

Handout

Agenda Item 4

Date April 15, 2021

DRAFT FINAL REPORT



Las Gallinas Valley Sanitary District
Wastewater Cost of Service Study
April 2021





April 13, 2021

Mr. Dale McDonald
Administrative Services Manager
Las Gallinas Valley Sanitary District
101 Lucas Valley Road, Suite 300
San Rafael, CA 94903

Subject: 2021 Sewer Rate Study Draft Final Report

Dear Mr. McDonald:

HDR Engineering, Inc. (HDR) is pleased to present to Las Gallinas Valley Sanitary District (District) the draft final report for the 2021 Sewer Rate Study (Study). The Study objectives were to develop cost-based and equitable rates for Board consideration and develop a two-year rate schedule that will result in sufficient revenue to fund the operating and capital needs of the sewer utility. This report outlines the approach, methodology, findings, and conclusions of the comprehensive rate study process.

The costs associated with providing sewer services to the District's customers were developed based on the District's specific information and is included within the development of the proposed rates. This 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. This report provides the basis for developing and implementing sewer rates that are cost-based, equitable, and proportional to the District's customers.

We appreciate the assistance provided by the District's project team and Board 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'.

Shawn Koorn
Associate Vice President

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Table of Contents

Executive Summary

- Introduction 1
- Overview of the Rate Study Process 1
- Key Sewer Rate Study Results..... 2
- Summary of the Sewer Revenue Requirement Analysis..... 2
- Summary of the Sewer Cost of Service Analysis..... 5
- Summary of the Sewer Rate Designs 6

1 Introduction and Overview

- 1.1 Introduction..... 8
- 1.2 Goals and Objectives 8
- 1.3 Overview of the Rate Study Process..... 8
- 1.4 Organization of the Study 9
- 1.5 Summary 10

2 Overview of the Rate Setting Process

- 2.1 Introduction..... 11
- 2.2 Generally Accepted Rate Setting Principles..... 11
- 2.3 Determining the Revenue Requirement..... 11
- 2.4 Analyzing Cost of Service 12
- 2.5 Designing Utility Rates 13
- 2.6 Economic Theory and Rate Setting..... 13
- 2.7 Summary 13

3 Development of the Revenue Requirement Analysis

- 3.1 Introduction..... 14
- 3.2 Determining the Revenue Requirement..... 14
- 3.3 Establishing a Time Frame and Approach..... 14
- 3.4 Projecting Rate and Other Miscellaneous Revenues 15
- 3.5 Projecting Operation and Maintenance Expenses 16
- 3.6 Projecting Capital Funding Needs..... 16
- 3.7 Projection of Debt Service..... 18

3.8	Reserve Funding	19
3.9	Summary of the Sewer Revenue Requirement	19
3.10	Reserve Fund Levels.....	21
3.11	Consultant’s Conclusions	21
3.12	Summary of the Sewer Revenue Requirement	22
4	Development of the Cost of Service Analysis	
4.1	Introduction.....	23
4.2	Objectives of a Cost of Service Study	23
4.3	Determining the Customer Classes of Service	23
4.4	General Cost of Service Procedures	24
	4.4.1 Development of the Residential Sanitary Unit or EDU	25
	4.4.2 Development of the Non-Residential Strength Component	25
	4.4.3 Summary of the Sanitary Unit or EDU Calculation.....	26
4.5	Summary of the Sewer Cost of Service Analysis	27
4.6	Consultant’s Conclusions and Recommendations	28
4.7	Summary of the Sewer Cost of Service Analysis	28
5	Development of the Proposed Sewer Rates	
5.1	Introduction.....	29
5.2	Rate Design Criteria and Considerations	29
5.3	Development of Cost-Based Sewer Rates.....	29
5.4	Overview of the Current Sewer Rate Structure	30
5.5	Typical Sewer Rate Structures.....	30
5.6	Overview of the Present and Proposed Sewer Rates.....	32
5.7	Summary of the Sewer Rate Design	33

Technical Appendix



Executive Summary

Introduction

HDR Engineering, Inc. (HDR) was retained by Las Gallinas Valley Sanitary District (District) to conduct a comprehensive sewer rate study (Study). The main objectives of the Study are:

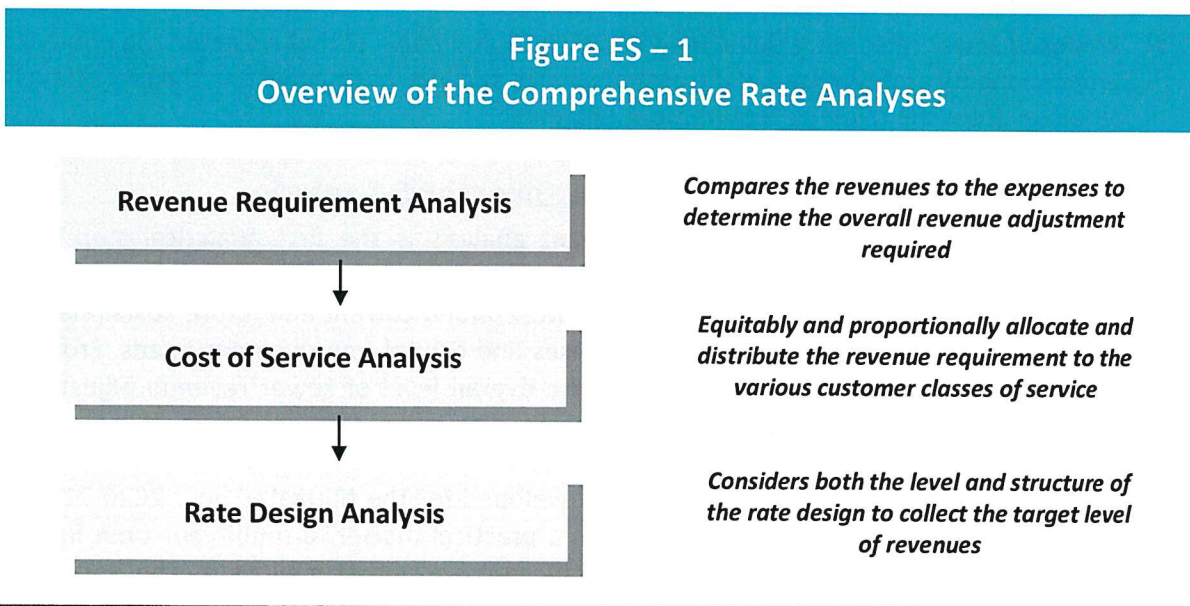
- Develop a projection of sewer revenues to support the District’s operating and capital costs
- Proportionally allocate the costs of providing sewer services to those customers receiving service
- Propose cost-based and equitable rates for a multi-year time period

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’s customers have been developed based on the provided information and is included within the development of the proposed rates.

Overview of the Rate Study Process

A rate study uses three interrelated analyses to address the adequacy and equity of the utility’s 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.



The above basic framework that 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 characteristics. The result of each task of the rate study were used as the basis for establishing cost-based and equitable rates for the District's 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 2020-21 through 2029-30
- The District's adopted 2020-21 budget for the sewer utility was used as the starting point of the analyses
- Operation and maintenance expenses are projected to increase at inflationary levels
 - Additional staff (FTEs) are assumed in 2021-22
- The District's capital improvement plan for the sewer utility was used to develop a capital funding plan
- A two-year rate transition plan was developed to adequately fund the utility
 - Annual revenue adjustments are necessary to fund the operating and capital needs of each utility
- A cost of service analysis was developed to determine the appropriate level of revenue to collect from each customer class of service
- Proposed sewer rates were developed for 2021-22 and 2022-23 that reflected the equity and 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 – in general terms - determines the adequacy of the current sewer rates to fund current and future costs related to both operating and maintenance (O&M) expenses and capital improvement 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 this Study, the revenue requirement was developed for the budgeted year 2020-21 and a projected time period (2021-22 – 2029-30). As a practical matter, a multi-year time frame is recommended in an attempt to identify any 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. The focus

of this study is on the next two-year period of 2021-22 and 2022-23 for the development of the proposed sewer rates.

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. 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) on an annual basis. The primary financial inputs in the development of the revenue requirement were the District’s adopted 2020-21 budget documents, 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 treatment 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.

The next step is the development of the capital funding plan for the sewer utility over the projected time period. The proper and adequate funding of capital projects is important to help minimize rate increases over time. A general financial guideline is that at a minimum, a utility should fund an amount equal to, or greater than, the annual depreciation expense through rates. The District is targeting a “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 an average of \$4.5 million, annually over the projected time period. In developing this financial plan, HDR and the District have attempted to minimize rate impacts while also 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 expenses and capital funding analysis, a summary of the sewer revenue requirement analysis was developed. Provided below in Table ES - 1 is a summary of the revenue requirement analysis for the District’s sewer utility.

Table ES - 1
Summary of the Sewer Revenue Requirement Analysis (\$000)

	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Revenues						
Rate Revenues	\$15,290	\$15,290	\$15,366	\$15,443	\$15,520	\$15,598
Other Revenues	<u>1,621</u>	<u>1,989</u>	<u>2,043</u>	<u>2,043</u>	<u>2,037</u>	<u>2,055</u>
Total Revenues	\$16,911	\$17,279	\$17,409	\$17,486	\$17,557	\$17,652
Expenses						
Total O & M	\$8,828	\$10,935	\$11,292	\$11,661	\$12,043	\$12,437
Rate Funded Capital	3,250	3,250	5,000	6,100	7,750	6,000
Net Debt Service	4,805	4,351	4,201	4,912	4,924	4,926
Reserve Funding	<u>28</u>	<u>196</u>	<u>(26)</u>	<u>(355)</u>	<u>(366)</u>	<u>1,900</u>
Total Expenses	\$16,911	\$18,732	\$20,467	\$22,318	\$24,350	\$25,264
Bal. / (Def.) of Funds	\$0	(\$1,453)	(\$3,058)	(\$4,833)	(\$6,793)	(\$7,611)
Bal as a % of Rate Adj. Req'd	0.0%	9.5%	19.9%	31.3%	43.8%	48.8%
Proposed Rate Adjustment	0.0%	9.5%	9.5%	9.5%	9.5%	3.5%
Add'l Rev with Rate Adj.	\$0	\$1,453	\$3,058	\$4,833	\$6,793	\$7,611
Bal. / (Def.) After Rate Adj.	\$0	\$0	(\$0)	\$0	\$0	\$0

As can be seen, the revenue requirement has summed the annual O&M expenses, 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 the same. Over this Study time period, revenues are deficient annually in 2021-22 through 2025-26 prior to any rate revenue adjustments.

Based on the revenue requirement analysis developed herein, and based on discussion with District staff and Board, the level of sewer revenues will need to be adjusted over the next two years (2021-22 –2022-23). 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 capital improvement and renewal and replacement needs of the sewer utility
- 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 sewer utility operating and capital expenses

In reaching this conclusion, HDR recommends that the District adopt rate revenue adjustments for 2021-22 through 2022-23 to provide sufficient funding for all the O&M and capital

improvement needs over this Study time period. During this time period, the District will be undertaking a master plan process which will provide additional clarity to future capital improvement needs and timing of critical projects. The analysis for the next rate study will review and propose rates for a longer term period (e.g., 3-5 years) 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 equitable and proportional allocation of the revenue requirement to the various customer classes of service. Whereas the revenue requirement analysis determines the utility's overall revenue needs, the cost of service analysis determines the equitable manner in which to proportionately distribute the cost of service and collect the required revenue over the proposed time period. In this case, the sewer revenue requirement for 2021-22 was used for establishing the cost of service analysis for the District.

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, or average unit costs, are used to establish the proposed rates. Given that wastewater is not metered, like water or electricity, the District's rate schedule is based on a sanitary unit, or what is frequently referred to as an equivalent dwelling unit (EDU) basis. This is done for several reason; first an EDU approach reflects the difference between various customers based on wastewater flow and strength characteristics given the inability to measure wastewater flows from all customers, second given that the District does not collect water consumption data an EDU approach is a method to establish rates annually based on a review of annual water consumption data, finally, the District bills customers on the property tax rolls and the absence of readily available metered water consumption data for calculating the proposed rates. Given these reasons, the approach of establishing rates on an EDU basis is a generally accepted approach.

