

CITY OF MORGAN HILL

Final Draft Report For:

Wastewater Rate Study

June 2024



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1. Executive Summary

In 2023, the City of Morgan Hill (“City”) retained NBS to complete an update of the wastewater rates most recently updated in 2019. The City is now in the in the last year of its most recent five-year rate plan. The City had several objectives and goals in mind for this study including meeting revenue requirements, reviewing the rising costs of providing services, funding necessary capital improvements, and complying with certain legal requirements (e.g., California Constitution Article XIII D, Section 6, which is commonly referred to as Proposition 218 [Prop 218]). The City’s broader objectives in this study include ensuring adequate funding for operating and capital costs, maintaining reasonable reserves, and ensuring revenue stability in utility rates. The rates resulting from this study were developed in a manner that is consistent with industry standard cost-of-service principles. In addition to documenting the rate study methodology, this report is provided with the intent to assist the City in its continuing effort to maintain transparent communications with the residents and community it serves.

In developing the updated wastewater rates, NBS and City Staff worked cooperatively to review study results and develop various rate alternatives. The draft study will be presented to the City Council on June 26, 2024. An overview of the study is provided in this report. An Appendix is included for the purpose of further documenting the analysis and results, and includes the Financial Plan, Cost-of-Service Analysis and Rate Design Tables for the wastewater utility.

2. Overview of the Study Methodology

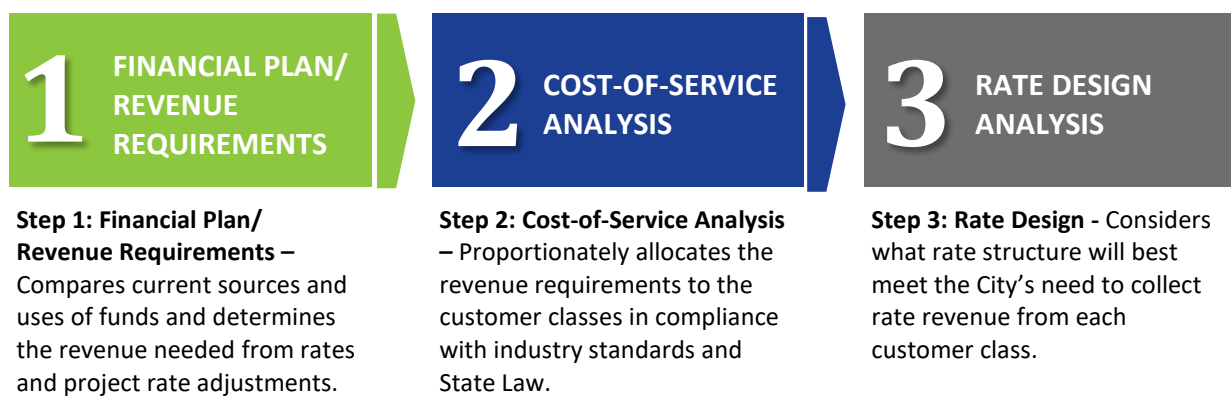
2.1 Overview of the Study

As a part of the long-range financial plan, NBS evaluated projected revenues and expenditures to determine net revenue requirements. In light of the wastewater utility's significant planned capital improvements, including the new trunk line project (WW3008), it is critical to have a financial plan that maintains and replenishes reserve funds. While the wastewater utility has reasonably healthy reserves, they are not adequate at current rate revenue levels to fund the significant repair and replacement projects contained in the City's current capital improvement program. NBS recommends the City adopt the rate adjustments described in this report, as well as secure outside financing (as planned), to fully fund the projected \$109 million in capital improvements over the next five years.

2.2 Rate Study Methodology

A comprehensive utility rate study typically has three major components: (1) the utility's overall revenue requirements and financial plan, (2) the cost-of-service for each customer class, and (3) rate structure design, as shown in **Figure 1**. These components reflect industry standards, primarily from the Water Environment Federation's (WEF) *Financing and Charges for Wastewater Systems*, Manual of Practice No. 27,¹ and address the general requirements for equity and fairness. This study focused on the first component of a rate study, the Financial Plan. NBS recommends that the City complete the other two components of a rate study, the Cost of Service and Rate Design Analyses in the next rate review cycle. The additional analysis is intended to ensure rates reflect the proportionate cost of service for each customer class, and that the rate structure is best suited to the City's customers and reflects recent industry standards.

Figure 1. Primary Components of a Rate Study



This methodology also addresses the requirements under Proposition 218 that proposed rates not exceed the cost of providing the service and be proportionate to the cost of providing service for all customers. In

¹ *Financing and Charges for Wastewater Systems, Manual of Practice No. 27, Water Environment Federation, 4th Edition, 2018.*

terms of the chronology of the study, these three steps represent the order they were performed in this study.

The following sections in this report present an overview of the methodologies, assumptions, and data used along with the financial plans and rates developed.

2.3 Key Financial Assumptions

Following are the key assumptions used in the wastewater rate analyses:

Funding of Capital Projects – After extensive review of the planned capital improvement projects (CIP) and funding requirements with City staff, the analysis assumes that the City will acquire outside financing to fund the proposed new trunk line project (WW3008) as part of the financial plan in order to complete the planned capital improvement projects over the five year rate period.

Reserve Targets – Target reserves for operations and maintenance (O&M) and capital system replacement, which essentially follow industry standards for utility fund management, are set at the following minimum levels:

- Operating Reserve – 90-days of O&M expenses.
- System Replacement Reserve – approximately 3% of net assets.
- Rate Stabilization Reserve – equal to 20% of estimated rate revenue.

Inflation and Growth Projections – In order to project revenue requirements over the next five years, the City's adopted budget for Fiscal Year 2024/25 was used as base planning year. In consultation with City staff, the following inflation factors were applied to revenue and expenses:

- Customer growth is assumed to be 2.10% annually.
- General cost inflation is approximately 2.44% annually.
- Operating expenses, which include but are not limited to labor costs, health benefits, and retirement benefits, are inflated at a rate of approximately 2.00% to 5.00% annually.
- Energy costs are expected to inflate at 5.00% annually.
- No inflation is added to other costs.

The next two sections discuss the wastewater rate study in more detail.

3. Wastewater Rate Study

3.1 Key Wastewater Rate Study Issues

The specific objectives addressed in the wastewater rate analysis included:

- Generating additional revenue needed to meet projected funding requirements.
- Continuing the City's existing rate structure which consists of a fixed monthly charge based on meter size, a volumetric charge for commercial customers that relies on monthly water use, and the volumetric charge for single and multi-family residential customer that is applied to average winter water use.

During the course of this study, NBS developed several financial plan alternatives that will allow the City to meet revenue requirements for the wastewater utility. The proposed rates presented in this report reflect input from City staff, which included maintaining the existing rate structure while adjusting the fixed vs. variable components for residential customers to collect 50% of revenue from the fixed charge component and 50% of revenue from the volumetric component.

The proposed rate structure for residential customers continues to include a fixed monthly charge plus a volumetric rate based on average winter water consumption. This average winter consumption is used to set the volumetric charge each year for the subsequent 12 months and, in this respect, acts like a fixed charge except that it varies based on each customer's winter water consumption. The rate structure for commercial customers is similar, with a fixed monthly charge based on water meter size plus a volumetric rate based on *monthly* (not average winter) water consumption.

3.2 Wastewater Utility Revenue Requirements

Rate increases are governed by the need to meet the operating and capital costs, debt service payments and reserves included in the revenue requirements. The current financial position of the City's wastewater utility is as follows:

MEETING NET REVENUE REQUIREMENTS

The City's wastewater utility is projected to have a nominal surplus at year end. However, with the significant capital improvement planned over the next five years, the City will run a large deficit without an adjustment to wastewater rates. The City is planning to secure approximately \$24 million in outside financing in the form of bonds or loans to fund the necessary capital improvement projects. The proposed rate increases would stabilize this deficit over the next five years as well as cover the annual debt service payments for the new debt issues. Net revenue requirements (i.e., total annual expenses less non-rate revenue) increase by approximately 41% in Fiscal Years 2024/25 through 2028/29 from approximately \$15.6 million to \$21.9 million based on the projected City budgets for the wastewater utility.

BUILDING AND MAINTAINING RESERVE FUNDS

The City should maintain sufficient reserves for the wastewater utility. NBS recommends that the City maintain the following minimum reserve fund targets, as initially established in the 2016 Rate Study and continued in the 2019 Rate Study:

- Operating Reserve 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.
- Capital Projects Reserve equal to a minimum of 3% of net depreciable capital assets. This reserve provides for capital repair and replacement needs.
- Rate Stabilization Reserve equal to 20% of estimated annual rate revenue, as established by prior City policy. This reserve is used when operating reserves are low and is intended to further promote financial stability in the event of short-term fluctuations in rate revenue.

Figures 2 and 3 summarize the sources and uses of funds, including net revenue requirements, and the recommended annual percent increases in total rate revenue for the next five years. This figure shows the new debt service payments that begin in Fiscal Year 2026/27, for the debt funded capital improvement projects. Going forward however, the City will be positioned to maintain healthy reserve funds for the future. With the planned rate increases, the City is projected to run a small surplus each year, which will be used to replenish reserve funds, with the intent of meeting the reserve targets described above.

Figure 2. Summary of Revenue Requirements

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget	Projected				
	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29
Sources of Wastewater Funds						
Rate Revenue Under Prevailing Rates ¹	\$ 15,200,000	\$ 15,519,200	\$ 15,845,103	\$ 16,177,850	\$ 16,517,585	\$ 16,864,455
Other Operating Revenue	329,403	344,116	359,522	375,654	392,548	410,241
Interest Earnings	518,214	853,499	613,968	906,415	804,839	731,339
Use of Impact Fees for Debt Service	682,453	682,145	681,543	1,605,956	1,605,581	1,605,769
Total Sources of Funds	\$ 16,730,070	\$ 17,398,960	\$ 17,500,137	\$ 19,065,876	\$ 19,320,554	\$ 19,611,802
Uses of Wastewater Funds						
Operating Expenses	\$ 15,482,153	\$ 16,161,217	\$ 17,841,704	\$ 19,962,928	\$ 20,994,830	\$ 22,124,254
Existing Debt Service	1,280,963	1,280,288	1,278,663	1,279,238	1,278,638	1,278,938
Planned Debt Service ²	-	-	-	1,290,292	1,290,292	1,290,292
Total Use of Funds	\$ 16,763,116	\$ 17,441,505	\$ 19,120,367	\$ 22,532,458	\$ 23,563,760	\$ 24,693,484
Surplus (Deficiency) before Rate Increase	\$ (33,046)	\$ (42,545)	\$ (1,620,231)	\$ (3,466,582)	\$ (4,243,206)	\$ (5,081,682)
Additional Revenue from Rate Increases	-	1,047,546	2,980,464	4,580,726	6,372,482	8,375,965
Surplus (Deficiency) after Rate Increase	\$ (33,046)	\$ 1,005,001	\$ 1,360,233	\$ 1,114,144	\$ 2,129,276	\$ 3,294,283
Projected Annual Increase to Rate Revenue ³	0.00%	9.00%	9.00%	8.00%	8.00%	8.00%
Net Revenue Requirement ⁴	\$ 15,233,046	\$ 15,561,745	\$ 17,465,334	\$ 19,644,432	\$ 20,760,791	\$ 21,946,136
Projected Debt Coverage After Rate Increase	5.15	5.86	6.19	3.75	4.35	4.98
Debt Coverage Requirement	1.25	1.25	1.25	1.25	1.25	1.25

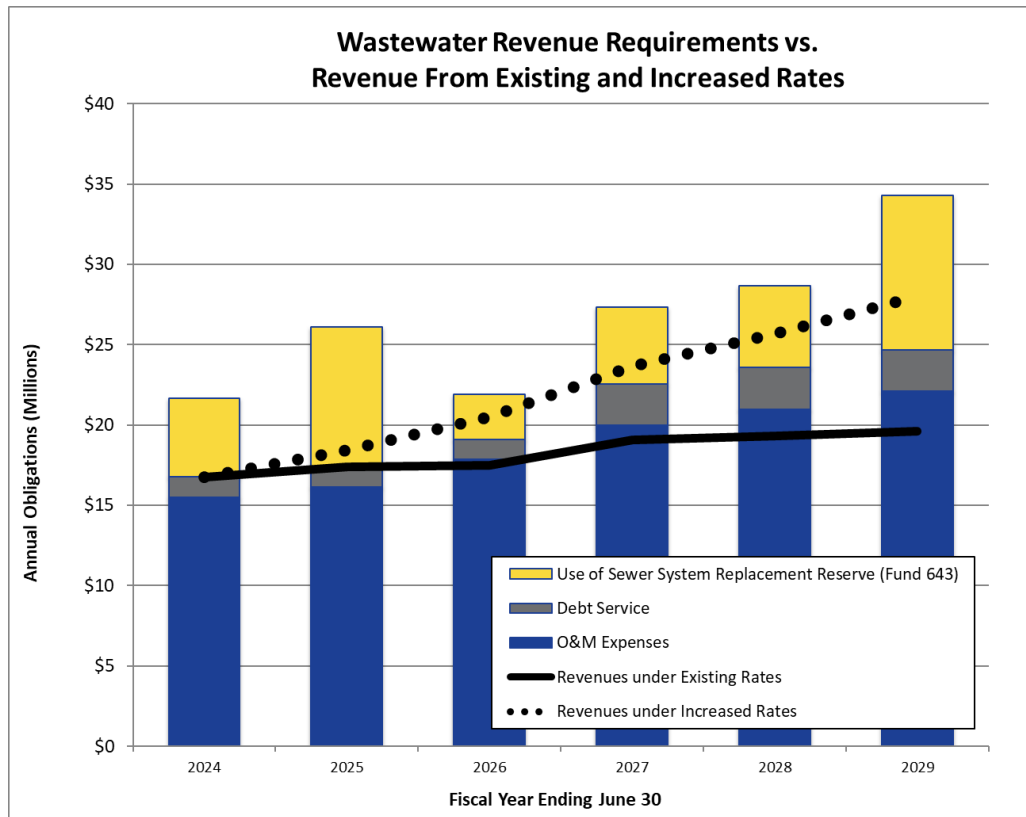
1. Includes additional rate revenue from projected customer growth.

2. The City plans to secure one new debt issue to fund the trunk line project anticipated in the CIP; this is the approximate annual payment.

3. Rate adjustments will be effective on July 1st of each year, with the exception of the first year, which will be effective October 1, 2024.

4. Total Use of Funds less non-rate revenues and interest earnings. This is the annual amount needed from sewer rates.

Figure 3. Summary Revenue Requirements vs. Revenue from Existing and Increased Rates

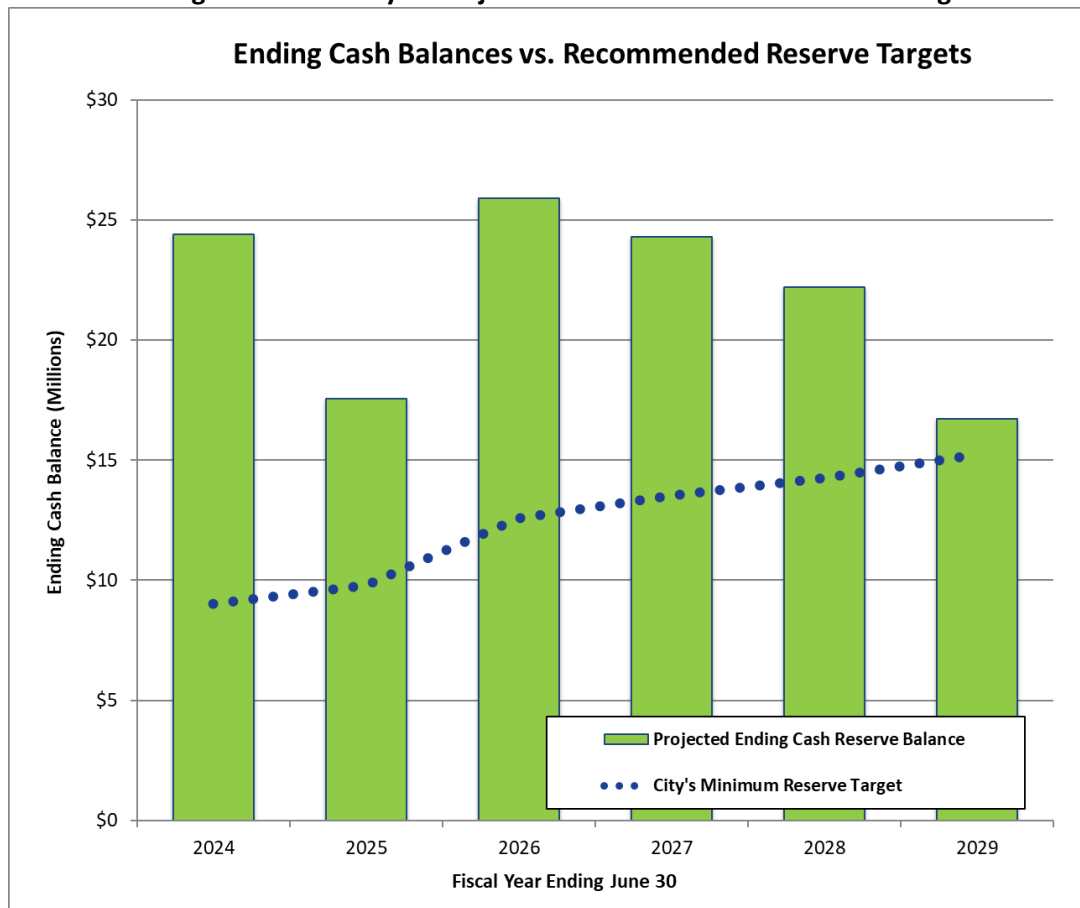


Figures 4 and 5 summarize the projected reserve fund balances and reserve targets for the next five years. These figures show that if the proposed rate increases are adopted, and the new debt financing for capital projects are secured, the City will be able to maintain healthy reserve funds for the wastewater utility.

Figure 4. Summary of Projected Reserve Fund Balances and Targets

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budget	Projected				
	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29
Sewer Operations Fund (640)	\$ 4,060,328	\$ 4,040,000	\$ 4,460,000	\$ 4,991,000	\$ 5,249,000	\$ 5,531,000
<i>Recommended Minimum Target</i>	<i>3,871,000</i>	<i>4,040,000</i>	<i>4,460,000</i>	<i>4,991,000</i>	<i>5,249,000</i>	<i>5,531,000</i>
Sewer System Replacement Fund (643)	\$ 17,221,144	\$ 10,289,095	\$ 18,112,272	\$ 14,562,713	\$ 12,084,235	\$ 6,226,092
<i>Recommended Minimum Target</i>	<i>2,099,100</i>	<i>2,426,700</i>	<i>4,345,000</i>	<i>4,387,300</i>	<i>4,421,300</i>	<i>4,661,400</i>
Rate Stabilization Fund (642)	\$ 3,104,209	\$ 3,212,856	\$ 3,325,306	\$ 3,441,692	\$ 3,562,151	\$ 3,686,827
<i>Recommended Minimum Target</i>	<i>3,040,000</i>	<i>3,313,349</i>	<i>3,765,113</i>	<i>4,151,715</i>	<i>4,578,013</i>	<i>5,048,084</i>
Total Ending Balance	\$ 24,385,681	\$ 17,541,951	\$ 25,897,578	\$ 24,285,697	\$ 22,185,678	\$ 16,734,211
<i>Total Recommended Minimum Target</i>	<i>\$ 9,010,100</i>	<i>\$ 9,780,049</i>	<i>\$ 12,570,113</i>	<i>\$ 13,530,015</i>	<i>\$ 14,248,313</i>	<i>\$ 15,240,484</i>

Figure 5. Summary of Projected Reserve Fund Balances and Targets



A more detailed version of the wastewater utility's proposed 5-year financial plan is included in the **Appendix** to this report. These tables include a projection of revenue requirements, reserve funds, revenue sources and proposed rate increases for the five year period, through FY 2028/29.

