Town of Winchendon

Water and Wastewater Rate Study

Draft Report / March 11, 2022

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March 11, 2022

Mr. Brian Croteau
Public Works Director
Town of Winchendon
109 Front Street, Dept 4
Winchendon, MA 01475

Subject: 2022 Water and Wastewater Rate Study

Dear Mr. Croteau:

Raftelis is pleased to provide this draft report documenting our process and results of the 2022 Water and Wastewater Rate Study for the Town of Winchendon. If you have any questions or need any additional information, please do not hesitate to contact me at (774) 243-0619 or dfox@raftelis.com. It has been a pleasure working with you and the Town, and we thank you for the support provided during this project.

Sincerely,

David Fox
Senior Manager

24 Superior Drive, Suite 107
Natick, MA 01760

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1. Introduction

Raftelis Financial Consultants, Inc. (Raftelis) was engaged by the Town of Winchendon (Town) to perform a Water and Wastewater Rate Study (Study). This report details the Study and its conclusions.

1.1. Scope of Services

The main goals of this study were to assess the appropriateness of the Town's current water and sewer rates in comparison to the Town's financial objectives and to develop a forecast of water and sewer rates and charges to fund current and future operating and capital needs. Specifically, Raftelis was tasked to:

1. Evaluate revenue sufficiency and recommend rates that recover the necessary revenues to meet existing and future operating and capital revenue requirements;
2. Evaluate the Town's existing rate structure and make recommendations for potential modifications;
3. Evaluate current financing practices for water and sewer infrastructure, current debt levels, and existing projections of debt issuance;
4. Provide a user-friendly, non-proprietary, financial planning and rate model, designed for ongoing use by Town staff; and
5. Develop a cost benefit analysis of maintaining contract operations for the wastewater treatment plant, or to bring the operations back in-house to be operated by Town staff as it had been previously.

Raftelis held virtual meetings with Town staff to identify the Town's primary objectives and financial goals. During these meetings, it was determined that the Town prioritized revenue sufficiency, revenue stability, and the minimization of customer impacts.

Raftelis has developed a financial planning and rate model to forecast annual revenue requirements (costs), customer demand, rates, and system revenues over a multi-year planning period. The model allows the Town to analyze its current financial position and the future impacts of the recommended program of rate adjustments to the system and its customers.

2. Rate Study Process

Raftelis utilizes a systematic approach for rate setting which was tailored to the Town's goals and objectives. The first step in the rate-setting process was the identification of financial objectives, which occurred during a project kick-off meeting with Town staff. During this meeting, Raftelis also discussed the advantages and disadvantages of the Town's current rate structure, as well as potential rate structure modifications. It was determined that the Town prioritized rate and financial goals of revenue sufficiency, revenue stability, and the minimization of customer impacts.

The next step in the rate-setting process was the development of a financial plan, which summarizes the revenue requirements and projected revenues for a five-year planning period, focusing on the upcoming fiscal year, 2023. The financial plan projects revenue shortfalls under the Town's existing rates and indicates the additional level of revenues necessary to support the projected revenue requirements.

Revenue requirements include all operations and maintenance (O&M) costs, capital costs (including debt service payments and other cash funded capital), and any other need for purposes of maintaining financial viability. After identifying the revenue requirements, Raftelis analyzed customer demand, which is a critical element in developing rate recommendations. The Town's billing data for the utility customers were reviewed to develop a projection of accounts and billable consumption, upon which revenues were forecast using existing rates.

After the financial plan was developed, the process of calculating rate structure adjustments and resulting rates to recover the revenue shortfall identified in the financial plan began. Based on information provided during the kick-off meeting and subsequent correspondence, the Town's primary goal for the rate study was financial sufficiency and meeting all capital costs, while minimizing economic impact on its customer base. Raftelis developed rate recommendations to address these objectives.

3. Financial and Rate Plan

The next step in the rate-setting process was the development of a financial plan, which includes establishing a forecast of revenue requirements, determining the necessary revenue increases using demand projections, and examining the forecasted operating results over the five-year forecast period (2023 to 2028).

