

Enterprise Funds

Section 8



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Solid Waste Enterprise Fund Statement

On January 1, 2003 the Town began a fee-based solid waste program commonly referred to as “Pay-As-You-Throw” (PAYT). The PAYT program is overseen by the Town Engineer and requires residents to use Town of Northborough designated trash bags in order to have their trash and recycling collected at curbside by the Town’s contractor. The PAYT program is operated as an enterprise fund intended to generate fee revenue to cover a portion of the solid waste and recycling collection and disposal costs previously provided within the tax base.

An enterprise fund, authorized by MGL Ch. 44 §53F½, is a separate accounting and financial reporting mechanism for municipal services for which a fee is charged in exchange for goods or services. It allows a community to demonstrate to the public the portion of total costs of a service that is recovered through user charges and the portion that is subsidized by the tax levy, if any. With an enterprise fund, all costs of service delivery—direct, indirect, and capital costs—are identified. This allows the community the option to recover total service costs through user fees. Enterprise accounting also enables communities to reserve as unrestricted the "surplus" or net assets generated by the operation of the enterprise rather than closing it out to the General Fund at year-end. Services that may be treated as enterprises include, but are not limited to, solid waste, water and sewer services.

Significant FY2023 Budget Changes or Initiatives

Recycling markets throughout the United States are going through a difficult and complicated transition. For many years China had been the primary market for our country’s recyclable materials. They offered the unique benefit of available shipping containers here in the United States that needed to go back to China, which had been loaded with recyclable materials. In early 2018 China revised their specifications for acceptance of recyclable materials to an unachievably low contamination standard, which eliminated the option of exporting these commodities to China. This has resulted in the need for a fast and drastic change to the market for recyclable materials here in the United States.

The impact to central Massachusetts is similar to that of the rest of our nation. In years past, the value of recyclable materials would offset the cost of collecting and sorting them, which is no longer the case. As an example, certain materials which are heavy and costly to process for recycling, such as glass, have no market value, while others have very limited value due to an overabundance of availability. It can be summarized simply that there is far too much supply with very little demand. Market instability is projected to continue until new material recovery facilities can be brought on-line here in the United States and in emerging countries around the world. The cost of this transition unfortunately is being borne by communities such as ours. MassDEP regulations prohibit recyclable materials from entering the solid waste stream; therefore, collection and processing is mandated.

In 2019, the Engineering Department issued an Invitation for Bids (IFB) for solid waste collection and recyclable materials collection and disposal. As part of the IFB, alternate prices were also sought for a collection contract which included the requirement for the contractor to deliver the recyclable materials to a recycling facility of the Town’s choice. Under this option, the Town would be responsible for all costs associated with the processing and marketing



materials as part of a separate contract between the Town and a recycling facility. This option was an attempt to control the future recycling costs being passed on to the Town. After significant review of the recycling market and the bids received, the Town decided not to exercise that option, but rather to enter into a new three (3) year contract with two (2) one-year extensions at the Town's option with our previous contractor, Republic Services. The new contract includes significant increases in the collection of both solid waste and recycling materials along with the disposal and marketing of the recyclable materials, as the previous contract had increased by only 4% over the previous 8 years. This new contract also includes an annual Recycling Net Processing Cost Adjustment, which will allow the Town to maintain costs associated with current recycling market trends and to minimize future significant increases. The options in years four and five also afford the Town the ability to go back out to bid for another collection contract should new opportunities for savings become available. In FY2023 the Town is exercising the contract extension for year four.

Overall, the Solid Waste and Recycling budget is increasing \$8,969, or 0.98%. The FY2023 fee revenues are projected to be \$470,000 and the FY2023 expenses are estimated at \$928,113 leaving a projected general fund subsidy of \$337,160 in addition to a transfer from the Solid Waste Fund Free Cash of \$120,953. In FY2023, the appropriation will again contain a \$10,000 Contingency Reserve account within the Solid Waste Fund to ensure adequate funding for the potential of an unforeseen event in the coming year.

As a result of the fees projected to be collected and the FY2023 expenses of \$928,113 a General Fund subsidy of \$337,160 is recommended in order to balance the Enterprise Fund. The following is a detailed explanation regarding projected revenues, overhead costs, disposal costs, projected tonnage for disposal and collection costs.

PAYT Revenues and Overhead Costs:

The Town continues to offer two sizes of bags and the bag fee was last revised in January of 2007 and remains set at \$3.00/large bag and \$1.50/small bag. Additional fees were also created to help reduce the shortfall between revenues and expenditures. A fee of \$10 per box was instituted for the disposal of hazardous waste at the annual Household Hazardous Waste Day event in September of 2005. In addition, a sticker fee of \$10 per item for the disposal of large/bulky items set out at the curb was instituted in March of 2006.

As can be seen in the Trash and Recycling Comparison Chart on page 8-5, trash and recycling disposal tonnage has been fairly constant for the last several years, although trash increased during the pandemic as more people were at home. Consistent trash tonnage and consistent bag prices have resulted in a stable revenue stream of approximately \$470,000 each of the last few years.

During FY2022, the Town received \$7,800 as part of the Department of Environmental Protection's Recycling Dividends Fund program which provides payments to municipalities that have implemented specific programs and policies proven to maximize reuse, recycling and waste reduction. This money will be used to offset the cost of purchasing recycling bins and to offset the cost of producing and mailing the recycling calendar to each household in June. Due to the possibility of future state budget cuts, the Solid Waste budget also includes \$7,000 to cover these costs in FY2023.



In an effort to minimize additional staff workload the Town now works W.B. Mason to warehouse and distribute trash bags and bulk item labels to the authorized retailers at a cost of \$.02 per bag or label. The total projected FY2023 overhead costs for the Pay-As-You-Throw program (purchase of bags, stickers, labels and their distribution) is estimated at \$90,000.

The Solid Waste budget also includes the cost of removing and disposing of the yard waste material (brush, leaves and grass) residents dispose of at the Highway Garage. The State Department of Environmental Protection banned yard waste, which includes grass and leaves, from the list of acceptable items that can be disposed of in landfills and incinerators/resource recovery facilities in 1991. The total cost for disposal of all yard waste is estimated to be \$100,000 for FY2023.

