



TOWN OF NORTHBOROUGH

FY 2024 Water and Sewer Rate Study Report

Final Report / August 22, 2023

August 22, 2023

Mr. Scott Charpentier, P.E.
Director of Public Works
Town of Northborough, MA
63 Main Street
Northborough, MA 01532

Subject: FY 2024 Water and Sewer Rate Study Report - Final

Dear Mr. Charpentier,

Raftelis is pleased to present this report describing the assumptions and findings of our Fiscal Year (FY) 2024 Water and Sewer Rate Study (Study) performed for the Town of Northborough (Town). We would like to take this opportunity to thank you and your staff for the efforts and participation you put forth during the Study.

The major objectives of the Study included the development of financial plans for the water and sewer enterprises to ensure financial sufficiency, meet operation and maintenance (O&M) costs, ensure sufficient funding for capital renewal and replacement (R&R) needs, and improve the financial health of the enterprises through adequate reserve fund balances and debt service coverage.

This report summarizes the key findings and recommendations related to the development of the financial plans for the water and sewer utilities and our review and recommended rate increases required to support those plans.

It has been a pleasure working with you, and we thank you and other Town staff for the support provided during the course of this study.

Sincerely,
Raftelis



Dave Fox
Vice President

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1. FINANCIAL PLAN

The first step in the rate setting process was the development of financial plans, which included 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 (FY 2024 – FY 2028).

1.1 REVENUE REQUIREMENTS

The first major task in establishing a financial plan is developing an understanding of the revenue requirements of the utility over the forecast period. Requirements are comprised of cash-based expenses including: O&M expenses, annual debt service payments, cash-funded capital, and contributions to utility reserve funds.

1.1.1 Operating 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 FY 2024 operating budget was provided to Raftelis by Town Staff and serves 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 range between zero and three and a half percent throughout the five-year forecast period. These cost escalation factors are consistent with historical trends seen in the consumer price index, construction cost index, and actual Town historical expenses.

For the Town's water utility, the Massachusetts Water Resources Authority (MWRA) assessments are by far the largest line item cost. The MWRA assessments are based on the Authority's annual budget and Northborough's share of historic annual water use. The increases from year to year will thus depend on the Authority's annual cost increases and how Northborough's water purchases compare to other communities. For FY 2023, we have used the final assessment projections as published by the MWRA. To project these expenses for future years, we used the final assessment from FY 2024, plus a 3.5% increase per year.

The only exception to the escalation factors described above is the projection of costs paid to the City of Marlborough (City). Northborough discharges its sewage to the City's Westerly Wastewater Treatment Plant (WWTP). The Town's share of these costs is the largest operating cost, amounting to approximately 50% of sewer operating costs currently. The City upgraded the WWTP several years ago, and recently, Marlborough unilaterally began to bill the Town of Northborough at rates charged to outside-City retail users. This is clearly unfair as Northborough discharges directly to the WWTP and makes no use of the City's retail sewers or billing and administrative systems. This matter is nearing resolution, and as such, we have made assumptions for forecasting purposes of the annual costs of a renegotiated agreement. It is assumed that the Town will pay the City approximately \$940k for volume charges and \$341k for the Town's share of debt service, in FY 2024. We have made appropriate assumptions for changes of these two expenses over the forecast period, but they will generally increase in total by approximately 4% annually.

In addition to the volume and debt service charges to the City, we have also made an assumption with regard to the one-time payment to the City for back-charges. The Town has been prudently contributing funds to its operating reserve annually in anticipation of this back-payment. In consultation with the Town, it has been assumed that the Town will make a FY 2024 back-payment to Marlborough in the amount of approximately \$5.5 million, which will be paid for directly from the Town’s sewer operating reserve, leaving the Town with sufficient operating reserves for financial viability purposes. This will be discussed further later in this report.

1.1.2 Capital Improvement Plan

One of the major components of establishing a financial plan was incorporating the Town’s water and sewer Capital Improvement Plans (CIP) and corresponding capital financing plan based on the anticipated capital expenditures for the system over the forecast period.

The Town provided Raftelis with separate water and sewer system CIPs for the forecast period. Major elements of the water CIP include reservoir dam compliance projects, water main replacement, and truck purchases. The water CIP identifies about \$622K in capital expenditures from FY 2024 to FY 2028.

