies. As of June 30, 2019, the Local Wastewater Fund had an operating reserve of about $1,483,000. The estimated operating reserve balance on June 30, 2020 was about $1,759,000.
- *Undesignated Fund Balance* – The balance in the Operating Fund in excess of the target amounts for the Operating Reserve and the Catastrophic Reserve is shown in the financial plan as Undesignated Fund Balance. After all other obligations are met this available balance can be used to offset rate increases. This surplus provides important flexibility in managing the financial needs of the utility.
- The Local Wastewater Fund Undesignated Fund Balance was about $10.5 million as of June 30, 2019. A portion of this balance is expected to be transferred to the Catastrophic Reserve, although a decision to do so has not yet been made (as discussed above). *Capital Project Appropriations* – Each year Santa Rosa Water appropriates funds for specific capital improvement projects.

When appropriations are made funds are set aside to cover project costs. For the Local Wastewater Fund, this cash sits in Fund 1626 until capital project expenditures are incurred and bills are paid. As of June 30, 2020, the Wastewater Utility had about $53.9 million appropriated for capital projects.

- *Rate Stabilization Reserves* – The Local Wastewater Fund holds a Stabilization Reserve to enhance the utility's bond ratings by adding a stable source of liquidity to a fund with outstanding debt. Debt rate stabilization reserve levels are determined as part of the utility's long-term financing plan. As of June 30, 2020, the wastewater utility had $1.0 million in the Rate Stabilization Reserve. This is maintained due to the significant outstanding long-term debt of the Regional System and the Local Wastewater Fund's share of the debt obligations.
- *Catastrophic Reserves* – Catastrophic reserves are intended to help protect the Wastewater Utility from financial risk associated with major disruptive events such as earthquakes, fires, floods, pandemics, or other catastrophic events. These reserves are intended to be available in the event of either reduction in revenues or an increase in costs. The amounts held in catastrophic reserves are currently being reviewed by the City's engineering consultant (GHD Engineers) based on an engineering analysis of the amounts needed to restore "basic services" of the wastewater collection system following a major earthquake.

  Since 2016 the Local Wastewater Fund has held $6.8 million in the catastrophic reserve. GHD is recommending that the Local Wastewater Fund catastrophic reserve be increased to $21.5 million (an increase of $14.7 million). As discussed below, between the Local Wastewater Fund's undesignated fund balance and Santa Rosa's share of the Regional Refund balance (see Section 3.1.2), the Wastewater Utility has sufficient funds to fund the entire increase to the recommended reserve target (see Section 3.1.8). That being said, Santa Rosa Water staff and the BPU are reviewing GHD's recommendations, as well as whether to partially or completely assign undesignated reserves to the catastrophic reserve. It may be that the full catastrophic reserve target is not achieved immediately. As discussed in Section 3.1.2, it may be possible that the

Regional Refund reserve balance will be made available to help meet the increase in the reserve target.

It is recommended that Santa Rosa Water increase the catastrophic reserve target annually to account for the effects of inflation based on the 20-cities construction cost index (CCI), published by the *Engineering News Record*. Otherwise, its value diminishes over time.

3.1.2 Regional Fund & Reserve Structure

The structure of the Regional Fund is very similar to the structure of the Water Utility Fund and the Local Wastewater Fund (as depicted previously in Figure 1 in Section 1.3), with the important distinction that the Regional System doesn't collect rate revenue from customers, rather each member agency is charged for its proportionate share of operating and maintenance costs, capital program expenditures, and debt service obligations, in accordance with the Subregional Agreement. Because the Regional System operates under the terms of the Subregional Agreement details of this operation and the allocation of costs to regional partners are not detailed in the water and wastewater rate study, or this report.

The Regional Fund is comprised of the following elements and reserves:

- *Operating Fund* – The Operating Fund is the primary fund within the Regional System. Most of the Regional System's revenues, including revenue from member agency charges, flow into the Operating Fund and all operating and maintenance costs, including debt service payments, are paid out of this fund.
- *Operating Reserves* – Under Santa Rosa Water's current reserve policy, the Regional Fund maintains an Operating Reserve equal to 15 percent of annual operating and maintenance costs, excluding debt service costs. The purpose of the Operating Reserve is to provide sufficient funds for working capital and to manage cash flow, as well as to provide funds for unanticipated expenditures or revenue shortfalls and for minor emergencies. As of June 30, 2019, the Regional Fund had an operating reserve of about $5.3 million. The estimated operating reserve balance on June 30, 2020 remains about $5.3 million.

- *Catastrophic Reserves* – Catastrophic reserves are intended to help protect the Regional System from financial risk associated with major disruptive events such as earthquakes, fires, pandemics, or other catastrophic events. These reserves are intended to be available in the event of either reduction in revenues or an increase in costs. The amounts held in catastrophic reserves are currently being reviewed by the City's engineering consultant (GHD Engineers) based on an engineering analysis of the amounts needed to restore "basic services" at the WWTF following a major earthquake.

  Since 2016 the Regional Fund has held $1.7 million in the catastrophic reserve. GHD is currently updating the proposed catastrophic reserve target for the Regional System and Santa Rosa Water staff are reviewing their assumptions and preliminary findings. This report assumes a new Regional System Catastrophic Reserve target of $10 million (an increase of $8.3 million). This assumption is very preliminary. The financial plan assumes that the expense of building up this reserve will be spread over 5 years (see Row 54 in Schedule WW-2), since Member Agencies will need to contribute to it. The establishment of a new Regional System Catastrophic Reserve target, as well as its funding, will need to be vetted through discussions with GHD Engineers, Santa Rosa Water staff, Member Agencies, the BPU and the City Council.

  It is recommended that Santa Rosa Water increase the catastrophic reserve target annually to account for the effects of inflation based on the 20-cities construction cost index (CCI), published by the *Engineering News Record*.

  Geysers Catastrophic Reserves – Since 2016 the Regional System has held $1.25 million in the Geysers catastrophic reserve. GHD Engineers recommended that the Geysers catastrophic reserve be increased to $3.3 million (an increase of $2.05 million). The financial plan assumes that the expense of building up this reserve will be spread over 5 years (see Row 54 in Schedule WW-2).

- *Capital Project Appropriations* – Each year Santa Rosa Water appropriates funds for specific capital improvement projects. When appropriations are made funds are set aside to cover project costs. For the Regional System, this cash sits in Fund 1639 until capital project expenditures are incurred and bills are paid. As of June 30, 2020, the Regional System had about $20.9 million appropriated for capital projects.

- *Regional* System *Reserve for Appropriations* – Similar to the Capital Project Appropriations, the Regional System maintains a reserve for earmarked operations and maintenance (O&M) projects. The cash sits in Fund 1631 until the O&M project expenditures are incurred and bills are paid. As of June 30, 2020, this reserve had about $10.7 million appropriated for O&M projects.
- *Reserve for Bond Guarantee* – The Regional Fund holds a bond guarantee reserve as part of its bond covenants for outstanding debt. Most recently this reserve stood at about $11.4 million. The required reserve levels decreased by approximately $4.4 million and this sum was used to reduce the amount of the 2020B Wastewater Refunding Bond (see Section 3.1.6).
- *Regional* System *User Agency Reserve* – The Regional Fund maintains a "User Agency Reserve" which is designed to be approximately 20 percent of Regional's annual debt service payments.
- *Reserve for Regional* System *Refunds* – The Regional Fund maintains a "reserve for refunds" comprised of turnback (unspent budget) and recalculation of O&M distribution based on the actual flows for the budgeted fiscal year. The Regional System reserve for refunds have been held in the Regional Fund over the last several years to allow for the possibility of applying cash funding the replacement costs of the ultraviolet system. The balance stood at $17.6 million on June 30, 2020, of which $13.4 million belongs to Santa Rosa Water. Due to the favorable premiums paid on the UV project bond sale (owing to favorable markets and Santa Rosa Water's high credit rating), the City released its Refund reserve balance back to the Wastewater Fund to help mitigate rate increases.

3.1.3 Wastewater Rate Revenue

Rate revenue is the revenue generated from customers for wastewater service. Santa Rosa Water collects rate revenue from wastewater customers based on a fixed "Service Charge" for each connection and a wastewater Usage Rate applied to estimates of wastewater flow generated by each customer. Customers receive a monthly bill. The Wastewater Utility financial plan starts with FY 2020/21 budgeted rate revenues. Estimated future indoor water demand, sewer flows, and rate revenues reflect the small amount of customer growth (see Section 3.1.4) as well as the annual rate revenue

adjustments proposed by this Study. Budgeted and projected rate revenues (including proposed rate adjustments) are listed in **Schedule WW-1** (cash flow proforma).

As previously explained, the rate revenue goes directly to the Local Wastewater Fund, while the Regional System is funded through contributions from Member Agencies (including from Santa Rosa's Local Wastewater system).

3.1.4 Customer Growth

In recent years, Santa Rosa Water has collected an average of approximately $2.5 million per year in Wastewater Demand Fee revenue from new customers connecting to the system, which equates to a growth rate of approximately 0.86 percent per year. This Study assumes that this trend will continue for the duration of the next 10 years and that the entirely of this revenue will be made available for funding wastewater capital projects.

It should be noted that the Wastewater Utility had expected to see a reduction in both the wastewater usage charge and service charge revenue as a result of the 2,500 accounts that were lost during the 2017 Tubbs Fire. While neither charge saw a reduction following the fire, they perhaps did not increase as quickly as would have occurred without the loss of those accounts.

3.1.5 Wastewater Non-Rate Revenues

In addition to rate revenue, both the Local Wastewater Fund and Regional Fund receives additional "non-rate revenue" from sources such as miscellaneous service fees/charges, penalties, leases, Demand Fees[8], and interest revenue on investments. In addition to the above, the Regional Fund also derives additional revenues from energy rebates, and recycled water sales, an annual stipend from Calpine related to the Geysers project, payments from the Town of Windsor for use of the Geysers Pipeline,

[8] Santa Rosa Water's "Demand Fees" are known as "Capacity Charges" per Government Code Section 66013.

and for accepting various types of high strength waste trucked into the wastewater treatment plant from surrounding areas.

Projections of all non-rate revenues were based on FY 2021/22 budgeted revenues with the exception of interest income which was calculated annually based upon projected fund balances and assumed interest rate of 1.5 percent, which is consistent with Santa Rosa Water's historical interest earnings relative to its total reserve levels.

Budgeted Local Wastewater rate and non-rate revenues are depicted in Figure 7 below and listed in more detail in **Schedule WW-1**. The Regional System non-rate revenues are listed in detail in **Schedule WW-2**.

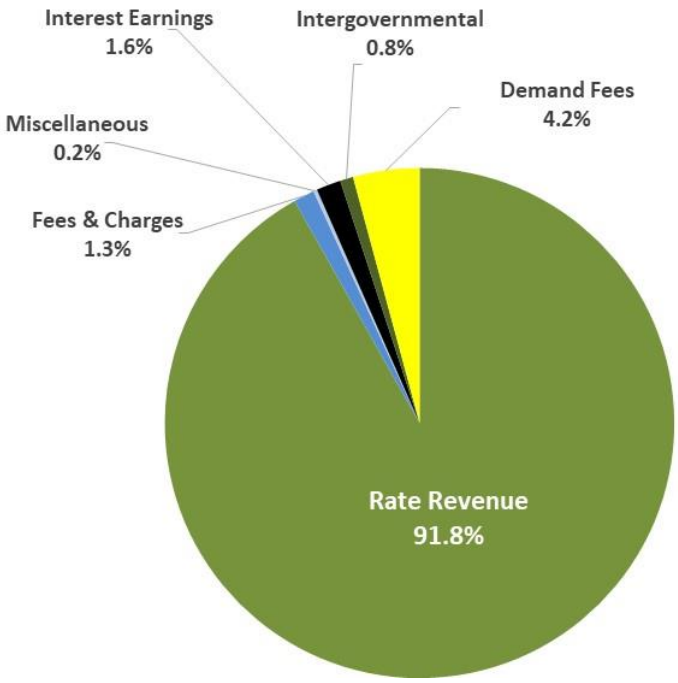


Figure 7: Budgeted Wastewater Utility Revenue Categories (FY 2021/22)

3.1.6 Wastewater Operating and Debt Expenses

The financial plan models are based on current operating and maintenance costs as reflected in the FY 2020/21 operating budget with future estimates influenced by

growth assumptions (see Section 3.1.4) and cost escalation (see Section 1.8.2), with the exceptions listed below.