3.3 Wastewater Customer Characteristics

Water consumption data from FY 2022/23 was used to estimate the flows to the City's wastewater treatment plant. Residential bills reflect average winter consumption because it is correlated to the amount of residential effluent that is sent to the treatment plant. This winter average is then used to estimate the annual volume. Commercial volumetric charges are based on annual water use. **Figure 6** shows the estimated wastewater flows produced by each customer class, which is how revenue from volumetric rates is collected.

Figure 6. Estimated Wastewater Flow by Customer Class

Customer Class	FY 2022/23 Avg. WINTER Water Use (hcf/month) ¹	FY 2022/23 Annual Water Consumption (hcf) ¹	Estimated Annual Volume (hcf/yr.) ²	Percent of Annual Volume
Single Family	71,427	N/A	857,122	60.9%
Multi Family	23,433	N/A	281,195	20.0%
Commercial 1	N/A	33,639	33,639	2.4%
Commercial 2	N/A	81,389	81,389	5.8%
Commercial 3	N/A	60,069	60,069	4.3%
Commercial 4	N/A	27,412	27,412	1.9%
Commercial 5	N/A	6,762	6,762	0.5%
Commercial 6	N/A	60,816	60,816	4.3%
Total	94,860	270,087	1,408,404	100%

1. Consumption data source file: *MorganHill_CustomerBillingData_ManipulatedV5.xlsx*

2. Estimated annual volume is based on average winter water consumption for SFR and MFR Water customers, and is equal to the annual water consumption for commercial customers.

Figure 7 compares the total number of accounts by water meter size and customer class. Fixed charges are determined by customer class and meter size.

Figure 7. Number of Accounts by Meter Size and Customer Class

Number of Accounts by Customer Class and Meter Size ¹	5/8 inch	3/4 inch ³	1 inch ⁴	1.5 inch	2 inch	3 inch	4 inch	6 inch	Total
Single Family ²	-	-	10,353	-	-	-	-	-	10,353
Multi Family	-	-	2,276	-	-	-	-	-	2,276
Commercial 1	-	15	23	8	23	1	1	-	71
Commercial 2	-	69	179	58	99	2	3	1	411
Commercial 3	-	19	24	4	22	2	6	-	77
Commercial 4	-	9	12	27	49	2	3	-	102
Commercial 5	-	2	6	4	4	-	-	-	16
Commercial 6	-	18	42	23	22	-	2	-	107
Total	-	132	12,915	124	219	7	15	1	13,413

1. Number of accounts is from the Billed Consumption Report by Month spreadsheets. This is average meter count by size and customer class for FY 2022/23.

Source File: *MorganHill_CustomerBillingData_ManipulatedV5.xlsx*

2. Single Family meters are 5/8 to 1 inch size, per City customer data.

3. For commercial customers these meters are 5/8 to 3/4 inch, per City customer data.

4. Single Family meters are 5/8 to 1 inch size and Commercial meters are 1", per City's customer data.

3.4 Current vs. Proposed Wastewater Rates

For the existing rate structure, single- and multi- family residential customers with meter sizes between 5/8-inch to 1-inch will pay a fixed monthly service charge, and a volumetric charge per hundred cubic feet (hcf) based on average winter water use. All other users will pay a fixed charge based on meter size and a volumetric rate based on actual monthly water consumption. There are six Commercial customer classifications that apply to volumetric rates (for all non-residential customers), that reflect the strength characteristics of each customer class.

Figure 8 shows current and proposed wastewater rates for FY 2024/25 through FY 2028/29 based on the current rate structure. This proposed rate structure maintains the existing rate structure while adjusting the fixed vs. variable components for residential customers to collect 50% of revenue from the fixed charge component and 50% of revenue from the volumetric component.

As part of this rate study, NBS also investigated an alternative rate structure to simplify the billing process for residential customers for consideration by the City Council. In the proposed alternative rate structure, there is a 100% fixed wastewater rate charge for residential customers, both single-family and multi-family customers. In this alternative structure, single-family residential charges are based on account and multi-family residential customers charges are per dwelling unit. The rate structure for non-residential customers remains unchanged. The proposed alternative rate structure is also shown below in **Figure 9**.

Figure 10 compares the average monthly wastewater bills for residential customers under current and proposed rates for the existing rate structure. **Figure 11** provides a comparison of the proposed rates vs. alternative rates for the average single-family residential customer. **Figure 12** compares commercial bills under current vs. proposed rates, for a Commercial 2 customer, with a 1-inch meter for the existing rate structure. Bill comparisons for a greater range of commercial customers can be found in the **Appendix**.

Figure 8. Current vs. Proposed Wastewater Rates

Sewer Rate Schedule	Current Rates	Proposed Rates				
		10/1/2024	7/1/2025	7/1/2026	7/1/2027	7/1/2028
		9.00%	9.00%	8.00%	8.00%	8.00%
Monthly Fixed Charges:						
Residential (5/8-1 inch meters)	\$27.05	\$38.90	\$42.40	\$45.79	\$49.46	\$53.41
All Other Customers:						
5/8 inch	\$27.05	\$38.89	\$42.39	\$45.78	\$49.45	\$53.40
3/4 inch	\$27.05	\$38.89	\$42.39	\$45.78	\$49.45	\$53.40
1 inch ³	\$27.05	\$38.89	\$42.39	\$45.78	\$49.45	\$53.40
1.5 inch	\$101.27	\$139.52	\$152.08	\$164.24	\$177.38	\$191.57
2 inch	\$161.24	\$218.98	\$238.68	\$257.78	\$278.40	\$300.67
3 inch	\$351.26	\$470.73	\$513.10	\$554.15	\$598.48	\$646.36
4 inch	\$630.93	\$841.27	\$916.98	\$990.34	\$1,069.57	\$1,155.13
6 inch	\$1,400.38	\$1,860.72	\$2,028.18	\$2,190.43	\$2,365.67	\$2,554.92
8 inch	\$2,163.33	\$2,871.55	\$3,129.99	\$3,380.39	\$3,650.82	\$3,942.89
10 inch	\$2,704.16	\$3,589.02	\$3,912.04	\$4,225.00	\$4,563.00	\$4,928.04
Monthly Volumetric Charges:						
Single-Family (Applied to <u>Avg. Winter</u> Water Use)	\$5.74	\$5.18	\$5.64	\$6.10	\$6.58	\$7.11
Multi-Family (Applied to <u>Avg. Winter</u> Water Use)	\$5.74	\$5.18	\$5.64	\$6.10	\$6.58	\$7.11
Commercial Charge (Applied to <u>Monthly</u> Water Use):						
Commercial 1	\$5.49	\$7.51	\$8.18	\$8.84	\$9.54	\$10.31
Commercial 2	\$6.42	\$8.32	\$9.06	\$9.79	\$10.57	\$11.42
Commercial 3	\$7.81	\$9.68	\$10.55	\$11.39	\$12.30	\$13.29
Commercial 4	\$8.86	\$12.03	\$13.12	\$14.17	\$15.30	\$16.52
Commercial 5	\$10.52	\$19.44	\$21.19	\$22.88	\$24.71	\$26.69
Commercial 6	\$17.56	\$32.26	\$35.17	\$37.98	\$41.02	\$44.30

1. Source file: 2016 Water and Wastewater Adopted Rates.pdf, Page 2.

2. The first rate adjustment will be effective on October 1, 2024 and all subsequent increases will be effective on January 1st of each year thereafter.

3. The 1 inch commercial meter fixed charge is the set equal to the residential 1 inch meter charge.

Figure 9. Current vs. Proposed Alternative Wastewater Rate Structure for Single Family and Multi-Family Residential Customers

Sewer Rate Schedule	Current Rates	Proposed Rates				
		10/1/2024	7/1/2025	7/1/2026	7/1/2027	7/1/2028
		9.00%	9.00%	8.00%	8.00%	8.00%
Monthly Fixed Charges:						
Single-Family Residential (100% Fixed Charge)	N/A	\$71.89	\$78.37	\$84.63	\$91.41	\$98.72
Multi-Family Residential (100% Fixed, per DU)	N/A	\$70.13	\$76.44	\$82.56	\$89.16	\$96.30
All Other Customers:						
5/8 inch	\$27.05	\$38.89	\$42.39	\$45.78	\$49.45	\$53.40
3/4 inch	\$27.05	\$38.89	\$42.39	\$45.78	\$49.45	\$53.40
1 inch ³	\$27.05	\$38.89	\$42.39	\$45.78	\$49.45	\$53.40
1.5 inch	\$101.27	\$139.52	\$152.08	\$164.24	\$177.38	\$191.57
2 inch	\$161.24	\$218.98	\$238.68	\$257.78	\$278.40	\$300.67
3 inch	\$351.26	\$470.73	\$513.10	\$554.15	\$598.48	\$646.36
4 inch	\$630.93	\$841.27	\$916.98	\$990.34	\$1,069.57	\$1,155.13
6 inch	\$1,400.38	\$1,860.72	\$2,028.18	\$2,190.43	\$2,365.67	\$2,554.92
8 inch	\$2,163.33	\$2,871.55	\$3,129.99	\$3,380.39	\$3,650.82	\$3,942.89
10 inch	\$2,704.16	\$3,589.02	\$3,912.04	\$4,225.00	\$4,563.00	\$4,928.04
Monthly Volumetric Charges:						
Commercial Charge (Applied to <u>Monthly</u> Water Use):						
Commercial 1	\$5.49	\$7.51	\$8.18	\$8.84	\$9.54	\$10.31
Commercial 2	\$6.42	\$8.32	\$9.06	\$9.79	\$10.57	\$11.42
Commercial 3	\$7.81	\$9.68	\$10.55	\$11.39	\$12.30	\$13.29
Commercial 4	\$8.86	\$12.03	\$13.12	\$14.17	\$15.30	\$16.52
Commercial 5	\$10.52	\$19.44	\$21.19	\$22.88	\$24.71	\$26.69
Commercial 6	\$17.56	\$32.26	\$35.17	\$37.98	\$41.02	\$44.30

1. Source file: 2016 Water and Wastewater Adopted Rates.pdf, Page 2.

2. The first rate adjustment will be effective on October 1, 2024 and all subsequent increases will be effective on January 1st of each year thereafter.

3. The 1 inch commercial meter fixed charge is the set equal to the residential 1 inch meter charge.

Figure 10. Residential Wastewater Bill Comparison – Current vs. Proposed Rates

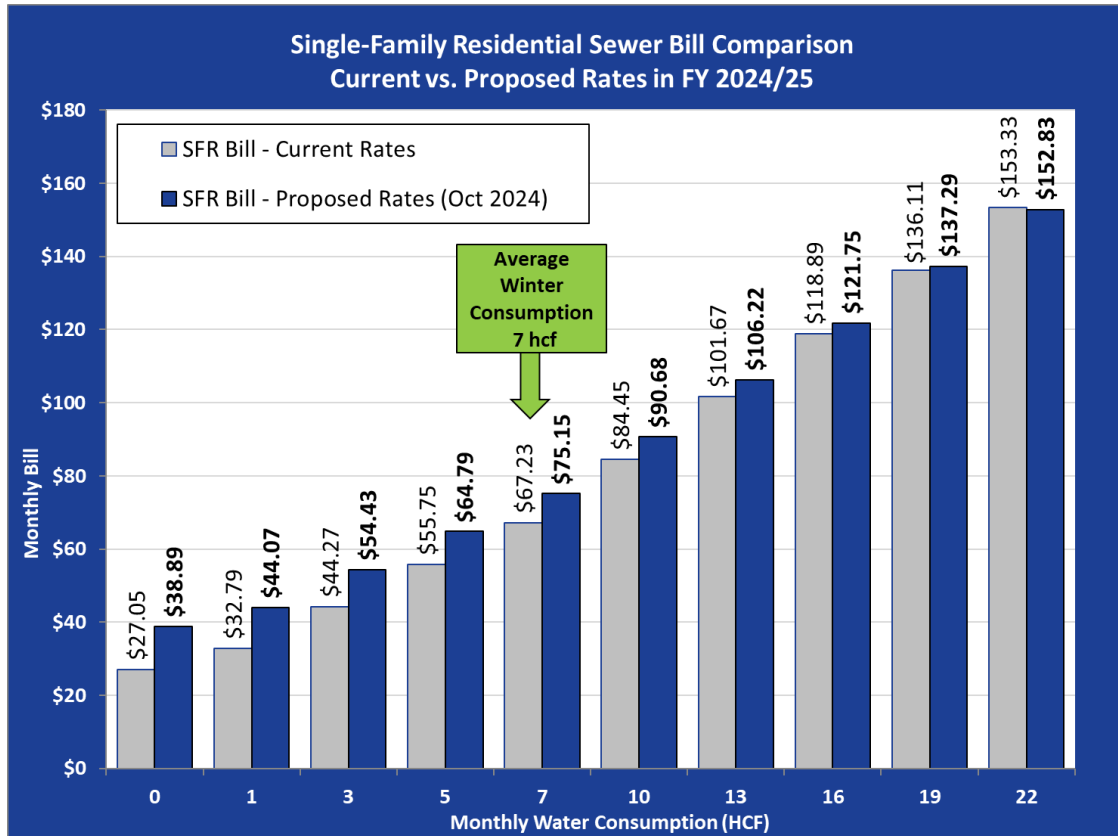


Figure 11. Comparison of Proposed Rates vs. Alternative Rates for Average Single-Family Residential Customer

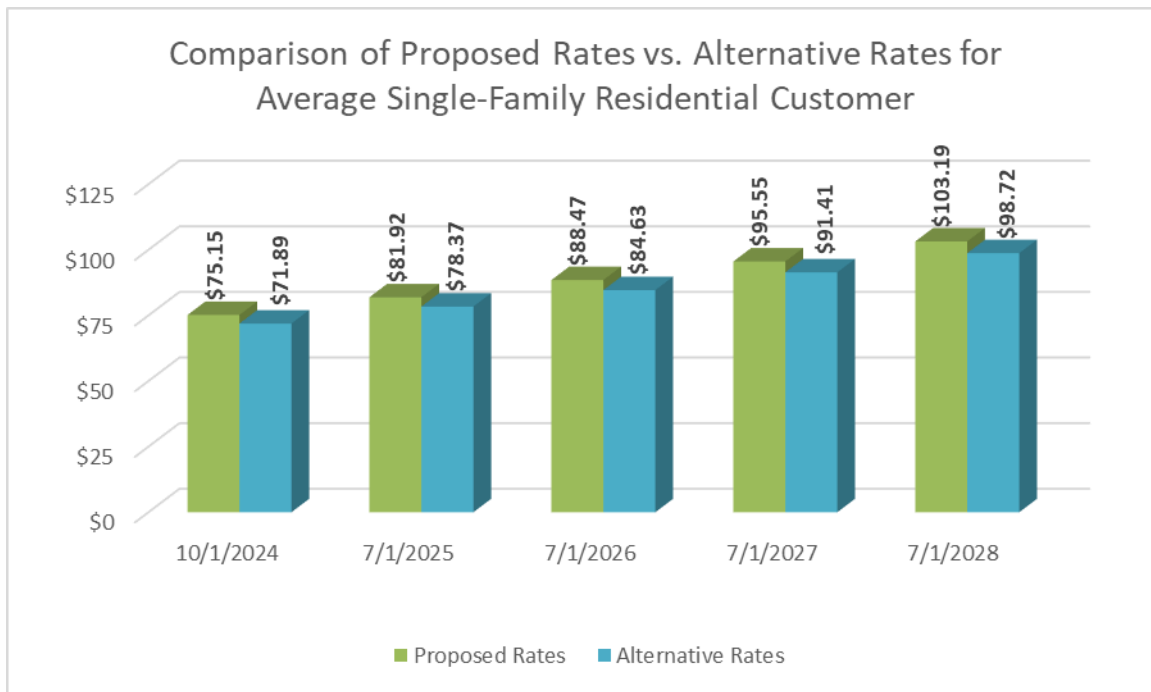
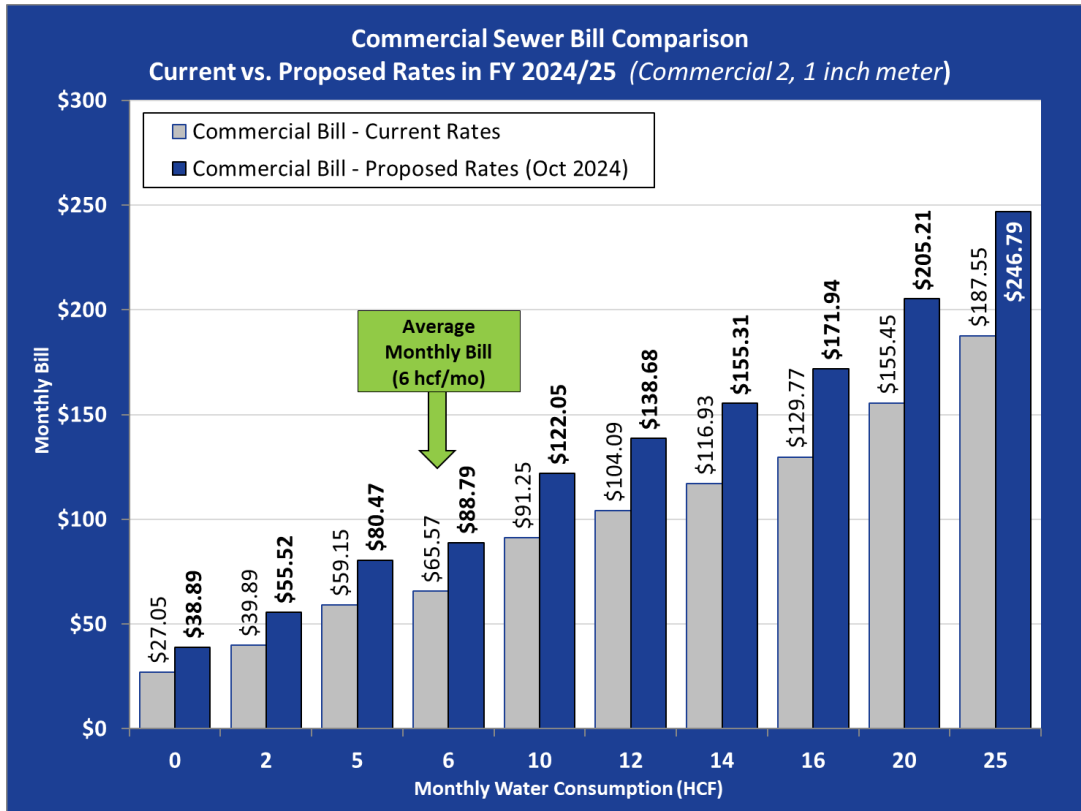


Figure 12. Commercial Wastewater Bill Comparison – Current vs. Proposed Rates



4. Recommendations and Next Steps

4.1 Consultant Recommendations

Since the last rate study was completed in 2019, the City of Morgan Hill has become aware of significant capital improvements that are needed to maintain current service levels and provide capacity for future customers. In light of these factors, NBS has updated the financial plan and rate analysis to develop a new five-year rate plan that will achieve the City's funding objectives.