Major elements of the sewer CIP include improvements to inflow and infiltration mitigation, Supervisory Control and Data Acquisition (SCADA) upgrades, and a truck purchase. The sewer system CIP includes about \$753K in capital costs over the forecast period (FY 2024 to FY 2028).

In addition to the water and sewer system CIP’s, the Town provided Raftelis with its proposed financing plan. Funding for system projects is expected to be addressed through a combination of debt and cash financing. The sources of funding include general obligation bonds, Massachusetts State Revolving Fund (SRF) loans, and cash or pay-as-you-go (PAYGO) funded. Exhibit 1 summarizes the CIP funding sources.

Exhibit 1: Capital Improvement & Financing Plan

	<u>FY 2024</u> <i>Budget</i>	<u>FY 2025</u> <i>Forecast</i>	<u>FY 2026</u> <i>Forecast</i>	<u>FY 2027</u> <i>Forecast</i>	<u>FY 2028</u> <i>Forecast</i>
Water					
Total Anticipated Capital Needs	\$ 132,000	\$ 272,000	\$ 60,000	\$ -	\$ 158,000
<u>Funding Sources</u>					
Debt (General Obligation)	\$ -	\$ -	\$ -	\$ -	\$ -
Debt (SRF)	-	272,000	-	-	-
Cash (PAYGO)	132,000	-	60,000	-	158,000
<i>Subtotal: Funding Sources</i>	\$ 132,000	\$ 272,000	\$ 60,000	\$ -	\$ 158,000
Sewer					
Total Anticipated Capital Needs	\$ 213,000	\$ 48,000	\$ 40,000	\$ 400,000	\$ 52,000
<u>Funding Sources</u>					
Debt (General Obligation)	\$ -	\$ -	\$ -	\$ -	\$ -
Debt (SRF)	-	-	-	300,000	-
Cash (PAYGO)	213,000	48,000	40,000	100,000	52,000
<i>Subtotal: Funding Sources</i>	\$ 213,000	\$ 48,000	\$ 40,000	\$ 400,000	\$ 52,000

1.1.3 Total Revenue Requirements

The total revenue requirements, O&M expenses, the existing and proposed annual debt service, and the cash-funded capital discussed in the proceeding sections are shown separately for water and sewer below (Exhibit

2 and 3, respectively) in the projection of revenue requirements for the forecast period. It should be noted that the Miscellaneous Operating costs, for both the water and sewer funds, are made up predominantly from contractual services and administrative costs such as billing, auditing, and legal expenses.

Exhibit 2: Water System Revenue Requirements

Water Revenue Requirements	<u>FY 2024</u> <i>Budget</i>	<u>FY 2025</u> <i>Forecast</i>	<u>FY 2026</u> <i>Forecast</i>	<u>FY 2027</u> <i>Forecast</i>	<u>FY 2028</u> <i>Forecast</i>
<u>Operating Expenses</u>					
Salaries	\$ 335,550	\$ 343,939	\$ 352,537	\$ 361,351	\$ 370,384
Benefits	135,680	139,072	142,549	146,113	149,765
Supplies	97,040	132,040	132,040	132,040	132,040
Equipment	18,000	18,000	18,000	18,000	18,000
Energy	52,211	53,255	54,320	55,407	56,515
Misc. Operating	347,487	402,597	402,597	402,597	402,597
MWRA Assessment	1,476,411	1,528,085	1,581,568	1,636,923	1,694,216
<i>Subtotal: Operating Expenses</i>	<u>\$ 2,462,379</u>	<u>\$ 2,616,988</u>	<u>\$ 2,683,612</u>	<u>\$ 2,752,430</u>	<u>\$ 2,823,517</u>
<u>Debt Service</u>					
<i>Existing Debt</i>					
Senior Debt Service	\$ 227,264	\$ 221,199	\$ 185,008	\$ 176,428	\$ 225,675
Subordinate Debt Service	-	-	-	-	-
<i>Subtotal: Existing Debt</i>	<u>\$ 227,264</u>	<u>\$ 221,199</u>	<u>\$ 185,008</u>	<u>\$ 176,428</u>	<u>\$ 225,675</u>
<i>Proposed Debt</i>					
General Obligation	\$ -	\$ -	\$ -	\$ -	\$ -
SRF Loans	-	-	18,283	18,283	18,283
<i>Subtotal: Proposed Debt</i>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 18,283</u>	<u>\$ 18,283</u>	<u>\$ 18,283</u>
<i>Subtotal: Debt Service</i>	<u>\$ 227,264</u>	<u>\$ 221,199</u>	<u>\$ 203,290</u>	<u>\$ 194,710</u>	<u>\$ 243,958</u>
<u>Other Expenditures</u>					
Rate Funded Capital (PAYGO)	\$ 132,000	\$ -	\$ 60,000	\$ -	\$ 158,000
<i>Subtotal: Other Expenditures</i>	<u>\$ 132,000</u>	<u>\$ -</u>	<u>\$ 60,000</u>	<u>\$ -</u>	<u>\$ 158,000</u>
<i>Total: Water Revenue Requirements</i>	<u>\$ 2,821,643</u>	<u>\$ 2,838,187</u>	<u>\$ 2,946,902</u>	<u>\$ 2,947,140</u>	<u>\$ 3,225,475</u>