- *Existing Debt Obligations* – Existing long-term debt repayment obligations are summarized in Schedule WW-1 for Local Wastewater (see Row 32) and the City's share of Regional System debt (see Row 33). Local Wastewater is responsible for the repayment on three outstanding bonds (2016 Refunding Bond, 2002 Refunding Bond, and 2002B New Money) as well as the City of Santa Rosa's responsibility of Regional System debt (a portion of which was recently refinanced, as described in the next paragraph). In FY 2020/21, Local Wastewater's annual direct debt service was about $2.5 million and will increase annually until it peaks at $5.0 million by FY 2025/26. In FY 2020/21, Local Wastewater's responsibility for *existing* Regional annual debt service is about $17.1.

- *New Long-Term Debt* – In November 2020, Santa Rosa Water issued the 2020 Series A Wastewater Revenue Bond to provide the Regional System with $70 million for the planning Ultraviolet (UV) wastewater treatment project (see Section 3.1.7). The 2020 Series A Wastewater Revenue Bond closed with a par value of $52.4 million and a premium of $17.9 million, for total proceeds of $70.2 million for the UV project. The Local Wastewater Fund's share of new annual debt service for the UV project is approximately $1.85 million.

  A separate, but coincident, debt issue included the refunding of the 2012 Wastewater Revenue Bond. This 2020 Series B Wastewater Revenue Bond will result in approximately $16.2 million in savings over 14 years.

- *"Turnback" Rate* – Historically, Santa Rosa Water under-spends the operating budget by as much as 10 percent. Because rate the financial plan and rate calculations are based on budget figures it is necessary to include an adjustment to avoid excessive rates. In recent years staff have adjusted budgeting practices to reflect actual needs more closely. It is not known which part of the Local Wastewater budget may be over-budgeted; therefore, this financial plan

reduces the annual operating budget by 5 percent (as seen in Row 24 of Schedule WW-1).

Major budgeted Local Wastewater expense categories for FY 2021/22 are depicted in **Figure 8**. Budgeted and projected operating and maintenance costs as well as debt service expenses for the Local Wastewater Fund are listed in detail in **Schedule WW-1**.

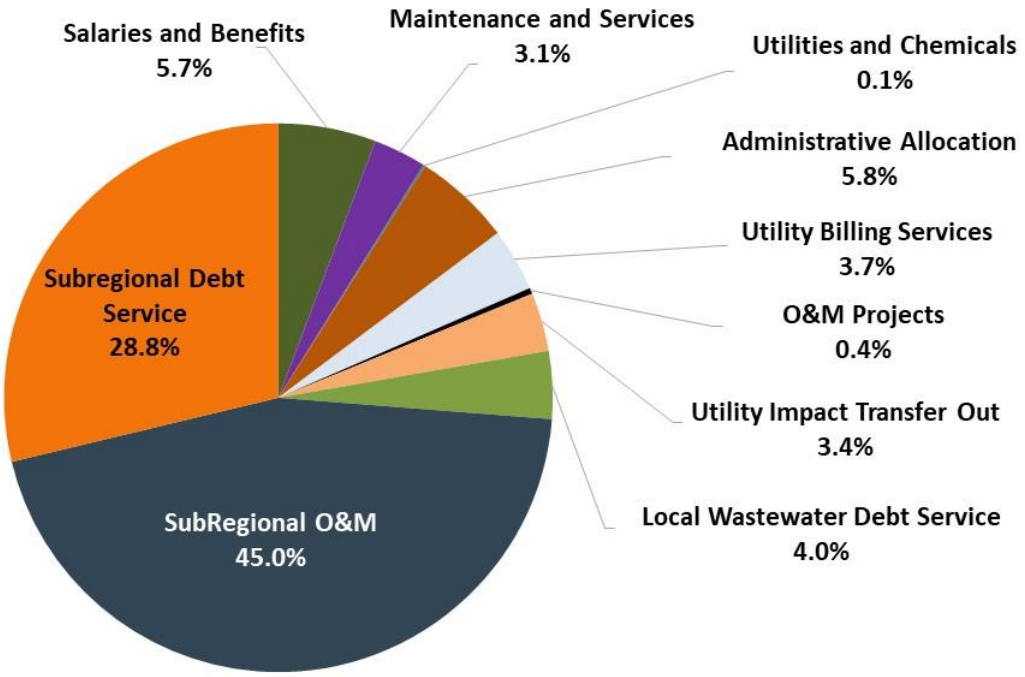


Figure 8: Local Wastewater Operating and Debt Expense Categories (FY 2021/22)

Capital spending is addressed separately in Section 3.1.7.

Major budgeted Regional System expense categories for FY 2021/22 are depicted in Figure 9. As the owner/operator and primary user of the Regional System, about 73.4 percent of Regional System operation, maintenance, and capital program costs are allocated to the City's wastewater utility, as well as about 72.7 percent of Regional System debt service costs. These allocated costs are included in the costs and the financial plan for the wastewater utility. Budgeted and projected operating and

maintenance costs as well as debt service expenses for the Regional System are listed in detail in **Schedule WW-2**.

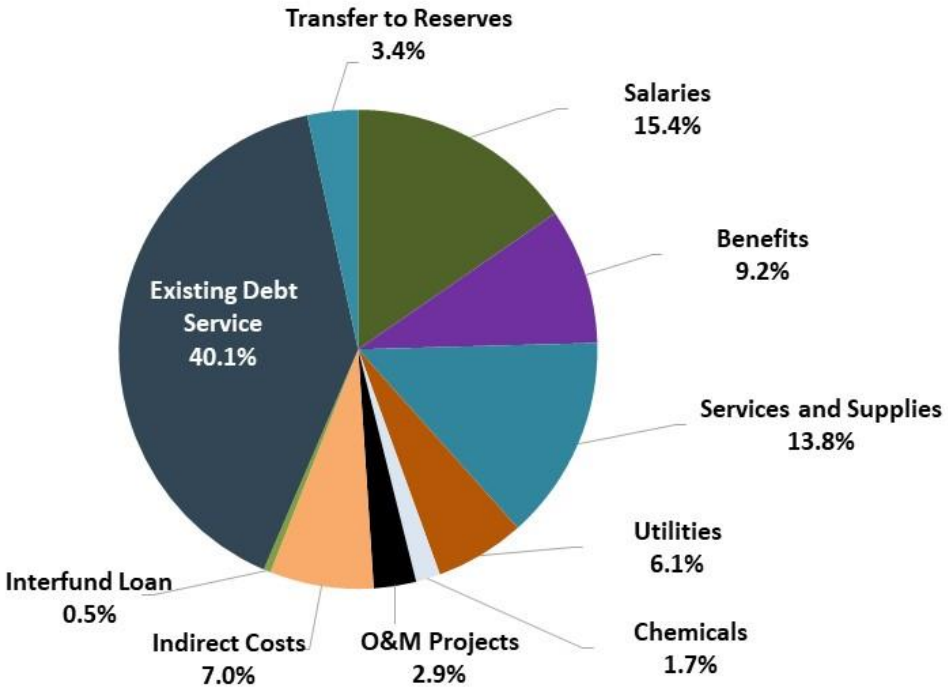


Figure 9: Regional System Operating and Debt Expense Categories (FY 2021/22)

3.1.7 Wastewater Capital Appropriations

Santa Rosa Water appropriates funds for capital improvement projects within each of the utilities each year. Estimated annual CIP appropriations, as developed by staff for the next ten years, are included in the financial plan.

3.1.7.1 LOCAL WASTEWATER CAPITAL SPENDING

The Local Wastewater capital appropriation budget in FY 2020/21 is $12.4 million. Going forward, the capital appropriation budget is forecasted to increase by the assumed construction cost inflation rate of 3.0 percent until FY 2026/27 at which time the fund's annual debt service will decrease substantially, making room for an increase

of about $5 million in capital spending per year. In FY 2030/31 the debt service decreases even further, making room for an additional $5 million in capital spending per year (for a total of $10 million per year over current capital spending levels).

Figure 10 and Schedule WW-1 summarizes the Local Wastewater annual capital program appropriations included in the financial plan model (see Rows 30 – 37). The proposed level of capital expenditures is designed to meet the general level of capital spending described by the *2014 Wastewater Master Plan* and the *2017 Santa Rosa Water Infrastructure Report*, as currently interpreted by City staff.

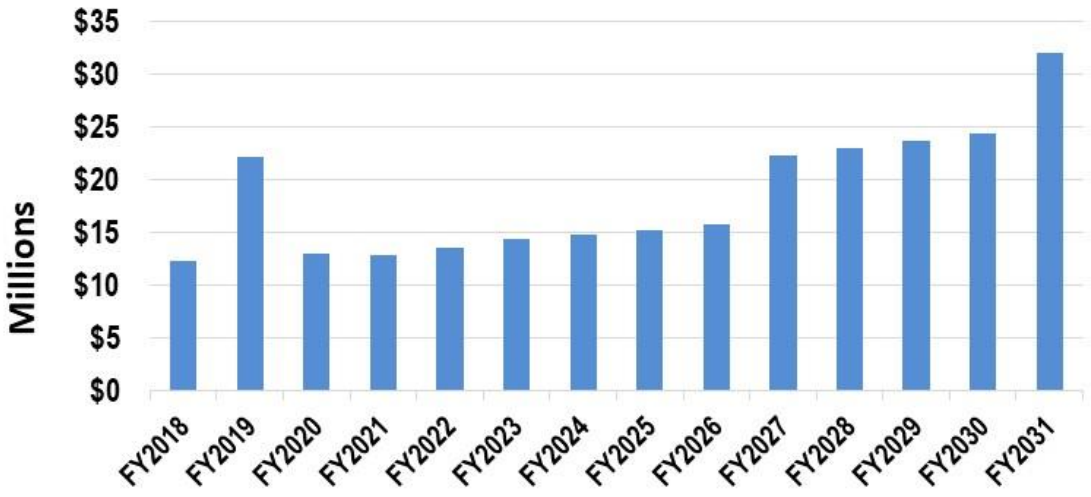


Figure 10: Recent and Projected Local Wastewater Capital Spending

The Wastewater Utility financial plan assumes that Demand Fee reserves and revenues will be used to pay for capital projects. This is appropriate given the "buy-in" methodology that was used to calculate the current Demand Fees (see *2014 Water and Wastewater Demand Fee Study*, The Reed Group, Inc. August 11, 2014).

3.1.7.2 REGIONAL SYSTEM CAPITAL SPENDING

The Regional System capital appropriation budget in FY 2020/21 is $7.0 million. Thereafter, the capital appropriation budget is forecasted to increase by $1 million per

year until FY 2025/26, after which time it is assumed that the capital budget will increase with the construction cost inflation rate (3.0 percent). In addition to the above, the debt-financed $70 million UV Project (see Section 3.1.6) is expected to start construction in FY 2020/21. Figure 11 and Schedule WW-2 summarizes the Regional System annual capital program appropriations included in the financial plan model (see Rows 48 - 56). The proposed level of capital expenditures is designed to meet the general level of capital spending described by the *2014 Wastewater Master Plan* and the *2017 Santa Rosa Water Infrastructure Report*, as currently interpreted by City staff.

