



Wastewater Rate Study

For the

Cayucos Sanitary District

Prepared Under the Responsible Charge of:

Dylan Wade, P.E.



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1 INTRODUCTION

Water Systems Consulting, Inc. (WSC) was retained by the Cayucos Sanitary District (District) to conduct a Wastewater Rate Study (Rate Study) to determine the future rate adjustments necessary to accommodate the upgrades to their current wastewater collection system and the development of the Cayucos Sustainable Water Project (CSWP). The Rate Study consists of three interrelated analyses:

- Revenue Sufficiency Analysis - Can the current rate structure cover projected costs over the study period? Discussed in Sections 2 & 3 of this study.
- Cost of Service Analysis – Allocation of future revenue requirements to the District’s functional cost categories. Discussed in Section 4 of this study.
- Rate Design Analysis – Design of a rate structure that raises sufficient revenues from the functional cost categories proportioned based on the benefit received. See Sections 5 and 6 of this study.

This Rate Study is designed to meet the financial requirements for the District’s construction of the CSWP’s new Wastewater Resource Recovery Facility (WRRF) as well as the operation and maintenance (O&M) needs of both the existing collection system and the new WRRF. This Rate Study calculates the rates, reserves, and debt coverage necessary to fund the 40-year planning period required for the anticipated USDA Water and Wastewater Grant and Loan Program loan. The proposed rates will need to fund the operations of the District while meeting the requirements of California Proposition 218. In this Rate Study WSC presents several rate structure options for the District’s consideration and provides a recommended rate structure.

1.1 BACKGROUND

The District was formed in 1942 for the purpose of constructing a sewer collection system and treatment plant to serve the unincorporated community of Cayucos in western San Luis Obispo County (County). The District serves a population of approximately 2,552 according to the 2014 American Community Survey of the United States Census Bureau. The District’s service area covers approximately 3.5 square miles and includes the entire community of Cayucos. Currently the District maintains 23.1 miles of gravity pipelines, forcemains, and five lift stations. Its wastewater is currently treated through the jointly owned Morro Bay Cayucos Sanitary District Wastewater Treatment Plant (MBCSD WWTP).

1.1.1 Service Area Population

The community of Cayucos had an estimated population of 2,592 from the 2010 census data. The population was recorded at 2,552 in the 2014 American Community Survey of the United States Census Bureau. Permanent resident population is variable as a result of the changing proportion of seasonal, vacation use homes or second homes in the community. Table 1-1 summarizes the population and housing data from the 2010 census for the community of Cayucos.

Table 1-1. Population and Housing Unit Summary

Census Field	Data
Historic Population (1990)	2,960
Historic Population (2000)	2,943
Population in 2010¹	2,592
Population in 2014²	2,552
Total Housing Units	2,354
Permanently occupied Housing Units	1,314
Estimated Persons per Occupied Unit	1.97
Vacant Lots (EDU)	252
Vacant Housing Units	1,040
Seasonal Housing	893
Homeowner Vacancy Rate (%)	4.6
Rental Vacancy Rate (%)	12.8
¹ 2010 Census	
² 2014 American Community Survey	

According to the 2015 San Luis Obispo County Local Agency Formation Commission (LAFCO) report¹, “Significant increases in population are not anticipated to occur in with the County population growing at a slow rate (<1%) annually”. Based on the District’s billing information from May, 2016, the District service area has approximately 185 vacant lots that equate to 252 equivalent dwelling units (EDU’s). Under the District’s General Plan growth projection, the community is expected to reach a build out population of approximately 3,339 in 2031, assuming 1.97 persons per household and only infill development of remaining unoccupied lots. The District uses equivalent dwelling units (EDU) for sewer billing. Observed growth rates are consistent with the LAFCO findings.

1.1.2 Cayucos Sustainable Water Project

The District provides wastewater service to the community of Cayucos through collection of wastewater within the community and conveyance through lift stations, forcemains, and gravity lines to the shared MBCSD WWTP. The District and the City of Morro Bay had previously worked together to upgrade the MBCSD WWTP to comply with RWQCB requirements for full secondary treatment. In January 2013, the California Coastal Commission (CCC) voted to deny the Coastal Development Permit (CDP) for a proposed upgrade at the existing MBCSD WWTP. The CCC recommended that a new facility should be located outside the coastal zone and provide a sizable reclaimed water component. Due to the CCC’s decision to deny the CDP to build an upgraded WWTP at the location of the current MBCSD WWTP, the District will be moving forward with the development of an independently owned and operated WRRF rather than continue partnering with the City of Morro Bay for treatment of its wastewater.

The District is currently in the design phase for the development of the WRRF and the associated conveyance infrastructure. It is envisioned that at a minimum, the CSWP will include reconfiguration of Lift Station 5 to convey wastewater to the Toro Creek WRRF location, construction of a Membrane Bioreactor (MBR) treatment facility, and infrastructure to convey plant discharge to the existing outfall. Reclaimed water will be available for onsite and local agricultural uses. For the purposes of this study it is assumed the total project capital cost will be \$23.1 million with annual plant O&M expenses projected at \$596,600.

1.2 PROPOSITION 218 REQUIREMENTS

On November 5, 1996, California voters approved Proposition 218². Proposition 218 amended the California Constitution by adding articles XIII C and XIII D to support Proposition 13 by adding restrictions on the imposition of taxes, assessments, fees, and charges on taxpayers without their consent.

Article XIII D defined the requirements for imposing new, or increasing existing, property-related fees and charges, and placed limitations on how the revenues collected can be used. Under this article a property-related charge (such as sewer rates) imposed by a public agency on a parcel shall:

- not exceed the funds required to provide the property related service;
- revenues shall not be used for any purpose other than that for which they are imposed;
- the amount of the charge imposed upon any parcel shall not exceed the proportional cost of service attributed to the parcel;
- The fee or charge may not be imposed for general governmental services where the service is available to the public at large in substantially the same manner as property owners.

For the purposes of funding facilities or services, such as water and sewer facilities, there are procedural requirements that must be met prior to approval. These procedures include:

- 1) Hold a noticed public hearing. At the public hearing, the agency shall consider all protests against the proposed fee or charge. If written protests against the proposed fee or charge are presented by a majority of owners or tenant customers of the identified parcels, the agency shall not impose the fee or charge.
- 2) Written notice of public hearing and ballots must be mailed to property owners or tenant customers at least 45 days prior to public hearing.
- 3) Notice must provide:
 - a. The total amount of the fee or charge proposed to be imposed;
 - b. The basis upon which it was calculated;
 - c. The reason for the fee or charge;
 - d. The date, time, location of the public hearing.
- 4) The resolution authorizing the fee or charge may state a range of rates or amounts or provide that rate may be adjusted for inflation pursuant to defined formula.

The purpose of this Rate Study is to determine the total fee or charge to be imposed, the proportional basis upon which it was calculated, and establish the amount of the fee or charge.

1.3 ORGANIZATION OF THE STUDY

This Rate Study is organized by the steps used to review the District's sewer rates and financial requirements surrounding current and future projects. The District's Rate Study is comprised of the following sections:

- Section 1: Introduction
- Section 2: District's Current Financial Status
- Section 3: Projected Annual Operating Budget
- Section 4: Allocation of Revenues & Expenses
- Section 5: Proposed Rate Increase Scenarios
- Section 6: Recommendations

1.4 RELIANCE ON DATA

WSC has relied on a variety of data and information sources furnished by the District, including revenue and expense data as well as work by others, and these data sources are cited within this Rate Study as appropriate. WSC did not independently test or verify these data sources (both historic and projected). Additionally, this Rate Study was based upon loan term and interest rate data provided by the USDA for their current Wastewater Grant and Loan Program. Should changes occur or errors be found in these data sources, the analysis, findings, and recommendations of this Rate Study would need to be revised accordingly.

1.5 ACKNOWLEDGEMENTS

We wish to extend our appreciation to the District's staff for their cooperation and assistance in the preparation of this study. In particular, we wish to thank Mr. Rick Koon, General Manager, Danielle Crawford, Administrative Office Manager, and Tim Carmel District Counsel.