For single family residential (which includes mobile homes), it is defined as the residence of one family with a kitchen and not attached to any other residential living unit and is charged 1 EDU (which is assumed to be 8 CCF per month). For multi-family residential, it is defined as a residential building with two or more separate living units each having a kitchen and is charged 0.90 EDU per living unit. It is important to note that single family and multi-family residential is assumed to be domestic strength wastewater and therefore, there is no adjustment made to the number of EDUs charged based on strength. It should also be noted that the relationship between a single family and multi-family customers was reviewed in detail in the prior rate study completed for the District in 2015. For non-residential customers, there are two general groups: domestic-strength and high-strength. The domestic-strength customers are charged on a per EDU basis, there is not a differential on their EDU calculation, as this reflects the flow and strength component of a domestic (residential) customer. This is calculated on the average of the winter and summer bi-monthly metered water periods times 6 (converted to an annual amount), divided by the residential EDU of 8 CCF per month times 12 which results in the number of EDUs. For high-strength customers, a strength factor is calculated based on assumed strength by customer type. This strength factor is then multiplied by the number of EDUs to calculate the

number of total adjusted EDUs for billing. Schools are charged slightly differently than all other customers as they are charged a rate per pupil in attendance.

Given an EDU approach, the total revenue requirement was divided by the recently calculated EDUs on the District’s system based on the recent water data from Marin Municipal Water District. This results in a cost per EDU prior to the impacts of higher strength wastewater. Based on average domestic (e.g., residential) strength levels, and industry standard strength levels for higher strength customers a strength factor is developed and included in the calculate of non-residential EDUs. Provided in Table ES – 2, is a summary of the calculated rate per EDU prior to adjustments for the strength component.

Table ES – 2 Summary of the FY 2021-22 Sanitary Unit Calculation				
Total Revenue Requirement		Total Sanitary Units		\$ / Year / Sanitary Unit (EDU)
\$16,742,172	÷	15,795	=	\$1,060

This cost per EDU is then the starting point for the proposed rates in 2021-22 for single family, multi-family, and domestic non-residential, and is the starting point for the higher strength calculation. A more 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 District currently has a flat rate structure for each of the customer classes of service. Single family customers are charged for one living unit (1 EDU), and is the basis for the EDU or sanitary unit. Multi-family customers are charged 0.9 per living unit. This factor is based on the relationship (comparison) of the average multi-family living unit wastewater generation to a single family customer wastewater generation which was studied in great detail in the District’s prior rate study. As a point of reference, wastewater generation is estimated based on average winter water consumption. For the non-residential customer class, subclasses of customers are based on the type of commercial activity and the relationship to 1 EDU based on average winter and summer water consumption. The relationship for non-residential customers are developed by calculating a strength factor based on assumed strength levels. These customers are then charged an annual fixed charge based on the number of units based on the customer type.

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 – 3 provides a summary of the present and proposed rates for the residential customer class.

Table ES – 3
Summary of the Monthly Present and Proposed Sewer Rates

	Present Rates	2021-22	2022-23
	<i>\$ / EDU</i>		
Residential			
Single Family	\$968.00	\$1,060.00	\$1,161.00
Multi-Family	871.20	954.00	1,044.90
Mobile Home	968.00	1,060.00	1,161.00
Commercial			
Domestic Strength	\$968.00	\$1,060.00	\$1,161.00
Restaurants / Cafes	2,323.20	2,544.00	2,786.40
Bakeries	3,097.60	3,392.00	3,715.20
Mortuaries	1,936.00	2,120.00	2,322.00
Hotels w/restaurant	1,936.00	2,120.00	2,322.00
Markets w/disposal	2,516.80	2,756.00	3,018.60
Dry Industry	968.00	1,060.00	1,161.00
Mixed Use	1,936.00	2,120.00	2,322.00
	<i>\$ / pupil</i>		
School w/showers	\$9.68	\$10.60	\$11.61
School w/o showers	19.36	21.20	23.22

The proposed rates for 2021-22 are based on the unit costs as developed in the cost of service study. The proposed rates for FY 2022-23 are increased by the annual revenue requirement adjustment, in this case, 9.5%. The development of the rate designs is outlined in detail in Section 5 of this report.

1 Introduction and Overview

1.1 Introduction

HDR was retained by the Las Gallinas Valley Sanitary District (District) to conduct a comprehensive sewer rate study. The objective of the rate study was to review the District's operating and capital costs and develop a projection of revenue needs along with cost-based and proportional rates for the District's sewer customers.

The District owns and operates a sewer collection and treatment system. The costs associated with providing sewer collection and treatment services to the customers, has been developed based on District provided information and included within the development of the proposed rates.

1.2 Goals and Objectives

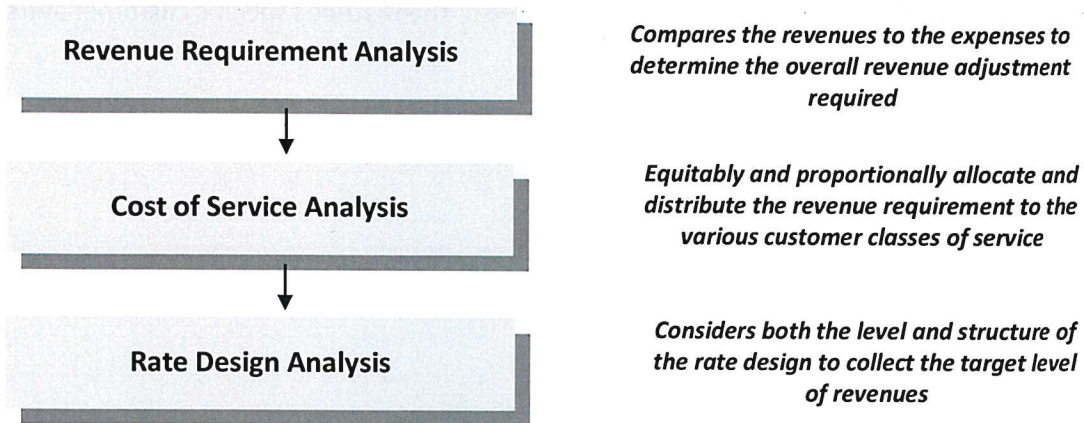
The District had a number of key objectives in developing the water and sewer rate study. These key objectives provided a framework for policy decisions in the analysis that follows. These key objectives were as follows:

- 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 best industry practices, while recognizing and acknowledging the specific and unique characteristics of the District's sewer system and customers
- Review the District's rates utilizing "generally accepted" rate making methodologies to determine adequacy and equity of the utility rates
- Meet the long-term financial planning criteria and goals 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 an equitable allocation and proportional distribution of costs to the District's sewer customers
- Provide proposed rates designed to meet the requirements of Article XIII D

1.3 Overview of the Rate Study Process

User rates must be set at a level where a utility's operating 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 District's sewer rates, a rate study is often performed. A rate study consists of three interrelated analyses. Figure 1 – 1 provides an overview of these analyses.

Figure 1 – 1
Overview of the Comprehensive Rate Analyses



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

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 sections that detail 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 – Development of the Revenue Requirement Analysis
- Section 4 – Development of the Cost of Service Analysis
- Section 5 – Development of the Proposed Rates

A Technical Appendix is 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 rate study prepared for Las Gallinas Valley Sanitary District. This report has been prepared utilizing generally accepted and industry standard sewer rate setting techniques as outlined in the WEF MOP #27 tailored to the District's specific customer and system characteristics.

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 the revenue requirement analysis, cost of service analysis, and the rate design analysis. This information is useful for gaining a better understanding of the details presented in Sections 3 through 5 of this report.

2.2 Generally Accepted Rate Setting Principles

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

- Cost-based, equitable, 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"¹ 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.

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.

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 because 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.

While public utilities typically use the cash basis 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.

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 equitably and proportionally distributed to the users (i.e., customer classes) of the service. The distribution, analyzed through a cost of service analysis, reflects the cost relationships for providing sewer services. A cost of service analysis generally includes 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.
2. The functionalized costs are then **allocated** to specific cost components. Allocation refers to the arrangement of the functionalized data into cost components. The sewer rate manual (i.e., WEF MOP #27) discusses the allocation of costs, which includes volume, strength, and customer related.

3. Once the costs are allocated into components, they are proportionally ***distributed*** to the customer classes of service. 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 can be 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, these other rate design goals and objectives may be taken into consideration. However, the proposed rates must reflect 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, or as 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. When costing and pricing techniques are refined, consumers have a more accurate understanding of what the commodity costs to produce and deliver. The same principals discussed are applicable to sewer also but the example of such was only given for illustration purposes. This price-equals-cost concept provides the basis for the subsequent analysis and comments.

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

2.7 Summary

This section of the report has provided a brief introduction to the general principles, techniques, and economic theory used to set sewer rates. These principles and techniques will become the basis for the District’s sewer rate study.

3 Development of the Revenue Requirement Analysis

3.1 Introduction

This section of the report 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 of the utility. A main objective of a rate study is to develop cost-based and proportional sewer rates over the projected 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 volumes, or flow, to the District’s sewer utility for conveyance and treatment.

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 full and proper funding needed to operate and maintain the District’s sewer system on a financially sound and prudent basis. The following information in this section 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. For planning purposes, a 10-year period was developed for the District’s revenue requirement. The starting point for the development of the revenue requirement was the District’s Fiscal Year (FY) 2020-21 budget which was then projected by assumed escalation factors. 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. For rate setting purposes, the proposed rates are being developed for the two year period of FY 2021-22 and FY 2022-23.

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. 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
- + Debt Service (Principal + Interest) – Existing and Future
- ± Reserve Funding
- = **Total Sewer Revenue Requirement**
- Miscellaneous Revenues
- = **Net Sewer Revenue Requirement (Bal. Req’d from Rates)**

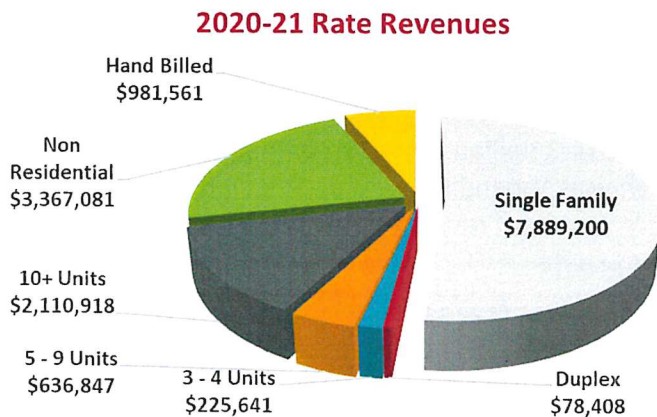
Given a time period around which to develop the revenue requirement and a method to accumulate the costs, the focus shifts to the development and projection of the revenues and expenses of the District’s sewer system.

The primary financial inputs in the development of the revenue requirement were the District’s adopted budget documents, recent billed customer characteristics, and the capital improvement plan. Presented below is a detailed discussion of the steps and key assumptions contained in the development of the projections of the District’s sewer revenue requirement analysis.

3.4 Projecting Rate and Other Miscellaneous Revenues

The first step in developing a projection of the sewer rate revenues, at present rate levels, was to determine the projected billing units (sanitary unit/equivalent dwelling unit) for each customer group. The billing units for each customer group were based on the most recent 12 months of customer billing data as provided by the Marin Municipal Water District. These billing units were then multiplied by the applicable 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, distributing costs and – ultimately - establishing the

proposed rates to collect the target level of revenues.



The majority of the District’s rate revenues are derived from single family customers. The District also serves a variety of non-residential customers as well as other residential customers. In total, and at currently adopted rate levels, the District’s sewer system is projected to receive approximately \$15.3 million in rate revenue in 2020-21.

Based on discussion with the District, the Study has assumed a customer growth projection of 0.5% per year from 2022-23 and thereafter as the system is assumed to be built out in general and growth is anticipated to be from redevelopment and increased density. By 2029-30, the rate revenues - assuming no rate adjustments - are projected to be approximately \$15.9 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 property tax, franchise fees, recycled water, interest income, etc. In total, the District is projected to receive approximately \$1.6 million in 2020-21. Non-operating revenues were estimated to increase slightly over the Study time period due to increase in recycled water sales and is approximately \$2.0 million in 2029-30.

On a combined basis, considering the rate revenues and the other revenues, the District's sewer utility has total projected revenues of approximately \$16.9 million in 2020-21, increasing to approximately \$18.0 million by 2029-30. 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 also 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 level of service. The starting point of the projection of O&M expenses was the District's adopted 2020-21 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. The factors ranged from 2.0% to 4.5% annually for the various types of expenses (e.g., salaries, benefits, materials & supplies) or years. In total, O&M expenses for the District's sewer utility were projected to increase at an annual inflation rate of approximately 3.3% over the Study time period. However, in the first year (2021-22) of staffing adjustments the O&M expenses increased 10.0% over the 2020-21 budget. In addition, to meet overall operating needs, the study has included an additional three full time equivalent staff to support the sewer operating and capital needs starting in 2021-22.

