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October 16, 2023

Lee Elliott, City Administrator
City of Linden
104 S. Main
Linden, TX 75563

Subject: Water & Sewer Rate Study

Mr. Elliott:

At the working group meeting last month, Mayor Reynolds asked me about the current policy regarding the averaging of sewer bills.

This letter is to clarify the rate recommendations regarding the billing recommendations for city sewer customers.

The report described the current policy of recording sewer usage based on metered water, averaging the metered water usage in the months of December, January, and February, and applying the average for the other nine months.

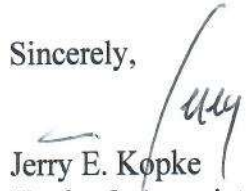
I did not directly address this policy and should have. The report included the recommendation that all customers classifications be charged the same per thousand gallons for all service over 1,000 gallons. The recommendation was intended to apply to sewer customers as well as all water classifications.

The rationale for a summer sewer adjustment is that many customers may use water during the summer months for gardens, swimming pools, and other outdoor usage which do not impact sewer service and treatment. This policy, however, does not address the issue that during the warmer months, customers typically use more water within the household or business as well. Demand for the sewer system also increases.

The sewer system requires revenues sufficient to support sewer related debt service, operating expense, and required reserves. Sewer service is billed according to metered water usage. If the sewer usage is averaged, then fewer service units are billed and revenues would be lower, requiring a high usage charge.

Standard billing for sewer services is considered more equitable. If you have any questions or concerns, please contact me.

Sincerely,


Jerry E. Kopke
Kopke & Associates

**CITY OF LINDEN
TEXAS**

**WATER & SEWER
RATE STUDY**

September 19, 2023

Prepared by

**Jerry E. Kopke
Kopke & Associates, Inc.**

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September 20, 2023

Lee Elliott, City Administrator
City of Linden
104 S. Main
Linden, TX 75563

Subject: Water & Sewer Rate Study

Dear Mr. Elliott:

Enclosed is the Water and Sewer Rate Study for the City of Linden, Texas. I am planning to attend your City Council working group meeting on September 28th and will be prepared to explain and review the report.

The analysis reviewed system financial and billing records including annual audit, operations and maintenance expense, debt service, unrestricted and restricted cash and savings, and capital improvement plans. The rate study applied an analysis of financial sustainability measures consisting of calculations of current ratio, debt coverage ratio, operating ratio, operating reserve, and affordability rate.

A five-year projection of revenues and expenses was prepared to identify future revenue requirements. The goal of the analysis was to determine financial sustainability requirements for both the water and sewer system and recommend service rates adequate to maintain sustainability.

The rate analysis also reviewed the water and sewer department's rate structure and has presented recommendations designed to increase efficiency, equity, and clarity.

The new USDA-Rural Development loans will add to water system expenses. However, the 2015 Series Bond is scheduled to be repaid by the end of 2024 and the current truck loan and backhoe repaid in 2026 and 2027, thereby reducing future debt service.

Proposed changes in the debt service, modifications to the rate structure and classifications, and surplus unrestricted reserves will allow the city to adopt lower increases than would otherwise be required. The findings and recommendations are described on pages 12 and 13 of the analysis and page 25 of the worksheets.

Thank you for allowing Kopke & Associates the opportunity to conduct this analysis. I look forward to our meeting to review and discuss.

Sincerely,

Jerry E. Kopke
Kopke & Associates

City of Linden, Texas
Water & Sewer Rate Study
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City of Linden, Texas
Water and Sewer Rate Study
Summary of Findings and Recommendations

The City of Linden, Texas, Arkansas operates joint and integrated water and sewer utilities. The city receives a combined annual independent audit which is reviewed by the city council.

1. Budget & Financial Statements: The city prepares a combined budget and income statements for water, sewer, and sanitation. Revenues and expenses were allocated to water and sewer based on number of customers served and percentage of revenues. The city provided 2022 and 2023 budgets and income statements, and 2022 Audit.
2. Financial Sustainability Measures: Financial Sustainability was identified for water and for sewer. Both systems meet or exceed targets for current ratios, operating reserves, and affordability. Additional revenues will be needed to meet targets for debt service coverage ratios and operating ratios.
3. Debt Service: The city has issued one water and sewer revenue bond, two water system improvement loans with USDA-Rural Development and two short-term loan/lease for a service truck and backhoe. The city also anticipates the purchase of an additional service truck and dump truck with financing split 50/50 between the general fund and the water and sewer department. The 2015 Series Revenue Bond is scheduled to be repaid by the end of 2024, The backhoe and truck loan are scheduled to be repaid in 2026 and 2027.
4. Operating Expense: The city has expended a great deal of time, effort, and money to maintain, repair, and improve both the water and sewer system. The city has leveraged reserves, loans, and grants to complete the planned improvements. It is anticipated that expenses will exceed available operating revenues for 2023 and future years.
5. Capital Reserves The city's loan with USDA-Rural Development will require the funding of a short-lived asset reserve at \$6,000 per year for the life of the loan. It is also recommended that the city fund a capital(depreciation) reserve at a minimum of 5% of total revenues. The capital reserve will be available for system repairs and upgrades and will provide needed resources to plan for improvements.
6. Rate Structure: The city operates with a number of customer classifications with all classifications charged the same minimum and usage charges. A number of changes in classifications and meter charges have been included in the analysis.
7. Water Rates: Current water rates are not sufficient to meet projected financial requirements. To meet the target 1.05 operating ratio, water rates will need to be increased. Loan requirements will change over the next five years and changes in rate structure will allow rates to be increased at a lower rate than would otherwise be required. Specific recommendations are included on pages 11 and 12 of the analysis.
8. Sewer Rates: As with the water system, current sewer rates are not sufficient to meet anticipated expenses. Modest increases will be required to meet financial sustainability goals. Specific recommendations are included on pages 11 and twelve of the analysis.

9. Affordability Rate: Current and recommended water and sewer rates are well within affordability guidelines. The affordability analysis is included on page 12 of the analysis.

City of Linden, Texas

Water and Sewer

Rate Analysis and Recommendations

Overview

The City of Linden, Texas provides public drinking water and sanitary wastewater services to approximately 930 residential and commercial water customers inside and outside the city. Water is produced from several wells and sewer treatment is provided by two wastewater treatment plants.

The city recently entered into a loan and grant agreement with USDA-Rural Development for water system improvements to wells, storage, and line replacement. The city has also completed the installation of new water meters, replacement of well pump and controls, and rehabilitation of the Jim's Bayou Wastewater Treatment Plant. These improvements were funded through system reserves and grant awards.

A rate study was requested to determine service rates adequate to meet the additional debt service, increasing operating expenses, and financing of planned improvements.

The rate analysis examined financial, billing and usage records from 2022, the 2023 operating budget, 2023 year-to-date income statements, and the 2022 independent audit.

The analysis evaluated the ability of the City of Linden water and sewer department to meet anticipated expenses related to:

1. Operations and maintenance
2. Debt service
3. Required reserves.
4. Future capital expenses
5. Other expenses, as necessary.

The analysis followed standards set forth in the American Water Works Association's Principles of Water Financials, Fees, & Charges (M1, 6th Edition) and Developing Rates for Small Systems (M54 2nd Edition),

Financial Sustainability Measures

Public water and sewer systems are required to maintain user rates adequate to 1) meet current debt service obligations; 2) provide an adequate capital repair and replacement reserve; and 3) provide for the efficient operation and maintenance of the system.

Debt service obligations include principal and interest payments as well as required debt service reserves. Capital reserves can be described as funded depreciation, short-lived asset reserves or refurbishment and replacement reserves.

System revenues and expenses are evaluated using several financial sustainability measures:

Current Ratio is a measure of liquidity. The greater the liquidity, the easier it is to respond to short-term needs for financial resources. The current ratio identifies the assets that are available on a short-term basis as a ratio. As the ratio increases, liquidity increases. How calculated: current assets ÷ current liabilities. At a minimum, the current ratio should be equal to 1.5 - 2.0.

Debt Service Coverage Ratio is the ratio of cash available for debt servicing of loan interest, principal, and debt service reserve. It is a benchmark used in the measurement of a system's ability to produce enough cash to cover its debt payments. The higher this ratio is, the easier it is to obtain a loan. The phrase is used in commercial banking and may be expressed as a minimum ratio that is acceptable to a lender; it may be a loan condition or covenant. Breaching a debt coverage covenant can, in some circumstances, be an act of default. How calculated: total revenue - operations expense ÷ Total Debt Service. Target ratio: 1.10 - 1.25.

Operating Ratio is a measure of efficiency, indicating ability to cover expenses with available revenues. How calculated: total revenues ÷ total expenses (including debt service and capital reserves.). At a minimum, the operating ratio should be equal to 1.0-1.05.

Affordability Rate measures the ability of utility customers to pay utility bills based on household income. As the ratio increases, a greater percentage of disposable income must be used for utility services and the ability of customers to pay for service tends to decrease. Normally, the current affordability financial should not exceed the maximum threshold for affordability established by the regulatory agency. The threshold may be exceeded when there is evidence of strong public support for meeting the full cost of providing the service. How calculated: Average monthly water cost x 12 months ÷ service area median household income (MHI). Target financial: 1.5% - 2%

Operating Reserves: Public water systems require operating reserves to cash flow normal operations and maintenance expense. Operating reserves are the unrestricted cash and savings available as working capital necessary to meet routine and ongoing expenditures. The American Water Works Association (AWWA) recommends a minimum of 1/8th of the systems' annual operating expenses be available as operating reserves. Operating reserves are also used to determine the number of days that the available cash balance could cover operating expenses (Debt service, Operating, Capital Reserve) without additional revenue.

Financial Sustainability is measured for each utility, with the goal that each will be sustainable based on revenues and expenses assigned to each service. To that end, the City of Linden water and sewer systems have been analyzed separately.

Water System Financial Analysis

Analysis of the financial sustainability of a water system requires a determination of the revenue requirements of the system. This analysis considers revenues required to meet debt service payments (principal, interest, and required reserves), anticipated operating expenses, and funding of necessary capital projects and reserves. Depreciation does not require cash expenditure but is an indicator of potential system reserve requirements.

Debt Service: The city has issued a water and sewer revenue bond, a long-term loan with USDA-Rural Development and short-term loan/lease for a service truck and backhoe.

The city has recently received a \$450,000 USDA-CPAP loan for water improvements and anticipates the purchase of an additional service truck and dump truck with financing split 50/50 between the general fund and the water and sewer department. The new and planned debt service is included in the analysis.

The 2015 Series Revenue Bond is scheduled to be repaid by the end of 2024, The backhoe and truck loan are scheduled to be repaid in 2026 and 2027.

Loan obligations were allocated by service with annual principal and interest payments taken from the 2022 Audit and USDA-Rural Development letter of conditions.

<u>Lender</u>	<u>Interest Rate</u>	<u>Annual Payment</u>	<u>Balance (2022)</u>
2015 Series Bonds	2.500%	\$ 4,355,000	\$ 315,000
USDA-RD	2.625%	\$ 115,702	\$ 2,855,000
Truck Loan	2.500%	\$ 8,529	\$ 36,700.00
Backhoe Lease	6.250%	\$ 25,828	\$ 88,987
USDA-CPAP	2.875%	\$ 18,938	
Service Truck (50%)	6.150%	\$ 15,748	
Dump Truck (50%)	6.150%	\$ 28,704	\$ 88,987

In addition to principal and interest payments, USDA-Rural Development requires a debt service reserve of 10% of monthly loan payment until the equivalent of one year's annual loan payment has been accumulated, or \$968.31 per month until the reserve balance totals \$118,597.