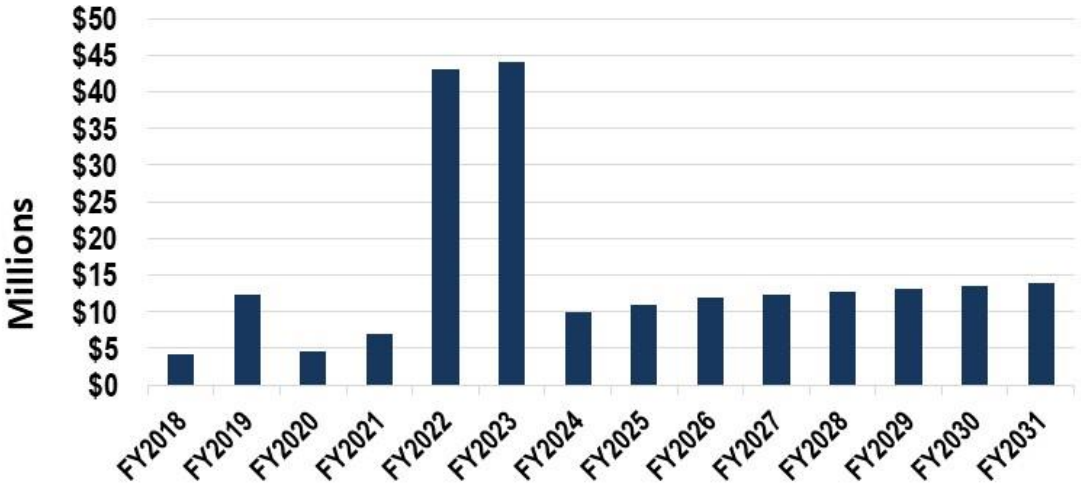


Figure 11: Recent and projected Regional System capital budgeting

3.1.8 Proposed Wastewater Rate Revenue Increases

All of the above information was entered into a financial planning model to produce a ten-year projection of the sufficiency of current rate revenues to meet projected financial requirements and determine the level of rate revenue increases necessary in each year of the projection period. Specific findings and recommendations pertaining to the Local Wastewater Fund's financial plan are presented below, beginning with a description of the current situation.

- Regional System O&M for treatment and disposal are the majority of wastewater utility operating costs and are about twice the Local Wastewater system's operating costs.
- Wastewater's combined annual debt service obligation (Local Wastewater debt and the City's share of Regional System debt) will increase until it peaks in FY 2022/23 at $23.8 million, after which time it will drop by over $10 million by FY 2030/31.
- Debt covenants require Santa Rosa Water to establish rates and charges sufficient to make debt service payments and meet debt service coverage obligations. The City's portion of Regional System debt is borne by the wastewater utility and represents about 89 percent of total wastewater debt service costs (including the UV project debt). The wastewater utility is able to meet debt repayment and debt service coverage obligations with current rates and revenues. Proposed wastewater rate increases will enable the wastewater utility to continue to meet these obligations through the planning period, even with the additional Regional System debt issues in 2020, based on information and assumptions reflected in the analysis.
- Even with the near-term increases in debt service payments and cost inflation, the Wastewater Utility will only need modest annual rate increases over the next four years (see Table 11).
- The proposed annual rate increases are anticipated to be sufficient to maintain the new Catastrophic Reserve target for the Local Wastewater Fund through the rate plan period.
- Many conditions can and will change over the ten-year planning period, and it would be imprudent to adopt a schedule of wastewater rate adjustments for the entire ten-year period. However, a four-year rate plan could be adopted with reasonable confidence. Adopting a multi-year rate plan would enable the Wastewater Utility to reduce costs associated with rate development and approval processes. It would also help ensure the financial stability of the utility

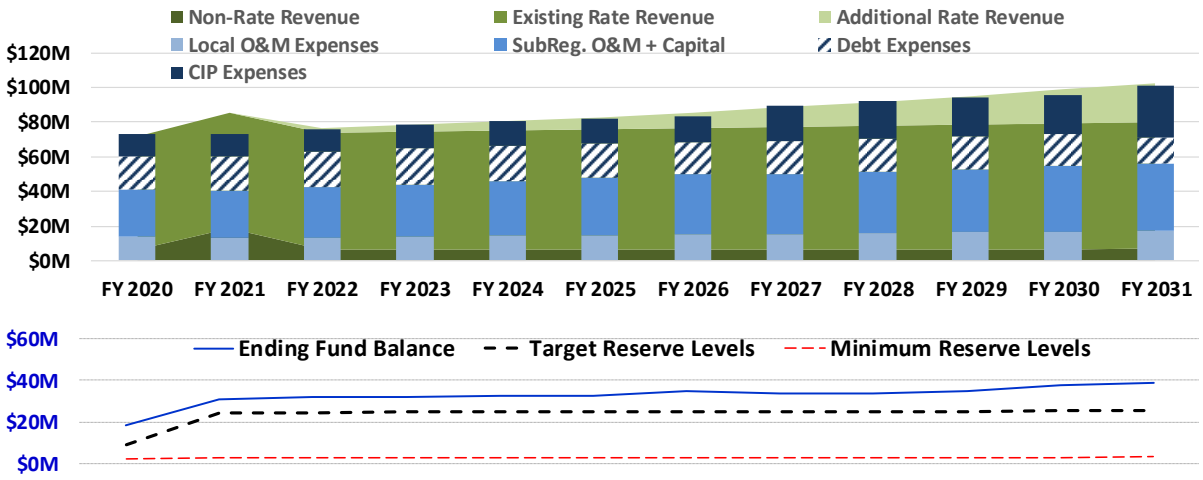
and rate confidence for customers. Nevertheless, it is recommended that Santa Rosa Water staff review its financial condition and recommend annual rate adjustments as part of the annual budget process.

Based upon the previously discussed financial data, assumptions, policies, and debt strategy, this Study proposes a four-year schedule of annual rate adjustments as detailed in Table 11.

Table 11: Recommended Wastewater Rate Revenue Increase

Rate Adjustment Date	Proposed Rate Revenue Increase
July 1, 2021	2.0%
July 1, 2022	2.0%
July 1, 2023	2.0%
July 1, 2024	2.0%

The numbers provided in Schedule WW-1 (cash flow proforma) are summarized graphically in Figure 12, which shows that the target reserves are maintained over the course of the planning period and the DCR remains at healthy levels.



	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
	Recommended				Projected					
Wastewater Rate Increases:	2.00%	2.00%	2.00%	2.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Combined Debt Coverage Ratio:	4.58	4.86	4.46	4.48	4.70	5.08	5.74	5.93	6.49	6.64
Local WW CIP:	$12.9M	$12.4M	$12.7M	$13.5M	$13.9M	$14.3M	$14.8M	$21.0M	$21.6M	$22.3M	$22.9M	$30.2M
Regional CIP:	$3.4M	$5.1M	$5.9M	$6.6M	$7.3M	$8.1M	$8.8M	$9.1M	$9.3M	$9.6M	$9.9M	$10.2M

Figure 12: Wastewater Utility Financial Projection with Recommended Rate Increases

Proposed rate structure changes and rate schedules for the next four years are presented in Section 3.2 of this report.

3.2 WASTEWATER COST OF SERVICE & RATE STRUCTURE

This section of the report provides the COSA and design of wastewater rates intended to meet the Wastewater Utility's service and financial obligations for FY 2021/22 and beyond. Proposed wastewater rates are intended to meet the utility's financial needs, satisfy legal requirements, encourage water conservation, and achieve other rate-setting objectives. The wastewater rate analyses and related recommendations address each of the following:

- Identification of wastewater rate-setting objectives
- Evaluation of customer account and wastewater production data
- A COSA used to allocate costs to each customer and customer class in proportion with service demands
- Design of a wastewater rate structure to meet revenue needs, satisfy legal requirements, and achieve rate-setting objectives in a fair and reasonable manner

3.2.1 Rate Setting Objectives

This study remains consistent with the rate-setting objectives were established in 2015 by Santa Rosa Water staff and the BPU Budget Subcommittee. There are two rate setting objectives that are primary and fundamental to guiding the rate-setting process. They include (1) wastewater rates must generate sufficient revenue to meet the utility's service and financial obligations, and (2) wastewater rates must be calculated consistent with the requirements of the California Constitution, Article XIIID (Proposition 218) and relevant case law. Other rate-setting objectives are secondary and can be addressed so long as the primary objectives are first achieved. Beyond the primary objectives, other rate-setting objectives identified to help guide the rate design process included the following:

- Wastewater rates should be viewed as fair and equitable by the public
- Wastewater rates should be simple, understandable, and easy to administer

- Wastewater rates should strike an appropriate balance between fixed and usage-based charges, with consideration of:
  - Revenue stability
  - Conservation incentive
  - Affordability for basic usage
  - Customer bill impacts of rate structure changes

3.2.2 Current Wastewater Rates

Santa Rosa Water's current wastewater rates were last increased in July 2020 by 2.5 percent. The current wastewater rates are presented in Table 12. Current wastewater rates include a fixed monthly service charge. Fixed service charges for multi-family, commercial, industrial, and institutional accounts have been adjusted across the range of water meter sizes to reflect the capacity relationship across meter sizes. This equitably assigns service charge costs to each customer in relation to the potential demand they place on the wastewater system. Single-family customers continue to pay a single service charge, regardless of meter size (larger meters are generally required for irrigation demands or fire flow considerations, rather than water use related to wastewater generation).

For residential customers, wastewater flow is estimated with the sewer cap. The sewer cap is calculated annually for each residential account as the average water use for complete billing cycles that fall within the period from November through March. The wastewater usage charge is based on the lesser of the sewer cap or actual water use during the billing period. In general, non-residential accounts are billed for wastewater service based on actual monthly water usage. In general, irrigation is separately metered and is not included in wastewater billing.

Table 12: Current Wastewater Rate Schedule

Wastewater Usage Rates ($/TGAL) (1)	
Single Family and Multi-Family (2)	$14.86
Commercial, Industrial, and Institutional	
Low Strength	$12.35
Standard Strength	$14.86
Medium Strength	$16.48
High Strength	$20.36
Monthly Service Charges	
Single Family	$25.85
Multi-Family, Commercial, Industrial, Institutional	
5/8" & 3/4" meters	$25.85
1" meter	$62.26
1 1/2" meter	$122.91
2" meter	$195.72
3" meter	$365.58
4" meter	$608.24
6" meter	$1,214.89

Notes:

(1) Wastewater usage charge applies to the estimated wastewater generated. For single-family residential accounts and multi-family accounts without a separate irrigation meter the esimated wastewater is based on the lower of current water use or the Sewer Cap. The Sewer Cap is calculated for these residential accounts based on the average water use from complete billing periods within the months of November through March. For Multi-family accounts with a dedicated irrigation meter or no irrigation from City water, as well as non-residential accounts, wastewater charges are based on actual monthly water usage from the domestic meter.

(2) Multifamily accounts include duplex, and triplex accounts.

About 28.5 percent of wastewater rate revenue is generated from fixed service charges and about 71.5 percent from wastewater usage charges.

3.2.3 Customer Account Data and Wastewater Flow and Loading Estimates

Wastewater rate calculations are based on several factors related to Santa Rosa Water's wastewater service customers. Factors include the number of customers, customer classes, water usage, wastewater flows, and strength characteristics of wastewater as

determined by biochemical oxygen demand (BOD), total suspended solids (TSS), and nitrogen as measured by total Kjeldahl nitrogen (TKN). **Table 13** summarizes customer account and water usage data obtained from the utility billing system for FY 2019/20, as well as estimates of resulting wastewater flow and loading characteristics.

Residential wastewater flows are estimated based on winter water usage and the sewer cap, as previously described. On average, the single-family sewer cap during FY 2019/20 was about 3,200 gallons per month. Non-residential wastewater flows are based on actual monthly water usage, as irrigation is generally separately metered, and it is reasonable to assume that non-irrigation water demand ends up as wastewater.

Wastewater strength is grouped into four categories: low strength, standard strength, medium strength, and high strength. With the exception of a small number of special high strength industries and businesses, all non-residential customer accounts have been assigned into one of these four categories. About 89 percent of the non-residential accounts are classified into the standard strength category.

