



RIVERBEND RESOLUTION NO. 20200527-03

**ACKNOWLEDGING THE COMPLETION OF THE RETAIL RATE STUDY AS
CONDUCTED BY NEWGEN STRATEGIES, INC.**

WHEREAS, Riverbend Water Resources District is a conservation and reclamation district created under and essential to accomplish the purposes of Section 59 Article XVI, Texas Constitution, existing pursuant to and having the powers set forth in Chapter 9601 of the Special District Local Laws Code of the State of Texas;

WHEREAS, Riverbend Water Resources District entered into an interlocal agreement with NewGen Strategies, Inc. on October 24, 2019 to conduct a Retail Rate Study for Riverbend and the study was completed and presented on April 22, 2020; and

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Riverbend Water Resources District hereby acknowledges the completion of the retail rate study as conducted by NewGen

PASSED and APPROVED this 27th day of May 2020

A handwritten signature in black ink, appearing to read "Sonja Hubbard", is written over a horizontal line.

Sonja Hubbard, President

ATTEST:

A handwritten signature in black ink, appearing to read "Marshall Wood", is written over a horizontal line.

Marshall Wood, Secretary

Attached: Retail Rate Study Final Report

FINAL REPORT | May 21, 2020



**WATER AND WASTEWATER
RATE STUDY
FINAL REPORT
RIVERBEND WATER RESOURCES DISTRICT**



PREPARED BY:



ECONOMICS

STRATEGY

STAKEHOLDERS

SUSTAINABILITY

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May 21, 2020

Mr. Kyle Dooley
Executive Director/CEO
Riverbend Water Resources District
228 Texas Avenue, Suite A
New Boston, TX 75570

Subject: Water and Wastewater Retail Rate Study – Final Report

Dear Mr. Dooley:

In October 2019, NewGen Strategies and Solutions, LLC (“NewGen”) was engaged by the Riverbend Water Resources District (“District”) to conduct a Water and Wastewater Retail Rate Study (“Study”). The attached *final* report presents our findings and recommendations based on our analysis.

We appreciate the opportunity to provide our professional services to the District and would like to express our sincere appreciation to District staff for supplying the needed information and data, and for assisting us in completing the Study.

Should you or board members require additional information or clarification regarding the enclosed report, please do not hesitate to contact Mr. Chris Ekrut at 972.232.2234 or via e-mail at cekrut@newgenstrategies.net.

Very truly yours,

NewGen Strategies and Solutions, LLC

A handwritten signature in black ink that reads "Chris D. Ekrut".

Chris Ekrut
Director, Environmental Practice



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EXECUTIVE SUMMARY

In October 2019, NewGen Strategies and Solutions (“NewGen”) was retained by the Riverbend Water Resources District (“District”) to perform a Water and Wastewater Retail Rate Study (“Study”). As part of this Study, NewGen’s Project Team (“Project Team”) was requested to forecast revenue requirements and rates from Fiscal Year (“FY”) 2020 through FY 2024 for all retail customers excluding the Army. Industrial Wastewater (“Pretreatment”) rates were determined to be associated solely with the Army. Similarly, the District’s facility charges were not evaluated. Although all customers pay a facility charge, these charges are associated with debt service and assessed internally by the District on an annual basis.

The District provides retail water and wastewater service to approximately 70 customers, including the Army. Consequently, the District’s Board of Directors must currently contend with several considerations to maintain and enhance long-term financial integrity and stability. These considerations include:

- The District is transitioning from a wholesaler of purchased water to becoming the originating provider of the resource. As a result, this transition phase will impact the economics of how the District functions and the overall cost of providing service to both retail and wholesale customers. Potential benefits include increased economies of scale which could lower unit costs and fundamentally shift operational realities moving forward.
- The Army’s portion of total water and wastewater costs is driven by their portion of total annual water and wastewater production. As a result, costs specific to all other retail customers fluctuate on an annual basis. This variability drives uncertainty around the portion of costs covered by the Army and could result in insufficient rate revenues to recover the utility’s cost of providing service.
- The District lost a large Commercial customer account toward the end of FY 2019. This customer (REG) accounted for approximately \$105,916 in billed water revenues, and approximately \$36,794 in billed wastewater revenues in FY 2019. Going forward, the District can no longer rely on rate revenues generated from this customer and will need to factor this loss into its pricing decisions until such time as these volumes are subsumed by another customer.
- Industrial customers may have need for a raw water source. Therefore, based on the District’s regional water supply project planning, an appropriate retail raw water should be determined and reflective of what other regional participants pay.
- With fluctuating costs contingent on one large customer (the Army), regular review and revision of a utility’s rates is necessary to ensure that sufficient funds are available to meet the financial requirements of the utility, as well as to ensure that the pricing signals being provided to customers meet the goals and objectives of the District Board. Currently, on a combined basis, the District’s water and wastewater rates are projected to be to be sufficient to recover the revenue required by the utility as early as FY 2020, provided the Army’s portion of water production is greater than 94.43%, and portion of wastewater production is greater than 83.80%. However, should the Army’s portion of water and wastewater production drop below 94.43% and 83.80%, respectively, the District’s water and wastewater rates will not be sufficient to recover the revenue required by the utility as early as FY 2020.

The Project Team calculated a five-year revenue requirement (i.e., revenue that is required to be generated through rates) using the FY 2020 budget as the base year or “Test Year,” under three projections of Army portion of water and wastewater production described below and summarized in Table ES-1.

1. Scenario 1:

- FY 2020 budgeted **97.50%** of total water production associated with the Army per the Army’s November 2019 invoice (#2815).
- FY 2020 budgeted **75.61%** of total wastewater production associated with the Army per the Army’s November 2019 invoice (#2815).

2. Scenario 2:

- Historical five-year average **95.59%** of total water production associated with the Army between 2016–2020.
- Historical five-year average **84.26%** of total wastewater production associated with the Army between 2016–2020.

3. Scenario 3:

- Estimated **94.43%** of total water production associated with the Army where the District is projected to fully recover costs (i.e., “break-even”) under existing rates by FY 2024.
- Estimated **83.80%** of total wastewater production associated with the Army where the District is projected to fully recover costs (i.e., “break-even”) under existing rates by FY 2024.

**Table ES-1
Army % of Total Production**

	Water	Wastewater
Scenario 1: 2020% ¹	97.50%	75.61%
Scenario 2: 5-Year Avg % ²	95.59%	84.26%
Scenario 3: Breakeven % ³	94.43%	83.80%

¹ Per RRAD November 2019 Invoice #2815

² Five – Year Average (2016–2020)

³ Estimated % with projected cost recovery by FY 2024

Due to variability in costs covered by the Army, the Project Team recommends the District establish a Rate Stabilization Fund to insulate the Water and Wastewater Fund from large fluctuations of revenue from the Army based on their portion of water and wastewater production. This fund will help in mitigating future rate increases by acting as a balancing reserve for the Water and Wastewater Fund as reflected below in Figure ES-1.

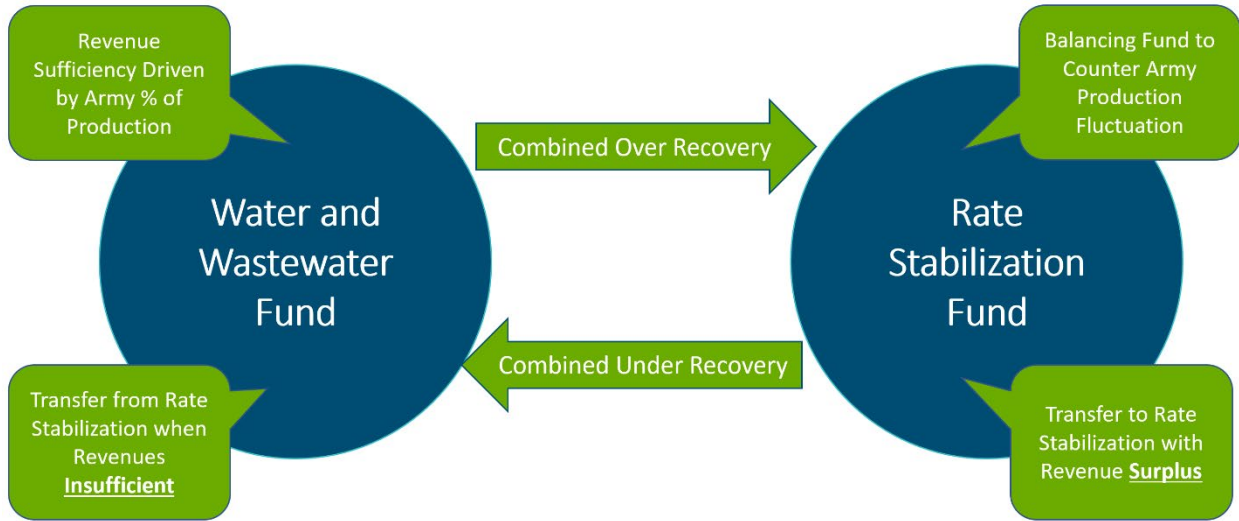


Figure ES-1
Rate Stabilization Fund

No other retail rate action is recommended at this time. However, based on the analysis described in the following report, a retail raw water rate of \$0.64 per 1,000 gallons is recommended reflective of the wholesale pricing study.

The Project Team recommends the District continue to study its retail rates to determine what adjustments may be appropriate reflective of new operational realities. Further, as the District transitions its business model to become the primary wholesale water service provider to the region, the District should at that time again evaluate its retail rates to determine what adjustments may be needed.

Section 1

INTRODUCTION AND BACKGROUND

Introduction

In October 2019, NewGen Strategies and Solutions, LLC (“NewGen”) was retained by the Riverbend Water Resources District (“District”) to perform a Water and Wastewater Rate Study (“Study”). As part of this Study, NewGen’s Project Team (“Project Team”) was requested to forecast revenue requirements and rates from Fiscal Year (“FY”) 2020 through FY 2024. This **final** report describes the analysis performed for the District and makes recommendations with respect to rates to be charged to the District’s water and wastewater customers. This report consists of five sections and an Executive Summary. Also attached as Appendices A, B, and C are three (3) schedules which supplement the findings of this report.

Following the Executive Summary, Section 1 provides the introduction and background for the Study. Section 2 discusses three (3) scenarios evaluated for determination of the Army’s portion of water and wastewater production and subsequent costs. Section 3 discusses the development of the revenue requirement(s) through FY 2024. Section 4 discusses the estimated rates needed to recover the estimated revenue requirement(s), a recommended Rate Stabilization Fund, and an estimated retail raw water rate. Finally, Section 5 offers recommendations based on the Study’s findings.

Regular reviews of the performance of a utility’s water and wastewater rates are an integral part of the management of any water and wastewater utility, and failure to monitor the District’s rates can result in the need for significant rate actions. Our Project Team recommends that, going forward, the District regularly monitor and review the performance of its adopted rates and perform rate adjustments in a timely manner so as to preserve the financial integrity of the water and wastewater utility.

The analysis performed by NewGen is designed to consider foreseeable changes from FY 2020 through FY 2024. The goal is to construct a planning tool with which the District can gain an understanding of the issues that need to be addressed during the Study’s planning horizon. A critical benefit is the quantification of the long-range impact of decisions being made today. As with any forecast, assumptions must be made and the District should be aware that the actual rates required may be different from the projected rates outlined in this report due to unforeseen changes such as system growth, inflation, etc. In addition, it should be noted that this analysis is based on data provided by the District. While this data has been reviewed and tested for accuracy to the extent possible, if the data relied on by the Project Team to produce this analysis is inaccurate and not reflective of the actual operation and/or financial condition of the District’s water and wastewater system, then the results of this analysis may merit revision.

Background

The District provides retail water and wastewater service to approximately 70 customers, including the Army. Consequently, the District’s Board of Directors must currently contend with several considerations to maintain and enhance long-term financial integrity and stability.

First, the District is transitioning from a wholesaler of purchased water to becoming the originating provider of the resource. As a result, this transition phase will impact the economics of how the District functions and the overall cost of providing service to both retail and wholesale customers. Potential



benefits include increased economies of scale, which could lower unit costs and fundamentally shift operational realities moving forward.

Second, the Army's portion of total water and wastewater costs is driven by their portion of total annual water and wastewater production. As a result, costs specific to all other retail customers fluctuate on an annual basis. This variability drives uncertainty around the portion of costs covered by the Army and could result in insufficient rate revenues to recover the utility's cost of providing service.

Third, the District lost a large Commercial customer account toward the end of FY 2019. This customer (REG) accounted for \$105,916 in billed water revenues, and \$36,794 in billed wastewater revenues in FY 2019. Going forward, the District can no longer rely on rate revenues generated from this customer and will need to find other alternatives to recover revenue required by the utility.

Fourth, industrial customers may have need for a raw water source. Therefore, based on the District's regional water supply project planning, an appropriate retail raw water should be determined and reflective of what other regional participants pay.

Finally, with fluctuating costs contingent on one large customer (the Army), regular review and revision of a utility's rates is necessary to ensure that sufficient funds are available to meet the financial requirements of the utility, as well as to ensure that the pricing signals being provided to customers meet the goals and objectives of the District Board. Currently, on a combined basis, the District's water and wastewater rates are projected to be to be sufficient to recover the revenue required by the utility as early as FY 2020, provided the Army's portion of water production is greater than 94.43%, and portion of wastewater production is greater than 83.80%. However, should the Army's portion of water and wastewater production drop below 94.43% and 83.80%, respectively, the District's water and wastewater rates will not be sufficient to recover the revenue required by the utility as early as FY 2020.

Section 2

TOTAL USAGE SCENARIOS (ARMY)

The Army’s portion of total water and wastewater costs are driven by their portion of total production. As a result, costs specific to all other retail customers fluctuate on an annual basis. In evaluating the performance of existing rates and to project future rates, the Project Team evaluated three scenarios based on varying portions of water and wastewater production associated with the Army.

1. Scenario 1:

- FY 2020 budgeted **97.50%** of total water production associated with the Army per the Army’s November 2019 invoice (#2815).
- FY 2020 budgeted **75.61%** of total wastewater production associated with the Army per the Army’s November 2019 invoice (#2815).

2. Scenario 2:

- Historical five-year average **95.59%** of total water production associated with the Army between 2016–2020.
- Historical five-year average **84.26%** of total wastewater production associated with the Army between 2016–2020.

