



CITY OF SAUSALITO

Sewer Rate Study

June 2019

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Section 1. Executive Summary

Purpose

The City of Sausalito (City or Utility) owns and operates a sewer collection system that collects wastewater from approximately 3,000 parcels and transports it to the Sausalito-Marin City Sanitary District (SMCSD) for treatment and discharge to the San Francisco Bay. This report documents the Sewer Rate Study and includes a description of its methodology, assumptions, outcomes, findings and recommendations¹. The overall purpose of the study is to develop updated sewer rates for the City, which requires a thorough review of the City's broader rate-related goals and objectives, including meeting key financial parameters as well as the following objectives:

- Proposing sewer rates sufficient to fund all anticipated operating and maintenance costs.
- Funding necessary capital improvement projects.
- Maintaining adequate reserve funds for the utility.
- Developing a plan of rate increases that will maintain necessary funding levels for the next five years.
- Complying with certain legal requirements (e.g., Article XIII D, Section 6 of the California Constitution, commonly referred to as Proposition 218 [Prop 218]²).

The rates developed in this study are intended to meet the requirements of Prop 218 and were calculated in a manner that is consistent with industry standards. This report is provided in part to assist the City in its effort to maintain transparent communications with the residents and businesses it serves.

NBS and City staff cooperatively developed the proposed sewer rates. The results were presented to the City Council (Council) on April 30, 2019, where the Council directed City staff to issue notices for a public hearing scheduled for June 18, 2019 pursuant to Prop 218.

Summary of Rate Study Results

As a result of this study, rate increases – or more accurately, increases in the total revenue collected from rates – are recommended for the sewer utility. After extensive review of the financial plan, including capital improvements and existing debt obligations, NBS and City staff concluded that a 4% increase in annual revenue from sewer rates will be implemented effective July 1, 2019 and (see Figure 3). A 4% increase will also be implemented on July 1st in each subsequent year, through 2023.

The current sewer rate design includes a fixed service charge by dwelling unit and a volumetric charge based on water consumption was maintained in this study. However, the proportionality of the rates was adjusted to reflect the results of the cost of service analysis. Winter water consumption data for each customer class

¹ The detailed sewer rate study tables and charts are provided in Appendix A.

² In November 1996, California voters passed Proposition 218. This constitutional amendment protects taxpayers by limiting the methods, and requiring specific procedures, by which taxes, fees, charges and certain user fees may be imposed or increased. Proposition 218 recognized water, sewer and refuse collection services as essential government services and prescribed that agencies may use the "protest hearing method" as the approval process for new or increased fees or charges for services that protect health, safety, and welfare.

has resulted in changes in how costs are allocated to each customer class. As a result, the rates for individual customer classes have been updated to reflect these changes.

Figure 1 below summarizes the current and proposed sewer rates for the next five years.

Figure 1. Summary of Current and Proposed Sewer Rates

Customer Class	Current Rates	Proposed Sewer Rates				
		FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
<i>Projected Annual Increase in Rate Revenue</i>		4.00%	4.00%	4.00%	4.00%	4.00%
Residential Customers						
Fixed Charges (\$/Year/Dwelling Unit)						
Single-Family	\$546.48	\$624.24	\$649.21	\$675.18	\$702.18	\$730.27
Single-Family Attached	\$391.75	\$339.22	\$352.79	\$366.90	\$381.58	\$396.84
Duplexes	\$420.99	\$339.26	\$352.83	\$366.94	\$381.62	\$396.89
Multi-Family	\$310.24	\$300.41	\$312.43	\$324.93	\$337.92	\$351.44
Volumetric Charges (\$/ccf of Average Winter Water Use)						
All Residential Customers	\$1.10	\$1.09	\$1.13	\$1.18	\$1.22	\$1.27
Commercial/Industrial Customers						
Fixed Charges (\$/Year/Dwelling Unit)						
All Commercial and Industrial	\$546.48	\$561.67	\$584.14	\$607.50	\$631.80	\$657.08
Volumetric Charges (\$/ccf of Annual Water Use in Prior Calendar Year)						
All Commercial and Industrial	\$1.10	\$1.09	\$1.13	\$1.18	\$1.22	\$1.27

Overview of the Rate Study Methodology

Comprehensive rate studies, such as this one, typically include the following three components as outlined in Figure 2:

1. Preparation of a **Financial Plan**, which identifies the net revenue requirements for the Utility.
2. **Cost-of-Service Analysis**, which determines the cost of providing service to each customer class.
3. **Rate Design Analysis**, which evaluates different rate design alternatives for each customer class.

These steps are intended to follow industry standards and reflect the fundamental principles of cost-of-service ratemaking embodied in the American Water Works Association’s (AWWA) *Principles of Water Rates, Fees and Charges*³, also referred to as Manual M1.

³ *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, seventh edition, 2017.*

Figure 2. Primary Components of a Rate Study



This methodology also addresses the requirements under Prop 218 that rates not exceed the cost of providing the service and that they be proportionate to the cost of providing service for all customers. In terms of the chronology of the study, these three steps represent the order in which they were performed⁴.

The City provided NBS with the necessary data to conduct the study, including historical, current, and projected revenues, expenditures, customer accounts, and water consumption along with other operational and capital cost data.

⁴ Detailed tables and figures documenting the development of the proposed rates are provided in the Appendix.

Section 2. Sewer Rate Study

Key Sewer Rate Study Objectives

The City's sewer rate analysis was undertaken with specific objectives in mind, including:

- Avoiding operational deficits and depletion of reserves beyond the target minimum reserve level, particularly for capital improvements and debt service payments.
- Generating additional revenue needed to meet projected funding requirements.
- Reviewing winter water consumption and the number of equivalent dwelling units within each customer class and making the appropriate adjustments if the cost allocation factors have changed.
- Developing and comparing several rate alternatives for all customer classes which include both a fixed and volumetric charge component.

NBS developed various funding alternatives as requested by City staff over the course of this study. The rates developed in this study are based on the net revenue requirements, number of dwelling units, and other City-provided information.

Sewer Utility Revenue Requirements

As a part of this rate study, NBS projected revenues and expenditures on a cash flow basis for the next twenty years. The amount of rate revenue required, that will allow reserves to be maintained at the recommended levels, is known as the *net revenue requirement*. As current rate revenue falls short of the net revenue requirement, rate adjustments - or more accurately, adjustments in the total revenue collected from rates - are recommended.

To identify the City's long-term financial needs, NBS developed a five-year financial plan that forecasts sewer revenues and expenditures, including reserve requirements. This plan is based on the City's current operating budget for the Utility, discussions with City staff, and related information, such as current debt service schedules, planned capital improvements, and the amount of revenue needed to fund these capital improvements. The Utility needs to perform ongoing rehabilitation and replacement projects while at the same time maintaining healthy reserve funds.

V.W. Housen and Associates provided a projection of the City's planned capital improvements, including the priority, timing, and costs of individual projects⁵. However, in coordination with City staff, the rates developed in this study will fund approximately 67% of the optimum capital improvement program. The remaining projects will need to be postponed beyond this 5-year rate period. The resulting program remains robust, replacing approximately two percent of the City's sewer infrastructure annually for the next five years.

The City's financial plan addresses four primary objectives:

⁵ See Appendix D for the recommendation provided by V.W. Housen and Associates.

Meeting Net Revenue Requirements: The Sewer Utility must generate sufficient revenue to cover the expenses of sewer operations, including administration, maintenance, and collection operations⁶. For Fiscal Years 2019/20 through 2023/24, the net annual revenue requirement (total annual expenses, including debt service less non-rate revenues) is approximately \$2.3 to \$3.3 million.

Funding Capital Improvement Projects: The City must also be able to fund necessary capital improvements in order to maintain current service levels. The City, with the assistance of V.W. Housen and Associates, has identified roughly \$8.6 million in planned capital improvements for the next five years, which consists primarily of pipeline replacements, and represents an aggressive replacement schedule. However, in order to limit annual rate increases to 4% annually, the City will only be able to fund approximately 66% of these costs over the 5-year rate period. The City plans to fund the capital improvements using the following sources: (1) the unspent project funds from the 2015 Sewer Revenue Bonds; (2) revenue from the recommended rate increases; and, (3) the available balance in the Capital Rehabilitation & Replacement Reserve Fund.

Maintaining Adequate Bond Coverage: The City is required by its existing bond covenant to maintain a minimum coverage ratio of rates to debt service obligations of at least 1.1 for the outstanding state revolving fund loan and the sewer revenue bonds. The benefit of maintaining a higher coverage ratio is that it strengthens the City's credit rating, which can help lower the interest rates for debt-funded capital projects and reduce annual debt service payments for future debt issues. The City is projected to exceed its debt coverage ratio for the 5-year rate period in this Study.

Building and Maintaining Reserve Funds: Reserve funds provide a basis for the Utility to cope with fiscal emergencies, such as revenue shortfalls, asset failure, and natural disasters among other events. Reserve policies provide guidelines for sound financial management with an overall long-range perspective to maintain financial solvency and mitigate financial risks associated with revenue instability, volatile capital costs and emergencies. NBS recommends that the City maintain the following target reserve fund levels, which are consistent with the recommendations in the 2014 Sewer Rate Study:

- **Operating Reserves** equal to 25% of the Utility's budgeted annual operating expenses. This reserve target is equal to a three-month (or 90-day) cash cushion for normal operations. An Operating Reserve is intended to promote financial viability in the event of any short-term fluctuation in revenues and/or expenditures. Fluctuations in revenue can be caused by the inflow and outflow of cash during billing cycles and, in periods of economic distress, or changes in the age of receivables.
- **Capital Rehabilitation and Replacement Reserves** equal to, at a minimum, 3% of net depreciable capital assets of the Utility for capital repair and replacement needs. This target serves simply as a starting point for addressing longer-term needs. If ratepayers can generate revenues at this level and pace, they will have reserved a partial cash resource that can be applied toward future replacement and rehabilitation needs.

⁶ Wastewater treatment service is provided by Sausalito-Marin City Sanitary District (SMCSD), which separately bills each Sausalito customer.

- **Debt Reserves** equal to the reserve requirement for the outstanding state revolving fund loan and the sewer revenue bonds, which is equal to the maximum annual debt service payment due on outstanding bonds.

Figure 3 summarizes the sources and uses of funds, net revenue requirements, and the recommended annual increases in total rate revenue recommended for the City over the next 5 years.

Figure 3. Summary of Sewer Revenue Requirements

Summary of Sources and Uses of Funds and Net Revenue Requirement	Budget		Projected			
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
Sources of Sewer Funds						
Rate Revenue Under Prevailing Rates	\$ 2,705,359	\$ 2,705,359	\$ 2,705,359	\$ 2,705,359	\$ 2,705,359	\$ 2,705,359
Non-Rate Revenues	12,500	7,500	7,500	7,500	7,500	7,500
Interest Earnings	50,480	38,506	27,830	18,509	14,925	12,833
Total Sources of Funds	\$ 2,768,340	\$ 2,751,366	\$ 2,740,689	\$ 2,731,369	\$ 2,727,784	\$ 2,725,692
Uses of Sewer Funds						
Operating Expenses	\$ 1,890,832	\$ 1,943,701	\$ 1,996,875	\$ 2,051,506	\$ 2,107,632	\$ 2,165,294
Debt Service	427,454	427,804	428,004	428,054	427,954	427,704
Rate-Funded Capital Expenses	127,500	-	-	224,674	499,264	714,437
Total Use of Funds	\$ 2,445,787	\$ 2,371,505	\$ 2,424,880	\$ 2,704,234	\$ 3,034,850	\$ 3,307,436
Surplus (Deficiency) before Rate Increase	\$ 322,553	\$ 379,861	\$ 315,810	\$ 27,134	\$ (307,066)	\$ (581,743)
Additional Revenue from Rate Increases	-	108,214	220,757	337,802	459,528	586,124
Surplus (Deficiency) after Rate Increase	\$ 322,553	\$ 488,075	\$ 536,567	\$ 364,936	\$ 152,463	\$ 4,381
Projected Increase in Rate Revenue	0.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Net Rate Revenue Requirement¹	\$ 2,768,340	\$ 2,859,580	\$ 2,961,447	\$ 3,069,171	\$ 3,187,312	\$ 3,311,816
Debt Coverage Ratio (after rate increases)	2.05	2.14	2.25	2.38	2.52	2.68

1. Total Uses of Funds less non-rate revenues.

Figure 4 summarizes the projected reserve fund balances and reserve targets. A more detailed version of the Utility’s proposed 5-year financial plan is included in Tables 1 and 2 of Appendix A. The appendix tables include revenue requirements, reserve funds, revenue sources, proposed rate increases, and the City’s capital improvement program.

