



**CITY OF HUNTINGTON BEACH**  
**2024 Wastewater Rate Study**  
**Final Report**

**February 27, 2024**



**CITY OF HUNTINGTON BEACH  
2024 WASTEWATER RATE STUDY**

**FINAL REPORT**

Prepared for:

City of Huntington Beach  
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RDN Project Number 353



February 27, 2024



Mr. Alvin Papa  
Deputy Director of Public Works  
City of Huntington Beach  
2000 Main Street  
Huntington Beach, CA 92648

**Subject: 2024 Wastewater Rate Study**

Dear Mr. Papa,

Robert D. Niehaus, Inc. is pleased to provide this 2024 Wastewater Rate Study (Study) report to the City of Huntington Beach. This Study includes a financial plan to determine the revenue requirements for the next five years and a comprehensive review of the City's current rates based on the cost-of-service principles. We developed proposed rates for the next five years closely following Proposition 218 (Prop 218) requirements. This report outlines the approach, methodology, findings, and recommendations of the Study. The Study also includes a customer billing impact study and a rate comparison survey. Each of the Study components has enhanced the defensibility and equitability of the proposed rates.

RDN utilized the City's billing records, accounting, operating and management records, capital plan, master planning documents, and reserve policies. Based on the City provided data, key assumptions were made for the Study using appropriate resources and our econometric and finance expertise. We are confident that the rates proposed in this report are cost-based and are fully compliant with Prop 218 and other legal requirements.

It has been an absolute pleasure and honor to work with your City. We thank you, Mr. Rafael Suarez, Ms. Lili Hernandez, Ms. Sarah Whitecotton, and the City Council for the support provided during this Study.

Respectfully submitted,

A handwritten signature in blue ink that reads "Robert D. Niehaus".

Robert D. Niehaus, Ph.D.  
Managing Director/Principal Economist

A handwritten signature in blue ink that reads "Anthony Elowsky".

Anthony Elowsky, M.A.  
Project Manager



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# EXECUTIVE SUMMARY

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## Study Overview

The City of Huntington Beach (City) retained Robert D. Niehaus, Inc. (RDN) to develop a comprehensive wastewater rate study (Study), which includes financial planning, revenue requirements, cost of service, and rate-setting analyses. The Study's overall goal is to develop a financial plan to identify necessary revenue to meet the City's financial needs and propose rates, which recover the costs from ratepayers commensurate with their service requirements. RDN collaborated with City staff to evaluate the City's financial stability, given the current and projected future financial conditions. RDN amended the current rates based on the cost of service (COS) analysis results to further improve equity and ensure compliance with Proposition 218 (Prop 218) requirements and other legal mandates. The objectives of the Study include:

1. Projecting account growth based on historical data and inputs from City staff for the study period (FY 2025 – FY 2029);
2. Developing a five-year financial plan for the City to ensure financial sufficiency to fund day-to-day operation and maintenance, and capital improvement and replacement projects while building up reserves to the City's target level;
3. Estimating wastewater flow by customer class based on the most recent available data;
4. Conducting a COS analysis to equitably allocate the costs of providing service to customers commensurate with their service requirements identified in #3;
5. Designing rates based on the results of COS analysis (#4) to establish a strong nexus between costs and pricing of rates;
6. Conducting a rate comparison survey to assess how the City's rates compare with neighboring agencies; and
7. Developing an administrative record, which effectively communicates the findings of the Study.

## Summary of Recommendations

RDN recommends the following changes and modifications to the current rates based on the findings of the Study:

- Adjust revenues by 17.0 percent in FY 2025, 16.5 percent in FY 2026, 16.5 percent in FY 2027, and 16.0 percent in FY 2028 and FY 2029 to eliminate the deficit by the end of the study period (FY 2029).
- Realign the cost allocation between customer classes based on the Cost of Service analysis.
- Upgrade the City's billing software and explore variable rate options in a future rate study

## Current Rates

The City's residential and commercial customers currently pay a fixed monthly service charge. The monthly charge is based on each customer's relative number of billing units (BU). For Single-Family and Multi-Family Residential customers billing units are defined as one dwelling unit. Single-Family customers pay \$10.98 monthly per BU, while Multi-Family customers pay \$9.10 monthly per BU. Commercial, Industrial and Institutional customers' billing units are based on either the number of units or size and type of installed meter. Charges for K-8 and High

School customers are determined based on the Average Daily Attendance (ADA). The City’s previous study established six gallons of sewer flow per student per day for K-8 schools and nine gallons per student per day for High schools, while both are assumed to operate for 180 days each year. RDN found these billing unit categories to be a defensible measure of the relative impacts of each customer class. The current rates as described are displayed in Table ES-1.

*Table ES- 1. Current Wastewater Rates*

Fixed Charges		
Customer Class	Monthly per BU	Annual per ADA
SFR	\$10.98	\$0.00
MFR	\$9.10	\$0.00
CII	\$12.74	\$0.00
K-8	\$0.00	\$2.26
High School	\$0.00	\$3.51

### Proposed Rates

The recommended rates allow the City to maintain healthy reserve fund balances and execute necessary capital improvement projects over five-year study period. In addition to the proposed revenue adjustments, the proposed rates reallocate the City’s costs based on a detailed COS analysis which increases the equitability of the proposed rates by allocating City costs based on the relative wear each customer places on the system based on the total sewer flow attributed to the customer class. Thus, each customer class will have different overall rate adjustments. Proposed annual revenue adjustments presented in this Study are 17.0 percent in FY 2025, 16.5 percent in FY 2026 and FY 2027, and 16.0 percent in the last two years of the study period. The proposed adjustments will balance the budget at the end of the five-year rate study period. Table ES-2 and Table ES-3 show the proposed revenue adjustments and rates for the study period, respectively.

*Table ES- 2. Proposed Revenue Adjustments for the Wastewater System, FY 2025 – FY 2029*

	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
<b>Revenue Adjustment</b>	<b>17.0%</b>	<b>16.5%</b>	<b>16.5%</b>	<b>16.0%</b>	<b>16.0%</b>

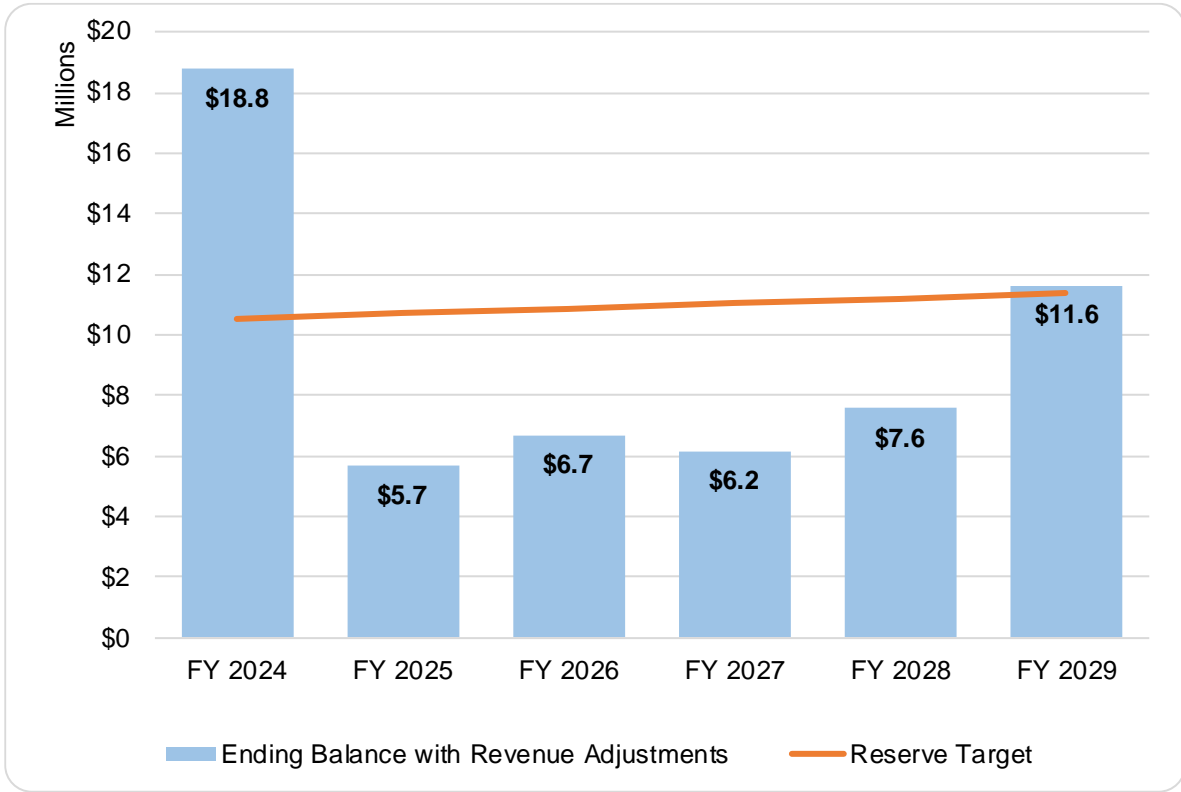
*Table ES- 3. Proposed Wastewater Rates for FY 2025 – FY 2029*

Customer Class	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
<b>SFR</b>	\$12.43	\$14.48	\$16.87	\$19.57	\$22.70
<b>MFR</b>	\$9.15	\$10.66	\$12.41	\$14.40	\$16.70
<b>CII</b>	\$23.05	\$26.85	\$31.29	\$36.29	\$42.10
<b>K-8</b>	\$2.48	\$2.89	\$3.36	\$3.90	\$4.52
<b>High School</b>	\$3.72	\$4.33	\$5.04	\$5.85	\$6.78

### Anticipated Financial Results

Figure ES- 1 presents the City’s cash reserve fund balance for the current year and the study period, FY 2024 through FY 2029, with the recommended revenue adjustments for the study period. Under the proposed plan, the cash balance reaches the target reserve level in FY 2029.