2 DISTRICT'S CURRENT FINANCIAL STATUS

2.1 REVENUE

According to the District's billing information in May, 2016, the District had 2,702 equivalent dwelling units inclusive of 252 undeveloped lots. The current sewer service charge is \$52.00/month for each equivalent dwelling unit (EDU), increased from the FY07 to FY11 rate of \$47.00/month to generate revenues necessary to pay anticipated debt service for funding the District's portion of the defunct MBCSD WWTP upgrade³. The breakdown of the current sewer rate of \$52.00/month is shown in Table 2-1.

Table 2-1. Current Rate Breakdown (1 EDU/Month)

Expense Item	Expense Amount
Collections Operating Expenses	\$12.88
Collections Capital Depreciation	\$13.18
Plant Operating Expenses	\$18.71
Reserves	\$7.23
Tax Revenues Offsetting Payroll Expenses	\$52.00

Sewer connection fees are \$7,960/EDU to connect to the District's sewerage facilities³. The District also charges customers who are owners of vacant lots a standby charge of \$7.50/month for each vacant buildable parcel³. Additionally, the District receives a pro rata share of property tax revenues collected by the County. This portion includes secured, unsecured, and supplemental property taxes. The District invests surplus moneys in accordance with provisions of California Government Code Sections 5921 and 53601. Table 2-2 summarizes the District's total revenues in FY16.

Table 2-2. Summary of Total Revenues to the District, FY16

Revenue Item	Approved Budget Revenue (\$)
Sewer Service Charges	1,621,600
Standby Fees and Will Serve Charges	57,700
Rental Revenue	31,000
Solid Waste Franchise Fee	49,500
SLOCO Tax Assessments	715,000
Misc.	3,000
Investment Interest	7,000
Total Revenue	2,484,800

2.1.1 Taxes & Assessments

The District receives a portion of the taxes and assessments collected by the County for properties within its boundaries. Based on the historical data for FY04⁴ through FY15⁵, the District's taxes and assessments revenue has increased by approximately four percent annually on average. WSC assumed a more conservative annual increase in tax revenue throughout the Rate Study. For the purpose of projecting future taxes and assessments, this study assumes a 2.55 percent annual increase in property tax revenues.

Under Proposition 218, standby charges are considered an assessment, changes to which are outside the scope of this Rate Study. The District has an existing standby and immediate availability charge of \$7.50 per month for each undeveloped, buildable lot³. WSC has used the \$7.50 per month for each lot in calculating revenues. WSC recommends that the sewer standby charge be reviewed by the District and updated as warranted.

2.1.2 Franchise Fee

In consideration for the grant of an exclusive franchise and to defer administrative expenses, the District receives franchise fees from Mission Country Disposal for revenues generated from garbage collection. The fee is established as six percent of the gross solid waste collection revenues from the services provided³. The revenue is subject to periodic rate increases as the Contractor adjusts rates for such factors as inflation and increases in landfill disposal fees. However, for the purposes of this fee study, the District's revenue is projected to remain relatively constant at \$49,500 annually during the study period which offsets a portion of the District's administrative expenses.

2.1.3 Interest Revenue

The District generates interest revenue on available cash and investments based on the investment policy of the District. Projected interest revenue is calculated on the average projected cash and investments balance during each fiscal year at an interest rate of three and one-half percent, reflecting the District's projected investment rates³. Because interest revenue is variable, uncertain and dependent of the amount of cash reserves available for investment, for the purpose of this Rate Study, interest revenue and any other miscellaneous revenue was excluded from future revenue calculations.

2.1.4 Rental Revenue

The District receives rental revenue for property jointly owned with the City of Morro Bay near the existing MBCSD WWTP. Once the current plant is no longer in operation, the land underlying the MBCSD WWTP will be available to generate additional rental revenue³. For the purpose of this analysis, largely due to the uncertain timing and disposition of the jointly owned property, revenue from rentals and costs associated with abandonment and reuse of the land jointly owned with the City of Morro Bay have been excluded from this Rate Study.

2.2 EQUIVALENT DWELLING UNITS

The following section provides an EDU calculation based on the District's adopted methodology to project revenues.

Table 2-3 summarizes the FY16 EDU calculation results, based on the District's billing information from May, 2016, for single family residential and non-residential dwelling connections. Appendix B details the EDU calculations for the District user types. Table 2-4 summarizes the District's current monthly billing rates for FY16 EDU's.

Table 2-3. FY16 Equivalent Dwelling Unit (EDU) User Types

User Type	EDUs
Residential	2,310.5
Commercial	267.5
Industrial	11
Other	113
Total	2,702

Table 2-4. FY16 Monthly District EDU's and Fees

Service	EDUs	Billing Amount (\$)	Fee (\$)
Sewer	2,702	52	140,504
Lot	252	7.5	1,890

2.3 COLLECTION SYSTEM CAPITAL IMPROVEMENT PROGRAM

The District's basic Capital Improvement Program (CIP) philosophy is to budget adequate capital to maintain the collections system in good operating condition through offsetting the system's depreciation with prioritized CIP projects. In practice, assuming a 50-year service life for the collection system, each year the District should replace or rehabilitate approximately 2% of its system to maintain it in its present condition. Through careful prioritization of its projects, the District aims to sustain or improve the average condition of its system over time.

The District has identified several capital improvement projects as well as engineering studies for the FY17 included in their CIP and equipment budget, approved in June, 2016. The projects include: sewer main replacements with a budget to allow for two or three sections of replacement; point repairs for 10 to 15 locations where there is missing or cracked pipe, offset joints, severe root intrusion, or obvious inflow and infiltration (I&I); Lift Station 4 (LS 4) pump controller replacement; as well as implementing a SCADA project to tie all lift stations to the central office to record data and monitor lift station functions remotely.

The most significant capital project, the CSWP encompasses the work surrounding and including the construction of the WRRF and is addressed under separate heading below. Table 2-5 summarizes the District's approved CIP and equipment budget for FY17.

Table 2-5. Capital Improvement and Equipment Budget for FY17

Capital Improvement Programs	Approved CIP Budget (\$)
Sewer Main Replacement	150,000
Point Repairs	75,000
LS 4 Multismart Controller Install	9,000
SCADA System	80,000
Engineering Studies	
Lucerne Main and Manhole Realignment	25,000
Cypress Glenn Creek Crossing	15,000
Total Capital Project Expenses	354,000

2.3.1 CSWP CIP

Costs associated with development of the CSWP have been funded from the District's current reserves and are not carried forward since these are one-time costs associated with this large capital expenditure. Expenses associated with future plant replacement and capital improvements will be discussed as components of various rate alternatives. When regulations allow, the District may pursue direct potable or indirect potable water reuse opportunities. While space has been allocated for the advanced treatment facilities on-site, capital and operational costs associated with that potential future project are not included in the current cost estimates for the CSWP.

2.4 EXISTING DEBTS AND FINANCIAL OBLIGATIONS

The District currently has a loan payment liability of \$122,140 incorporated into the District operating budget. The final payment will be made in April, 2019. The loan payments will be captured in the District's FY18 and FY19 total operating budgets but are excluded from the financial projections thereafter.

3 PROJECTED ANNUAL OPERATING BUDGET

3.1 FUTURE EXPENSES

3.1.1 Annual Operations and Maintenance (O&M) Expenses

Annual O&M expenses for the District are summarized in Table 3-1. The expenses account for the increase in treatment operating expenses based on the projected O&M for a new WRRF producing tertiary recycled water (RW). The treatment expenses for operating the existing MBCSD WWTP and costs associated with future indirect or direct potable reuse operation have been excluded. All variable expenses are projected to increase at an inflation rate of 2% annually.

Table 3-1. FY17 O&M Expenses Estimate (\$/Year)

Expense Items	Approved Budget (\$)
Administrative Payroll	211,500
Collections Payroll	183,700
Director Payroll	12,000
Total Benefits	188,270
Subtotal Payroll Expenses	595,470
Special Projects	15,500
Admin Operating Expenses	222,200
Collections Operating Expenses	179,980
Projected CSWP Operating Expenses¹	596,600
Subtotal Operating Expenses	1,014,280
Total Expenses²	1,609,750

¹For future expense projections we are using the CSWP operating expenses rather than the existing MBCSD WWTP operating expenses.

²Expenses anticipated to escalate at a 2% inflation rate.

3.1.2 Annual Loan Payments

The District currently has a loan payment liability of \$122,140 incorporated into the District operating budget. The final payment will be made in April, 2019. The loan payments will be captured in the District's FY18 and FY19 total operating budgets but are excluded from the financial projections thereafter.