Exhibit 3: Sewer System Revenue Requirements

Sewer Revenue Requirements	<u>FY 2024</u> <i>Budget</i>	<u>FY 2025</u> <i>Forecast</i>	<u>FY 2026</u> <i>Forecast</i>	<u>FY 2027</u> <i>Forecast</i>	<u>FY 2028</u> <i>Forecast</i>
<u>Operating Expenses</u>					
Salaries	\$ 189,392	\$ 194,127	\$ 198,980	\$ 203,954	\$ 209,053
Benefits	125,126	128,254	131,461	134,747	138,116
Supplies	47,760	47,760	47,760	47,760	47,760
Equipment	41,000	41,000	41,000	41,000	41,000
Chemicals	-	-	-	-	-
Energy	116,255	118,580	120,952	123,371	125,838
Misc. Operating	369,590	371,464	373,356	375,267	377,197
Marlborough Costs	1,280,082	1,331,285	1,384,537	1,439,918	1,497,515
<i>Subtotal: Operating Expenses</i>	\$ 2,169,205	\$ 2,232,470	\$ 2,298,045	\$ 2,366,017	\$ 2,436,479
<u>Debt Service</u>					
<i>Existing Debt</i>					
Senior Debt Service	\$ 610,165	\$ 590,975	\$ 444,840	\$ 433,135	\$ 321,825
Subordinate Debt Service	-	-	-	-	-
<i>Subtotal: Existing Debt</i>	\$ 610,165	\$ 590,975	\$ 444,840	\$ 433,135	\$ 321,825
<i>Proposed Debt</i>					
General Obligation	\$ -	\$ -	\$ -	\$ -	\$ -
SRF Loans	-	-	-	-	20,165
<i>Subtotal: Proposed Debt</i>	\$ -	\$ -	\$ -	\$ -	\$ 20,165
<i>Subtotal: Debt Service</i>	\$ 610,165	\$ 590,975	\$ 444,840	\$ 433,135	\$ 341,990
<u>Other Expenditures</u>					
Rate Funded Capital (PAYGO)	\$ 213,000	\$ 48,000	\$ 40,000	\$ 100,000	\$ 52,000
Transfer for Reserve/Unforeseen Expenses	-	-	-	-	-
<i>Subtotal: Other Expenditures</i>	\$ 213,000	\$ 48,000	\$ 40,000	\$ 100,000	\$ 52,000
<i>Total: Sewer Revenue Requirements</i>	\$ 2,992,370	\$ 2,871,445	\$ 2,782,885	\$ 2,899,153	\$ 2,830,469

1.2 REVENUES

The Town collects revenue from several sources. Operating revenues consist primarily of revenues from water and sewer retail rates and charges. Other revenues include those coming from water and sewer connection fees, investment income, and other miscellaneous revenue sources.

1.2.1 Demand for Services

To estimate system user charge revenue, a customer demand forecast must be developed and applied to utility rates and charges. To calculate demand, Raftelis reviewed the Town's historical demand and customer growth and projected future demand for service over the forecast period. Detailed billing data was provided to Raftelis by the Town. Raftelis then analyzed the detailed billing data to develop the demand forecast used in the model.

After discussions with Town staff, it was agreed that Raftelis would assume the following customer growth and usage assumptions over the forecast period. Customer accounts are projected to remain flat throughout the duration of the forecast due to normal loss and gain of customers. Customer usage is projected to reduce by 1 percent annually. As with all assumptions, we recommend revisiting these forecasts annually to address current trends.

