

**CITY OF FRAMINGHAM
CAPITAL PROJECT/EQUIPMENT REQUEST - FY2025-2034 CIP**

DEPARTMENT:

DEPARTMENT PRIORITY:

(1) **PROJECT NAME:**
PROJECT STATUS:

(2) **PROJECT DESCRIPTION AND JUSTIFICATION:**

PROJECT ADDITIONS/CHANGES JUSTIFICATION:

(3) **PURPOSE OF PROJECT:**

<input checked="" type="checkbox"/>	Replace existing infrastructure
<input type="checkbox"/>	Replace existing capital asset
<input type="checkbox"/>	Replace existing vehicle
<input type="checkbox"/>	Replace equipment
<input type="checkbox"/>	New infrastructure
<input type="checkbox"/>	New capital asset
<input type="checkbox"/>	New vehicle
<input type="checkbox"/>	New equipment
<input type="checkbox"/>	Strategic/Comprehensive/Master plan

(4) **BUDGET REQUEST BY YEAR:**

	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30-34
a. Land Acquisition						
b. Planning / Feasibility						
c. Design						
d. Construction	450,000					
e. Equipment/Vehicles						
f. Contingency						
g. Other						
TOTAL	450,000	-	-	-	-	-

(5) **PRIORITY:**

a. <input type="checkbox"/>	health and safety	safety concern, hazardous condition, agency compliance, non-functional, etc
b. <input checked="" type="checkbox"/>	level service maintenance	maintains City desired level of service
c. <input type="checkbox"/>	economic development	adds to the City's economic vibrancy
d. <input type="checkbox"/>	service improvement	new or improved service to meet demand

(6) **EFFECTS ON ANNUAL OPERATING BUDGET:**

	FY 25	FY 26	FY 27	FY 28	FY 29	FY30	YEARS 30-34
Personnel							
Operating							

(7) **PROPOSED FUNDING SOURCE(S):**

-
-
-

(10) **PROJECT OR EQUIPMENT LOCATION:**

(11) **ASSET TYPE:**

(7a) **POTENTIAL GRANT FUNDING SOURCE IF APPLICABLE: (List source and matching requirements)**

(8) **PROJECT LEAD NAME & CONTACT INFO: (ADDITIONAL PROJECT INFO AS NEEDED)**

(9) **FINANCE DEPARTMENT NOTES:**



CITY OF FRAMINGHAM

DEPARTMENT OF PUBLIC WORKS | OPERATIONS

OPERATIONS CENTER
100 Western Avenue
Framingham, MA 01702

508-532-6060
wastewater@framinghamma.gov
www.framinghamma.gov

MEMORANDUM

DATE: 9/29/2023

TO: Robert Lewis
Director Department Public Works

FROM: Steve Leone
Director Water & Wastewater

RE: Saxonville Sewer Construction Capital Appropriation FY25

In anticipation of the Saxonville Intersection construction and in conjunction with the Saxonville Water Mains appropriation the Saxonville Sewer Construction Appropriation will replace undersized 6" pipe on Chestnut St and Edwards St. It will also use cured in place pipe lining (CIPP) to rehab sewer pipe on Elm Street in the vicinity of Chestnut Street and on Edwards Street behind the Stapleton School. The CIPP method is more cost effective than replacement and less invasive. If the host pipe is in good enough shape and the size is adequate CIPP method is what is used. It will minimize the amount of disruption to the newer playground at the school. This appropriation will help minimize the need to perform excavations or additional work within the limits of the intersection construction as well as Chestnut and Edwards St. The appropriation amount of \$450,000 will cover the cost of the installation and materials for the CIPP lining and the sewer replacement.

Pipe to be upgraded with cured-in-place liner

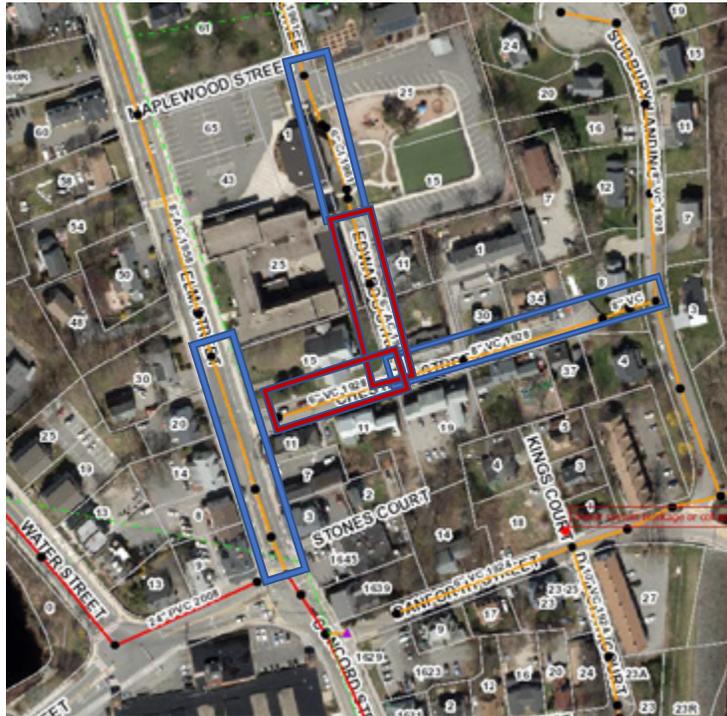


1958 8" asbestos-cement pipe on Elm St.
1928 8" clay pipe on Chestnut St.
1961 6" cast iron pipe on Edwards St.

Pipe to be replaced



1928 6" clay pipe on Chestnut St.
1961 6" asbestos-cement pipe on Edwards St.



Elm Street Sewer Project – FY25 Sewer Enterprise Fund Request

Sewer lining and replacement will provide much-needed infrastructure upgrade prior to the proposed Saxonville Intersection construction

**CITY OF FRAMINGHAM
CAPITAL PROJECT/EQUIPMENT REQUEST - FY2025-2034 CIP**

DEPARTMENT:

DEPARTMENT PRIORITY:

(1) **PROJECT NAME:** Private inflow removal from sanitary sewer system
PROJECT STATUS: Existing in Edmunds

(2) **PROJECT DESCRIPTION AND JUSTIFICATION:**
 The City is prohibited from having basement sump pumps discharge to the sanitary sewer system. Field investigations led to private home inspections that confirmed there are existing connections in place. The City has agreed to work on a pilot program to reimburse private property owners to disconnect and redirect sump pump discharges away from the sanitary sewers.

PROJECT ADDITIONS/CHANGES JUSTIFICATION:

(3) **PURPOSE OF PROJECT:**

<input checked="" type="checkbox"/>	Replace existing infrastructure
<input type="checkbox"/>	Replace existing capital asset
<input type="checkbox"/>	Replace existing vehicle
<input type="checkbox"/>	Replace equipment
<input type="checkbox"/>	New infrastructure
<input type="checkbox"/>	New capital asset
<input type="checkbox"/>	New vehicle
<input type="checkbox"/>	New equipment
<input type="checkbox"/>	Strategic/Comprehensive/Master plan

(4) **BUDGET REQUEST BY YEAR:**

	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30-34
a. Land Acquisition						
b. Planning / Feasibility						
c. Design						
d. Construction	125,000					
e. Equipment/Vehicles						
f. Contingency						
g. Other						
TOTAL	125,000	-	-	-	-	-

(5) **PRIORITY:**

a. <input checked="" type="checkbox"/> health and safety	safety concern, hazardous condition, agency compliance, non-functional, etc
b. <input type="checkbox"/> level service maintenance	maintains City desired level of service
c. <input type="checkbox"/> economic development	adds to the City's economic vibrancy
d. <input type="checkbox"/> service improvement	new or improved service to meet demand

(6) **EFFECTS ON ANNUAL OPERATING BUDGET:**

	FY 25	FY 26	FY 27	FY 28	FY 29	FY30	YEARS 30-34
Personnel							
Operating							

(7) **PROPOSED FUNDING SOURCE(S):**

- 1) **Bond**
- 2)
- 3)

(10) **PROJECT OR EQUIPMENT LOCATION:**
 (11) **ASSET TYPE:**

(7a) **POTENTIAL GRANT FUNDING SOURCE IF APPLICABLE: (List source and matching requirements)**

(8) **PROJECT LEAD NAME & CONTACT INFO: (ADDITIONAL PROJECT INFO AS NEEDED)**

(9) **FINANCE DEPARTMENT NOTES:**



CITY OF FRAMINGHAM

DEPARTMENT OF PUBLIC WORKS | OPERATIONS

OPERATIONS CENTER
100 Western Avenue
Framingham, MA 01702

508-532-6010
engineering@framinghamma.gov
www.framinghamma.gov

MEMORANDUM

DATE: 10/10/2023

TO: Robert Lewis
Director of Public Works

FROM: Robert Sheldon
Director of Capital Projects

RE: **Private Inflow Removal**

The Private Inflow Source Removal program is proposed as a pilot program to eliminate six to ten known connections between private home basement sump pumps and the City's sanitary sewers. The program emanated from the City's Sewer System Evaluation Survey Phase 6 (SSES6), where suspected connections were inspected in individual homes to confirm that the connections in fact exist.

Six were found to be relatively easily removed, of which three only require disconnection from the sewer and disposal of the sump pump. Three others were deemed to be candidates for simply rerouting sump pump discharge away from the sanitary sewer and instead through the sill to the ground just outside the house. Others are more challenging to address, including the need to obtain order of conditions from the Conservation Commission.

The proposed approach would reimburse property owners for work that was performed by a licensed plumber, general contractor, and/or electrician with all necessary permits and to the satisfaction of the Department of Public Works. Having the City fund all or part of the cost of removing illicit sump pump discharges as a pilot program is a practice that has been used in Massachusetts municipalities such as Burlington, Fitchburg, and Revere. It also was proposed in the Framingham DPW's Sump Pump and Illicit Connection Elimination Plan (June 2007).

The Department of Public Works has included a commitment to removal of at least some of the illicit connections identified in the SSES6 as part of semi-annual reports to the Massachusetts Department of Environmental Protection (MassDEP) relative to the Administrative Consent Order. MassDEP has stated that they expect to see progress in this regard soon. Completing the proposed six to ten disconnections and rerouting will demonstrate that progress.

The Department has estimated that reconfiguring the discharges of sump pumps would vary in cost significantly, depending on the scope of work that needs to be done. The cost could be as

little as \$500 for a few hours of a plumber's time to as much as \$15,000 that would include excavation in the yard, environmental permitting, and specialized trades. A cost estimate prepared in 2020 for seven projects representing some significant challenges was \$106,000. Accounting for inflation, that work is now estimated to require \$125,000.

Private Source Inflow Removal Program Cost Estimate - Framingham, MA					
Item No.	Estimated Quantity	Unit	Description	Estimated Cost	
				Unit Price	Total Price
1	Furnish and Install Sump Pump with Battery Back-Up System				
1a	7	EA.	Furnish and Install Sump Pump with Battery Back-Up System, per sump pump	\$ 2,500.00	\$ 17,500.00
1b	400	L.F.	Furnish and Install 1 1/2" PVC Interior Piping and Fittings, per linear foot	\$ 35.00	\$ 14,000.00
2	Disconnect, Remove, and Dispose of Sump Pump				
2a	11	EA.	Disconnect, Remove, and Dispose of Sump Pump, per sump pump	\$ 500.00	\$ 5,500.00
3	Furnish and Install Dry Well				
3a	6	EA.	Furnish and Install Dry Well, per dry well	\$ 1,500.00	\$ 9,000.00
4	Provide Electrical Power				
4a	7	EA.	Provide Electrical Power, per location	\$ 1,000.00	\$ 7,000.00
5	Furnish and Install Flexible High Density Polyethylene Discharge Piping				
5a	500	L.F.	Furnish and Install 1 1/2" Flexible Polyethylene (HDPE) Exterior Sump Pump Discharge Piping, per linear foot	\$ 40.00	\$ 20,000.00
6	Connection to Existing Drainage Structure				
6a	1	EA.	Connect to Existing Drainage Manhole or Catch Basin, per location	\$ 5,000.00	\$ 5,000.00
7	Pavement Replacement				
7a	20	L.F.	Replace Bituminous Pavement, per linear foot	\$ 50.00	\$ 1,000.00
8	Sidewalk Replacement				
8a	50	S.F.	Replace Sidewalk, per square foot	\$ 20.00	\$ 1,000.00
9	Sodding				
9a	1000	S.F.	Sodding, per square foot	\$ 1.50	\$ 1,500.00
10	Surface Restoration				
10a	1	L.S.	Surface Restoration, lump sum	\$ 2,000.00	\$ 2,000.00
11	Uniformed Police Officer Allowance				
11a	24	Hour	Uniformed Police Officer, per hour	\$ 55.00	\$ 1,320.00
				SUBTOTAL =	\$ 84,820.00
				CONTINGENCY (25%) =	\$ 21,205.00
				TOTAL ENGINEER'S OPINION OF PROBABLE COST =	\$ 106,025.00

6/10/2020

**CITY OF FRAMINGHAM
CAPITAL PROJECT/EQUIPMENT REQUEST - FY2025-2034 CIP**

DEPARTMENT:

DEPARTMENT PRIORITY:

(1) **PROJECT NAME:**
PROJECT STATUS:

(2) **PROJECT DESCRIPTION AND JUSTIFICATION:**
 This appropriation will provide funds for the evaluation of the City's sewer system taking into account aging infrastructure, projected build-out, and the City's priorities for performing capital improvements to continue serving the City's sewer collection and pumping needs. The Master Plan is a comprehensive wastewater system planning document designed to support the City's long-term plans and strategies for providing efficient and effective sewer service. The development and updating of a Wastewater Master Plan is a best management practice for wastewater utilities. Best industry practice for wastewater utilities is to review and update their Master Plans every 10 years. The City of Framingham's last Wastewater Master Plan was completed in 2017. Changes such as completed capital improvements, system expansion, changing usage, deteriorating conditions, or evolving City priorities are the impetus for review and revision of the Master Plan. The City's Wastewater Master Plan is due for update which will be completed in 2027.

