ORDINANCE NO. 2537

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF REDWOOD CITY AMENDING SECTION 27.100 (SEWER SERVICE CHARGES) OF ARTICLE IX (FEES AND CHARGES) OF CHAPTER 27 OF THE REDWOOD CITY MUNICIPAL CODE, UPDATING THE CITY'S SEWER SERVICE CHARGES, AND ADOPTING A SEWER ENTERPRISE FUND RESERVE POLICY

WHEREAS, the Redwood City Municipal Code Chapter 27 (Sanitary Sewerage Facilities), Article IX (Fees and Charges) imposes sewer service charges on all customers of the City of Redwood City's ("City") sanitary sewer system; and

WHEREAS, the City reviewed its sewer rates to determine if they are adequate over time to pay for the anticipated increase in wastewater treatment costs, ongoing maintenance and replacement projects, ongoing operations costs, and any planned capital projects; and

WHEREAS, the City submitted a Sewer Rate Cost-of-Service Study dated February 15, 2024 ("Sewer Rate Study"), which recommends a revised sewer rate schedule beginning Fiscal Years 2024-25, 2025-2026, and 2026-27. The Sewer Rate Study is attached hereto as **Exhibit A** and hereby incorporated by reference; and

WHEREAS, pursuant to the provisions of Article XIII D, Section 6, of the California Constitution ("Proposition 218"), prior to extending, imposing or increasing sewer rates, property owners shall be provided at least 45 days' notice of a public hearing to consider such modifications to the sewer rates together with an explanation of: (1) the amount of the proposed rates, (2) the basis on which the rates are calculated, (3) the reason for the rate modifications, and (4) the date, time and place of a public hearing to consider the rate modifications, together with an explanation of the rights of property owners to submit written protests to the proposed rate modifications. The proposed rate modifications may not be imposed if, prior to the close of the public hearing, written protests are submitted by a majority of the parcels subject to the modified rates ("majority protest"); and

WHEREAS, notice of the public hearing to consider proposed adjustments to the sewer rates was mailed to property owners of record in accordance with Proposition 218; and

WHEREAS, the mailed notice of public hearing included a statement that there is a 120-day statute of limitations for challenging the sewer rates should the proposed sewer rates be adopted; and

WHEREAS, on April 1, 2024, the City Council conducted a public hearing, considered testimony, and at the conclusion of the hearing determined that a majority protest did not exist; and

WHEREAS, the sewer rates are "exempt charges," within the meaning of Section 1 of Article XIII C of the California Constitution and the Taxpayer Protection and Government Accountability Act (Initiative No. 21-0042) because they are charges that are imposed in accordance with and subject to Article XIII D of the California Constitution.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF REDWOOD CITY DOES ORDAIN AS FOLLOWS:

Section 1. The above recitals are true and correct, and incorporated herein by reference and each is relied upon independently by the City Council for its adoption of the Ordinance.

Section 2. The Ordinance has been reviewed with respect to applicability of the California Environmental Quality Act ("CEQA") and the CEQA Guidelines. The Ordinance is not a project under CEQA Guidelines Section 15378(b)(4) because the Ordinance does not have the potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, as the Ordinance creates government funding mechanisms which do not involve any commitment to any specific project. The Ordinance is also exempt from CEQA as there is no possibility for causing a significant effect on the environment, per CEQA Guideline Section 15061(b)(3). No specific sewer projects are associated with this Ordinance. The Ordinance is policy-oriented and would create a funding mechanism for the development of future sewer facilities. When and if specific sewer projects are developed and proposed for implementation, the environmental impacts of such facilities would be evaluated in accordance with CEQA and City practice.

Section 3. The City Council of the City of Redwood City hereby adopts the amendments to Section 27.100 of Article IX of Chapter 27 of the Redwood City Municipal Code as set forth in **Exhibit B.** The text shown in underline (example) is intended to be added and the text shown in strikeout (~~example~~) is intended to be deleted. Wording in brackets ([example]) is informational only and is not to be included in the published ordinance.

Section 4. The City Council finds and determines that, based on the entire record before the City Council, including but not limited to the Sewer Rate Study and the Staff Report and attachments thereto:

(1) Revenues derived from the proposed sewer rates will not exceed the funds required to provide sewer service.

(2) Revenues derived from the proposed sewer rates will not be used for any purpose other than that for they were imposed.

(3) The amount of the sewer rates imposed upon any parcel or person as an incident of property ownership will not exceed the proportional cost of the service attributable to the parcel.

(4) The sewer rates are imposed for a service or services that are actually used by, or immediately available to, the owner of the property in question.

(5) The sewer rates are not being imposed for general government services.

Section 5. The City Council hereby approves and adopts the Sewer Rate Study attached hereto as **Exhibit A**, which sets forth the basis for the sewer rates.

Section 6. The City Council finds that the procedures followed and the sewer rates referenced herein are in compliance with the California Constitution Article XIII D, Government Code section 53755, and Health and Safety Code section 5471.

Section 7. The City Council adopts the sewer rate schedules in **Exhibit C** attached hereto and incorporated herein by this reference.

Section 8. The sewer rates beginning Fiscal Year 2024-25 will be effective as of July 1, 2024. The sewer rates beginning Fiscal Year 2025-26 will be effective on July 1, 2025, and the sewer rates beginning Fiscal Year 2026-27 will be effective on July 1, 2026.

Section 9. The sewer rates, set forth in **Exhibit C**, may be amended from time to time by ordinance or resolution of the City Council.

Section 10. The City Council hereby approves and adopts a policy to maintain the following Sewer Enterprise reserve target. The operating reserve component will equal 25% of annual operations and maintenance (O&M) expenses. The capital reserve component will include $2 million to provide working capital for pay-as-you-go construction projects.

Section 11. If any provision, section, paragraph, sentence or word of this Ordinance, or the application thereof to any person or circumstance, is rendered or declared invalid by any court of competent jurisdiction, the remaining provisions, sections, paragraphs, sentences or words of this Ordinance, and their application to other persons or circumstances, shall not be affected thereby and shall remain in full force and effect and, to that end, the provisions of this Ordinance are severable.

Section 12. This Ordinance shall become effective thirty days after the date of its adoption.

Section 13. The City Clerk is directed to cause this Ordinance to be published in the manner required by law.

* * *

CITY OF REDWOOD CITY
Sewer Rate Cost-of-Service Study

February 15, 2024

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City of Redwood City

1017 Middlefield Road
Redwood City, CA 94063

SEWER RATE COST-OF-SERVICE STUDY

February 15, 2024

HF&H Consultants, LLC
590 Ygnacio Valley Rd, Suite 105
Walnut Creek, CA 94596

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February 15, 2024

Terence Kyaw
Public Works Director
City of Redwood City
1400 Broadway
Redwood City, CA 94063

Subject: Sewer Rate Cost-of-Service Study –Final Report

Dear Terence Kyaw:

HF&H Consultants (HF&H) is pleased to submit this cost-of-service report to the City of Redwood City (City). The previous cost-of-service rate study was completed in 2016, and rates were last increased in 2021 as the result of a three-year rate update conducted in 2019. The current study makes the following recommendations:

- **Revenue increases.** Revenue increases are recommended to address increases in the cost of wastewater treatment from Silicon Valley Clean Water (SVCW) and the need to fund capital improvements, including ongoing repairs and replacement of aging infrastructure. The combined operations and maintenance (O&M) and capital costs to be paid to SVCW account for 66% of the annual revenue requirement from FY 2024-25 through FY 2026-27. Collectively, the SVCW annual expenses, which are not controlled by the City, account for an increase of 46% from costs previously forecasted during the 2019 rate update, when rates were set for FY 2019-20, FY 2020-21, and FY 2021-22. In addition, rate increases are needed to allow the City's Sewer Enterprise Fund to fund collection system capital improvements, to continue compliance with debt service requirements, and to address operational cost increases. Over the next three years, the recommended annual revenue increases are 3.5% (FY 2024-25), 7.0% (FY 2025-26), and 7.0% (FY 2026-27).

- **Service Charge modifications.** We recommend modifying and updating the current monthly Service Charges billed to Multi-Family Residential accounts to charge all multi-family residential customers the same rate per dwelling unit (DU) beginning FY 2024-25 and increasing rates thereafter beginning FY 2025-26 and FY 2026-27. Results from our winter water use analysis indicate multi-family customers use less water per DU than single family customers. Further, no correlation between the size of the multi-family complex served and the volume of water demanded by each DU within the complex was identified. Therefore, all Multi-Family Residential customers are recommended to receive the same Service Charge per DU, which will be less than the Service Charge assessed to Single Family customers.

- **Removal of the minimum charge for Commercial customers.** We recommend replacing the minimum monthly charge assessed to Commercial customers with a monthly, uniform Service Charge billed to each account beginning FY 2024-25, FY 2025-26, and FY 2026-27.

* * * * *

The rates proposed in this report reflect the current and projected cost of providing sewer service for the next three years. We greatly appreciate your assistance in developing the cost-of-service analysis.

Sincerely,
HF&H CONSULTANTS, LLC

Rick Simonson
Senior Vice President

Gabe Sasser
Project Manager

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GLOSSARY

ADU	Accessory Dwelling Unit
BOD	Biochemical Oxygen Demand
CIP	Capital Improvement Program
Commercial	Refers to the City's five commercial customer classes, A-E.
DU	Dwelling Unit, in reference to the number of physical residences served by a Single Family Residential or Multi Family Residential account.
FY	Fiscal Year, July 1 to June 30
HCF	Hundred cubic feet of metered water sold; 748 gallons; a cube of water 4.6 feet on edge.
I&I	Inflow and infiltration.
JADU	Junior Accessory Dwelling Unit
JPA	Joint Powers Authority
LRFP	Long Range Financial Plan. Silicon Valley Clean Water produces an annual update of its long range financial projections for the benefit of its member agencies.
O&M	Operations and Maintenance
PAYGo	Pay-As-You-Go, in reference to funding capital improvements from cash rather than from borrowed sources of revenue.
RESCU	Regional Environmental Sewer Conveyance Upgrade, a long-term capital improvement program of Silicon Valley Clean Water.
SMD	Sewer Maintenance District. Customers who receive sewer conveyance and treatment services from Redwood City that are located outside the City's geographical limits and/or sewer service area.
SRF	State Revolving Fund. A loan secured through the State of California.
Study Period	Three-year period of the overall study, for which new sewer rates are proposed. This period includes fiscal year 2024-25 to fiscal year 2026-27.
SVCW	Silicon Valley Clean Water, a Joint Powers Authority that is responsible for regional conveyance and wastewater treatment for the cities of San Carlos, Redwood City, and Belmont, and West Bay Sanitary District.
TSS	Total Suspended Solids
WIFIA	Water Infrastructure Finance and Innovation Act. A type of loan secured through the federal government.

ACKNOWLEDGEMENTS

City Council

Jeff Gee, Mayor
Lissette Espinoza-Garnica, Vice Mayor
Alicia C. Aguirre, Councilmember
Kaia Eakin, Councilmember
Diane Howard, Councilmember
Elmer Martinez Saballos, Councilmember
Chris Sturken, Councilmember

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HF&H Consultants, LLC

Rick Simonson, Senior Vice President
Gabe Sasser, PE, Project Manager
Alex Santos, Senior Associate

LIMITATIONS

This document was prepared solely for the City of Redwood City in accordance with the contract between the City and HF&H and is not intended for use by any other party for any other purpose.

In preparing this study, we relied on information from the City, which we consider accurate and reliable. Our analysis is based on the best available information at the time of the study.

Rounding differences caused by stored values in electronic models may exist.

This document represents our understanding of relevant laws, regulations, and court decisions but should not be relied upon as legal advice. Questions concerning the interpretation of legal authorities referenced in this document should be referred to a qualified attorney.

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I. EXECUTIVE SUMMARY

BACKGROUND

The City provides wastewater collection and conveyance services to an estimated 29,970 residential dwelling units and 1,220 commercial accounts. In addition to residents and commercial occupant flows originating within the City, the City's collection system also transports flows from Sewer Maintenance Districts (SMDs). The largest of these customers is Fair Oaks Sewer Maintenance District. Wastewater is collected and transported through a system of pipelines and pump stations. The City's sanitary sewer system includes approximately 200 miles of sewer mains and 31 sewer lift stations. All wastewater is conveyed for treatment via a 9-mile pipeline, which is owned and operated by SVCW, a Joint Powers Authority (JPA). SVCW provides wastewater treatment services to the Cities of Belmont and San Carlos, West Bay Sanitary District, as well as the City. Wastewater from each of these member agencies is treated at the SVCW treatment plant. The City is billed for its proportionate share of treatment costs and this expense is included in the City's sewer service charges.

The sewer rates in this study were developed using rate-making principles in compliance with Proposition 218. The cost-of-service principles endeavor to distribute costs to customer classes (also referred to as classes) and to individual customers in proportion to customers' impacts on the sewer system. Rate studies generally contain three elements: (1) a revenue requirements analysis, which determines how much revenue is needed from rates to recover a utility's projected costs; (2) a cost-of-service analysis, which allocates the revenue requirements to each customer class and each rate component; and (3) a rate design analysis, which determines any modifications that are required to align the rate structure with the cost of service.

Rate studies always include a revenue requirements analysis. A cost-of-service analysis is typically only conducted periodically. We recommend conducting a cost-of-service analysis at least every five years to account for any material differences in the costs of providing service and in the sewer usage among customer classes, which will affect their respective shares of the cost of service. The City last conducted a cost-of-service study in 2016, with minor review and modifications in 2019.

The City requested HF&H to conduct a cost-of-service study to analyze a period of ten years. After consideration of the proposed increases, the City ultimately chose to set sewer rates for three years (Study Period). Therefore, the City is electing to set sewer rates for fiscal year (FY) 2024-25 through FY 2026-27.

Since the previous cost-of-service analysis, changes in flow and wastewater loading among customer classes have occurred, which affect the factors that are used to allocate costs. The costs to which the allocation factors are applied also changed. Hence, there will be differences between the previous and current cost-of-service analyses. Adjustments are made to reflect the differences, and rates are set accordingly.

The cost-of-service analysis proportionately allocates the revenue that is required from rates to the components of the rate structure and to the customer classes. Costs are classified corresponding to the function they serve. Each function's costs are further allocated to each component of the rates in proportion to the level of service required by customers. The levels of service are related to volumes of wastewater flow, measurements of the wastewater strength, and customer accounts. Ultimately, a cost-of-service analysis ensures that the rates yield charges that are proportional to the cost of providing service to each customer.

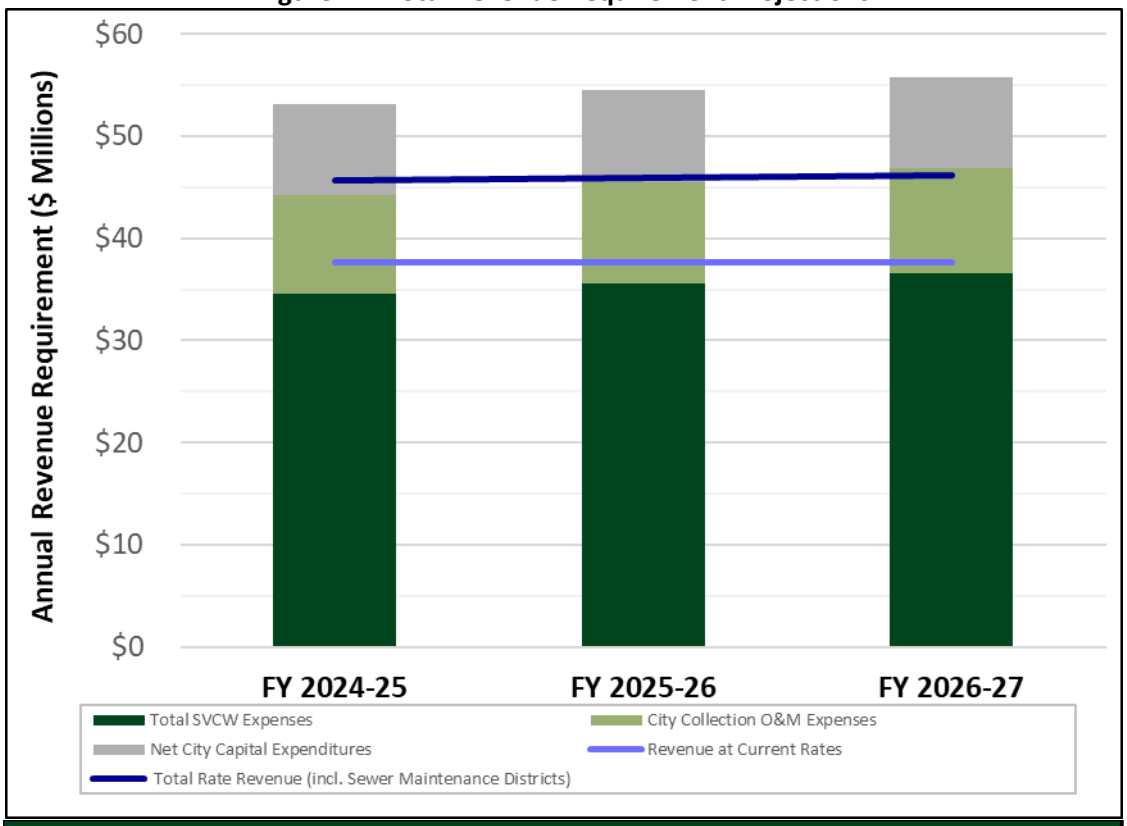
The following discussion summarizes HF&H's findings and recommendations.