Wastewater rate analyses consider the strength (loading) characteristics of wastewater entering treatment facilities. Strength factors for BOD, TSS, and TKN are considered, as these factors play a role in the treatment operations. During the 2015 rate study, Santa Rosa Water staff provided strength data from a primarily residential portion of the collection system, and that information was used to establish residential strength factors. It was also used to define the standard non-residential strength category. Residential, as well as low, standard, medium, and high strength non-residential wastewater usage rates was calculated with the strength factors below:

• Residential strength	270 mg/l for BOD	225 mg/l for TSS	55 mg/l for TKN
• Low strength	20 mg/l for BOD	20 mg/l for TSS	10 mg/l for TKN
• Standard strength	270 mg/l for BOD	225 mg/l for TSS	55 mg/l for TKN
• Medium strength	400 mg/l for BOD	400 mg/l for TSS	75 mg/l for TKN
• High strength	800 mg/l for BOD	800 mg/l for TSS	100 mg/l for TKN

There are also a number of customers that are subject to site-specific high-strength surcharges due to their unique or heavy loading characteristics and/or high flow

volumes. These surcharge accounts are rolled together in the rate model for continuity purposes. The calculation of high strength surcharges[9] and customer-specific rate calculations are addressed later in this section.

Loading characteristics for each general strength category and the assignment of different business types to each category are generally based on guidelines published by the California State Water Resources Control Board (SWRCB), historical regional sampling records for business sectors, and other sources of information. The strength factors used were adjusted to better match estimated aggregate wastewater flow and strength data with actual treatment plant inflow and loading characteristics. This results in a better match to estimated loading into the wastewater treatment plant with actual sampling done of wastewater influent and thereby improves the cost-of-service analysis.

[9] To avoid confusion between the current high strength surcharges and the proposed high strength wastewater customer category, it is recommended that the high strength surcharges be referred to as additional surcharges. This change in terminology is used in this report.

Table 13: Wastewater Customer Account Data and Estimated Wastewater Flows and Loadings

Customer Class	No. of Accounts (1)	No. of ESFDs (2)	Annual Water Usage (1)	Rate of Return	Estimated Annual Wastewater Flow (1) (3)	Estimated Annual Wastewater Flow	BOD Strength (4)	Annual BOD Loading	TSS Strength (4)	Annual TSS Loading	TKN Strength (4)	Annual TKN Loading
			1,000 Gal.		1,000 Gal.	MG	mg/l	lbs	mg/l	lbs	mg/l	lbs
Residential												
Single Family	43,338	43,338	3,052,000	55%	1,678,156	1,678	270	3,778,872	225	3,149,060	55	769,770
Multi-Family (5)	3,093	9,311	1,007,000	83%	833,536	834	270	1,876,957	225	1,564,131	55	382,343
Non-Residential												
Low Strength	37	243	43,464	100%	43,464	43	20	7,250	20	7,250	10	3,625
Standard Strength	2,321	7,582	534,858	100%	534,858	535	270	1,204,394	225	1,003,661	55	245,339
Medium Strength	71	417	50,293	100%	50,293	50	400	167,776	400	167,776	75	31,458
High Strength	231	991	123,825	100%	123,825	124	800	826,161	800	826,161	100	103,270
Totals	**49,091**	**61,882**	**4,811,440**	**68%**	**3,264,133**	**3,264**	**289**	**7,861,409**	**247**	**6,718,038**	**56**	**1,535,806**

Notes:

(1) From utility billing system for FY 2019-20, and other utility billing data.
(2) The number of equivalent single family dwellings (ESFDs) for multi-family and non-residential accounts are based on meter size using the meter equivalency schedule described in Table 4.
(3) Wastewater flow for residential customers is determined as the lower of actual water use or the sewer cap. The sewer cap is calculated each year as the average water use for complete billin periods from November through March. Wastewater flow for non-residential customers with dedicated irrigation meters is based on water usage, as irrigation is generally separately metered.
(4) Based on previous wastewater rate analyses, SWRCB guidelines, and adjustments to better match with actual treatment plant flows and loadings.
(5) Includes duplex units

3.2.4 Wastewater Cost-of-Service Analysis and Rate Design

There are three steps to determining wastewater rates. These are:

- Determine annual wastewater rate revenue requirements
- Analyze the cost of providing service and proportionately allocate costs to each customer class and customer
- Design wastewater rates to recover costs from each customer class and customer

The wastewater utility ten-year financial plan (see Section 3.1) was used to identify the wastewater rate revenue required to meet financial obligations for each fiscal year of the planning period. As presented in Section 3.1.8 of this report, a wastewater rate revenue increase of 2 percent is proposed for the next fiscal year. The rate structure updates that are proposed by this study will include this rate revenue increase for FY 2021/22.

Once the annual wastewater rate revenue requirement has been determined, the next step in the rate-setting process is to evaluate the cost of providing service. The cost-of-service analysis (COSA) is intended to allocate the costs of providing wastewater service to customers in proportion to the extent to which each customer contributes to the utility's incursion of costs. The COSA evaluates the cost of providing wastewater and allocates those costs to rate structure components to ensure the proposed rates are aligned with the costs to provide service.

To develop equitable wastewater rates, the revenue requirement is allocated to various customer classifications according to the services provided and the demands placed on the wastewater system. Santa Rosa Water allocates a majority of wastewater costs based on water usage (wastewater flows) and sewage strength. Collection system costs are allocated entirely based on flow, whereas treatment costs are allocated on the basis of flow, BOD, TSS, and TKN. Wastewater rates also include fixed service charges as part of the rate calculation.

Santa Rosa Water's financial accounting structure allows for a clear segregation of costs between O&M, debt service and capital project costs, as well as between collection system and treatment/disposal costs. However, the financial accounting structure does not lend itself to a simple segregation of costs into specific treatment components. As a result, this study has "functionalized" all of the wastewater utility's costs as best as possible using professional judgment and standard industry practices.

Table 14 summarizes how the FY 2020/21 revenue requirement (totaling $68.9 million) has been functionalized. The revenue requirements include various functional categories of operating and maintenance costs, debt service obligations, and capital costs, offsetting non-rate revenues and the use of available reserves. Each of these costs (and offsetting revenues) has been assigned to one or more of the following functions:

- Customer costs, such as meter reading and billing, are fixed costs that tend to vary as a function of the number of customers being served. Customer costs are allocated to customers based on the number of accounts. In other words, every customer account (regardless of size) pays an equal share of customer-related costs.
- Capacity costs are also fixed costs; however, these vary in relation to the size of the wastewater system. Customers that place greater or lesser burdens on the capacity of the wastewater system should bear greater or lesser shares of these costs. Capacity costs are allocated to wastewater customers based on the hydraulic capacity of the water meter. The hydraulic capacity of the customer's water meter reflects the potential demand that a customer could place on the wastewater system at any given time and is a general indicator of each customer's capacity requirement. Capacity costs include contributions to the capital program, debt service, maintenance, and certain fixed operating costs.
- Collection costs include costs associated with operating and maintaining the collection system. Collection costs are allocated based on wastewater flow.

Table 14: Functionalization of Costs

	Total Budget	Customer Costs	Capacity Costs	Collection Costs	Treatment Costs
Salaries and Benefits	$3,651,000		$1,825,500	$1,825,500	
Maintenance and Services	$1,982,000			$1,982,000	
Utilities and Chemicals	$75,000			$75,000	
Administrative Allocation	$3,661,000		$3,661,000		
Utility Billing Services	$2,351,000	$2,351,000			
O&M Projects	$217,000			$217,000	
Utility Impact Transfer	$2,191,000		$2,191,000		
Local Capital	$12,730,000		$6,365,000	$6,365,000	
Local Debt Service	$2,535,000		$2,535,000		
SubReg O&M and Capital	$28,637,000		$3,774,000		$24,863,000
SubReg Debt Service	$18,261,000				$18,261,000
Turnback @ 5%	-$597,000	-$48,000	-$336,000	-$213,000	
Non-Rate Revenues	-$4,616,000	-$369,000	-$2,604,000	-$1,643,000	
Demand Fees	-$3,167,000		-$798,500	-$798,500	-$1,570,000
Contribution/(Use) of Reserves	$986,000	$30,000	$263,000	$135,000	$558,000
Total:	**$68,897,000**	**$1,964,000**	**$16,876,000**	**$7,945,000**	**$42,112,000**
Percent of Total:		2.9%	24.5%	11.5%	61.1%

- Treatment costs are those costs that are charged by the Regional System for operating the WWTF. Treatment costs are further allocated between flow, BOD, TSS, and TKN.

The allocations result in 2.9 percent of costs assigned to the customer component, 24.5 percent to the capacity component, 11.5 percent to the Collection function, and 61.1 percent to the treatment function. The customer costs and capacity costs (27.3 percent combined) are recovered through fixed charges while the collection and treatment costs (72.7 percent combined, after rounding) are recovered through variable charges. Currently about 28.5 percent of rate revenue is collected through fixed charges; therefore, this COSA update represents a slight shift in the balance between fixed and variable revenue. The impact of how this affects various types of customers is illustrated in Section 4.

Table 15 summarizes the allocation of annual wastewater rate revenue requirements to the functions shown in Table 14. This table shows that treatment costs are further broken down into the variable components of flow, BOD, TSS, and TKN. Allocation to these various treatment parameters are consistent with cost structures, prior rate studies, and rate setting practices. Once total costs are allocated, unit costs were

determined by dividing the total cost for each component by the number of units identified in Table 13. These units include number of customer accounts, number of equivalent single-family dwellings (ESFDs) (see Footnote 2 in Table 13), millions of gallons for wastewater flow volume, and pounds of BOD, TSS, and TKN in the wastewater influent.

Unit costs are applied to the annual wastewater flows, as well as BOD, TSS, and TKN loadings associated with each customer class to arrive at the allocation of total costs to each customer class. Table 16 presents the allocation of costs to each user class.

Fixed Service Charges

Table 17 presents the wastewater service charges and usage rates for each customer class. Proposed wastewater rates include a fixed service charge and a usage charge each billing period. Single-family homes each pay a fixed service charge of $26.06. This service charge is the same for all single-family homes regardless of meter size since larger meters for single-family homes are generally required for irrigation demands or Fire Code requirements and not wastewater requirements. Multi-family (including duplex) and non-residential accounts pay a fixed service charges based on the size of the water meter. The meter size reflects the potential load each customer can place on the system, similar to water rates. There may be limited instances where the size of multi-family or non-residential water meters are size based on water demand or Fire Code requirements, and not related to needed capacity in the wastewater system, in which case the Director of Santa Rosa Water should be authorized to determine the most appropriate manner of billing customers for utility services, when unique circumstances suggest that such consideration is appropriate.

Wastewater Usage Charges

The proposed wastewater usage charge for residential customers is $15.12 per TGAL of wastewater. Residential wastewater usage is determined based on the lesser of the sewer cap or actual water usage during the billing period. The sewer cap is calculated annually for each customer and is the average of water use from each complete billing period within the period November through March.

Table 15: Determination of Unit Costs

Cost Category	Component Allocation Percentages (1)	Parameter Allocation Percentages (2)	Annual Cost Allocated to Each Parameter	Quantities for Each Parameter (3)	Unit Cost for Each Parameter	
Fixed Charge Component	27.3%					
Customer Accounts		10.4%	$1,964,000	49,091	**$40.01**	$/Acct
Equivalent Single Family Dwellings (ESFDs)		89.6%	$16,876,000	61,882	**$272.71**	$/ESFD
Variable Collection Component	11.5%					
Flow (1,000 gal.)		100%	$7,945,000	3,264,133	**$2.43**	$/tg
Variable Treatment Component	61.1%					
Flow (1,000 gal.)		75%	$31,584,000	3,264,133	**$9.68**	$/tg
BOD (lbs)		10%	$4,211,200	7,861,409	**$0.54**	$/lb
TSS (lbs)		10%	$4,211,200	6,718,038	**$0.63**	$/lb
TKN (lbs)		5%	$2,105,600	1,535,806	**$1.37**	$/lb
Total Wastewater Revenue Requirement			**$68,897,000**			

Notes:

(1) From Table 14. The Fixed Charge Component is the sum of the Customer function and the Capacity function.

(2) Allocation between Customer and ESFDs based on relative percentages from Table 15. Allocation to various treatment parameters are consistent with cost structures, prior rate studies, and rate setting practices.