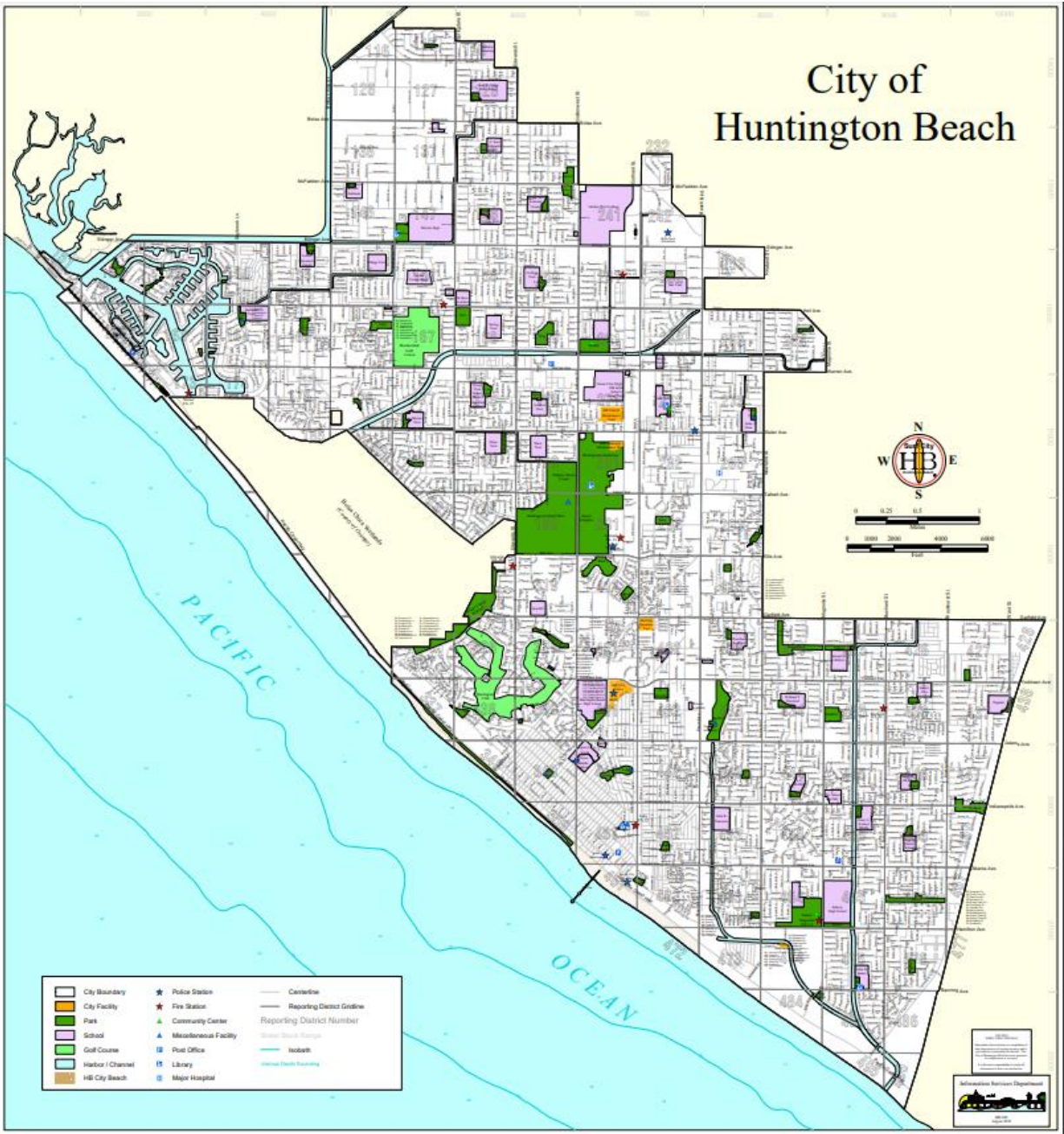
Figure ES- 1. Cash Reserve Balance with Recommended Revenue Adjustments,  
FY 2024 (Current) and FY 2025 – FY 2029



# 1 INTRODUCTION

City of Huntington Beach (City) is located in the heart of Orange County, between the beachfront communities of Seal Beach and Newport Beach. The City was incorporated in 1907 and provides wastewater collection services to the City of Huntington Beach and some unincorporated areas within Orange County. The City serves nearly 200,000 residents within its boundaries encompassing approximately 28 square miles. Sewage is transported to the Orange County Sanitation District’s facilities to be treated to federally mandated standards to protect the public’s health. Figure 1-1 shows the City’s boundaries.

Figure 1-1. City of Huntington Beach Service Area

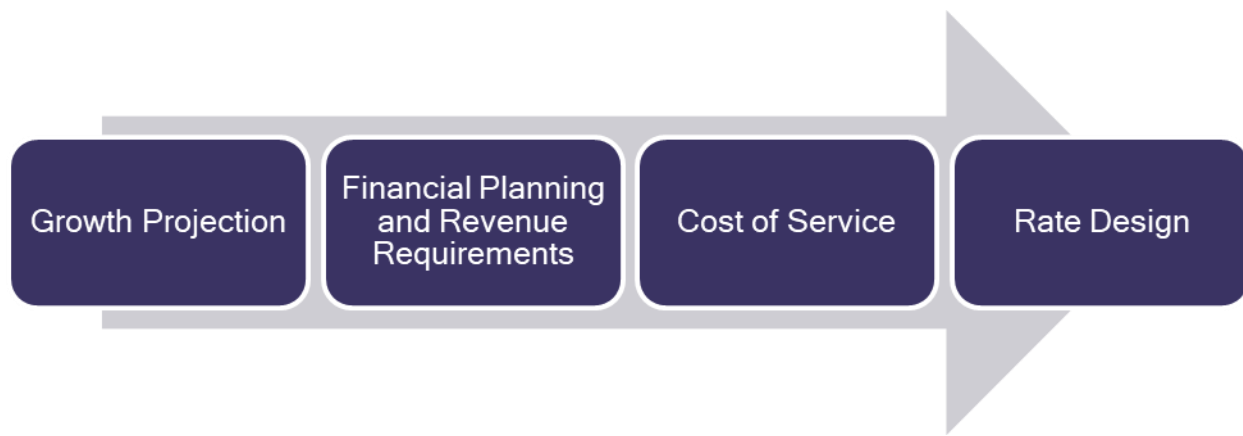


The City currently serves over 50,000 wastewater accounts, of which approximately 95 percent are either Single-Family or Multi-Family residential customers. The remaining customers are classified as CII, which includes Commercial, Industrial and Institutional customers. The local economy is primarily comprised of tourism, technology and light manufacturing of products ranging from clothing to commercial aircrafts.

## 1.1 Methodology

The wastewater rates formulated in the Study were developed using principles set forth by the Water Environment Federation (WEF). RDN rate-making practices incorporate methods described in the WEF Financing and Charges for Wastewater Systems Manual 27<sup>1</sup>. Figure 1-2 presents the steps taken to develop the City’s proposed rates.

*Figure 1-2. Rate Study Process*



1. **Growth Projection:** Project customer growth for FY 2024 and ten additional years, including the five-year study period, FY 2025 through FY 2029, using City historical billing data and local planning documents. Forecast revenues for the study period based on the projected customer growth.
2. **Financial Planning/Revenue Requirements:** Develop a five-year financial plan based on the projected revenues and annual costs, which include both operating and capital expenses. The City’s target reserve level is also to be considered part of the financial planning. Based on the financial planning, revenue requirements and necessary revenue adjustments are determined for each year of the study period.
3. **Cost of Service (COS) Analysis:** Perform a COS analysis to allocate costs among the customers commensurate with their service requirements.
4. **Rate Design:** Design rates to equitably recover the rate revenue requirements from each customer class based on the proportional revenue requirements determined through the COS analysis.

## 1.2 Legal Framework

The primary goal of this study is to help the City establish rates that achieve the City’s objectives of revenue stability, equitable cost recovery, and ratepayer affordability. This section of the report describes the legal

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<sup>1</sup> Financing and Charges for Wastewater Systems, WEF Manual of Practice Number 27, Water Environment Federation

framework considered in developing the rates to ensure that the calculated cost of service rates provide a fair and equitable allocation of costs to the different customer classes.

### **California Constitution - Article XIII C (Proposition 26)**

The voters in the State approved Proposition 26 on November 2, 2010. Proposition 26 amended Article XIII C of the State Constitution to expand the definition of “tax” to include “any levy, charge, or exaction of any kind imposed by a local government” with listed exceptions. By means of these exceptions, Article XIII C classifies several types of charges, in addition to property-related charges, that are not taxes, such as charges for specific services or benefits, regulatory charges and penalties.

Article XIII C’s definition of “tax” lists the following exceptions: (1) a charge imposed for a specific benefit conferred or privilege granted directly to the payer that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of conferring the benefit or granting the privilege; (2) a charge imposed for a specific government service or product provided directly to the payer that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of providing the service or product; (3) a charge imposed for the reasonable regulatory costs to a local government for issuing licenses and permits, performing investigations, inspections, and audits, enforcing agricultural marketing orders, and the administrative enforcement and adjudication thereof; (4) a charge imposed for entrance to or use of local government property, or the purchase, rental, or lease of local government property; (5) a fine, penalty, or other monetary charge imposed by the judicial branch of government or a local government, as a result of a violation of law; (6) a charge imposed as a condition of property development; and (7) assessments and property-related fees imposed in accordance with the provisions of Article XIII D.