Disposal Costs and Projected Tip Fee:

In accordance with the Waste Disposal Agreement with Wheelabrator Millbury, Inc. as revised in 2014, the tip fee is to be adjusted each year on July 1st based upon the amount of change in the Consumer Price Index (CPI) for urban wage earners and clerical workers-Northeast Urban beginning on July 1, 2017. As outlined in the agreement, the current tip fee is \$71.07/ton and based upon the most recent information from the Bureau of Labor and Statistics and the formula in the agreement, the tip fee for FY2023 has been estimated at \$76.00/ton, which will apply to the amount of trash disposed of between 7/1/22 and 6/30/23.

Under the terms of the contract for solid waste/recyclable materials collection and disposal, the Town is also responsible for an annual Recycling Net Processing Cost Adjustment. In accordance with the terms of the contract and due to the improved quality of the recycling material being processed at the facility, the Recycling Net Processing Cost Adjustment has been set as a credit of \$80.26 per ton for the actual amount of recycling materials collected in calendar year 2021 (1043 tons), resulting in a disposal cost credit of \$83,751 for FY2023.

Projected Solid Waste Tonnage for FY2022:

Actual tonnage for the last 12 months (calendar year 2021) was 2,166 tons, which reflects a 3.3% increase from the previous 12 months. Based on the number of new building permits for single family homes (6) during the last 12 months, the growth rate was 0.123. The projected tonnage for FY2023 is approximately 2240 tons (2,166 X 1.033 X 1.0012). Therefore, using 2,300 tons of solid waste to be disposed, results in a FY2023 budget of \$174,800 based upon the projected tipping fee of \$76.00/ton.

Collection Costs:

On July 1, 2019 the Town entered into a new three-year agreement with Republic Services, Inc. for solid waste/recyclable materials collection and disposal, which will continue service to the Town through FY2023, as the Town opted to exercise the first of two one-year extensions. Under the contract, collection costs will increase by 3% in FY2023. The total FY2023 collection costs are \$602,714, which consists of \$281,159 for Trash Collection and \$321,555 for Recycling Collection and Disposal.

Section 8-4

Solid Waste Enterprise Fund



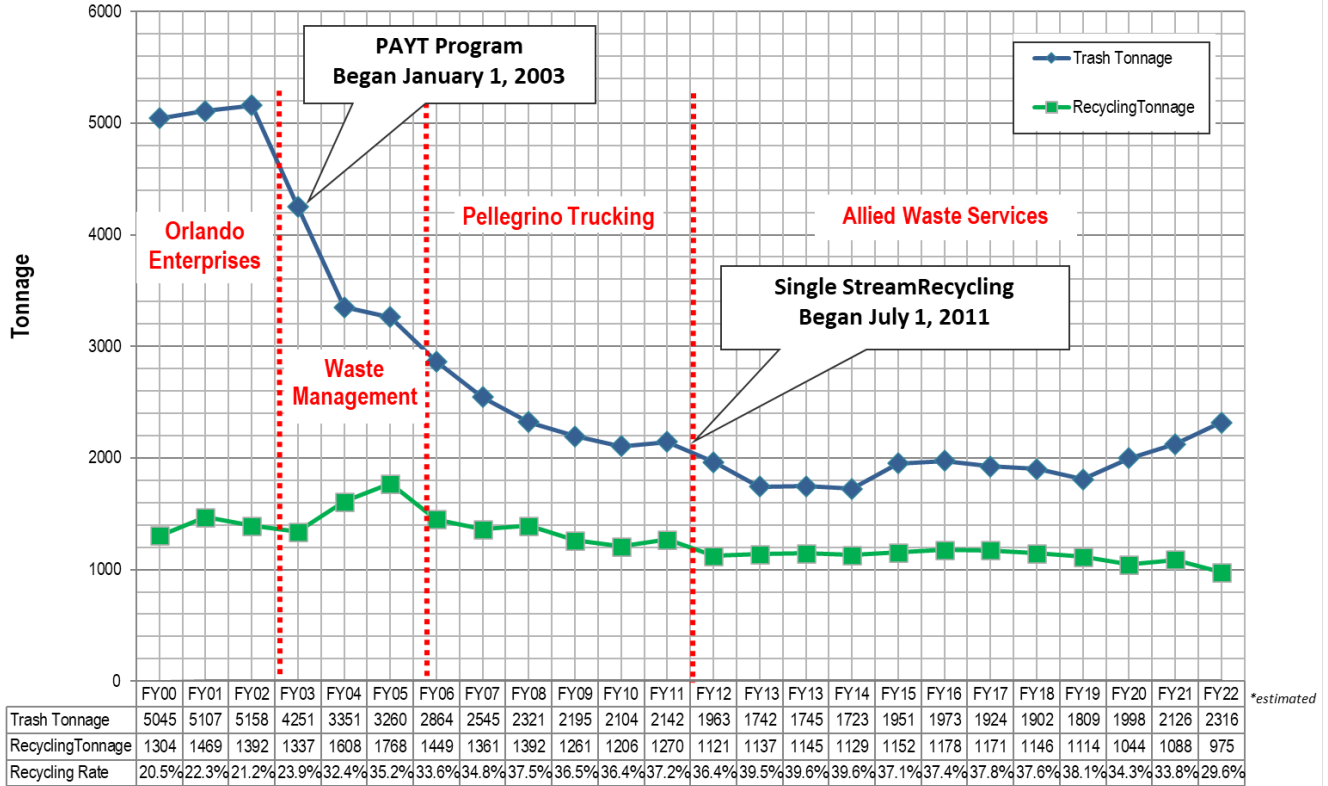
		FY2019	FY2020	FY2021	FY2022	FY2022	FY2023
		ACTUAL	ACTUAL	ACTUAL	BUDGETED	6 MONTHS	PROPOSED
SOLID WASTE ENTERPRISE FUND							
Expenses	Services						
52810	Unclassified	100,993	133,434	143,284	167,350	115,247	224,350
52910	Collection	494,190	551,568	568,114	585,159	239,991	602,714
57810	Disposal	136,795	139,973	158,967	156,635	52,391	91,049
59810	Extra Ordinary & Unforeseen Exp.	0	0	0	10,000	0	10,000
	SUBTOTAL	731,978	824,976	870,365	919,144	407,628	928,113
TOTAL:	SOLID WASTE	731,978	824,976	870,365	919,144	407,628	928,113