The CSWP is anticipated to be funded entirely by the USDA's Water and Waste Disposal Loan and Grant Program under a 40-year loan at the current 2.75 percent annual interest rate. The projected annual loan payment based on the total project cost of \$23.1 million, which includes the construction of tertiary RW storage and onsite conveyance infrastructure. Annual loan payments are anticipated to start at the completion of construction during FY19. Table 3-2 details the project capital cost and projected loan payments. Sewer rate increases were investigated over a 5-year term and four scenarios were generated. The four scenarios are summarized in Section 4.

Table 3-2. USDA Loan Payment Estimate for the CSWP

Item	Value
CSWP Project Cost (\$)	23,070,000
Loan Period (Years)	40
Loan Interest Rate (%)	2.75%
Annual Loan Payment (\$)	958,132

3.1.3 Conveyance System Depreciation

Over time the District's distribution and collection system will require upgrades and repairs. To ensure there is adequate funding, the District currently allocates \$450,000 annually for the CIP throughout the District's distribution and collection system.

3.1.4 Plant Depreciation

Over the course of the 40-year loan payback period for the CSWP, WSC assumed an annual depreciation rate of 2% to be applied to the initial capital cost of the CSWP. WSC allocated \$461,500 annually to address CIP projects which is roughly equivalent to the WRRF's anticipated depreciation.

3.1.5 Summary

Table 3-3 provides a summary of the District's anticipated operating expenses and projected amounts for each of these expenses over the next five years. Table 3-4 sums up the total expenses including the annual conveyance depreciation and capital cost depreciation.

Table 3-3. Projected O&M Expenses

Year	Total Payroll (\$)	Special Projects (\$)	Admin Operations (\$)	Collections Operations (\$)	Treatment Operations (\$) ¹	Total Operating Expenses (\$)
FY17	595,470	15,500	222,200	179,980	596,600	1,609,750
FY18	607,379	15,810	226,644	183,580	608,532	1,641,945
FY19	619,527	16,126	231,177	187,251	620,703	1,674,784
FY20	631,918	16,449	235,800	190,996	633,117	1,708,280
FY21	644,556	16,778	240,516	194,816	645,779	1,742,445
FY22	657,447	17,113	245,327	198,712	658,695	1,777,294

¹O&M expenses for MBR, additional treatment labor, treatment compliance, additional power, and effluent pump station and pump station maintenance and power. Also includes \$30,000 for O&M for offsite agricultural irrigation.

Table 3-4. Projected Total Expenses

Year	Total Operating Expenses (\$)	Conveyance Depreciation (\$)	Capital Cost Depreciation (\$)	Loan Payment (\$)	Total Expenses (\$)
FY17	1,609,750	450,000	461,400	122,140 ¹	2,521,150
FY18	1,641,945	450,000	461,400	122,140	2,675,485
FY19	1,674,784	450,000	461,400	1,080,272	3,666,456
FY20	1,708,280	450,000	461,400	958,132	3,577,812
FY21	1,742,445	450,000	461,400	958,132	3,611,977
FY22	1,777,294	450,000	461,400	958,132	3,646,826

¹USDA loan payments will begin in FY19

3.2 REVENUE

The District receives revenue from a pro rata share of property tax revenues collected by the County for properties located within the District service area boundaries. The approved budget for FY17 included a property tax revenue of \$715,000. The District's secured property tax increases 4% per year, WSC has conservatively used a 2.55% annual increase for projections. Revenues for Solid Waste for the FY17 approved budget are \$49,500. Due to the uncertain timing, amount of revenue changes associated with this franchise agreement, and desire to account for sewer related charges independent of solid waste franchise revenues these revenues are assumed to be constant over the project lifetime.

The largest secure source of revenue is the District's sewer revenue. Current EDUs by user type are summarized in Table 3-5.

Table 3-5. 2016 EDU User Types

User Type	EDUs
Residential	2,310.5
Commercial	267.5
Industrial	11
Other	113
Total	2,702

It is assumed that approximately five lots will be converted to EDUs annually. Based on established legal precedents, the District may propose revenue increases for a maximum of five-year incremental periods. Table 3-6 summarizes the current number of EDU, lots, and total sewer revenue. The breakdown of the projected revenue over the next five years is shown in Table 3-7.

Table 3-6. FY17 Total Sewer Revenue

Type	EDUs	Billing Rate (\$)	Lots (EDU)	Lot Fee (\$)	Revenue (\$)
Sewer	2,702	52	-	-	1,685,892
Vacant Lot	-	-	252	7.50	22,680
Total					1,708,572

Table 3-7. Projected Revenue - Existing Billing Rate

Year	Solid Waste (\$)	Non-Sewer (\$)	Sewer (\$)	Total (\$)
FY17	49,500	715,000	1,708,572	2,473,072
FY18	49,500	733,252	1,711,242	2,493,994
FY19	49,500	751,971	1,713,912	2,515,383
FY20	49,500	771,167	1,716,582	2,537,249
FY21	49,500	790,853	1,719,252	2,559,605
FY22	49,500	811,042	1,721,922	2,582,464

3.3 REVENUE DEFICIT

The comparison of projected revenue and expenses over the next 5 years is shown in Table 3-8. The deficit in revenue is due to the additional loan repayment along with current O&M expenses.

Table 3-8. Projected Annual Net Revenue – Existing Billing Rate

Year	Total Revenue (\$)	Total Expenses ¹ (\$)	Annual Net Revenue (\$)
FY17	2,473,072	2,181,890	291,182
FY18	2,493,994	2,675,485	-181,491
FY19	2,515,383	3,666,456	-1,151,073
FY20	2,537,249	3,577,812	-1,040,563
FY21	2,559,605	3,611,977	-1,052,372
FY22	2,582,464	3,646,826	-1,064,362

¹Includes annual loan payments, operating expenses, conveyance depreciation, and capital cost depreciation

To address the future upgrades to the District's sewer collection, treatment, and disposal systems a cost analysis was performed to develop four new potential sewer rate structures. The following section details the analysis behind the sewer rates and proposed sewer rate scenarios.

4 ALLOCATION OF REVENUES AND EXPENSES

4.1 FUNCTIONALIZATION OF COST COMPONENTS

Functional costs include expenses that correspond to operating functions within the sewer collection, treatment, and disposal system. We have excluded solid waste, investment, and miscellaneous rental revenue so that the calculated sewer rates are set to offset the directly related collections, treatment, and operating expenses. For a largely single purpose entity such as the District and the purposes of this study, it is assumed that all projected sewer collection and treatment expenses are functional costs.

4.2 CLASSIFICATION OF COSTS

Based on previous work by others, the District via Resolution 2009-7 elected to use an EDU methodology to classify various customers based on their anticipated wastewater generation compared to that of a single family residence⁶. The District has established that 4,137 gallons per month is equal to one EDU. The EDU methodology was determined to be an appropriate standard to use³ for classifying wastewater rates.

Each non-residential single family user has a calculated EDU based on the Table included in Appendix B. Since actual water usage data was not available to WSC, we did not audit the EDU calculations and have relied directly on the District's and others previous work in classifying customers.

The District's service area is primarily single and multi-family residential along with some commercial. Each residential and commercial user is measured by their EDU's calculated in Section 2.2.

4.3 ALLOCATION OF COSTS

EDUs are a relatively straight forward way to classify users based on their anticipated generation of wastewater. EDU's also present a ready methodology for the allocation of wastewater collection, treatment and operational expenses for a community like Cayucos where most of the wastewater generated is residential in strength. For the purpose of this study WSC did not modify the existing EDU allocation of costs and has allocated project related costs according to the number of EDU's in the system as defined in Appendix B.

4.4 DEVELOPMENT OF PROPOSED SEWER RATES

4.4.1 Criteria and Considerations

Specific design criteria were developed prior to the study. When developing the proposed sewer rates the District desired that the rates:

- Are fair and reasonable
- Are easy to understand
- Are easy to administer
- Provide long term revenue stability for the District

- Meet the requirements set forth by Proposition 218
- Generate adequate funds to secure the anticipated USDA loan

The purpose of this Rate Study is to investigate a rate structure that meets the District's revenue requirements while taking the above listed criteria into consideration. As explained further in Section 1.2, Proposition 218 outlines the requirements for sewer rate increases such as the one being investigated. This Rate Study meets the requirements set by Proposition 218 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)”².** The proposed sewer rates are structured to collect the required revenue for the construction, operation and maintenance 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”².** The revenues derived from the District's sewer rates are to be used exclusively for the construction, operation and maintenance 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”².** The proposed sewer rates are distributed based on the amount of EDU's allocated to each customer. EDU's distribute economic responsibility based on anticipated use of the District's services.