The total operation and maintenance expenses for the sewer utility are budgeted to be approximately \$8.8 million in 2020-21. Over the projected time period, the total O&M expenses are projected to increase to approximately \$14.2 million by 2029-30. A summary of the O&M expenses 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 generally 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 required for maintaining the existing system that is in place today. As the existing plant or pipelines become worn out, obsolete, etc., the utility should be making continuous investments to maintain the integrity of the facilities. In contrast to this, a utility may make capital investments to expand the capacity of facilities to accommodate future capacity needs (customers). 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 a regulatory standard. 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 revenue adjustments. In addition, and more importantly, the way in which projects are funded may vary by the type of capital project. The way in which projects are funded may vary 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 and equitable share of the cost of improvements required as a result of their connection (impact) and that benefit development. Finally, regulatory projects may be funded by a variety of different means, which may include one or more sources such as rates, 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.

Provided below in Table 3 - 2 is a summary of the sewer capital funding analysis, based on the District's capital plan. However, it is important to note that the capital projects in FY 2023-24 through FY 2025-26 are estimates based on the capital improvements currently identified. However, the District is in the process of starting a comprehensive master planning process which will review the collection and treatment system and identify capital improvements needs in the future years. This process will also assist the District in prioritizing the capital needs and update the rate study for the next rate setting period.

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

	2020-21	2021-22	2022-23	2023-24 ^[1]	2024-25 ^[1]	2025-26 ^[1]
Total Capital Projects	\$3,691	\$11,132	\$5,000	\$16,291	\$10,012	\$6,000
Other Funding Sources						
Capital Reserves	\$0	\$7,882	\$0	\$1,191	\$2,262	\$0
Long-Term Debt	<u>0</u>	<u>0</u>	<u>0</u>	<u>9,000</u>	<u>0</u>	<u>0</u>
Total Other Funding Sources	\$0	\$7,882	\$0	\$10,191	\$2,262	\$0
Rate Funded Capital	\$3,250	\$3,250	\$5,000	\$6,100	\$7,750	\$6,000

[1] Capital in FY 2023-24 through FY 2025-26 are estimates based on the current capital plan. The District is undertaking a comprehensive master planning process which will further identify future capital improvement needs

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 \$3.3 million in 2021-22. The District’s annual depreciation expense is approximately \$2.7 million in 2018-19. A desirable 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 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.

3.7 Projection of Debt Service

The District’s sewer utility currently has six (6) outstanding long-term debt issues. In total, the outstanding issuances have an annual payment of \$4.8 million in 2020-21. Over time, some long-term debt is retired as well as additional (new) long-term debt issuances in the future. By the end of the review period in FY 2029-30, annual debt service is projected to be approximately \$5.5 million.

When issuing long-term debt, the District is required to maintain specific financial metrics, such as a debt service coverage ratio. A debt service coverage (DSC) ratio, in its simplest form, provides a “credit check” for the utility that compares total revenues to operating expenses and annual debt service needs. For example, a DSC ratio of 1.0 implies that after annual O&M expenses are paid, the remaining funds are equal to the annual debt service payments. As a result, many debt issuances require a DSC ratio of greater than 1.0, and many times a legal minimum of 1.25 – 1.50. While this is the legal minimum, the target should be set at a higher level to account for any

operating or revenue impacts on an annual basis. Given this requirement, the issuance of long-term debt must be balanced with this, and other financial metrics, to maintain a financially healthy, and sustainable funding levels.

HDR is not advising the District on the terms of any bond 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 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 capital projects. Additionally, any balance of funds after the expenses are paid is transferred to the operating fund to maintain minimum fund balances. Alternatively, reserves funds may be used on an annual basis to offset operating and capital costs. During the projected time period, and to smooth the revenue (rate) adjustments, the District is making transfers to reserves and using reserves to fund annual operating and capital expenses in various years of the projected time period.

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 funds to support the operational activities and capital projects in FY 2021-22 and FY 2022-23, with the understanding of the need for future capital improvements that will be identified through the master planning process. 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)

	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Revenues						
Rate Revenues	\$15,290	\$15,290	\$15,366	\$15,443	\$15,520	\$15,598
Other Revenues	<u>1,621</u>	<u>1,989</u>	<u>2,043</u>	<u>2,043</u>	<u>2,037</u>	<u>2,055</u>
Total Revenues	\$16,911	\$17,279	\$17,409	\$17,486	\$17,557	\$17,652
Expenses						
Total O & M	\$8,828	\$10,935	\$11,292	\$11,661	\$12,043	\$12,437
Rate Funded Capital	3,250	3,250	5,000	6,100	7,750	6,000
Net Debt Service	4,805	4,351	4,201	4,912	4,924	4,926
Reserve Funding	<u>28</u>	<u>196</u>	<u>(26)</u>	<u>(355)</u>	<u>(366)</u>	<u>1,900</u>
Total Expenses	\$16,911	\$18,732	\$20,467	\$22,318	\$24,350	\$25,264
Bal. / (Def.) of Funds	\$0	(\$1,453)	(\$3,058)	(\$4,833)	(\$6,793)	(\$7,611)
Bal as a % of Rate Adj. Req'd	0.0%	9.5%	19.9%	31.3%	43.8%	48.8%
Proposed Rate Adjustment	0.0%	9.5%	9.5%	9.5%	9.5%	3.5%
Add'l Rev with Rate Adj.	\$0	\$1,453	\$3,058	\$4,833	\$6,793	\$7,611
Bal. / (Def.) After Rate Adj.	\$0	\$0	(\$0)	\$0	\$0	\$0

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 projected to operate at a deficiency in each of the 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 reserve levels. As noted, the focus of the rate study is FY 2021-22 and FY 2022-23, the next two years for rate setting purposes. A more detailed revenue requirement is included in Exhibit 3 of the Technical Appendix.

3.10 Reserve Fund Levels

Another 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. For the District, there several reserve accounts that the District's Board have policies for the sewer utility.

- **Operating Reserve**– The reserve is in place to meet the District's annual cash flow needs and any unexpected one-item operational expenses. The target balance is approximately 7 months of O&M expenses plus the debt service.
- **Capital Reserve** – The reserve is in place to meet the District's annual capital and rolling stock needs and any unexpected capital expenditures. The target balance is \$4.0 million.
- **Rate Stabilization Reserve** – The reserve is designed to be in place to help absorb unexpected cost increases and spread them over more than one year. The target balance is approximately \$300,000.
- **Emergency Repair Reserve** – The reserve is in place to help fund emergency repairs of capital infrastructure. The target balance is \$1.0 million.
- **Vehicle & Equipment Reserve** – The reserve was established in 2019-20 and is in place to replace vehicles and equipment that have reached the end of their useful life. The target balance is \$1.0 million.

As noted, the study has maintained the current reserve levels for the various funds. As the District continues to review capital improvement needs, and funding sources, the reserves will need to be evaluated to determine if adjustments to target ending reserve balances meet the District's overall goals and objectives.

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 two-year period (FY 2021-22 and FY 2022-23). 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 in order to cover the 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 developed a revenue transition plan to support the District's O&M expenses and capital needs. The next section will discuss the cost of service analysis developed for the District's sewer utility.

4 Development of the Cost of Service Analysis

4.1 Introduction

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 treatment 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 various customer classes of service. The previously developed revenue requirement for FY 2021-22 was utilized in the development of the cost of service analysis.

4.2 Objectives of a Cost of Service Study

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

1. Proportionally distribute the District's revenue requirement among the customer classes of service
2. Derive average unit costs (i.e., cost-based rates) 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 and equitable manner to collect the revenue requirement from the District's various types of customers, or customer classes of service.

The second rationale for conducting a cost of service analysis is to ensure that 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.

4.3 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

- Single Family
- Multi-Family
- Mobile Home

Non-Residential

- Domestic Strength
- Restaurants / Cafes
- Bakeries
- Mortuaries
- Hotels w/ restaurant
- Markets w/ disposal
- Dry Industry
- Mixed Use

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 District charges all classes a proportional equivalent unit charge (EDU) based on water consumption and wastewater strength characteristics.

4.4 General Cost of Service Procedures

In order to determine the cost to serve each customer class of service on the District's system, a cost of service analysis is conducted. The development of the cost of service 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 approaches outlined in the Water Environment Federation Manual of Practice No. 27 to establish cost-based and equitable rates. 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.

As noted, based on the District's billing approach, the cost of service analysis was developed on a sanitary unit, or equivalent dwelling unit (EDU) basis. This is done for several reasons; first wastewater flows are not metered like water or electricity, second, given that the District does not collect water consumption data, and finally, the District bills on an annual basis on the property tax rolls. Given this, the use of an EDU is a generally accepted approach that reflects the difference between various customers based on wastewater flow and strength characteristics based on an annual review of actual metered water consumption data.

The 2015 rate study completed by HDR reviewed and developed the relationships between the single family, multi-family, and non-residential customers. Specifically, the study outlined the relationship between the single family customers and multi-family customers (e.g., greater than two living units), as well as the relationship of a single family customer and a non-residential customer. As part of the study, the calculation of the strength component was also reviewed and adjustments made to the strength assumptions of some of the non-residential customers. Given this, this analysis is based on those prior industry standard approaches and is the basis for the calculation of the non-residential EDUs as updated by the District on an annual basis.

4.4.1 Development of the Residential Sanitary Unit or EDU

The approach to billing on a sanitary unit, or EDU, reflects the assumed wastewater generation by a single family customer. The District charges all single family customers 1 sanitary unit, this is done as wastewater is not metered, and monthly water data is not readily available, and the District bills on an annual basis through the property tax rolls. A similar approach is taken for multi-family customers given that wastewater is not metered, and monthly consumption data is not readily available. For multi-family customers (e.g., duplex, triplex, etc.) the single family EDU is used as the starting point, but each living unit is charged a portion of a sanitary unit based on the relationship of wastewater generation by multi-family living unit to a single family home as outlined in the 2015 study. The prior rate study reviewed this relationship in detail and based on the results, the Board set the multi-family EDU at 0.90 per living unit. In other words, a multi-family living unit generates 90% of a single family home, on average, and therefore is charged 90% of an EDU per living unit. Billing on a fixed charge basis for residential customers is very popular throughout the United States. The 2016 AWWA Rate Survey found that 62% of agencies charged residential (e.g., single family and multi-family) customers a uniform (fixed) rate. Given this, it is and the discussion around lack of metered wastewater data, the current rate structure for the District's sewer utility is appropriate.

4.4.2 Development of the Non-Residential Strength Component

For all other non-residential customers, the calculation of the sanitary unit is based on each individual non-residential customer's average metered winter and summer water use, excluding irrigation or other use that does not generate wastewater flows, plus the strength of the wastewater, as compared to a single family equivalent. The total average winter and summer wastewater flows and the definition of an EDU for residential are used to calculate the number of sanitary units (EDUs). This is updated annually by the District for each subsequent rate period so that the non-residential sewer bill reflects the wastewater generation. Provided below is the calculation for non-residential customers as outlined in the District's Title 3 Chapter 1.

$$\frac{\text{Flow (*a)} \times 6 \text{ (*b)}}{800 \text{ (*c)} \times 12}$$

*a The average of the winter and summer bi-monthly periods as reported by the Marin Municipal Water District.

*b Six bi-monthly periods per year.

*c Average monthly water consumption.

It should be noted that for non-residential customers this calculation reflects only the volume, or wastewater component of the sewer bill. Non-residential customers are also charged a strength component. 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. Similar to the calculation of the equivalent unit for wastewater generation, the strength component for non-residential customers is based on the average strength of the single family customer. This is based on the assumed strength for a single family customer of 175 mg/L BOD and 175 mg/L for TSS. Given this, for each non-residential customer the strength component can be calculated. The calculation is:

$$SF = \left[0.54 + \frac{0.23}{175} (BOD + SS) \right]$$

Based on this calculation, the sanitary unit multiplier can be developed for the various types of non-residential customers. Provided in Table 4 – 1 is an overview of the strength assumptions and the calculated strength factor.