Additional Solid Waste Budget Detail

Unclassified:	
Newsletter, training, bins and misc. supplies:	\$7,000
Disposal of illegal dumping:	\$7,000
Household Hazardous Waste Day:	\$20,000
Pay-As-You-Throw costs:	\$90,000
Disposal of Yard Waste	\$100,000
SWANA Membership	\$225
SWANA Meetings	<u>\$125</u>
Sub-total	\$224,350
Solid Waste & Recycling Collection:	
Trash Collection:	\$281,159
Recycling Collection:	<u>\$321,555</u>
Sub-total	\$602,714
Solid Waste & Recycling Disposal Adjustment:	
7/1/22 - 6/30/23: 2,300 tons x \$76.00/ton	\$174,800
7/1/22 - 6/30/23: 1,043 tons x (\$80.26) /ton	<u>(\$83,751)</u>
Sub-total	\$91,045
Contingency Reserve	
	<u>\$10,000</u>
Sub-total	\$10,000
Grand Total	\$928,113



Waste & Recycling Trends from FY2000 to FY2023



Since its inception on January 1, 2003 the PAYT program has provided significant incentive to participants to reduce waste and increase recycling. Trash went from a high of 5,158 tons in FY2002 steadily downward to 1,722 tons in FY2014 and has only recently started to increase. In addition, recycling rates have risen from 21% in FY2002 to approximately 39% in FY2014. The difference between the 5,158 tons of trash in FY2002 and the 2,300 tons of trash projected to be disposed in FY2023 is 2,858. In FY2023 that difference, multiplied by the projected disposal rate of \$76.00/ton, represents approximately \$217,208 in cost avoidance.



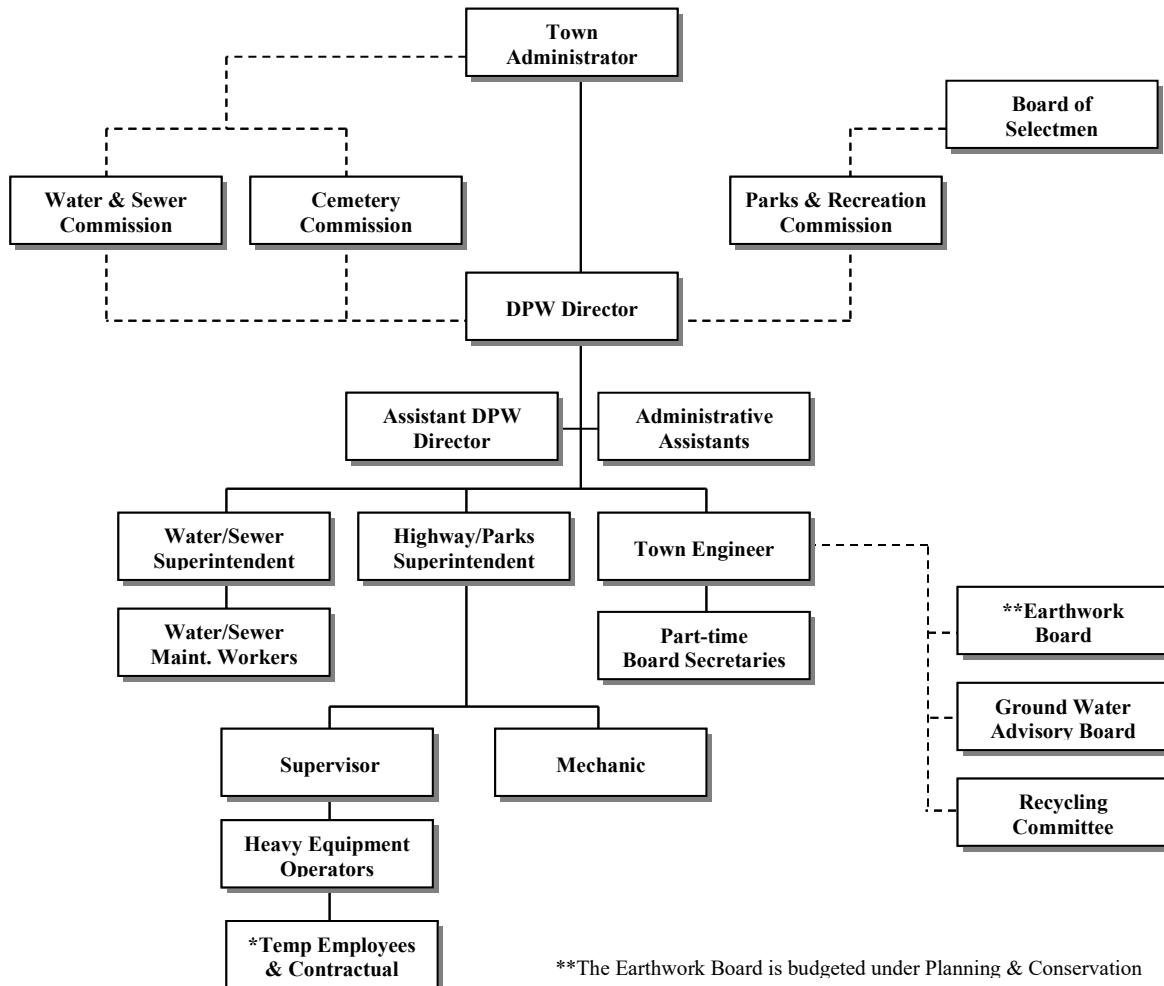
Water & Sewer Enterprise Funds

The Water and Sewer Divisions operate and maintain the Town’s public water and sewer systems and related facilities. The Water and Sewer Divisions are operated as enterprise funds. Briefly, an enterprise fund as authorized under MGL Ch. 44 §53F½ is a separate accounting and financial reporting mechanism for municipal services for which a fee is charged in exchange for goods or services. It allows a community to demonstrate to the public the portion of total costs of a service that is recovered through user charges and the portion that is subsidized by the tax levy, if any. With an enterprise fund, all costs of service delivery—direct, indirect, and capital costs—are identified. This allows the community to recover total service costs through user fees if it chooses. For purposes of providing a departmental overview, personnel summary and goals/objectives, the Water & Sewer Divisions are included within Department of Public Works (DPW) Section 4 of the budget. The actual line-item budgets associated with the Water and Sewer enterprise funds are contained here in Section 8 of this budget document.

