Final

COMPREHENSIVE FINANCIAL ANALYSIS AND RATE STUDY

B&V PROJECT NO. 404583

PREPARED FOR

Sewerage and Water Board of New Orleans

28 MARCH 2024

BLACK & VEATCH

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1.0 Executive Summary

The Sewerage & Water Board of New Orleans (SWBNO) provides treated water and water distribution services to approximately 140,600 customer accounts and sanitary sewerage collection and treatment service to approximately 138,600 customers located on both the east and west banks of the Mississippi River. In addition, the SWB is responsible for operating, maintaining, repairing, and expanding the major drainage system located throughout the City.

In providing water, sewerage, and drainage service, the SWB incurs considerable expense related to the ongoing operating and capital needs of the systems. These operating and capital expenditures tend to increase annually due to the combined effects of inflation and the need to repair, replace, or extend existing service facilities to meet customer service requirements, as well as to meet more stringent state and federal water quality requirements and EPA requirements.

The SWB, recognizing the importance of financial planning and cost of service analysis to equitably recover the increasing costs to replace, renew, expand, improve, and operate its water, sewerage, and drainage service facilities, retained Black & Veatch to perform this comprehensive study of revenue requirements for all three systems, and cost of service and rates for potable water service and sewerage service.

As a result of our evaluations and analyses, the following summary of findings and recommendations are offered for the SWBNO's consideration.

1.1 Summary of Findings

1.1.1 Revenue Under Existing Rates

1. The SWBNO provides water services to approximately 140,600. The number of water service customers is projected to increase to about 146,600 by 2027. The number of sewer service customers is projected to increase from 138,600 to about 145,000 by 2027.

2. Treated water sales to customers are projected to increase from approximately 31,100 thousand gallons (kgals) in 2022 to approximately 31,600 kgals by 2027. Billed sewer volumes are projected to increase from approximately 14,300 kgals in 2022 to approximately 14,700 kgals by 2027.

3. The SWBNO's current water rates became effective January 1, 2020. For all customers, the water rates include a monthly base charge, which varies by meter size and a 4-tier volume charge. The existing schedule of rates for sewer service became effective on January 1, 2020. The sewer rates include a monthly base charge, which varies by meter size and a per 1,000-gallon volume charge. Surcharge rates are based on excess strength of Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS). The existing sewer rate structure is described in Section 3.3.2.

4. Revenue is currently derived principally from charges for treated water, sewer service, and drainage ad valorem taxes. Revenue from treated water sales, under existing rates, is projected to increase from $119.7 million in 2022 to about $123.9 million in 2027. Miscellaneous water revenues are estimated to remain at from $2.2 million throughout the study period. Revenue for sewer collection and treatment services is projected to increase from $149.6 million in 2022 to about $155.3 million in 2027, under existing rates. Miscellaneous sewer revenue is estimated to

remain at $2.4 million from 2022 to 2027. Drainage revenue is expected to remain unchanged at $59.7 million from 2022 to 2027.

1.1.2 Revenue Requirements

1. Costs of service to be recovered from water and sewer service charges include (1) operation and maintenance expenses; (2) provision for doubtful accounts; (3) debt service (consisting of principal and interest payments); (4) cash financing of capital projects and (5) transfer to Operating Reserve Fund.

2. The water, sewer and drainage utilities have outstanding debt service. The water utility debt service is expected to increase from $9.2 million in 2022 to $20.7 million. The sewer utility debt service is estimated to increase from $26.7 million in 2022 to $32.7 million in 2027, and the debt service for the drainage utility is estimated to increase from $6.9 million in 2022 to $9.2 million in 2027.

3. The annual O&M expense includes the cost of labor, materials, power, chemicals, and other expenses associated with each utility's operation. In this study, FY 2022 is defined as the base budget year, based on which the O&M costs are projected for the forecast period. O&M expense for the water utility is projected to increase from $86.6 million in 2022 to $100.4 million by 2027 due to the combined effects of inflation and system growth. O&M expense for the sewer utility is projected to increase from $95.3 million in 2022 to $110.5 million by 2027 due to the combined effects of inflation and system growth, and the O&M expense for the drainage utility is projected to increase from $42 million in 2022 to $48.7 million in 2027.

4. Provision for doubtful accounts refer to outstanding balances from customers that are deemed uncollectible. The water and sewer provision for doubtful accounts in 2022 was 11% of revenue. Doubtful accounts projections for the study period assume 11% of annual revenues. Annual bad debt expenses for water utility is projected to increase from $13.2 million in 2022 to $19.2 million by 2027. Annual doubtful accounts for the sewer utility is projected to increase from $16.5 million in 2022 to $17.1 million by 2027. Annual doubtful accounts for the drainage utility is projected to slightly decrease from $98,500 in 2022 to $98,300 by 2027.

5. The SWBNO maintains an operating reserve balance equivalent of ninety (90) days of following years' O&M budget. The transfer to operating reserve for the water utility is projected to increase from $191,600 in 2022 to $13.3 million in 2027. The transfer to operating reserve for sewer is projected to decrease from $2.3 million in 2022 to negative $3.9 million in 2027. For drainage is also expected to decrease from negative $4.2 million in 2022 to negative $13.3 million in 2027.

6. The SWBNO currently utilizes the following sources of funding for the water, sewer and drainage utility capital projects (1) cash financing, (2) DWSRF loan proceeds, (3) FEMA reimbursement, (4) revenue bond proceeds, (5) Fairshare, and (6) Capital Outlay. The water, sewer and drainage capital improvement program for the study period is $816.4, $571.4 and $869.6 million respectively.

1.1.3 Summary of Cash Flow Results

1. The cash flow analysis performed based on the projected annual revenues under existing rates and the projected annual revenue requirements indicates a funding gap for both utilities beginning in 2022.

2. Therefore, a series of 7% annual revenue adjustment is needed in the water utility and a series of 2% annual revenue adjustment is needed in the sewer utility to achieve the goal of the operating fund revenues being self-sufficient and adequate to cover all of the O&M expenses, cash financing of the capital program, required transfers, and to maintain the minimum reserve requirements. *Table 9-9*, in the Appendix presents the cash flow analysis and the proposed series of revenue increases for the water utility, and *Table 9-27* presents the same for the sewer utility.

1.1.4 Cost of Service Analysis

1. The revenue requirements less any revenues from other sources provides the "net" annual operating fund revenue requirements (also referred to as "cost of service") that needs to be recovered through user rates and charges. A summary of the projected annual cost of service for 2023 is shown for water and sewer in tables ES-1 and ES-2, respectively.

Table ES - 1 –Water 2023 Cost of Service

Line No.	Description	Operating Expense	Capital Costs	Total
		$	$	$
	Revenue Requirements			
1	Operation & Maintenance Expense	89,200,300	-	89,200,300
2	Provision for Doubtful Accounts	14,355,300	-	14,355,300
3	Debt Service Requirements	-	10,125,700	10,125,700
4	Cash Financing of Capital Projects	-	15,000,000	15,000,000
5	Transfer to Operating Reserve Fund	-	-	-
6	Total	103,555,600	25,125,700	128,681,300
	Revenue Requirements Met from Other Sources			
7	Delinquent Fees	1,626,000	-	1,626,000
8	Revenue Sharing	261,300	-	261,300
9	Plumbing Inspection & Licensing Fees	295,300	-	295,300
10	Other Revenues	-	-	-
11	Interest Income on Operating Fund	40,600	9,800	50,400
12	Interest Income	402,400	97,600	500,000
13	Other Non-Operating Revenue	1,392,000	337,700	1,729,700
14	FEMA Reimbursement	-	-	-
15	Fair Share Revenue	-	-	-
16	Federal Non-Capital Grants	-	-	-
17	Interfund transfers	-	-	-
18	Use of Available Funds	(5,057,000)	(1,227,000)	(6,284,000)
19	WCA New Revenue	1,549,900	376,100	1,926,000
20	Total	510,500	(405,800)	104,700
21	Net Costs to be met from Charges	103,045,100	25,531,500	128,576,600

Table ES - 2 –Sewer 2023 Cost of Service

Line No.	Description	Operating Expense	Capital Costs	Total
		$	$	$
	Revenue Requirements			
1	Operation & Maintenance Expense	98,145,300	-	98,145,300
2	Provision for Doubtful Accounts	16,750,500	-	16,750,500
3	Debt Service Requirements	-	27,065,100	27,065,100
4	Cash Financing of Capital Projects	-	20,000,000	20,000,000
5	Transfer to Operating Reserve Fund	-	-	-
6	Total	114,895,800	47,065,100	161,960,900
	Revenue Requirements Met from Other Sources			
7	Delinquent Fees	1,740,000	-	1,740,000
8	Revenue Sharing	325,900	-	325,900
9	Plumbing Inspection & Licensing Fees	293,200	-	293,200
10	Other Revenues	-	-	-
11	Interest Income on Operating Fund	58,200	23,900	82,100
12	Interest Income (e)	354,700	145,300	500,000
13	Other Non-Operating Revenue	497,800	203,900	701,700
14	FEMA Reimbursement	-	-	-
15	Fair Share Revenue	-	-	-
16	Federal Non-Capital Grants	-	-	-
17	Use of Available Funds	(34,500)	(14,200)	(48,700)
18	WCA New Revenue	2,049,500	839,500	2,889,000
	Full Year Recovery Increase Adjustment	-	-	-
19	Total	5,284,800	1,198,400	6,483,200
20	Net Costs to be met from Charges	109,611,000	45,866,700	155,477,700

2. As a basis for design of a schedule of water and sewer rates, the costs of service are allocated to the classes of customers in accordance with respective service requirements of each customer class. The resulting costs of service allocated to customer classes are summarized in *Table 9-16* for water and *Table 9-34* for sewer.

1.2 Proposed Recommendations

Based on the financial planning and cost of service analysis performed for the study period, the Black & Veatch team proffers the following series of recommendations:

1. Implement a series of 7% annual revenue increase from 2023 to 2027 for water and a series of 2% annual revenue increase from 2023 to 2027 for the sewer utility.

2. Implement cost of service-based rates for water and sewer utilities in 2023.

3. Continue with the existing tier block structure for all customer classes.

The aforementioned recommendations enable the water and sewer utilities to meet all its financial obligations, so that the SWBNO can continue to provide reliable service to serve the needs of existing and future customers.

A regional comparison of typical residential monthly bills is provided in *Table 9-43*. Based on a comparison with 9 other communities, a typical residential customer consuming 4,400 gallons of water will pay higher water and sewer bills than most of the other comparison utilities.

1.3 2024 Update

This report was originally drafted in the fall of 2022 following a series of small group workshops with SWB Board Members. During the workshops, participants acknowledged that revenue adjustments have not kept up with the increasing operating and capital costs, and a multi-year capital financing plan is necessary. Aging infrastructure and system needs have outpaced preventative maintenance investment and deferred maintenance has impacted long-term infrastructure integrity and community quality of life. The group agreed that historical underinvestment has resulted in infrastructure failures and antiquated assets need to be addressed.

The working group expressed concern regarding the billing errors due to the 30-year old mainframe technology and acknowledged that smart metering will give customers accurate meter reads; however, it will take time to see the results.

Due to concerns related to SWBNO billing issues including unusually high or faulty bills, some City Council members indicated they would not consider or approve any rate changes until the billing issues are addressed. In addition, the New Orleans Office of Inspector General recommended the SWBNO delay any request for rate increases until the SWBNO has increased the accuracy of bills and collect on delinquent accounts.

1.4 Disclaimer

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2.0 Introduction

The Sewerage & Water Board of New Orleans provides treated water and water distribution services to approximately 140,600 customer accounts and sanitary sewerage collection and treatment service to approximately 138,600 customers located on both the east and west banks of the Mississippi River. In addition, the SWB is responsible for operating, maintaining, repairing, and expanding the major drainage system located throughout the City.

In providing water, sewerage, and drainage service, the SWB incurs considerable expense related to the ongoing operating and capital needs of the systems. These operating and capital expenditures tend to increase annually due to the combined effects of inflation and the need to repair, replace, or extend existing service facilities to meet customer service requirements, as well as to meet more stringent state and federal water quality requirements and EPA requirements.

The SWB, recognizing the importance of financial planning and cost of service analysis to equitably recover the increasing costs to replace, renew, expand, improve, and operate its water, sewerage, and drainage service facilities, retained Black & Veatch to perform this comprehensive study of revenue requirements for all three systems, and cost of service and rates for potable water service and sewerage service.

2.1 Purpose

This report examines the respective projected revenue requirements of the water, sewerage, and drainage systems of the SWBNO. The purpose of this report is (1) to project the future revenues of the water, sewerage, and drainage systems under existing rates and charges, as well as the operating expenses and capital financing revenue requirements and to examine the adequacy of projected revenues to meet these revenue requirements through calendar year 2027; (2) to allocate the water and sewerage revenue requirements, or costs of service, for a representative test year to the various customer classes in accordance with the respective service requirements that each class places on the systems; and (3) to develop a suitable schedule of water and sewerage rates that will produce revenues adequate to meet the financial needs of each system on a basis that recognizes customer costs of service and practical bill impact considerations.

2.2 Scope

This report presents the results of a comprehensive study of the projected revenue and revenue requirements for water, sewerage and drainage service, and costs of service allocations and proposed rates for treated water and sewerage service. Revenue and revenue requirements are projected for the six calendar years from 2022 through 2027, recognizing anticipated growth in number of customers, water use, and sewage flows throughout the service area. The study of revenue requirements recognizes projected operation and maintenance expense, capital improvement requirements met from revenues, principal and interest payments on outstanding and proposed bond issues, and reserve fund requirements. Requirements of existing revenue bond indentures are also recognized.

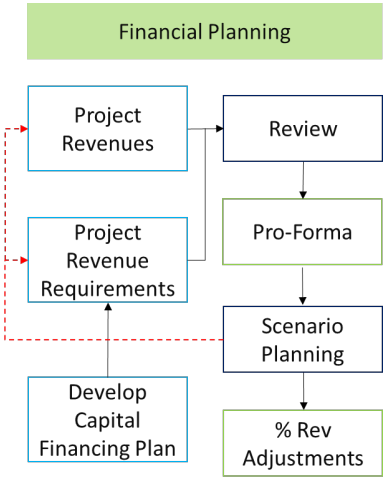
Costs of treated water and sewerage service are developed for each group of customers and type of service based on consideration of system revenue needs and projected customer service requirements. Rate adjustments are designed in accordance with allocated costs of service and customer bill impact considerations.

2.3 Study Methodology

The development of user rates and charges requires the integration of three critical components: (i) financial plan; (ii) cost of service allocations; and (iii) rate design.

2.3.1 Financial Plan

Figure 2 - 1: Financial Plan



The development and update of a financial plan is necessary to continue to focus on financial discipline, build financial stability, and maintain sustainable financial planning practices. The financial planning process helps to establish a financial roadmap to meet all of the water, sewerage, and drainage system's obligations.

As illustrated in Figure 2 - 1, the key components of a financial plan are: (i) projection of revenues from user rates and other sources; (ii) development of a capital financing plan to decide the mix of debt and cash funding of capital program; (iii) projection of revenue requirements (O&M and capital costs, and target reserves); and (iv) determination of the level and timing of revenue adjustments needed to maintain financial viability.

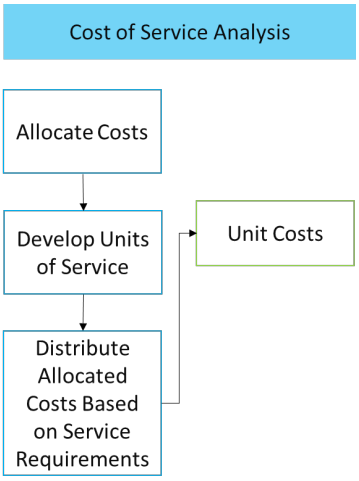
The annual revenue requirements are typically developed on a *cash-needs basis* for public utility rate setting. The revenue requirements, under the cash-needs basis approach, include the following:

- O&M expenditures,
- Debt service expenses,
- Cash financing of capital program,
- Contributions to operating reserves, and
- Other obligations such as payments and transfers for specific purposes.

To establish financial stability, a financial plan is typically prepared for a multi-year period. A six-year financial plan was developed for the water, sewerage, and drainage systems to achieve the financial objectives and target metrics defined to build and sustain financial integrity. 2022 through 2027 is the forecast period for both revenues and revenue requirement projections.

The revenue adjustments represent the level of annual revenue increases necessary to meet the annual net revenue requirements.

Figure 2 - 2: Cost of Service



2.3.2 Cost of Service

Cost of service can be described as the revenue that the water and sewerage systems need to generate, *net of funding from other miscellaneous sources of revenues.* Therefore, Cost of Service is essentially the "net revenue requirement" that is to be recovered through user rates and charges. As illustrated in Figure 2 - 2, cost of service analysis enables an equitable apportioning of the net annual revenue requirements (also referred to as cost of service) to the various cost components and customer classes. The level and types of

allocation performed depend on the existing and anticipated rate structure.

As municipal utilities are *public utilities that cannot make a profit,* the equitable allocation of costs is a critical step that is necessary to establish a *reasonable nexus* between costs incurred in providing service and the fees charged from customers, and to establish defensible user rates and charges.

2.3.3 Rate Design

The third and final component is an evaluation of the existing rate structure components and the development of proposed user rates and charges. The user rates and charge schedules typically include fixed charge, volumetric charge, and other special charge rate components. As illustrated in Figure 2 - 3, the rates and charges are designed to recover the annual cost of service allocated to these different rate components and based on local policy and practical considerations.

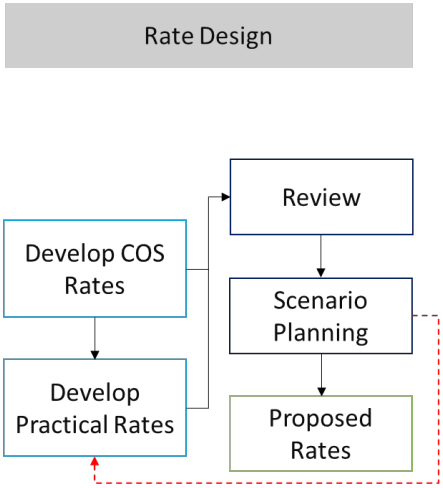


Figure 2 - 3: Rate Design

The study methodology described above and used in the financial planning, cost of service and rate design analysis reflect the application of industry accepted rate setting approaches that are provided in the following two guidance manuals:

- American Water Works Association (AWWA) *Manual M-1: Principles of Water Rates, Fees, and Charges* for water rate setting; and
- Water Environment Foundation (WEF) *Financing and Charges for Wastewater Systems* for wastewater.

3.0 Rate Structure Overview

The revenue requirements of a water and sewerage utility, net of any miscellaneous sources of revenues, are recovered from user rates and charges. A water rate structure usually consists of two primary components, namely, a fixed charge and a volumetric charge. Similarly, a sewer rate structure more commonly consists of a fixed charge, a volumetric charge, and pollutant charge (for sewer pollutants such as Bio-chemical Oxygen Demand (BOD) and Total Suspended Solids (TSS). Occasionally, a utility's water and sewer rate structures may include special surcharges and/or special assessments to recover costs associated with certain service situations such as purchased water, pumping to elevations, drought conditions, readiness-to-serve, environmental conditions, and extra-strength sewer discharges.

3.1 Fixed Charge

A utility's annual revenue requirements comprise mostly of fixed costs such as salaries and benefits, pension obligations, debt service, cash financing for infrastructure renewal, and costs related to the provision of adequate capacity for service. These types of fixed costs occur on a recurring basis regardless of the amount of water used by the customer.

Therefore, rate structures need to afford the ability to recover at least some of the fixed costs based on billing parameters that are not related to water usage or sewer flow. The fixed charge, which is assessed regardless of the volume of water used, provides a mechanism to reliably recover some of the fixed annual operating costs of the utility, and provide for some level of revenue stability.

In the utility industry, fixed charges are designed to recover one or more of the following types of costs, namely, (i) metering; (ii) billing; (iii) readiness-to-serve cost; (iv) specific capital investment; and (v) other specific costs. The costs of providing these functions vary among types of customers and/or by factors such as size and capacity of the meters. Therefore, to provide for equitable cost recovery, water and sewer fixed charges are usually assessed based on meter size and also by customer class.

3.2 Volumetric (Usage) Charge

In the utility industry, usage charges are designed to recover all other costs (except those that are recovered through fixed charge) associated with the treatment and delivery of water service and the collection, treatment, and disposal of sewer.

The three common types of volumetric charge are: (i) inclining block rate, where the usage in the next higher usage block is priced at a higher rate per unit; (ii) uniform block rate, where all units of usage are priced at the same unit rate; and (iii) declining block rate, where the usage in the next higher usage block is priced at a lower rate per unit. As usage patterns vary among customer classes and consequently different classes place different levels of service demands, different volumetric rates can be established for the various customer classes. In designing the volumetric rate structure, practical considerations including conservation, equity, affordability, and ease of administration are addressed.

3.3 Existing Rate Structure

3.3.1 Water Rate Structure

Consistent with industry rate structures, the SWB's water rate structure comprises of both Fixed Charge and Volumetric Charge components. The water rate structure includes the following two components:

- Service Charge (Fixed Charge); and

- Quantity Charge (Volumetric Charge).

Some of these components are applicable to only specific customer classes. The revenues derived from the above charges are collectively referred to as **"Water Service Revenues."**

- **Service Charge:** The existing Service Charge for all customer classes is based on meter size.
- **Quantity Charge:** The existing Quantity Charge is based on the quantity of water used by the customers.

The customer classes to which the specific charge components apply is illustrated in Figure 3 - 1. The existing water rate schedule for 2021, for these rate components, is presented in *Table W - 3* in the Appendix. All customers are billed monthly.

Figure 3 - 1: Existing Water Rate Structure

Rate Component	Applicable Customer Classes
• Service Charge by Meter Size	• General and Dual Service: Residential, Multi-Family, Commercial, and Industrial. • Fire Service
• Quantity Charge (4-Tier Inclining Block)	• All customer classes except Unmetered Fire Service

3.3.2 Sewerage Rate Structure

The SWB's sewerage rate structure also comprises of both Fixed Charge and Volumetric Charge components. The sewerage rate structure includes the following three components:

- Service Charge (Fixed Charge),
- Volume Charge (Volumetric Charge), and
- BOD and TSS Charge (Surcharge).

