

FINAL REPORT



Tahoe City Public Utility District
Comprehensive Sewer
Rate Study
November 2024





November 20, 2024

Mr. Sean Barclay
General Manager
Tahoe City Public Utility District
221 Fairway Drive
Tahoe City, CA 96145

Subject: 2024 Sewer Rate Study Final Report

Dear Mr. Barclay:

HDR Engineering, Inc. (HDR) is pleased to present to the Tahoe City Public Utility District (District) the final report for the 2024 Sewer Rate Study (Study). The Study objectives were to provide an independent review of the District's long-term financial plan, and develop cost-based and proportional sewer rates for the District's Board of Directors consideration and implementation. The Study results in a five-year maximum rate schedule that will provide sufficient revenue to fund the operating and capital needs of the sewer utilities based on the costs provided by the District and used in the Study. This report outlines the approach, methodology, findings, and conclusions of the sewer rate study process.

The costs associated with providing sewer services to the District's customers was developed based on the District's specific information and is included within the development of the proposed rates. The Study was developed utilizing industry recognized generally accepted rate setting principles and methodologies as outlined in the Water Environment Federation's Manual of Practice No. 27, Financing and Charges for Wastewater Systems to develop proposed rates to meet the requirements of Proposition 218. The report provides the basis for developing and implementing sewer rates which are cost-based, proportional, and defensible to the District's customers.

We appreciate the assistance provided by the District's project team in the development of this study. More importantly, HDR appreciates the opportunity to provide these technical and professional services to the District.

Sincerely yours,
HDR Engineering, Inc.

A handwritten signature in black ink, appearing to read 'Shawn Koorn', enclosed in a rectangular box.

Shawn Koorn
Associate Vice President

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Table of Contents

Table of Contents	i
1 Executive Summary	1
Introduction.....	1
Overview of the Rate Study Process.....	1
Key Sewer Rate Study Results	2
Summary of the Sewer Revenue Requirement Analysis.....	3
Summary of the Sewer Cost of Service Analysis	5
Summary of the Sewer Rate Designs.....	6
Board Review	6
1 Introduction and Overview	7
1.1 Introduction	7
1.2 Goals and Objectives	7
1.3 Overview of the Rate Study Process.....	7
1.4 Organization of the Study	8
1.5 Summary	8
2 Overview of the Rate Setting Process	9
2.1 Introduction	9
2.2 Generally Accepted Rate Setting Principles	9
2.3 Determining the Revenue Requirement.....	9
2.4 Analyzing Cost of Service	10
2.5 Designing Utility Rates.....	11
2.6 Economic Theory and Rate Setting	11
2.7 Summary	11
3 Revenue Requirement Analysis	12
3.1 Sewer Revenue Requirement	12
3.2 Determining the Revenue Requirement.....	12
3.3 Establishing a Time Frame and Approach.....	12
3.4 Projecting Rate and Other Miscellaneous Revenues	13
3.5 Projecting Operation and Maintenance Expenses	14
3.6 Projecting Capital Funding Needs.....	14
3.7 Projection of Debt Service	16



3.8	Reserve Funding	17
3.9	Summary of the Sewer Revenue Requirement.....	17
3.10	Reserve Fund Levels.....	18
3.11	Consultant’s Conclusions.....	19
3.12	Summary of the Sewer Revenue Requirement.....	19
4	Cost of Service Analysis	20
4.1	Objectives of a Cost of Service Study	20
4.2	Determining the Customer Classes of Service.....	20
4.3	General Cost of Service Procedures	21
	4.3.1 Functionalization of Costs	21
	4.3.2 Allocation of Costs.....	21
	4.3.3 Development of Distribution Factors	22
4.4	Summary of the Sewer Cost of Service Analysis.....	23
4.5	Consultant’s Conclusions and Recommendations.....	25
4.6	Summary of the Sewer Cost of Service Analysis.....	25
5	Rate Design Analysis	26
5.1	Rate Design Criteria and Considerations	26
5.2	Development of Cost-Based Sewer Rates.....	26
5.3	Overview of the Current Sewer Rate Structure.....	27
5.4	Overview of the Proposed Sewer Rate Structure	27
5.5	Summary of the Sewer Rate Design.....	28
5.6	Board Review	29
	Technical Appendix – Sewer Analysis	30

1 Executive Summary

Introduction

HDR Engineering, Inc. (HDR) was retained by Tahoe City Public Utility District (District) to conduct a sewer rate study (Study). The main objectives of the Study are:

- Develop a projection of sewer revenues to support the District’s operating and capital costs
- Proportionally allocate the costs of providing sewer services to those customers receiving service
- Propose cost-based and proportional rates for a multi-year time period

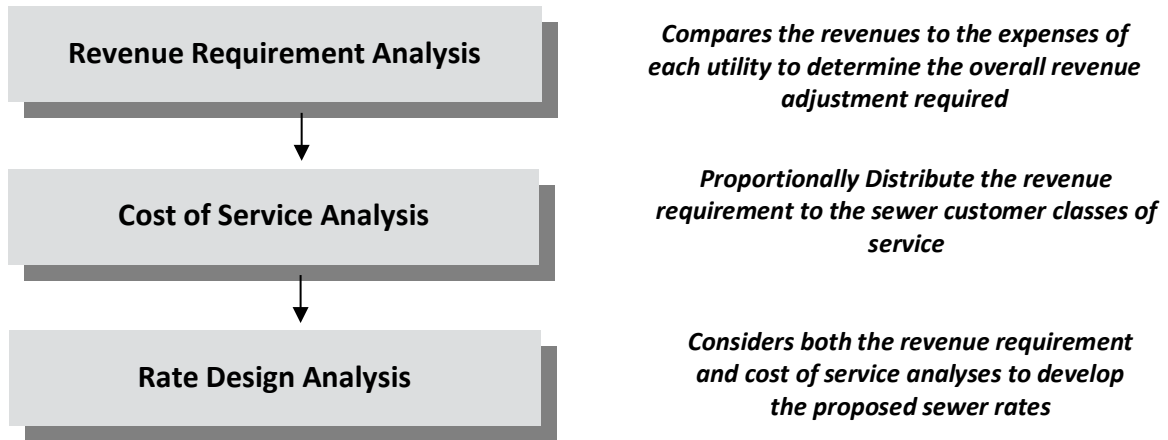
Since the completion of the 2019 Study, there have been changes to the District’s customers and costs that resulted in the need to update the Study. It is important to note that the results shown in this report are based on information available at ‘a point in time’. That is to say that if the information available at a later date has changed then the results of the analysis would likely also change or differ from those presented in this report.

The District owns, operates, and maintains the sewer system which provides services to its customers. The costs associated with providing sewer services to District customers has been developed based on the information provided by the District and is included within the development of the maximum proposed sewer rates.

Overview of the Rate Study Process

A comprehensive rate study uses three interrelated analyses to address the adequacy and proportionality of the District’s sewer rates. These three analyses are a revenue requirement analysis, a cost of service analysis, and a rate design analysis. These three analyses are illustrated below in Figure ES - 1.

Figure ES – 1 Overview of the Comprehensive Rate Analyses



The basic framework outlined above was utilized in the development of the Study for reviewing and evaluating the District’s sewer rates. A key aspect of the approach is utilizing generally accepted approaches and tailoring it to the District’s specific customer and system characteristics. The result of each task of the sewer rate study were used as the basis for establishing cost-based and proportional rates for the District’s sewer customers.

Key Sewer Rate Study Results

The sewer rate study’s technical analyses were developed based on the operating and capital costs necessary to provide service to District’s customers. The analyses performed resulted in the following findings, conclusions, and recommendations.

- A revenue requirement analysis was developed for the sewer utility for the projected time period of 2025 through 2029
- The District’s adopted 2024 budget for the sewer utility was used as the starting point of the revenue requirement analysis
- Operation and maintenance expenses are projected to increase at inflationary levels with minor additions to the budgeted expenses to reflect changes in costs during the five-year rate setting period
- The District’s five-year capital improvement plan for the sewer utility was used to develop a capital funding plan
- A five-year rate transition plan was developed to adequately fund the operating and capital needs the sewer utility
- Annual revenue adjustments are necessary to fund the operating and capital needs of the sewer utility

- A cost of service analysis was developed to determine the proportional level of revenue to collect from each customer class of service
- Proposed rates were developed, for the sewer utility, for 2025 through 2029 that reflected the proportionality as developed in the cost of service analysis while collecting the target level of revenues from the revenue requirement analyses

Summary of the Sewer Revenue Requirement Analysis

The District’s sewer utility revenue requirement analysis is the first analytical step in the comprehensive rate study process. The revenue requirement analysis determines the adequacy of the current sewer rates, and resulting revenues, to fund current and future costs related to both O&M and capital needs. From this analysis, a determination can be made as to the overall level of sewer revenue adjustments needed to provide adequate and prudent funding for the sewer utility.