REVENUE REQUIREMENTS

The revenue requirements were updated to reflect projected customer impacts and the costs associated with meeting those impacts. The five-year projections are shown in **Figure I-1**.

Over the Study Period, the City's revenue requirement is driven by increases to third-party wastewater treatment costs dictated by SVCW and capital improvement program (CIP) expenditures to maintain the City's infrastructure and to ensure adequate capacity. As the SVCW member agency with the largest share of wastewater flow to be treated, the City is responsible for the largest share of treatment plant costs. In the next three years, the City is required to contribute $16 million per year on capital improvement projects to support SVCW system upgrades. In addition, the City's share of SVCW's operating and maintenance costs are projected to be approximately $19 million per year. Collectively, SVCW's annual expenses account for an increase of 46% from costs forecasted during the previous 2019 rate update, when rates were set for FY 2019-20, FY 2020-21, and FY 2021-22. The City's CIP expenditures to rehabilitate and expand its collection system include a net average annual expense of $8.9 million over the five-year period of FY 2024-25 to FY 2028-29, demonstrating the City's priority to continue to invest in its sewer system. The bulk of project expenditures are planned to support collection system pipe replacement, as well as storage and pumping infrastructure.

Figure I-1. Total Revenue Requirement Projections



Sewer Enterprise Expenses	FY 2024-25	FY 2025-26	FY 2026-27
Total SVCW Expenses	$34,593,316	$35,598,072	$36,634,451
City Collection O&M Expenses	$9,662,295	$9,938,647	$10,225,627
Net City Capital Expenditures	$8,937,789	$8,937,789	$8,937,789
Total Revenue Requirement	**$53,193,401**	**$54,474,508**	**$55,797,868**
Annual Increase		2.4%	2.4%

Source: Figure III-6.

The revenue increases for FY 2024-25 through FY 2026-27 are shown in **Figure I-2.** The proposed revenue increases would become effective on July 1 of each year. These increases were used as a starting point to determine how much additional revenue rates needed to generate during the three-year period.

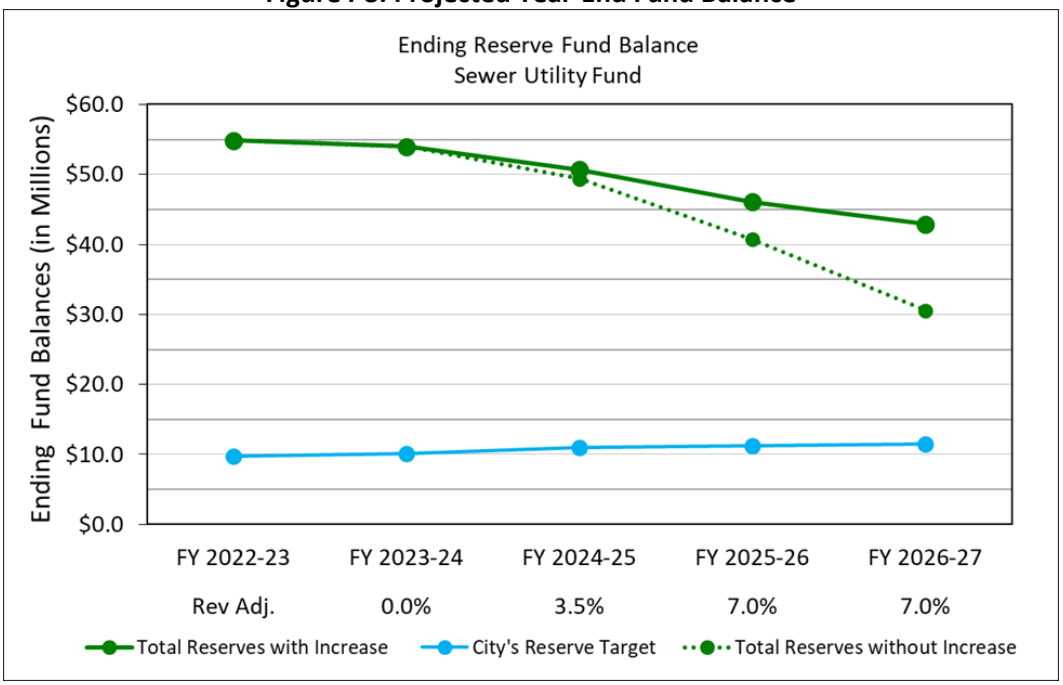
Figure I-2. Projected Revenue Increases

Fiscal Year	Revenue After Rate Adjustments	Fiscal Year Increase In Revenue
Revenue at 2023 Rates	$37,600,759	
FY 2024-2025	$38,916,786	3.5%
FY 2025-2026	$41,640,961	7.0%
FY 2026-2027	$44,555,828	7.0%

Source: Figure III-10.

As shown in **Figure I-3,** the projected increases in the revenue requirements are balanced with the City's existing level of reserves**.** The City's proposed reserve policy[1] assumes that the target reserve balance is made up of an operating reserve component and a capital reserve component, which are minimum values. The operating reserve component will equal 25% of annual operations and maintenance (O&M) expenses. The capital reserve component will include $2 million to provide working capital for pay-as-you-go construction projects. The sum of these components equals the City's Reserve Target (blue line), which is currently being met. The projected fund balance shows the use of reserves over the Study Period. The use of reserves compensates for the need to charge larger rate increases to customers. The City has not increased rates since 2021. If current rate revenues remain unchanged, the City would require a heavier dependency on the Sewer Enterprise Fund reserves, and reserves would be reduced significantly (dashed green line). However, with the proposed rate increases, the projected fund balance (green solid line) remains above the City's Reserve Target by the end of the Study Period. Under the proposed rate plan, the projected fund balance would exceed the reserve requirement at the end of the Study Period because the additional revenues will be needed to cover anticipated, future increases in SVCW capital costs (see **Figure III-3**). With these proposed rate increases, debt service coverage is satisfied during the five-year period and the City has available resources to pay for known, future increases brought on by SVCW debt service payments. **Figure I-4** projects debt coverage with the recommended revenue increases, ensuring the City continues to meet the minimum coverage ratio of 1.20 in order to satisfy its debt service obligations to SVCW.

Figure I-3. Projected Year-End Fund Balance



Source: Figure III-12.

[1] The proposed reserve policy for the Sewer Enterprise Fund will be recommended for adoption by Council. The proposed reserve policy assumes 25% of annual O&M expenses and $2 million for capital projects. These reserve levels are in line with industry standards.

Figure I-4. Debt Service Coverage

	Budgeted	Projected		
	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
Revenue Sources	$45,936,990	$48,657,593	$51,581,743	$54,718,103
Operating Expenses	($29,217,029)	($30,460,732)	($31,743,421)	($33,067,079)
Net Revenue	$16,719,961	$18,196,862	$19,838,321	$21,651,023
Debt Service	$10,326,519	$13,794,880	$13,793,298	$13,792,999
Debt Coverage Ratio	**1.62**	**1.32**	**1.44**	**1.57**

Source: Figure III-11.
Note: Revenue sources includes sewer rate revenues, capacity fees, permit & inspection fees, payments from Sewer Maintenance Districts, and investment interest.

RATE STRUCTURE

Current Rate Structure

The City charges most Single Family Residential sewer customers annually on the tax rolls. All other customers are charged monthly or bi-monthly via the customer's utility bill. Regardless of billing frequency, all Residential (Single Family and Multi Family Residential) customers are assessed a fixed Service Charge per DU. Charges are specific to the type of residential development and the number of DUs served by one account. Commercial customers pay charges based on their metered water use (measured in HCF or hundred cubic feet, which is 748 gallons). Each commercial charge is the product of the customer's recorded water use multiplied by the Volumetric Rate corresponding to the customer's class. Customer classes reflect differences in wastewater effluent strength characteristics. Higher strength wastewater is more costly to treat, which results in a higher rate per HCF for Commercial customers with high strength wastewater. Commercial customer accounts are subject to a minimum monthly charge to allow the City to recoup fixed costs that do not fluctuate based on sewage volume discharged. Customers are charged the greater of the calculated charge based on metered water use or the minimum monthly charge. **Figure I-5** summarizes the current sewer rates.

With the exceptions of Fair Oaks Sewer Maintenance District and the Town of Woodside[2], all other SMDs are assessed sewer service charges according to the same set of charges established for the City's residential and commercial occupants. Each SMD is responsible for the sewer service charges of all individual customer accounts within the District that receive sewer conveyance and treatment from the City. These SMDs are listed in **Figure IV-5**.

Rates were most recently adopted by the City Council in 2019, following a comprehensive, multi-year rate study and public implementation process to establish rates for FY 2019-20 through FY 2021-22. The current rate structure was established as part of the 2016 cost-of-service study. Current rates for FY 2023-24 are shown in **Figure I-5**.

All components of the rate structure were reviewed, including the composition of the customer classes and the structures of the sewer charges.

[2] The City receives payments from the Town of Woodside and Fair Oaks Sewer Maintenance District for these agencies' use of the City's collection system. Costs are set forth in the agreements and are determined by a methodology included in each agreement based on collection system capacity required by each agency. The agreement methodology is not addressed by this study. However, the anticipated revenues from these agreements are factored into the cost of service.

Figure I-5. Current Rates

Current Structure	Current Rates
Fixed Service Charge	
Single Family Residential	Monthly per DU
	$89.28
Multi Family Residential	Monthly per DU
2-9 dwelling units	$89.28
10+ dwelling units	$80.36
Commercial	Monthly per account
	$0
Current Structure	**Current Rates**
Volumetric Rates	
Commercial	Monthly per HCF
Class A	$6.83
Class B	$7.95
Class C	$8.41
Class D	$13.40
Class E	$20.15
Minimum Monthly Charge	$80.36

Source: Figure IV-1.

Proposed Rate Structure

Adjustments in FY 2024-25 are recommended to re-align the sewer rates with the cost-of-service. Revenues from the proposed Fixed Service Charges would generate nearly 86.7% of the overall rate revenue., a slight decrease from the 87.6% overall proportion of revenue contributed. This level of revenue from Service Charges will continue to provide adequate revenue stability.

The recommended modifications to the City's sewer rates are as follows:

1. Modify and update the current monthly Service Charges to Multi Family Residential accounts to charge all multi-family residential customers the same rate per DU beginning FY 2024-25 and increasing rates thereafter in FY 2025-26 and FY 2026-27.

2. Replace the minimum monthly charge assessed to Commercial customers with a monthly Service Charge billed per account in FY 2024-25, FY 2025-26, and FY 2026-27.

Figure I-6 summarizes the current and proposed rates to re-align with the cost of service. The proposed rates would become effective July 1 of 2024, 2025, and 2026, respectively.

Figure I-6. Current and Proposed Sewer Rates

Service Charge					
Current Structure	**Current Rates**	**Proposed Structure**	**Proposed FY 2024-25**	**Proposed FY 2025-26**	**Proposed FY 2026-27**
Single Family Residential	Monthly per DU	**Single Family Residential**	Monthly per DU		
	$89.28		$97.74	$104.58	$111.90
Multi Family Residential	Monthly per DU	**Multi Family Residential**	Monthly per DU		
2-9 dwelling units	$89.28	2+ dwelling units	$76.31	$81.65	$87.37
10+ dwelling units	$80.36				
Commercial	Monthly per account	**Commercial**	Monthly per account		
	$0		$16.33	$17.48	$18.70
Volumetric Rates					
Current Structure	**Current Rates**	**Proposed Structure**	**Proposed FY 2024-25**	**Proposed FY 2025-26**	**Proposed FY 2026-27**
Commercial	Monthly per HCF	**Commercial**	Monthly per HCF		
Class A	$6.83	Class A	$8.20	$8.77	$9.38
Class B	$7.95	Class B	$8.38	$8.97	$9.60
Class C	$8.41	Class C	$10.09	$10.80	$11.56
Class D	$13.40	Class D	$18.85	$20.17	$21.58
Class E	$20.15	Class E	$27.61	$29.54	$31.61
Minimum Monthly Charge	$80.36	*(no longer subject to minimum monthly charge, all flow is charged)*			

Source: Figure V-4.

With the recommended increases and realignment to the cost-of-service, revenues from the Service Charges billed to Residential (Single Family and Multi Family Residential) customers would collectively increase 1.7% in FY 2024-25. The rebalancing of rates to align with the cost of service means that the proportions of revenue collected from Single Family Residential customers will increase while the proportion of revenues collected from Multi Family Residential customers will decrease. The cost-of-service analysis (discussed in detail in Section IV of this report) identified a reduction to Multi Family Residential customer class's share of costs. In contrast, the analysis identified an increased share of cost for each of the five Commercial customer classes. Under the proposed plan, after FY 2024-25, all sewer rates would increase 7% annually in both FY 2025-26 and FY 2026-27. Proposed rates reflect each classes' proportionate use of the City's sewer services.

Single family and multi-family customers with an Accessory Dwelling Unit (ADU) and Junior Accessory Dwelling Unit (JADU) will be assessed their respective service charges. If a residential customer has a separate, additional water meter for their ADU or JADU, the ADU or JADU would be charged as a separate and additional single family or multi-family customer, corresponding with the customer's primary customer class.

II. INTRODUCTION

STUDY PURPOSE

The purpose of this study is to conduct a cost-of-service analysis that will determine rates that proportionally recover the cost of providing the City's sewer service. Toward that end, the cost-of-service analysis determines how much revenue should be generated by each component of the rate structure so that rate payers within each customer class are charged for their proportionate share of the cost of providing service on a parcel basis. The cost-of-service analysis is tailored specifically to the City's customer classes and the rate structures that are appropriate for each class.

STUDY PROCESS

In 2022, the City requested HF&H Consultants (HF&H) to perform a cost-of-service study to set sewer rates beginning FY 2024-25. A ten-year analysis of the City's revenue requirement provided support for long-term planning. The City opted to pursue three years of increases, following the pattern of the previous rate study, which set rates for FY 2019-20 to FY 2021-22. The City decided to pursue adopting rates from FY 2024-25 through FY 2026-27.

The primary goal of this study is to ensure that sewer rates continue to reflect the current cost of providing sewer service. A comprehensive rate study comprises three steps: 1) revenue requirement projections; 2) cost-of-service analysis; and 3) rate design. Revenue requirement projections identify how much revenue is needed from rates. The cost-of-service analysis determines how much of the revenue should come from the fixed and variable charges. This step also confirms the proportionate amount to be paid by each customer class. The final step, rate design, establishes the structure of the fixed Service Charges and the variable Volumetric Rates for each customer class.

The cost-of-service analysis was conducted following industry practices promulgated by the Water Environment Federation Manual of Practice No. 27, Financing and Charges for Wastewater Systems, 2004. At the outset of the analysis, the types of customer classes were reviewed, as were the types of rate structures that are appropriate to the City's customer class.