3.1. Revenue Requirements

Revenue requirements refer to the Town's annual costs that must be recovered through annual revenues. The first major task in establishing a financial plan is developing an understanding of the revenue requirements of a utility over the forecast period. Revenue requirements are comprised of cash-based expenses including: operations and maintenance (O&M) expenses, annual debt service payments, cash-funded capital, and contributions to reserves, as necessary.

3.1.1. Operating and Maintenance Expenses

O&M expenses represent normal, recurring expenses necessary to sustainably operate and maintain the system during the Town's annual accounting cycle, which is a Fiscal Year ending June 30th. The 2019-2022 operating budgets were provided to Raftelis by Town staff and serve as the baseline for the projection of utility operating costs.

To develop a five-year forecast of system operating costs and account for growing utility costs and inflation, escalation factors are used for each major operating expense category. These escalation factors resulted in an increase of approximately 3% per year to operating expenses throughout the five-year forecast period. Some expenses are forecasted to increase at greater than 3%, and others less, but on average O&M is forecasted to increase by approximately 3% annually.

The Town's 2022 budgeted operating expenses and forecasted operating expenses through 2028 are presented in Table 1.

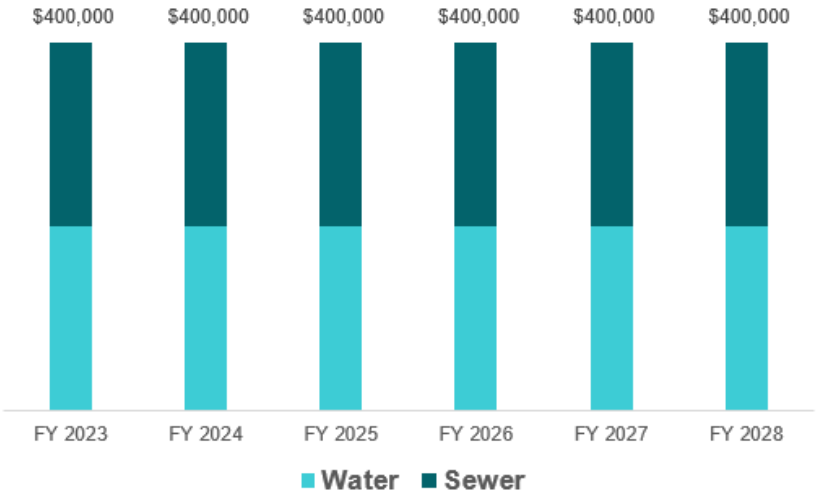
Table 1 – Water and Sewer Operating Expenses Forecasted from 2022 to 2028

	FY 2022 Adopted Budget	FY 2023 Proposed Budget	FY 2024 Forecast	FY 2025 Forecast	FY 2026 Forecast	FY 2027 Forecast	FY 2028 Forecast
Water Operating Expenses							
Personnel							
Salaries and Wages	$ 213,369	$ 213,369	$ 219,770	$ 226,363	$ 233,154	$ 240,149	$ 247,353
Other Personnel Expense	6,200	6,200	6,386	6,578	6,775	6,978	7,187
Cost of Providing Service							
Cost of Providing Service Expense	$ 604,235	$ 573,095	$ 590,288	$ 607,996	$ 626,236	$ 645,023	$ 664,374
Transfers	146,063	146,063	150,445	154,958	159,607	164,395	169,327
Other Costs	-	-	-	-	-	-	-
Total: Water Operating Expenses	**$ 969,867**	**$ 938,727**	**$ 966,889**	**$ 995,896**	**$ 1,025,772**	**$ 1,056,546**	**$ 1,088,242**
Sewer Operating Expenses							
Personnel							
Salaries and Wages	$ 13,344	$ 13,344	$ 13,744	$ 14,157	$ 14,581	$ 15,019	$ 15,469
Other Personnel Expense	-	-	-	-	-	-	-
Cost of Providing Service							
Cost of Providing Service Expense	$ 857,023	$ 843,845	$ 869,160	$ 895,235	$ 922,092	$ 949,755	$ 978,248
Transfers	138,739	138,739	142,901	147,188	151,604	156,152	160,837
Other Costs	-	-	-	-	-	-	-
Total: Sewer Operating Expenses	**$ 1,009,106**	**$ 995,928**	**$ 1,025,806**	**$ 1,056,580**	**$ 1,088,277**	**$ 1,120,926**	**$ 1,154,554**
Total: Water & Sewer Operating Expenses	**$ 1,978,973**	**$ 1,934,655**	**$ 1,992,695**	**$ 2,052,476**	**$ 2,114,050**	**$ 2,177,471**	**$ 2,242,796**

3.1.2. Capital Improvement Plan

A significant part of the Town's future costs is its capital improvement plan. The Town provided to Raftelis its latest plan, which projects infrastructure investments through Fiscal Year 2028. The Town plans to spend approximately $400,000 per year to address various infrastructure needs. Table 2 below shows the planned capital spending, separated into water and sewer spending.