5 PROPOSED RATE INCREASE SCENARIOS

Four proposed rate increase scenarios are detailed in the following sections. The District is following the reserve policies required by the anticipated USDA's Water and Waste Disposal Loan and Grant Program. In each scenario, the debt service reserve exceeds the one-tenth (1/10) of annual debt payment requirement by the USDA's Water and Waste Disposal Loan and Grant Program. This generated revenue represents a baseline rate increase to cover loan repayment and annual operating expenses while maintaining reserves for short-lived assets. While only a five-year rate breakdown is shown in each scenario, these rate scenarios are intended to capture the required revenues for the full 40 years of the loan. Included in the scenarios in Appendix A is the full 40-year analysis. Provided that our assumptions regarding inflation and operating expenses prove correct, the District should have adequate funding to meet the repayment obligations of the USDA loan, including reserves, without additional rate increases.

5.1 SCENARIO 1

Table 5-1 details the 5-year rate increase necessary to surpass the projected expenses. This scenario includes generating adequate revenue to:

- make the anticipated USDA debt service payment;
- fund current operating expenses.

This scenario does not include funding of any capital expenditures for the collections system or for CSWP depreciation. Over time, without a future rate increase, the District would observe declining levels of service in the collections system and CSWP due to unfunded capital improvements. The annual net revenue for the next five years under the proposed billing rate is shown in Table 5-2. Appendix A details the anticipated annual revenue and reserves under the proposed rate increases for the 40-year time horizon of the anticipated USDA loan.

Table 5-1. 5-year Rate Increase Breakdown - Scenario 1

Year	EDU	Rate Increase	Billing Rate	Billing Revenue (\$)	Number of Lots (EDU)	Lot Fee (\$)	Lot Revenue (\$)	Total Sewer Revenue (\$)
FY17	2,702	20%	52	1,685,892	252	7.50	22,680	1,708,572
FY18	2,707	16%	62	2,026,814	247	7.50	22,230	2,049,044
FY19	2,712	0%	72	2,355,448	242	7.50	21,780	2,377,228
FY20	2,717	0%	72	2,359,791	237	7.50	21,330	2,381,121
FY21	2,722	0%	72	2,364,134	232	7.50	20,880	2,385,014
FY22	2,727	0%	72	2,368,477	227	7.50	20,430	2,388,907

Table 5-2. Annual Net Revenue - Scenario 1

Year	Revenue			Total Expenses (\$)	Annual Net Revenue (\$)	Net Reserves (\$)
	Solid Waste (\$)	Non-Sewer (\$)	Sewer (\$)			
FY17	49,500	715,000	1,708,572	1,731,890	741,182	741,182
FY18	49,500	733,252	2,049,044	1,764,085	1,067,712	1,808,894
FY19	49,500	751,971	2,377,228	2,755,056	423,642	2,232,536
FY20	49,500	771,167	2,381,121	2,666,412	535,376	2,767,912
FY21	49,500	790,853	2,385,014	2,700,577	524,789	3,292,701
FY22	49,500	811,042	2,388,907	2,735,426	514,022	3,806,724

5.2 SCENARIO 2

Table 5-3 details the 5-year rate increase under Scenario 2. This scenario includes generating adequate revenue to:

- make the anticipated USDA debt service payment;
- fund current operating expenses;
- provide capital improvement funding equal to the current collection system depreciation.

Scenario 2 assumes funding capital projects for the collections system at an annual cost of \$450,000. This scenario does not include funding of any capital expenditures for CSWP depreciation. Over time, without a future rate increase, the District would observe declining levels of service for the CSWP due to unfunded capital improvements. The total expenses and annual net revenue for the next five years are shown in Table 5-4. Appendix A details the anticipated annual revenue and reserves under the proposed rate increases for the 40-year time horizon of the anticipated USDA loan.

Table 5-3. 5-year Rate Increase Breakdown - Scenario 2

Year	EDU	Rate Increase	Billing Rate	Billing Revenue (\$)	Number of Lots (EDU)	Lot Fee (\$)	Lot Revenue (\$)	Total Sewer Revenue (\$)
FY17	2,702	28%	52	1,685,892	252	7.50	22,680	1,708,572
FY18	2,707	23%	67	2,161,935	247	7.50	22,230	2,184,165
FY19	2,712	0%	82	2,664,093	242	7.50	21,780	2,685,873
FY20	2,717	0%	82	2,669,005	237	7.50	21,330	2,690,335
FY21	2,722	0%	82	2,673,917	232	7.50	20,880	2,694,797
FY22	2,727	0%	82	2,678,829	227	7.50	20,430	2,699,259

Table 5-4. Annual Net Revenue - Scenario 2

Year	Revenue			Expense		Annual Net Revenue (\$)	Net Reserves (\$)
	Solid Waste (\$)	Non-Sewer (\$)	Sewer (\$)	Conveyance Depreciation (\$)	Total (\$)		
FY17	49,500	715,000	1,708,572	450,000	2,181,890	291,182	291,182
FY18	49,500	733,252	2,184,165	450,000	2,214,085	752,833	1,044,015
FY19	49,500	751,971	2,685,873	450,000	3,205,056	282,287	1,326,302
FY20	49,500	771,167	2,690,335	450,000	3,116,412	394,590	1,720,892
FY21	49,500	790,853	2,694,797	450,000	3,150,577	384,573	2,105,464
FY22	49,500	811,042	2,699,259	450,000	3,185,426	374,374	2,479,839

5.3 SCENARIO 3

Table 5-5 details the 5-year rate increase under Scenario 3. This scenario includes generating adequate revenue to:

- make the anticipated USDA debt service payment;
- fund current operating expenses;
- provide capital improvement funding equal to the current collection system depreciation;
- provide capital improvement funding equal to the anticipated plant depreciation.

Scenario 3 assumes funding capital projects for the collections system at an annual cost of \$450,000 and funding the capital projects for the CSWP at an annual cost of \$461,400. The total expenses and annual net revenue for the next five years are shown in Table 5-6. Appendix A details the anticipated annual revenue and reserves under the proposed rate increases for the 40-year time horizon of the anticipated USDA loan.

Table 5-5. 5-year Rate Increase Breakdown - Scenario 3

Year	EDU	Rate Increase	Billing Rate	Billing Revenue (\$)	Number of Lots (EDU)	Lot Fee (\$)	Lot Revenue (\$)	Total Sewer Revenue (\$)
FY17	2,702	28%	52	1,685,892	252	7.50	22,680	1,708,572
FY18	2,707	23%	67	2,161,935	247	7.50	22,230	2,184,165
FY19	2,712	8%	82	2,664,093	242	7.50	21,780	2,685,873
FY20	2,717	6%	88	2,882,525	237	7.50	21,330	2,903,855
FY21	2,722	5%	94	3,061,100	232	7.50	20,880	3,081,980
FY22	2,727	0%	98	3,220,060	227	7.50	20,430	3,240,490

Table 5-6. Annual Net Revenue - Scenario 3

Year	Total Revenue (\$)	Expense			Annual Net Revenue (\$)	Net Reserves (\$)
		Conveyance Depreciation (\$)	Capital Cost Depreciation (\$)	Total (\$)		
FY17	2,473,072	450,000	-	2,181,890	291,182	291,182
FY18	2,966,918	450,000	461,400	2,675,485	291,433	582,615
FY19	3,487,343	450,000	461,400	3,666,456	-179,113	403,502
FY20	3,724,522	450,000	461,400	3,577,812	146,710	550,212
FY21	3,922,333	450,000	461,400	3,611,977	310,356	860,568
FY22	4,101,031	450,000	461,400	3,646,826	454,205	1,314,773

5.4 SCENARIO 4

Table 5-7 details the 5-year rate increase under Scenario 4. This scenario includes generating adequate revenue to:

- make the anticipated USDA debt service payment;
- fund current operating expenses;
- provide capital improvement funding equal to the current collection system depreciation;
- provide capital improvement funding equal to the anticipated plant depreciation;
- fund a \$10,000,000 indirect or direct potable reuse project in FY31.