USDA-Rural Development also requires the funding of a short-lived asset replacement reserve in the amount of \$6,000 annually for the life of the loan.

Revenue & Expense

Analysis of the revenue requirements for the water system was based on the water system's 2022 income statements, 2023 budget, and 2023 year-to-date income statements. Revenues and expenses were assigned to water based on specific line items. Revenues and operating expenses shared with sewer were allocated based on percentage of sales. Debt service was allocated based on number of customers by service.

2022 revenues and expenses were considered the historical year and a typical year which included all debt service and reserves was considered the test year. The following table describes water system revenues and expenses:

<u>Revenues</u>	<u>2022</u>	<u>2023 Budget</u>	<u>Typical Yr.</u>
<u>Operating Revenue</u>			
Water Sales	\$ 367,587	\$ 414,352	\$ 414,400
Other Fees & Charges	\$ 7,851	\$ 8,000	\$ 8,500
Penalties	\$ 9,067	\$ 9,605	\$ 10,000
Miscellaneous	\$ 6,914	\$ -	\$ 7,000
Total Revenue	<u>\$ 391,420</u>	<u>\$ 431,957</u>	<u>\$ 439,900</u>
<u>Expense</u>			
<u>Debt Service</u>	\$ 54,306	\$ 183,605	\$ 221,887
<u>Operating Expense</u>			
Salaries and benefits	\$ 126,000	\$ 135,600	\$ 157,300
Employee Benefits	\$ 34,776	\$ 35,139	\$ 40,800
Office / Admin	\$ 6,372	\$ 8,277	\$ 8,500
Contracted services	\$ 47,953	\$ 16,950	\$ 17,500
Maintenance and repair	\$ 18,099	\$ 13,560	\$ 14,000
Materials,/supplies/chem	\$ 30,719	\$ 22,356	\$ 23,000
Miscellaneous	\$ 7,384	\$ 226	\$ 250
Other Operating	\$ 1,995	\$ 1,045	\$ 1,000
Professional/ Legal		\$ -	\$ -
Utilities	\$ 26,935	\$ 26,555	\$ 27,400
Total Operating:	<u>\$ 300,232</u>	<u>\$ 259,709</u>	<u>\$ 289,750</u>
<u>Capital Expense/ Reserve</u>			
Capital Expense	\$ 7,711	\$ -	\$ -
Short-lived Assets			\$ 6,000
Capital Reserve			\$ 26,394
Subtotal Capital/ Reserve:	<u>\$ 7,711</u>	<u>\$ -</u>	<u>\$ 32,394</u>
Total Expense:	<u>\$ 362,248</u>	<u>\$ 443,314</u>	<u>\$ 544,031</u>
Net Income (loss)	<u>\$ 29,172</u>	<u>\$ (11,357)</u>	<u>\$ (104,131)</u>

The water system experienced a net operating income for 2022 and is projected to experience a net operating loss for 2023 and for a typical year. The additional expense is primarily due to increased operating expenses and the additional debt service payment, debt service reserve, and short-lived asset requirement. Additional debt service for the new service truck and planned dump truck purchase also increased the annual expense projection.

Water Financial Sustainability Measures

For the typical year, the Linden water system is anticipated to meet the target measure for current ratio but will not meet the minimum 1.10 debt service coverage ratio nor the target 1.05 operating ratio. Affordability and debt service per user are well within guidelines. Operating reserves are significantly above recommended levels.

The following table describes sustainability calculations for the Linden water system:

<u>Measure</u>	<u>2021</u>	<u>2023 Budget</u>	<u>Typical Yr.</u>
Current Ratio: (target 1.5-2.1)	1.17	2.00	2.00
Debt Coverage Ratio:(target 1.10-1.25)	1.68	0.90	0.68
Operating Ratio: (target 1.05-1.10)	1.08	0.97	0.83
Affordability Rate: (target 1.5%-2.0%	0.97%	0.97%	0.97%
Operating Reserve: (target 12.5% of Expense)	48.9%	40.2%	34%

Projected Revenue and Expense: An analysis of financial sustainability includes revenue and expense projections over a five-year period. The projections provide the city with information needed to respond to changes in debt service, operating expenses, and capital needs.

For the five-year test period and based on current rates, revenues are assumed to remain constant with no growth expected.

All current and planned debt service is included with the 2015 Series Revenue Bond fully repaid in 2024 and truck and backhoe loans repaid in 2026 and 2027. Other operating expenses are projected to increase by 3% per year based on the ten-year CPI average. An assumption was made that current 7-8% increases in the CPI are temporary and will revert to historical levels. Capital reserves included the USDA-Rural Development short-lived assets as well as a capital reserve funded at 5% of revenues.

The five-year projection of water fund revenues and expenses is described in the following table:

<u>Revenue</u>	<u>Year</u>				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Water Sales	\$ 414,400	\$ 414,400	\$ 414,400	\$ 414,400	\$ 414,400
Water Fees	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500
Penalties	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
Miscellaneous	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000
Total Revenue	\$ 439,900	\$ 439,900	\$ 439,900	\$ 439,900	\$ 439,900
<u>Expense</u>					
Debt Service	\$ 210,317	\$ 211,218	\$ 212,357	\$ 149,746	\$ 146,034
Operating	\$ 289,750	\$ 298,443	\$ 307,396	\$ 316,618	\$ 326,116
Short-lived Assets	\$ 6,000	\$ 6,000	\$ 6,000	\$ 6,000	\$ 6,000
Capital Reserves	\$ 21,995	\$ 21,995	\$ 21,995	\$ 21,995	\$ 21,995
	\$ 528,062	\$ 537,655	\$ 547,748	\$ 494,359	\$ 500,145
Net Income (loss)	\$ (88,162)	\$ (97,755)	\$ (107,848)	\$ (54,459)	\$ (60,245)

Based on projected revenues, expenses and fund transfers, the water system is projected to experience net operating losses for the first three years and modest operating incomes for the final two years.

Sewer System Financial Analysis

As with the water system, analysis of the sewer system financial sustainability was based on 2022 income statements, 2023 operating budget, and 2023 year-to-date. Capital reserves were calculated at 5% of total revenues.

The following table describes revenues and expenses:

<u>Revenues</u>	<u>2022 Actual</u>	<u>2023 Budget</u>	<u>Typical Year</u>
Sewer Sales	\$ 296,102	\$ 325,000	\$ 325,000
Penalties	\$ 7,299	\$ 7,395	\$ 8,500
Miscellaneous	\$ 5,566	\$ -	\$ 5,500
Total Operating:	\$ 308,968	\$ 332,395	\$ 339,000
<u>Expense</u>			
<u>Debt Service</u>	\$ 51,142	\$ 70,645	\$ 75,677
<u>Operating Expense</u>			
Salaries	\$ 101,436	\$ 104,400	\$ 132,300
Employee Benefits	\$ 27,997	\$ 27,054	\$ 36,320
Office and other	\$ 5,130	\$ 6,373	\$ 6,400
Contracted services	\$ 38,605	\$ 13,050	\$ 13,100
Maintenance and repair	\$ 14,571	\$ 10,440	\$ 14,600
Materials/supplies/chemicals	\$ 24,730	\$ 17,213	\$ 24,700
Miscellaneous	\$ 5,945	\$ 174	\$ 6,000
Other Operating	\$ 1,606	\$ 805	\$ 1,600
Professional/ Legal		\$ -	\$ 1,000
Utilities	\$ 21,684	\$ 20,445	\$ 21,700
Total Operating:	\$ 241,703	\$ 199,953	\$ 257,720
<u>Capital Expense/ Reserve</u>			
Capital Outlay	\$ 6,207	\$ 20,000	\$ -
Sewer Study	\$ -	\$ 75,000	\$ -
Capital Reserve	\$ -	\$ -	\$ 16,950
Subtotal Capital/ Reserve:	\$ 6,207	\$ 95,000	\$ 16,950
Total Expense:	\$ 299,052	\$ 365,598	\$ 350,347
Net Income (loss)	\$ 9,915	\$ (33,203)	\$ (11,347)

Based on the typical year, the sewer system is projected to experience a net operating loss in 2023 and for the typical year.

Sewer Financial Sustainability Measures

For a typical year, the Linden sewer system is anticipated to meet the target for current ratio but not the target ratios for debt service coverage ratio or operating ratio. The affordability ratio and debt cost per user financial were well within guidelines.

The following table describes sustainability calculations for the Linden sewer system:

Table C-4: Financial Sustainability Measures

<u>Measure</u>	<u>2021</u>	<u>2023 Budget</u>	<u>Typical Yr.</u>
Current Ratio: (target 1.5-2.1)	1.17	2.00	2.00
Debt Coverage Ratio:(target 1.10-1.25)	1.68	0.90	0.68
Operating Ratio: (target 1.05-1.10)	1.08	0.97	0.83
Affordability Rate: (target 1.5%-2.0%)	0.97%	0.97%	0.97%
Operating Reserve: (target 12.5% of Expense)	48.9%	40.2%	34%

Projected Revenue and Expense: An analysis of sewer revenues and expenses also includes projections over a five-year period. The analysis provides the city with information needed to respond to changes in debt service, operating expense, and capital needs.

For the five-year test period, operating expenses are projected to increase by 3% (the average increase in the consumer price index). No additional loans are anticipated, and several existing loans will be repaid over the test period. Capital reserves were calculated at 5% of revenues.

The five-year projection of water fund revenues and expenses is described in the following table:

<u>Table D-5: Projected Revenue and Expense</u>					
<u>Revenue</u>	<u>Year</u>				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Water Sales	\$ 414,400	\$ 414,400	\$ 414,400	\$ 414,400	\$ 414,400
Water Fees	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500
Penalties	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
Miscellaneous	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000
Total Revenue	\$ 439,900	\$ 439,900	\$ 439,900	\$ 439,900	\$ 439,900
<u>Expense</u>					
Debt Service	\$ 210,317	\$ 211,218	\$ 212,357	\$ 149,746	\$ 146,034
Operating	\$ 289,750	\$ 298,443	\$ 307,396	\$ 316,618	\$ 326,116
Short-lived Assets	\$ 6,000	\$ 6,000	\$ 6,000	\$ 6,000	\$ 6,000
Capital Reserves	\$ 21,995	\$ 21,995	\$ 21,995	\$ 21,995	\$ 21,995
	\$ 528,062	\$ 537,655	\$ 547,748	\$ 494,359	\$ 500,145
Net Income (loss)	\$ (88,162)	\$ (97,755)	\$ (107,848)	\$ (54,459)	\$ (60,245)

As with the water system, the sewer system, based on current rates, is projected to experience net losses for the first two years of the test period and modest net incomes for the remaining three years.

Revenue Requirements

Analysis of revenue sufficiency considers criteria accepted by the American Water Works Association for assessing financial sustainability:

1. Meet all debt service requirements and maintain a coverage ratio of 1.10 or greater.
2. Maintain an adequate operating reserve of 1/8th of expenses.
3. Fund a capital reserve/replacement account at a minimum of 5% of total revenue.
4. Maintain an operating ratio of 1.05 or greater.

The following tables describe additional revenues needed to meet the target operating and coverage ratios:

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
1.00 Operating Ratio:	\$ 88,162	\$ 97,755	\$ 107,848	\$ 54,459	\$ 60,245
1.05 Operating Ratio:	\$ 114,565	\$ 124,638	\$ 135,235	\$ 79,177	\$ 85,252
1.10 Debt Coverage:	\$ 103,194	\$ 112,877	\$ 123,083	\$ 63,433	\$ 68,848

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
1.00 Operating Ratio:	\$ 11,347	\$ 20,152	\$ 29,428	\$ (25,808)	\$ (20,871)
1.05 Operating Ratio:	\$ 28,864	\$ 38,110	\$ 47,849	\$ (10,149)	\$ (4,964)
1.10 Debt Coverage:	\$ 18,915	\$ 27,827	\$ 37,234	\$ (24,346)	\$ (19,760)

Meeting the required minimum debt service coverage ratio of 1.10 and the recommended 1.05 operating ratio will require increases to both water and sewer rates.