REPORT ORGANIZATION

The report is divided into the following sections: Revenue Requirements, Cost-of-Service Analysis, Rate Design, and Customer Bill Impacts.

A Glossary of technical terms and acronyms is provided following the Table of Contents.

III. REVENUE REQUIREMENTS

A spreadsheet model was developed to derive revenue requirements for a ten-year planning period, FY 2023-24 through FY 2032-33. The revenue requirements represent the costs that must be covered by revenue from rates and other sources. The City's O&M budget for FY 2023-24 served as the starting point for projecting the City's expenses and revenues. SVCW provided the FY 2023-24 projections of all SVCW expenses, including long-term debt service, used in the model. The escalation factors summarized in **Figure III-1** were incorporated in the model for projecting expenses and revenues for the duration of the Study Period.

Figure III-1. Key Modeling Assumptions

Assumptions	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
General Inflation	Per Budget	3.0%	3.0%	3.0%
Utilities	Per Budget	7.0%	7.0%	7.0%
Salaries	Per Budget	4.0%	4.0%	4.0%
Benefits	Per Budget	4.0%	4.0%	4.0%
SVCW O&M Expenses Increase %	Per Budget	4.0%	4.0%	4.0%
SVCW Cash-funded Capital Increase %	Per Budget	0.0%	0.0%	0.0%
SVCW Reserve Contributions Increase %	Per Budget	16.0%	14.1%	12.1%
Interest on Earnings	1.00%	1.00%	1.00%	1.00%
Miscellaneous	Per Budget	1.0%	1.0%	1.0%
Construction Cost Inflation	0.0%	3.7%	3.7%	3.7%
Town of Woodside SMD % of daily flow	0.5%	0.5%	0.5%	0.5%
Fair Oaks SMD % of annual WW flow contributed to City	23.0%	23.0%	23.0%	23.0%
Redwood City's share of SVCW of annual WW flow	54.8%	54.8%	54.8%	54.8%

WW = wastewater

The application of these assumptions to the O&M and CIP expenses is described below and summarized in **Figure III-2** through **Figure III-7.**

SVCW EXPENSES

In FY 2024-25, SVCW's treatment costs are projected to be more than $34 million. Collectively, this sum accounts for nearly 87% of the City's net revenue requirement. As shown in **Figure III-2**, SVCW's costs are projected to increase significantly to fund new debt service, beginning in FY 2027-28. The new bonds and loans, obtained from the State Revolving Fund (SRF) and Water Infrastructure Finance and Innovation Act (WIFIA), will be issued to fund SVCW's long-range plan of capital infrastructure replacements. The City's cumulative treatment charge is allocated in proportion to its share of flow and wastewater effluent concentrations, compared with the other SVCW member agencies. The City's FY 2023-24 treatment charge makes up more than 56% of the total expenses allocated by SVCW to the member agencies. This proportionate share of the total expenses was assumed for all future years in the study.

Figure III-2. SVCW O&M, Capital, and Debt Service Revenue Requirement

	Budgeted	Projected		
	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
SVCW Op Expenses	$17,987,813	$18,708,981	$19,453,793	$20,234,073
SVCW Cash-funded Capital Improvements	$233,136	$233,136	$233,136	$233,136
SVCW Reserve Contributions	$1,599,922	$1,856,320	$2,117,845	$2,374,243
SVCW Debt Service	$10,326,519	$13,794,880	$13,793,298	$13,792,999
Total SVCW Expenses	**$30,147,390**	**$34,593,316**	**$35,598,072**	**$36,634,451**

Source: Budget provided by SVCW FY 2023-24 -Adopted Budget. Projections increased based on 2023 SVCW LRFP

SVCW O&M Expenses

O&M expenses include costs for personnel, utilities, administrative, equipment, supplies, chemicals, professional services, and training, net of any miscellaneous revenue received. The operating expenses modeled reflect budgeted forecasts based on SVCW's FY 2023-24 Operating Budget. Personnel costs account for 62% of SVCW's operating budget. Chemical and utility costs have increased the most since the previous FY 2022-23 Operation Budget, but fortunately comprise less than 6% of the overall budget. Miscellaneous revenue is generated from grease and septic receipts, property leases, and SVCW's Self-Generation Incentive Program for battery storage. Per SVCW's 2023 Long Range Financial Plan (LRFP), operating expenses are expected to increase by approximately 4% annually over the next ten years.

SVCW Cash-funded Capital Improvements

In 2008, SVCW began a long-range capital infrastructure rehabilitation and replacement program, known as the Regional Environmental Sewer Conveyance Upgrade (RESCU) program, totaling more than $1 billion over a four-decade period. As of the 2023 LRFP, SVCW estimated reserves and proceeds from previously issued bonds and loans would fund only 88% of the remaining $243.2 million in CIP expenditures. However, SVCW did not recommend the issuance of additional new debt to bridge the funding shortfall. Instead, SVCW made use of existing lines of credit and will make use of cash contributions from each member agency in lieu of debt issuance in FY 2023-24 and in future years. These contributions are shown in **Figure III-2** and reflect projections made in the 2023 LRFP.

SVCW Reserve Contributions

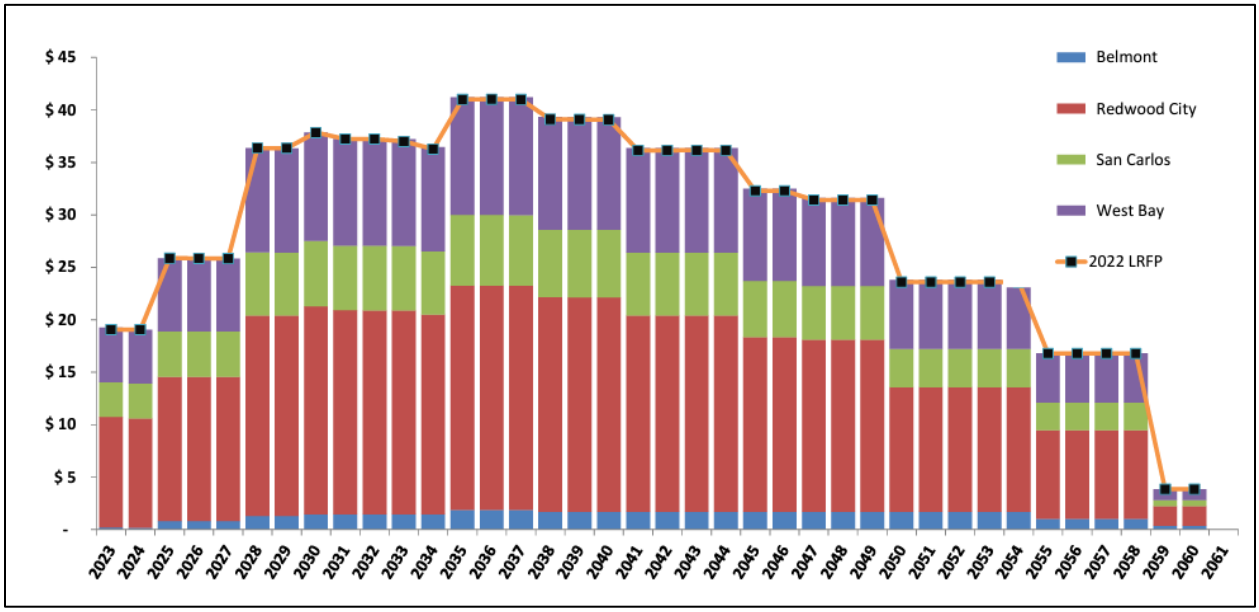
This category of expenses includes contributions to the SVCW Operating Reserve and CIP Reserve. The Operating Reserve must maintain a minimum balance of 10% of the approved Operating Budget, plus $1.0 million. The projected balance of $3.94 million on June 30, 2023, fell short of the minimum balance. Consequently, the City was allocated $142,822 for its share of the reserve contributions to be made by the member agencies to account for the difference. SVCW has a goal to accrue CIP Reserve funds equal to the annual calculated depreciation of SVCW facilities. If funds held in reserve fall below target levels, SVCW budgets a reserve contribution to return to the target level. The FY 2023-24 CIP Reserve required a total contribution of $3.0 million. The City's share was $1,457,100. Collectively, this required a total of $1,599,922 in total reserve contributions. Annual projected increases to this amount are based on the 2023 LRFP.

SVCW Debt Service

At the outset of the RESCU program, SVCW saw the issuance of long-term debt as the most practical funding source. Per the LRFP, SVCW lacked sufficient cash reserves to fund large construction costs under a reduced timeframe. As a result, debt service was issued through a combination of bonds and loans that

will extend to FY 2061-62. The debt service for FY 2023-24 shared among member agencies is $19.0 million. However, this figure is projected to swell to more than $40.0 million by FY 2035-36, as shown in **Figure III-3**. The City's share of debt service, shown in **Figure III-2**, will grow from $13.7 million to $19.1 million during the Study Period, and increase further to an apex of more than $22 million by FY 2035-36. This expense is second only to the City's share of SVCW operating expenses and will continue to grow, as evidenced by **Figure III-2** and **Figure III-3**. The significant levels of required debt service payments over the remaining 38-year period poses a recurring issue that must be met by the City's sewer revenues and reserves.

Figure III-3. SVCW Aggregate Debt Service by Member Agency



Source: January 2023 SVCW Long Range Financial Plan, units shown in $ Millions.

CITY COLLECTION SYSTEM O&M EXPENSES

The City's O&M expenses (summarized by category in **Figure III-4**) are projected to increase from $9.4 million to $10.8 million over the Study Period. All expenses shown for FY 2023-24 were budgeted values included within the City's projections. The stormwater costs are incurred to address inflow and infiltration (I&I) issues which affect stormwater. These costs address the City's ongoing efforts to combat I&I volumes from the sewer system which contribute to stormwater issues (e.g. sewage leaking into local creeks).

Figure III-4. City O&M Expense Summary

	Budgeted	Projected		
City Collection System O&M Expenses	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
Admin Support Services	$67,764	$70,475	$73,294	$76,225
Sewer System Maintenance	$8,192,272	$8,412,349	$8,640,734	$8,877,756
Storm Water Collection & Disposal	$1,371,692	$1,371,692	$1,371,692	$1,371,692
Total O&M Expenses	**$9,631,728**	**$9,854,515**	**$10,085,719**	**$10,325,673**
		2.3%	*2.3%*	*2.4%*

Source: FY 2023-24 Budget provided by Redwood City. Costs escalated based on Figure III-1.

CITY COLLECTION SYSTEM CAPITAL EXPENSES

The City's capital expenses are summarized by project in **Figure III-5**. Annual budgeted capital expenditures range from $9.6 million (in FY 2024-25) to $10.4 million (in FY 2026-27), during the Study Period. The City plans to fund these capital improvements from a combination of capacity fee revenue and sewer rate revenues on a pay-as-you-go (PAYGo) basis without issuing debt, which continues the City's historical practice. The City anticipates substantial capacity fees over the Study Period, spurring the increase in their capital improvement program. The capacity fee revenues reduce the required cash-funding needed from rate revenues. As a result, net capital expenditures to be funded through rates average $8.9 million over the Study Period.

The Collection System Replacement Program makes up the largest portion of the City's planned improvements as the City continues to address its Sewer Master Plan, based on a prioritization of risk mitigation.

Figure III-5. Collection System Capital Expenditures

Sewer Enterprise CIP	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
Closed Circuit Television (CCTV) Program	$300,000	$400,000	$400,000	$400,000
Collection System Replacement Program	$2,500,000	$5,000,000	$5,000,000	$5,000,000
Pump and Controls Replacement Program	$0	$100,000	$100,000	$100,000
Redwood City Pump Station Improvements (SVCW)	$1,000,000	$1,000,000	$1,000,000	$1,000,000
Sewer Inflow and Infiltration	$0	$200,000	$200,000	$200,000
Sewer Pump Station Rehabilitation Program	$1,500,000	$1,600,000	$1,600,000	$1,600,000
Sewer Rehabilitation Program	$0	$1,000,000	$1,000,000	$1,000,000
Future Improvements	$0	$0	$0	$0
Sewer Enterprise CIP Subtotal	$5,300,000	$9,300,000	$9,300,000	$9,300,000
Cumulative Construction Cost Index	0.00%	3.74%	7.62%	11.65%
Total Inflated CIP	**$5,300,000**	**$9,647,952**	**$10,008,922**	**$10,383,398**
(Less) Connection Fees	($716,097)	($1,108,448)	($1,117,886)	($1,127,439)
Net PAYGo CIP	**$4,583,903**	**$8,539,504**	**$8,891,036**	**$9,255,959**
5-Year Average Annual PAYGo CIP (FYE 2025-2029) included in the Revenue Requirement				**$8,937,789**

Sources: Redwood City Approved Five-Year Capital Improvement Program FY 2023-2028 and Sanitary Sewer Capacity Master Plan.
Note: Connection fees reflect City capacity fees, adopted January 2024, and exclude SVCW treatment capacity fee revenues.

NON-OPERATING EXPENSES

Expenses in this category comprise reimbursement to the City's Water Enterprise Fund for billing services performed which provided benefit to the Sewer Enterprise.

NON-OPERATING REVENUES

The Sewer Enterprise is reimbursed via user fees, such as inspection fees and discharge permits, for work performed that is not funded through sewer rates. In addition, revenues for sewer service from the Town of Woodside and Fair Oaks Sewer Maintenance District account for more than $7.0 million of this category of transactions. Revenues from these SMDs are independent of the rates charged to the City's other customers. Instead, the Town of Woodside and Fair Oaks Sewer Maintenance District have separate agreements to pay the City for treatment and conveyance services according to their proportionate share of the capacity of flows conveyed to SVCW through the City's collection system. The costs are set forth in the agreements and are determined by a methodology included in the agreements. Therefore, the

agreement methodology is not being addressed but the anticipated revenues to be received under the agreements are included in the cost of service. The Town of Woodside and Fair Oaks Sewer Maintenance District currently utilize 23.5% of the available capacity in the City's collection system. This proportionate share is assumed to remain constant during the Study Period. Revenues from these customers have been separated because the impacts of any sewer rate increases recommended in this study would not affect these customers and the City's revenue received. However, revenues from these customers are anticipated to grow proportionately to the City's share of SVCW expenses identified in **Figure III-2.**

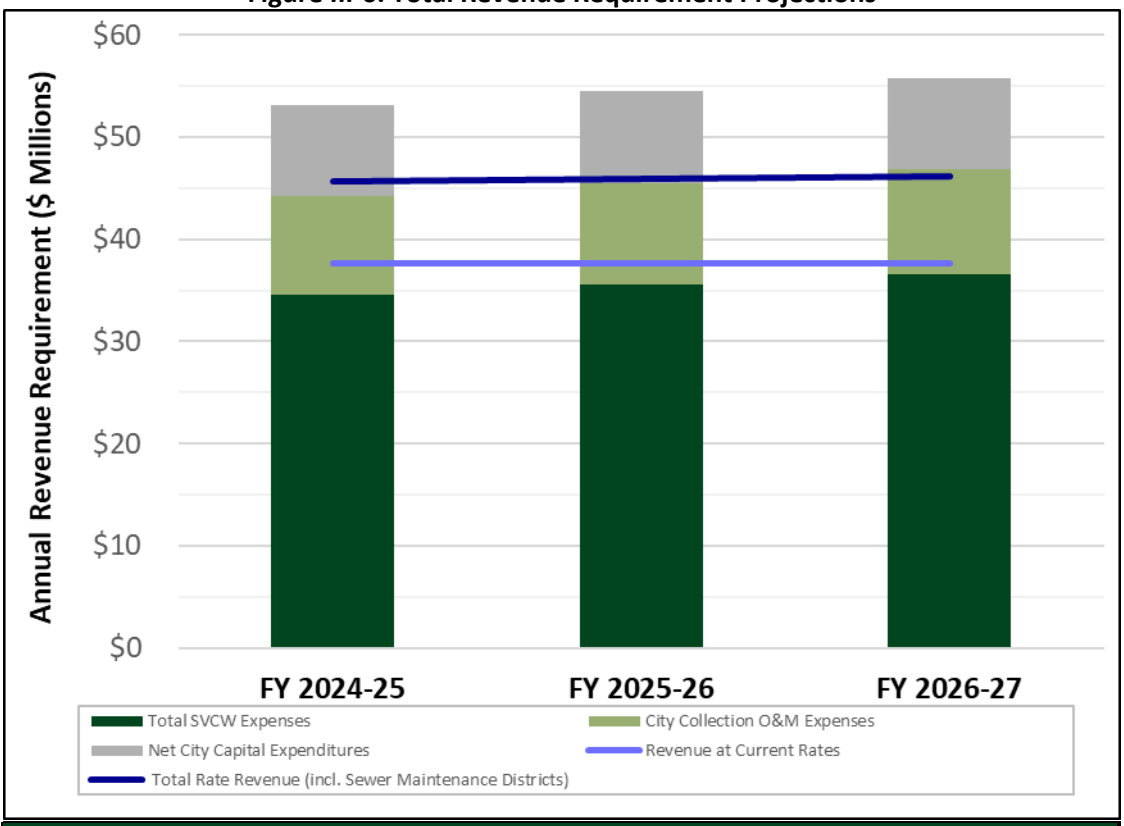
TRANSFERS

The City plans to make use of $6,754,226 in reserves in FY 2024-25 to account for the shortfall between rate revenues and the net revenue requirement.