For the Study, the revenue requirement was developed for the budgeted year 2024 and a projected time period (2025 - 2034). As a practical matter, a multi-year time frame is recommended in an attempt to identify major expenses that may be on the horizon. By anticipating future financial requirements, the District may begin planning for these changes sooner, thereby minimizing short-term rate impacts and overall long-term rate levels. As a point of reference, the focus of the Study is on the next five-year period of 2025 through 2029 for rate setting purposes.

For the sewer revenue requirement analysis, a “cash basis” approach was utilized. The cash basis approach is the most commonly used methodology by municipal utilities to set their revenue requirement, and the method used by the District in past rate studies. Under this approach the revenues of the utility must be sufficient to recover all cash needs, including annual O&M expenses, rate funded capital, net debt service, and reserve funding (transfers). The primary financial inputs in the development of the revenue requirement were the District’s adopted 2024 budget, historical billed customer and usage data, and the District’s sewer capital improvement plan. Budgeted O&M expenses were projected using inflationary factors for the District’s various expenses to provide sewer collection and conveyance services over the review period. These inflationary factors were based on specific historical District increases in costs and projected changes based on planning and financial analysis.

For the projected time period, the next step is the development of the capital funding plan for the sewer utility. The proper and adequate funding of capital projects is important to minimize rate increases over time. General financial guidelines state that, at a minimum, a utility should fund an amount equal to, or greater than, the annual depreciation expense through rates. For this Study, the District maintained its “pay-as-you-go” (rate) funding approach as part of the capital improvement plan to maintain the sewer system (e.g., renewal and replacement needs). This capital funding plan has placed the District’s rate funding for capital improvements at \$1.9 million in 2024 and increased capital funding each year up to \$2.5 million in 2029 to prudently fund capital renewal and replacement needs. In developing this financial plan, HDR and the

District have attempted to minimize rate impacts while funding the necessary capital improvement plan projects. HDR has worked with the District’s staff to develop the proposed capital funding plan. In developing the sewer capital funding plan, HDR is not acting in a municipal advisory role to the District.

Given a projection of O&M and capital expenses, a summary of the sewer revenue requirement analysis was developed. Provided below in Table ES - 2 is a summary of the revenue requirement analysis for the District’s sewer utility.

Table ES - 2 Summary of the Sewer Revenue Requirement Analysis (\$000)						
	2024	2025	2026	2027	2028	2029
Revenues						
Rate Revenues	\$6,503	\$6,519	\$6,536	\$6,552	\$6,568	\$6,585
Other Revenues	236	222	204	195	190	185
Total Revenues	\$6,739	\$6,741	\$6,740	\$6,747	\$6,758	\$6,770
Expenses						
Total O & M	\$4,873	\$5,362	\$5,681	\$6,018	\$6,375	\$6,755
Net Debt Service	0	0	0	0	0	0
Rate Funded Capital	\$1,850	\$2,000	\$2,150	\$2,275	\$2,400	\$2,525
Reserve Funding	16	(2)	102	270	475	715
Total Expenses	\$6,739	\$7,360	\$7,933	\$8,563	\$9,250	\$9,995
Bal./ (Def.) of Funds	(\$0)	(\$619)	(\$1,193)	(\$1,816)	(\$2,492)	(\$3,225)

As can be seen, the revenue requirement has summed the annual O&M expense, rate funded capital, net debt service, and reserve funding. The total revenue requirement is then compared to the total sources of funds which include the rate revenues, at present rate levels, and other miscellaneous revenues. From this comparison, a balance or deficiency of funds in each year can be determined. The “Bal. / (Def.) of Funds” row is cumulative. That is, any adjustment to rate revenues in the initial years will reduce the deficiency in the later years, assuming expenses remain at projected levels. Over this Study time period, revenues are deficient annually in 2025 through 2029 prior to any rate revenue adjustments.

Based on the revenue requirement analysis developed herein, HDR has concluded that the District will need to adjust the level of sewer revenues received over the next five years (2025 – 2029). HDR has reached this conclusion for the following reasons:

- Adjustments are necessary to fund the District’s annual sewer O&M expenses
- Adjustments are necessary to maintain prudent funding of annual renewal and replacement of the sewer utility system and capital improvements.
- The proposed adjustments maintain the strong financial health of the District’s sewer utility (e.g., debt service coverage ratios, reserves) and provide long-term, sustainable funding levels for the District

In reaching this conclusion, HDR recommends that the District adopt revenue adjustments for 2025 through 2029 to provide sufficient funding for annual O&M and capital improvement needs over the Study time period. A detailed discussion of the development of the revenue requirement is provided in Section 3 of this report.

Summary of the Sewer Cost of Service Analysis

A cost of service analysis determines the proportional allocation of the revenue requirement to the identified customer classes of service. Whereas the revenue requirement analysis determines the utility’s overall revenue needs, the cost of service analysis determines the proportional manner to collect the required revenue over the proposed time period. In this case, the sewer revenue requirement for 2025 was used for establishing the cost of service analysis for the District.

The cost of service analysis is based on the approaches as outlined in the Water Environment Federation Manual of Practice Number 27, Financing and Charges for Wastewater Systems. The District charges customers on an equivalent unit basis and each customer type, residential and non-residential for the Study, has a specific number of equivalent dwelling units (EDU) assigned to it based on industry standard flow factors. Given this, the cost of service analysis is simplified in that the total costs are divided through by the number of total system EDUs to determine the rate per EDU. Table ES - 3 provides the summary of the cost per EDU as calculated in the Study.

Table ES - 3 Summary of the Sewer Cost of Service Analysis		
Total Costs ^[1]	Total EDUs ^[2]	Cost per EDU (\$/month) ¹
\$7,138,914	9,599	\$61.98

[1] Based on the total revenue requirement less miscellaneous revenues, or the costs to be recovered through rates

[2] Reflects the number of billed EDUs as provided by the District

The results of the cost of service analysis, on a per EDU basis, provide the starting point for the proposed rates. Given the requirement of California Constitution Article XIII D, Section 6 (commonly referred to as Proposition 218) the results of the sewer cost of service analysis are used to establish the proposed rates. As noted in the cost of service chapter of this report, the implementation of cost of service adjustments will impact the overall customer bill and revenue generation for the sewer utility. A detailed discussion of the development of the cost of service analysis is provided in Section 4 of this report.

Summary of the Sewer Rate Designs

The final step of the comprehensive rate study process is the design of the sewer rates to collect the desired levels of revenue, based on the results of the revenue requirement and cost of service analyses. The rate design incorporates the revenue requirement analysis recommendations related to annual revenue adjustments and the cost of service analysis results provide the basis for the development of proportional rates on a per EDU basis for the District’s customers.

The District currently has a rate structure for each of the customer classes of service. For residential customers a monthly flat rate is charged on a per EDU basis. Each customer class has a separate rate given the different characteristics based on industry flow factors and assumptions. Within the non-residential customer class, subclasses of customers are based on the type of commercial activity and the relationship to 1 EDU. These customers are charged a fixed (flat) rate based on the number of EDUs assigned to each customer.

Given the result of the revenue requirement and cost of service analyses, proposed rates have been developed that reflect the proportional allocation of the costs of providing service. The rate structures for residential and non-residential are recommended to be maintained. Provided in Table ES – 4 is a summary of the present and proposed rates for the residential customer class.

Table ES – 4 Summary of the Monthly Present and Proposed Residential Sewer Rates						
	Present Rates	2025	2026	2027	2028	2029
Residential						
Fixed Charge	\$56.60	\$61.98	\$66.94	\$72.30	\$78.08	\$84.33

The proposed rates for 2025 are based on the unit costs as developed in the cost of service analysis. The rates thereafter are increased by the annual revenue requirement adjustment. The development of the rate designs is outlined in detail in Section 5 of this report.

Board Review

Proposition 218 outlines the process to adopt and implement the proposed sewer rates. This includes the establishment of the cost basis and proportionality of the sewer rates which is the purpose of the study and summarized in this report. As part of the public review process, the study results and recommendations were presented to the District Board at the August 16, 2024 and September 20, 2024 public meetings. At the conclusion of the September Board meeting, District staff was directed to mail the Proposition 218 notices to the District’s customers which outlined the proposed changes in rates along with the time, date, and location of the public hearing. The District held a public hearing on November 15, 2024, to discuss the publicly noticed proposed sewer rates. At the completion of the public hearing, the Board accepted the sewer rate study and adopted the proposed sewer rates as outlined in this report for 2025 through 2029.