(3) **PURPOSE OF PROJECT:**

<input type="checkbox"/>	Replace existing infrastructure
<input type="checkbox"/>	Replace existing capital asset
<input type="checkbox"/>	Replace existing vehicle
<input type="checkbox"/>	Replace equipment
<input type="checkbox"/>	New infrastructure
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PROJECT ADDITIONS/CHANGES JUSTIFICATION:

(4) **BUDGET REQUEST BY YEAR:**

	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30-34
a. Land Acquisition						
b. Planning / Feasibility	450,000					
c. Design						
d. Construction						
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f. Contingency						
g. Other						
TOTAL	450,000	-	-	-	-	-

(5) **PRIORITY:**

a. <input type="checkbox"/> health and safety	safety concern, hazardous condition, agency compliance, non-functional, etc
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c. <input type="checkbox"/> economic development	adds to the City's economic vibrancy
d. <input type="checkbox"/> service improvement	new or improved service to meet demand

(6) **EFFECTS ON ANNUAL OPERATING BUDGET:**

	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	YEARS 30-34
Personnel							
Operating							

(7) **PROPOSED FUNDING SOURCE(S):**

1) Bond
2) <input type="text"/>
3) <input type="text"/>

(10) **PROJECT OR EQUIPMENT LOCATION:**

 (11) **ASSET TYPE:**

(7a) **POTENTIAL GRANT FUNDING SOURCE IF APPLICABLE: (List source and matching requirements)**

(8)	PROJECT LEAD NAME & CONTACT INFO: (ADDITIONAL PROJECT INFO AS NEEDED) Robert A. Lewis
(9)	FINANCE DEPARTMENT NOTES:

October 4, 2023

Mr. William R. Sedewitz, P.E.
Chief Engineer
Capital Improvement Program
110 Western Avenue
Framingham, MA 01702

**RE: Wastewater Master Plan Update
Funding Request for Planning Services**

Dear Mr. Sedewitz:

As requested, Hazen and Sawyer (Hazen) is pleased to provide this letter regarding the estimated funding required to prepare an update to the Wastewater Management Plan.

Background

The Wastewater Master Plan was completed in 2017 and included a compilation of wastewater infrastructure projects that were completed subsequent to the 2008 Comprehensive Wastewater Management Plan, flow metering, hydraulic model development and analysis, evaluation of the status of the completed phases of the Sewer System Evaluation Surveys (SSES) program, estimate of levels of system infiltration and inflow, pump station inspections, evaluation of future growth areas and flow projections, collection system condition and capacity analyses, and a 25 year plan for recommended system improvements.

The scope of work for the update to the Wastewater Master Plan will include the same core elements of the 2017 plan with additional focus on improving the level of detail and extent of the hydraulic model, updating the system condition and capacity analyses, evaluating the resiliency of pump stations to climate change impacts (i.e., flooding), evaluation of potential smart sewer technologies to provide real time collection system operational data, and identifying potential sources of funding and grant opportunities to mitigate the cost of recommended infrastructure improvements.

Estimated Fee

We recommend an appropriation of \$450,000 for the update to the Wastewater Master Plan. Please feel free to contact me at (508) 907-5056 or jbarsanti@hazenandsawyer.com with any questions or if you require additional information.

Job no

Sincerely,



James Barsanti, P.E.
Senior Associate

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TOWN OF FRAMINGHAM WASTEWATER MASTER PLAN

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TOWN OF FRAMINGHAM WASTEWATER MASTER PLAN

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TOWN OF FRAMINGHAM WASTEWATER MASTER PLAN

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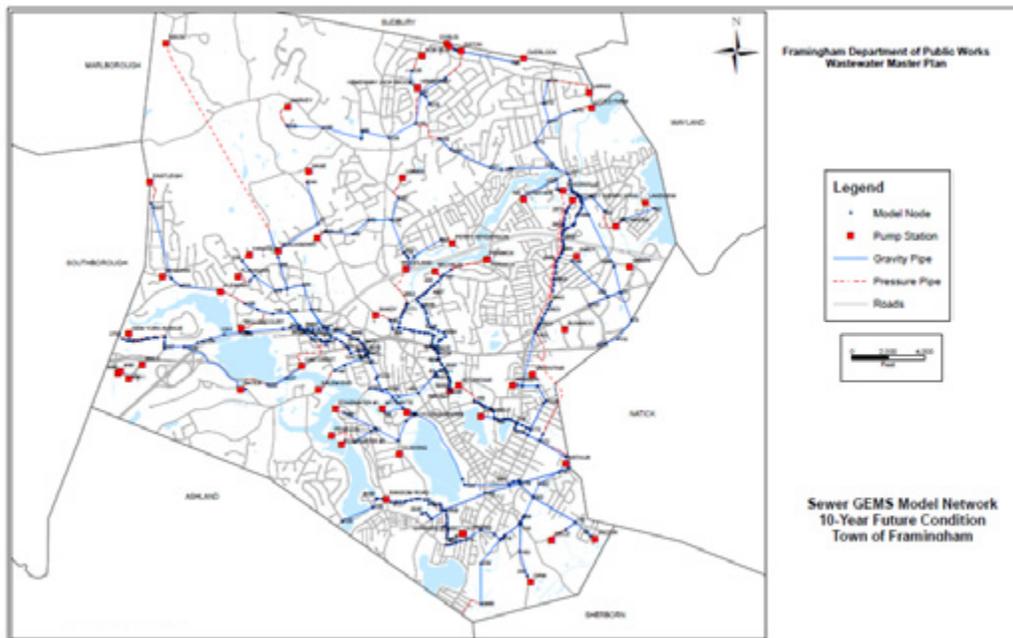
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Sewer Master Plan Update – FY25 Capital Project Submission



Sample Sewer Modeling Map – Used in performing system analyses

**CITY OF FRAMINGHAM
CAPITAL PROJECT/EQUIPMENT REQUEST - FY2025-2034 CIP**

DEPARTMENT:

DEPARTMENT PRIORITY:

(1) **PROJECT NAME:**
PROJECT STATUS:

(2) **PROJECT DESCRIPTION AND JUSTIFICATION:**
 Replacing the existing Gates Street Sewer Pump Station will substantially improve performance, reliability, maintainability, and safety. The existing station is 70 years old and a new station is required to improve safety and operational conditions. The station was constructed in 1953 and last rehabilitated in 1984. The pumps require constant attention to stay in operation. Corrosion has deteriorated the interior of both the pump room. The wet well ventilation is substandard, resulting in air quality risk to operators and accelerated corrosion. The new pump station will be a suction-lift packaged station, a configuration that has proven to provide excellent performance and enable much better accessibility for operations and maintenance. This type of station provides direct accessibility at or just below grade by simply removing a fiberglass enclosure. The new station will have all new components and will be upgraded to the City's standards for SCADA, enhancing centralized monitoring and data gathering.

PROJECT ADDITIONS/CHANGES JUSTIFICATION:

(3) **PURPOSE OF PROJECT:**

<input checked="" type="checkbox"/>	Replace existing infrastructure
<input type="checkbox"/>	Replace existing capital asset
<input type="checkbox"/>	Replace existing vehicle
<input type="checkbox"/>	Replace equipment
<input type="checkbox"/>	New infrastructure
<input type="checkbox"/>	New capital asset
<input type="checkbox"/>	New vehicle
<input type="checkbox"/>	New equipment
<input type="checkbox"/>	Strategic/Comprehensive/Master plan

(4) **BUDGET REQUEST BY YEAR:**

	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30-34
a. Land Acquisition						
b. Planning / Feasibility						
c. Design						
d. Construction	3,350,000					
e. Equipment/Vehicles						
f. Contingency						
g. Other						
TOTAL	3,350,000	-	-	-	-	-

(5) **PRIORITY:**

a. <input checked="" type="checkbox"/> health and safety	safety concern, hazardous condition, agency compliance, non-functional, etc
b. <input checked="" type="checkbox"/> level service maintenance	maintains City desired level of service
c. <input type="checkbox"/> economic development	adds to the City's economic vibrancy
d. <input type="checkbox"/> service improvement	new or improved service to meet demand

(6) **EFFECTS ON ANNUAL OPERATING BUDGET:**

	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	YEARS 30-34
Personnel							
Operating							

(7) **PROPOSED FUNDING SOURCE(S):**

1) Bond
2) <input type="text"/>
3) <input type="text"/>

(10) **PROJECT OR EQUIPMENT LOCATION:**
 (11) **ASSET TYPE:**

(7a) **POTENTIAL GRANT FUNDING SOURCE IF APPLICABLE: (List source and matching requirements)**

(8) PROJECT LEAD NAME & CONTACT INFO: (ADDITIONAL PROJECT INFO AS NEEDED)

Robert A. Lewis

(9) FINANCE DEPARTMENT NOTES:



CITY OF FRAMINGHAM

DEPARTMENT OF PUBLIC WORKS | OPERATIONS

OPERATIONS CENTER
100 Western Avenue
Framingham, MA 01702

508-532-6060
wastewater@framinghamma.gov
www.framinghamma.gov

MEMORANDUM

DATE: 10/16/2023

TO: William Sedewitz
Chief Engineer

CC: Stephen Leone, Alex MacKenzie

FROM: Stephanie Tarves
Senior Water & Wastewater Engineer

RE: **Gates Street Sewer Pump Station – FY2025 appropriation request –**

This memorandum summarizes the background information for the FY2025 request for the replacement of the Gates Street Sewer Pump Station (SPS). The capital costs associated with the replacement of the existing station are outlined in the Preliminary Design Memorandum, prepared by Environmental Partners, dated August 10, 2023. A link to that document can be found here: <https://file.ac/iULVd-oMFvs/>.

The total request amount also includes estimated emergency repairs required to keep the station in operation prior to the completion of design and construction of the full replacement. The annotated photographs on the following pages demonstrate the accelerated deterioration of the facility. The station and most of its associated equipment are well beyond their designed life, and at risk of imminent failure. The Water & Wastewater Division has concerns that the Gates SPS is at risk of component-level mechanical failures up through and including catastrophic station failure prior to decommissioning of the existing station. According to our staff the following high-risk deficiencies are present at the station:

- The pumps frequently plug and the Gates Street SPS requires more service calls than all the City's other flooded suction building stations combined. When pumps are plugged or fail to start, the pumps require a minimum of two technicians to disassemble the pump to clear the blockage. There is concern that mechanical fittings may not hold after future disassembly and reassembly due to stripped threaded holes and missing bolts on all three of the station's pump assemblies and pump stands.
- The isolation valve for Pump 3 (separating the pump assembly from the wet well) has failed. When Pump 3 is plugged, it requires technicians to schedule overnight



CITY OF FRAMINGHAM

maintenance to clear the blockage when flows to the station are lowest. Technicians drain the wet well as far down as they can to allow about 10-20 minutes (compared to 3-5 minutes during daytime usage) to clear the blockage and reassemble the pump before the pump room is overcome with sewage. This requires advanced work to disassemble and perform as much as can be done in advance of clearing the blockage so there is enough time to perform the work, and even then, 10-20 minutes is only enough time to perform when everything goes smoothly.