Table 2-1
5-Year Army Portion of Total Production (Scenario 2)

	Avg	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water	95.59%	94.96%	95.26%	96.52%	93.70%	97.50%
Wastewater	84.26%	84.33%	87.84%	87.95%	85.55%	75.61%

3. Scenario 3:

- Estimated **94.43%** of total water production associated with the Army where the District is projected to fully recover costs (i.e., “break-even”) under existing rates by FY 2024.
- Estimated **83.80%** of total wastewater production associated with the Army where the District is projected to fully recover costs (i.e., “break-even”) under existing rates by FY 2024.



Section 3

REVENUE REQUIREMENT

There are two primary ratemaking methodologies employed in the utility industry: the utility basis and the cash basis. The primary difference between the utility basis and the cash basis involves the treatment of depreciation, return on invested capital, and debt service. The utility basis, most commonly used by private utilities, includes depreciation and return on invested capital, but excludes debt service from the revenue requirement determination. The cash basis, which is the most common method used by municipalities, includes debt service, but excludes depreciation and return on invested capital in the revenue requirement determination. The cash basis focuses on meeting the cash demands of the utility. The cash basis is usually more easily understood by municipalities since it follows the traditional cash-oriented budgeting practices used by governmental entities. In addition, the cash basis is generally easier to explain to customers since the cash basis attempts to match revenues to expenditures. In performing this analysis, the Project Team has utilized the cash basis to develop the District's retail water and wastewater revenue requirements.

Test Year Revenue Requirement

To develop the Test Year Revenue Requirement (i.e., the first year for which rates are developed), NewGen utilized the District's adopted FY 2020 budget. To ensure the District's budget accurately reflects the cost of providing water and wastewater service, some adjustments were made to Operations and Maintenance ("O&M") expenses and water and wastewater revenues other than rates ("revenue offsets"). Discussions were held with District staff to determine the known and measurable adjustments which are detailed below.

Budget Adjustments

The Project Team reviewed the current fiscal year budget to determine what adjustments, if any, needed to be made to reflect a normal fiscal year. A review of historical budgeted dollars as compared to actual expenses illustrates a trend and is one method used in determining any adjustments necessary to the budget. Adjustments to expenses include any costs that are not reflective of future costs (e.g., one-time expenses). Capital expenditures must also be included to account for all of the utility's expenses. This includes expenses such as cash-funded capital improvements and principal and interest payments, otherwise referred to as debt service, on debt-funded capital items. Once the cost of providing service is determined it is then offset by any other available revenue that is not generated through rates. Any revenue included in the budget that does not represent a normal year must be also adjusted.

After consideration of all revenues and expenses, the Project Team made the following adjustments to the FY 2020 budget:

- **Facility Costs** – As previously described, the District's facility charges were not evaluated at this time. Although all customers pay a facility charge, these charges are assessed internally by the District on an annual basis and primarily driven by debt service.
- **Army-Related Costs** – As previously described, the Army's portion of total water and wastewater costs is driven by their portion of total annual water and wastewater production. As a result, costs specific to all other retail customers fluctuate on an annual basis. In order to isolate the revenues that are

required from rates to cover expenses associated with providing retail service to non-Army customers, costs associated with the Army were excluded from total water and wastewater expenses based on their portion of total water and wastewater production as reflected in Table 3-1 below:

**Table 3-1
Army % of Total Production**

	Water	Wastewater
Scenario 1: 2020% ¹	97.50%	75.61%
Scenario 2: 5-Year Avg % ²	95.59%	84.26%
Scenario 3: Breakeven % ³	94.43%	83.80%

¹ Per RRAD November 2019 Invoice #2815

² Five – Year Average (2016–2020)

³ Estimated % with projected cost recovery by FY 2024

- Water and Wastewater Revenue – In order to isolate the revenues that are required from rates to cover expenses associated with providing retail service, it is necessary to subtract other utility-related revenues from the cost of service to arrive at the revenues needed through rates; therefore, \$2.49 million in budgeted rate revenue was deducted from the budget.

Functionalization of Revenue Requirement

Once the revenue requirement is developed, it is necessary to functionalize it to the individual water and wastewater functions so that the appropriate level of revenue is recovered from the respective customer groups. This is particularly important in order to send the proper price signals to customers and to minimize subsidization of a service by customers who do not receive the benefit of that service.

The first step in this process is to directly assign expenses to each service function where applicable. Specifically, all expenses of the water department are classified as water expenses and all expenses of the wastewater department are classified as wastewater expenses.

Second, for those expenses which cannot be directly assigned, allocation factors must be developed which allocate these costs between water and wastewater service. The District’s Water and Wastewater Fund budgets include a separate Water, Wastewater, and Overhead budget, of which the Water and Wastewater budgets already directly assign expenses to each service function. However, the District’s Overhead budget is allocable to water, wastewater, and pretreatment as a function of labor costs associated with full-time equivalent personnel. Table 3-2 displays the allocation factors provided by the District for assigning Overhead budgeted costs to each service function. Schedules A-5 to A-7, B-5 to B-7, and C-5 to C-7 in the following appendices illustrate the functionalized revenue requirements.

**Table 3-2
Overhead Functionalization Factors**

Allocation Factors	%	Application
Water	31.43%	Total Overhead Expenses less 40% Salary Billback
Wastewater	34.14%	Total Overhead Expenses less 40% Salary Billback
<i>Industrial Wastewater (Pretreatment)</i> ¹	34.43%	<i>Total Overhead Expenses less 40% Salary Billback</i>

¹ Not considered in this Study

As previously described, Pretreatment rates were determined to be associated with the Army and not considered as part of this study. The Salary Billback adjustment illustrated in Table 3-2 above is calculated internally by the District and is calculated as 40% of Administrative salaries (e.g., Executive Director, Chief Financial Officer) billed back to the Administration Fund. The remaining 60% of Administrative salaries is associated with the Water and Wastewater Fund.

Development of Five-Year Financial Plan

In determining the financial plan of the utility, the Project Team utilized the District’s adopted FY 2020 budget, as discussed above, as the basis for the revenue requirement projections through FY 2024. Inflation factors were estimated and applied to the baseline O&M budgeted items. Table 3-3 lists the factors utilized to forecast the revenue requirement.

**Table 3-3
Inflation Factors**

Allocation Factor	FY 2021	FY 2022	FY 2023	FY 2024
Chemicals	1.3%	1.3%	1.3%	1.3%
Electricity	1.0%	2.4%	2.9%	3.6%
Fuel	8.1%	4.3%	3.7%	3.2%
General	2.6%	2.6%	2.6%	2.6%
Personnel	5.0%	5.0%	5.0%	5.0%

These factors are defined in detail below.

- **Chemicals** – The twenty (20) year average Producer Price Index (“PPI”) for Water Treating Compounds plus customer growth were utilized to calculate average water and wastewater inflation rates for chemicals.¹
- **Electricity and Fuel** – Future electricity and fuel purchases were calculated utilizing the Annual Energy Outlook 2019, published annually by the U.S. Energy Information Administration, which presents yearly projections and analysis of energy topics including natural gas, motor gasoline, fuel oils, electricity, and propane.
- **General Inflation** – The Municipal Cost Index was calculated based on the American District and County, Municipal Cost Index, 20-year average (1999-2019) and utilized as a general inflation factor.

¹ The Producer Price Index (“PPI”) measures the average change over time in the selling prices received by domestic producers for their output. It is published by the U.S. Bureau of Labor and Statistics.

- Personnel – An industry standard 5.0% was utilized as a personnel inflation factor.
- Capital Costs – Any capital costs were determined to be solely associated with the Army and not evaluated in this study.

Schedules A-5 to A-7, B-5 to B-7, and C-5 to C-7 in the following appendices illustrate the financial plan of the utility projected over the Study timeframe.

Section 4

ESTIMATED RATES AND RATE STABILIZATION FUND

After establishing the revenue requirement, the projected revenue is analyzed to determine if sufficient revenue is recovered through the current rates to equitably recover fixed and variable costs from each customer class. The rates should be sufficient to maintain the financial integrity of the utility.

Water Rates

Current Rates

The District's water rate structure currently is comprised of a two-part rate design consisting of a flat minimum monthly charge regardless of meter size and a flat rate volumetric rate structure. This two-part rate design is divided between standard rates and facility rates. Facility rates were not evaluated, as these were determined to be driven primarily by debt service and assessed internally by the District on an annual basis. A full listing of the District's standard water rate structure is listed in Schedules A-2, B-2, and C-2 in the attached appendices.

In evaluating the performance of existing water rates and to project future water rates, some estimation of billed water consumption is required. In making this estimation, it is necessary to consider a period of normal precipitation. If data involving abnormal weather patterns is utilized (e.g., unusually low or excessive precipitation), then the resulting revenue estimates could be too high or too low. For purposes of this Study, the Project Team reviewed the consumption data provided, from FY 2017 – FY 2019 and selected the data from FY 2019 as it proved to be closest 12-month continuous period to normal. This projected period, known as the "Test Year," was used to reflect normal system operation. Schedules A-8, B-8, and C-8 in the attached appendices illustrate weather precipitation patterns from FY 2017 – FY 2019.

The Army's portion of total water costs are driven by their portion of total annual water production. As a result, costs specific to all other retail customers fluctuate on an annual basis. In evaluating the performance of existing water rates and to project future water rates, the Project Team evaluated three scenarios based on varying portions of water production associated with the Army.

1. **Scenario 1:** FY 2020 budgeted **97.50%** of total water production associated with the Army per the Army's November 2019 invoice (#2815).

Table 4-1 provides a five-year forecast of the projected revenue requirement as compared to the revenue projected to be generated under existing rates, assuming **97.50%** of total water production is associated with the Army per **Scenario 1**. The Water Utility is expected to fully recover their cost of providing service throughout the Study period if rates are not adjusted. However, on a combined basis with wastewater (as discussed further below in this report), the utilities are projected to underperform and not generate sufficient revenue.

**Table 4-1
Projected Water Revenue Performance Under Current Rates (Scenario 1)**

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Projected Rate Revenue	\$69,396	\$69,396	\$69,396	\$69,396	\$69,396
Projected Rate Rev Req.	\$25,362	\$26,357	\$27,404	\$28,498	\$29,646
Over/ (Under) Recovery (\$)	\$44,034	\$44,039	\$41,992	\$40,898	\$39,750
Over/ (Under) Recovery (%)	63.5%	62.0%	60.5%	58.9%	57.3%

2. **Scenario 2:** Historical five-year average **95.59%** of total water production associated with the Army between 2016–2020.

Table 4-2 provides a five-year forecast of the projected revenue requirement as compared to the revenue projected to be generated under existing rates, assuming **95.59%** of total water production is associated with the Army per **Scenario 2**. The Water Utility is expected to fully recover their cost of providing service throughout the Study period if rates are not adjusted. Likewise, on a combined basis with wastewater (as discussed further below in this report), the utilities are projected to fully recover their cost of providing service throughout the Study period.

**Table 4-2
Projected Water Revenue Performance Under Current Rates (Scenario 2)**

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Projected Rate Revenue	\$69,396	\$69,396	\$69,396	\$69,396	\$69,396
Projected Rate Rev Req.	\$46,776	\$48,534	\$50,384	\$52,318	\$54,346
Over/ (Under) Recovery (\$)	\$22,620	\$20,862	\$19,011	\$17,078	\$15,049
Over/ (Under) Recovery (%)	32.6%	30.1%	27.4%	24.6%	21.7%

3. **Scenario 3:** Estimated **94.43%** of total water production associated with the Army where the District is projected to recover costs under existing rates by FY 2024.

Table 4-3 provides a five-year forecast of the projected revenue requirement as compared to the revenue projected to be generated under existing rates, assuming **94.43%** of total water production is associated with the Army per **Scenario 3**. The Water Utility is projected to fully recover their cost of providing service throughout the Study period if rates are not adjusted. Likewise, on a combined basis with wastewater (as discussed further below in this report), the utilities are expected to fully recover their cost of providing service throughout the Study period.

**Table 4-3
Projected Water Revenue Performance Under Current Rates (Scenario 3)**

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Projected Rate Revenue	\$69,396	\$69,396	\$69,396	\$69,396	\$69,396
Projected Rate Rev Req.	\$59,758	\$61,969	\$64,316	\$66,759	\$69,396
Over/ (Under) Recovery (\$)	\$9,638	\$7,417	\$5,080	\$2,637	\$75
Over/ (Under) Recovery (%)	13.9%	10.7%	7.3%	3.8%	0.1%

Projected Water Rates

No retail water rate action is recommended at this time. However, as a result of the analysis performed for the District above, the Project Team recommends the District establish a Rate Stabilization Fund to insulate the Water and Wastewater Fund from large fluctuations of revenue from the Army based on their portion of water and wastewater production. This fund will mitigate future rate increases by acting as a balancing reserve for the Water and Wastewater Fund. Additional information regarding this fund is described in the Rate Stabilization Fund Section of this report.

Wastewater Rates

Current Rates

The District’s current wastewater rate structure is similar to its water rate structure in that it is a two-part rate design. Each customer pays a flat minimum service charge regardless of meter size and a volumetric charge per 1,000 gallons of wastewater flow contributed to the system. All customers’ wastewater flows are based on water consumption. This two-part rate design is then divided between standard rates, and facility rates. Facility rates were not evaluated as these were determined to be driven by debt service and assessed internally by the District on an annual basis. A full listing of the District’s standard wastewater rate structure is listed in Schedules A-3, B-3, and C-3 in the attached appendices.

As discussed previously, FY 2019 was utilized to project the billed wastewater flow as it was the 12-month period closest to normal.

Similar to water, the Army’s portion of total wastewater costs is driven by their portion of total annual wastewater production. As a result, costs specific to all other retail customers fluctuate on an annual basis. In evaluating the performance of existing wastewater rates and to project future wastewater rates, the Project Team evaluated three scenarios based on varying portions of wastewater production associated with the Army.

- Scenario 1:** FY 2020 budgeted **75.61%** of total wastewater production associated with the Army per the Army’s November 2019 invoice (#2815).

Table 4-4 provides a five-year forecast of the projected revenue requirement as compared to the revenue projected to be generated under existing rates, assuming **75.61%** of total wastewater production is associated with the Army per **Scenario 1**. The Wastewater Utility is not expected to fully recover their cost of providing service throughout the Study period if rates are not adjusted. Likewise, on a combined basis with water, the utilities are underperforming.

