P.O Box 132, South Chatham, Massachusetts 02659
P.O. Box 998, Jacksonville, North Carolina 28540
Telephone: 508.360.1378
www.municipalconsultants.net

June 27, 2022

Ms. Louise Miller
Chief Financial Officer
City of Framingham, MA
150 Concord St,
Framingham, MA 01702

Dear Ms. Miller,

This report and the accompanying forecasts of revenue requirements were prepared for the City of Framingham to calculate a water and sewer rate structure for Fiscal Year 2023.

The financial forecast of revenue requirements was based on the city's assumptions concerning future events and circumstances. The assumptions disclosed herein are those which the city believes are significant to the forecasts or are key factors upon which the financial results of the water and sewer enterprise fund and is based on present circumstances and assumptions as of the date of this report.

We have compiled the forecasts of water and sewer rates in accordance with applicable guidelines established by the American Water Works Association, and the Water Environmental Federation. This report completes our requirements to review the water and sewer rate structures and recommends a method that will recover the costs equitably by class of customer.

We wish to thank everyone who assisted us during this project.

Very truly yours,

PIONEER CONSULTING GROUP, INC.

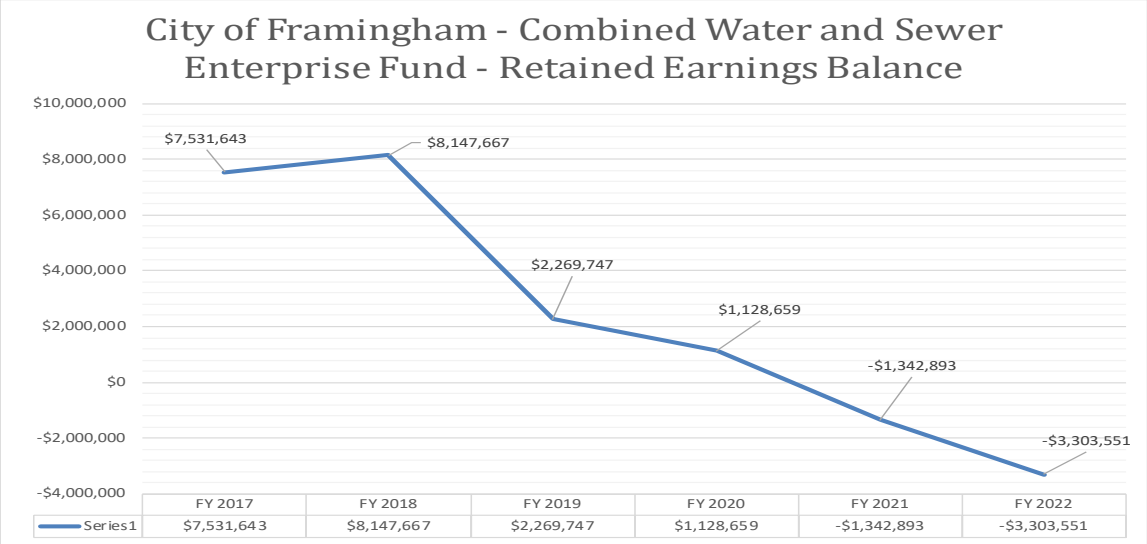
Douglas W. Gardner
President

SUMMARY

The purpose of this study was to prepare a comprehensive water and sewer enterprise fund rate review which included a water and sewer rate study. We completed an analysis of the water and sewer rate methodology and recommend changes, which will equitably charge each class of customer and encourage conservation. Pioneer Consulting Group, Inc. stressed to the City of Framingham that the water and sewer rate projections are estimates, and future rate increases should be based on then-current information. The proposed rates are designed to strengthen the enterprise funds. The proposed rate structure will fund 100% of all water and sewer expenses.