- Isolation valves for Pump 1 and Pump 2 are not reliable and leak sewage onto the floor of the dry well when a pump is pulled to clear a blockage.
- Rags are placed around check valves to absorb leaking sewage from the valves. This is an indication that the check valves are at imminent risk of failure. These check valves have not been recently repaired or replaced to date as the risk compromising the station to perform these repairs is too great.
- Missing bolts from the pump assemblies allow the pumps to experience excessive vibration. Excessive vibration of aged equipment can lead to the development of breaks, cracks, and equipment failure.
- The mechanical equipment is old, worn, and operating well beyond its intended useful life. At some point the pumps, valves, motors or appurtenances will fail if they are kept online. There is concern that failure may occur before this station can be decommissioned and in-kind replacement of components may not be possible due to the age of the equipment. In such a case, a bypass system would likely be required.
- The electrical service for the station is beyond its design life and at risk of failure. The Water & Wastewater Division has experienced failed electrical services at other pump stations, and lead times even in an emergent condition for the electrical utility to provide a new electrical service can be on the order of months. Failure of the electrical service also may result in loss of electrical or control equipment. Failure of the electrical service would require emergency power generation and replacement of the electrical service under duress.
- Due to the deteriorating conditions within the pump station and wet well, standard operating procedures have been changed so that operators are instructed not to enter the pump room of the station or the wet well alone. Failure of equipment causing a risk of harm to the operators is a significant concern. Failure at the Gates Street SPS may result in injury to Water & Wastewater Division staff.

It is our request that funds in the sum of **\$350,000**, in addition to the \$3,001,000 recommended by Environmental Partners for the Gates Street Sewer Pump Station Construction project be appropriated as part of that appropriation request, for a **total appropriation request of \$3,351,000**.

We arrived at \$350,000 as a conservative approach including an estimation of the cost for repair and mitigation work for a catastrophic failure of one complete pump assembly. This by no means purports to be an all-inclusive cost of failure as there is no way to reasonably predict when, how,



CITY OF FRAMINGHAM

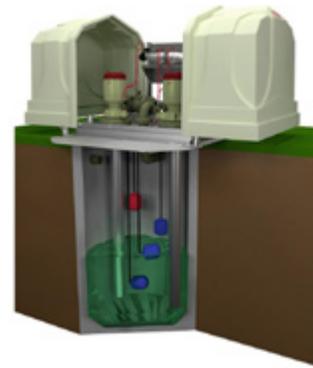
and to what extent a failure may occur. This cost considers loss of one of the more valuable assets at the station that is at greatest risk of failure. Our estimate is compiled from the following:

- \$55,000 – Temporary emergency bypass of the station (pump trucks),
- \$10,000 – Rental of a temporary bypass pump,
- \$8,000 – Engineering design, permitting and construction oversight of interim sewer bypass plan,
- \$90,000 – Procurement of an interim sewer bypass pump assembly and appurtenances,
- \$15,000 – Procurement of electrical and control equipment for interim sewer bypass assembly,
- \$30,000 – Site work and piping reconfiguration to accommodate interim sewer bypass assembly by contractor,
- \$80,000 – Installation of interim sewer bypass pump assembly and appurtenances by contractor,
- \$30,000 – Integration and startup of interim sewer bypass assembly by SCADA on-call consultant,
- \$8,000 – Framingham personnel overtime, and
- \$24,000 – Construction and overtime contingency.

These estimated costs include anticipated expenses to perform repair work as described above, based on recent historic costs for similar work and estimated equipment costs. In the event the allocated funds for emergency repairs are not fully expended through completion of construction of the new Gates Street SPS, the remaining appropriated funds would be returned at the conclusion of the project.



Existing station



Potential configuration of proposed replacement station

Replacing the outdated Gates Street Sewage Pump Station with a new suction-lift packaged pump station improves reliability, safety, and accessibility.

The following graphics depict the challenges facing the DPW in keeping the existing station in operation. The new station will provide new, reliable mechanical equipment protected by a removal cover, making everything accessible at grade level.



Missing bolts



Missing bolts lead to excessive vibration, which in turn leads to breaks, cracks, and equipment failure.



The pumps frequently plug, requiring more service calls than all the City's other flooded suction building stations combined. When pumps are plugged or fail to start, the pumps require a minimum of two technicians to disassemble the pump to clear the blockage. Stripped threads in bolt holes create a significant threat of imminent failure of all three pump assemblies.



Wall separating wet well
from pump room

Isolation
valve

Pump

Pump blockages are frequent occurrences at the Gates Street Pump Station. To clear a blockage, the pump has to be taken off line and the sewage in the wet well held back from flowing into the pump room. All three valves isolating pumps from the wet well are unreliable.

- Pump 3's valve has completely failed. Clearing a Pump 3 blockage has to be done at night during low flows and even then there's only a window of 10-20 minutes to do the work without flooding the pump room with sewage.*
- The valves for Pump 1 and Pump 2 are only marginally effective and leak sewage onto the floor of the dry well when a pump is pulled to clear a blockage.*



Very low headroom makes it very challenging to disassemble and haul heavy valves and pumps in and out of pump room.

Severe corrosion and lack of ventilation create hazardous working conditions in wet well.

Standard operating procedures now prohibit operators from entering the pump room of the station or the wet well alone. Failure of equipment causing a risk of harm to the operators is a significant concern.





Check valves are in poor condition. The risk of a catastrophic failure of the station during repair or replacement is so high that they are operated in "as is" status. Rags are used to absorb leaking sewage from the valves.



The electrical service for the station is outdated and at risk of failure. Lead times for new equipment – even in emergencies – is on the order of months. Failure of the electrical service also may result in loss of control equipment.

**CITY OF FRAMINGHAM
CAPITAL PROJECT/EQUIPMENT REQUEST - FY2025-2034 CIP**

DEPARTMENT:

DEPARTMENT PRIORITY:

(1) **PROJECT NAME:** Worcester Rd Sewer Phase II
PROJECT STATUS: Existing in Edmunds

(2) **PROJECT DESCRIPTION AND JUSTIFICATION:**

This project will replace and upgrade approximately 1,600 feet of old clay sewer on Worcester Road (Route 9) Westbound between Concord Street and the Caldor Road, complete with manholes and services. Some segments between manholes are planned to be lined, provided that the condition of the pipe does not further deteriorate prior to execution of the construction. The existing infrastructure is in poor condition and, being 70 to 100 years old, has exceeded its service life. As a result, it poses a significant risk of failure and is in need of increased DPW resources to maintain service. This sewer infrastructure serves major portions of Framingham's retail businesses, where emergency repairs and traffic disruption are especially expensive and disruptive because of its location within State road limits. Increasing the size of sewers will enable the City to manage future flows. New pipes and manholes will reduce unwanted inflow/infiltration, improve reliability, reduce maintenance costs and demands on DPW resources, and reduce the potential and frequency of sewer service backups. This project is also an opportunity to address sewer and water needs together as part of a single construction package, resulting in reduced impacts to the businesses in the area and those who travel on this busy roadway.

PROJECT ADDITIONS/CHANGES JUSTIFICATION:
 Moved to FY25 to align with Worcester Rd. Phase II water (bid as same project). Costs updated

(3) **PURPOSE OF PROJECT:**

<input checked="" type="checkbox"/>	Replace existing infrastructure
<input checked="" type="checkbox"/>	Replace existing capital asset
<input type="checkbox"/>	Replace existing vehicle
<input type="checkbox"/>	Replace equipment
<input type="checkbox"/>	New infrastructure
<input type="checkbox"/>	New capital asset
<input type="checkbox"/>	New vehicle
<input type="checkbox"/>	New equipment

Strategic/Comprehensive/Master plan

(4) **BUDGET REQUEST BY YEAR:**

	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30-34
a. Land Acquisition						
b. Planning / Feasibility						
c. Design						
d. Construction	4,080,000					
e. Equipment/Vehicles						
f. Contingency						
g. Other						
TOTAL	4,080,000	-	-	-	-	-

(5) **PRIORITY:**

a. <input type="checkbox"/>	health and safety	safety concern, hazardous condition, agency compliance, non-functional, etc
b. <input checked="" type="checkbox"/>	level service maintenance	maintains City desired level of service
c. <input checked="" type="checkbox"/>	economic development	adds to the City's economic vibrancy
d. <input checked="" type="checkbox"/>	service improvement	new or improved service to meet demand

(6) **EFFECTS ON ANNUAL OPERATING BUDGET:**

	FY 25	FY 26	FY 27	FY 28	FY 29	FY30	YEARS 30-34
Personnel							
Operating							

<p>(7) PROPOSED FUNDING SOURCE(S):</p> <p>1) Bond</p> <p>2)</p> <p>3)</p>	<p>(10) PROJECT OR EQUIPMENT LOCATION:</p> <p>Worcester Road bewteen Concord Street and Caldor Road</p> <p>(11) ASSET TYPE:</p> <p>Building</p>
<p>(7a) POTENTIAL GRANT FUNDING SOURCE IF APPLICABLE: (List source and matching requirements)</p>	
<p>(8) PROJECT LEAD NAME & CONTACT INFO: (ADDITIONAL PROJECT INFO AS NEEDED)</p> <p>Robert A. Lewis</p>	
<p>(9) FINANCE DEPARTMENT NOTES:</p>	



October 3, 2023

Mr. Robert H. Sheldon, PE
Director, Capital Projects
Department of Public Works
Capital Improvement Program
110 Western Avenue
Framingham, MA 01702

**RE: Framingham: Capital Project Planning
Worcester Road Water and Sewer Improvements Phase 2 - Westbound
Updated Cost Estimate**

Dear Robert:

As requested Environmental Partners Group, LLC (Environmental Partners) has updated the cost estimate for this project. The detailed cost estimate is attached, and assumes construction in 2024.

Please feel free to contact me if you have any questions or would like to discuss this project further.

Very Truly Yours,

Environmental Partners Group, LLC

A handwritten signature in blue ink that reads "Ryan Allgrove".

Ryan J. Allgrove, P.E.
Principal
P: (617) 657-0281
E: rja@envpartners.com

Attached: Updated Cost Estimate

envpartners.com

Worcester Road Water and Sewer Improvements Phase 2 - Westbound
City of Framingham, MA
254-1904
100% Design Opinion of Probable Construction Cost - Water and Sewer
Construction Midpoint - December 2024