Figure 4. Summary of Reserve Funds

Projected Reserve Fund Balances and Recommended Reserve Targets	Budget		Projected			
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
Operating & Maintenance Reserve						
Projected Ending Balance	\$ 473,000	\$ 486,000	\$ 499,000	\$ 513,000	\$ 527,000	\$ 531,381
<i>Recommended Minimum Target</i>	<i>473,000</i>	<i>486,000</i>	<i>499,000</i>	<i>513,000</i>	<i>527,000</i>	<i>541,000</i>
Capital Rehab & Replacement Reserve						
Projected Ending Balance	\$ 594,883	\$ 934,958	\$ 967,026	\$ 597,736	\$ 376,463	\$ 231,900
<i>Recommended Minimum Target</i>	<i>243,100</i>	<i>277,500</i>	<i>268,300</i>	<i>246,800</i>	<i>238,000</i>	<i>231,900</i>
Debt Reserve						
Projected Ending Balance	\$ 368,402	\$ 368,402	\$ 368,402	\$ 368,402	\$ 368,402	\$ 368,402
<i>Recommended Minimum Target</i>	<i>429,623</i>	<i>429,623</i>	<i>429,623</i>	<i>429,623</i>	<i>429,623</i>	<i>429,623</i>
Total Projected Ending Balance	\$ 1,436,285	\$ 1,789,360	\$ 1,834,428	\$ 1,479,139	\$ 1,271,865	\$ 1,131,683
<i>Total Recommended Minimum Target</i>	<i>\$ 1,145,723</i>	<i>\$ 1,193,123</i>	<i>\$ 1,196,923</i>	<i>\$ 1,189,423</i>	<i>\$ 1,194,623</i>	<i>\$ 1,202,523</i>

Figure 5 summarizes the City’s Capital Improvement Plan, providing the expected cost and timing of capital projects during the 5-year rate period.

Figure 5. Capital Improvement Plan

Project Description	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
Pump Station						
Whiskey Springs Rehabilitation Project	\$ 1,500,000	\$ -	\$ -	\$ -	\$ -	\$ -
Collection System						
Pipe Replacement	-	1,008,000	952,000	616,000	560,000	560,000
Contingency/Engineering/Admin/Construction Mgmt.	-	403,200	380,800	246,400	224,000	224,000
Allowance for Unknown Capital Expenditures	-	135,000	127,500	82,500	75,000	75,000
Infrastructure & Urgent Repairs	127,500	-	-	-	-	-
Total: Cost Estimate Per Year	\$ 1,627,500	\$ 1,546,200	\$ 1,460,300	\$ 944,900	\$ 859,000	\$ 859,000

Characteristics of Sewer Customers by Class

Customer characteristics are used in allocating costs in the cost-of-service analysis. The City’s most recent data used in this Study includes water consumption data, total number of parcels and equivalent dwelling units provided by the City, County Assessor’s Office and the Marin Municipal Water District (MMWD).

Figure 6 summarizes key data used in the cost-of-service analysis, including winter water consumption for residential classes and the annual average consumption for non-residential classes.

Figure 6. Summary of Residential and Commercial Parcels, Units and Winter Water Use (2018)

Customer Class	No. of Parcels (APN's) ¹	No. of Equivalent Dwelling Units (EDU's)	% of EDU's by Class	Total Winter Consumption (ccf) ²	Total Billed Consumption (ccf)	% of Billed Consumption
Residential Classes						
Single-Family	1,222	1,220	22%	15,658	93,948	31%
Single-Family Attached	901	901	16%	6,284	37,704	12%
Duplexes	525	1,050	19%	7,456	43,944	14%
Multi-Family	190	1,014	18%	6,263	37,578	12%
Total - All Residential	2,838	4,185	76%	35,661	213,174	70%
Commercial/Industrial Classes						
Commercial/Industrial ³	203	1,340	24%	15,474	92,846	30%
Total - Residential & Commercial/Industrial	3,041	5,525	100%	51,135	306,020	100%

1. Source of Data: County Assessor's Parcel Data (APN's) and water use data from Marin-Municipal Water District (MMWD). Residential data excludes vacant, exempt and parcels noted as "Septic."

2. Reflects winter water use for January & February 2018 from MMWD records. Commercial/Industrial is the annual average for a 2-month period.

3. Includes exempt parcels with meters, which are billed directly by City vs. on the County tax roll.

The Total Billed Residential Consumption of 213,175 (ccf) represents an annualized total for January and February 2018 that Marin Municipal Water District (MMWD) identified as its “winter” period for residential customers. The 92,846 ccf of Total Billed Consumption for all non-residential customers is annualized consumption based on the average for a 2-month period. These are the quantities that NBS has used to calculate the proposed volumetric charge by customer class.

Figure 7 shows the average winter consumption by parcel and dwelling unit for each of the customer classes compared to the single-family residence.

Figure 7. Average Consumption Statistics

Customer Class	No. of Equivalent Dwelling Units (EDU's)	Total Winter Consumption (ccf)	Average Winter Consumption Per EDU (ccf) ¹	Comparison of ccf/EDU to SFR
Residential Classes				
Single-Family	1,220	15,658	12.8	100%
Single-Family Attached	901	6,284	7.0	54%
Duplexes	1,050	7,456	7.1	55%
Multi-Family	1,014	6,263	6.2	48%
Average - All Residential	4,185	35,661	8.5	66%
Commercial/Industrial Classes				
Commercial/Industrial ²	1,340	15,474	11.5	90%
Total / Average Residential & Comm./Ind.	5,525	51,135	9.3	72%

1. Reflects per APN and DU winter water use statistics for January & February 2018 from MMWD records. Commercial/Industrial is the annual average for a 2-month period.

2. Includes exempt parcels with meters, which will need to be billed directly by City vs. on the County tax roll.

The annual consumption is important in determining how costs should be allocated among customer classes and how they result in adjustments to the City’s current sewer charges. While these cost-of- service based adjustments affect sewer charges and the total revenue collected from each customer class, they do not change the total annual revenue requirements in the financial plan shown in Figure 3.

Current and Proposed Sewer Rates

The proposed rates are designed to capture the cost of service from each customer class. Per City staff recommendations NBS has maintained the current rate structure, which consists of both fixed and variable charges. The decision to apportion revenues between fixed and variable rate components is a policy question that considers the improved fairness and equity resulting from the volumetric rate component and revenue stability resulting from the fixed rate component.

The fixed charge applies to each EDU and varies by customer class. The volumetric charge is the same per unit of water consumption billed for all customers. For residential customers, the volumetric charges are based on average winter water consumption. For non-residential customers, the volumetric charges are based on average annual consumption.

Figure 8 shows how Fiscal Year 2018/19 rate revenue is collected from each customer class based on the current rates, number of dwelling units, and total annual consumption. The proposed sewer rates maintain the current fixed and volumetric allocation, and are projected to collect approximately 12% of rate revenue from the volumetric charge, and 88% of rate revenue from the fixed charges.

Figure 8. Summary of FY 2018/19 Revenue by Customer Class

Customer Class	No. of EDU's	Total Billed Consumption (ccf)	Current Fixed Charge Per EDU	Current Volumetric Charge Per ccf Billed	Total Revenue from Fixed Charges	Total Revenue from Volumetric Charges	Total Rate Revenue
Single-Family	1,220	93,948	\$546.48	\$1.10	\$ 666,706	\$ 103,343	\$ 770,048
Single-Family Attached	901	37,704	\$391.75	\$1.10	352,967	41,474	394,441
Duplexes	1,050	43,944	\$420.99	\$1.10	442,040	48,338	490,378
Multi-Family Residential	1,014	37,578	\$310.24	\$1.10	314,583	41,336	355,919
Commercial/Industrial	1,340	92,846	\$546.48	\$1.10	732,283	102,131	834,414
Total	5,525	306,020			\$ 2,508,578	\$ 336,622	\$ 2,845,200
% Fixed vs. Variable					88%	12%	100%

Figure 9 provides a comparison of the current and proposed rates from FY 2019/20 through FY 2023/24.

Figure 9. Current vs. Proposed Sewer Rates

Customer Class	Current Rates	Proposed Sewer Rates				
		FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
Residential Customers						
Fixed Charges (\$/Year/EDU)						
Single-Family	\$546.48	\$624.24	\$649.21	\$675.18	\$702.18	\$730.27
Single-Family Attached	\$391.75	\$339.22	\$352.79	\$366.90	\$381.58	\$396.84
Duplexes	\$420.99	\$339.26	\$352.83	\$366.94	\$381.62	\$396.89
Multi-Family	\$310.24	\$300.41	\$312.43	\$324.93	\$337.92	\$351.44
Volumetric Charges (\$/ccf of Average Winter Water Use)¹						
All Residential Customers	\$1.10	\$1.09	\$1.13	\$1.18	\$1.22	\$1.27
Commercial/Industrial Customers						
Fixed Charges (\$/Year/EDU)						
All Commercial and Industrial	\$546.48	\$561.67	\$584.14	\$607.50	\$631.80	\$657.08
Volumetric Charges (\$/ccf of Annual Water Use)¹						
All Commercial and Industrial	\$1.10	\$1.09	\$1.13	\$1.18	\$1.22	\$1.27

1. Water used is based on the prior calendar year. For example in FY 2019/20, the volumetric charges will be based on water consumption in 2018.

Comparison of Current and Proposed Sewer Bills

Figures 10-13 compare annual sewer bills under current and proposed rates for residential customers over the next five years. The figures assume one dwelling unit at various levels of consumption.