The following are NBS' recommendations for the City following careful review of this report:

- **Approve and Accept This Study Report:** NBS recommends the City Council formally approve and adopt this report, its recommendations, and accompanying appendix. This will document the rate study analyses and the basis for updated rates.
- **Complete a Legal Review:** This rate study outlines proposed new rates. Particularly in light of changing legal requirements, these rates should be reviewed by competent legal counsel with respect to compliance with Proposition 218 and related State laws prior to adoption, including language for new resolutions and public notices required to implement these rates.
- **Implement Recommended Levels of Rate Increases and Proposed Rates:** Based on the analysis presented in this report, the City Council should implement the rates proposed in this report for the next five years. These rate adjustments are structured to ensure that the financial health of the City's wastewater utility is maintained.
- **Adopt Reserve Fund Targets:** NBS recommends the City Council adopt the proposed reserve fund targets described in Section 2 of this report. The City should periodically evaluate reserve fund levels and make it a long-term goal to achieve and maintain these levels for the Operating, Capital, Rate Stabilization and Debt Reserves.

4.2 Next Steps

Annually Review Rates and Revenue – Any time an Agency adopts new utility rates or rate structures, those 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, water consumption patterns, new regulatory mandates, and unplanned capital improvements all underscore the need for this annual review.

Note: The attached Technical Appendix provides more detailed information on the analysis of the wastewater revenue requirements that have been summarized in this report.

4.3 Principal Assumptions and Considerations

In preparing this report and the recommendations included herein, NBS has relied on several principal assumptions and considerations regarding financial matters, number of customer accounts, billing records, and other conditions and events that may occur in the future. This information and these assumptions 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 this report and its recommendations, some assumptions will invariably not materialize as stated herein or 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.

Appendix A. Wastewater Rate Analysis

TABLE 1 : FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

100% Funding of Capital Improvement Program											
RATE REVENUE REQUIREMENTS SUMMARY	Budget	Projected					Projected				
	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	FY 2033/34
Sources of Wastewater Funds¹											
Sewer Operations Fund (640) Rate Revenue											
Estimated Rate Revenue from Existing Rates ²	\$ 15,200,000	\$ 15,519,200	\$ 15,845,103	\$ 16,177,850	\$ 16,517,585	\$ 16,864,455	\$ 17,218,608	\$ 17,580,199	\$ 17,949,383	\$ 18,326,320	\$ 18,711,173
Non-Rate Revenue in Operations & System Replacement Funds											
Other Operating Revenue	329,403	344,116	359,522	375,654	392,548	410,241	428,771	448,179	468,508	489,802	512,110
Interest Earnings (in Operating & Unrestricted) ³	518,214	853,499	613,968	906,415	804,839	731,339	540,537	557,035	553,884	580,068	687,742
Use of Impact Fee Fund for Debt Service ⁴	682,453	682,145	681,543	1,605,956	1,605,581	1,605,769	1,607,612	1,606,472	1,607,597	1,608,152	1,607,933
Total Sources of Funds	\$ 16,730,070	\$ 17,398,960	\$ 17,500,137	\$ 19,065,876	\$ 19,320,554	\$ 19,611,802	\$ 19,795,528	\$ 20,191,885	\$ 20,579,372	\$ 21,004,342	\$ 21,518,958
Uses of Wastewater Funds											
Operating Expenses⁵											
Sewer Operations											
Salaries	\$ 2,510,336	\$ 2,873,653	\$ 3,098,064	\$ 3,207,943	\$ 3,270,934	\$ 3,375,338	\$ 3,477,068	\$ 3,574,318	\$ 3,674,563	\$ 3,777,904	\$ 3,884,452
Supplies (incl. Treatment by SCRWA)	5,930,951	6,277,936	7,623,070	7,987,630	8,369,909	8,770,790	9,191,189	9,415,454	9,645,191	9,880,534	10,121,619
Capital	25,920	29,728	46,875	-	-	-	-	-	-	-	-
Internal Services	975,454	1,074,441	1,121,295	1,167,884	1,217,146	1,269,254	1,324,437	1,362,851	1,402,505	1,443,444	1,485,716
Transfers	6,000,433	5,864,521	5,910,670	7,556,531	8,092,661	8,536,692	9,275,854	9,502,185	9,734,038	9,971,549	10,214,854
Rate Stabilization Fund (Internal Services, GF Admin)	1,872	1,966	2,010	2,070	2,130	2,190	2,260	2,315	2,372	2,430	2,489
System Replace. Fund (Debt Service Fees, GF Admin)	37,187	38,972	39,720	40,870	42,050	43,270	44,520	45,570	46,645	47,747	48,875
Master Plan O&M Projects -Sewer System CCTV	-	-	-	-	-	126,720	129,812	132,979	136,224	139,548	142,953
Subtotal: Operating Expenses	\$ 15,482,153	\$ 16,161,217	\$ 17,841,704	\$ 19,962,928	\$ 20,994,830	\$ 22,124,254	\$ 23,445,140	\$ 24,035,672	\$ 24,641,538	\$ 25,263,155	\$ 25,900,957
Other Expenditures:											
Existing Debt Service (2015 Bonds)	\$ 552,125	\$ 551,750	\$ 550,625	\$ 547,000	\$ 547,500	\$ 549,100	\$ 553,550	\$ 548,525	\$ 552,425	\$ 550,713	\$ 548,163
Existing Debt Service (2020 Bonds)	728,838	728,538	728,038	732,238	731,138	729,838	728,338	731,538	729,438	732,038	734,238
Future Debt Service for Master Plan Projects	-	-	-	1,290,292	1,290,292	1,290,292	1,290,292	1,290,292	1,290,292	1,290,292	1,290,292
Rate-Funded Capital Expenses	-	-	-	-	-	-	-	160,173	971,826	-	-
Subtotal: Other Expenditures	\$ 1,280,963	1,280,288	\$ 1,278,663	\$ 2,569,530	\$ 2,568,930	\$ 2,569,230	\$ 2,572,180	\$ 2,730,528	\$ 3,543,981	\$ 2,573,042	\$ 2,572,692
Total Uses of Wastewater Funds	\$ 16,763,116	17,441,505	\$ 19,120,367	\$ 22,532,458	\$ 23,563,760	\$ 24,693,484	\$ 26,017,320	\$ 26,766,201	\$ 28,185,519	\$ 27,836,197	\$ 28,473,650
plus: Revenue from Rate Increases ⁶	-	1,047,546	2,980,464	4,580,726	6,372,482	8,375,965	10,355,793	12,544,007	14,037,703	15,638,848	17,354,401
Increase/(Decrease) to Reserves	\$ (33,046)	1,005,001	\$ 1,360,233	\$ 1,114,144	\$ 2,129,276	\$ 3,294,283	\$ 4,134,001	\$ 5,969,690	\$ 6,431,557	\$ 8,806,992	\$ 10,399,709
Net Revenue Req't. (Total Uses less Non-Rate Revenue)	\$ 15,233,046	15,561,745	\$ 17,465,334	\$ 19,644,432	\$ 20,760,791	\$ 21,946,136	\$ 23,440,399	\$ 24,154,515	\$ 25,555,530	\$ 25,158,176	\$ 25,665,865
Total Rate Revenue After Rate Increases	\$ 15,200,000	16,566,746	\$ 18,825,567	\$ 20,758,576	\$ 22,890,067	\$ 25,240,419	\$ 27,574,401	\$ 30,124,205	\$ 31,987,086	\$ 33,965,168	\$ 36,065,574
Projected Annual Rate Revenue Increase	0.00%	9.00%	9.00%	8.00%	8.00%	8.00%	7.00%	7.00%	4.00%	4.00%	4.00%
Cumulative Increase from Annual Revenue Increases	0.00%	9.00%	18.81%	28.31%	38.58%	49.67%	60.14%	71.35%	78.21%	85.34%	92.75%
Debt Coverage After Rate Increase⁷	5.15	5.86	6.19	3.75	4.35	4.98	5.59	6.46	7.04	7.67	8.39
Target Debt Coverage	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25

Policy Choice : Capital Improvement Plan Options		FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29
100% Funding of Capital Improvement Program	1	9.00%	9.00%	8.00%	8.00%	8.00%
75% Funding of Capital Improvement Program	2	7.00%	7.00%	7.00%	7.00%	7.00%
50% Funding of Capital Improvement Program	3	5.00%	5.00%	5.00%	5.00%	5.00%
30% Funding of Capital Improvement Program	4	3.00%	3.00%	3.00%	3.00%	3.00%

TABLE 2 : RESERVE FUND SUMMARY

SUMMARY OF CASH ACTIVITY	Budget	Projected					Projected				
	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	FY 2033/34
Total Beginning Cash ¹	\$ 45,621,602										
Sewer Operations Fund (640)											
Beginning Reserve Balance ¹	\$ 4,670,817	4,060,328	\$ 4,040,000	\$ 4,460,000	\$ 4,991,000	\$ 5,249,000	\$ 5,531,000	\$ 5,861,000	\$ 6,009,000	\$ 6,160,000	\$ 6,316,000
Plus: Net Cash Flow (After Rate Increases)	(33,046)	1,005,001	1,360,233	1,114,144	2,129,276	3,294,283	4,134,001	5,969,690	6,431,557	8,806,992	10,399,709
Plus: Transfer of Rate Stabilization Fund Surplus	-	-	-	-	-	-	-	-	-	-	-
Plus: Transfer of Surplus in Bond Debt Reserve	-	-	-	-	45,160	45,160	45,160	45,160	45,160	45,160	45,160
Less: Transfer Out to Rate Stabilization Fund	-	-	-	-	-	-	-	-	-	-	-
Less: Transfer Out to Sewer Capital Project Fund	(4,500,000)	(1,025,329)	(940,233)	(583,144)	(1,916,436)	(3,057,443)	(3,849,162)	(5,866,851)	(6,325,717)	(8,696,152)	(10,285,869)
Ending Operating Fund Balance	\$ 4,060,328	4,040,000	\$ 4,460,000	\$ 4,991,000	\$ 5,249,000	\$ 5,531,000	\$ 5,861,000	\$ 6,009,000	\$ 6,160,000	\$ 6,316,000	\$ 6,475,000
Target Ending Balance (90-days of O&M)	\$ 3,871,000	4,040,000	\$ 4,460,000	\$ 4,991,000	\$ 5,249,000	\$ 5,531,000	\$ 5,861,000	\$ 6,009,000	\$ 6,160,000	\$ 6,316,000	\$ 6,475,000
Sewer Capital Projects Fund (643)											
Beginning Reserve Balance ¹	\$ 16,801,623	17,221,144	\$ 10,289,095	\$ 18,112,272	\$ 14,562,713	\$ 12,084,235	\$ 6,226,092	\$ 6,238,428	\$ 5,866,851	\$ 6,325,717	\$ 9,103,065
Plus: Grant Proceeds	-	-	-	-	-	-	-	-	-	-	-
Plus: Transfer from 641 (Sewer Impact)	682,453	682,145	681,543	684,250	683,460	682,708	682,309				
Plus: Transfer from 640 (Sewer Ops)	4,500,000	1,025,329	940,233	583,144	1,916,436	3,057,443	3,849,162	5,866,851	6,325,717	8,696,152	10,285,869
Plus: Loan Proceeds for Trunk Line			9,000,000								
Less: Use of Reserves for Capital Projects	(4,916,032)	(8,639,523)	(2,798,599)	(4,816,953)	(5,078,374)	(9,598,294)	(4,519,135)	(6,238,428)	(5,866,851)	(5,918,804)	(6,385,361)
Ending Capital Projects Fund Balance	\$ 17,221,144	10,289,095	\$ 18,112,272	\$ 14,562,713	\$ 12,084,235	\$ 6,226,092	\$ 6,238,428	\$ 5,866,851	\$ 6,325,717	\$ 9,103,065	\$ 13,003,573
Target Ending Balance (3% of Assets) ²	\$ 2,099,100	2,426,700	\$ 4,345,000	\$ 4,387,300	\$ 4,421,300	\$ 4,661,400	\$ 4,661,000	\$ 4,747,100	\$ 4,850,700	\$ 4,909,000	\$ 4,986,900
Sewer Rate Stabilization Fund (642)											
Beginning Reserve Balance ¹	\$ 2,799,081	3,104,209	\$ 3,212,856	\$ 3,325,306	\$ 3,441,692	\$ 3,562,151	\$ 3,686,827	\$ 3,815,865	\$ 3,949,421	\$ 4,087,650	\$ 4,230,718
Plus: Contributions from Sewer Operations Fund	-	-	-	-	-	-	-	-	-	-	-
Plus: Interest Earnings ³	45,478	108,647	112,450	116,386	120,459	124,675	129,039	133,555	138,230	143,068	148,075
Plus: Other Rate Stabilization Fund Revenue	-	-	-	-	-	-	-	-	-	-	-
Less: Transfer of Surplus to Operating Fund	-	-	-	-	-	-	-	-	-	-	-
Ending Sewer Rate Stabilization Reserve Balance	\$ 3,104,209	3,212,856	\$ 3,325,306	\$ 3,441,692	\$ 3,562,151	\$ 3,686,827	\$ 3,815,865	\$ 3,949,421	\$ 4,087,650	\$ 4,230,718	\$ 4,378,793
Target Ending Balance (20% of Estimated Rate Revenue)	\$ 3,040,000	3,313,349	\$ 3,765,113	\$ 4,151,715	\$ 4,578,013	\$ 5,048,084	\$ 5,514,880	\$ 6,024,841	\$ 6,397,417	\$ 6,793,034	\$ 7,213,115
Ending Balance - Excludes Restricted Reserves	\$ 24,385,681	17,541,951	\$ 25,897,578	\$ 22,995,405	\$ 20,895,386	\$ 15,443,919	\$ 15,915,293	\$ 15,825,271	\$ 16,573,367	\$ 19,649,783	\$ 23,857,366
Min. Target Ending Balance - Excludes Restricted Reserves	\$ 9,010,100	9,780,049	\$ 12,570,113	\$ 13,530,015	\$ 14,248,313	\$ 15,240,484	\$ 16,036,880	\$ 16,780,941	\$ 17,408,117	\$ 18,018,034	\$ 18,675,015
Ending Surplus/(Deficit) Compared to Reserve Targets	\$ 15,375,581	7,761,902	\$ 13,327,465	\$ 9,465,390	\$ 6,647,073	\$ 203,435	\$ (121,587)	\$ (955,670)	\$ (834,750)	\$ 1,631,750	\$ 5,182,352
Days Cash on Hand ⁴	531	368	495	396	343	241	235	229	234	271	321

TABLE 3: RESERVE FUND SUMMARY, continued

SUMMARY OF CASH ACTIVITY, continued	Budget	Projected					Projected				
	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	FY 2033/34
Restricted Reserves:											
Impact Fee Fund (641)											
Beginning Reserve Balance ⁷	\$ 21,350,081	14,532,425	\$ 21,064,769	\$ 3,567,310	\$ 13,902,014	\$ 17,699,385	\$ 16,349,979	\$ 16,924,260	\$ 16,572,208	\$ 15,953,913	\$ 15,842,419
Plus: Interest Earnings ³	608,366	499,997	44,204	304,233	501,160	502,171	424,145	592,349	580,027	558,387	554,485
Plus: Impact Fee Revenue ⁵	3,994,917	11,546,118	15,415,728	12,805,084	5,570,990	3,021,130	2,088,432	2,088,432	2,088,432	2,088,432	2,088,432
Plus: Other Impact Fee Fund Revenue	-	-	15,000,000	-	-	-	-	-	-	-	-
Less: Annual Operating Expenditures	(89,516)	(86,477)	(87,550)	(89,200)	(90,900)	(92,650)	(94,450)	(96,755)	(99,115)	(101,534)	(104,011)
Less: Use of Reserves for Capital Projects	(10,870,594)	(4,745,149)	(47,188,297)	(1,079,457)	(578,298)	(3,174,289)	(236,233)	(1,329,607)	(1,580,043)	(1,048,628)	(1,319,426)
Less: Debt Service (Impact Fee Fund Allocation)	(682,453)	(682,145)	(681,543)	(1,605,956)	(1,605,581)	(1,605,769)	(1,607,612)	(1,606,472)	(1,607,597)	(1,608,152)	(1,607,933)
Ending Impact Fee Fund Balance	\$ 14,532,425	21,064,769	\$ 3,567,310	\$ 13,902,014	\$ 17,699,385	\$ 16,349,979	\$ 16,924,260	\$ 16,572,208	\$ 15,953,913	\$ 15,842,419	\$ 15,453,966
Bond Project Fund											
Beginning Reserve Balance	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plus: New SRF Loan Proceeds	-	-	24,000,000	-	-	-	-	-	-	-	-
Plus: New Revenue Bond Proceeds	-	-	-	-	-	-	-	-	-	-	-
Less: Use of Bond & Loan Funds for Capital Projects	-	-	(24,000,000)	-	-	-	-	-	-	-	-
Ending Bond Project Fund Balance	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Target Ending Balance	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
New Debt Reserve											
Beginning Reserve Balance	\$ -	-	\$ -	\$ -	\$ 1,290,292	\$ 1,290,292	\$ 1,290,292	\$ 1,290,292	\$ 1,290,292	\$ 1,290,292	\$ 1,290,292
Plus: Reserve Funding from New Debt Obligations	-	-	-	1,290,292	-	-	-	-	-	-	-
Plus: Interest Earnings	-	-	-	-	45,160	45,160	45,160	45,160	45,160	45,160	45,160
Less: Transfer of Surplus to Operating Reserve	-	-	-	-	(45,160)	(45,160)	(45,160)	(45,160)	(45,160)	(45,160)	(45,160)
Ending Debt Reserve Balance	\$ -	-	\$ -	\$ 1,290,292	\$ 1,290,292	\$ 1,290,292	\$ 1,290,292	\$ 1,290,292	\$ 1,290,292	\$ 1,290,292	\$ 1,290,292
Target Ending Balance	\$ -	-		\$ 1,290,292	\$ 1,290,292	\$ 1,290,292	\$ 1,290,292	\$ 1,290,292	\$ 1,290,292	\$ 1,290,292	\$ 1,290,292
Annual Interest Earnings Rate ⁶	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%

1. Total beginning cash is the sum of the cash balances in Funds 640, 642, and 643, as of 06/30/2023. Source file: *Wastewater Budget Worksheet 5-1-2024.xls*.
2. The Sewer System Replacement reserve target is set to 3% of net assets.
3. Interest earnings for FY 2023/24 are projected in City budgets and are calculated thereafter. Calculations found in source file: *Item 1, 2, 3, 12 Wastewater Rate Study Data_jt.manipulated.xlsx*.
4. Days cash on hand represents the number of days cash the City has available to cover operating expenses and debt service payments.
5. Impact fee revenue projections are from the following file: *Wastewater Budget Worksheet 5-1-2024.xlsx*.
6. Interest earning rates were provided by City staff. Email from Dat on 5/23/2024.
7. Beginning cash balance for Impact Fee Fund (641) found in Source file: *Wastewater Budget Worksheet 5-1-2024.xlsx*.