Item No.	Description	Units	Bid Quantities	Unit Price	Extended Amount
1	Mobilization and Demobilization (5%)	LS	1	\$353,310.25	\$353,310.25
2	Preconstruction Video and Photographs	LS	1	\$36,000.00	\$36,000.00
3	WATER MAINS				
3a	12-Inch DI Water Main	LF	15	\$425.00	\$6,375.00
3b	8-inch DI Water Main	LF	2630	\$380.00	\$999,400.00
3c	6-Inch DI Water Main	LF	100	\$365.00	\$36,500.00
4	GATE VALVES AND BOXES				
4a	8-inch Gate Valves and Boxes	EA	19	\$3,600.00	\$68,400.00
4b	6-inch Gate Valves and Boxes	EA	6	\$2,100.00	\$12,600.00
5	Hydrant Assemblies	EA	5	\$15,000.00	\$75,000.00
6	WATER SERVICE TAPS AND CURB BOXES				
6a	1-inch Water Service Taps and Curb Boxes	EA	4	\$1,400.00	\$5,600.00
6b	1.5-Inch Water Service Taps and Curb Boxes	EA	2	\$1,900.00	\$3,800.00
6c	2-Inch Water Service Taps and Curb Boxes	EA	4	\$1,950.00	\$7,800.00
7	WATER SERVICES				
7a	1-inch Water Services	LF	75	\$155.00	\$11,625.00
7b	1.5-Inch Water Services	LF	40	\$170.00	\$6,800.00
7c	2-Inch Water Services	LF	75	\$180.00	\$13,500.00
8	FIRE SERVICES				
8a	4-Inch Fire Service Connection	LF	25	\$280.00	\$7,000.00
8b	6-Inch Fire Service Connection	LF	65	\$195.00	\$12,675.00
8c	8-Inch Fire Service Connection	LF	20	\$335.00	\$6,700.00
9	TEMPORARY BYPASS SYSTEMS				
9a	6-Inch Temporary Bypass Piping	LF	1220	\$180.00	\$219,600.00
9b	8-Inch Temporary Bypass Piping	LF	2340	\$190.00	\$444,600.00
10	Additional Fittings	LB	1500	\$6.00	\$9,000.00
11	GRAVITY SEWERS				
11a	8-inch SDR 35 PVC Gravity Sewer Pipe	LF	1070	\$520.00	\$556,400.00
11b	8-inch SDR 21 PVC Gravity Sewer Pipe	LF	195	\$530.00	\$103,350.00
11c	10-Inch Epoxy Lined DI Gravity Sewer Pipe	LF	185	\$350.00	\$64,750.00
11d	8-Inch Epoxy Lined DI Gravity Sewer Pipe	LF	140	\$340.00	\$47,600.00
12	SEWER SERVICE CONNECTIONS				
12a	8-inch PVC Gravity Sewer Service	LF	30	\$700.00	\$21,000.00
12b	6-Inch PVC Gravity Sewer Service (Westbound Side)	LF	205	\$680.00	\$139,400.00
12c	6-Inch Epoxy Lined DI Sewer Service (Westbound Side)	LF	65	\$680.00	\$44,200.00
13	SEWER MANHOLES				
13a	4-foot Diameter Sewer Manhole	VF	50	\$1,200.00	\$60,000.00
13b	5-foot Diameter Sewer Manhole	VF	24	\$1,400.00	\$33,600.00
13c	Sewer Manhole Frame and Cover	EA	9	\$1,100.00	\$9,900.00
13d	Rebuild Existing Sewer Manhole Invert	EA	1	\$2,500.00	\$2,500.00
13e	Remove and Dispose of Existing Sewer Manhole	EA	1	\$675.00	\$675.00
13f	Epoxy Line Sewer Manhole	VF	10	\$700.00	\$7,000.00
13g	Cement Line Existing Sewer Manhole	VF	5	\$350.00	\$1,750.00
14	STORMWATER				
14a	Removal and Replacement of Storm Drain Utilities	IN-FT	2000	\$12.00	\$24,000.00
15	CONTAMINATED MATERIAL MANAGEMENT				
15a	AC Pipe Removal and Disposal	LF	20	\$70.00	\$1,400.00
15b	Management and Disposal of Crushed AC Pipe and AC Impacted soils	CY	100	\$270.00	\$27,000.00
15c	Removal and Disposal of Unforeseen Asbestos	ALLOW	1	\$145,000.00	\$145,000.00
15d	Soil Management Plans	LS	1	\$145,000.00	\$145,000.00
15e	Removal and Disposal of Background or Unregulated Soil Materials	TON	4000	\$80.00	\$320,000.00
15f	Removal and Disposal of Impacted Materials	TON	1500	\$100.00	\$150,000.00
15g	Removal and Disposal of Unlined Landfill Materials	TON	500	\$160.00	\$80,000.00
15h	Removal and Disposal of Lined Landfill Materials	TON	500	\$265.00	\$132,500.00
15i	Treatment of Contaminated Groundwater	ALLOW	1	\$60,000.00	\$60,000.00
16	REMOVAL/ABANDONMENT OF UTILITIES				
16a	Abandon Existing Sewer/Water Main with LDCC	CY	10	\$3,500.00	\$35,000.00
16b	Abandon Existing Structure in Place with CDF	CY	150	\$140.00	\$21,000.00
16c	Cleaning and CCTV Inspection of Existing Sewer Lateral	EA	15	\$2,350.00	\$35,250.00
16d	Cut, Cap, Abandon Sewer Lateral in Place	EA	26	\$1,200.00	\$31,200.00

Worcester Road Water and Sewer Improvements Phase 2 - Westbound
City of Framingham, MA
254-1904
100% Design Opinion of Probable Construction Cost - Water and Sewer
Construction Midpoint - December 2024

Item No.	Description	Units	Bid Quantities	Unit Price	Extended Amount	
17	EARTH EXCAVATION					
17a	Exploratory Excavation	CY	265	\$40.00	\$10,600.00	
17b	Excavation of Unsuitable Materials Below Trench Grade	CY	500	\$9.50	\$4,750.00	
17c	For Performing Soil Compaction Tests, as Specified	1/2 Day	330	\$380.00	\$125,400.00	
17d	Rock Excavation	CY	250	\$80.00	\$20,000.00	
18	ADDITIONAL MATERIALS					
18a	Select Fill	CY	800	\$9.00	\$7,200.00	
18b	Special Borrow M1.02.0	CY	5000	\$12.00	\$60,000.00	
18c	1500 PSI Concrete	CY	200	\$35.00	\$7,000.00	
19	PAVEMENT					
19a	4-Inch Temporary Trench Pavement	SY	2800	\$68.00	\$190,400.00	
19b	12-Inch Intermediate Trench Pavement	SY	5000	\$135.00	\$675,000.00	
19c	2-Inch Milling	SY	7250	\$10.00	\$72,500.00	
19d	2-Inch Overlay	SY	7250	\$27.50	\$199,375.00	
20	RESTORATION					
20a	Bituminous Concrete Sidewalk	SY	135	\$18.00	\$2,430.00	
20b	Portland Cement Concrete Sidewalk	SY	235	\$75.00	\$17,625.00	
20c	Guard Rail	LF	325	\$235.00	\$76,375.00	
20d	Miscellaneous Bituminous Concrete	TONS	500	\$70.00	\$35,000.00	
20e	Remove and Reset Granite Curb	LF	640	\$85.00	\$54,400.00	
20f	Restoration of Growth	SY	100	\$125.00	\$12,500.00	
21	Uniformed Police Officer Allowance	ALLOW	1	\$600,000.00	\$600,000.00	
22	Traffic Management	LS	1	\$200,000.00	\$200,000.00	
23	Variable Message Boards as Shown and Specified	BOARD-WEEKS	80	\$265.00	\$21,200.00	
24	Utility Support and Coordination	ALLOW	1	\$235,000.00	\$235,000.00	
25	Abutter Relocation	ALLOW	1	\$12,000.00	\$12,000.00	
26	For Furnishing and Placing Environmental Protection	LS	1	\$30,000.00	\$30,000.00	
27	Miscellaneous Work and Cleanup	LS	1	\$115,000.00	\$115,000.00	
					Subtotal	\$7,419,515.25
					Escalation to Midpoint (5%)	\$370,975.76
					Contingency (10%)	\$779,049.10
					Engineering Services	\$750,000.00
					Total (Rounded)	\$9,320,000.00

Worcester Road Water and Sewer Improvements Phase 2 - Westbound
City of Framingham, MA
254-1904
100% Design Revised Opinion of Probable Construction Cost - Water
Construction Midpoint - December 2024

Item No.	Description	Units	Water Quantities	Unit Price	Extended Amount
1	Mobilization and Demobilization (5%)	LS	1	\$200,458.63	\$200,458.63
2	Preconstruction Video and Photographs	LS	0.5	\$36,000.00	\$18,000.00
3	WATER MAINS				
3a	12-Inch DI Water Main	LF	15	\$425.00	\$6,375.00
3b	8-Inch DI Water Main	LF	2630	\$380.00	\$999,400.00
3c	6-Inch DI Water Main	LF	100	\$365.00	\$36,500.00
4	GATE VALVES AND BOXES				
4a	8-Inch Gate Valves and Boxes	EA	19	\$3,600.00	\$68,400.00
4b	6-Inch Gate Valves and Boxes	EA	6	\$2,100.00	\$12,600.00
5	Hydrant Assemblies	EA	5	\$15,000.00	\$75,000.00
6	WATER SERVICE TAPS AND CURB BOXES				
6a	1-Inch Water Service Taps and Curb Boxes	EA	4	\$1,400.00	\$5,600.00
6b	1.5-Inch Water Service Taps and Curb Boxes	EA	2	\$1,900.00	\$3,800.00
6c	2-Inch Water Service Taps and Curb Boxes	EA	4	\$1,950.00	\$7,800.00
7	WATER SERVICES				
7a	1-Inch Water Services	LF	75	\$155.00	\$11,625.00
7b	1.5-Inch Water Services	LF	40	\$170.00	\$6,800.00
7c	2-Inch Water Services	LF	75	\$180.00	\$13,500.00
8	FIRE SERVICES				
8a	4-Inch Fire Service Connection	LF	25	\$280.00	\$7,000.00
8b	6-Inch Fire Service Connection	LF	65	\$195.00	\$12,675.00
8c	8-Inch Fire Service Connection	LF	20	\$335.00	\$6,700.00
9	TEMPORARY BYPASS SYSTEMS				
9a	6-Inch Temporary Bypass Piping	LF	1220	\$180.00	\$219,600.00
9b	8-Inch Temporary Bypass Piping	LF	2340	\$190.00	\$444,600.00
10	Additional Fittings	LB	1500	\$6.00	\$9,000.00
14	STORMWATER				
14a	Removal and Replacement of Storm Drain Utilities	IN-FT	1000	\$12.00	\$12,000.00
15	CONTAMINATED MATERIAL MANAGEMENT				
15c	Removal and Disposal of Unforeseen Asbestos	ALLOW	0.5	\$145,000.00	\$72,500.00
15d	Soil Management Plans	LS	0.5	\$145,000.00	\$72,500.00
15e	Removal and Disposal of Background or Unregulated Soil Materials	TON	2000	\$80.00	\$160,000.00
15f	Removal and Disposal of Impacted Materials	TON	750	\$100.00	\$75,000.00
15g	Removal and Disposal of Unlined Landfill Materials	TON	250	\$160.00	\$40,000.00
15h	Removal and Disposal of Lined Landfill Materials	TON	250	\$265.00	\$66,250.00
15i	Treatment of Contaminated Groundwater	ALLOW	0.5	\$60,000.00	\$30,000.00
16	REMOVAL/ABANDONMENT OF UTILITIES				
16a	Abandon Existing Sewer/Water Main with LDCC	CY	10	\$3,500.00	\$35,000.00
17	EARTH EXCAVATION				
17a	Exploratory Excavation	CY	132.5	\$40.00	\$5,300.00
17b	Excavation of Unsuitable Materials Below Trench Grade	CY	250	\$9.50	\$2,375.00
17c	For Performing Soil Compaction Tests, as Specified	1/2 Day	165	\$380.00	\$62,700.00
17d	Rock Excavation	CY	125	\$80.00	\$10,000.00
18	ADDITIONAL MATERIALS				
18a	Select Fill	CY	400	\$9.00	\$3,600.00
18b	Special Borrow M1.02.0	CY	2500	\$12.00	\$30,000.00
18c	1500 PSI Concrete	CY	100	\$35.00	\$3,500.00
19	PAVEMENT				
19a	4-Inch Temporary Trench Pavement	SY	1340	\$68.00	\$91,120.00
19b	12-Inch Intermediate Trench Pavement	SY	2675	\$135.00	\$361,125.00
19c	2-Inch Milling	SY	3625	\$10.00	\$36,250.00
19d	2-Inch Overlay	SY	3625	\$27.50	\$99,687.50
20	RESTORATION				
20a	Bituminous Concrete Sidewalk	SY	67.5	\$18.00	\$1,215.00
20b	Portland Cement Concrete Sidewalk	SY	235	\$75.00	\$17,625.00
20c	Guard Rail	LF	325	\$235.00	\$76,375.00
20d	Miscellaneous Bituminous Concrete	TONS	250	\$70.00	\$17,500.00
20e	Remove and Reset Granite Curb	LF	585	\$85.00	\$49,725.00
20f	Restoration of Growth	SY	50	\$125.00	\$6,250.00
21	Uniformed Police Officer Allowance	ALLOW	0.5	\$600,000.00	\$300,000.00

Worcester Road Water and Sewer Improvements Phase 2 - Westbound
City of Framingham, MA
254-1904
100% Design Revised Opinion of Probable Construction Cost - Water
Construction Midpoint - December 2024

Item No.	Description	Units	Water Quantities	Unit Price	Extended Amount
22	Traffic Management	LS	0.5	\$200,000.00	\$100,000.00
23	Variable Message Boards as Shown and Specified	BOARD-WEEKS	40	\$265.00	\$10,600.00
24	Utility Support and Coordination	ALLOW	0.5	\$235,000.00	\$117,500.00
25	Abutter Relocation	ALLOW	0.5	\$12,000.00	\$6,000.00
26	For Furnishing and Placing Environmental Protection	LS	0.5	\$30,000.00	\$15,000.00
27	Miscellaneous Work and Cleanup	LS	0.5	\$115,000.00	\$57,500.00
Subtotal					\$4,209,631.13
Escalation to Midpoint (5%)					\$210,481.56
Contingency (10%)					\$442,011.27
Engineering Services					\$375,000.00
Total (Rounded)					\$5,240,000.00