**Table 4-4
Projected Wastewater Revenue Performance Under Current Rates (Scenario 1)**

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Projected Rate Revenue	\$240,589	\$240,589	\$240,589	\$240,589	\$240,589
Projected Rate Rev Req.	\$315,274	\$325,990	\$337,404	\$249,370	\$362,012
Over/ (Under) Recovery (\$)	-\$74,685	-\$85,402	\$96,815	-\$108,781	-\$121,423
Over/ (Under) Recovery (%)	-31.0%	-35.5%	-40.2%	-45.2%	-50.5%

2. **Scenario 2:** Historical five-year average **84.26%** of total wastewater production associated with the Army between 2016–2020.

Table 4-5 provides a five-year forecast of the projected revenue requirement as compared to the revenue projected to be generated under existing rates, assuming **84.26%** of total wastewater production is associated with the Army per **Scenario 2**. The Wastewater Utility is expected to fully recover their cost of providing service throughout the Study period if rates are not adjusted. Likewise, on a combined basis with water, the utilities are expected to fully recover their cost of providing service throughout the Study period.

**Table 4-5
Projected Wastewater Revenue Performance Under Current Rates (Scenario 2)**

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Projected Rate Revenue	\$240,589	\$240,589	\$240,589	\$240,589	\$240,589
Projected Rate Rev Req.	\$203,478	\$210,394	\$217,760	\$225,483	\$233,642
Over/ (Under) Recovery (\$)	\$37,111	\$30,194	\$22,828	\$15,105	\$6,946
Over/ (Under) Recovery (%)	15.4%	12.6%	9.5%	6.3%	2.9%

3. **Scenario 3:** Estimated **83.80%** of total wastewater production associated with the Army where the District is projected to recover costs under existing rates by FY 2024.

Table 4-6 provides a five-year forecast of the projected revenue requirement as compared to the revenue projected to be generated under existing rates, assuming **83.80%** of total wastewater production is associated with the Army per **Scenario 3**. The Wastewater Utility is expected to fully recover their cost of providing service throughout the Study period if rates are not adjusted. Likewise, on a combined basis with water, the utilities are expected to fully recover their cost of providing service throughout the Study period.

**Table 4-6
Projected Wastewater Revenue Performance Under Current Rates (Scenario 3)**

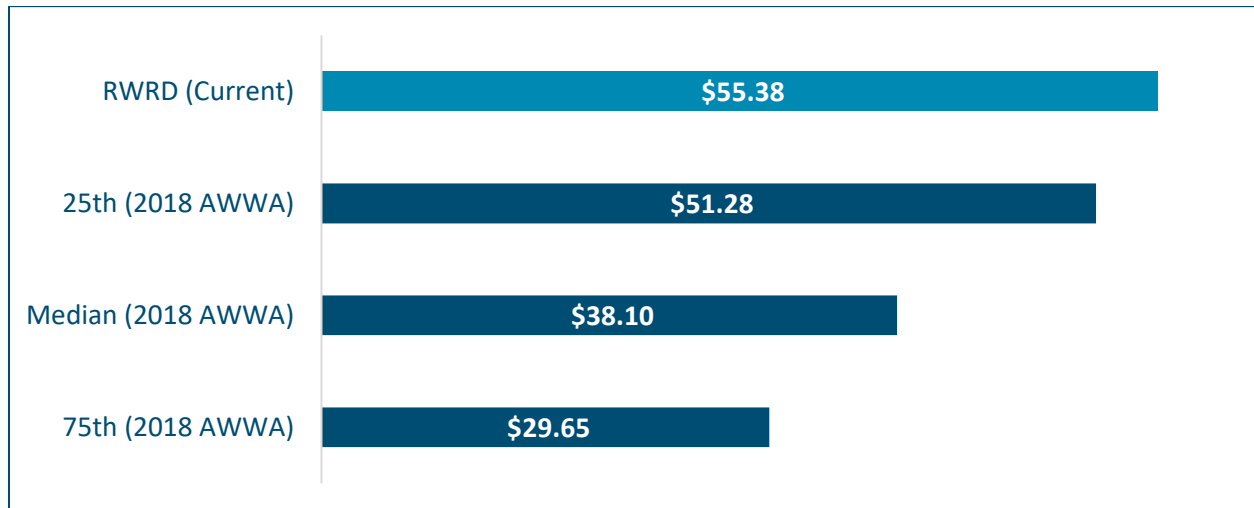
	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Projected Rate Revenue	\$240,589	\$240,589	\$240,589	\$240,589	\$240,589
Projected Rate Rev Req.	\$209,385	\$216,503	\$224,083	\$232,030	\$240,426
Over/ (Under) Recovery (\$)	\$31,203	\$24,086	\$16,506	\$8,559	\$163
Over/ (Under) Recovery (%)	13.0%	10.0%	6.9%	3.6%	0.1%

Projected Wastewater Rates

As with water, no retail wastewater rate action is recommended at this time. However, as a result of the analysis performed for the District above, the Project Team recommends the District establish a Rate Stabilization Fund to insulate the Water and Wastewater Fund from large fluctuations of revenue from the Army based on their portion of water and wastewater production. This fund will mitigate future rate increases by acting as a balancing reserve for the Water and Wastewater Fund. Additional information regarding this fund is described in the Rate Stabilization Fund Section of this report.

Benchmarking

Figure 4-1 on the following page presents a summary of the District’s current monthly water charges for Residential customers using 7,500 gallons usage as compared with the American Water Works Association’s (“AWWA”) 2019 utility rate survey. Please note that this comparison is provided for illustrative purposes only – regardless of what other utilities charges, the District must enact sufficient rates to ensure the financial viability of its own utility system and recognize that their operational realities differ.



**Figure 4-1
Water Rate Survey – 7,500 gallons (2019 AWWA Benchmarking Report)**

Figure 4-2 presents a summary of the District’s current monthly wastewater charges for Residential customers using 7,500 gallons usage as compared with the AWWA’s 2019 utility rate survey. Please note that this comparison is provided for illustrative purposes only – regardless of what other utilities charges,

the District must enact sufficient rates to ensure the financial viability of its own utility system and recognize that their operational realities differ.

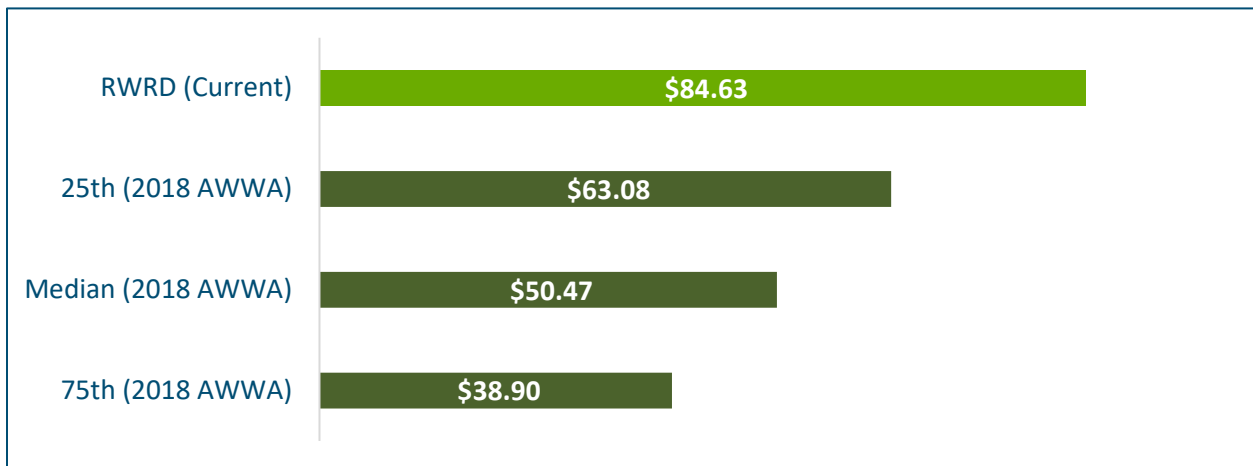


Figure 4-2
Wastewater Rate Survey – 7,500 gallons (2019 AWWA Benchmarking Report)

While the District is currently well above the provided benchmarks, it also must be understood that the District is still in a time of transition and not wholly comparable to other utilities. The District is still in the process of transitioning from a wholesaler of purchased water to becoming the originating provider of the resource. This transition, coupled with little anticipated retail customer growth, will impact the economics of how the District functions and the overall cost of providing service. Going forward, the District needs to continue to study its retail rates to determine what adjustments may be appropriate reflective of those new operational realities.

Combined Water and Wastewater Projections

As previously described, fluctuations in the Army’s portion of water and wastewater production has a substantial effect on costs related to all other retail customers. Table 4-7 illustrates a five-year forecast of combined revenue requirements as compared to revenue generated under existing rates and the three scenarios evaluated by the Project Team.

**Table 4-7
Water and Wastewater Revenue Performance under Current Rates (Scenarios 1–3)**

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
<u>Scenario 1</u>					
Projected Rate Revenue	\$309,984	\$309,984	\$309,984	\$309,984	\$309,984
Projected Rate Rev Req.	\$340,635	\$352,347	\$364,808	\$377,868	\$391,657
Over/ (Under) Recovery (\$)	-\$30,651	-\$42,362	-\$54,823	-\$67,883	-\$81,673
Over/ (Under) Recovery (%)	-9.9%	-13.7%	-17.7%	-21.9%	-26.3%
<u>Scenario 2</u>					
Projected Rate Revenue	\$309,984	\$309,984	\$309,984	\$309,984	\$309,984
Projected Rate Rev Req.	\$250,253	\$258,928	\$268,145	\$277,801	\$287,989
Over/ (Under) Recovery (\$)	\$59,731	\$51,056	\$41,839	\$32,183	\$21,996
Over/ (Under) Recovery (%)	19.3%	16.5%	13.5%	10.4%	7.1%
<u>Scenario 3</u>					
Projected Rate Revenue	\$309,984	\$309,984	\$309,984	\$309,984	\$309,984
Projected Rate Rev Req.	\$269,143	\$278,481	\$288,399	\$298,789	\$309,747
Over/ (Under) Recovery (\$)	\$40,841	\$31,503	\$21,585	\$11,196	\$237
Over/ (Under) Recovery (%)	13.2%	10.2%	7.0%	3.6%	0.1%

Schedules A-1, B-1, and C-1 in the attached appendices provide additional support for Table 4-7 above.

Rate Stabilization Fund

As a result of the analysis performed for the District, the Project Team recommends the District establish a Rate Stabilization Fund to insulate the Water and Wastewater Fund from large fluctuations of revenue from the Army based on their portion of water and wastewater production. This fund will mitigate future rate increases by acting as a balancing reserve for the Water and Wastewater Fund as reflected below in Figure 4-3.

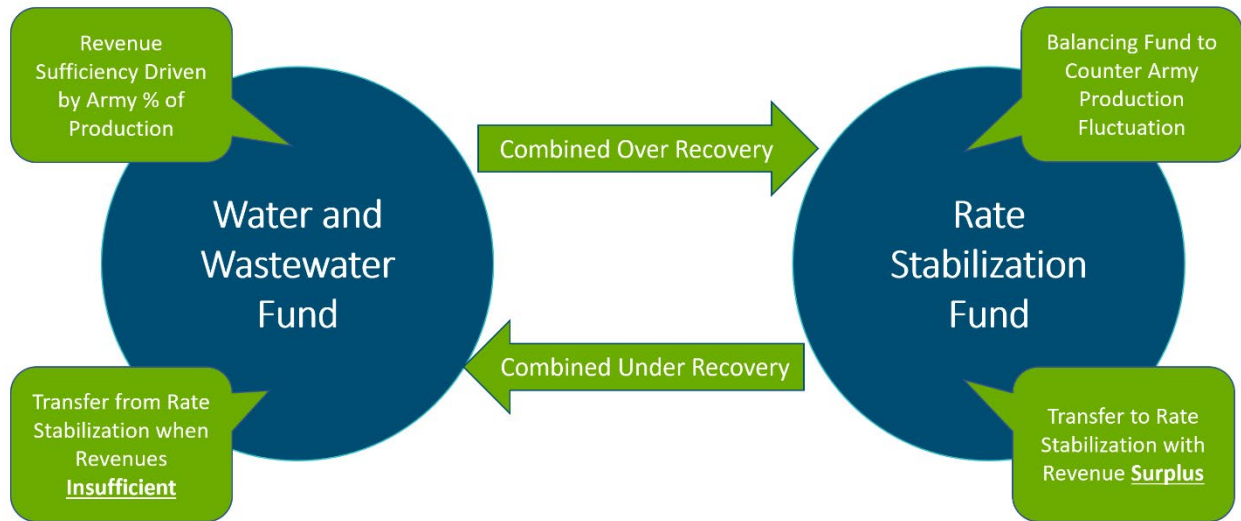


Figure 4-3
Rate Stabilization Fund

No other retail rate action is recommended at this time. However, the Project Team recommends the District continue to study its retail rates to determine what adjustments may be appropriate reflective of new operational realities.

Other Considerations (Raw Water)

As part of the retail rate study, NewGen was requested to determine an appropriate retail raw water rate reflective of the District’s regional water supply project planning. Industrial customers may have need for a raw water source; therefore, any rate should be competitive and reflective of what other regional participants pay.

In June 2017, Engineering firm AECOM was retained by the District to perform cost estimates for regional projects, including the transmission and treatment of raw water from Wright Patman Lake, and package water treatment plant to serve customers of the District. NewGen utilized cost estimates provided by AECOM to develop Wholesale rates, as applicable, to the District’s Member Cities reflective of the District’s capital and associated annual O&M needs.

In evaluating a retail raw water rate reflective of the District’s regional water supply project planning, it was first necessary to isolate capital projects associated with raw water. Based on project classification and estimates provided by AECOM, an estimated 52.4% of capital projects are projected to be associated with raw water as illustrated in Table 4-8 below.

**Table 4-8
Capital Projects**

	Cost (\$)	%
Raw (Phase 1A)¹	\$ 82,668,811	52.4%
Treated (Phase 1B)¹	74,904,000	47.6%
Total	\$ 157,572,811	100.0%

¹ Project classification and estimates per AECOM and presented in slides 15-16 of NewGen's Capital Presentation to the District on August 22, 2018

Based on the regional wholesale rate previously described adjusted for local water loss and reservoir/plant loss, the Project Team estimates \$0.64 of the \$1.50 per 1,000-gallon regional wholesale rate is associated with raw water. This calculation is illustrated in Table 4-9 below.