Table 2 – Capital Improvement Plan Spending from 2023 (Budgeted) through 2028 (Forecasted)



The Town also identified its plans for financing these improvements. State Revolving Fund (SRF) loans will be utilized to finance the annual capital expenditures as presented in Table 2.

Table 3 shows a summary of the funding mechanisms for the Town's capital improvement plan.

Table 3 – Funding Sources for Winchendon's Capital Improvement Plan

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Capital Funding Sources						
Total Anticipated Needs	$400,000	$400,000	$400,000	$400,000	$400,000	$400,000
Funding Sources						
Debt (MA - State Revolving Fund)	$400,000	$400,000	$400,000	$400,000	$400,000	$400,000
Debt (Revenue Backed)	-	-	-	-	-	-
Cash (PAYGO)	-	-	-	-	-	-
Subtotal: Funding Sources	$400,000	$400,000	$400,000	$400,000	$400,000	$400,000

3.2. Existing Rates and Revenues

The Town's revenues come principally from user fees and rates. Because of this, a rate study necessarily must examine customer trends to estimate future revenues. Raftelis was given access to historical Town billing data to examine customer water and sewer usage patterns. Raftelis found that between 2019 and 2021, accounts grew slowly and consumption slightly fell. Because of that slow growth, Raftelis has taken a conservative view by assuming in our forecast that the number of accounts and water and sewer consumption will remain at historical levels, although annual fluctuations are expected. To offset this, we have recommended an alternative rate structure to be discussed later in the report. Table 4 summarizes the customer data used to calculate user fee revenues through 2028.

Table 4 – Projection of Customer Accounts and Consumption

	FY 2022 Actual	FY 2023 Projected	FY 2024 Projected	FY 2025 Projected	FY 2026 Projected	FY 2027 Projected	FY 2028 Projected
Water Accounts							
5/8"	1,995	1,995	1,995	1,995	1,995	1,995	1,995
3/4"	1	1	1	1	1	1	1
1"	13	13	13	13	13	13	13
1 1/4"	1	1	1	1	1	1	1
1.5"	20	20	20	20	20	20	20
2"	22	22	22	22	22	22	22
2" Turbo	1	1	1	1	1	1	1
3"	2	2	2	2	2	2	2
4"	1	1	1	1	1	1	1
6"	2	2	2	2	2	2	2
Total	2,052	2,052	2,052	2,052	2,052	2,052	2,052
Water Consumption (CCF)							
All Accounts	145,479	145,479	145,479	145,479	145,479	145,479	145,479
Total	145,479	145,479	145,479	145,479	145,479	145,479	145,479
Sewer Accounts							
5/8"	1,995	1,995	1,995	1,995	1,995	1,995	1,995
3/4"	1	1	1	1	1	1	1
1"	13	13	13	13	13	13	13
1 1/4"	1	1	1	1	1	1	1
1.5"	20	20	20	20	20	20	20
2"	22	22	22	22	22	22	22
2" Turbo	1	1	1	1	1	1	1
3"	1.75	1.75	1.75	1.75	1.75	1.75	1.75
4"	1	1	1	1	1	1	1
6"	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Total	2,052	2,052	2,052	2,052	2,052	2,052	2,052
Sewer Consumption (CCF)							
All Accounts	90,072	90,072	90,072	90,072	90,072	90,072	90,072
Total	90,072	90,072	90,072	90,072	90,072	90,072	90,072

The Town's existing rates are shown below. The water rate is a flat usage charge. Similarly, the sewer rate is also a flat usage charge.