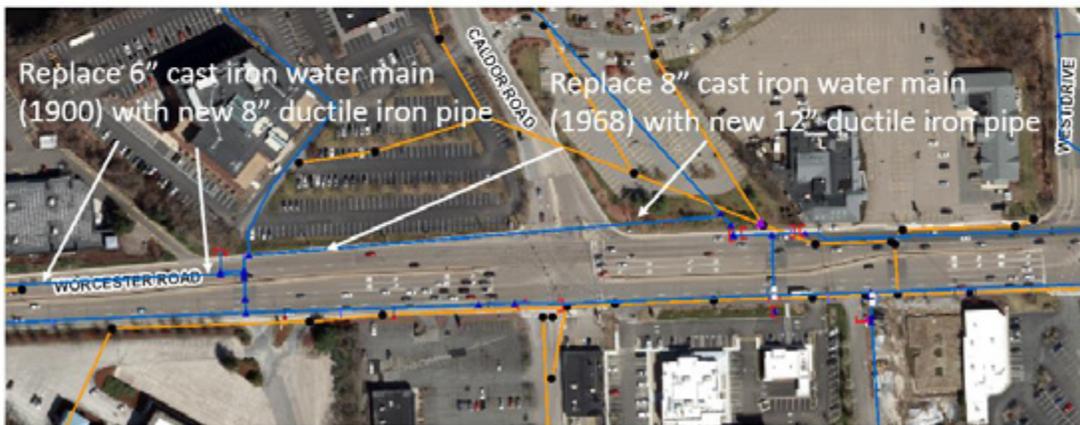
Worcester Road Water and Sewer Improvements Phase 2 - Westbound
City of Framingham, MA
254-1904
100% Design Revised Opinion of Probable Construction Cost - Sewer
Construction Midpoint - December 2024

Item No.	Description	Units	Sewer Quantities	Unit Price	Extended Amount
1	Mobilization and Demobilization (5%)	LS	1	\$152,851.63	\$152,851.63
2	Preconstruction Video and Photographs	LS	0.5	\$36,000.00	\$18,000.00
11	GRAVITY SEWERS				
11a	8-Inch SDR 35 PVC Gravity Sewer Pipe	LF	1070	\$520.00	\$556,400.00
11b	8-Inch SDR 21 PVC Gravity Sewer Pipe	LF	195	\$530.00	\$103,350.00
11c	10-Inch Epoxy Lined DI Gravity Sewer Pipe	LF	185	\$350.00	\$64,750.00
11d	8-Inch Epoxy Lined DI Gravity Sewer Pipe	LF	140	\$340.00	\$47,600.00
12	SEWER SERVICE CONNECTIONS				
12a	8-inch PVC Gravity Sewer Service	LF	30	\$700.00	\$21,000.00
12b	6-Inch PVC Gravity Sewer Service (Westbound Side)	LF	205	\$680.00	\$139,400.00
12c	6-Inch Epoxy Lined DI Sewer Service (Westbound Side)	LF	65	\$680.00	\$44,200.00
13	SEWER MANHOLES				
13a	4-foot Diameter Sewer Manhole	VF	50	\$1,200.00	\$60,000.00
13b	5-foot Diameter Sewer Manhole	VF	24	\$1,400.00	\$33,600.00
13c	Sewer Manhole Frame and Cover	EA	9	\$1,100.00	\$9,900.00
13d	Rebuild Existing Sewer Manhole Invert	EA	1	\$2,500.00	\$2,500.00
13e	Remove and Dispose of Existing Sewer Manhole	EA	1	\$675.00	\$675.00
13f	Epoxy Line Sewer Manhole	VF	10	\$700.00	\$7,000.00
13g	Cement Line Existing Sewer Manhole	VF	5	\$350.00	\$1,750.00
14	STORMWATER				
14a	Removal and Replacement of Storm Drain Utilities	IN-FT	1000	\$12.00	\$12,000.00
15	CONTAMINATED MATERIAL MANAGEMENT				
15a	AC Pipe Removal and Disposal	LF	20	\$70.00	\$1,400.00
15b	Management and Disposal of Crushed AC Pipe and AC Impacted soils	CY	100	\$270.00	\$27,000.00
15c	Removal and Disposal of Unforeseen Asbestos	ALLOW	0.5	\$145,000.00	\$72,500.00
15d	Soil Management Plans	LS	0.5	\$145,000.00	\$72,500.00
15e	Removal and Disposal of Background or Unregulated Soil Materials	TON	2000	\$80.00	\$160,000.00
15f	Removal and Disposal of Impacted Materials	TON	750	\$100.00	\$75,000.00
15g	Removal and Disposal of Unlined Landfill Materials	TON	250	\$160.00	\$40,000.00
15h	Removal and Disposal of Lined Landfill Materials	TON	250	\$265.00	\$66,250.00
15i	Treatment of Contaminated Groundwater	ALLOW	0.5	\$60,000.00	\$30,000.00
16	REMOVAL/ABANDONMENT OF UTILITIES				
16b	Abandon Existing Structure in Place with CDF	CY	150	\$140.00	\$21,000.00
16c	Cleaning and CCTV Inspection of Existing Sewer Lateral	EA	15	\$2,350.00	\$35,250.00
16d	Cut, Cap, Abandon Sewer Lateral in Place	EA	26	\$1,200.00	\$31,200.00
17	EARTH EXCAVATION				
17a	Exploratory Excavation	CY	132.5	\$40.00	\$5,300.00
17b	Excavation of Unsuitable Materials Below Trench Grade	CY	250	\$9.50	\$2,375.00
17c	For Performing Soil Compaction Tests, as Specified	1/2 Day	165	\$380.00	\$62,700.00
17d	Rock Excavation	CY	125	\$80.00	\$10,000.00
18	ADDITIONAL MATERIALS				
18a	Select Fill	CY	400	\$9.00	\$3,600.00
18b	Special Borrow M1.02.0	CY	2500	\$12.00	\$30,000.00
18c	1500 PSI Concrete	CY	100	\$35.00	\$3,500.00
19	PAVEMENT				
19a	4-Inch Temporary Trench Pavement	SY	1460	\$68.00	\$99,280.00
19b	12-Inch Intermediate Trench Pavement	SY	2325	\$135.00	\$313,875.00
19c	2-Inch Milling	SY	3625	\$10.00	\$36,250.00
19d	2-Inch Overlay	SY	3625	\$27.50	\$99,687.50
20	RESTORATION				
20a	Bituminous Concrete Sidewalk	SY	67.5	\$18.00	\$1,215.00
20d	Miscellaneous Bituminous Concrete	TONS	250	\$70.00	\$17,500.00
20e	Remove and Reset Granite Curb	LF	55	\$85.00	\$4,675.00
20f	Restoration of Growth	SY	50	\$125.00	\$6,250.00
21	Uniformed Police Officer Allowance	ALLOW	0.5	\$600,000.00	\$300,000.00
22	Traffic Management	LS	0.5	\$200,000.00	\$100,000.00
23	Variable Message Boards as Shown and Specified	BOARD-WEEKS	40	\$265.00	\$10,600.00
24	Utility Support and Coordination	ALLOW	0.5	\$235,000.00	\$117,500.00
25	Abutter Relocation	ALLOW	0.5	\$12,000.00	\$6,000.00
26	For Furnishing and Placing Environmental Protection	LS	0.5	\$30,000.00	\$15,000.00

Worcester Road Water and Sewer Improvements Phase 2 - Westbound
 City of Framingham, MA
 254-1904
 100% Design Revised Opinion of Probable Construction Cost - Sewer
 Construction Midpoint - December 2024

Item No.	Description	Units	Sewer Quantities	Unit Price	Extended Amount
27	Miscellaneous Work and Cleanup	LS	0.5	\$115,000.00	\$57,500.00
				Subtotal	\$3,209,884.13
				Escalation to Midpoint (5%)	\$160,494.21
				Contingency (10%)	\$337,037.83
				Engineering Services	\$375,000.00
				Total (Rounded)	\$4,080,000.00

Worcester Road Water and Sewer Improvements Phase II (Westbound)



Installing new water and sewer infrastructure will substantially reduce potential of failure, improve reliability, and increase capacity for area businesses and residents.

**CITY OF FRAMINGHAM
CAPITAL PROJECT/EQUIPMENT REQUEST - FY2025-2034 CIP**

DEPARTMENT:

DEPARTMENT PRIORITY:

(1) **PROJECT NAME:**
PROJECT STATUS:

(2) **PROJECT DESCRIPTION AND JUSTIFICATION:**
 During daily infrastructure inspections, operators use robotic cameras to perform CCTV inspection of the City's sewer system to identify defects in the collection system. Common sewer collection system defects include holes, cracks, sags, offset joints, tree roots, and frequent blockages, which lead to more significant failures if not addressed. This appropriation will provide funds for repair and replacement to correct larger-scale defects of the City's sewer collection system. The work includes but is not necessarily limited to: removing existing sewer mains and replacement with new pipe, lining sewer pipe, repairing or replacing sewer manholes, repairing or replacing existing sewer force mains, repairing or replacing sewer siphons, and all other associated work to eliminate identified sewer defects. These repairs may require designing, planning, procuring, and constructing with in-house staff or sometimes with the services of a contractor or consultant. This appropriation will be utilized to address identified, prioritized defects as well as emergent defects that develop and require immediate attention. Repairs and improvements are necessary for continued compliance with sewer regulations, to insure continued sewer service to ratepayers, to address emergency repairs, and to reduce and delay the need for major costly capital investments.

(3) **PURPOSE OF PROJECT:**

<input checked="" type="checkbox"/>	Replace existing infrastructure
<input type="checkbox"/>	Replace existing capital asset
<input type="checkbox"/>	Replace existing vehicle
<input type="checkbox"/>	Replace equipment
<input type="checkbox"/>	New infrastructure
<input type="checkbox"/>	New capital asset
<input type="checkbox"/>	New vehicle
<input type="checkbox"/>	New equipment
<input type="checkbox"/>	Strategic/Comprehensive/Master plan

PROJECT ADDITIONS/CHANGES JUSTIFICATION:

(4) **BUDGET REQUEST BY YEAR:**

	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30-34
a. Land Acquisition						
b. Planning / Feasibility						
c. Design						
d. Construction	375,000	375,000	375,000	375,000	375,000	
e. Equipment/Vehicles						
f. Contingency						
g. Other						
TOTAL	375,000	375,000	375,000	375,000	375,000	-

(5) **PRIORITY:**

a. <input type="checkbox"/> health and safety	safety concern, hazardous condition, agency compliance, non-functional, etc
b. <input checked="" type="checkbox"/> level service maintenance	maintains City desired level of service
c. <input type="checkbox"/> economic development	adds to the City's economic vibrancy
d. <input type="checkbox"/> service improvement	new or improved service to meet demand

(6) **EFFECTS ON ANNUAL OPERATING BUDGET:**

	FY 25	FY 26	FY 27	FY 28	FY 29	FY30	YEARS 30-34
Personnel							
Operating							

(7) **PROPOSED FUNDING SOURCE(S):**

(10) **PROJECT OR EQUIPMENT LOCATION:**

1) Bond		See background material
2)		(11) ASSET TYPE:
3)		Building
(7a) POTENTIAL GRANT FUNDING SOURCE IF APPLICABLE: (List source and matching requirements)		
MWRA I/I Removal		
(8) PROJECT LEAD NAME & CONTACT INFO: (ADDITIONAL PROJECT INFO AS NEEDED)		
Robert A. Lewis		
(9) FINANCE DEPARTMENT NOTES:		



CITY OF FRAMINGHAM

DEPARTMENT OF PUBLIC WORKS | OPERATIONS

OPERATIONS CENTER
100 Western Avenue
Framingham, MA 01702

508-532-6060
wastewater@framinghamma.gov
www.framinghamma.gov

MEMORANDUM

DATE: 8/15/2023

TO: Steve Leone
Director of Water and Wastewater

FROM: Brian McCarthy
Wastewater Operations Manager

RE: **FY2025 Various Sewer Improvements**

In 2023 Wastewater staff continued to conduct routine daily inspections of sewer collection system infrastructure. The Division utilizes a closed-circuit television video (CCTV) inspection method with a robotic camera to capture video and photographic footage of underground sewer pipes. This investigative technology enables the City to locate sewer system defects. The work includes but is not necessarily limited to: removing existing sewer mains and replacement with new pipe, lining sewer pipe, repairing or replacing sewer manholes, repairing or replacing existing sewer force mains, repairing or replacing sewer siphons, and all other associated work to eliminate identified sewer defects. The following summarizes the Division's top priorities for work to be performed.