The revenues derived from all these three sources are collectively referred to as **"Sewerage Service Revenues."** Some of these user rate components are applicable to only specific customer classes.

- **Service Charge:** The existing Service Charge for all retail customers is based on meter size.
- **Quantity Charge:** The existing Quantity sewage charge is based on the quantity of water used by the customer classes.

Surcharge: The existing sewerage surcharge is based on the excess strengths of BOD and TSS, of certain customers.

The customer classes to which the specific rate components are applicable is illustrated in Figure 3 - 2. The existing sewerage rate schedule for 2022 is presented in Table S - 2 in the Appendix.

Figure 3 - 2: Existing Sewer Rate Structure

Rate Component	Applicable Customer Classes
• Service Charge by Meter Size	• General and Dual Service: Residential, Multi-Family, Commercial and Industrial
• Quantity Charge (Uniform) • Based on 85% of metered water usage	• All customer classes

3.3.2 Drainage Rate Structure

The SWBNO of New Orleans is authorized to levy ad valorem taxes to fund the drainage system's costs.

Figure 3 - 3: Existing Drainage Millage Rate

Ad Valorem Tax	Authorization Period
• Three-mill rate - 4.66 mills	• Authorized through 2046
• Six mill rate - 4.71 mills	• Authorized through 2026
• Nine mill rate - 7.06 mills	• Authorized through 2031

4.0 Water Utility

The financial plan and rate design were developed to meet all the funding obligations of the water utility, and to achieve the financial adequacy and equitable cost recovery discussed in Section 2.3.

The water utility financial plan was developed for the six-year forecast period of 2022 through 2027, and includes the following key components:

- Revenue projections (user rate revenues and non-rate revenues),
- Capital improvement program financing,
- Annual revenue requirement projections, and
- Annual proposed revenue increases

4.1 Water Revenue Projections Under Existing Rates

The water utility revenues are derived from the following sources:

- Water Service Revenues (Base and Volume Charge)
- Other Revenues

As a first step in the development of the financial plan, Water Service Revenues under the 2022 existing rates are projected for the forecast period.

4.1.1 Water Revenue Under Existing Rates

As described in Section 3.3.1, the Water Service Revenue consists of two charge components. For each of the two components, revenues are projected based on billing units and applicable existing rate schedules. The billing units necessary to compute the Base Charge revenues are the *number of accounts* based on meter size and customer class. The billing units necessary to compute the Volume Charge are the *annual water usage* by customer class and by applicable blocks of usage.

4.1.1.1 Projection of Customer Accounts

Typically, historical billing units are reviewed and used to project billing units for the forecast period. The project team reviewed historical accounts and average usage trends for each customer class referenced in Section 3.3.1.

Based on the review of historical trends, two annual adjustment factors were applied to project billing units for the forecast period. The two adjustment factors applied at the customer class level are *accounts growth rate* and *usage factor*.

The total number of water accounts is anticipated to increase from about 140,676 in 2022 to about 146,554 in 2027, at an average annual system growth rate of 0.76%. *Table 9-1* in the Appendix presents the projected annual number of water accounts and private fire connections for the period of 2022 through 2027.

Figure 4-1 presents both the historical and projected number of accounts for the water utility.

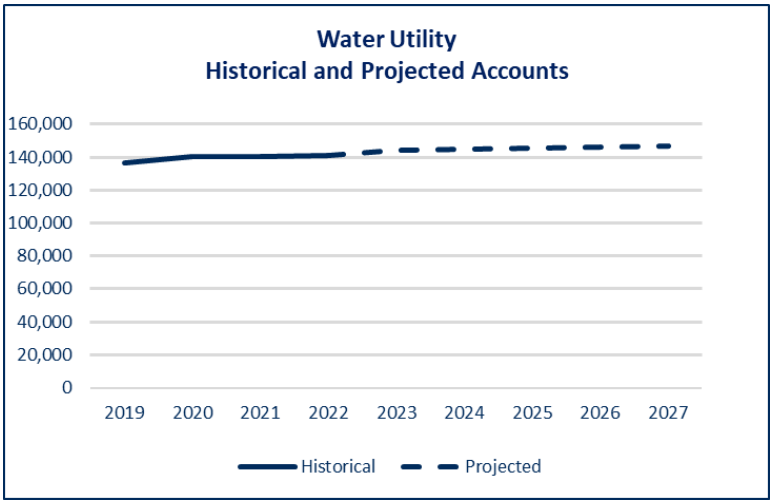


Figure 4-1 - Historical and Projected Water Accounts

4.1.1.2 Projection of Water Usage

Billed water volumes are projected based on estimates of the number of water accounts and the average billed usage per account. Average water use per account is determined based on historical usage. The historical usage per account for all customer classes varies from 2019 to 2020. In 2020, the COVID pandemic led to stay-at-home measures and shut down of non-essential businesses across the country. Consequently, the residential dual customers used more water in 2020, whereas the non-residential customers used less water as compared to previous years. The average use per account for 2021 was projected to remain at the 2020 levels assuming a lingering effect of the pandemic. The average usage per account for 2022 was projected to remain the same as 2021 with the exception of general residential customers which was projected to increase by 0.5%.

Total system water usage is projected to increase from 31,135 thousand gallons (kgals) in 2022 to 31,581 kgals in 2027. *Table 9-1* the Appendix presents the projected annual volume for the period of 2022 through 2027.

Figure 4-2 presents both the historical and projected annual billed volume for the water utility.

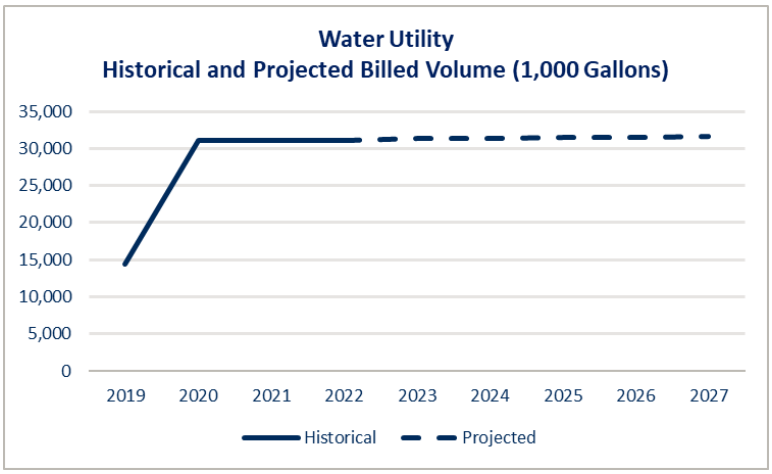


Figure 4-2 - Historical and Projected Water Billed Volume

4.1.2 Projection of Service Revenue Under Existing Rates

Water service revenues for the period 2022 through 2027 are projected for each charge component (base and volume) based on the projections of accounts by meter size, projected water usage for each customer class, and the application of the 2022 rate schedule. Water service revenue under existing rates is projected to increase slightly from $119.7 million in 2022 to $123.9 million in 2027. The water sales increase is due to growth in the number of accounts over the study period. *Table 9-3* in the Appendix presents the projected annual service revenues for the period of 2022 through 2027.

Figure 4-3 presents both the historical and projected annual service revenues under existing rates for the water utility.

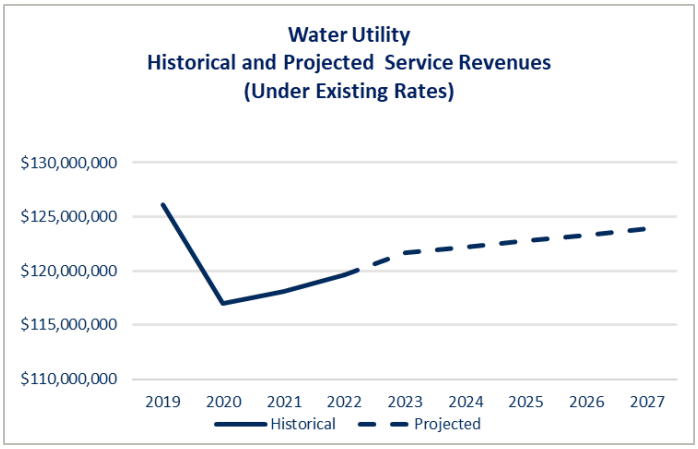


Figure 4-3 - Historical and Projected Water Service Revenue

4.1.3 Other Water Revenues

The other revenues include the following major components:

- Delinquent Fees,
- Revenue Sharing,
- Plumbing and Inspection Fees,
- Interest Income, and
- Other non-operating revenue

The annual other revenues for 2022 to 2027 are projected to remain the same at about $124.1 million. *Table 9-4* in the Appendix presents the historical and projected annual service revenues for the period of 2022 through 2027.

4.2 Water Capital Improvements Program

The capital project costs provided by the SWBNO were based on 2021 dollars. Based on discussions with the SWBNO, the project costs are inflated at an annual rate of 2.0% to accurately reflect the costs of projects for

2022 and beyond. The water utility Capital Improvement Plan (CIP) provides for a total of $816.4 million uninflated of investments during the study period of 2022 through 2027. *Table 9-5* in the Appendix presents the CIP program by category from 2022 through 2027.

Major capital improvements are typically financed through long term debt obligations and available reserves. Such improvements usually are nonrecurring on an annual basis, and debt financing permits the cost burden to be shared by both existing and future users of the facilities. Revenue bond issues and debt service projections developed subsequently provide for debt financing of a major portion of this major capital improvement program, with the balance to be funded primarily from other sources such as Pay-As-You-Go from rate revenue (cash financing), Federal Emergency Management Agency (FEMA) reimbursement, and Fairshare. Figure 4-4 presents a summary of all the funding sources for the 2022 - 2027 capital program.

Funding Source	2022-2027 Escalated CIP
Funds Available	12,516,600
DWSRF Loan Proceeds	75,000,000
FEMA Reimbursement	209,621,800
Fairshare	7,466,700
Revenue Bond Proceeds	180,000,000
Other Capital Project Funds	4,400,000
Capital Outlay	600,000
Grants	194,300
Pay-As-You-Go Funding From Rate Revenue	123,000,000
Interest Income	19,100
Total Sources of Funds	612,818,500

Figure 4-4 - Water Capital Funding Sources

4.3 Water Revenue Requirements

Projection of reliable revenue requirements includes:

1. Operation and maintenance expenses,
2. Provision for doubtful accounts, and
3. Debt service (consisting of principal and interest payments)

The projections of annual revenue requirements for the study period are discussed in this section.

4.3.1 Water Operation and Maintenance Expenses

The O&M expenses for the water utility include the annual expenses associated with the water purchases; storage and distribution; meters and services; billing and collection, and general administrative services. These expenses include personnel costs (salaries and benefits), costs for materials and supplies, costs of utilities, and contracted services.

The 2022 O&M budget provided by the SWBNO was used as the baseline for projection of O&M expenses for the study period. Based on historical O&M costs, industry experience, and discussions with the SWBNO management, appropriate escalation factors were applied to various categories of costs to project future annual O&M expenses. Annual escalation factors used for major cost categories are shown in Figure 4-5.

- *Personal Services: 3%*
- *Services and Utilities: 3%*
- *Supplies and Materials: 3%*
- *Special Current Charges: 3%*
- *Furniture and Equipment*: 3%
- *Repairs and Facility Maintenance*: 3%

Figure 4-5 - Water O&M Escalation Factors

The annual water O&M expenses excluding non-cash expenses are budgeted at $86.6 million in 2022 and are projected to grow to $100.4 million by 2027, while the O&M expenses for water utility including non-cash expenses are budgeted at $139.1 million in 2022 and are projected to grow to $161.3 million by 2027. *Table 9-6* in the Appendix presents a summary of total projected operation and maintenance expense for the period 2022 through 2027.

Figure 4-6 presents the historical and projected O&M expenses excluding non-cash expenses for the water utility.

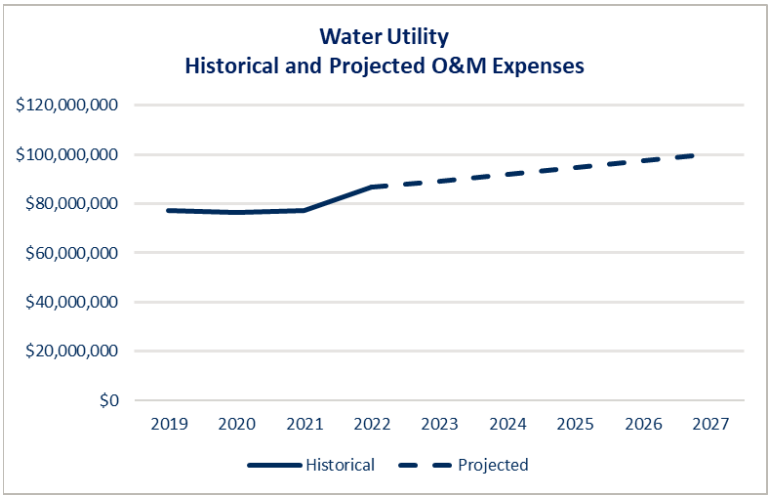


Figure 4-6 - Projected Annual Water O&M Expenses

4.3.2 Provision for Doubtful Accounts

Doubtful Accounts expenses refer to outstanding balances owed that are deemed uncollectible. Annual estimated uncollectable revenue for the water utility is projected to increase from $13.2 million in 2022 to $19.2 million by 2027 reflecting the increase in projected revenues. Line 16 in *Table 9-9* in the Appendix presents the projected estimated uncollectible revenue for the period 2022 through 2027.

4.3.3 Water Debt Service Requirements

Shown in *Table 9-8* is the scheduled principal and interest requirements on the existing revenue bonds.

It is proposed that the program of major capital improvements for the water system be principally financed through the sale of additional revenue bonds and state revolving fund loans, in additional to estimated debt service requirements on revenue

Proposed Debt Considerations:

- *Capital program needs*
- *Current policies*
- *Other sources of major capital improvement financing*
- *Debt service coverage requirements*

bonds projected to be issued to help finance major capital program expenditures are shown in *Table 9-7* in the Appendix. The proposed bonds are anticipated to be 20-year, 4 percent fixed interest rate bonds issued in mid-2022, and 5.5 percent fixed interest rate bonds issued the subsequent years with equal annual payments of principal and interest. Future debt service also includes Drinking Water State Revolving loans.

4.4 Water Proposed Revenue Adjustments

The annual revenue adjustments that are needed to achieve the defined financial performance objectives are determined by evaluating the funding gap between the projected annual revenue requirements and the projected revenues under existing rates. *Table 9-9* in the Appendix, provides a summary of the revenue and revenue requirements (financial plan) for the study period.

Projected Revenue Under Existing Rates: Line 1 indicates that under existing rates (2022 rates) water utility revenues will increase from $118.0 million in 2022 to $122.2 million in 2027.

Projected Other Revenues: Lines 9 to 13 indicate that the other revenues are anticipated to increase from $2.2 million in 2022 to $2.3 million in 2027. This increase is due to the growth in interest income in the Operating Fund. It is anticipated that all other categories of other revenues will remain flat throughout the study period.

Projected Expenses: Line 15 indicates the total operation and maintenance expenses for the water utility are anticipated to increase from $86.6 million in 2022 to $100.4 million in 2027. Estimated uncollectible revenue shown in Line 16 is estimated to increase from $13.2 million in 2022 to $19.2 million in 2027. Line 24 indicates debt service is projected to increase from $9.3 million in 2022 to $20.8 million in 2027, and Line 25 shows that cash capital financing is estimated to increase from $15 million in 2022 to $25 million in 2027.

Operating Reserve Fund: Line 31 indicates that the end of year balance in the operating reserve fund will increase from $46.2 million in FY 2022 to $76.7 million in FY 2027. Line 32 shows that days of cash on hand are estimated to increase from 195 in 2022 to 279 in 2027, surpassing the determined target of 90 days.

Funding Gap: The cash flow analysis indicates that the sum of revenues under existing rates and the other revenues is not adequate to fund the projected annual revenue requirements, thereby causing an operating deficit.

Proposed Revenue Adjustments: To address the funding gap in the water utility, a series of revenue adjustments are proposed as follows:

- 2023: 7% effective (December 1, 2022)
- 2024: 7% effective (December 1, 2023)
- 2025: 7% effective (December 1, 2024)
- 2026: 7% effective (December 1, 2025)
- 2027: 7% effective (December 1, 2026)

Lines 3 through 7 present the amount of additional revenues generated each year with the proposed magnitude and timing of revenue adjustments. Figure 4-7 presents the projected revenue and revenue requirements through 2027 for the water utility.

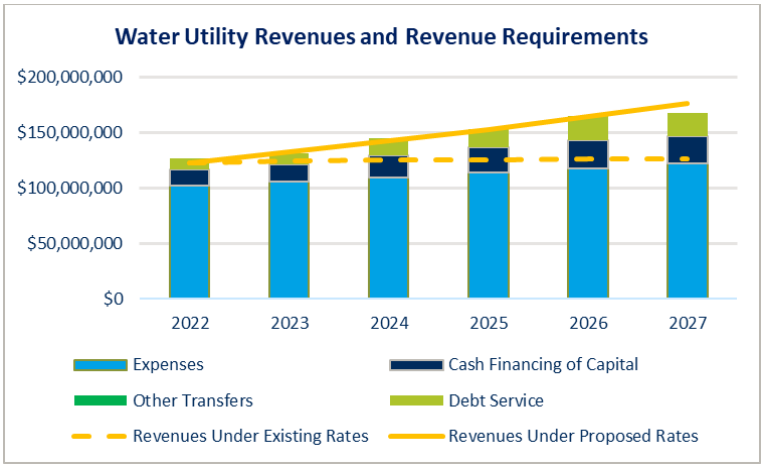


Figure 4-7 - Water Revenues and Revenue Requirements

The SWBNO has a financial guideline for the water utility that the Operating Reserve Fund available at the end of the year should meet or exceed 90 days of operating and maintenance expense. The actual operating reserve is shown on Line 31 of *Table 9-9* and the reserve measured in number of days is shown on Line 32.

4.4.1 Major Capital Improvement Financing

The SWBNO currently utilizes several sources of funding for the water utility capital projects such as (1): revenue bonds proceeds, (2) Drinking Water State Revolving Fund (DWSRF) loan proceeds, (3) Federal Emergency Management Agency (FEMA) reimbursement, and (4) cash financing from rate revenue. As stated in Section 4.2, the water capital improvement program for the study period is $816.4 million, of which $123 million is projected to be funded from cash financing from rate revenue. *Table 9-7* in the Appendix presents the sources of funding for the water capital improvement program. Line 25 in *Table 9-9* in the Appendix presents the projected transfers for cash financed capital for the period 2022 through 2027.

4.4.2 Bond Coverage Requirements

Table 9-10 in the Appendix presents the water utility's coverage requirements. The General Bond Resolution requires net revenue to equal or exceed 1.25 of parity debt service, however, the Board's Financial Management Policy aims for 1.50 coverage. In addition, the General Bond Resolution requires net revenue to equal or exceed 1.10 of all debt service, however the Board's Financial Management Policy aims for 1.25 coverage. The rate covenant coverage increases from 2.60 in FY 2022 to 2.82 in FY 2027.

4.5 Water Cost of Service

A key step to developing an equitable rate structure involves the cost of service analysis. The financial plan estimates a given year's total annual revenue requirements. The cost of service analysis provides a mechanism to defensibly allocate the total annual revenue requirements to the various customer classes.

The cost of service is typically performed for a single year, referred to as the "Test Year" for which the rates are to be designed. The test year for which the cost of service study was performed is 2023.

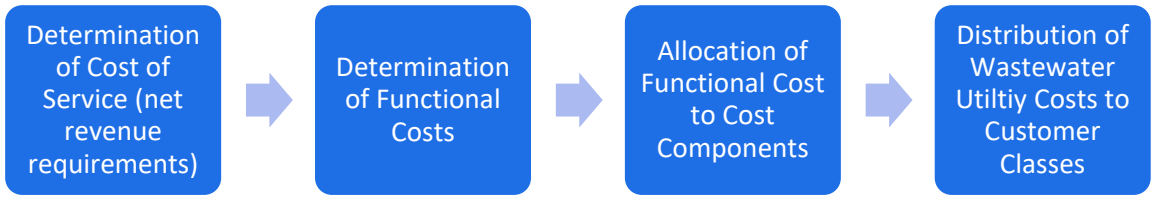
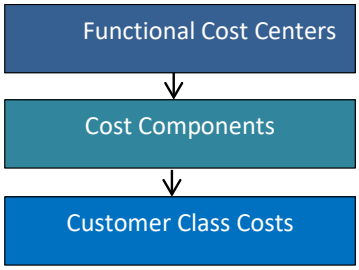


Figure 4-8 - Key Components of the Cost of Service Analysis

4.5.1 Determination of Cost of Service

The first step is to determine the cost of service that is to be recovered from user rates and charges. As briefly discussed in 2.3.2, cost of service is defined as, and synonymous with, the "net revenue requirement" that is to be recovered for the test year through user rates and charges. *Table 9-11* in the Appendix presents the derivation of the cost of service to be recovered through water charges. As Line 20 in *Table 9-11* indicates, the water cost of service for 2023 is projected to be $128.6 million. This cost of service consists of $103.1 million of net O&M expense and $25.5 million of net capital costs.

4.5.2 Determination of Functional Costs



As a basis for developing an equitable rate structure, the test year cost of service should be allocated to the various customer classes according to respective service requirements.

The basic underlying principle in developing cost of service rates is the determination of what elements in a water system are responsible for causing the level of revenue requirements that is needed. To allocate the costs to customer classes, first the operating and capital costs of service are aggregated into "Functional Cost Centers." The functional costs are then further allocated to cost components. Each component cost is then apportioned to customer classes

Functional Cost Centers

Functional cost centers of a water utility represent the activities that contribute to the incurrence of O&M and capital costs. For a water utility, they often include source of *water supply*, *pumping, treatment, storage, distribution, meters, billing,* and *other administration* costs. The O&M and capital costs defined for the Test Year must be allocated to functional cost centers.