REVENUE REQUIREMENTS

The foregoing modeling assumptions lead to the projected revenue requirements shown in **Figure III-6**.

Figure III-6. Total Revenue Requirement Projections



Sewer Enterprise Expenses	FY 2024-25	FY 2025-26	FY 2026-27
Total SVCW Expenses	$34,593,316	$35,598,072	$36,634,451
City Collection O&M Expenses	$9,662,295	$9,938,647	$10,225,627
Net City Capital Expenditures	$8,937,789	$8,937,789	$8,937,789
Total Revenue Requirement	**$53,193,401**	**$54,474,508**	**$55,797,868**
Annual Increase		2.4%	2.4%

Net City Capital Expenditures from Figure III-5.

Accounting for non-operating revenues and the use of reserves in FY 2024-25 yields the net revenue requirements shown in **Figure III-7** to be recovered through sewer rates**.**

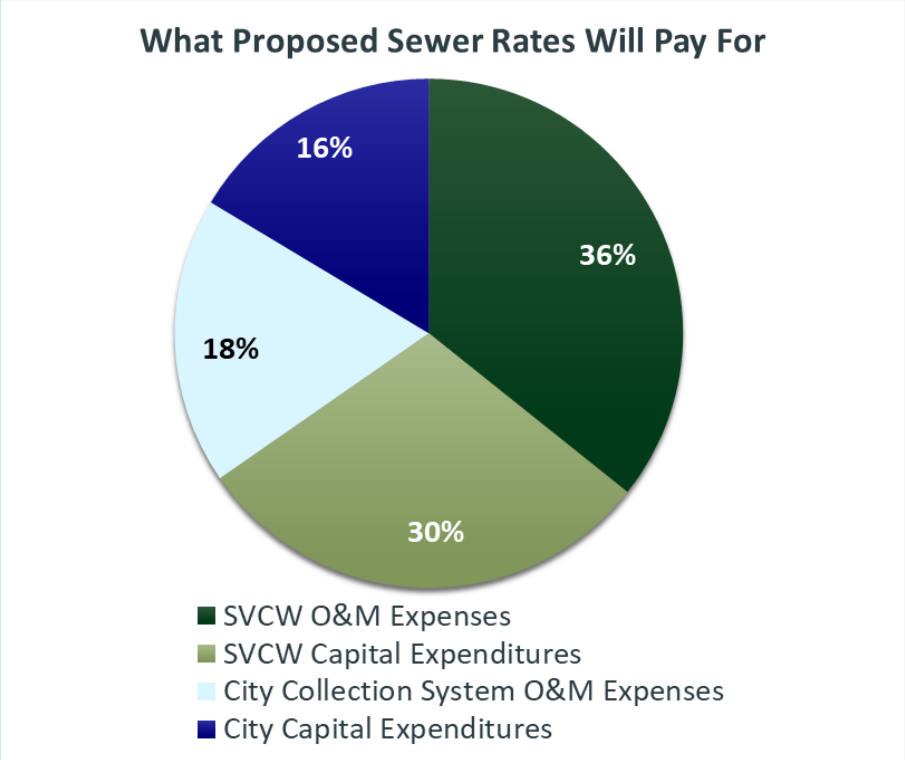
Figure III-7. Projected Net Revenue Requirements

Sewer Enterprise Expenses	FY 2024-25	FY 2025-26	FY 2026-27
Total SVCW Expenses	$34,593,316	$35,598,072	$36,634,451
City Collection O&M Expenses	$9,662,295	$9,938,647	$10,225,627
Net City Capital Expenditures	$8,937,789	$8,937,789	$8,937,789
Combined Non-Operating Revenues/Expenses	($7,522,390)	($7,732,332)	($7,948,659)
Use of Transfers	($6,754,226)	$0	$0
Net Revenue Requirement	**$38,916,786**	**$46,742,176**	**$47,849,209**
Annual Change		20.1%	2.4%

Sources: Figure III-2 for SVCW Expenses; Figure III-4 for City O&M Expenses; Figure III-5 for City Capital Expenses; and City FY 2023-24 Budget for Non-Operating Expenses and Non-Operating Revenues.

Figure III-8 provides a summary of how the revenues from sewer rates will be spent using an average of the revenue requirements for FY 2024-25 through FY 2026-27. SVCW treatment-related O&M and CIP expenses account for two-thirds of all City expenses.

Figure III-8. Overview of Sewer Services Paid through Rates



Source: Total Revenue Requirement for FY 2024-25 – FY 2026-27 from Figure III-6.

CITY RESERVES

In addition to covering annual expenses, sewer rates need to generate revenue to maintain adequate operations and capital reserves. To determine what constitutes adequate reserve amounts, the reserve

balance was subdivided into operations and capital reserve components. In this way, it is possible to set recommended target balances for each purpose.

City Proposed Policy

In this study, the City has assumed a working reserve policy. City staff plans to recommend the working reserve policy be adopted by the City Council. The proposed reserve policy assumes 25% of annual O&M expenses and $2 million for capital projects.

The operating component of the reserves provides working capital for month-to-month O&M expenses. With sufficient working capital, the City can operate without cash flow constraints. This proposed reserve policy follows industry standards so that the City has no less than 3 months of operating expenses. Based on a monthly average which includes City collection system O&M, SVCW expenses and accounts for non-operating revenues, the City would require $3 million per month in FY 2024-25. Meeting the 25% O&M industry standard requires a minimum balance of $9 million. The City's reserves should never drop below this minimum balance.

The capital improvement component of the reserves provides cash funding for the City's capital improvement program. The fund balance needs to be sufficient to pay contractors and purchase materials without delays caused by cash flow limitations. The City's proposed reserve policy assumes the minimum reserve balance is $2 million. Given the City's plans to fund an average of $8.9 million in capital projects per year with rate revenues, this component is necessary. In total, between the O&M components and capital improvement components, the City's reserve fund requires a minimum balance of $11 million in FY 2024-25.

REVENUE INCREASES

Rates are set to generate sufficient revenue to cover annual expenses. In addition, rates are set to maintain adequate reserves. The revenue from rates does not need to match each year's revenue requirement. For example, the annual increases in the revenue requirements shown at the bottom of **Figure III-9** are different from the revenue increases in **Figure III-10**. Annual fluctuations in revenue requirements are typically uneven because they are harder to control, whereas it is desirable to have smooth annual increases in rates. The annual differences cause the fund balance to fluctuate from year to year.

Revenue increases were derived to cover the City's Enterprise costs and to maintain adequate reserves. **Figure III-9** summarizes the projected revenue from current rates, annual revenue requirements, and annual variances. **Figure III-10** summarizes the rate increases necessary to help recover the City's costs. The remaining shortfall between rate revenues and the revenue requirement will be covered by reserves to reduce rate impacts. Despite the increases to revenue, the City's Sewer Enterprise is projected to use more than $25 million in existing reserves over the Study Period, as indicated below.

Figure III-9. Annual Revenue Increases

	Projected		
	FY 2024-25	FY 2025-26	FY 2026-27
Revenue from Current Rates	$37,600,759	$37,600,759	$37,600,759
Total SVCW Expenses	($34,593,316)	($35,598,072)	($36,634,451)
Total City Expenses	($18,600,085)	($18,876,436)	($19,163,417)
Non-Op Expenses & Revenue	$7,522,390	$7,732,332	$7,948,659
Net Revenue Requirement	($45,671,011)	($46,742,176)	($47,849,209)
% Increase		*2.3%*	*2.4%*
Revenue Surplus/(Shortfall)	($8,070,252)	($9,141,417)	($10,248,450)
Proposed Revenue Increases	3.5%	7.0%	7.0%
Revenue with Increases	**$38,916,786**	**$41,640,961**	**$44,555,828**
Net Revenue Requirement	($45,671,011)	($46,742,176)	($47,849,209)
Revenue Surplus/(Shortfall) after increases	**($6,754,226)**	**($5,101,216)**	**($3,293,381)**

Figure III-10. Projected Revenue Increases

Fiscal Year	Revenue After Rate Adjustments	Fiscal Year Increase In Revenue
Revenue at 2023 Rates	$37,600,759	
FY 2024-2025	$38,916,786	3.5%
FY 2025-2026	$41,640,961	7.0%
FY 2026-2027	$44,555,828	7.0%

DEBT SERVICE COVERAGE

Figure III-11 shows the debt service coverage provided by the revenue increases in **Figure III-10.** The City is required to maintain a minimum coverage ratio of 1.20. A higher ratio provides a greater margin of safety to bondholders and enhances the credit rating on bonds. Moreover, a higher credit rating benefits ratepayers by reducing the cost of future borrowing, if needed.

Figure III-11. City Debt Coverage Ratio Calculations (with rate adjustments)

	Budgeted	Projected		
	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
Revenue Sources	$45,936,990	$48,657,593	$51,581,743	$54,718,103
Operating Expenses	($29,217,029)	($30,460,732)	($31,743,421)	($33,067,079)
Net Revenue	$16,719,961	$18,196,862	$19,838,321	$21,651,023
Debt Service	$10,326,519	$13,794,880	$13,793,298	$13,792,999
Debt Coverage Ratio	**1.62**	**1.32**	**1.44**	**1.57**

Note: Revenue sources includes sewer rate revenues, capacity fees, permit & inspection fees, payments from Sewer Maintenance Districts, and investment interest. Revenues reflect rate adjustments from Figure III-9.

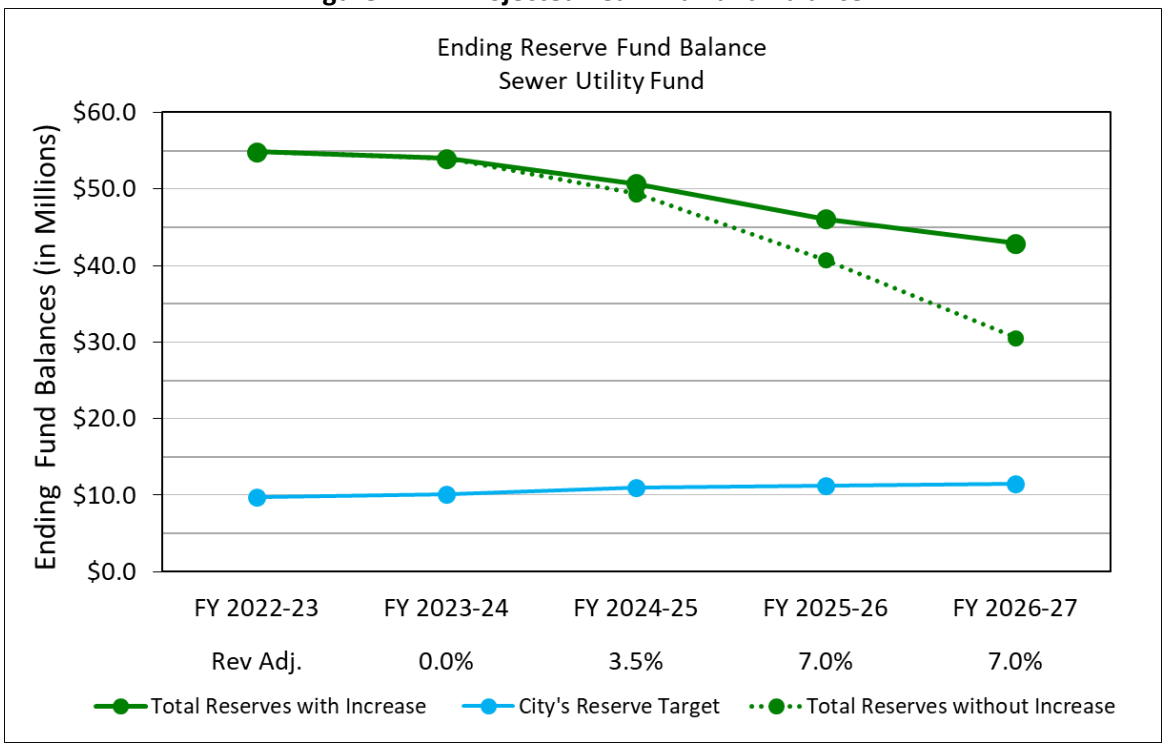
RESERVE FUND BALANCE

Figure III-12 shows the annual fluctuations (solid green line) in the fund balance that are caused by the differences between the revenue requirement and revenue from rates with the rate increases; the dashed green line is the projected fund balance without rate increases. The revenue and rate increases in **Figure III-10** were derived to balance increasing rates while maintaining a level of reserves that continues to meet the City's proposed reserve target (blue line) by FY 2028-29. Over the Study Period, the Sewer Enterprise Fund projects to utilize $25.2 million from current reserves, while continuing to meet its debt coverage requirements and the City's proposed reserve target. Maintaining a fund balance above or equal to the City's Reserve Target helps to protect the City's credit rating, which lowers the cost of financing, thereby benefiting rate payers.

As shown in **Figure III-12** by the dashed green line, without revenue increases, the FY 2022-23 year-end fund balance of $54.8 million is projected to drop below the City's reserve target over time. With rate increases, the reserve balance (solid blue line) decreases more gradually over the Study Period, as the City uses reserves to fund the projected revenue requirement. The recommended rate increases are balanced with the use of reserves. Reserves help offset the increased costs projected, reducing the rate increases borne by ratepayers.

By the end of FY 2026-27, with recommended increases, the Sewer Enterprise Fund reserve balance projects to be $42.9 million. This will allow the City to continue to use reserves to help offset the forecasted increases to SVCW's growing debt service while minimizing increases to ratepayers.

Figure III-12. Projected Year-End Fund Balance



Note: City's Reserve Target is a proposed policy, recommended by City staff.

IV. COST-OF-SERVICE ANALYSIS

GENERAL APPROACH

The revenue requirement analysis establishes how much revenue is required from rates. The next step in the analysis is determining the cost of service. Cost-of-service analysis is used to derive rates that proportionally allocate the cost of service. This is achieved by allocating the revenue requirements to the components of the rate structure.

A cost-of-service analysis determines how much each customer and customer class should pay based on its respective share of service-related expenses, flow, and wastewater strength (i.e., biochemical oxygen demand (BOD) and total suspended solids (TSS)). The volume of wastewater discharged influences the design of the collection and treatment systems. In addition, the characteristics of the effluent affect the energy and costs associated with treating the wastewater. Collectively, the loading impacts (i.e. the combined effect of the volume of wastewater and its chemical composition) factor significantly into the sizing and level of investment in a sewer system. The cost-of-service analysis allocates expenses to cost components on the basis of operating considerations or design capacity of each facility. Therefore, a larger proportion of expenses associated with loading impacts on the sewer system are allocated to customers who place a greater burden on the system.

CUSTOMER CLASSES

The cost-of-service analysis distributes the revenue requirements among customer classes in proportion to their service requirements. There is no industry standard that specifies which customer classes should be used. The law allows utilities to exercise discretion in determining the appropriate customer classes provided the rates yield charges that are proportional to the cost of providing service for each category. As a result, the allocation of costs needs to be tailored to the customer classes.