Identified defects to be addressed with FY2025 funding if approved:

- Meadow ST 175' 8" Vitrified clay from 1935
- Saxony road- 200' 6" vitrified clay from 1951
- Danforth ST- 600' 8" Vitrified clay from 1924
- Brownlea RD- 250' 8" Asbestos from 1958
- Tripp St-300' 6" Vitrified clay from 1933
- Waverley Street – 400' of 15" Cast Iron from 1913
- Paxton Road – 260' of 10" vitrified clay from 1956
- Wilde Ave- 470' 8" Vitrified clay from 1920

Please Note: Anticipated priorities listed above are subject to change.

We are requesting funding in the sum of **\$375,000 for FY2025 Various Sewer Improvements** to address these repairs and any emergent repairs that are required, that have yet to be identified. These repairs may require designing, planning, procuring, and constructing with in house staff or sometimes with the services of a contractor or consultant. Common sewer collection system defects include holes, cracks, sags, offset joints, tree roots, and frequent blockages, which lead to more significant failures if not addressed.

Various Sewer Improvements – FY25 Capital Project Submission



Removing aged, broken and defective sewer mains



Replacing manhole frames, covers, and risers



Installing new sewer mains



Installing new manholes

**CITY OF FRAMINGHAM
CAPITAL PROJECT/EQUIPMENT REQUEST - FY2025-2034 CIP**

DEPARTMENT:

DEPARTMENT PRIORITY:

(1) **PROJECT NAME:**
PROJECT STATUS:

(2) **PROJECT DESCRIPTION AND JUSTIFICATION:**

PROJECT ADDITIONS/CHANGES JUSTIFICATION:

(3) **PURPOSE OF PROJECT:**

<input type="checkbox"/>	Replace existing infrastructure
<input type="checkbox"/>	Replace existing capital asset
<input checked="" type="checkbox"/>	Replace existing vehicle
<input checked="" type="checkbox"/>	Replace equipment
<input type="checkbox"/>	New infrastructure
<input type="checkbox"/>	New capital asset
<input type="checkbox"/>	New vehicle
<input type="checkbox"/>	New equipment
<input type="checkbox"/>	Strategic/Comprehensive/Master plan

(4) **BUDGET REQUEST BY YEAR:**

	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30-34
a. Land Acquisition						
b. Planning / Feasibility						
c. Design						
d. Construction						
e. Equipment/Vehicles	700,000	538,000	305,000	85,000	359,250	
f. Contingency						
g. Other						
TOTAL	700,000	538,000	305,000	85,000	359,250	-

(5) **PRIORITY:**

a. <input checked="" type="checkbox"/> health and safety	safety concern, hazardous condition, agency compliance, non-functional, etc
b. <input checked="" type="checkbox"/> level service maintenance	maintains City desired level of service
c. <input type="checkbox"/> economic development	adds to the City's economic vibrancy
d. <input type="checkbox"/> service improvement	new or improved service to meet demand

(6) **EFFECTS ON ANNUAL OPERATING BUDGET:**

	FY 25	FY 26	FY 27	FY 28	FY 29	FY30	YEARS 30-34
Personnel							
Operating							

(7) **PROPOSED FUNDING SOURCE(S):**

-
-
-

(10) **PROJECT OR EQUIPMENT LOCATION:**

(11) **ASSET TYPE:**

(7a) **POTENTIAL GRANT FUNDING SOURCE IF APPLICABLE: (List source and matching requirements)**

(8) **PROJECT LEAD NAME & CONTACT INFO: (ADDITIONAL PROJECT INFO AS NEEDED)**

Robert A. Lewis

(9) **FINANCE DEPARTMENT NOTES:**

DRAFT

Public Works - Fleet Replacement Program

DRAFT

UNIT #	Division Assignment	IN SERVICE	YEAR	CURRENT	VIN	DESCRIPTION	AGE	LIFE	REPLACE	2023	2024	2025	2026	2027	2028	2029	
										2023	2024	2025	2026	2027	2028	2029	
										YES	QTR						
1	Admin.	Lewis, R.	2014	FORD	1FAHP2H81EG107230	FORD TAURUS	11	15	2024								
8	Admin.	Sedewitz, W.	2015	FORD	1FAHP2H82FG112096	FORD TAURUS	8	15	2030		\$50,000						
64	Engineering	Norsworthy, J.	2013	FORD	1FMSK8AR2DGB2847	FORD EXPLORER	10	15	2028							\$49,000.00	
74	Engineering	Tomasiani, J.	2015	FORD	1FMSK8ARBF GA78512	FORD EXPLORER	8	15	2030								
80	Engineering	Johnson, E.	2011	FORD	1FAHP2H83B113288	FORD TAURUS	12	15	2028								
801	Engineering	Marchessault, R.	2015	NISSAN	1NMAZCP2F331373	NISSAN LEAF	8	10	2025		\$45,000.00		\$29,000.00				
802	Engineering - DNR	Alexandrovich, S.	2013	FORD	1FMSK8AR4DGB2848	FORD EXPLORER	10	15	2028							\$49,000.00	
803	Engineering - DNR	Curran, T. & Surveyor	2013	FORD	1FMSK8BR8DCB86034	FORD EXPLORER	10	15	2028							\$49,000.00	
804	Engineering	Ellis, A. & Dr Permits	2013	FORD	1FAHP2H82D0216954	FORD TAURUS	10	15	2028							\$29,000.00	
805	Engineering	Sheldon, R.	2015	FORD	1FMCUR99FUB85308	FORD ESCAPE	8	15	2030								
808	Engineering	Kovar, LoCastro, Nuvgen	2011	FORD	1FMCUR99FUB85308	FORD ESCAPE	8	15	2026				\$29,000.00				
812	Engineering	Hayes, M.	2015	NISSAN	1NMAZCP9FC313966	NISSAN LEAF	8	10	2025		\$45,000.00						
3	Fleet	Rousseau, J.	2014	FORD	1FMSK8D7EGCB64570	FORD EXPLORER	9	15	2029								
301	Fleet		2008	FORD	1FD0F577F8E434541	15,000 GVW 4 WD C&C W/UTILITY BODY	17	15	2021				\$140,000.00				
302	Fleet		2015	FORD	1FD0F5HT0FEA89894	17,500 GVW 4WD C & C W/ SERVICE BODY	8	15	2030								
303	Fleet		2013	FORD	1FTFX1ET4DFA07924	8,200 GVW 4WD PICKUP TRK	10	15	2028							\$55,000.00	
304	Fleet		2002	CAT	AT28650137	12,000lb FORK LIFT	21	25	2027							\$90,000.00	
4	Highway	Ronconi, K.	2014	FORD	1FMSK8AR8EG869025	EXPLORER-4WD UTILITY VEHICLE	9	15	2029								\$60,000.00
40	Highway		2016	FORD	1FTFX1E3GFA21439	150-7,200 GVW 4WD PUJ TRK	7	12	2028							\$55,000.00	
41	Highway	Greenwood, D.	2016	FORD	1FTX1E3GFPD21340	F150 4WD PUJ WITH PLOW	7	12	2028							\$55,000.00	
42	Highway	Dallamora, J.	2017	FORD	1FT7X2B68HEB49617	F250-10,000 GVW 4WD PUJ TRK&PLOW	6	12	2029							\$60,000.00	
43	Highway	Neto, J.	2017	FORD	1FT7X2B68HEB49618	F250-10,000 GVW 4WD PUJ TRK&PLOW	6	12	2029							\$60,000.00	
44	Highway		2018	FORD	1FD0F4HY2E444718	F250-10,000 GVW 4WD PUJ TRK&PLOW	4	12	2031								
45	Highway	Bruce, N.	2017	FORD	1FT7X2B68HEB49616	F250-10,000 GVW 4WD PUJ TRK & PLOW	6	12	2029							\$60,000.00	
46	Highway		2016	FORD	1FDNF3F61GEB08204	F350-11,000 GVW 4 WD C&C W/UTL BODY & PLOW	7	12	2028								
48	Highway		2011	FORD	1FTFX1E3T0FB67788	F150-7,200 GVW 4WD PUJ TRK	12	12	2023		\$55,000.00						
401	Highway		2015	FORD	1FT7X2B68FEB440950	F250-10,000 GVW 4WD PUJ TRK & PLOW	8	12	2027		\$55,000.00						
403	Highway		2012	FORD	1FT7X2B68CE47064	F250-10,000 GVW 4WD PUJ TRK & PLOW	11	12	2024								
404	Highway		2012	FORD	1FT7X2B68CE448792	F250-10,000 GVW 4WD PUJ TRK & PLOW	11	12	2024		\$55,000.00						
405	Highway		2012	FORD	1FT7X2B68CE448791	F250-10,000 GVW 4WD PUJ TRK & PLOW	11	12	2024			\$55,000.00					
406	Highway	DeFlumers, W.	2016	FORD	1FTW2B68XED28652	F250-11,000 GVW 4WD PUJ TRK QUAD CAB	7	12	2028							\$55,000.00	
408	Highway		2016	FORD	1FD0F4HY2E444718	F250-10,000 GVW 4 WD C&C W/RACK BODY&PLOW	4	15	2034								
409	Highway		2008	FORD	1FD0F57R78E18855	F550-15,000 GVW 4 WD C&C W/RACK BODY&PLOW	15	15	2023		\$75,000.00						
410	Highway		2022	FORD		F550-19,500 GVW 4WD C&C W/DUMP BODY&PLOW	1	15	2037								
411	Highway		2015	FORD	1FD0F5HT2FEA89895	F550-19,500 GVW 4WD C&C W/DUMP BODY&PLOW	8	12	2027						\$75,000.00		
412	Highway		2012	FORD	1FD0F5HT2FEA89895	F550-15,000 GVW 4WD C&C W/DUMP BODY&PLOW	11	12	2024		\$75,000.00						
413	Highway		2017	FORD	1FD0F5HY2E444718	F550-15,000 GVW 4WD C&C W/DUMP BODY&PLOW	6	12	2029								\$85,000.00
415	Highway		2012	FORD	1FD0F5HT2FEA89895	F550-15,000 GVW 4WD C&C W/DUMP BODY&PLOW	11	12	2024		\$75,000.00						
416	Highway	Schloski, Z.	2012	FORD	1FD0F5HT2FEA89895	F550-15,000 GVW 4WD C&C W/DUMP BODY&PLOW	11	12	2024				\$75,000.00				
417	Highway		2022	FORD		F350-11,000 GVW 4 WD C&C W/UTL BODY	1	15	2037								
418	Highway	Fabrizio, F.	2012	FORD	1FDNF3F61GEB08204	F350-11,000 GVW 4 WD C&C W/UTL BODY & PLOW	11	12	2024		\$75,000.00						
419	Snow & Ice	MAKING SNOWBLADES															
420	Snow & Ice		2008	MACC	1M2AX04078M003272	GU7-13-72,000 GVW C&C W/ SANDER&PLOW	15	20	2028							\$250,000.00	
420A	Snow & Ice		2008	TARCO		G CY MATERIAL SPREADER	17	20	2026								
421	Snow & Ice		2016	MACC	1M2AX02CRGM002275	GU7-12-40,000 GVW C&C W/ DUMP BODY&PLOW	7	20	2036								
421A	Snow & Ice		2015	TARCO		G CY MATERIAL SPREADER	8	20	2035								
422	Snow & Ice		2008	MACC	1M2AX02C88M001081	GU7-12-40,000 GVW C&C W/ DUMP BODY&PLOW	15	20	2028								
422A	Snow & Ice		2015	TARCO		G CY MATERIAL SPREADER	8	20	2035								
423	Snow & Ice		2011	GSHKOSH	10TBRAF30BS133448	MPT-40,000 GVW C&C W/DUMP-SAND BODY&PLOW	12	20	2031								
424	Snow & Ice		2011	GSHKOSH	10TBRAF30BS131180	MPT-40,000 GVW C&C W/DUMP-SAND BODY&PLOW	12	20	2031								
425	Snow & Ice		2008	MACC	1M2AX02C88M001080	GU7-12-40,000 GVW C&C W/ DUMP BODY&PLOW	15	20	2028								
425A	Snow & Ice		2008	TARCO		G CY MATERIAL SPREADER	15	20	2028								
426	Snow & Ice		2009	MACC	1M2AX02C49M001161	GU7-12-40,000 GVW C&C W/ DUMP BODY&PLOW	14	20	2029								\$235,000.00
426A	Snow & Ice		2015	HIGHWAY		G CY MATERIAL SPREADER	8	20	2035								
427	Snow & Ice		2008	MACC	1M2AX02C88M001082	GU7-12-40,000 GVW C&C W/ DUMP BODY&PLOW	15	20	2028								
427A	Snow & Ice		2008	TARCO		G CY MATERIAL SPREADER	15	20	2028								
428	Snow & Ice		1997	VOLVO	4VHJAKFE1VN859417	MG42-35,000 GVW C&C W/SANDER&PLOW	28	20	2017								in progress
428A	Snow & Ice		2004	HIGHLANDER		G CY MATERIAL SPREADER	19	20	2024								
429	Snow & Ice		2001	VOLVO	4VSSCBJF1N310312	ACL-65,000 GVW C&C W/SANDER&PLOW	22	20	2021		\$250,000.00						
430	Snow & Ice		2001	STERLING	2FAZAWBS41AJZ2890	L800-35,000 GVW C&C W/SANDER&PLOW	22	20	2021			\$250,000.00					
430A	Snow & Ice		1985	HIGHWAY		G CY MATERIAL SPREADER	28	20	2015								
431	Snow & Ice		2008	MACC	1M2AX04C88M003330	GU7-13-72,000 GVW C&C W/SANDER&PLOW	15	20	2028								\$250,000.00
432	Snow & Ice		2009	MACC	1M2AX04C89M006487	GU7-13-72,000 GVW C&C W/SANDER&PLOW	14	20	2029								