1 Introduction and Overview

1.1 Introduction

HDR was retained by the Tahoe City Public Utility District to conduct a sewer rate study. The objective of the Study was to review the District’s operating and capital costs in order to develop a projection of revenue needs and cost-based and proportional rates for the sewer system customers. The revenue requirement analysis determines the adequacy of the existing rates and provides the framework and cost basis for any needed future revenue (rate) adjustments.

The District owns and operates the sewer system, which provides service to over 7,700 customers within Tahoe City and the surrounding area. The sewer system - which the District owns and operates - includes the collection and conveyance of wastewater and treatment services are handled by Tahoe-Truckee Sanitary Agency (TTSA).

1.2 Goals and Objectives

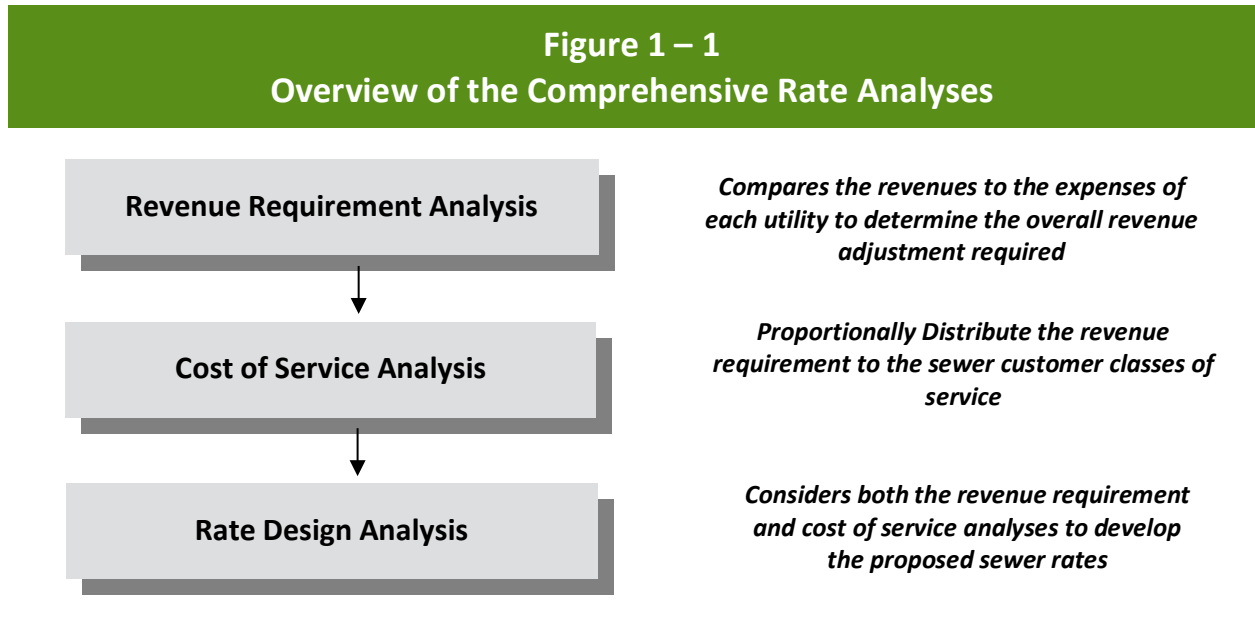
The District had a number of key objectives in developing sewer rate study. These key objectives provided a framework for policy decisions in the analysis that follows. These key objectives were as follows:

- Develop the sewer study in a manner that is consistent with the principles and methodologies established by the Water Environment Federation (WEF), Manual of Practice No. 27, Financing and Charges for Sewer Systems.
- In financial planning and establishing the District’s rates, review and utilize industry best practices, while recognizing and acknowledging the specific and unique characteristics of the District’s sewer system.
- Review the District’s rates utilizing generally accepted rate making methodologies to determine adequacy and proportionality of the utility rates.
- Meet the long-term financial planning criteria and policies of the District. For example, debt service coverage ratios, adequate funding of capital infrastructure, and maintenance of adequate and prudent reserve levels.
- Develop a final proposed financial plan which adequately supports the utility’s funding requirements, while attempting to minimize overall impacts to rates.
- Develop a proportional distribution of costs to the District’s sewer customers.
- Provide proposed rates designed to meet the legal requirements of Article XIII D and recent legal decisions related to Article XIII D.

1.3 Overview of the Rate Study Process

User rates must be set at a level where a utility’s operation and maintenance (O&M) and capital expenses are met with the revenues received from customers. This is an important point, as failure to achieve this objective may lead to insufficient funds to maintain system integrity. To evaluate the adequacy of the sewer rates, a comprehensive rate study is often performed. A

comprehensive sewer rate study consists of three interrelated analyses. Figure 1 – 1 provides an overview of these analyses.



The above framework for reviewing and evaluating rates was utilized for the District’s sewer system.

1.4 Organization of the Study

This report is organized in a sequential manner that first provides an overview of utility rate setting principles, followed by a section that details the specific steps used to review the District’s sewer rates. The following sections comprise the District’s sewer rate study report:

- **Section 2** – Overview of Rate Setting Principles
- **Section 3** – Revenue Requirement Analysis
- **Section 4** – Cost of Service Analysis
- **Section 5** – Rate Design Analysis

Technical Appendices are attached at the end of this report, which detail the technical analyses that were undertaken in the preparation of this Study.

1.5 Summary

This report will review the sewer cost of service study prepared for Tahoe City Public Utility District. This report has been prepared utilizing generally accepted and industry standard sewer rate setting techniques as outlined in the AWWA M1 Manual and WEF MOP #27.



2 Overview of the Rate Setting Process

2.1 Introduction

This section of the report provides background information about the rate setting process, including descriptions of generally accepted principles, types of utilities, methods of determining a revenue requirement, the cost of service analysis, and rate design. This information is useful for gaining a better understanding of the details presented in further sections of this report.

2.2 Generally Accepted Rate Setting Principles

As a practical matter, utilities should consider setting their rates around generally accepted or global principles and guidelines. Utility rates should be:

- Cost-based, proportional, and set at a level that meets the utility’s full revenue requirement
- Easy to understand and administer
- Designed to conform to generally accepted rate setting techniques
- Stable in their ability to provide adequate revenues for meeting the utility’s financial, operating, and regulatory requirements
- Established at a level that is stable from year-to-year from a customer’s perspective

2.3 Determining the Revenue Requirement

Most public utilities use the “cash basis” approach for establishing their revenue requirement and setting rates. This approach conforms to most public utility budgetary requirements and the calculation is easy to understand. A public utility totals its cash expenditures for a period of time to determine required revenues. The revenue requirement for a public utility is usually comprised of the following costs or expenses:

- **Total Operating Expenses:** This includes a utility’s operation and maintenance (O&M) expenses, plus any applicable taxes or transfer payments. Operation and maintenance expenses include the materials, electricity, labor, supplies, etc., needed to keep the utility functioning.
- **Total Capital Expenses:** Capital expenses are calculated by adding debt service payments (principal and interest) to capital improvements financed with rate revenues. In lieu of including capital improvements financed with rate revenues, a utility sometimes includes depreciation expense to stabilize the annual revenue requirement.

Under the cash basis approach, the sum of the total O&M expenses plus the total capital expenses equals the utility’s revenue requirement during any selected period of time (historical or projected).

Note that the two portions of the capital expense component (debt service and rate funded capital) are necessary under the cash basis approach as utilities generally cannot finance all their capital facilities with long-term debt. At the same time, it is often difficult to pay for capital expenditures on a “pay-as-you-go” basis given that some major capital projects may have significant rate impacts upon a utility and its customers, even when financed with long-term debt. Many utilities have found that some combination of pay-as-you-go funding and long-term financing will often lead to minimization of rate increases over time.

Public utilities typically use the cash basis¹ approach to establish their revenue requirements. An exception occurs if a public utility provides service to a large wholesale or contract customer. In this situation, a public utility could use the “utility basis” approach (see Table 2 - 1) regarding earning a fair return on its investment. As a point of reference, the District’s Study utilized the cash basis approach which is the typical approach for municipal utilities like the District and the approach used in the prior rate studies completed by the District.