Scenario 4 assumes funding the O&M for the collections system at an annual cost of \$450,000 and funding the O&M for the CSWP at an annual cost of \$461,400. Scenario 4 also introduces rate increases to accumulate reserves for a ten-million-dollar payment in FY31 to fund the advanced water treatment facilities and conveyance infrastructure necessary for providing direct potable or indirect potable water supplies to the community. For the purposes of this Rate Study, WSC assumed the indirect or direct potable reuse project would occur in FY31. Under this scenario the billing rates are expected to remain to allow reserves to accumulate after the payment is made. The total expenses and annual net revenue for the next five years and FY31 are shown in Table 5-8.

Appendix A details the anticipated annual revenue and reserves under the proposed rate increases for the 40-year time horizon of the anticipated USDA loan.

Table 5-7. 5-year Rate Increase Breakdown - Scenario 4

Year	EDU	Rate Increase	Billing Rate	Billing Revenue (\$)	Number of Lots (EDU)	Lot Fee (\$)	Lot Revenue (\$)	Total Sewer Revenue (\$)
FY17	2,702	28%	52	1,685,892	252	7.50	22,680	1,708,572
FY18	2,707	23%	67	2,161,935	247	7.50	22,230	2,184,165
FY19	2,712	15%	82	2,664,093	242	7.50	21,780	2,685,873

Year	EDU	Rate Increase	Billing Rate	Billing Revenue (\$)	Number of Lots (EDU)	Lot Fee (\$)	Lot Revenue (\$)	Total Sewer Revenue (\$)
FY20	2,717	10%	94	3,069,355	237	7.50	21,330	3,090,685
FY21	2,722	10%	104	3,382,505	232	7.50	20,880	3,403,385
FY22	2,727	0%	114	3,727,591	227	7.50	20,430	3,748,021

Table 5-8. Annual Net Revenue - Scenario 4

Year	Total Revenue (\$)	Expense			Annual Net Revenue (\$)	Net Reserves (\$)
		Conveyance Depreciation (\$)	Capital Cost Depreciation (\$)	Total (\$)		
FY17	2,473,072	450,000	-	2,181,890	291,182	291,182
FY18	2,966,918	450,000	461,400	2,675,485	291,433	582,615
FY19	3,487,343	450,000	461,400	3,666,456	-179,113	403,502
FY20	3,911,352	450,000	461,400	3,577,812	333,541	737,043
FY21	4,243,738	450,000	461,400	3,611,977	631,760	1,368,803
FY22	4,608,562	450,000	461,400	3,646,826	961,736	2,330,539
FY31	4,872,570	450,000	461,400	14,036,044 ¹	-9,131,111	1,452,480

¹Additional 10-million-dollar indirect or direct potable reuse project payed for from accumulated revenues/reserves

6 RECOMMENDATIONS

6.1 CONNECTION FEES

The Connection Fee is an administrative fee. For the purpose of this study connection fees were held static. Due to the relatively small number of lot to rate payer conversions each year, this does not represent a significant source of revenue to the District. WSC recommends that the District review their connection fees with the next update of their administrative fees.

6.2 SEWER STANDBY OR IMMEDIATE AVAILABILITY CHARGES

It is recommended that the District retain the existing standby and immediate availability charge of \$7.50 per month for each undeveloped, buildable lot. In addition, while not an objective of this study WSC has determined that the District, with the upcoming investments in infrastructure, should consider a higher assessment to reflect the cost of the service provided. WSC recommends that the sewer standby charge be reviewed and updated as warranted.

6.3 SEWER SERVICE CHARGES

Scenario's 1 and 2 do not fully fund the depreciation of the CSWP and the current collections system. Over time, without a future rate increase, the District would observe declining levels of service in the collections system and CSWP due to unfunded capital improvements. WSC does not recommend implementation of Scenario's 1 or 2.

Scenario 4 provides additional capital to avoid additional debt associated with the implementation of a direct potable or indirect potable reuse project including advanced treatment upgrades, however there are potential equity arguments to be made in requiring current users to fund future upgrades for which they may not see a direct benefit. There are also significant uncertainties regarding the timing and certainty of Indirect or Direct Potable reuse. Therefore, WSC does not recommend implementation of Scenario 4.

To ensure that the District will have adequate revenue to fund operating expenses, capital expenditures, and future bond payments, it is recommended the District adopt the rate increase outlined in Scenario 3 over the next five years. Table 6-1 summarizes the proposed rate schedule including the number of new projected users and the total projected sewer revenue.

Table 6-1. Proposed Rate Schedule - Scenario 3

Year	EDUs	Rate Increase	Billing Rate (\$)	Billing Revenue (\$)	Number of Lots (EDU)	Lot Fee (\$)	Lot Revenue (\$)	Sewer Revenue (\$)
FY17	2,702	28%	52	1,685,892	252	7.50	22,680	1,708,572
FY18	2,707	23%	67	2,161,935	247	7.50	22,230	2,184,165
FY19	2,712	8%	82	2,664,093	242	7.50	21,780	2,685,873
FY20	2,717	6%	88	2,882,525	237	7.50	21,330	2,903,855
FY21	2,722	5%	94	3,061,100	232	7.50	20,880	3,081,980
FY22	2,727	0%	98	3,220,060	227	7.50	20,430	3,240,490
FY23	2,732	0%	98	3,225,964	222	7.50	19,980	3,245,944
FY24	2,737	0%	98	3,231,869	217	7.50	19,530	3,251,399
FY25	2,742	0%	98	3,237,773	212	7.50	19,080	3,256,853
FY26	2,747	0%	98	3,243,678	207	7.50	18,630	3,262,308
FY27	2,752	0%	98	3,249,582	202	7.50	18,180	3,267,762
FY28	2,757	0%	98	3,255,487	197	7.50	17,730	3,273,217
FY29	2,762	0%	98	3,261,392	192	7.50	17,280	3,278,672
FY30	2,767	0%	98	3,267,296	187	7.50	16,830	3,284,126
FY31	2,772	0%	98	3,273,201	182	7.50	16,380	3,289,581
FY32	2,777	0%	98	3,279,105	177	7.50	15,930	3,295,035
FY33	2,782	0%	98	3,285,010	172	7.50	15,480	3,300,490
FY34	2,787	0%	98	3,290,915	167	7.50	15,030	3,305,945
FY35	2,792	0%	98	3,296,819	162	7.50	14,580	3,311,399
FY36	2,797	0%	98	3,302,724	157	7.50	14,130	3,316,854
FY37	2,802	0%	98	3,308,628	152	7.50	13,680	3,322,308
FY38	2,807	0%	98	3,314,533	147	7.50	13,230	3,327,763
FY39	2,812	0%	98	3,320,437	142	7.50	12,780	3,333,217
FY40	2,817	0%	98	3,326,342	137	7.50	12,330	3,338,672
FY41	2,822	0%	98	3,332,247	132	7.50	11,880	3,344,127
FY42	2,827	0%	98	3,338,151	127	7.50	11,430	3,349,581
FY43	2,832	0%	98	3,344,056	122	7.50	10,980	3,355,036
FY44	2,837	0%	98	3,349,960	117	7.50	10,530	3,360,490
FY45	2,842	0%	98	3,355,865	112	7.50	10,080	3,365,945
FY46	2,847	0%	98	3,361,769	107	7.50	9,630	3,371,399
FY47	2,852	0%	98	3,367,674	102	7.50	9,180	3,376,854
FY48	2,857	0%	98	3,373,579	97	7.50	8,730	3,382,309

Year	EDUs	Rate Increase	Billing Rate (\$)	Billing Revenue (\$)	Number of Lots (EDU)	Lot Fee (\$)	Lot Revenue (\$)	Sewer Revenue (\$)
FY49	2,862	0%	98	3,379,483	92	7.50	8,280	3,387,763
FY50	2,867	0%	98	3,385,388	87	7.50	7,830	3,393,218
FY51	2,872	0%	98	3,391,292	82	7.50	7,380	3,398,672
FY52	2,877	0%	98	3,397,197	77	7.50	6,930	3,404,127
FY53	2,882	0%	98	3,403,101	72	7.50	6,480	3,409,581
FY54	2,887	0%	98	3,409,006	67	7.50	6,030	3,415,036
FY55	2,892	0%	98	3,414,911	62	7.50	5,580	3,420,491
FY56	2,897	0%	98	3,420,815	57	7.50	5,130	3,425,945
FY57	2,902	0%	98	3,426,720	52	7.50	4,680	3,431,400