Figure 10. Annual Sewer Bill Comparison for Single Family Customers

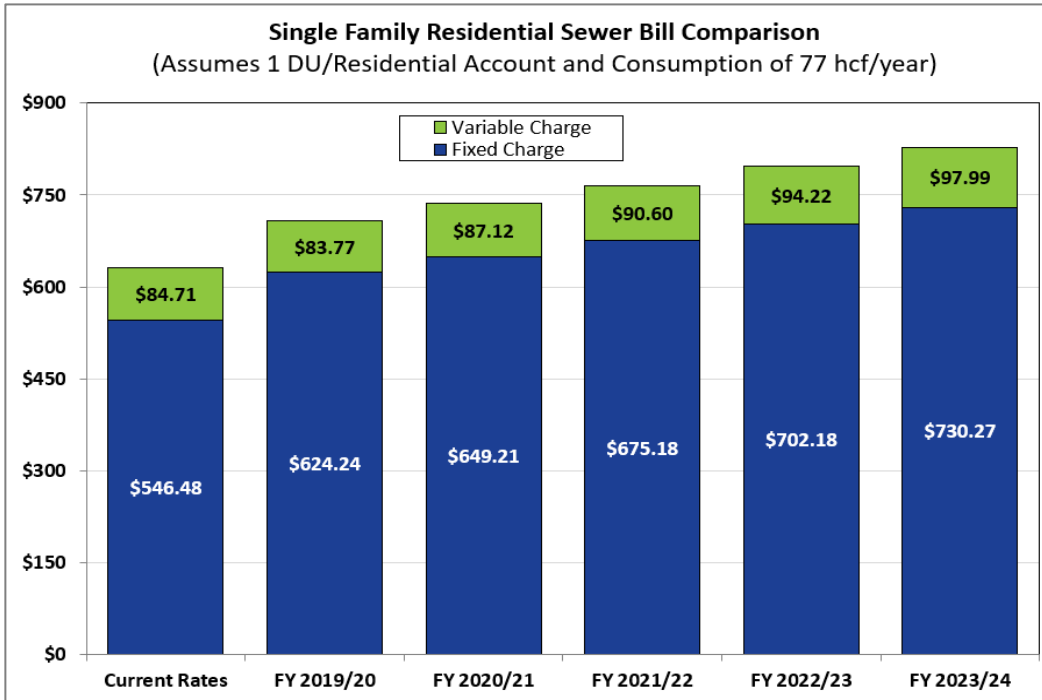


Figure 11. Annual Sewer Bill Comparison for Single-Family Attached Customers

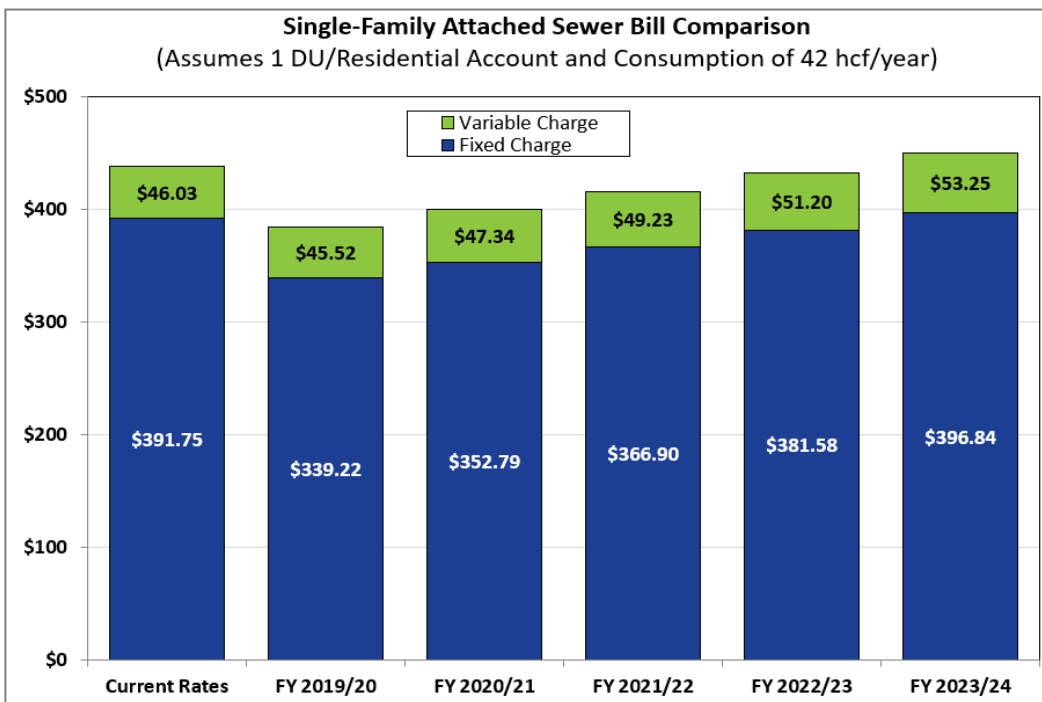


Figure 12. Annual Sewer Bill Comparison for Duplex Customers

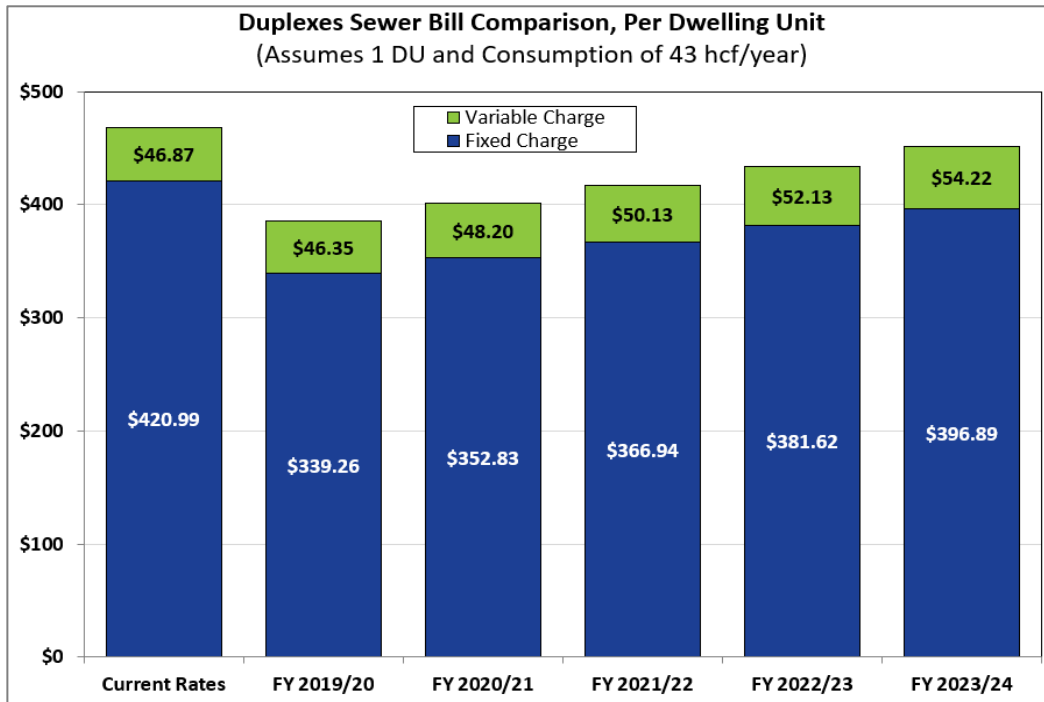


Figure 13. Annual Sewer Bill Comparison for Multi-Family Residential Customers

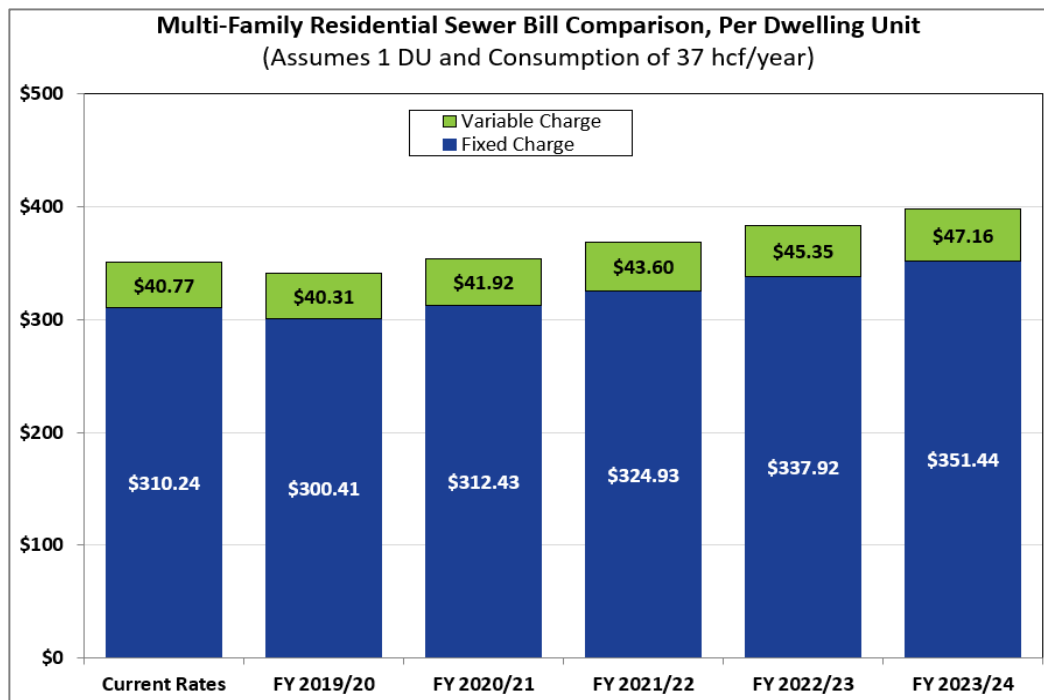
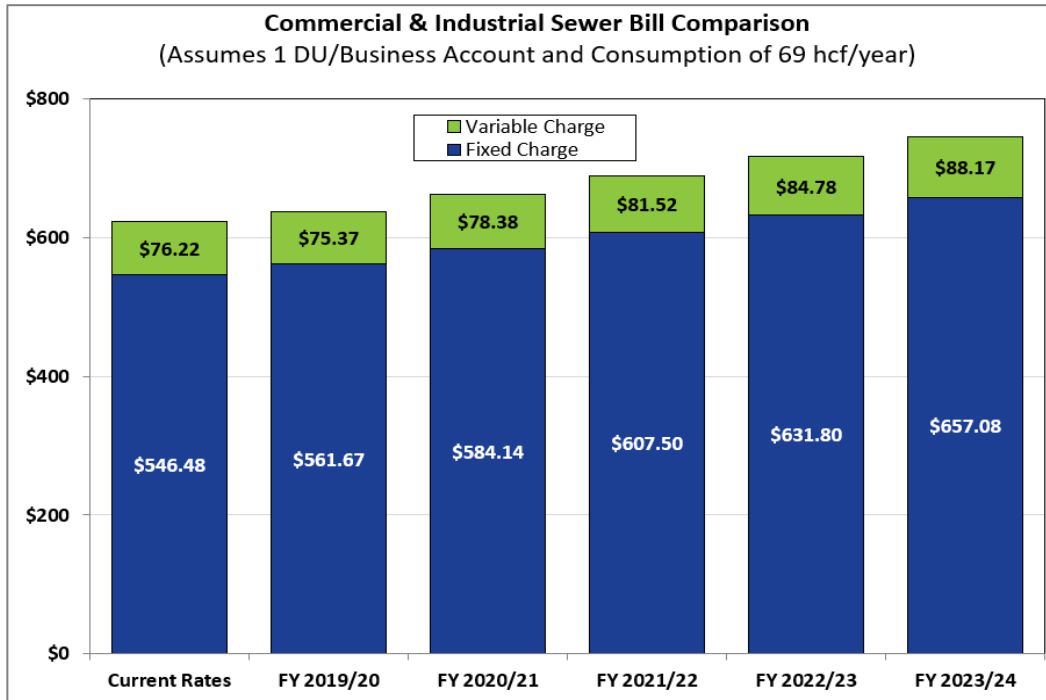


Figure 14 below compares the annual sewer bills under current and proposed rates for non-residential customers over the next five years. Both commercial and industrial customers are subject to the same uniform volumetric rate as residential customers; however, the annual sewer bill will vary based on annual water usage and number of EDU’s for each parcel (or customer).

Figure 14. Annual Sewer Bill Comparison for Commercial & Industrial Customers



The volumetric charges represented in Figures 10-14 are based on estimated consumption for each customer class presented in Figure 7, multiplied by 6 to get an annual total consumption amount.

Section 3. Recommendations and Next Steps

Findings and Recommendations

The following are the primary findings and recommendations resulting from this rate analysis.

Summary of Findings – The City’s sewer rates were last adjusted in 2014 and should be updated to reflect projected operating, maintenance, capital rehabilitation and replacement needs. This study has evaluated the various factors that are a part of the rate adjustment process and developed updated rates that are necessary to adequately fund the City’s sewer utility.

Recommendations – The following are the actions that NBS, in consultation with City staff, recommend the City take regarding the sewer rates:

- Approve and adopt this Study and its recommendations, and proceed with the steps required to implement the proposed rates. This will provide documentation of the rate study analyses and the basis for analyzing potential changes to future rates.
- Based on successfully meeting the Proposition 218 procedural requirements (assuming there is no majority protest), the City Council should proceed with implementing the 5-year schedule of proposed rates and rate adjustments previously shown in Figure 9. This will help ensure the continued financial health of City’s Sewer Utility.
- Perform an annual review of the sewer rates, revenue and the status of the capital improvement program, particularly the pipeline replacements. Anytime a utility adopts new rates and/or rate structures, the new rates should be closely monitored over the next several years to ensure the revenue generated is sufficient to meet the annual revenue requirements. Changing economic and water consumption patterns underscore the need for this review, as well as potential changes in revenue requirements, particularly those related to environmental regulations that can affect capital improvement program costs.

NBS’ Principal Assumptions and Considerations

In preparing this report and the opinions and recommendations included herein, NBS has relied on a number of principal assumptions and considerations regarding financial matters, conditions, and events that may occur in the future. This information and these assumptions, including the City’s budgets, capital improvement costs, additional city-related information provided by City staff and engineering consultants, as well as customer account and water use records, were provided by sources we believe to be reliable, although NBS has not independently verified this data.

While we believe NBS’ use of such information and assumptions is reasonable for the purpose of this report and its recommendations, some assumptions will invariably not materialize as stated herein and may vary significantly due to unanticipated events and circumstances. Therefore, the actual results can be expected to vary from those projected to the extent that actual future conditions differ from those assumed by us or provided to us by others. Ratemaking relies on predictions of future costs and revenues that are inherently imprecise. The use of reserve funds may assist in stabilizing the utility revenues in light of this unpredictability.