(3) From Table 13

Table 16: Wastewater Allocation of Annual Costs to Users

			Service Charge Costs (1)		Usage Component Costs (2)					
			Collection and Treatment		Collection	Treatment				
No. of Accts.	No. of ESFDs	Customer Class	Customer Unit Cost = $40.01	Capacity Unit Cost = $272.71	Flow Unit Cost = $2.43	Flow Unit Cost = $9.68	BOD Unit Cost = $0.54	TSS Unit Cost = $0.63	TKN Unit Cost = $1.37	Allocation of Total Costs
		Residential								
43,338	43,338	Single Family	$1,733,815	$11,818,676	$4,084,684	$16,237,967	$2,024,266	$1,973,987	$1,055,360	$38,928,755
3,093	9,311	Multi-Family	$123,746	$2,539,272	$2,028,853	$8,065,363	$1,005,449	$980,475	$524,195	$15,267,353
		Non-Residential								
37	243	Low Strength	$1,497	$66,349	$105,794	$420,566	$3,884	$4,545	$4,970	$607,604
2,321	7,582	Standard Strength	$92,843	$2,067,709	$1,301,862	$5,175,330	$645,170	$629,145	$336,362	$10,248,419
71	417	Medium Strength	$2,837	$113,627	$122,414	$486,634	$89,874	$105,170	$43,129	$963,685
231	991	High Strength	$9,261	$270,367	$301,394	$1,198,141	$442,558	$517,879	$141,584	$2,881,182
49,091	**61,882**	**Totals**	**$1,964,000**	**$16,876,000**	**$7,945,000**	**$31,584,000**	**$4,211,200**	**$4,211,200**	**$2,105,600**	**$68,897,000**

Notes:
(1) Unit costs at the top of each column are multiplied by the customer account and ESFD data for each customer classification.
(2) Unit costs at the top of each column are multiplied by the wastewater flow, BOD loading, TSS loading, or TKN loading for each customer class from Table 13

Table 17: Wastewater Rate Determination

No. of Accts.	Customer Class	Estimated Annual Wastewater Flow	Strength BOD	Strength TSS	Strength TKN	Fixed Service Charges	Usage Rates (1)	Total Service Charge Revenue	Total Usage Charge Revenue	Total Annual Wastewater Rate Revenue
		1,000 Gal.	mg/l	mg/l	mg/l	$/mo.	$/tg			
	Residential									
43,338	Single Family	1,678,156	270	225	55	**$26.06**	**$15.12**	$13,552,492	$25,376,264	$38,928,755
3,093	Multi-Family	833,536	270	225	55		**$15.12**	$2,663,019	$12,604,335	$15,267,353
	Non-Residential					Varies				
37	Low Strength	43,464	20	20	10	By Meter	**$12.42**	$67,847	$539,757	$607,604
2,321	Standard Strength	534,858	270	225	55	Size	**$15.12**	$2,160,551	$8,087,868	$10,248,419
71	Medium Strength	50,293	400	400	75	(see below)	**$16.85**	$116,464	$847,221	$963,685
231	High Strength	123,825	800	800	100		**$21.01**	$279,627	$2,601,555	$2,881,182
49,091	**Totals**	**3,264,133**						**$18,840,000**	**$50,057,000**	**$68,897,000**

Notes:

(1) For residential customers, the usage rate applies to the lesser of the sewer cap or actual water use. For non-residential customers with dedicated irrigation meters, the usage rate applies to actual water usage in each billing period.

Multi-Family and Non-Resid. Service Charges

Mtr. Size	Amount
5/8" & 3/4"	**$26.06**
1"	**$60.15**
1 1/2"	**$116.96**
2"	**$185.14**
3"	**$344.22**
4"	**$571.48**
6"	**$1,139.63**

As described previously, the non-residential customers are grouped into four categories – low, standard, medium, and high strength. About 87 percent of the customer accounts are classified as standard strength, 9 percent are high strength, and the remainder are either low or medium strength. Wastewater usage rates for non-residential customers apply to the most recent actual water usage.

3.2.5 Proposed Wastewater Rate Schedule

Table 18 summarizes the proposed wastewater rate schedule for wastewater rates, which will be effective 30 days after approved by the City Council, as early as July 1, 2021. The proposed wastewater rates are designed to increase rate revenue by 2 percent, as recommended in Section 3.1.8. The proposed wastewater rates reflect the cost of providing wastewater service to customers. In particular, the proposed wastewater rates reflect a proportionate distribution of costs to all customers and customer classes, and better reflect the cost of providing service.

It is recommended that the wastewater rates be adjusted annually by the percentages described in Section 3.1.8, to continue to meet service and financial obligations. A complete schedule of proposed wastewater rates for the four-year schedule are provided as Schedule WW-3.

Table 18: Proposed Wastewater Rates for FY 2021/22, effective on or after July 1, 2021

Wastewater Usage Rates ($/TGAL) (1)	
Single Family and Multi-Family (2)	$15.12
Commercial, Industrial, and Institutional	
Low Strength	$12.42
Standard Strength	$15.12
Medium Strength	$16.85
High Strength	$21.01
Monthly Service Charges	
Single Family	$26.06
Multi-Family, Commercial, Industrial, Institutional	
5/8" & 3/4" meters	$26.06
1" meter	$60.15
1 1/2" meter	$116.96
2" meter	$185.14
3" meter	$344.22
4" meter	$571.48
6" meter	$1,139.63

Notes:

(1) Wastewater usage charge applies to the estimated wastewater generated. For single-family residential accounts and multi-family accounts without a separate irrigation meter the esimated wastewater is based on the lower of current water use or the Sewer Cap. The Sewer Cap is calculated for these residential accounts based on the average water use from complete billing periods within the months of November through March. For Multi-family accounts with a dedicated irrigation meter or no irrigation from City water, as well as non-residential accounts, wastewater charges are based on actual monthly water usage from the domestic meter.

(2) Multifamily accounts include duplex, and triplex accounts.

3.2.6 Additional Surcharges for Extraordinary Loads and Other Special Situations

Santa Rosa Water imposes additional strength surcharges on certain commercial and industrial customers that generate high wastewater volumes, place high pollutant loads on the treatment system, and/or place widely varying loads on the treatment system. Examples of users subject to additional surcharges may include, but are not limited to, food processors, industrial laundries, wineries, and breweries. The additional surcharges are intended to reflect the additional cost of treating wastewater above the typical or standard strength.

The volumetric unit costs presented in Table 15 (last column) for the cost of collection and treatment are building blocks for the wastewater usage rates. The unit costs determined are also used for high strength surcharges. The sample additional surcharge calculations presented herein are applicable to customers of Santa Rosa Water's wastewater utility.

The measure of sewage strength for the customers with extraordinary loads is based on laboratory analysis, conducted by Santa Rosa Water from time to time. Monthly surcharges are developed based on the flow from the premises, the laboratory analysis, and the applicable unit costs. Each customer with extraordinary loads is responsible for paying a service charge based on meter size and both the standard strength wastewater usage rate as well as the additional surcharge rate. Through the general rates they pay the general costs of service for standard strength waste. The surcharges reflect the additional costs associated with treating extraordinary (above standard) loads associated with wastewater from these monitored users.

The calculation of an additional surcharge, using the calculated unit treatment costs, is illustrated below. The surcharge is calculated for wastewater strength that exceeds the concentrations used to calculate the ***standard*** wastewater usage rate, which are 270 mg/l for BOD_{Std}, 225 mg/l for TSS_{Std}, and 55 mg/l for TKN_{Std}.

Sample Additional Strength Surcharge Calculation

Measured monthly flow =	100,000 gallons =	0.100 MG
Measured BOD =	BOD_M =	1200 mg/l
Measured TSS =	TSS_M =	800 mg/l
Measured TKN =	TKN_M =	50 mg/l

Sample Calculation of Additional Strength Surcharge =

= [(BOD_M - BOD_{Std}) x \$0.53 + (TSS_M- TSS_{Std}) x \$0.62 + (TKN_M- TKN_{Std}) x \$1.36] x 8.34 x Flow

= [(1,200 – 270) x \$0.53 + (800 – 225) x \$0.62 + (50-55) x \$1.36] x 8.34 x 0.100 MG

=\$410.82 + \$297.23 + \$0

= **\$708.05**

In this example, the measured TKN is below the standard threshold, so the surcharge does not include additional costs related to this constituent. Also, the factor from converting mg/l to lbs/MG is 8.34.

At present, there are 15 wineries receiving wastewater service from Santa Rosa Water. Some of these wineries use less than 80,000 gallons of water per year and generate relatively small volumes of wastewater. The remaining wineries use much more water and generate significant wastewater volumes. This study proposes to keep the City's current practice of classifying wineries with annual water use less than 80,000 gallons per year as high strength customers. Wineries with wastewater volumes in excess of 80,000 gallons per year should be charged the strength surcharge (where applicable). Because of significant volumes of wastewater generated by large wineries, it is appropriate to consider them for additional surcharges. In addition, sampling data suggest that loading characteristics vary significantly, both throughout the year and between wineries[10]. Rather than having pre-calculated winery wastewater usage rates, the large wineries should continue to be included in periodic sampling and laboratory analyses to develop additional monthly surcharges as needed (following the method described above).

It is recommended that the volumetric unit rates are updated every year along with the general percent rate increases as presented in Table 11. The complete schedule of unit rates over the next 4 four years has been provided at the bottom of Schedule WW-3.

[10] Higher usage and loadings both tend to occur in the fall months during crush and production periods. Wastewater loads vary between wineries because their operations, including handling of waste, vary widely.

Section 4. CUSTOMER BILL IMPACTS OF PROPOSED RATES

The proposed water and wastewater rates for July 2021 will include both a general increase to rate revenue and modest updates to the rate structures (as detailed in Section 2.2.5 and Section 3.2.4). The changes to the structure mean that some bills will increase by more than the general rate revenue increase while others will increase by less. For most customers, any deviation from the general rate change will be relatively small. Table 19 presents a comparison of water and wastewater utility bills, for a variety of different customers, under both current and proposed water and wastewater rates for the rates effective July 1, 2021.

Table 19: Sample of Monthly Bill Impact for Water and Wastewater Customers

	Meter Size	Wtr. Use (TGAL)	WW Use (TGAL)	Bills With Current Water/WW Rates			Bills With Proposed Water/WW Rates			Change in Total Bill	
				Water	Wastewater	Total	Water	Wastewater	Total	$	%
Single Family Residential											
Low Water Use	5/8"	4	4	$37.12	$85.29	**$122.41**	$38.05	$86.54	**$124.59**	**$2.18**	**1.8%**
Median Water Use	5/8"	7	4	$57.11	$91.23	**$148.34**	$58.10	$92.59	**$150.69**	**$2.34**	**1.6%**
High Water Use	5/8"	12	6	$89.54	$115.01	**$204.55**	$90.77	$116.78	**$207.55**	**$3.00**	**1.5%**
Very High Water Use	5/8"	20	7	$142.91	$129.87	**$272.78**	$144.29	$131.90	**$276.19**	**$3.41**	**1.3%**
Duplex	5/8"	8	6	$62.38	$115.01	**$177.39**	$63.61	$116.78	**$180.39**	**$3.00**	**1.7%**
Small Apartment (4 DUs)	1"	15	12	$123.86	$240.58	**$364.44**	$126.58	$241.59	**$368.17**	**$3.73**	**1.0%**
Large Apartment (24 DUs)	2"	80	80	$589.57	$1,384.52	**$1,974.09**	$602.35	$1,394.74	**$1,997.09**	**$23.00**	**1.2%**
Very Lrg. Apart. (100 DUs)	4"	320	320	$2,271.36	$5,363.44	**$7,634.80**	$2,320.36	$5,409.88	**$7,730.24**	**$95.44**	**1.3%**
Small Retail	5/8"	6	6	$50.96	$99.95	**$150.91**	$52.07	$100.58	**$152.65**	**$1.74**	**1.2%**
Large Retail	2"	80	80	$589.57	$1,183.72	**$1,773.29**	$602.35	$1,178.74	**$1,781.09**	**$7.80**	**0.4%**
Office Building	1 1/2"	40	40	$307.36	$616.91	**$924.27**	$314.06	$613.76	**$927.82**	**$3.55**	**0.4%**
Car Wash	2"	60	60	$465.57	$936.72	**$1,402.29**	$475.75	$930.34	**$1,406.09**	**$3.80**	**0.3%**
Mixed Comm. w/ Food	1"	35	35	$247.86	$774.86	**$1,022.72**	$253.18	$795.50	**$1,048.68**	**$25.96**	**2.5%**
Hotel w/ Restaurant	3"	200	200	$1,413.36	$4,437.58	**$5,850.94**	$1,443.81	$4,546.22	**$5,990.03**	**$139.09**	**2.4%**
Restaurant	1 1/2"	50	50	$369.36	$1,140.91	**$1,510.27**	$377.36	$1,167.46	**$1,544.82**	**$34.55**	**2.3%**
Supermarket	2"	160	160	$1,085.57	$2,832.52	**$3,918.09**	$1,108.75	$2,881.14	**$3,989.89**	**$71.80**	**1.8%**
Mortuary	1"	20	20	$154.86	$469.46	**$624.32**	$158.23	$480.35	**$638.58**	**$14.26**	**2.3%**
Small Winery	1"	10	10	$92.86	$265.86	**$358.72**	$94.93	$270.25	**$365.18**	**$6.46**	**1.8%**
Sm. Irrig. (Wtr Budg.=18 tg)	1"	20		$151.74	(na)	**$151.74**	$156.33	(na)	**$156.33**	**$4.59**	**3.0%**
Lrg. Irrig. (Wtr. Budg.=250 tg)	4"	300		$2,129.36	(na)	**$2,129.36**	$2,121.76	(na)	**$2,121.76**	**-$7.60**	**-0.4%**