Functional Costs

The **capital costs** associated with the functional cost centers are determined using detailed fixed assets data, provided by the SWBNO, for each class of asset that is currently in service, construction work in progress and projected capital improvement program for the test year. The total value of the fixed assets (referred to as "Net Plant Investment") in the system is usually presented as Original Cost Less Depreciation ("OCLD"). The total estimated OCLD of the water system is $874.6 million, as presented in Line 10 in *Table 9-12* in the Appendix. This plant investment data is subsequently used as a basis for the allocation to cost components, discussed in the following subsection 4.5.3.2.

The **O&M costs** for the Test Year are allocated to the various functional cost centers based on the specific nature of costs. The allocation of the projected O&M cost of service (net operating revenue requirement) of $89.2 million, to the various functional cost centers, is presented in *Table 9-13* in the Appendix.

The various cost elements of water service are assigned to functional cost components as the first step in the subsequent distribution of the costs of service to customer classes.

4.5.3 Allocation of Costs to the Functional Cost Components

The principal functional cost components consist of *Base Costs*, *Extra-Capacity Costs*, and *Customer Costs.*

Base costs are those which vary directly with the quantity of water used, as well as those costs associated with serving customers under average load conditions without the elements necessary to meet water use variations or peak demands. Base costs include purchased power and treatment chemicals, and other operating and capital costs of the water system associated with serving customers to the extent required for a constant, or average annual rate of use.

Extra-Capacity costs represent those operating costs incurred due to demands in excess of average, and capital related costs for additional plant and system capacity beyond that required for the average rate of use. Total extra capacity costs are subdivided into costs associated with maximum day and maximum hour demand.

Customer Costs are defined as costs which tend to vary in proportion to the number of customers connected to the system. These include meter reading, billing, collection and accounting costs, and maintenance and capital charges associated with meters and services.

The delineation of costs of service into these principal categories provides the means of further allocating such costs to the various customer classes based on the respective base, extra capacity, and customer service requirements of each customer class.

4.5.3.1 Water Utility Allocation to Cost Components

The water utility is comprised of a variety of service facilities, each designed and operated to fulfill a given function. In order to provide adequate service to its customers at all times, the utility must be capable of not only providing the total amount of water used, but also supplying water at maximum rates of demand.

Since all customers do not exert their maximum demand for water at the same time, capacities of water facilities are designed to meet the peak coincidental demands that all classes of customers, as a whole, place on the system. For every water service facility on the system, there is an underlying average demand, or uniform rate of usage exerted by the customers for which the base cost component applies. For those facilities designed solely to meet average day demand, costs are allocated 100% to the base cost component. Extra capacity requirements associated with coincidental demands in excess of average use are further related to maximum daily and maximum hourly demands.

Analysis of historical system maximum day and maximum hour demands to average day demands results in appropriate ratios for the allocation of capital costs and operating expenses to base and extra capacity cost components. A maximum day to average day ratio of 1.65 is used based on experienced demands in the water system. This indicates that approximately 60.6%of the capacity of facilities designed and operated to meet maximum day demand is required for average or base use. According, the remaining 39.4% is required for maximum day extra capacity requirements.

The costs associated with facilities required to meet maximum hour demand are allocable to base, maximum day extra capacity, and maximum hour extra capacity. A ratio of maximum hour to annual average day water use of 2.15 is used, based on demands experienced by the system. This ratio indicates that 46.5% of the capacity of facilities designed and operated for maximum hour demand is needed for average or base use, while 30.2% is utilized for maximum day extra capacity uses, and the remaining 23.3% is required to meet maximum hour extra capacity demand in excess of maximum day needs.

4.5.3.2 Allocation of Net Water Plant Investment

The estimated test year net plant investment in water facilities consists of net plant in service as of December 31, 2020, the 2021 construction work in progress, and the estimated cost of proposed capital improvements expected to be in service by the end of calendar year 2023. The total estimated OCLD of the water system is $874.6 million, as presented in Line 10 in *Table 9-12* in the Appendix.

Plant investment is allocated to cost components on a design basis recognizing the principal function governing the design of the facility. The allocation of net plant investment provides the basis for allocation of depreciation expense.

4.5.3.3 Allocation of Water Utility Operating Expenses

Table 9-13 in the Appendix presents the allocation of O&M expense to functional cost components. Total test year O&M expense, as shown on Line 19 of this table, amounts to $89.2 million. Operating expenses are allocated to functional cost components in generally the same manner as plant investment.

4.5.4 Distribution of Water Utility Costs to Customer Classes

As a basis for determining the cost of water service to each customer class, the elements of cost of service previously allocated to functional cost components are distributed among the classes in proportion to their respective service requirements. Estimates of these requirements, or units of service, reflect the average number of accounts with recognition to relative meter sizes serving each account, annual water sales, and estimated peak water demands placed on the system by each customer class. Analysis of resulting costs of service to each class and comparison of allocated costs with revenues under existing rates provide a basis for future water rate adjustments.

4.5.4.1 Water Customer Classification

Customer classes consist of Single Family Residential, Multifamily Residential, Commercial, Industrial, Dual Service, Metered Free Water Service, Unmetered Fire Service, and Public Fire Protection. The Dual Service class includes those commercial and industrial customers using a single water service line for both general service uses and fire protection. The Metered Free Water Service class includes all water users who, under directive of Louisiana state law, are supplied all or a portion of water service without charge. These include the public institutions of the SWBNO of New Orleans from which no revenue is derived and a number of charitable institutions. The Unmetered Fire Service class is comprised of all customers with separate fire connections, standpipes with hose attachments, tanks, and automatic sprinkler systems. Water use through such systems is limited to emergency fire fighting or testing. Public Fire Protection covers the provision of public fire hydrants and the maintenance of adequate supplies of water to meet fire fighting requirements.

4.5.4.2 Water Units of Service

The cost of service responsibility for base costs varies with the annual volume of water usage and is distributed to customer classes on that basis. Extra capacity city costs are those costs associated with meeting peak rates of water use and are distributed to customer classes on the basis of their respective

system capacity requirements in excess of average requirement rates. Customer costs, which consist of meter related costs, billing, collection and accounting costs, are allocated on the basis of the number of equivalent meters and monthly bills.

The estimated units of service for the various customer classifications are presented in *Table 9-14* in the Appendix. Estimates of test year annual water volumes, shown in Column 1, are based on the projections of total water sales for the test year 2023. Average daily water use is presented in Column 2. Columns 3 through 8 present the estimated maximum day and maximum hour capacity factors for each customer class, the resulting demands, and extra capacity requirements, respectively.

Customer related meter and service costs are allocated on the basis of the number of equivalent 5/8 inch meters serving each customer class. The number of equivalent meters in each customer class (Column 9) is estimated by relating typical costs for meters and services larger than 5/8 inch in size to the typical cost of a 5/8 inch meter and its related service line. Customer billing and accounting costs are distributed to classes on the basis of the number of bills for each customer class in Column 10.

Extra capacity requirements for fire protection service recognize, in part, peak fire flow requirements, and system capabilities established by the Insurance Service Office. One fire is estimated with peak fire flow requirements of 9,000 gallons per minute for 10 hours (maximum day) and 24 hours (maximum hour).

4.5.4.3 Water Utility Customer Class Costs of Service

Unit costs of service are developed by dividing the total cost allocated to each functional cost component by the total applicable units of service. The customer class responsibility for service is obtained by applying unit costs of service to the number of units for which the customer class is responsible. *Table 9-15* in the Appendix shows the development of the unit costs of service applicable to each cost function. Lines 1 through 3 summarize the units of service developed in *Table 9-14*. Total allocated costs or investment shown on Lines 4 and 6 were previously developed in *Table 9-13* and *Table 9-12* respectively. Unit costs of service for each component are determined by dividing the allocated cost or investment by the total units of service.

Table 9-18 in the Appendix shows the resulting allocated and adjusted cost of service by customer class, revenue under existing rates, and the additional revenue required from each class. Costs associated with free water service and public fire protection are not recovered through direct charges, therefore, the cost of service for this class is reallocated to all other retail customers in proportion to their allocated cost of service as shown in Columns 2 and 3. The test year adjusted cost of service, reflecting the reallocation of these costs, is shown in Column 4. The indicated increase or decrease in revenue required to meet adjusted cost of service is shown in Column 6.

5.0 Water Rate Design

The principal consideration in establishing water rate schedules is to establish rates to customers to recover costs that reasonably commensurate with the cost of providing water service. Theoretically, the only method of assessing entirely equitable rates for water service would be the determination of each customer's bill based upon each customer's particular service requirements. Since this is impractical, schedules of rates are normally designed to meet average conditions for groups of customers having similar service requirements. Rates should provide for equitable cost recovery, ease of customer understanding and be simple to administer.

The revenue requirements and cost of service allocations described in the preceding sections provide the basis for adjusting water rates. The revenue requirements reflect the need for adjustment and the level of revenue required. The cost of service analysis provides the unit costs of service used in the rate design process and gives a basis for determining whether resultant rates will develop revenues which recover costs of service from customer classes in proportion to service required and provide the total level of revenue required.

5.1 Existing Water Rates

The existing schedule of rates for water service became effective on January 1, 2020. These rates include a monthly base charge bill, which varies by meter size, and an inclining 4-tier volume charge for all customer classes. The existing water rate structure is described in Section 3.3.1. The existing schedule of base and volumetric water rates is shown in *Table W - 2*.

5.2 Proposed Water Rates

The cost of service analysis described in the preceding sections of this report provides a basis for the design of a schedule of water rates to meet those costs. Proposed water base charge and volume rates have been designed to meet the test year allocated costs of service and are presented in *Table 9-17*.

In developing proposed schedules of water rates, it must be recognized that the cost of service studies are the result of engineering estimates, based to some extent upon judgment and experience, and detailed results should not be used as literal and exact answers but as guides for potential rate adjustments. Practical considerations such as previous rate levels, bill impact on customers, and magnitude of cost of service shifts among customer classes, and past local practices are commonly recognized in making rate adjustments.

A comparison of estimated test year revenue under the proposed rates with allocated costs of service for each of the customer classes is presented in *Table 9-18* in the Appendix. This comparison indicates the proposed rates will recover revenues from inside and outside City customer groups reasonably commensurate with the cost of service and practical considerations previously noted.

To better reflect the total effect the proposed rates have on customer bills, a comparison of typical inside city and outside city customer water charges under existing rates and the rates proposed to become effective December 1, 2023, is presented in *Table 9-19*.

6.0 Sewerage Utility

The financial plan and rate design were developed to meet all the funding obligations of the sewerage utility, and to achieve the financial adequacy and equitable cost recovery discussed in Section 2.3.

The sewerage utility financial plan was developed for the forecast period of 2022 through 2027, and includes the following key components:

- Revenue projections (user rate revenues and non-rate revenues),
- Capital improvement program,
- Annual revenue requirement projections, and
- Annual proposed revenue increases

6.1 Sewerage Revenue Projections Under Existing Rates

The sewer utility revenues are derived from the following sources:

- Sewerage Service Revenues (Base and Volume Charge)
- Other Revenues

As a first step in the development of the financial plan, Sewer Service Revenues under the 2021 existing rates are projected for the forecast period.

6.1.1 Sewerage Revenue Under Existing Rates

As described in Section 3.3.2, the Sewer Service Revenue consists of two charge components. For each of the two components, revenues are projected based on billing units and applicable existing rate schedules. The billing units necessary to compute the Base Charge revenues are the *number of accounts* based on meter size and customer class. The billing units necessary to compute the Volume Charge are the *annual sewerage billed volumes* by customer class and by applicable blocks of billable sewerage volume.

6.1.1.1 Projection of Customer Accounts

Typically, historical billing units are reviewed and used to project billing units for the forecast period. The project team reviewed historical accounts and billed volume trends for each customer class referenced in Section 3.3.1.

Based on the review of historical trends, two annual adjustment factors were applied to project billing units for the forecast period. The two adjustment factors applied at the customer class level are *accounts growth rate* and *volume factor*. The number of accounts is projected to grow for all customer classes except for free water service customers.

The total number of sewerage accounts is anticipated to increase from about 138,583 in 2022 to about 144,946 in 2027, at an overall annual system growth rate of 0.5%. *Table 9-20* in the Appendix presents the projected annual number of accounts for the period of 2022 through 2027.

Figure 6-1 presents both the historical and projected number of accounts for the sewerage utility.

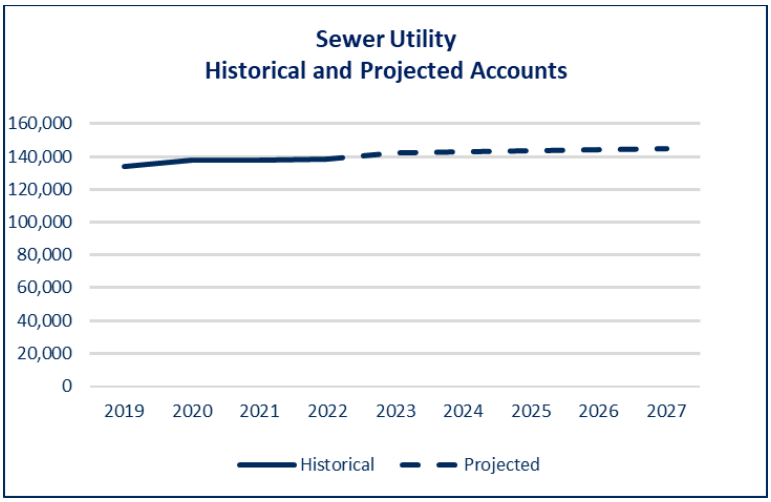


Figure 6-1 - Historical and Projected Sewerage Accounts

6.1.1.2 Projection of Sewer Volume

Billed sewerage volumes are projected based on estimates of the number of sewer accounts and the average billed volume per account. Average billed volume per account is determined based on historical billed volume. The historical billed volume per account for all customer classes varies each year between 2017 and 2020. The average billed volume per account for 2021 was projected to remain at the 2020 levels assuming a lingering effect of the pandemic. The average billed volume per account for 2022 was projected to increase between 2% and 2.5% for residential, multifamily and commercial customers. However, for industrial and free water service customers the average billed volume is projected to remain stable at 2021 levels.

Total system sewerage billed volume is projected to increase from 14,323 kgals in 2022 to 14,717 kgals in 2027. *Table 9-20* presents the projected annual volume for the period of 2022 through 2027.

Figure 6-2 presents both the historical and projected annual billed volume for the sewerage utility.

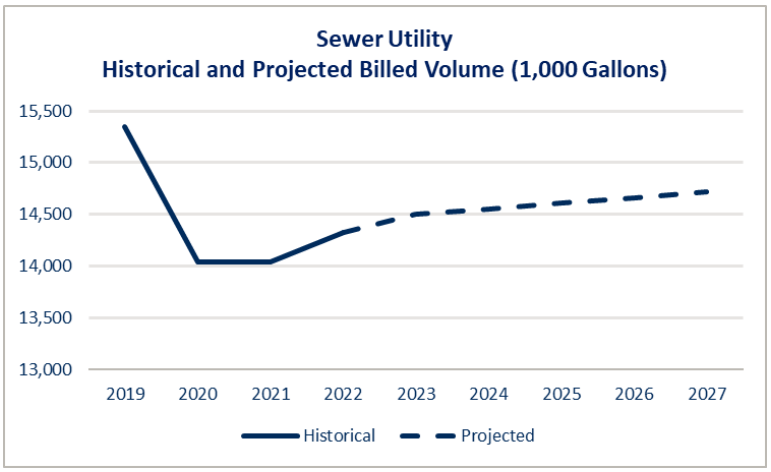


Figure 6-2 - Historical and Projected Sewerage Billed Volume

6.1.2 Projection of Service Revenue Under Existing Rates

Sewerage service revenues for the period 2022 through 2027 are projected for each charge component (base and volume) based on the projections of accounts by meter size, projected billed volume for each customer class, and the application of the 2021 rate schedule. Sewerage service revenue under existing rates is projected to increase slightly from $151.3 million in 2022 to $155.3 million in 2027. This growth is due to increase in sewerage sales due to the growth in the number of accounts over the study period. *Table 9-22* in the Appendix presents the projected annual service revenues for the period of 2022 through 2027.

Figure 6-3 presents both the historical and projected annual service requirements under existing rates for the sewerage utility.

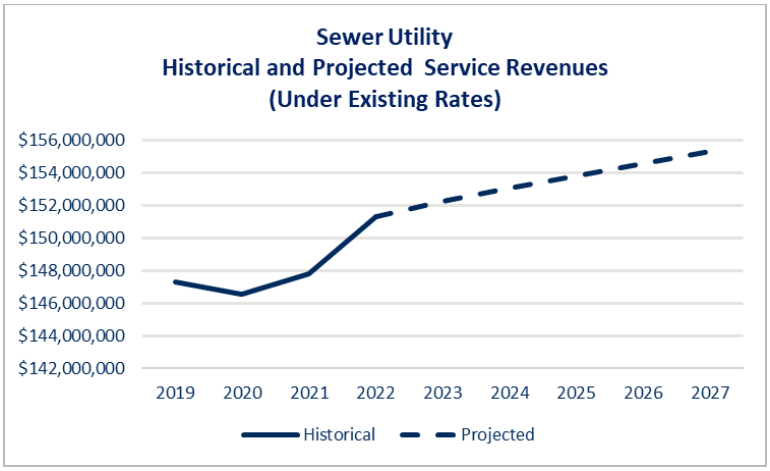


Figure 6-3 - Historical and Projected Sewerage Service Revenue

6.1.3 Other Sewerage Revenue

The other revenues include the following major components:

- Delinquent Sales Revenue Sharing and
- Plumbing Inspection and Licensing Fees

The annual revenues from delinquent fees, revenue sharing and plumbing inspection and licensing fees for 2022 are projected to go back to similar 2019 levels since 2020 and 2021 reflected the impact of the COVID pandemic. Therefore, other operating revenues are projected to be $2.2 million in 2022 and remain the same for the rest of the study period. *Table 9-23* in the Appendix presents the projected annual other revenues for the period of 2022 through 2027.

6.2 Sewer Capital Improvements Program

The capital project costs provided by the SWBNO were based on 2021 dollars. Based on discussions with the SWBNO, the project costs are inflated at an annual rate of 2.0% to accurately reflect the costs of projects for 2022 and beyond. The SWBNO's sewerage utility Capital Improvement Plan (CIP) provides for a total of $571.5 million of investments during the study period of 2022 through 2027. *Table 9-24* in the Appendix presents the CIP list of projects for 2022 through 2027.

Proposed Debt Considerations:

- *Capital program needs*
- *Current policies*
- *Other sources of major capital improvement financing*
- *Debt service coverage requirements*

Major capital improvements are typically financed through long term debt obligations and available reserves. Such improvements usually are nonrecurring on an annual basis, and debt financing permits the cost burden to be shared by both existing and future users of the facilities. Revenue bond issues and debt service projections developed subsequently provide for debt financing of a major portion of this major capital improvement program, with the balance to be funded primarily from other sources such as Pay-As-You-Go from rate revenue (cash financing), Federal Emergency Management Agency (FEMA) reimbursement, and Fairshare. Figure 6-4 presents a summary of all the funding sources for the 2022 - 2027 capital program.

Funding Source	2022-2027
Sources of Funds	
Funds Available for Future Construction	93,462,400
WIFIA Loan Proceeds (a)	273,373,400
Subordinate Loan Proceeds	24,720,900
FEMA Reimbursement	19,343,700
Fairshare	466,700
Revenue Bond Proceeds	60,000,000
Other Capital Project Funds	5,600,000
Capital Outlay	600,000
Grants	194,300
Insurance	5,493,600
Pay-As-You-Go Funding From Rate Revenue	117,000,000
Interest Income	339,200
Total Sources of Funds	600,594,200

Figure 6-4 - Sewer Funding Source

6.3 Sewerage Utility Revenue Requirements

Projection of reliable revenue requirements includes:

1. Operation and maintenance expenses,
2. Provision for doubtful accounts, and
3. Debt service (consisting of principal and interest payments)

The projections of annual revenue requirements for the study period is discussed in this section.

6.3.1 Sewerage Operation and Maintenance Expenses

The O&M expenses for the sewerage utility include the annual expenses associated with the sewerage conveyance, pumping, treatment and disposal; meters and services; billing and collection, and general administrative services. These expenses include personnel costs (salaries and benefits), costs for materials and supplies, costs of utilities, and contracted services.

The 2022 O&M budget provided by the SWBNO was used as the baseline for projection of O&M expenses for the study period. Based on historical O&M costs, industry experience, and discussions with the SWBNO management, appropriate escalation factors were applied to various categories of costs to project future annual O&M expenses. Annual escalation factors used for major cost categories are shown in Figure 6-5.

- *Personal Services: 3%*
- *Services and Utilities: 3%*
- *Supplies and Materials: 3%*
- *Special Current Charges: 3%*
- *Furniture and Equipment*: 3%
- *Repairs and Facility Maintenance*: 3%

Figure 6-5 - Sewer O&M Escalation Factors

The annual O&M expenses for sewerage utility including non-cash expense are budgeted at $150 million in 2022 and are projected to grow to $173.9 million by 2027. *Table 9-25* in the Appendix presents a summary of projected operation and maintenance expense for the period 2022 through 2027.

Figure 6-6 presents the historical and projected O&M expenses for the sewerage utility.