Appendix A: Detailed Sewer Study Tables and Figures

CITY OF SAUSALITO
DRAFT - SEWER RATE STUDY (Rate Alternative #3)
Financial Plan and Reserve Projections

TABLE : 1 FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

RATE REVENUE REQUIREMENTS SUMMARY	Budget	Projected				
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
Sources of Sewer Funds						
Rate Revenue Under Prevailing Rates ¹	\$ 2,705,359	\$ 2,705,359	\$ 2,705,359	\$ 2,705,359	\$ 2,705,359	\$ 2,705,359
Non-Rate Revenues ²	12,500	7,500	7,500	7,500	7,500	7,500
Interest Earnings (in O&M, Capital and Debt Reserves)	50,480	38,506	27,830	18,509	14,925	12,833
Total Sources of Funds	\$ 2,768,340	\$ 2,751,366	\$ 2,740,689	\$ 2,731,369	\$ 2,727,784	\$ 2,725,692
Uses of Sewer Funds						
Salaries and Benefits	\$ 861,181	\$ 885,219	\$ 908,756	\$ 932,919	\$ 957,725	\$ 983,190
Operations	804,651	827,182	850,343	874,152	898,628	923,790
Admin Charges	225,000	231,300	237,776	244,434	251,278	258,314
Subtotal: Operating Expenses	\$ 1,890,832	\$ 1,943,701	\$ 1,996,875	\$ 2,051,506	\$ 2,107,632	\$ 2,165,294
Other Expenditures:						
Existing Debt Service	\$ 427,454	\$ 427,804	\$ 428,004	\$ 428,054	\$ 427,954	\$ 427,704
New Debt Service	-	-	-	-	-	-
Rate-Funded Capital Expenses	127,500	-	-	224,674	499,264	714,437
Subtotal: Other Expenditures	\$ 554,954	\$ 427,804	\$ 428,004	\$ 652,729	\$ 927,218	\$ 1,142,142
Total Uses of Sewer Funds	\$ 2,445,787	\$ 2,371,505	\$ 2,424,880	\$ 2,704,234	\$ 3,034,850	\$ 3,307,436
<i>plus:</i> Revenue from Rate Increases	-	108,214	220,757	337,802	459,528	586,124
Annual Surplus/(Deficit)	\$ 322,553	\$ 488,075	\$ 536,567	\$ 364,936	\$ 152,463	\$ 4,381
Net Revenue Req. (Total Uses less Non-Rate Revenue)	\$ 2,382,807	\$ 2,325,499	\$ 2,389,550	\$ 2,678,225	\$ 3,012,425	\$ 3,287,103
Total Rate Revenue After Rate Increases	\$ 2,705,359	\$ 2,813,574	\$ 2,926,117	\$ 3,043,161	\$ 3,164,888	\$ 3,291,483
Projected Annual Rate Increase	0.00%	4.00%	4.00%	4.00%	4.00%	4.00%
<i>Cumulative Increase from Annual Rate Increases</i>	0.00%	4.00%	8.16%	12.49%	16.99%	21.67%
<i>Debt Coverage After Rate Increase</i> ³	2.05	2.14	2.25	2.38	2.52	2.68

1. Customer growth is assumed to be flat for the City of Sausalito.
2. Non-rate revenue is from Sewer Lateral Inspection/Certification fees.
3. The required debt coverage ratio per the City's financial advisor (NHA) is 1.10.

CITY OF SAUSALITO
DRAFT - SEWER RATE STUDY (Rate Alternative #3)
Financial Plan and Reserve Projections

TABLE : 2 RESERVE FUND SUMMARY

SUMMARY OF CASH ACTIVITY	Budget		Projected			
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
Total Beginning Cash ¹	\$ 5,002,993					
Sewer Operating & Maintenance Reserve						
Beginning Reserve Balance	\$ 745,330	\$ 473,000	\$ 486,000	\$ 499,000	\$ 513,000	\$ 527,000
Plus: Net Cash Flow (After Rate Increases)	322,553	488,075	536,567	364,936	152,463	4,381
Plus: Transfer of Debt Reserve Surplus	-	-	-	-	-	-
Less: Transfers Out to Capital Replacement Reserve	(594,883)	(475,075)	(523,567)	(350,936)	(138,463)	-
Less: Transfer to Debt Reserve to Fund Reserve Req.	-	-	-	-	-	-
Ending Operating Reserve Balance	\$ 473,000	\$ 486,000	\$ 499,000	\$ 513,000	\$ 527,000	\$ 531,381
Target Ending Balance (3 months of Annual O&M)	\$ 473,000	\$ 486,000	\$ 499,000	\$ 513,000	\$ 527,000	\$ 541,000
Sewer Capital Rehab & Replacement Reserve						
Beginning Reserve Balance	\$ -	\$ 594,883	\$ 934,958	\$ 967,026	\$ 597,736	\$ 376,463
Plus: Grant Proceeds	-	-	-	-	-	-
Plus: State Revolving Fund Loan Proceeds	-	-	-	-	-	-
Plus: Transfer of Operating Reserve Surplus	594,883	475,075	523,567	350,936	138,463	-
Less: Use of Reserves for Capital Projects	-	(135,000)	(491,499)	(720,226)	(359,736)	(144,563)
Ending Repair & Replacement Balance	\$ 594,883	\$ 934,958	\$ 967,026	\$ 597,736	\$ 376,463	\$ 231,900
Target Ending Balance (3% of Net Assets) ²	\$ 243,100	\$ 277,500	\$ 268,300	\$ 246,800	\$ 238,000	\$ 231,900
SUBTOTAL: Ending Balance	\$ 1,067,883	\$ 1,420,958	\$ 1,466,026	\$ 1,110,736	\$ 903,463	\$ 763,281
SUBTOTAL: Recommended Target Ending Balance	\$ 716,100	\$ 763,500	\$ 767,300	\$ 759,800	\$ 765,000	\$ 772,900
Ending Surplus/(Deficit) Compared to Reserve Targets	\$ 351,783	\$ 657,458	\$ 698,726	\$ 350,936	\$ 138,463	\$ (9,619)
Restricted Reserves:						
Sewer Revenue Bond Project Fund						
Beginning Reserve Balance ³	\$ 3,889,261	\$ 2,380,001	\$ 968,801	\$ -	\$ -	\$ -
Plus: Revenue Bond Proceeds	-	-	-	-	-	-
Less: Use of Reserves for Capital Projects ⁴	(1,509,260)	(1,411,200)	(968,801)	-	-	-
Ending Revenue Bond Project Fund Balance	\$ 2,380,001	\$ 968,801	\$ -	\$ -	\$ -	\$ -
Target Ending Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sewer Debt Reserve						
Beginning Reserve Balance ⁵	\$ 368,402	\$ 368,402	\$ 368,402	\$ 368,402	\$ 368,402	\$ 368,402
Plus: Reserve Funding from New Debt Obligations	-	-	-	-	-	-
Less: Transfer of Surplus to Operating Reserve	-	-	-	-	-	-
Ending Debt Reserve Balance	\$ 368,402	\$ 368,402	\$ 368,402	\$ 368,402	\$ 368,402	\$ 368,402
Target Ending Balance	\$ 429,623	\$ 429,623	\$ 429,623	\$ 429,623	\$ 429,623	\$ 429,623
GRAND TOTAL: Ending Balance	\$ 3,816,286	\$ 2,758,161	\$ 1,834,428	\$ 1,479,139	\$ 1,271,865	\$ 1,131,683
GRAND TOTAL: Recommended Target Ending Balance	\$ 1,145,723	\$ 1,193,123	\$ 1,196,923	\$ 1,189,423	\$ 1,194,623	\$ 1,202,523
Ending Surplus/(Deficit) Compared to Reserve Targets	\$ 2,670,563	\$ 1,565,038	\$ 637,505	\$ 289,716	\$ 77,242	\$ (70,840)
Annual Interest Earnings Rate ⁶	1.01%	1.01%	1.01%	1.01%	1.01%	1.01%

1. Beginning cash balances are from the Adjusted Trial Balance report provided by City Staff, source file: *Fund Financial Rollup 03.29.19 - Published.xlsx*. Both the beginning the City is cash balance and LAIF investments are considered cash in this analysis. NBS assumes that holding sufficient funds to meet the reserve requirement for the State Revolving Fund Loan and the Revenue Bonds, so that amount is segregated into the Debt Reserve for purposes of this analysis.

2. The target Capital Reserve balance is 3% of Net Capital Assets (value of capital assets less accumulated depreciation). This represents an average replacement cycle of 33 years.

3. Beginning cash balance for the Sewer Revenue Bond Project Fund is from source file: *Sewer Bond CIP Projects Unspent Funds Recon.xlsx*.

4. Use of reserves for capital projects for FY 2018/19 includes the City's \$1.5M commitment for the Whiskey Springs project and \$9.3K paid to ILS Associates for civil engineering services.

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5. Beginning cash balance for the Sewer Debt Reserve is from source file: *Fund Financial Rollup 03.29.19 - Published.xlsx*.
6. Historical interest earning rates are per the 10-year average annual yields for funds invested in LAIF (2007/08-2016/17). The source is the California State Treasurer's website:
<https://www.treasurer.ca.gov/pmia-laif/historical/annual.asp>.

CHART 1

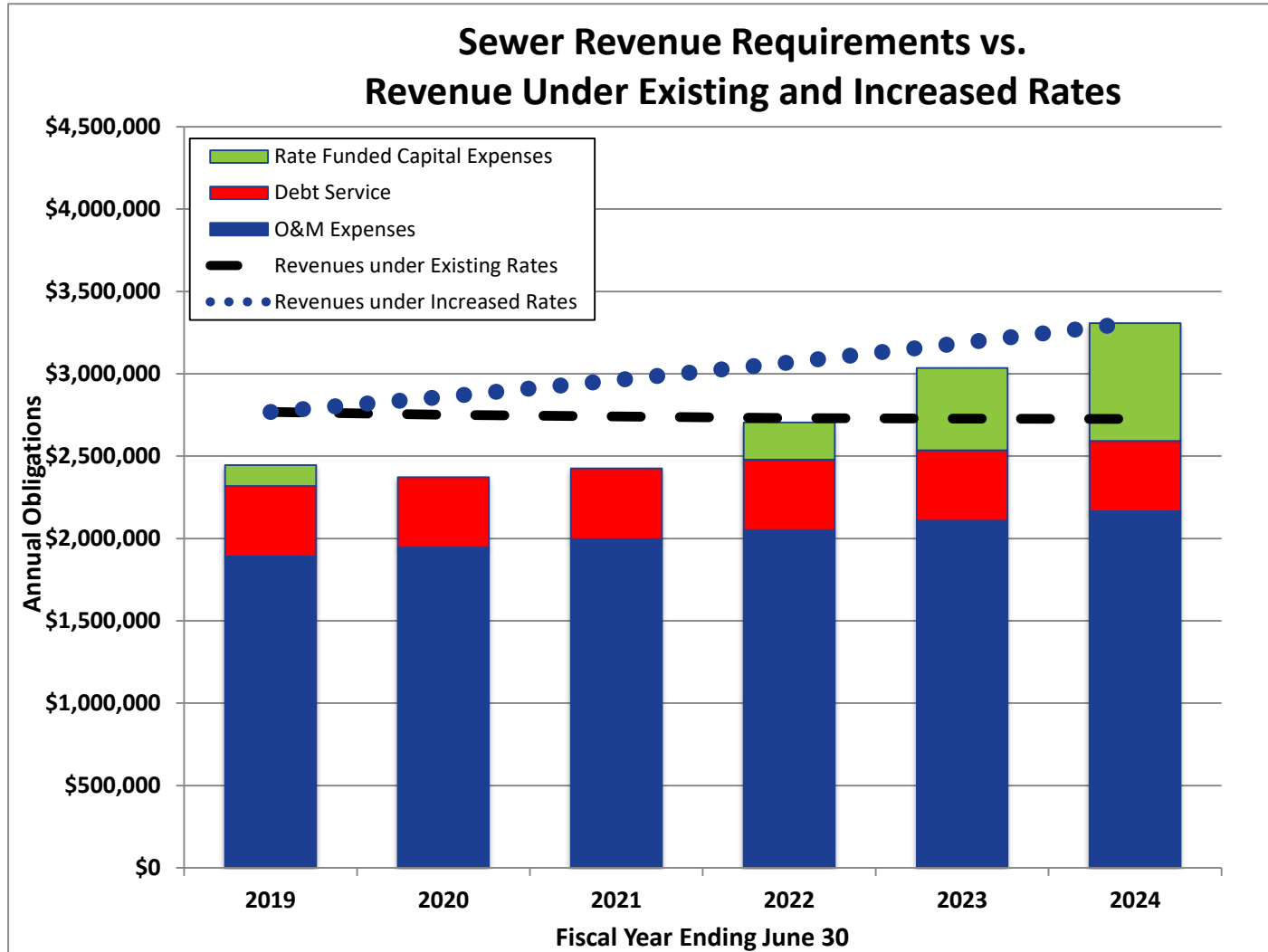
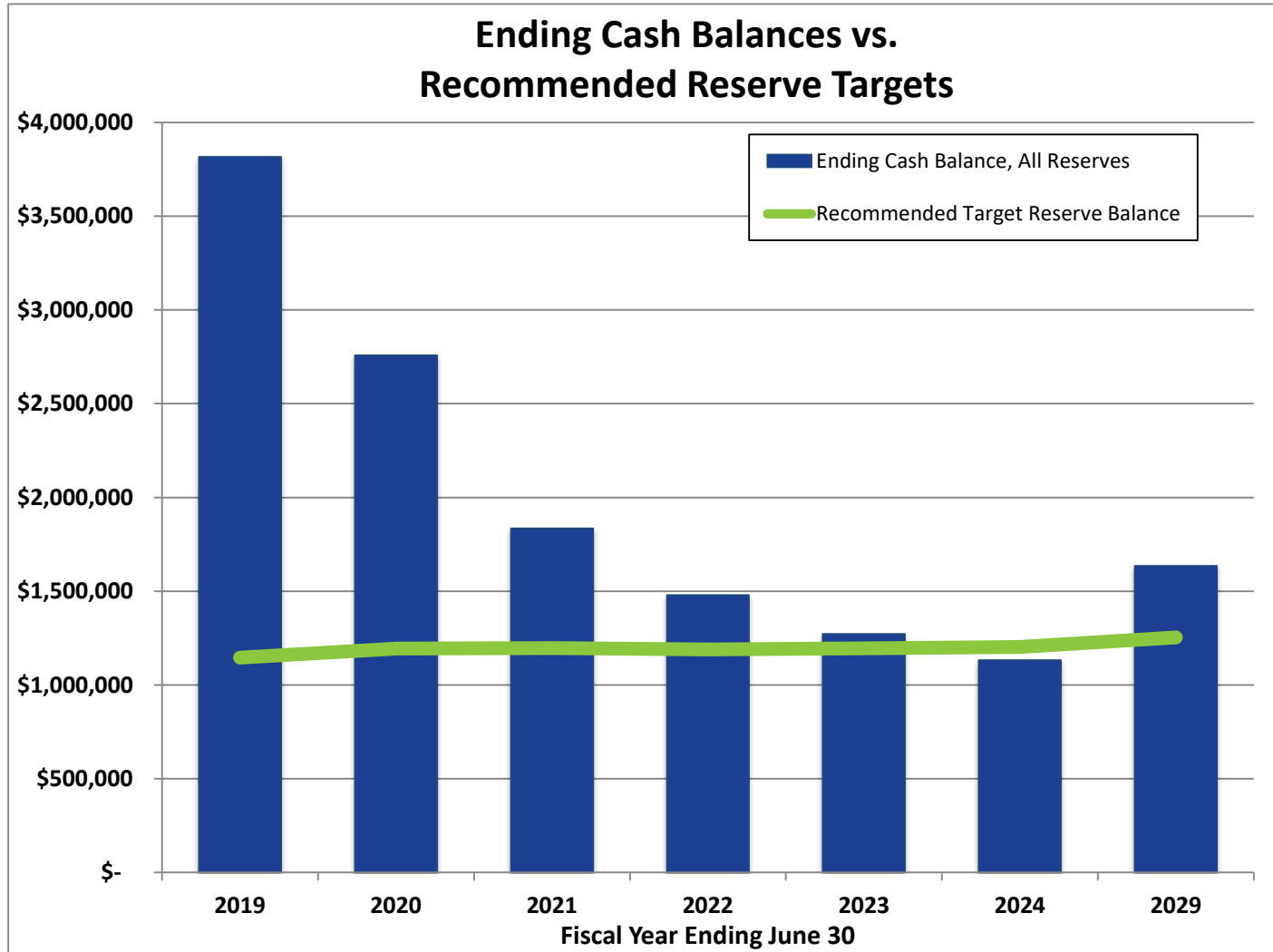