CHART 1

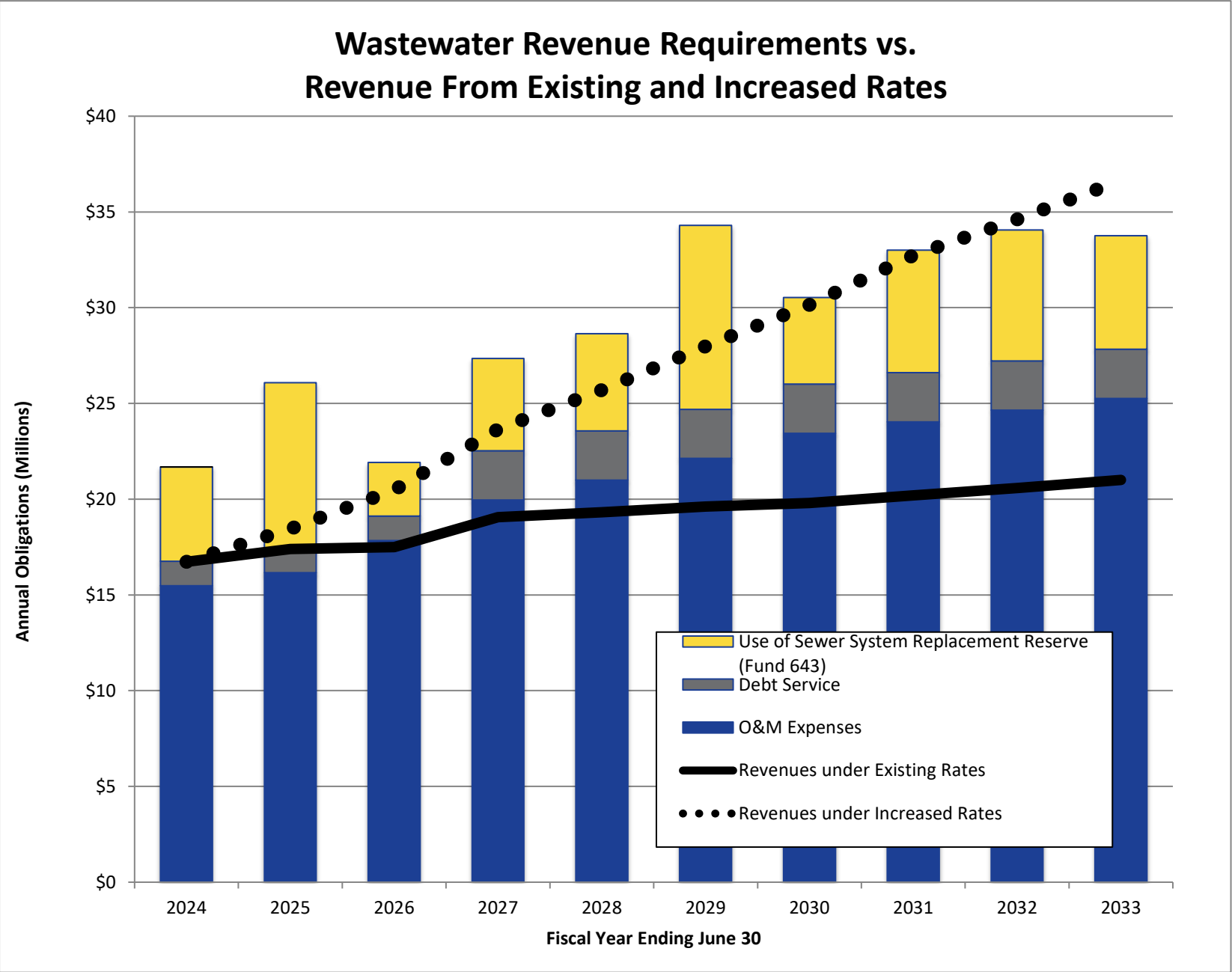


CHART 2

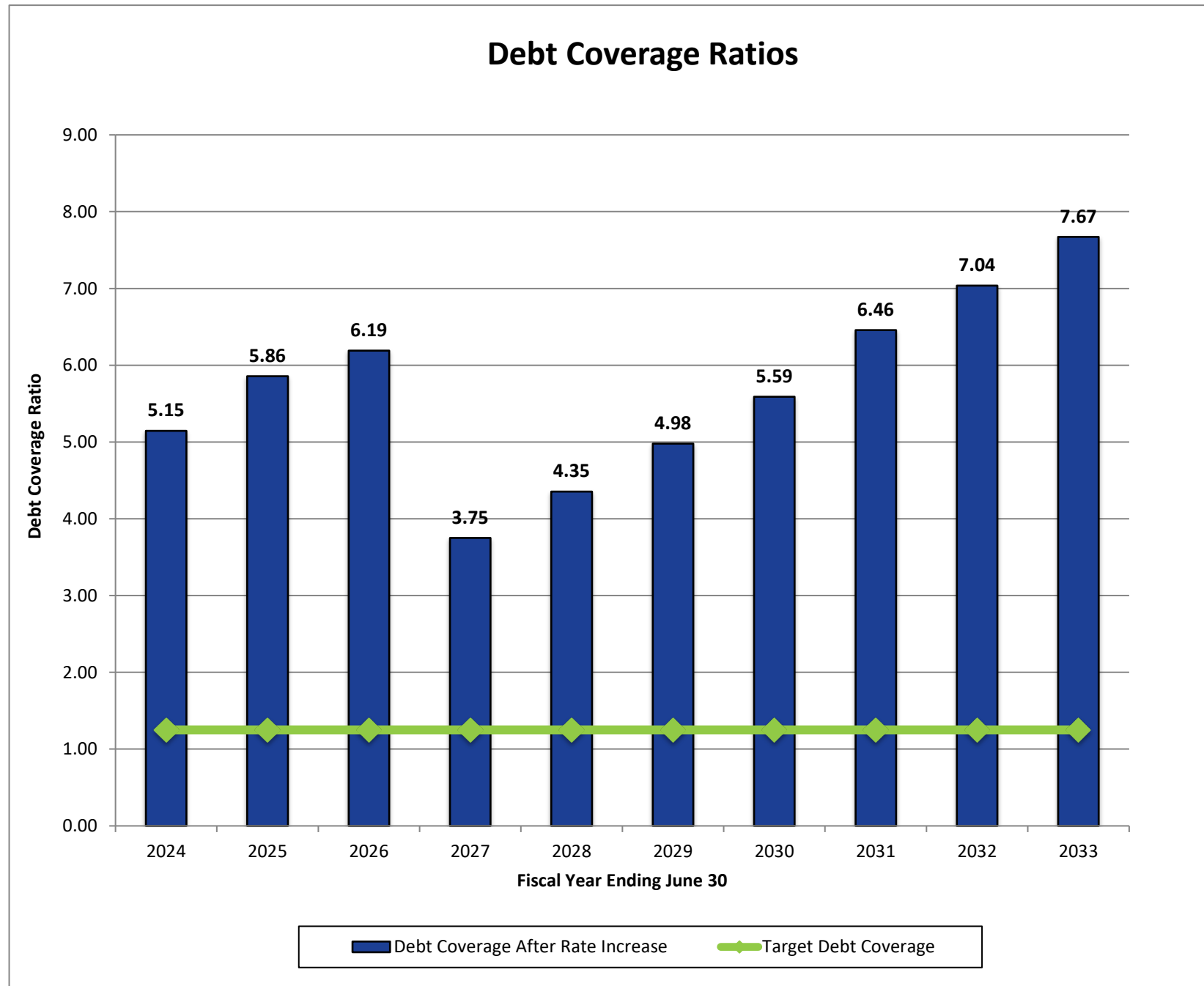


CHART 3

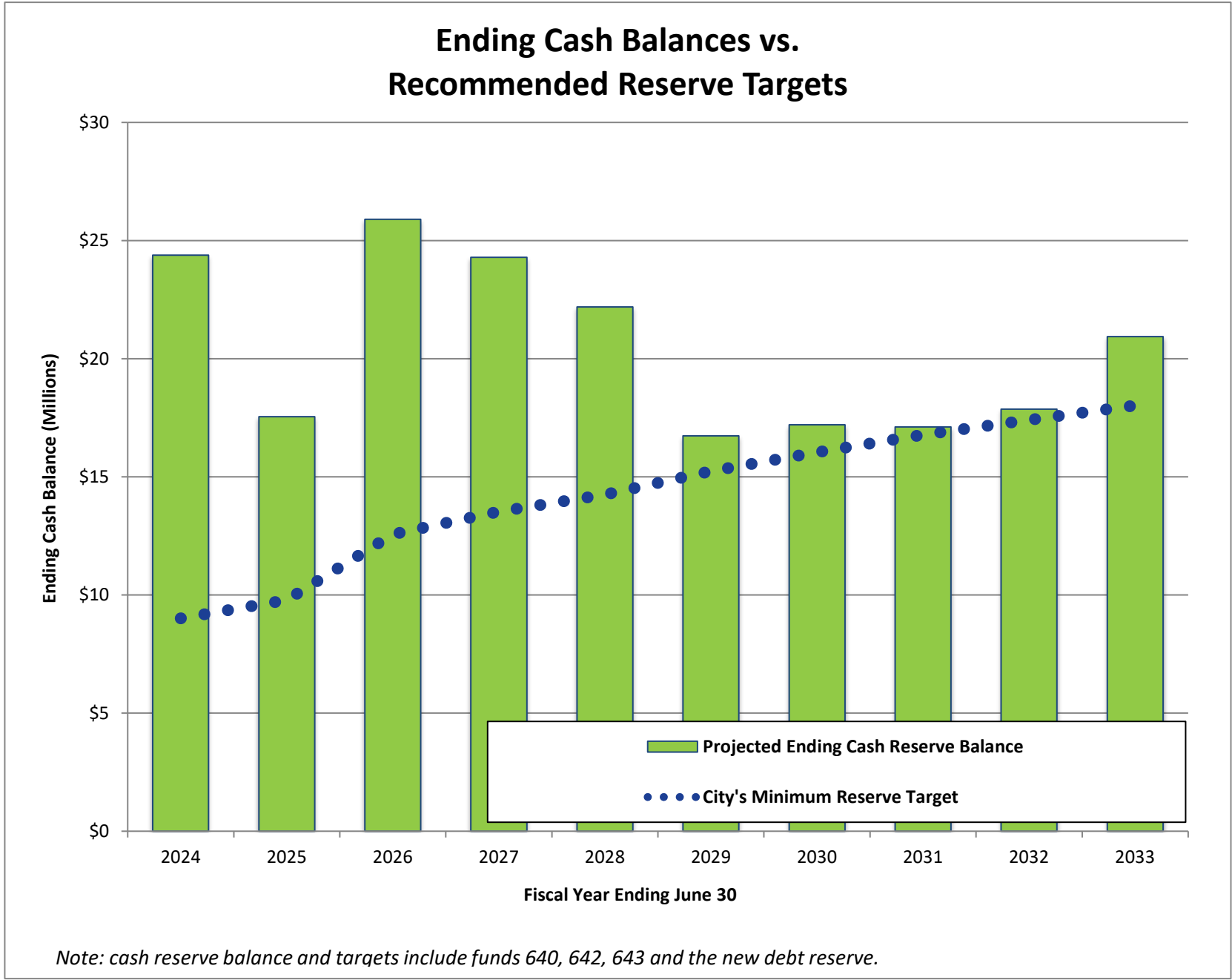


CHART 4

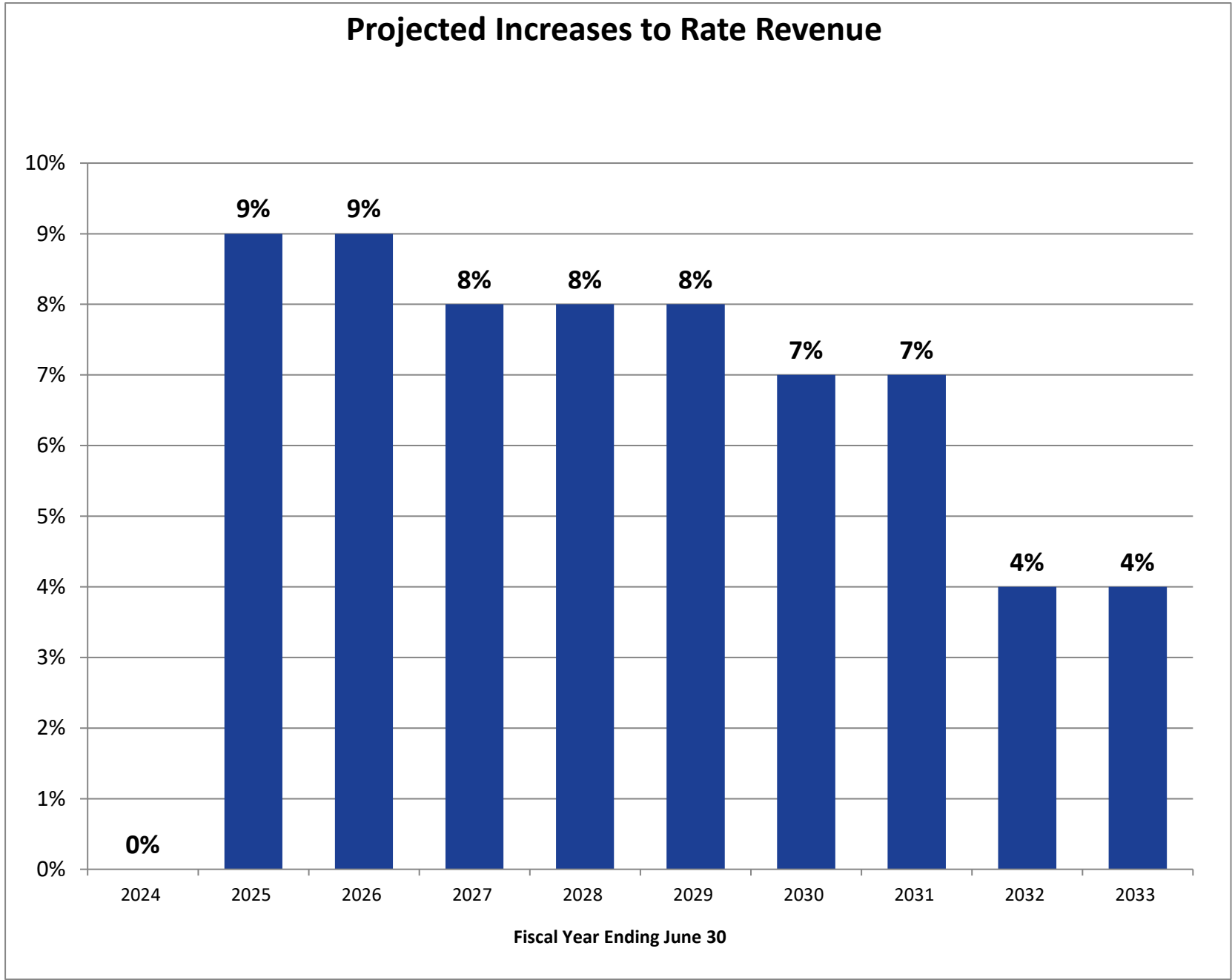


TABLE 4 : REVENUE FORECAST ¹

SOURCES OF REVENUE	Basis ²	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
<i>Sewer Operations Fund (640)</i>												
INTEREST INCOME	See FP	\$ 39,704	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SEWER SERVICE FEES	1	15,200,000	15,519,200	15,845,103	16,177,850	16,517,585	16,864,455	17,218,608	17,580,199	17,949,383	18,326,320	18,711,173
FRONT FOOTAGE/OFFSITE	2	44,826	45,920	47,040	48,188	49,364	50,568	51,802	53,066	54,361	55,687	57,046
UB COLLECTIONS	2	3,344	3,426	3,509	3,595	3,683	3,772	3,864	3,959	4,055	4,154	4,256
LIFT STATION CHARGES	4	260,769	273,807	287,498	301,873	316,966	332,815	349,455	366,928	385,275	404,538	424,765
UTILITY BILL DELINQ CHR	2	20,464	20,963	21,475	21,999	22,536	23,085	23,649	24,226	24,817	25,422	26,043
Subtotal: Sewer Ops Fund (640)		\$ 15,569,107	\$ 15,863,316	\$ 16,204,625	\$ 16,553,505	\$ 16,910,133	\$ 17,274,695	\$ 17,647,379	\$ 18,028,378	\$ 18,417,891	\$ 18,816,122	\$ 19,223,282
<i>Sewer Impact Fund (641)</i>												
INTEREST INCOME	See FP	608,366	499,997	44,204	304,233	501,160	502,171	424,145	-	-	-	-
DEVELOPMENT IMPACT FEES (AB1600)	8	3,994,917	11,546,118	15,415,728	12,805,084	5,570,990	3,021,130	2,088,432	2,088,432	2,088,432	2,088,432	2,088,432
Subtotal: Sewer Imp. Fund (641)		\$ 4,603,284	\$ 12,046,115	\$ 15,459,931	\$ 13,109,317	\$ 6,072,150	\$ 3,523,301	\$ 2,512,577	\$ 2,088,432	\$ 2,088,432	\$ 2,088,432	\$ 2,088,432
<i>Sewer Rate Stabilization Fund (642)</i>												
INTEREST INCOME	See FP	45,478	-	-	-	-	-	-	-	-	-	-
Subtotal: Swr. Rate Stab. Fund (642)		\$ 45,478	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Sewer System Replacement Fund (643)</i>												
INTEREST INCOME	See FP	478,510	553,528	138,955	47,593	60,484	83,569	-	-	-	-	-
Subtotal: Swr. Sys. Rep. Fund (641)		\$ 478,510	\$ 553,528	\$ 138,955	\$ 47,593	\$ 60,484	\$ 83,569	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL: REVENUE		\$ 20,696,379	\$ 28,462,959	\$ 31,803,511	\$ 29,710,415	\$ 23,042,768	\$ 20,881,565	\$ 20,159,956	\$ 20,116,810	\$ 20,506,323	\$ 20,904,555	\$ 21,311,715

1. Data sources for the FY 2023/24 adopted budget is from the following file: Item #1 FY24 Budget

Inflationary factors are applied to project revenue and expenses in all future years.

2. Inflation basis found in Table 13. Inflationary factors are applied to project revenue and expenses in all future years.