Table 4 – 1
Summary of the Sewer Cost of Service Analysis (\$000)

Class of Service	BOD	TSS	Calculated Strength Factor
Domestic Strength	175	175	1.0
Restaurants / Cafes	750	650	2.4
Bakeries	1,150	900	3.2
Mortuaries	650	450	2.0
Hotels w/ restaurant	600	500	2.0
Markets w/ disposal	800	800	2.6
Dry Industry	175	175	1.0
Mixed Uses	600	500	2.0

As an example, for a restaurant, the number of equivalent units is multiplied by the strength factor to determine the total EDUs charged on an annual basis. If a restaurant was 3 EDUs (48 HCF ÷ 16 HCF = 3) this is multiplied by the strength factor of 2.4 to develop the total EDUs of 7.2 (3 X 2.4 = 7.2). This restaurant would then be charged annually for 7.2 EDUs. This is done for each of the non-residential customers to calculate the number of EDUs for rate setting purposes.

4.4.3 Summary of the Sanitary Unit or EDU Calculation

Given the discussion of the calculation of the EDU, the District’s EDUs can be calculated. This was done for several reason. The first is to calculate the proposed revenues for establishing the

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

revenue requirement analysis. Second, and the focus of this section of the report, is to calculate the cost per EDU. As part of this analysis, recent metered water consumption data updates were developed given the impacts of the COVID pandemic and changes in the water consumption patterns and total consumption levels. This resulted in a slight reduction of the total number of EDUs given the changes in metered water consumption, primarily for non-residential customers. Provided in Table 4 – 2 is a summary of the calculated EDUs for the cost of service analysis.

Table 4 – 2
Summary of the Calculated EDUs ^[1]

Class of Service	Number of Accounts	Number of Living Units	Equivalency/Strength Factor	Calculated EDUs
Single Family	8,150	8,150	1.00	8,150
Multi-Family	317	3,503	0.90	3,153
Non-Residential	<u>533</u>	N/A	8.43 ^[2]	<u>4,492</u>
Total EDUs	9,000			15,795

[1] Table may not foot due to rounding

[2] Non-residential strength factor represents average of all non-residential customers

Given the calculation of the EDUs the next step of the study is to calculate the cost, or rate, per EDU based on the revenue requirement developed for FY 2021-22.

4.5 Summary of the Sewer Cost of Service Analysis

As noted, the use of an EDU, or sanitary unit, is a basis to equitably and proportionally distribute the cost between the customers based on the wastewater flow and strength assumptions. This is based on metered water consumption data for the District’s customers and the wastewater flows for each customer in relationship to the average single family home. This provides the proportional relationship for the calculation of the EDU’s or sanitary units so that the bill for each customer reflects the impacts places on the system from wastewater generation.

In summary form, the cost of service analysis began by developing the calculation of EDUs for the District’s customers. Next, the total revenue requirement for FY 2021-22, less other non-operating revenue, was divided through by the number of sanitary, or equivalent units. As noted, the total number of EDUs reflects metered water data and estimated wastewater generation as well as the strength component for the non-residential customers. This results in the cost per EDU for FY 2021-22. Provided in Table 4 – 3 is a summary of this calculation.

Table 4 – 3
Summary of the FY 2021-22 Sanitary Unit Calculation

Total Revenue Requirement		Total Sanitary Units		\$ / Year / EDU
\$16,742,172	÷	15,795	=	\$1,060

As shown in Table 4 – 3 the total revenue requirement, less other non-operating revenues, for FY 2021-22 has been divided through by the number of sanitary units. This provides the basis for each equivalent unit to develop the proposed unit costs, or cost-based rate. The rates for FY 2022-23 are based on the overall revenue adjustment as calculated in the revenue requirement analysis. As a point of reference, since single-family customers are billed 1 sanitary unit, this is the proposed rate for these customers. However, the rate for multi-family and non-residential customers are adjusted to reflect the difference in wastewater flows for these customers in comparison to a single family customer.

4.6 Consultant’s Conclusions and Recommendations

HDR recommends that the District implement the unit cost for a sanitary unit as developed in the cost of service analysis. Given this, the proposed rate per EDU reflect the results of the current cost of service analysis as provided in Table 4 – 3.

4.7 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. The next section of the Study will review the present and proposed sewer rates for the District.

5 Development of the Proposed Sewer Rates

5.1 Introduction

The final step of the District's Study is the design of proposed 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.

5.2 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 (e.g., 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.

5.3 Development of Cost-Based Sewer Rates

Developing proportional and equitable 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 distributed among the various customer classes of service and the customers within each class. There is no single methodology for equitably assigning costs to the various customer groups. 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 on a per sanitary unit basis. 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 equity and 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 upon their proportional impacts.

5.4 Overview of the Current Sewer Rate Structure

The District charges customers on an annual basis through the property tax rolls. In addition, the District does not collect metered water consumption data, and this data is not readily available. Given this, the District has a rate structure for all customers that is based on a sanitary unit, or EDU basis. The level of the charge varies by the proportion of a sanitary unit, or EDU, that is assumed for each class or non-residential customer. The flat rate provides revenue stability for the District as well as the EDU basis provides that in the most simple and easy to understand manner. For single family, all customers are charged 1 EDU. Multi-family customers – including duplex, 3-4 units, 5-9 units, 10+ units – are charged 90% of 1 EDU per living unit. For the non-residential customers, the rate is determined by multiplying the average single family usage (i.e., 1 EDU estimate) by the customer class strength factor. In this way, each customer bill reflects the proportional impact of overall wastewater strength and flow in relationship to an average single family customer. As noted, these relationships were studied in detail during the District’s 2015 analysis and the relationships were maintained for this study.

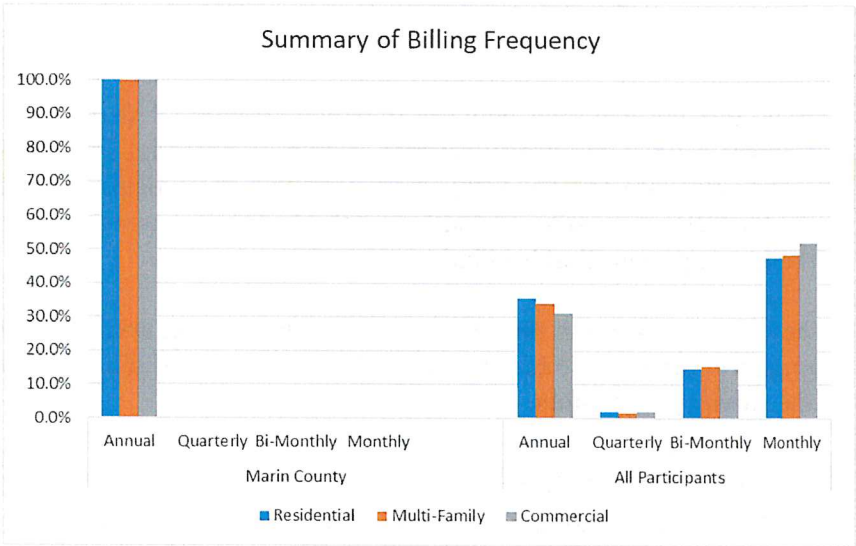
5.5 Review of Sewer Rate Structures

As part of the study, the “typical” sewer rate structure was reviewed. While there are various types of rate structures used by sewer utilities, the District’s approach is limited by the fact that monthly water consumption data is not readily available. In addition, given the approach to bill

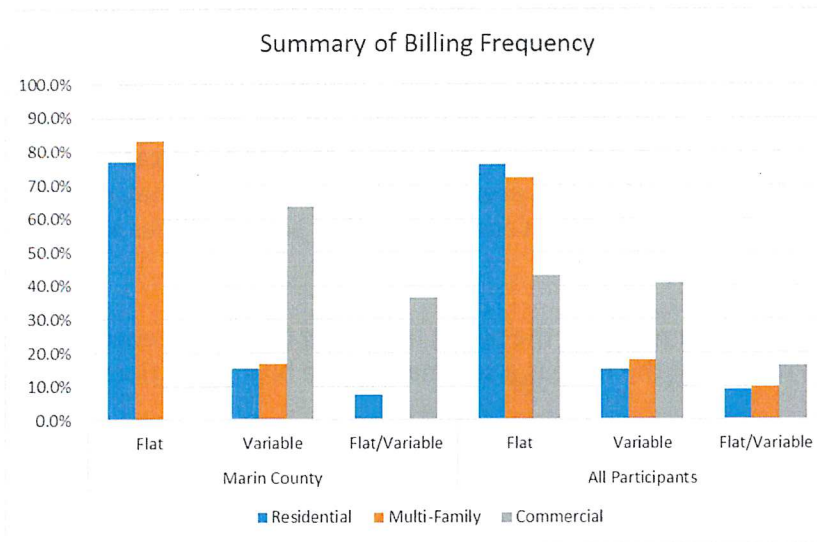
annually on the property tax rolls, this further limits the District’s ability to implement alternative sewer rate structures. For comparison purposes, the California State Water Resources Control Board CY 2018 rate survey was reviewed to provide an understanding of how other local and regional sewer utilities bill customers. It is also important to understand that not all sewer utilities provide both collection and treatment of wastewater as the District does. In some cases, utilities may only provide collection services and treatment is provided by another, or regional, treatment facility, or a utility may be the wastewater treatment agency for other sewer utilities and/or the region.

The starting point of the review was a summary of the billing frequency for local agencies as well as with all study participants. Provided in the table is a summary of the billing practices included in the CY 2018 rate survey.

As can be seen, for those Marin County participants, all agencies bill on an annual basis. For all utilities that participated in the survey, over 30% bill on an annual basis, almost 50% bill on a monthly basis, and the remainder on a bi-monthly or quarterly basis.



However, as noted, the District is not a water agency and does not have easy access to the water consumption data of its customers. In most cases, if a utility is billing sewer on a monthly basis and based on a volumetric or EDU basis, the utility also has access to metered water data on a monthly basis. It should also be noted that if the utility is billing on a monthly basis it is most likely not billed on the property tax roll.



The next component reviewed is the type, or basis, of the rate structure. As noted, there are various rate structures that are implemented by utilities. In reviewing the data from the CY 2018 survey, it shows that a majority of utilities bill residential and multi-family on a flat rate basis. This is also further supplemented by the 2016 AWWA Rate Survey which noted that

62% of the participating agencies charged residential (e.g., single family and multi-family) customers a uniform (fixed/flat) rate. While commercial (non-residential) customers are not charged a flat rate as frequently when reviewing all participants, it is important to note that the District’s EDU approach is based on actual metered water consumption which reflects the variable component that is billed on metered water use.

As can be seen with the review of the billing frequency, and type of rate structure, the District’s approach is comparable to other local utilities, as well as utilities across California as represented in the survey participants.

5.6 Overview of the Present and Proposed Sewer Rates

Given the result of the prior analyses - the revenue requirement and cost of service analyses – and a review of the typical rate structure and billing approaches, proposed rates can be developed that reflect the cost of providing sewer service. Provided in Table 5 - 1 is a summary of the present and proposed sewer rates.

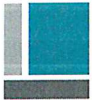
Table 5 – 1
Summary of the Monthly Present and Proposed Sewer Rates

	Present Rates	2021-22	2022-23
	<i>\$ / EDU</i>		
Residential			
Single Family	\$968.00	\$1,060.00	\$1,161.00
Multi-Family	871.20	954.00	1,044.90
Mobile Home	968.00	1,060.00	1,161.00
Commercial			
Domestic Strength	\$968.00	\$1,060.00	\$1,161.00
Restaurants / Cafes	2,323.20	2,544.00	2,786.40
Bakeries	3,097.60	3,392.00	3,715.20
Mortuaries	1,936.00	2,120.00	2,322.00
Hotels w/restaurant	1,936.00	2,120.00	2,322.00
Markets w/disposal	2,516.80	2,756.00	3,018.60
Dry Industry	968.00	1,060.00	1,161.00
Mixed Use	1,936.00	2,120.00	2,322.00
	<i>\$ / pupil</i>		
School w/showers	\$9.68	\$10.60	\$11.61
School w/o showers	19.36	21.20	23.22

As noted, the basis for the proposed rates are the unit costs developed in the cost of service analysis. 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 and District customer metered water use. In this way, the rate for each billing unit reflects the wastewater generation for the customer and the relationship to 1 EDU.

5.7 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 statewide. 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 sewer rate study and the proposed revenue adjustments can be found in appendices of this report.