Rate Structure

Water and sewer utilities develop rate structures that identify customer classifications and usage charges. The rate structure are designed to provide rates that are fair, equitable, and affordable to each customer class.

Rate structures fall into four different classifications:

1. Flat Fee Rate
2. Single Block Rate or Uniform Rate
3. Decreasing Block Rate
4. Increasing Block Rate

1. Flat Fee Rate: All customers pay the same amount each month regardless of quantity of service used. This is used in unmetered systems.

Example: Each customer will be charged a flat rate of \$20.00 per month.

Advantages: Eliminates the cost of installing and reading meters.

Disadvantages: Everyone pays too much or too little for what they use. Promotes high consumption. A flat fee rate is not recommended.

2. Single Block or Uniform Rate: Customers are charged a constant price per gallon regardless of the amount of service used. Often coupled with a minimum charge for having service available.

Example: \$15.00 minimum service availability charge (optional) plus \$5.00 per 1000 gallons used.

Advantages: Easy to administer; may encourage conservation. The cost to the customer is in direct proportion to the amount used.

Disadvantages: Could discourage high users and industries.

3. Decreasing Block Rate: The price of service declines as the amount used increases. Each succeeding consumption block is cheaper. This structure assumes that costs decline as consumption increases.

Example: \$15.00 minimum for the first 1,000 gallons and:

\$6.50 per 1,000 for the next 4,000 gallons

\$5.00 per 1,000 for the next 5,000 gallons

\$3.00 per 1,000 for all usage over 10,000

Advantages: Attractive to agricultural and industrial users.

Disadvantages: May reach a point with diminishing returns. High consumption increases the need for larger treatment facilities.

4. Increasing Block Rate: The price of service increases as the amount used increases. Each succeeding consumption block is more expensive. Structure based on the assumption that rates should promote conservation.

Example: \$15.00 minimum for the first 1,000 gallons and:

\$5.00 per 1,000 for the next 4,000 gallons

\$6.00 per 1,000 for the next 5,000 gallons

\$7.00 per 1,000 for all usage over 10,000

Advantages: Promotes conservation, especially important in areas with limited water supplies or high treatment costs. Less use means less demand for water and sewer service and smaller, less expensive treatment, distribution, and storage facilities. Provides a reasonable amount of service at reasonable prices and charges a premium for those using more.

Disadvantages: Higher costs for high usage may discourage industry from locating within the system's service area.

The Linden Water and Sewer Department utilizes a uniform block rate with a minimum charge of \$16.43 for the first 1000 gallons and \$5.25 per thousand gallons for all usage over the minimum. The minimum charge for sewer service is also \$16.43 for the first thousand gallons and \$4.38 per thousand for all usage over the minimum.

The department has established five user classifications: Residential, Commercial, Government, Schools, and Churches.

Findings and Recommendations

- Debt service: The water and sewer department fully meets current debt service payment and reserve requirements for the 2015 Series Bond, the USDA-Rural Development loan, and the short-term loans. **Recommendation: The water and sewer department continue to maintain a debt service coverage ratio of 1.10 or greater as required by their USDA-Rural Development loan.**
- Operating Reserve: The city reported \$326,542 in unrestricted cash and savings at the end of 2022. Based on reported expenses, the water and sewer system should maintain operating reserves of at least \$182,700 (1/8th of annual operating expense). **Recommendation: The water and sewer department continue to maintain a minimum of 1/8th of anticipated annual expenses in unrestricted cash and savings.**
- Capital Reserves: At the end of 2022, the water and sewer system reported restricted reserves of \$562,07. A substantial portion of these reserves are available for system repair and replacement. **Recommendation: Include the capital reserve/ depreciation in the annual operating budget and fund the reserve at 5% of total system revenues per year. This is in addition to the \$6,000 per year in short-lived asset reserves required by USDA-Rural Development.**
- Operating Ratio: With planned capital expense and required capital reserves, the water and sewer systems will require additional revenues to meet the target operating ratios. **Recommendation: The water and sewer department maintain user rates sufficient to operate at a 1.05 operating ratio.**
- Budget and Rate Reviews: It is anticipated that both the water and sewer system will continue to experience increasing operating expenses. It is also anticipated that the customer base will remain stable but not increase at the same rate as expenditure. **Recommendation: The water and sewer department review water and sewer rates each year as part of the budget process. An annual review will allow the utility to keep up with increased costs while avoiding the need for less frequent but larger increases.**
- **Rate Structures**: The water and sewer department has established five classifications for water and sewer users: Residential, Commercial, Government, Schools, and Churches. All classifications are currently charged the same minimum and usage charges. Exceptions are made for churches who are not charged for any usage over the 1,000 gallons included in the minimum. Sewer usage is recorded and averaged from the metered water usage in the months of December, January, and February. **Recommendation: The water and sewer department adopt** the following recommendations to improve billing efficiency and provide more equitable charges:
 1. Condense classifications into four classifications: Residential, Multi-family Residential, Commercial, and Institutional (Government, Schools, Churches).
 2. All classifications will continue to include the first 1,000 gallons of service for both water and sewer.
 3. All classifications will be charged the same per thousand gallons for all service over 1,000 gallons.

4. Multi-family Residential is a new classification for apartments and mobile home parks where several families are served by one meter. The minimum charge for multi-family would be a multiple of the residential minimum with the service included also a multiple of the number of units.
 5. Commercial and Institutional customers would be charged 125% of the residential minimum and charged for all usage over the minimum at the residential rate. All usage over the minimum to be charged at the same rate as residential customers.
 6. Meter Service Charge: For customers with larger meters (over 5/8”), the minimum charge shall be calculated with American Water Works guidelines assigning a higher meter charge based on size of meter. A calculation of meter service charge is included on Chart E-2 (page 21) of the Appendices.
- Water Rates: Current water rates are not sufficient to meet projected expenses and maintain the target operating ratio of 1.05. **Recommended: Increase water rates (minimum and usage charges) by 12.5% and be reviewed annually with adjustments related to annual increases in the consumer price index (CPI)**
 - Sewer Rates: Current sewer rates are also not sufficient to meet projected expenses and maintain the target operating ratio of 1.05. **Recommended: Increase water rates (minimum and usage charges) by 5% and be reviewed annually with adjustments related to annual increases in the consumer price index (CPI)**

The following chart illustrate current and recommended water and sewer rates for both residential and Commercial / Institutional customers:

<u>Table E-3 Rate Recommendations</u>				
<u>Residential Service</u>				
<u>Service Charge</u>	<u>Water</u>		<u>Sewr</u>	
	<u>Current</u>	<u>12.5% Increase</u>	<u>Current</u>	<u>5% Increase</u>
First 1,000 gallons (minimum)	\$ 16.43	\$ 18.48	\$ 16.43	\$ 17.25
Usage Charge (1.000 gal.)	\$ 5.25	\$ 5.91	\$ 4.38	\$ 4.60
Cost for 4,000 gallons:	<u>\$ 32.18</u>	<u>\$ 38.94</u>	<u>\$ 29.57</u>	<u>\$ 32.53</u>

<u>Table E-3 Rate Recommendations</u>				
<u>Commercial / Institutional Service</u>				
<u>Service Charge</u>	<u>Water</u>		<u>Sewr</u>	
	<u>Current</u>	<u>12.5% Increase</u>	<u>Current</u>	<u>5% Increase</u>
First 1,000 gallons (minimum)	\$ 16.43	\$ 23.10	\$ 16.43	\$ 20.54
Usage Charge (1.000 gal.)	\$ 5.25	\$ 5.91	\$ 4.38	\$ 4.60

For residential water customers, monthly minimum charge for the first 1,000 gallons would increase by \$2.05 and all usage over the minimum by \$0.66 per thousand gallons. For the average water customer using 4,000 gallons, the increase would be \$4.02 per month.

For residential sewer customers, the monthly minimum charge for the first 1,000 gallons of metered service would increase by \$0.82 and all usage over the minimum by \$0.22 per thousand gallons. For the average water customer using 4,000 gallons, the increase would be \$1.48 per month.

Affordability

Public financing agencies utilize an affordability index to measure the ability of customers to pay for water service. The index is based on the percentage of Median Household Income (MHI) needed to pay the monthly water charge of a typical residential customer using 4,000 gallons.

Residential water rates within 1.5% to 2.0% of MHI are considered affordable. Current water rates are 0.97% of MHI reported for the City of Linden. Recommended rates would increase to 1.17% of MHI, within the affordability guidelines.

Residential sewer rates would increase from 0.89% of MHI to 0.98% of MHI. Also, well within the affordability guidelines. The following table describes current and recommended affordability rates for water and sewer customers:

<u>Table E-4: Affordability Index</u>			
City of Linden TX Median Household Income: \$39,868 (2021 5-yr Estimate American Community Survey, US Census)			
<u>Water Service</u>	<u>Current rates</u>	<u>12.5% Increase</u>	
Monthly Charge for 4,000 gal.	\$ 32.18	\$	36.20
Afforability Rate:	0.97%		1.09%
<u>Sewer Service</u>	<u>Current rates</u>	<u>5% Increase</u>	
Monthly Charge for 4,000 gal.	\$ 29.57	\$	31.05
Afforability Rate:	0.89%		0.93%

Summary

The City of Linden continues to provide quality water and sewer services at a reasonable cost. The city has undertaken major improvements to its water and sewer systems. The city has tapped their own financial resources and applied for loan and grant funds to complete needed improvements.

The proposed rate recommendations offer reasonable approaches to generating the needed revenues. The recommendations offered will meet the city's responsibility to maintain user rates adequate to meet debt service obligations, provide for the efficient operation and maintenance of the system and provide for adequate reserves.

The attached tables describe water and sewer debt service, financial reports, analysis of current and projected water and sewer revenue and expense requirements, and the rate analysis and recommendations.

Thank you for this opportunity to assist the City of Linden. If you have questions concerning this report, please do not hesitate to contact me.