CITY OF MORGAN HILL
WASTEWATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 5 : REVENUE SUMMARY

REVENUE SUMMARY	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
<i>Sewer Operations Fund (640)</i>											
SEWER RATE REVENUE	\$ 15,200,000	\$ 15,519,200	\$ 15,845,103	\$ 16,177,850	\$ 16,517,585	\$ 16,864,455	\$ 17,218,608	\$ 17,580,199	\$ 17,949,383	\$ 18,326,320	\$ 18,711,173
OTHER REVENUE	329,403	344,116	359,522	375,654	392,548	410,241	428,771	448,179	468,508	489,802	512,110
INTEREST INCOME	39,704	-	-	-	-	-	-	-	-	-	-
<i>Sewer Impact Fund (641)</i>											
IMPACT FEE REVENUE	3,994,917	11,546,118	15,415,728	12,805,084	5,570,990	3,021,130	2,088,432	2,088,432	2,088,432	2,088,432	2,088,432
INTEREST INCOME	608,366	499,997	44,204	304,233	501,160	502,171	424,145	-	-	-	-
OTHER REVENUE	-	-	-	-	-	-	-	-	-	-	-
<i>Sewer Rate Stabilization Fund (642)</i>											
INTEREST INCOME	45,478	-	-	-	-	-	-	-	-	-	-
OTHER REVENUE	-	-	-	-	-	-	-	-	-	-	-
<i>Sewer System Replacement Fund (643)</i>											
INTEREST INCOME	478,510	553,528	138,955	47,593	60,484	83,569	-	-	-	-	-
OTHER REVENUE	-	-	-	-	-	-	-	-	-	-	-
INTERFUND TRANSFERS	-	-	-	-	-	-	-	-	-	-	-
TOTAL: REVENUE	\$ 20,696,379	\$ 28,462,959	\$ 31,803,511	\$ 29,710,415	\$ 23,042,768	\$ 20,881,565	\$ 20,159,956	\$ 20,116,810	\$ 20,506,323	\$ 20,904,555	\$ 21,311,715

TABLE 6 : OPERATING EXPENSE FORECAST ¹

SEWER OPERATIONS FUND	Basis	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
<i>SALARIES</i>												
SALARIES - GENERAL	2	\$ 1,563,576	\$ 1,810,392	\$ 1,954,841	\$ 2,013,490	\$ 2,073,890	\$ 2,136,110	\$ 2,200,190	\$ 2,253,875	\$ 2,308,869	\$ 2,365,206	\$ 2,422,917
SALARIES - PART-TIME TEMP	2	11,000	11,000	11,000	11,330	11,670	12,020	12,380	12,682	12,992	13,309	13,633
EARNED LEAVE LIABILITY	2	41,126	60,191	62,600	64,480	66,410	68,400	70,450	72,169	73,930	75,734	77,582
OVERTIME - GENERAL	2	62,085	63,948	65,866	67,840	69,880	71,980	74,140	75,949	77,802	79,701	81,645
RETIREMENT - GENERAL	2	374,884	416,134	447,590	466,436	434,973	441,350	441,350	452,119	463,151	474,452	486,028
DEFERRED COMPENSATION	2	38,855	55,405	58,094	59,840	61,640	63,490	65,390	66,986	68,620	70,294	72,009
GROUP INSURANCE	5	293,326	350,415	383,992	407,030	431,450	457,340	484,780	509,019	534,470	561,193	589,253
MEDICARE	2	23,648	26,781	29,373	30,250	31,160	32,090	33,050	33,856	34,683	35,529	36,396
Medicare (PTT & OT)	2		1,087	1,115	1,148	1,182	1,218	1,255	1,285	1,317	1,349	1,382
OTHER POST EMPLOYMENT BENEFITS (OPEB)	2	32,282	-	-	-	-	-	-	-	-	-	-
INCOME PROTECTION INS	2	12,373	13,072	13,895	14,310	14,740	15,180	15,640	16,022	16,413	16,813	17,223
WORKERS COMP	2	41,078	45,260	48,872	50,340	51,850	53,410	55,010	56,352	57,727	59,136	60,579
Workers Comp (PTT & OT)	2		1,874	1,922	1,979	2,039	2,100	2,163	2,216	2,270	2,325	2,382
BENEFITS	2	16,103	18,095	18,905	19,470	20,050	20,650	21,270	21,789	22,321	22,865	23,423
SUBTOTAL: SALARIES		\$ 2,510,336	\$ 2,873,653	\$ 3,098,064	\$ 3,207,943	\$ 3,270,934	\$ 3,375,338	\$ 3,477,068	\$ 3,574,318	\$ 3,674,563	\$ 3,777,904	\$ 3,884,452

TABLE 7 : OPERATING EXPENSE FORECAST, continued ¹

SEWER OPERATIONS FUND, continued	Basis	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
SUPPLIES												
ELECTRIC	2	44,993	49,492	51,967	54,570	57,300	60,170	63,180	64,722	66,301	67,919	69,576
WATER/SEWER	2	7,368	7,736	8,123	8,370	8,620	8,880	9,150	9,373	9,602	9,836	10,076
TELEPHONE	2	18,030	12,000	12,360	12,730	13,110	13,500	13,910	14,249	14,597	14,953	15,318
GASOLINE & OIL	2	33,162	34,157	35,180	36,240	37,330	38,450	39,600	40,566	41,556	42,570	43,609
CONTRACT SERVICES	2	244,312	346,641	279,790	288,180	296,830	305,730	314,900	322,584	330,455	338,518	346,778
RENTALS - OUTSIDE	2	2,000	2,000	2,000	2,060	2,120	2,180	2,250	2,305	2,361	2,419	2,478
STATIONERY & OFFICE SUPPLIES	2	2,089	2,152	2,217	2,280	2,350	2,420	2,490	2,551	2,613	2,677	2,742
COMPUTER HARDWARE-NON CAPITAL	2	2,500	2,500	2,500	2,580	2,660	2,740	2,820	2,889	2,959	3,032	3,105
COMPUTER SOFTWARE-NON CAPITAL	2	60,663	62,483	64,357	66,290	68,280	70,330	72,440	74,208	76,018	77,873	79,773
OTHER SUPPLIES	2	105,000	108,150	111,395	114,740	118,180	121,730	125,380	128,439	131,573	134,784	138,072
ADVERTISING	2	2,500	2,500	2,500	2,580	2,660	2,740	2,820	2,889	2,959	3,032	3,105
PHOTOCOPYING	2	560	560	560	580	600	620	640	656	672	688	705
POSTAGE & FREIGHT	2	300	300	300	310	320	330	340	348	357	366	374
PRINTING	2	820	820	820	840	870	900	930	953	976	1,000	1,024
AUTO MILEAGE	2	200	200	200	210	220	230	240	246	252	258	264
SEWER CHRGS MAINT/OPS (SCRWA)	2	5,119,425	5,342,662	6,740,162	7,077,170	7,431,029	7,802,580	8,192,709	8,392,611	8,597,391	8,807,167	9,022,062
WATER/SEWER MAINTENANCE SVS	2	25,000	25,000	25,000	25,750	26,520	27,320	28,140	28,827	29,530	30,251	30,989
SMALL TOOLS	2	5,124	5,278	5,436	5,600	5,770	5,940	6,120	6,269	6,422	6,579	6,740
OTHER EXPENSE	2	9,583	9,870	10,166	10,470	10,780	11,100	11,430	11,709	11,995	12,287	12,587
TRAINING & EDUCATION	2	15,000	21,855	22,510	23,190	23,890	24,610	25,350	25,969	26,602	27,251	27,916
CONFERENCE & MEETINGS	2	8,580	14,500	14,935	15,380	15,840	16,320	16,810	17,220	17,640	18,071	18,512
MEMBERSHIP & DUES	2	8,209	8,455	8,709	8,970	9,240	9,520	9,810	10,049	10,295	10,546	10,803
SUBSCRIPTION & PUBLICATIONS	2	72	-	-	-	-	-	-	-	-	-	-
MAINT - BLDGS/IMPROVEMENTS	2	10,000	10,000	10,000	10,300	10,610	10,930	11,260	11,535	11,816	12,105	12,400
MAINT - MACHINE/EQUIPMENT	2	51,940	53,498	55,103	56,760	58,460	60,210	62,020	63,533	65,084	66,672	68,298
MAINT - AUTO/TRUCKS	2	53,521	55,127	56,780	58,480	60,230	62,040	63,900	65,459	67,056	68,693	70,369
REIMBURSEMENT AGREEMENT	2	100,000	100,000	100,000	103,000	106,090	109,270	112,550	115,296	118,109	120,991	123,944
SUBTOTAL: SUPPLIES		\$ 5,930,951	\$ 6,277,936	\$ 7,623,070	\$ 7,987,630	\$ 8,369,909	\$ 8,770,790	\$ 9,191,189	\$ 9,415,454	\$ 9,645,191	\$ 9,880,534	\$ 10,121,619
SUB-TOTAL:		\$ 8,441,287	\$ 9,151,589	\$ 10,721,134	\$ 11,195,573	\$ 11,640,843	\$ 12,146,128	\$ 12,668,257	\$ 12,989,772	\$ 13,319,754	\$ 13,658,438	\$ 14,006,071

CITY OF MORGAN HILL
WASTEWATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 8 : OPERATING EXPENSE FORECAST, continued ¹

SEWER OPERATIONS FUND, continued	Basis	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
CAPITAL												
MACHINERY/EQUIPMENT	2	\$ -	\$ 29,728	\$ 46,875	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Computer Software	2	\$ 25,920	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUBTOTAL: CAPITAL		\$ 25,920	\$ 29,728	\$ 46,875	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
DEBT												
SERVICE FEES	2	-	-	-	-	-	-	-	-	-	-	-
INTERNAL SERVICES												
GENERAL LIABILITY INSURANCE	5	127,020	144,187	158,606	174,470	191,920	211,110	232,220	243,831	256,023	268,824	282,265
BUILDING MAINT - CURRENT	2	103,890	100,756	101,818	104,870	108,020	111,260	114,600	117,396	120,261	123,195	126,201
BUILDING MAINT - FUTURE	3	11,170	11,881	12,237	12,600	12,980	13,370	13,770	14,259	14,765	15,289	15,832
FLEET REPLACEMENT	2	240,933	283,303	296,052	309,374	323,296	337,844	353,047	361,661	370,486	379,526	388,786
GIS	2	38,024	57,071	54,647	55,740	56,850	57,990	59,150	60,593	62,072	63,586	65,138
INFORMATION SYSTEMS	2	180,199	189,313	204,245	208,330	212,500	216,750	221,090	226,485	232,011	237,672	243,471
GF ADMIN	2	274,218	287,929	293,690	302,500	311,580	320,930	330,560	338,626	346,888	355,352	364,023
SUBTOTAL: INTERNAL SERVICES		\$ 975,454	\$ 1,074,441	\$ 1,121,295	\$ 1,167,884	\$ 1,217,146	\$ 1,269,254	\$ 1,324,437	\$ 1,362,851	\$ 1,402,505	\$ 1,443,444	\$ 1,485,716
TRANSFERS												
TRANSFERS/GENERAL FUND	2	394,000	413,700	434,390	456,110	478,920	502,870	528,010	540,893	554,091	567,611	581,461
TRANSFER OUT - 232 (ENVIRONMENTAL PROG)	2	140,333	112,363	117,989	121,924	124,530	128,144	128,144	131,271	134,474	137,755	141,116
TRANS. OUT-207	2	-	-	-	-	-	-	-	-	-	-	-
TRANSFER OUT - 643 (SEWER CIP) ⁴	See FP	-	-	-	-	-	-	-	-	-	-	-
TRANSFER OUT - 643 (SEWER CIP) ⁴	See FP	-	-	-	-	-	-	-	-	-	-	-
Transfer Out-790 (Equipment Replacement)	2	-	115,500	-	-	-	-	-	-	-	-	-
TRANSFER OUT - 420 (CIVIC CENTER DEBT)	2	1,292	1,306	1,321	1,340	1,360	1,380	1,400	1,434	1,469	1,505	1,542
TRANSFER OUT - 643 (SEWER REPLACEMENT) For CIP	2	4,701,490	4,501,857	4,602,880	6,205,012	6,704,822	7,103,770	7,800,421	7,990,751	8,185,726	8,385,457	8,590,062
TRANSFER OUT - 643 (SEWER REPLACEMENT) for Debt	2	598,510	598,143	597,120	594,988	595,178	596,230	599,579	614,209	629,195	644,548	660,275
TRANSFER OUT - 642 (SEWER RATE STABILIZATION)	3	192,000	-	-	-	-	-	-	-	-	-	-
TRANSFER - WATER OPS.	2	571,318	719,795	754,090	772,145	783,029	800,528	817,879	837,835	858,278	879,220	900,673
SUBTOTAL: TRANSFERS		\$ 6,598,943	\$ 6,462,664	\$ 6,507,790	\$ 8,151,519	\$ 8,687,839	\$ 9,132,922	\$ 9,875,433	\$ 10,116,394	\$ 10,363,234	\$ 10,616,096	\$ 10,875,129
SUB-TOTAL:		\$ 7,600,317	\$ 7,566,833	\$ 7,675,960	\$ 9,319,403	\$ 9,904,985	\$ 10,402,176	\$ 11,199,870	\$ 11,479,245	\$ 11,765,739	\$ 12,059,541	\$ 12,360,845
TOTAL: SEWER OPS FUND (640), EXPENSES		\$ 16,041,604	\$ 16,718,423	\$ 18,397,094	\$ 20,514,976	\$ 21,545,828	\$ 22,548,304	\$ 23,868,127	\$ 24,469,017	\$ 25,085,492	\$ 25,717,979	\$ 26,366,916

TABLE 9 : OPERATING EXPENSE FORECAST, continued ¹

SEWER IMPACT FUND	Basis	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
SUPPLIES												
CONTRACT SERVICES	2	\$ 5,600	-	-	-	-	-	-	-	-	-	-
BANK CARD SERVICE FEES	2	-	-	-	-	-	-	-	-	-	-	-
OTHER EXPENSE	2	-	-	-	-	-	-	-	-	-	-	-
INTERNAL SERVICES												
GF ADMIN	2	51,216	53,777	54,850	56,500	58,200	59,950	61,750	63,257	64,800	66,381	68,001
TRANSFERS												
TRANSFER OUT-207 (General Fund)	2	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,610	26,235	26,875	27,531
TRANSFER OUT-207(GENL PLAN UPDATE)	2	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,888	8,080	8,278	8,479
TRANSFER OUT - 643 (SEWER CIP) ⁴	See FP	-	-	-	-	-	-	-	-	-	-	-
TOTAL: SEWER IMP. FUND (641), EXPENSES		\$ 89,516	\$ 86,477	\$ 87,550	\$ 89,200	\$ 90,900	\$ 92,650	\$ 94,450	\$ 96,755	\$ 99,115	\$ 101,534	\$ 104,011

TABLE 10 : OPERATING EXPENSE FORECAST, continued ¹

SEWER RATE STABILIZATION FUND	Basis	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
INTERNAL SERVICES												
GF ADMIN	2	1,872	1,966	2,010	2,070	2,130	2,190	2,260	2,315	2,372	2,430	2,489
TOTAL: SWR RATE STAB. (642), EXPENSES		\$ 1,872	\$ 1,966	\$ 2,010	\$ 2,070	\$ 2,130	\$ 2,190	\$ 2,260	\$ 2,315	\$ 2,372	\$ 2,430	\$ 2,489

TABLE 11 : OPERATING EXPENSE FORECAST, continued ¹

SEWER SYSTEM REPLACEMENT FUND	Basis	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
SUPPLIES & SERVICES												
OTHER EXPENSE	2								\$ -	\$ -	\$ -	\$ -
CONTRACT SERVICES	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
BANK CARD SERVICE FEES	2	-	-	-	-	-	-	-	-	-	-	-
DEBT												
PRINCIPAL ⁴	See Exh.. 3	-	-	-	-	-	-	-	-	-	-	-
INTEREST ⁴	See Exh.. 3	-	-	-	-	-	-	-	-	-	-	-
SERVICE FEES	8	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
INTERNAL SERVICES												
GF ADMIN	2	35,687	37,472	38,220	39,370	40,550	41,770	43,020	44,070	45,145	46,247	47,375
TOTAL: SWR SYSTM REP. FUND (643), EXPENSES		\$ 37,187	\$ 38,972	\$ 39,720	\$ 40,870	\$ 42,050	\$ 43,270	\$ 44,520	\$ 45,570	\$ 46,645	\$ 47,747	\$ 48,875

TABLE 12 : MASTER PLAN O&M PROJECTS

ADDITIONAL EXPENSES	Basis	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
On-Going CCTV Sewer System (10 mi/year)	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 126,720	129,812	132,979	136,224	139,548	142,953
TOTAL: MASTER PLAN O&M PROJECTS		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 126,720	\$ 129,812	\$ 132,979	\$ 136,224	\$ 139,548	\$ 142,953
Grand Total: Operating Expenses		\$ 16,170,179	\$ 16,845,837	\$ 18,526,374	\$ 20,647,116	\$ 21,680,908	\$ 22,813,134	\$ 24,139,169	\$ 24,746,636	\$ 25,369,848	\$ 26,009,237	\$ 26,665,243

TABLE 13 : FORECASTING ASSUMPTIONS

INFLATION FACTORS ⁵	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
1 Customer Growth	-	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%
2 General Cost Inflation	-	2.44%	2.44%	2.44%	2.44%	2.44%	2.44%	2.44%	2.44%	2.44%	2.44%
3 Labor Cost Inflation	-	5.00%	3.55%	3.55%	3.55%	3.55%	3.55%	3.55%	3.55%	3.55%	3.55%
4 Lift Station Charges Inflation	-	3.60%	3.60%	3.60%	3.60%	3.60%	3.60%	3.60%	3.60%	3.60%	3.60%
5 Insurance Cost Inflation	-	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
6 Energy Cost Inflation	-	10.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
7 Other Cost Inflation	-	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
8 No Escalation	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

1. Data sources for the FY 2023/24 adopted budget is from the following file: Wastewater Budget Worksheet 5-1-2024.xlsx.

Inflationary factors are applied to project revenue and expenses in all future years.

2. Part time salaries include two line items in budget. Combined for this study. Source file: *Item 1, 2, 3, 12 Wastewater Rate Study Data.xlsx, Tab 2.*

3. Construction expenses are excluded from this analysis and are handled in Exhibit 2 (CIP).

4. The following revenues and expenses have been excluded from this analysis since they do not represent actual cash expenses,
or are handled in the model elsewhere (i.e. Debt is on Exhibit 3)

5. Inflation factors calculated by NBS off of District budget. Source file: *Item 1, 2, 3, 12 Wastewater Rate Study Data_jt.manipulated.xlsx, Tabs 2 and 3.*

TABLE 14 : CAPITAL FUNDING SUMMARY

CAPITAL FUNDING FORECAST	Budget		Projected				
Funding Sources:	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30
Grants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Use of SRF Loan Funding	-	-	24,000,000	-	-	-	-
Use of New Revenue Bond Proceeds ²	-	-	-	-	-	-	-
Use of Impact Fee Reserves (Fund 641) ¹	10,870,594	4,745,149	47,188,297	1,079,457	578,298	3,174,289	236,233
Use of Sewer System Replacement Reserve (Fund 643)	4,916,032	8,639,523	2,798,599	4,816,953	5,078,374	9,598,294	4,519,135
Rate Revenue	-	-	-	-	-	-	-
Total Sources of Capital Funds	\$ 15,786,626	\$ 13,384,672	\$ 73,986,896	\$ 5,896,410	\$ 5,656,672	\$ 12,772,583	\$ 4,755,368
Uses of Capital Funds:							
Total Project Costs	\$ 15,786,626	\$ 13,384,672	\$ 68,389,698	\$ 5,896,410	\$ 5,656,672	\$ 12,772,583	\$ 4,755,368
Capital Funding Surplus (Deficiency)	\$ -	\$ -	\$ 5,597,198	\$ -	\$ -	\$ -	\$ -
New SRF Loan Funding	\$ -	\$ -	\$ 24,000,000	\$ -	\$ -	\$ -	\$ -
New Revenue Bond Proceeds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

1. To the extent that impact fees are available, they will be used to fund project costs allocated to Fund 641 (Impact Fees)/Future customers.