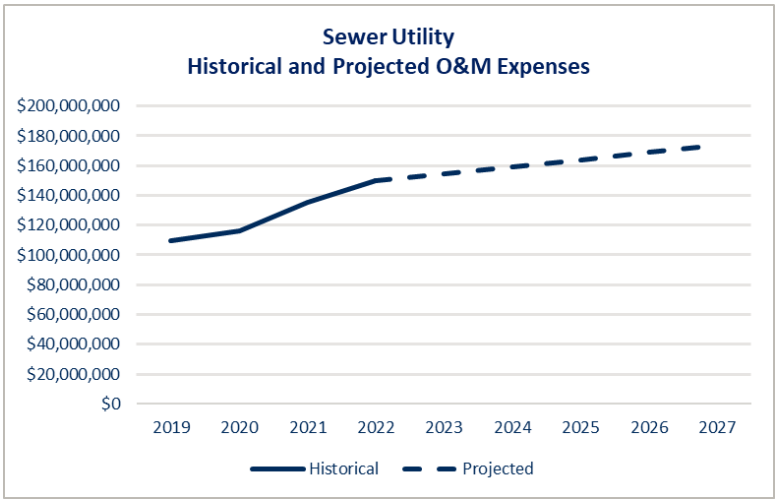


Figure 6-6 - Projected Annual Sewerage O&M Expense

6.3.2 Sewerage Doubtful Accounts

Doubtful accounts refer to outstanding balances owed that are deemed uncollectible. The sewer doubtful accounts in 2021 was about 12.4% of revenue. Hence, the doubtful accounts projections for the study period assume 11% of annual revenues. Annual doubtful accounts expenses for sewerage utility is projected to increase from $16.5 million in 2022 to $17.1 million by 2027 reflecting the increase in projected revenues. Line 16 in *Table 9-27* in the Appendix presents bad debt expense for the period 2022 through 2027.

6.3.3 Sewerage Debt Service Requirements

Existing debt service requirements consist of principal and interest on the Sewerage Revenue Bonds, Series 2014, Series 2015 and Sewerage Revenue Bonds Series 2020A and 2020B. In addition, the SWBNO has existing Clean Water State Revolving Loans. Estimated debt service requirements on revenue bonds projected to be issued to help finance major capital program expenditures are shown in Line 29 in *Table 9-27* in the Appendix. The proposed bonds are anticipated to be 20-year, 5.50 percent fixed interest rate

bonds issued in October 2026. Future debt service also includes Drinking Water State Revolving loans, WIFIA loan, and Gulf Opportunity Zone Act Loan.

6.4 Sewer Proposed Revenue Adjustments

The annual revenue adjustments that are needed to achieve the defined financial performance objectives are determined by evaluating the funding gap between the projected annual revenue requirements and the projected revenues under existing rates. *Table 9-27* in the Appendix provides a summary of the revenue and revenue requirements (financial plan) for the study period.

Projected Revenue Under Existing Rates: Line 1 indicates that under existing rates (2021 rates) sewer utility revenues will increase from $149.6 million in 2022 to $155.3 million in 2027.

Projected Other Revenues: Lines 9 to 13 indicate that the other revenues and interest income are anticipated to remain stable 2022 to 2027 at $2.4 million. It is anticipated that all categories of other revenues will remain flat throughout the study period.

Projected Expenses: Line 15 indicates the total operation and maintenance annual expenses for the sewerage utility are anticipated to increase from $95.3 million in 2022 to $110.5 million in 2027.

Debt Service: Line 29 indicates the total debt service for the sewerage utility is anticipated to increase from $26.7 million in 2022 to $32.7 million in 2027.

Operating Reserve Fund: Line 37 indicates that the end of year balance in the operating reserve fund will decrease from $74.3 million in FY 2022 to $62.9 million in FY 2027.

Funding Gap: The cash flow analysis indicates that the sum of revenues under existing rates and the other revenues is not adequate to fund the projected annual revenue requirements, thereby causing an operating deficit.

Proposed Revenue Adjustments: To address the funding gap in the sewerage utility, a series of revenue adjustments are proposed as follows:

- 2023: 2% effective December 1, 2022
- 2024: 2% effective (December 1, 2023)
- 2025: 2% effective (December 1, 2024)
- 2026: 2% effective (December 1, 2025)
- 2027: 2% effective (December 1,2026)

Lines 3 through 7 in *Table 9-27* present the amount of additional revenues generated each year with the proposed magnitude and timing of revenue adjustments. Figure 6-7 presents the projected revenue and revenue requirements through 2027 for the sewerage utility.

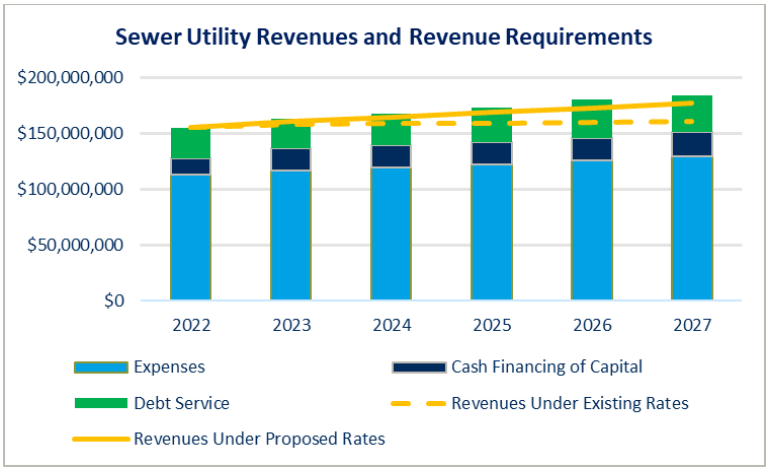


Figure 6-7 - Sewer Revenues and Revenue Requirements

The SWBNO has a financial guideline for the sewerage utility that the Operating Reserve Fund available at the end of the year should meet or exceed 90 days of operating and maintenance expense. The actual operating reserve is shown on Line 37 of *Table 9-27* and the reserve measured in number of days is shown on Line 38.

6.4.1 Sewerage Major Capital Improvement Financing

The SWBNO currently utilizes several sources of funding for the sewerage utility capital projects such as (1): revenue bonds proceeds, (2) DWSRF loan proceeds, (3) FEMA reimbursement, (4) WIFIA loan proceeds and (5) cash financing from rate revenue. As stated in Section 6.2 the water capital improvement program for the study period is $571.5 million, of which $117million is projected to be funded from cash financing from rate revenue. *Table 9-26* in the Appendix presents the sources of funding for the sewerage capital improvement program. Line 30 in *Table 9-27* in the Appendix presents transfer for cash financing of capital program for the period 2022 through 2027.

6.4.2 Bond Coverage Requirements

Table 9-28 in the Appendix presents the sewerage utility's debt coverage requirements. The General Bond Resolution requires the following:

- Net revenue to equal or exceed 1.25 of debt service, however, the Board's Financial Management Policy aims for 1.50 coverage.
- Net revenue to equal or exceed 1.10 of debt service, however the Board's Financial Management Policy aims for 1.25 coverage.
- Net revenue to equal or exceed 1.00 of debt service.

Projected coverage recognizes additional revenue, not yet in effect, but approved at the time of delivery of additional bonds and in effect within 5 years.

6.5 Sewer Cost of Service

A key step to developing an equitable rate structure involves the cost of service analysis. The financial plan discussed in sub sections 6.1 through 6.4 provides an estimate of the total annual revenue

requirements for a given fiscal year. The test year for which the cost of service study was performed is 2023.

The key components of the cost of service analysis are:

- Determination of Cost of Service (net revenue requirements),
- Determination of Functional Costs,
- Allocation of Functional Costs to Cost Components, and
- Distribution of Sewerage Utility Costs to Customer Classes

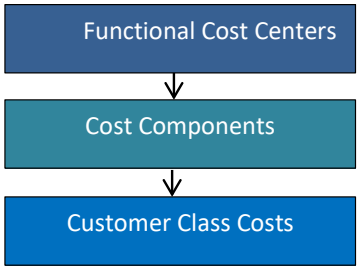
6.5.1 Determination of Cost of Service

The first step is to determine the cost of service that is to be recovered from user rates and charges. As briefly discussed in Section 2.3, cost of service is defined as, and synonymous with, the "net revenue requirement" that is to be recovered for the test year through user rates and charges. *Table 9-29* in the Appendix presents the derivation of the cost of service to be recovered through the sewer charges. As Line 20 in *Table 9-29* indicates, sewerage cost of service for 2023 is projected to be $155.5 million. This cost of service consists of $109.6 million of net operation and maintenance expense and $45.9 million of net capital costs.

As performed for the water utility, costs of services are apportioned among customer classes in this study on a Cash Basis.

6.5.2 Determination of Functional Costs

As a basis for developing an equitable rate structure, the test year cost of service should be allocated to the various customer classes according to respective service requirements.



The basic underlying principle in developing cost of service rates is the determination of what elements in a Sewer system are responsible for causing the level of revenue requirements that is needed. To allocate the costs to customer classes, first the operating and capital costs of service are aggregated into "Functional Cost Centers." The functional costs are then further allocated to cost components. Each component cost is then apportioned to customer classes.

Functional Cost Centers

Functional cost centers of a sewer utility represent the activities that contribute to the incurrence of O&M and capital costs. For a sewerage utility, they often include source of *collection*, *pumping, conveyance, treatment, disposal, meters, billing,* and *other administration* costs. Both the O&M and capital costs defined for the Test Year, discussed in 6.5.1, need to be allocated to functional cost centers.

Functional Costs

The **capital costs** associated with the functional cost centers are determined using detailed fixed assets data, provided by the SWBNO, for each class of asset that is currently in service, construction work in progress and projected capital improvement program for the test year. The total value of the fixed

assets (referred to as "Net Plant Investment") in the system is usually presented as Original Cost Less Depreciation ("OCLD"). The total estimated OCLD value of the sewer system is $1.2 billion, as presented in Line 9 in *Table 9-30* the in Appendix. This plant investment is subsequently used as a basis for the allocation to cost components, discussed in the following subsection 6.5.3.

The **O&M costs** for the Test Year are allocated to the various functional cost centers based on specific nature of costs. The allocation of the projected O&M cost of service (net operating revenue requirement) of $98.2 million, to the various functional cost centers is presented in *Table 9-31* in the Appendix.

The various cost elements of sewer service are assigned to functional cost components as the first step in the subsequent distribution of the costs of service to customer classes.

6.5.3 Allocation of Costs to the Functional Cost Components

The principal functional cost components consist of volume related costs, strength related costs, and customer related costs.

Volume costs are those which vary directly with the quantity of sewer contributed. They consist of capital costs related to investment in system facilities which are sized on the basis of, or required because of, sewer volume. This also includes operation and maintenance expense related to those facilities, and the expense of volume related treatment chemicals and purchased power.

Sewer strength costs consist of the operation and maintenance expense and capital costs related to system facilities which are designed principally to treat the sewer pollutant loadings of pollutants such as BOD, TSS, and other pollutants. BOD costs reflect costs associated with the treatment of influent BOD and include costs related to activated sludge aeration and disposal of BOD related sludge. Suspended solids strength costs are those costs of sewer treatment which tend to vary according to the quantity of suspended solids in the raw sewer.

Customer costs are those which tend to vary in proportion to the number of customer bills or customers served. These include the sewerage utility share of customer related meter reading, billing, collection, and account expense.

The delineation of costs of service into functional components provides a means of distributing such costs to the various customer classes based on the respective total sewer volume, strength, and customer cost requirements of each.

6.5.3.1 Allocation of Net Sewer Plant Investment

The estimated test year value of sewer facilities consists of net plan in service as of December 31, 2021, the 2021 construction work in progress, and the estimated cost of proposed capital improvements expected to be in service by the end of calendar year 2022. *Table 9-30* in the Appendix presents the allocation of the sewer utility's total estimated plant value Total plant investment is estimated to be $1.2 billion as indicated by Line 9.

Plant investment is allocated to cost components on a design basis recognizing the principal purpose governing the design of the facility. Allocation of Sewerage Utility Operating Expenses amounts to $98.2 million. Operating expenses are allocated to functional cost components in generally the same manner as plant investment. *Table 9-31* in the Appendix presents the allocation of operation and maintenance

expense to functional cost components. Total test year operation and maintenance expense, as shown on Line 14 of this table.

6.5.4 Distribution of Sewerage Utility Costs to Customer Classes

The total cost responsibility of each customer class is determined by developing unit costs of service for each cost component and applying the unit costs to the respective service requirements of each class. In accomplishing this, each customer class is allocated the share of volume, strength, and customer costs for which it is responsible.

6.5.4.1 Sewerage Customer Classification

Customer classes consist of residential, multi-residential, commercial, industrial, metered free service, and HELP. Definitions of the classifications used are as follows:

- Residential classification includes all one- or two-family residences not connected to or above commercial establishments.
- Multi-residential classification includes all structures having more than two families living therein, provided the living units contain kitchen facilities and excluding those falling into the other classifications.
- Commercial classification includes rooming houses, retail and wholesale sales operations, office buildings, warehouses, bakeries, bottling operations, laundries, restaurants, hotels, and all other service operations. Combined residential or multi-residential and commercial buildings are classified as commercial.
- Industrial classification includes all manufacturing, packing, brewing, and food processing plants.
- Metered Free Service classification includes all sewerage users who, under directive of Louisiana state law, are supplied sewerage service without charge.

6.5.4.2 Sewerage Units of Service

Derivation of the responsibility of customer classes for costs of service require that each class be allocated a portion of the volume, strength, and customer costs of service according to their respective service requirements.

The cost of service responsibility for volume costs, which vary with the volume of sewer contributed to the sewer system, is distributed to customer classes on that basis. Strength costs are principally related to the function of reducing sewer suspended solids, and BOD strength loading. Customer costs, which consist of meter related costs, billing, collection and accounting costs, are allocated on the basis of equivalent meters and monthly bills.

The estimated test year service requirements or units of service for the various customer classes are shown in Table S - 13 in Appendix 2. Sewer collected and treated consists of two elements: (1) sanitary sewer flow and (2) infiltration/inflow (I/I) of ground water into the sewers. Contributed sewer flow is that portion of the annual water use and/or other flows from each customer class that are discharged to the sewer system.

The difference between the measured plant influent and the customer contributed sewer flow is attributed to Infiltration and Inflow (I/I) volume. Based on discussions with the SWBNO staff, 60% of the

total treated volume is assumed to be I/I flows. Each customer class should bear its proportionate share of the costs associated with I/I, as it is integral aspect of sewer system costs. The number of customer connections to a sewer collection system and the volume of customer flows conveyed both influence the extent of I/I in a system. Recognizing that the major cost responsibility for I/I is allocable on an individual connection basis, two-thirds of the total I/I volume projected is allocated to customer classes based on the number of customers with the remaining one-third allocated on the basis of contributed volume.

Estimated total strength units shown for each customer class are based on an average BOD concentration of 120 milligrams per liter (mg/l) and an average suspended solids concentration of 150mg/l. I/I strength allowances for BOD and suspended solids are assumed at 25 mg/l and 50 mg/l, respectively. Estimated BOD and suspended solids responsibilities of each customer class presented in *Table 9-32* in the Appendix are based on the respective indicated average strength concentrations and contributed sewer and I/I volumes for each class.

Customer billing and accounting costs are distributed to classes on the basis of the number of bills for each customer class (Column 7) in *Table 9-32*. Customer related meter and service costs are allocated on the basis of the number of equivalent 5/8 inch meters serving each customer class. The number of equivalent meters in each customer class (Column 8) is estimated by relating typical costs for meters and services larger than 5/8 inch in size to the typical cost of a 5/8 inch meter.

6.5.5 Sewerage Utility Customer Class Costs of Service

Unit costs of service are developed by dividing the total cost allocated to each functional cost component by the total applicable units of service. The customer class responsibility for service is obtained by applying unit costs of service to the number of units for which the customer class is responsible. *Table 9-33* in Appendix 2 shows the development of the unit costs of service applicable to each cost function. Line 1 summarize the units of service developed in *Table 9-32*. Total allocated costs or investment shown on Lines 2 and 4 were previously developed in *Table 9-31* and *Table 9-30* respectively. Unit costs of service for each component are determined by dividing the allocated cost or investment by the total units of service.

Table 9-34 in Appendix 2 shows the resulting allocated cost of service by customer class, revenue under existing rates, and the additional revenue required from each class. Costs associated with free sewer service are not recovered through direct charges, therefore, the cost of service for this class is reallocated to all other retail customers in proportion to their allocated cost of service as shown in Columns 2 and 3. The test year adjusted cost of service, reflecting the reallocation of these costs, is shown in Column 4. The indicated increase or decrease in revenue required to meet adjusted cost of service is shown in Column 5.

7.0 Sewer Rate Design

The principal consideration in establishing sewer rate schedules is to establish charges to recover costs that are reasonably commensurate with the cost of providing sewer service.

The revenue requirements and cost of service allocations described in the preceding sections provide the basis for adjusting sewer rates. The revenue requirements show the need for adjustment and the level of revenue required. This cost of service analysis provides the unit costs of service to be used in the rate design process and gives a basis for determining whether resultant rates will generate revenues which recover costs of service from customer classes in proportion to service required and provide the total level of revenue required.

7.1 Existing Sewer Rates

The existing schedule of rates for sewer service became effective on January 1, 2020. For customers, these rates include a monthly base charge bill, which varies by meter size. The volume charge is for all usage per thousand gallons. Surcharge rates are based on excess strength of BOD and TSS. The existing sewer rate structure is described in Section 3.3.2. The existing schedule of base and volume rates for sewer service is shown in *Table 9-21* the in Appendix.

7.2 Proposed Sewer Rates

The cost of service study described in preceding sections of this report provides a basis for the design of a schedule of sewer rates to meet those costs. Proposed sewer rates have been designed to meet the test year allocated costs of service and are presented in *Table 9-35*. The proposed rate structure is similar to the existing structure.

As already explained in Section 5.2, practical rate design should consider multiple factors including previous rate levels, customer bill impact, and magnitude of cost shifts among customer classes.

A comparison of estimated test year revenue under the proposed rates with allocated costs of service for each of the customer classes is shown in *Table 9-36* in the Appendix. This comparison indicates the proposed rates will recover revenues from customer groups reasonably commensurate with the cost of service and practical considerations previously noted.

To better reflect the total effect the proposed rates have on customer bills, a comparison of typical bills under existing rates and the rates proposed to become effective December 1, 2022, is shown in *Table 9-37* .

8.0 Drainage Utility

The financial plan was developed to meet all the funding obligations of the drainage utility, and to achieve the financial adequacy discussed in Section 2.3.

The drainage utility financial plan was developed for the six-year forecast period of 2022 through 2027, and includes the following key components:

- Revenue projections (non-rate revenues),
- Capital improvement program financing, and
- Annual revenue requirement projections.

8.1 Drainage Revenue Projections Under Existing Mill Rate

The drainage utility revenues are derived from the following sources:

- Three-Mill Ad Valorem Tax Revenue
- Six-Mill Ad Valorem Tax Revenue
- Nine-Mill Ad Valorem Tax Revenue
- Interest on investments
- Other Miscellaneous Revenues

As a first step in the development of the financial plan, Drainage Service Revenues under the 2021 tax revenues are projected for the forecast period.

8.1.1 Drainage Revenue Under Existing Mill Rate

As described in Section 3.3.1, The SWBNO of New Orleans is authorized to levy ad valorem taxes to fund the drainage system's costs. The Existing Drainage Mill Rate consists of the following:

- Three-mill rate - 4.66 mills: authorized through 2046
- Six mill rate - 4.71 mills: authorized through 2026
- Nine mill rate - 7.06 mills: authorized through 2031

8.1.1.1 Projection of the Ad Valorem Tax Revenues

Typically, historical revenues are reviewed and used to project revenues from this source for the forecast period. The ad valorem tax revenues for the forecast period from FY 2022 to FY 2027 are expected to remain the same at $59.6 million as shown in *Table 9-38* in the Appendix.

Figure 8-1 presents both the historical and projected revenues for the drainage utility.

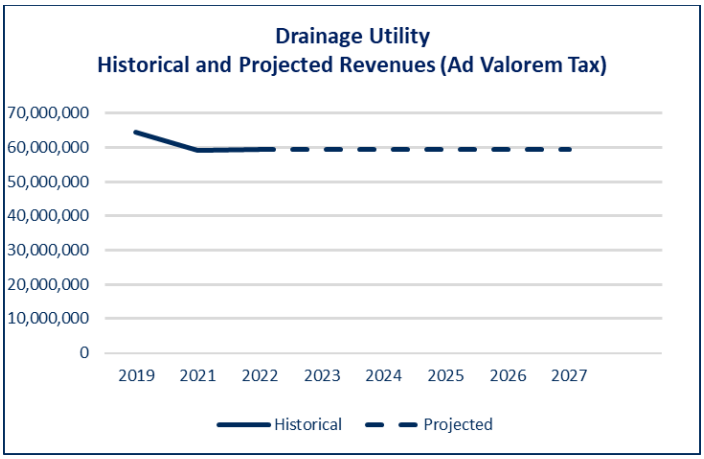


Figure 8-1 - Historical and Projected Drainage Ad Valorem Tax Revenues

8.1.2 Other Drainage Revenues

The other revenues include the following major components:

- Interest income
- Miscellaneous Revenue

The annual other revenues for 2022 to 2027 are projected to remain the same at about $151,600. *Table 9-38* in the Appendix presents the projected annual service revenues for the period of 2022 through 2027.

8.2 Drainage Capital Improvements Program

The capital project costs provided by the SWBNO were based on 2021 dollars. Based on discussions with the SWBNO, the project costs are not inflated during the study period to accurately reflect the costs of projects for 2022 and beyond. The drainage utility Capital Improvement Plan (CIP) provides for a total of $869.6 million uninflated of investments during the study period of 2022 through 2027. *Table 9-40* in the Appendix presents the CIP program by category from 2022 through 2027. The CIP is expected to be financed from a funding mix of cash financing, capital outlay, Fairshare, FEMA reimbursement, and grants.

8.3 Drainage Revenue Requirements

Projection of reliable revenue requirements includes: (1) operation and maintenance expenses; (2) provision for doubtful accounts; (3) debt service (consisting of principal and interest payments); (4) cash financing of capital projects and (5) transfer to Operating Reserve Fund. The projections of annual revenue requirements for the study period are discussed in this section.

8.3.1 Drainage Operation and Maintenance Expenses

The O&M expenses for the drainage utility include the annual expenses associated with power and pumping; treatment; transmission and distribution; and general administrative services. These expenses

include personnel costs (salaries and benefits), costs for materials and supplies, costs of utilities, and contracted services.