1.2.2 User Charge Revenues

Operating revenues are generated primarily from user rates and charges assessed to retail customers. General customer classes include residential, commercial, and industrial. Revenue from each of these customer classes has been forecast by using projected customer billing demand data over the study period and by applying the annual adjustments to the user rates and charges.

Revenues for the forecast period (FY 2024 – FY 2028) have been projected by using the projected number of bills and billable units of service and the future rates, to be discussed in later sections.

1.2.3 Other Revenues

In addition to user charge revenues, the Town collects revenue from connection fees, other department revenue, and investment income. For our financial planning forecast, the revenue is based on actual collected amounts in FY 2023, with no projected increases of miscellaneous revenues in the five-year forecast.

1.3 REVENUE SUFFICIENCY & RATE RECOMMENDATIONS

The most important element to any rate study is to ensure that a utility generates revenues that are sufficient for the operation of the system. Once the revenue requirements for user charges have been forecasted over the forecast period, the next step was determining the ability of the existing user charges to recover sufficient revenues to fully meet the anticipated operating and capital needs of the utility.

Based on the assumptions laid out in this report, the Town's existing water rates will not be sufficient to recover the system revenue requirements over the forecast period. To achieve revenue sufficiency, rate increases are needed. Raftelis has assumed rate revenue increases for the duration of the forecast period. In order to fund system revenue requirements and meet reserve fund balance targets, rate increases will be needed for the duration of the forecast period (FY 2024 – FY 2028). Raftelis recommends that the Town reevaluate these revenues annually to ensure that they continue to sufficiently recover utility costs.

Although additional revenue is required for the water utility in FY 2024, Raftelis is not recommending an across-the-board increase to both the water utility's fixed and volumetric charges. Raftelis recommends increasing the base charge by approximately 5.5% in FY 2024, which would increase the residential base charge by one dollar per quarter. Raftelis also recommends increasing the water volumetric charges by 4.00%. However, because the Town only recovers approximately 14% of its water revenues from fixed charges, it should continue striving to increase this percentage closer to the national average for revenue collected from fixed charges of approximately 30%. This helps offset the effects of potential reductions in consumption by providing greater revenue stability.

Raftelis also recommends increasing the Town's sewer rates, including flat-rate charges, by 4% in FY 2024. We are also forecasting 4% increases throughout the remainder of the forecast period, but as will all prior studies, rates for years outside of the immediate FY should be reevaluated annually with the most up-to-date information.

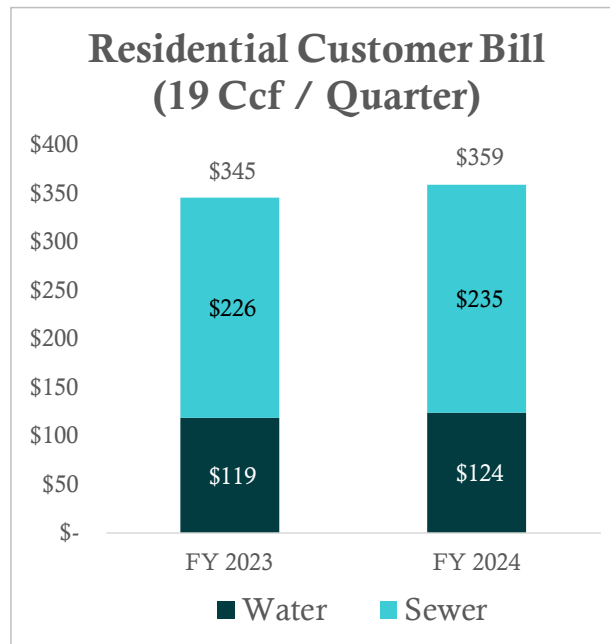
Exhibit 4 below presents the Town's existing water and sewer rates compared to those proposed for FY 2024.