Water & Sewer Commission

In addition to the DPW staff, the Water & Sewer Commission provides advisory oversight to the enterprise funds. The Water & Sewer Commission consists of three members appointed by the Town Administrator for three-year terms. The Commission is responsible for the development of policies, fees, rules and regulations pertaining to the care, superintendence, development and management of the Town's water supply and facilities and the Town's sewerage system. The DPW Director serves as the staff liaison to the Water & Sewer Commission.

DPW Organizational Chart



**The Earthwork Board is budgeted under Planning & Conservation



Background on the Northborough Water System

Northborough's Water System was first authorized by the State Legislature in 1882. A small portion of Town was originally served from the Northborough Reservoir located in Shrewsbury and Boylston before it was taken out of service in 1955. The connection to what is now called the Massachusetts Water Resources Authority (MWRA)¹ was initiated in 1954. The Town's four wells came online later. The Brigham Street well was brought online in 1956; the Lyman Street well was brought online in 1964; the Crawford Street well was brought online in 1969; and the Howard Street well was brought online in 1994.

In the past, the Town operated its own wells and supplemented production from the wells with water purchased from the MWRA. The MWRA water was originally provided directly from the Wachusett Aqueduct. When the Wachusett Aqueduct was shut down for repair in 2000, the water provided by the MWRA to the Town came through a connection in Bartlett Street. This is connected to the new MWRA Carroll Water Treatment facility in Marlborough.

From 2000 to 2009, all the Town's water was being purchased from the MWRA because the well water was chemically incompatible with the water being provided by the MWRA. The Town well water has a pH of 6.5, and the new MWRA water source has a pH of 9. The higher pH in the MWRA water causes the Town's well water to drop the naturally occurring iron and manganese out of solution and turn the water red.

To address requirements of the Safe Drinking Water Act and to make the Town's water compatible, treatment alternatives were evaluated. The Town's consultant designed a new chemical addition facility at the Lyman Street well which the Town subsequently built. The Lyman Street well was reactivated in 2009 and produced approximately 225,000 gallons per day of the necessary 1 million gallons per day of average daily water usage in Northborough. Unfortunately, in June 2011, routine testing of the Lyman Street well indicated the presence of bacteria and the well was taken offline.

The Town then contracted with an engineering consultant to evaluate the Town's long-term water supply and distribution needs. The evaluation used historical population data and regional studies to project future water system demands for a 20-year period. Raw and finished water quality data will be reviewed to determine required improvements for treatment facilities to comply with current and future drinking water standards. The local well supplies were then contrasted with MWRA interconnections and a cost-benefit analysis performed to see if the Town should:

- Utilize the Town's existing wells (and possibly additional subsurface supplies through exploration) with added treatment facilities to meet the water consumption demands,
- Utilize the Town's existing wells along with MWRA interconnection for summer peak demands, or
- Utilize MWRA interconnection for all water supply needs.

¹ The MWRA is a public authority established under Chapter 372 of the Acts of 1984. The MWRA is an independent authority that provides wholesale water and sewer services to its customer communities and funds its operations primarily through user assessments and charges.