The 2022 O&M budget provided by the SWBNO was used as the baseline for projection of O&M expenses for the study period. Based on historical O&M costs, industry experience, and discussions with the SWBNO management, appropriate escalation factors were applied to various categories of costs to project future annual O&M expenses. Annual escalation factors used for major cost categories include the following:

- Personal Services: 3.00%
- Services and Utilities: 3.00%
- Supplies and Materials: 3.00%
- Special Current Charges: 3.00%
- Furniture and Equipment: 3.00%
- Repairs and Facility Maintenance: 3.00%

The annual O&M expenses for drainage utility including non-cash expense are budgeted at $78.1 million in 2022 and are projected to grow to $90.5 million by 2027. *Table 9-39* in the Appendix presents a summary of total projected operation and maintenance expense for the period 2022 through 2027.

Figure 8-2 presents the historical and projected O&M expenses for the water utility.

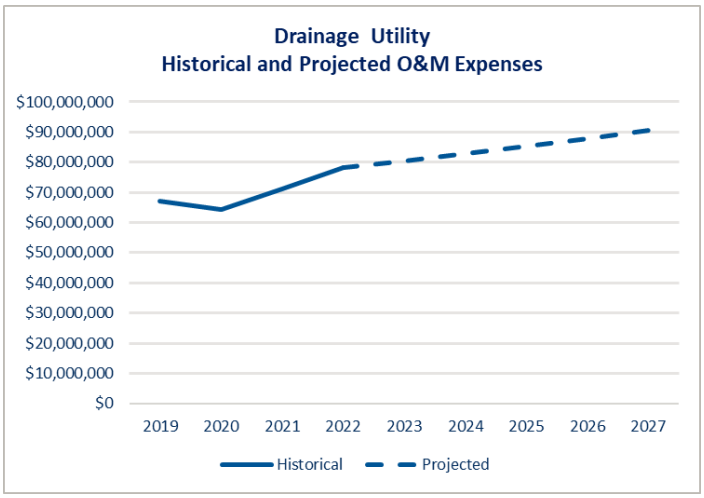


Figure 8-2 - Projected Annual Water O&M Expenses

8.3.2 Provision for Doubtful Accounts

Doubtful Accounts expenses refer to outstanding balances owed that are deemed uncollectible. Annual doubtful accounts expense for drainage utility is projected to slightly decrease from $98.5 million in 2022 to $98.3 million by 2027. Line 9 in *Table 9-42* in the Appendix presents the projected estimated uncollectible revenue for the period 2022 through 2027.

8.3.3 Drainage Debt Service Requirements

Existing debt service requirements consist of principal and interest on the Drainage Revenue Bonds, Series 2014 and the SELA Capital Repayment loan. Estimated debt service requirements on revenue bonds projected to be issued to help finance major capital program expenditures are shown on Line 16 in *Table 9-42* in the Appendix. Future debt issuances during the study period are not anticipated.

8.4 Drainage Proposed Revenue Adjustments

The annual revenue adjustments that are needed to achieve the defined financial performance objectives are determined by evaluating the funding gap between the projected annual revenue requirements and the projected revenues under existing mill rates. *Table 9-42* in the Appendix provides a summary of the revenue and revenue requirements (financial plan) for the study period.

Projected Revenue Under Existing Rates: Lines 1,2 and 3 indicate that under existing revenues the drainage utility revenues will remain the same at $59.6 from FY 2022 to FY 2027.

Projected Other Revenues: Lines 10 to 13 indicate that the other revenues are anticipated to remain the same at $151,600 during the study period.

Projected Expenses: Line 8 indicates the total operation and maintenance expenses for the drainage utility are anticipated to increase from $42 million in 2022 to $48.7 million in 2027.

Operating Reserve Fund: Line 29 indicates that the end of year balance in the operating reserve fund will decrease from $72.3 million in FY 2022 to $18.9 million in FY 2027.

Funding Gap: The cash flow analysis indicates that the sum of revenues under existing rates and the other revenues is not adequate to fund the projected annual revenue requirements, thereby causing an operating deficit.

Proposed Revenue Adjustments: It is recommended that the drainage utility approves and implements a stormwater user fee. Figure 8-3 presents the projected revenue and revenue requirements through 2027 for the drainage utility.

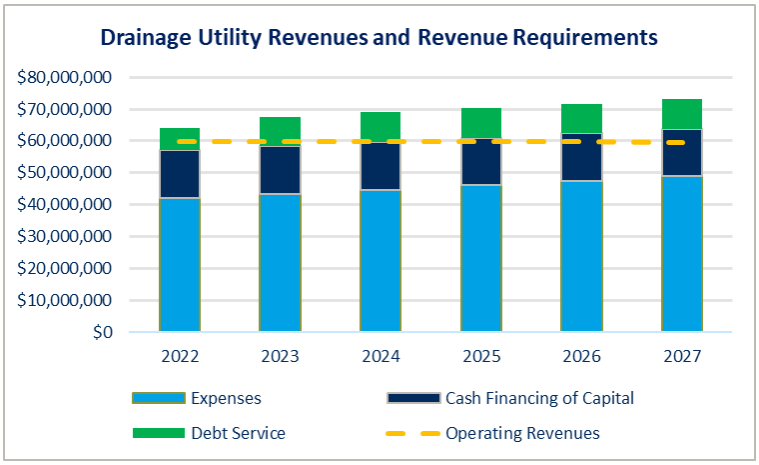


Figure 8-3 - Drainage Revenues and Revenue Requirements

The SWBNO has a financial guideline for the drainage utility that the Operating Reserve Fund available at the end of the year should meet or exceed 45 days of operating and maintenance expense. The actual operating reserve is shown on Line 24 of *Table 9-42* and the reserve measured in number of days is shown on Line 25.

8.4.1 Drainage Major Capital Improvement Financing

The SWBNO currently utilizes several sources of funding for the water utility capital projects such as (1) revenue bonds proceeds, (2) Fairshare, (3) FEMA reimbursement, (4) capital outlay, and (5) cash financing. The drainage capital improvement program for the study period is $869.6 million, of which $90 million is projected to be funded from cash financing. *Table 9-41* in the Appendix presents the sources of funding for the water capital improvement program. Line 6 in the table presents the projected transfers for cash financed capital for the period 2022 through 2027.

9.0 Appendix: Report Tables

Table 9-1 - Water Projected Sales and Average Number of Accounts

Line No.	Description	Projected					
		2022	2023	2024	2025	2026	2027
	Residential (b)						
1	Customers	118,941	119,441	119,943	120,446	120,952	121,460
2	Sales (1,000 gal.)	6,326	6,352	6,379	6,406	6,433	6,460
3	Sales Per Customer (1,000 gal.)	53	53	53	53	53	53
	Multi-Family						
4	Customers	4,590	4,613	4,636	4,659	4,682	4,706
5	Sales (1,000 gal.)	685	688	692	695	698	702
6	Sales Per Customer (1,000 gal.)	149	149	149	149	149	149
	Commercial						
7	Customers	10,919	10,974	11,029	11,084	11,139	11,195
8	Sales (1,000 gal.)	3,437	3,454	3,471	3,489	3,506	3,524
9	Sales Per Customer (1,000 gal.)	315	315	315	315	315	315
	Industrial						
10	Customers	17	17	17	17	17	18
11	Sales (1,000 gal.)	35	35	35	35	35	35
12	Sales Per Customer (1,000 gal.)	2,025	2,021	2,022	2,024	2,025	2,021
	Dual Service & Metered Fire Service						
13	Customers	2,079	2,090	2,100	2,110	2,121	2,132
14	Sales (1,000 gal.)	2,111	2,122	2,132	2,143	2,154	2,165
15	Sales Per Customer (1,000 gal.)	1,015	1,015	1,015	1,015	1,015	1,015
	Free Water Service						
16	Customers	1,543	1,543	1,543	1,543	1,543	1,543
17	Sales (1,000 gal.)	18,428	18,428	18,428	18,428	18,428	18,428
18	Sales Per Customer (1,000 gal.)	11,943	11,943	11,943	11,943	11,943	11,943
	HELP Program Customers						
19	Customers	2,169	5,000	5,021	5,042	5,063	5,085
20	Sales (1,000 gal.)	115	264	265	266	267	269
21	Sales Per Customer (1,000 gal.)	53	53	53	53	53	53
	Unmetered Fire Service						
22	Customers	417	417	417	417	417	417
23	Sales (1,000 gal.)	0	0	0	0	0	0
24	Sales Per Customer (1,000 gal.)	0	0	0	0	0	0
	Total						
25	Customers	140,676	144,094	144,705	145,319	145,935	146,554
26	Sales (1,000 gal.)	31,135	31,342	31,402	31,461	31,521	31,581
	% Change - Customer	*0.42%*	*2.43%*	*0.42%*	*0.42%*	*0.42%*	*0.42%*
	% Change - Sales	*0.29%*	*0.67%*	*0.19%*	*0.19%*	*0.19%*	*0.19%*

(a) Excludes hydrants 4.18%
(b) Includes duplex.
(c) Does not include flat rate fire protection customers.

Table 9-2 - Water Existing Rates

Rate Component	Existing Rates		
	General Service	Dual Service	Flat Rate Fire Service
Service Charge - $/month			
Meter Size			
5/8"	8.69	11.81	
3/4"	10.64	14.37	
1"	13.50	18.88	
1.5"	22.28	29.38	
2"	29.38	42.02	19.71
3"	66.45	93.26	26.79
4"	115.76	162.93	49.29
6"	227.23	317.26	85.75
8"	336.57	471.58	113.61
10"	456.58	638.78	180.06
12"	535.90	750.27	233.66
16"	713.80	998.93	321.54
Quantity Charge - $/1,000 Gallons			
First 3,000 Gallons	5.80	5.80	
Next 17,000 Gallons	9.87	9.87	
Next 980,000 Gallons	7.76	7.76	
All over 1,000,000 Gallons	6.50	6.50	

Table 9-3 - Water Projected Revenues Under Existing Rates

Line No.	Description	Projected					
		2022	2023	2024	2025	2026	2027
		$	$	$	$	$	$
1	Residential	62,498,700	62,760,700	63,024,400	63,289,200	63,555,000	63,821,800
2	Multi-Family	6,303,300	6,334,600	6,366,800	6,398,100	6,430,300	6,462,600
3	Commercial	29,167,300	29,313,300	29,459,300	29,606,900	29,754,600	29,903,900
4	Industrial	288,300	289,200	290,800	292,500	294,100	295,000
5	Dual Service & Metered Fire Service	18,283,000	18,373,100	18,466,700	18,558,400	18,651,000	18,745,400
6	Free Water Service	0	0	0	0	0	0
7	HELP Program Customers	1,114,900	2,570,400	2,581,100	2,591,900	2,602,600	2,614,100
8	Unmetered Fire Service	397,800	397,800	397,800	397,800	397,800	397,800
9	Hydrants	0	0	0	0	0	0
10	Delinquent Fees	1,626,000	1,626,000	1,626,000	1,626,000	1,626,000	1,626,000
11	Total	119,679,300	121,665,100	122,212,900	122,760,800	123,311,400	123,866,600
	% Change	*1.35%*	*1.66%*	*0.45%*	*0.45%*	*0.45%*	*0.45%*

Table 9-4 -Water Projected Other Revenues

Line No.	Description	Budget	Projected				
		2022	2023	2024	2025	2026	2027
		$	$	$	$	$	$
	Operating Revenue						
1	Sales of Water	119,676,800	119,676,800	119,676,800	119,676,800	119,676,800	119,676,800
2	Delinquent Fees (a)	1,626,000	1,626,000	1,626,000	1,626,000	1,626,000	1,626,000
3	Revenue Sharing	261,300	261,300	261,300	261,300	261,300	261,300
4	Plumbing Inspection & Licensing Fees	295,300	295,300	295,300	295,300	295,300	295,300
5	Other Revenues	0	0	0	0	0	0
	Non-Operating Revenue						
6	Interest Income	329,100	500,000	500,000	500,000	500,000	500,000
7	Other Non-Operating Revenue	1,729,700	1,729,700	1,729,700	1,729,700	1,729,700	1,729,700
8	FEMA Reimbursement	0	0	0	0	0	0
9	Fair Share Revenue	0	0	0	0	0	0
10	Federal Non-Capital Grants	0	0	0	0	0	0
11	Total Revenue	123,918,200	124,089,100	124,089,100	124,089,100	124,089,100	124,089,100

(a) 2020 and 2021 low due to moritorium on late fees.
(b) Projected Interest Earnings included shown separately in Table 8.

Table 9-5 - Water Capital Improvement Program

Line No.	Description	Projected (a)						
		2022	2023	2024	2025	2026	2027	Total
		$	$	$	$	$	$	$
	Water CIP Summary by Category							
1	Equipment	1,700,000	0	0	0	0	0	1,700,000
2	Facilities	32,100,000	48,455,000	27,615,000	43,365,000	22,315,000	17,940,000	191,790,000
3	Normal Extensions	184,250,000	59,905,500	59,500,000	69,500,000	80,000,000	78,300,000	531,455,500
4	Other	0	0	0	0	0	0	0
5	Power	0	0	0	0	0	0	0
6	Hardware	0	0	0	0	0	0	0
7	Software	0	0	0	0	0	0	0
	Combo CIP Summary by Category							
8	Equipment	6,985,000	4,434,000	4,384,000	4,884,000	7,300,700	4,759,000	32,746,700
9	Facilities	604,000	5,301,500	2,994,500	1,000,000	1,100,000	833,300	11,833,300
10	Normal Extensions	500,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	5,500,000
11	Other	6,573,700	3,652,100	3,652,100	3,652,100	3,652,100	3,652,100	24,834,200
12	Power	1,055,000	1,263,300	940,000	1,240,000	1,240,000	956,700	6,695,000
13	Hardware	612,300	230,500	265,400	296,700	318,300	228,800	1,952,000
14	Software	1,655,800	2,023,300	1,523,300	1,190,000	1,190,000	350,200	7,932,600
15	Total - Uninflated	236,035,800	126,265,200	101,874,300	126,127,800	118,116,100	108,020,100	816,439,300

(a) The improvements for 2020 are based on the Board's 2020 Annual Operating and Capital Budgets; the improvements for 2021 - 2026 are based on the Board's 2021 Adopted Capital Budget.

Table 9-6 - Water Projected O&M Expenses

Line No.	Description	Budget	Projected				
		2022	2023	2024	2025	2026	2027
		$	$	$	$	$	$
	Summary By Description						
1	Executive Director	549,900	566,400	583,400	600,900	618,900	637,500
2	Special Counsel	909,100	936,400	964,500	993,400	1,023,200	1,053,900
3	Communications	248,600	256,000	263,700	271,600	279,800	288,100
4	Chief Customer Service Officer	10,315,300	10,624,800	10,943,500	11,271,900	11,610,000	11,958,300
5	Chief Administrative Officer	19,134,100	19,708,100	20,299,400	20,908,400	21,535,600	22,181,700
6	General Superintendent/Operations	56,948,600	58,657,100	60,416,800	62,229,300	64,096,200	66,019,100
7	Chief Financial Officer	5,116,700	5,270,200	5,428,300	5,591,100	5,758,900	5,931,600
8	Overhead Allocation	(6,620,100)	(6,818,700)	(7,023,200)	(7,233,900)	(7,451,000)	(7,674,500)
9	Other	0	0	0	0	0	0
10	Total Operation & Maintenance Expense	86,602,200	89,200,300	91,876,400	94,632,700	97,471,600	100,395,700
11	Water Non-Cash Expense (a)	52,530,000	54,105,900	55,729,100	57,401,000	59,123,000	60,896,700
12	Total Operating Expenses	139,132,200	143,306,200	147,605,500	152,033,700	156,594,600	161,292,400

(a) Includes Water Overhead CP #820, Depreciation & Allowances Expenses, and OPED Liability.

Table 9-7 - Capital Program Financing

Line No.	Description	Year Ending December 31,						
		2022	2023	2024	2025	2026	2027	Total
		$	$	$	$	$	$	$
	Sources of Funds							
1	Funds Available for Future Construction	0	3,413,200	2,424,300	2,063,500	2,138,000	2,477,600	0
2	DWSRF Loan Proceeds	0	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	75,000,000
3	FEMA Reimbursement	154,834,100	54,787,700	0	0	0	0	209,621,800
4	Fairshare	7,466,700	0	0	0	0	0	7,466,700
5	Revenue Bond Proceeds	60,000,000	0	60,000,000	0	60,000,000	0	180,000,000
6	Other Capital Project Funds	4,400,000	0	0	0	0	0	4,400,000
7	Capital Outlay	600,000	0	0	0	0	0	600,000
8	Grants	194,300	0	0	0	0	0	194,300
9	Pay-As-You-Go Funding From Rate Revenue	15,000,000	15,000,000	20,000,000	23,000,000	25,000,000	25,000,000	123,000,000
10	Interest Income	0	0	0	9,400	0	9,700	19,100
11	Total Sources of Funds	242,495,100	88,200,900	97,424,300	40,072,900	102,138,000	42,487,300	600,301,900
	Application of Funds							
12	Major Capital Improvements - Inflated	236,035,800	131,366,400	108,109,900	136,524,700	130,409,500	121,648,200	864,094,500
13	Deferral/Reinstatement of Pay-As-You-Go Funded Improvements	0	(46,000,000)	(16,500,000)	(99,000,000)	(34,500,000)	(82,000,000)	(278,000,000)
14	Issuance Costs	900,000	0	900,000	0	900,000	0	2,700,000
15	Bond Reserve Funds	2,146,100	410,200	2,850,900	410,200	2,850,900	410,200	9,078,500
16	Total Application of Funds	239,081,900	85,776,600	95,360,800	37,934,900	99,660,400	40,058,400	597,873,000
17	End of Year Balance	3,413,200	2,424,300	2,063,500	2,138,000	2,477,600	2,428,900	2,428,900
18	Recommended End of Year Balance	32,841,600	27,027,475	34,131,175	32,602,375	30,412,050	34,049,150	37,738,950

Table 9-8 - Existing and Proposed Debt Service

Line No.	Description	Original Loan	Annual Debt Service Requirements					
			2022	2023	2024	2025	2026	2027
		$	$	$	$	$	$	$
	Existing Revenue Bonds							
1	Water Revenue and Refunding Bonds Series 2014 (a)		3,867,300	2,711,000	2,714,500	2,712,300	2,714,300	0
2	Water Revenue Bonds Series 2015 (a)		1,731,400	2,887,300	2,884,500	2,886,500	2,882,800	2,883,300
3	Water Refunding Bonds Series 2021		7,138,100	7,142,700	7,141,000	7,139,900	7,143,100	9,852,300
4	Total Existing Revenue Bonds		5,598,700	5,598,300	5,599,000	5,598,800	5,597,100	2,883,300
	Proposed Revenue Bonds							
5	2022	60,000,000	3,679,100	4,414,900	4,414,900	4,414,900	4,414,900	4,414,900
6	2023	0		0	0	0	0	0
7	2024	60,000,000			4,184,000	5,020,800	5,020,800	5,020,800
8	2025	0				0	0	0
9	2026	60,000,000					4,184,000	5,020,800
10	2027	0						0
11	Total Proposed Revenue Bonds	180,000,000	3,679,100	4,414,900	8,598,900	9,435,700	13,619,700	14,456,500
	Proposed Drinking Water State Revolving Loans							
12	2022	0	0	0	0	0	0	0
13	2023	15,000,000		112,500	831,200	831,200	831,200	831,200
14	2024	15,000,000			112,500	831,200	831,200	831,200
15	2025	15,000,000				112,500	831,200	831,200
16	2026	15,000,000					112,500	831,200
17	2027	15,000,000						112,500
18	Total Proposed Drinking Water State Revolvin	75,000,000	0	112,500	943,700	1,774,900	2,606,100	3,437,300
19	Total Parity Debt Service		9,277,800	10,125,700	15,141,600	16,809,400	21,822,900	20,777,100

(a) Reflects debt service not refunded by Series 2021.

Table 9-9 - Water Operating Cash Flow

Line No.	Description	Year Ending December 31, 2022	2023	2024	2025	2026	2027
		$	$	$	$	$	$
1	Billed Revenue from Existing Rates	118,053,200	120,039,100	120,586,800	121,134,700	121,685,500	122,240,500
2	WCA New Revenue (a)	1,926,000	1,926,000	1,926,000	1,926,000	1,926,000	1,926,000
	Increased Revenue (b)						
3	7.00% Effective December 2022		8,537,500	8,575,900	8,614,200	8,652,800	8,691,600
4	7.00% Effective December 2023			9,176,300	9,217,300	9,258,500	9,300,100
5	7.00% Effective December 2024				9,862,500	9,906,600	9,951,100
6	7.00% Effective December 2025					10,600,100	10,647,700
7	7.00% Effective December 2026						11,393,000
8	Total Billed Revenue from Rates	119,979,200	130,502,600	140,265,000	150,754,700	162,029,500	174,150,000
9	Delinquent Fees	1,626,000	1,626,000	1,626,000	1,626,000	1,626,000	1,626,000
10	Revenue Sharing	261,300	261,300	261,300	261,300	261,300	261,300
11	Plumbing Inspection & Licensing Fees	295,300	295,300	295,300	295,300	295,300	295,300
12	Other Revenues	0	0	0	0	0	0
13	Interest Income on Operating Fund	48,700	50,400	56,200	61,000	67,000	77,500
14	Total Operating Revenue	122,210,500	132,735,600	142,503,800	152,998,300	164,279,100	176,410,100
	Revenue Requirements:						
15	Operation & Maintenance Expense (c)	86,602,200	89,200,300	91,876,400	94,632,700	97,471,600	100,395,700
16	Estimated Uncollectable Revenue (d)	13,197,700	14,355,300	15,429,200	16,583,000	17,823,200	19,156,500
	Non-Operating Revenues:						
17	Interest Income (e)	329,100	500,000	500,000	500,000	500,000	500,000
18	Other Non-Operating Revenue	1,729,700	1,729,700	1,729,700	1,729,700	1,729,700	1,729,700
	Debt Service Requirements						
	Parity Debt						
	Revenue Bonds						
19	Existing	5,598,700	5,598,300	5,599,000	5,598,800	5,597,100	2,883,300
20	Proposed	3,679,100	4,414,900	8,598,900	9,435,700	13,619,700	14,456,500
21	Total Revenue Bonds	9,277,800	10,013,200	14,197,900	15,034,500	19,216,800	17,339,800
	Drinking Water State Revolving Loans						
22	Proposed	0	112,500	943,700	1,774,900	2,606,100	3,437,300
23	Total Drinking Water State Revolving Loans	0	112,500	943,700	1,774,900	2,606,100	3,437,300
24	Total Parity Debt	9,277,800	10,125,700	15,141,600	16,809,400	21,822,900	20,777,100
25	Cash Financing of Capital Projects	15,000,000	15,000,000	20,000,000	23,000,000	25,000,000	25,000,000
26	Net Balance	191,600	6,284,000	2,286,300	4,202,900	4,391,100	13,310,500
27	Beginning Fund Balance (f)	46,001,600	46,193,200	52,477,200	54,763,500	58,966,400	63,357,500
28	End of Year Balance	46,193,200	52,477,200	54,763,500	58,966,400	63,357,500	76,668,000
	Operating Reserve Fund						
29	Beginning of Year Balance (f)	46,001,600	46,193,200	52,477,200	54,763,500	58,966,400	63,357,500
30	Net Operating Balance	191,600	6,284,000	2,286,300	4,202,900	4,391,100	13,310,500
31	End of Year Balance	46,193,200	52,477,200	54,763,500	58,966,400	63,357,500	76,668,000
32	Number of Days - Actual Water Only	195	215	218	227	237	279
33	Number of Days - Target	90	90	90	90	90	90

(a) Includes previously unbilled revenue identified by Water Company of America.
(b) Adjusted to reflect a 1 month lag in the billing cycle.
(c) Excludes non-cash expenses of depreciation and allowances, pension liability adjustment, and pension contributions.
(d) Reflects assumed allowance (%) for uncollected revenue applied to the projected revenue from rates.
(d) Reflects reallocation of costs associated with General Superintendent/Operations to more accurately reflect actual expenses by Division.
(e) Includes interest income on Debt Service Reserve and Bond Reserve.
(f) Reflects Cash & Cash Equivalents unrestricted and undesignated as of December 31, 2020.