Exhibit 4: Existing and Proposed Water and Sewer Rates

	<u>FY 2023</u>	<u>FY 2024</u>	<u>Quarterly Increase</u>	
	<i>Existing</i>	<i>Proposed</i>	<i>% Change</i>	<i>\$ Change</i>
Quarterly Water Rates				
<u>Base Charges</u>				
Residential	\$ 18.00	\$ 19.00	5.56%	\$ 1.00
Commercial	54.00	57.00	5.56%	3.00
Industrial	82.00	87.00	6.10%	5.00
<u>Volume Charges (per 1,000 cf)</u>				
Tier 1 (0 - 2,000 cf)	\$ 53.03	\$ 55.15	4.00%	\$ 2.12
Tier 2 (2,000 - 6,000 cf)	63.56	66.10	4.00%	2.54
Tier 3 (over 6,000 cf)	78.33	81.46	4.00%	3.13
Quarterly Sewer Rates				
<u>Volume Charges (per 1,000 cf)</u>				
Tier 1 (0 - 2,000 cf)	\$ 119.07	\$ 123.83	4.00%	\$ 4.76
Tier 2 (2,000 - 6,000 cf)	123.66	128.61	4.00%	4.95
Tier 3 (over 6,000 cf)	129.18	134.35	4.00%	5.17
<u>Sewer Only Flat Rate</u>	\$ 220.00	\$ 228.80	4.00%	\$ 8.80

Assuming the proposed FY 2024 rates, Exhibit 5 presents the quarterly water and sewer bill impacts for the Town’s average residential customer using 1,900 cubic feet (cf) per quarter. As can be seen, an average residential customer will experience a combined (water and sewer) bill increase of \$14 per quarter, or approximately 4%. This amounts to an increase of approximately \$0.16 per day.

Exhibit 5: Quarterly Combined Bill Impacts



With regard to the reserve fund balance targets, Raftelis in conjunction with Town staff, have established an annual reserve fund target of 75 days of total annual revenue requirements for each utility. There are no industry standards for the exact amount of reserves water and sewer utilities should maintain. The amount depends on the amount of revenue risk mitigation the utility feels most comfortable with. Within the industry,

a typical range of days of total annual revenue requirements maintained are between 35 and 150 days. Based on our experiences and staff's inputs we have recommended a minimum reserve of 75 days.

Based on the projected revenue requirements (Section 1.1) and the projected revenues (Section 1.2), the following exhibits, Exhibit 6 and Exhibit 7, shows the projected financial plans for both the water and sewer utilities. It should be noted that in years where either the water or sewer fund is operating in a revenue deficit, the additional revenue required to balance the budget will be utilized from the Operating Reserve. Conversely, in years where there is a revenue surplus, the additional funds are used to replenish the Operating Reserve.