Section 8-8 Water & Sewer Enterprise Funds

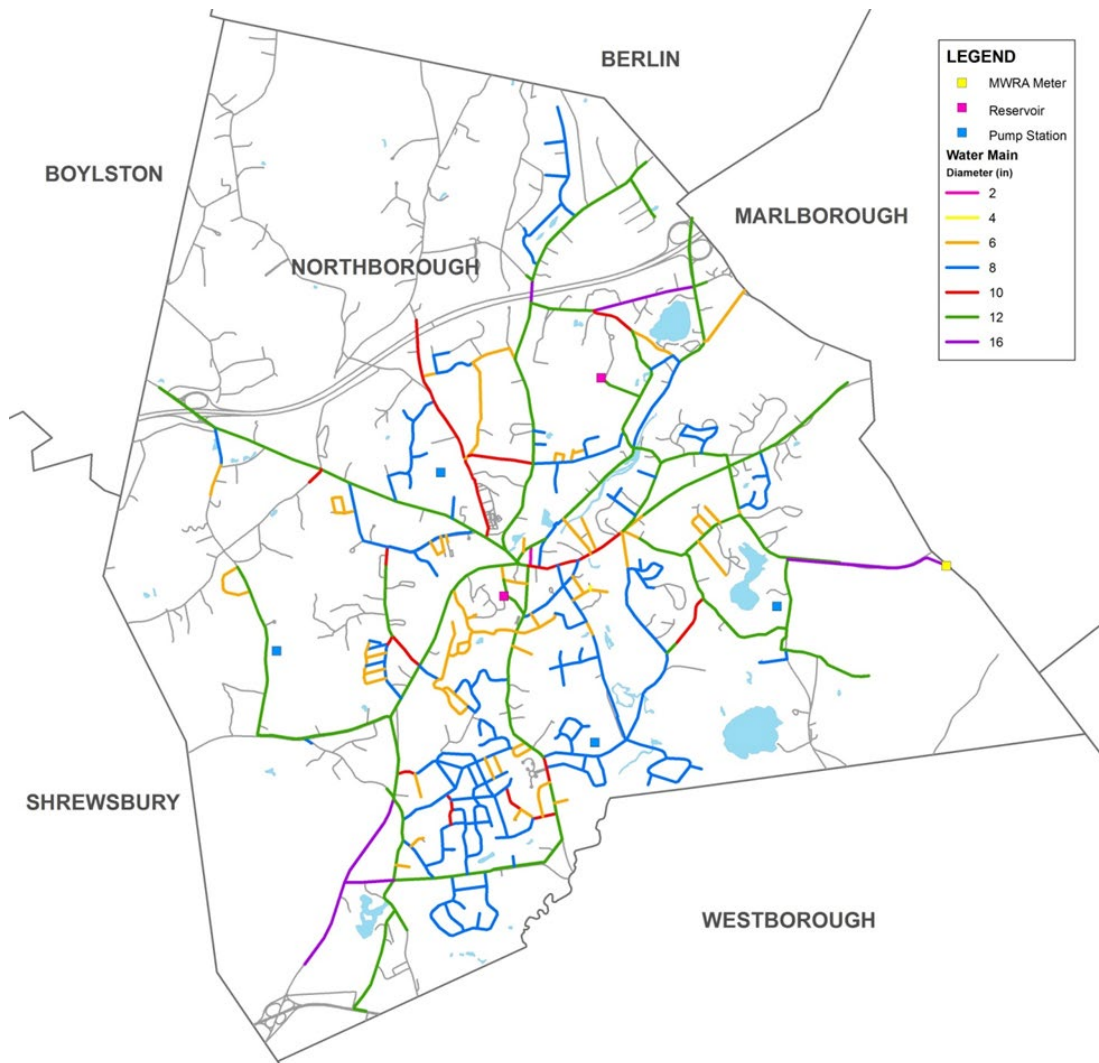


In order to fully determine which of the three options outlined above would be the best option for the Town, a water system master plan was prepared. The master plan focused on the entire potable water system and its ability to provide the Town with the most cost-effective method of delivering safe, clean potable water to the residents. The study included reviewing sustainable sources of water supply as well as evaluating the current distribution model, calibrating the model and calculating storage and system operating pressures.

The evaluation determined that while our distribution system is basically sound, the town-owned wells cannot supply the current water demand of an average of 0.87 million gallons per day (MGD) and a maximum or peak demand of 1.73 MGD. The Town is capable of pumping 1.02 MGD but it is limited by the Department of Environmental Protection to withdrawal of only 0.74 MGD from the aquifer. At present, the Town receives 100% of its water from the MWRA and the four wells remain off-line in an emergency only capacity.

Approximately 80% of the Town receives water from the public water supply system. The map below shows the water system service area.

Northborough Water System Map





Significant FY2023 Budget Changes or Initiatives

The FY2023 Water Enterprise Fund is budgeted at \$2,636,103 which is a decrease of \$317,871 or 10.8%. The decrease is attributable to two primary factors. The first is that the MWRA preliminary assessment was reduced by \$251,513 due to a shift in the share of the overall use from “bedroom communities” such as Northborough to Metro Boston as a result of businesses reopening after the initial effects of the pandemic. The opposite effect was experienced in FY2022 when Northborough’s share of the total MWRA budget was disproportionately driven up by 24.3%. The second factor is that while the reduced MWRA assessment has a positive budgetary impact, the resulting loss in revenues due to reduced consumption resulted in a 10% reduction in revenue projections for FY2023. In addition, FY2022 was a wet year with a lot of precipitation, which drove consumption down even further. Since the FY2023 revenue projections must be based upon the prior year’s actual, the FY2023 operating budget is further constrained. One way the revenue shortfall is being managed is through a one year pause to the hydrant replacement program for a budget reduction of \$65,000.

In the second quarter of FY2014, a base charge was added to each water account to recover a portion of fixed costs paid from the enterprise fund such as debt, meter reading, billing, and collection, regardless of the amount of water usage. Based upon formal rate studies, the water utility user rates are expected to increase approximately 4%-5% per year due to a combination of inflationary pressures (2-3% annually), annual water use fluctuations which trend downward between 0.5% and 1.0% due to mandated conservation measures, and the need to make regular infrastructure investments. The FY2023 user rates will be adjusted based upon a detailed rate study but are currently projected to increase between 3% and 4%. The base charge will also be evaluated as part of the rate study in an effort to maintain the appropriate ratio of fixed verse volumetric revenues.

	FY2019 ACTUAL	FY2020 ACTUAL	FY2021 ACTUAL	FY2022 BUDGETED	FY2022 SIX MONTHS	FY2023 PROPOSED
WATER ENTERPRISE FUND						
Personnel Services						
² 51010 Full-time Wages	164,014	173,925	164,514	172,481	78,377	170,750
³ 51100 Full-time Salary	35,689	37,130	38,630	39,797	18,545	39,818
⁴ 51120 Full-time Permanent wages	35,780	36,772	37,425	38,106	17,759	38,056
⁵ 51130 W&S Commissioner Stipends	1,080	1,080	0	1,080	0	1,080
⁶ 51135 GIS Salary	14,329	14,760	15,400	15,708	15,708	16,179
51300 Overtime	44,117	41,915	47,378	46,877	21,445	47,810
51410 Longevity Pay	1,320	1,410	1,620	1,725	1,785	1,659
51970 Stipends	1,800	2,280	2,280	2,280	1,140	2,280
51920 Uniforms	900	950	1,950	950	0	950
SUBTOTAL	299,029	310,223	309,197	319,004	154,759	318,582

² Line 51010 represents 60% of the Water/Sewer Supervisor salary and Water/Sewer Maintenance Workers’ wages. The other 40% of these personnel expenses are included in the Sewer Enterprise Fund budget.

³ Line 51100 represents 30% (12 hrs/ week) of the DPW Director’s salary. 20% is reflected in the Sewer Enterprise Fund Budget and the balance (50%) is included in the DPW budget Section 4 of this document.

⁴ Line 51120 represents 24 hours per week of an Administrative Assistant

⁵ Line 51130 represents the three Water & Sewer Commissioners who receive \$600 each per year, split 40% (\$720) Sewer Fund Budget and 60% (\$1,080) Water Fund Budget

⁶ Line 51135 represents 15% (6 hours per week) of the GIS Director’s time supporting the Water Enterprise fund.