Proposition 26 also provides that the local government bears the burden of proving by a preponderance of the evidence that a levy, charge, or other exaction is not a tax, that the amount is no more than necessary to cover the reasonable costs of the governmental activity, and that the manner in which those costs are allocated to a payer bear a fair or reasonable relationship to the payer’s burdens on, or benefits received from, the governmental activity. Like the proportionality requirements of Article XIII D, assessment of rates under these requirements, if applicable, would be supported by the cost of service approach.

### **California Constitution - Article XIII D, Section 6 (Proposition 218)**

In November 1996, California voters passed Proposition 218, the “Right to Vote on Taxes Act.” This constitutional amendment protects taxpayers by limiting the methods by which local governments can create or increase taxes, fees, and charges without taxpayer consent. Between 2002 and 2017, California courts have ruled that fees associated with providing wastewater services are “property-related” and thus under the jurisdiction of Prop 218. The principal requirements for fairness of the fees related to public wastewater service are as follows: Revenues derived from the fee or charge shall not exceed the funds required to provide the property-related service. Revenues derived by the fee or charge shall not be used for any other purpose other than that for which the charge was imposed. The amount of the fee or charge imposed upon any parcel shall not exceed the proportional cost of service attributable to the parcel. Reliance by an agency on any parcel map, including, but not limited to, an assessor’s parcel map, may be considered a significant factor in determining whether a fee or charge is imposed as an incident of property ownership for purposes of this article.

The rates developed in this Report use a methodology to establish an equitable system of charges that recover the cost of providing service and fairly apportion costs to each customer as required by Proposition 218.



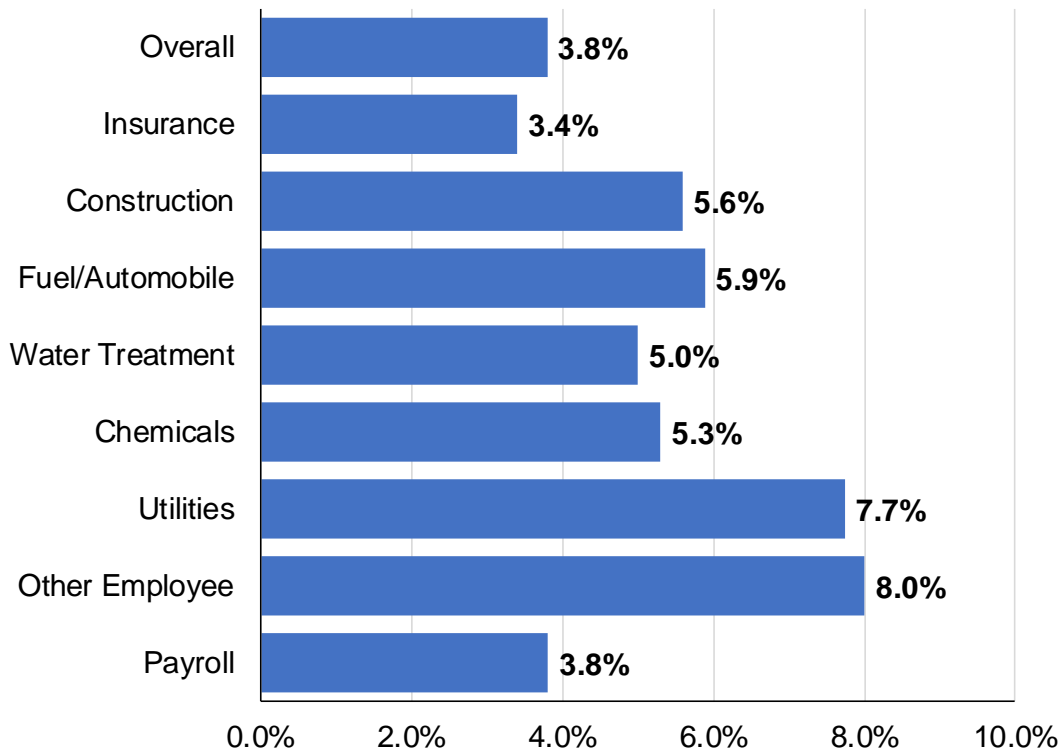
### 1.3 Key Assumptions

A test year, FY 2025, was selected for which costs are to be analyzed and rates established for this study. The financial plan was built for the next 10 years, which includes the five-year study period, FY 2025 through FY 2029 with a detailed revenue adjustment plan. The City’s fiscal year starts on July 1 and ends on June 30.

#### Escalation Factors

The financial plan was built based on an assumption in the projected escalation of revenues and expenses associated with both operations and maintenance (O&M) and capital improvement projects (CIPs). Escalation factors were calculated for nine independent variables using historical Consumer Price Index (CPI) data from Los Angeles-Long Beach-Anaheim, CA, between the year 2000 and the most current calendar year<sup>2</sup>, and projections by the California Department of Transportation (CADOT)<sup>3</sup> and the California Department of Finance (CADO). Construction costs were determined using a 5-year average building cost index (BCI) for the Los Angeles area published by Engineering News Record (ENR)<sup>4</sup>. All escalation factors were developed by calculating an average growth rate and projecting that rate into future years. Due to City contingencies, utility inflation is expected to rise at 7.74 percent in the test year and 4.75 percent in later years. The payroll expenses inflation rate, which includes salaries, insurance, and payroll taxes, is expected to rise 3.81 percent per year during the study period. Non-recurring expenses (one-time expense) and some contracted service expenses are not escalated. Figure 1-3 displays the escalation factors estimated for the City for the test year.

*Figure 1-3. Expense Escalation Factors Estimated for Huntington Beach, FY 2025*



<sup>2</sup> Bureau of Labor Statistics (2023) *Consumer Price Indices 2000-2023 Los Angeles – Long Beach – Anaheim, Not Seasonally Adjusted*.

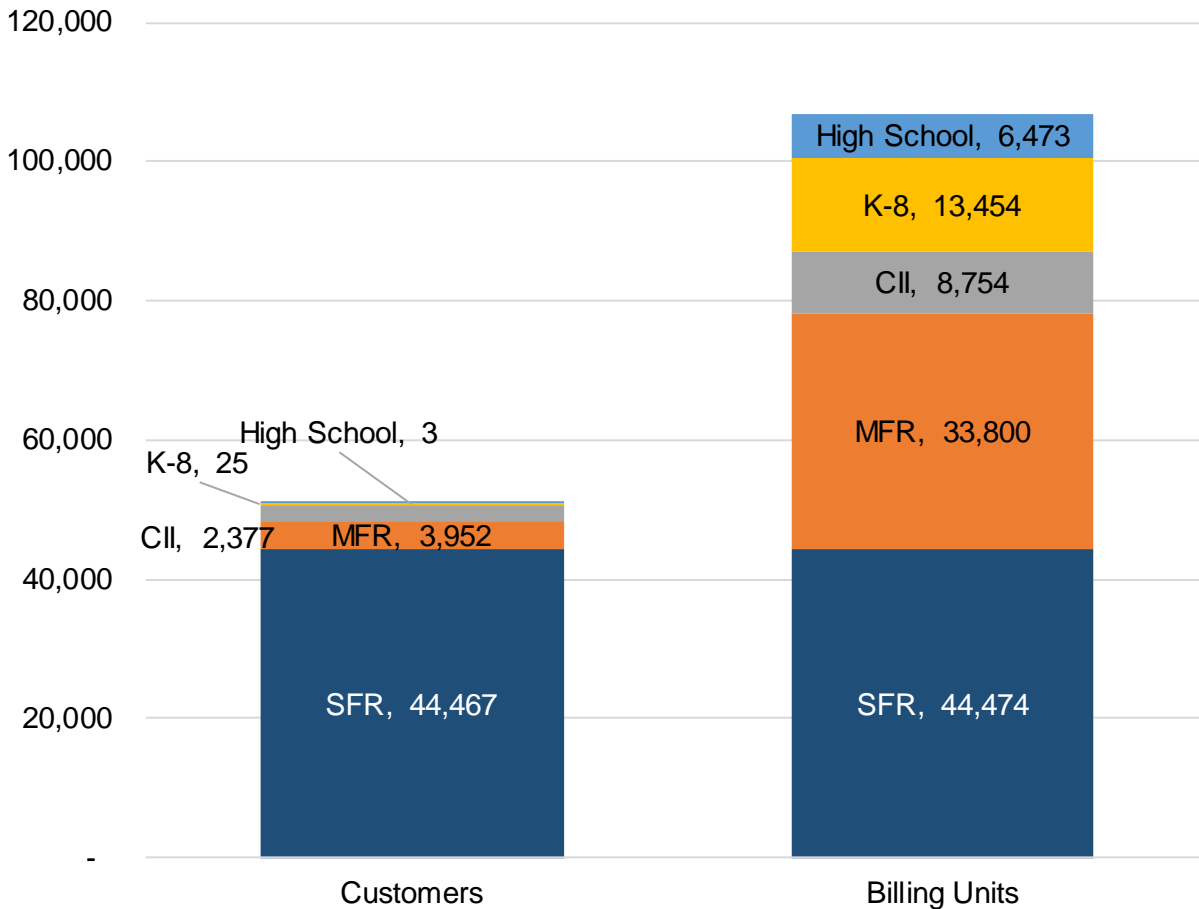
<sup>3</sup> California Department of Transportation (2023) *Monthly CPI for transportation, 20 Year Average*.

<sup>4</sup> Engineering News Record (2023) *Los Angeles Building Cost Index, Average Annual Change*.

## Billing Units

After reviewing the methodology used to develop the current definition of billing units for each customer class, RDN determined that the City’s current billing units represent a fair allocation of costs within each customer class. The purpose of a billing unit is to define an average and standard operating subdivision within a customer class. Because the City does not measure individual sewer flows per customer, an estimate of the average customer must be used. For residential customers, a standard billing unit is one dwelling unit. For example, if an apartment complex contains 13 units, then that complex would consist of 13 billing units, each billed at the proposed rates. For CII customers, the billing unit is defined as either the number of units within a complex (similar to residential customers) or the meter flow ratio compared to a standard ¾” meter’s flow. Larger meters have the potential and likely produce higher overall sewer flows, thus allocating more billing units to a larger meter captures the increased flow potential. Figure 1-4 shows the current customer count and the correspond number of billing units in that customer class.