**Table 4-9
Raw Water Calculation**

	Cost (\$)	% (Calculation)
Regional Rate	\$1.50	
Less: Local Water Loss (20%)	(0.30)	
Adjusted Regional Rate	\$1.20	
Raw	\$0.63	\$1.20 * 52.4%
Less: Reservoir/Plant Loss	(0.01)	2.0%
Adjusted Raw Water Rate	\$0.64	\$0.63/(1-2%)

Section 5

RECOMMENDATIONS

1. No retail rate action is recommended at this time. **The District is transitioning from a wholesaler of purchased water to becoming the originating provider of the resource. As a result, this transition phase will impact the economics of how the District functions and the overall cost of providing service. Going forward, the District needs to continue to study its retail rates to determine what adjustments may be appropriate reflective of those new operational realities.**
2. It is recommended that the District establish a Rate Stabilization Fund to insulate the Water and Wastewater Fund from large fluctuations of revenue from the Army based on their portion of water and wastewater production. This fund will mitigate future rate increases by acting as a balancing reserve for the Water and Wastewater Fund.
3. Based on the analysis above, a retail raw water rate of \$0.64 per 1,000 gallons is recommended reflective of the wholesale pricing study.

Appendix A
TOTAL ARMY USAGE SCENARIO 1

Water: 97.5%

WW: 75.6%



Revenue Requirement Summary - Current

Excludes Facility Charge Revenue & Expenses

	2020	2021	2022	2023	2024
Water Revenue Requirement¹					
Expenses					
Personnel	\$ 333,050	\$ 349,703	\$ 367,188	\$ 385,547	\$ 404,824
Supplies & Maintenance	546,926	560,710	575,217	590,239	605,947
Contractual Services	20,000	20,000	20,000	20,000	20,000
Overhead	159,599	166,705	174,205	182,075	190,351
Subtotal Expenses	\$ 1,059,575	\$ 1,097,118	\$ 1,136,610	\$ 1,177,861	\$ 1,221,123
8% Admin Fee (Expenses less Water Purchases)	59,052	61,388	63,862	66,459	69,199
Less: Army % of Costs (97.50%)	(1,090,716)	(1,129,599)	(1,170,518)	(1,213,273)	(1,258,126)
Water Expenses (less Army)	\$ 27,912	\$ 28,907	\$ 29,954	\$ 31,048	\$ 32,196
Less: Non-Rate Revenues	(2,550)	(2,550)	(2,550)	(2,550)	(2,550)
Water Revenue Requirement	\$ 25,362	\$ 26,357	\$ 27,404	\$ 28,498	\$ 29,646
Water Revenue Under Current Rates	\$ 69,396	\$ 69,396	\$ 69,396	\$ 69,396	\$ 69,396
Over/(Under) Recovery (\$)	\$ 44,034	\$ 43,039	\$ 41,992	\$ 40,898	\$ 39,750
Over/(Under) Recovery (%)	63.5%	62.0%	60.5%	58.9%	57.3%
Wastewater Revenue Requirement²					
Expenses					
Personnel	\$ 361,701	\$ 379,786	\$ 398,775	\$ 418,714	\$ 439,650
Supplies & Maintenance	641,700	656,575	672,765	689,699	707,762
Contractual Services	20,000	20,000	20,000	20,000	20,000
Overhead	173,361	181,079	189,225	197,774	206,764
Subtotal Expenses	\$ 1,196,762	\$ 1,237,440	\$ 1,280,766	\$ 1,326,188	\$ 1,374,176
8% Admin Fee (Expenses less Water Purchases)	95,741	98,995	102,461	106,095	109,934
Less: Army % of Costs (75.61%)	(977,229)	(1,010,446)	(1,045,823)	(1,082,913)	(1,122,099)
Wastewater Expenses (less Army)	\$ 315,274	\$ 325,990	\$ 337,404	\$ 349,370	\$ 362,012
Less: Non-Rate Revenues	-	-	-	-	-
Wastewater Revenue Requirement	\$ 315,274	\$ 325,990	\$ 337,404	\$ 349,370	\$ 362,012
Wastewater Revenue Under Current Rates	\$ 240,589	\$ 240,589	\$ 240,589	\$ 240,589	\$ 240,589
Over/(Under) Recovery (\$)	\$ (74,685)	\$ (85,402)	\$ (96,815)	\$ (108,781)	\$ (121,423)
Over/(Under) Recovery (%)	-31.0%	-35.5%	-40.2%	-45.2%	-50.5%
Combined Revenue Requirement					
Combined Revenue Requirement	\$ 340,635	\$ 352,347	\$ 364,808	\$ 377,868	\$ 391,657
Combined Revenue Under Current Rates	\$ 309,984	\$ 309,984	\$ 309,984	\$ 309,984	\$ 309,984
Over/(Under) Recovery (\$)	\$ (30,651)	\$ (42,362)	\$ (54,823)	\$ (67,883)	\$ (81,673)
Over/(Under) Recovery (%)	-9.9%	-13.7%	-17.7%	-21.9%	-26.3%

Notes:

1) Removed REG account per Staff (\$105,916 Billed Revenues in FY2019)

2) Removed REG account per Staff (\$36,794 Billed Revenues in FY2019)



By TWDB Class

Water Rates - Standard	Current	2020	2021	2022	2023	2024
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Residential - Single Family

Minimum Charge

All	\$ 7.00	\$ 7.00	\$ 7.00	\$ 7.00	\$ 7.00	\$ 7.00
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Volumetric Charge

Per 1,000 Gallons (All)

	\$ 3.50	\$ 3.50	\$ 3.50	\$ 3.50	\$ 3.50	\$ 3.50
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Residential - Multi-Family (Units)

Minimum Charge

All	\$ 7.00	\$ 7.00	\$ 7.00	\$ 7.00	\$ 7.00	\$ 7.00
-----	---------	---------	---------	---------	---------	---------

Volumetric Charge

Per 1,000 Gallons (All)

	\$ 3.50	\$ 3.50	\$ 3.50	\$ 3.50	\$ 3.50	\$ 3.50
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Residential - Single Family - Sprinkler

Minimum Charge

All	\$ 7.00	\$ 7.00	\$ 7.00	\$ 7.00	\$ 7.00	\$ 7.00
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Volumetric Charge

Per 1,000 Gallons (All)

	\$ 3.50	\$ 3.50	\$ 3.50	\$ 3.50	\$ 3.50	\$ 3.50
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Commercial

Minimum Charge

All	\$ 10.00	\$ 10.00	\$ 10.00	\$ 10.00	\$ 10.00	\$ 10.00
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Volumetric Charge

Per 1,000 Gallons (All)

	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50
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Industrial

Minimum Charge

All	\$ 10.00	\$ 10.00	\$ 10.00	\$ 10.00	\$ 10.00	\$ 10.00
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Volumetric Charge

Per 1,000 Gallons (All)

	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50
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Institutional

Minimum Charge

All	\$ 10.00	\$ 10.00	\$ 10.00	\$ 10.00	\$ 10.00	\$ 10.00
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Volumetric Charge

Per 1,000 Gallons (All)

	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50
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Agricultural

Minimum Charge

All	\$ 10.00	\$ 10.00	\$ 10.00	\$ 10.00	\$ 10.00	\$ 10.00
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Volumetric Charge

Per 1,000 Gallons (All)

	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50
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By TWDB Class

Wastewater Rates - Standard	Current	2020	2021	2022	2023	2024
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Residential - Single Family

Minimum Charge

All	\$ 10.00	\$ 11.30	\$ 11.81	\$ 12.34	\$ 12.90	\$ 13.48
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Volumetric Charge

Per 1,000 Gallons (All)

	\$ 7.00	\$ 7.91	\$ 8.27	\$ 8.64	\$ 9.03	\$ 9.44
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Residential - Multi-Family (Units)

Minimum Charge

All	\$ 10.00	\$ 11.30	\$ 11.81	\$ 12.34	\$ 12.90	\$ 13.48
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Volumetric Charge

Per 1,000 Gallons (All)

	\$ 7.00	\$ 7.91	\$ 8.27	\$ 8.64	\$ 9.03	\$ 9.44
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Commercial

Minimum Charge

All	\$ 15.00	\$ 16.95	\$ 17.71	\$ 18.51	\$ 19.34	\$ 20.21
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Volumetric Charge

Per 1,000 Gallons (All)

	\$ 7.00	\$ 7.91	\$ 8.27	\$ 8.64	\$ 9.03	\$ 9.44
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Industrial

Minimum Charge

All	\$ 15.00	\$ 16.95	\$ 17.71	\$ 18.51	\$ 19.34	\$ 20.21
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Volumetric Charge

Per 1,000 Gallons (All)

	\$ 7.00	\$ 7.91	\$ 8.27	\$ 8.64	\$ 9.03	\$ 9.44
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Institutional

Minimum Charge

All	\$ 15.00	\$ 16.95	\$ 17.71	\$ 18.51	\$ 19.34	\$ 20.21
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Volumetric Charge

Per 1,000 Gallons (All)

	\$ 7.00	\$ 7.91	\$ 8.27	\$ 8.64	\$ 9.03	\$ 9.44
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Water: 97.5%

WW: 75.6%



Model Assumptions

Test Year

2020

Inflation Factors	2020	2021	2022	2023	2024	Source
General		2.6%	2.6%	2.6%	2.6%	20 CAGR Avg MCI per American City & County
Fuel		8.1%	4.3%	3.7%	3.2%	Energy Information Administration Outlook
Electricity		1.0%	2.4%	2.9%	3.6%	Energy Information Administration Outlook
Chemicals		1.3%	1.3%	1.3%	1.3%	20-Yr Avg BLS Water Treating Compounds
Personnel		5.0%	5.0%	5.0%	5.0%	Industry Standard
None		0.0%	0.0%	0.0%	0.0%	



Overhead Budget (WET Utilities)

Account	Description	FY 2020 Budget	Adjustments	Adjusted FY 2020 Budget	2021	2022	2023	2024	Inflation Factor
Non-Operating Revenues (Expenses)									
	82000 40% Salary Billback	\$ 154,855		\$ 154,855	\$ 162,598	\$ 170,728	\$ 179,264	\$ 188,227	Personnel
Operating Expenses									
	60110 Salaries & Wages	\$ 407,678		\$ 407,678	\$ 428,062	\$ 449,465	\$ 471,938	\$ 495,535	Personnel
	60120 Health Insurance	41,580		41,580	43,659	45,842	48,134	50,541	Personnel
	60130 Pension	50,960		50,960	53,508	56,183	58,993	61,942	Personnel
	60140 Payroll Taxes	35,086		35,086	36,840	38,682	40,616	42,647	Personnel
	60150 Unemployment Obligations	-		-	-	-	-	-	Personnel
	60210 Cell Phone	1,800		1,800	1,890	1,985	2,084	2,188	Personnel
	60220 Workers Compensation	394		394	414	434	456	479	Personnel
	60230 Training, Travel, & Licenses	8,000		8,000	8,400	8,820	9,261	9,724	Personnel
	60240 Uniforms	2,000		2,000	2,100	2,205	2,315	2,431	Personnel
	60250 Other Employment Costs	7,950		7,950	8,348	8,765	9,203	9,663	Personnel
	60300 Temporary Labor	-		-	-	-	-	-	Personnel
	61200 Travel	5,600		5,600	5,745	5,895	6,048	6,205	General
	61310 Meetings	3,000		3,000	3,078	3,158	3,240	3,324	General
	63200 Insurance	1,000		1,000	1,026	1,053	1,080	1,108	General
	65010 Auditing	23,000		23,000	23,597	24,210	24,839	25,484	General
	65020 Accounting	-		-	-	-	-	-	General
	65210 Legal	25,000		25,000	25,649	26,315	26,999	27,700	General
	66000 Payroll Expenses	-		-	-	-	-	-	General
	66010 Computer, Reprod & Maint	17,000		17,000	17,441	17,894	18,359	18,836	General
	66020 Office Supplies	6,000		6,000	6,156	6,316	6,480	6,648	General
	66030 Postage	2,600		2,600	2,668	2,737	2,808	2,881	General
	66110 Utilities - OH	13,000		13,000	13,133	13,453	13,837	14,340	Electricity
	66130 Building Maintenance	7,000		7,000	7,182	7,368	7,560	7,756	General
	66210 Licenses & Fees	300		300	308	316	324	332	General
	66310 Advertising	2,000		2,000	2,052	2,105	2,160	2,216	General
	66810 Wright Express Fees	240		240	246	253	259	266	General
	66800 Miscellaneous Fees - Other	1,460		1,460	1,498	1,537	1,577	1,618	General
	Total Operating Expenses	\$ 662,648	\$ -	\$ 662,648	\$ 692,999	\$ 724,990	\$ 758,568	\$ 793,863	
	Less: 40% Salary Billback	\$ (154,855)	\$ -	\$ (154,855)	\$ (162,598)	\$ (170,728)	\$ (179,264)	\$ (188,227)	
	Overhead to be Allocated	\$ 507,793	\$ -	\$ 507,793	\$ 530,402	\$ 554,262	\$ 579,304	\$ 605,636	

Water: 97.5%

WW: 75.6%



Overhead Budget (WET Utilities)

Account	Description	FY 2020 Budget	Adjustments	Adjusted FY 2020 Budget	2021	2022	2023	2024	Inflation Factor
Utility Distribution per FY19-20 Budget									
	Water	31.43%		31.43%	31.43%	31.43%	31.43%	31.43%	31.43%
	Wastewater	34.14%		34.14%	34.14%	34.14%	34.14%	34.14%	34.14%
	Industrial Wastewater	34.43%		34.43%	34.43%	34.43%	34.43%	34.43%	34.43%
		100.00%		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Overhead Allocation									
	Water	\$ 159,599		\$ 159,599	\$ 166,705	\$ 174,205	\$ 182,075	\$ 190,351	
	Wastewater	\$ 173,361		\$ 173,361	\$ 181,079	\$ 189,225	\$ 197,774	\$ 206,764	
	Industrial Wastewater	\$ 174,833		\$ 174,833	\$ 182,617	\$ 190,833	\$ 199,454	\$ 208,520	
	Total Overhead Allocation	\$ 507,793		\$ 507,793	\$ 530,402	\$ 554,262	\$ 579,304	\$ 605,636	
	<i>Annual % Increase/(Decrease)</i>				4.5%	4.5%	4.5%	4.5%	