The City currently has multiple customer classes: Single Family Residential, Multi-Family Residential, and five classes of Commercial customers, Classes A-E. Multi-Family Residential is further split into accounts serving less than 10 DUs and accounts serving 10 or more DUs. The City's Municipal Code defines the five Commercial classes as follows:

- Class A: All establishments used for industrial purposes including, but not limited to, manufacturing plants, processing plants, producers, laundries, photo processors, electric service institutions, packagers, and other similar classes of use.

- Class B: All establishments used for institutional purposes, both private and public, including schools, colleges, rest homes, clubs, public buildings, lodges, and other similar classes of use.

- Class C: Business establishments including, but not limited to, office buildings, warehouses, filling stations, retail stores, motels, mortuaries, fast-food establishments without on-site food preparation, markets without garbage grinders, and all other similar classes of use not hereinafter expressly described; all institutions where the sick or injured are given medical or surgical care.

- Class D: All establishments with a mixture of one (1) of commercial classes A through C and commercial class E, such as office buildings with food services.

- Class E: Food establishments where food is prepared and served on the premises and other similar classes of use; markets with garbage grinders, and all other similar classes of use not hereinafter expressly described.

These classes were last reviewed as part of the previous comprehensive cost-of-service study in 2016. The City's sewer service charges for SMDs are assessed according to the customer classes assigned to accounts inside the City.

CURRENT RATE STRUCTURE

The allocation of costs needs to be tailored to the rate structure under consideration. In the City's case, its current sewer rate structure for Single Family and Multi Family Residential customers consists of a fixed Service Charge. Commercial customers sewer rate structure consists of a variable charge calculated according to a schedule of Volumetric Rates. Commercial customers are charged the greater of the variable charge (a product of the Volumetric Rate of the Commercial customer and the volume of water use recorded) or the minimum charge. The minimum charge ensures customers pay for the fixed components of the sewer service they receive regardless of the level of loading placed on the sewer system.

The frequency of billing is set at the City's discretion. Customers are either billed bi-annually via the tax roll or monthly or bi-monthly via the City utility bill.

Figures IV-1 summarizes the current Service Charges and Volumetric Rates for sewer service.

Figure IV-1. Current Rates

Current Structure	Current Rates
Fixed Service Charge	
Single Family Residential	Monthly per DU
	$89.28
Multi Family Residential	Monthly per DU
2-9 dwelling units	$89.28
10+ dwelling units	$80.36
Commercial	Monthly per account
	$0

Current Structure	Current Rates
Volumetric Rates	
Commercial	Monthly per HCF
Class A	$6.83
Class B	$7.95
Class C	$8.41
Class D	$13.40
Class E	$20.15
Minimum Monthly Charge	$80.36

SERVICE CHARGE MODIFICATIONS

The recommended modifications to the City's sewer rates are as follows:

1. It is recommended to modify and update the current Service Charges to Multi Family residential accounts to charge all customers the same rate per DU beginning FY 2024-25 and increasing rates thereafter for FY 2025-26 and FY 2026-27.

   Winter water use is commonly used to estimate sewer flow volumes for residential customers because customers do not have separate water and sewer meters. Winter water use analysis of all Multi Family Residential accounts did not show a correlation between the amount of water use and the overall number of DUs served by the account. Current rates were previously set based on data that showed accounts serving less than ten DUs had a higher winter water demand per DU than accounts serving ten or more DUs. Therefore, the distinction in rates is no longer applicable, and all Multi Family Residential customers can be considered as one class.

   The winter water use analysis also identified that Multi-Family Residential accounts serving less than ten DUs use less water per DU than Single Family Residential accounts. On average, the winter water use per DU is more than 5 HCF for single family customers and less than 4 HCF for multi-family customers. This distinction in water use shows that current DU Service Charges assessed to Multi Family Residential accounts serving less than ten DUs should be adjusted to be less than the Single Family Residential Service Charge.

2. It is recommended to replace the minimum monthly charge assessed to Commercial customers with a fixed monthly Service Charge billed per account beginning FY 2024-25, FY 2025-26, and FY 2026-27.

   This change provides an easier method of calculation for billing. Further, explanation of the rates to customers is simplified. The bill is based on a fixed charge for service-related expenses and the volume of water recorded by the customer's water meter. Moreover, this provides an additional stream of fixed revenue to the City for commercial customers in place of the variable nature of a minimum charge that is implemented when volumetric charges do not cover the minimum level of service per customer.

VOLUMETRIC RATES MODIFICATIONS

The recommendation to replace the minimum monthly charge assessed to Commercial customers would affect the volumetric rates. Commercial customers would be charged only for recorded water use in addition to the fixed monthly service charge billed to each account. No other structural modifications are recommended.

COST-OF-SERVICE ALLOCATIONS

As the name implies, cost-of-service analysis is a process of determining how much services cost. To provide sewer service, infrastructure must be constructed, operated, and maintained, which must be paid for from cash or debt. The type and size of infrastructure depends on how much service customers require. Sewer systems are designed to provide sufficient capacity to meet customer loading for service.

A sewer system design must provide adequate volumetric capacity in the collection system to convey waste to the treatment plant and must be sized to properly treat the effluent in an efficient manner that satisfies all regulations. Consequently, the volume of wastewater flow and concentrations of solids and compounds that must be removed through treatment drive the size of the infrastructure. Higher loading

(flow combined with wastewater strength) will require larger, more costly infrastructure as well as increased O&M costs. Here, the goal of a cost-of-service analysis is to allocate the cost of the capacity to meet the maximum loading in proportion to how much of the loading is caused by each customer. The proportions correspond to the maximum amount of capacity provided by the infrastructure. This means that customers that place greater loading on the infrastructure – customers with greater service need – will be apportioned a greater share of the operating and capital costs of the infrastructure required to meet that burden.

Allocation of Costs to Functions

The cost-of-service analysis is a process by which expenses (i.e., the City's FY 2024-25 revenue requirement) are allocated to the four functions that represent the services the City provides to customers. Three of the functions are related to the "loading" on the collection and treatment systems produced by the volume and strength of wastewater; the fourth function is related to customer accounts.

The $39.8 million net revenue requirement for FY 2024-25 (from **Figure III-7**) is allocated to functional categories that represent the functions performed by or paid for with the City's resources: customer accounts (i.e., customer service activities, which includes billing), wastewater collection, and wastewater treatment. Wastewater collection and treatment expenses are expressed in three separate functional categories as flow, BOD, and TSS impacts.

Figure IV-2 shows the allocation factors that were applied to each line item of the City's direct expenses related to the maintenance, replacement, and repair of the City's wastewater collection and treatment facilities, as well as, stormwater collection facilities. The total allocations for each of the four functional categories are summed up at the bottom of the figure. These amounts indicate how much of the City's revenue requirements are associated with each of the four functions.

Flow and wastewater strength (i.e. flow, BOD, and TSS) cost allocations comprise more than 83% of the net revenue requirement shown in **Figure IV-2**. Consequently, rates will be most directly affected by the volume of wastewater flow and the strength of wastewater of each customer class. Customer classes discharging a combination of higher volumes of wastewater and higher strength effluent will see rates that reflect a greater proportional share of the City's sewer costs. This principle will be revisited during the rate design phase of the study in Section V.

Figure IV-2. Revenue Requirement Functional Cost Allocation

Cost Categories	FY 2024-25 Rev. Req.	*Alloc. Type*	Allocation Factors					Allocated Costs				
			DUs/ Accounts	Flow	BOD	TSS	Total	DUs/ Accounts	Flow	BOD	TSS	Total
Treatment Plant Costs												
SVCW O&M Treatment	$18,708,981	1	*0.00%*	*36.71%*	*28.85%*	*34.45%*	*100.00%*	$0	$6,867,234	$5,397,259	$6,444,488	$18,708,981
SVCW Revenue-Funded Capital	$233,136	2	*0.00%*	*26.50%*	*33.50%*	*40.00%*	*100.00%*	$0	$61,781	$78,101	$93,254	$233,136
SVCW Reserve Contributions	$1,856,320	2	*0.00%*	*26.50%*	*33.50%*	*40.00%*	*100.00%*	$0	$491,925	$621,867	$742,528	$1,856,320
SVCW Debt Service	$13,794,880	2	*0.00%*	*26.50%*	*33.50%*	*40.00%*	*100.00%*	$0	$3,655,643	$4,621,285	$5,517,952	$13,794,880
Total	$34,593,316							$0	$11,076,583	$10,718,511	$12,798,222	$34,593,316
City Operating Expenses												
Admin Expenses	$70,475	3	*100.00%*	*0.00%*	*0.00%*	*0.00%*	*100.00%*	$70,475	$0	$0	$0	$70,475
Right-of-Way Rent	$2,129,465	3	*100.00%*	*0.00%*	*0.00%*	*0.00%*	*100.00%*	$2,129,465	$0	$0	$0	$2,129,465
Sewer Maintenance	$6,282,884	4	*0.00%*	*90.00%*	*5.00%*	*5.00%*	*100.00%*	$0	$5,654,595	$314,144	$314,144	$6,282,884
Stormwater Collection	$1,179,472	3	*100.00%*	*0.00%*	*0.00%*	*0.00%*	*100.00%*	$1,179,472	$0	$0	$0	$1,179,472
Total	$9,662,295							$3,379,412	$5,654,595	$314,144	$314,144	$9,662,295
City Capital Expenses												
Trans. to Capital Projects Fund	$8,937,789	5	*61.0%*	*35.1%*	*2.0%*	*2.0%*	*100.00%*	$5,447,796	$3,140,995	$174,500	$174,500	$8,937,789
Total Direct Expenses	$53,193,401							$8,827,207	$19,872,173	$11,207,155	$13,286,866	$53,193,401
								17%	*37%*	*21%*	*25%*	*100%*
Non-Operating Exp/(Rev)												
Transfer to/(from) Reserves	($6,754,226)	6	*16.59%*	*37.36%*	*21.07%*	*24.98%*	*100.00%*	($1,120,834)	($2,523,267)	($1,423,027)	($1,687,098)	($6,754,226)
Non-Operating Expense	$652,972	6	*16.59%*	*37.36%*	*21.07%*	*24.98%*	*100.00%*	$108,358	$243,940	$137,573	$163,102	$652,972
Non-Operating Revenue	($8,175,362)	6	*16.59%*	*37.36%*	*21.07%*	*24.98%*	*100.00%*	($1,356,665)	($3,054,180)	($1,722,442)	($2,042,076)	($8,175,362)
Total Composite Expenses	($14,276,615)							($2,369,140)	($5,333,507)	($3,007,896)	($3,566,072)	($14,276,615)
Total Direct and Composite Expenses	**$38,916,786**							**$6,458,067**	**$14,538,666**	**$8,199,259**	**$9,720,794**	**$38,916,786**

Source: FY 2024-25 Revenue Requirement from Figure III-7. Allocation Types from Figure IV-3.

Figure IV-3. Allocations

Expense Category	Alloc Type	Dwelling Units	Flow	BOD	TSS
SVCW O&M Treatment	1	0.00%	36.71%	28.85%	34.45%
SVCW Capital, Reserve Contributions	2	0.00%	26.50%	33.50%	40.00%
Accounts	3	100.00%	0.00%	0.00%	0.00%
Sewer Collection	4	0.00%	90.00%	5.00%	5.00%
Collection CIP Composite	5	60.95%	35.14%	1.95%	1.95%
Direct Expenses Composite	6	16.59%	37.36%	21.07%	24.98%

Figure IV-3 records the proportionate share of the four functional categories used for each of the six allocations. SVCW allocations (Allocations 1 and 2) were obtained from the FY 2023-24 SVCW Operating Budget. Allocations 3 and 4 were assigned based on discussions with City staff. The Collection CIP Composite allocation attributed to the City's capital expenses was derived from a multi-step process to determine the amount of average annual CIP to be apportioned between the four functional categories of dwelling units/accounts, flow, BOD, and TSS. Each project was assigned a functional category based on whether the project provided a uniform benefit and could be reimbursed through a uniform charge (i.e. a charge per account or dwelling unit) or whether the project provided additional capacity or varying benefit to customers discharging more flow or higher strength effluent to the system. The CIP composite allocation is the resulting percentage of each of the four functional categories of the average annual CIP costs. **Figure IV-4** derives the Collection CIP Composite Allocation expressed as Allocation 5 in **Figure IV-3**.

Figure IV-4. Collection CIP Composite Allocation

Sewer Enterprise CIP Projects	Alloc Type	5-Year CIP Total	Dwelling Units	Flow	BOD	TSS	Total
Closed Circuit Television (CCTV) Program	3	$1,900,000	$1,900,000	$0	$0	$0	$1,900,000
Collection System Replacement Program	3	$22,500,000	$22,500,000	$0	$0	$0	$22,500,000
Pump and Controls Replacement Program	3	$400,000	$400,000	$0	$0	$0	$400,000
Redwood City Pump Station Improvements (SVCW)	4	$4,500,000	$0	$4,050,000	$225,000	$225,000	$4,500,000
Sewer Inflow and Infiltration	3	$800,000	$800,000	$0	$0	$0	$800,000
Sewer Pump Station Rehabilitation Program	4	$7,900,000	$0	$7,110,000	$395,000	$395,000	$7,900,000
Sewer Rehabilitation Program	4	$4,000,000	$0	$3,600,000	$200,000	$200,000	$4,000,000
		$42,000,000	$25,600,000	$14,760,000	$820,000	$820,000	$42,000,000
Collection CIP Composite Allocation			***60.95%***	***35.14%***	***1.95%***	***1.95%***	***100.00%***

Note: 5-Year CIP Total based on FY 2024-25 through FY 2028-29.

Units of Service

The units of service provided by the City to its customers are the sum of the services provided to each of the City's customer classes.

Estimates of Residential and Commercial customer flow, BOD, and TSS associated with each customer class are shown in **Figure IV-5** and are summarized in **Figure IV-6**. Flow volumes were calculated using an average of recorded water use for FY 2021-22 and FY 2022-23. Residential flow volumes were based on the annualized winter water use recorded in January through April of each fiscal year. Commercial flow volumes relied on annual water use recorded for each customer class and were adjusted using the return flow percentages from the previous 2016 cost-of-service study. The Adjusted Flow subtotal summarizes the flow-based units of service in **Figure IV-5**. Residential concentrations for BOD and TSS align with the 1998 State Revenue Guidelines and the 2016 cost-of-service study. Commercial concentrations for BOD and TSS were determined using the 1998 State Revenue Guidelines based on the types of businesses assigned to each class. Concentrations assigned to Class D represent the median of the concentrations used for Classes C and E. This was done to estimate concentrations for mixed-use accounts (both standard strength and high-strength wastewater customers) captured by Class D. This approach matches the previous 2016 cost-of-service study. Account and DU counts reflect current subscription levels.

Figure IV-5. Customer Class Units of Service

Customer Class	Current Accts/DUs	Est. Monthly Flow per Account/DU (HCF)	Discharge Characteristics per Acct/DU: Avg Flow (gpd)	BOD (mg/l)	TSS (mg/l)	Total System-wide Units of Service: Total Flow (hcf)	Return Flow %	Adjusted Flow (hcf)	BOD (lbs)	TSS (lbs)
Inside City										
Single-Family	15,559	5.2	128	250	250	1,291,774	from WW analysis	971,797	1,516,609	1,516,609
Multi-Family	14,411	3.8	94	250	250	698,915	from WW analysis	663,176	1,034,967	1,034,967
Commercial Class A	11	varies	varies	180	150	795	65%	517	581	484
Commercial Class B	131	varies	varies	130	80	89,175	80%	71,340	57,894	35,627
Commercial Class C	990	varies	varies	180	150	317,252	80%	253,802	285,184	237,653
Commercial Class D	2	varies	varies	540	425	5,618	80%	4,494	15,149	11,923
Commercial Class E	86	varies	varies	900	700	39,761	80%	31,809	178,710	138,996
Sewer Maintenance Districts										
Emerald Lake Heights										
Single-Family	1,528	5.2	128	250	250	95,437	from WW analysis	95,437	148,941	148,941
Commercial Class B	4	varies	varies	130	80	1,383	80%	1,106	898	553
Oak Knoll										
Single-Family	135	5.2	128	250	250	8,432	from WW analysis	8,432	13,159	13,159
Commercial Class B	1	varies	varies	130	80	671	80%	537	435	268
Kensington Square Single-Family	74	5.2	128	250	250	4,622	from WW analysis	4,622	7,213	7,213
Edgewood Single-Family	15	5.2	128	250	250	937	from WW analysis	937	1,462	1,462
Total	**32,947** DUs					**2,554,771** HCF		**2,108,004** HCF	**3,261,202** lbs	**3,147,856** lbs

Sources: Accounts and dwelling units based on FY 2023-24 City data. Total flows based on recorded annual water use for FY 2021-22 and FY 2022-23. Return flow percentages informed by 2016 Cost-of-Service Sewer Rate Study. BOD and TSS concentrations informed by 2016 Cost-of-Service Sewer Rate Study and 1998 State Revenue Program Guidelines.