Table 5 – Existing (2022) Water and Sewer Rates

		FY 2022 Effective 7/1/2021
Water Rates		
	Volumetric Rates (per CCF)	$ 6.01
Sewer Rates		
	Volumetric Rates (per CCF)	$ 10.49

3.2.1. Financial Health Under the *Status Quo* – No Rate Increase

If the Town continues to operate under the *status quo*, the following financial picture emerges. This assumes the account and consumption numbers shown in Table 4 and also assumes that the current (2022) rates stay the same through 2028.

As shown in the figures below, if rate increases are not approved, or conversely, if the Town does not reduce its projected costs significantly, which it cannot do without compromising safe service for the Town's residents, the financial health of the water and sewer utilities will remain dire and deteriorate even further. The sewer utility's financial position becomes more stable after a significant portion of debt service expires at the end of FY 2023, which will be discussed further, but rate increases are still required. Unfortunately, the Town's water and sewer funds do not have adequate reserve fund levels to offset the required rate increases. This is an unworkable financial situation that must be avoided.

Figure 1 – Water Cashflow If No Rate Increases are Made

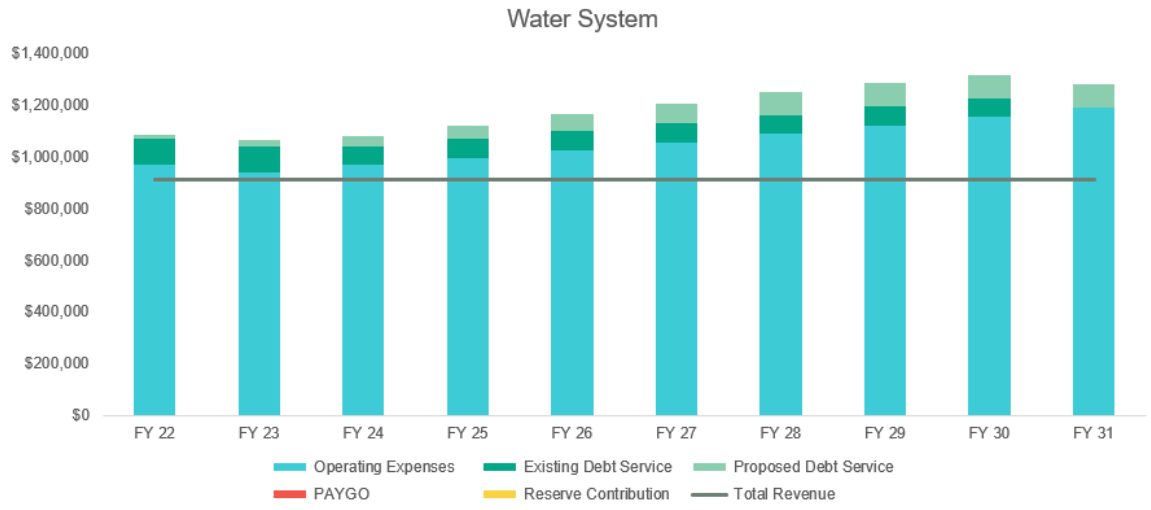
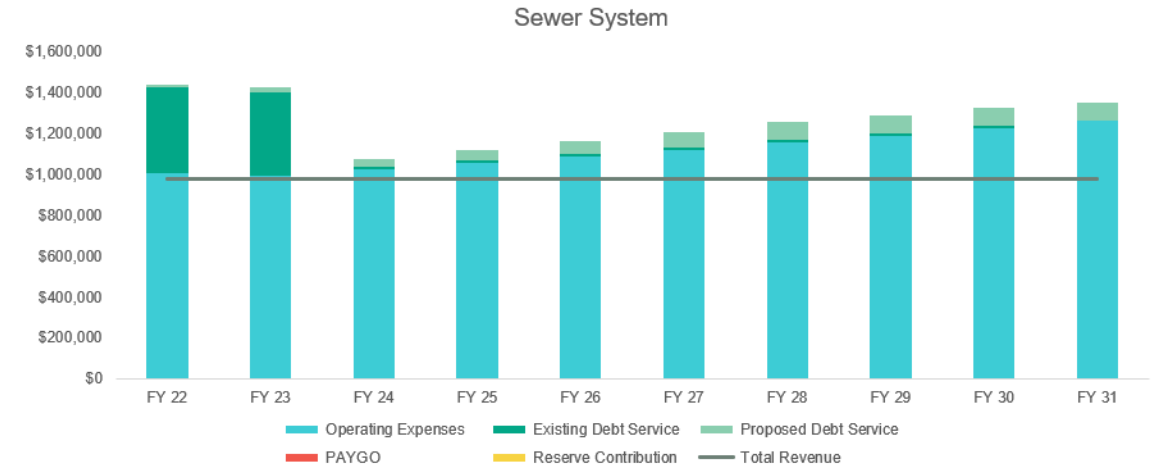