FINDINGS AND RECOMMENDATIONS

1. The current Fiscal Year 2022 water and sewer rates will not generate sufficient revenue to cover personnel costs, operating expenses, MWRA Assessment, debt service and deficit repayment for FY 2023.
2. We recommend that the FY 2023 water and sewer rates be based on the current rate structure with no changes to the number of step rates or the amount of flow in each step. The recommended rates will ensure the enterprise fund will not generate a deficit.
3. The FY 2023 rates do not include ARPA funding. The FY 2022 water and sewer rates contained $6,350,000 in ARPA funding to balance the budget. ARPA funding provides one time revenue. When used to fund budgetary expenses, ARPA is simply a "band aid approach" to solving a revenue deficit. ARPA funds only compounds the revenue shortfall in future years when used to fund budgetary expenses.
4. We strongly recommend that any future ARPA funding be used to fund capital, not be used to reduce future water and sewer rates.
5. The FY 2023 rates include $3,303,551 in deficit repayment. The Massachusetts Department of Revenue required the funding of the prior year deficits in full for FY 2023. Since 2017, retained earnings totaling $10,835,194 have been used to fund the water and sewer budgets. The use of retained earnings to fund the operating budget results in artificially low rates. When the retained earnings are depleted, the rate increase must be exponentially raised to account for the years of non-increases. This ultimately results in higher water and sewer rates in future years and weakens the health of the enterprise fund.



6. We recommend that the city maintain a conservation based water and sewer rate. A conservation-based rate structure encourages the efficient use of water by charging customers a higher rate as their water consumption increases. The conservation based rate structure will discourage the wasteful use of water and reduce the excessive discretionary summer use.

7. Conservation-oriented water pricing is an effective way of encouraging water conservation and balancing water supply with water demand. When water rates do not reflect the full cost of providing water services, the price of water is lower than it should be, to send the correct signal to customers about its actual value. The lower price encourages more water consumption, and utilities must increase water supply to meet the demand. This creates an unbalance: consumers are using more water than they need, and utilities are supplying more water than they should have to without recovering the actual costs created in doing so. Conservation pricing allows utilities to recover the full cost of supplying water while encouraging more efficient water use on the part of consumers so that the water supply and demand cycle can be more financially and environmentally sustainable.

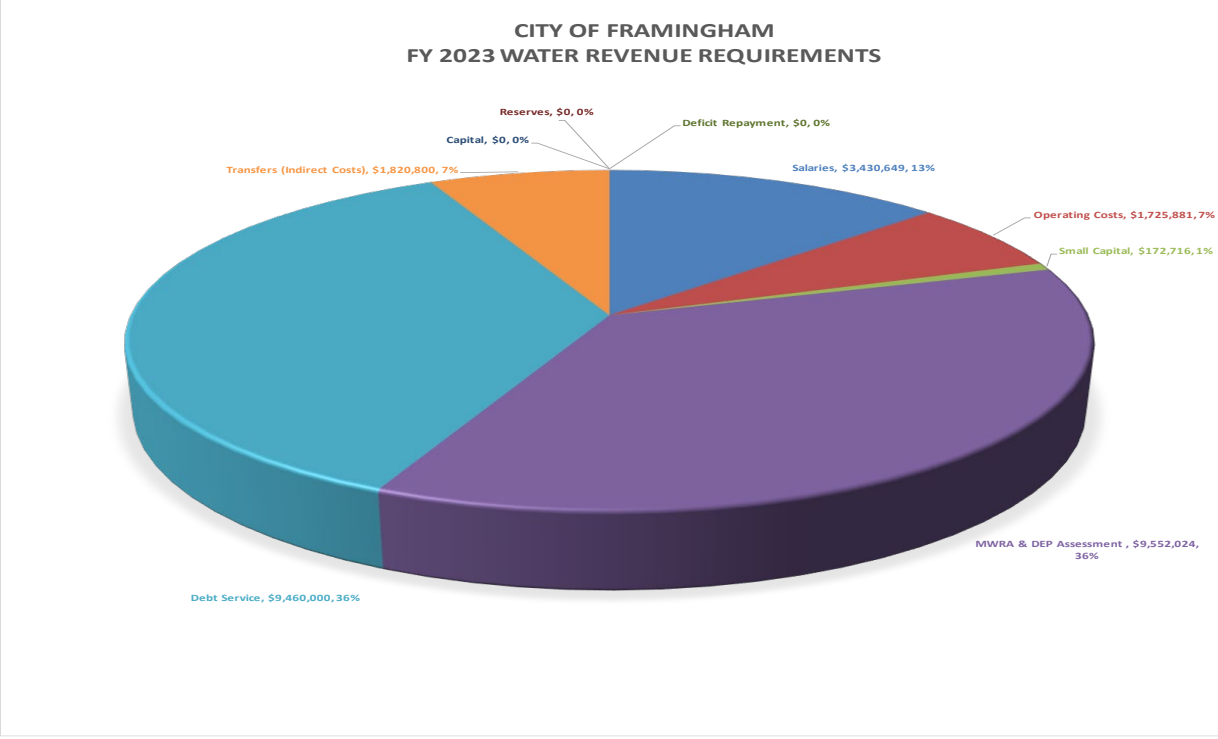
8. Water Meters are your cash register. It is imperative the meters are accurate.