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Public Works - Fleet Replacement Program

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UNIT #	Division Assignment	IN SERVICE	YEAR	CURRENT	VIN	DESCRIPTION	AGE 2023	LIFE YES	REPLACE DUE	2023	2024	2025	2026	2027	2028	2029
433	Snow & Ice		2005	MACK	1M2AG11C05M024681	GU713-72-000 GVV C&C W/SANDER&PLOW	18	20	2025							\$250,000.00
434	Snow & Ice		2010	MACK	1M2AX04C1AM008649	GU713-72-000 GVV C&C W/SANDER&PLOW	13	20	2030							
435	Snow & Ice		2004	MACK	1M2AG11C05M019654	GU713-72-000 GVV C&C W/SANDER&PLOW	19	20	2024				\$250,000.00			
436	Snow & Ice		2004	STERLING	2FZHACY24AM8289	L8500-70-000 GVV C&C W/SANDER&PLOW	19	20	2024				\$250,000.00			
437	Snow & Ice		2019	MACK	1M2GR3GCKM011220	GU713-72-000 GVV C&C W/ DUMP BODY&PLOW	4	20	2039							
437A	Snow & Ice		1999	TARRANT		10 CY MATERIAL SPREADER	24	20	2019							
438	Snow & Ice		2020	MACK		GU713-70-000 GVV C&C W/ DUMP BODY&PLOW	3	15	2035							
439	Snow & Ice		2009	MACK		GU713-72-000 GVV C&C W/SANDER&PLOW	14	20	2029							\$250,000.00
440	Highway / Lg. Specialty		2008	MACK		GU713-39-000 GVV C&C W/AERIAL LIFT	15	15	2023							
441	Highway / Lg. Specialty		2017	MACK		GU713-72-000 GVV C&C	6	15	2032							
441A	Highway / Lg. Specialty		1996	PRENTICE		HYDRAULIC LOG LOADER	27	20	2016							
442	Highway / Lg. Specialty		2004	STERLING		L8500-35-000 GVV C & C W/ DUMP BODY	19	15	2019							
443	Highway / Lg. Specialty		2015	MACK		I2-000 GVV C&C	8	20	2035							
443A	Highway / Lg. Specialty		2015	ROTOBEC		HYDRAULIC LOG LOADER	8	20	2035							
444	Highway / Lg. Specialty		2006	MACK		GU712-40-000 GVV C&C	15	18	2024							
444A	Highway / Lg. Specialty		2019	STETCO		CATCH BASIN										
445	Highway / Lg. Specialty		2004	MACK		CH813-65-000 GVV TANDEM AXLE TRACTOR	19	20	2024							
449	Highway / Lg. Specialty		2012	MACK		VACTOR 2200	11	15	2027							
446	Highway / Sweeper		2020	BUCHER		FOUR WHEEL SWEEPER	3	6	2026				\$280,000.00			
447	Highway / Sweeper		2020	ELGIN		PELICAN-THREE WHEEL SWEEPER	6	6	2026				\$280,000.00			
457	Highway / Sweeper - DUNE		2017	ELGIN		PELICAN-THREE WHEEL SWEEPER	6	6	2023							
458	Highway / Sweeper - DUNE		2016	CAT		M314-WHEELED EXCAVATOR	7	15	2031							
459A	Highway / Specialty Equip		2016	CAT		M314-WHEELED EXCAVATOR (replaces for 459)					\$90,000.00					
450A	Highway / Lg. Specialty		2012	VOLVO		L120-4.5 CY FRONT END LOADER & PLOW	11	15	2027							
452	Highway / Lg. Specialty		2013	VOLVO		L86-3.5 CY FRONT END LOADER & PLOW	10	15	2026							
453	Highway / Lg. Specialty		2012	BOBCAT		S770-3000 STEER W/ATTACHMENTS&PLOW	11	15	2027							
454	Highway / Lg. Specialty		2008	JOHN DEERE		L90-3.5 CY FRONT END LOADER & PLOW	15	15	2023				\$300,000.00			
456	Highway / Lg. Specialty		2003	BOBCAT		S770-3000 STEER W/ATTACHMENTS&PLOW	20	15	2016			\$130,000.00				
460	S & I Sidewalk		2010	CAMELION		SIDEWALK TRACTOR - TRACKED	13	15	2025						\$205,000.00	
461	S & I Sidewalk		2016	VENTRAC		SIDEWALK TRACTOR - WHEELED	7	15	2031							
462	S & I Sidewalk		2019	TRACKLESS		SIDEWALK TRACTOR - TRACKLESS	4	15	2034							
463	S & I Sidewalk		2013	MILL THOMP		MULTI TUP TRACTOR - W/ATTACHMENTS	10	15	2026							\$180,000.00
464	S & I Sidewalk		2013	CAMELEON		SIDEWALK TRACTOR - TRACKED	10	15	2026							\$180,000.00
465	S & I Sidewalk - ALPINE		1996	TRACKLESS		SIDEWALK TRACTOR - WHEELED	27	15	2011							
466	S & I Sidewalk		2010	BOMBARDIER		SIDEWALK TRACTOR - TRACKED	13	15	2025				\$205,000.00			
467	S & I Sidewalk		2006	HOLDER		SIDEWALK TRACTOR - WHEELED	17	15	2021				\$205,000.00			
468	S & I Sidewalk		2018	CAMELEON		SIDEWALK TRACTOR - TRACKED	5	15	2033							
469	S & I Sidewalk		2008	BOMBARDIER		SIDEWALK TRACTOR - TRACKED	15	15	2023			\$205,000.00				
470	Highway / Specialty Equip		2019	KUBOTA		M56 TRACTOR W/FLAIL MOWER	4	15	2034							
471	Highway / Specialty Equip		2013	WACKER		RD16-ROLLER	10	20	2033							
476	Highway / Specialty Equip		2019	ASV		RT30 TRACKED-SKID STEER	5	15	2033							
477	Highway / Specialty Equip		2017	ASV		RT30 TRACKED-SKID STEER	8	15	2032							
478	Highway / Specialty Equip		2011	DOOSAN		FORKLIFT TRUCK	12	20	2031							
479	Highway / Specialty Equip		2018	LEBOY		ASPHALT PAVER	7	15	2031							
480	Highway / Specialty Equip		2001	MORBARK		BRUSH CHIPPER	22	15	2016							
481	Highway / Specialty Equip		2011	VERMEER		BRUSH CHIPPER	12	15	2026							
482	Highway / Specialty Equip		2005	LEBOY		ASPHALT PAVER	18	15	2023							
483	Highway / Specialty Equip		1994	INGERSOL		PORTABLE AIR COMPRESSOR	29	20	2014							
486	Highway / Specialty Equip		1984	INGERSOL		DD24 ROLLER	39	20	2014							
486	Highway / Specialty Equip		1989	INGERSOL		PORTABLE AIR COMPRESSOR	34	20	2009		\$30,000.00					
487	Highway / Specialty Equip		1998	OSHKOSH		4 WHEEL SNOWBLOWER	25	35	2033							
489	Highway / Specialty Equip		1991	OSHKOSH		4 WHEEL SNOWBLOWER	32	35	2026							
T443	Highway / Specialty Equip		2021	MAC		80,000 GNV 36FT TRAILER DUMP	2	20	2041				\$320,000.00			
T444	Highway / Specialty Equip		2006	BENSON		80,000 GNV 26' DUMP TRAILER	17	20	2026							
11	Lighting & Signals	Kneefe, P	2013	FORD	1FMSH8AR8DGB28649	EXP-AWD UTILITY VEHICLE	10	15	2028							\$55,000.00
20	Lighting & Signals	Stipple, P	2019	FORD	1FTT2B80KCE24683	F350-10,000GVW AWD PU/ TR&PLOW	4	15	2034							
21	Lighting & Signals		2016	FORD	1FD0F3F64CE426607	11,000-4 WD UTILITY VEHICLE W/PLOW	7	15	2031							
22	Lighting & Signals		2015	FORD	1FD72B88FE07151	11,000-4 WD UTILITY VEHICLE	8	15	2030							
230	Lighting & Signals		1999	INC	1HTSC4BN3H860974	40 AERIAL LIFT W/SERVICE BODY	28	15	2010				\$320,000.00			
232	Lighting & Signals		2015	FREIGHTLINER	1FVACD1E1HCC4771	38 AERIAL LIFT W/SERVICE BODY	8	15	2030							
810	Lighting & Signals	Cox, J	2009	FORD		FORD TAURUS										
5	Sanitation		2016	FORD	1FMSK8D80GG813183	EXPLORER AWD-UTILITY VEHICLE	7	15	2031							
50	Sanitation		2016	FORD		F150-7,700 GVV AWD PU/ TRK	7	10	2026				\$55,000.00			
51	Sanitation		2015	FORD		F250-8,800 GVV AWD PU/ TR&PLOW	8	10	2025				\$55,000.00			
52	Sanitation		2015	FORD	1FTT2B83FEB40949	F250-8,800 GVV AWD PU/ TR&PLOW	8	10	2025				\$55,000.00			

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Public Works - Fleet Replacement Program