CHART 2



CITY OF SAUSALITO
DRAFT - SEWER RATE STUDY (Rate Alternative #3)
Operating Revenue and Expenses

TABLE : 3 REVENUE FORECAST ¹

Budget

Operating Revenue	Basis	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
Sewer Fees on Property Tax Bill	1	\$ 2,705,359	\$ 2,705,359	\$ 2,705,359	\$ 2,705,359	\$ 2,705,359	\$ 2,705,359
Permit and Plan Charges	1	-	-	-	-	-	-
Interest ²	Ref to FP	-	-	-	-	-	-
Sewer Lateral Inspection/Certification	6	7,500	7,500	7,500	7,500	7,500	7,500
SRF Loan Proceeds ³	Ref to FP	-	-	-	-	-	-
Transfer In from General Fund ⁴	Ref to FP	5,000	-	-	-	-	-
Total: Operating Revenue		\$ 2,717,859	\$ 2,712,859	\$ 2,712,859	\$ 2,712,859	\$ 2,712,859	\$ 2,712,859
Sewer Rate Revenue		\$ 2,705,359	\$ 2,705,359	\$ 2,705,359	\$ 2,705,359	\$ 2,705,359	\$ 2,705,359
All Other Operating Revenue		12,500	7,500	7,500	7,500	7,500	7,500
Total: Operating Revenue		\$ 2,717,859	\$ 2,712,859	\$ 2,712,859	\$ 2,712,859	\$ 2,712,859	\$ 2,712,859

CITY OF SAUSALITO
DRAFT - SEWER RATE STUDY (Rate Alternative #3)
Operating Revenue and Expenses

TABLE : 4 OPERATING EXPENSE FORECAST ¹

Operating Expenses	Basis	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
Salaries and Benefits							
Non-Department (110-190)							
Health Insurance	3	\$ 2,603	\$ 3,812	\$ 3,913	\$ 4,017	\$ 4,124	\$ 4,234
PERS Employer Contribution	3	-	-	-	-	-	-
Sewer (110-550)							
Salaries & Wages	3	509,905	523,463	537,381	551,669	566,338	581,396
Overtime	3	25,000	25,665	26,347	27,048	27,767	28,505
Transportation Allowance	3	1,750	1,797	1,844	1,893	1,944	1,995
Health Insurance	3	-	-	-	-	-	-
Cafeteria Plan	3	121,822	125,061	128,386	131,800	135,304	138,902
Medicare	3	6,462	6,634	6,811	6,992	7,178	7,368
PERS Employer Contribution	3	40,327	41,399	42,500	43,630	44,790	45,981
PERS ER UAAL Miscellaneous	3	51,156	52,516	53,913	55,346	56,818	58,328
State Unemployment	3	4,457	4,575	4,697	4,822	4,950	5,082
Workers' Compensation	3	97,700	100,298	102,965	105,703	108,513	111,398
Subtotal: Salaries and Benefits		\$ 861,181	\$ 885,219	\$ 908,756	\$ 932,919	\$ 957,725	\$ 983,190

CITY OF SAUSALITO
DRAFT - SEWER RATE STUDY (Rate Alternative #3)
Operating Revenue and Expenses

TABLE : 5 OPERATING EXPENSE FORECAST, continued ¹

Operating Expenses	Basis	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
All Other Operating Expenses							
Contract Labor	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Professional Services	2	120,000	123,360	126,814	130,365	134,015	137,768
Technical Services	2	175,000	179,900	184,937	190,115	195,439	200,911
Health & Medical on Job	2	-	-	-	-	-	-
Utilities - Electricity	2	6,500	6,682	6,869	7,061	7,259	7,462
Utilities - Telephone	2	8,500	8,738	8,983	9,234	9,493	9,759
Utilities - Water	2	2,000	2,056	2,114	2,173	2,234	2,296
Utilities - Sewer	2	20,000	20,560	21,136	21,727	22,336	22,961
Utilities - Solid Waste	2	8,500	8,738	8,983	9,234	9,493	9,759
Cleaning Services	2	5,000	5,140	5,284	5,432	5,584	5,740
Repair & Maint Buildings	2	1,000	1,028	1,057	1,086	1,117	1,148
Repair Machinery & Equip	2	-	-	-	-	-	-
Repair & Maint Vehicles	2	10,000	10,280	10,568	10,864	11,168	11,481
Repair of Sewer Infrastructure	Ref to CIP	-	-	-	-	-	-
Aggregates	2	5,000	5,140	5,284	5,432	5,584	5,740
Rental Mach and Equip	2	20,000	20,560	21,136	21,727	22,336	22,961
Sewer Management Prog.	2	25,000	25,700	26,420	27,159	27,920	28,702
Riverwatch Settlement Insp.	2	21,012	21,600	22,205	22,827	23,466	24,123
Riverwatch Settlement Repairs	2	31,518	32,401	33,308	34,240	35,199	36,185
Riverwatch Settlement Loans	2	7,354	7,560	7,772	7,989	8,213	8,443
Subtotal: All Other Operating Expenses		\$ 466,384	\$ 479,443	\$ 492,867	\$ 506,668	\$ 520,854	\$ 535,438

CITY OF SAUSALITO
DRAFT - SEWER RATE STUDY (Rate Alternative #3)
Operating Revenue and Expenses

TABLE : 6 OPERATING EXPENSE FORECAST, continued ¹

Operating Expenses	Basis	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
All Other Operating Expenses, cont.							
MERA Principal Share (4%)	2	10,694	10,993	11,301	11,617	11,943	12,277
MERA Interest Share (4%)	2	1,333	1,370	1,409	1,448	1,489	1,530
MERA - New Debt	2	428	439	452	464	477	491
MERA - Operating Costs	2	3,671	3,774	3,879	3,988	4,100	4,215
SRF Debt Service ⁵	Ref to FP	-	-	-	-	-	-
Fiscal Agent Fees	2	-	-	-	-	-	-
Insurance - Liability	2	60,000	61,680	63,407	65,182	67,008	68,884
Advertising - Hiring	2	-	-	-	-	-	-
Advertising - Noticing	2	750	771	793	815	838	861
Printing - External Service	2	750	771	793	815	838	861
Permits	2	15,000	15,420	15,852	16,296	16,752	17,221
Conferences	2	5,000	5,140	5,284	5,432	5,584	5,740
Training and Workshops	2	15,000	15,420	15,852	16,296	16,752	17,221
Mileage Reimbursement	2	1,000	1,028	1,057	1,086	1,117	1,148
Employee Education Reimbursement	2	-	-	-	-	-	-
Dues and Subscriptions	2	5,000	5,140	5,284	5,432	5,584	5,740
Supplies - General	2	30,000	30,840	31,704	32,591	33,504	34,442
Office Supplies	2	1,500	1,542	1,585	1,630	1,675	1,722
Postage	2	-	-	-	-	-	-
Oil and Gasoline	2	2,500	2,570	2,642	2,716	2,792	2,870
Uniforms	2	5,000	5,140	5,284	5,432	5,584	5,740
Safety Supplies	2	5,000	5,140	5,284	5,432	5,584	5,740
Books	2	500	514	528	543	558	574
Machinery and Equipment ⁶	2	20,000	20,560	21,136	21,727	22,336	22,961
Vehicles ⁶	2	139,000	142,892	146,893	151,006	155,234	159,581
Computer Equipment ⁶	2	5,000	5,140	5,284	5,432	5,584	5,740
Admin Charge - General Fund	2	225,000	231,300	237,776	244,434	251,278	258,314
Transfer to Gen CIP Fund	Ref to CIP	-	-	-	-	-	-
Transfer to EE Benefits Fund	2	11,142	11,454	11,775	12,104	12,443	12,792
Urgent Repairs (110-555)	Ref to CIP	-	-	-	-	-	-
Subtotal: All Other Operating Expenses		\$ 563,267	\$ 579,039	\$ 595,252	\$ 611,919	\$ 629,052	\$ 646,666
Total: All Other Operating Expenses		\$ 1,029,651	\$ 1,058,482	\$ 1,088,119	\$ 1,118,586	\$ 1,149,907	\$ 1,182,104
Total: Operating Expenses		\$ 1,890,832	\$ 1,943,701	\$ 1,996,875	\$ 2,051,506	\$ 2,107,632	\$ 2,165,294

CITY OF SAUSALITO
DRAFT - SEWER RATE STUDY (Rate Alternative #3)
Operating Revenue and Expenses

TABLE : 7 FORECASTING ASSUMPTIONS ⁷

Economic Variables	Basis	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
Customer Growth ⁸	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
General Cost Inflation	2	0.00%	2.80%	2.80%	2.80%	2.80%	2.80%
Wages Cost Inflation	3	0.00%	2.66%	2.66%	2.66%	2.66%	2.66%
Other	4	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Other	5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
No Escalation	6	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

1. Revenue and expenses for FY 2017/18 are based on actuals from source file: *Fund 110 (Sewer) - Actuals_Budget 2017-18.xlsx* . The budget for FY 2018/19 is from source file: *Fund 110 (Sewer) - Budget 2018-19.x*. Inflationary factors are applied to revenues and expenses in FY 2019/20 and beyond.
2. Budgeted Interest was zeroed out here because it is calculated in the Financial Plan section of this model. Refer to Table 2 (Reserve Fund Summary).
3. SRF Loan Proceeds were zeroed out here because they are shown in the Financial Plan section of this model as well as Exhibit 3 (Debt).
4. The budgeted Transfers In from the General Fund and Sewer Reserves are zeroed out in this Exhibit. Any transfers are handled in Table 2 (Reserve Fund Summary) of the Financial Plan.
5. SRF Debt Service is considered as part of Exhibit 3 (Debt).
6. Capitalized expenditures are considered in Exhibit 2.
7. Inflation factors are based on the CPI 20-year average for the San Francisco area. Source files: *CPI - All Urban Consumers (San Francisco).xlsx* and *CPI - All Urban Wage Earners (San Francisco).xlsx*.
8. NBS assumes no significant growth in customers for Sausalito.