    a. Large Meters - We recommend the city conduct an audit of their large meter (1 ½" and larger) customers. As customers water consumption change, the existing meters may be under/over-sized. Incorrectly sized meters result in under registered consumption and lost revenue. Any meter deemed to be incorrectly sized must be replaced with an appropriately sized meter.

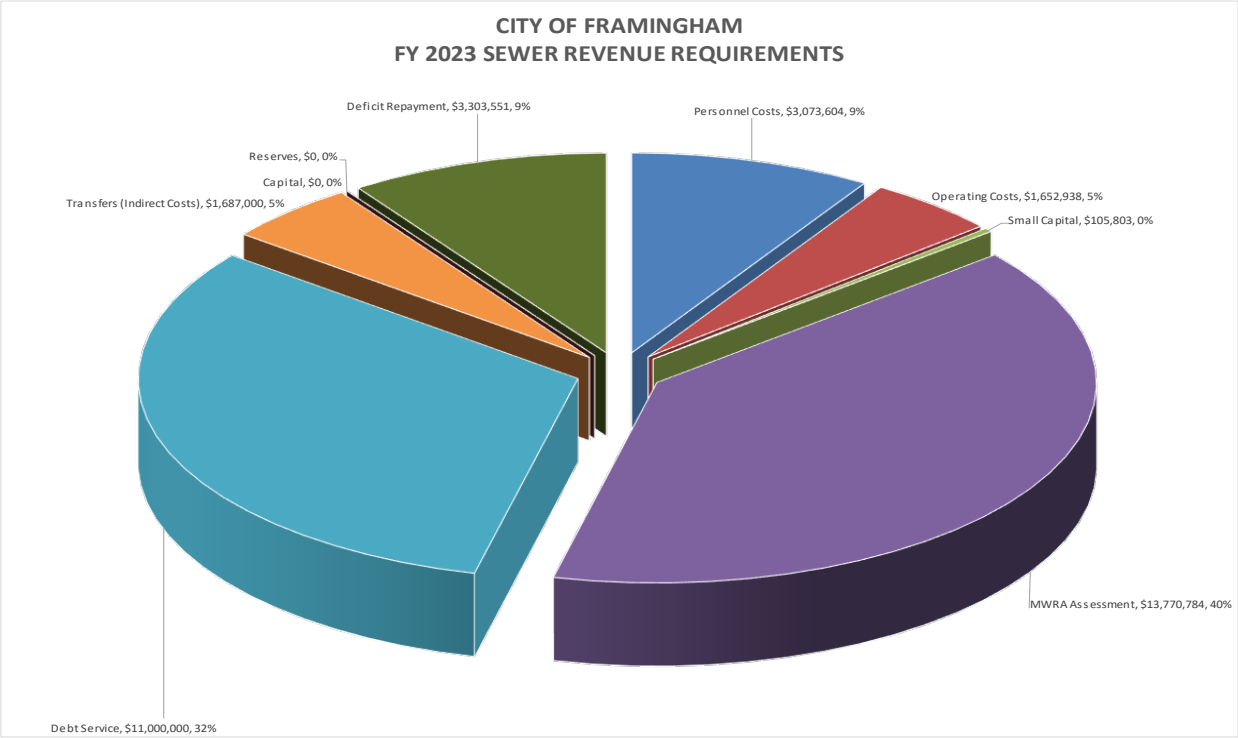
    b. Other Meters – We recommend the city conduct an audit of all meters that have a zero reading or cannot obtain a reading. These accounts must be repaired as quickly as possible. When a zero read or no read is obtained an estimated bill is generated. Estimates are generally inaccurate and require an ad adjustment in subsequent months.