TABLE 15 : CAPITAL IMPROVEMENT PROGRAM FUNDING OPTIONS

Policy Choice : Capital Improvement Plan Options			2024	2025	2026	2027	2028	2029	2030
1	100% Funding of Capital Improvement Program	1	\$ 15,786,626	\$ 13,384,672	\$ 68,389,698	\$ 5,896,410	\$ 5,656,672	\$ 12,772,583	\$ 4,755,368
2	75% Funding of Capital Improvement Program	0.75	\$ 11,839,970	\$ 10,038,504	\$ 51,292,274	\$ 4,422,308	\$ 4,242,504	\$ 9,579,437	\$ 3,566,526
3	50% Funding of Capital Improvement Program	0.5	\$ 7,893,313	\$ 6,692,336	\$ 34,194,849	\$ 2,948,205	\$ 2,828,336	\$ 6,386,292	\$ 2,377,684
4	30% Funding of Capital Improvement Program	0.3	\$ 4,735,988	\$ 4,015,402	\$ 20,516,909	\$ 1,768,923	\$ 1,697,002	\$ 3,831,775	\$ 1,426,610

Insert policy choice in box to right, based on options listed above:	1
--	---

Capital Improvement Program Funding Choice	2024	2025	2026	2027	2028	2029	2030
Effective Annual Funding Amount (641)	\$ 10,870,594	\$ 4,745,149	\$ 47,188,297	\$ 1,079,457	\$ 578,298	\$ 3,174,289	\$ 236,233
Effective Annual Funding Amount (643)	\$ 4,916,032	\$ 8,639,523	\$ 21,201,401	\$ 4,816,953	\$ 5,078,374	\$ 9,598,294	\$ 4,519,135

TABLE 16 : CAPITAL IMPROVEMENT PROGRAM
Capital Improvement Program Costs (in Current-Year Dollars) ²

Project Description	Fund	2024	2025	2026	2027	2028	2029	2030
Currently Planned Projects:								
PF2006 - Project Administration	641	\$ 70,594	\$ 34,149	\$ 675,197	\$ 126,357	\$ 58,098	\$ 88,289	\$ 36,233
PF2001 - Infastructure Planning Documents	641						125,000	
WW3003 - Sewer Plant Expansion (100%)	641	8,000,000	4,000,000					
WW3004 - Sewer Plant Improvements (100%)	641	150,000		1,500,000			2,500,000	
WW3008- New Trunk Line	641	150,000	250,000	43,763,000				
WW3002- East Dunne Ave & Tennant Ave Sewer Mains-30	641							
WW3009 - New/Replacement Sewer Lines	641	2,500,000	461,000	1,250,100	953,100	520,200	461,000	200,000
Security Project	641							
Lift Station Force Main Retrofits	641							
PF2006 - Project Administration	643	127,562	409,323	313,321	563,853	510,194	1,522,674	693,135
PF2001 - Infastructure Planning Documents	643						125,000	
WW3001 - Sewer System Repair & Replacement	643	1,367,470	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
WW3007- Sewer Facility Improvements	643	284,000						
WW3008 - New Trunk Line	643	50,000	100,000	14,588,000				
WW3002 - East Dunne Ave & Tennant Ave Sewer Mains-30	643							
WW3005- Lift Station Improvements 2022- 304020	643							
WW3006 - Lift Station Improvements	643	3,037,000	1,353,600				2,793,600	
WW3009 - New/Replacement Sewer Lines	643		276,600	1,000,080	953,100	468,180	2,257,020	100,000
WW3010 - Engineering Services Access Road	643	50,000			500,000			500,000
WA6010 - Utilities Security System Enhancement	643				300,000	400,000	400,000	400,000
WA6011 - Utility Solar System	643		292,000					
WW3012- Exisitng Joint Trunk Repairs	643		4,000,000	2,800,000		1,200,000		326,000
Master Plan Projects:								
Pipeline Capacity Improvements	641	-	-	-	-	-	-	-
Total: Capital Improvement Program Costs (Current-Year Dollars)		\$ 15,786,626	\$ 13,676,672	\$ 68,389,698	\$ 5,896,410	\$ 5,656,672	\$ 12,772,583	\$ 4,755,368

Total: CIP Costs (Current Year) Paid with Impact Fees	641	\$ 10,870,594	\$ 4,745,149	\$ 47,188,297	\$ 1,079,457	\$ 578,298	\$ 3,174,289	\$ 236,233
Total: CIP Costs (Current Year) Paid with Sewer CIP Fund	643	\$ 4,916,032	\$ 8,931,523	\$ 21,201,401	\$ 4,816,953	\$ 5,078,374	\$ 9,598,294	\$ 4,519,135

TABLE 17 : FORECASTING ASSUMPTIONS

Economic Variables	2024	2025	2026	2027	2028	2029	2030
Annual Construction Cost Inflation, Per Engineering News Record ⁴	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Cumulative Construction Cost Multiplier from 2024	1.00	1.00	1.00	1.00	1.00	1.00	1.00

1. Use of 2015 Revenue Bond Proceeds used for capital funding from last study.
2. Capital Improvement Program projects found in Source File: *Item #17 Sewer CIP*
3. Project costs are inflated by 3.00% per year, Engineering News Record estimates of construction cost inflation.
4. For reference purposes, the annual Construction Cost Inflation percentage is the 10 year average change in the Construction Cost Index for January 2012 to January 2022. Source: Engineering News Record website (<http://enr.construction.com>).
*Not used, as City CIP costs already include inflation factor.

TABLE 18 : OPEN DEBT SERVICE

EXISTING & PLANNED DEBT OBLIGATIONS	Budget	Projected					Projected				
Annual Repayment Schedules:	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	FY 2033/34
<u>Sewer Revenue Bonds - 2015 - \$15,690,000 ¹</u>											
Principal Payment	\$ 335,000	\$ 350,000	\$ 365,000	\$ 380,000	\$ 400,000	\$ 420,000	\$ 440,000	\$ 450,000	\$ 470,000	\$ 485,000	\$ 500,000
Interest Payment	217,125	201,750	185,625	167,000	147,500	129,100	113,550	98,525	82,425	65,713	48,163
Subtotal: Annual Debt Service	\$ 552,125	\$ 551,750	\$ 550,625	\$ 547,000	\$ 547,500	\$ 549,100	\$ 553,550	\$ 548,525	\$ 552,425	\$ 550,713	\$ 548,163
Coverage Requirement (\$-Amnt. above annual payment) ²	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Reserve Requirement (total fund balance) ³	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<u>Sewer Revenue Bonds, Series 2020 - \$17,685,000 ⁴</u>											
Principal Payment	\$130,000	\$135,000	\$140,000	\$150,000	\$155,000	\$160,000	\$165,000	\$175,000	\$180,000	\$190,000	\$200,000
Interest Payment	598,838	593,538	588,038	582,238	576,138	569,838	563,338	556,538	549,438	542,038	534,238
Subtotal: Annual Debt Service	\$ 728,838	\$ 728,538	\$ 728,038	\$ 732,238	\$ 731,138	\$ 729,838	\$ 728,338	\$ 731,538	\$ 729,438	\$ 732,038	\$ 734,238
Coverage Requirement (\$-Amnt. above annual payment) ²	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Reserve Requirement (total fund balance) ³	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<u>New Bond Proceeds for CIP ⁵</u>											
Principal Payment	\$ -	\$ -	\$ -	\$ 547,531	\$ 563,957	\$ 580,875	\$ 598,302	\$ 616,251	\$ 634,738	\$ 653,780	\$ 673,394
Interest Payment	-	-	-	742,761	726,335	709,417	691,990	674,041	655,554	636,512	616,898
Subtotal: Annual Debt Service	\$ -	\$ -	\$ -	\$ 1,290,292	\$ 1,290,292	\$ 1,290,292	\$ 1,290,292	\$ 1,290,292	\$ 1,290,292	\$ 1,290,292	\$ 1,290,292
Coverage Requirement (\$-Amnt. above annual payment)	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%
Reserve Requirement (total fund balance)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grand Total: Existing & Planned Annual Debt Service	\$ 1,280,963	\$ 1,280,288	\$ 1,278,663	\$ 2,569,530	\$ 2,568,930	\$ 2,569,230	\$ 2,572,180	\$ 2,570,355	\$ 2,572,155	\$ 2,573,042	\$ 2,572,692
Grand Total: Existing Debt Reserve Target	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

1. The 2015 Sewer Bonds refunded the 2002 Bonds. File: *Item#7 2015 Bonds DS Schedule*
2. The Coverage Requirement for the 2015 Sewer Bonds is at least equal to 125% of the Maximum Annual Debt Service, taking into account all Parity Debt. Source file: *8. Bond Document- Morgan Hill Sewer Series 2015.pdf, Page 19.*
3. There is no Reserve Requirement for the 2015 Sewer Bonds. Source file: *8. Bond Document- Morgan Hill Sewer Series 2015.pdf, Page 19.*
4. Per Official Statement
5. This debt service is dependant on the funding option chosen in Exhibit 2 in cell D35.

CITY OF MORGAN HILL
WASTEWATER RATE STUDY

EXHIBIT 4

Projected Water Rates Under Existing Rate Schedule

TABLE 19 : CURRENT WASTEWATER RATES¹

Sewer Rate Schedule	New Rates Effective 1/1/19	Current Rates				
		7/1/2019	7/1/2020	7/1/2021	7/1/2022	7/1/2023
		9.00%	9.00%	5.00%	5.00%	5.00%
Monthly Fixed Charges:						
Residential (5/8-1 inch meters)	\$19.67	\$21.44	\$23.37	\$24.54	\$25.77	\$27.05
All Other Customers:						
5/8 inch	\$19.67	\$21.44	\$23.37	\$24.54	\$25.77	\$27.05
3/4 inch	\$19.67	\$21.44	\$23.37	\$24.54	\$25.77	\$27.05
1 inch ³	\$19.67	\$21.44	\$23.37	\$24.54	\$25.77	\$27.05
1.5 inch	\$73.63	\$80.26	\$87.48	\$91.85	\$96.45	\$101.27
2 inch	\$117.23	\$127.78	\$139.28	\$146.25	\$153.56	\$161.24
3 inch	\$255.39	\$278.38	\$303.43	\$318.60	\$334.53	\$351.26
4 inch	\$458.73	\$500.02	\$545.02	\$572.27	\$600.88	\$630.93
6 inch	\$1,018.18	\$1,109.82	\$1,209.70	\$1,270.18	\$1,333.69	\$1,400.38
8 inch	\$1,572.90	\$1,714.46	\$1,868.76	\$1,962.20	\$2,060.31	\$2,163.33
10 inch	\$1,966.13	\$2,143.08	\$2,335.96	\$2,452.76	\$2,575.39	\$2,704.16
Monthly Volumetric Charges:						
Single & Multi-Family Residential	\$4.17	\$4.55	\$4.95	\$5.20	\$5.46	\$5.74
Commercial/Industrial/Public						
Commercial 1	\$3.99	\$4.35	\$4.74	\$4.98	\$5.23	\$5.49
Commercial 2	\$4.67	\$5.09	\$5.55	\$5.83	\$6.12	\$6.42
Commercial 3	\$5.68	\$6.19	\$6.75	\$7.09	\$7.44	\$7.81
Commercial 4	\$6.44	\$7.02	\$7.65	\$8.03	\$8.44	\$8.86
Commercial 5	\$7.65	\$8.34	\$9.09	\$9.54	\$10.02	\$10.52
Commercial 6	\$12.77	\$13.92	\$15.17	\$15.93	\$16.73	\$17.56
Lift Station Service Charge (As Applicable):						
	\$9.41	\$9.75	\$10.10	\$10.46	\$10.84	\$11.23

1. Source File: Sewer rates 2019-2023.pdf

CITY OF MORGAN HILL
WASTEWATER RATE STUDY
Cost of Service Analysis

Classification of Expenses									
Budget Categories	Total Revenue Requirements	Flow	Strength	Strength	Customer	Basis of Classification			
	FY 2024/25	(VOL)	(BOD)	(TSS)	(CA)	(VOL)	(BOD)	(TSS)	(CA)
OPERATING EXPENSES									
SEWER OPERATIONS FUND									
SALARIES									
SALARIES - GENERAL	\$ 1,810,392	\$ 995,716	\$ 362,078	\$ 362,078	\$ 90,520	55%	20%	20%	5%
SALARIES - PART-TIME TEMP	11,000	6,050	2,200	2,200	550	55%	20%	20%	5%
EARNED LEAVE LIABILITY	60,191	33,105	12,038	12,038	3,010	55%	20%	20%	5%
OVERTIME - GENERAL	63,948	35,171	12,790	12,790	3,197	55%	20%	20%	5%
RETIREMENT - GENERAL	416,134	228,874	83,227	83,227	20,807	55%	20%	20%	5%
DEFERRED COMPENSATION	55,405	30,473	11,081	11,081	2,770	55%	20%	20%	5%
GROUP INSURANCE	350,415	192,728	70,083	70,083	17,521	55%	20%	20%	5%
MEDICARE	26,781	14,730	5,356	5,356	1,339	55%	20%	20%	5%
Medicare (PTT & OT)	1,087	598	217	217	54	55%	20%	20%	5%
OTHER POST EMPLOYMENT BENEFITS (OPEB)	-	-	-	-	-	55%	20%	20%	5%
INCOME PROTECTION INS	13,072	7,190	2,614	2,614	654	55%	20%	20%	5%
WORKERS COMP	45,260	24,893	9,052	9,052	2,263	55%	20%	20%	5%
Workers Comp (PTT & OT)	1,874	1,031	375	375	94	55%	20%	20%	5%
BENEFITS	18,095	9,952	3,619	3,619	905	55%	20%	20%	5%
SUPPLIES									
ELECTRIC	49,492	32,170	7,424	7,424	2,475	65%	15%	15%	5%
WATER/SEWER	7,736	3,481	1,934	1,934	387	45%	25%	25%	5%
TELEPHONE	12,000	5,400	3,000	3,000	600	45%	25%	25%	5%
GASOLINE & OIL	34,157	15,371	8,539	8,539	1,708	45%	25%	25%	5%
CONTRACT SERVICES	346,641	155,988	86,660	86,660	17,332	45%	25%	25%	5%
RENTALS - OUTSIDE	2,000	900	500	500	100	45%	25%	25%	5%
STATIONERY & OFFICE SUPPLIES	2,152	968	538	538	108	45%	25%	25%	5%
COMPUTER HARDWARE-NON CAPITAL	2,500	1,000	625	625	250	40%	25%	25%	10%
COMPUTER SOFTWARE-NON CAPITAL	62,483	24,993	15,621	15,621	6,248	40%	25%	25%	10%
OTHER SUPPLIES	108,150	43,260	27,038	27,038	10,815	40%	25%	25%	10%
ADVERTISING	2,500	1,000	625	625	250	40%	25%	25%	10%
PHOTOCOPYING	560	224	140	140	56	40%	25%	25%	10%
POSTAGE & FREIGHT	300	120	75	75	30	40%	25%	25%	10%
PRINTING	820	328	205	205	82	40%	25%	25%	10%
AUTO MILEAGE	200	90	50	50	10	45%	25%	25%	5%
SEWER CHRGS MAINT/OPS (SCRWA)	5,342,662	2,404,198	1,335,666	1,335,666	267,133	45%	25%	25%	5%
WATER/SEWER MAINTENANCE SVS	25,000	11,250	6,250	6,250	1,250	45%	25%	25%	5%
SMALL TOOLS	5,278	2,375	1,320	1,320	264	45%	25%	25%	5%
OTHER EXPENSE	9,870	4,442	2,468	2,468	494	45%	25%	25%	5%
TRAINING & EDUCATION	21,855	4,371	5,464	5,464	6,557	20%	25%	25%	30%
CONFERENCE & MEETINGS	14,500	2,900	3,625	3,625	4,350	20%	25%	25%	30%
MEMBERSHIP & DUES	8,455	1,691	2,114	2,114	2,537	20%	25%	25%	30%
SUBSCRIPTION & PUBLICATIONS	-	-	-	-	-	40%	25%	25%	10%
MAINT - BLDGS/IMPROVEMENTS	10,000	4,000	2,500	2,500	1,000	40%	25%	25%	10%
MAINT - MACHINE/EQUIPMENT	53,498	24,074	13,375	13,375	2,675	45%	25%	25%	5%
MAINT - AUTO/TRUCKS	55,127	24,807	13,782	13,782	2,756	45%	25%	25%	5%
REIMBURSEMENT AGREEMENT	100,000	45,000	25,000	25,000	5,000	45%	25%	25%	5%
SUB-TOTAL:	\$ 9,151,589	\$ 4,394,911	\$ 2,139,265	\$ 2,139,265	\$ 478,148	48.0%	23.4%	23.4%	5.2%

CITY OF MORGAN HILL
WASTEWATER RATE STUDY
Cost of Service Analysis

Classification of Expenses									
Budget Categories	Total Revenue Requirements	Flow	Strength	Strength	Customer	Basis of Classification			
	FY 2024/25	(VOL)	(BOD)	(TSS)	(CA)	(VOL)	(BOD)	(TSS)	(CA)
OPERATING EXPENSES									
SEWER OPERATIONS FUND, continued									
CAPITAL									
MACHINERY/EQUIPMENT	\$ 29,728	\$ 13,378	\$ 7,432	\$ 7,432	\$ 1,486	45%	25%	25%	5%
Computer Software	-	-	-	-	-	45%	25%	25%	5%
DEBT									
SERVICE FEES	-	-	-	-	-	40%	25%	25%	10%
INTERNAL SERVICES									
GENERAL LIABILITY INSURANCE	144,187	79,303	28,837	28,837	7,209	55%	20%	20%	5%
BUILDING MAINT - CURRENT	100,756	55,416	20,151	20,151	5,038	55%	20%	20%	5%
BUILDING MAINT - FUTURE	11,881	6,534	2,376	2,376	594	55%	20%	20%	5%
FLEET REPLACEMENT	283,303	155,817	56,661	56,661	14,165	55%	20%	20%	5%
GIS	57,071	31,389	11,414	11,414	2,854	55%	20%	20%	5%
INFORMATION SYSTEMS	189,313	104,122	37,863	37,863	9,466	55%	20%	20%	5%
GF ADMIN	287,929	158,361	57,586	57,586	14,396	55%	20%	20%	5%
SUBTOTAL: INTERNAL SERVICES									
TRANSFERS/GENERAL FUND	413,700	186,165	103,425	103,425	20,685	45%	25%	25%	5%
TRANSFER OUT - 232 (ENVIRONMENTAL PROG)	112,363	50,563	28,091	28,091	5,618	45%	25%	25%	5%
TRANSFER OUT - 420 (CIVIC CENTER DEBT)	1,306	588	327	327	65	45%	25%	25%	5%
Transfer Out-790 (Equipment Replacement)	115,500	51,975	28,875	28,875	5,775	45%	25%	25%	5%
TRANSFER OUT - 643 (SEWER REPLACEMENT) For CIP	4,501,857	3,376,393	450,186	450,186	225,093	75%	10%	10%	5%
TRANSFER OUT - 643 (SEWER REPLACEMENT) for Debt	598,143	448,607	59,814	59,814	29,907	75%	10%	10%	5%
TRANSFER OUT - 642 (SEWER RATE STABILIZATION)	-	-	-	-	-	45%	25%	25%	5%
TRANSFER - WATER OPS.	719,795	323,908	179,949	179,949	35,990	45%	25%	25%	5%
SUB-TOTAL:	\$ 7,566,833	\$ 5,042,519	\$ 1,072,986	\$ 1,072,986	\$ 378,342	66.6%	14.2%	14.2%	5.0%