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Water & Sewer Enterprise Funds



	FY2019 ACTUAL	FY2020 ACTUAL	FY2021 ACTUAL	FY2022 BUDGETED	FY2022 SIX MONTHS	FY2023 PROPOSED
WATER ENTERPRISE FUND						
Expenses						
51710 Workers' Compensation	13,174	13,438	12,180	12,180	11,005	11,076
51730 F.I.C.A.	3,785	4,806	5,037	5,037	5,037	5,037
51740 Life Insurance	88	88	88	88	88	63
51750 Health Insurance	53,307	49,481	48,751	49,124	49,124	49,022
52110 Utilities	15,722	16,101	16,227	17,300	5,290	19,500
52610 Building Maintenance	18,054	3,564	3,511	13,300	915	13,300
52620 Equipment Maintenance	9,317	6,160	11,195	18,000	1,386	18,000
52800 Contractual Services	71,117	162,498	121,087	170,974	34,722	178,134
52850 Audit	1,949	2,008	2,899	2,961	1,044	2,957
53020 Legal Services	0	833	273	5,000	0	10,000
53110 Printing	7,838	5,856	5,977	9,072	4,954	10,308
53170 Water Analysis	2,074	563	0	5,500	136	5,500
53190 Training	7,061	6,997	5,545	8,825	2,375	8,825
54290 Office Supplies	800	653	259	1,500	0	1,860
54350 Howard Street Well	0	0	0	0	0	0
54370 Private Work	0	0	0	0	0	0
54380 Brigham Street Well	0	0	0	0	0	0
54390 MWRA Assessment	1,271,058	1,312,356	1,422,346	1,767,929	880,114	1,508,715
54400 Lyman Street Well	0	0	0	0	0	0
54410 Crawford Street Well	0	0	0	0	0	0
54420 Materials & Supplies	103,158	95,040	89,364	132,900	8,891	67,900
54820 Gasoline	10,545	10,545	10,545	10,545	10,545.00	10,545
55990 Chemicals	0	0	0	0	0	0
56220 Worcester Regional Retirement	47,225	33,340	37,993	34,940	34,940	39,515
57110 Travel/Mileage	403	404	206	600	108	600
57410 Liability/Building Insurance	17,639	17,639.00	18,130	18,131	19,500	19,500
58530 Capital Outlay	0	0	0	0	0	0
59810 Extraordinary and Unforeseen	0	0	0	75,000	0	25,000
SUBTOTAL	1,654,314	1,742,370	1,811,612	2,358,906	1,070,173	2,005,357



Water & Sewer Enterprise Funds

Section 8-11

FY2019 FY2020 FY2021 FY2022 FY2022 FY2023
ACTUAL ACTUAL ACTUAL BUDGETED SIX MONTHS PROPOSED

WATER ENTERPRISE FUND

Expenses (Debt Service)

59100 Principal / Long Term Debt	281,605	272,855	234,857	218,814	0	239,914
59150 Interest / Long Term Debt	52,924	46,117	39,181	33,576	25,783	47,550
59270 Interest / Temporary Loans	0	0	0	24,100	0	20,095
59280 Issuance Costs	0	0	0	7,275	0	4,605
SUBTOTAL	334,529	318,973	274,038	283,765	25,783	312,164

TOTAL: WATER ENTERPRISE FUND

2,287,872	2,371,565	2,394,848	2,961,675	1,250,715	2,636,103
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Section 8-12 Water & Sewer Enterprise Funds



Background on the Northborough Sewer System

The Town operates a collection system of sewer pipes that bring sewerage to the City of Marlborough's Westerly Wastewater Treatment Plant where it is treated and discharged into the Assabet River. When the sewer system was started in the mid 1960's it was designed to service only the central portion of Town. While sewer pipe installation did not start until the 1970's, in 1964 land was purchased for a Northborough sewage treatment plant on Boundary Street.

In the late 1960's when the Town of Northborough attempted to obtain approvals for a sewerage treatment plant from the Massachusetts Department of Public Health, the regulators told the Town that since Marlborough was building a plant across the roadway on Boundary Street, that they would not allow two plants across the street and side-by-side with each other on the river. As a result, the Town of Northborough was required to become a partner in the Marlborough Westerly Wastewater Treatment Plant by entering into an Intermunicipal Agreement with the City of Marlborough for sewerage treatment.

In 1970, the Town of Northborough entered into the first of two twenty-year agreements with Marlborough for 800,000 gallons per day. The Marlborough Westerly Plant has a design capacity of 2.89 million gallons per day (MGD). Therefore, Marlborough's portion is 2.09 MGD and Northborough's is 0.80 MGD. While our sewer pipe installation has continued into the present in accordance with a Master Plan initially generated in the early 1980's, the Town's sewer capacity at the Westerly Plant has not changed since the original 1970 agreement. It has remained at 0.80 MGD.

Sewer service area and future capacity needs

In the late 1970's the Town hired the engineering firm of Camp Dresser & McKee (CDM) to begin developing the sewer system and mapping out the sewer service area for the Town. It was estimated that the sewerage to be contributed by the users in the original sewer service area would use the full 0.80 MGD of sewer capacity. Therefore, as long as the Town's capacity at the treatment plant remains at 0.80 MGD, it cannot provide sewer to any other parts of Town currently outside of the sewer service area.

During 2000, CDM updated the sewer service area and determined that there was only 50,000 gallons per day of sewer capacity for development of the southeast and southwest industrial areas. The Avalon Bay/Northborough Crossing development discharges approximately 80,000 gallons per day. Not only does this use up the 50,000 gallons per day allocated for industrial development, but it also uses 30,000 gallons per day more of capacity previously targeted for existing residential areas in Town. Therefore, it is critical for the Town to pursue additional capacity at the Marlborough Westerly Wastewater Treatment Plant. Should the Town be unsuccessful in getting additional capacity, the amount of capacity previously designated for users within the sewer service area will need to be reduced by 30,000 gallons per day to stay within our 0.80 MGD.

Assabet Consortium Study

In 2000, Town Meeting authorized \$500,000 to study the Town's current sewer needs through the Assabet River Consortium Study. The Assabet Consortium Study is a collaboration of the six towns whose sewerage treatment plants discharge to the Assabet River; these include Northborough, Marlborough, Westborough, Shrewsbury, Hudson and Maynard. As part of the discharge permit for each sewerage treatment plant (there are four) each Town must produce a study that evaluates the effect of the treatment plant's discharge on the Assabet River. The



engineering firm of Fay, Spofford & Thorndike (FST), was hired to do the study for the Town of Northborough. FST inventoried the Board of Health records for septic system failures, excessive pumping, Building Department records for building construction, soils maps, zoning and other applicable files and information to calculate the sewer capacity necessary to service the entire Town of Northborough. They determined that the Town, including existing users, would need 1.25 MGD. This means that there is not enough capacity in the existing sewage treatment plant for the Town to provide sewer to every area that needs it. Marlborough's consultant determined that Marlborough also needed additional capacity. Between Northborough & Marlborough the total sewage treatment capacity needed is 4.15 MGD. With the plant capacity permitted for 2.89 MGD, the deficit is 1.26 MGD.