Section 5. CONCLUSION

This 2021 Water and Wastewater Rate Study report proposes updated utility rates for Santa Rosa Water. The report recommends modest annual increases in water and wastewater rates over the next four years, as well as updates to the existing rate structures. The rate increases are driven primarily by general cost inflation, including the escalating cost of wholesale water purchase costs. Santa Rosa Water is also planning for future increases in capital spending to pro-actively repair and replace critical and aging infrastructure to ensure that Santa Rosa Water can continue to provide safe and reliable utility services.

This Study used methodologies that are aligned with industry standard practices for rate setting as promulgated by AWWA and all applicable laws, including California's Proposition 218. The water and wastewater rates will need to be adopted in accordance with Proposition 218, which will require a detailed notice describing the proposed charges to be mailed to each affected property owner or customer at least 45 days prior to conducting a public hearing to adopt the rates.

SCHEDULES

Schedule W-1: Water Utility Cash Flow Pro Forma

Schedule W-2: 4-Year Schedule of Proposed Water Rates

Schedule WW-1: Local Wastewater Fund Cash Flow Pro Forma

Schedule WW-2: Regional Fund Cash Flow Pro Forma

Schedule WW-3: 4-Year Schedule of Proposed Wastewater Rates

Schedule W-1: Water Utility Cash Flow Proforma

		Budget FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025	Forecast FY 2026	Forecast FY 2027	Forecast FY 2028	Forecast FY 2029	Forecast FY 2030	Forecast FY 2031
1	**Rate Revenue Adjustments**		**2.00%**	**3.00%**	**3.00%**	**4.00%**	**4.00%**	**4.00%**	**4.00%**	**3.00%**	**3.00%**	**3.00%**
	Revenue											
2	**Commodity Revenue**	$34,432,250	$35,466,000	$36,480,000	$37,879,000	$39,329,000	$41,228,000	$43,215,000	$45,299,000	$47,483,000	$49,297,000	$51,184,000
3	Change due to growth & use		$305,000	$305,000	$314,000	$326,000	$338,000	$355,000	$372,000	$390,000	$408,000	$424,000
4	Increase due to rate adjustments		$709,000	$1,094,000	$1,136,000	$1,573,000	$1,649,000	$1,729,000	$1,812,000	$1,424,000	$1,479,000	$1,536,000
5	**Fixed Charge Revenue**	$11,478,750	$11,763,000	$12,099,000	$12,563,000	$13,044,000	$13,674,000	$14,333,000	$15,024,000	$15,748,000	$16,349,000	$16,974,000
6	Change due to growth		$101,000	$101,000	$104,000	$108,000	$112,000	$118,000	$123,000	$129,000	$135,000	$141,000
7	Increase due to rate adjustments		$235,000	$363,000	$377,000	$522,000	$547,000	$573,000	$601,000	$472,000	$490,000	$509,000
8	**Miscellaneous Revenues**											
9	Private Fireline Revenue	$620,000	$620,000	$620,000	$620,000	$620,000	$620,000	$620,000	$620,000	$620,000	$620,000	$620,000
10	Interest Earnings	$450,000	$1,007,000	$946,000	$854,000	$767,000	$696,000	$634,000	$606,000	$602,000	$603,000	$593,000
11	Other Non-Rate Revenue	$108,000	$109,000	$111,000	$112,000	$113,000	$114,000	$115,000	$116,000	$117,000	$118,000	$120,000
12	Fees and Charges	$1,622,000	$1,636,000	$1,650,000	$1,664,000	$1,679,000	$1,693,000	$1,708,000	$1,722,000	$1,737,000	$1,752,000	$1,767,000
13	Demand Fees	$1,480,000	$2,530,000	$2,606,000	$2,684,000	$2,764,000	$2,847,000	$2,933,000	$3,021,000	$3,111,000	$3,205,000	$3,301,000
14	**Total Revenue**	**$50,191,000**	**$54,481,000**	**$56,375,000**	**$58,307,000**	**$60,845,000**	**$63,518,000**	**$66,333,000**	**$69,316,000**	**$71,833,000**	**$74,456,000**	**$77,169,000**
	O&M Costs											
15	Salaries and Benefits	($5,852,000)	($5,993,000)	($6,137,000)	($6,284,000)	($6,436,000)	($6,591,000)	($6,749,000)	($6,912,000)	($7,079,000)	($7,251,000)	($7,426,000)
16	Maintenance and Services	($3,976,000)	($4,096,000)	($4,219,000)	($4,345,000)	($4,476,000)	($4,610,000)	($4,748,000)	($4,891,000)	($5,037,000)	($5,188,000)	($5,344,000)
17	Minor Capital	($45,000)	($45,000)	($46,000)	($48,000)	($49,000)	($51,000)	($52,000)	($54,000)	($55,000)	($57,000)	($59,000)
18	Water Purchase	($17,533,000)	($18,187,000)	($19,261,000)	($20,398,000)	($21,602,000)	($22,877,000)	($24,227,000)	($25,657,000)	($27,172,000)	($28,776,000)	($30,474,000)
19	Utilities and Chemicals	($1,118,000)	($1,163,000)	($1,209,000)	($1,258,000)	($1,308,000)	($1,360,000)	($1,415,000)	($1,471,000)	($1,530,000)	($1,591,000)	($1,655,000)
20	Administrative Allocation	($3,762,000)	($3,848,000)	($3,937,000)	($4,028,000)	($4,120,000)	($4,215,000)	($4,312,000)	($4,411,000)	($4,513,000)	($4,616,000)	($4,722,000)
21	Utility Billing Services	($2,497,000)	($2,572,000)	($2,649,000)	($2,729,000)	($2,810,000)	($2,895,000)	($2,982,000)	($3,071,000)	($3,163,000)	($3,258,000)	($3,356,000)
22	O&M Projects	($260,000)	($260,000)	($267,000)	($275,000)	($284,000)	($292,000)	($301,000)	($310,000)	($319,000)	($329,000)	($339,000)
23	Recycled Water Purchases	($18,000)	($18,000)	($18,000)	($18,000)	($18,000)	($18,000)	($18,000)	($18,000)	($18,000)	($18,000)	($18,000)
24	Turnback @ 5%	$876,000	$900,000	$924,000	$949,000	$975,000	$1,002,000	$1,029,000	$1,057,000	$1,086,000	$1,115,000	$1,146,000
25	***Total Operating Expenses***	**($34,185,000)**	**($35,282,000)**	**($36,819,000)**	**($38,434,000)**	**($40,128,000)**	**($41,907,000)**	**($43,775,000)**	**($45,738,000)**	**($47,800,000)**	**($49,969,000)**	**($52,247,000)**
	Capital Costs											
26	**Total Capital Appropriations**	**$13,390,000**	**$13,790,000**	**$14,626,000**	**$15,065,000**	**$15,517,000**	**$15,982,000**	**$16,462,000**	**$16,956,000**	**$17,464,000**	**$17,988,000**	**$18,528,000**
27	Existing Debt Service	($830,783)	($824,043)	($820,436)	($818,869)	($1,662,739)	($3,342,419)	($3,334,186)	($3,321,299)	($3,319,018)	($3,744,371)	($3,790,315)
28	Cash Funded Capital Projects	($13,390,000)	($13,790,000)	($14,626,000)	($15,065,000)	($15,517,000)	($15,982,000)	($16,462,000)	($16,956,000)	($17,464,000)	($17,988,000)	($18,528,000)
29	***Total Capital Expenses***	**($14,220,783)**	**($14,614,043)**	**($15,446,436)**	**($15,883,869)**	**($17,179,739)**	**($19,324,419)**	**($19,796,186)**	**($20,277,299)**	**($20,783,018)**	**($21,732,371)**	**($22,318,315)**
	Transfers											
30	Utility Undrgrnd. Impact Fund (Transfer Out)	($2,127,066)	($2,190,878)	($2,256,604)	($2,324,302)	($2,394,032)	($2,465,852)	($2,539,828)	($2,616,023)	($2,694,504)	($2,775,339)	($2,858,599)
31	**Total Revenue Requirement**	**($50,532,849)**	**($52,086,921)**	**($54,522,040)**	**($56,642,171)**	**($59,701,771)**	**($63,697,271)**	**($66,111,014)**	**($68,631,322)**	**($71,277,522)**	**($74,476,709)**	**($77,423,913)**
32	**Beginning Year Balance**	**$21,683,349**	**$21,341,500**	**$23,735,580**	**$25,588,539**	**$27,253,368**	**$28,396,598**	**$28,217,326**	**$28,439,312**	**$29,123,991**	**$29,679,469**	**$29,658,760**
33	**Surplus/(Shortfall)**	**($341,849)**	**$2,394,079**	**$1,852,960**	**$1,664,829**	**$1,143,229**	**($179,271)**	**$221,986**	**$684,678**	**$555,478**	**($20,709)**	**($254,913)**
34	**End of Year Balance**	**$21,341,500**	**$23,735,580**	**$25,588,539**	**$27,253,368**	**$28,396,598**	**$28,217,326**	**$28,439,312**	**$29,123,991**	**$29,679,469**	**$29,658,760**	**$29,403,846**
35	*Target Minimum Reserve Balance:*	$22,524,835	$22,759,303	$23,452,241	$24,227,495	$25,030,321	$25,862,341	$26,724,210	$27,617,623	$28,543,312	$29,503,051	$30,497,658
36	*Available Cash Above Target*	($1,183,334)	$976,277	$2,136,298	$3,025,873	$3,366,276	$2,354,985	$1,715,102	$1,506,368	$1,136,157	$155,709	($1,093,812)
	Debt Coverage Calculations											
37	**Debt Coverage Ratio (with Demand Fees)**	**16.71**	**20.64**	**21.09**	**21.43**	**11.02**	**5.73**	**6.00**	**6.31**	**6.43**	**5.80**	**5.82**

Schedule W-2: Four-Year Schedule of Proposed Water Rates

		Effective Date			
		July 1, 2021 (4)	**July 1, 2022**	**July 1, 2023**	**July 1, 2024**
Water Usage Rates ($/TGAL)					
Single Family and Duplexes (1)					
Tier 1	Up to Sewer Cap	$5.99	$6.17	$6.36	$6.61
Tier 2	Over Sewer Cap	$6.79	$6.99	$7.20	$7.49
Single Family with No Irrigation Needs (Z=Y) (2)					
	All water use	$5.99	$6.17	$6.36	$6.61
Multi-Family, Commercial, Industrial, and Institutional					
	All Water Use	$6.33	$6.52	$6.72	$6.98
Irrigation (potable water) (3)					
Tier 1	Up to 125% of Water Budget	$6.09	$6.27	$6.46	$6.72
Tier 2	Over 125% of Water Budget	$7.54	$7.77	$8.00	$8.32
Irrigation (recycled water) (3)					
Tier 1	Use up to 125% of water budget	$5.79	$5.96	$6.14	$6.38
Tier 2	Over 125% of water budget	$7.54	$7.77	$8.00	$8.32
Monthly Service Charges (Potable)					
	5/8" & 3/4" meters	$14.09	$14.51	$14.95	$15.55
	1" meter	$31.63	$32.58	$33.56	$34.90
	1 1/2" meter	$60.86	$62.69	$64.57	$67.15
	2" meter	$95.95	$98.83	$101.79	$105.87
	3" meter	$177.81	$183.14	$188.64	$196.18
	4" meter	$294.76	$303.60	$312.71	$325.22
	6" meter	$587.13	$604.74	$622.89	$647.80
Monthly Service Charges (Recycled Water)					
	5/8" & 3/4" meters	$12.68	$13.06	$13.45	$13.99
	1" meter	$28.47	$29.32	$30.20	$31.41
	1 1/2" meter	$54.77	$56.42	$58.11	$60.43
	2" meter	$86.36	$88.95	$91.61	$95.28
	3" meter	$160.03	$164.83	$169.77	$176.57
	4" meter	$265.28	$273.24	$281.44	$292.70
	6" meter	$528.42	$544.27	$560.60	$583.02

Notes:

(1) The Sewer Cap is calculated for each customer based on the average monthly water use during November through March.