9. MUNIS Utility Billing Software, Fixed Zeros – We understand the city has recently changed utility billing systems and now uses MUNIS. We recommend that all large meters that read in ten cubic feet or hundred cubic feet be verified in MUNIS to ensure the unit multiplier is correct.

10. The FY 2023 Water Enterprise Budget increased by $411,604 or 1.6% from FY 2022.



11. The FY 2023 Water Enterprise Revenue requirements increased by $3,035,381 or 9.62% from FY 2022. This included the prior year(s) deficit repayment of $3,303,551. The prior year(s) deficit has been repaid in full.



12. The quarterly water and sewer rates and the consumption ranges are detailed on Schedule 2. Total metered consumption totaled 246,281,500 cubic feet or 2,462,815 units. 1 unit equals 100 cubic feet of consumption.

City of Framingham - Water and Sewer Enterprise **Schedule 2**
Five Step Proforma Consumption
Calendar Year 2020

Step	Cubic Feet	Total Cubic Feet	Total Units	Consumption Percentage
Tier 1	1 to 12 Units	92,911,600	929,116	37.73%
Tier 2	13 to 27 Units	45,188,900	451,889	18.35%
Tier 3	28 to 51 Units	14,897,100	148,971	6.05%
Tier 4	52 to 750 Units	43,995,900	439,959	17.86%
Tier 5	Over 750 Units	23,273,200	232,732	9.45%
Irrigation		26,014,800	260,148	10.56%
Total		246,281,500	2,462,815	100.00%

13. The proposed FY 2023 water and sewer rates do not include funds for capital projects or surplus revenue.

14. The water system has been designed to provide water at peak hourly flows and to provide sufficient fire protection to extinguish a fire over a three-hour period. The costs associated with fire protection should be charged to the customers who will benefit from the protection. There is a clear distinction between fire protection customers as a class of customer and the other classes. Fire protection customers require water utilities to have facilities available to meet high potential demands for water at any given time, but actually use relatively little water. The fire protection costs represent a "readiness to serve charge". The public fire protection charges are built into the water rates and are shared all customers.

15. The proposed FY 2023 water and sewer rates do not include funds for Capital Reserves.

16. Exhibit 1 and Exhibit 1a, "Comparison of Current vs. Proposed Rates", presents the current and the proposed rates for all consumption and other related charges for Fiscal Year 2023.

17. Exhibit 2 and Exhibit 2a, Impact Analysis, presents the effects of the proposed and current rates for water and sewer consumption for actual City of Framingham customers.

Recommendations for FY 2024 and beyond

1. **Minimum Charge** – We recommend that the city implement a quarterly minimum or base charge (monthly for monthly billed customers) beginning in FY 2024. The purpose for the charge is that there are various costs to the department irrespective if a metered customer uses any water or not. Each metered customer on the system should be responsible for paying for the minimum costs to maintain the system. We recommend that all consumers be charged a minimum charge and a separate charge for all water flow. Costs associated with the daily operation of the department includes meter reading, billing, meter service and some administrative expenses. Customers with larger meters should pay a higher minimum based on the equivalent meter method.

2. **Step Rates** – We recommend that the city conduct an analysis of the current step rates to determine if the flow in each step should be changed. A twelve-month billing analysis for all consumption will be required to determine if a revised step rate structure is necessary. The city has the billing data in the MUNIS Utility Billing Software. Computerized trends of customer usage must be used in determining the number of block rates and the amount of flow allowed in each of the blocks for all customers.