Through the Assabet Consortium Study process, the Department of Environmental Protection (DEP) and the Federal Environmental Protection Agency (EPA) originally informed the Town that no additional flows would be permitted into the Assabet River. Therefore, the additional 4.15 MGD of capacity necessary for Northborough and Marlborough must be handled by infiltrating it into the ground through subsurface discharge. Even though the effluent water is treated to just about drinkable standards, the DEP and EPA goal is to replenish the ground water rather than let it flow away down the river.

Haitsma Property Acquisition

At the August 10, 2004 Special Town Meeting the Town opted to purchase, through the Chapter 61A tax relief statute, the Haitsma farm at 455 Main Street. The primary purpose of this land was to serve future sewer utility expansion, thus allowing proper build-out and economic development of the Town. According to the Town's consultants, an additional 1.5 MGD of sewer capacity could be achieved through subsurface disposal on the Haitsma property, if needed. However, the cost would be significantly higher than discharging to the river. Consultants for Marlborough and Northborough proposed putting all the additional flows into the river because of the negative environmental impact of clearing all the land necessary to put the additional flows into the ground as well as the additional energy costs of the subsurface disposal. Further evaluation by the Town's consultant in 2018 determined that subsurface disposal of effluent at the Haitsma property would likely result in the discharge entering the Assabet River due to the local hydrogeologic conditions, calling into question the viability of subsurface disposal at that location.

Status of the Marlborough Westerly plant expansion

On November 16, 2009, after spending more than 8 years working with both the State DEP and Federal EPA, the National Pollutant Discharge Elimination System (NPDES) Permit modification for the Marlborough Westerly Treatment Plant was finally granted. This is the permit that allows the Westerly Treatment Plant additional flow into the Assabet River, instead of more expensive alternatives such as subsurface disposal on the Haitsma property. The NPDES permit modification also included significant and expensive upgrades to water treatment, particularly with regard to phosphorus discharge limits.

Unfortunately, after granting the increase in flow, the EPA abruptly and unexpectedly decided to rescind the NPDES permit on February 23, 2010. However, since the granting of the permit, Marlborough has completed the \$30 million expansion and upgrades to the plant and although the plant is seeing great results on the quality of the effluent, it is coming at a significant increase in operational costs. Under the proposed Intermunicipal Agreement, the Town of Northborough will owe 30% of the cost of construction. It remains to be seen how the issue of additional capacity will be resolved. The EPA has issued the new NPDES permit for the Marlborough

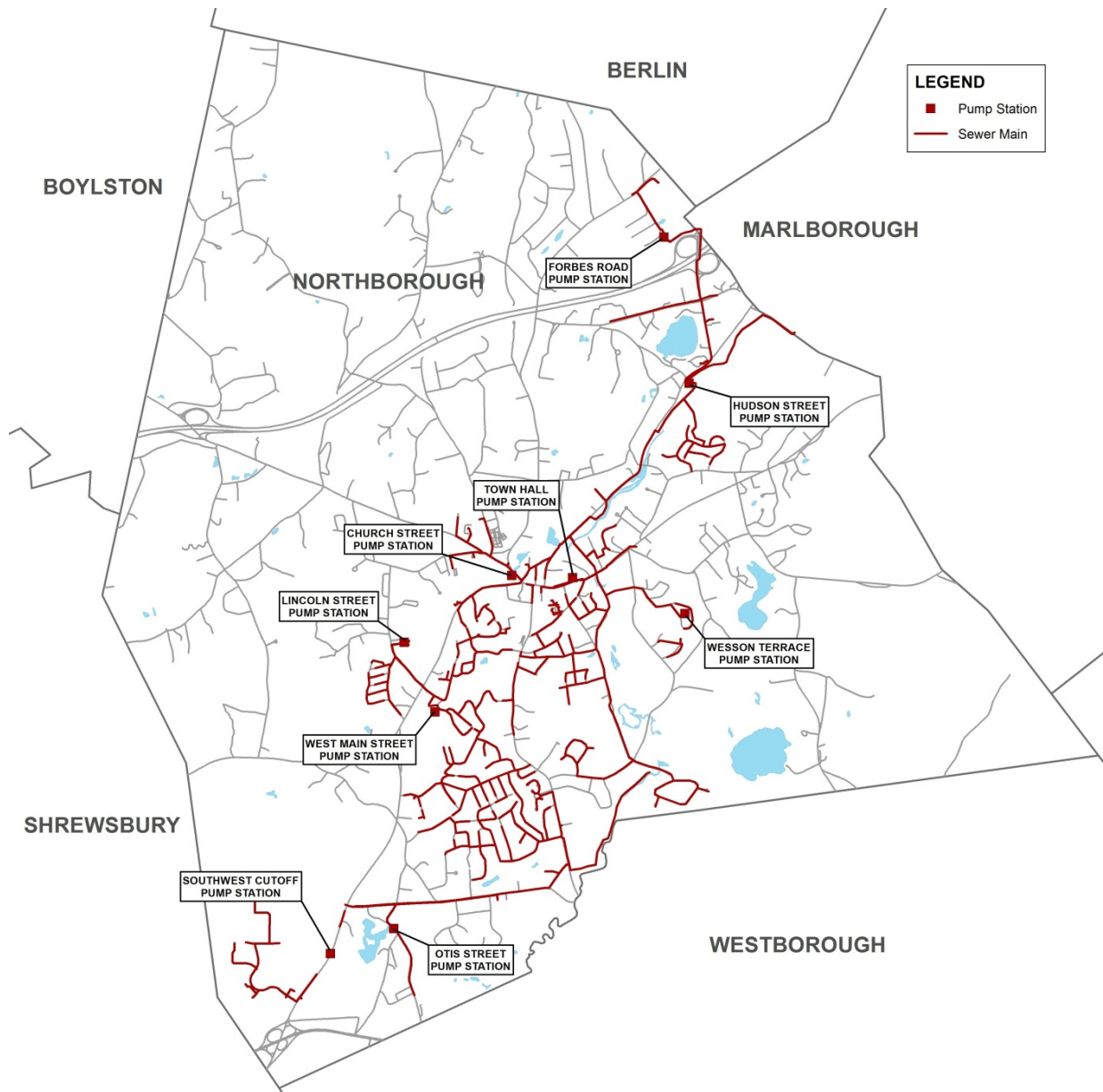
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Westerly Plant within which Northborough is a co-permittee. The new permit provides no additional capacity, and the City has indicated no willingness to appeal the permit issuance. The new permit does include additional operational requirements that will impact the sewer enterprise fund operating expenses in the coming years.