Figure 2 – Sewer Cashflow If No Rate Increases are Made



3.3. Recommended Financial Plan

Raftelis has examined the utility's financial situation as described above and proposes rate increases that would guide the utilities to a healthier financial footing.

Raftelis recommends the rate increases over the next 5 years as shown in Table 6. These rate increases were designed, in conjunction with Town staff, to do the following:

1. Fund all proposed revenue requirements, including the Town's 5-year capital improvements plan, as detailed in this report.
2. Generate an operating surplus in FY 2023 for both the water and sewer utilities.
3. Begin establishing an adequate amount of reserves over time for financial viability purposes.

Table 6 – Recommended Rate Increases Using Current Rate Structure

Rate Increases	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Rate Adjustments						
Water	18.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Sewer	10.00%	3.00%	3.00%	3.00%	3.00%	3.00%

The above rate increases begin in 2023 with a 18% rate increase on water retail customers and a 10% increase on sewer retail customers. Thereafter, only 3% rate increases are forecasted to maintain financial sufficiency. All rate increases are assumed to take effect July 1st of each year to coincide with the Town's fiscal year.

It should be noted that even with the 10% increase on the sewer rates, a deficit is still projected for FY 2023. Given the significant drop in debt service in FY 2024, Raftelis recommends that the Town work with its treasurer to explore options for offsetting the deficit through a general fund subsidy or short-term financing. This way a significant rate increase in FY 2023 can be avoided to offset the deficit, only to be reduced in FY 2024.

Figure 3 is a cashflow chart of the water utility's finances from fiscal year 2022 through 2031 if the recommended rate increases are adopted. As can be seen, the vast majority of revenue requirements are due to operating expenses, with the remained coming from existing and future debt service payments. The water utility is projected to run a surplus in this scenario from FY 2023 through the remainder if the forecast, supported by the rate increases as presented in Table 6.

Figure 3 – Water Cashflow Under Recommended Rate Increases

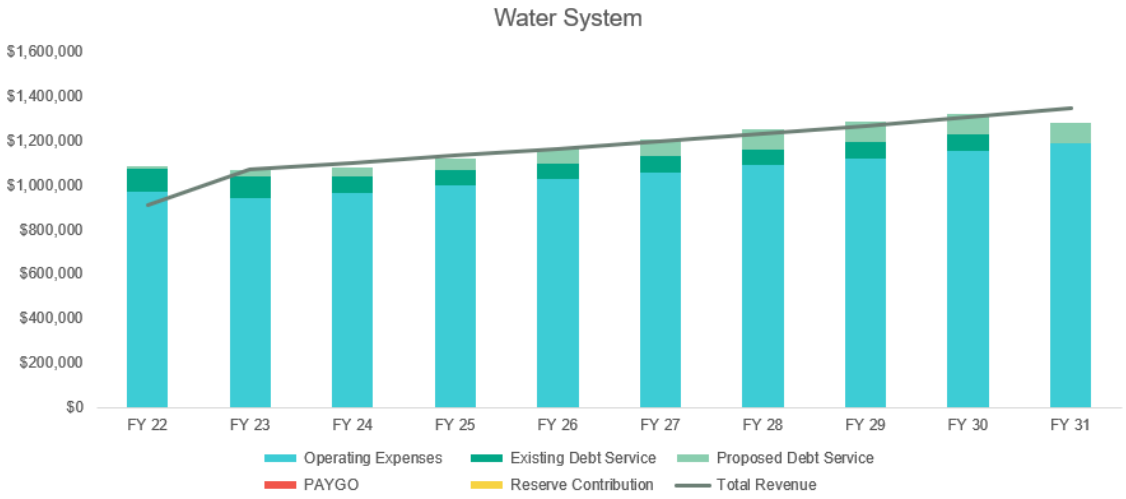
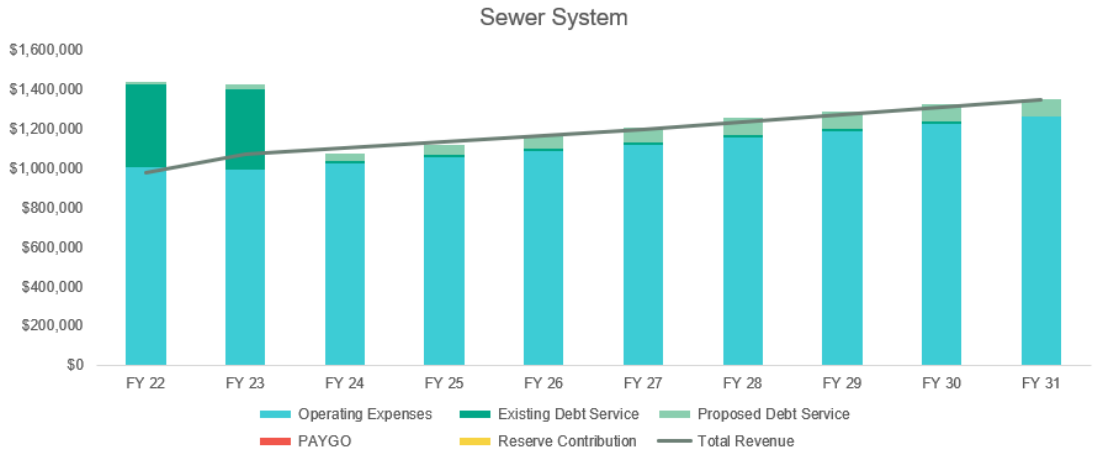