(2) "Z=Y" accounts are single family or duplex accounts with no outdoor usage.

(3) The landscape water budget varies for each customer each month and is determined using the site's square footage for the types of plants and the evapotranspiration rate for the billing period.

(4) The first rate increase will be effective 30 days after approval by the City Council, as early as July 1, 2021.

Schedule WW-1: Local Wastewater Fund Cash Flow Proforma

		Budget FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025	Forecast FY 2026	Forecast FY 2027	Forecast FY 2028	Forecast FY 2029	Forecast FY 2030	Forecast FY 2031
1	**Wastewater Rate Revenue Increase**		**2.00%**	**2.00%**	**2.00%**	**2.00%**	**3.00%**	**3.00%**	**3.00%**	**3.00%**	**3.00%**	**3.00%**
	Revenue											
2	**Usage Charge Revenue**	$47,588,000	$49,158,000	$51,370,000	$52,807,000	$54,292,000	$55,819,000	$57,947,000	$60,151,000	$62,439,000	$64,814,000	$67,279,000
3	Changes due to growth and use		$1,229,000	$410,000	$429,000	$441,000	$453,000	$466,000	$483,000	$502,000	$521,000	$541,000
4	Increase due to rate adjustments		$983,000	$1,027,000	$1,056,000	$1,086,000	$1,675,000	$1,738,000	$1,805,000	$1,873,000	$1,944,000	$2,018,000
5	**Service Charge Revenue**	$18,617,000	$18,388,000	$18,909,000	$19,440,000	$19,987,000	$20,549,000	$21,332,000	$22,143,000	$22,985,000	$23,860,000	$24,768,000
6	Changes due to growth		$153,000	$153,000	$158,000	$162,000	$167,000	$171,000	$178,000	$185,000	$192,000	$199,000
7	Increase due to rate adjustments		$368,000	$378,000	$389,000	$400,000	$616,000	$640,000	$664,000	$690,000	$716,000	$743,000
	Miscellaneous Revenues											
8	Fees & Charges	$965,000	$997,000	$1,006,000	$1,014,000	$1,023,000	$1,031,000	$1,040,000	$1,048,000	$1,057,000	$1,066,000	$1,075,000
9	Miscellaneous	$146,067	$148,000	$149,000	$150,000	$152,000	$154,000	$155,000	$157,000	$158,000	$160,000	$161,000
10	Interest Earnings	$1,186,000	$1,433,000	$1,297,000	$1,120,000	$950,000	$826,000	$786,000	$720,000	$696,000	$704,000	$753,000
11	Rental/Lease	$32,000	$32,000	$33,000	$33,000	$33,000	$34,000	$34,000	$34,000	$35,000	$35,000	$35,000
12	Intergovernmental	$617,594	$624,000	$630,000	$636,000	$643,000	$649,000	$656,000	$662,000	$669,000	$675,000	$682,000
13	Grants	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
14	Transfer In from SubReg Refund Account	$13,427,693										
15	Demand Fee Revenue	$2,600,000	$3,167,000	$3,262,000	$3,360,000	$3,461,000	$3,564,000	$3,671,000	$3,782,000	$3,895,000	$4,012,000	$4,132,000
16	**Total Revenue**	**$85,179,354**	**$76,680,000**	**$78,624,000**	**$80,592,000**	**$82,630,000**	**$85,537,000**	**$88,636,000**	**$91,827,000**	**$95,184,000**	**$98,699,000**	**$102,386,000**
	Local O&M Costs											
17	Salaries and Benefits	($3,565,000)	($3,651,000)	($3,760,000)	($3,873,000)	($3,989,000)	($4,109,000)	($4,232,000)	($4,359,000)	($4,490,000)	($4,624,000)	($4,763,000)
18	Maintenance and Services	($1,924,000)	($1,982,000)	($2,042,000)	($2,103,000)	($2,166,000)	($2,231,000)	($2,298,000)	($2,367,000)	($2,438,000)	($2,511,000)	($2,586,000)
20	Utilities and Chemicals	($73,000)	($75,000)	($78,000)	($82,000)	($85,000)	($88,000)	($92,000)	($95,000)	($99,000)	($103,000)	($107,000)
21	Administrative Allocation	($3,578,000)	($3,661,000)	($3,745,000)	($3,831,000)	($3,919,000)	($4,009,000)	($4,101,000)	($4,196,000)	($4,292,000)	($4,391,000)	($4,492,000)
22	Utility Billing Services	($2,283,000)	($2,351,000)	($2,422,000)	($2,494,000)	($2,569,000)	($2,646,000)	($2,726,000)	($2,807,000)	($2,891,000)	($2,978,000)	($3,068,000)
23	O&M Projects	($217,000)	($217,000)	($224,000)	($231,000)	($237,000)	($245,000)	($252,000)	($260,000)	($267,000)	($275,000)	($284,000)
28	Turnback @ 5%	$582,000	$597,000	$614,000	$631,000	$648,000	$666,000	$685,000	$704,000	$724,000	$744,000	$765,000
30	***Total Operating Expenses***	**($11,058,000)**	**($11,340,000)**	**($11,657,000)**	**($11,983,000)**	**($12,317,000)**	**($12,662,000)**	**($13,016,000)**	**($13,380,000)**	**($13,753,000)**	**($14,138,000)**	**($14,535,000)**
	Capital Costs & Debt Service											
31	**Total Capital Spending**	**($12,360,000)**	**($12,730,000)**	**($13,503,000)**	**($13,908,000)**	**($14,326,000)**	**($14,755,000)**	**($20,994,000)**	**($21,624,000)**	**($22,273,000)**	**($22,941,000)**	**($30,153,000)**
33	Existing Local Debt Service	($2,530,000)	($2,535,000)	($2,611,000)	($3,837,000)	($4,414,000)	($5,010,000)	($5,006,000)	($5,008,000)	($4,992,000)	($3,662,000)	($3,656,000)
34	Existing SubReg Debt Service	($17,145,000)	($18,261,000)	($18,118,000)	($16,746,000)	($15,609,000)	($13,992,000)	($13,999,000)	($14,006,000)	($14,024,000)	($14,574,000)	($10,919,000)
35	Cash Funded Capital Projects	($12,360,000)	($12,730,000)	($13,503,000)	($13,908,000)	($14,326,000)	($14,755,000)	($20,994,000)	($21,624,000)	($22,273,000)	($22,941,000)	($30,153,000)
36	New Regional Debt Service	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
38	***Total Capital Expenses***	**($32,035,000)**	**($33,526,000)**	**($34,232,000)**	**($34,491,000)**	**($34,349,000)**	**($33,757,000)**	**($39,999,000)**	**($40,638,000)**	**($41,289,000)**	**($41,177,000)**	**($44,728,000)**
	Transfers & Regional Costs											
39	Utility Impact Transfer Out	($2,127,066)	($2,191,000)	($2,257,000)	($2,324,000)	($2,394,000)	($2,466,000)	($2,540,000)	($2,616,000)	($2,695,000)	($2,775,000)	($2,859,000)
40	Regional O&M	($27,594,025)	($28,637,000)	($30,127,000)	($31,649,000)	($33,189,000)	($34,528,000)	($34,175,000)	($35,307,000)	($36,468,000)	($37,662,000)	($38,889,000)
43	**Total Revenue Requirement**	**($72,814,091)**	**($75,694,000)**	**($78,273,000)**	**($80,447,000)**	**($82,249,000)**	**($83,413,000)**	**($89,730,000)**	**($91,941,000)**	**($94,205,000)**	**($95,752,000)**	**($101,011,000)**
44	**Beginning Year Balance**	**$18,565,000**	**$30,930,000**	**$31,916,000**	**$32,267,000**	**$32,412,000**	**$32,793,000**	**$34,917,000**	**$33,823,000**	**$33,709,000**	**$34,688,000**	**$37,635,000**
45	**Surplus/(Shortfall)**	**$12,365,263**	**$986,000**	**$351,000**	**$145,000**	**$381,000**	**$2,124,000**	**($1,094,000)**	**($114,000)**	**$979,000**	**$2,947,000**	**$1,375,000**
46	**End of Year Balance**	**$30,930,263**	**$31,916,000**	**$32,267,000**	**$32,412,000**	**$32,793,000**	**$34,917,000**	**$33,823,000**	**$33,709,000**	**$34,688,000**	**$37,635,000**	**$39,010,000**
47	*Total Local WW Reserve Balance Target*	$24,259,384	$24,246,042	$24,935,565	$24,985,552	$25,036,954	$25,089,812	$25,144,169	$25,200,067	$25,257,550	$25,316,664	$25,377,456
48	*Available Cash Above Target*	$6,670,879	$7,669,958	$7,331,435	$7,426,448	$7,756,046	$9,827,188	$8,678,831	$8,508,933	$9,430,450	$12,318,336	$13,632,544
49	*Total Regional End of Year Balance*	$30,723,000	$30,723,000	$30,723,000	$30,724,000	$30,724,000	$30,725,000	$30,726,000	$30,725,000	$30,725,000	$30,724,000	$30,724,000
50	*Total Regional Reserve Balance Target*	$20,161,000	$30,320,000	$30,571,000	$30,829,000	$31,095,000	$31,369,000	$31,652,000	$31,943,000	$32,243,000	$32,552,000	$32,552,000
51	*Regional Available Cash Above Target*	$10,562,000	$403,000	$152,000	($105,000)	($371,000)	($644,000)	($926,000)	($1,218,000)	($1,518,000)	($1,828,000)	($1,828,000)
	Combined Debt Coverage Calculations											
52	**Debt Coverage Ratio (with Demand Fees)**	**4.35**	**4.58**	**4.86**	**4.46**	**4.48**	**4.70**	**5.08**	**5.74**	**5.93**	**6.49**	**6.64**