Jerry Kopke
Kopke & Associates

City of Linden, Texas
Water & Sewer Department

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Appendix A: Financial Information

Table A-1: Debt Service Obligations

<u>Bonds Payable (Principal & Interest)</u>			
<u>Lender</u>	<u>Interest Rate</u>	<u>Original Issue</u>	<u>Balance 9/30/22</u>
Waterworks & Sewer System Revenue Bonds, Series 2015	2.500%	\$ 525,000	\$ 315,000
<u>Revenue Bonds</u>			
<u>Fiscal Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2022	\$ 100,000	\$ 6,599	\$ 106,599
2023	\$ 105,000	\$ 3,746	\$ 108,746
2024	\$ 110,000	\$ 1,370	\$ 111,370
Totals:	\$ 315,000	\$ 11,715	\$ 326,715
<u>USDA-Rural Development Bonds Payable (Principal & Interest)</u>			
<u>Lender</u>	<u>Interest Rate</u>	<u>Original Issue</u>	<u>Balance 9/30/22</u>
USDA-Rural Development	2.625%	\$ 2,855,000	\$ 2,855,000
<p>Note: USDA-Rural Development loan requires semi-annual principal and interest payments of \$57,851. Loan requires funding of debt service reserve at \$964 per month (\$11,572 annually) until one years payment (\$115,702) has been deposited into the reserve. The loan also requires funding of short-lived asset reserves of \$6,000 per year.</p>			
<u>Notes Payable (Principal & Interest)</u>			
<u>Lender</u>	<u>Interest Rate</u>	<u>Original Issue</u>	<u>Balance 9/30/22</u>
Texans Bank (Vehicle) [1]	2.500%	\$ 37,824	\$ 36,700
<u>Notes Payable</u>			
<u>Fiscal Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2023	\$ 6,935	\$ 1,594	\$ 8,529
2024	\$ 7,272	\$ 1,257	\$ 8,529
2025	\$ 7,625	\$ 904	\$ 8,529
2026	\$ 7,995	\$ 534	\$ 8,529
2027	\$ 6,873	\$ 149	\$ 7,022
Totals:	\$ 36,700	\$ 4,438	\$ 41,138
<u>Lease Payable (Principal & Interest)</u>			
<u>Lender</u>	<u>Interest Rate</u>	<u>Original Issue</u>	<u>Balance 9/30/22</u>
Associated Supply (Backhoe) [1]	6.250%	\$ 114,815	\$ 88,987
<u>Lease Payable</u>			
<u>Fiscal Year</u>	<u>Principal</u>	<u>5562</u>	<u>Total</u>
2023	\$ 20,266	\$ 5,562	\$ 25,828
2024	\$ 21,533	\$ 4,295	\$ 25,828
2025	\$ 22,878	\$ 2,949	\$ 25,827
2026	\$ 24,310	\$ 1,519	\$ 25,829
Totals:	\$ 88,987	\$ 19,887	\$ 108,874
<u>New Loans</u>			
	<u>Term</u>	<u>Annual Pymt</u>	<u>Loan Amount</u>
USDA CPAP (2023)	2.875% / 40 yr	\$ 18,938	\$ 450,000
Service Truck 1 Ton (50/50 split)	6.15% / 5 yr	\$ 15,748	
Dump Truck 5-8 yd (50/50 split)	6.15% / 5 yr	\$ 28,704	

Table A-2: 2022 Statement of Budget, Revenue, and Expenditures

Revenue	2022 Budget	2022 Actual
Water Sales	\$ 389,440	\$ 367,587
Sewer Fees	\$ 304,409	\$ 296,102
Tap Fees	\$ 750	\$ 1,750
Turn On Fees	\$ 5,000	\$ 6,101
Penalties	\$ 17,000	\$ 16,366
Miscellaneous Revenue	\$ -	\$ 12,481
Total Revenues	\$ 716,599	\$ 700,387
Expenditures		
Salaries	\$ 225,000	\$ 227,436
FICA	\$ 9,691	\$ 14,101
Medicare	\$ 2,239	\$ 3,298
Retirement	\$ 2,508	\$ 2,773
Employee Insurance	\$ 41,165	\$ 41,951
General Salaries Reimb	\$ 30,000	\$ -
Street Repair Reimbursement	\$ 6,700	\$ -
Employee Uniforms	\$ 2,200	\$ 867
Supplies	\$ 32,000	\$ 45,310
Office Supplies & Postage	\$ 7,000	\$ 8,568
Advertising	\$ 1,500	\$ 573
Gas & Oil	\$ 10,500	\$ 10,139
Christmas Bonus	\$ -	\$ 550
Miscellaneous	\$ 500	\$ 13,329
Rents	\$ 500	\$ -
Travel & Meetings	\$ 1,500	\$ 688
Telephone	\$ 1,000	\$ 1,017
Cellular Phone	\$ 750	\$ 679
Utilities	\$ 47,000	\$ 48,618
Repairs & Maintenance: Auto/Truck	\$ 5,000	\$ 1,725
Repairs & Maintenance: Equipment	\$ 70,000	\$ 30,944
Contracted Service	\$ 50,000	\$ 86,557
Legal Fees		
Fees To State	\$ 500	\$ 2,734
Principal W&S 2015 Revenue Bond	\$ 104,027	\$ 95,000
Interest W&S 2015 Revenue Bond	\$ -	\$ 9,026
Utility Truck Payment	\$ -	\$ 1,421
Capital Outlay	\$ 30,000	\$ 13,918
Bad Debt	\$ -	\$ (23)
Transfers In/Out	\$ -	\$ -
Total Expenditures	\$ 681,280	\$ 661,300
Net Income (Loss)	\$ 35,319	\$ 39,087

Table A-3: 2023 Statement of Budget, Revenue, and Expenditures

Revenue	<u>2022</u>	<u>June 30 2023</u>	<u>Projected 2023</u>
Water Sales	\$ 414,352	\$ 269,402	\$ 359,203
Sewer Fees	\$ 325,000	\$ 228,730	\$ 304,973
Tap Fees	\$ 2,000	\$ 1,050	\$ 1,400
Turn On Fees	\$ 6,000	\$ 2,025	\$ 2,700
Tampering Fees	\$ -	\$ 500	\$ 667
Reconnection Fees	\$ -	\$ 2,850	\$ 3,800
Sales Tax Revenue	\$ 15,000	\$ 13,391	\$ 17,855
Penalties	\$ 17,000	\$ 13,897	\$ 18,529
Miscellaneous Revenue	\$ -	\$ 5,927	\$ 7,903
Total Revenues	\$ 779,352	\$ 537,772	\$ 717,030
Expenditures			
Salaries	\$ 240,000	\$ 217,122	\$ 289,496
FICA	\$ 14,880	\$ 13,461	\$ 17,949
Medicare	\$ 3,480	\$ 3,148	\$ 4,197
Retirement	\$ 2,833	\$ 2,519	\$ 3,359
Employee Insurance	\$ 41,000	\$ 40,477	\$ 53,970
Street Repair Reimbursement	\$ 7,000	\$ -	\$ -
Employee Uniforms	\$ 850	\$ 322	\$ 429
Supplies	\$ 30,000	\$ 37,016	\$ 49,355
Office Supplies & Postage	\$ 7,000	\$ 7,872	\$ 10,496
Computer & Software	\$ 3,250	\$ 2,318	\$ 3,091
Advertising	\$ 600	\$ 333	\$ 444
Gas & Oil	\$ 9,569	\$ 12,087	\$ 16,116
Christmas Bonus	\$ 650	\$ 800	\$ 1,067
Miscellaneous	\$ 400	\$ 592	\$ 789
Rents	\$ 500	\$ 15,130	\$ 20,173
Travel & Meetings	\$ 1,500	\$ 2,012	\$ 2,683
Telephone	\$ 1,100	\$ 785	\$ 1,047
Cellular Phone	\$ 700	\$ 691	\$ 922
Utilities	\$ 47,000	\$ 34,911	\$ 46,548
Repairs & Maintenance: Auto/Truck	\$ 2,000	\$ 1,705	\$ 2,273
Repairs & Maintenance: Equipment	\$ 15,000	\$ 36,740	\$ 48,987
Contracted Service	\$ 30,000	\$ 106,902	\$ 106,902
Legal Fees	\$ -	\$ 1,476	\$ 1,968
Fees To State	\$ 1,000	\$ -	\$ -
USDA Loan	\$ 115,800	\$ -	\$ -
Principal W&S 2015 Revenue Bond	\$ 104,027	\$ 100,000	\$ 133,333
Interest W&S 2015 Revenue Bond	\$ 5,105	\$ 3,922	\$ 5,229
W/S Reserve Fund	\$ -	\$ -	\$ -
Utility Truck Payment	\$ 8,529	\$ 6,397	\$ 8,529
Backhoe Payment	\$ 14,000	\$ -	\$ -
Sewer Study	\$ 75,000	\$ 98,114	\$ 98,114
Capital Outlay	\$ 20,000	\$ 227,700	\$ 227,700
Bad Debt	\$ -	\$ (71)	\$ (95)
Transfers In/Out	\$ -	\$ -	\$ -
Total Expenditures	\$ 802,772	\$ 974,481	\$ 1,155,070
Net Income (Loss)	\$ (23,420)	\$ (436,709)	\$ (438,040)

Table A-4: 2022 Allocation of Revenue & Expenditures

Revenue	2022 Budget			2022 Actual		
	Total	Water	Sewer	Total	Water	Sewer
Water Sales	\$ 389,440	\$ 389,440	\$ -	\$ 367,587	\$ 367,587	\$ -
Sewer Fees	\$ 304,409	\$ -	\$ 304,409	\$ 296,102	\$ -	\$ 296,102
Tap Fees	\$ 750	\$ 750	\$ -	\$ 1,750	\$ 1,750	\$ -
Turn On Fees	\$ 5,000	\$ 5,000	\$ -	\$ 6,101	\$ 6,101	\$ -
Penalties	\$ 17,000	\$ 9,537	\$ 7,463	\$ 16,366	\$ 9,067	\$ 7,299
Miscellaneous Revenue	\$ -	\$ -	\$ -	\$ 12,481	\$ 6,914	\$ 5,566
Total Revenues	\$ 716,599	\$ 404,727	\$ 311,872	\$ 700,387	\$ 391,420	\$ 308,968
Expenditures						
Salaries	\$ 225,000	\$ 126,225	\$ 98,775	\$ 227,436	\$ 126,000	\$ 101,436
FICA	\$ 9,691	\$ 5,437	\$ 4,254	\$ 14,101	\$ 7,812	\$ 6,289
Medicare	\$ 2,239	\$ 1,256	\$ 983	\$ 3,298	\$ 1,827	\$ 1,471
Retirement	\$ 2,508	\$ 1,407	\$ 1,101	\$ 2,773	\$ 1,536	\$ 1,237
Employee Insurance	\$ 41,165	\$ 23,094	\$ 18,071	\$ 41,951	\$ 23,241	\$ 18,710
General Salaries Reimb	\$ 30,000	\$ 16,830	\$ 13,170	\$ -	\$ -	\$ -
Street Repair Reimb.	\$ 6,700	\$ 3,759	\$ 2,941	\$ -	\$ -	\$ -
Employee Uniforms	\$ 2,200	\$ 1,234	\$ 966	\$ 867	\$ 480	\$ 387
Supplies	\$ 32,000	\$ 17,952	\$ 14,048	\$ 45,310	\$ 25,102	\$ 20,208
Office Supplies & Postage	\$ 7,000	\$ 3,927	\$ 3,073	\$ 8,568	\$ 4,747	\$ 3,821
Advertising	\$ 1,500	\$ 842	\$ 659	\$ 573	\$ 317	\$ 255
Gas & Oil	\$ 10,500	\$ 5,891	\$ 4,610	\$ 10,139	\$ 5,617	\$ 4,522
Christmas Bonus	\$ -	\$ -	\$ -	\$ 650	\$ 360	\$ 290
Miscellaneous	\$ 500	\$ 281	\$ 220	\$ 13,329	\$ 7,384	\$ 5,945
Rents	\$ 500	\$ 281	\$ 220	\$ -	\$ -	\$ -
Travel & Meetings	\$ 1,500	\$ 842	\$ 659	\$ 688	\$ 381	\$ 307
Telephone	\$ 1,000	\$ 561	\$ 439	\$ 1,017	\$ 564	\$ 454
Cellular Phone	\$ 750	\$ 421	\$ 329	\$ 679	\$ 376	\$ 303
Utilities	\$ 47,000	\$ 26,367	\$ 20,633	\$ 48,618	\$ 26,935	\$ 21,684
Repairs & Maint.: Veh.	\$ 5,000	\$ 2,805	\$ 2,195	\$ 1,725	\$ 956	\$ 770
Repairs & Maint.: Equip.	\$ 70,000	\$ 39,270	\$ 30,730	\$ 30,944	\$ 17,143	\$ 13,801
Contracted Service	\$ 50,000	\$ 28,050	\$ 21,950	\$ 86,557	\$ 47,953	\$ 38,605
Fees To State	\$ 500	\$ 281	\$ 220	\$ 2,734	\$ 1,515	\$ 1,219
Principal 2015 Rev. Bond	\$ 104,027	\$ 53,574	\$ 50,453	\$ 95,000	\$ 48,925	\$ 46,075
Interest 2015 Rev. Bond	\$ -	\$ -	\$ -	\$ 9,026	\$ 4,649	\$ 4,378
Utility Truck Payment	\$ -	\$ -	\$ -	\$ 1,421	\$ 732	\$ 689
Capital Outlay	\$ 30,000	\$ 16,830	\$ 13,170	\$ 13,918	\$ 7,711	\$ 6,207
Bad Debt	\$ -	\$ -	\$ -	\$ (23)	\$ (13)	\$ (10)
Total Expenditures	\$ 681,280	\$ 377,413	\$ 303,867	\$ 661,300	\$ 362,248	\$ 299,052
Net Income (Loss)	\$ 35,319	\$ 27,314	\$ 8,005	\$ 39,087	\$ 29,172	\$ 9,915

NOTE: 2022 budgeted expenses allocated 56.1% based on sales. 2022 budgeted debt service allocated 51.5% water based on number of customers served. 2022 actual expenses allocated 54.4% based on sales. 2022 budget debt service allocated 51.5% water based on number of customers served.