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APPENDIX A. PROJECTED REVENUE AND RESERVES**Scenario 1 - Projected Revenue and Reserves**

Year	Sewer Revenue (\$)	Total Annual Revenue (\$)	Annual Loan Payment (\$)	Annual Operating Expenses (\$)	Annual Net Revenue (\$)	Net Reserves (\$)
FY17	1,708,572	2,473,072	122,140	1,609,750	741,182	741,182
FY18	2,049,044	2,831,797	122,140	1,641,945	1,067,712	1,808,894
FY19	2,377,228	3,178,698	1,080,272	1,674,784	423,642	2,232,536
FY20	2,381,121	3,201,787	958,132	1,708,280	535,376	2,767,912
FY21	2,385,014	3,225,367	958,132	1,742,445	524,789	3,292,701
FY22	2,388,907	3,249,448	958,132	1,777,294	514,022	3,806,724
FY23	2,392,800	3,274,045	958,132	1,812,840	503,073	4,309,797
FY24	2,396,693	3,299,171	958,132	1,849,097	491,942	4,801,739
FY25	2,400,586	3,324,839	958,132	1,886,079	480,628	5,282,367
FY26	2,404,479	3,351,062	958,132	1,923,800	469,130	5,751,497
FY27	2,408,372	3,377,856	958,132	1,962,276	457,447	6,208,945
FY28	2,412,265	3,405,234	958,132	2,001,522	445,580	6,654,525
FY29	2,416,158	3,433,212	958,132	2,041,552	433,527	7,088,052
FY30	2,420,051	3,461,804	958,132	2,082,383	421,289	7,509,341
FY31	2,423,944	3,491,027	958,132	2,124,031	408,864	7,918,205
FY32	2,427,837	3,520,897	958,132	2,166,512	396,253	8,314,458
FY33	2,431,730	3,551,429	958,132	2,209,842	383,456	8,697,913
FY34	2,435,623	3,582,642	958,132	2,254,039	370,472	9,068,385
FY35	2,439,516	3,614,552	958,132	2,299,119	357,301	9,425,686
FY36	2,443,409	3,647,178	958,132	2,345,102	343,944	9,769,630
FY37	2,447,302	3,680,537	958,132	2,392,004	330,401	10,100,031
FY38	2,451,196	3,714,648	958,132	2,439,844	316,672	10,416,703
FY39	2,455,089	3,749,530	958,132	2,488,641	302,757	10,719,460
FY40	2,458,982	3,785,204	958,132	2,538,414	288,658	11,008,118
FY41	2,462,875	3,821,689	958,132	2,589,182	274,375	11,282,493
FY42	2,466,768	3,859,006	958,132	2,640,965	259,908	11,542,401
FY43	2,470,661	3,897,176	958,132	2,693,785	245,259	11,787,660
FY44	2,474,554	3,936,221	958,132	2,747,661	230,428	12,018,088
FY45	2,478,447	3,976,163	958,132	2,802,614	215,417	12,233,505
FY46	2,482,340	4,017,026	958,132	2,858,666	200,228	12,433,733
FY47	2,486,233	4,058,832	958,132	2,915,839	184,861	12,618,594
FY48	2,490,126	4,101,607	958,132	2,974,156	169,319	12,787,913
FY49	2,494,019	4,145,374	958,132	3,033,639	153,602	12,941,515
FY50	2,497,912	4,190,158	958,132	3,094,312	137,714	13,079,230
FY51	2,501,805	4,235,987	958,132	3,156,198	121,657	13,200,886
FY52	2,505,698	4,282,886	958,132	3,219,322	105,432	13,306,318
FY53	2,509,591	4,330,883	958,132	3,283,709	89,042	13,395,361
FY54	2,513,484	4,380,006	958,132	3,349,383	72,491	13,467,852

Year	Sewer Revenue (\$)	Total Annual Revenue (\$)	Annual Loan Payment (\$)	Annual Operating Expenses (\$)	Annual Net Revenue (\$)	Net Reserves (\$)
FY55	2,517,377	4,430,283	958,132	3,416,370	55,781	13,523,633
FY56	2,521,270	4,481,745	958,132	3,484,698	38,915	13,562,548
FY57	2,525,163	4,534,421	958,132	3,554,392	21,897	13,584,445

Scenario 2 - Projected Revenue and Reserves

Year	Sewer Revenue (\$)	Total Annual Revenue (\$)	Annual Loan Payment (\$)	Annual Operating Expenses (\$)	Conveyance Depreciation (\$)	Annual Net Revenue (\$)	Net Reserves (\$)
FY17	1,708,572	2,473,072	122,140	1,609,750	450,000	291,182	291,182
FY18	2,184,165	2,966,918	122,140	1,641,945	450,000	752,833	1,044,015
FY19	2,685,873	3,487,343	1,080,272	1,674,784	450,000	282,287	1,326,302
FY20	2,690,335	3,511,001	958,132	1,708,280	450,000	394,590	1,720,892
FY21	2,694,797	3,535,150	958,132	1,742,445	450,000	384,573	2,105,464
FY22	2,699,259	3,559,801	958,132	1,777,294	450,000	374,374	2,479,839
FY23	2,703,721	3,584,967	958,132	1,812,840	450,000	363,995	2,843,833
FY24	2,708,183	3,610,661	958,132	1,849,097	450,000	353,433	3,197,266
FY25	2,712,645	3,636,898	958,132	1,886,079	450,000	342,687	3,539,953
FY26	2,717,108	3,663,691	958,132	1,923,800	450,000	331,758	3,871,712
FY27	2,721,570	3,691,053	958,132	1,962,276	450,000	320,645	4,192,357
FY28	2,726,032	3,719,001	958,132	2,001,522	450,000	309,347	4,501,704
FY29	2,730,494	3,747,547	958,132	2,041,552	450,000	297,863	4,799,567
FY30	2,734,956	3,776,709	958,132	2,082,383	450,000	286,194	5,085,760
FY31	2,739,418	3,806,501	958,132	2,124,031	450,000	274,338	5,360,098
FY32	2,743,880	3,836,940	958,132	2,166,512	450,000	262,296	5,622,394
FY33	2,748,342	3,868,041	958,132	2,209,842	450,000	250,068	5,872,462
FY34	2,752,805	3,899,823	958,132	2,254,039	450,000	237,653	6,110,115
FY35	2,757,267	3,932,303	958,132	2,299,119	450,000	225,051	6,335,166
FY36	2,761,729	3,965,497	958,132	2,345,102	450,000	212,263	6,547,429
FY37	2,766,191	3,999,425	958,132	2,392,004	450,000	199,289	6,746,718
FY38	2,770,653	4,034,105	958,132	2,439,844	450,000	186,129	6,932,848
FY39	2,775,115	4,069,557	958,132	2,488,641	450,000	172,784	7,105,632
FY40	2,779,577	4,105,800	958,132	2,538,414	450,000	159,254	7,264,886
FY41	2,784,039	4,142,854	958,132	2,589,182	450,000	145,540	7,410,425
FY42	2,788,502	4,180,739	958,132	2,640,965	450,000	131,642	7,542,067
FY43	2,792,964	4,219,479	958,132	2,693,785	450,000	117,562	7,659,629
FY44	2,797,426	4,259,093	958,132	2,747,661	450,000	103,300	7,762,929
FY45	2,801,888	4,299,604	958,132	2,802,614	450,000	88,859	7,851,788
FY46	2,806,350	4,341,036	958,132	2,858,666	450,000	74,238	7,926,026