CITY OF MORGAN HILL
WASTEWATER RATE STUDY
Cost of Service Analysis

Classification of Expenses									
Budget Categories	Total Revenue Requirements	Flow	Strength	Strength	Customer	Basis of Classification			
	FY 2024/25	(VOL)	(BOD)	(TSS)	(CA)	(VOL)	(BOD)	(TSS)	(CA)
OPERATING EXPENSES									
SEWER RATE STABILIZATION FUND									
SUPPLIES									
CONTRACT SERVICES	\$ -	\$ -	\$ -	\$ -	\$ -	45%	25%	25%	5%
INTERNAL SERVICES									
GF ADMIN	1,966	885	491	491	98	45%	25%	25%	5%
TOTAL: SWR RATE STAB. (642), EXPENSES	\$ 1,966	\$ 885	\$ 491	\$ 491	\$ 98	45.0%	25.0%	25.0%	5.0%

Classification of Expenses									
Budget Categories	Total Revenue Requirements	Flow	Strength	Strength	Customer	Basis of Classification			
	FY 2024/25	(VOL)	(BOD)	(TSS)	(CA)	(VOL)	(BOD)	(TSS)	(CA)
OPERATING EXPENSES									
SEWER SYSTEM REPLACEMENT FUND									
SUPPLIES & SERVICES									
CONTRACT SERVICES	\$ -	\$ -	\$ -	\$ -	\$ -	45%	25%	25%	5%
BANK CARD SERVICE FEES	-	-	-	-	-	45%	25%	25%	5%
DEBT									
SERVICE FEES	1,500	675	375	375	75	45%	25%	25%	5%
INTERNAL SERVICES									
GF ADMIN	37,472	16,862	9,368	9,368	1,874	45%	25%	25%	5%
TOTAL: SWR SYSTM REP. FUND (643), EXPENSES	\$ 38,972	\$ 17,537	\$ 9,743	\$ 9,743	\$ 1,949	45.0%	25.0%	25.0%	5.0%

Grand Total: Sewer Fund Operations (Funds 640, 642 & 643)	\$ 16,759,360	\$ 9,455,852	\$ 3,222,486	\$ 3,222,486	\$ 858,536	56.4%	19.2%	19.2%	5.1%
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CITY OF MORGAN HILL
WASTEWATER RATE STUDY
Cost of Service Analysis

Classification of Expenses, continued									
Budget Categories	Total Revenue Requirements	Flow	Strength	Strength	Customer	Basis of Classification			
	FY 2024/25	(VOL)	(BOD)	(TSS)	(CA)	(VOL)	(BOD)	(TSS)	(CA)
Debt Service Payments									
Sewer Revenue Bonds - 2015 - \$15,690,000 1	\$ 551,750	\$ 248,288	\$ 137,938	\$ 137,938	\$ 27,588	45%	25%	25%	5%
Sewer Revenue Bonds, Series 2020 - \$17,685,000 4	728,538	327,842	182,135	182,135	36,427	45%	25%	25%	5%
New Debt Issue - SRF Loan	-	-	-	-	-	45%	25%	25%	5%
New Debt Issue - Revenue Bond	-	-	-	-	-	45%	25%	25%	5%
Total Debt Service Payments	\$ 1,280,288	\$ 576,130	\$ 320,072	\$ 320,072	\$ 64,014	45.0%	25.0%	25.0%	5.0%
Capital Expenditures									
Rate Funded Capital Expenses	\$ -	\$ -	\$ -		\$ -	45%	25%	25%	5%
TOTAL REVENUE REQUIREMENTS	\$ 18,039,648	\$ 10,031,981	\$ 3,542,558	\$ 3,542,558	\$ 922,551	55.6%	19.6%	19.6%	5.1%
Less: Non-Rate Revenues									
FRONT FOOTAGE/OFFSITE	\$ (45,920)	\$ (20,664)	\$ (11,480)	\$ (11,480)	\$ (2,296)	45%	25%	25%	5%
UB COLLECTIONS	(3,426)	(1,542)	(856)	(856)	(171)	45%	25%	25%	5%
LIFT STATION CHARGES	(273,807)	(205,356)	(27,381)	(27,381)	(13,690)	75%	10%	10%	5%
REIMBURSEMENT OF EXPENSES	-	-	-	-	-	45%	25%	25%	5%
MISC. SALES	-	-	-	-	-	45%	25%	25%	5%
UTILITY BILL DELINQ CHR	(20,963)	(9,433)	(2,096)	(2,096)	(7,337)	45%	10%	10%	35%
CHGS-CURR/PLANS & SPECS	-	-	-	-	-	45%	25%	25%	5%
TRANSFER FROM-642 (SWR RATE STAB) 4	-	-	-	-	-	45%	25%	25%	5%
Sewer Rate Stabilization Fund (642)	-	-	-	-	-	45%	25%	25%	5%
REIMBURSEMENT OF EXPENSES	-	-	-	-	-	45%	25%	25%	5%
Interest Earnings (in Operating & Unrestricted) 3	(853,499)	(384,074)	(213,375)	(213,375)	(42,675)	45%	25%	25%	5%
Use of Impact Fee Fund for Debt Service 4	(682,145)	(306,965)	(170,536)	(170,536)	(34,107)	45%	25%	25%	5%
NET REVENUE REQUIREMENTS	\$ 16,159,888	\$ 9,103,947	\$ 3,116,834	\$ 3,116,834	\$ 822,274				
Allocation of Revenue Requirements	100.0%	56.3%	19.3%	19.3%	5.1%				

Classification of Expenses, continued					
Adjustments to Classification of Expenses	Total	(VOL)	(BOD)	(TSS)	(CA)
Adjustment for Current Rate Level:					
FY 2024/25 Target Rate Rev. After Rate Increases	\$16,915,928				
Projected Rate Revenue at Current Rates	\$15,200,000				
FY 2024/25 Projected Rate Increase	9%				
Adjusted Net Revenue Req'ts (COSA)	\$ 16,915,928	\$ 9,529,875	\$ 3,262,655	\$ 3,262,655	\$ 860,744

TABLE 20 : ESTIMATED WASTEWATER FLOW BY CUSTOMER CLASS

Customer Class	FY 2022/23 Avg. WINTER Water Use (hcf/month) ¹	FY 2022/23 Annual Water Consumption (hcf) ¹	Estimated Annual Volume (hcf/yr.) ²	Percent of Annual Volume
Single Family	71,427	N/A	857,122	60.9%
Multi Family	23,433	N/A	281,195	20.0%
Commercial 1	N/A	33,639	33,639	2.4%
Commercial 2	N/A	81,389	81,389	5.8%
Commercial 3	N/A	60,069	60,069	4.3%
Commercial 4	N/A	27,412	27,412	1.9%
Commercial 5	N/A	6,762	6,762	0.5%
Commercial 6	N/A	60,816	60,816	4.3%
Total	94,860	270,087	1,408,404	100%

1. Consumption data source file: *MorganHill_CustomerBillingData_ManipulatedV5.xlsx*
2. Estimated annual volume is based on average winter water consumption for SFR and MFR Water customers, and is equal to the annual water consumption for commercial customers.

TABLE 21 : NUMBER OF ACCOUNTS AND BILLING UNITS BY CUSTOMER CLASS

Customer Class	Number of Accounts ¹	Percent of Total Accounts	Number of EDUs ¹	Percent of Total Billing Units
Single Family	10,353	77.2%	10,353	60.9%
Multi Family	2,276	17.0%	3,396	20.0%
Commercial 1	71	0.5%	406	2.4%
Commercial 2	411	3.1%	983	5.8%
Commercial 3	77	0.6%	726	4.3%
Commercial 4	102	0.8%	331	1.9%
Commercial 5	16	0.1%	82	0.5%
Commercial 6	107	0.8%	735	4.3%
Total	13,413	100.0%	17,012	100.0%

1. Number of accounts and billing units is from the Billed Consumption Report by Month spreadsheets.
Source File: *MorganHill_CustomerBillingData_ManipulatedV5.xlsx*, "Unit Count" Tab.

TABLE 22 : NUMBER OF METERS BY CUSTOMER CLASS AND METER SIZE

Number of Accounts by Customer Class and Meter Size ¹	5/8 inch	3/4 inch ³	1 inch ⁴	1.5 inch	2 inch	3 inch	4 inch	6 inch	Total
Single Family ²	-	-	10,353	-	-	-	-	-	10,353
Multi Family	-	-	2,276	-	-	-	-	-	2,276
Commercial 1	-	15	23	8	23	1	1	-	71
Commercial 2	-	69	179	58	99	2	3	1	411
Commercial 3	-	19	24	4	22	2	6	-	77
Commercial 4	-	9	12	27	49	2	3	-	102
Commercial 5	-	2	6	4	4	-	-	-	16
Commercial 6	-	18	42	23	22	-	2	-	107
Total	-	132	12,915	124	219	7	15	1	13,413

1. Number of accounts is from the Billed Consumption Report by Month spreadsheets. This is average meter count by size and customer class for FY 2022/23.

Source File: *MorganHill_CustomerBillingData_ManipulatedV5.xlsx*

2. Single Family meters are 5/8 to 1 inch size, per City customer data.

3. For commercial customers these meters are 5/8 to 3/4 inch, per City customer data.

4. Single Family meters are 5/8 to 1 inch size and Commercial meters are 1", per City's customer data.

TABLE 23 : TOTAL REVENUE BY CUSTOMER CLASS

Customer Class	Total Revenue FY 2022/23	% of Total Revenue
Single Family	\$ 8,415,461	57.7%
Multi Family	2,879,698	19.7%
Commercial 1	302,779	2.1%
Commercial 2	854,255	5.9%
Commercial 3	554,318	3.8%
Commercial 4	385,875	2.6%
Commercial 5	81,777	0.6%
Commercial 6	1,111,699	7.6%
Total	\$ 14,585,862	100.0%

CITY OF MORGAN HILL
WASTEWATER RATE STUDY
Wastewater Customer Statistics

Customer Statistics

TABLE 24 : Development of Strength Allocation Factor

Customer Class	Estimated Annual Volume (hcf/yr.) ²	Percent of Annual Volume	BOD Average Strength Factor (mg/L)	Adjusted BOD (lbs/yr)	Percent of Total	TSS Average Strength Factor (mg/L)	Adjusted TSS (lbs/yr)	Percent of Total
Single Family	857,122	60.9%	130	695,110	43.7%	100	534,700	32.0%
Multi Family	281,195	20.0%	130	228,044	14.3%	100	175,418	10.5%
Commercial 1	33,639	2.4%	130	27,281	1.7%	100	20,985	1.3%
Commercial 2	81,389	5.8%	150	76,160	4.8%	150	76,160	4.6%
Commercial 3	60,069	4.3%	260	97,430	6.1%	200	74,946	4.5%
Commercial 4	27,412	1.9%	450	76,952	4.8%	240	41,041	2.5%
Commercial 5	6,762	0.5%	735	31,005	1.9%	740	31,216	1.9%
Commercial 6	60,816	4.3%	950	360,420	22.6%	1,890	717,046	42.9%
Total	1,408,404	100%		1,592,401	100%		1,671,512	100%

1. Consumption data source file: *MorganHill_CustomerBillingData.xlsx*
2. Estimated annual volume is based on average winter water consumption for SFR and MFR Water customers, and is equal to the annual water consumption for commercial customers.

CITY OF MORGAN HILL
WASTEWATER RATE STUDY
Cost of Service Analysis

TABLE 25 : ALLOCATION OF REVENUE REQUIREMENTS

Customer Class	Cost Classification Components				Cost-of-Service Net Revenue	% of COS Net Revenue Requirements
	Volume (Vol)	Strength (BOD)	Strength (TSS)	Customer Related		
Net Revenue Requirements ¹	\$ 9,529,875	\$ 3,262,655	\$ 3,262,655	\$ 860,744	\$ 16,915,928	
	56.3%	19.3%	19.3%	5.1%	100.0%	
Single Family	\$ 5,799,660	\$ 1,424,204	\$ 1,043,690	\$ 664,376	\$ 8,931,930	52.8%
Multi Family	1,902,688	467,237	342,402	146,056	2,858,384	16.9%
Commercial 1	227,616	55,895	40,961	4,556	329,029	1.9%
Commercial 2	550,714	156,043	148,657	26,375	881,788	5.2%
Commercial 3	406,453	199,623	146,288	4,941	757,305	4.5%
Commercial 4	185,482	157,667	80,109	6,546	429,803	2.5%
Commercial 5	45,755	63,526	60,931	1,027	171,238	1.0%
Commercial 6	411,508	738,461	1,399,616	6,866	2,556,451	15.1%
Total	\$ 9,529,875	\$ 3,262,655	\$ 3,262,655	\$ 860,744	\$ 16,915,928	100.0%

1. The revenue requirement from each cost classification times the allocation factors for each customer class.

TABLE 26 : PROPOSED SEWER RATES: VARIABLE CHARGES - PROPOSED ALTERNATIVE

Customer Class	Number of Accounts	Number of Billing Units	Annualized Winter Consumption ³ (hcf)	Net Revenue Allocation		Annual Revenue Requirements			Mo. Fixed Charge Per Account ⁴	Volumetric Charge Per hcf
				% Fixed Revenue	% Variable Revenue	Fixed	Variable	Total		
Residential										
Single Family Residential (SFR)	10,353	10,353	857,122	50%	50%	\$ 4,465,965	\$ 4,465,965	\$ 8,931,930	\$71.89	\$5.18
Multi-Family Residential (MFR)	2,276	3,396	281,195	50%	50%	1,429,192	1,429,192	2,858,384	\$70.13	\$5.18
Subtotal - Residential	12,629	13,749	1,138,317			\$5,895,157	\$5,895,157	\$11,790,314		
Non-Residential										
Commercial 1	71	406	33,639	23%	77%	\$ 76,483	\$ 252,546	\$ 329,029	\$126.64	\$7.51
Commercial 2	411	983	81,389	23%	77%	204,972	676,817	881,788	\$126.64	\$8.32
Commercial 3	77	726	60,069	23%	77%	176,036	581,270	757,305	\$126.64	\$9.68
Commercial 4	102	331	27,412	23%	77%	99,908	329,895	429,803	\$126.64	\$12.03
Commercial 5	16	82	6,762	23%	77%	39,804	131,433	171,238	\$126.64	\$19.44
Commercial 6	107	735	60,816	23%	77%	594,247	1,962,204	2,556,451	\$126.64	\$32.26
Subtotal - Non-Residential	784	3,262	270,087			\$ 1,191,449	\$ 3,934,165	\$ 5,125,614		
Total	13,413	17,012	1,408,404			\$ 7,086,606	\$ 9,829,322	\$ 16,915,928	--	--

1. These are the first unit of MFR customers, which are the total MFR accounts. They are charged the same as SFR.

2. Additional MFR Billing Units are the difference between the total MFR Accounts and MFR billing units.

Charges for these customers are based on the MFR revenue requirements not collected through the MFR first billing units.

3. Annualized winter consumption for CY 2022; assumes average SFR use per account for SFR -- all other residential customers are assumed to have average winter water use of MFR users (per MFR dwelling units).

4. Single Family and the first Multi-Family accounts are per account.

CITY OF MORGAN HILL
WASTEWATER RATE STUDY
Cost of Service Analysis

TABLE 27 : PROPOSED SEWER RATES: FIXED CHARGES - EXISTING ALLOCATION

Number of Accounts by Customer Class and Meter Size ¹	5/8 inch	3/4 inch ³	1 inch ⁴	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	Total
Single Family ²	-	-	10,353	-	-	-	-	-	-	-	10,353
Multi Family	-	-	2,276	-	-	-	-	-	-	-	2,276
Subtotal - Residential	-	-	12,629	-	-	-	-	-	-	-	12,629
Commercial 1	-	15	23	8	23	1	1	-	-	-	71
Commercial 2	-	69	179	58	99	2	3	1	-	-	411
Commercial 3	-	19	24	4	22	2	6	-	-	-	77
Commercial 4	-	9	12	27	49	2	3	-	-	-	102
Commercial 5	-	2	6	4	4	-	-	-	-	-	16
Commercial 6	-	18	42	23	22	-	2	-	-	-	107
Subtotal - Commercial	-	132	286	124	219	7	15	1	-	-	784
TOTAL	-	132	12,915	124	219	7	15	1	-	-	13,413
<i>Capacity Factor</i>	<i>1.0</i>	<i>1.0</i>	<i>1.0</i>	<i>4.0</i>	<i>6.4</i>	<i>13.9</i>	<i>24.9</i>	<i>55.3</i>	<i>85.4</i>	<i>106.8</i>	
Total Equivalent Meters - Residential	-	-	12,629	-	-	-	-	-	-	-	12,629
Total Equivalent Meters - Non Residential	-	132	286	496	1,395	97	374	55	-	-	2,835
Total Equivalent Meters	-	132	12,915	496	1,395	97	374	55	-	-	15,464
<i>% of meters</i>	<i>0.0%</i>	<i>0.9%</i>	<i>83.5%</i>	<i>3.2%</i>	<i>9.0%</i>	<i>0.6%</i>	<i>2.4%</i>	<i>0.4%</i>	<i>0.0%</i>	<i>0.0%</i>	

CITY OF MORGAN HILL
WASTEWATER RATE STUDY
Wastewater Rate Analysis

Current and Proposed Rates

TABLE 28 : CURRENT VS. PROPOSED SEWER RATES - CURRENT RATE STRUCTURE

Sewer Rate Schedule	Current Rates	Proposed Rates				
		10/1/2024	7/1/2025	7/1/2026	7/1/2027	7/1/2028
		9.00%	9.00%	8.00%	8.00%	8.00%
Monthly Fixed Charges:						
Residential (5/8-1 inch meters)	\$27.05	\$38.90	\$42.40	\$45.79	\$49.46	\$53.41
All Other Customers:						
5/8 inch	\$27.05	\$38.89	\$42.39	\$45.78	\$49.45	\$53.40
3/4 inch	\$27.05	\$38.89	\$42.39	\$45.78	\$49.45	\$53.40
1 inch ³	\$27.05	\$38.89	\$42.39	\$45.78	\$49.45	\$53.40
1.5 inch	\$101.27	\$139.52	\$152.08	\$164.24	\$177.38	\$191.57
2 inch	\$161.24	\$218.98	\$238.68	\$257.78	\$278.40	\$300.67
3 inch	\$351.26	\$470.73	\$513.10	\$554.15	\$598.48	\$646.36
4 inch	\$630.93	\$841.27	\$916.98	\$990.34	\$1,069.57	\$1,155.13
6 inch	\$1,400.38	\$1,860.72	\$2,028.18	\$2,190.43	\$2,365.67	\$2,554.92
8 inch	\$2,163.33	\$2,871.55	\$3,129.99	\$3,380.39	\$3,650.82	\$3,942.89
10 inch	\$2,704.16	\$3,589.02	\$3,912.04	\$4,225.00	\$4,563.00	\$4,928.04
Monthly Volumetric Charges:						
Single-Family (Applied to <u>Avg. Winter</u> Water Use)	\$5.74	\$5.18	\$5.64	\$6.10	\$6.58	\$7.11
Multi-Family (Applied to <u>Avg. Winter</u> Water Use)	\$5.74	\$5.18	\$5.64	\$6.10	\$6.58	\$7.11
Commercial Charge (Applied to <u>Monthly</u> Water Use):						
Commercial 1	\$5.49	\$7.51	\$8.18	\$8.84	\$9.54	\$10.31
Commercial 2	\$6.42	\$8.32	\$9.06	\$9.79	\$10.57	\$11.42
Commercial 3	\$7.81	\$9.68	\$10.55	\$11.39	\$12.30	\$13.29
Commercial 4	\$8.86	\$12.03	\$13.12	\$14.17	\$15.30	\$16.52
Commercial 5	\$10.52	\$19.44	\$21.19	\$22.88	\$24.71	\$26.69
Commercial 6	\$17.56	\$32.26	\$35.17	\$37.98	\$41.02	\$44.30

1. Source file: 2016 Water and Wastewater Adopted Rates.pdf, Page 2.
2. The first rate adjustment will be effective on October 1, 2024 and all subsequent increases will be effective on January 1st of each year thereafter.
3. The 1 inch commercial meter fixed charge is the set equal to the residential 1 inch meter charge.