Table 2 – 1 Cash versus Utility Basis Comparison			
Cash Basis		Utility Basis (Accrual)	
+	O&M Expenses	+	O&M Expenses
+	Taxes/Transfer Payments	+	Taxes/Transfer Payments
+	Capital Improv. Funded From Rates (≥ Depreciation Expense)	+	Depreciation Expense
+	Debt Service (Principal + Interest)	+	Return on Investment
=	Total Revenue Requirement	=	Total Revenue Requirement

2.4 Analyzing Cost of Service

After the total revenue requirement is determined, it is proportionally distributed to the users (i.e., customer classes) of the service. The distribution of the revenue requirement, analyzed through a cost of service analysis, reflects the cost relationships for providing sewer services. A cost of service analysis requires three analytical steps:

1. Costs are **functionalized** or grouped into the various cost categories related to providing service. For a sewer utility this generally includes collection, pumping, and treatment. This step is largely accomplished by the utility’s accounting system.

¹ “Cash basis” as used in the context of rate setting is not the same as the terminology used for accounting purposes and recognition of revenues and expenses. As used for rate setting, “cash basis” simply refers to the specific cost components to be included within the revenue requirement analysis.

2. The functionalized costs are then **allocated** to specific cost components. Allocation refers to the arrangement of the functionalized data into cost components. For sewer, the manuals discuss the allocation of costs, which may include volume, strength, and customer related.
3. Once the costs are allocated to the appropriate cost component(s), they are proportionally **distributed** to the customer classes of service (e.g., Residential, Commercial). The distribution is based on each customer class’s relative contribution to the cost component (i.e., benefits received from and burdens placed on the system and its resources). For example, customer-related costs are distributed to each class of service based on the total number of customers in that class of service. Once costs are distributed, the revenues from each customer class of service required to achieve cost-based rates can be determined.

2.5 Designing Utility Rates

Rates that meet the utility’s objectives are designed based on both the revenue requirement and the cost of service analysis. This approach results in rates that are strictly cost-based and does not consider other non-cost based goals and objectives (conservation, economic development, ability to pay, revenue stability, etc.). In designing the final proposed rates, factors such as ability to pay, continuity of past rate philosophy, economic development, ease of administration, and customer understanding may typically be taken into consideration. However, the proposed rates must take into consideration each customer class’s proportional share of costs allocated through the cost of service analysis to meet the legal requirements of California Constitution Article XIII D, commonly referred to as Proposition 218.

2.6 Economic Theory and Rate Setting

One of the major justifications for a comprehensive rate study is founded in economic theory. Economic theory suggests that the price of a commodity must roughly equal its cost if equity among customers is to be maintained. This statement’s implications on utility rate designs are significant. For example, for a sewer utility costs are incurred to meet total volume and strength related costs.

“Economic theory suggests that the price of a commodity must roughly equal its cost if equity among customers is to be maintained.”

Given this, it follows that the customers who create wastewater volumes and the strength of that wastewater, should pay for those costs associated with providing service in proportion manner. When costing and pricing techniques are refined, consumers have a more accurate understanding of what the commodity costs to produce and deliver.

2.7 Summary

This section of the report has provided a brief introduction to the general principles, techniques, and economic theory used to set cost-based and proportional sewer rates. These principles and techniques provide the basis to evaluate the District’s rates as developed in this Study.



3 Revenue Requirement Analysis

3.1 Sewer Revenue Requirement

This section describes the development of the revenue requirement analysis for the District’s sewer rate study. The revenue requirement analysis is the first analytical step in the rate study process. From this analysis, a determination can be made as to the overall level of sewer rate adjustments needed to provide adequate and prudent funding for both operating and capital needs. A main objective of a rate study is to develop proportional and equitable rates over the selected time period. For purposes of this section, the term “sewer” refers to the District’s sewer utility, and the term “wastewater” refers to the contribution of wastewater to the District’s sewer utility for conveyance to the TTSA treatment facility.

3.2 Determining the Revenue Requirement

In developing the District’s sewer revenue requirement, the utility must financially “stand on its own” and be properly funded. As a result, the revenue requirement analysis, as developed herein, assumes the funding needed to operate and maintain the District’s sewer system on a financially sound and prudent basis. The following sections will provide a more detailed discussion of the development of the sewer revenue requirement analysis for the District.

3.3 Establishing a Time Frame and Approach

The first step in calculating the revenue requirement for the District’s sewer system was to establish a time frame for the revenue requirement analysis. A ten-year period was developed to review the sewer revenue requirement over a long-term period. While the analysis was developed for a 10-year period, the focus of the Study for establishing proposed rates is on the next five year period (2025 – 2029). Reviewing a multi-year time period is recommended since it attempts to identify any major expenses that may be on the horizon. By anticipating future financial requirements, the District can begin planning for these changes sooner, thereby minimizing short-term rate impacts and overall long-term rates. The revenue requirement was composed of the District’s 2024 budget which was then projected for future years by escalation (inflation) factors.

The second step in determining the revenue requirement was to decide on the basis of accumulating costs. In this particular case, for the revenue requirement analysis a “cash basis” approach was utilized. The cash basis approach is the most commonly used methodology by municipal utilities to set their revenue requirement. This is also the methodology that the District has historically used to establish their sewer revenue requirements. Table 3 - 1 provides a summary of the “cash basis” approach and cost components used to develop the District’s sewer revenue requirement.

Table 3 – 1 Overview of the District’s “Cash Basis” Sewer Revenue Requirements

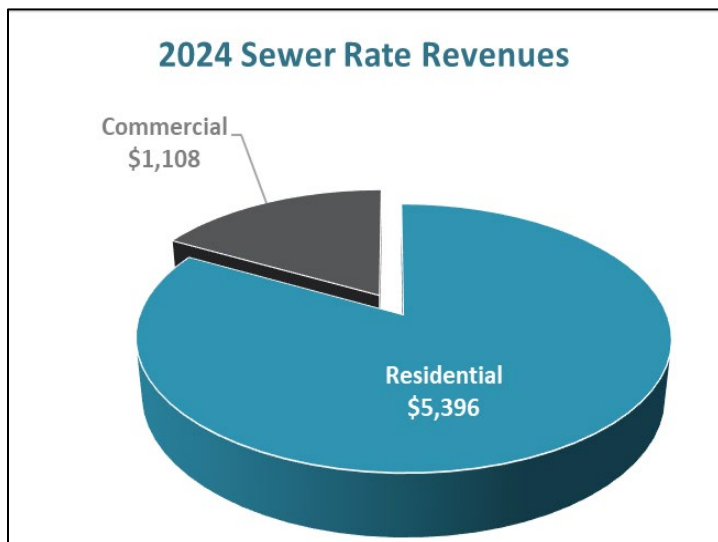
+	Sewer Operation and Maintenance Expenses
+	Rate Funded Capital
+	Net Debt Service (Principal + Interest) Existing and Future
<u>±</u>	<u>Reserves Funding</u>
=	Total Sewer Revenue Requirement
<u>-</u>	<u>Miscellaneous Revenues</u>
=	Net Sewer Revenue Requirement (Bal. Req’d from Rates)

Given a time period around which to develop the revenue requirement and a method to accumulate the costs; the focus shifts to the development and projection of the revenues and expenses of the District’s sewer system.

The primary financial inputs in the development of the revenue requirement were the District’s adopted sewer budget, recent customer billing characteristics (number of accounts, number of billed equivalent dwelling units), and the sewer capital improvement plan. Presented below is a detailed discussion of the steps and key assumptions contained in the development of the sewer revenue requirement analysis.

3.4 Projecting Rate and Other Miscellaneous Revenues

The first step in the revenue requirement is to develop a projection of the revenues currently received for the District’s sewer utility. This includes developing a projection of sewer rate revenues, at present rate levels based on the current billing units (dwelling unit, fixture unit, seat, etc.) for each customer group based on the most customer billing statistics. These billing units were then multiplied by the current adopted sewer rates. This method of independently calculating revenues links the projected revenues used within the analysis to the projected billing units. It also helps to confirm that the billing units used within the Study are reasonable for purposes of projecting future revenues and ultimately establishing the proposed rates to collect the target level of revenues. The rate revenues are shown in Exhibit 3 under “Rate Revenues” for 2024.



The majority of the District’s rate revenues are derived from residential customers. The District also serves a

variety of non-residential customers which are summarized in the Commercial customer class. In total, and at currently adopted rate levels, the District's sewer system is projected to receive approximately \$6.5 million in rate revenue in 2024. Based on discussion with the District, the Study has assumed a customer growth of 0.25% per year as the system is nearing build out. By 2029, the rate revenues - are projected to be approximately \$6.6 million. The detailed calculation of the revenues at present rates is included in Exhibit 6 of the Technical Appendix.

In addition to rate revenues, the District also receives other non-operating revenues. These are revenues related to penalties, interest income, other misc. revenue, etc. In total, the District is projected to receive approximately \$235,000 in 2024. Non-operating revenues were estimated to decrease slightly over the Study time period as a result of decreased annual interest income as exiting reserves are being used to fund capital projects over the Study time period.