*Figure 1-4. Total Customers Versus Bill Units per Customer Class*



## 2 FINANCIAL PLAN

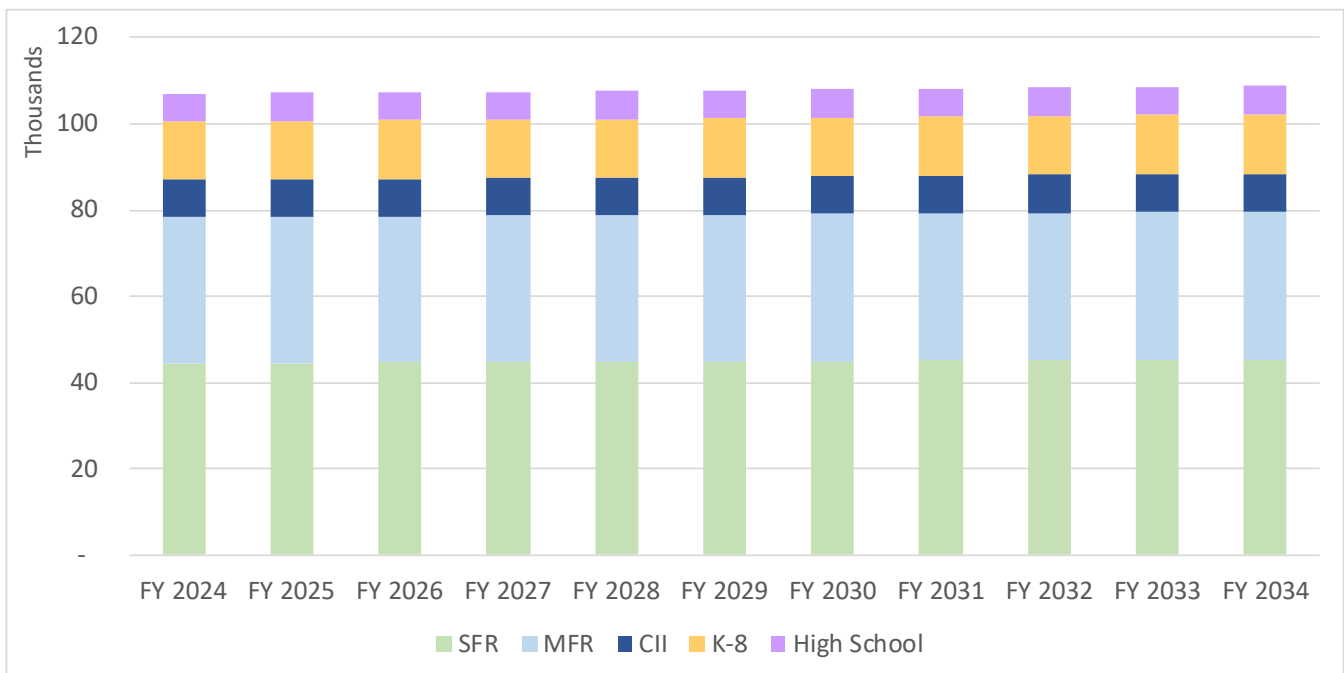
RDN built a 10-year financial model for the City’s wastewater system to meet the system’s long-term financial goals. This report presents the account growth and demand projections are presented for 10 years in this report. The detailed rate analysis was performed for the first five years because rate recommendations designed under Prop 218 cannot exceed five years.

### 2.1 Billing Units

RDN first projected growth based on customer billing units to estimate the City’s revenue generated from rates. RDN utilized the City’s billing records from FY 2023 to determine the current billing units and used this as the starting point for the projections.

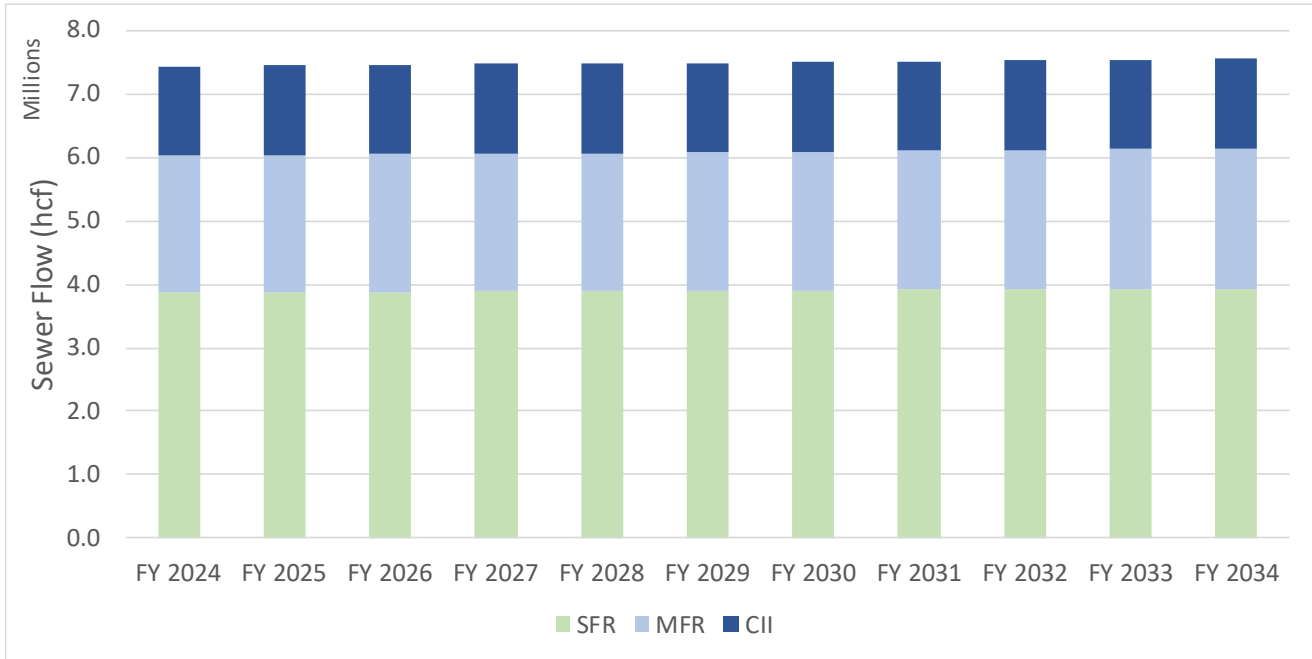
For residential customers, one billing unit equates to one dwelling unit, and for non-residential customers, billing unit are based on meter size or the number of units, whichever is larger. K-8 and High Schools are billed per student based on the ADA of each school. The City provided the most recent ADA for each school customer which was used as the basis for student population growth forecasts. Because revenues are derived from the number of billing units, RDN projected billing units for each customer using a linear regression model. No growth is expected in the CII customer class as the city is nearly built out and not expecting significant growth in this class. The trends captured in the historical data were forecasted over the study period yielding the billing unit counts displayed in Figure 2-1. On average, total billing units increase by 0.17 percent per year over the next ten years.

Figure 2-1 Customer Billing Unit Growth Projections

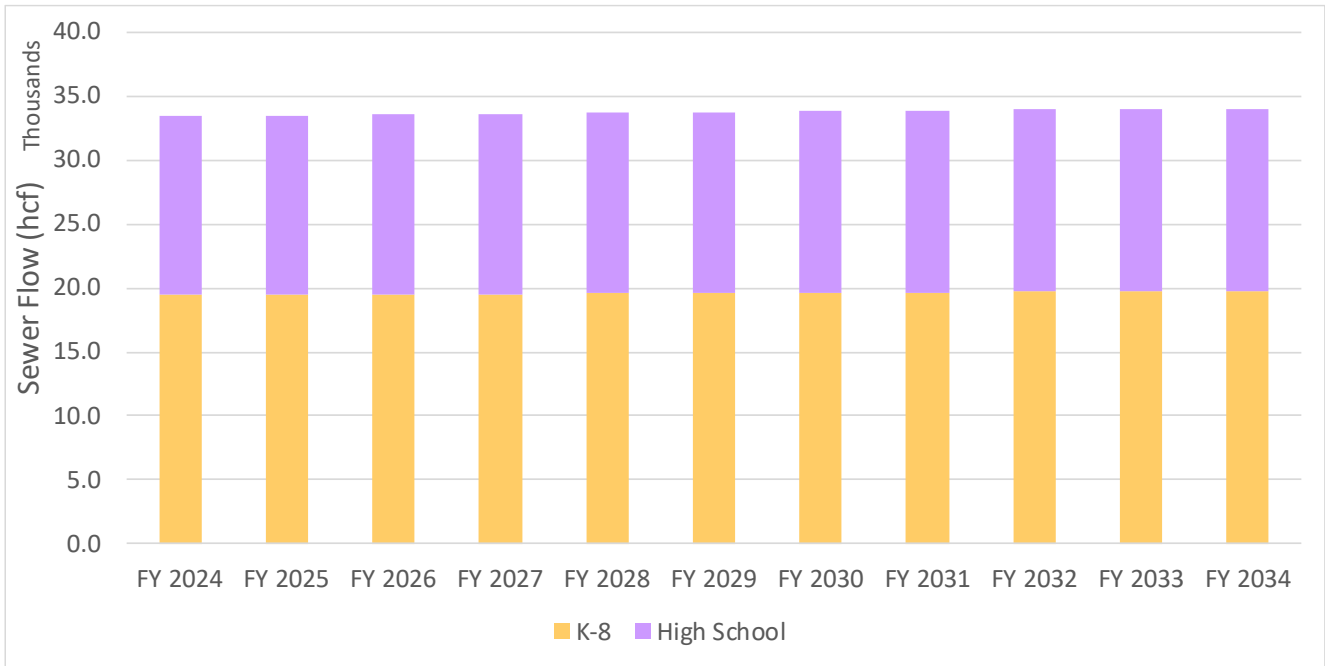


After growth projections were completed, RDN was able to forecast annual sewer flow by customer class using flow estimates for FY 2024. The methodology and calculation of the flow estimates are described in detail in section 3.1 of this report. Figure 2-2 shows the projected sewer flow for residential and CII customers, while Figure 2-3 shows sewer flow projections for K-8 and high school customers.