Figure IV-6. Summary of Units of Service by Customer Class

Customer Class	Current Accts/DUs	Flow	BOD	TSS
Single Family Residential	17,311	1,081,225	1,687,385	1,687,385
Multi Family Residential	14,411	663,176	1,034,967	1,034,967
Commercial - Class A	11	517	581	484
Commercial - Class B	136	72,983	59,227	36,447
Commercial - Class C	990	253,802	285,184	237,653
Commercial - Class D	2	4,494	15,149	11,923
Commercial - Class E	86	31,809	178,710	138,996
Total	32,947	2,108,004	3,261,202	3,147,856
Units	DUs	hcf	lbs	lbs

Source: Figure IV-5. Flow figures reflect Adjusted Flow volumes calculated in Figure IV-5.

Unit Costs of Service

The functionalized costs in **Figure IV-2** are divided by the units of service in **Figure IV-5** to determine the unit costs in **Figure IV-7**. These unit costs are the costs of providing the units of service to all customer classes without exception, thereby ensuring that all customer classes pay their share in proportion to their respective units of service.

Figure IV-7. Unit Costs of Service

		Current Accts/DUs	Flow	BOD	TSS	Total
Allocated Functional Costs	a	$6,458,067	$14,538,666	$8,199,259	$9,720,794	**$38,916,786**
Units of Service	b	32,947	2,108,004	3,261,202	3,147,856	
		DUs	hcf	lbs	lbs	
Unit Costs	a/b	**$196.01**	**$6.90**	**$2.51**	**$3.09**	
		per DU	per hcf	per lb	per lb	

Source: Costs from Figure IV-2 and Units of Service from Figure IV-5. Rounding differences caused by stored values in electronic models may exist.

Revenue Requirement by Customer Class

In cost-of-service analyses, all customer classes are treated equally through the application of the same unit costs to all customers, which is the fundamental purpose of cost-of-service analysis. In this way, the cost-of-service analysis proportionally distributes the revenue requirement to each customer class without discrimination, after which rates can be designed to generate the revenue required to provide the necessary level of service to each class. **Figure IV-8** shows the result of applying the unit costs from **Figure IV-7** to each customer class's units of service in **Figure IV-6** to distribute the respective shares of the revenue requirement. **Figure IV-9** summarizes how rate revenues would be redistributed so that the City could continue to meet the cost-of-service if the rates calculated in **Figure IV-8** were implemented.

Figure IV-8. Unit Rates per Customer Class

Single Family Residential	Fixed	Flow	BOD	TSS
Units	17,311 accounts	1,081,225 HCF	1,687,385 lbs	1,687,385 lbs
Accounts	17,311 accounts	62.46 HCF/account	1,081,225 HCF	1,081,225 HCF
Units per account			1.56 lbs/HCF	1.56 lbs/HCF
Unit Costs ($ per Unit)	$196.01 per account	$6.90 per HCF	$2.51 per lbs	$3.09 per lbs
Total Single Family Residential	$196.01 per account	$6.90 per HCF	$3.92 per HCF	$4.82 per HCF
Multi Family Residential	**Fixed**	**Flow**	**BOD**	**TSS**
Units	14,411 dwellings	663,176 HCF	1,034,967 lbs	1,034,967 lbs
Accounts	14,411 dwellings	46.02 HCF/dwelling	663,176 HCF	663,176 HCF
Units per account			1.56 lbs/HCF	1.56 lbs/HCF
Unit Costs ($ per Unit)	$196.01 per dwelling	$6.90 per HCF	$2.51 per lbs	$3.09 per lbs
Total Multi Family Residential	$196.01 per dwelling	$6.90 per HCF	$3.92 per HCF	$4.82 per HCF
Commercial - Class A	**Fixed**	**Flow**	**BOD**	**TSS**
Units	11 accounts	517 HCF	581 lbs	484 lbs
Flow		517 HCF	517 HCF	517 HCF
Units per account			1.12 lbs/HCF	0.94 lbs/HCF
Unit Costs ($ per Unit)	$196.01 per account	$6.90 per HCF	$2.51 per lbs	$3.09 per lbs
Total Commercial - Class A	$196.01 per account	$6.90 per HCF	$2.83 per HCF	$2.89 per HCF
Commercial - Class B	**Fixed**	**Flow**	**BOD**	**TSS**
Units	136 accounts	72,983 HCF	59,227 lbs	36,447 lbs
Flow		72,983 HCF	72,983 HCF	72,983 HCF
Units per account			0.81 lbs/HCF	0.50 lbs/HCF
Unit Costs ($ per Unit)	$196.01 per account	$6.90 per HCF	$2.51 per lbs	$3.09 per lbs
Total Commercial - Class B	$196.01 per account	$6.90 per HCF	$2.04 per HCF	$1.54 per HCF
Commercial - Class C	**Fixed**	**Flow**	**BOD**	**TSS**
Units	990 accounts	253,802 HCF	285,184 lbs	237,653 lbs
Flow		253,802 HCF	253,802 HCF	253,802 HCF
Units per account			1.12 lbs/HCF	0.94 lbs/HCF
Unit Costs ($ per Unit)	$196.01 per account	$6.90 per HCF	$2.51 per lbs	$3.09 per lbs
Total Commercial - Class C	$196.01 per account	$6.90 per HCF	$2.83 per HCF	$2.89 per HCF
Commercial - Class D	**Fixed**	**Flow**	**BOD**	**TSS**
Units	2 accounts	4,494 HCF	15,149 lbs	11,923 lbs
Flow		4,494 HCF	4,494 HCF	4,494 HCF
Units per account			3.37 lbs/HCF	2.65 lbs/HCF
Unit Costs ($ per Unit)	$196.01 per account	$6.90 per HCF	$2.51 per lbs	$3.09 per lbs
Total Commercial - Class D	$196.01 per account	$6.90 per HCF	$8.48 per HCF	$8.19 per HCF
Commercial - Class E	**Fixed**	**Flow**	**BOD**	**TSS**
Units	86 accounts	31,809 HCF	178,710 lbs	138,996 lbs
Flow		31,809 HCF	31,809 HCF	31,809 HCF
Units per account			5.62 lbs/HCF	4.37 lbs/HCF
Unit Costs ($ per Unit)	$196.01 per account	$6.90 per HCF	$2.51 per lbs	$3.09 per lbs
Total Commercial - Class E	$196.01 per account	$6.90 per HCF	$14.13 per HCF	$13.49 per HCF

Rounding differences caused by stored values in electronic models may exist.

Figure IV-9. Cost-of-Service Revenue Summary

Customer Class	Current Revenue		Revenue at Proposed Rates		Difference	
Single Family Residential	$18,546,313	49.32%	$20,303,432	52.17%	$1,757,119	9.5%
Multi Family Residential	$14,380,958	38.25%	13,196,748.62	33.91%	($1,184,210)	-8.2%
Commercial						
Class A	$11,950	0.03%	$8,674	0.02%	($3,276)	-27.4%
Class B	$695,836	1.85%	$791,471	2.03%	$95,636	13.7%
Class C	$3,050,791	8.11%	$3,395,389	8.72%	$344,598	11.3%
Class D	$64,628	0.17%	$106,293	0.27%	$41,664	64.5%
Class E	$850,284	2.26%	$1,114,778	2.86%	$264,494	31.1%
Total	**$37,600,760**	**100%**	**$38,916,786**	**100%**	**$1,316,026**	**3.5%**

V. RATE DESIGN

The City has historically charged residential sewer customers a fixed service charge and commercial sewer customers a variable charge based on metered water use. Both approaches are common throughout the sewer industry. This chapter explains the derivation of the Service Charges and the Volumetric Rates that reflect the projected cost of service.

SERVICE CHARGE DESIGN

The Service Charges billed to Single Family Residential and Multi Family Residential customers are calculated by adding the fixed unit costs with the flow, BOD, and TSS unit costs. Flow, BOD, and TSS unit costs from **Figure IV-8** are converted to a cost per account by multiplying each by the average annual flow per account or DU. The resulting unit costs are shown in **Figure V-1**. For example, the Single Family Residential unit costs of $6.90 per HCF, $3.92 per HCF, and $4.82 per HCF for flow, BOD, and TSS, respectively, are converted to $430.77 per account, $245.07 per account, and $301.01 per account after multiplying each of the unit costs by the average annual flow of 62.46 HCF per account. In total, the annual account charge recovered through the Service Charge is $1,172.86[3] for Single Family Residential customers as shown in **Figure V-1**. Following the same steps for Multi Family Residential rates yields an annual Service Charge of $915.74 for each Multi Family Residential DU.

The Service Charge that would be billed to Commercial customers represents only the fixed unit cost per account for each customer class. In FY 2024-25, each Commercial customer would pay an annual total of $196.01 per account to reimburse the City for their portion of fixed service costs.

Figure V-2 compares the proposed Service Charges rates to the current Service Charges, using monthly rates for all customers. Note the minimum charge currently assessed to commercial is not included in the current Service Charges but is shown as part of the Volumetric Rates analysis later in this section.

[3] Rounding differences caused by stored values in electronic models may exist.

Figure V-1. Cost of Service Rates

Single Family Residential	Fixed	Flow	BOD	TSS	Return to Sewer Factor	Annual Total	Total
Units per account		62.46 HCF/account	97.47 lbs/account	97.47 lbs/account		per account	per HCF
Unit Costs ($ per Unit)	$196.01 per account	$6.90 per HCF	$3.92 per HCF	$4.82 per HCF			
Total Single Family Residential	$196.01 per account	$430.77 per account	$245.07 per account	$301.01 per account	N/A	**$1,172.86**	**$0.00**
Multi Family Residential	**Fixed**	**Flow**	**BOD**	**TSS**	**Sewer Factor**	**Total**	**Total**
Units per account		46.02 HCF/account	71.82 lbs/account	71.82 lbs/account		per account	per HCF
Unit Costs ($ per Unit)	$196.01 per dwelling	$6.90 per HCF	$3.92 per HCF	$4.82 per HCF			
Total Multi Family Residential	$196.01 per dwelling	$317.39 per dwelling	$180.56 per dwelling	$221.78 per dwelling	N/A	**$915.74**	**$0.00**
Commercial - Class A	**Fixed**	**Flow**	**BOD**	**TSS**	**Sewer Factor**	**Total**	**Total**
Units per account			1.12 lbs/HCF	0.94 lbs/HCF		per account	per HCF
Unit Costs ($ per Unit)	$196.01 per account	$6.90 per HCF	$2.51 per lbs	$3.09 per lbs			
Total Commercial - Class A	$196.01 per account	$6.90 per HCF	$2.83 per HCF	$2.89 per HCF	65%	**$196.01**	**$8.20**
Commercial - Class B	**Fixed**	**Flow**	**BOD**	**TSS**	**Sewer Factor**	**Total**	**Total**
Units per account			0.81 lbs/HCF	0.50 lbs/HCF		per account	per HCF
Unit Costs ($ per Unit)	$196.01 per account	$6.90 per HCF	$2.51 per lbs	$3.09 per lbs			
Total Commercial - Class B	$196.01 per account	$6.90 per HCF	$2.04 per HCF	$1.54 per HCF	80%	**$196.01**	**$8.38**
Commercial - Class C	**Fixed**	**Flow**	**BOD**	**TSS**	**Sewer Factor**	**Total**	**Total**
Units per account			1.12 lbs/HCF	0.94 lbs/HCF		per account	per HCF
Unit Costs ($ per Unit)	$196.01 per account	$6.90 per HCF	$2.51 per lbs	$3.09 per lbs			
Total Commercial - Class C	$196.01 per account	$6.90 per HCF	$2.83 per HCF	$2.89 per HCF	80%	**$196.01**	**$10.09**
Commercial - Class D	**Fixed**	**Flow**	**BOD**	**TSS**	**Sewer Factor**	**Total**	**Total**
Units per account			3.37 lbs/HCF	2.65 lbs/HCF		per account	per HCF
Unit Costs ($ per Unit)	$196.01 per account	$6.90 per HCF	$2.51 per lbs	$3.09 per lbs			
Total Commercial - Class D	$196.01 per account	$6.90 per HCF	$8.48 per HCF	$8.19 per HCF	80%	**$196.01**	**$18.85**
Commercial - Class E	**Fixed**	**Flow**	**BOD**	**TSS**	**Sewer Factor**	**Total**	**Total**
Units per account			5.62 lbs/HCF	4.37 lbs/HCF		per account	per HCF
Unit Costs ($ per Unit)	$196.01 per account	$6.90 per HCF	$2.51 per lbs	$3.09 per lbs			
Total Commercial - Class E	$196.01 per account	$6.90 per HCF	$14.13 per HCF	$13.49 per HCF	80%	**$196.01**	**$27.61**

Sources: See Figure IV-8 for unit costs. Return to Sewer Factors shown in Figure IV-5 for Commercial classes. Rounding differences caused by stored values in electronic models may exist.

Figure V-2. Comparison of Calculated Service Charges to Current Service Charges

Current Structure	Current Rates	Proposed Structure	Proposed FY 2024-25	Proposed FY 2025-26	Proposed FY 2026-27
Service Charge					
Single Family Residential	Monthly per DU	**Single Family Residential**	Monthly per DU		
	$89.28		$97.74	$104.58	$111.90
		percent change	*9.5%*	*7.0%*	*7.0%*
Multi Family Residential	Monthly per DU	**Multi Family Residential**	Monthly per DU		
2-9 dwelling units	$89.28	2+ dwelling units	$76.31	$81.65	$87.37
10+ dwelling units	$80.36	*percent change*	*-14.5%*	*7.0%*	*7.0%*
Commercial	Monthly per account	**Commercial**	Monthly per account		
	$0		$16.33	$17.48	$18.70
		percent change	*N/A*	*7.0%*	*7.0%*

VOLUMETRIC RATES DESIGN

The Commercial Volumetric Rates are calculated by adding the unit costs of flow, BOD, and TSS per customer class identified in **Figure V-1**. Return flow factor percentages are applied to the calculated rates to recognize that not all water recorded by the meter returns to the sewer. Thereby, the City can charge

customers based on total water use, because the Volumetric Rates account for water that is not discharged as effluent. For example, the Class A rate is determined by applying the return factor of 65% to the sum of the flow, BOD, and TSS unit rates ($6.90 per HCF, $2.83 per HCF, and 2.89 per HCF) to calculate a proposed rate of $8.20. The resulting Volumetric Rate for each of the five Commercial Classes is shown in **Figure V-3**, as well as the proposed rate for FY 2025-26 and FY 2026-27 assuming 7.0% annual increases are applied. Commercial Volumetric Rates are increasing to reflect the additional burdens placed on the sewer system.

Figure V-3. Current and Proposed Volumetric Rates

Current Structure	Current Rates	Proposed Structure	Proposed FY 2024-25	Proposed FY 2025-26	Proposed FY 2026-27
Commercial	Monthly per HCF	**Commercial**	Monthly per HCF		
Class A	$6.83	Class A	$8.20	$8.77	$9.38
Class B	$7.95	Class B	$8.38	$8.97	$9.60
Class C	$8.41	Class C	$10.09	$10.80	$11.56
Class D	$13.40	Class D	$18.85	$20.17	$21.58
Class E	$20.15	Class E	$27.61	$29.54	$31.61
Minimum Monthly Charge	$80.36	*(no longer subject to minimum monthly charge, all flow is charged)*			

PROPOSED RATES

Figure V-4 summarizes the proposed sewer Service Charges and the Volumetric Rates for FY 2024-25, FY 2025-26, and FY 2026-27.