3. **Fire Protection Costs** - The fire protection costs represent the cost to provide fire protection to residential, commercial, and industrial customers. There is a clear distinction between fire protection customers as a class of customer and the other classes. Fire protection customers require water utilities to have facilities available to meet high potential demands for water at any given time but use relatively little water. The fire protection costs represent a readiness to serve charge. The other classes of customers are generally continuous users of water with varying demands.

4. **Cross Connection Costs** - The cross connection costs represent the cost to test the connections and the administrative cost for backflow prevention devices. The costs represent the cost of testing, administrative labor, processing bills, collecting bills, etc.

RESERVE FUNDS

Reserve funds (Undesignated Fund Balance) are a key component of the enterprise fund. Maintaining adequate reserves is a fundamental principal of sound financial management. It is essential that a government maintain adequate levels of working capital in its enterprise funds to mitigate current and future risks (e.g., revenue shortfalls and unanticipated expenses) and to ensure stable services and fees. Working capital is a crucial consideration in long-term financial planning. Credit rating agencies consider the availability of working capital in their evaluations of continued creditworthiness. Undesignated fund balance can serve several roles within the overall financial matrix for a municipal Enterprise Fund. For example, as a risk management tool, undesignated fund balance can be used to support unexpected and uninsured losses.

Reserves can be used for any lawful purpose but should be used primarily for financial security in case of catastrophic events, unforeseen occurrences and the funding of capital projects. Reserves should not be used to fund operating budgets or reducing water and sewer rates.

Reserves for Rates and Capital

Undesignated fund balance can be used to stabilize rates and to help buffer rates against variability and inaccuracy in rate setting. This is not a sustainable practice.

The undesignated fund balance is to be used to fund small to medium-sized capital projects. This makes financial sense under certain conditions, for example:

- The fund balance must be financially stable enough to absorb a one-time draw down for such a capital project.
- The draw down impact must be weighed against the cost over time of borrowing money.
- The rate structure must be such that the drawn down funds can be fully recovered in a reasonable length of time.
- The rate structure must also be designed to recover operating costs, so that undesignated fund balance is not used for annual expenses.
- The asset value and life cycle must be evaluated – it would not be prudent to borrow money over twenty (20) years for an asset improvement with a ten (10) year expected life. That scenario would more appropriately fit the "draw down" approach, rather than bonding.
- The overall question of equity to the rate payers must be considered, although this is a question of policy and governance, rather than pure finances. To wit, is it fair for the current users to pay for long term capital assets or improvements through current user fees (or fund balance) that *future* system users will benefit from?

Reserves for Uninsured Assets

Most underground utility systems are uninsurable by traditional means – property loss insurance is not available through traditional markets for underground infrastructure. A significant portion of Framingham's system asset value is below ground. Water and sewer main breaks can be very expensive events, especially when road reconstruction is necessary, or in environmentally sensitive areas. It is prudent to maintain a healthy fund balance as a means of financing any emergency repairs that may become necessary. By their very nature, these are unpredictable events that cannot be programmed into a regular budgetary process.

CITY OF FRAMINGHAM **Exhibit 1**
Current vs Proposed Rates & Charges
Combined Water and Sewer Enterprise

	Current Rates FY 2022	Proposed Rate FY 2023
Proposed Increase		16%
Indirect Cost Total Included	$3,507,800	$3,507,800
Deficit Repayment	$0	$3,303,551
Meter Water Charges - Quarterly per Unit		
Tier 1: 1 to 12 Units per Quarter	$15.83	$18.43
Tier 2: 13 to 27 Units per Quarter	$16.94	$19.65
Tier 3: 28 to 51 Units per Quarter	$21.37	$24.79
Tier 4: 52 to 750 Units per Quarter	$28.31	$32.83
Tier 5: Over 750 units per Quarter	$38.58	$44.75
Irrigation	$12.93	$15.00

CITY OF FRAMINGHAM - Water Enterprise **Exhibit 1a**
Current vs Proposed Rates & Charges
Water Enterprise