Technical Appendix



Las Gallinas Valley Sanitary District
Sewer Rate Study
Revenue Requirement Summary
Exhibit 1

	Budgeted				Projected					
	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Revenues										
Rate Revenues	\$15,289,655	\$15,289,655	\$15,366,103	\$15,442,934	\$15,520,148	\$15,597,749	\$15,675,738	\$15,754,117	\$15,832,887	\$15,912,052
Other Revenues	1,621,464	1,989,432	2,042,651	2,042,670	2,037,321	2,054,654	2,059,219	2,067,305	2,075,667	2,084,309
Total Revenues	\$16,911,119	\$17,279,087	\$17,408,754	\$17,485,604	\$17,557,469	\$17,652,403	\$17,734,957	\$17,821,422	\$17,908,554	\$17,996,360
Expenses										
Total Wages & Benefits	\$5,657,094	\$6,115,199	\$6,319,063	\$6,529,919	\$6,748,015	\$6,973,606	\$7,206,958	\$7,448,348	\$7,698,060	\$7,956,391
Total Insurance	175,076	257,888	263,046	268,307	273,673	279,146	284,729	290,424	296,232	302,157
Total Repairs & Maintenance	696,595	990,500	1,020,215	1,050,821	1,082,346	1,114,816	1,148,261	1,182,709	1,218,190	1,254,736
Total Contract Services	1,175,736	1,815,900	1,879,348	1,945,012	2,012,972	2,083,307	2,156,100	2,231,437	2,309,407	2,390,103
Total Small Tools & Supplies	384,503	396,423	408,715	421,392	434,467	447,951	461,857	476,199	490,991	506,247
Total Utilities	287,812	299,324	311,297	323,749	336,699	350,167	364,174	378,741	393,891	409,646
Total General & Administrative	451,203	564,272	580,147	596,477	613,276	630,556	648,333	666,620	685,433	704,786
Total Additional O&M	0	495,432	510,295	525,604	541,372	557,613	574,341	591,572	609,319	627,598
Total O&M Expenses	\$8,828,019	\$10,934,937	\$11,292,125	\$11,661,282	\$12,042,819	\$12,437,163	\$12,844,754	\$13,266,050	\$13,701,524	\$14,151,665
Rate Funded Capital	\$3,250,000	\$3,250,000	\$5,000,000	\$6,100,000	\$7,750,000	\$6,000,000	\$7,700,000	\$7,975,000	\$8,250,000	\$8,525,000
Net Debt Service	4,804,697	4,350,509	4,201,002	4,912,406	4,923,534	4,926,223	5,537,053	5,539,738	5,535,979	5,539,380
Reserve Funding	28,404	196,158	(26,134)	(355,490)	(366,321)	1,900,393	2,338	35,194	82,394	130,508
Total Revenue Requirement	\$16,911,119	\$18,731,604	\$20,466,993	\$22,318,198	\$24,350,032	\$25,263,779	\$26,084,145	\$26,815,981	\$27,569,897	\$28,346,552
Bal. / (Def.) of Funds	\$0	(\$1,452,517)	(\$3,058,239)	(\$4,832,594)	(\$6,792,563)	(\$7,611,375)	(\$8,349,187)	(\$8,994,560)	(\$9,661,343)	(\$10,350,192)
Proposed Rate Adjustment	0.0%	9.5%	9.5%	9.5%	9.5%	3.5%	3.0%	2.5%	2.5%	2.5%
Add'l Revenue with Rate Adj.	\$0	\$1,452,517	\$3,058,239	\$4,832,594	\$6,792,563	\$7,611,375	\$8,349,187	\$8,994,560	\$9,661,343	\$10,350,192
Bal. / (Def.) After Rate Adj.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$0)	\$0	\$0
Ending Reserve Balance	\$7,107,828	\$7,261,726	\$8,380,558	\$6,833,639	\$4,205,239	\$6,105,631	\$5,444,561	\$5,479,755	\$5,562,149	\$5,692,657
Annual Single Family Customer Bill	\$968.00	\$1,059.96	\$1,160.66	\$1,270.92	\$1,391.66	\$1,440.36	\$1,483.57	\$1,520.66	\$1,558.68	\$1,597.65
Debt Service Coverage Ratio (Target = 1.25)										
Before Rate Adjustment	1.68	1.46	1.46	1.19	1.12	1.06	0.88	0.82	0.76	0.69
After Proposed Rate Adjustment	1.68	1.79	2.18	2.17	2.50	2.60	2.39	2.45	2.51	2.56

Las Gallinas Valley Sanitary District
 Sewer Rate Study
 Escalation Factors
 Exhibit 2

	<i>Budgeted</i>	<i>Projected</i>									<i>Notes</i>
	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	
Revenues											
Customer Growth	Budget	0.0%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	
Volume Growth	Budget	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Misc. Revenues	Budget	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	
Flat		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Expenses											
Salaries	Budget	10.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Benefits	Budget	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Benefits - Medical	Budget	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	
Benefits - Retirement	Budget	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	
Materials & Supplies	Budget	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Equipment	Budget	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	
Miscellaneous	Budget	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	
Utilities	Budget	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	
Flat		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
General Expenses	Budget	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Interest		0.8%	0.9%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	
New Debt Service											
Low Interest Loans											
Term in Years	20	20	20	20	20	20	20	20	20	20	
Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
Revenue Bond											
Term in Years	20	20	20	20	20	20	20	20	20	20	
Rate	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	

	Budgeted				Projected						Notes
	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	
Revenues											
Rate Revenues											
Single Family	\$7,889,200	\$7,889,200	\$7,928,646	\$7,968,289	\$8,008,131	\$8,048,171	\$8,088,412	\$8,128,854	\$8,169,499	\$8,210,346	As Customer Growth
Duplex	78,408	78,408	78,800	79,194	79,590	79,988	80,388	80,790	81,194	81,600	As Customer Growth
3 - 4 Units	225,641	225,641	226,769	227,903	229,042	230,188	231,339	232,495	233,658	234,826	As Customer Growth
5 - 9 Units	636,847	636,847	640,031	643,232	646,448	649,680	652,928	656,193	659,474	662,771	As Customer Growth
10+ Units	2,110,918	2,110,918	2,121,472	2,132,080	2,142,740	2,153,454	2,164,221	2,175,042	2,185,917	2,196,847	As Customer Growth
Non Residential	3,367,081	3,367,081	3,383,916	3,400,836	3,417,840	3,434,929	3,452,104	3,469,364	3,486,711	3,504,145	As Customer Growth
Hand Billed	981,561	981,561	986,469	991,401	996,358	1,001,340	1,006,346	1,011,378	1,016,435	1,021,517	As Customer Growth
Total Rate Revenues	\$15,289,655	\$15,289,655	\$15,366,103	\$15,442,934	\$15,520,148	\$15,597,749	\$15,675,738	\$15,754,117	\$15,832,887	\$15,912,052	
Other Revenues											
Suppl. Property Tax Assess.	\$16,000	\$16,000	\$16,080	\$16,160	\$16,241	\$16,322	\$16,404	\$16,486	\$16,568	\$16,651	As Customer Growth
Homeowner Property Tax Relief	4,300	4,300	4,322	4,343	4,365	4,387	4,409	4,431	4,453	4,475	As Customer Growth
Private Sewer Lateral Assit. Program	66,500	66,500	66,833	67,167	67,502	67,840	68,179	68,520	68,863	69,207	As Customer Growth
Property Tax	962,419	962,419	967,231	972,067	976,928	981,812	986,721	991,655	996,613	1,001,596	As Customer Growth
Franchise Fees	137,081	137,081	137,766	138,455	139,148	139,843	140,542	141,245	141,951	142,661	As Customer Growth
Recycled Water	42,000	440,000	440,000	440,000	440,000	440,000	440,000	440,000	440,000	440,000	As Flat
Education Revenue Augmentation Fund	325,000	325,000	326,625	328,258	329,899	331,549	333,207	334,873	336,547	338,230	As Customer Growth
Inspections / Permits / Application Fees	31,733	31,733	31,892	32,051	32,211	32,372	32,534	32,697	32,860	33,025	As Customer Growth
Interest	36,431	6,399	51,903	44,168	31,026	40,528	37,223	37,399	37,811	38,463	Calculated
Total Other Revenues	\$1,621,464	\$1,989,432	\$2,042,651	\$2,042,670	\$2,037,321	\$2,054,654	\$2,059,219	\$2,067,305	\$2,075,667	\$2,084,309	
Total Revenues	\$16,911,119	\$17,279,087	\$17,408,754	\$17,485,604	\$17,557,469	\$17,652,403	\$17,734,957	\$17,821,422	\$17,908,554	\$17,996,360	
Expenses											
Wages & Benefits											
Regular Staff Salaries	\$3,344,036	\$3,678,440	\$3,788,793	\$3,902,457	\$4,019,530	\$4,140,116	\$4,264,320	\$4,392,249	\$4,524,017	\$4,659,737	As Salaries
Overtime	92,778	102,056	105,117	108,271	111,519	114,865	118,311	121,860	125,516	129,281	As Salaries
Vacation and Sick Accrual	64,000	66,240	68,558	70,958	73,441	76,012	78,672	81,426	84,276	87,225	As Benefits
Stand By	78,409	86,250	88,837	91,503	94,248	97,075	99,987	102,987	106,076	109,259	As Salaries
Directors Salary	74,380	81,818	84,273	86,801	89,405	92,087	94,849	97,695	100,626	103,645	As Salaries
Directors Benefits	9,188	9,510	9,842	10,187	10,543	10,912	11,294	11,690	12,099	12,522	As Benefits
Payroll Taxes	250,735	275,809	284,083	292,605	301,383	310,425	319,738	329,330	339,210	349,386	As Salaries
Group Life Insurance	7,150	7,400	7,659	7,927	8,205	8,492	8,789	9,097	9,415	9,745	As Benefits
PERS	829,317	862,490	896,989	932,869	970,184	1,008,991	1,049,351	1,091,325	1,134,978	1,180,377	As Benefits - Retirement
Health Insurance	671,278	701,486	733,052	766,040	800,512	836,535	874,179	913,517	954,625	997,583	As Benefits - Medical
Dental Insurance	21,000	21,945	22,933	23,964	25,043	26,170	27,347	28,578	29,864	31,208	As Benefits - Medical
Vision Insurance	4,253	4,444	4,644	4,853	5,072	5,300	5,539	5,788	6,048	6,320	As Benefits - Medical
Long Term Disability	29,276	30,593	31,970	33,409	34,912	36,483	38,125	39,841	41,633	43,507	As Benefits - Medical
Auto Allowance	24,465	25,321	26,208	27,125	28,074	29,057	30,074	31,126	32,216	33,343	As Benefits
Commute Stipend	36,000	37,260	38,564	39,914	41,311	42,757	44,253	45,802	47,405	49,064	As Benefits
Payroll Processing	12,729	13,111	13,504	13,909	14,327	14,756	15,199	15,655	16,125	16,608	As Materials & Supplies
Conferences	68,500	70,555	72,672	74,852	77,097	79,410	81,793	84,246	86,774	89,377	As Materials & Supplies
Mileage and Travel	8,000	8,240	8,487	8,742	9,004	9,274	9,552	9,839	10,134	10,438	As Materials & Supplies
Employee Recognition	6,000	6,120	6,242	6,367	6,495	6,624	6,757	6,892	7,030	7,171	As Miscellaneous
Employee Training and Education	25,600	26,112	26,634	27,167	27,710	28,264	28,830	29,406	29,994	30,594	As Miscellaneous
Total Wages & Benefits	\$5,657,094	\$6,115,199	\$6,319,063	\$6,529,919	\$6,748,015	\$6,973,606	\$7,206,958	\$7,448,348	\$7,698,060	\$7,956,391	