CITY OF SAUSALITO
DRAFT - SEWER RATE STUDY (Rate Alternative #3)
Capital Improvement Plan Expenditures

TABLE : 8 CAPITAL FUNDING SUMMARY

CAPITAL FUNDING FORECAST	Budget		Projected			
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
Funding Sources:						
Grants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
State Revolving Fund Loan	-	-	-	-	-	-
Revenue Bond	-	1,411,200	968,801	-	-	-
Use of Capital Reserves	-	135,000	491,499	720,226	359,736	144,563
Rate Revenue	127,500	-	-	224,674	499,264	714,437
Total Sources of Capital Funds	\$ 127,500	\$ 1,546,200	\$ 1,460,300	\$ 944,900	\$ 859,000	\$ 859,000
Uses of Capital Funds:						
Effective Annual Funding of Capital Expenditures	\$ 127,500	\$ 1,546,200	\$ 1,460,300	\$ 944,900	\$ 859,000	\$ 859,000
Capital Funding Surplus (Deficiency)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Revenue Bond Proceeds¹	\$ 2,380,001	\$ -	\$ -	\$ -	\$ -	\$ -
Project Costs to be Funded with Revenue Bonds	\$ -	\$ 1,411,200	\$ 968,801	\$ -	\$ -	\$ -

1. Unspent project funds from Sewer Bond as of June 30, 2018, per data source: *Sewer Bond CIP Projects Unspent Funds Recon.xlsx*. NBS assumes these funds will be spent on pipeline replacement.

CITY OF SAUSALITO
DRAFT - SEWER RATE STUDY (Rate Alternative #3)
Capital Improvement Plan Expenditures

CAPITAL IMPROVEMENT PROGRAM

SCENARIO 1

TABLE : 9 Original Capital Improvement Program Costs (in Current-Year Dollars) ¹

Project Description	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
Pump Station						
Whiskey Springs Rehabilitation Project ²	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Collection System						
Pipe Replacement ³	-	1,120,000	1,120,000	1,120,000	1,120,000	1,120,000
Contingency/Engineering/Admin/Construction Mgmt.	-	448,000	448,000	448,000	448,000	448,000
Allowance for Unknown Capital Expenditures		150,000	150,000	150,000	150,000	150,000
Infrastructure & Urgent Repairs ⁴	500,000	-	-	-	-	-
Other General Operating Capital Expenditures ⁵	-	-	-	-	-	-
Total: Original Cost Estimate Per Year	\$ 500,000	\$ 1,718,000	\$ 1,718,000	\$ 1,718,000	\$ 1,718,000	\$ 1,718,000

TABLE : 10 Capital Improvement Program Costs (Recalculation per City's request) ⁶

Project Description	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
Pump Station						
Whiskey Springs Rehabilitation Project ²	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Collection System						
Pipe Replacement ³	-	1,008,000	952,000	616,000	560,000	560,000
Contingency/Engineering/Admin/Construction Mgmt.	-	403,200	380,800	246,400	224,000	224,000
Allowance for Unknown Capital Expenditures	-	135,000	127,500	82,500	75,000	75,000
Infrastructure & Urgent Repairs ⁴	127,500	-	-	-	-	-
Other General Operating Capital Expenditures ⁵	-	-	-	-	-	-
Total: Cost Estimate Per Year	\$ 127,500	\$ 1,546,200	\$ 1,460,300	\$ 944,900	\$ 859,000	\$ 859,000

- Capital improvement projects and cost data were provided by the V.W. Housen and Associates in an email dated 03/08/2019 (Scenario 1). NBS assumes that project costs were provided in current year dollars.
- The FY 2019/20 project cost for Whiskey Springs was zeroed out because it is accounted for in the Financial Plan section (see *Sewer Revenue Bond Project Fund*).
- Estimated cost of the gravity sewer system to replace 3,200 linear feet of pipe per year for 5 years. Per the City's request, the project cost has been reduced to limit the annual rate increase to 3%.
- For FY 2018/19, this expense is per the City's operating budget. Based on input from V.W. Housen and Associates it is not projected to continue annually. For FY 2019/20 and future years, this cost is projected to continue annually.
- Per V.W. Housen, \$1M/year (2019 values) is not sufficient. However, future projects have been recalculated based on the average of the reduced cost of rate-funded capital projects in FY 2019/20.
- Future project costs are calculated based on the City's request to keep annual rate increases at 3%.

CITY OF SAUSALITO
DRAFT - SEWER RATE STUDY (Rate Alternative #3)
Debt Service

TABLE : 11 EXISTING DEBT OBLIGATIONS

EXISTING DEBT OBLIGATIONS	Budget		Projected			
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
Annual Repayment Schedules:						
2011 SRF Project No. C-06-5354-110, Agreement No. 11-824-550-1						
Principal Payment	\$ 44,682	\$ 45,843	\$ 47,035	\$ 48,258	\$ 49,513	\$ 50,800
Interest Payment	\$ 22,692	\$ 21,530	\$ 20,338	\$ 19,115	\$ 17,860	\$ 16,573
Subtotal: Annual Debt Service	\$ 67,373	\$ 67,373	\$ 67,373	\$ 67,373	\$ 67,373	\$ 67,373
Coverage Requirement (% above annual payment) ¹	10%	10%	10%	10%	10%	10%
Reserve Requirement (total fund balance) ¹	\$ 67,373	\$ 67,373	\$ 67,373	\$ 67,373	\$ 67,373	\$ 67,373
2015 Sewer Revenue Bonds						
Principal Payment	\$ 155,000	\$ 160,000	\$ 165,000	\$ 170,000	\$ 175,000	\$ 180,000
Interest Payment	205,081	200,431	195,631	190,681	185,581	180,331
Subtotal: Annual Debt Service	\$ 360,081	\$ 360,431	\$ 360,631	\$ 360,681	\$ 360,581	\$ 360,331
Coverage Requirement (% above annual payment) ²	10%	10%	10%	10%	10%	10%
Reserve Requirement (total fund balance) ³	\$ 362,250	\$ 362,250	\$ 362,250	\$ 362,250	\$ 362,250	\$ 362,250
Grand Total: Existing Annual Debt Service	\$ 427,454	\$ 427,804	\$ 428,004	\$ 428,054	\$ 427,954	\$ 427,704
Grand Total: Existing Annual Coverage Requirement	10%	10%	10%	10%	10%	10%
Grand Total: Existing Debt Reserve Target	\$ 429,623	\$ 429,623	\$ 429,623	\$ 429,623	\$ 429,623	\$ 429,623
<i>New Reserve Funding Assumed</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

1. Per Exhibit D - Special Conditions of Amendment No. 1 to Project No. C-06-5354-110, Agreement No. 11-824-550. Source file: *2011 SRF Loan 5354-110 Executed Amend #1_4-17-13.pdf*.
2. Per the Rate Covenant section of the 2015 Sewer Revenue Bonds. Source file: *Installment Sale Agreement.pdf, page 11-12*.
3. Per the Reserve Account section of the 2015 Sewer Revenue Bonds. Source file: *Sausalito Financing Authority.pdf, page 24-25*.

TABLE : 12 TOTAL DEBT SERVICE

Annual Obligations	2019	2020	2021	2022	2023	2024
Annual Debt Service	\$ 427,454	\$ 427,804	\$ 428,004	\$ 428,054	\$ 427,954	\$ 427,704
Annual Coverage Requirement	10%	10%	10%	10%	10%	10%
Total Debt Reserve Target	\$ 429,623	\$ 429,623	\$ 429,623	\$ 429,623	\$ 429,623	\$ 429,623

CITY OF SAUSALITO
DRAFT - SEWER RATE STUDY (Rate Alternative #3)
Summary of Residential and Commercial Parcels, Units and Winter Water Use

TABLE : 13 CURRENT RATE SCHEDULE (FROM 2014 RATE STUDY)

Customer Class	Five Year Sewer Rate Schedule				
	FY 2014/15	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19
Residential Customers					
<u>Fixed Charges (\$/Year/Dwelling Unit)</u>					
Single-Family	\$476.25	\$490.53	\$505.25	\$525.46	\$546.48
Single-Family Attached	\$341.40	\$351.65	\$362.20	\$376.68	\$391.75
Duplexes	\$366.89	\$377.89	\$389.23	\$404.80	\$420.99
Multi-Family	\$270.36	\$278.48	\$286.83	\$298.30	\$310.24
<u>Volumetric Charges (\$/ccf of Average Winter Water Use)</u>					
All Residential Customers	\$0.91	\$0.98	\$1.01	\$1.05	\$1.10
Commercial/Industrial Customers					
<u>Fixed Charges (\$/Year/Dwelling Unit)</u>					
All Commercial and Industrial	\$476.25	\$490.53	\$505.25	\$525.46	\$546.48
<u>Volumetric Charges (\$/ccf of Annual Water Use in Prior Calendar Year)</u>					
All Commercial and Industrial	\$0.91	\$0.98	\$1.01	\$1.05	\$1.10

CITY OF SAUSALITO

DRAFT - SEWER RATE STUDY (Rate Alternative #3)

Summary of Residential and Commercial Parcels, Units and Winter Water Use

TABLE : 14 SUMMARY OF RESIDENTIAL AND COMMERCIAL PARCELS, UNITS AND WINTER WATER USE (2018) ¹

Customer Class	No. of Parcels (APN's) ¹	No. of Equivalent Dwelling Units (EDU's)	% of EDU's by Class	Total Winter Consumption ² (ccf)	Total Billed Consumption (ccf)	% of Billed Consumption
Residential Classes						
Single-Family	1,222	1,220	22%	15,658	93,948	31%
Single-Family Attached	901	901	16%	6,284	37,704	12%
Duplexes	525	1,050	19%	7,456	43,944	14%
Multi-Family	190	1,014	18%	6,263	37,578	12%
Total - All Residential	2,838	4,185	76%	35,661	213,174	70%
Commercial/Industrial Classes						
Commercial/Industrial ³	203	1,340	24%	15,474	92,846	30%
Total - Residential & Commercial/Industrial	3,041	5,525	100%	51,135	306,020	100%

1. Source of Data: County Assessor's Parcel Data (APN's) and water use data from Marin-Municipal Water District (MMWD). Residential data excludes vacant, exempt and parcels noted as "Septic." See NBS reconciliation file: *Sausalito Sewer - FY 2018-19 v4.xlsx*.

2. Reflects winter water use for January & February 2018 from MMWD records. Commercial/Industrial is the annual average for a 2-month period.

3. Includes exempt parcels with meters, which will need to be billed directly by City vs. on the County tax roll.

CITY OF SAUSALITO

DRAFT - SEWER RATE STUDY (Rate Alternative #3)

Summary of Residential and Commercial Parcels, Units and Winter Water Use

TABLE : 15 AVERAGE CONSUMPTION STATISTICS

Customer Class	No. of Equivalent Dwelling Units (EDU's)	Total Winter Consumption (ccf)	Average Winter Consumption Per EDU (ccf) ¹	Comparison of ccf/DU to SFR
Residential Classes				
Single-Family	1,220	15,658	12.8	100%
Single-Family Attached	901	6,284	7.0	54%
Duplexes	1,050	7,456	7.1	55%
Multi-Family	1,014	6,263	6.2	48%
Average - All Residential	4,185	35,661	8.5	66%
Commercial/Industrial Classes				
Commercial/Industrial ²	1,340	15,474	11.5	90%
Total / Average Residential & Comm./Ind.	5,525	51,135	9.3	72%

1. Reflects per APN and DU winter water use statistics for January & February 2018 from MMWD records. Commercial/Industrial is the annual average for a 2-month period.