	Current Rates FY 2022	Proposed Rate FY 2023
Proposed Increase		16%
Indirect Cost Total Included	$1,820,800	$1,820,800
Deficit Repayment	$0	$0
Meter Water Charges - Quarterly per Unit		
Tier 1: 1 to 12 Units per Quarter	$6.91	$8.02
Tier 2: 13 to 27 Units per Quarter	$7.69	$8.92
Tier 3: 28 to 51 Units per Quarter	$8.94	$10.37
Tier 4: 52 to 750 Units per Quarter	$10.53	$12.21
Tier 5: Over 750 units per Quarter	$12.76	$14.80
Irrigation	$12.93	$15.00

CITY OF FRAMINGHAM **Exhibit 1b**
Current vs Proposed Rates & Charges
Sewer Enterprise

	Current Rates FY 2022	Proposed Rate FY 2023
Proposed Increase		16%
Indirect Cost Total Included	$1,687,000	$1,687,000
Deficit Repayment	$0	$3,303,551
Meter Water Charges - Quarterly per Unit		
Tier 1: 1 to 12 Units per Quarter	$8.92	$10.41
Tier 2: 13 to 27 Units per Quarter	$9.25	$10.73
Tier 3: 28 to 51 Units per Quarter	$12.43	$14.42
Tier 4: 52 to 750 Units per Quarter	$17.78	$20.62
Tier 5: Over 750 units per Quarter	$25.82	$29.95

CITY OF FRAMINGHAM **Exhibit 2**
WATER AND SEWER ENTERPRISE FUND
IMPACT ANALYSIS - FY 2023
Combined Water and Sewer Bill

Quarterly Units	Current Rates Quarterly	Proposed Rates Quarterly	Dollar Change	Percentage Change
0	$0.00	$0.00	$0.00	
1	$15.83	$18.43	$2.60	16%
5	$79.15	$92.15	$13.00	16%
6	$94.98	$110.58	$15.60	16%
7	$110.81	$129.01	$18.20	16%
9	$142.47	$165.87	$23.40	16%
10	$158.30	$184.30	$26.00	16%
12	$189.96	$221.16	$31.20	16%
15	$240.78	$280.11	$39.33	16%
19	$308.54	$358.71	$50.17	16%
20	$325.48	$378.36	$52.88	16%
24	$393.24	$456.96	$63.72	16%
27	$444.06	$515.91	$71.85	16%
33	$572.28	$664.65	$92.37	16%
51	$956.94	$1,110.87	$153.93	16%
65	$1,353.28	$1,570.49	$217.21	16%
82	$1,834.55	$2,128.60	$294.05	16%
100	$2,344.13	$2,719.54	$375.41	16%
125	$3,051.88	$3,540.29	$488.41	16%
265	$7,015.28	$8,136.49	$1,121.21	16%
378	$10,214.31	$11,846.28	$1,631.97	16%
495	$13,526.58	$15,687.39	$2,160.81	16%
750	$20,745.63	$24,059.04	$3,313.41	16%
897	$26,416.89	$30,637.29	$4,220.40	16%
1,086	$33,708.51	$39,095.04	$5,386.53	16%
1,135	$35,598.93	$41,287.79	$5,688.86	16%
1,645	$55,274.73	$64,110.29	$8,835.56	16%
1,852	$63,260.79	$73,373.54	$10,112.75	16%
4,093	$149,718.57	$173,658.29	$23,939.72	16%

FRAMINGHAM WATER AND SEWER ENTERPRISE
REVENUE REQUIREMENTS

The Water and Sewer Revenue Requirements (Schedule 1 and 1a) details the Fiscal Year 2023 revenue required to operate for the Framingham Water and Sewer Division.

Our analysis indicates the Framingham Water must generate an average of $26,162,070 for Fiscal Year 2023 and the Framingham Sewer must generate $34,593,680 for Fiscal Year 2023.