Schedule WW-2: Regional Fund Cash Flow Proforma

		Budget FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025	Forecast FY 2026	Forecast FY 2027	Forecast FY 2028	Forecast FY 2029	Forecast FY 2030	Forecast FY 2031
	Revenue											
	Charges to User Agencies for O&M and Capital Program											
1	Cotati	$1,171,000	$1,015,000	$1,070,000	$1,127,000	$1,184,000	$1,235,000	$1,213,000	$1,253,000	$1,294,000	$1,336,000	$1,379,000
2	Rohnert Park	$7,070,000	$7,242,000	$7,630,000	$8,026,000	$8,426,000	$8,778,000	$8,650,000	$8,936,000	$9,229,000	$9,530,000	$9,840,000
3	Santa Rosa	$27,594,000	$28,637,000	$30,127,000	$31,649,000	$33,189,000	$34,528,000	$34,175,000	$35,307,000	$36,468,000	$37,662,000	$38,889,000
4	Sebastapol	$1,037,000	$1,157,000	$1,220,000	$1,284,000	$1,349,000	$1,406,000	$1,383,000	$1,428,000	$1,475,000	$1,523,000	$1,573,000
5	SPCWD	$1,228,000	$1,311,000	$1,380,000	$1,450,000	$1,521,000	$1,583,000	$1,565,000	$1,616,000	$1,670,000	$1,724,000	$1,780,000
6	**Sub-Total**	**$38,100,000**	**$39,362,000**	**$41,427,000**	**$43,536,000**	**$45,669,000**	**$47,530,000**	**$46,986,000**	**$48,540,000**	**$50,136,000**	**$51,775,000**	**$53,461,000**
	Charges to User Agencies for Existing Debt											
7	Cotati Subreg	$836,000	$877,000	$869,000	$804,000	$750,000	$671,000	$672,000	$672,000	$673,000	$691,000	$518,000
8	Rohnert Park SubReg	$3,441,000	$3,858,000	$3,889,000	$3,932,000	$3,738,000	$3,330,000	$3,332,000	$3,333,000	$3,336,000	$3,502,000	$2,659,000
9	Santa Rosa SubReg	$17,145,000	$18,261,000	$18,118,000	$16,746,000	$15,609,000	$13,992,000	$13,999,000	$14,006,000	$14,024,000	$14,574,000	$10,919,000
10	Sebastopol SubReg	$614,000	$715,000	$744,000	$862,000	$836,000	$730,000	$730,000	$730,000	$731,000	$829,000	$626,000
11	South Park SubReg	$478,000	$578,000	$594,000	$652,000	$641,000	$573,000	$574,000	$574,000	$575,000	$646,000	$476,000
12	**Sub-Total**	**$22,514,000**	**$24,289,000**	**$24,214,000**	**$22,996,000**	**$21,574,000**	**$19,296,000**	**$19,307,000**	**$19,315,000**	**$19,339,000**	**$20,242,000**	**$15,198,000**
	Projected Additional Debt Service by Agency											
13	Cotati Subreg	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
14	Rohnert Park SubReg	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
15	Santa Rosa SubReg	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
16	Sebastopol SubReg	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
17	South Park SubReg	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
18	**Sub-Total**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
	Total Revenue By Agency											
19	Cotati Subreg	$2,007,000	$1,892,000	$1,939,000	$1,931,000	$1,934,000	$1,906,000	$1,885,000	$1,925,000	$1,967,000	$2,027,000	$1,897,000
20	Rohnert Park SubReg	$10,511,000	$11,100,000	$11,519,000	$11,958,000	$12,164,000	$12,108,000	$11,982,000	$12,269,000	$12,565,000	$13,032,000	$12,499,000
21	Santa Rosa SubReg	$44,739,000	$46,898,000	$48,245,000	$48,395,000	$48,798,000	$48,520,000	$48,174,000	$49,313,000	$50,492,000	$52,236,000	$49,808,000
22	Sebastopol SubReg	$1,651,000	$1,872,000	$1,964,000	$2,146,000	$2,185,000	$2,136,000	$2,113,000	$2,158,000	$2,206,000	$2,352,000	$2,199,000
23	South Park SubReg	$1,706,000	$1,889,000	$1,974,000	$2,102,000	$2,162,000	$2,156,000	$2,139,000	$2,190,000	$2,245,000	$2,370,000	$2,256,000
24	**Sub-Total**	**$60,614,000**	**$63,651,000**	**$65,641,000**	**$66,532,000**	**$67,243,000**	**$66,826,000**	**$66,293,000**	**$67,855,000**	**$69,475,000**	**$72,017,000**	**$68,659,000**
	Other Revenue											
25	Charges for Service	$2,332,500	$2,356,000	$2,380,000	$2,404,000	$2,428,000	$2,452,000	$2,477,000	$2,502,000	$2,527,000	$2,552,000	$2,578,000
26	Interest Earnings	$500,000	$1,035,000	$946,000	$846,000	$750,000	$671,000	$610,000	$564,000	$527,000	$493,000	$461,000
27	Miscellaneous	$216,000	$218,000	$220,000	$222,000	$224,000	$226,000	$228,000	$230,000	$232,000	$234,000	$236,000
28	Geyser Revenue	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000
31	Town of Windsor	$968,000	$978,000	$988,000	$998,000	$1,008,000	$1,018,000	$1,028,000	$1,038,000	$1,048,000	$1,058,000	$1,069,000
34	**Sub-Total**	**$4,316,500**	**$4,887,000**	**$4,834,000**	**$4,770,000**	**$4,710,000**	**$4,667,000**	**$4,643,000**	**$4,634,000**	**$4,634,000**	**$4,637,000**	**$4,644,000**
35	**Total Revenue**	**$64,930,500**	**$68,538,000**	**$70,475,000**	**$71,302,000**	**$71,953,000**	**$71,493,000**	**$70,936,000**	**$72,489,000**	**$74,109,000**	**$76,654,000**	**$73,303,000**
	Operating Expenses											
36	Salaries	($9,133,000)	($9,316,000)	($9,595,000)	($9,883,000)	($10,179,000)	($10,484,000)	($10,799,000)	($11,123,000)	($11,457,000)	($11,801,000)	($12,155,000)
37	Benefits	($5,396,000)	($5,558,000)	($5,725,000)	($5,897,000)	($6,074,000)	($6,256,000)	($6,444,000)	($6,637,000)	($6,836,000)	($7,041,000)	($7,252,000)
38	Services and Supplies	($8,092,000)	($8,334,760)	($8,585,000)	($8,843,000)	($9,108,000)	($9,381,000)	($9,662,000)	($9,952,000)	($10,251,000)	($10,559,000)	($10,876,000)
41	Utilities	($3,533,000)	($3,674,000)	($3,821,000)	($3,974,000)	($4,133,000)	($4,298,000)	($4,470,000)	($4,649,000)	($4,835,000)	($5,028,000)	($5,229,000)
42	Chemicals	($971,000)	($1,000,000)	($1,030,000)	($1,061,000)	($1,093,000)	($1,126,000)	($1,160,000)	($1,195,000)	($1,231,000)	($1,268,000)	($1,306,000)
44	O&M Projects	($1,697,000)	($1,736,000)	($1,776,000)	($1,817,000)	($1,859,000)	($1,902,000)	($1,946,000)	($1,991,000)	($2,037,000)	($2,084,000)	($2,132,000)
45	Indirect Costs	($4,152,000)	($4,247,000)	($4,345,000)	($4,445,000)	($4,547,000)	($4,652,000)	($4,759,000)	($4,868,000)	($4,980,000)	($5,095,000)	($5,212,000)
46	Capital Outlay	($23,000)	($23,000)	($24,000)	($25,000)	($26,000)	($27,000)	($28,000)	($29,000)	($30,000)	($31,000)	($32,000)
47	Interfund Loan	($399,000)	($290,000)	($290,000)	($290,000)	($290,000)	$0	$0	$0	$0	$0	$0
	Capital Appropriations											
48	Total Capital Spending	($7,000,000)	($43,000,000)	($44,000,000)	($10,000,000)	($11,000,000)	($12,000,000)	($12,360,000)	($12,731,000)	($13,113,000)	($13,506,000)	($13,911,000)
49	CIP Transfer Out	($7,000,000)	($8,000,000)	($9,000,000)	($10,000,000)	($11,000,000)	($12,000,000)	($12,360,000)	($12,731,000)	($13,113,000)	($13,506,000)	($13,911,000)
50	Debt Financed CIP	$0	($35,000,000)	($35,000,000)	$0	$0	$0	$0	$0	$0	$0	$0
52	Debt Service Transfer Out	($22,514,000)	($24,289,000)	($24,214,000)	($22,996,000)	($21,574,000)	($19,296,000)	($19,307,000)	($19,315,000)	($19,339,000)	($20,242,000)	($15,198,000)
53	New Debt Service	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
54	Transfer to New Catastrophic & Geyser	$0	($2,070,000)	($2,070,000)	($2,070,000)	($2,070,000)	($2,070,000)	$0	$0	$0	$0	$0
55	Transfer Out of Refund Reserve to Meml	($13,428,000)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
56	***Total Expenses***	**($76,338,000)**	**($68,537,760)**	**($70,475,000)**	**($71,301,000)**	**($71,953,000)**	**($71,492,000)**	**($70,935,000)**	**($72,490,000)**	**($74,109,000)**	**($76,655,000)**	**($73,303,000)**
57	**Beginning Year Balance**	**$42,131,000**	**$30,723,000**	**$30,723,000**	**$30,723,000**	**$30,724,000**	**$30,724,000**	**$30,725,000**	**$30,726,000**	**$30,725,000**	**$30,725,000**	**$30,724,000**
58	**Surplus/(Shortfall)**	**($11,408,000)**	**$0**	**$0**	**$1,000**	**$0**	**$1,000**	**$1,000**	**($1,000)**	**$0**	**($1,000)**	**$0**
59	**End of Year Remaining Balance**	**$30,723,000**	**$30,723,000**	**$30,723,000**	**$30,724,000**	**$30,724,000**	**$30,725,000**	**$30,726,000**	**$30,725,000**	**$30,725,000**	**$30,724,000**	**$30,724,000**
60	*Reserve Balance Target*	$20,161,000	$30,320,000	$30,571,000	$30,829,000	$31,095,000	$31,369,000	$31,652,000	$31,943,000	$32,243,000	$32,552,000	$32,871,000
61	*Available Cash Above Target*	$10,562,000	$403,000	$152,000	($105,000)	($371,000)	($644,000)	($926,000)	($1,218,000)	($1,518,000)	($1,828,000)	($2,147,000)

WW-3: Four-Year Schedule of Proposed Wastewater Rates

	Effective Date			
	July 1, 2021 (3)	**July 1, 2022**	**July 1, 2023**	**July 1, 2024**
Wastewater Usage Rates ($/TGAL) (1)				
Single Family and Multi-Family (2)	$15.12	$15.42	$15.73	$16.04
Commercial, Industrial, and Institutional				
Low Strength	$12.42	$12.67	$12.92	$13.18
Standard Strength	$15.12	$15.42	$15.73	$16.04
Medium Strength	$16.85	$17.19	$17.53	$17.88
High Strength	$21.01	$21.43	$21.86	$22.30
Monthly Service Charges				
Single Family	$26.06	$26.58	$27.11	$27.65
Multi-Family, Commercial, Industrial, Institutional				
5/8" & 3/4" meters	$26.06	$26.58	$27.11	$27.65
1" meter	$60.15	$61.35	$62.58	$63.83
1 1/2" meter	$116.96	$119.30	$121.69	$124.12
2" meter	$185.14	$188.84	$192.62	$196.47
3" meter	$344.22	$351.10	$358.12	$365.28
4" meter	$571.48	$582.91	$594.57	$606.46
6" meter	$1,139.63	$1,162.42	$1,185.67	$1,209.38

Notes:

(1) Wastewater usage charge applies to the estimated wastewater generated. For single-family residential accounts and multi-family accounts that don't have a separate irrigation meter for landscaping the esimated wastewater is based on the lower of current water use or the Sewer Cap. The Sewer Cap is calculated for these residential accounts based on the average water use from complete billing periods within the months of November through March. For all accounts with separate irrigation meters (whether multifamily or non-residential) the wastewater generated is based on actual monthly water usage.

(2) Multifamily accounts include duplex, and triplex accounts.

(3) The first rate increase will be effective 30 days after approval by the City Council, as early as July 1, 2021.

Extraordinary Load Surcharges

	Volumetric Rate			
Metric	**July 1, 2021**	**July 1, 2022**	**July 1, 2023**	**July 1, 2024**
BOD ($/LB)	$0.54	$0.55	$0.56	$0.57
TSS ($/LB)	$0.63	$0.64	$0.65	$0.66
TKN ($/LB)	$1.37	$1.40	$1.43	$1.46