**Figure 2-2. Residential and CII Sewer Flow Projections**



**Figure 2-3. K-8 and High School Sewer Flow Projections**



## 2.2 Revenues

Based on the projected billing units, RDN conducted a revenue analysis using the current wastewater rates. The City currently collects revenues from monthly charges and other operating revenues such as reimbursables. With no rate increases, the City is expected to collect between \$11.0 and \$11.1 million in operating revenues per year during the study period for the wastewater utility. The revenue analysis also includes non-operating revenues such as investment earnings. These revenues average approximately \$5,300 a year and are used to offset the

revenue requirements that need to be recovered from customers' rates. Forecasted revenues by category are shown in Table 2-1.

*Table 2-1. Revenue Forecast without Revenue Adjustments for the Current Year, FY 2024, and Study Period, FY 2025 – FY 2029*

	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
<b>Revenue from Rates</b>						
SFR	\$5,857,242	\$5,867,785	\$5,878,347	\$5,888,928	\$5,899,528	\$5,910,147
MFR	\$3,692,467	\$3,699,114	\$3,705,772	\$3,712,442	\$3,719,125	\$3,725,819
CII	\$1,338,013	\$1,338,013	\$1,338,013	\$1,338,013	\$1,338,013	\$1,338,013
K-8	\$30,370	\$30,424	\$30,479	\$30,534	\$30,589	\$30,644
High School	\$22,689	\$22,730	\$22,771	\$22,812	\$22,853	\$22,894
<b>Rate Revenue Total</b>	<b>\$10,940,781</b>	<b>\$10,958,066</b>	<b>\$10,975,382</b>	<b>\$10,992,729</b>	<b>\$11,010,108</b>	<b>\$11,027,518</b>
<b>Other Operating Revenues</b>	\$20,000	\$20,000	\$21,395	\$22,052	\$22,654	\$23,273
<b>Non-operating Revenues</b>	\$5,000	\$5,100	\$5,202	\$5,306	\$5,412	\$5,520
<b>Total</b>	<b>\$10,965,781</b>	<b>\$10,983,166</b>	<b>\$11,001,979</b>	<b>\$11,020,087</b>	<b>\$11,038,174</b>	<b>\$11,056,311</b>

### 2.3 Operating and Maintenance (O&M) Expense

The City's FY 2024 Budget anticipated approximately \$10.1 million in expenses, classified as O&M expenses. The itemized O&M expenses were carefully reviewed by RDN and forecasted over the study period using the escalation factors discussed in the Key Assumptions section (Figure 1-3). On average, O&M Expenses are expected to increase by 4.6 percent annually through the study period. By FY 2029, annual O&M expenses are projected to reach around \$12.6 million. O&M expenses by function are shown in Table 2-2.

*Table 2-2. O&M Expense Forecast for the Current Year, FY 2024, and Study Period, FY 2025 – FY 2029*

Expense Category	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Sewer Collection	\$2,533,054	\$2,657,151	\$2,786,301	\$2,917,486	\$3,044,720	\$3,174,659
Pumping	\$205,416	\$215,480	\$225,953	\$236,592	\$246,910	\$257,447
Customer Accounts	\$1,509,325	\$1,583,269	\$1,660,223	\$1,738,390	\$1,814,203	\$1,891,627
Administrative and general	\$5,809,388	\$6,093,996	\$6,390,192	\$6,691,057	\$6,982,860	\$7,280,865
<b>Total Operating</b>	<b>\$10,057,184</b>	<b>\$10,549,896</b>	<b>\$11,062,669</b>	<b>\$11,583,524</b>	<b>\$12,088,693</b>	<b>\$12,604,598</b>

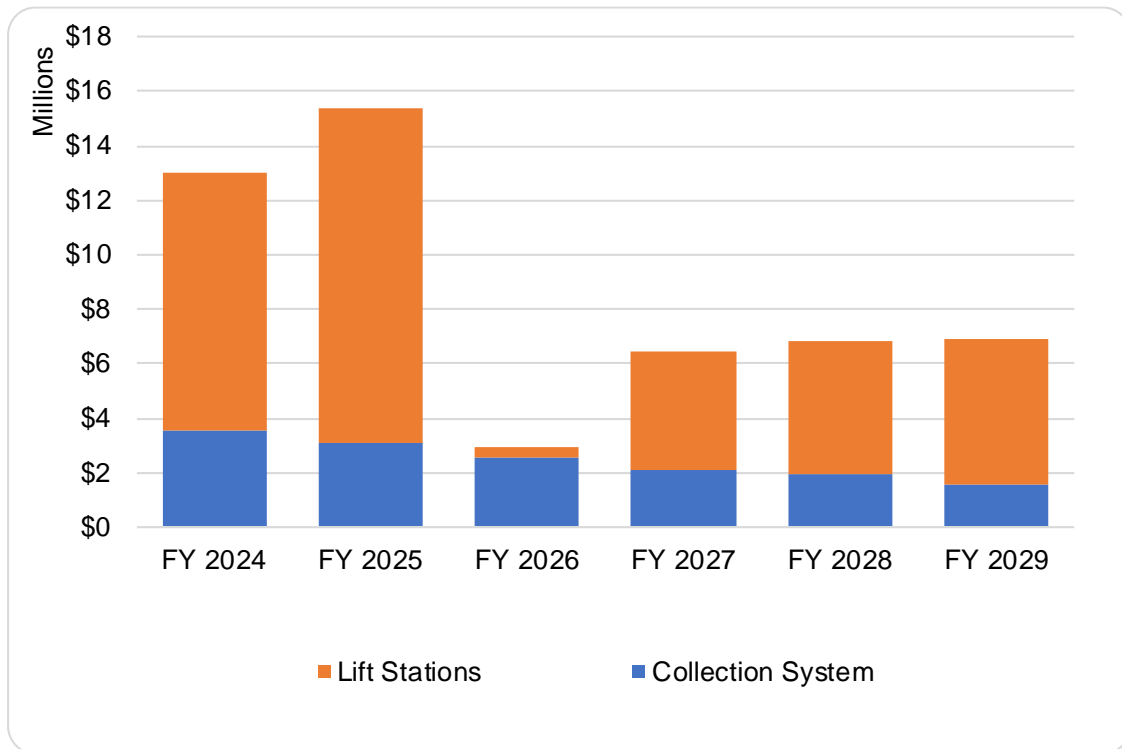
### 2.4 Capital Improvement Projects

In addition to the costs associated with daily operation and maintenance, the City estimates capital project spending between \$2.9 million and \$15.4 million per year with no inflation adjustment for the study period. RDN worked closely with City staff to optimize CIP scheduling to mitigate rate increases while ensuring the City is able to execute necessary improvements to the wastewater collection system. Major capital projects during the study period include sewer lift stations, annual sewer lining program, collection system expansion, among others. Table 2-3 and Figure 2-4 show the annual CIP expenses by funding source and system function through the study period, respectively.

*Table 2-3. CIP Forecast for the Current Year, FY 2024, and Study Period, FY 2025 – FY 2029*

	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
PAYGO	\$13,028,000	\$15,371,408	\$2,918,500	\$6,442,000	\$6,814,000	\$6,925,000

Figure 2-4. CIP Forecast by System Function



## 2.5 Reserves

The City must maintain an appropriate reserve balance to ensure that day-to-day operations will continue during emergencies and guarantee the future stability of the system. At the end of the study period, the City's financial goal is to build an appropriate level of cash reserves for each reserve fund included in the City's policy. The City currently has three reserve accounts:

**Operating Reserve:** four months of budgeted Operating and Maintenance (O&M) expense of upcoming year, a balance of \$ 4.2 million in FY 2029

**Capital Reserve:** funds capital improvements and ending balance is required to be an average of upcoming five years of CIP spending, a balance of \$ 2.7 million if FY 2029

**Emergency Reserve:** funds emergency repairs and cash flow issues, an ending balance of \$ 4.5 million at the end of each Fiscal Year is required, which is equal to the replacement cost of one lift station.

The total reserve balance target at the end of FY 2029 is set at \$ 11.4 million. Figure 2-5 displays the reserve balance with no revenue adjustments, while Figure 2-6 shows the total reserve balance under the proposed financial plan through the study period.