Water Budget (WET Utilities)

Account	Description	FY 2020 Budget	Adjustments	Adjusted FY 2020 Budget	2021	2022	2023	2024	Inflation Factor
Water Revenues									
41020	Army Revenue - Volumetric Charge	\$ 777,310	\$ (777,310)	\$ -	\$ -	\$ -	\$ -	\$ -	None
41025	Army Revenue - Water Supply Charge	313,406	(313,406)	-	-	-	-	-	None
42020	Res & Comm Rev - Volumetric Chg	123,742	(123,742)	-	-	-	-	-	None
42025	Res & Comm Rev - Water Supply Chg	-	-	-	-	-	-	-	None
42030	Res & Comm Rev - Backflow Calibration	2,550	-	2,550	2,550	2,550	2,550	2,550	None
Total Water Revenues		\$ 1,217,008	\$ (1,214,458)	\$ 2,550	\$ 2,550	\$ 2,550	\$ 2,550	\$ 2,550	
Water Expenses									
Personnel									
50100	Salaries & Wages	\$ 215,822		\$ 215,822	\$ 226,613	\$ 237,944	\$ 249,841	\$ 262,333	Personnel
50100	Health Insurance	41,580		41,580	43,659	45,842	48,134	50,541	Personnel
50110	Pension	26,978		26,978	28,327	29,743	31,230	32,792	Personnel
50120	Payroll Taxes	18,574		18,574	19,503	20,478	21,502	22,577	Personnel
50130	Unemployment Obligations	-		-	-	-	-	-	Personnel
50150	Cell Phone	800		800	840	882	926	972	Personnel
50200	Workers Compensation	5,596		5,596	5,876	6,170	6,478	6,802	Personnel
50210	Training, Travel, & Licenses	6,000		6,000	6,300	6,615	6,946	7,293	Personnel
50230	Uniforms	3,000		3,000	3,150	3,308	3,473	3,647	Personnel
50240	Other Employment Costs	2,200		2,200	2,310	2,426	2,547	2,674	Personnel
50250	Mileage for Call Outs	500		500	525	551	579	608	Personnel
50260	Temporary Labor	12,000		12,000	12,600	13,230	13,892	14,586	Personnel
50300	Labor - Other	-		-	-	-	-	-	Personnel
Total Personnel		\$ 333,050	\$ -	\$ 333,050	\$ 349,703	\$ 367,188	\$ 385,547	\$ 404,824	
Supplies and Maintenance									
52000	Analytics	\$ (10,000)		\$ (10,000)	\$ (10,260)	\$ (10,526)	\$ (10,799)	\$ (11,080)	General
53010	Plant-Other	12,000		12,000	12,312	12,631	12,959	13,296	General
53020	Lines - Other	100,000		100,000	102,597	105,261	107,994	110,799	General
53030	Facilities - Other	15,000		15,000	15,390	15,789	16,199	16,620	General
53200	Insurance - Operations	13,000		13,000	13,338	13,684	14,039	14,404	General
54100	Other Maintenance	5,000		5,000	5,130	5,263	5,400	5,540	General
54210	Equipment, Maintenance & Repairs	10,000		10,000	10,260	10,526	10,799	11,080	General



Water Budget (WET Utilities)

Account	Description	FY 2020 Budget	Adjustments	Adjusted FY 2020 Budget	2021	2022	2023	2024	Inflation Factor
54220	Fuel	5,000		5,000	5,406	5,637	5,846	6,031	Fuel
54300	Equipment Rental	5,000		5,000	5,130	5,263	5,400	5,540	General
55110	Chemicals	6,000		6,000	6,076	6,152	6,230	6,309	Chemicals
55120	Other Materials	500		500	513	526	540	554	General
55210	Small Tools & Equipment	3,000		3,000	3,078	3,158	3,240	3,324	General
55220	Sampling	3,000		3,000	3,078	3,158	3,240	3,324	General
55230	Cleaning	-		-	-	-	-	-	General
55240	Safety	3,000		3,000	3,078	3,158	3,240	3,324	General
55250	Other Supplies	1,000		1,000	1,026	1,053	1,080	1,108	General
56000	Permits	15,000		15,000	15,390	15,789	16,199	16,620	General
57000	Utilities	39,000		39,000	39,398	40,359	41,512	43,020	Electricity
58500	Water Purchase Cost	321,426		321,426	329,773	338,336	347,122	356,136	General
Total Supplies and Maintenance		\$ 546,926	\$ -	\$ 546,926	\$ 560,710	\$ 575,217	\$ 590,239	\$ 605,947	
Contractual Services									
17GIS04	GIS Mapping	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	None
59000	Consulting - Other	20,000		20,000	20,000	20,000	20,000	20,000	None
Total Contractual Services		\$ 20,000	\$ -	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	
Overhead		\$ 159,599	\$ -	\$ 159,599	\$ 166,705	\$ 174,205	\$ 182,075	\$ 190,351	
Total Water Expenses		\$ 1,059,575	\$ -	\$ 1,059,575	\$ 1,097,118	\$ 1,136,610	\$ 1,177,861	\$ 1,221,123	
8% Admin Fee (Expenses less Water Purchases)		\$ 59,052		\$ 59,052	\$ 61,388	\$ 63,862	\$ 66,459	\$ 69,199	
Less: Army % of Cost		\$ (1,090,716)		\$ (1,090,716)	\$ (1,129,599)	\$ (1,170,518)	\$ (1,213,273)	\$ (1,258,126)	
Adjusted Water Expenses		\$ 27,912	\$ -	\$ 27,912	\$ 28,907	\$ 29,954	\$ 31,048	\$ 32,196	
Revenue Requirement				\$ 25,362	\$ 26,357	\$ 27,404	\$ 28,498	\$ 29,646	
Annual % Increase/(Decrease)					3.9%	4.0%	4.0%	4.0%	
Army % of Costs					97.50% per RRAD November 2019 Invoice #2815				



Wastewater Budget (WET Utilities)

Account	Description	FY 2020 Budget	Adjustments	Adjusted FY 2020 Budget	2021	2022	2023	2024	Inflation Factor
Wastewater Revenues									
41020	Army Revenue - Volumetric Charge	\$ 977,228	\$ (977,228)	\$ -	\$ -	\$ -	\$ -	\$ -	None
41025	Army Revenue - Water Supply Charge	-	-	-	-	-	-	-	None
42020	Res & Comm Rev - Volumetric Chg	293,375	(293,375)	-	-	-	-	-	None
Total Wastewater Revenues		\$ 1,270,603	\$ (1,270,603)	\$ -	\$ -	\$ -	\$ -	\$ -	

Wastewater Expenses

Personnel

50100	Salaries & Wages	\$ 234,237	\$ -	\$ 234,237	\$ 245,949	\$ 258,246	\$ 271,159	\$ 284,717	Personnel
50100	Health Insurance	46,258	-	46,258	48,571	50,999	53,549	56,227	Personnel
50110	Pension	29,280	-	29,280	30,744	32,281	33,895	35,590	Personnel
50120	Payroll Taxes	20,159	-	20,159	21,167	22,225	23,337	24,503	Personnel
50130	Unemployment Obligations	-	-	-	-	-	-	-	Personnel
50150	Cell Phone	890	-	890	935	981	1,030	1,082	Personnel
50200	Workers Compensation	5,916	-	5,916	6,212	6,522	6,849	7,191	Personnel
50210	Training, Travel, & Licenses	6,675	-	6,675	7,009	7,359	7,727	8,114	Personnel
50230	Uniforms	3,338	-	3,338	3,505	3,680	3,864	4,057	Personnel
50240	Other Employment Costs	2,448	-	2,448	2,570	2,699	2,834	2,976	Personnel
50250	Mileage for Call Outs	500	-	500	525	551	579	608	Personnel
50260	Temporary Labor	12,000	-	12,000	12,600	13,230	13,892	14,586	Personnel
50300	Labor - Other	-	-	-	-	-	-	-	Personnel
Total Personnel		\$ 361,701	\$ -	\$ 361,701	\$ 379,786	\$ 398,775	\$ 418,714	\$ 439,650	

Supplies and Maintenance

52000	Analytics	\$ 95,000	\$ -	\$ 95,000	\$ 97,467	\$ 99,998	\$ 102,595	\$ 105,259	General
53010	Plant-Other	160,000	-	160,000	164,155	168,417	172,791	177,278	General
53020	Lines - Other	60,000	-	60,000	61,558	63,157	64,797	66,479	General
53030	Facilities - Other	29,000	-	29,000	29,753	30,526	31,318	32,132	General
53200	Insurance - Operations	13,000	-	13,000	13,338	13,684	14,039	14,404	General
54100	Other Maintenance	5,000	-	5,000	5,130	5,263	5,400	5,540	General
54210	Equipment, Maintenance & Repairs	8,000	-	8,000	8,208	8,421	8,640	8,864	General
54220	Fuel	9,000	-	9,000	9,731	10,147	10,522	10,856	Fuel
54300	Equipment Rental	4,000	-	4,000	4,104	4,210	4,320	4,432	General



Wastewater Budget (WET Utilities)

Account	Description	FY 2020 Budget	Adjustments	Adjusted FY 2020 Budget	2021	2022	2023	2024	Inflation Factor
55110	Chemicals	65,000	-	65,000	65,821	66,651	67,493	68,345	Chemicals
55120	Other Materials	1,500	-	1,500	1,539	1,579	1,620	1,662	General
55210	Small Tools & Equipment	8,000	-	8,000	8,208	8,421	8,640	8,864	General
55220	Sampling	6,000	-	6,000	6,156	6,316	6,480	6,648	General
55230	Cleaning	1,200	-	1,200	1,231	1,263	1,296	1,330	General
55240	Safety	5,000	-	5,000	5,130	5,263	5,400	5,540	General
55250	Other Supplies	5,000	-	5,000	5,130	5,263	5,400	5,540	General
56000	Permits	20,000	-	20,000	20,519	21,052	21,599	22,160	General
57000	Utilities	90,000	-	90,000	90,919	93,135	95,796	99,277	Electricity
58030	Drying Bed Sludge	30,000	-	30,000	30,779	31,578	32,398	33,240	General
58500	Water Purchase Cost	27,000	-	27,000	27,701	28,420	29,158	29,916	General
Total Supplies and Maintenance		\$ 641,700	\$ -	\$ 641,700	\$ 656,575	\$ 672,765	\$ 689,699	\$ 707,762	
Contractual Services									
17GIS04	GIS Mapping	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	None
59000	Consulting - Other	20,000	-	20,000	20,000	20,000	20,000	20,000	None
Total Contractual Services		\$ 20,000	\$ -	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	
Overhead		\$ 173,361	\$ -	\$ 173,361	\$ 181,079	\$ 189,225	\$ 197,774	\$ 206,764	
Total Wastewater Expenses		\$ 1,196,762	\$ -	\$ 1,196,762	\$ 1,237,440	\$ 1,280,766	\$ 1,326,188	\$ 1,374,176	
8% Admin Fee (Expenses less Water Purchases)		\$ 95,741		\$ 95,741	\$ 98,995	\$ 102,461	\$ 106,095	\$ 109,934	
Less: Army % of Costs		\$ (977,229)		\$ (977,229)	\$ (1,010,446)	\$ (1,045,823)	\$ (1,082,913)	\$ (1,122,099)	
Adjusted Wastewater Expenses		\$ 315,274	\$ -	\$ 315,274	\$ 325,990	\$ 337,404	\$ 349,370	\$ 362,012	
Revenue Requirement				\$ 315,274	\$ 325,990	\$ 337,404	\$ 349,370	\$ 362,012	
<i>Annual % Increase/(Decrease)</i>					3.4%	3.5%	3.5%	3.6%	
<i>Army % of Costs</i>		75.61% per RRAD November 2019 Invoice #2815							



Weather Normals

30 Year Normals (1988-2018) ¹														
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	
Normal Precipitation (in.)	3.39	4.05	4.60	3.86	5.45	4.85	3.11	2.86	3.60	4.98	4.98	4.88	50.61	
Monthly Precipitation ¹														
Year ^{2 3}	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	
FY 2019	1.75	3.99	8.04	7.90	1.38	2.98	2.30	2.40	1.50	2.85	1.69	6.04	42.82	
FY 2018	1.60	3.99	8.04	6.51	1.38	3.82	2.30	2.86	0.63	1.51	1.69	6.04	40.37	
FY 2017	1.75	3.99	8.04	6.51	1.38	2.98	2.30	2.63	-	0.19	1.69	6.04	37.50	
Closest FY Annual Total to Normal Precipitation (Absolute Value)														
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	
FY 2019													7.79	
FY 2018													10.24	
FY 2017													13.11	
Closest FY Total to Normal	FY 2019	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-18	Nov-18	Dec-18	

Notes:

1) New Boston, TX Weather Station (<https://w2.weather.gov/climate/xmacis.php?wfo=shv>)

2) Months evaluated match the months we have from the billing system.