Table 9-10 - Water Coverage Requirements

Line No.	Description	Year Ending December 31, 2022	2023	2024	2025	2026	2027
		$	$	$	$	$	$
	Projected Net Revenues						
1	Revenue Under Existing Rates	119,979,200	121,965,100	122,512,800	123,060,700	123,611,500	124,166,500
2	Additional Revenue Under Proposed Rates	0	8,537,500	17,752,200	27,694,000	38,418,000	49,983,500
3	Delinquent Fees	1,626,000	1,626,000	1,626,000	1,626,000	1,626,000	1,626,000
4	Revenue Sharing	261,300	261,300	261,300	261,300	261,300	261,300
5	Plumbing Inspection & Licensing Fees	295,300	295,300	295,300	295,300	295,300	295,300
6	Other Revenues	0	0	0	0	0	0
7	Interest Income on Operating Fund	48,700	50,400	56,200	61,000	67,000	77,500
8	Other Non-Operating Revenue	1,729,700	1,729,700	1,729,700	1,729,700	1,729,700	1,729,700
9	Operation & Maintenance	(99,799,900)	(103,555,600)	(107,305,600)	(111,215,700)	(115,294,800)	(119,552,200)
10	Net Revenue (a)	24,140,300	30,909,700	36,927,900	43,512,300	50,714,000	58,587,600
	Rate Covenant Coverage						
11	Projected Net Revenues	24,140,300	30,909,700	36,927,900	43,512,300	50,714,000	58,587,600
12	Annual Debt Service						
13	Parity Debt	9,277,800	10,125,700	15,141,600	16,809,400	21,822,900	20,777,100
14	Coverage (b)	2.60	3.05	2.44	2.59	2.32	2.82
15	All Debt	9,277,800	10,125,700	15,141,600	16,809,400	21,822,900	20,777,100
16	Coverage (c)	2.60	3.05	2.44	2.59	2.32	2.82
	Adjusted Rate Covenant Coverage						
17	Projected Net Revenues (d)	24,140,300	30,909,700	36,927,900	43,512,300	50,714,000	58,587,600
18	Annual Debt Service						
19	Parity Debt	9,277,800	10,125,700	15,141,600	16,809,400	21,822,900	20,777,100
20	Coverage (e)	2.60	3.05	2.44	2.59	2.32	2.82
21	All Debt	9,277,800	10,125,700	15,141,600	16,809,400	21,822,900	20,777,100
22	Coverage (e)	2.60	3.05	2.44	2.59	2.32	2.82
	Additional Bond Coverage						
23	Preceding Year Projected Net Revenues	25,595,100	24,140,300	22,372,200	19,175,700	15,818,300	12,296,000
24	Future Additional Revenue (f)	0	8,537,500	17,752,200	27,694,000	38,418,000	49,983,500
25	Adjusted Projected Net Revenues	25,595,100	32,677,800	40,124,400	46,869,700	54,236,300	62,279,500
26	Maximum Debt Service						
27	Parity Debt	17,158,100	17,989,300	23,841,300	24,672,500	30,524,500	31,355,700
28	Coverage (b)	1.49	1.82	1.68	1.90	1.78	1.99
29	All Debt	17,158,100	17,989,300	23,841,300	24,672,500	30,524,500	31,355,700
30	Coverage (c)	1.49	1.82	1.68	1.90	1.78	1.99

(a) Excludes Fair Share revenue which is recognized as a capital funding source.
(b) The General Bond Resolution requires net revenue to equal or exceed 1.25 of parity debt service, however, the Board's Financial Management Policy aims for 1.50 coverage.
(c) The General Bond Resolution requires net revenue to equal or exceed 1.10 of all debt service, however the Board's Financial Management Policy
(d) Net Revenue excludes transfers from the Rate Stabilization Fund and proceeds of Operation & Maintenance Grants.
(e) The General Bond Resolution requires net revenue to equal or exceed 1.00 of debt service.
(f) Projected coverage recognizes additional revenue, not yet in effect, but approved at the time of delievery of additional bonds and in effect within 5 years.

Table 9-11 - Water 2023 Cost of Service

Line No.	Description	Operating Expense	Capital Costs	Total
		$	$	$
	Revenue Requirements			
1	Operation & Maintenance Expense	89,200,300	0	89,200,300
2	Provision for Doubtful Accounts	14,355,300	0	14,355,300
3	Debt Service Requirements	0	10,125,700	10,125,700
4	Cash Financing of Capital Projects	0	15,000,000	15,000,000
5	Transfer to Operating Reserve Fund	0	0	0
6	Total	103,555,600	25,125,700	128,681,300
	Revenue Requirements Met from Other Sources			
7	Delinquent Fees	1,626,000	0	1,626,000
8	Revenue Sharing	261,300	0	261,300
9	Plumbing Inspection & Licensing Fees	295,300	0	295,300
10	Other Revenues	0	0	0
11	Interest Income on Operating Fund	40,600	9,800	50,400
12	Interest Income	402,400	97,600	500,000
13	Other Non-Operating Revenue	1,392,000	337,700	1,729,700
14	FEMA Reimbursement	0	0	0
15	Fair Share Revenue	0	0	0
16	Federal Non-Capital Grants	0	0	0
17	Interfund transfers	0	0	0
18	Use of Available Funds	(5,057,000)	(1,227,000)	(6,284,000)
19	WCA New Revenue	1,549,900	376,100	1,926,000
20	Total	510,500	(405,800)	104,700
21	Net Costs to be met from Charges	103,045,100	25,531,500	128,576,600

Table 9-12 - Water 2023 Allocation of Net Plant Investment to Functional Cost Components

		(1)	(2)	(3)	(4)	(5)	(6)	(7)
				Extra Capacity		Customer		
Line No.	Description	Net Plant Investment	Base	Maximum Day	Maximum Hour	Meters and Service	Meter Reading & Billing	Direct Fire Protection
		$	$	$	$	$	$	$
1	Real Estate Rights	4,792,500	2,851,700	1,428,200	294,700	0	217,900	0
2	Power & Pumping Stations	112,336,300	112,336,300	0	0	0	0	0
3	Transmission Mains	455,892,709	276,271,009	179,621,700	0	0	0	0
4	Distribution Mains	210,216,191	97,750,491	63,485,300	48,980,400	0	0	0
5	Services & Meters	37,417,000	0	0	0	0	37,417,000	0
6	Fuel Oil Tanks	0	0	0	0	0	0	0
7	Power Transmissions	6,933,700	3,224,100	2,094,000	1,615,600	0	0	0
8	General Plant Items	47,020,800	27,978,500	14,012,600	2,891,400	0	2,138,300	0
9	Buildings	0	0	0	0	0	0	0
10	Total Plant	874,609,200	520,412,100	260,641,800	53,782,100	0	39,773,200	0
11	Capital Charges to be Recovered	25,531,500	15,191,800	7,608,600	1,570,000	0	1,161,100	0

Table 9-13 - Water 2023 Allocation of O&M Expenses to Functional Cost Components

Line No.	Description	(1) Total	(2) Base	(3) Extra Capacity: Maximum Day	(4) Extra Capacity: Maximum Hour	(5) Customer: Meters and Service	(6) Customer: Meter Reading & Billing	(7) Direct Fire Protection
		$	$	$	$	$	$	$
1	General Superintendent	471,200	285,500	185,700	0	0	0	0
2	Chief of Operations	93,100	43,300	28,100	21,700	0	0	0
	Water Pumping and Power		0	0	0	0	0	0
3	Power	0	0	0	0	0	0	0
4	Other	12,187,800	12,187,800	0	0	0	0	0
5	Central Control	0	0	0	0	0	0	0
	Water Purification		0	0	0	0	0	0
6	Chemicals	0	0	0	0	0	0	0
7	Other	14,311,900	8,673,000	5,638,900	0	0	0	0
	Facilities Maintenance		0	0	0	0	0	0
8	Meters	4,751,400	0	0	0	4,751,400	0	0
9	Other	159,800	74,300	48,300	37,200	0	0	0
10	Central Yard	2,982,100	1,386,700	900,600	694,800	0	0	0
11	Networks	18,809,900	8,746,600	5,680,600	4,382,700	0	0	0
12	Engineering	1,838,400	854,900	555,200	428,300	0	0	0
13	Revenue and Customer Service	6,832,500	0	0	0	2,528,400	4,304,100	0
14	Plumbing	1,855,600	0	0	0	1,855,600	0	0
15	Administrative and General	24,906,500	12,494,100	5,050,500	2,155,700	3,538,900	1,667,300	0
16	Total Operating Expenses	89,200,200	44,746,200	18,087,900	7,720,400	12,674,300	5,971,400	0
17	Provision for Doubtful Accounts	14,355,300	7,201,200	2,910,900	1,242,500	2,039,700	961,000	
18	Less Other Operating Revenue	510,500	256,100	103,500	44,200	72,500	34,200	0
19	Net Operating Expenses to be Recovered	103,045,000	51,691,300	20,895,300	8,918,700	14,641,500	6,898,200	0

Table 9-14 - Water 2023 Estimated Units of Service

Line No.	Description	(1) Usage: Total Annual	(2) Usage: Average Day	(3) Maximum Day: Capacity Factor	(4) Maximum Day: Total Capacity	(5) Maximum Day: Extra Capacity (a)	(6) Maximum Hour: Capacity Factor	(7) Maximum Hour: Total Capacity	(8) Maximum Hour: Extra Capacity (b)	(9) Customer: Equivalent Meters	(10) Customer: Bills	(11) Direct Fire Protection
		1,000 gals	1,000 gals/day		1,000 gals/day	1,000 gals/day		1,000 gals/day	1,000 gals/day			
	Water System											
1	Residential	6,352,400	17,404	250%	43,510	26,106	280%	48,731	5,221	1,433,292	138,887	0
2	Multi-Family	688,000	1,885	225%	4,241	2,356	250%	4,713	472	55,353	8,471	0
3	Commercial	3,454,200	9,464	175%	16,562	7,098	200%	18,928	2,366	131,687	43,952	0
4	Industrial	34,700	95	150%	143	48	175%	166	23	206	398	0
5	Dual Service & Metered Fire Service	2,121,500	5,812	225%	13,077	7,265	250%	14,530	1,453	25,076	33,829	746
6	Free Water Service	18,427,500	50,486	175%	88,351	37,865	200%	100,972	12,621	18,516	17,415	0
7	HELP Program Customers	264,000	723	250%	1,808	1,085	280%	2,024	216	60,000	5,421	0
8	Unmetered Fire Service	0	0	0%	200	200	0%	400	200	0	0	396
9	Public Fire Protection	0	0	0%	8,960	8,960	0%	24,689	15,729	0	0	23,264
10	Total	31,342,300	85,869		176,852	90,983		215,153	38,301	1,724,130	248,372	24,405

(a) Extra capacity in excess of average day usage.
(b) Extra capacity in excess of maximum day demand.

Table 9-15 - Water 2023 Unit Cost of Service

Line No.	Description	(1) Total	(2) Base	(3) Extra Capacity Maximum Day	(4) Extra Capacity Maximum Hour	(5) Customer Billing and Collecting	(6) Customer Meters and Service	(7) Direct Fire Protection
		$	1,000 gals	1,000 gals/day	1,000 gals/day	Bills	Equiv Mtrs	Hydrants
	Units of Service							
1	General Service		30,654,300	88,627	37,829	1,668,777	239,901	24,405
2	Dual Service		688,000	2,356	472	55,353	8,471	0
3	Total		31,342,300	90,983	38,301	1,724,130	248,372	24,405
	Costs of Service							
	Net Operating Expense							
4	Total - $	103,045,000	51,691,300	20,895,300	8,918,700	6,898,200	14,641,500	0
5	Unit Cost - $/unit		1.6493	229.6616	232.8581	4.0010	58.9499	0.0000
	Capital Costs							
6	Total - $	25,531,500	15,191,800	7,608,600	1,570,000	0	1,161,100	0
7	Unit Cost - $/unit		0.4847	83.6266	40.9911	0.0000	4.6748	0.0000
8	Total Unit Cost of Service		2.1340	313.2882	273.8492	4.0010	63.6247	-
	Total Cost of Service	128,576,500	66,883,100	28,503,900	10,488,700	6,898,200	15,802,600	0

Table 9-16 - Water 2023 Cost of Service by Customer Class

Line No.	Customer Class	(1) Total	(2) Base	(3) Extra Capacity Maximum Day	(4) Maximum Hour	(5) Billing and Collecting	(6) Customer Meters and Service	(7) Direct Fire Protection
		$						
	Unit Cost of Service - $/unit							
1	Unit Cost of Service - $/unit		2.1340	313.2882	273.8492	4.0010	63.6247	0.0000
	Residential							
2	Units		6,352,400	26,106	5,221	1,433,292	138,887	
3	Costs - $	37,735,000	13,555,700	8,178,700	1,429,600	5,734,500	8,836,500	
	Multi-Family							
4	Units		688,000	2,356	472	55,353	8,471	
5	Costs - $	3,096,100	1,468,200	738,100	129,300	221,500	539,000	
	Commercial							
6	Units		3,454,200	7,098	2,366	131,687	43,952	
7	Costs - $	13,566,100	7,371,100	2,223,700	647,900	526,900	2,796,500	
	Industrial							
8	Units		34,700	48	23	206	398	
9	Costs - $	121,400	74,000	15,000	6,300	800	25,300	
	Dual Service & Metered Fire Service							
10	Units		2,121,500	7,265	1,453	25,076	33,829	0
11	Costs - $	9,453,800	4,527,200	2,276,000	397,900	100,300	2,152,400	0
	Free Water Service							
12	Units		18,427,500	37,865	12,621	18,516	17,415	0
13	Costs - $	55,824,600	39,323,500	11,862,700	3,456,300	74,100	1,108,000	0
	HELP Program Customers							
14	Units		264,000	1,085	216	60,000	5,421	0
15	Costs - $	1,547,500	563,400	339,900	59,200	240,100	344,900	0
	Unmetered Fire Service							
16	Units		0	200	200	0	0	396
17	Costs - $	117,500	0	62,700	54,800	0	0	0
	Public Fire Protection							
18	Units		0	8,960	15,729	0	0	0
19	Costs - $	7,114,500	0	2,807,100	4,307,400	0	0	0
20	Total Cost of Service - $	128,576,500	66,883,100	28,503,900	10,488,700	6,898,200	15,802,600	0

Table 9-17 - Water Proposed 2023 Rates

	(1)	(2)	(3)	(4)	(5)	(6)
	Existing			Effective January 1, 2023		
Meter Size	Inside City	Outside City	Fire Service	Inside City	Outside City	Fire Service
Service Charge - $/month (a)						
5/8"	8.69	11.81		8.95	11.81	
3/4"	10.64	14.37		12.00	14.37	
1"	13.50	18.88		16.20	18.88	
1.5"	22.28	29.38		27.15	29.38	
2"	29.38	42.02	19.71	38.25	42.02	19.71
3"	66.45	93.26	26.79	87.75	93.30	26.79
4"	115.76	162.93	49.29	144.50	162.93	49.29
6"	227.23	317.26	85.75	289.00	319.34	85.75
8"	336.57	471.58	113.61	437.00	502.46	113.61
10"	456.58	638.78	180.06	585.00	698.71	180.06
12"	535.90	750.27	233.66	686.00	867.85	234.69
16"	713.80	998.93	321.54	924.00	1297.47	472.46
Volume Charge - $/Ccf						
First 3,000 Gallons	5.80	5.80		6.04	6.04	
Next 17,000 Gallons	9.87	9.87		10.63	10.63	
Next 980,000 Gallons	7.76	7.76		8.36	8.36	
All over 1,000,000 Gallons	6.50	6.50		7.00	7.00	

(a) Minimum charge includes 2 Ccf of water usage.

Table 9-18 - Water 2023 Cost of Service Under Proposed Rates

		(1)	(2)	(3)	(4)	(5)
Line No.	Customer Class	Revenue Under Proposed Rates	Adjusted Cost of Service	Proposed Revenue as a % of COS	Revenue Under Existing Rates	Indicated Revenue Adjustment
		$	$		$	
1	Residential	66,737,600	74,957,200	89.0%	62,760,670	6.3%
2	Multi-Family	6,834,400	6,131,100	111.5%	6,334,612	7.9%
3	Commercial	31,912,300	26,864,200	118.8%	29,313,263	8.9%
4	Industrial	315,500	240,500	131.2%	289,157	9.1%
5	Dual Service & Metered Fire Service	19,661,400	18,720,800	105.0%	18,373,204	7.0%
6	Free Water Service	0	0	0.0%	0	0.0%
7	HELP Program Customers	2,724,600	1,547,500	176.1%	2,570,407	6.0%
8	Unmetered Fire Service	397,800	232,700	170.9%	397,757	0.0%
9	Total	128,583,600	128,694,000	99.9%	120,039,069	7.1%

Table 9-19 - Water 2023 Bill Impact

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		General Service				Dual Service			
	Water	Existing	Proposed Rates				Proposed Rates		
Description	Use	Rates	Amount	Diff.	Diff.	Existing Rate	Amount	Diff.	Diff.
	Ccf	$	$	$	%	$	$	$	%
Residential									
5/8"	0	8.69	8.95	0.26	3.0%	11.81	11.81	0.00	0.0%
5/8"	1,000	14.49	14.99	0.50	3.5%	17.61	17.85	0.24	1.4%
5/8"	2,000	20.29	21.03	0.74	3.6%	23.41	23.89	0.48	2.1%
5/8"	4,400	39.91	41.95	2.04	5.1%	43.03	44.81	1.78	4.1%
5/8"	5,000	44.84	47.27	2.43	5.4%	47.96	50.13	2.17	4.5%
5/8"	6,000	54.71	57.90	3.19	5.8%	57.83	60.76	2.93	5.1%
5/8"	8,000	74.45	79.16	4.71	6.3%	77.57	82.02	4.45	5.7%
5/8"	10,000	94.19	100.42	6.23	6.6%	97.31	103.28	5.97	6.1%
5/8"	15,000	143.54	153.57	10.03	7.0%	146.66	156.43	9.77	6.7%
Commercial									
5/8"	2,500	23.19	24.05	0.86	3.7%	26.31	26.91	0.60	2.3%
5/8"	5,000	44.84	47.27	2.43	5.4%	47.96	50.13	2.17	4.5%
1"	3,000	30.90	34.32	3.42	11.1%	36.28	37.00	0.72	2.0%
1"	7,500	74.33	81.09	6.76	9.1%	79.71	83.77	4.06	5.1%
1.5"	3,500	44.62	50.59	5.97	13.4%	51.72	52.82	1.10	2.1%
1.5"	10,000	107.78	118.62	10.84	10.1%	114.88	120.85	5.97	5.2%
2"	4,000	55.66	65.94	10.28	18.5%	68.30	69.71	1.41	2.1%
2"	15,000	164.23	182.87	18.64	11.3%	176.87	186.64	9.77	5.5%
3"	50,000	378.90	423.68	44.78	11.8%	405.71	429.23	23.52	5.8%
3"	75,000	677.66	745.54	67.88	10.0%	704.47	751.09	46.62	6.6%
4"	100,000	920.97	1,011.29	90.32	9.8%	968.14	1,029.72	61.58	6.4%
4"	150,000	1,308.97	1,429.29	120.32	9.2%	1,356.14	1,447.72	91.58	6.8%
Industrial									
2"	40,000	341.83	374.18	32.35	9.5%	354.47	377.95	23.48	6.6%
2"	80,000	679.39	737.84	58.45	8.6%	692.03	741.61	49.58	7.2%
3"	100,000	871.66	954.54	82.88	9.5%	898.47	960.09	61.62	6.9%
3"	150,000	1,259.66	1,372.54	112.88	9.0%	1,286.47	1,378.09	91.62	7.1%
4"	300,000	2,472.97	2,683.29	210.32	8.5%	2,520.14	2,701.72	181.58	7.2%
4"	600,000	4,800.97	5,191.29	390.32	8.1%	4,848.14	5,209.72	361.58	7.5%

Table 9-20 - Sewer Projected Sales and Average Number of Accounts

Line No.	Description	Projected 2022	2023	2024	2025	2026	2027
	Residential (b)						
1	Customers	120,037	120,637	121,241	121,847	122,456	123,068
2	Sales (1,000 gal.)	5,411	5,438	5,466	5,493	5,520	5,548
3	Sales Per Customer (1,000 gal.)	45	45	45	45	45	45
	Multi-Family						
4	Customers	4,613	4,636	4,659	4,682	4,706	4,729
5	Sales (1,000 gal.)	607	610	613	616	619	623
6	Sales Per Customer (1,000 gal.)	132	132	132	132	132	132
	Commercial						
7	Customers	10,951	11,006	11,061	11,117	11,172	11,228
8	Sales (1,000 gal.)	4,299	4,321	4,342	4,364	4,386	4,408
9	Sales Per Customer (1,000 gal.)	393	393	393	393	393	393
	Industrial						
10	Customers	23	23	23	23	24	24
11	Sales (1,000 gal.)	65	65	65	66	66	66
12	Sales Per Customer (1,000 gal.)	2,799	2,798	2,797	2,796	2,799	2,798
	Free Sewer Service						
13	Customers	796	796	796	796	796	796
14	Sales (1,000 gal.)	3,843	3,843	3,843	3,843	3,843	3,843
15	Sales Per Customer (1,000 gal.)	4,828	4,828	4,828	4,828	4,828	4,828
	HELP						
16	Customers	2,162	5,000	5,025	5,050	5,075	5,101
17	Sales (1,000 gal.)	98	225	227	228	229	230
18	Sales Per Customer (1,000 gal.)	45	45	45	45	45	45
	Total						
19	Customers	138,583	142,099	142,805	143,515	144,229	144,946
20	Sales (1,000 gal.)	14,323	14,502	14,556	14,609	14,663	14,717
	% Change - Customer	*0.50%*	*2.54%*	*0.50%*	*0.50%*	*0.50%*	*0.50%*
	% Change - Sales	*1.99%*	*1.26%*	*0.37%*	*0.37%*	*0.37%*	*0.37%*

(a) Excludes customers receiving free service.
(b) Includes duplex.