On a combined basis, taking into account the rate revenues and the other revenues, the District's sewer utility has total projected revenues of approximately \$6.7 million in 2024, remaining flat at approximately \$6.7 million in 2029. The assumptions used for projecting growth and increases in other revenues can be found in Exhibit 2 of the Technical Appendix. The projection of rate and miscellaneous revenues can be found in Exhibit 3 of the Technical Appendix.

3.5 Projecting Operation and Maintenance Expenses

Operation and maintenance (O&M) expenses are incurred by the District to maintain the sewer collection and conveyance system at a consistent, high service level. The starting point of the projection of O&M expenses was the District's adopted 2024 budget. Budgeted O&M expenses were projected over the Study time period based on historical inflationary factors. These factors took into consideration the District's historical cost increases and projected increases in future costs. The factors ranged from 3.0% to 7.0% annually for the different types of expenses (e.g., salaries, benefits, materials & supplies) as developed in discussion with District staff and projections in the District's long-term financial plan. In total, O&M expenses for the District's sewer utility were projected to increase at an annual inflation rate of approximately 6.0% over the Study time period.

The total operation and maintenance expenses for the sewer utility are budgeted to be approximately \$4.9 million in 2024. Over the five-year projected time period, the total O&M expenses are projected to increase to approximately \$6.8 million by 2029. A summary of the O&M expenses is shown as a line item in Table 3 – 3 in section 3.9 and the detailed analysis is provided in Exhibit 3 of the Technical Appendix.

3.6 Projecting Capital Funding Needs

A key component in the development of the sewer revenue requirement was to properly and adequately fund capital improvement needs in the near and long term. One of the major issues facing many utilities across the U.S. is the amount of deferred capital projects and the funding pressure from regulatory-related improvements. The proper and adequate funding of capital projects is an important issue for all sewer utilities and not just a local issue or concern of the

District. To accomplish this, the District has a Capital Improvement Plan (CIP) to address both the short and long-term needs of the sewer utility. The District’s CIP will help guide and prioritize capital projects over time and capital investments to expand the capacity of facilities to accommodate future customers.

There are three types of capital projects that the District may need to fund. These include the following types:

- Renewal and replacement projects
- Growth/capacity expansion projects
- Regulatory-related projects

A renewal and replacement project is a project to maintain the existing system that is in place today. As existing facilities age, they become worn out, obsolete, etc. The District should continuously be making investments to maintain the integrity of its facilities with renewal and replacement projects. In contrast to a renewal and replacement project, growth / capacity expansion projects are related to providing service (i.e., available capacity) to new customers. This may be through expansion of the existing system or construction of new facilities to provide service to customers within the District’s service area. Finally, certain projects may be a function of a regulatory requirement in which the Federal or State government mandates the need for an improvement to the system to meet regulatory standards (e.g., limitations on discharges). Understanding these different types of capital projects is important because it may help to explain why costs are increasing and the cost drivers for any needed rate adjustment.

This is important as the way in which projects may be funded also generally varies by the type of capital project. For example, renewal and replacement projects should be funded through annual rates on a “pay-as-you-go” basis. In contrast to this, growth or capacity expansion projects may be funded through the collection of capacity charges (i.e., growth-related charges) in which new development pays a proportional share of the cost of improvements required as a result of their connection. Finally, regulatory projects may be funded by a variety of different means, which may include one or more sources such as rate revenues, long-term debt, grants, etc.

While the above discussion appears to neatly divide capital projects into three clearly defined categories, the reality of working with specific capital projects may be more complex. For example, a pump may be replaced, but while being replaced, it is up sized to accommodate the need for greater capacity. There are many projects that share these “joint” characteristics. At the same time, projects may not be “replacement” related, but rather “improvement” related to provide efficiencies or provide for increased system operations and management. Provided below in Table 3 - 2 is a summary of the sewer capital funding analysis, based on the District’s capital plan.

Table 3 – 2
Summary of the Sewer Capital Improvement Plan (\$000s)

	2024	2025	2026	2027	2028	2029
Total Capital Projects	\$2,913	\$3,889	\$4,164	\$2,609	\$3,947	\$3,301
Other Funding Sources						
Unfunded	\$0	\$0	\$0	\$0	\$0	\$0
Reserves	1,063	1,889	2,014	334	1,547	776
Long-Term Debt	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Other Funding Sources	\$1,063	\$1,889	\$2,014	\$334	\$1,547	\$776
Rate Funded Capital	\$1,850	\$2,000	\$2,150	\$2,275	\$2,400	\$2,525

While the total amount of a project may vary from year to year, the sewer capital funding plan has attempted to provide a consistent funding source for the replacement of deteriorating system assets. In this case, the sewer utility’s rates will fund an amount of \$1.9 million in 2024. The District’s annual depreciation expense is approximately \$661,000 in 2024. A desirable minimum funding target for rate funded CIP is an amount equal to or greater than annual depreciation expense in order to approximately keep up with the rate of deterioration of the system assets. While annual depreciation expense is not the same as replacement cost, funding an amount which exceeds the depreciation expense is both prudent and appropriate. As noted, to help establish a prudent level of annual replacement funding through rates, HDR worked with District staff to develop a funding plan for the capital needs. In developing this financial plan, HDR and the District have attempted to minimize rate impacts while funding the planned capital projects of the District’s sewer utility. This level of funding appears appropriate based on the level of annual depreciation expense, and the replacement cost of aging assets. As part of the focus of developing the CIP, the District is committed to making an effort to maintaining this level of rate funded capital.

3.7 Projection of Debt Service

The District’s sewer utility currently has one (1) outstanding long-term debt issue, the State Revolving Fund loan. This issuance has an annual payment of \$140,000, however, this is offset completely by property tax revenues. This issuance is retired in 2028, and it is assumed that the District will not issue any long-term debt to fund sewer capital improvements over the rate setting period (2025 – 2029).

HDR is not advising the District on the terms of any debt issuances but rather identifying the overall funding needs, should any exist. As such, HDR is not acting in a municipal advisor role to the District for the issuance of any long-term borrowing.

3.8 Reserve Funding

The final component of the revenue requirement analysis is the reserve funding line item. This can be described as transfers of revenue to reserve funds to maintain prudent ending fund balances or for future funding of specific or unanticipated projects. Additionally, any balance of funds after the expenses are paid is transferred to the operating fund to maintain minimum fund balances. In some cases, reserves will be used to offset operating and/or capital costs to minimize the impact to rates. As will be shown, at proposed rate revenue levels, revenues are at sufficient levels and funds are generally being transferred back to reserves to meet minimum target levels and to be available for future capital projects.

3.9 Summary of the Sewer Revenue Requirement

Given the above projections of revenues and expenses, a summary of the sewer revenue requirement analysis can be developed. In developing the revenue requirement analysis, consideration was given to the financial planning considerations of the District. In particular, emphasis was placed on attempting to minimize rates, yet still have adequate revenues to support the operational activities and capital projects throughout the Study time period. Presented in Table 3 - 3 is a summary of the District’s projected sewer revenue requirement. Detailed exhibits of this analysis can be found in the Technical Appendix (Exhibits 1 – 6).

Table 3 - 3 Summary of the Sewer Revenue Requirement Analysis (\$000)						
	2024	2025	2026	2027	2028	2029
Revenues						
Rate Revenues	\$6,503	\$6,519	\$6,536	\$6,552	\$6,568	\$6,585
Other Revenues	236	222	204	195	190	185
Total Revenues	\$6,739	\$6,741	\$6,740	\$6,747	\$6,758	\$6,770
Expenses						
Total O & M	\$4,873	\$5,362	\$5,681	\$6,018	\$6,375	\$6,755
Net Debt Service	0	0	0	0	0	0
Rate Funded Capital	\$1,850	\$2,000	\$2,150	\$2,275	\$2,400	\$2,525
Reserve Funding	16	(2)	102	270	475	715
Total Expenses	\$6,739	\$7,360	\$7,933	\$8,563	\$9,250	\$9,995
Total Bal./ (Def.) of Funds	(\$0)	(\$619)	(\$1,193)	(\$1,816)	(\$2,492)	(\$3,225)

As can be seen, the revenue requirement has summed the O&M, rate funded capital, net debt service, and reserve funding components. The total revenue requirement is then compared to the total revenues which include both rate revenues – at current rate levels – and other revenues.

From this comparison, a balance or deficiency of funds in each year can be determined. This balance or deficiency of funds is then compared to the projected revenues from current rates to determine the level of rate adjustment needed to meet the revenue requirement. The “Bal. / (Def.) of Funds” row is cumulative. That is, any adjustments in rate revenues in the initial years

will reduce the deficiency in the later years assuming no changes in projected expenses. As can be seen, the sewer utility is operating at a deficiency, prior to rate revenue adjustments, in each of the five projected years based on the necessary operating and capital costs to continue to provide sewer service to customers.