Figure V-4. Proposed Sewer Rates

Service Charge					
Current Structure	**Current Rates**	**Proposed Structure**	**Proposed FY 2024-25**	**Proposed FY 2025-26**	**Proposed FY 2026-27**
Single Family Residential	Monthly per DU	**Single Family Residential**	Monthly per DU		
	$89.28		$97.74	$104.58	$111.90
Multi Family Residential	Monthly per DU	**Multi Family Residential**	Monthly per DU		
2-9 dwelling units	$89.28	2+ dwelling units	$76.31	$81.65	$87.37
10+ dwelling units	$80.36				
Commercial	Monthly per account	**Commercial**	Monthly per account		
	$0		$16.33	$17.48	$18.70
Volumetric Rates					
Current Structure	**Current Rates**	**Proposed Structure**	**Proposed FY 2024-25**	**Proposed FY 2025-26**	**Proposed FY 2026-27**
Commercial	Monthly per HCF	**Commercial**	Monthly per HCF		
Class A	$6.83	Class A	$8.20	$8.77	$9.38
Class B	$7.95	Class B	$8.38	$8.97	$9.60
Class C	$8.41	Class C	$10.09	$10.80	$11.56
Class D	$13.40	Class D	$18.85	$20.17	$21.58
Class E	$20.15	Class E	$27.61	$29.54	$31.61
Minimum Monthly Charge	$80.36	*(no longer subject to minimum monthly charge, all flow is charged)*			

Sources: See Figures V-2 for Service Charges and Figure V-3 for Volumetric Rates.

Single family and multi-family customers with an Accessory Dwelling Unit (ADU) and Junior Accessory Dwelling Unit (JADU) will be assessed their respective service charges. If a residential customer has a separate, additional water meter for their ADU or JADU, the ADU or JADU would be charged as a separate and additional single family or multi-family customer, corresponding with the customer's primary customer class.

VI. CUSTOMER BILL IMPACTS

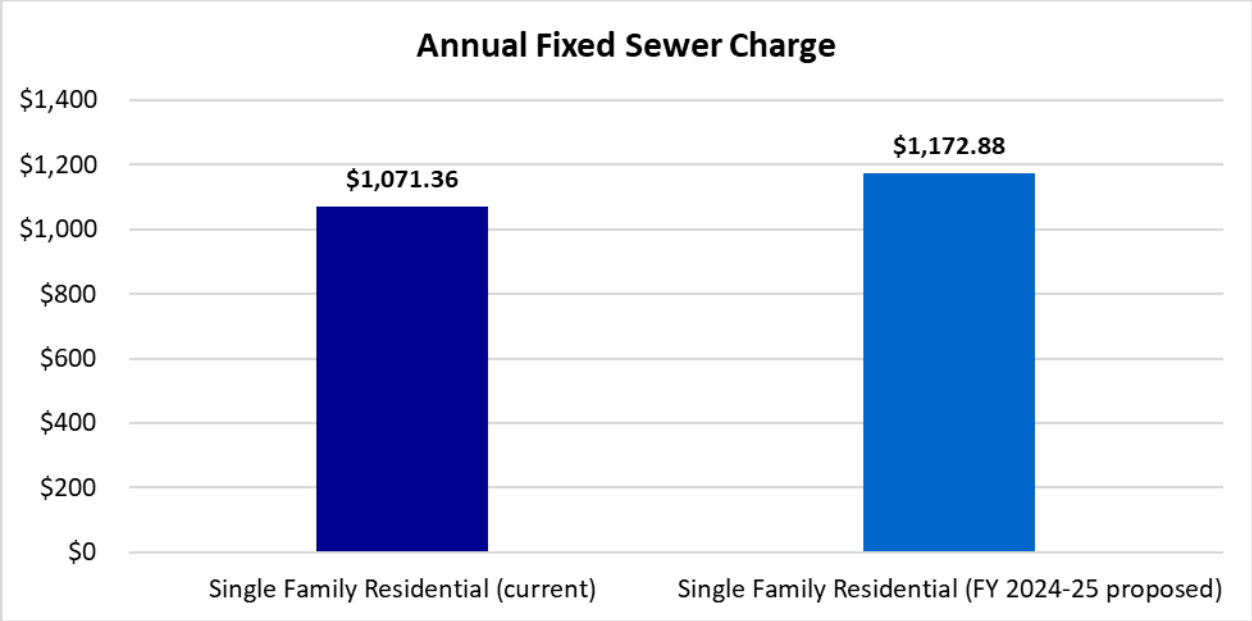
In the previous chapter, the Service Charges and Volumetric Rate structures were compared for the current and proposed rates. A further understanding of the differences between the two structures can be gained by comparing bills for each customer class.

BILL COMPARISON

Single Family Residential Bills Under Proposed Rates

Single Family Residential customers will pay a uniform Service Charge regardless of recorded water use. With the proposed rates, customers can expect a 9.5% increase from their current sewer bills to be paid via the tax roll or City utility bill. **Figure VI-1** compares the current annual Service Charge to the proposed Service Charge.

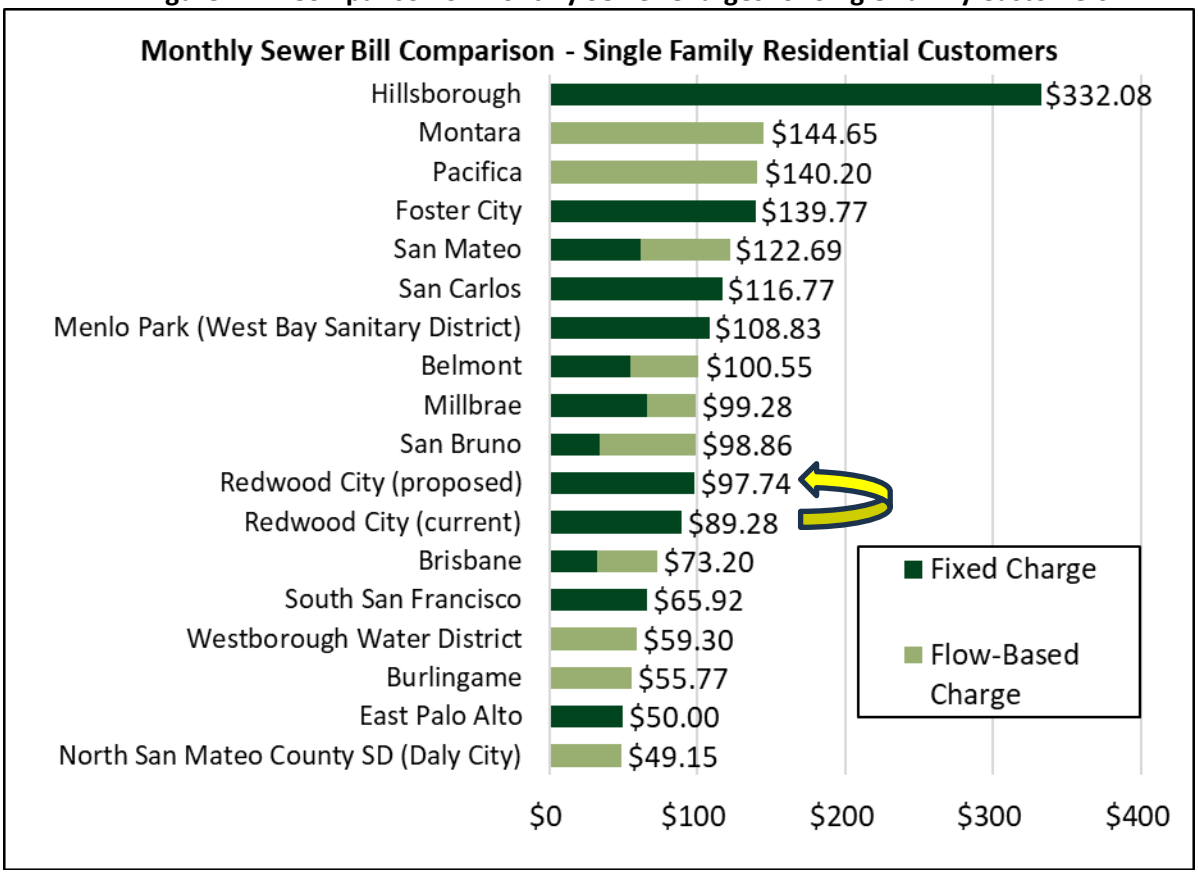
Figure VI-1. Annual Sewer Charge for Single Family Residential Customers



Neighboring Agency Comparison

Based on available sources, **Figure VI-2** shows the recent charges for sewer service to single-family customers among various San Mateo County agencies. Rate structures vary among agencies. For purposes of comparison, flow-based charges assume a monthly flow volume of 5 HCF, based on the City's average winter water use recorded for single-family customers in FY 2021-22 and FY 2022-23. The City's current and proposed sewer rates are less than the three other SVCW member agencies, West Bay Sanitary District, San Carlos, and Belmont. Further, the charges assessed to the City's single-family customers for FY 2024-25 would continue to be less than the median bill for agencies in San Mateo County.

Figure VI-2. Comparison of Monthly Sewer Charges for Single Family Customers

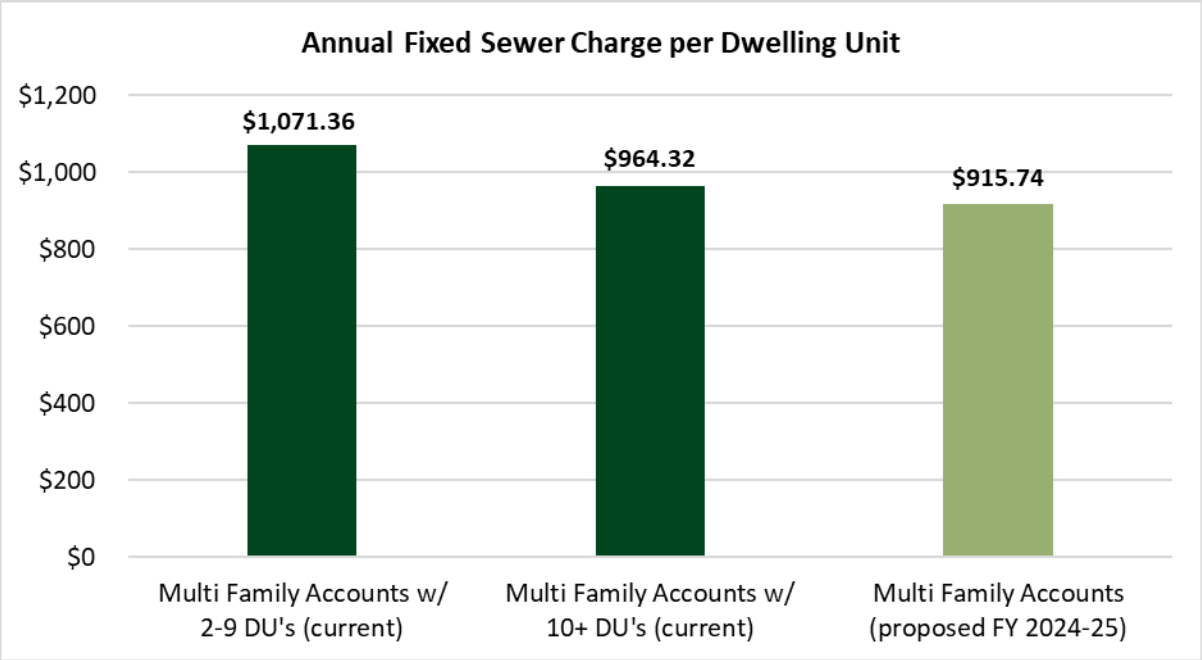


Note: SD is Sanitation District

Multi Family Bills Under Proposed Rates

Multi Family Residential customers will pay a uniform Service Charge per DU, regardless of the volume of recorded water use. With the proposed rates, all customers can expect a decrease from their current bills to be paid via their bi-monthly utility bills. Accounts serving ten or more DUs can expect a 5.0% decrease per bill while accounts serving less than ten DUs can expect a 14.5% decrease per bill. **Figure VI-3** compares the current Service Charge to the proposed Service Charge.

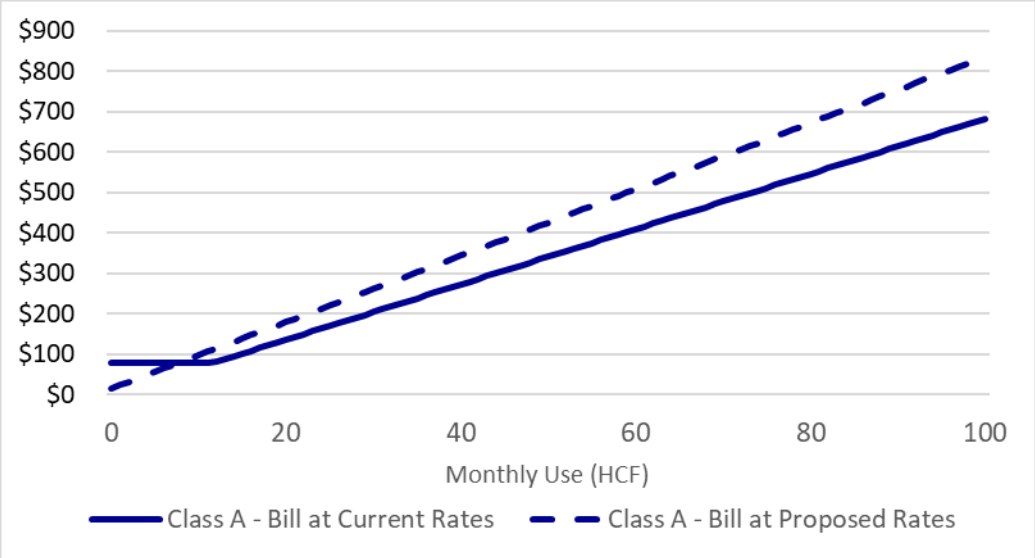
Figure VI-3. Annual Sewer Charge for Multi-Family Residential Customers



Commercial Bills Under Proposed Rates

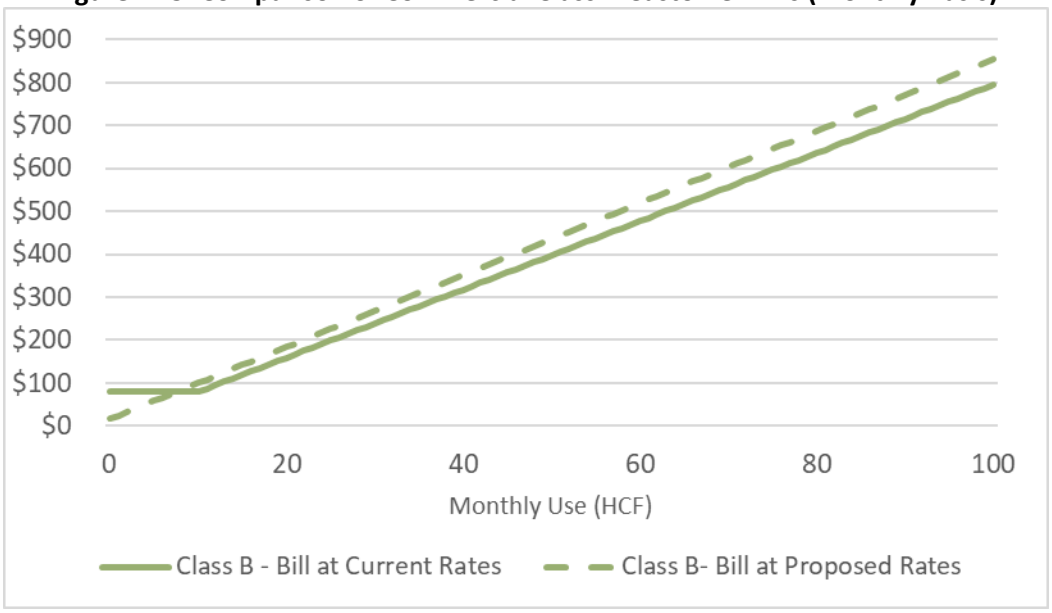
Commercial customers will pay a uniform Service Charge per account under the proposed rates. In addition to the Service Charge, each customer will be charged a Volumetric Rate that is applied to the monthly water use recorded. With the proposed rates, customers will no longer pay a minimum charge. Therefore, customers using less water will experience decreases to their sewer bill. **Figure VI-4** through **Figure VI-8** compares sewer bills by plotting bills across a range of water use for each of the Commercial Classes A-E. Commercial customers are billed monthly.