Table 9-21 - Sewer Existing Charges

Rate Component	Existing Rates
Sewerage Service Charge - $/month	
Meter Size	
5/8"	24.87
3/4"	35.40
1"	50.38
1.5"	92.72
2"	135.60
3"	321.54
4"	535.90
6"	1,071.81
8"	1,607.71
10"	2,143.59
12"	2,465.13
16"	3,322.57
Quantity Charge - $/1,000 Gallons	
All Usage	8.66
Excessive Strength Charge - $/Pound (lb)	
BOD	0.57
TSS	0.34

Table 9-22 - Sewer Projected Revenues at Existing Rates

Line No.	Description	Projected					
		2022	2023	2024	2025	2026	2027
		$	$	$	$	$	$
1	Residential	85,564,722	85,992,913	86,422,946	86,854,823	87,289,398	87,725,828
2	Multi-Family	7,498,442	7,535,630	7,572,876	7,611,028	7,649,240	7,687,512
3	Commercial	53,968,590	54,238,471	54,509,638	54,782,093	55,055,838	55,330,876
4	Industrial	747,327	750,865	754,408	757,956	762,355	765,913
5	Free Sewer Service	0	0	0	0	0	0
6	HELP Surcharge	1,499,922	3,468,283	3,485,396	3,503,394	3,520,585	3,537,816
7	BOD	247,081	247,081	247,081	247,081	247,081	247,081
8	TSS	43,794	43,794	43,794	43,794	43,794	43,794
9	Delinquent Fees	1,740,000	0	0	0	0	0
10	Total	151,309,879	152,277,037	153,036,139	153,800,170	154,568,292	155,338,820

Table 9-23 - Sewer Projected Other Revenues

Line No.	Description	Projected					
		2022	2023	2024	2025	2026	2027
		$	$	$	$	$	$
	Operating Revenue						
1	Sewerage Service Charges	152,480,300	152,480,300	152,480,300	152,480,300	152,480,300	152,480,300
2	Delinquent Fees	1,740,000	1,740,000	1,740,000	1,740,000	1,740,000	1,740,000
3	Revenue Sharing	325,900	325,900	325,900	325,900	325,900	325,900
4	Plumbing Inspection & License Fees	293,200	293,200	293,200	293,200	293,200	293,200
5	Other Revenues	0	0	0	0	0	0
	Non-Operating Revenue						
6	Interest Income	213,400	500,000	500,000	500,000	500,000	500,000
7	Other Non-Operating Revenue	701,700	701,700	701,700	701,700	701,700	701,700
8	FEMA Reimbursement	0	0	0	0	0	0
9	Fair Share Revenue	0	0	0	0	0	0
10	Federal Non-Capital Grants	0	0	0	0	0	0
11	Total Revenue	155,754,500	156,041,100	156,041,100	156,041,100	156,041,100	156,041,100

Table 9-24 - Sewer Capital Improvement Program

Line No.	Description	Year Ending December 31,						
		2022	2023	2024	2025	2026	2027	Total
		$	$	$	$	$	$	$
	Sewer CIP Summary by Category							
1	Equipment	0	0	0	0	0	0	0
2	Facilities	9,854,000	15,310,000	17,665,000	12,680,000	11,440,000	13,090,000	80,039,000
3	Normal Extensions	192,615,500	61,793,200	47,950,000	42,950,000	35,950,000	10,650,000	391,908,700
4	Other	0	0	0	0	0	0	0
5	Power	0	0	0	0	0	0	0
6	Hardware	0	0	0	0	0	0	0
7	Software	0	0	0	0	0	0	0
								0
	Combo CIP Summary by Category	0	0	0	0	0	0	0
8	Equipment	8,185,000	14,934,000	5,884,000	4,884,000	7,300,700	4,759,000	45,946,700
9	Facilities	478,000	5,001,500	2,994,500	1,000,000	1,100,000	833,300	11,407,300
10	Normal Extensions	0	0	0	0	0	0	0
11	Other	5,233,900	2,907,700	2,907,700	2,907,700	2,907,700	2,907,700	19,772,400
12	Power	897,500	2,288,300	2,175,000	2,475,000	2,475,000	2,191,700	12,502,500
13	Hardware	612,300	230,500	265,400	296,700	318,300	228,800	1,952,000
14	Software	1,655,800	2,023,300	1,523,300	1,190,000	1,190,000	350,200	7,932,600
15	Total - Uninflated	219,532,000	104,488,500	81,364,900	68,383,400	62,681,700	35,010,700	571,461,200

Table 9-25 - Sewer Projected O&M Expenses

Line No.	Description	Budget	Projected				
		2022	2023	2024	2025	2026	2027
		$	$	$	$	$	$
	Summary By Description						
1	Executive Director	784,200	807,700	831,900	856,900	882,600	909,100
2	Special Counsel	1,451,600	1,495,100	1,540,000	1,586,200	1,633,700	1,682,700
3	Communications	248,600	256,000	263,700	271,600	279,800	288,100
4	Chief Customer Service Officer	10,315,300	10,624,800	10,943,500	11,271,900	11,610,000	11,958,300
5	Chief Administrative Officer	21,948,200	22,606,600	23,284,800	23,983,400	24,702,900	25,444,000
6	General Superintendent/Operations	62,767,000	64,650,000	66,589,600	68,587,200	70,644,900	72,764,200
7	Chief Financial Officer	6,461,100	6,655,000	6,854,600	7,060,300	7,272,100	7,490,200
8	Overhead Allocation	(8,689,200)	(8,949,900)	(9,218,400)	(9,494,900)	(9,779,800)	(10,073,100)
9	Total Operation & Maintenance Expense	95,286,800	98,145,300	101,089,700	104,122,600	107,246,200	110,463,500
10	Sewerage Non-Cash Expense (a)	54,688,600	56,329,200	58,019,100	59,759,700	61,552,500	63,399,100
11	Total Operating Expenses	149,975,400	154,474,500	159,108,800	163,882,300	168,798,700	173,862,600

(a) Includes Sewerage Overhead CP #820, Depreciation & Allowances Expenses, and OPED Liability.

Table 9-26 - Sewer Cash Financed Capital

Line No.	Description	Year Ending December 31,						
		2022	2023	2024	2025	2026	2027	Total
		$	$	$	$	$	$	$
	Sources of Funds							
1	Funds Available for Future Construction	93,462,400	85,400	44,260,100	39,555,600	7,636,000	15,129,400	93,462,400
2	WIFIA Loan Proceeds (a)	0	200,530,100	50,777,100	22,066,200	0	0	273,373,400
3	Subordinate Loan Proceeds	0	13,610,900	11,110,000	0	0	0	24,720,900
4	FEMA Reimbursement	19,343,700	0	0	0	0	0	19,343,700
5	Fairshare	466,700	0	0	0	0	0	466,700
6	Revenue Bond Proceeds	0	0	0	0	60,000,000	0	60,000,000
7	Other Capital Project Funds	5,600,000	0	0	0	0	0	5,600,000
8	Capital Outlay	600,000	0	0	0	0	0	600,000
9	Grants	194,300	0	0	0	0	0	194,300
10	Insurance	5,493,600	0	0	0	0	0	5,493,600
11	Pay-As-You-Go Funding From Rate Revenu	15,000,000	20,000,000	20,000,000	20,000,000	20,000,000	22,000,000	117,000,000
12	Interest Income	56,700	129,100	72,700	34,600	39,700	6,400	339,200
13	Total Sources of Funds	140,217,400	234,355,500	126,219,900	81,656,400	87,675,700	37,135,800	600,594,200
	Application of Funds							
14	Major Capital Improvements - Inflated	219,532,000	108,710,000	86,345,200	74,020,400	69,205,600	39,427,800	597,241,000
15	Deferral/Reinstatement of Pay-As-You-Go Funded Improvements	(79,400,000)	81,000,000	0	0	0	0	1,600,000
16	Issuance Costs	0	0	0	0	900,000	0	900,000
17	Bond Insurance	0	0	0	0	0	0	0
18	Total Application of Funds	140,132,000	190,095,400	86,664,300	74,020,400	72,546,300	39,427,800	602,886,200
19	End of Year Balance	85,400	44,260,100	39,555,600	7,636,000	15,129,400	(2,292,000)	(2,292,000)

(a) Other Contributed Capital includes State Outlay, Fair Share, Insurance Proceeds, and Grants.

Table 9-27 - Sewer Operating Cash Flow

Line No.	Description	Year Ending December 31, 2022	2023	2024	2025	2026	2027
		$	$	$	$	$	$
1	Billed Revenue from Existing Rates	149,569,900	152,277,000	153,036,100	153,800,200	154,568,300	155,338,800
2	WCA New Revenue (a)	2,889,000	2,889,000	2,889,000	2,889,000	2,889,000	2,889,000
	Increased Revenue (b)						
3	2.00% Effective December 2022		3,103,300	3,118,500	3,133,800	3,149,200	3,164,600
4	2.00% Effective December 2023			3,180,800	3,196,400	3,212,100	3,227,800
5	2.00% Effective December 2024				3,260,400	3,276,400	3,292,400
6	2.00% Effective December 2025					3,341,900	3,358,200
7	2.00% Effective December 2026					0	3,425,400
8	Total Billed Revenue from Rates	152,458,900	158,269,300	162,224,400	166,279,800	170,436,900	174,696,200
9	Delinquent Fees	1,740,000	1,740,000	1,740,000	1,740,000	1,740,000	1,740,000
10	Revenue Sharing	325,900	325,900	325,900	325,900	325,900	325,900
11	Plumbing Inspection & Licensing Fees	293,200	293,200	293,200	293,200	293,200	293,200
12	Other Revenues	0	0	0	0	0	0
13	Interest Income on Operating Fund	80,900	82,100	81,700	80,600	77,300	72,900
14	Total Operating Revenue	154,898,900	160,710,500	164,665,200	168,719,500	172,873,300	177,128,200
	Revenue Requirements:						
15	Operation & Maintenance Expense (c)	95,286,800	98,145,300	101,089,700	104,122,600	107,246,200	110,463,500
16	Estimated Uncollectable Revenue (d)	16,452,700	16,750,500	16,834,000	16,918,000	17,002,500	17,087,300
	Expense Reallocation (xx)	0	0	0	0	0	0
	Non-Operating Revenues:						
17	Interest Income (e)	213,400	500,000	500,000	500,000	500,000	500,000
18	Other Non-Operating Revenue	701,700	701,700	701,700	701,700	701,700	701,700
	FEMA Reimbursement	0	0	0	0	0	0
	Fair Share Revenue	0	0	0	0	0	0
	Federal Non-Capital Grants	0	0	0	0	0	0
	Debt Service Requirements						
	Parity Debt						
	Revenue Bonds						
19	Existing	22,010,600	19,430,700	18,994,500	16,011,500	15,786,200	16,248,900
20	Proposed	0	0	0	0	4,184,000	5,020,800
21	Total Revenue Bonds	22,010,600	19,430,700	18,994,500	16,011,500	19,970,200	21,269,700
	Clean Water State Revolving Loans						
22	Existing	1,026,400	1,045,300	1,045,600	1,045,700	1,045,000	1,045,000
23	Proposed	0	0	755,400	1,368,000	1,368,000	1,368,000
24	Total Clean Water State Revolving Loans	1,026,400	1,045,300	1,801,000	2,413,700	2,413,000	2,413,000
	WIFIA Loan						
25	Proposed	70,700	2,947,800	4,202,700	5,070,400	5,087,500	5,087,500
26	Total WIFIA Loan	70,700	2,947,800	4,202,700	5,070,400	5,087,500	5,087,500
27	Total Parity Debt	23,107,700	23,423,800	24,998,200	23,495,600	27,470,700	28,770,200
	Other Debt						
28	Gulf Opportunity Zone Act Loan	3,641,300	3,641,300	3,641,300	7,124,800	7,282,700	3,971,000
29	Total Debt Service	26,749,000	27,065,100	28,639,500	30,620,400	34,753,400	32,741,200
		26,678,300	24,117,300	23,681,400	24,182,000	24,113,900	21,264,900
30	Cash Financing of Capital Projects	15,000,000	20,000,000	20,000,000	20,000,000	20,000,000	22,000,000
	Interfund transfers	0	0	0	0	0	0
31	Net Balance	(24,352,800)	(24,166,000)	(24,377,700)	(25,921,800)	(29,041,000)	(25,227,000)
32	Beginning Fund Balance (f)	71,994,800	74,320,300	74,271,600	73,575,300	71,835,500	66,908,400
33	End of Year Balance	47,642,000	50,154,300	49,893,900	47,653,500	42,794,500	41,681,400
34	**Operating Reserve Fund**						
35	Beginning of Year Cash Balance (f)	71,994,800	74,320,300	74,271,600	73,575,300	71,835,500	66,908,400
36	Net Operating Balance	2,325,500	(48,700)	(696,300)	(1,739,800)	(4,927,100)	(3,962,100)
37	End of Year Balance	74,320,300	74,271,600	73,575,300	71,835,500	66,908,400	62,946,300
38	Number of Days - Actual	285	276	266	252	228	208
39	Number of Days - Target	90	90	90	90	90	90

(a) Includes previously unbilled revenue identified by Water Company of America.
(b) Adjusted to reflect a 1 month lag in the billing cycle.
(c) Excludes non-cash expenses of depreciation and allowances, pension liability adjustment, and pension contributions.
(d) Reflects assumed allowance (%) for uncollected revenue applied to the projected revenue from rates.
(d) Reflects reallocation of costs associated with General Superintendent/Operations to more accurately reflect actual expenses by Division.
(e) Includes interest income on Debt Service Reserve and Bond Reserve.
(f) Reflects Cash & Cash Equivalents unrestricted and undesignated as of December 31, 2020.

Table 9-28 - Sewer Debt Coverage Requirements

Line No.	Description	Year Ending December 31, 2022	2023	2024	2025	2026	2027
		$	$	$	$	$	$
	Projected Net Revenues						
1	Revenue Under Existing Rates	149,569,900	152,277,000	153,036,100	153,800,200	154,568,300	155,338,800
2	Additional Revenue Under Proposed Rates	0	3,103,300	6,299,300	9,590,600	12,979,600	16,468,400
3	Delinquent Fees	1,740,000	1,740,000	1,740,000	1,740,000	1,740,000	1,740,000
4	Revenue Sharing	325,900	325,900	325,900	325,900	325,900	325,900
5	Plumbing Inspection & Licensing Fees	293,200	293,200	293,200	293,200	293,200	293,200
6	Other Revenues	0	0	0	0	0	0
7	Interest Income on Operating Fund	80,900	82,100	81,700	80,600	77,300	72,900
8	Other Non-Operating Revenue	213,400	500,000	500,000	500,000	500,000	500,000
9	FEMA Reimbursement	701,700	701,700	701,700	701,700	701,700	701,700
10	Operation & Maintenance	(111,739,500)	(114,895,800)	(117,923,700)	(121,040,600)	(124,248,700)	(127,550,800)
11	Net Revenue (a)	41,185,500	44,127,400	45,054,200	45,991,600	46,937,300	47,890,100
	Rate Covenant Coverage						
12	Projected Net Revenues	41,185,500	44,127,400	45,054,200	45,991,600	46,937,300	47,890,100
13	Annual Debt Service						
14	Parity Debt	23,107,700	23,423,800	24,998,200	23,495,600	27,470,700	28,770,200
15	Coverage (b)	1.78	1.88	1.80	1.96	1.71	1.66
16	All Debt	26,749,000	27,065,100	28,639,500	30,620,400	34,753,400	32,741,200
17	Coverage (c)	1.54	1.63	1.57	1.50	1.35	1.46
	Adjusted Rate Covenant Coverage						
18	Projected Net Revenues (d)	40,483,800	43,425,700	44,352,500	45,289,900	46,235,600	47,188,400
19	Annual Debt Service						
20	Senior Debt	23,107,700	23,423,800	24,998,200	23,495,600	27,470,700	28,770,200
21	Coverage (e)	1.75	1.85	1.77	1.93	1.68	1.64
22	All Debt	26,749,000	27,065,100	28,639,500	30,620,400	34,753,400	32,741,200
23	Coverage (e)	1.51	1.60	1.55	1.48	1.33	1.44
	Additional Bond Coverage						
24	Preceding Year Projected Net Revenues	50,950,000	41,185,500	41,024,100	38,754,900	36,401,000	33,957,700
25	Future Additional Revenue (f)	0	3,103,300	6,299,300	9,590,600	12,979,600	16,468,400
26	Adjusted Projected Net Revenues	50,950,000	44,288,800	47,323,400	48,345,500	49,380,600	50,426,100
27	Maximum Debt Service						
28	Parity Debt	26,131,500	26,886,900	27,499,500	27,499,500	32,520,300	32,520,300
29	Coverage (b)	1.95	1.65	1.72	1.76	1.52	1.55
30	All Debt - does not include GOZONE	26,131,500	26,886,900	27,499,500	27,499,500	32,520,300	32,520,300
31	Coverage (c)	1.95	1.65	1.72	1.76	1.52	1.55

(a) Excludes Fair Share revenue which is recognized as a capital funding source.
(b) The General Bond Resolution requires net revenue to equal or exceed 1.25 of debt service, however, the Board's Financial Management Policy
(c) The General Bond Resolution requires net revenue to equal or exceed 1.10 of debt service, however the Board's Financial Management Policy
(d) Net Revenue excludes transfers from the Rate Stabilization Fund and proceeds of Operation & Maintenance Grants.
(e) The General Bond Resolution requires net revenue to equal or exceed 1.00 of debt service.
(f) Projected coverage recognizes additional revenue, not yet in effect, but approved at the time of delivery of additional bonds and in effect within 5 years.