Table A-5: 2023 Allocation of Revenue & Expenditures

Revenue	2023 Budget			2023 Projected		
	Total	Water	Sewer	Total	Water	Sewer
Water Sales	\$ 414,352	\$ 414,352	\$ -	\$ 359,203	\$ 359,203	\$ -
Sewer Fees	\$ 325,000	\$ -	\$ 325,000	\$ 304,973	\$ -	\$ 304,973
Tap Fees	\$ 2,000	\$ 2,000	\$ -	\$ 1,400	\$ 1,575	\$ -
Turn On Fees	\$ 6,000	\$ 6,000	\$ -	\$ 2,700	\$ 2,738	\$ -
Tampering Fees	\$ -	\$ -	\$ -	\$ 667	\$ 750	\$ -
Reconnection Fees	\$ -	\$ -	\$ -	\$ 3,800	\$ 3,450	\$ -
Salaries	\$ 15,000			\$ 17,855		
Penalties	\$ 17,000	\$ 9,605.0	\$ 7,395	\$ 18,529	\$ 10,061	\$ 8,468
Miscellaneous Revenue	\$ -	\$ -	\$ -	\$ 7,903	\$ 4,291	\$ 3,612
Total Revenues	\$ 779,352	\$ 431,957	\$ 332,395	\$ 717,030	\$ 382,068	\$ 317,052
Expenditures						
Salaries	\$ 240,000	\$ 135,600	\$ 104,400	\$ 289,496	\$ 157,196	\$ 132,300
FICA	\$ 14,880	\$ 8,407	\$ 6,473	\$ 17,949	\$ 9,746	\$ 8,202
Medicare	\$ 3,480	\$ 1,966	\$ 1,514	\$ 4,197	\$ 2,279	\$ 1,918
Retirement	\$ 2,833	\$ 1,601	\$ 1,232	\$ 3,359	\$ 1,824	\$ 1,535
Employee Insurance	\$ 41,000	\$ 23,165	\$ 17,835	\$ 53,970	\$ 29,306	\$ 24,664
Street Repair Reimb.	\$ 7,000	\$ 3,955	\$ 3,045	\$ -	\$ -	\$ -
Employee Uniforms	\$ 850	\$ 480	\$ 370	\$ 429	\$ 233	\$ 196
Supplies	\$ 30,000	\$ 16,950	\$ 13,050	\$ 49,355	\$ 26,800	\$ 22,555
Office Supplies & Postage	\$ 7,000	\$ 3,955	\$ 3,045	\$ 10,496	\$ 5,699	\$ 4,797
Computer & Software	\$ 3,250	\$ 1,836	\$ 1,414	\$ 3,091	\$ 1,678	\$ 1,413
Advertising	\$ 600	\$ 339	\$ 261	\$ 444	\$ 241	\$ 203
Gas & Oil	\$ 9,569	\$ 5,406	\$ 4,163	\$ 16,116	\$ 8,751	\$ 7,365
Christmas Bonus	\$ 650	\$ 367	\$ 283	\$ 1,067	\$ 579	\$ 487
Miscellaneous	\$ 400	\$ 226	\$ 174	\$ 789	\$ 429	\$ 361
Rents	\$ 500	\$ 283	\$ 218	\$ 20,173	\$ 10,954	\$ 9,219
Travel & Meetings	\$ 1,500	\$ 848	\$ 653	\$ 2,683	\$ 1,457	\$ 1,226
Telephone	\$ 1,100	\$ 622	\$ 479	\$ 1,047	\$ 569	\$ 478
Cellular Phone	\$ 700	\$ 396	\$ 305	\$ 922	\$ 501	\$ 421
Utilities	\$ 47,000	\$ 26,555	\$ 20,445	\$ 46,548	\$ 25,276	\$ 21,272
Repairs & Maint.: Veh.	\$ 2,000	\$ 1,130	\$ 870	\$ 2,273	\$ 1,234	\$ 1,039
Repairs & Maint.: Equip.	\$ 15,000	\$ 8,475	\$ 6,525	\$ 48,987	\$ 26,600	\$ 22,387
Contracted Service	\$ 30,000	\$ 16,950	\$ 13,050	\$ 106,902	\$ 58,048	\$ 48,854
Legal Fees	\$ -	\$ -	\$ -	\$ 1,968	\$ 1,068	\$ 899
Fees To State	\$ 1,000	\$ 565	\$ 435	\$ -	\$ -	\$ -
USDA Loan	\$ 115,800	\$ 115,800	\$ -	\$ -	\$ -	\$ -
Principal 2015 Rev. Bond	\$ 104,027	\$ 53,574	\$ 50,453	\$ 133,333	\$ 68,667	\$ 64,667
Interest 2015 Rev. Bond	\$ 5,105	\$ 2,629	\$ 2,476	\$ 5,229	\$ 2,693	\$ 2,536
Utility Truck Payment	\$ 8,529	\$ 4,392	\$ 4,136	\$ -	\$ -	\$ -
Backhoe Payment	\$ 14,000	\$ 7,210	\$ 6,790	\$ 8,529	\$ 4,392	\$ -
Sewer Study	\$ 75,000	\$ -	\$ 75,000	\$ -	\$ -	\$ 98,114
Capital Outlay	\$ 20,000	\$ -	\$ 20,000	\$ 98,114	\$ -	\$ 98,114
Grant Administration.	\$ -	\$ -	\$ -	\$ 227,700	\$ -	\$ -
Bad Debt	\$ -	\$ -	\$ -	\$ (95)	\$ (52)	\$ (44)
Transfers In/Out	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenditures	\$ 802,772	\$ 443,681	\$ 359,091	\$ 1,155,070	\$ 446,168	\$ 575,180
Net Income (Loss)	\$ (23,420)	\$ (11,724)	\$ (26,696)	\$ (438,040)	\$ (64,100)	\$ (258,128)

NOTE: 2023 budgeted expenses allocated 56.5% based on sales. 2023 budgeted debt service allocated 51.5% water based on number of customers served. 2022 projected expenses allocated 54.3% based on sales. 2022 budget debt service allocated 51.5% water based on number of customers served.

Table A-6: Statement of Net Position

Assets		
	2021	2022
Current and other assets	\$ 522,249	\$822,984
Capital assets	\$ 1,559,063	\$ 1,441,359
Total Assets	\$ 2,081,312	\$ 2,264,343
Deferred outflow of resources	\$ 4,503	\$ 3,602
Liabilities		
Long-term liabilities	\$ 338,963	\$ 448,381
Other liabilities	\$ 427,312	\$ 604,849
Total current liabilities:	\$ 766,275	\$ 1,053,230
Deferred inflows of resources	\$ 6,231	\$ 17,636
Net Position		
Net investment in capital assets	\$ 1,149,063	\$ 1,000,672
Restricted	\$ 92,423	\$ 108,990
Unrestricted	\$ 71,823	\$ 87,417
Total Net Position	\$ 1,313,309	\$ 1,197,079
Total Liabilities and Net Position	\$ 2,079,584	\$ 2,250,309

Net Position from 2022 independent audit and 2017 USDA-RDt letter of conditions.

Appendix B: Capital Improvement Plan

Table B-1: Capital Improvement Plan

<u>Water System Improvements</u>			
<u>Description</u>	<u>Funding Source</u>	<u>Estimated Cost</u>	
Well rehabilitation			
New Elevated Storage			
Replace main lines	USDA-RD	\$	4,625,000
AMI Meters	ARPA Grant	\$	470,000
Well #1: Control Valve Repair			
Well #3: Rehabilitation			
Well #5: Replace Couplings			
Well #6: Replace Pumps/ Control Valves	System Reserves	\$	700,000
Sub-total Water Improvements		\$	5,795,000

<u>Sewer System Improvements</u>			
Jim's Bayou WWTP	System Reserves	\$	490,000
2nd WWTP			
Levee Improvements			
Wastewater Collection Lines			
Sewer Camera			
Sub-total Sewer Improvements		\$	490,000

<u>Vehicles & Equipment</u>			
Service Truck 1 Ton (50/50 split)	\$66,070 @ 6.15% FOR 5 yrs. = \$15,748 annual pymt.		
Dump Truck 5-8 yd (50/50 split)	\$214,000 @ 6.15% for 5 yrs. = \$28,704 annual pymt.		
Wastewater Collection Lines			
Sewer Camera			
Miscellaneous Equipment			

Table B-2: Capital Recovery Fee

Calculation of Capital Recovery Fee: Capital Contribution By Utility Customers

<i>Add:</i>		
Capital Assets (Net depreciation) \$	6,070,349	(2022 Audit (includes water system improvements.))
<i>(Less)</i>		
Outstanding Long Term Debt \$	3,262,587	
<i>Equals:</i>		
Total Utility Equity \$	2,807,762	
Number of Customers Water	926	
Number of Customers Sewer	872	
Average Net Capital Recovery Fee \$	<u>1,562</u>	(5/8" x 3/4" meter)

Source of Financial Information: 2022 Financial Audit Report

Typically, the purpose of a Capital Recovery Fee for water service is required to achieve parity with existing members/customers of the utility by paying an amount equal to the capital contribution of each member as demonstrated in the average net capital recovery formula. These values are determined after approval of the financial audit report or year-end financial report.

The capital recovery fee calculated by this study is the maximum allowable fee. However, a Utility is not obligated to charge the full amount and can consider any amount up to the maximum, with the realization that the difference between the amount collected from the capital recovery fee and the capital required must be received from other sources, either water rate increases or other funding resources.

Typically, capital recovery fees shall be used for capital improvements that are identified by the board and/or registered professional engineer as needed to accommodate new growth. Fees should not be used to solve preexisting problems or deficiencies, nor should they be used to operate a utility. In addition, this type of capital recovery fee collected should only be used for the same type facility (water).

Table B-3: Development Charge For New Connections

A development charge would be assessed on new connections to the water or sewer system. The charge would follow the meter equivalency ratios used to calculate the monthly base charge. Revenues from the development charge would be used to support system upgrades and expansion.