Exhibit 6: Water Financial Plan

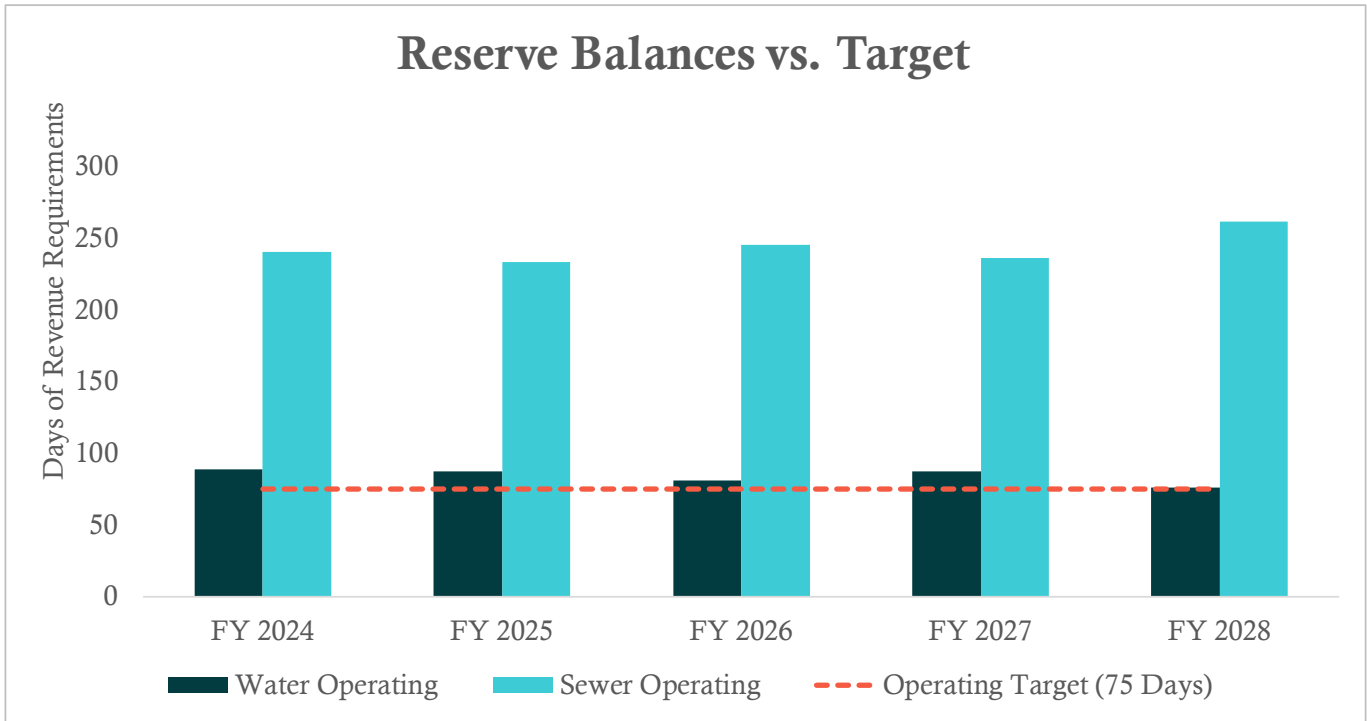
	FY 2024 <i>Forecast</i>	FY 2025 <i>Forecast</i>	FY 2026 <i>Forecast</i>	FY 2027 <i>Forecast</i>	FY 2028 <i>Forecast</i>
Revenues					
<u>Revenue from User Charges</u>					
Base Charge	\$ 390,968	\$ 390,968	\$ 411,680	\$ 411,680	\$ 433,872
Volumetric Rate	2,307,552	2,375,934	2,446,179	2,518,636	2,593,172
Miscellaneous Revenues	64,832	64,909	64,987	65,066	65,145
<i>Total Revenues</i>	<u>\$ 2,763,351</u>	<u>\$ 2,831,811</u>	<u>\$ 2,922,846</u>	<u>\$ 2,995,382</u>	<u>\$ 3,092,189</u>
Revenue Requirements					
Operating Expenses	\$ 2,462,379	\$ 2,616,988	\$ 2,683,612	\$ 2,752,430	\$ 2,823,517
Existing Debt Service	227,264	221,199	185,008	176,428	225,675
Proposed Debt Service	-	-	18,283	18,283	18,283
Pay-As-You-Go	132,000	-	60,000	-	158,000
Contributions to Operating Reserve	-	-	-	-	-
Other	-	-	-	-	-
<i>Total Revenue Requirements</i>	<u>\$ 2,821,643</u>	<u>\$ 2,838,187</u>	<u>\$ 2,946,902</u>	<u>\$ 2,947,140</u>	<u>\$ 3,225,475</u>
Financial Indicators					
Revenue Surplus/Deficit	\$ (58,291)	\$ (6,376)	\$ (24,056)	\$ 48,242	\$ (133,286)
<u>Operating Reserve Fund Balance</u>					
Beginning Balance	\$ 744,599	\$ 686,308	\$ 679,932	\$ 655,876	\$ 704,117
Ending Balance	\$686,308	679,932	655,876	704,117	670,831
As Days of Total Revenue Requirements	● 89	● 87	● 81	● 87	● 76
<i>Minimum Target Balance</i>	75	75	75	75	75