	Budgeted		Projected								Notes
	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	
Insurance											
Workers Comp Insurance	\$46,000	\$46,920	\$47,858	\$48,816	\$49,792	\$50,788	\$51,803	\$52,840	\$53,896	\$54,974	As Miscellaneous
Unemployment Insurance	0	0	0	0	0	0	0	0	0	0	As Miscellaneous
Pooled Liability Insurance	128,029	209,900	214,098	218,380	222,748	227,203	231,747	236,381	241,109	245,931	As Miscellaneous
Fidelity Bond	1,047	1,068	1,089	1,111	1,133	1,156	1,179	1,203	1,227	1,251	As Miscellaneous
Total Insurance	\$175,076	\$257,888	\$263,046	\$268,307	\$273,673	\$279,146	\$284,729	\$290,424	\$296,232	\$302,157	
Repairs & Maintenance											
Vehicle Parts & Maintenance	\$37,163	\$69,100	\$71,173	\$73,308	\$75,507	\$77,773	\$80,106	\$82,509	\$84,984	\$87,534	As Materials & Supplies
Building Maintenance	38,500	40,900	42,127	43,391	44,693	46,033	47,414	48,837	50,302	51,811	As Materials & Supplies
Grounds Maintenance	65,532	60,200	62,006	63,866	65,782	67,756	69,788	71,882	74,038	76,260	As Materials & Supplies
Power Gen Maint & Repair	40,000	38,400	39,552	40,739	41,961	43,220	44,516	45,852	47,227	48,644	As Materials & Supplies
Reclamation Maintenance	25,000	159,200	163,976	168,895	173,962	179,181	184,556	190,093	195,796	201,670	As Materials & Supplies
Equipment Maintenance	88,500	61,700	63,551	65,458	67,421	69,444	71,527	73,673	75,883	78,160	As Materials & Supplies
Equipment Repair	194,900	249,400	256,882	264,588	272,526	280,702	289,123	297,797	306,731	315,932	As Materials & Supplies
Capital Repairs / Replacements	207,000	311,600	320,948	330,576	340,494	350,709	361,230	372,067	383,229	394,726	As Materials & Supplies
Total Repairs & Maintenance	\$696,595	\$990,500	\$1,020,215	\$1,050,821	\$1,082,346	\$1,114,816	\$1,148,261	\$1,182,709	\$1,218,190	\$1,254,736	
Contract Services											
Outside Services	\$206,756	\$933,500	\$966,173	\$999,989	\$1,034,988	\$1,071,213	\$1,108,705	\$1,147,510	\$1,187,673	\$1,229,241	As General Expenses
Pollution Prevention Program	12,500	19,900	20,597	21,317	22,063	22,836	23,635	24,462	25,318	26,204	As General Expenses
Lab Contract Services	43,000	50,700	52,475	54,311	56,212	58,179	60,216	62,323	64,505	66,762	As General Expenses
Special Monitoring / Pilot Testing	0	0	0	0	0	0	0	0	0	0	As General Expenses
Janitorial	14,946	21,800	22,454	23,128	23,821	24,536	25,272	26,030	26,811	27,616	As Materials & Supplies
Aquatic Review	5,000	5,100	5,279	5,463	5,654	5,852	6,057	6,269	6,489	6,716	As General Expenses
Uniform Service	6,800	12,500	12,938	13,390	13,859	14,344	14,846	15,366	15,903	16,460	As General Expenses
Damage Claim	10,000	10,000	10,350	10,712	11,087	11,475	11,877	12,293	12,723	13,168	As General Expenses
Sludge Disposal	76,350	90,600	93,771	97,053	100,450	103,966	107,604	111,371	115,269	119,303	As General Expenses
Regulatory Consultant	354,784	206,700	213,935	221,422	229,172	237,193	245,495	254,087	262,980	272,184	As General Expenses
Engineering Consultant	25,000	37,100	38,399	39,742	41,133	42,573	44,063	45,605	47,202	48,854	As General Expenses
Lateral Rehab Assistance Program	100,000	100,200	103,707	107,337	111,094	114,982	119,006	123,171	127,482	131,944	As General Expenses
Legal	123,600	129,500	134,033	138,724	143,579	148,604	153,805	159,189	164,760	170,527	As General Expenses
Audit	27,000	28,200	29,187	30,209	31,266	32,360	33,493	34,665	35,878	37,134	As General Expenses
Consultants	170,000	97,100	100,499	104,016	107,657	111,424	115,324	119,361	123,538	127,862	As General Expenses
Feasibility Studies	0	55,000	56,925	58,917	60,979	63,114	65,323	67,609	69,975	72,424	As General Expenses
Financial Services	0	18,000	18,630	19,282	19,957	20,655	21,378	22,127	22,901	23,703	As General Expenses
Total Contract Services	\$1,175,736	\$1,815,900	\$1,879,348	\$1,945,012	\$2,012,972	\$2,083,307	\$2,156,100	\$2,231,437	\$2,309,407	\$2,390,103	
Small Tools & Supplies											
Hypochlorite	\$54,000	\$55,620	\$57,289	\$59,007	\$60,777	\$62,601	\$64,479	\$66,413	\$68,406	\$70,458	As Materials & Supplies
Bisulfite	46,000	47,380	48,801	50,265	51,773	53,327	54,926	56,574	58,271	60,020	As Materials & Supplies
Misc Chemicals	87,000	89,610	92,298	95,067	97,919	100,857	103,883	106,999	110,209	113,515	As Materials & Supplies
General Operating Supplies	40,250	41,458	42,701	43,982	45,302	46,661	48,061	49,502	50,987	52,517	As Materials & Supplies
Fuel & Oil	33,803	34,817	35,862	36,937	38,046	39,187	40,363	41,573	42,821	44,105	As Materials & Supplies
Safety Equipment & Supplies	38,450	39,988	41,588	43,251	44,981	46,780	48,652	50,598	52,621	54,726	As Equipment
Safety Services	60,000	61,800	63,654	65,564	67,531	69,556	71,643	73,792	76,006	78,286	As Materials & Supplies
Small Tools	25,000	25,750	26,523	27,318	28,138	28,982	29,851	30,747	31,669	32,619	As Materials & Supplies
Total Small Tools & Supplies	\$384,503	\$396,423	\$408,715	\$421,392	\$434,467	\$447,951	\$461,857	\$476,199	\$490,991	\$506,247	

	<i>Budgeted</i>		<i>Projected</i>							<i>Notes</i>	
	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29		2029-30
Utilities											
Utility Power	\$237,920	\$247,437	\$257,334	\$267,628	\$278,333	\$289,466	\$301,045	\$313,086	\$325,610	\$338,634	As Utilities
Telephone	42,205	43,893	45,649	47,475	49,374	51,349	53,403	55,539	57,760	60,071	As Utilities
Water	7,687	7,994	8,314	8,647	8,993	9,352	9,727	10,116	10,520	10,941	As Utilities
Total Utilities	\$287,812	\$299,324	\$311,297	\$323,749	\$336,699	\$350,167	\$364,174	\$378,741	\$393,891	\$409,646	
General & Administrative											
Election	\$25,000	\$25,500	\$26,010	\$26,530	\$27,061	\$27,602	\$28,154	\$28,717	\$29,291	\$29,877	As Miscellaneous
Office Supplies	27,200	28,016	28,856	29,722	30,614	31,532	32,478	33,453	34,456	35,490	As Materials & Supplies
Computer Support and Supplies	84,500	187,600	193,228	199,025	204,996	211,145	217,480	224,004	230,724	237,646	As Materials & Supplies
Bank Charges	1,500	1,530	1,561	1,592	1,624	1,656	1,689	1,723	1,757	1,793	As Miscellaneous
User Charge Collection Fee	35,000	36,050	37,132	38,245	39,393	40,575	41,792	43,046	44,337	45,667	As Materials & Supplies
Publication and Legal Ads	16,606	17,104	17,617	18,146	18,690	19,251	19,828	20,423	21,036	21,667	As Materials & Supplies
Public Education and Outreach	65,000	66,950	68,959	71,027	73,158	75,353	77,613	79,942	82,340	84,810	As Materials & Supplies
Taxes, Other	9,000	9,180	9,364	9,551	9,742	9,937	10,135	10,338	10,545	10,756	As Miscellaneous
Memberships	46,495	47,425	48,373	49,341	50,328	51,334	52,361	53,408	54,476	55,566	As Miscellaneous
Permits	20,250	20,655	21,068	21,489	21,919	22,358	22,805	23,261	23,726	24,201	As Miscellaneous
Fines	0	0	0	0	0	0	0	0	0	0	As Materials & Supplies
Rents and Leases	119,652	123,242	126,939	130,747	134,669	138,709	142,871	147,157	151,572	156,119	As Materials & Supplies
Miscellaneous Expenses	1,000	1,020	1,040	1,061	1,082	1,104	1,126	1,149	1,172	1,195	As Miscellaneous
Total General & Administrative	\$451,203	\$564,272	\$580,147	\$596,477	\$613,276	\$630,556	\$648,333	\$666,620	\$685,433	\$704,786	
Additional O&M											
Staffing Adjustments	\$0	\$495,432	\$510,295	\$525,604	\$541,372	\$557,613	\$574,341	\$591,572	\$609,319	\$627,598	As Salaries
Total Additional O&M	\$0	\$495,432	\$510,295	\$525,604	\$541,372	\$557,613	\$574,341	\$591,572	\$609,319	\$627,598	
Total O&M Expenses	\$8,828,019	\$10,934,937	\$11,292,125	\$11,661,282	\$12,042,819	\$12,437,163	\$12,844,754	\$13,266,050	\$13,701,524	\$14,151,665	
Rate Funded Capital	\$3,250,000	\$3,250,000	\$5,000,000	\$6,100,000	\$7,750,000	\$6,000,000	\$7,700,000	\$7,975,000	\$8,250,000	\$8,525,000	\$2,654,616 2018-19 Dep. Exp.
Debt Service											
Municipal Finance	\$698,760	\$709,125	\$708,665	\$717,380	\$725,105	\$730,660	\$0	\$0	\$0	\$0	Exhibit 5
SRF	285,464	285,464	285,464	285,464	285,464	285,464	285,464	285,464	285,464	285,464	Exhibit 5
Bank of Marin \$4.6	332,681	332,681	332,682	332,681	332,682	332,681	332,682	332,681	332,682	332,681	Exhibit 5
Bank of Marin \$2.0	235,346	235,346	39,226	0	0	0	0	0	0	0	Exhibit 5
2017 Revenue Bonds	2,449,000	2,447,800	2,445,000	2,445,600	2,449,400	2,446,200	2,446,200	2,449,200	2,445,000	2,448,800	Exhibit 5
2019 Bank Loan	803,446	803,446	803,446	803,446	803,446	803,446	803,446	803,446	803,446	803,446	Exhibit 5
MMWD Reimburse - BofM	0	(206,549)	(157,054)	(107,560)	(107,560)	(107,560)	(107,560)	(107,560)	(107,560)	(107,560)	Exhibit 5
MMWD Reimburse - Rev Bond	0	(256,804)	(256,427)	(256,490)	(256,888)	(256,553)	(256,553)	(256,867)	(256,427)	(256,825)	Exhibit 5
Assumed Low Interest Loan	0	0	0	0	0	0	0	0	0	0	Calc'd @ 2.5% for 20 yrs
Assumed Revenue Bond	0	0	0	0	0	0	0	0	0	0	Calc'd @ 4.5% for 20 yrs
Additional Long-Term Debt	0	0	0	691,885	691,885	691,885	2,033,374	2,033,374	2,033,374	2,033,374	Calc'd @ 4.5% for 20 yrs
Total Debt Service	\$4,804,697	\$4,350,509	\$4,201,002	\$4,912,406	\$4,923,534	\$4,926,223	\$5,537,053	\$5,539,738	\$5,535,979	\$5,539,380	
<i>LESS: Other Funding</i>											
<i>Plus: Capital Facility Charges</i>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Net Debt Service	\$4,804,697	\$4,350,509	\$4,201,002	\$4,912,406	\$4,923,534	\$4,926,223	\$5,537,053	\$5,539,738	\$5,535,979	\$5,539,380	