2. Includes exempt parcels with meters, which will need to be billed directly by City vs. on the County tax roll.

TABLE : 16 SUMMARY OF FY 2018/19 RATE REVENUE BY CUSTOMER CLASS

Customer Class	No. of EDU's	Total Billed Consumption (ccf)	Current Fixed Charge Per EDU	Current Volumetric Charge Per ccf Billed	Total Revenue from Fixed Charges	Total Revenue from Volumetric Charges	Total Rate Revenue
Single-Family	1,220	93,948	\$546.48	\$1.10	\$ 666,706	\$ 103,343	\$ 770,048
Single-Family Attached	901	37,704	\$391.75	\$1.10	352,967	41,474	394,441
Duplexes	1,050	43,944	\$420.99	\$1.10	442,040	48,338	490,378
Multi-Family Residential	1,014	37,578	\$310.24	\$1.10	314,583	41,336	355,919
Commercial/Industrial	1,340	92,846	\$546.48	\$1.10	732,283	102,131	834,414
Total	5,525	306,020			\$ 2,508,578	\$ 336,622	\$ 2,845,200
% Fixed vs. Variable					88%	12%	100%

CITY OF SAUSALITO
DRAFT - SEWER RATE STUDY (Rate Alternative #3)
Calculation of Sewer Rates

TABLE : 17 DEVELOPMENT OF FY 2019/20 SEWER RATES - FIXED CHARGES

Customer Class	Billing Units EDU's	Total Billed Consumption/ Est. Sewer Flow (ccf)	% of Annual Consumption	FY 2019/20 Target Revenue Requirement	Fixed Revenue Requirement	Annual Fixed Charge Per EDU	% of SFR Fixed Charge
<i>FY 2019/20 Target Rate Revenue</i>				\$ 2,813,574			
Residential							
Single-Family	1,220	93,948	31%	\$ 863,766	\$ 761,572	\$624.24	100%
Single-Family Attached	901	37,704	12%	346,654	305,640	\$339.22	54%
Duplexes	1,050	43,944	14%	404,025	356,224	\$339.26	54%
Multi-Family	1,014	37,578	12%	345,495	304,619	\$300.41	48%
Total - Residential	4,185	213,174	70%	\$ 1,959,940	\$ 1,728,055		
All Commercial/Industrial							
Commercial/Industrial	1,340	92,846	30%	\$ 853,634	\$ 752,639	\$561.67	90%
Total - Commercial/Industrial	1,340	92,846	30%	\$ 853,634	\$ 752,639		
Total - Residential & Commercial/Industrial	5,525	306,020	100%	\$ 2,813,574	\$ 2,480,694		
<i>% of Rate Revenue Collected from Fixed Charges</i>					88%		

TABLE : 18 DEVELOPMENT OF FY 2019/20 SEWER RATES - VARIABLE CHARGES

Customer Class	Total Billed Consumption/ Est. Sewer Flow (ccf)	% of Annual Consumption	FY 2019/20 Target Revenue Requirement	Variable Revenue Requirement	Variable Charge Per ccf
Residential	213,174	70%	\$ 1,959,940	\$ 231,885	\$1.09
Commercial/Industrial	92,846	30%	853,634	100,995	\$1.09
Total - Residential & Commercial/Industrial	306,020	100%	\$ 2,813,574	\$ 332,880	
<i>% of Rate Revenue Collected from Variable Charges</i>				12%	

CITY OF SAUSALITO
DRAFT - SEWER RATE STUDY (Rate Alternative #3)
Proposed Sewer Rates

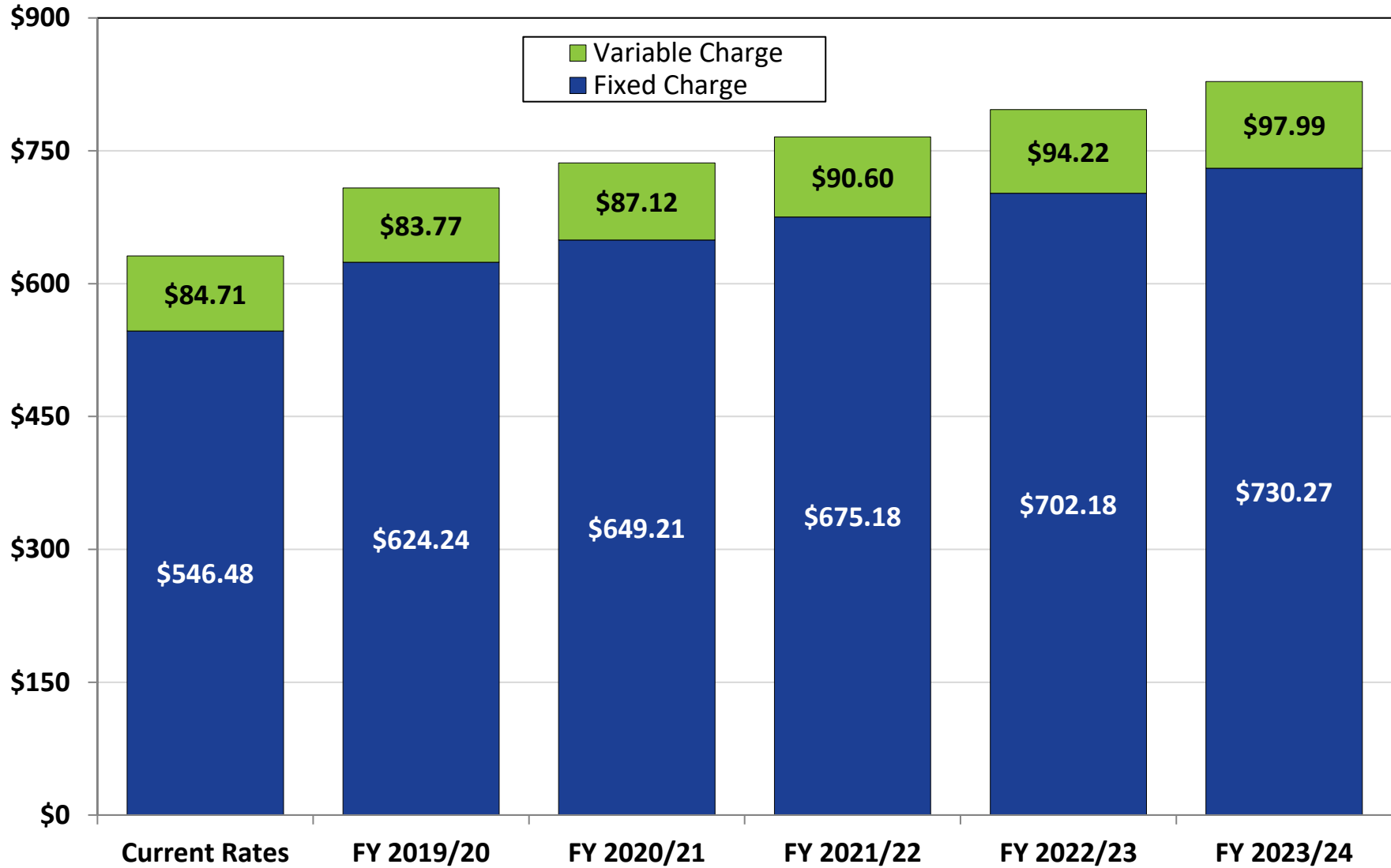
TABLE : 19 PROPOSED RATE SCHEDULE

Customer Class	Current Rates	Proposed Sewer Rates				
		FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24
Residential Customers						
Fixed Charges (\$/Year/EDU)						
Single-Family	\$546.48	\$624.24	\$649.21	\$675.18	\$702.18	\$730.27
Single-Family Attached	\$391.75	\$339.22	\$352.79	\$366.90	\$381.58	\$396.84
Duplexes	\$420.99	\$339.26	\$352.83	\$366.94	\$381.62	\$396.89
Multi-Family	\$310.24	\$300.41	\$312.43	\$324.93	\$337.92	\$351.44
Volumetric Charges (\$/ccf of Average Winter Water Use)¹						
All Residential Customers	\$1.10	\$1.09	\$1.13	\$1.18	\$1.22	\$1.27
Commercial/Industrial Customers						
Fixed Charges (\$/Year/EDU)						
All Commercial and Industrial	\$546.48	\$561.67	\$584.14	\$607.50	\$631.80	\$657.08
Volumetric Charges (\$/ccf of Annual Water Use)¹						
All Commercial and Industrial	\$1.10	\$1.09	\$1.13	\$1.18	\$1.22	\$1.27

1. Water used is based on the prior calendar year. For example in FY 2019/20, the volumetric charges will be based on water consumption in 2018.

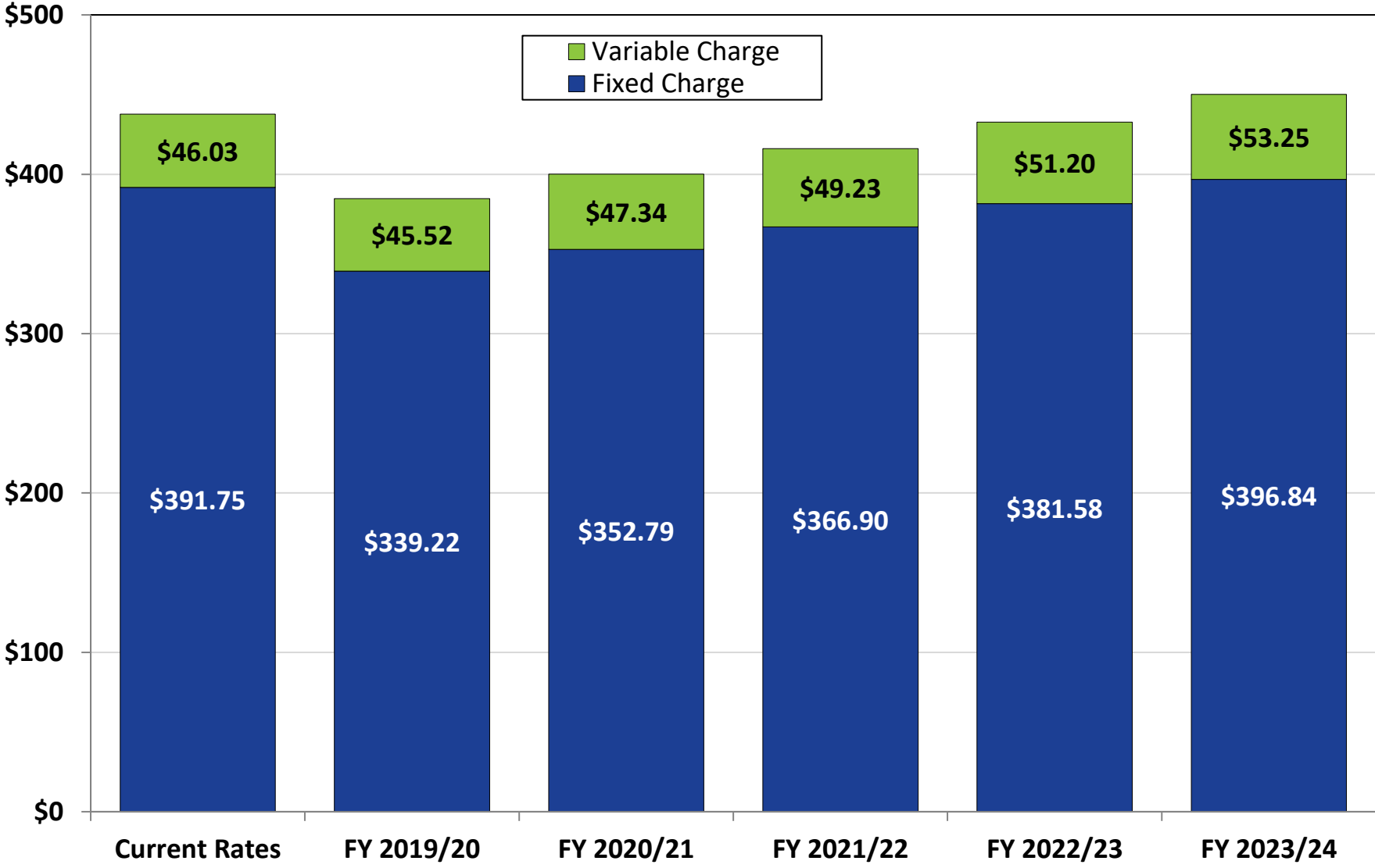
Single Family Residential Sewer Bill Comparison

(Assumes 1 DU/Residential Account and Consumption of 77 hcf/year)