Meter Size	Service Ratio	Development Charge					
		\$	\$	\$	\$	\$	\$
5/8	1.0	\$ 500	\$ 750	\$ 1,000	\$ 1,250	\$ 1,500	
1	1.4	\$ 700	\$ 1,050	\$ 1,400	\$ 1,750	\$ 2,100	
1.5	1.8	\$ 900	\$ 1,350	\$ 1,800	\$ 2,250	\$ 2,700	
2	2.9	\$ 1,450	\$ 2,175	\$ 2,900	\$ 3,625	\$ 4,350	
3	11	\$ 5,500	\$ 8,250	\$ 11,000	\$ 13,750	\$ 16,500	
4	14	\$ 7,000	\$ 10,500	\$ 14,000	\$ 17,500	\$ 21,000	

Appendix C: Water System Analysis

Table C-1: Water System Revenue & Expense Summary

Revenue	2022 Actual	2023 Budget	2023 Projected	Typical Year
Water Sales	\$ 367,587	\$ 414,352	\$ 359,203	\$ 414,400
Other Fees & Charges	\$ 7,851	\$ 8,000	\$ 8,513	\$ 8,500
Penalties	\$ 9,067	\$ 9,605	\$ 10,376	\$ 10,000
Miscellaneous	\$ 6,914	\$ -	\$ 4,426	\$ 7,000
Total Revenue	\$ 391,420	\$ 431,957	\$ 382,517	\$ 439,900
<u>Expense</u>				
<u>Debt Service</u>				
2015 Bond	\$ 53,574	\$ 56,203	\$ 71,360	\$ 53,300
USDA-RD Loan		\$ 115,800	\$ -	\$ 115,702
Loan Truck	\$ 732	\$ 4,392	\$ 2,262	\$ 4,265
Lease Backhoe		\$ 7,210	\$ 7,210	\$ 7,000
USDA CPAP				\$ 18,938
1 Ton Tuck			\$ -	\$ 3,937
Dump Truck				\$ 7,176
USDA Debt Reserve		\$ -	\$ -	\$ 11,570
Total Debt Service:	\$ 54,306	\$ 183,605	\$ 80,832	\$ 221,887
<u>Operating Expense</u>				
Salaries and benefits	\$ 126,000	\$ 135,600	\$ 157,196	\$ 157,300
Employee Benefits	\$ 34,776	\$ 35,139	\$ 43,155	\$ 40,800
Office / Admin	\$ 6,372	\$ 8,277	\$ 21,047	\$ 8,500
Contracted services	\$ 47,953	\$ 16,950	\$ 58,048	\$ 17,500
Maintenance and repair	\$ 18,099	\$ 13,560	\$ 27,834	\$ 14,000
Materials,/supplies/chem	\$ 30,719	\$ 22,356	\$ 35,551	\$ 23,000
Miscellaneous	\$ 7,384	\$ 226	\$ 429	\$ 250
Other Operating	\$ 1,995	\$ 1,045	\$ 233	\$ 1,000
Professional/ Legal		\$ -	\$ 1,068	\$ -
Utilities	\$ 26,935	\$ 26,555	\$ 25,276	\$ 27,400
Subtotal Operating:	\$ 300,232	\$ 259,709	\$ 369,836	\$ 289,750
<u>Capital Expense/ Reserve</u>				
Capital Outlay	\$ 7,711	\$ -	\$ -	\$ -
Short-lived Assets	\$ -	\$ -	\$ -	\$ 6,000
Capital Reserve	\$ -	\$ -	\$ -	\$ 26,394
Subtotal Capital:	\$ 7,711	\$ -	\$ -	\$ 32,394
Total Expense	\$ 362,248	\$ 443,314	\$ 450,668	\$ 544,031
Net Income (Loss)	\$ 29,172	\$ (11,357)	\$ (68,151)	\$ (104,131)

Table C-2: Water System Fixed & Variable Cost

Typical Year

FIXED COSTS					# Customers:	926
Budget Line Item	Annual Budget Amount For Each Line Item		Estimated % of Fixed Costs for Each Line Item		Annual Minimum to Recover	Col C div. by 12 div by # of Customers= Min. Revenue/ Customer/Mo.
Salaries and benefits	\$ 157,300	x	10%	=	\$ 15,730	\$ 1.42
Employee Benefits	\$ 40,800	x	10%	=	\$ 4,080	\$ 0.37
Office / Admin	\$ 8,500	x	100%	=	\$ 8,500	\$ 0.76
Contracted services	\$ 17,500	x	0%	=	\$ -	\$ -
Maintenance and repair	\$ 14,000	x	0%	=	\$ -	\$ -
Materials,/supplies/chem	\$ 23,000	x	0%	=	\$ -	\$ -
Miscellaneous	\$ 250		0%			
Other Operating	\$ 1,000	x	0%	=	\$ -	\$ -
Professional/ Legal	\$ -	x	100%	=	\$ -	\$ -
Utilities	\$ 27,400	x	5%	=	\$ 1,370	\$ 0.12
Debt Service	\$ 221,887	x	100%	=	\$ 221,887	\$ 19.97
Capital Reserve	\$ 25,974	x	0%	=	\$ -	\$ -
Totals	\$ 537,611	x		=	\$ 251,567	\$ 22.64

VARIABLE COSTS					# Customers:	926
					Gallons Sold:	58,000
Budget Line Item	Annual Budget Amount For Each Line Item		Estimated % of Variable Costs for Each Line Item		Annual Minimum to Recover	Col C div. by 12 div by # of Customers= Min. Revenue/ Customer/Mo.
Salaries and benefits	\$ 157,300	x	90%	=	\$ 141,570	\$ 2.44
Employee Benefits	\$ 40,800	x	90%	=	\$ 36,720	\$ 0.63
Office / Admin	\$ 8,500	x	0%	=	\$ -	\$ -
Contracted services	\$ 17,500	x	100%	=	\$ 17,500	\$ 0.30
Maintenance and repair	\$ 14,000	x	100%	=	\$ 14,000	\$ 0.24
Materials,/supplies/chem	\$ 23,000	x	100%	=	\$ 23,000	\$ 0.40
Miscellaneous	\$ 250	x	100%	=	\$ 250	\$ 0.00
Other Operating	\$ 1,000	x	100%	=	\$ 1,000	\$ 0.02
Professional/ Legal	\$ -	x	0%	=	\$ -	\$ -
Utilities	\$ 27,400	x	95%	=	\$ 26,030	\$ 0.45
Debt Service	\$ 221,887	x	0%	=	\$ -	\$ -
Capital Reserve	\$ 25,974	x	100%	=	\$ 25,974	\$ 2.34
Totals	\$ 537,611	x	100%	=	\$ 286,044	\$ 6.82
Variable cost per 1000 gallons						\$ 4.93
Average monthly revenue needed per customer:						\$ 33.46

Table C-3: Water System Operating Reserve

Operating Reserve represents unrestricted funds available to meet normal operating expenses. Expense includes O&M, Debt Service, and Capital Repair/ Replacement reserve. The minimum Operating Reserve is recommended to be at least 1/12th of annual operating expense.

<u>Fund Accounts</u>			
<u>Account</u>	<u>2021</u>	<u>2022</u>	
<u>Unrestricted Funds</u>			
Cash & Cash Equivalents	\$ 205,896	\$ 177,313	
<u>Restricted Funds</u>			
Restricted Cash & Equivalents	\$ 373,080	\$ 430,673	
Meter Deposits	\$ 89,894	\$ 90,830	
Total Restricted	\$ 462,974	\$ 521,504	
Total Available Funds:	<u>\$ 668,870</u>	<u>\$ 698,816</u>	
<u>Operating Reserve</u>			
Available Unrestricted Funds:	\$ 205,896	\$ 177,313	
Annual Expense:	\$ 395,412	\$ 362,248	
Target Operating Reserve (1/8 of operating Expense)	\$ 49,427	\$ 45,281	
Over (under) Target:	<u>\$ 156,469</u>	<u>\$ 132,032</u>	
The number of days that the available cash balance could cover operating expenses (Debt service, Operating, Capital Reserve) without additional revenue:	<u>190</u>	<u>179</u>	

Table C-4: Water System Financial Sustainability

	<u>2022</u>	<u>2023 Budget</u>	<u>Typical Year</u>
<u>Current Ratio:</u>			
Current Assets:	\$ 423,656	\$ 723,700	\$ 723,700
÷			
Current Liabilities:	\$ 362,000	\$ 362,000	\$ 362,000
=			
Current Ratio:	<u>1.17</u>	<u>2.00</u>	<u>2.00</u>
<u>Debt Service Coverage Ratio:</u>			
Total Revenue	\$ 391,420	\$ 431,957	\$ 439,900
- Operations Expense	<u>\$ 300,232</u>	<u>\$ 259,709</u>	<u>\$ 289,750</u>
Net available revenue	\$ 91,188	\$ 172,248	\$ 150,150
÷			
Debt Service (P + I)	\$ 54,306	\$ 183,605	\$ 210,317
Debt Service Reserve		\$ 7,210	\$ 11,570
=			
Debt Coverage Ratio:	<u>1.68</u>	<u>0.90</u>	<u>0.68</u>
<u>Operating Ratio</u>			
Total revenues	\$ 391,420	\$ 431,957	\$ 439,900
÷			
Total expense (w/ debt service & capital reserves)	<u>\$ 362,248</u>	<u>\$ 443,314</u>	<u>\$ 532,461</u>
=			
O & M Ratio	<u>1.08</u>	<u>0.97</u>	<u>0.83</u>
<u>Affordability Rate</u>			
Median Household Income	\$ 39,868	\$ 39,868	\$ 39,868
Water Charge for 4,000 gal			
Month	<u>\$ 32.18</u>	<u>\$ 32.18</u>	<u>\$ 32.18</u>
Year	<u>\$ 386.16</u>	<u>\$ 386.16</u>	<u>\$ 386.16</u>
÷			
Affordability Rate = % of MHI spent on utility service	<u>0.97%</u>	<u>0.97%</u>	<u>0.97%</u>

Table C-5: Projected Water Revenue Requirements:

Revenues	Year				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Water Sales	\$ 414,400	\$ 414,400	\$ 414,400	\$ 414,400	\$ 414,400
Water Fees	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500
Penalties	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
Miscellaneous	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000
Total Revenue	\$ 439,900	\$ 439,900	\$ 439,900	\$ 439,900	\$ 439,900
Expense					
Debt Service	\$ 210,317	\$ 211,218	\$ 212,357	\$ 149,746	\$ 146,034
Operating	\$ 289,750	\$ 298,443	\$ 307,396	\$ 316,618	\$ 326,116
Capital Outlay	\$ -	\$ -	\$ -	\$ -	\$ -
Short-lived Assets	\$ 6,000	\$ 6,000	\$ 6,000	\$ 6,000	\$ 6,000
Capital Reserves	\$ 21,995	\$ 21,995	\$ 21,995	\$ 21,995	\$ 21,995
Total Expense	\$ 528,062	\$ 537,655	\$ 547,748	\$ 494,359	\$ 500,145
Net Income (loss)	\$ (88,162)	\$ (97,755)	\$ (107,848)	\$ (54,459)	\$ (60,245)
Operating Ratio:	0.83	0.82	0.80	0.89	0.88
Coverage Ratio:	0.61	0.57	0.52	0.68	0.63
Additional Revenue Required for Target Operating Ratio (1.00):					
	\$ 88,162	\$ 97,755	\$ 107,848	\$ 54,459	\$ 60,245
Additional Revenue Required for Target Operating Ratio (1.05):					
	\$ 114,565	\$ 124,638	\$ 135,235	\$ 79,177	\$ 85,252
Additional Revenue Required for Debt Coverage Ratio (1.10):					
	\$ 103,194	\$ 112,877	\$ 123,083	\$ 63,433	\$ 68,848

Projections based on % change per year from year 1 and subsequent years:

Operating Income anticipated to increase @0% year based maintaining but not increasing customer base

Debt Service includes current debt obligations included in 2023 budget, including the new USDA-RD Loan. The 2015 bond is scheduled to be repaid in 2024, the backhoe in 2026, and the truck in 2027.