Figure 2-5. Status Quo Reserve Fund Balance, FY 2024 to FY 2029

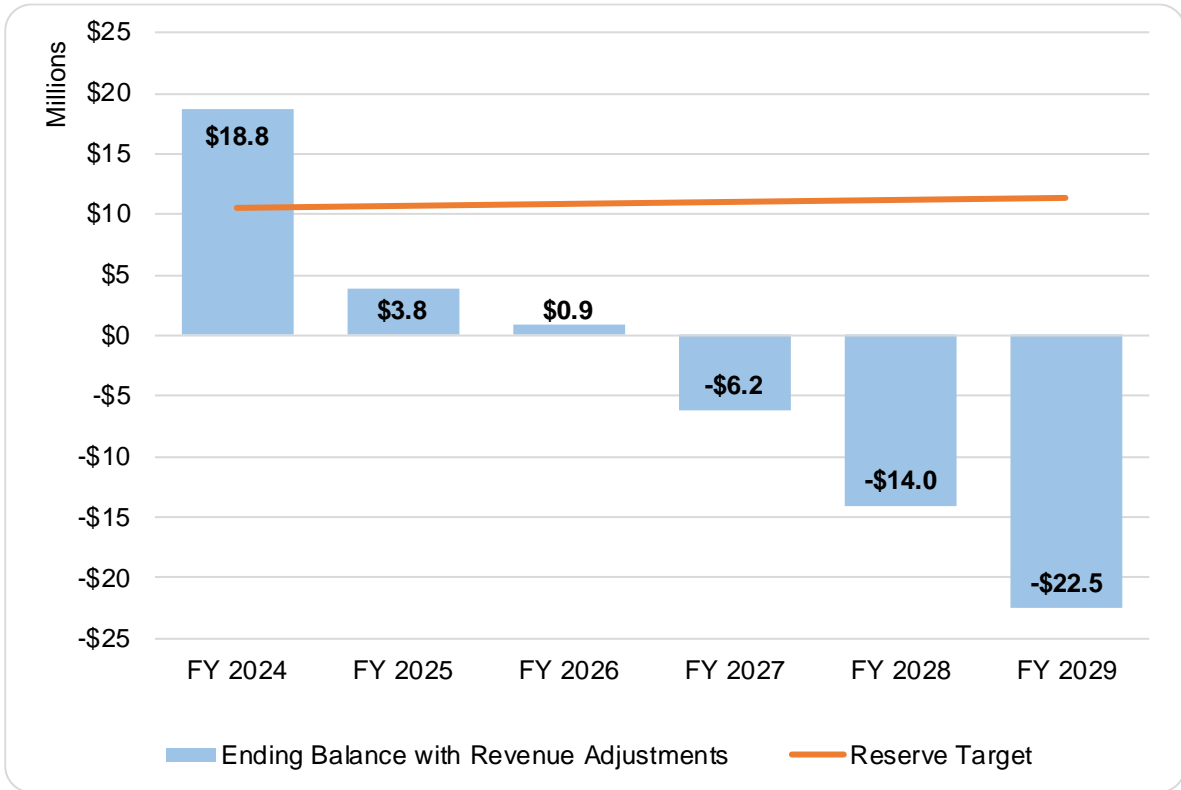
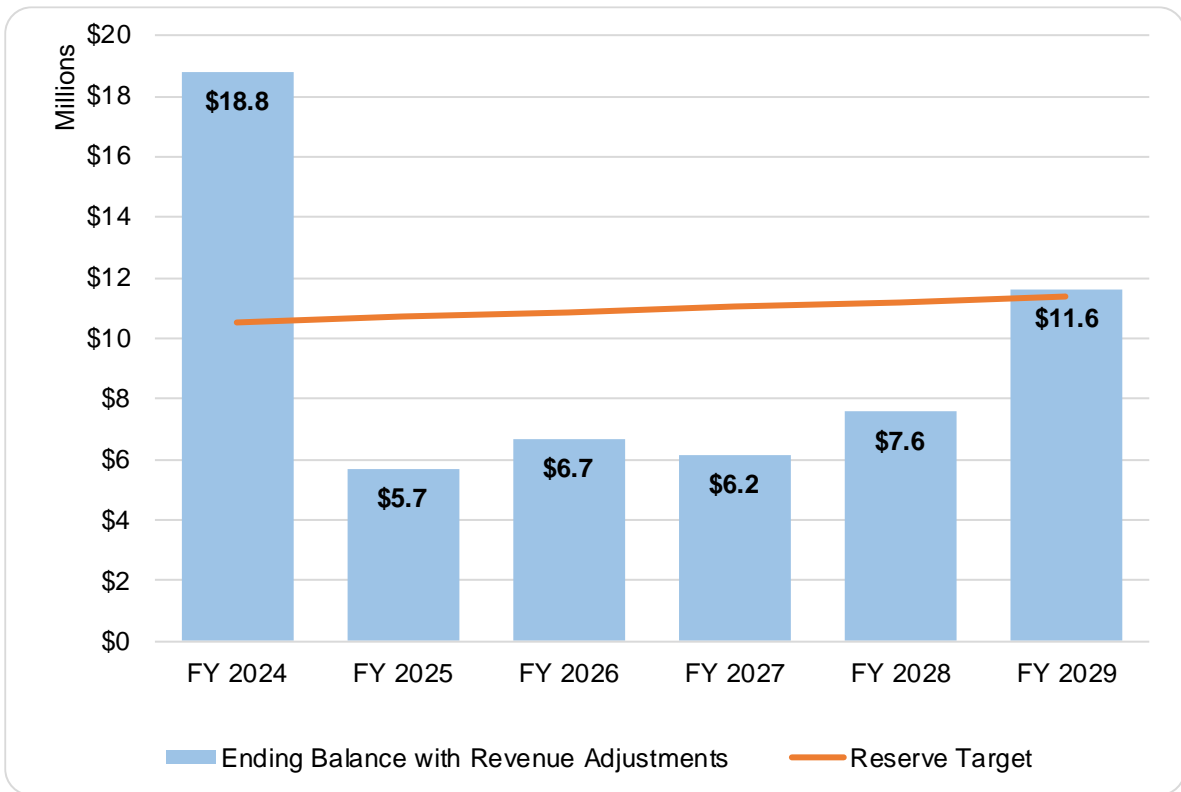


Figure 2-6. Proposed Reserve Fund Balance, FY 2024 to FY 2029



## 2.6 Revenue Requirements

Table 2-4 displays the City’s revenue requirements for FY 2025 through FY 2029. The total expense for each year is offset by other operating revenues and non-operating revenues to compute a pure portion of revenue requirements that need to be recovered from customers’ rates. RDN proposes annual revenue adjustments of 17.0 percent, 16.5 percent, 16.5 percent, 16.0 percent, and 16.0 percent for FY 2025 through FY 2029, respectively, to reach the financial goals set by the City. The recommended adjustments will balance the budget through the study period.

*Table 2-4. Revenue Requirements, FY 2024 to FY 2029*

<b>Revenue Requirements</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>
O&M Expenses	\$10,549,896	\$11,062,669	\$11,583,524	\$12,088,693	\$12,604,598
Capital Expenditures (PAYGO)	\$15,371,408	\$2,918,500	\$6,442,000	\$6,814,000	\$6,925,000
Non-Operating Revenue	(\$5,100)	(\$5,202)	(\$5,306)	(\$5,412)	(\$5,520)
Net Balance From Operations	(\$13,075,267)	\$1,005,423	(\$542,225)	\$1,406,275	\$4,062,242
<b>Rate Revenue Requirement</b>	<b>\$12,820,937</b>	<b>\$14,959,994</b>	<b>\$17,455,940</b>	<b>\$20,280,902</b>	<b>\$23,563,047</b>

## 2.7 Recommended Financial Plan

Based on the projected total revenue and necessary costs to be recovered during the study period, RDN built a financial plan that will generate sufficient revenues for the day-to-day operation and annual PAYGO and make appropriate contributions to reserves. The City currently has a projected ending cash balance of \$18.8 million in FY 2024. Table 2-5 shows the proposed financial plan through the study period under the proposed rate plan, respectively. By adopting this plan, the City will reach its target reserve balance (\$11.6 million) by the end of FY 2029.



**Table 2-5. Financial Plan, FY 2024 to FY 2029**

Rate Increase	0.0%	17.0%	16.5%	16.5%	16.0%	16.0%
Rate Month Implemented		July	July	July	July	July
	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Cash Position Opening Balance	\$ 30,888,987	\$ 18,769,584	\$ 5,694,317	\$ 6,699,739	\$ 6,157,514	\$ 7,563,789
<b>Revenues</b>						
Sewer Rate Revenue	\$ 10,940,781	\$ 12,820,937	\$ 14,959,994	\$ 17,455,940	\$ 20,280,902	\$ 23,563,047
Other Operating Revenue	\$ 20,000	\$ 20,000	\$ 21,395	\$ 22,052	\$ 22,654	\$ 23,273
Non-Operating Revenue	\$ 5,000	\$ 5,100	\$ 5,202	\$ 5,306	\$ 5,412	\$ 5,520
<b>Total Revenues</b>	<b>\$ 10,965,781</b>	<b>\$ 12,846,037</b>	<b>\$ 14,986,592</b>	<b>\$ 17,483,298</b>	<b>\$ 20,308,969</b>	<b>\$ 23,591,840</b>
Operating Expenses	\$ 10,057,184	\$ 10,549,896	\$ 11,062,669	\$ 11,583,524	\$ 12,088,693	\$ 12,604,598
<b>Net Revenue</b>	<b>\$ 908,597</b>	<b>\$ 2,296,141</b>	<b>\$ 3,923,923</b>	<b>\$ 5,899,775</b>	<b>\$ 8,220,275</b>	<b>\$ 10,987,242</b>
Current Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Proposed Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Operating and Debt Service</b>	<b>\$ 10,057,184</b>	<b>\$ 10,549,896</b>	<b>\$ 11,062,669</b>	<b>\$ 11,583,524</b>	<b>\$ 12,088,693</b>	<b>\$ 12,604,598</b>
<b>Net Revenues</b>	<b>\$ 908,597</b>	<b>\$ 2,296,141</b>	<b>\$ 3,923,923</b>	<b>\$ 5,899,775</b>	<b>\$ 8,220,275</b>	<b>\$ 10,987,242</b>
Capital Expenditure	\$ 13,028,000	\$ 15,371,408	\$ 2,918,500	\$ 6,442,000	\$ 6,814,000	\$ 6,925,000
Debt Proceeds Proposed	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cash	\$ 13,028,000	\$ 15,371,408	\$ 2,918,500	\$ 6,442,000	\$ 6,814,000	\$ 6,925,000
Net Income	\$(12,119,403)	\$(13,075,267)	\$ 1,005,423	\$ (542,225)	\$ 1,406,275	\$ 4,062,242
<b>Ending Balance</b>	<b>\$ 18,769,584</b>	<b>\$ 5,694,317</b>	<b>\$ 6,699,739</b>	<b>\$ 6,157,514</b>	<b>\$ 7,563,789</b>	<b>\$ 11,626,032</b>
Reserve Target	\$10,541,871	\$10,704,466	\$10,873,681	\$11,045,563	\$11,212,269	\$11,382,517

### 3 COST OF SERVICE ANALYSIS

The purpose of a Cost of Service (COS) analysis is to allocate costs among customers commensurate with their service requirements. The wastewater system’s COS analysis utilizes a three-step approach to allocate costs equitably among customers. These steps include 1) functionalization of costs, 2) cost classification, and 3) cost allocation to customers. Provided below is a detailed discussion of the wastewater COS analysis conducted for the City and the specific steps taken for the analysis.