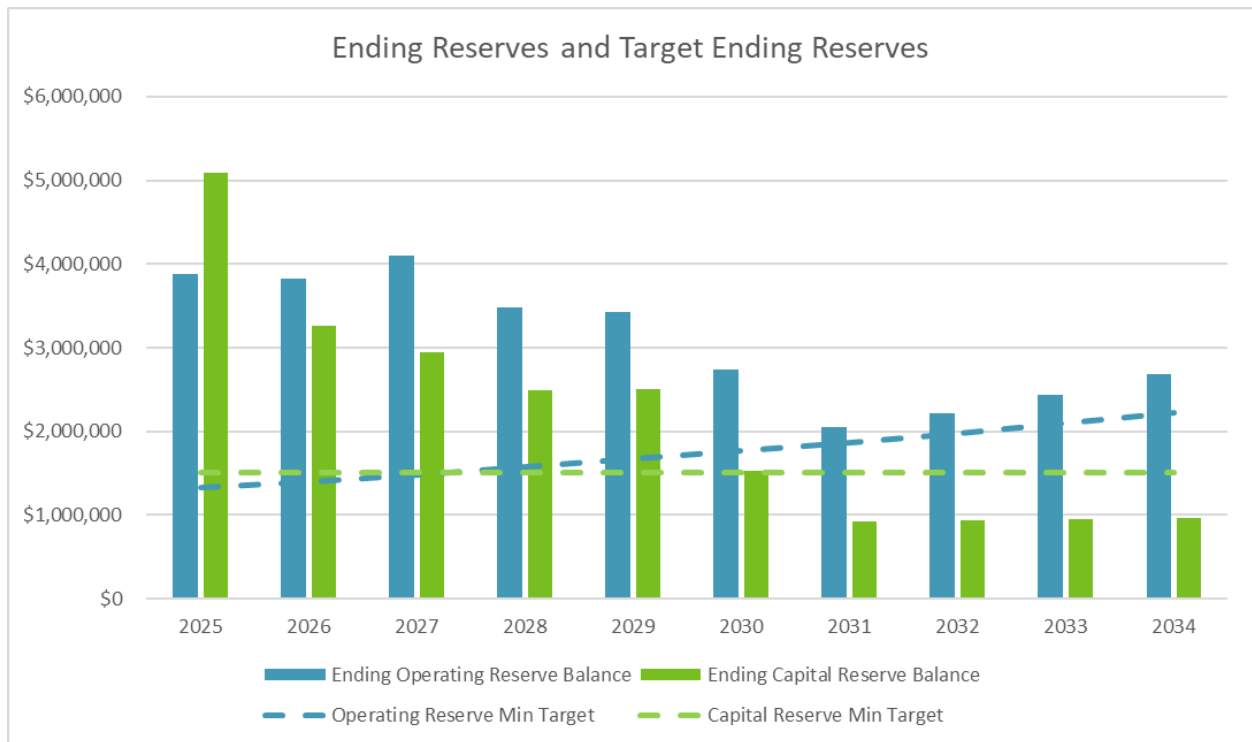
The proposed revenue adjustments are a function of assumed inflation over this time period, coupled with the need to increase the capital improvement funding from rates (renewal and replacement funding), and maintain minimum reserve levels, etc. A more detailed revenue requirement is included in Exhibit 3 of the Technical Appendix.

3.10 Reserve Fund Levels

As noted, a key element of determining the financial health and sustainability of the District's sewer utility is to review the level of available reserve levels after the proposed revenue adjustments. Utilities can have several different reserves, each with a different purpose. The typical types of reserves utilities maintain are generally referenced as an operating reserve and a capital reserve. Each of these funds can have a minimum ending balance that, if reached or falls below, is a signal that the District should review the revenue sources associated with each reserve fund. The minimum ending balances will vary depending on the purpose of the fund and the expected revenue sources.

- Operating Reserves – The reserve is to be used in extraordinary circumstances to mitigate unforeseen significant fluctuations in operational expense. The target minimum ending balance is set to 90 days of O& M expenses.
- Infrastructure Capital Replacement Reserve – The reserve may be used to fund capital expenditures that exceed the anticipated annual rate revenue available for capital. The minimum target ending balance is set at \$1.5 million.
- Fleet & Equipment Reserve - The reserve is for the planned replacement of current and future fleet and heavy equipment. Reserve target is an annualized value.

Shown in the chart below is the District's sewer utility projected ending fund balance over the rate setting period.



3.11 Consultant’s Conclusions

Based on the revenue requirement analysis developed herein, HDR recommends that the District adjust sewer revenues annually over the next five-year period (2025 –2029). HDR has reached this conclusion for the following reasons:

- Revenue adjustments are necessary to fund the District’s capital improvement needs, of which a significant portion is driven by the renewal and replacement of aging infrastructure
- The revenue adjustments are necessary due to increases in annual inflationary costs related to O&M of the sewer utility
- The proposed revenue adjustments maintain the District’s strong financial health and provide long-term sustainable funding levels

In reaching this conclusion, HDR would recommend that the District adopt revenue adjustments in order to provide sufficient funding for annual O&M and capital improvement program over the next five-year period.

3.12 Summary of the Sewer Revenue Requirement

This section of the Study has provided a discussion of the District’s sewer revenue requirement analysis. The revenue requirement analysis determined the level of revenue necessary to adequately fund the District’s annual O&M and capital needs as well as meeting the District’s financial criteria over the Study time period. The next section will discuss the cost of service analysis developed for the District’s sewer utility.

4 Cost of Service Analysis

In the previous section, the revenue requirement analysis focused on the total sources and application of funds required to adequately fund the District’s sewer collection and conveyance system. This section will provide an overview of the cost of service analysis developed for the District.

A cost of service analysis is concerned with the proportionate distribution of the total revenue requirement between the identified customer classes of service (e.g., Residential, Commercial). The previously developed revenue requirement for 2025 was utilized in the development of the cost of service analysis.

4.1 Objectives of a Cost of Service Study

There are two primary objectives in conducting a sewer cost of service study:

- distribute the District’s revenue requirement proportionally among the customer classes of service
- Derive average unit costs for subsequent rate designs

The objectives of the cost of service analysis are different from determining a revenue requirement. As noted in the previous section, a revenue requirement analysis determines the utility’s overall revenue needs, while the cost of service analysis determines the proportional manner to collect the revenue requirement from the District’s customer classes of service (i.e., rate schedules).

The second rationale for conducting a cost of service analysis is so that the proposed rates are designed such that it properly reflects the costs incurred by the District. For example, a sewer utility typically incurs costs related to flow (wastewater volumes), strength, and customer cost components. Each of these types of costs may be collected in a slightly different manner as to allow for the development of rates that collect costs in the same manner as they are incurred. It is important to note that the District is a collection and conveyance only system as wastewater treatment is provided by the TTSA. Therefore, the cost of service analysis is simplified given flow (volume) related costs are the primary driver of the costs of collecting and conveying wastewater to TTSA.

4.2 Determining the Customer Classes of Service

The first step in a cost of service analysis is to determine the customer classes of service. HDR started with the customer classes of service based on the current rates. The customer classes used in the cost of service analysis are:

- Residential
- Commercial

In determining classes of service for cost of service purposes, the objective is to group customers together into similar or homogeneous groups based upon facility requirements and/or flow characteristics. It is important to note that the Commercial customer class has a number of subclasses such as restaurant, theater, or hotel just to name a few. However, the District bills customers on an EDU basis. The different commercial subclasses are charged a proportional EDU based on industry standard flow ratios, given this, it was determined that a single commercial class was appropriate. The proposed rate schedules will provide the rate for each specific customer (rate schedule) based on the rate for one EDU.

4.3 General Cost of Service Procedures

To determine the cost to serve each customer class of service a cost of service analysis is conducted. The development of the cost of service based on generally accepted principles and methodologies and tailored to the District’s system and customer characteristics is paramount. The District’s cost of service analysis was based on the Water Environment Federation Manual of Practice No. 27. This manual outlines the approach to establish cost-based and equitable rates and outlines a three-step approach. These steps take the form of functionalization, classification, and allocation. Provided below is a detailed discussion of the sewer cost of service study conducted for the District, and the specific steps taken within the analysis.

4.3.1 Functionalization of Costs

The first analytical step in the cost of service process is called functionalization. Functionalization is the arrangement of expenses and sewer asset (plant) data by major operating functions (e.g., collection, pumping, treatment). Within the Study, there was a limited amount of functionalization of the cost data, as the District’s records functionalized a majority of the costs.