Exhibit 7: Sewer Financial Plan

	<u>FY 2024</u> <i>Forecast</i>	<u>FY 2025</u> <i>Forecast</i>	<u>FY 2026</u> <i>Forecast</i>	<u>FY 2027</u> <i>Forecast</i>	<u>FY 2028</u> <i>Forecast</i>
Revenues					
<u>Revenue from User Charges</u>					
Volumetric Rate	\$ 2,347,945	\$ 2,417,379	\$ 2,488,925	\$ 2,562,606	\$ 2,638,432
Sewer Only Flat Rate	164,736	171,324	178,178	185,306	192,715
Miscellaneous Revenues	151,208	151,414	151,621	151,831	152,043
<i>Total Revenues</i>	<u>\$ 2,663,889</u>	<u>\$ 2,740,116</u>	<u>\$ 2,818,725</u>	<u>\$ 2,899,744</u>	<u>\$ 2,983,190</u>
Revenue Requirements					
Operating Expenses	\$ 2,169,205	\$ 2,232,470	\$ 2,298,045	\$ 2,366,017	\$ 2,436,479
Existing Debt Service	610,165	590,975	444,840	433,135	321,825
Proposed Debt Service	-	-	-	-	20,165
Pay-As-You-Go	213,000	48,000	40,000	100,000	52,000
Contributions to Operating Reserve	-	-	-	-	-
Other	-	-	-	-	-
<i>Total Revenue Requirements</i>	<u>\$ 2,992,370</u>	<u>\$ 2,871,445</u>	<u>\$ 2,782,885</u>	<u>\$ 2,899,153</u>	<u>\$ 2,830,469</u>
Financial Indicators					
Revenue Surplus/Deficit	\$ (328,481)	\$ (131,329)	\$ 35,840	\$ 591	\$ 152,720
<u>Operating Reserve Fund Balance</u>					
Beginning Balance	\$ 7,805,111	\$ 1,968,588	\$ 1,837,259	\$ 1,873,099	\$ 1,873,690
<i>Operating Annual Surplus/(Deficit)</i>	\$ (328,481)	\$ (131,329)	\$ 35,840	\$ 591	
<i>Operating Reserves Used for Capital</i>	\$ -	\$ -	\$ -	\$ -	
<i>Marlborough Repayment</i>	\$ (5,508,042)	\$ -	\$ -	\$ -	
Ending Balance	\$ 1,968,588	\$ 1,837,259	\$ 1,873,099	\$ 1,873,690	\$ 2,026,410
As Days of Total Revenue Requirements	● 240	● 234	● 246	● 289	● 304
<i>Target</i>	75	75	75	75	75

As shown, the forecast of revenues is less than the forecast of revenue requirements in some years for the both the water and sewer enterprise. During this time, the Town plans to use some of its reserve funding to avoid a significant, and most likely unnecessary long-term, rate increase. This is reflected in the decrease in operating reserve fund balances. Also reflected in the reduction of sewer reserve fund balances is the repayment to Marlborough, assumed to occur in FY 2024. Exhibit 8 shows the projected retained earning fund balances over the forecast period.

Exhibit 8: Projected Reserve Fund Balances



2. RECOMMENDATIONS

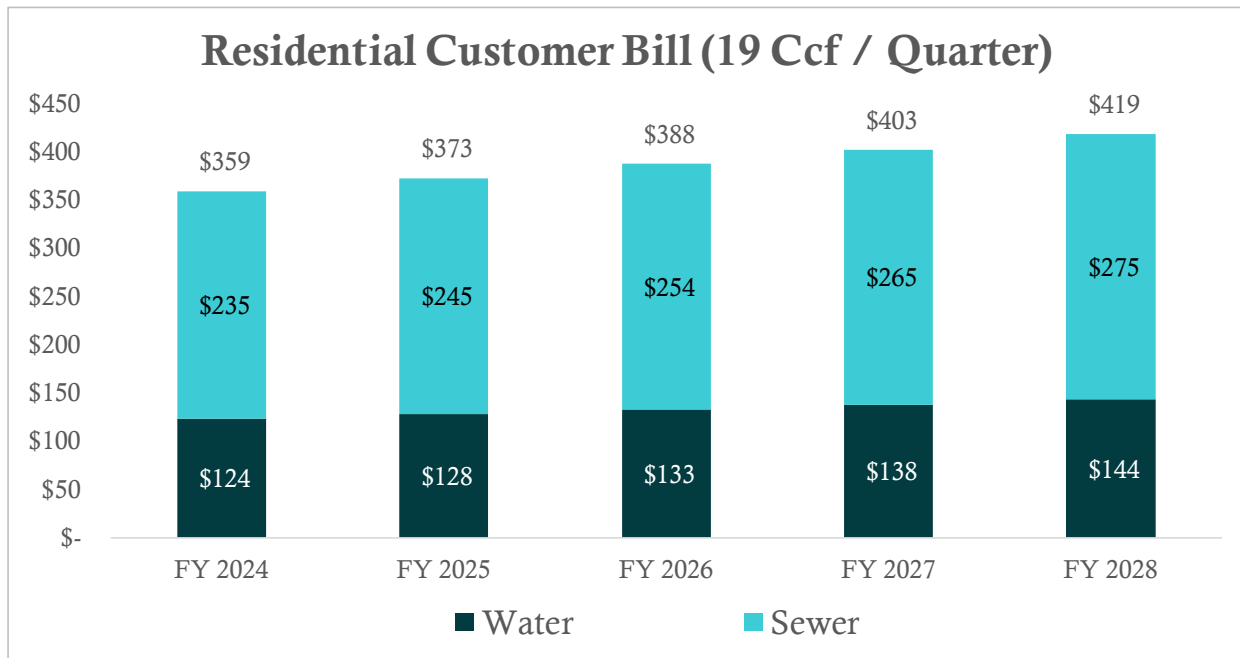
As stated in Section 1, Raftelis is recommending that the Town increase its water volumetric rate by 4.00% and increase the base charge by approximately 5.50% in FY 2024, which would increase the residential base charge by one dollar per quarter. Raftelis is also recommending 4% sewer rate increases on both the volumetric and flat-rate customers. As of now, Raftelis is projecting the need for rate increases of approximately 4% for the water and sewer utilities annually after FY 2024. As noted earlier in the report, the Town should continue to perform annual analyses to determine if these projected increases are appropriate for fiscal years 2025 through 2028, and make adjustments to the plan as necessary. Exhibit 9 presents projected water and sewer rates over the forecast period.