3) NOAA mean historical (2016 - 2019) precipitation value used where no data was available

Appendix B
TOTAL ARMY USAGE SCENARIO 2

(2016 - 2020)

Water: 95.6%

WW: 84.3%



Revenue Requirement Summary - Current

Excludes Facility Charge Revenue & Expenses

	2020	2021	2022	2023	2024
Water Revenue Requirement¹					
<u>Expenses</u>					
Personnel	\$ 333,050	\$ 349,703	\$ 367,188	\$ 385,547	\$ 404,824
Supplies & Maintenance	546,926	560,710	575,217	590,239	605,947
Contractual Services	20,000	20,000	20,000	20,000	20,000
Overhead	159,599	166,705	174,205	182,075	190,351
Subtotal Expenses	\$ 1,059,575	\$ 1,097,118	\$ 1,136,610	\$ 1,177,861	\$ 1,221,123
8% Admin Fee (Expenses less Water Purchases)	59,052	61,388	63,862	66,459	69,199
Less: Army % of Costs (95.59%)	(1,069,302)	(1,107,421)	(1,147,537)	(1,189,453)	(1,233,425)
Water Expenses (less Army)	\$ 49,326	\$ 51,084	\$ 52,934	\$ 54,868	\$ 56,896
Less: Non-Rate Revenues	(2,550)	(2,550)	(2,550)	(2,550)	(2,550)
Water Revenue Requirement	\$ 46,776	\$ 48,534	\$ 50,384	\$ 52,318	\$ 54,346
Water Revenue Under Current Rates	\$ 69,396	\$ 69,396	\$ 69,396	\$ 69,396	\$ 69,396
Over/(Under) Recovery (\$)	\$ 22,620	\$ 20,862	\$ 19,011	\$ 17,078	\$ 15,049
Over/(Under) Recovery (%)	32.6%	30.1%	27.4%	24.6%	21.7%
Wastewater Revenue Requirement²					
<u>Expenses</u>					
Personnel	\$ 361,701	\$ 379,786	\$ 398,775	\$ 418,714	\$ 439,650
Supplies & Maintenance	641,700	656,575	672,765	689,699	707,762
Contractual Services	20,000	20,000	20,000	20,000	20,000
Overhead	173,361	181,079	189,225	197,774	206,764
Subtotal Expenses	\$ 1,196,762	\$ 1,237,440	\$ 1,280,766	\$ 1,326,188	\$ 1,374,176
8% Admin Fee (Expenses less Water Purchases)	95,741	98,995	102,461	106,095	109,934
Less: Army % of Costs (84.26%)	(1,089,025)	(1,126,042)	(1,165,467)	(1,206,800)	(1,250,468)
Wastewater Expenses (less Army)	\$ 203,478	\$ 210,394	\$ 217,760	\$ 225,483	\$ 233,642
Less: Non-Rate Revenues	-	-	-	-	-
Wastewater Revenue Requirement	\$ 203,478	\$ 210,394	\$ 217,760	\$ 225,483	\$ 233,642
Wastewater Revenue Under Current Rates	\$ 240,589	\$ 240,589	\$ 240,589	\$ 240,589	\$ 240,589
Over/(Under) Recovery (\$)	\$ 37,111	\$ 30,194	\$ 22,828	\$ 15,105	\$ 6,946
Over/(Under) Recovery (%)	15.4%	12.6%	9.5%	6.3%	2.9%
Combined Revenue Requirement					
Combined Revenue Requirement	\$ 250,253	\$ 258,928	\$ 268,145	\$ 277,801	\$ 287,989
Combined Revenue Under Current Rates	\$ 309,984	\$ 309,984	\$ 309,984	\$ 309,984	\$ 309,984
Over/(Under) Recovery (\$)	\$ 59,731	\$ 51,056	\$ 41,839	\$ 32,183	\$ 21,996
Over/(Under) Recovery (%)	19.3%	16.5%	13.5%	10.4%	7.1%

Notes:

1) Removed REG account per Staff (\$105,916 Billed Revenues in FY2019)

2) Removed REG account per Staff (\$36,794 Billed Revenues in FY2019)

(2016 - 2020)

Water: 95.6%

WW: 84.3%



Model Assumptions

Test Year

2020

Inflation Factors	2020	2021	2022	2023	2024	Source
General		2.6%	2.6%	2.6%	2.6%	20 CAGR Avg MCI per American City & County
Fuel		8.1%	4.3%	3.7%	3.2%	Energy Information Administration Outlook
Electricity		1.0%	2.4%	2.9%	3.6%	Energy Information Administration Outlook
Chemicals		1.3%	1.3%	1.3%	1.3%	20-Yr Avg BLS Water Treating Compounds
Personnel		5.0%	5.0%	5.0%	5.0%	Industry Standard
None		0.0%	0.0%	0.0%	0.0%	



Overhead Budget (WET Utilities)

Account	Description	FY 2020 Budget	Adjustments	Adjusted FY 2020 Budget	2021	2022	2023	2024	Inflation Factor
Non-Operating Revenues (Expenses)									
	82000 40% Salary Billback	\$ 154,855		\$ 154,855	\$ 162,598	\$ 170,728	\$ 179,264	\$ 188,227	Personnel
Operating Expenses									
	60110 Salaries & Wages	\$ 407,678		\$ 407,678	\$ 428,062	\$ 449,465	\$ 471,938	\$ 495,535	Personnel
	60120 Health Insurance	41,580		41,580	43,659	45,842	48,134	50,541	Personnel
	60130 Pension	50,960		50,960	53,508	56,183	58,993	61,942	Personnel
	60140 Payroll Taxes	35,086		35,086	36,840	38,682	40,616	42,647	Personnel
	60150 Unemployment Obligations	-		-	-	-	-	-	Personnel
	60210 Cell Phone	1,800		1,800	1,890	1,985	2,084	2,188	Personnel
	60220 Workers Compensation	394		394	414	434	456	479	Personnel
	60230 Training, Travel, & Licenses	8,000		8,000	8,400	8,820	9,261	9,724	Personnel
	60240 Uniforms	2,000		2,000	2,100	2,205	2,315	2,431	Personnel
	60250 Other Employment Costs	7,950		7,950	8,348	8,765	9,203	9,663	Personnel
	60300 Temporary Labor	-		-	-	-	-	-	Personnel
	61200 Travel	5,600		5,600	5,745	5,895	6,048	6,205	General
	61310 Meetings	3,000		3,000	3,078	3,158	3,240	3,324	General
	63200 Insurance	1,000		1,000	1,026	1,053	1,080	1,108	General
	65010 Auditing	23,000		23,000	23,597	24,210	24,839	25,484	General
	65020 Accounting	-		-	-	-	-	-	General
	65210 Legal	25,000		25,000	25,649	26,315	26,999	27,700	General
	66000 Payroll Expenses	-		-	-	-	-	-	General
	66010 Computer, Reprod & Maint	17,000		17,000	17,441	17,894	18,359	18,836	General
	66020 Office Supplies	6,000		6,000	6,156	6,316	6,480	6,648	General
	66030 Postage	2,600		2,600	2,668	2,737	2,808	2,881	General
	66110 Utilities - OH	13,000		13,000	13,133	13,453	13,837	14,340	Electricity
	66130 Building Maintenance	7,000		7,000	7,182	7,368	7,560	7,756	General
	66210 Licenses & Fees	300		300	308	316	324	332	General
	66310 Advertising	2,000		2,000	2,052	2,105	2,160	2,216	General
	66810 Wright Express Fees	240		240	246	253	259	266	General
	66800 Miscellaneous Fees - Other	1,460		1,460	1,498	1,537	1,577	1,618	General
Total Operating Expenses		\$ 662,648	\$ -	\$ 662,648	\$ 692,999	\$ 724,990	\$ 758,568	\$ 793,863	
Less: 40% Salary Billback		\$ (154,855)	\$ -	\$ (154,855)	\$ (162,598)	\$ (170,728)	\$ (179,264)	\$ (188,227)	
Overhead to be Allocated		\$ 507,793	\$ -	\$ 507,793	\$ 530,402	\$ 554,262	\$ 579,304	\$ 605,636	



Overhead Budget (WET Utilities)

Account	Description	FY 2020 Budget	Adjustments	Adjusted FY 2020 Budget	2021	2022	2023	2024	Inflation Factor
Utility Distribution per FY19-20 Budget									
	Water	31.43%		31.43%	31.43%	31.43%	31.43%	31.43%	31.43%
	Wastewater	34.14%		34.14%	34.14%	34.14%	34.14%	34.14%	34.14%
	Industrial Wastewater	34.43%		34.43%	34.43%	34.43%	34.43%	34.43%	34.43%
		100.00%		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Overhead Allocation									
	Water	\$ 159,599		\$ 159,599	\$ 166,705	\$ 174,205	\$ 182,075	\$ 190,351	
	Wastewater	\$ 173,361		\$ 173,361	\$ 181,079	\$ 189,225	\$ 197,774	\$ 206,764	
	Industrial Wastewater	\$ 174,833		\$ 174,833	\$ 182,617	\$ 190,833	\$ 199,454	\$ 208,520	
	Total Overhead Allocation	\$ 507,793		\$ 507,793	\$ 530,402	\$ 554,262	\$ 579,304	\$ 605,636	
	<i>Annual % Increase/(Decrease)</i>				4.5%	4.5%	4.5%	4.5%	



Water Budget (WET Utilities)

Account	Description	FY 2020 Budget	Adjustments	Adjusted FY 2020 Budget	2021	2022	2023	2024	Inflation Factor
Water Revenues									
41020	Army Revenue - Volumetric Charge	\$ 777,310	\$ (777,310)	\$ -	\$ -	\$ -	\$ -	\$ -	None
41025	Army Revenue - Water Supply Charge	313,406	(313,406)	-	-	-	-	-	None
42020	Res & Comm Rev - Volumetric Chg	123,742	(123,742)	-	-	-	-	-	None
42025	Res & Comm Rev - Water Supply Chg	-	-	-	-	-	-	-	None
42030	Res & Comm Rev - Backflow Calibration	2,550	-	2,550	2,550	2,550	2,550	2,550	None
Total Water Revenues		\$ 1,217,008	\$ (1,214,458)	\$ 2,550	\$ 2,550	\$ 2,550	\$ 2,550	\$ 2,550	

Water Expenses

Personnel

50100	Salaries & Wages	\$ 215,822		\$ 215,822	\$ 226,613	\$ 237,944	\$ 249,841	\$ 262,333	Personnel
50100	Health Insurance	41,580		41,580	43,659	45,842	48,134	50,541	Personnel
50110	Pension	26,978		26,978	28,327	29,743	31,230	32,792	Personnel
50120	Payroll Taxes	18,574		18,574	19,503	20,478	21,502	22,577	Personnel
50130	Unemployment Obligations	-		-	-	-	-	-	Personnel
50150	Cell Phone	800		800	840	882	926	972	Personnel
50200	Workers Compensation	5,596		5,596	5,876	6,170	6,478	6,802	Personnel
50210	Training, Travel, & Licenses	6,000		6,000	6,300	6,615	6,946	7,293	Personnel
50230	Uniforms	3,000		3,000	3,150	3,308	3,473	3,647	Personnel
50240	Other Employment Costs	2,200		2,200	2,310	2,426	2,547	2,674	Personnel
50250	Mileage for Call Outs	500		500	525	551	579	608	Personnel
50260	Temporary Labor	12,000		12,000	12,600	13,230	13,892	14,586	Personnel
50300	Labor - Other	-		-	-	-	-	-	Personnel
Total Personnel		\$ 333,050	\$ -	\$ 333,050	\$ 349,703	\$ 367,188	\$ 385,547	\$ 404,824	

Supplies and Maintenance

52000	Analytics	\$ (10,000)		\$ (10,000)	\$ (10,260)	\$ (10,526)	\$ (10,799)	\$ (11,080)	General
53010	Plant-Other	12,000		12,000	12,312	12,631	12,959	13,296	General
53020	Lines - Other	100,000		100,000	102,597	105,261	107,994	110,799	General
53030	Facilities - Other	15,000		15,000	15,390	15,789	16,199	16,620	General
53200	Insurance - Operations	13,000		13,000	13,338	13,684	14,039	14,404	General
54100	Other Maintenance	5,000		5,000	5,130	5,263	5,400	5,540	General
54210	Equipment, Maintenance & Repairs	10,000		10,000	10,260	10,526	10,799	11,080	General



Water Budget (WET Utilities)

Account	Description	FY 2020 Budget	Adjustments	Adjusted FY 2020 Budget	2021	2022	2023	2024	Inflation Factor
54220	Fuel	5,000		5,000	5,406	5,637	5,846	6,031	Fuel
54300	Equipment Rental	5,000		5,000	5,130	5,263	5,400	5,540	General
55110	Chemicals	6,000		6,000	6,076	6,152	6,230	6,309	Chemicals
55120	Other Materials	500		500	513	526	540	554	General
55210	Small Tools & Equipment	3,000		3,000	3,078	3,158	3,240	3,324	General
55220	Sampling	3,000		3,000	3,078	3,158	3,240	3,324	General
55230	Cleaning	-		-	-	-	-	-	General
55240	Safety	3,000		3,000	3,078	3,158	3,240	3,324	General
55250	Other Supplies	1,000		1,000	1,026	1,053	1,080	1,108	General
56000	Permits	15,000		15,000	15,390	15,789	16,199	16,620	General
57000	Utilities	39,000		39,000	39,398	40,359	41,512	43,020	Electricity
58500	Water Purchase Cost	321,426		321,426	329,773	338,336	347,122	356,136	General
Total Supplies and Maintenance		\$ 546,926	\$ -	\$ 546,926	\$ 560,710	\$ 575,217	\$ 590,239	\$ 605,947	
Contractual Services									
17GIS04	GIS Mapping	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	None
59000	Consulting - Other	20,000		20,000	20,000	20,000	20,000	20,000	None
Total Contractual Services		\$ 20,000	\$ -	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	
Overhead		\$ 159,599	\$ -	\$ 159,599	\$ 166,705	\$ 174,205	\$ 182,075	\$ 190,351	
Total Water Expenses		\$ 1,059,575	\$ -	\$ 1,059,575	\$ 1,097,118	\$ 1,136,610	\$ 1,177,861	\$ 1,221,123	
8% Admin Fee (Expenses less Water Purchases)		\$ 59,052		\$ 59,052	\$ 61,388	\$ 63,862	\$ 66,459	\$ 69,199	
Less: Army % of Cost		\$ (1,069,302)		\$ (1,069,302)	\$ (1,107,421)	\$ (1,147,537)	\$ (1,189,453)	\$ (1,233,425)	
Adjusted Water Expenses		\$ 49,326	\$ -	\$ 49,326	\$ 51,084	\$ 52,934	\$ 54,868	\$ 56,896	
Revenue Requirement				\$ 46,776	\$ 48,534	\$ 50,384	\$ 52,318	\$ 54,346	
Annual % Increase/(Decrease)					3.8%	3.8%	3.8%	3.9%	
Army % of Costs					95.59% per Staff (5-Year Average % of Army Usage)				



Wastewater Budget (WET Utilities)