Figure VI-4. Comparison of Commercial Class A Customer Bills (Monthly Basis)



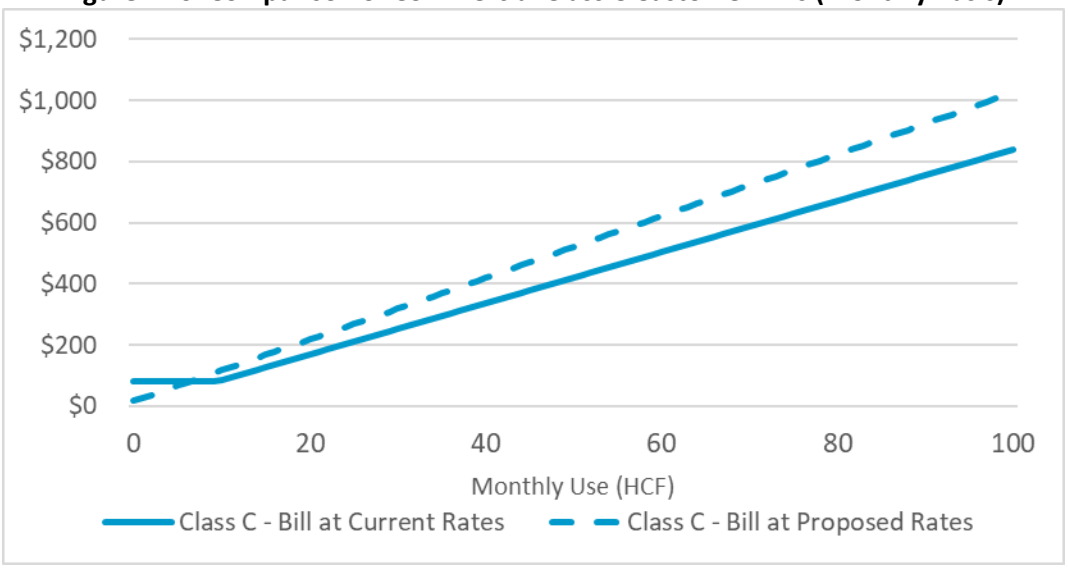
The proposed volumetric rate charged to Class A customers represents a 20.1% increase from current rates. Commercial customers will see an increase from their current bill under the proposed rates if their monthly water use is greater than 7 HCF.

Figure VI-5. Comparison of Commercial Class B Customer Bills (Monthly Basis)



The proposed volumetric rate charged to Class B customers represents an 5.4% increase from current rates. Commercial customers will see an increase from their current bill under the proposed rates if their monthly water use is greater than 7 HCF.

Figure VI-6. Comparison of Commercial Class C Customer Bills (Monthly Basis)

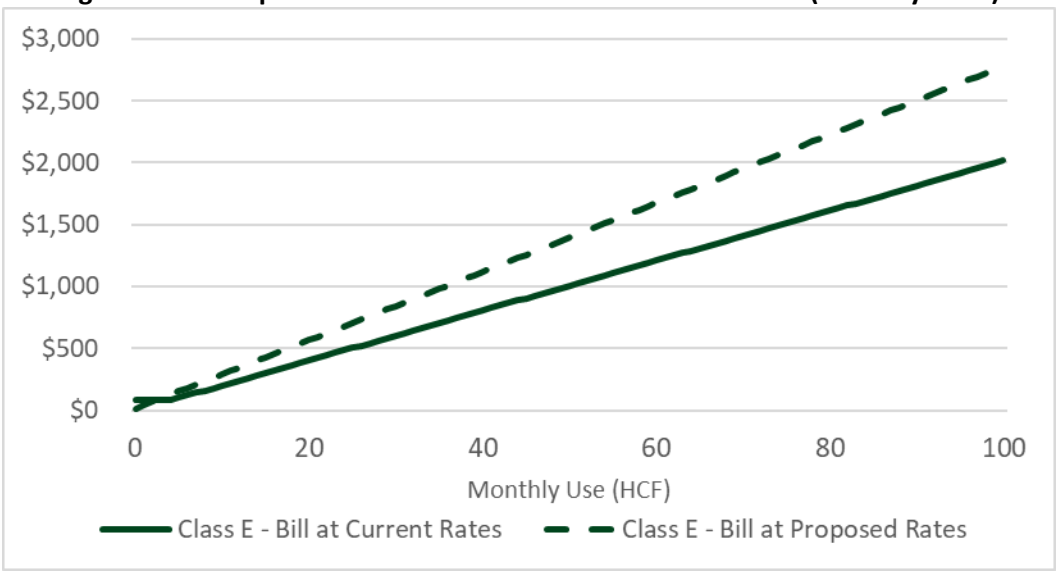


The proposed volumetric rate charged to Class C customers represents a 20.0% increase from current rates. Commercial customers will see an increase from their current bill under the proposed rates if their monthly water use is greater than 6 HCF.

Figure VI-7. Comparison of Commercial Class D Customer Bills (Monthly Basis)

The proposed volumetric rate charged to Class D customers represents a 40.7% increase from current rates. Commercial customers will see an increase from their current bill under the proposed rates if their monthly water use is greater than 3 HCF.

Figure VI-8. Comparison of Commercial Class E Customer Bills (Monthly Basis)



The proposed volumetric rate charged to Class E customers represents a 37.0% increase from current rates. Commercial customers will see an increase from their current bill under the proposed rates if their monthly water use is greater than 2 HCF.

EXHIBIT B

Sec. 27.100. SEWER SERVICE CHARGES:

A. Established: Residential and commercial (non-residential) sewer service charges shall be paid by each premises or any portion thereof receiving or using sewer service provided by the City at the rates adopted by ordinance or resolution of the City Council. ~~The following charges are hereby established and levied upon each premises or any portion thereof which receives or uses sewerage service from the sewerage facilities:~~

1. For Single Family Residential (with One (1) Dwelling Unit) Customers~~:~~ ~~All residential uses with one (1) dwelling unit per parcel shall pay the following rates:~~

   ~~Effective July 1, 2020: Eighty-five dollars and forty-four cents ($85.44) per dwelling unit per month;~~

   ~~Effective July 1, 2021: Eighty-nine dollars and twenty-eight cents ($89.28) per dwelling unit, per month or one thousand seventy-one dollars and thirty-six cents ($1,071.36) per dwelling unit, per year.~~ ~~T~~the City Council shall decide, in its sole discretion, whether to impose the charges on a monthly or yearly basis. Should the City Council decide to impose the charges on a yearly basis, it may elect by resolution to have such charges collected on the tax roll in accordance with Health and Safety Code Section 5473, et seq.

2. ~~Residential (with Two (2) to Nine (9) Dwelling Units) Customers: All residential uses, including single-family, duplexes, multi-family dwellings or structures, and similar classes of uses with between two (2) and nine (9) dwelling units per parcel shall pay the following monthly rate:~~

   ~~Effective August 1, 2019: Eighty-one dollars and seventy-six cents ($81.76) per dwelling unit;~~

   ~~Effective July 1, 2020: Eighty-five dollars and forty-four cents ($85.44) per dwelling unit;~~

   ~~Effective July 1, 2021: Eighty-nine dollars and twenty-eight cents ($89.28) per dwelling unit.~~

3. ~~Residential (with Ten (10) or More Dwelling Units) Customers: All residential uses including multi-family dwellings or structures, and similar classes of uses with ten (10) or more dwelling units per parcel shall pay the following monthly rate:~~

   ~~Effective August 1, 2019: Seventy-three dollars and fifty-nine cents ($73.59) per dwelling unit;~~

   ~~Effective July 1, 2020: Seventy-six dollars and ninety cents ($76.90) per dwelling unit;~~

   ~~Effective July 1, 2021: Eighty dollars and thirty-six cents ($80.36) per dwelling unit.~~

4.2. For Commercial (Non-Residential) Customers.:

a. Minimum Charges: All uses other than residential uses shall pay the greater of (i) the charge calculated pursuant to subdivision 27.100(A)(4)(c) of this Section, or (ii) the following minimum monthly charge:

Effective August 1, 2019: Seventy-three dollars and fifty-nine cents ($73.59);

Effective July 1, 2020: Seventy-six dollars and ninety cents ($76.90);

Effective July 1, 2021: Eighty dollars and thirty-six cents ($80.36).

b. Rate Classes: For purposes of calculating the charge pursuant to subdivision 27.100(A)(4)(c) of this Section, each customer shall be assigned to a commercial of the following rate classes.:

Class A: All establishments used for industrial purposes including, but not limited to, manufacturing plants, processing plants, producers, laundries, photo processors, electric service institutions, packagers, and other similar classes of use.

Class B: All establishments used for institutional purposes, both private and public, including schools, colleges, rest homes, clubs, public buildings, lodges, and other similar classes of use.

Class C: Business establishments including, but not limited to, office buildings, warehouses, filling stations, retail stores, motels, mortuaries, fast-food establishments without on-site food preparation, markets without garbage grinders, and all other similar classes of use not hereinafter expressly described; all institutions where the sick or injured are given medical or surgical care.

Class D: All establishments with mixture of one (1) of commercial classes A through C and commercial class E, such as office buildings with food services.

Class E: Food establishments where food is prepared and served on the premises and other similar classes of use; markets with garbage grinders, and all other similar classes of use not hereinafter expressly described.

c. Volumetric Rate: The monthly charge for each non-residential use, except where lower than the minimum monthly rate set forth above shall be calculated by charging the following amount per hundred cubic feet of water use.

~~Commercial Customers (Section 27.100, A2—A7) Additional User Charges~~	~~Effective August 1, 2019~~	~~Effective July 1, 2020~~	~~Effective July 1, 2021~~
~~Class A~~	~~$ 6.26~~	~~$ 6.54~~	~~$ 6.83~~
~~Class B~~	~~$ 7.28~~	~~$ 7.61~~	~~$ 7.95~~
~~Class C~~	~~$ 7.70~~	~~$ 8.05~~	~~$ 8.41~~
~~Class D~~	~~$12.27~~	~~$12.82~~	~~$13.40~~
~~Class E~~	~~$18.45~~	~~$19.28~~	~~$20.15~~

~~d. Determination:~~ The determination of the appropriate commercial rate class for particular premises shall be made by the City's Director based upon the waste or wastewater constituents or characteristics of such user, including such factors as biochemical oxygen demand, suspended solids, and volume, consistent with the categories adopted by resolution or ordinance of the City Council ~~hereinabove in subdivision b. established~~. The user category for any particular premises may be revised, changed, or redesignated by the ~~Authority's Manager with the consent of~~ City's Director upon a determination by them that the waste or wastewater characteristics of the user of such premises have changed in such manner, or to such an extent, as to justify such reclassification. Any user, permittee, applicant, or other person aggrieved by a determination of City's Director made pursuant hereto may appeal such determination ~~to Authority's Commission~~ in accordance with the provisions of Section 27.130, et seq~~.; provided that references in said Section to "Authority's Manager" shall be deemed to mean "Director."~~

B. Payment: The monthly charges established ~~in subdivision A hereof~~ by resolution or ordinance of the City Council shall be paid by the owner or occupant of the premises receiving sewerage service to the City Collector within thirty (30) calendar days after presentation of a bill therefor, and shall be deemed delinquent if not paid within said period. Such charges may be included in the City's ~~water~~ utility bills. Should the City Council elect to impose the charges on Residential (with One (1) Dwelling Unit) Customers on an annual basis, as provided in subdivision (A)(1) hereof, then those charges shall be collected on the tax roll in accordance with Health and Safety Code Section 5473, et seq.

C. Remedies: Upon non-payment of the monthly charges for sewerage service within the time specified in subdivision B hereof, an action may be brought in the name of the City in any court of competent jurisdiction against the owner or occupant of the premises to which such charge pertains for the collection of such delinquent charges. If the occupant of such premises is not also the owner, such action may be brought against both the owner and occupant, both of whom shall be jointly and severally liable for said charges. Water service to such premises may be discontinued by the City in the case of non-payment of the monthly charges established ~~in subdivision A hereof~~by resolution or ordinance of the City Council within the time required under

subdivision B hereof. The remedies herein established shall be cumulative and in addition to any and all other remedies available to the City for the collection of sewer service charges.

D. Charges for vacant premises. If a property is vacant, the sewer service charge will be billed to the active account holder on record. The account holder or authorized representative shall be responsible for notifying the City and requesting to discontinue service, including providing proof of stopped water service.

Exhibit C

Sewer Service Charges

Fixed Service Charges	Effective Beginning July 1, 2024	Effective Beginning July 1, 2025	Effective Beginning July 1, 2026
Single Family Residential (1 dwelling unit)	*Monthly per Dwelling Unit*		
	$97.74	$104.58	$111.90
Multi-Family Residential (2+ dwelling units)	*Monthly per Dwelling Unit*		
	$76.31	$81.65	$87.37
Commercial (Non-Residential)	*Monthly per account*		
	$16.33	$17.48	$18.70

Notes:

- *Rates above are monthly, but frequency of billing for customers varies from monthly to bimonthly if billed via the City utility bill or biannually if billed via the County property tax roll.*
- *Single family and multi-family customers with an Accessory Dwelling Unit (ADU) and Junior Accessory Dwelling Unit (JADU) will be assessed their respective service charges. If a residential customer has a separate, additional water meter for their ADU or JADU, the ADU or JADU would be charged as a separate and additional single family or multi-family customer, corresponding with the customer's primary customer class.*

Flow-Based Charges	Effective Beginning July 1, 2024	Effective Beginning July 1, 2025	Effective Beginning July 1, 2026
Commercial (Non-Residential)		*Monthly per HCF*	
Class A	$8.20	$8.77	$9.38
Class B	$8.38	$8.97	$9.60
Class C	$10.09	$10.80	$11.56
Class D	$18.85	$20.17	$21.58
Class E	$27.61	$29.54	$31.61

Notes:

- *HCF is hundred cubic feet and is equal to 748 gallons.*
- *Commercial Classes A through E are described below.*

Commercial (Non-Residential) Classes

Each Commercial customer shall be assigned to one (1) of the following rate classes:

- **Class A**: All establishments used for industrial purposes including, but not limited to, manufacturing plants, processing plants, producers, laundries, photo processors, electric service institutions, packagers, and other similar classes of use.

- **Class B**: All establishments used for institutional purposes, both private and public, including schools, colleges, rest homes, clubs, public buildings, lodges, and other similar classes of use.

- **Class C**: Business establishments including, but not limited to, office buildings, warehouses, filling stations, retail stores, motels, mortuaries, fast-food establishments without on-site food preparation, markets without garbage grinders, and all other similar classes of use not hereinafter expressly described; all institutions where the sick or injured are given medical or surgical care.

- **Class D**: All establishments with mixture of one (1) of commercial classes A through C and commercial class E, such as office buildings with food services.

- **Class E**: Food establishments where food is prepared and served on the premises and other similar classes of use; markets with garbage grinders, and all other similar classes of use not hereinafter expressly described.

ORDINANCE NO. 2537

At a Joint City Council/Successor Agency Board/Public Financing Authority Meeting thereof held on the 6th day of May 2024 by the following votes:

AYES, and in favor of the passage and adoption of the foregoing ordinance:

AYES:	Aguirre, Eakin, Martinez Saballos, Sturken, Vice Mayor Espinoza-Garnica and Mayor Gee
NOES:	None
ABSENT:	Howard
ABSTAINED:	None
RECUSED:	None

Jeff Gee
Mayor of the City of Redwood City

Yessika Castro, CMC, CPMC
City Clerk of Redwood City

I hereby approve the foregoing Ordinance
this 7th day of May 2024.

Jeff Gee
Mayor of the City of Redwood City