Year	Sewer Revenue (\$)	Total Annual Revenue (\$)	Annual Loan Payment (\$)	Annual Operating Expenses (\$)	Conveyance Depreciation (\$)	Annual Net Revenue (\$)	Net Reserves (\$)
FY47	2,810,812	4,383,412	958,132	2,915,839	450,000	59,440	7,985,467
FY48	2,815,274	4,426,755	958,132	2,974,156	450,000	44,467	8,029,934
FY49	2,819,736	4,471,091	958,132	3,033,639	450,000	29,320	8,059,253
FY50	2,824,199	4,516,445	958,132	3,094,312	450,000	14,001	8,073,254
FY51	2,828,661	4,562,843	958,132	3,156,198	450,000	-1,488	8,071,767
FY52	2,833,123	4,610,311	958,132	3,219,322	450,000	-17,143	8,054,623
FY53	2,837,585	4,658,877	958,132	3,283,709	450,000	-32,964	8,021,660
FY54	2,842,047	4,708,569	958,132	3,349,383	450,000	-48,946	7,972,714
FY55	2,846,509	4,759,415	958,132	3,416,370	450,000	-65,087	7,907,627
FY56	2,850,971	4,811,446	958,132	3,484,698	450,000	-81,384	7,826,243
FY57	2,855,433	4,864,691	958,132	3,554,392	450,000	-97,833	7,728,410

Scenario 3 - Projected Revenue and Reserves

Year	Sewer Revenue (\$)	Total Annual Revenue (\$)	Annual Loan Payment (\$)	Annual Op. Expenses (\$)	Convey. Dep. (\$)	Capital Cost Dep. (\$)	Annual Net Revenue (\$)	Net Reserves (\$)
FY17	1,708,572	2,473,072	122,140	1,609,750	450,000	-	291,182	291,182
FY18	2,184,165	2,966,918	122,140	1,641,945	450,000	461,400	291,433	582,615
FY19	2,685,873	3,487,343	1,080,272	1,674,784	450,000	461,400	-179,113	403,502
FY20	2,903,855	3,724,522	958,132	1,708,280	450,000	461,400	146,710	550,212
FY21	3,081,980	3,922,333	958,132	1,742,445	450,000	461,400	310,356	860,568
FY22	3,240,490	4,101,031	958,132	1,777,294	450,000	461,400	454,205	1,314,773
FY23	3,245,944	4,127,190	958,132	1,812,840	450,000	461,400	444,818	1,759,591
FY24	3,251,399	4,153,877	958,132	1,849,097	450,000	461,400	435,248	2,194,839
FY25	3,256,853	4,181,106	958,132	1,886,079	450,000	461,400	425,495	2,620,334
FY26	3,262,308	4,208,891	958,132	1,923,800	450,000	461,400	415,559	3,035,893
FY27	3,267,762	4,237,246	958,132	1,962,276	450,000	461,400	405,438	3,441,331
FY28	3,273,217	4,266,186	958,132	2,001,522	450,000	461,400	395,132	3,836,463
FY29	3,278,672	4,295,725	958,132	2,041,552	450,000	461,400	384,641	4,221,104
FY30	3,284,126	4,325,879	958,132	2,082,383	450,000	461,400	373,964	4,595,067
FY31	3,289,581	4,356,664	958,132	2,124,031	450,000	461,400	363,101	4,958,168
FY32	3,295,035	4,388,095	958,132	2,166,512	450,000	461,400	352,051	5,310,219
FY33	3,300,490	4,420,189	958,132	2,209,842	450,000	461,400	340,815	5,651,034
FY34	3,305,945	4,452,963	958,132	2,254,039	450,000	461,400	329,393	5,980,427
FY35	3,311,399	4,486,435	958,132	2,299,119	450,000	461,400	317,784	6,298,210
FY36	3,316,854	4,520,622	958,132	2,345,102	450,000	461,400	305,988	6,604,199
FY37	3,322,308	4,555,542	958,132	2,392,004	450,000	461,400	294,007	6,898,205

Year	Sewer Revenue (\$)	Total Annual Revenue (\$)	Annual Loan Payment (\$)	Annual Op. Expenses (\$)	Convey. Dep. (\$)	Capital Cost Dep. (\$)	Annual Net Revenue (\$)	Net Reserves (\$)
FY38	3,327,763	4,591,215	958,132	2,439,844	450,000	461,400	281,839	7,180,044
FY39	3,333,217	4,627,659	958,132	2,488,641	450,000	461,400	269,486	7,449,531
FY40	3,338,672	4,664,894	958,132	2,538,414	450,000	461,400	256,949	7,706,479
FY41	3,344,127	4,702,941	958,132	2,589,182	450,000	461,400	244,227	7,950,706
FY42	3,349,581	4,741,819	958,132	2,640,965	450,000	461,400	231,321	8,182,027
FY43	3,355,036	4,781,551	958,132	2,693,785	450,000	461,400	218,234	8,400,261
FY44	3,360,490	4,822,157	958,132	2,747,661	450,000	461,400	204,965	8,605,226
FY45	3,365,945	4,863,661	958,132	2,802,614	450,000	461,400	191,515	8,796,741
FY46	3,371,399	4,906,086	958,132	2,858,666	450,000	461,400	177,887	8,974,629
FY47	3,376,854	4,949,454	958,132	2,915,839	450,000	461,400	164,082	9,138,711
FY48	3,382,309	4,993,789	958,132	2,974,156	450,000	461,400	150,101	9,288,812
FY49	3,387,763	5,039,118	958,132	3,033,639	450,000	461,400	135,946	9,424,759
FY50	3,393,218	5,085,464	958,132	3,094,312	450,000	461,400	121,620	9,546,379
FY51	3,398,672	5,132,854	958,132	3,156,198	450,000	461,400	107,124	9,653,503
FY52	3,404,127	5,181,315	958,132	3,219,322	450,000	461,400	92,461	9,745,963
FY53	3,409,581	5,230,873	958,132	3,283,709	450,000	461,400	77,633	9,823,596
FY54	3,415,036	5,281,558	958,132	3,349,383	450,000	461,400	62,643	9,886,239
FY55	3,420,491	5,333,397	958,132	3,416,370	450,000	461,400	47,494	9,933,733
FY56	3,425,945	5,386,420	958,132	3,484,698	450,000	461,400	32,190	9,965,923
FY57	3,431,400	5,440,657	958,132	3,554,392	450,000	461,400	16,733	9,982,657

Scenario 4- Projected Revenue and Reserves

Year	Sewer Revenue (\$)	Total Annual Revenue (\$)	Annual Loan Payment (\$)	Annual Op. Expenses (\$)	Convey. Dep. (\$)	Capital Cost Dep. (\$)	Annual Net Revenue (\$)¹	Net Reserves (\$)
FY17	1,708,572	2,473,072	122,140	1,609,750	450,000	-	291,182	291,182
FY18	2,184,165	2,966,918	122,140	1,641,945	450,000	461,400	291,433	582,615
FY19	2,685,873	3,487,343	1,080,272	1,674,784	450,000	461,400	-179,113	403,502
FY20	3,090,685	3,911,352	958,132	1,708,280	450,000	461,400	333,541	737,043
FY21	3,403,385	4,243,738	958,132	1,742,445	450,000	461,400	631,760	1,368,803
FY22	3,748,021	4,608,562	958,132	1,777,294	450,000	461,400	961,736	2,330,539
FY23	3,754,406	4,635,651	958,132	1,812,840	450,000	461,400	953,279	3,283,818
FY24	3,760,791	4,663,269	958,132	1,849,097	450,000	461,400	944,640	4,228,459
FY25	3,767,176	4,691,429	958,132	1,886,079	450,000	461,400	935,818	5,164,277
FY26	3,773,561	4,720,145	958,132	1,923,800	450,000	461,400	926,812	6,091,089
FY27	3,779,947	4,749,430	958,132	1,962,276	450,000	461,400	917,622	7,008,711
FY28	3,786,332	4,779,301	958,132	2,001,522	450,000	461,400	908,247	7,916,958
FY29	3,792,717	4,809,771	958,132	2,041,552	450,000	461,400	898,686	8,815,644