CITY OF FRAMINGHAM - Water Enterprise **Schedule 1**
Revenue Requirements

Account Description	Fiscal Year 2022	Projected Fiscal Year 2023	Dollar Change	Percentage Increase
Salaries	$3,227,006	$3,430,649	$203,643	6.31%
Operating Costs	$1,572,603	$1,725,881	$153,278	9.75%
Small Capital	$142,716	$172,716	$30,000	21.02%
MWRA & DEP Assessment	$9,308,668	$9,552,024	$243,356	2.61%
Debt Service	$9,511,173	$9,460,000	($51,173)	-0.54%
Transfers (Indirect Costs)	$1,820,800	$1,820,800	$0	0.00%
Capital	$0	$0	$0	0.00%
Reserves	$0	$0	$0	0.00%
Deficit Repayment	$167,500	$0	($167,500)	-100.00%
Total Revenue Rquirements	$25,750,466	$26,162,070	$411,604	1.60%

CITY OF FRAMINGHAM **Schedule 1a**
SEWER ENTERPRISE FUND
Revenue Requirements

Account Description	Fiscal Year 2022	Projected Fiscal Year 2023	Dollar Change	Percentage Increase
Personnel Costs	$2,856,788	$3,073,604	$216,816	7.59%
Operating Costs	$1,595,331	$1,652,938	$57,607	3.61%
Small Capital	$75,803	$105,803	$30,000	39.58%
MWRA Assessment	$13,764,605	$13,770,784	$6,179	0.04%
Debt Service	$11,246,272	$11,000,000	($246,272)	-2.19%
Transfers (Indirect Costs)	$1,687,000	$1,687,000	$0	0.00%
Capital	$0	$0	$0	0.00%
Reserves	$0	$0	$0	0.00%
Deficit Repayment	$332,500	$3,303,551	$2,971,051	893.55%
Total Revenue Rquirements	$31,558,299	$34,593,680	$3,035,381	9.62%

FRAMINGHAM WATER AND SEWER ENTERPRISE
BILLING ANALYSIS

The purpose of the Billing Analysis (Schedule 2 and 2a) is to develop water usage patterns in hundred cubic feet (ccf) increments or UNITS, and to aid in understanding the customer base. The data is analyzed to determine equitable minimum usage and break points for the rates.

For our analysis we used the CY 2020 total billed consumption supplied by the City of Framingham for the calculation of the FY 2023 water and sewer rates.

The FY 2023 water and sewer rates are based on the total consumption of 246,281,500 cubic feet or 2,462,815 units.

City of Framingham - Water and Sewer Enterprise **Schedule 2**
Five Step Proforma Consumption
Calendar Year 2020

Step	Cubic Feet	Total Cubic Feet	Total Units	Consumption Percentage
Tier 1	1 to 12 Units	92,911,600	929,116	37.73%
Tier 2	13 to 27 Units	45,188,900	451,889	18.35%
Tier 3	28 to 51 Units	14,897,100	148,971	6.05%
Tier 4	52 to 750 Units	43,995,900	439,959	17.86%
Tier 5	Over 750 Units	23,273,200	232,732	9.45%
Irrigation		26,014,800	260,148	10.56%
Total		246,281,500	2,462,815	100.00%

Water and Sewer Enterprise Five Step Rate Block (Schedule 2)

First Step
The first step allows from 1–12 units quarterly, which provides sufficient water for sanitation.
The first step consumption totaled 929,116 units and accounted for 37.73% of the total consumption.

Second Step
The second step allows from 13 to 27 units quarterly.
The second step water consumption totaled 451,889 units and accounted for 18.35% of the total consumption.

Third Step
The third step allows for all consumption from 28 to 51 units quarterly.
The third step consumption totaled 148,971 units and accounted for 6.05% of the total consumption.

Fourth Step
The fourth step allows for all consumption from 52 to 750 units quarterly.
The fourth step consumption totaled 439,959 units and accounted for 17.86% of the total consumption.

Fifth Step
The fifth step allows for all consumption in excess of 750 units quarterly.
The fifth step consumption totaled 232,732 units and accounted for 9.45% of the total consumption.

Irrigation
The Irrigation is for all irrigation consumption and pertains to water only.
The irrigation consumption totaled 260,148 units and accounted for 10.56% of the total consumption.