Operating expense projected to increase @3% per year (average increase in CPI) based on census 10 year average

Capital reserves based on 5% of total revenues.

Appendix D: Sewer System Analysis

Table D-1: Sewer System Revenue & Expense Summary

Revenue	2022 Actual	2023 Budget	2023 Projected	Typical Year
Sewer Sales	\$ 296,102	\$ 325,000	\$ 304,973	\$ 325,000
Penalties	\$ 7,299	\$ 7,395	\$ 8,468	\$ 8,500
Miscellaneous	\$ 5,566	\$ -	\$ 3,612	\$ 5,500
Total Operating:	\$ 308,968	\$ 332,395	\$ 317,052	\$ 339,000
Expense				
<u>Debt Service</u>				
2015 Bond	\$ 50,453	\$ 52,929	\$ 52,742	\$ 53,300
Loan Truck	\$ 689	\$ 4,136	\$ 4,137	\$ 4,265
Loan Backhoe		\$ 6,790	\$ 6,790	\$ 7,000
Loan 1 Ton Truck				\$ 3,937
Loan Dump Truck		\$ 6,790	\$ 6,790	\$ 7,176
Subtotal Debt Service	\$ 51,142	\$ 70,645	\$ 70,459	\$ 75,677
<u>Operating Expense</u>				
Salaries	\$ 101,436	\$ 104,400	\$ 132,300	\$ 132,300
Employee Benefits	\$ 27,997	\$ 27,054	\$ 36,320	\$ 36,320
Office and other	\$ 5,130	\$ 6,373	\$ 17,714	\$ 6,400
Contracted services	\$ 38,605	\$ 13,050	\$ 48,854	\$ 13,100
Maintenance and repair	\$ 14,571	\$ 10,440	\$ 23,426	\$ 14,600
Materials/supplies/chemicals	\$ 24,730	\$ 17,213	\$ 29,920	\$ 24,700
Miscellaneous	\$ 5,945	\$ 174	\$ 361	\$ 6,000
Other Operating	\$ 1,606	\$ 805	\$ 196	\$ 1,600
Professional/ Legal		\$ -	\$ 899	\$ 1,000
Utilities	\$ 21,684	\$ 20,445	\$ 21,272	\$ 21,700
Subtotal Operating	\$ 241,703	\$ 199,953	\$ 311,262	\$ 257,720
<u>Capital Expense/ Reserve</u>				
Capital Outlay	\$ 6,207	\$ 20,000	\$ 98,114	\$ -
Sewer Study	\$ -	\$ 75,000	\$ 98,114	\$ -
Capital Reserve	\$ -	\$ -	\$ -	\$ 16,950
Subtotal Capital:	\$ 6,207	\$ 95,000	\$ 196,228	\$ 16,950
Total Expense	\$ 299,052	\$ 365,598	\$ 577,949	\$ 350,347
Net Income (Loss)	\$ 9,915	\$ (33,203)	\$ (260,897)	\$ (11,347)

Table D-2: Sewer System Fixed & Variable Cost

Typical Year

FIXED COSTS						# Customers:	872
Budget Line Item	Annual Budget Amount For Each Line Item		Estimated % of Fixed Costs for Each Line Item		Annual Minimum to Recover	Col C div. by 12 div by # of Customers= Min. Revenue/ Customer/Mo.	
Salaries	\$ 132,300	x	10%	=	\$ 13,230	\$	1.26
Employee Benefits	\$ 36,320	x	10%	=	\$ 3,632	\$	0.35
Office and other	\$ 6,400	x	100%	=	\$ 6,400	\$	0.61
Professional/ Legal	\$ 13,100	x	0%	=	\$ -	\$	-
Contracted services	\$ 14,600	x	0%	=	\$ -	\$	-
Maintenance and repair	\$ 24,700	x	0%	=	\$ -	\$	-
Materials/supplies/chem	\$ 6,000	x	0%	=	\$ -	\$	-
Miscellaneous	\$ 1,600	x	0%	=	\$ -	\$	-
Other Operating	\$ 1,000	x	0%	=	\$ -	\$	-
Utilities	\$ 21,700	x	0%	=	\$ -	\$	-
Debt Service	\$ 75,677	x	100%	=	\$ 75,677	\$	7.23
Capital Reserve	\$ 16,950	x	0%	=	\$ -	\$	-
Totals	\$ 350,347	x		=	\$ 98,939	\$	9.46

VARIABLE COSTS						# Customers:	872
						Gallons Sold:	45,415
Budget Line Item	Annual Budget Amount For Each Line Item		Estimated % of Variable Costs for Each Line Item		Annual Minimum to Recover	Col C div. by 12 div by # of Customers= Min. Revenue/ Customer/Mo.	
Salaries	\$ 132,300	x	90%	=	\$ 119,070	\$	2.62
Employee Benefits	\$ 36,320	x	90%	=	\$ 32,688	\$	0.72
Office and other	\$ 6,400	x	0%	=	\$ -	\$	-
Professional/ Legal	\$ 13,100	x	100%	=	\$ 13,100	\$	0.29
Contracted services	\$ 14,600	x	100%	=	\$ 14,600	\$	0.32
Maintenance and repair	\$ 24,700	x	100%	=	\$ 24,700	\$	0.54
Materials/supplies/chem	\$ 6,000	x	100%	=	\$ 6,000	\$	0.13
Miscellaneous	\$ 1,600	x	100%	=	\$ 1,600	\$	0.04
Other Operating	\$ 1,000	x	100%	=	\$ 1,000	\$	0.02
Utilities	\$ 21,700	x	100%	=	\$ 21,700	\$	0.48
Debt Service	\$ 75,677	x	0%	=	\$ -	\$	-
Capital Reserve	\$ 16,950	x	100%	=	\$ 16,950	\$	1.62
Totals	\$ 350,347	x	100%	=	\$ 251,408	\$	6.78
Variable cost per 1000 gallons						\$	5.54
Average monthly revenue needed per customer:						\$	20.24

Table D-3: Sewer System Operating Reserve

Operating Reserve represents unrestricted funds available to meet normal operating expenses. Expense includes O&M, Debt Service, and Capital Repair/ Replacement reserve. The minimum Operating Reserve is recommended to be at least 1/8th of annual operating expense.

Fund Accounts			
<u>Account</u>	<u>2021</u>	<u>2022</u>	
<u>Unrestricted Funds</u>			
Cash & Cash Equivalents	\$ 173,286	\$ 149,230	
<u>Restricted Funds</u>			
Restricted cash & equivalents	\$ 313,992	\$ 362,464	
Meter deposits held in trust	\$ 75,657	\$ 76,445	
Total Restricted	<u>\$ 389,649</u>	<u>\$ 438,908</u>	
Total Available Funds:	<u>\$ 562,935</u>	<u>\$ 588,138</u>	
<u>Operating Reserve</u>			
Available Unrestricted Funds:	\$ 173,286	\$ 149,230	
Annual Expense:	\$ 410,592	\$ 299,052	
Target Operating Reserve (1/8 of operating Expense)	\$ 51,324	\$ 37,382	
Over (under) Target:	<u>\$ 121,962</u>	<u>\$ 111,848</u>	
The number of days that the available cash balance could cover operating expenses (Debt service, Operating, Capital Reserve) without additional revenue:	<u>154</u>	<u>182</u>	

Table D-4: Sewer System Financial Sustainability

	<u>2022</u>	<u>2023 Budget</u>	<u>Typical Year</u>
<u>Current Ratio:</u>			
Current Assets:	\$ 423,656	\$ 723,700	\$ 723,700
÷			
Current Liabilities:	\$ 362,000	\$ 362,000	\$ 362,000
=			
Current Ratio:	<u>1.17</u>	<u>2.00</u>	<u>2.00</u>
<u>Debt Service Coverage Ratio:</u>			
Total Revenue	\$ 308,968	\$ 332,395	\$ 339,000
- Operations Expense	<u>\$ 241,703</u>	<u>\$ 199,953</u>	<u>\$ 257,720</u>
Net available revenue	\$ 67,265	\$ 132,442	\$ 81,280
÷			
Debt Service (P + I)	<u>\$ 51,142</u>	<u>\$ 70,645</u>	<u>\$ 75,677</u>
Debt Service Reserve		\$ -	\$ -
=			
Debt Coverage Ratio:	<u>1.32</u>	<u>1.87</u>	<u>1.07</u>
<u>Operating Ratio</u>			
Total revenues	\$ 308,968	\$ 332,395	\$ 339,000
÷			
Total expense (w/ debt service & capital reserves)	<u>\$ 299,052</u>	<u>\$ 365,598</u>	<u>\$ 350,347</u>
=			
O & M Ratio	<u>1.03</u>	<u>0.91</u>	<u>0.97</u>
<u>Affordability Rate</u>			
Median Household Income	\$ 39,868	\$ 39,868	\$ 39,868
÷			
Water Charge for 4,000 gal			
Month	<u>\$ 29.57</u>	<u>\$ 29.57</u>	<u>\$ 29.57</u>
Year	<u>\$ 354.84</u>	<u>\$ 354.84</u>	<u>\$ 354.84</u>
÷			
Affordability Rate = % of MHI spent on utility service	<u>0.89%</u>	<u>0.89%</u>	<u>0.89%</u>

Table D-5: Projected Sewer Revenue Requirements:

Revenues	Year				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Sewer Sales	\$ 325,000	\$ 325,000	\$ 325,000	\$ 325,000	\$ 325,000
Penalties	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500
Miscellaneous	\$ 5,500	\$ 5,500	\$ 5,500	\$ 5,500	\$ 5,500
Total Revenue	\$ 339,000	\$ 339,000	\$ 339,000	\$ 339,000	\$ 339,000
Expense					
Debt Service	\$ 75,677	\$ 76,751	\$ 78,063	\$ 14,624	\$ 11,113
Operating	\$ 257,720	\$ 265,452	\$ 273,415	\$ 281,618	\$ 290,066
Capital Outlay	\$ -	\$ -	\$ -	\$ -	\$ -
Capital Reserves	\$ 16,950	\$ 16,950	\$ 16,950	\$ 16,950	\$ 16,950
Total Expense	\$ 350,347	\$ 359,152	\$ 368,428	\$ 313,192	\$ 318,129
Net Income (loss)	\$ (11,347)	\$ (20,152)	\$ (29,428)	\$ 25,808	\$ 20,871
Operating Ratio:	0.97	0.94	0.92	1.08	1.07
Coverage Ratio:	0.85	0.74	0.62	2.76	2.88
Additional Revenue Required for Target Operating Ratio (1.00):					
	\$ 11,347	\$ 20,152	\$ 29,428	\$ (25,808)	\$ (20,871)
Additional Revenue Required for Target Operating Ratio (1.05):					
	\$ 28,864	\$ 38,110	\$ 47,849	\$ (10,149)	\$ (4,964)
Additional Revenue Required for Debt Coverage Ratio (1.10):					
	\$ 18,915	\$ 27,827	\$ 37,234	\$ (24,346)	\$ (19,760)

Projections based on % change per year from year 1 and subsequent years:

Operating Income anticipated to increase @0% year based maintaining but not increasing customer base

Debt Service includes current debt obligations included in 2023 budget. The 2015 bond is scheduled to be repaid in 2024, the backhoe in 2026, and the truck in 2027.

Operating expense projected to increase @3% per year (average increase in CPI) based on 2023 projections.

Capital reserves based on 5% of total revenues.