Exhibit 9: Existing, Proposed, and Forecast Water and Sewer Rates

	<u>FY 2023</u> <i>Existing</i>	<u>FY 2024</u> <i>Proposed</i>	<u>FY 2025</u> <i>Forecast</i>	<u>FY 2026</u> <i>Forecast</i>	<u>FY 2027</u> <i>Forecast</i>	<u>FY 2028</u> <i>Forecast</i>
Quarterly Water Rates						
<u>Base Charges</u>						
Residential	\$ 18.00	\$ 19.00	\$ 19.00	\$ 20.00	\$ 20.00	\$ 21.00
Commercial	54.00	57.00	57.00	60.00	60.00	64.00
Industrial	82.00	87.00	87.00	92.00	92.00	98.00
<u>Volume Charges (per 1,000 cf)</u>						
Tier 1 (0 - 2,000 cf)	\$ 53.03	\$ 55.15	\$ 57.36	\$ 59.65	\$ 62.04	\$ 64.52
Tier 2 (2,000 - 6,000 cf)	63.56	66.10	68.74	71.49	74.35	77.32
Tier 3 (over 6,000 cf)	78.33	81.46	84.72	88.11	91.63	95.30
Quarterly Sewer Rates						
<u>Volume Charges (per 1,000 cf)</u>						
Tier 1 (0 - 2,000 cf)	\$ 119.07	\$ 123.83	\$ 128.78	\$ 133.93	\$ 139.29	\$ 144.86
Tier 2 (2,000 - 6,000 cf)	123.66	128.61	133.75	139.10	144.66	150.45
Tier 3 (over 6,000 cf)	129.18	134.35	139.72	145.31	151.12	157.16
<u>Sewer Only Flat Rate</u>	\$ 220.00	\$ 228.80	\$ 237.95	\$ 247.47	\$ 257.37	\$ 267.66

Exhibit 10 presents a quarterly bill for an average residential customer over the forecast period. The average residential customer in Northborough uses approximately 1,900 cf per quarter.

Exhibit 10: Average Residential Customer Impact (1,900 Cubic Feet per Quarter)



Although water and sewer rates are projected to increase annually by approximately 4%, it is important to consider these increases in context with trends in the water and sewer industry. According to the American Water Works Association/Raftelis' Bi-Annual Rate Survey, water and sewer rates have been increasing from 1998-2022 at an annualized rate of 4.6% and 5.2% percent, respectively. Even with a conservative forecast, the Town's projected increases are in line with these trends.

Rate increases of 4% annually are on par with, or below, other communities we work with across Massachusetts, both those served by the MWRA and not. The Town is taking the steps necessary to preserve its water and sewer infrastructure, financial health of the utilities, and consistently deliver safe service to its customers. For utilities like the Town that have appropriate management and reinvestment efforts, 4% annual increases are very reasonable. This is especially true when considering the conservative nature of the financial plan due to the uncertainty of MWRA increases and the Town's agreements with Marlborough.

Although the forecast of rate increases is reasonable and on par with industry trends, the Town should continue to reevaluate its financial plan annually to make adjustments to the planned rate increases in future years accordingly.