4.3.2 Allocation of Costs

The second analytical task performed in a sewer cost of service study is the allocation of the costs (i.e., revenue requirement). Allocation determines why the expenses were incurred or what type of need is being met. The following cost allocations are generally used to develop a cost of service analysis:

- **Volume Related Costs:** Volume related costs are those costs which tend to vary with the total quantity of wastewater collected and treated.
- **Strength Related Costs:** Strength related costs are those costs associated with the additional handling and treatment of high “strength” wastewater. Strength of wastewater is typically measured in biochemical oxygen demand² (BOD) and total suspended solids³ (SS). Increased levels of BOD or SS generally equate to increased treatment costs.

² BOD is the amount of [dissolved oxygen](#) that must be present in water [in order](#) for [microorganisms](#) to [decompose](#) the [organic](#) matter in the wastewater

³ SS is the entire amount of organic and inorganic particles dispersed in wastewater

- **Customer Related Costs:** Customer-related costs vary with the addition or deletion of a customer or a cost which is a function of the number of customers served. Customer related costs typically include the costs of billing, collecting, and accounting.
- **Revenue Related Costs:** Some costs associated with the utility may vary with the amount of revenue received by the utility. An example of a revenue related cost would be a utility tax which is based on gross utility revenue.

The allocation of costs is provided in Exhibit 11 for the infrastructure (sewer assets) and Exhibit 12 for the test period revenue requirement of the Technical Appendix. As mentioned, the basis, or methodology, for the allocation process is the WEF MOP #27. The methodology provided in the manual was then applied to the District’s specific system and operations and customer characteristics to develop the appropriate allocation. As noted, the District bills on an EDU basis. Therefore, the above process was reviewed, but ultimately the total costs are divided through by the total billed EDUs to determine the rate per EDU.

4.3.3 Development of Distribution Factors

Once the allocation process is complete, and the customer groups have been defined, the allocated costs are distributed proportionally to each customer class of service. For each cost allocation component, a distribution factor is developed to distribute the costs proportionally between the District’s customers. As part of the Study, the following distribution factors were developed.

- **Volume Distribution Factor:** Volume-related costs are generally allocated on the basis of contribution to wastewater flows. Wastewater flows were calculated based on average monthly water flow estimates for non-volume billed customers and volumetric billing information of the commercial customers. Because the District does not directly meter wastewater discharges, metered water data is used to estimate contributed average wastewater volume units of service.
- **Strength Distribution Factor:** Strength-related costs are allocated between BOD and TSS. Both of these types of costs are distributed to each of the classes of service based upon

Terminology of a Sewer Cost of Service Analysis

Functionalization – The arrangement of the cost data by functional category (e.g. collection, pumping, treatment).

Allocation – The assignment of functionalized costs to cost components (e.g. volume, strength, and customer related).

Distribution – Distributing the allocated costs to each class of service based upon each class’s proportional contribution to that specific cost component.

Volume Costs – Costs that are classified as volume related vary with the total flow of wastewater (e.g., power for pumping).

Strength Costs – Costs classified as strength related refer to the wastewater treatment function. Typically, strength-related costs are further defined as biochemical oxygen demand (BOD) and suspended solids (SS). Different types of customers may have high wastewater strength characteristics and high strength wastewater costs more to treat. Treatment facilities are often designed and sized around meeting these costs.

Customer Costs – Costs classified as customer related vary with the number of customers on the system, e.g., billing costs.

Direct Assignment – Costs that can be clearly identified as belonging to a specific customer group or group of customers.

the assumed domestic strength level of 200 mg/l for BOD and 200 mg/l for TSS. The strength level was based on industry average strength levels.

- **Customer Distribution Factor:** Customer costs within the cost of service analysis are distributed to the customer classes of service based upon their respective customer counts. Two types of customer allocation factors were developed: actual and per EDU. The actual customer allocation factor assumes that there is no disproportionate cost associated with serving a customer. In contrast, an EDU customer allocation factor assumes that there is some disproportionality associated with serving different types of customers and attempts to estimate the level of difference in serving the customers. These factors were based on the billing units used to develop the revenue projections for the revenue requirement analysis.
- **Direct Assignment Distribution Factor:** The costs that are related to a specific customer class are directly assigned in order to avoid any subsidies that might occur from other customers paying for costs they do not incur.
- **Revenue Related Distribution Factor:** The revenue related distribution factor was developed from the projected rate revenues for 2025 as developed in the revenue requirement analysis.

The development of distribution factors is based on generally accepted principles as developed in the WEF MOP #27. For the District’s study, all costs were allocated on an EDU basis using the customer distribution factor. This was done as this is the same method in which the District’s customers are charged for treatment service by TTSA and given that the District only provides collection and conveyance services an EDU basis reflects both a fixed customer component and a flow or volume based weighting. The summary of the allocation of the test period revenue requirement is provided in Exhibit 12 of the Technical Appendix, all on an EDU basis.

4.4 Summary of the Sewer Cost of Service Analysis

In summary form, the cost of service analysis began by functionalizing the District’s facility asset records and O&M expenses. The functionalized facility and expense accounts were then allocated to the appropriate cost component(s). Provided below is a summary of the allocation of the District’s 2025 test period revenue requirement using the methodology outlined in the WEF MOP #27 and the District’s specific facility requirements and operations and billed EDUs. Provided in Exhibits 11 and Exhibit 12 of the Technical Appendix is a detailed summary of the allocation of the District infrastructure and revenue requirement. The classification of the individual line items of the revenue requirement are summed to develop the results in Table 4 – 1.

Table 4 – 1
Summary of the Classification of the 2025 Revenue Requirement (\$000's)

Total	Volume	BOD	TSS	Customer (EDU)	Revenue Related	Direct Assignment
\$7,139	\$0	\$0	\$0	\$7,139	\$0	\$0

As shown in Table 4 – 1 the total revenue requirement for 2025 has been allocated only to the EDU based cost component which is appropriate as a collection-only sewer system based on generally accepted methodologies. Next, the individual allocation totals were then distributed proportionally to the customer classes of service based on the appropriate distribution factor(s), in this case only the EDU allocation factor was utilized. Therefore, for all customers, the allocated costs are then divided by the total number of EDU's to develop the proposed unit costs, or cost-based rate.

The distributed expenses for each customer class were then aggregated to determine each customer class's overall revenue responsibility. Provided in Table 4 - 2 is a summary of the cost of service analysis.

Table 4 – 2
Summary of the Sewer Cost of Service Analysis (\$000)

Class of Service	Present Rate Revenues	Allocated Costs	\$ Difference
Residential	\$5,395	\$5,923	(\$528)
Commercial	<u>1,108</u>	<u>1,216</u>	<u>(108)</u>
Total	\$6,503	\$7,139	(\$636)

When reviewing the results of the cost of service analysis, the results will not be “exact” each time the District updates its cost of service analysis. This is due to changing customer sewer characteristics, demographics, and other changes in how the District incurs costs. However, to meet the requirements of Proposition 218, HDR proposes that cost of service adjustments be made in accordance with the results of the Study.

The distributed costs for each customer class of service are used to develop the proposed rates for the test period, in this case, 2025. The total costs are divided by the billing units (EDUs), to develop average unit costs which become the rates for the 2025 period. Provided in Table 4 – 3 is a summary of the EDU distribution factor and distribution of the EDU-related costs. The EDU distribution factors, or the “% of Total” in the Table, are derived from Exhibit 6 and summarized in Exhibit 8 of the Technical Appendix.

Table 4 – 3
Summary of the EDU Distribution Factor & Allocated Costs

	% of Total	Allocated Costs (\$000s)	Total EDUs	Unit Cost (\$ / EDU)
Residential	83.0%	\$5,923	7,944	\$61.98
Commercial	<u>17.0%</u>	<u>1,216</u>	<u>1,631</u>	61.98
Total	100.0%	\$7,139	9,575	

Provided in Table 4 – 4 is a summary of the unit costs, which are based on the proposed rate structure for each customer class of service. For all customers, the rates are charged on an EDU – or equivalent dwelling unit – basis. That is, 1 EDU is considered to be the starting point for the establishment of the proposed rates. For the Commercial customers, the rates are developed as a proportion of an EDU based on industry standard ratios for each customer type. The development of the cost of service and unit costs are provided in Exhibits 13 through 15 of the Technical Appendix.

Table 4 – 4
Summary of the Sewer 2025 Unit Costs

	Residential	Commercial
Fixed (\$ / EDU)	\$61.98	\$61.98

4.5 Consultant’s Conclusions and Recommendations

The District’s rate setting approach is to charge all customers on an EDU basis, and therefore there are no cost differences. Given this, the proposed rates reflect the results of the current cost of service analysis as provided in Table 4 – 4. HDR recommends that the District implement cost of service results for the unit costs as developed in this Study.