	<i>Budgeted</i>		<i>Projected</i>							<i>Notes</i>
	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	
Reserve Funding										
To / (From) Working Cashflow	\$28,404	\$196,158	(\$26,134)	(\$355,490)	(\$366,321)	\$400,393	\$2,338	\$35,194	\$82,394	\$130,508
To / (From) Capital Reserve	0	0	0	0	0	1,500,000	0	0	0	0
To / (From) Rate Stabilization	0	0	0	0	0	0	0	0	0	0
To / (From) Emergency Repair	0	0	0	0	0	0	0	0	0	0
Total Reserve Funding	\$28,404	\$196,158	(\$26,134)	(\$355,490)	(\$366,321)	\$1,900,393	\$2,338	\$35,194	\$82,394	\$130,508
Total Revenue Requirement	\$16,911,119	\$18,731,604	\$20,466,993	\$22,318,198	\$24,350,032	\$25,263,779	\$26,084,145	\$26,815,981	\$27,569,897	\$28,346,552
Bal. / (Def.) of Funds	\$0	(\$1,452,517)	(\$3,058,239)	(\$4,832,594)	(\$6,792,563)	(\$7,611,375)	(\$8,349,187)	(\$8,994,560)	(\$9,661,343)	(\$10,350,192)
Balance a % of Rate Adj. Req'd	0.0%	9.5%	19.9%	31.3%	43.8%	48.8%	53.3%	57.1%	61.0%	65.0%
Proposed Rate Adjustment	0.0%	9.5%	9.5%	9.5%	9.5%	3.5%	3.0%	2.5%	2.5%	2.5%
<i>Months of Adjustment</i>	12	12	12	12	12	12	12	12	12	12
Add'l Revenue with Rate Adj.	\$0	\$1,452,517	\$3,058,239	\$4,832,594	\$6,792,563	\$7,611,375	\$8,349,187	\$8,994,560	\$9,661,343	\$10,350,192
Bal. / (Def.) After Rate Adj.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$0)	\$0	\$0
Add'l Rate Adj. Req'd	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Annual Single Family Customer Bill	\$968.00									
Customer Bill on Proposed Adjustment	\$968.00	\$1,059.96	\$1,160.66	\$1,270.92	\$1,391.66	\$1,440.36	\$1,483.57	\$1,520.66	\$1,558.68	\$1,597.65
Annual Bill Difference	0.00	91.96	100.70	110.26	120.74	48.71	43.21	37.09	38.02	38.97
Cumulative Bill Difference	0.00	91.96	192.66	302.92	423.66	472.36	515.57	552.66	590.68	629.65
		\$88.33	\$96.72			p				
Debt Service Coverage Ratio (Target = 1.25)										
Before Rate Adjustment	1.68	1.46	1.46	1.19	1.12	1.06	0.88	0.82	0.76	0.69
After Proposed Rate Adjustment	1.68	1.79	2.18	2.17	2.50	2.60	2.39	2.45	2.51	2.56

	<i>Budgeted</i>		<i>Projected</i>							<i>Notes</i>	
	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29		2029-30
Reserve Funds											
Beginning Reserve Balance	\$7,079,424	\$7,107,828	\$7,261,726	\$8,380,558	\$6,833,639	\$4,205,239	\$6,105,631	\$5,444,561	\$5,479,755	\$5,562,149	
Working Cashflow											
Beginning Balance	\$2,185,612	\$2,214,016	\$2,410,174	\$2,384,040	\$2,028,549	\$1,662,228	\$2,062,621	\$2,064,958	\$2,100,152	\$2,182,547	
Plus: Additions	28,404	196,158	0	0	0	400,393	2,338	35,194	82,394	130,508	
Ending Fund Balance	0	0	0	0	0	0	0	(0)	0	0	
Less: Uses of Funds	0	0	(26,134)	(355,490)	(366,321)	0	0	0	0	0	
Ending Balance	\$2,214,016	\$2,410,174	\$2,384,040	\$2,028,549	\$1,662,228	\$2,062,621	\$2,064,958	\$2,100,152	\$2,182,547	\$2,313,055	
Target: 7 months of O&M + Debt Service	\$7,952,417	\$8,916,510	\$9,037,657	\$9,667,985	\$9,897,039	\$10,128,642	\$10,722,721	\$10,970,043	\$11,221,876	\$11,486,442	
Capital Reserve											
Beginning Balance	\$2,593,812	\$2,593,812	\$2,551,553	\$3,696,519	\$2,505,090	\$243,011	\$1,743,011	\$1,079,603	\$1,079,603	\$1,079,603	
Plus: Additions	0	0	1,144,966	0	0	1,500,000	0	0	0	0	
Plus: Capital Facility Charges	0	0	0	0	0	0	0	0	0	0	
Plus: Carryover CIP Funding	0	7,839,717	0	0	0	0	0	0	0	0	As Misc. Revenues
Plus: Federal Grant	0	0	0	0	0	0	0	0	0	0	
Less: Uses of Funds	0	(7,881,977)	0	(1,191,429)	(2,262,079)	0	(663,408)	0	0	0	
Ending Balance	\$2,593,812	\$2,551,553	\$3,696,519	\$2,505,090	\$243,011	\$1,743,011	\$1,079,603	\$1,079,603	\$1,079,603	\$1,079,603	
Target	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	
Rate Stabilization											
Beginning Balance	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	
Plus: Additions	0	0	0	0	0	0	0	0	0	0	
Less: Uses of Funds	0	0	0	0	0	0	0	0	0	0	
Ending Balance	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	
Target	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	
Emergency Repair											
Beginning Balance	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	
Plus: Additions	0	0	0	0	0	0	0	0	0	0	
Less: Uses of Funds	0	0	0	0	0	0	0	0	0	0	
Ending Balance	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	
Target	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	
Vehicle and Equipment Reserve											
Beginning Balance	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	
Plus: Additions	0	0	0	0	0	0	0	0	0	0	
Less: Uses of Funds	0	0	0	0	0	0	0	0	0	0	
Ending Balance	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	
Ending Reserve Balance	\$7,107,828	\$7,261,726	\$8,380,558	\$6,833,639	\$4,205,239	\$6,105,631	\$5,444,561	\$5,479,755	\$5,562,149	\$5,692,657	

	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	Total	Notes
Planning, Software, & Other Engineering												
Financial Software	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
WW Master Plan Ph 2	500,000	734,288	0	0	0	0	0	0	0	0	1,234,288	
WW Master Plan Ph 3	0	313,235	105,473	0	0	0	0	0	0	0	418,708	
WW Master Plan Flow Monitoring Support	50,000	0	0	0	0	0	0	0	0	0	50,000	
On-Call Construction Contract	100,000	102,700	105,473	108,321	0	0	0	0	0	0	416,494	
On-Call Engineering Contract	210,000	281,001	105,473	108,321	0	0	0	0	0	0	704,794	
Project Files Scanning	20,000	7,559	0	0	0	0	0	0	0	0	27,559	
Drafting Software Upgrade	10,000	9,655	0	0	0	0	0	0	0	0	19,655	
Alternative Funding Pursuit	50,000	73,028	15,821	16,248	0	0	0	0	0	0	155,097	
Centricity Maintenance, Support, & Training	30,000	30,810	31,642	32,496	0	0	0	0	0	0	124,948	
MFD/HOA/Com Lateral Ordinance Outreach/Survey	10,000	10,270	0	0	0	0	0	0	0	0	20,270	
CityWorks Upgrades	0	30,810	37,970	38,995	0	0	0	0	0	0	107,776	
CityWorks License for Engineering	0	10,270	0	0	0	0	0	0	0	0	10,270	
Biosolids System Improvement Analysis	0	77,025	0	0	0	0	0	0	0	0	77,025	
Accounting ERP Integration	0	15,405	5,274	5,416	0	0	0	0	0	0	26,095	
Fleet Maintenance Software	0	2,054	2,109	2,166	0	0	0	0	0	0	6,330	
IT Pipes Software Upgrade for Video Interface	0	2,054	2,109	2,166	0	0	0	0	0	0	6,330	
Arc Flash Study	0	141,726	0	0	0	0	0	0	0	0	141,726	
Sea Level Rise Mitigation Program Design	0	102,700	105,473	108,321	0	0	0	0	0	0	316,494	
Asset Management Onboarding Task 1 CMMS	0	113,997	0	0	0	0	0	0	0	0	113,997	
Asset Management Onboarding Task 2 - 5 CMMS	0	472,420	922,888	947,806	0	0	0	0	0	0	2,343,114	
Total Planning, Software, & Other Engineering	\$980,000	\$2,531,006	\$1,439,705	\$1,370,256	\$0	\$0	\$0	\$0	\$0	\$0	\$6,320,967	
Fleet & Equipment												
Tractor/Backhoe Replacement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Small Pickup	0	0	0	0	0	0	0	0	0	0	0	
Forklift	0	0	0	0	0	0	0	0	0	0	0	
Total Fleet & Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	

	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	Total	Notes
Collection System												
Rafael Meadows Pump Station - Electrical	\$100,000	\$256,312	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$356,312	
John Duckett Pump Station & HWY 101 Terra Linda	0	205,400	0	0	0	0	0	0	0	0	205,400	
Force Main Assessment, Cleaning, Loc Mrkg, & Map	100,000	359,450	263,682	0	0	0	0	0	0	0	723,132	
Marin Lagoon Pump Station	134,509	278,856	0	0	0	0	0	0	0	0	413,365	
Manhole Frame & Cover Adjustment	0	51,350	52,736	54,160	0	0	0	0	0	0	158,247	
Air Release Valves	0	0	0	0	0	0	0	0	0	0	0	
Smith Ranch Pump Station Electrical Upgrades	60,000	318,370	0	0	0	0	0	0	0	0	378,370	
Contempo Marin Connection Improvement	200,000	143,780	0	0	0	0	0	0	0	0	343,780	
Standby/Towable Generators (Pump Stations)	150,000	410,800	0	0	0	0	0	0	0	0	560,800	
Pump Station Improvements	200,000	256,750	0	0	0	0	0	0	0	0	456,750	
Fencing Improvements at Various Locations	60,000	61,620	63,284	0	0	0	0	0	0	0	184,904	
IWMP Pump Station & Force Main Projects	100,000	256,750	263,682	2,166,413	0	0	0	0	0	0	2,786,846	
Automatic Transfer Switches for Pump Stations	105,000	256,750	0	0	0	0	0	0	0	0	361,750	
Emergency Bypass Analysis & Response Plan	45,000	115,109	0	0	0	0	0	0	0	0	160,109	
Annual Facility Paving at Various Locations	30,000	35,945	36,916	37,912	0	0	0	0	0	0	140,773	
Descanso Pump Station Odor Control	0	0	0	0	0	0	0	0	0	0	0	
Lower Marinwood Trunk Sewer	0	0	0	64,992	0	0	0	0	0	0	64,992	
Marinwood HWY 101 Trunk Sewer	0	0	0	64,992	0	0	0	0	0	0	64,992	
Mulligan PS wetwell upgrade	0	61,620	263,682	0	0	0	0	0	0	0	325,302	
Hawthorn Pump Station Fencing	0	25,675	0	0	0	0	0	0	0	0	25,675	
Rafael Meadows Pump Station - Civil	0	184,860	0	433,283	0	0	0	0	0	0	618,143	
SCADA Integration & Control Panel Replac. for PS	0	0	263,682	270,802	0	0	0	0	0	0	534,484	
Systemwide Cathodic Protection Improvements	0	0	210,946	216,641	0	0	0	0	0	0	427,587	
Smith Ranch Rd Combined Force Main	0	0	0	0	0	0	0	0	0	0	0	
Captains Cove and Marin Lagoon PS Telemetry	0	30,810	21,095	0	0	0	0	0	0	0	51,905	
Smart Covers	0	15,405	0	0	0	0	0	0	0	0	15,405	
Hose Trailer Equipment	0	10,270	0	0	0	0	0	0	0	0	10,270	
Lower Marinwood TS Capacity Upgrade & Relocation	0	0	0	0	0	0	0	0	0	0	0	
McInnis Pump Station Improvements	0	0	0	0	0	0	0	0	0	0	0	
Sewer Main Rehabilitation (Locations TBD)	100,000	264,818	0	0	0	0	0	0	0	0	364,818	
Smith Ranch PS Generator Diesel Conv.	0	0	0	0	0	0	0	0	0	0	0	
Vac Truck Recy. Water Filling Station & Wash Rack	0	0	0	0	0	0	0	0	0	0	0	
Total Collection System	\$1,384,509	\$3,600,701	\$1,439,705	\$3,309,196	\$0	\$0	\$0	\$0	\$0	\$0	\$9,734,112	

	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	Total	Notes
Reclamation												
Reclamation Storage Pond Valves & Transfer Boxes	\$0	\$179,725	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$179,725	
Reclamation Pump Station Improvements	25,000	154,050	158,209	0	0	0	0	0	0	0	337,259	
Marsh Pond Vegetation Removal & Long-Term Vegetation Mngmn	0	161,186	0	0	0	0	0	0	0	0	161,186	
Reclamation Shop Improvements	60,000	0	0	0	0	0	0	0	0	0	60,000	
Reclamation Bridge Load Capacity & Seismic Analysis	25,000	0	0	0	0	0	0	0	0	0	25,000	
Reclamation Pasture Irrigation System Study	45,000	46,215	0	0	0	0	0	0	0	0	91,215	
Automated Gate for Reclamation Bridge	20,000	0	0	0	0	0	0	0	0	0	20,000	
IWMP Reclamation Projects (Placeholder)	50,000	154,050	158,209	162,481	0	0	0	0	0	0	524,740	
Reclamation Staging Area	0	0	63,284	0	0	0	0	0	0	0	63,284	
Sludge Lagoon Liner Replacement/Repair	0	0	79,105	81,241	0	0	0	0	0	0	160,345	
St. Vincent's Pump Station Improvements	0	102,700	105,473	216,641	0	0	0	0	0	0	424,814	
Storage Pond 1 Transfer Pipe Repair	0	0	0	108,321	0	0	0	0	0	0	108,321	
Reclamation Levee Capping	0	0	0	0	0	0	0	0	0	0	0	
Pond Security Fencing	0	0	0	0	0	0	0	0	0	0	0	
Reclamation Storage Pond Algae Control	0	0	47,463	108,321	0	0	0	0	0	0	155,783	
Total Reclamation	\$225,000	\$797,926	\$611,743	\$677,004	\$0	\$0	\$0	\$0	\$0	\$0	\$2,311,673	