#### 3.1 Functionalization of Costs

The typical major functions included in a sewer study are collection, pumping, customer accounts, and administrative and general. The City does not provide sewer treatment services as this function is borne by OCSD treatment facilities. RDN carefully distributed each of the O&M expenses and the asset items into the City’s sewer system functions. Table 3-1 and Table 3-2 show the allocation of the operating budget and ten years of planned CIP expenses to the standard sewer functions, respectively.

*Table 3-1. Percentage of Operating Costs Allocated to Standard Functions*

O&M Expense		
Category	Allocation	Percent
Sewer Collection	\$2,657,151	25.2%
Pumping	\$215,480	2.0%
Customer Accounts	\$1,583,269	15.0%
Administrative and general	\$6,093,996	57.8%
<b>Total O&amp;M</b>	<b>\$10,549,896</b>	<b>100.0%</b>

*Table 3-2. Percentage of Non-operating Costs Allocated to Standard Functions*

Non-operating Expense		
Category	Allocation	Percent
Sewer Collection	\$40,275,408	54.7%
Pumping	\$31,190,000	42.3%
Administrative and general	\$2,220,000	3.0%
<b>Total CIP</b>	<b>\$73,685,408</b>	<b>100.0%</b>

Once costs were functionalized, RDN further classified costs into a single service category (cost causative component) because the City only performs the function of sewer collection and delivery:

- **Volume related costs** – costs which tend to vary with the quantity of wastewater collected and transmitted.

Sewer flows represent a proxy of the relative cost of service differences between customers. Residential flow calculations were based on the average monthly water consumption during winter months (February, March, April). Wintertime usage was utilized considering that outdoor and irrigation consumption would be minimized during winter due to higher precipitation levels. To estimate the annual water flow returned to the sewer (RTS), the average monthly wintertime usage was multiplied by twelve. Table 3-3 shows the total water use and average use during winter months for residential customer classes and the resulting annualized sewer flow estimate.

*Table 3-3. Residential Winter Use and Annualized Sewer Flow Estimate*

Customer Class	Feb 2023 Use	Mar 2023 Use	Apr 2023 Use	Average Monthly Winter Use	Annualized Sewer Flow
SFR	317,684	331,562	317,349	322,198	3,866,380
MFR	166,725	198,428	175,499	180,218	2,162,611

The flow for Commercial, Industrial, and Institutional (CII) customers was established based on the water use data for FY 2023 provided by the City. Given the 100 percent RTS rate for CII water usage (outdoor irrigation accounts have separate water use calculations), the annual water use totals were directly employed as the estimates for annual sewer flow. Annual sewer flow for CII customers was estimated to be 1,411,611 hcf.

Flows for K-8 and high schools are calculated by multiplying the ADA (Average Daily Attendance) by an assumed six gallons and nine gallons of sewer flow per student per day, respectively, and then further multiplied by the standard 180 school days. Table 3-4 displays the sewer flow calculation for K-8 and high schools and the resulting annualized sewer flow.

*Table 3-4. K-8 and High School Annualized Sewer Flow Estimate*

Customer Class	Average Daily Attendance		Sewer Flow per Student		# of School Days		Conversion to hcf		Annualized Sewer Flow
K-8	13,454	*	6 gallons	*	180	÷	748	=	19,426
High School	6,473	*	9 gallons	*	180	÷	748	=	14,019

Table 3-5 shows the annual sewer flow for each customer class.

*Table 3-5. Annual Flow by Customer Class*

Customer Class	Annual Flow (hcf)	% of Total Flow
SFR	3,866,380	51.7%
MFR	2,162,611	28.9%
CII	1,411,611	18.9%
K-8	19,426	0.3%
High School	14,019	0.2%

### 3.2 Allocation to Units

In developing equitable rate structures, revenue requirements are allocated to Single Family, Multi-Family, CII, K-8, and High School customers commensurate with customer demand. The costs are allocated to customer classes according to the volume of discharge. First, flow estimates for each customer class were aggregated to find the total system flow (Table 3-6). Then, the revenue requirements for the test year (see Table 2-4 for the revenue requirement calculation) were divided by the total system flow to determine a unit cost (Table 3-7). Table 3-8 shows the total number of flow units allocated to each customer class, as calculated in Table 3-5. Finally, the number of applicable units which were directly related to each customer class are multiplied by the unit cost. Cost allocations to each customer class are shown in Table 3-9. The final cost allocations are used to determine rates.

*Table 3-6. Cost of Service Units of Service*

Unit	Count of Units (hcf)
Flow	7,474,047

*Table 3-7. Cost of Service Unit Cost*

	Volume
Rate Revenue Requirement	\$12,820,937
Units	7,474,047
<b>Unit Cost</b>	<b>\$1.72</b>

*Table 3-8. Cost of Service Units by Customer Class*

Customer Class	Volume Units
SFR	3,866,380
MFR	2,162,611
CII	1,411,611
K-8	19,426
High School	14,019

*Table 3-9. Cost of Service Allocation by Customer Class*

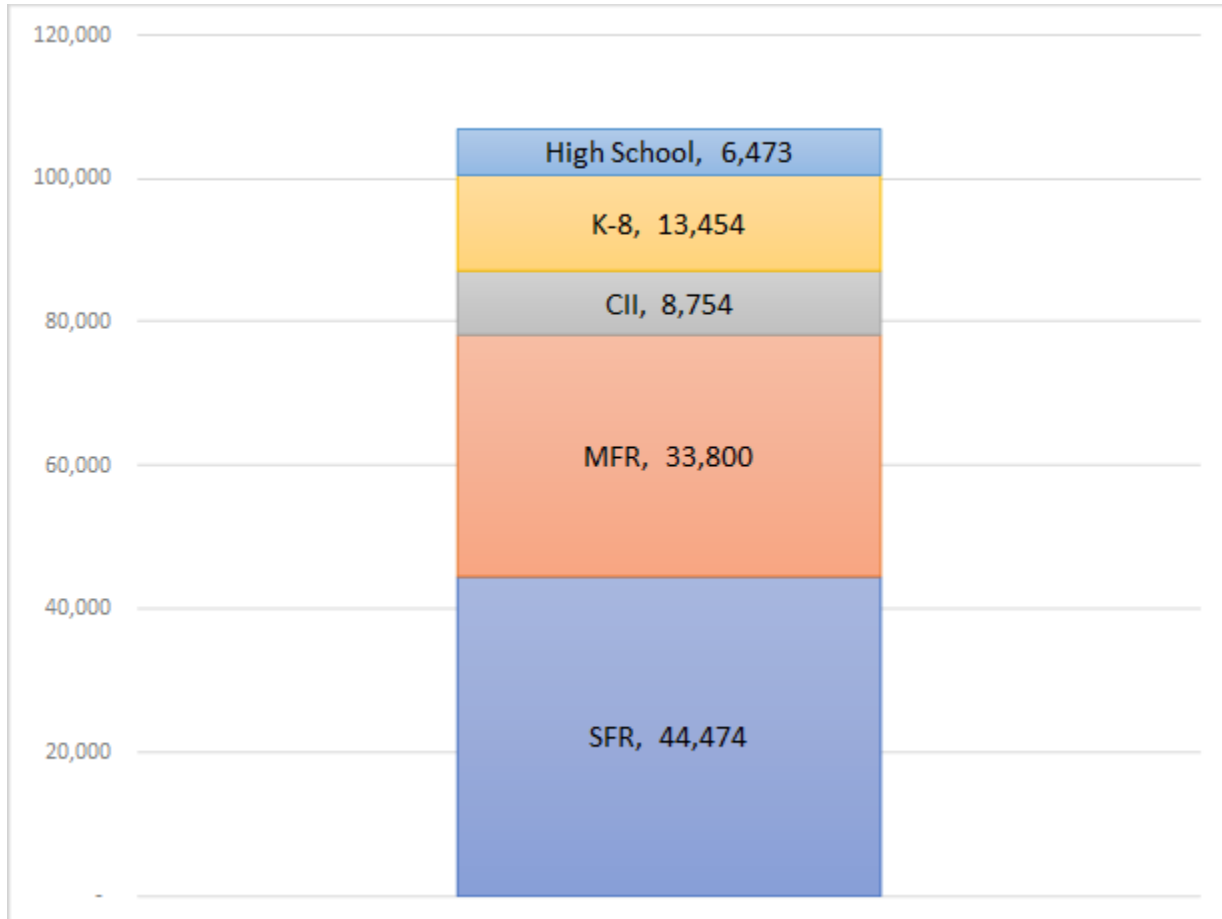
Customer Class	Volume Units	Unit Cost	Total Allocation
SFR	3,866,380	\$1.72	\$6,632,366
MFR	2,162,611	\$1.72	\$3,709,731
CII	1,411,611	\$1.72	\$2,421,470
K-8	19,426	\$1.72	\$33,323
High School	14,019	\$1.72	\$24,048
<b>Total</b>	<b>7,474,047</b>		<b>\$12,820,937</b>

## 4 RATE DESIGN

The City's rates are comprised of a fixed monthly service charge assessed through customer bills. The fixed charge is applied to each of the City's billing units. Billing units for Single-Family and Multi-Family Residential customers are equivalent to one dwelling unit. The number of billing units was projected for the study period using the methodology described in Section 1.3.