Figure 4 shows the sewer cashflow from fiscal year 2022 through 2031 under the recommended rate increases. As can be seen, there is a significant drop off in revenue requirements in FY 2024, due to the expiration of two debt service obligations. Although a 10% rate increase is recommended in FY 2023, only 3% increases are required thereafter to maintain financial sufficiency.

Figure 4 – Sewer Cashflow Under Recommended Rate Increases



3.4. Alternative Rate Structure

In addition to the required across-the-board increases as described in the previous section, which assume that the Town's water and sewer rate structure will remain unchanged, Raftelis has also modeled an alternative rate structure, while recovering the same amount of revenue as needed for both the water and sewer funds to accomplish financial sufficiency.

In reviewing the Town's rate structures, it was immediately clear that the bulk of annual revenues are generated from volumetric rates which are susceptible to fluctuations in customer usage. To mitigate this volatility, it is common for water and sewer utilities to assess fixed charges as well as volumetric. Fixed charges are paid by customers, per billing period, whether any water or sewer service is used or not. The majority of utilities across the industry do assess a fixed charge, and the majority of those that do assess that fixed charge based on meter size. Our proposed alternative rate structure assumes a fixed charge by meter size for both the water and sewer funds.

In addition the addition of a fixed charge, we have also developed an alternative volumetric rate structure which maintains a uniform rate for non-single family residential customers as the Town utilizes currently, but then assesses a two-tier inclining block volumetric rate for all single family residential customers. Inclining block rates are becoming more and more common throughout the water industry, and accomplish the goals of providing a baseline amount of usage at a lower volumetric rate for single family residential customers while at the same time incentives the efficient use of the Town's resources. The sewer volumetric rates would remain unchanged with regard to structure, which is most common for the sewer industry.

Table 7 provides an overview of the proposed alternative rate structures for the water and sewer funds based on FY 2023 revenue needs as presented earlier in the report.