Year	Sewer Revenue (\$)	Total Annual Revenue (\$)	Annual Loan Payment (\$)	Annual Op. Expenses (\$)	Convey. Dep. (\$)	Capital Cost Dep. (\$)	Annual Net Revenue (\$)¹	Net Reserves (\$)
FY30	3,799,102	4,840,855	958,132	2,082,383	450,000	461,400	888,940	9,704,584
FY31	3,805,488	4,872,570	958,132	2,124,031	450,000	461,400	879,007	10,583,592
FY32	3,811,873	4,904,932	958,132	2,166,512	450,000	461,400	-9,131,111	1,452,480
FY33	3,476,008	4,595,707	958,132	2,209,842	450,000	461,400	516,333	1,968,814
FY34	3,308,441	4,455,460	958,132	2,254,039	450,000	461,400	331,889	2,300,702
FY35	3,313,900	4,488,936	958,132	2,299,119	450,000	461,400	320,284	2,620,987
FY36	3,319,359	4,523,127	958,132	2,345,102	450,000	461,400	308,493	2,929,480
FY37	3,324,818	4,558,052	958,132	2,392,004	450,000	461,400	296,516	3,225,996
FY38	3,330,277	4,593,729	958,132	2,439,844	450,000	461,400	284,353	3,510,349
FY39	3,335,736	4,630,178	958,132	2,488,641	450,000	461,400	272,005	3,782,354
FY40	3,341,195	4,667,417	958,132	2,538,414	450,000	461,400	259,472	4,041,826
FY41	3,346,654	4,705,468	958,132	2,589,182	450,000	461,400	246,754	4,288,580
FY42	3,352,113	4,744,351	958,132	2,640,965	450,000	461,400	233,853	4,522,434
FY43	3,357,572	4,784,087	958,132	2,693,785	450,000	461,400	220,770	4,743,204
FY44	3,363,031	4,824,698	958,132	2,747,661	450,000	461,400	207,506	4,950,710
FY45	3,368,490	4,866,207	958,132	2,802,614	450,000	461,400	194,061	5,144,770
FY46	3,373,949	4,908,635	958,132	2,858,666	450,000	461,400	180,437	5,325,208
FY47	3,379,408	4,952,008	958,132	2,915,839	450,000	461,400	166,637	5,491,844
FY48	3,384,867	4,996,348	958,132	2,974,156	450,000	461,400	152,660	5,644,504
FY49	3,390,326	5,041,681	958,132	3,033,639	450,000	461,400	138,510	5,783,014
FY50	3,395,786	5,088,032	958,132	3,094,312	450,000	461,400	124,188	5,907,202
FY51	3,401,245	5,135,427	958,132	3,156,198	450,000	461,400	109,696	6,016,898
FY52	3,406,704	5,183,892	958,132	3,219,322	450,000	461,400	95,037	6,111,936
FY53	3,412,163	5,233,455	958,132	3,283,709	450,000	461,400	80,214	6,192,150
FY54	3,417,622	5,284,144	958,132	3,349,383	450,000	461,400	65,229	6,257,378
FY55	3,423,081	5,335,987	958,132	3,416,370	450,000	461,400	50,085	6,307,463
FY56	3,428,540	5,389,015	958,132	3,484,698	450,000	461,400	34,785	6,342,248
FY57	3,433,999	5,443,257	958,132	3,554,392	450,000	461,400	19,333	6,361,580

¹Includes a \$10 million payment for an improvement project in FY 2030/2031

APPENDIX B. EDU CALCULATIONS.

A sewer service charge shall be imposed for all owners of real property, when such property utilizes District sewerage facilities. The basis for such charge shall be the equivalent dwelling unit(s) referred to as EDUs for the use (Notes 1 and 2). The EDU factors for the District as of July, 2009, are presented in Table A.

The charge **per equivalent dwelling unit (EDU)** shall be as follows:

Rate effective October 1, 2007	\$33.00 per month	(billed \$66.00 bi-monthly)
Rate effective July 1, 2008	\$37.00 per month	(billed \$74.00 bi-monthly)
Rate effective July 1, 2009	\$42.00 per month	(billed \$84.00 bi-monthly)
Rate effective July 1, 2010	\$47.00 per month	(billed \$94.00 bi-monthly)
Rate effective July 1, 2011	\$52.00 per month	(billed \$104.00 bi-monthly)

USER GROUPS

RESIDENTIAL:

Single Family	1.0 EDU (Note 2)
Multi Family	1.0 EDU per each dwelling unit (Note 1)
Mobile Homes	1.0 EDU per each space
Secondary Dwelling	1.0 EDU
Caretaker Residence	1.0 EDU

NON-RESIDENTIAL:

Hotels and Motels	0.5 EDU per sleeping room and 1.0 EDU per room with kitchen
Bed and Breakfast	1.0 EDU plus 0.5 EDU per rentable room

INSTITUTIONS/ORGANIZATIONS:

Churches	Calculated EDU (Note 3), with a minimum of 1.0 EDU
Clubs/Organizations	

OFFICE (NON-MEDICAL):

Calculated EDU (Note 3), with a minimum of 1.0 EDU

MEDICAL OFFICES:

Dental	Calculated EDU (Note 3), with a minimum of 1.0 EDU
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PERSONAL SERVICES GROUP:

Barber/Beautician	Calculated EDU (Note 3), with a minimum of 1.0 EDU
Car Wash (Self-Serve)	
Dry Cleaners	
Laundromats	
Auto Repair	
Gas Station	

<u>FOOD SERVICES GROUP:</u>	Calculated EDU (Note 3), with a minimum of 1.0 EDU
Deli/Market	
Taverns	
Full-Service Restaurants	
<u>RETAIL GROUP:</u>	Calculated EDU (Note 3), with a minimum of 1.0 EDU
Hardware	
Video	
Antique	
Jewelry	
Supermarket	
Gifts & Clothing	
Art Supplies	
Pharmacy	
<u>PUBLIC FACILITIES GROUP:</u>	Calculated EDU (Note 3), with a minimum of 1.0 EDU
Beach Restrooms	
Parks	
Swimming Pool	
Mixed Use/Multi Use Properties	Mixed use or multi-use properties under one billing account shall be evaluated separately for each business use, and the total added to establish the combined EDU

Notes:

1. The term "dwelling unit" means any livable space with a sewer connection (separate or shared).
2. Equivalent dwelling unit (EDU) presumes wastewater output equivalent to a single family dwelling unit considered to be 136 gallons per day (4,137 gallons per month).
3. At the onset of a new non-residential use, EDU's shall be calculated pursuant to Table "A" attached hereto and incorporated herein by this reference. On or about the end of the first year of sewer service, EDUs will be adjusted as follows: The District will review twelve (12) months of historical metered water consumption for the account, and then discounts 10% for landscaping to arrive at an adjusted average monthly water consumption figure. The adjusted average monthly water consumption figure is then divided by 4,137 representing the average monthly water use of a single family dwelling unit, and then rounded (up or down) to the nearest 0.5. In no event can the charge be less than 1.0 EDU per each dwelling unit and 1.0 EDU per each business use/operation.

Table "A"
Revised July 2009

		Unit	EDU Factor
<u>Non-Residential Minimum EDU</u>			
	Minimum Sewer Charge	unit	1.0000
<u>Hotels, Motels & Apartments</u>			
	Per Sleeping Room	unit	0.5000
	Per Room with Kitchen	unit	1.0000
<u>Industrial/Storage</u>			
	Storage/Mini-Storage	employee	0.0750
<u>Institutions/Organizations</u>			
	Churches	sq. ft.	0.0004
	Clubs/Organizations	sq. ft.	0.0004
<u>Offices (Non-Medical)</u>			
		sq. ft.	0.0011
<u>Medical Offices</u>			
	Dentist	sq. ft.	0.0011
<u>Personal Services</u>			
	Barber/Beautician	sq. ft.	0.0055
	Car Wash (Self Serve)	bay	2.6500
	Dry Cleaners (Off-Site)	sq. ft.	0.0011
	Laundromats	washing machine	4.4100
	Auto Repair	vehicle served	0.0735
	Gas Station	vehicle served	0.0735
<u>Food Services</u>			
	Deli/Market	sq. ft.	0.0015
	Taverns	seat	0.0735
	Full-Service Restaurants	seat	0.1838
<u>Retail</u>			
	Hardware	sq. ft.	0.0011
	Video	sq. ft.	0.0011
	Antique	sq. ft.	0.0011
	Jewelry	sq. ft.	0.0011
	Supermarket	sq. ft.	0.0011
	Gifts & Clothing	sq. ft.	0.0011
	Art Supplies	sq. ft.	0.0011
	Pharmacy	sq. ft.	0.0011
<u>Public Services</u>			
	Elementary Schools	student	0.1176
	Fire Department	sq. ft.	0.3676
	Library	sq. ft.	0.0011
	Post Office	sq. ft.	0.0011
	Sanitary District	sq. ft.	0.0011
<u>Public Facilities</u>			
	Beach Restrooms	sq. ft.	0.0110
	Parks	sq. ft. building	0.0110
	Swimming Pool	customer	0.0735