CITY OF MORGAN HILL
WASTEWATER RATE STUDY
Wastewater Rate Analysis

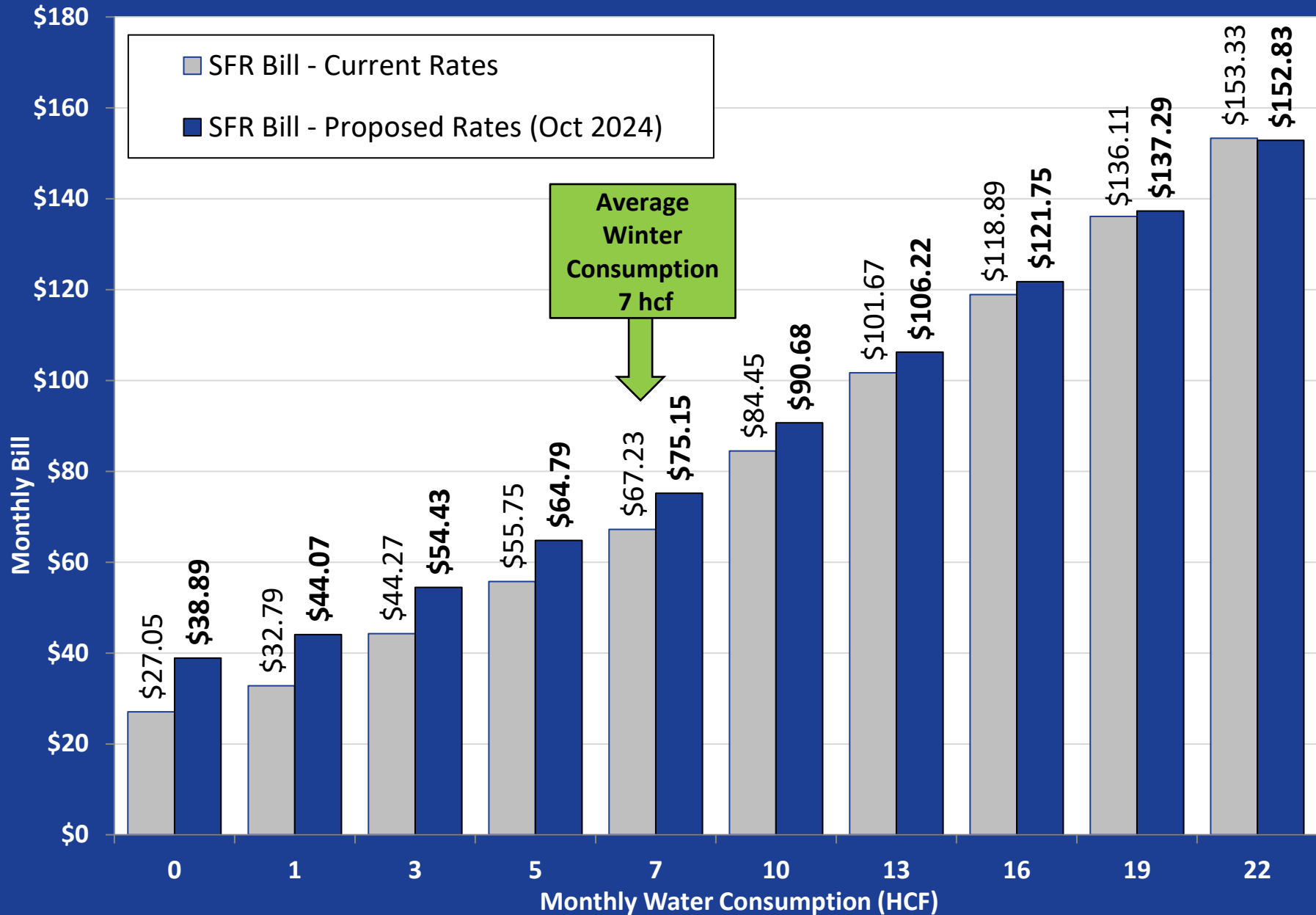
Current and Proposed Rates

TABLE 29 : CURRENT VS. PROPOSED SEWER RATES - PROPOSED ALTERNATIVE RATE STRUCTURE

Sewer Rate Schedule	Current Rates	Proposed Rates				
		10/1/2024	7/1/2025	7/1/2026	7/1/2027	7/1/2028
		9.00%	9.00%	8.00%	8.00%	8.00%
Monthly Fixed Charges:						
Single-Family Residential (100% Fixed Charge)	N/A	\$71.89	\$78.37	\$84.63	\$91.41	\$98.72
Multi-Family Residential (100% Fixed, per DU)	N/A	\$70.13	\$76.44	\$82.56	\$89.16	\$96.30
All Other Customers:						
5/8 inch	\$27.05	\$38.89	\$42.39	\$45.78	\$49.45	\$53.40
3/4 inch	\$27.05	\$38.89	\$42.39	\$45.78	\$49.45	\$53.40
1 inch ³	\$27.05	\$38.89	\$42.39	\$45.78	\$49.45	\$53.40
1.5 inch	\$101.27	\$139.52	\$152.08	\$164.24	\$177.38	\$191.57
2 inch	\$161.24	\$218.98	\$238.68	\$257.78	\$278.40	\$300.67
3 inch	\$351.26	\$470.73	\$513.10	\$554.15	\$598.48	\$646.36
4 inch	\$630.93	\$841.27	\$916.98	\$990.34	\$1,069.57	\$1,155.13
6 inch	\$1,400.38	\$1,860.72	\$2,028.18	\$2,190.43	\$2,365.67	\$2,554.92
8 inch	\$2,163.33	\$2,871.55	\$3,129.99	\$3,380.39	\$3,650.82	\$3,942.89
10 inch	\$2,704.16	\$3,589.02	\$3,912.04	\$4,225.00	\$4,563.00	\$4,928.04
Monthly Volumetric Charges:						
Commercial Charge (Applied to <u>Monthly</u> Water Use):						
Commercial 1	\$5.49	\$7.51	\$8.18	\$8.84	\$9.54	\$10.31
Commercial 2	\$6.42	\$8.32	\$9.06	\$9.79	\$10.57	\$11.42
Commercial 3	\$7.81	\$9.68	\$10.55	\$11.39	\$12.30	\$13.29
Commercial 4	\$8.86	\$12.03	\$13.12	\$14.17	\$15.30	\$16.52
Commercial 5	\$10.52	\$19.44	\$21.19	\$22.88	\$24.71	\$26.69
Commercial 6	\$17.56	\$32.26	\$35.17	\$37.98	\$41.02	\$44.30

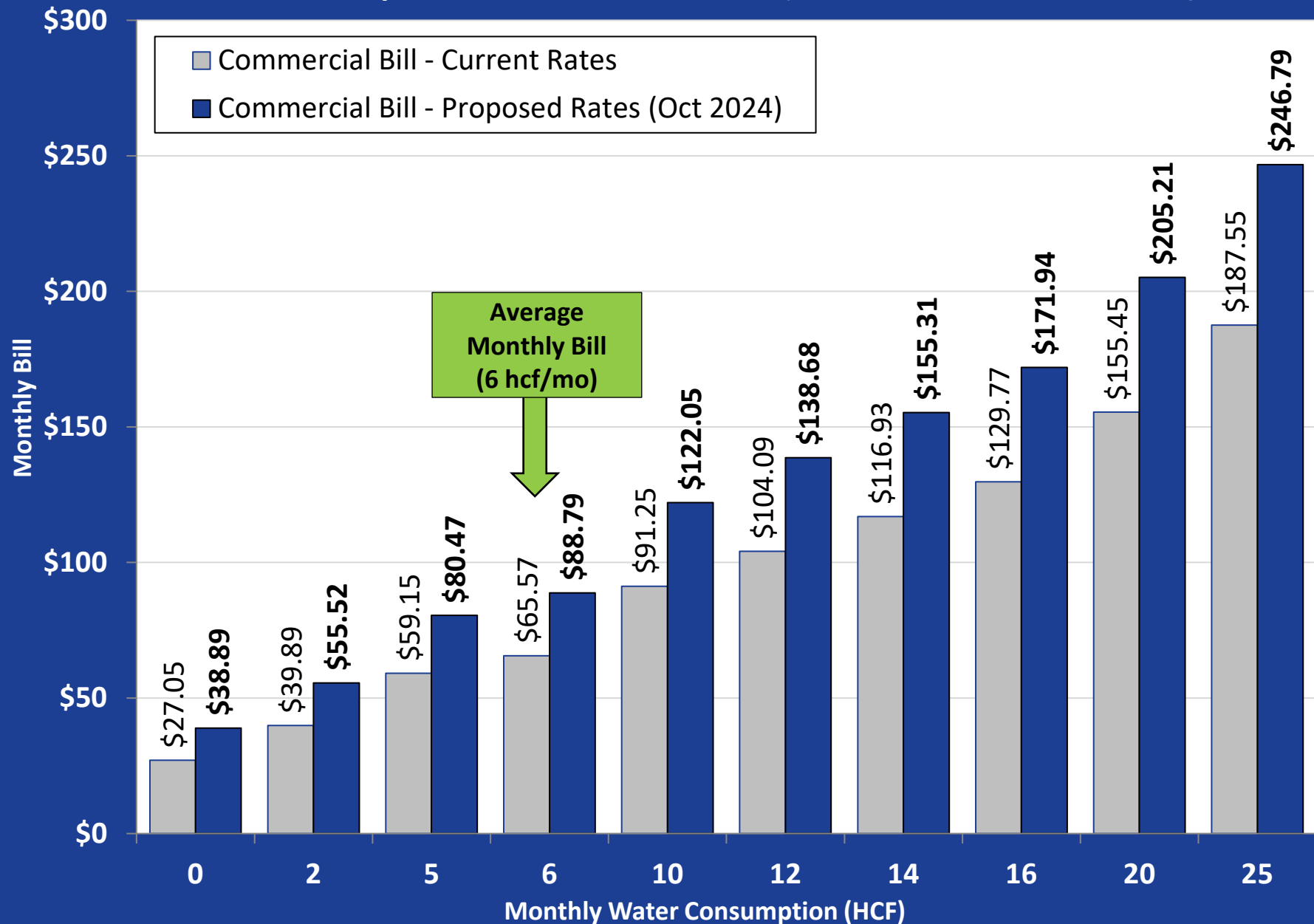
1. Source file: 2016 Water and Wastewater Adopted Rates.pdf, Page 2.
2. The first rate adjustment will be effective on October 1, 2024 and all subsequent increases will be effective on January 1st of each year thereafter.
3. The 1 inch commercial meter fixed charge is the set equal to the residential 1 inch meter charge.

Single-Family Residential Sewer Bill Comparison Current vs. Proposed Rates in FY 2024/25



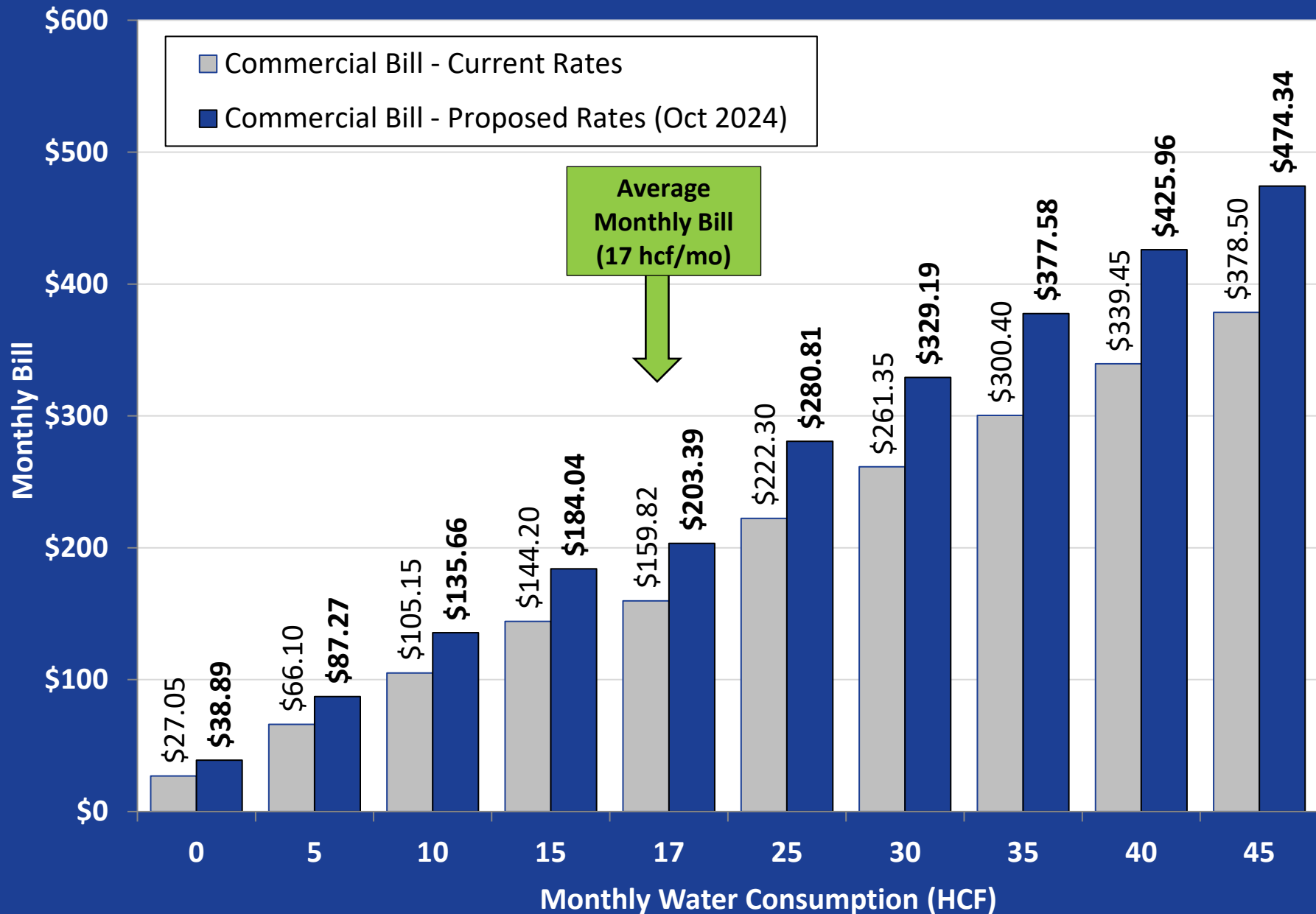
Commercial Sewer Bill Comparison

Current vs. Proposed Rates in FY 2024/25 *(Commercial 2, 1 inch meter)*



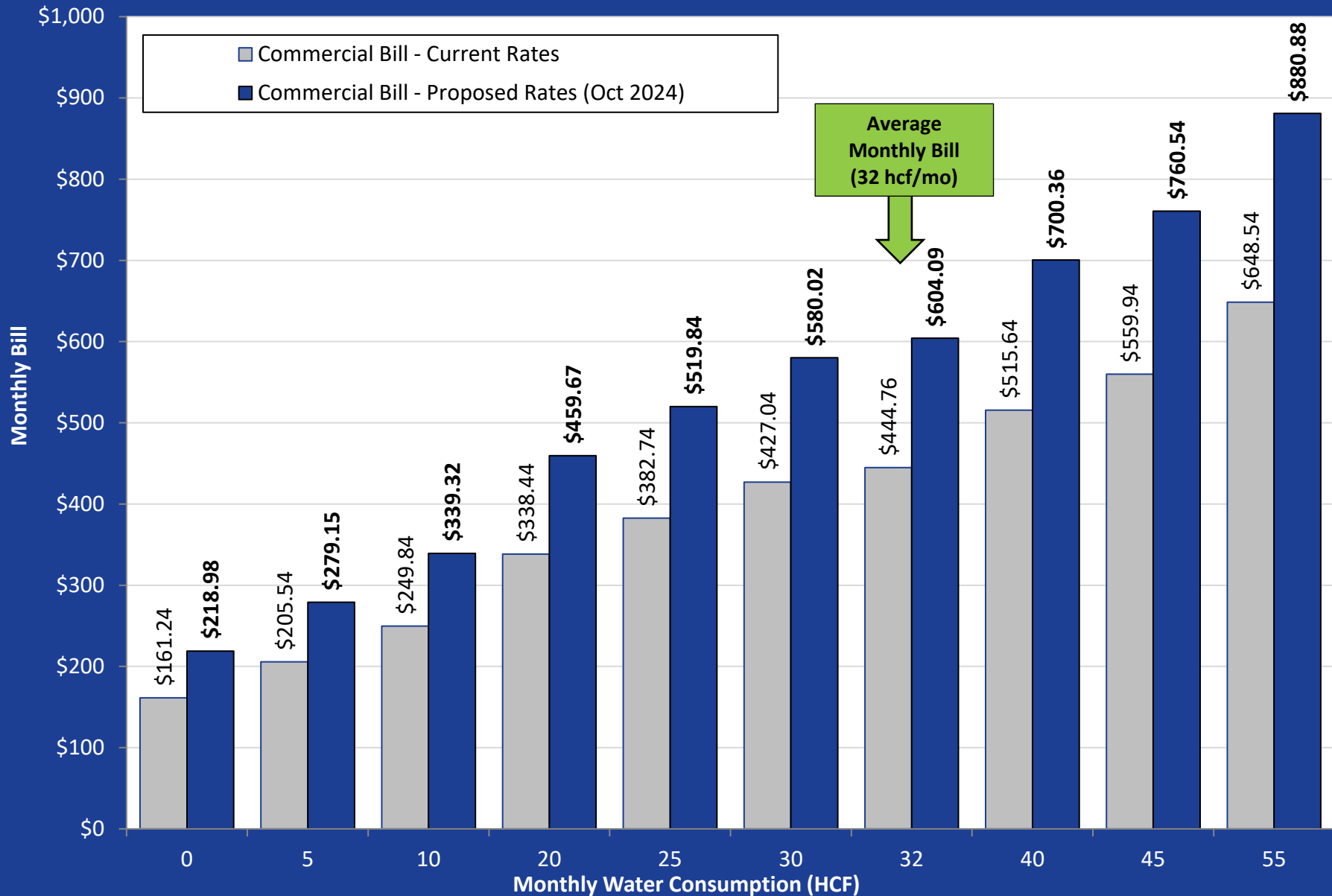
Commercial Sewer Bill Comparison

Current vs. Proposed Rates in FY 2024/25 (Commercial 3, 1 inch meter)



Commercial Sewer Bill Comparison

Current vs. Proposed Rates in FY 2024/25 *(Commercial 4, 2 inch meter)*



Average Single Family Residential Bill Comparison