Table 7 – Proposed Rates for FY 2023 Using New Rate Structure

			FY 2023 Effective 7/1/2022
Water Rates			
	Volumetric Rates (per CCF)		
		Single Family Tier 1	$ 4.90
		Single Family Tier 2	5.39
		Mutli-Family Residential	6.13
		Non-Residential	6.13
	Quarterly Minimum Charge		
		5/8"	$ 20.00
		3/4"	25.00
		1"	30.00
		1 1/4"	30.00
		1.5"	30.00
		2"	40.00
		2" Turbo	40.00
		3"	70.00
		4"	115.00
		6"	135.00
Sewer Rates			
	Volumetric Rates (per CCF)		$ 9.81
	Quarterly Minimum Charge		
		5/8"	$ 20.00
		3/4"	$ 25.00
		1"	$ 30.00
		1 1/4"	$ 30.00
		1.5"	$ 30.00
		2"	$ 40.00
		2" Turbo	$ 40.00
		3"	$ 70.00
		4"	$ 115.00
		6"	$ 135.00

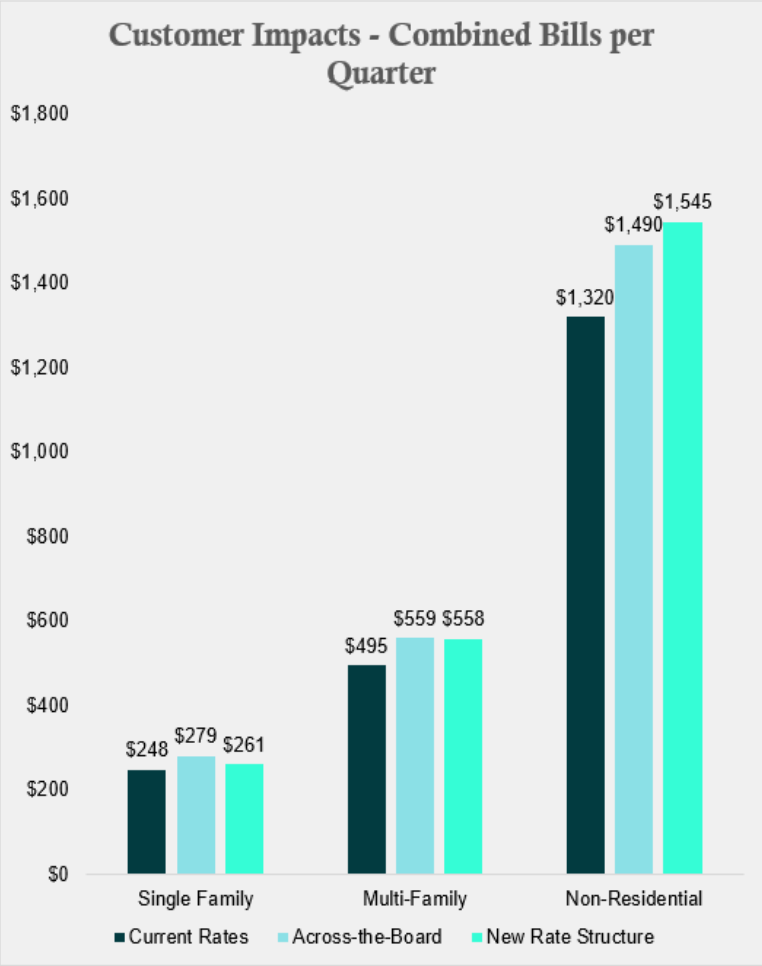
3.5. Customer Impacts

The proposed rates for FY 2023 would have the impacts on customers shown in Table 8. While relying on the Town's existing rate structure with water and sewer rate increases of 18% and 10%, respectively, a single family residential customer with a quarterly consumption of 15 hundred cubic feet (Hcf) / Quarter will see an increase in their quarterly water and sewer bill from $248 to $279. However, under the alternative rate design structure, this same customer will only experience an increase from $248 to $261. Given that single family residential customers would see a smaller increases in their bills compared to the across-the-board increases, it is necessary that other customers pay more, comparatively. For example, and typical non-residential property, using 80 Hcf per quarter, would see their bill increase from $1,320 to $1,545 per quarter, instead of to $1,490 under the across-the-board scenario. A typical multi-family residential property would see almost no difference between an across-the-board scenario and the alternative rate structure.

Again, the comparative customer impacts as just described can be viewed in Table 8 below.

Table 8 – Impacts of Proposed Rates on Customers in FY 2023

Display Name	Rate Class	Meter Size	Consumption (Hcf/Quarter)
Median Single Family	Single Family	5/8"	15
Median Multi-Family	Multi-Family	2"	30
Median Non-Residential	Non-Residential	6"	80



4. Conclusions & Recommendations

To be finalized after discussion with the Select Board on March 14, 2022.