4.6 Summary of the Sewer Cost of Service Analysis

This section of the Study has provided a summary of the cost of service analysis developed for the District. This analysis was prepared using generally accepted cost of service techniques and principles and the District’s specific sewer utility system and customer characteristics. The next section of the Study will review the present and proposed sewer rates for the District.

5 Rate Design Analysis

The final step of the District's Study is the design of rates to collect the desired levels of revenue, based on the results of the revenue requirement and cost of service analyses. In reviewing District's rates, consideration is given to the level of the rates and the structure of the rates.

5.1 Rate Design Criteria and Considerations

Prudent rate administration dictates that several criteria must be considered when setting utility rates. An example of some of these rate design criteria are listed below:

- Rates which are easy to understand from the customer's perspective
- Rates which are easy for the District to administer
- Consideration of the customer's ability to pay
- Continuity, over time, of the rate making philosophy
- Policy considerations (encourage efficient use, economic development, etc.)
- Provide revenue stability from month to month and year to year
- Promote efficient allocation of the resource
- Equitable and non-discriminatory (cost-based)
- Compliance with State law (Prop 218)

When developing the proposed rate designs, all the above-listed criteria were taken into consideration. However, it is difficult, if not impossible, to design a rate that meets all the goals and objectives listed above. For example, it may be difficult to design a rate that takes into consideration customers' ability to pay, and one which is cost-based. In designing rates, there are always trade-offs between these various goals and objectives. This process was more straightforward for the District as the current rate structure on an EDU basis was maintained.

5.2 Development of Cost-Based Sewer Rates

Developing proportional rates is of paramount importance in developing proposed sewer rates. The District's proposed sewer rates have been developed to meet the legal requirements of California Constitution Article XIII D, Section 6 (Article XIII D). A key component of Article XIII D is the development of rates which reflect the cost of providing service and are proportionately and equitably allocated among the various customer classes of service and the customers within each class. There is no single methodology for proportionally assigning costs to the customer classes of service. The Water Environment Federation Manual of Practice #27 (WEF MOP #27) provides various methodologies which may be used to establish cost-based rates. However, Article XIII D is not prescriptive and does not provide a specific methodology for establishing rates. Given that, HDR developed the proposed sewer rates based on generally accepted rate setting methodologies to meet the requirements of Article XIII D.

HDR is of the opinion that the District’s proposed rates meet the legal requirements of Article XIII D. HDR reaches this conclusion based upon the following:

- **The revenue derived from sewer rates does not exceed the funds required to provide the property related service (i.e., sewer service).** The proposed rates are designed to collect the overall revenue requirement of the District’s sewer system.
- **The revenues derived from sewer rates shall not be used for any purpose other than that for which the fee or charge is imposed.** The revenues derived from the District’s sewer rates are used exclusively to operate and maintain and fund the capital improvements of the District’s sewer system.
- **The amount of a fee or charge imposed upon a parcel or person as an incident of property ownership shall not exceed the proportional costs of the service attributable to the parcel.** The cost of service analysis focused exclusively on the issue of proportional assignment of costs to customer classes of service. The proposed rates have appropriately grouped customers into customer classes of service that reflect the varying customer characteristics and system requirements (i.e., the benefits they receive from and burdens they place on the system) of each customer class of service. The grouping of customers and rates into these classes of service creates the proportionality expected under Proposition 218 by having differing rates by customer classes of service which reflect both the level of revenue to be collected by the utility, and the manner in which these costs are incurred and proportionally assigned to customer classes of service and customers within each class of service based on their proportional impacts.

5.3 Overview of the Current Sewer Rate Structure

The District currently has a flat monthly fixed charge rate for all customers, the level of the charge varies by the proportion of an EDU that is assumed for each class and subclass. The flat rate provides revenue stability for the District as well as reflects the fact that the District is a collection only agency and so the largest variable is the assumed volume that must be collected. The EDU basis provides that in the most simple and easy to understand manner.

5.4 Overview of the Proposed Sewer Rate Structure

The District currently has a rate structure for each of the customer classes of service based on an EDU or a proportion thereof. For all customers, the fixed flat monthly rate, on a per EDU basis, is maintained. A flat monthly charge is still the most prolific structure used for sewer customers.

Given the result of the prior analyses - the revenue requirement and cost of service analyses- proposed rates can be developed that reflect the cost based allocation of the costs of providing service. Provided in Table 5 - 1 is a summary of the present and proposed sewer rates.

Table 5 – 1
Summary of the Monthly Present and Proposed Sewer Rates

	Present Rates	2025	2026	2027	2028	2029
	\$ / EDU					
Residential	\$56.60	\$61.98	\$66.94	\$72.30	\$78.08	\$84.33
	\$ / Unit					
Commercial						
Motel W/O Kitchen	\$23.36	\$25.22	\$27.61	\$29.82	\$32.21	\$34.79
Motel W/Kitchen	24.90	26.88	29.43	31.78	34.32	37.07
Seating - Per 1/2 Seat	1.60	1.73	1.89	2.04	2.20	2.38
Seating - Per Seat	3.20	3.45	3.78	4.08	4.41	4.76
Laundry - Per Machine	11.68	12.61	13.81	14.91	16.10	17.39
Hotel W/Kitchen	23.36	25.22	27.61	29.82	32.21	34.79
Hotel W/O Kitchen	14.73	15.91	17.42	18.81	20.31	21.93
Campsite W/Sewer	28.95	31.26	34.23	36.97	39.93	43.12
Campsite W/O Sewer	24.90	26.88	29.43	31.78	34.32	37.07
Snackbar	86.29	93.15	102.00	110.16	118.97	128.49
Service Station	86.29	93.15	102.00	110.16	118.97	128.49
Beauty / Barber Shop (Per Chair)	31.11	33.59	36.78	39.72	42.90	46.33
Theatre	172.49	186.21	203.90	220.21	237.83	256.86
Boat Pump	86.29	93.15	102.00	110.16	118.97	128.49
Standby Sewer Service	11.31	12.20	13.36	14.43	15.58	16.83
Food Service Estab Lic	38.24	41.28	45.20	48.82	52.73	56.95
Backwash (Pool/Spa Filters)	28.95	31.26	34.23	36.97	39.93	43.12
Unclassified Sewer	57.42	61.98	67.87	73.30	79.16	85.49
Unclassified Sewer W/O Kitchen	23.36	25.22	27.61	29.82	32.21	34.79
0.5 Sewer Unit (1-10 Fixtures)	28.95	31.26	34.23	36.97	39.93	43.12
1.0 Sewer Unit (11-20 Fixtures)	57.42	61.98	67.87	73.30	79.16	85.49
Comm'Cl Non-Rest < 1,000 Sq Ft	57.42	61.98	67.87	73.30	79.16	85.49
Comm'Cl Non-Rest < 1,000 Sq Ft	28.95	31.26	34.23	36.97	39.93	43.12
Pro-Rate Sewer Rate	1.57	1.70	1.86	2.01	2.17	2.34

The basis for the proposed rates are the unit costs developed in the cost of service analysis. As can be seen in Table 5 – 1, the Commercial customer rates are based on various billing units (per seat, fixture, etc.). Each of the billing units has been developed on the basis of wastewater contributions in comparison to 1 EDU based on industry information and data. In this way, the rate for each billing unit reflects the wastewater generation for the customer and the relationship to 1 EDU.

5.5 Summary of the Sewer Rate Design

The District’s present sewer rate structures are contemporary in design and reflect the rate structures used by other similar utilities in California, both locally and state wide. Based on the District’s system and customer characteristics, the proposed sewer rates appropriately reflect the cost to provide service and are cost-based between the various customer classes. Full and

complete technical appendices of the development of the comprehensive sewer rate study and the proposed revenue adjustments can be found in appendices of this report.

5.6 Board Review

Proposition 218 outlines the process to adopt and implement the proposed sewer rates. This includes the establishment of the cost basis and proportionality of the sewer rates which is the purpose of the study and summarized in this report. As part of the public review process, the study results and recommendations were presented to the District Board at the August 16, 2024 and September 20, 2024 public meetings. At the conclusion of the September Board meeting, District staff was directed to mail the Proposition 218 notices to the District’s customers which outlined the proposed changes in rates along with the time, date, and location of the public hearing. The District held a public hearing on November 15, 2024, to discuss the publicly noticed proposed sewer rates. At the completion of the public hearing, the Board accepted the sewer rate study and adopted the proposed sewer rates as outlined in this report for 2025 through 2029.



Technical Appendix – Sewer Analysis