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	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	Total	Notes
Treatment Plant												
Administration Building Design	\$0	\$1,540,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,540,500	
Administration Building Site Eval	47,312	22,454	0	0	0	0	0	0	0	0	69,766	
Flow Equalization Basin	75,000	385,125	0	1,083,207	0	0	0	0	0	0	1,543,332	
Carport for Lab	40,000	0	0	0	0	0	0	0	0	0	40,000	
Digester Room MCC #2 Upgrade	200,000	688,090	0	0	0	0	0	0	0	0	888,090	
Digester Inspection & Coating	0	308,100	0	0	0	0	0	0	0	0	308,100	
Grit Chambers Coating & Auger Rebuild	200,000	205,400	0	0	0	0	0	0	0	0	405,400	
Plant Lighting Improvements and Other Electrical Enhancement	100,000	102,700	0	162,481	0	0	0	0	0	0	365,181	
Annual Plant Painting at Various Locations	30,000	35,945	36,916	37,912	0	0	0	0	0	0	140,773	
Annual Plant Paving at Various Locations	30,000	61,620	63,284	64,992	0	0	0	0	0	0	219,896	
Maintenance Shop & Locker Room Improvements	50,000	51,350	0	0	0	0	0	0	0	0	101,350	
Varec Flare Maintenance	60,000	0	0	0	0	0	0	0	0	0	60,000	
Bioassay Tank Installation	45,000	0	0	0	0	0	0	0	0	0	45,000	
Miscellaneous Plant Equipment Demolition & Disposal	30,000	0	0	0	0	0	0	0	0	0	30,000	
IWMP Treatment Plant Projects (Placeholder)	100,000	256,750	263,682	2,166,413	0	0	0	0	0	0	2,786,846	
BERS Tail Gas Piping	0	0	0	433,283	0	0	0	0	0	0	433,283	
Chemical Tanks Replacement & Eyewash Station	0	61,620	0	0	0	0	0	0	0	0	61,620	
Comcast Cable Installation	0	0	0	270,802	0	0	0	0	0	0	270,802	
Covered Vehicle Parking & Storage	0	0	0	216,641	0	0	0	0	0	0	216,641	
Primary Clarifier #1 Improvements	0	308,100	0	0	0	0	0	0	0	0	308,100	
Radio Antenna at Hawthorn Pump Station	20,000	20,540	0	0	0	0	0	0	0	0	40,540	
BERS Canopy & Paving	0	154,050	0	0	0	0	0	0	0	0	154,050	
Disinfection System Review and Upgrade Design	0	0	0	0	0	0	0	0	0	0	0	
Fixed Film Reactor Demolition	0	0	0	0	0	0	0	0	0	0	0	
High Strength Waste Receiving Station	0	0	0	0	0	0	0	0	0	0	0	
Plant Potable Water Hydrant Installation	0	0	0	0	0	0	0	0	0	0	0	
Total Treatment Plant	\$1,027,312	\$4,202,344	\$363,882	\$4,435,731	\$0	\$0	\$0	\$0	\$0	\$0	\$10,029,269	

Inflation = 2.7%

	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Financed Projects											
Secondary Treat. Plant Upgrade & Recycled Water Exp.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Administration Building Construction	0	0	0	0	3,337,360	3,427,469	25,813,408	0	0	0	32,578,236
John Duckett PS & Terra Linda TS Construction	0	0	0	6,499,240	6,674,720	0	0	0	0	0	13,173,960
Total Financed Projects	\$0	\$0	\$0	\$6,499,240	\$10,012,079	\$3,427,469	\$25,813,408	\$0	\$0	\$0	\$45,752,196
Unidentified Future Capital Projects	\$74,408	\$0	\$0	\$0	\$0	\$2,572,532	\$0	\$7,975,000	\$8,250,000	\$8,525,000	\$27,396,940
Transfer to Capital Reserve	\$0	\$0	\$1,144,966	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,144,966
Total Capital Improvement Projects	\$3,691,229	\$11,131,977	\$5,000,000	\$16,291,429	\$10,012,079	\$6,000,000	\$25,813,408	\$7,975,000	\$8,250,000	\$8,525,000	\$102,690,122
Less: Outside Funding Sources											
Working Cashflow	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital Reserve	0	7,881,977	0	1,191,429	2,262,079	0	663,408	0	0	0	11,998,893
Vehicled and Equipment Reserve	0	0	0	0	0	0	0	0	0	0	0
Federal Grant	441,229	0	0	0	0	0	0	0	0	0	441,229
Assumed Low Interest Loan	0	0	0	0	0	0	0	0	0	0	0
Assumed Revenue Bond	0	0	0	0	0	0	0	0	0	0	0
Additional Revenue Bonds	0	0	0	9,000,000	0	0	17,450,000	0	0	0	26,450,000
Total Funding Sources	\$441,229	\$7,881,977	\$0	\$10,191,429	\$2,262,079	\$0	\$18,113,408	\$0	\$0	\$0	\$38,890,122
Rate Funded Capital	\$3,250,000	\$3,250,000	\$5,000,000	\$6,100,000	\$7,750,000	\$6,000,000	\$7,700,000	\$7,975,000	\$8,250,000	\$8,525,000	\$63,800,000

Las Gallinas Valley Sanitary District
 Sewer Rate Study
 Equipment Repair and Replacement Fund

	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Purchases											
Tractor/Backhoe Replacement	\$100,000	\$0	\$0	\$0	\$0	\$114,249	\$0	\$0	\$0	\$0	\$214,249
Small Pickup	35,000	0	36,916	0	38,936	0	41,067	0	43,314	0	195,232
Forklift	50,000	0	0	54,160	0	0	58,667	0	0	63,548	226,375
	<u>\$185,000</u>	<u>\$0</u>	<u>\$36,916</u>	<u>\$54,160</u>	<u>\$38,936</u>	<u>\$114,249</u>	<u>\$99,734</u>	<u>\$0</u>	<u>\$43,314</u>	<u>\$63,548</u>	<u>\$635,857</u>
Average Annual Contribution	\$63,586										

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Las Gallinas Valley Sanitary District
 Sewer Rate Study
 Debt Schedule
 Exhibit 5

	Municipal Finance	SRF	Bank of Marin \$4.6	Bank of Marin \$2.0	2017 Revenue Bonds	2019 IBank Loan	MMWD Reimburse - BofM	MMWD Reimburse - Rev Bond	Total
2020-21	\$698,760	\$285,464	\$332,681	\$235,346	\$2,449,000	\$803,446	\$0	\$0	\$4,804,697
2021-22	709,125	285,464	332,681	235,346	2,447,800	803,446	0	0	4,813,862
2022-23	708,665	285,464	332,682	39,226	2,445,000	803,446	(157,054)	(256,427)	4,201,002
2023-24	717,380	285,464	332,681	0	2,445,600	803,446	(107,560)	(256,490)	4,220,521
2024-25	725,105	285,464	332,682	0	2,449,400	803,446	(107,560)	(256,888)	4,231,649
2025-26	730,660	285,464	332,681	0	2,446,200	803,446	(107,560)	(256,553)	4,234,338
2026-27	0	285,464	332,682	0	2,446,200	803,446	(107,560)	(256,553)	3,503,679
2027-28	0	285,464	332,681	0	2,449,200	803,446	(107,560)	(256,867)	3,506,364
2028-29	0	285,464	332,682	0	2,445,000	803,446	(107,560)	(256,427)	3,502,605
2029-30	0	285,464	332,681	0	2,448,800	803,446	(107,560)	(256,825)	3,506,006
2030-31	0	285,464	332,681	0	2,445,200	803,446	(107,560)	(256,448)	3,502,783
2031-32	0	285,464	0	0	2,449,400	803,446	(26,877)	(256,888)	3,254,545
2032-33	0	0	0	0	2,446,000	803,446	0	(256,532)	2,992,914
2033-34	0	0	0	0	2,715,200	803,446	0	(284,765)	3,233,881
2034-35	0	0	0	0	2,436,000	803,446	0	(255,483)	2,983,963
2035-36	0	0	0	0	2,434,800	803,446	0	(255,357)	2,982,889
2036-37	0	0	0	0	2,435,800	803,446	0	(255,357)	2,983,889
2037-38	0	0	0	0	2,433,800	803,446	0	(255,252)	2,981,994
2038-39	0	0	0	0	2,438,800	803,446	0	(255,777)	2,986,469
2039-40	0	0	0	0	2,435,400	0	0	(255,420)	2,179,980
Total Debt Service	\$4,289,695	\$3,425,568	\$3,659,495	\$509,918	\$49,142,600	\$15,265,466	(\$1,044,411)	(\$4,640,309)	\$70,608,022

Source: City provided debt service schedules

Las Gallinas Valley Sanitary District
 Sewer Rate Study
 Revenues at Present Rates
 Exhibit 6

<i>Effective 7.1.20</i>							Total
All Customers							
Base Fee	Code	\$/SU	# of Acct.	Equiv.	# of Units	# of Eq. Units	
Single Family	1	\$968.00	8,150	1.00	8,150	8,150	\$7,889,200
Duplex	2	968.00	45	0.90	90	81	78,408
3 - 4 Units	3	968.00	68	0.90	259	233	225,641
5 - 9 Units	4	968.00	99	0.90	731	658	636,847
10+ Units	5	968.00	105	0.90	2,423	2,181	2,110,918
Non Residential		968.00	441	7.89	3,478	3,478	3,367,081
Hand Billed		968.00	92	11.02	1,014	1,014	981,561
Total			9,000		16,145	15,795	\$15,289,655
					2018-19 Projected Actual		\$14,231,642
					<i>Difference</i>		\$1,058,013
					<i>Percent</i>		7.4%
					2019-20 Budgeted		\$14,627,663
					<i>Difference</i>		\$661,992
					<i>Percent</i>		4.5%
					2020-21 Budgeted		\$15,289,361
					<i>Difference</i>		\$294
					<i>Percent</i>		0.0%

**Las Gallinas Valley Sanitary District
Sewer Rate Study
Proposed Rates**

	<i>Present Rates</i>	2021-22	2022-23	2023-24	2024-25	2025-26
Per Eq. Unit	<i>Rate</i> \$968.00	\$1,060.00	\$1,161.00	\$1,271.00	\$1,392.00	\$1,441.00
	<i>\$ / LU</i>					
Single Family	\$968.00	\$1,060.00	\$1,161.00	\$1,271.00	\$1,392.00	\$1,441.00
Multi-Family	\$871.20	\$954.00	\$1,044.90	\$1,143.90	\$1,252.80	\$1,296.90
Mobile Home	\$968.00	\$1,060.00	\$1,161.00	\$1,271.00	\$1,392.00	\$1,441.00
	<i>\$ / pupil</i>					
School w/showers	\$9.68	\$10.60	\$11.61	\$12.71	\$13.92	\$14.41
School w/o showers	19.36	21.20	23.22	25.42	27.84	28.82
	<i>\$ / Acct.</i>					
Domestic Strength	\$968.00	\$1,060.00	\$1,161.00	\$1,271.00	\$1,392.00	\$1,441.00
Restaurants / Cafes	2,323.20	2,544.00	2,786.40	3,050.40	3,340.80	3,458.40
Bakeries	3,097.60	3,392.00	3,715.20	4,067.20	4,454.40	4,611.20
Mortuaries	1,936.00	2,120.00	2,322.00	2,542.00	2,784.00	2,882.00
Hotels w/restaurant	1,936.00	2,120.00	2,322.00	2,542.00	2,784.00	2,882.00
Markets w/disposal	2,516.80	2,756.00	3,018.60	3,304.60	3,619.20	3,746.60
Dry Industry	968.00	1,060.00	1,161.00	1,271.00	1,392.00	1,441.00
Mixed Use	1,936.00	2,120.00	2,322.00	2,542.00	2,784.00	2,882.00