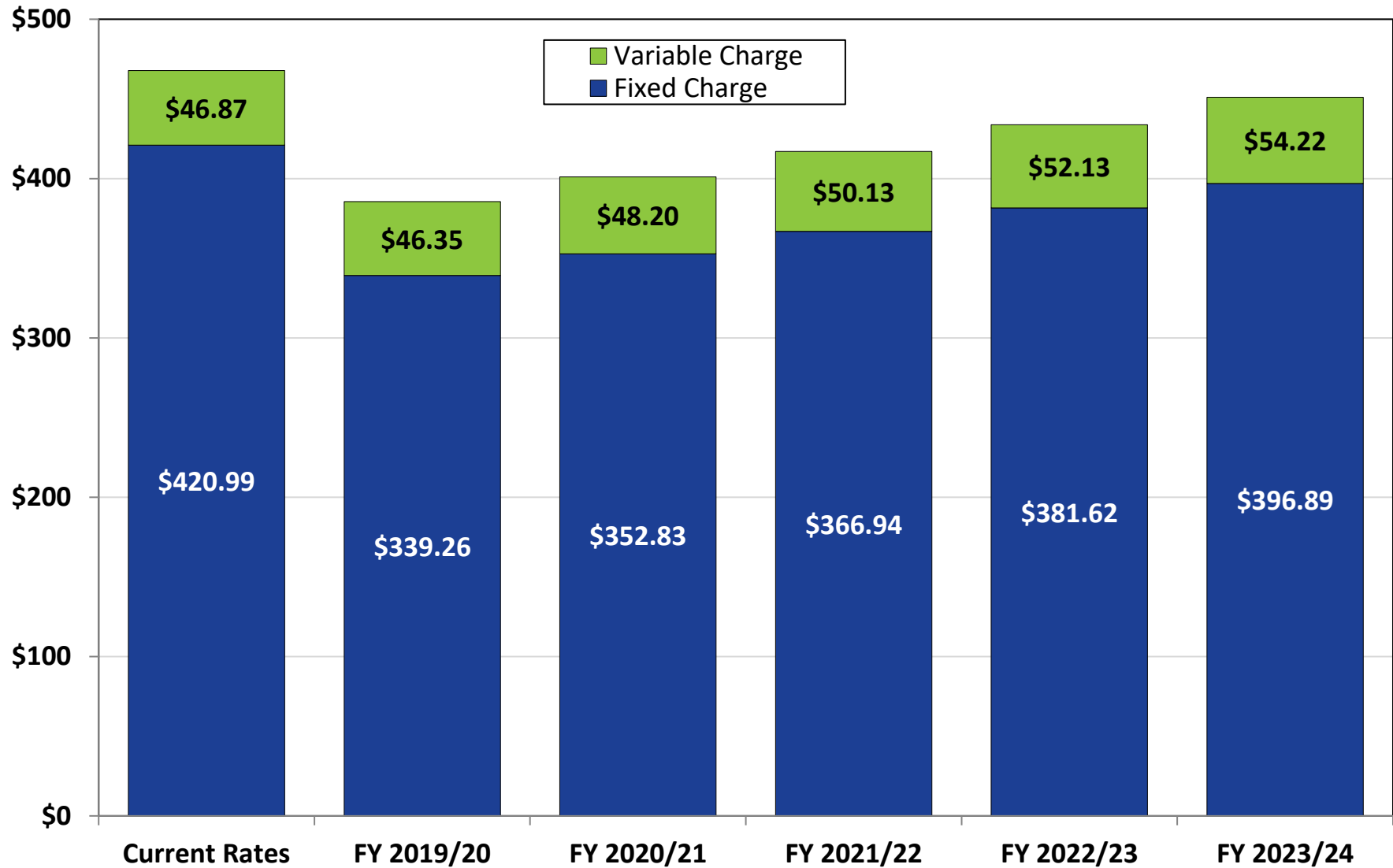


Single-Family Attached Sewer Bill Comparison

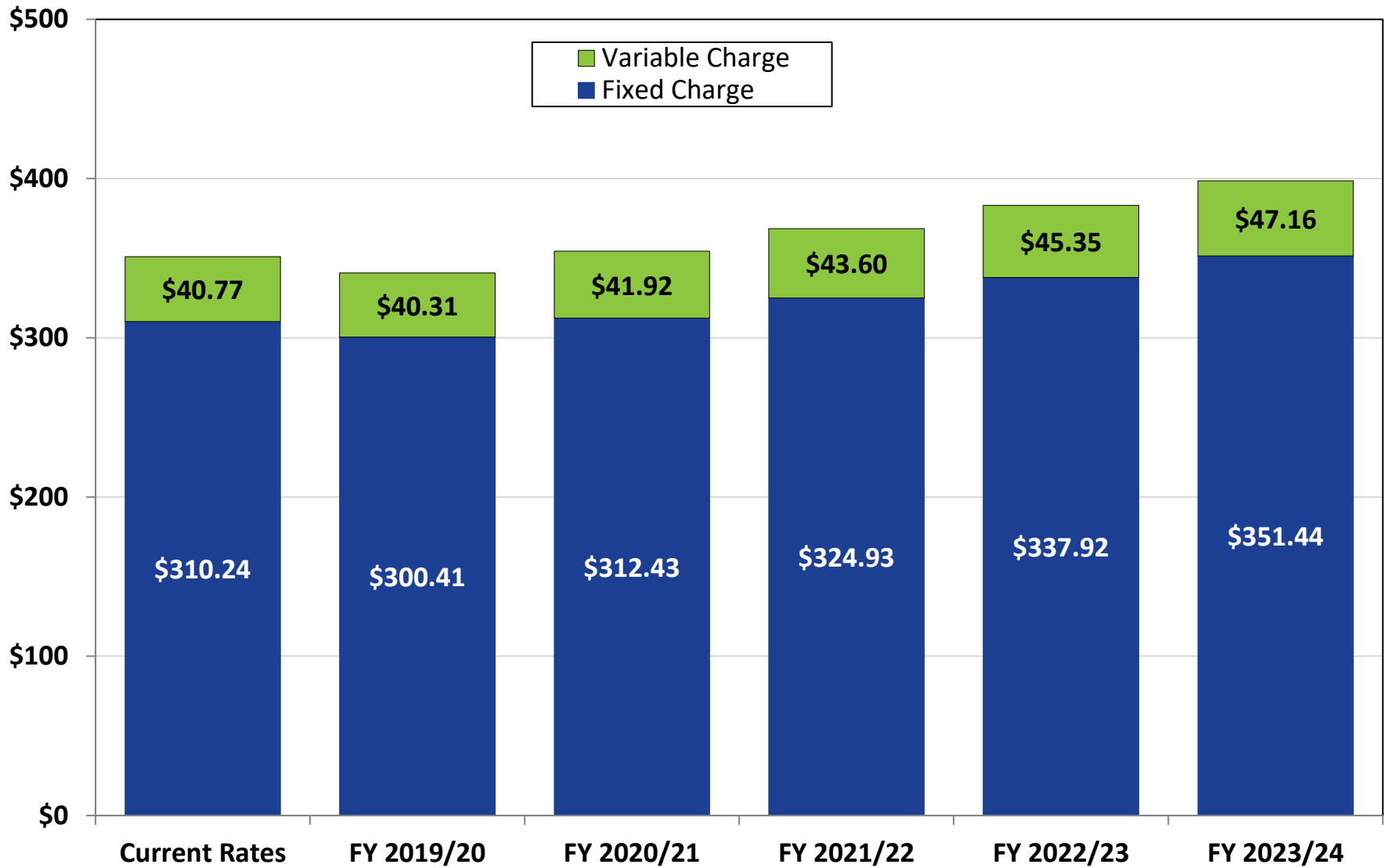
(Assumes 1 DU/Residential Account and Consumption of 42 hcf/year)



Duplexes Sewer Bill Comparison, Per Dwelling Unit (Assumes 1 DU and Consumption of 43 hcf/year)

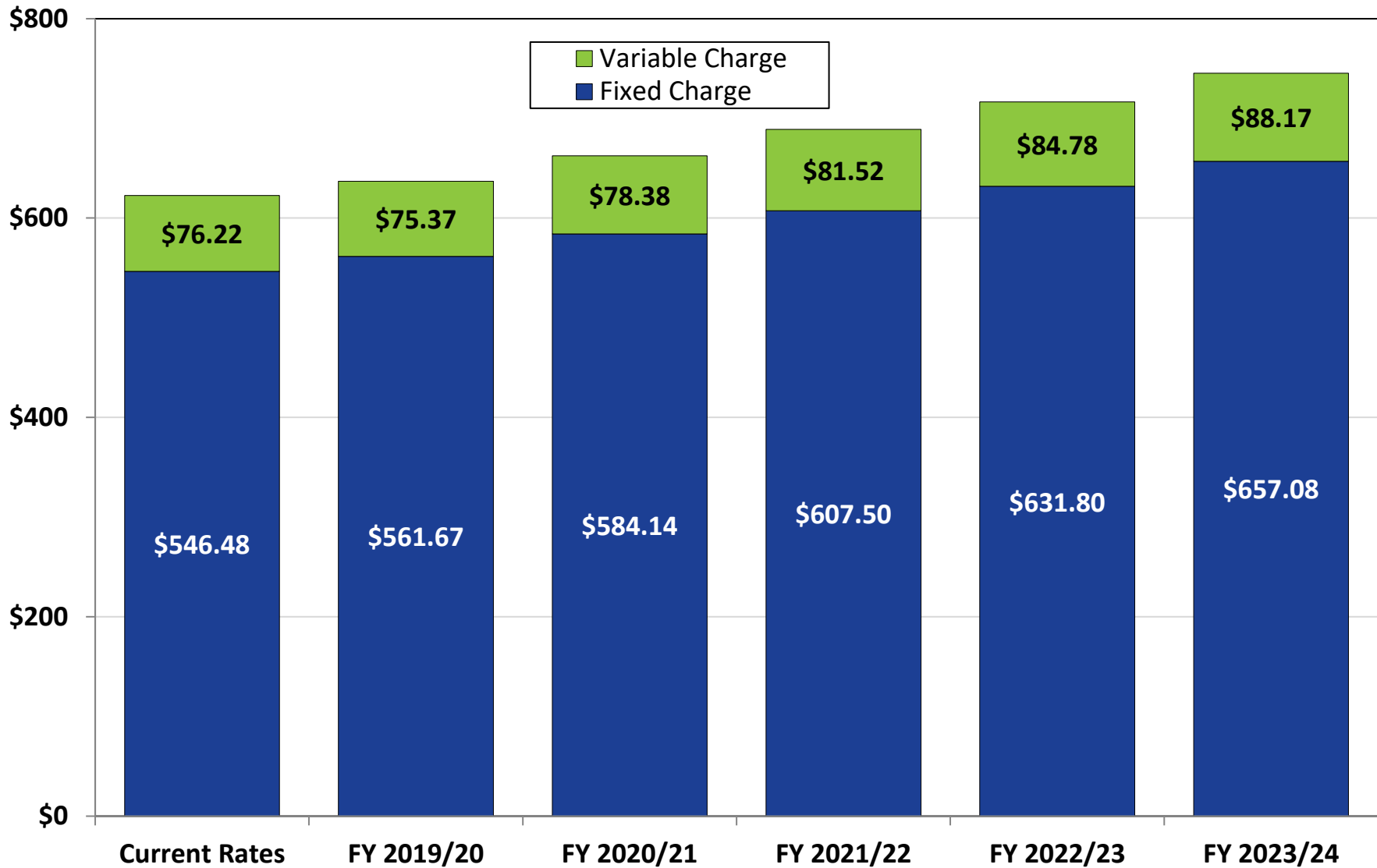


Multi-Family Residential Sewer Bill Comparison, Per Dwelling Unit (Assumes 1 DU and Consumption of 37 hcf/year)



Commercial & Industrial Sewer Bill Comparison

(Assumes 1 DU/Business Account and Consumption of 69 hcf/year)



Appendix B: Capital Improvement Plan

For the prior rate Study, the City projected 11.3M in project expenditures. Of the list presented previously, one project was completed (Spinnaker Main and Anchor Pump Station), and one project was completed via an interim solution (Gate 5 Road Pipeline). In addition, several other higher priority repairs were completed, but overall, the City was not able to implement a systematic replacement program. In part, this is because the cost to repair pipes in the City is very high due to topography, conflicting utilities, private/public issues, etc.

For the upcoming 5-year period, I would like to propose the following:

1. The gravity sewer system comprises 21 miles of pipe. Very little of this pipe has been replaced, and much of the pipe is 50-100 years old.
2. Clay pipe has an overall average lifespan of 70-100 years. In order to begin to catch up on needed repairs, I think we should project 3% replacement per year by length for the next five years.
3. This results in 3,200 linear feet of pipe replacement/year. The average cost per foot to repair pipe in the City is high.
 - $3,200 * \$350/\text{linear foot} = \$1,120,000$ construction cost for gravity pipe repairs per year.
4. The City has committed to paying for their share of Whiskey Springs/Scotty's pump station improvements
 - \$1,500,000 placeholder in 2020
5. I think the City should hold a \$150,000 annual capital reserve for emergencies.

Total anticipated capital outlay would include 40% for contingency, engineering, admin, and construction management costs, resulting in the Scenario 1 expenditures for the next five years.

One area where we could adjust cost would be to reduce the 2019-20 pipeline replacement estimate by 50% in order to better accommodate the Whiskey Springs lump sum expenditure. This adjustment would result in Scenario 2.

A second way to reduce cost would be to reduce the annual replacement schedule down to 2% of the system, or 2,200 LF per year. This would result in Scenario 3. This would be the lowest level of replacement that I can recommend, given the condition of their system.

Thank you,
Vivian

Vivian Housen, P.E.
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Walnut Creek, CA 94596
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Appendix B: Capital Improvement Plan, cont.

Scenario 1

Project	2019-20	2020-21	2021-22	2022-23	2023-24
Annual Pipeline Replacement	\$1,568,000	\$1,568,000	\$1,568,000	\$1,568,000	\$1,568,000
Whiskey Springs (Placeholder)	\$1,500,000				
Capital Reserve	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
Total Estimate of Capital Repairs	\$3,218,000	\$1,718,000	\$1,718,000	\$1,718,000	\$1,718,000

Scenario 2

Project	2019-20	2020-21	2021-22	2022-23	2023-24
Annual Pipeline Replacement	\$784,000	\$1,568,000	\$1,568,000	\$1,568,000	\$1,568,000
Whiskey Springs (Placeholder)	\$1,500,000				
Capital Reserve	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
Total Estimate of Capital Repairs	\$2,434,000	\$1,718,000	\$1,718,000	\$1,718,000	\$1,718,000

Scenario 3

Project	2019-20	2020-21	2021-22	2022-23	2023-24
Annual Pipeline Replacement	\$550,000	\$1,100,000	\$1,100,000	\$1,100,000	\$1,100,000
Whiskey Springs (Placeholder)	\$1,500,000				
Capital Reserve	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
Total Estimate of Capital Repairs	\$2,200,000	\$1,250,000	\$1,250,000	\$1,250,000	\$1,250,000