Appendix E: Rate Analysis and Recommendations

Table E-1: Service Rates & Classifications

Water Service		
First 1,000 gallons	\$	16.43 Minimum
Each additional 1,000 gal. (9/12/2022)	\$	5.25 /1000 gal.
Residential Monthly Sewer Charge for	\$	<u>32.18</u>
Sewer Service		
First 1,000 gallons	\$	16.43 Minimum
Each additional 1,000 gal. (9/12/2022)	\$	4.38 /1000 gal.
Residential Monthly Sewer Charge for	\$	<u>29.57</u>
Residential Garbage Rates		
First 1,000 gallons	\$	15.03 per month
Effective 4/1/2023	\$	1.24 plus \$1.24 tax

<u>Classification</u>	<u>Water</u>	<u>Sewer</u>
Residential	784	748
Commercial	107	97
Government	19	12
School	4	4
Churches	12	11
Total:	<u>926</u>	<u>872</u>
Total Customers	51.5%	48.5%

Notes:

1. Churches are charged \$16.43 flat fee for water and sewer.
2. Wastewater usage is compiled and averaged from

Table E-2: Meter Service Charge

Water Service			Calculation of Meter Service Charge [1]		
<u>Meter Size (Inches)</u>	<u>Total # Meters</u>	<u>Service Ratio [2]</u>	<u>Current Residential [3]</u>	<u>Recommended Residential [3]</u>	<u>Recommended Commercial [3]</u>
5/8 / 3/4	888	1.0	\$ 11.18	\$ 12.58	\$ 17.20
1	16	1.4	\$ 15.65	\$ 17.61	\$ 24.08
1.5	2	1.8	\$ 20.12	\$ 22.64	\$ 30.96
2	18	2.9	\$ 32.42	\$ 36.47	\$ 49.88
3	2	11	\$ 122.98	\$ 138.35	\$ 189.18
4		14	\$ 156.52	\$ 176.09	\$ 240.78
6		21	\$ 234.78	\$ 264.13	\$ 361.17
8		29	\$ 324.22	\$ 364.75	\$ 498.75

[1] Adapted from American Water Works Association (AWWA) Rate Setting Manual

[2] Service Ratio based on relative cost of meter and service investment

[3] Meter Service Charge does not include the 1,000 gallon service allocated in the minimum

Current Residential 5/8" - 3/4" Service

First 1,000 gallons	\$	16.43	Minimum
Each additional 1,000 gal. (9/12/2022)	\$	5.25	/1000 gal.
Residential Meter Charge	\$	11.18	

Recommended Residential 5/8" - 3/4" Service

First 1,000 gallons	\$	18.48	Minimum
Each additional 1,000 gal. (9/12/2022)	\$	5.91	/1000 gal.
Residential Meter Charge	\$	12.58	

Recommended Commercial 5/8" - 3/4" Service

First 1,000 gallons	\$	23.10	Minimum
Each additional 1,000 gal. (9/12/2022)	\$	5.91	/1000 gal.
Residential Meter Charge	\$	17.20	

Table E-3: Revenue Requirements:

Water System Revenue Requirements					
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Total Revenue	\$ 439,900	\$ 439,900	\$ 439,900	\$ 439,900	\$ 439,900
Total Expense/ Reserves	\$ 528,062	\$ 537,655	\$ 547,748	\$ 494,359	\$ 500,145
Net Income (loss)	\$ (88,162)	\$ (97,755)	\$ (107,848)	\$ (54,459)	\$ (60,245)
Additional Revenue Required for					
1.00 Operating Ratio:	\$ 88,162	\$ 97,755	\$ 107,848	\$ 54,459	\$ 60,245
Additional Revenue Required for					
1.05 Operating Ratio:	\$ 114,565	\$ 124,638	\$ 135,235	\$ 79,177	\$ 85,252
Additional Revenue Required for					
1.10 Debt Coverage Ratio:	\$ 103,194	\$ 112,877	\$ 123,083	\$ 63,433	\$ 68,848
Sewer System Revenue Requirements					
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Total Revenue	\$ 339,000	\$ 339,000	\$ 339,000	\$ 339,000	\$ 339,000
Total Expense/ Reserves	\$ 354,262	\$ 361,994	\$ 317,207	\$ 318,620	\$ 322,918
Net Income (loss)	\$ (15,262)	\$ (22,994)	\$ 21,793	\$ 20,380	\$ 16,082
Additional Revenue Required for					
Target Operating Ratio (1.00):	\$ 11,347	\$ 20,152	\$ 29,428	\$ (25,808)	\$ (20,871)
Additional Revenue Required for					
1.05 Operating Ratio:	\$ 28,864	\$ 38,110	\$ 47,849	\$ (10,149)	\$ (4,964)
Additional Revenue Required for					
1.10 Debt Coverage Ratio:	\$ 18,915	\$ 27,827	\$ 37,234	\$ (24,346)	\$ (19,760)

Table E-4: Water Revenue Estimates by Rate Change

Revenue Generated with increase in minimum bill:										
<u># Customers:</u>										
Month/	926	\$ 1.00	\$ 1.50	\$ 2.00	\$ 2.50	\$ 3.00	\$ 3.50	\$ 4.00	\$ 4.50	\$ 5.00
Year	11,112	<u>\$ 11,112</u>	<u>\$ 16,668</u>	<u>\$ 22,224</u>	<u>\$ 27,780</u>	<u>\$ 33,336</u>	<u>\$ 38,892</u>	<u>\$ 44,448</u>	<u>\$ 50,004</u>	<u>\$ 55,560</u>

Revenue Generated with increase in usage charge:										
<u>Gallons Sold / Year</u>										
(1000's)	\$ 0.25	\$ 0.50	\$ 0.75	\$ 1.00	\$ 1.25	\$ 1.50	\$ 1.75	\$ 2.00	\$ 2.25	
58,000	<u>\$ 14,500</u>	<u>\$ 29,000</u>	<u>\$ 43,500</u>	<u>\$ 58,000</u>	<u>\$ 72,500</u>	<u>\$ 87,000</u>	<u>\$ 101,500</u>	<u>\$ 116,000</u>	<u>\$ 130,500</u>	

Revenue Generated as Percentage of Water Sales						
Water Sales Related Revenue:	<u>\$ 414,400</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
Additional Revenue Required Each Year for 1.05 Operating Ratio:		<u>\$ 114,565</u>	<u>\$ 124,638</u>	<u>\$ 135,235</u>	<u>\$ 79,177</u>	<u>\$ 85,252</u>
Percentage increase in water Sales:		27.6%	2.4%	2.6%	-13.5%	1.5%
Average annual additional rate increase needed to meet 1.05 Operating Ratio:		<u>4.11%</u>				
Additional Revenue Required Each Year for 1.10 Debt Coverage Ratio:		<u>\$ 103,194</u>	<u>\$ 112,877</u>	<u>\$ 123,083</u>	<u>\$ 63,433</u>	<u>\$ 68,848</u>
Percentage increase in water Sales:		24.9%	2.3%	2.5%	-14.4%	1.3%
Average annual additional rate increase needed to meet 1.10 Debt Coverage Ratio:		<u>3.32%</u>				

Table E-5: Sewer Revenue Estimates by Rate Change

Revenue Generated with increase in minimum bill:										
<u># Customers:</u>										
Month/	872	\$ 1.00	\$ 1.50	\$ 2.00	\$ 2.50	\$ 3.00	\$ 3.50	\$ 4.00	\$ 4.50	\$ 5.00
Year	58,000	<u>\$ 58,000</u>	<u>\$ 87,000</u>	<u>\$ 116,000</u>	<u>\$ 145,000</u>	<u>\$ 174,000</u>	<u>\$ 203,000</u>	<u>\$ 232,000</u>	<u>\$ 261,000</u>	<u>\$ 290,000</u>

Revenue Generated with increase in usage charge:										
<u>Gallons Sold / Year</u>										
(1000's)	\$ 0.25	\$ 0.50	\$ 0.75	\$ 1.00	\$ 1.25	\$ 1.50	\$ 1.75	\$ 2.00	\$ 2.25	
45,415	<u>\$ 11,354</u>	<u>\$ 22,708</u>	<u>\$ 34,061</u>	<u>\$ 45,415</u>	<u>\$ 56,769</u>	<u>\$ 68,123</u>	<u>\$ 79,476</u>	<u>\$ 90,830</u>	<u>\$ 102,184</u>	

Revenue Generated as Percentage of Sewer Sales						
Water Sales Related Revenue (2023 budget):	<u>\$ 325,000</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>
Additional Revenue Required Each Year for 1.05 Operating Ratio:		\$ 28,864	\$ 38,110	\$ 47,849	\$ (10,149)	\$ (4,964)
Percentage increase in water Sales:		8.9%	2.8%	3.0%	-17.8%	1.6%
Average annual additional rate increase needed to meet 1.05 Operating Ratio:		<u>-0.31%</u>				
Additional Revenue Required Each Year for 1.10 Debt Coverage Ratio:		\$ 18,915	\$ 27,827	\$ 37,234	\$ (24,346)	\$ (19,760)
Percentage increase in water Sales:		5.8%	2.7%	2.9%	-18.9%	1.4%
Average annual additional rate increase needed to meet 1.10 Debt Coverage Ratio:		<u>-1.22%</u>				

Table E-4: Rate Recommendations

- 1 Water: Increase the minimum and all usage by 12.5%
- 2 Sewer: Increase the minimum and all usage by 5%
- 3 Adjust rates annually in accordance with changes to the consumer price index (CPI).

Recommended Residential Rates [5/8" meter]

	Water		Sewer	
	Current	7.5% Increase	Current	5% Increase
Water Service Inside City				
First 1,000 gallons	\$ 16.43	\$ 18.48	\$ 16.43	\$ 17.25
All over 1,000 gal.	\$ 5.25	\$ 5.91	\$ 4.38	\$ 4.60
Increase to minimum charge:		\$ 2.05		\$ 0.82
Increase to usage charge:		\$ 0.66		\$ 0.22
Increase for 4,000 gal.		\$ 4.02		\$ 1.48
Service Charge for 4,000 gallons of metered usage:	<u>\$ 32.18</u>	<u>\$ 36.20</u>	<u>\$ 29.57</u>	<u>\$ 31.05</u>

Recommended Commercial Rates [5/8" meter]

	Water		Sewer	
	Current	7.5% Increase	Current	5% Increase
Water Service Inside City				
First 1,000 gallons	\$ 16.43	\$ 23.10	\$ 16.43	\$ 20.54
All over 1,000 gal.	\$ 5.25	\$ 5.91	\$ 4.38	\$ 4.60
Increase to minimum charge:		\$ 6.67		\$ 4.11
Increase to usage charge:		\$ 0.66		\$ 0.22

Table E-5: Affordability Index

Affordability Index is a calculation used by USDA-Rural Development to determine affordability of monthly water charges based on percent of MHI needed by an average 4,000 gal per month residential user to pay their bill. Average residential rates should not exceed 1.0 to 2.0% of MHI if they are to be considered affordable

City o Linden, TX Household Income (2021 5-year estimate
 American Community Survey, US Census): \$ 39,868

Affordability Rate With One Time Rate Adjustment

	<u>Current</u>	<u>12.5%</u>	<u>Current</u>	<u>5%</u>
	<u>Water</u>	<u>Increase</u>	<u>Sewer</u>	<u>Increase</u>
Service Charge for 4,000 gallons of metered usage:	\$ 32.18	\$ 36.20	\$ 29.57	\$ 31.05
Affordability Rate:	<u>0.97%</u>	<u>1.09%</u>	<u>0.89%</u>	<u>0.93%</u>