Account	Description	FY 2020 Budget	Adjustments	Adjusted FY 2020 Budget	2021	2022	2023	2024	Inflation Factor
Wastewater Revenues									
41020	Army Revenue - Volumetric Charge	\$ 977,228	\$ (977,228)	\$ -	\$ -	\$ -	\$ -	\$ -	None
41025	Army Revenue - Water Supply Charge	-	-	-	-	-	-	-	None
42020	Res & Comm Rev - Volumetric Chg	293,375	(293,375)	-	-	-	-	-	None
Total Wastewater Revenues		\$ 1,270,603	\$ (1,270,603)	\$ -	\$ -	\$ -	\$ -	\$ -	
Wastewater Expenses									
Personnel									
50100	Salaries & Wages	\$ 234,237	\$ -	\$ 234,237	\$ 245,949	\$ 258,246	\$ 271,159	\$ 284,717	Personnel
50100	Health Insurance	46,258	-	46,258	48,571	50,999	53,549	56,227	Personnel
50110	Pension	29,280	-	29,280	30,744	32,281	33,895	35,590	Personnel
50120	Payroll Taxes	20,159	-	20,159	21,167	22,225	23,337	24,503	Personnel
50130	Unemployment Obligations	-	-	-	-	-	-	-	Personnel
50150	Cell Phone	890	-	890	935	981	1,030	1,082	Personnel
50200	Workers Compensation	5,916	-	5,916	6,212	6,522	6,849	7,191	Personnel
50210	Training, Travel, & Licenses	6,675	-	6,675	7,009	7,359	7,727	8,114	Personnel
50230	Uniforms	3,338	-	3,338	3,505	3,680	3,864	4,057	Personnel
50240	Other Employment Costs	2,448	-	2,448	2,570	2,699	2,834	2,976	Personnel
50250	Mileage for Call Outs	500	-	500	525	551	579	608	Personnel
50260	Temporary Labor	12,000	-	12,000	12,600	13,230	13,892	14,586	Personnel
50300	Labor - Other	-	-	-	-	-	-	-	Personnel
Total Personnel		\$ 361,701	\$ -	\$ 361,701	\$ 379,786	\$ 398,775	\$ 418,714	\$ 439,650	
Supplies and Maintenance									
52000	Analytics	\$ 95,000	\$ -	\$ 95,000	\$ 97,467	\$ 99,998	\$ 102,595	\$ 105,259	General
53010	Plant-Other	160,000	-	160,000	164,155	168,417	172,791	177,278	General
53020	Lines - Other	60,000	-	60,000	61,558	63,157	64,797	66,479	General
53030	Facilities - Other	29,000	-	29,000	29,753	30,526	31,318	32,132	General
53200	Insurance - Operations	13,000	-	13,000	13,338	13,684	14,039	14,404	General
54100	Other Maintenance	5,000	-	5,000	5,130	5,263	5,400	5,540	General
54210	Equipment, Maintenance & Repairs	8,000	-	8,000	8,208	8,421	8,640	8,864	General
54220	Fuel	9,000	-	9,000	9,731	10,147	10,522	10,856	Fuel
54300	Equipment Rental	4,000	-	4,000	4,104	4,210	4,320	4,432	General



Wastewater Budget (WET Utilities)

Account	Description	FY 2020 Budget	Adjustments	Adjusted FY 2020 Budget	2021	2022	2023	2024	Inflation Factor
55110	Chemicals	65,000	-	65,000	65,821	66,651	67,493	68,345	Chemicals
55120	Other Materials	1,500	-	1,500	1,539	1,579	1,620	1,662	General
55210	Small Tools & Equipment	8,000	-	8,000	8,208	8,421	8,640	8,864	General
55220	Sampling	6,000	-	6,000	6,156	6,316	6,480	6,648	General
55230	Cleaning	1,200	-	1,200	1,231	1,263	1,296	1,330	General
55240	Safety	5,000	-	5,000	5,130	5,263	5,400	5,540	General
55250	Other Supplies	5,000	-	5,000	5,130	5,263	5,400	5,540	General
56000	Permits	20,000	-	20,000	20,519	21,052	21,599	22,160	General
57000	Utilities	90,000	-	90,000	90,919	93,135	95,796	99,277	Electricity
58030	Drying Bed Sludge	30,000	-	30,000	30,779	31,578	32,398	33,240	General
58500	Water Purchase Cost	27,000	-	27,000	27,701	28,420	29,158	29,916	General
Total Supplies and Maintenance		\$ 641,700	\$ -	\$ 641,700	\$ 656,575	\$ 672,765	\$ 689,699	\$ 707,762	
Contractual Services									
17GIS04	GIS Mapping	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	None
59000	Consulting - Other	20,000	-	20,000	20,000	20,000	20,000	20,000	None
Total Contractual Services		\$ 20,000	\$ -	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	
Overhead		\$ 173,361	\$ -	\$ 173,361	\$ 181,079	\$ 189,225	\$ 197,774	\$ 206,764	
Total Wastewater Expenses		\$ 1,196,762	\$ -	\$ 1,196,762	\$ 1,237,440	\$ 1,280,766	\$ 1,326,188	\$ 1,374,176	
8% Admin Fee (Expenses less Water Purchases)		\$ 95,741		\$ 95,741	\$ 98,995	\$ 102,461	\$ 106,095	\$ 109,934	
Less: Army % of Costs		\$ (1,089,025)		\$ (1,089,025)	\$ (1,126,042)	\$ (1,165,467)	\$ (1,206,800)	\$ (1,250,468)	
Adjusted Wastewater Expenses		\$ 203,478	\$ -	\$ 203,478	\$ 210,394	\$ 217,760	\$ 225,483	\$ 233,642	
Revenue Requirement				\$ 203,478	\$ 210,394	\$ 217,760	\$ 225,483	\$ 233,642	
Annual % Increase/(Decrease)					3.4%	3.5%	3.5%	3.6%	
Army % of Costs				84.26%	<i>per Staff (5-Year Average % of Army Usage)</i>				



Weather Normals

30 Year Normals (1988-2018) ¹														
Month		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Normal	Precipitation (in.)	3.39	4.05	4.60	3.86	5.45	4.85	3.11	2.86	3.60	4.98	4.98	4.88	50.61
Monthly Precipitation ¹														
Year ^{2,3}		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
FY 2019		1.75	3.99	8.04	7.90	1.38	2.98	2.30	2.40	1.50	2.85	1.69	6.04	42.82
FY 2018		1.60	3.99	8.04	6.51	1.38	3.82	2.30	2.86	0.63	1.51	1.69	6.04	40.37
FY 2017		1.75	3.99	8.04	6.51	1.38	2.98	2.30	2.63	-	0.19	1.69	6.04	37.50
Closest FY Annual Total to Normal Precipitation (Absolute Value)														
Year		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
FY 2019														7.79
FY 2018														10.24
FY 2017														13.11
Closest FY Total to Normal	FY 2019	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-18	Nov-18	Dec-18	

Notes:

1) New Boston, TX Weather Station (<https://w2.weather.gov/climate/xmacis.php?wfo=shv>)

2) Months evaluated match the months we have from the billing system.

3) NOAA mean historical (2016 - 2019) precipitation value used where no data was available

Appendix C

TOTAL ARMY USAGE SCENARIO 3

Water: 94.4%

WW: 83.8%



Revenue Requirement Summary - Current

Excludes Facility Charge Revenue & Expenses

	2020	2021	2022	2023	2024
Water Revenue Requirement¹					
<u>Expenses</u>					
Personnel	\$ 333,050	\$ 349,703	\$ 367,188	\$ 385,547	\$ 404,824
Supplies & Maintenance	546,926	560,710	575,217	590,239	605,947
Contractual Services	20,000	20,000	20,000	20,000	20,000
Overhead	159,599	166,705	174,205	182,075	190,351
Subtotal Expenses	\$ 1,059,575	\$ 1,097,118	\$ 1,136,610	\$ 1,177,861	\$ 1,221,123
8% Admin Fee (Expenses less Water Purchases)	59,052	61,388	63,862	66,459	69,199
Less: Army % of Costs (94.43%)	(1,056,320)	(1,093,977)	(1,133,605)	(1,175,012)	(1,218,451)
Water Expenses (less Army)	\$ 62,308	\$ 64,529	\$ 66,866	\$ 69,309	\$ 71,871
Less: Non-Rate Revenues	(2,550)	(2,550)	(2,550)	(2,550)	(2,550)
Water Revenue Requirement	\$ 59,758	\$ 61,979	\$ 64,316	\$ 66,759	\$ 69,321
Water Revenue Under Current Rates	\$ 69,396	\$ 69,396	\$ 69,396	\$ 69,396	\$ 69,396
Over/(Under) Recovery (\$)	\$ 9,638	\$ 7,417	\$ 5,080	\$ 2,637	\$ 75
Over/(Under) Recovery (%)	13.9%	10.7%	7.3%	3.8%	0.1%
Wastewater Revenue Requirement²					
<u>Expenses</u>					
Personnel	\$ 361,701	\$ 379,786	\$ 398,775	\$ 418,714	\$ 439,650
Supplies & Maintenance	641,700	656,575	672,765	689,699	707,762
Contractual Services	20,000	20,000	20,000	20,000	20,000
Overhead	173,361	181,079	189,225	197,774	206,764
Subtotal Expenses	\$ 1,196,762	\$ 1,237,440	\$ 1,280,766	\$ 1,326,188	\$ 1,374,176
8% Admin Fee (Expenses less Water Purchases)	95,741	98,995	102,461	106,095	109,934
Less: Army % of Costs (83.80%)	(1,083,117)	(1,119,933)	(1,159,144)	(1,200,253)	(1,243,684)
Wastewater Expenses (less Army)	\$ 209,385	\$ 216,503	\$ 224,083	\$ 232,030	\$ 240,426
Less: Non-Rate Revenues	-	-	-	-	-
Wastewater Revenue Requirement	\$ 209,385	\$ 216,503	\$ 224,083	\$ 232,030	\$ 240,426
Wastewater Revenue Under Current Rates	\$ 240,589	\$ 240,589	\$ 240,589	\$ 240,589	\$ 240,589
Over/(Under) Recovery (\$)	\$ 31,203	\$ 24,086	\$ 16,506	\$ 8,559	\$ 163
Over/(Under) Recovery (%)	13.0%	10.0%	6.9%	3.6%	0.1%
Combined Revenue Requirement					
Combined Revenue Requirement	\$ 269,143	\$ 278,481	\$ 288,399	\$ 298,789	\$ 309,747
Combined Revenue Under Current Rates	\$ 309,984	\$ 309,984	\$ 309,984	\$ 309,984	\$ 309,984
Over/(Under) Recovery (\$)	\$ 40,841	\$ 31,503	\$ 21,585	\$ 11,196	\$ 237
Over/(Under) Recovery (%)	13.2%	10.2%	7.0%	3.6%	0.1%

Notes:

1) Removed REG account per Staff (\$105,916 Billed Revenues in FY2019)

2) Removed REG account per Staff (\$36,794 Billed Revenues in FY2019)

Water: 94.4%

WW: 83.8%



Model Assumptions

Test Year

2020

Inflation Factors	2020	2021	2022	2023	2024	Source
General		2.6%	2.6%	2.6%	2.6%	20 CAGR Avg MCI per American City & County
Fuel		8.1%	4.3%	3.7%	3.2%	Energy Information Administration Outlook
Electricity		1.0%	2.4%	2.9%	3.6%	Energy Information Administration Outlook
Chemicals		1.3%	1.3%	1.3%	1.3%	20-Yr Avg BLS Water Treating Compounds
Personnel		5.0%	5.0%	5.0%	5.0%	Industry Standard
None		0.0%	0.0%	0.0%	0.0%	

Water: 94.4%

WW: 83.8%



Overhead Budget (WET Utilities)

Account	Description	FY 2020 Budget	Adjustments	Adjusted FY 2020 Budget	2021	2022	2023	2024	Inflation Factor
Non-Operating Revenues (Expenses)									
	82000 40% Salary Billback	\$ 154,855		\$ 154,855	\$ 162,598	\$ 170,728	\$ 179,264	\$ 188,227	Personnel
Operating Expenses									
	60110 Salaries & Wages	\$ 407,678		\$ 407,678	\$ 428,062	\$ 449,465	\$ 471,938	\$ 495,535	Personnel
	60120 Health Insurance	41,580		41,580	43,659	45,842	48,134	50,541	Personnel
	60130 Pension	50,960		50,960	53,508	56,183	58,993	61,942	Personnel
	60140 Payroll Taxes	35,086		35,086	36,840	38,682	40,616	42,647	Personnel
	60150 Unemployment Obligations	-		-	-	-	-	-	Personnel
	60210 Cell Phone	1,800		1,800	1,890	1,985	2,084	2,188	Personnel
	60220 Workers Compensation	394		394	414	434	456	479	Personnel
	60230 Training, Travel, & Licenses	8,000		8,000	8,400	8,820	9,261	9,724	Personnel
	60240 Uniforms	2,000		2,000	2,100	2,205	2,315	2,431	Personnel
	60250 Other Employment Costs	7,950		7,950	8,348	8,765	9,203	9,663	Personnel
	60300 Temporary Labor	-		-	-	-	-	-	Personnel
	61200 Travel	5,600		5,600	5,745	5,895	6,048	6,205	General
	61310 Meetings	3,000		3,000	3,078	3,158	3,240	3,324	General
	63200 Insurance	1,000		1,000	1,026	1,053	1,080	1,108	General
	65010 Auditing	23,000		23,000	23,597	24,210	24,839	25,484	General
	65020 Accounting	-		-	-	-	-	-	General
	65210 Legal	25,000		25,000	25,649	26,315	26,999	27,700	General
	66000 Payroll Expenses	-		-	-	-	-	-	General
	66010 Computer, Reprod & Maint	17,000		17,000	17,441	17,894	18,359	18,836	General
	66020 Office Supplies	6,000		6,000	6,156	6,316	6,480	6,648	General
	66030 Postage	2,600		2,600	2,668	2,737	2,808	2,881	General
	66110 Utilities - OH	13,000		13,000	13,133	13,453	13,837	14,340	Electricity
	66130 Building Maintenance	7,000		7,000	7,182	7,368	7,560	7,756	General
	66210 Licenses & Fees	300		300	308	316	324	332	General
	66310 Advertising	2,000		2,000	2,052	2,105	2,160	2,216	General
	66810 Wright Express Fees	240		240	246	253	259	266	General
	66800 Miscellaneous Fees - Other	1,460		1,460	1,498	1,537	1,577	1,618	General
	Total Operating Expenses	\$ 662,648	\$ -	\$ 662,648	\$ 692,999	\$ 724,990	\$ 758,568	\$ 793,863	
	Less: 40% Salary Billback	\$ (154,855)	\$ -	\$ (154,855)	\$ (162,598)	\$ (170,728)	\$ (179,264)	\$ (188,227)	
	Overhead to be Allocated	\$ 507,793	\$ -	\$ 507,793	\$ 530,402	\$ 554,262	\$ 579,304	\$ 605,636	

Water: 94.4%

WW: 83.8%



Overhead Budget (WET Utilities)