FRAMINGHAM WATER AND SEWER ENTERPRISE
REVENUE TO BE GENERATED AT PROPOSED RATES

The calculation of water rates and charges for FY 2023 (Schedule 3) will result in the following revenue:

Water Division $26,090,742

Non-Water Consumption Revenue – The revenues earned from service calls, repairs, interest & demands, hydrants, etc. is included as an offset to the water rates. The non-consumption revenue will generate approximately $345,000 annually.

Metered Water – The five step water rate plus irrigation will generate approximately $25,745,742. Each step will generate the following revenue:

1st Step: $7,451,510
2nd Step: $4,030,850
3rd Step: $1,544,829
4th Step: $5,371,899
5th Step: $3,444,434
Irrigation: $3,902,220

CITY OF FRAMINGHAM - Water Enterprise **Schedule 3**
REVENUE TO BE GENERATED AT PROJECTED RATES
Water Division - FY 2023

16% Increase			**REVENUE**
Non Water Consumption Income			
Water Fees			$125,000
Penalties & Interest			$100,000
Betterments			$120,000
Investment Income			$0
Other			$0
Total Non Consumption Revenue			$345,000
Metered Water			
1st Step Consumption (Cubic Feet)	929,116		
1st Step Rate	$8.02		
Revenue Earned from 1st Step		$7,451,510	
2nd Step Consumption (Cubic Feet)	451,889		
2nd Step Rate	$8.92		
Revenue Earned from 2nd Step		$4,030,850	
3rd Step Consumption (Cubic Feet)	148,971		
3rd Step Rate	$10.37		
Revenue Earned from 3rd Step		$1,544,829	
4th Step Consumption (Cubic Feet)	439,959		
4th Step Rate	$12.21		
Revenue Earned from 4th Step		$5,371,899	
Tier 5 Consumption (Units)	232,732		
Tier 5 Rate	$14.80		
Revenue Earned from Tier 5		$3,444,434	
Irrigation Consumption (Units)	260,148		
Irrigation 5 Rate	$15.00		
Revenue Earned from Irrigation		$3,902,220	
Total Metered Water			$25,745,742
Summary			
Total Revenue			$26,090,742
Revenue Requirements			$26,162,070
Surplus / (Deficit)			($71,328)

The calculation of sewer rates and charges for FY 2023 (Schedule 3a) will result in the following revenue:

Sewer Division $34,792,463

Non-Water Consumption Revenue – The revenues earned from sewer fees, interest & demands, etc. is included as an offset to the sewer rates. The non-consumption revenue will generate approximately $3,183,270 annually.

Metered Sewer – The five step sewer rate will generate approximately $31,609,193. Each step will generate the following revenue:

1st Step: $9,476,338
2nd Step: $4,756,899
3rd Step: $2,079,955
4th Step: $8,871,817
5th Step: $6,424,185

CITY OF FRAMINGHAM **Schedule 3a**
REVENUE TO BE GENERATED AT PROJECTED RATES
Sewer Division - FY 2023

16% Increase			REVENUE
Non Water Consumption Income			
Sewer Fees			$2,933,567
Penalties & Interest			$155,657
Debt Service			$94,046
Investment Income			$0
Other			$0
Total Non Consumption Revenue			$3,183,270
Metered Water			
1st Step Consumption (Cubic Feet)	910,311		
1st Step Rate	$10.41		
Revenue Earned from 1st Step		$9,476,338	
2nd Step Consumption (Cubic Feet)	443,327		
2nd Step Rate	$10.73		
Revenue Earned from 2nd Step		$4,756,899	
3rd Step Consumption (Cubic Feet)	144,241		
3rd Step Rate	$14.42		
Revenue Earned from 3rd Step		$2,079,955	
4th Step Consumption (Cubic Feet)	430,253		
4th Step Rate	$20.62		
Revenue Earned from 4th Step		$8,871,817	
Tier 5 Consumption (Units)	214,497		
Tier 5 Rate	$29.95		
Revenue Earned from Tier 5		$6,424,185	
Total Metered Water			$31,609,193
Summary			
Total Revenue			$34,792,463
Federal Funds			$0
Revenue Requirements			$34,593,680
Surplus / (Deficit)			$198,783