Approximately 30% of the Town has access to the sewer wastewater system. The map below shows the sewer system service area.

Northborough Sewer System Map





Significant FY2022 Budget Changes or Initiatives

The FY2023 Sewer Enterprise Fund is budgeted at \$2,397,488, which is an overall increase of \$24,028 or 1.0%. The budget reflects an estimated 10% or \$81,323 increase in the Marlborough use charge. This value, along with several other smaller increases, is substantially offset by a \$109,715 reduction in debt payments which are spread across several past debt issuances.

The critical issue facing the DPW Sewer Enterprise Fund continues to be negotiations for a new Intermunicipal Agreement with the City of Marlborough. The matter is currently in litigation, the outcome of which will establish our contribution to the operational expenses of the Westerly Wastewater Treatment Plan as well as Northborough’s share of the \$30 million plant improvement project. Sewer rates were increased significantly in the second quarters of FY2014, FY2016, FY2017, and FY2018 in anticipation of a large plant improvement payment to Marlborough. The sewer use charges will be evaluated as part of a comprehensive rate study. While final rate adjustments will be based upon the updated rate study, a modest increase is anticipated in FY2023.

	FY2019 ACTUAL	FY2020 ACTUAL	FY2021 ACTUAL	FY2022 BUDGETED	FY2022 SIX MONTHS	FY2023 PROPOSED
SEWER ENTERPRISE FUND						
Personnel Services						
51010 Full-time Wages	109,343	115,950	109,676	114,987	52,251	113,834
51100 Full-time Salary	23,793	24,754	25,754	26,532	12,363	26,545
51120 Full-time Permanent wages	23,853	24,515	24,950	25,404	11,839	25,371
⁷ 51130 W&S Commissioner Stipends	720	720	1,800	720	0	720
⁸ 51135 GIS Salary	9,553	9,840	10,266	10,472	10,472	10,786
51300 Overtime	29,412	27,943	31,585	31,252	14,297	31,874
51410 Longevity Pay	880	940	1,080	1,070	1,190	1,064
51970 Stipends	1,200	1,520	1,520	1,520	760	1,520
51920 Uniforms	1,000	1,000	0	1,000	0	1,000
SUBTOTAL	199,753	207,182	206,631	212,957	103,173	212,714

⁷ Line 51130 represents the three Water & Sewer Commissioners receive \$600 each per year, split 40% (\$720) Sewer Fund Budget and 60% (\$1,080) Water Fund Budget

⁸ Line 51135 represents 10% (4 hours per week) of the GIS Director’s time supporting the Sewer Enterprise fund.

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Water & Sewer Enterprise Funds



	FY2019 ACTUAL	FY2020 ACTUAL	FY2021 ACTUAL	FY2022 BUDGETED	FY2022 SIX MONTHS	FY2023 PROPOSED
SEWER ENTERPRISE FUND						
Expenses						
51710 Workers' Compensation Ins.	8,234	8,399	8,120	8,120	7,337	7,384
51730 F.I.C.A.	2,523	3,210	3,364	3,364	3,364	3,364
51740 Life Insurance	59	59	59	59	59	42
51750 Health Insurance	35,538	32,988	32,501	32,749	32,749	32,682
52110 Utilities	52,910	51,165	51,941	57,518	19,693	60,000
52310 Marlborough Use Charge	400,000	400,000	400,000	813,232	300,000	894,555
52600 Building Maintenance	78,409	50,879	49,814	96,000	4,283	97,800
52620 Equipment Maintenance	10,685	6,795	20,459	35,000	764	41,000
52800 Contractual Services	78,205	156,605	65,923	207,934	103,552	179,611
52850 Audit	1,300	1,338	2,211	2,252	696	2,249
53020 Legal Services	18,351	37,362	85,152	50,000	8,569	50,000
53110 Printing	5,226	3,904	3,984	5,872	3,302	5,873
53170 Testing	1,935	8,151	1,644	4,900	822	4,900
53190 Training, Dues and Licenses	1,132	1,782	426	3,240	897	3,240
54290 Office Supplies	270	450	390	1,500	105	1,740
54420 Materials & Supplies	29,960	14,380	33,163	44,500	14,103	44,500
54820 Gasoline	7,030	7,030	7,030	7,030	7,030	7,030
55990 Chemicals	0	0	0	0	0	0
56220 Worcester Regional Retirement	31,486	22,227	25,329	23,293	23,293	26,343
57110 Mileage	269	269	137	400	72	400
57410 Liability/Building Insurance	11,759	11,759	12,087	12,088	13,000	13,000
58730 Capital Outlay	0	0	0	0	0	0
59810 Extraordinary and Unforeseen	0	0	0	75,000	0	75,000
SUBTOTAL	775,279	818,752	803,734	1,484,051	543,690	1,550,713



Water & Sewer Enterprise Funds

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FY2019	FY2020	FY2021	FY2022	FY2022	FY2023
ACTUAL	ACTUAL	ACTUAL	BUDGETED	SIX MONTHS	PROPOSED

SEWER ENTERPRISE FUND

Expenses (Debt Service)

59100 Principal / Long Term Debt	473,516	514,370	530,183	590,791	150,000	503,491
59150 Interest /Long Term Debt	163,415	144,672	123,121	103,406	60,635	124,320
59270 Interest / Temporary Loans	24,681	19,377	10,234	20,250	0	5,125
59280 Issuance Costs	0	0	0	7,875	0	1,125
SUBTOTAL	661,612	678,419	663,539	722,322	210,635	634,061

TOTAL: SEWER ENTERPRISE FUND

1,636,645	1,704,353	1,673,903	2,419,330	857,497	2,397,488
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