Account	Description	FY 2020 Budget	Adjustments	Adjusted FY 2020 Budget	2021	2022	2023	2024	Inflation Factor
Utility Distribution per FY19-20 Budget									
	Water	31.43%		31.43%	31.43%	31.43%	31.43%	31.43%	31.43%
	Wastewater	34.14%		34.14%	34.14%	34.14%	34.14%	34.14%	34.14%
	Industrial Wastewater	34.43%		34.43%	34.43%	34.43%	34.43%	34.43%	34.43%
		100.00%		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Overhead Allocation									
	Water	\$ 159,599		\$ 159,599	\$ 166,705	\$ 174,205	\$ 182,075	\$ 190,351	
	Wastewater	\$ 173,361		\$ 173,361	\$ 181,079	\$ 189,225	\$ 197,774	\$ 206,764	
	Industrial Wastewater	\$ 174,833		\$ 174,833	\$ 182,617	\$ 190,833	\$ 199,454	\$ 208,520	
	Total Overhead Allocation	\$ 507,793		\$ 507,793	\$ 530,402	\$ 554,262	\$ 579,304	\$ 605,636	
	<i>Annual % Increase/(Decrease)</i>				4.5%	4.5%	4.5%	4.5%	

Water: 94.4%

WW: 83.8%



Water Budget (WET Utilities)

Account	Description	FY 2020 Budget	Adjustments	Adjusted FY 2020 Budget	2021	2022	2023	2024	Inflation Factor
Water Revenues									
41020	Army Revenue - Volumetric Charge	\$ 777,310	\$ (777,310)	\$ -	\$ -	\$ -	\$ -	\$ -	None
41025	Army Revenue - Water Supply Charge	313,406	(313,406)	-	-	-	-	-	None
42020	Res & Comm Rev - Volumetric Chg	123,742	(123,742)	-	-	-	-	-	None
42025	Res & Comm Rev - Water Supply Chg	-	-	-	-	-	-	-	None
42030	Res & Comm Rev - Backflow Calibration	2,550	-	2,550	2,550	2,550	2,550	2,550	None
Total Water Revenues		\$ 1,217,008	\$ (1,214,458)	\$ 2,550	\$ 2,550	\$ 2,550	\$ 2,550	\$ 2,550	

Water Expenses

Personnel

50100	Salaries & Wages	\$ 215,822		\$ 215,822	\$ 226,613	\$ 237,944	\$ 249,841	\$ 262,333	Personnel
50100	Health Insurance	41,580		41,580	43,659	45,842	48,134	50,541	Personnel
50110	Pension	26,978		26,978	28,327	29,743	31,230	32,792	Personnel
50120	Payroll Taxes	18,574		18,574	19,503	20,478	21,502	22,577	Personnel
50130	Unemployment Obligations	-		-	-	-	-	-	Personnel
50150	Cell Phone	800		800	840	882	926	972	Personnel
50200	Workers Compensation	5,596		5,596	5,876	6,170	6,478	6,802	Personnel
50210	Training, Travel, & Licenses	6,000		6,000	6,300	6,615	6,946	7,293	Personnel
50230	Uniforms	3,000		3,000	3,150	3,308	3,473	3,647	Personnel
50240	Other Employment Costs	2,200		2,200	2,310	2,426	2,547	2,674	Personnel
50250	Mileage for Call Outs	500		500	525	551	579	608	Personnel
50260	Temporary Labor	12,000		12,000	12,600	13,230	13,892	14,586	Personnel
50300	Labor - Other	-		-	-	-	-	-	Personnel
Total Personnel		\$ 333,050	\$ -	\$ 333,050	\$ 349,703	\$ 367,188	\$ 385,547	\$ 404,824	

Supplies and Maintenance

52000	Analytics	\$ (10,000)		\$ (10,000)	\$ (10,260)	\$ (10,526)	\$ (10,799)	\$ (11,080)	General
53010	Plant-Other	12,000		12,000	12,312	12,631	12,959	13,296	General
53020	Lines - Other	100,000		100,000	102,597	105,261	107,994	110,799	General
53030	Facilities - Other	15,000		15,000	15,390	15,789	16,199	16,620	General
53200	Insurance - Operations	13,000		13,000	13,338	13,684	14,039	14,404	General
54100	Other Maintenance	5,000		5,000	5,130	5,263	5,400	5,540	General
54210	Equipment, Maintenance & Repairs	10,000		10,000	10,260	10,526	10,799	11,080	General

Water: 94.4%

WW: 83.8%



Water Budget (WET Utilities)

Account	Description	FY 2020 Budget	Adjustments	Adjusted FY 2020 Budget	2021	2022	2023	2024	Inflation Factor
54220	Fuel	5,000		5,000	5,406	5,637	5,846	6,031	Fuel
54300	Equipment Rental	5,000		5,000	5,130	5,263	5,400	5,540	General
55110	Chemicals	6,000		6,000	6,076	6,152	6,230	6,309	Chemicals
55120	Other Materials	500		500	513	526	540	554	General
55210	Small Tools & Equipment	3,000		3,000	3,078	3,158	3,240	3,324	General
55220	Sampling	3,000		3,000	3,078	3,158	3,240	3,324	General
55230	Cleaning	-		-	-	-	-	-	General
55240	Safety	3,000		3,000	3,078	3,158	3,240	3,324	General
55250	Other Supplies	1,000		1,000	1,026	1,053	1,080	1,108	General
56000	Permits	15,000		15,000	15,390	15,789	16,199	16,620	General
57000	Utilities	39,000		39,000	39,398	40,359	41,512	43,020	Electricity
58500	Water Purchase Cost	321,426		321,426	329,773	338,336	347,122	356,136	General
Total Supplies and Maintenance		\$ 546,926	\$ -	\$ 546,926	\$ 560,710	\$ 575,217	\$ 590,239	\$ 605,947	
Contractual Services									
17GIS04	GIS Mapping	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	None
59000	Consulting - Other	20,000		20,000	20,000	20,000	20,000	20,000	None
Total Contractual Services		\$ 20,000	\$ -	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	
Overhead		\$ 159,599	\$ -	\$ 159,599	\$ 166,705	\$ 174,205	\$ 182,075	\$ 190,351	
Total Water Expenses		\$ 1,059,575	\$ -	\$ 1,059,575	\$ 1,097,118	\$ 1,136,610	\$ 1,177,861	\$ 1,221,123	
8% Admin Fee (Expenses less Water Purchases)		\$ 59,052		\$ 59,052	\$ 61,388	\$ 63,862	\$ 66,459	\$ 69,199	
Less: Army % of Cost		\$ (1,056,320)		\$ (1,056,320)	\$ (1,093,977)	\$ (1,133,605)	\$ (1,175,012)	\$ (1,218,451)	
Adjusted Water Expenses		\$ 62,308	\$ -	\$ 62,308	\$ 64,529	\$ 66,866	\$ 69,309	\$ 71,871	
Revenue Requirement				\$ 59,758	\$ 61,979	\$ 64,316	\$ 66,759	\$ 69,321	
Annual % Increase/(Decrease)					3.7%	3.8%	3.8%	3.8%	
Army % of Costs					94.43%	<i>breakeven by FY 2025 Army %</i>			

Water: 94.4%

WW: 83.8%



Wastewater Budget (WET Utilities)

Account	Description	FY 2020 Budget	Adjustments	Adjusted FY 2020 Budget	2021	2022	2023	2024	Inflation Factor
Wastewater Revenues									
41020	Army Revenue - Volumetric Charge	\$ 977,228	\$ (977,228)	\$ -	\$ -	\$ -	\$ -	\$ -	None
41025	Army Revenue - Water Supply Charge	-	-	-	-	-	-	-	None
42020	Res & Comm Rev - Volumetric Chg	293,375	(293,375)	-	-	-	-	-	None
Total Wastewater Revenues		\$ 1,270,603	\$ (1,270,603)	\$ -	\$ -	\$ -	\$ -	\$ -	

Wastewater Expenses

Personnel

50100	Salaries & Wages	\$ 234,237	\$ -	\$ 234,237	\$ 245,949	\$ 258,246	\$ 271,159	\$ 284,717	Personnel
50100	Health Insurance	46,258	-	46,258	48,571	50,999	53,549	56,227	Personnel
50110	Pension	29,280	-	29,280	30,744	32,281	33,895	35,590	Personnel
50120	Payroll Taxes	20,159	-	20,159	21,167	22,225	23,337	24,503	Personnel
50130	Unemployment Obligations	-	-	-	-	-	-	-	Personnel
50150	Cell Phone	890	-	890	935	981	1,030	1,082	Personnel
50200	Workers Compensation	5,916	-	5,916	6,212	6,522	6,849	7,191	Personnel
50210	Training, Travel, & Licenses	6,675	-	6,675	7,009	7,359	7,727	8,114	Personnel
50230	Uniforms	3,338	-	3,338	3,505	3,680	3,864	4,057	Personnel
50240	Other Employment Costs	2,448	-	2,448	2,570	2,699	2,834	2,976	Personnel
50250	Mileage for Call Outs	500	-	500	525	551	579	608	Personnel
50260	Temporary Labor	12,000	-	12,000	12,600	13,230	13,892	14,586	Personnel
50300	Labor - Other	-	-	-	-	-	-	-	Personnel
Total Personnel		\$ 361,701	\$ -	\$ 361,701	\$ 379,786	\$ 398,775	\$ 418,714	\$ 439,650	

Supplies and Maintenance

52000	Analytics	\$ 95,000	\$ -	\$ 95,000	\$ 97,467	\$ 99,998	\$ 102,595	\$ 105,259	General
53010	Plant-Other	160,000	-	160,000	164,155	168,417	172,791	177,278	General
53020	Lines - Other	60,000	-	60,000	61,558	63,157	64,797	66,479	General
53030	Facilities - Other	29,000	-	29,000	29,753	30,526	31,318	32,132	General
53200	Insurance - Operations	13,000	-	13,000	13,338	13,684	14,039	14,404	General
54100	Other Maintenance	5,000	-	5,000	5,130	5,263	5,400	5,540	General
54210	Equipment, Maintenance & Repairs	8,000	-	8,000	8,208	8,421	8,640	8,864	General
54220	Fuel	9,000	-	9,000	9,731	10,147	10,522	10,856	Fuel
54300	Equipment Rental	4,000	-	4,000	4,104	4,210	4,320	4,432	General

Water: 94.4%

WW: 83.8%



Wastewater Budget (WET Utilities)

Account	Description	FY 2020 Budget	Adjustments	Adjusted FY 2020 Budget	2021	2022	2023	2024	Inflation Factor
55110	Chemicals	65,000	-	65,000	65,821	66,651	67,493	68,345	Chemicals
55120	Other Materials	1,500	-	1,500	1,539	1,579	1,620	1,662	General
55210	Small Tools & Equipment	8,000	-	8,000	8,208	8,421	8,640	8,864	General
55220	Sampling	6,000	-	6,000	6,156	6,316	6,480	6,648	General
55230	Cleaning	1,200	-	1,200	1,231	1,263	1,296	1,330	General
55240	Safety	5,000	-	5,000	5,130	5,263	5,400	5,540	General
55250	Other Supplies	5,000	-	5,000	5,130	5,263	5,400	5,540	General
56000	Permits	20,000	-	20,000	20,519	21,052	21,599	22,160	General
57000	Utilities	90,000	-	90,000	90,919	93,135	95,796	99,277	Electricity
58030	Drying Bed Sludge	30,000	-	30,000	30,779	31,578	32,398	33,240	General
58500	Water Purchase Cost	27,000	-	27,000	27,701	28,420	29,158	29,916	General
Total Supplies and Maintenance		\$ 641,700	\$ -	\$ 641,700	\$ 656,575	\$ 672,765	\$ 689,699	\$ 707,762	
Contractual Services									
17GIS04	GIS Mapping	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	None
59000	Consulting - Other	20,000	-	20,000	20,000	20,000	20,000	20,000	None
Total Contractual Services		\$ 20,000	\$ -	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	
Overhead		\$ 173,361	\$ -	\$ 173,361	\$ 181,079	\$ 189,225	\$ 197,774	\$ 206,764	
Total Wastewater Expenses		\$ 1,196,762	\$ -	\$ 1,196,762	\$ 1,237,440	\$ 1,280,766	\$ 1,326,188	\$ 1,374,176	
8% Admin Fee (Expenses less Water Purchases)		\$ 95,741		\$ 95,741	\$ 98,995	\$ 102,461	\$ 106,095	\$ 109,934	
Less: Army % of Costs		\$ (1,083,117)		\$ (1,083,117)	\$ (1,119,933)	\$ (1,159,144)	\$ (1,200,253)	\$ (1,243,684)	
Adjusted Wastewater Expenses		\$ 209,385	\$ -	\$ 209,385	\$ 216,503	\$ 224,083	\$ 232,030	\$ 240,426	
Revenue Requirement				\$ 209,385	\$ 216,503	\$ 224,083	\$ 232,030	\$ 240,426	
<i>Annual % Increase/(Decrease)</i>					3.4%	3.5%	3.5%	3.6%	
<i>Army % of Costs</i>		83.80% breakeven by FY 2025 Army %							

Water: 94.4%

WW: 83.8%



Weather Normals

30 Year Normals (1988-2018) ¹														
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	
Normal	Precipitation (in.)	3.39	4.05	4.60	3.86	5.45	4.85	3.11	2.86	3.60	4.98	4.98	4.88	50.61
Monthly Precipitation ¹														
Year ^{2,3}	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	
FY 2019	1.75	3.99	8.04	7.90	1.38	2.98	2.30	2.40	1.50	2.85	1.69	6.04	42.82	
FY 2018	1.60	3.99	8.04	6.51	1.38	3.82	2.30	2.86	0.63	1.51	1.69	6.04	40.37	
FY 2017	1.75	3.99	8.04	6.51	1.38	2.98	2.30	2.63	-	0.19	1.69	6.04	37.50	
Closest FY Annual Total to Normal Precipitation (Absolute Value)														
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	
FY 2019													7.79	
FY 2018													10.24	
FY 2017													13.11	
Closest FY Total to Normal	FY 2019	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-18	Nov-18	Dec-18	

Notes:

1) New Boston, TX Weather Station (<https://w2.weather.gov/climate/xmacis.php?wfo=shv>)

2) Months evaluated match the months we have from the billing system.

3) NOAA mean historical (2016 - 2019) precipitation value used where no data was available