Table 9-29 - Sewer 2023 Cost of Service

Line No.	Description	Operating Expense	Capital Costs	Total
		$	$	$
	Revenue Requirements			
1	Operation & Maintenance Expense	98,145,300	0	98,145,300
2	Provision for Doubtful Accounts	16,750,500	0	16,750,500
3	Debt Service Requirements	0	27,065,100	27,065,100
4	Cash Financing of Capital Projects	0	20,000,000	20,000,000
5	Transfer to Operating Reserve Fund	0	0	0
6	Total	114,895,800	47,065,100	161,960,900
	Revenue Requirements Met from Other Sources			
7	Delinquent Fees	1,740,000	0	1,740,000
8	Revenue Sharing	325,900	0	325,900
9	Plumbing Inspection & Licensing Fees	293,200	0	293,200
10	Other Revenues	0	0	0
11	Interest Income on Operating Fund	58,200	23,900	82,100
12	Interest Income (e)	354,700	145,300	500,000
13	Other Non-Operating Revenue	497,800	203,900	701,700
14	FEMA Reimbursement	0	0	0
15	Fair Share Revenue	0	0	0
16	Federal Non-Capital Grants	0	0	0
17	Use of Available Funds	-34,500	-14,200	-48,700
18	WCA New Revenue	2,049,500	839,500	2,889,000
	Full Year Recovery Increase Adjustment	0	0	0
19	Total	5,284,800	1,198,400	6,483,200
20	Net Costs to be met from Charges	109,611,000	45,866,700	155,477,700

Table 9-30 - Sewer 2023 Allocation of Net Plant Investment

		(1)	(2)	(3)	(4)	(5)	(6)
				Extra Strength		Customer	
Line No.	Description	Net Plant Investment	Volume	BOD	SS	Meter	Billing
		$	$	$	$	Meters	Bills
1	Real Estate Rights	1,784,200	1,330,600	121,100	104,600	115,000	112,900
2	Power and Pumping Stations	3,345,000	3,345,000	0	0	0	0
3	Sewers	1,017,137,700	1,017,137,700	0	0	0	0
4	House Connections	16,644,600	0	0	0	16,644,600	0
5	Power Transmission	35,221,300	35,221,300	0	0	0	0
6	Treatment Plants	131,809,000	77,767,300	28,998,000	25,043,700	0	0
7	General Plant Items	27,964,100	20,856,600	1,897,600	1,638,800	1,802,000	1,769,100
8	Buildings	0	0	0	0	0	0
9	Total Plant Investment	1,233,905,900	1,155,658,500	31,016,700	26,787,100	18,561,600	1,882,000
10	Capital Charges to be Recovered	45,866,800	42,958,100	1,153,000	995,700	690,000	70,000

Table 9-31 - Sewer 2023 Allocation of O&M Expenses

Line No.	Description	(1) Total	(2) Volume	(3) Extra Strength BOD	(4) Extra Strength SS	(5) Customer Meters	(6) Customer Billing
		$	$	$	$	$	$
1	General Superintendant	785,300	585,700	53,300	46,000	50,600	49,700
2	Chief of Operations	155,100	132,600	12,100	10,400	0	0
3	Power and Water Pumping	5,223,000	5,223,000	0	0	0	0
4	Sewerage Pumping	3,721,300	3,721,300	0	0	0	0
5	Sewerage Treatment	15,998,200	9,438,900	3,519,600	3,039,700	0	0
	Facilities Maintenance						
6	Meters	0	0	0	0	0	0
7	Other	7,899,600	6,754,400	614,500	530,700	0	0
8	Central Yard	2,982,100	2,549,800	232,000	200,300	0	0
9	Networks	20,301,900	20,301,900	0	0	0	0
10	Engineering	3,064,000	2,619,700	238,400	205,900	0	0
11	Revenue and Customer Service	6,832,500	0	0	0	2,528,400	4,304,100
12	Plumbing	1,855,600	0	0	0	1,855,600	0
13	Administration and General	29,326,800	21,872,900	1,990,100	1,718,600	1,889,800	1,855,400
14	Total Operating Expenses	98,145,400	73,200,200	6,660,000	5,751,600	6,324,400	6,209,200
15	Less Other Operating Revenue	(5,284,800)	(3,941,700)	(358,600)	(309,700)	(340,500)	(334,300)
16	Net Operating Expenses to be Recovered	92,860,600	69,258,500	6,301,400	5,441,900	5,983,900	5,874,900

Table 9-32 - Sewer 2023 Units of Service

Line No.	Description	(1) Volume: Contributed Volume	(2) Volume: Infiltration Inflow	(3) Volume: Total Treated Volume	(4) Wastewater Strength: BOD	(5) Wastewater Strength: SS	(6) Customer: Meters	(7) Customer: Billing
		1,000 gals	1,000 gals	1,000 gals	lbs	lbs	Meters	Bills
1	Residential	5,438,400	14,343,900	19,782,300	8,433,500	19,843,600	120,637	1,447,649
2	Multi-Family	610,200	791,900	1,402,100	775,800	862,900	4,636	55,632
3	Commercial	4,320,600	3,603,400	7,924,000	5,075,400	2,767,400	11,006	132,075
4	Industrial	65,000	41,100	106,100	73,700	19,700	23	279
5	Free Sewer Service	3,842,800	2,378,800	6,221,600	4,341,900	1,083,400	796	9,552
6	HELP	225,400	594,500	819,900	349,600	822,500	5,000	60,000
7	Surcharge	0	0	0	433,476	128,807	0	0
8	Total System	14,502,400	21,753,600	36,256,000	19,483,376	25,528,307	142,099	1,705,186

Ccf - Hundred Cubic Feet
lbs - pounds

Table 9-33 - Sewer 2023 Unit Cost of Service

Line No.	Customer Class	(1) Total	(2) Volume	(3) Wastewater Strength: BOD	(4) Wastewater Strength: SS	(5) Customer: Meters	(6) Customer: Billing
		$	1,000 gals	lbs	lbs	Meters	Bills
	Number of Units						
1	Units of Service		36,256,000	19,483,376	25,528,307	142,099	1,705,186
	Costs of Service						
	Net Operating Expense						
2	Total - $	109,611,100	81,751,600	7,438,100	6,423,500	7,063,300	6,934,600
3	Unit Cost - $/unit		2.2548	0.3818	0.2516	49.7069	4.0668
	Capital Costs						
4	Total - $	45,866,800	42,958,100	1,153,000	995,700	690,000	70,000
5	Unit Cost - $/unit		1.1849	0.0592	0.0390	4.8558	0.0411
6	Total Unit Cost of Service		3.4397	0.4409	0.2906	0.2906	54.5627
7	Total Cost of Service	155,477,700	124,709,700	8,591,100	7,419,200	7,753,300	7,004,600

Ccf - Hundred Cubic Feet
lbs - pounds

Table 9-34 - Sewer 2023 Cost of Service by Customer Class

Line No.	Customer Class	(1) Total	(2) Volume	(3) Wastewater Strength BOD	(4) Wastewater Strength SS	(5) Customer Meters	(6) Customer Billing
		$	1,000 gals	lbs	lbs	Meters	Bills
	Unit Cost of Service						
1	Unit Cost of Service - $/unit		3.4397	0.4409	0.2906	54.5627	4.1078
	Residential						
2	Units of Service		19,782,300	8,433,500	19,843,600	120,637	1,447,649
3	Allocated Costs - $	90,060,000	68,045,100	3,718,700	5,767,100	6,582,300	5,946,800
	Multi						
4	Units of Service		1,402,100	775,800	862,900	4,636	55,632
5	Allocated Costs - $	5,897,200	4,822,800	342,100	250,800	253,000	228,500
	Commercial						
6	Units of Service		7,924,000	5,075,400	2,767,400	11,006	132,075
7	Allocated Costs - $	31,441,500	27,256,200	2,238,000	804,300	600,500	542,500
	Industrial						
8	Units of Service		106,100	73,700	19,700	23	279
9	Allocated Costs - $	405,600	365,000	32,500	5,700	1,300	1,100
	Free Sewer Service						
10	Units of Service		6,221,600	4,341,900	1,083,400	796	9,552
11	Allocated Costs - $	23,712,400	21,400,400	1,914,500	314,900	43,400	39,200
	HELP						
12	Units of Service		819,900	349,600	822,500	5,000	60,000
13	Allocated Costs - $	3,732,700	2,820,200	154,200	239,000	272,800	246,500
	Surcharge						
14	Units of Service		0	433,476	128,807	0	0
15	Allocated Costs - $	228,500	0	191,100	37,400	0	0
14	Total Cost of Service - $	155,477,900	124,709,700	8,591,100	7,419,200	7,753,300	7,004,600

Table 9-35 - Sewer Proposed 2023 Charges

Meter Size	Existing	Effective January 1, 2023 Proposed
Service Charge - $/month (a)		
5/8"	24.87	25.35
3/4"	35.40	38.25
1"	50.38	54.40
1.5"	92.72	100.10
2"	135.60	146.50
3"	321.54	347.50
4"	535.90	579.00
6"	1,071.81	1,158.00
8"	1,607.71	1,736.00
10"	2,143.59	2,315.00
12"	2,465.13	2,662.00
16"	3,322.57	3,588.00
Quantity Charge - $/1,000 Gallons		
All Usage	8.66	8.66
Excessive Strength Charge - $/Pound (lb)		
BOD	0.57	0.57
TSS	0.34	0.34

Table 9-36 - Sewer 2023 Cost of Service Under Proposed Rates

Line No.	Customer Class	(1) Revenue Under Proposed Rates	(2) Adjusted Cost of Service	(3) Proposed Revenue as a % of COS	(4) Revenue Under Existing Rates	(5) Indicated Revenue Adjustment
		$	$		$	
1	Residential	87,393,700	106,769,400	81.9%	85,992,913	24.16%
2	Multi-Family	7,670,500	6,991,300	109.7%	7,535,630	-7.22%
3	Commercial	55,563,200	37,275,100	149.1%	54,238,471	-31.28%
4	Industrial	767,000	480,900	159.5%	750,865	-35.95%
5	HELP	3,515,200	3,732,700	94.2%	3,468,300	7.62%
6	Surcharge	290,900			290,900	-100.00%
7	Total System	155,200,500	155,249,400	100.0%	152,277,079	1.95%

Table 9-37 - Sewer 2023 Bill Impact

(1)	(2)	(3)	(4)	(8)	(9)	(10)
			General Service			
				Proposed Rates		
Line No.	Description	Usage	Existing Rate	Amount	Diff.	Diff.
		Ccf	$	$	$	
	Residential					
1	5/8"	0	24.87	25.35	0.48	1.9%
2	5/8"	1,000	32.23	32.71	0.48	1.5%
3	5/8"	2,000	39.59	40.07	0.48	1.2%
4	5/8"	4,400	57.26	57.74	0.48	0.8%
5	5/8"	5,000	61.68	62.16	0.48	0.8%
6	5/8"	6,000	69.04	69.52	0.48	0.7%
7	5/8"	8,000	83.76	84.24	0.48	0.6%
8	5/8"	15,000	135.29	135.77	0.48	0.4%
	Commercial					
9	5/8"	2,500	43.27	43.75	0.48	1.1%
10	5/8"	5,000	61.68	62.16	0.48	0.8%
11	1"	3,000	72.46	76.48	4.02	5.5%
12	1"	7,500	105.59	109.61	4.02	3.8%
13	1.5"	3,500	118.48	125.86	7.38	6.2%
14	1.5"	10,000	166.33	173.71	7.38	4.4%
15	2"	4,000	165.04	175.94	10.90	6.6%
16	2"	15,000	246.02	256.92	10.90	4.4%
17	3"	50,000	689.59	715.55	25.96	3.8%
18	3"	75,000	873.62	899.58	25.96	3.0%
19	4"	100,000	1,272.00	1,315.10	43.10	3.4%
20	4"	150,000	1,640.05	1,683.15	43.10	2.6%
	Industrial					
21	2"	40,000	430.04	440.94	10.90	2.5%
22	2"	80,000	724.48	735.38	10.90	1.5%
23	3"	100,000	1,057.64	1,083.60	25.96	2.5%
24	3"	150,000	1,425.69	1,451.65	25.96	1.8%
25	4"	300,000	2,744.20	2,787.30	43.10	1.6%
26	4"	600,000	4,952.50	4,995.60	43.10	0.9%

Table 9-38 - Projected Drainage Revenues

Line No.	Description	Budget	Projected				
		2022	2023	2024	2025	2026	2027
		$	$	$	$	$	$
1	Two-mill Ad Valorem Tax	0	0	0	0	0	0
2	Three-mill Ad Valorem Tax	16,413,000	16,413,000	16,413,000	16,413,000	16,413,000	16,413,000
3	Six-mill Ad Valorem Tax	17,270,000	17,270,000	17,270,000	17,270,000	17,270,000	17,270,000
4	Nine-mill Ad Valorem Tax	25,887,000	25,887,000	25,887,000	25,887,000	25,887,000	25,887,000
5	Interest Income	123,200	123,200	123,200	123,200	123,200	123,200
6	Other Non- Operating Revenue	28,400	28,400	28,400	28,400	28,400	28,400
7	FEMA Reimbursement	0	0	0	0	0	0
8	Fair Share Revenue	0	0	0	0	0	0
9	Other Revenues	0	0	0	0	0	0
10	Other Taxes	0	0	0	0	0	0
11	Operating & Maintenance Grants	0	0	0	0	0	0
12	Total Other Operating Revenue	59,721,600	59,721,600	59,721,600	59,721,600	59,721,600	59,721,600

Table 9-39 - Projected Drainage Operation and Maintenance Expense

Line No.	Description	Budget	Projected				
		2022	2023	2024	2025	2026	2027
		$	$	$	$	$	$
	Summary By Description						
1	Executive Director	333,500	343,500	353,800	364,400	375,400	386,600
2	Special Counsel	564,400	581,400	598,800	616,800	635,300	654,300
3	Chief Administrative Officer	10,974,100	11,303,300	11,642,400	11,991,700	12,351,400	12,722,000
4	Chief Customer Service Office	148,700	153,100	157,700	162,500	167,300	172,400
5	Chief Financial Officer	3,144,500	3,238,800	3,335,900	3,436,000	3,539,100	3,645,300
6	Communications	124,300	128,000	131,800	135,800	139,900	144,100
7	General Superintendent/Operations	31,681,200	32,631,600	33,610,600	34,618,900	35,657,500	36,727,200
8	Overhead Allocation	(4,923,600)	(5,071,300)	(5,223,400)	(5,380,100)	(5,541,500)	(5,707,800)
9	Other	0	0	0	0	0	0
9	Total Operation & Maintenance Expense	42,047,100	43,308,400	44,607,600	45,946,000	47,324,400	48,744,100
10	Drainage Non-Cash Expense (a)	36,060,000	37,141,800	38,256,100	39,403,800	40,585,900	41,803,500
11	Total Operating Expenses	78,107,100	80,450,200	82,863,700	85,349,800	87,910,300	90,547,600

(a) Historical expenses exclude Drainage Overhead CP #820, Depreciation, and Pension Liability.

Table 9-40 - Proposed Drainage Capital Improvement Program

Line No.	Description	2022	2023	2024	2025	2026	2027	Total
		$	$	$	$	$	$	$
	Drainage CIP Summary by Category							
1	Equipment	0	0	0	0	0	0	0
2	Facilities	300,000	28,000,000	33,000,000	73,000,000	73,000,000	10,130,000	219,295,000
3	Normal Extensions	1,500,000	7,100,000	6,000,000	6,000,000	6,000,000	0	29,462,400
4	SELA	11,700,000	13,300,000	23,300,000	38,300,000	14,500,000	13,000,000	122,245,000
5	Canals	0	0	0	0	0	0	0
6	Legal	850,000	3,000,000	3,000,000	3,000,000	3,000,000	20,000,000	37,500,000
7	Power	0	0	0	0	0	0	125,000
8	Hardware	0	0	0	0	0	0	0
9	Software	0	0	0	0	0	0	
10	Other	0	0	0	0	0	0	0
	Combo CIP Summary by Category							
11	Equipment	1,835,000	2,100,000	2,050,000	2,050,000	4,716,700	2,050,000	17,640,900
12	Facilities	718,000	7,401,500	4,894,500	2,950,000	3,100,000	1,833,300	28,188,900
13	Normal Extensions	0	0	0	0	0	0	0
14	SELA	0	0	0	0	0	0	0
15	Canals	0	0	0	0	0	0	0
16	Legal	0	0	0	0	0	0	0
17	Power	51,297,500	54,838,500	42,935,000	58,335,000	98,335,000	103,951,700	426,764,500
18	Hardware	612,300	230,500	265,400	296,700	318,300	228,800	2,558,500
19	Software	1,655,800	2,023,300	1,523,300	1,190,000	1,190,000	350,200	10,233,200
20	Other	6,192,400	3,440,200	3,440,200	3,440,200	3,440,200	3,440,200	26,833,600
21	Total - Uninflated	76,661,000	121,434,000	120,408,400	188,561,900	207,600,200	154,984,200	869,649,700

Table 9-41 - Drainage Capital Improvement Program Financing

Line No.	Description	2022	2023	2024	2025	2026	2027	Total
		$	$	$	$	$	$	$
	Sources of Funds							
1	Funds Available for Future Construction (a)	0	310,805	46,205	37,705	75,905	75,905	0
2	FEMA Reimbursement	1,500,000	4,069,500	0	0	0	0	5,569,500
3	Fairshare	466,700	6,500,000	0	0	0	0	6,966,700
4	Capital Outlay	42,810,800	3,500,000	2,000,000	0	0	0	48,310,800
5	Grants	194,300	0	0	0	0	0	194,300
6	Pay-As-You-Go Funding From Rate Revenue	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	90,000,000
7	Interest Income	0	0	0	100	100	100	300
8	Total Funds Available	59,971,800	29,380,305	17,046,205	15,037,805	15,076,005	15,076,005	151,041,600
	Application of Funds							
9	Major Capital Improvements - Inflated	76,660,995	121,434,100	120,408,500	188,561,900	207,600,100	154,984,300	869,649,895
10	Deferral/Reinstatement of Pay-As-You-Go Funded Improvements (-/+)	(17,000,000)	(92,100,000)	(103,400,000)	(173,600,000)	(192,600,000)	(140,000,000)	(718,700,000)
11	Total Application of Funds	59,660,995	29,334,100	17,008,500	14,961,900	15,000,100	14,984,300	150,949,895
12	End of Year Balance	310,805	46,205	37,705	75,905	75,905	91,705	91,705
13	Recommended End of Year Balance	30,358,525	30,102,125	47,140,475	51,900,025	38,746,075	37,477,875	

(a) Other Contributed Capital includes State Outlay and Fair Share.

Table 9-42 - Drainage Operating Cashflow

Line No.	Description	Fiscal Year Ending December 31, 2022	2023	2024	2025	2026	2027
		$	$	$	$	$	$
1	Three-Mill Ad Valorem Tax Revenue	16,413,000	16,413,000	16,413,000	16,413,000	16,413,000	16,413,000
2	Six-Mill Ad Valorem Tax Revenue	17,270,000	17,270,000	17,270,000	17,270,000	17,270,000	17,270,000
3	Nine-Mill Ad Valorem Tax Revenue	25,887,000	25,887,000	25,887,000	25,887,000	25,887,000	25,887,000
4	Future Stormwater User Fee Revenue	0	0	0	0	0	0
5	Total Revenue	59,570,000	59,570,000	59,570,000	59,570,000	59,570,000	59,570,000
6	Interest Income on Operating Fund	180,600	170,400	154,200	135,400	113,900	89,500
7	Total Operating Revenue	59,750,600	59,740,400	59,724,200	59,705,400	59,683,900	59,659,500
	Revenue Requirements:						
8	Operation & Maintenance (a)	42,047,100	43,308,400	44,607,600	45,946,000	47,324,400	48,744,100
9	Estimated Uncollectable Revenue (b)	98,500	98,300	98,300	98,300	98,300	98,300
	Non-Operating Revenues:						
10	Interest Income	123,200	123,200	123,200	123,200	123,200	123,200
11	Other Non- Operating Revenue	28,400	28,400	28,400	28,400	28,400	28,400
	Debt Service Requirements						
	Parity Debt						
	Revenue Bonds						
12	Existing	2,045,000	0	0	0	0	0
13	Proposed	0	0	0	0	0	0
14	Total Revenue Bonds	2,045,000	0	0	0	0	0
	Other Debt						
15	SELA Capital Repayment	4,947,100	9,241,900	9,241,900	9,241,900	9,241,900	9,241,900
16	Total Debt Service	6,992,100	9,241,900	9,241,900	9,241,900	9,241,900	9,241,900
17	Cash Financing of Capital Projects	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000
	Interfund transfers	0	0	0	0	0	0
18	Net Balance	(4,235,500)	(7,756,600)	(9,072,000)	(10,429,200)	(11,829,100)	(13,273,200)
19	Beginning Fund Balance (c)	76,486,200	72,250,700	64,494,100	55,422,100	44,992,900	33,163,800
20	End of Year Balance	72,250,700	64,494,100	55,422,100	44,992,900	33,163,800	19,890,600
21	Operating Reserve Fund						
22	Beginning of Year Cash Balance (c)	76,486,200	72,250,700	64,494,100	55,422,100	44,992,900	33,163,800
23	Net Operating Balance	(4,235,500)	(7,756,600)	(9,072,000)	(10,429,200)	(11,829,100)	(13,273,200)
24	End of Year Balance	72,250,700	64,494,100	55,422,100	44,992,900	33,163,800	19,890,600
25	Number of Days - Actual	627	544	453	357	256	149
26	Number of Days - Target	45	45	45	45	45	45

(a) Excludes non-cash expenses of depreciation and allowances, pension liability adjustment, and pension contributions.
(b) Reflects assumed allowance (%) for doubtful accounts applied to the projected revenue from rates.
(c) Reflects Cash & Cash Equivalents unrestricted and undesignated as of December 31, 2020.

Table 9-43 Regional Comparison of Water Rates

Figure 1
Residential Customers
4,400 Gallons Billable Water Usage
Ranked from Highest to Lowest

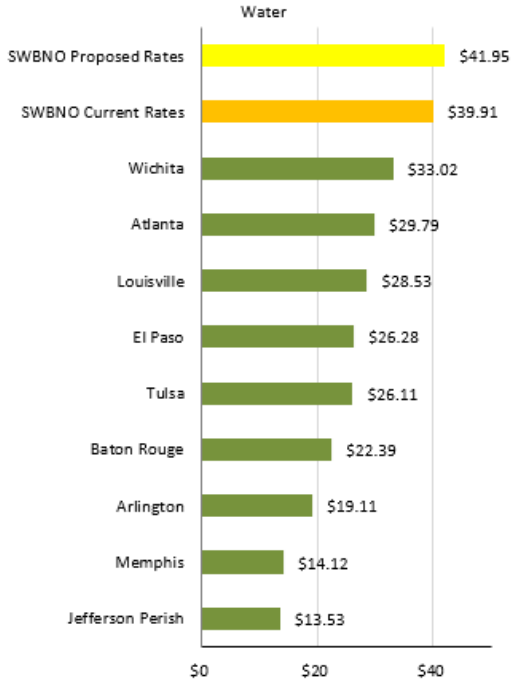


Figure 2
Residential Customers
4,400 Gallons Billable Water Usage
Ranked from Highest to Lowest

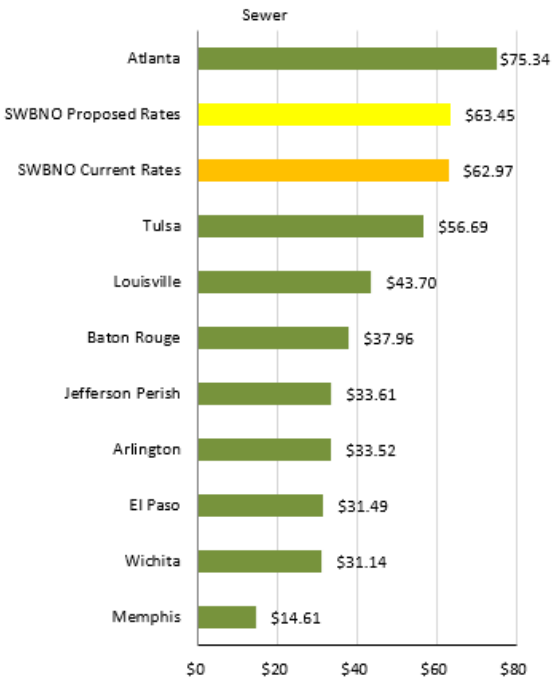


Figure 3
Residential Customers
4,400 Gallons Billable Water Usage
Ranked from Highest to Lowest