Figure 4-1 presents the number of billing units by customer class for FY 2024.

*Figure 4-1. Number of Billing Units by Customer Class*



Monthly rates for Residential and CII customers were determined by dividing the cost allocation of each customer class by the number of billing units within that class, then dividing by 12 months. For example, the total annual cost allocation for Single-Family Residential customers is \$6,632,366, divided by the number of units, 44,474, divided by 12, resulting in a monthly charge of \$12.43. K-8 and high school rates were determined by dividing the cost of service by the total ADA for each class. Unlike Residential and CII per-month assessments, school rates are calculated per student and are not divided by 12.

*Table 4-1. Single-Family Residential Cost Allocation*

Customer Class	Cost of Service	Billing Units	Annual Billing Periods	Charge per BU
SFR	\$6,632,366 ÷	44,474 ÷	12 =	\$12.43
MFR	\$3,709,731 ÷	33,800 ÷	12 =	\$9.15
CII	\$2,421,470 ÷	8,754 ÷	12 =	\$23.05
K-8	\$33,323 ÷	13,454 ÷	1 =	\$2.48
High School	\$24,048 ÷	6,473 ÷	1 =	\$3.72

## 4.1 Proposed Rates

Table 4-2 shows the proposed rates for all customer classes through FY 2029 based on the cost allocation and projected billing units.

*Table 4-2. Current Rates and Proposed Wastewater Rates, Current and FY 2024 – FY 2029*

Customer Class	Current Rates	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
SFR	\$10.98	\$12.43	\$14.48	\$16.87	\$19.57	\$22.70
MFR	\$9.10	\$9.15	\$10.66	\$12.41	\$14.40	\$16.70
CII	\$12.74	\$23.05	\$26.85	\$31.29	\$36.29	\$42.10
K-8	\$2.26	\$2.48	\$2.89	\$3.36	\$3.90	\$4.52
High School	\$3.51	\$3.72	\$4.33	\$5.04	\$5.85	\$6.78

The proposed rates increase the overall equity of the City’s sewer rates by allocating costs to each customer class based on their overall sewer flow. RDN further recommends that a future rate study explore variable rates for sewer customers to increase intra-class equity. Variable rates were deemed impossible to implement at this time due to deficiencies with the City’s current billing software. Particularly due to the heterogeneous nature of CII customers, variable rates based on actual monthly water use would ensure that each customer is paying their fair share of sewer costs, rather than costs based on averages across the customer class.

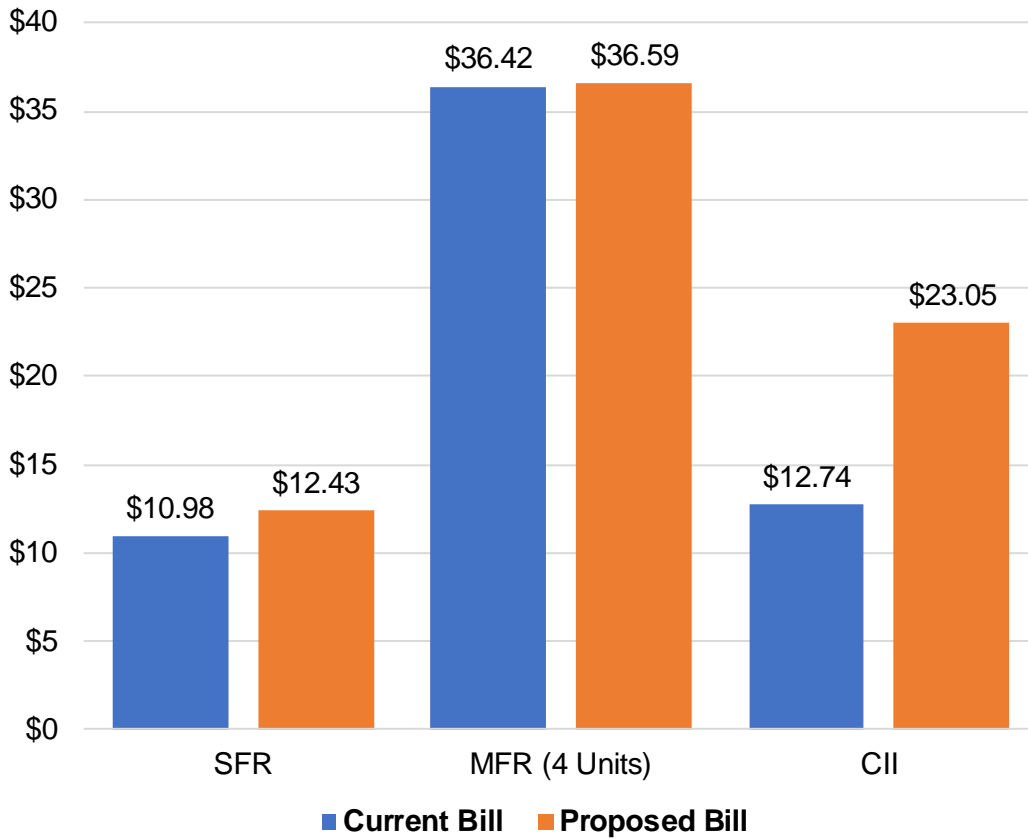
## 4.2 Bill Impacts

RDN performed a bill impact analysis. Note that the bill impact shown below only reflects the Test Year rates.

### Customers Bill Impact

This analysis compares the rate per billing unit under current and proposed rates. The bills for Multi-Family customers assume a four-unit account, because this is the median number of billing units per account. Figure 4-2 presents current versus proposed annual bills for Residential and CII customers.

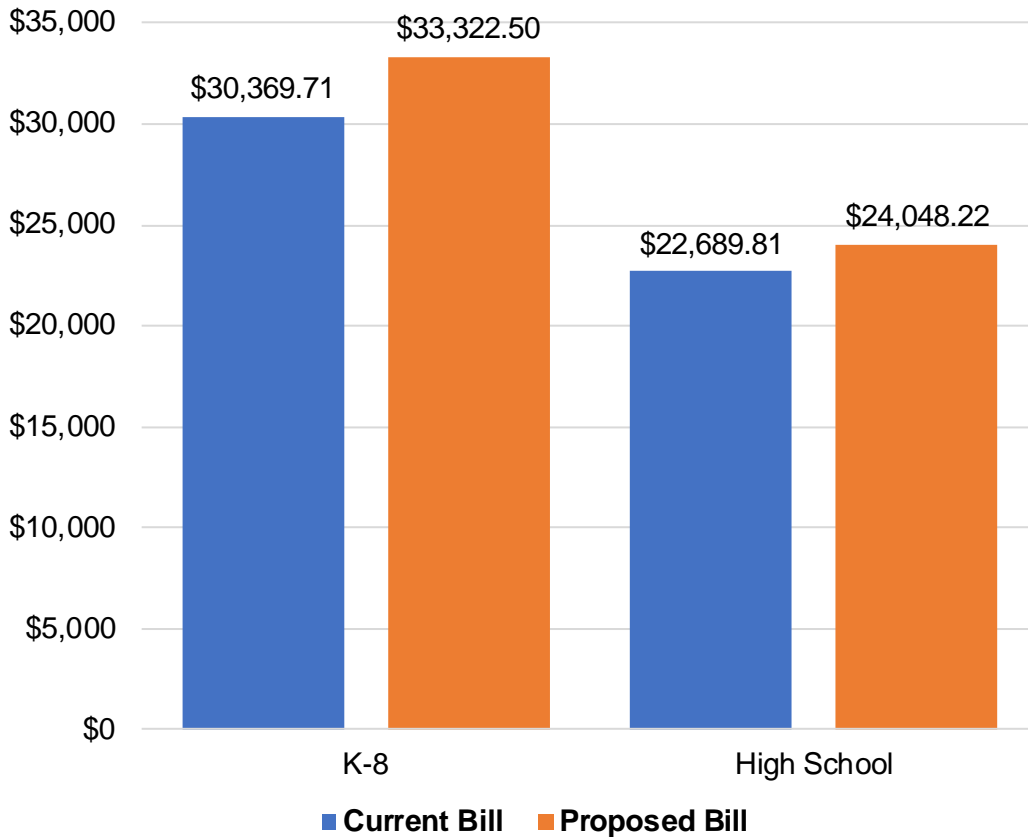
Figure 4-2. Current vs. Proposed Rates for Residential and CII Customers



Residential and CII customer monthly bills are calculated by multiplying the monthly charge by the number of BUs for each account.

For K-8 and High Schools, bills are calculated by multiplying the ADA by the per ADA charge. Figure 4-3 compares the current versus proposed total allocation for K-8 and High School customers.

Figure 4-3. K-8 and High School Customer Bill Impacts



### 4.3 Rate Comparison Survey

Figure 4-4 displays the projected monthly residential wastewater rates for December 2023 across nine local wastewater providers. For utilities employing volumetric rates, the usage level of 9 HCF was selected as it is considered a typical estimate of indoor use. The chart also compares the current and proposed rates for the City. At 9 HCF of usage, individual residential wastewater rates vary from \$6.73 to \$34.30. In all instances, the City's proposed wastewater rates consistently fall below the regional average of \$14.97.



Figure 4-4. Rate Comparison Survey