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UNIT #	Division Assignment	IN SERVICE	YEAR	CURRENT	VIN	DESCRIPTION	AGE 2023	LIFE	REPLACE	2023	2024	2025	2026	2027	2028	2029
777	Sewer / Sm. Specialty		2021	KUBOTA	ASKB2FDBKM0368387	RTVX900-OFFROAD UTV	2	20	2041							
785	Sewer / Sm. Specialty		2014		5FTGE1622E1002502	16KW GENERATOR	9	20	2034							
788	Sewer / Sm. Specialty		2014		5FTGE1626E1002938	16KW GENERATOR	9	20	2034							
790	Sewer / Sm. Specialty		2009	INGERSOL	4FVCAAA99U405574	PORTABLE COMPRESSOR	14	20	2029							\$35,000.00
791	Sewer / Sm. Specialty		1993	INGERSOL	234880UFD328	PORTABLE COMPRESSOR	30	20	2013							
792	Sewer / Sm. Specialty		2005	STOW	SBHT52265	CEMENT MIXER										
795	Sewer / Sm. Specialty		2003	GOOWIN	16MP90143D033523	6" GOOWIN PUMP	20	20	2023				\$110,000.00			
797	Sewer / Sm. Specialty		2003	CAT	1E9GF1522AR153926	AG GENERATOR	20	20	2023				\$150,000.00			
798	Sewer / Sm. Specialty		2006	CAT		300 KW GENERATOR	17	20	2026				\$150,000.00			
8	Water		2015	FORD	1FMSK8D82FGB52341	EXPLORER AWD-UTILITY VEHICLE	8	15	2030							
9	Water - Antennas		2014	FORD	1FAHP2H98EC198403	TAURUS-ADR SEDAN	9	15	2024							
60	Water	Norton	2022	FORD	1FTFX1E1F8F6C6096	F550 PICKUP W/ PLOW	1	10	2032							
61	Water	Rochester	2011	FORD	1FTFX1E1F8F6C6096	7,700 GVW 4WD PICKUP TRK	12	10	2021		\$60,000.00					
62	Water	Marin, D.	2017	FORD	1FDRF3F6HEB48528	11,000 GVW 4 WD C&C W/UTILITY BODY & PLOW	6	10	2027							\$75,000.00
63	Water	Shuff, W.	2017	FORD	1FDRF3F6HEB48527	11,000 GVW 4 WD C&C W/UTILITY BODY & PLOW	6	10	2027							\$75,000.00
65	Water	Lavin, J.	2017	FORD	1FDRF3F6HEB48529	11,000 GVW 4 WD C&C W/UTILITY BODY & PLOW	6	10	2027							\$75,000.00
66	Water	Danese, M.	2018	FORD	1FDRF3F6HEB48527	11,000 GVW 4 WD C&C W/UTILITY BODY & PLOW	5	10	2028							\$75,000.00
67	Water	Dunham, M.	2020	FORD	1FTR8ZC3KJ6K90477	TRANSIT UTILITY VAN	3	15	2035							
612	Water	Meter Ops Mgr	2019	FORD		11,000 GVW 4 WD C&C W/SERVICE BODY & PLOW	4	10	2029							\$80,000.00
68	Water	Gleason	2018	FORD		11,000 GVW 4 WD C&C W/SERVICE BODY & PLOW	5	10	2028							\$75,000.00
691	Water		2012	FORD		11,000 GVW 4 WD C&C W/SERVICE BODY & PLOW	11	10	2022		\$75,000.00					
608	Water		2016	FORD		15,000 GVW 2 WD C&C W/SERVICE BODY	7	10	2026				\$75,000.00			
609	Water		2012	FORD		15,000 GVW 2 WD C&C W/SERVICE BODY	11	10	2022		\$200,000.00					
615	Water		2008	FORD		11,000 GVW 4 WD C&C W/SERVICE BODY & PLOW	15	10	2018							
616	Water		2005	FORD		11,000 GVW 4 WD C&C W/SERVICE BODY & PLOW	18	10	2015							
617	Water	Meters	2012	FORD		11,000 GVW 4 WD C&C W/SERVICE BODY & PLOW	11	10	2022		\$75,000.00					
618	Water		2012	FORD		11,000 GVW 4 WD C&C W/SERVICE BODY & PLOW	11	10	2022				\$75,000.00			
619	Water	Pump Stations	2012	FORD		11,000 GVW 4 WD C&C W/SERVICE BODY & PLOW	11	10	2022		\$75,000.00					
622	Water	Meters	2015	FORD		11,000 GVW 4 WD C&C W/SERVICE BODY & PLOW	8	10	2025				\$75,000.00			
623	Water		2015	FORD		11,000 GVW 4 WD C&C W/SERVICE BODY & PLOW	8	10	2025				\$75,000.00			
624	Water	Pump Stations	2015	FORD		11,000 GVW 4 WD C&C W/SERVICE BODY & PLOW	8	10	2025				\$75,000.00			
625	Water		2015	FORD		15,000 GVW 4WD C&C W/DUMP BODY & PLOW	8	10	2025				\$75,000.00			
626	Water		2016	FORD		15,000 GVW 4WD C&C W/DUMP BODY & PLOW	5	10	2026							\$75,000.00
630	Water		2017	MACK	1M2AX02CXHM02880	40,000 GVW C & C W/ DUMP BODY & PLOW	6	15	2032							
630A	Water		2003	TARRANT		BOV MATERIAL SPREADER	20	19	2022							
631	Water - Reuse as sander		2012	MACK	1M2AX04C9CM04377	72,000 GVW C & C W/ DUMP BODY & PLOW	11	15	2027							
634	Water		2005	MACK	1M2AG11C95M026414	72,000 GVW C & C W/ DUMP BODY W/ PLOW	18	15	2020		\$250,000.00					
635	Water		2021	MACK	1M2GR3C4MM019800	70,000 GVW C & C W/ DUMP BODY W/ PLOW	2	15	2036							
638	Water - Antennas		2005	MACK	1M2AG11C95M026482	70,000 GVW C & C W/ CRANE BODY	18	20	2025							
643	Water		2016	MACK	1M2AX34C5GM010432	35,000 GVW C & C W/ CONSTRUCTION BODY	7	10	2026				\$220,000.00			
644	Water		2011	FREIGHTLINER	1FVACXD78BDU56853	35,000 GVW C & C W/ CONSTRUCTION BODY	12	10	2021		\$220,000.00					
650	Wtr. Lg. Specialty		2014	CAT	CAT330BETX201694	330E-MINI EXCAVATOR	9	15	2029							\$120,000.00
651	Wtr. Lg. Specialty		2021	JOHN DEERE	1T0410L3XMF388982	410L-BACKHOE/LOADER & PLOW	2	12	2033							
653	Wtr. Lg. Specialty		2005	CAT	CJC21616	315CL-18 TON EXCAVATOR	18	20	2025		\$265,000.00					
670	Wtr. Sm. Specialty		2019	WACKER	SXF LN0513CND000416	LIGHT TOWER	11	20	2039							
671	Wtr. Sm. Specialty		2019	WACKER	SXF LN0513FN005560	LIGHT TOWER	8	20	2039							
673	Wtr. Sm. Specialty		2018	TRAFFIX	4T9TA175H1M70019	TRAILER	5	20	2038							
684	Wtr. Sm. Specialty		2012	THOMPSON		1/2" PUMP	11	20	2032							
686	Wtr. Sm. Specialty		2009	WACKER		RD2-ROLLER	14	20	2029							\$30,000.00
687	Wtr. Sm. Specialty		2009	INGERSOL		PORTABLE COMPRESSOR	14	20	2029							\$35,000.00
688	Wtr. Sm. Specialty		2004	MAGNUM		LIGHT TOWER	19	20	2024		\$19,000.00					
690	Wtr. Sm. Specialty - Antennas		1997	INGERSOL		PORTABLE COMPRESSOR	28	20	2017							
693	Wtr. Sm. Specialty		2021	TRAFCON		ARROW BOARD	2	20	2041							
695	Wtr. Sm. Specialty		2003	MIS		PORTABLE BYPASS PUMP (REPLACES OLD PUMP)	20	20	2023		\$110,000.00					
782	Wtr. Sm. Specialty		2021	FALCON		6" GOOWIN PUMP	2	20	2041				\$110,000.00			
782	Wtr. Sm. Specialty		2021	FALCON		PORTABLE ASPHALT HOT BOX	2	20	2041							
										Totals	\$2,380,000.00	\$3,544,000.00	\$3,876,000.00	\$2,640,000.00	\$2,321,000.00	\$2,045,000.00

General	\$1,280,000	\$2,090,000	\$2,298,000	\$1,585,000	\$2,011,000	\$1,060,000
Sewer	\$280,000.00	\$700,000.00	\$1,023,000.00	\$890,000.00	\$85,000.00	\$720,000.00
Water	\$820,000.00	\$754,000.00	\$555,000.00	\$475,000.00	\$225,000.00	\$265,000.00
Total	\$2,380,000	\$3,544,000	\$3,876,000	\$2,640,000	\$2,321,000	\$2,045,000

VEHICLE REPLACEMENTS 2025

SEWER ENTERPRISE FUND

1. #738 2015 Mack Large specialty Vactor. High maintenance vehicle, expensive and time-consuming repairs/refurbishments required as vehicle ages. These repairs are performed at specialized dealership. Replacement cost \$550,000. Old unit to be auctioned
2. #721 2012 Ford F350 utility with plow. Pump station vehicle used daily. High hours, heavy corrosion. Replacement Cost \$75,000. Old unit to be auctioned.
3. #722 2012 Ford F350 utility with plow. Used daily, high hours , heavy corrosion. Replacement cost \$75,000. Old unit to be auctioned.

**CITY OF FRAMINGHAM
CAPITAL PROJECT/EQUIPMENT REQUEST - FY2025-2034 CIP**

DEPARTMENT:

DEPARTMENT PRIORITY:

(1) **PROJECT NAME:**
PROJECT STATUS:

(2) **PROJECT DESCRIPTION AND JUSTIFICATION:**
 The replacement of about 3,700 feet of gravity sewers on Pleasant Street and Temple Street and about 1,600 feet of sewer force main on Pleasant Street will address capacity issues that have led to sanitary sewer overflows and surcharging of manholes. The gravity sewer extends from the pump station to the I-90 underpass at Temple Street and is mostly clay pipe installed in 1929. The force main is ductile iron pipe installed in 1955. These improvements are planned to be undertaken as part of a construction contract that would also include water main improvements in the same area. The Pleasant Street sewers have experienced capacity issues, including sanitary sewer overflows and manhole surcharging. In addition, they are old and in need of upgrading, especially with the potential for increased flows in the future. The water main in the area is also in need of upgrading, so combining the improvements to both will provide an opportunity to reduce the construction cost of two critical projects constructed separately.

(3) **PURPOSE OF PROJECT:**

<input checked="" type="checkbox"/>	Replace existing infrastructure
<input type="checkbox"/>	Replace existing capital asset
<input type="checkbox"/>	Replace existing vehicle
<input type="checkbox"/>	Replace equipment
<input type="checkbox"/>	New infrastructure
<input type="checkbox"/>	New capital asset
<input type="checkbox"/>	New vehicle
<input type="checkbox"/>	New equipment
<input type="checkbox"/>	Strategic/Comprehensive/Master plan

PROJECT ADDITIONS/CHANGES JUSTIFICATION:

(4) **BUDGET REQUEST BY YEAR:**

	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30-34
a. Land Acquisition						
b. Planning / Feasibility						
c. Design						
d. Construction	6,730,000					
e. Equipment/Vehicles						
f. Contingency						
g. Other						
TOTAL	6,730,000	-	-	-	-	-

(5) **PRIORITY:**

a. <input type="checkbox"/>	health and safety	safety concern, hazardous condition, agency compliance, non-functional, etc
b. <input checked="" type="checkbox"/>	level service maintenance	maintains City desired level of service
c. <input type="checkbox"/>	economic development	adds to the City's economic vibrancy
d. <input type="checkbox"/>	service improvement	new or improved service to meet demand

(6) **EFFECTS ON ANNUAL OPERATING BUDGET:**

	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	YEARS 30-34
Personnel							
Operating							

(7) **PROPOSED FUNDING SOURCE(S):**

1) Bond
2) <input type="text"/>
3) <input type="text"/>

(10) **PROJECT OR EQUIPMENT LOCATION:**

 (11) **ASSET TYPE:**

(7a) **POTENTIAL GRANT FUNDING SOURCE IF APPLICABLE: (List source and matching requirements)**

(8) PROJECT LEAD NAME & CONTACT INFO: (ADDITIONAL PROJECT INFO AS NEEDED)

Robert A. Lewis

(9) FINANCE DEPARTMENT NOTES:



October 4, 2023

Mr. Robert H. Sheldon, PE
Director, Capital Projects
Department of Public Works
Capital Improvement Program
110 Western Avenue
Framingham, MA 01702

**RE: Framingham: Capital Project Planning
Pleasant Street Water and Sewer Replacement
Updated Cost Estimate**

Dear Robert:

As requested, Environmental Partners Group, LLC (Environmental Partners) has updated the cost estimate for this project. The detailed cost estimate is attached, and assumes construction in 2024.

Please feel free to contact me if you have any questions or would like to discuss this project further.

Very Truly Yours,

Environmental Partners Group, LLC

A handwritten signature in black ink that reads "Paul C. Millett".

Paul C. Millett, P.E.
Senior Principal
P: (617) 657-0276
E: pcm@envpartners.com

Attached: Updated Cost Estimate

envpartners.com

Pleasant Street Pump Station Downstream Utility Replacement
City of Framingham, MA
254-2001
90% Design Opinion of Probable Construction Cost

WATER CONSTRUCTION					
Item No.	Description	Units	Bid Quantities	Unit Price	Extended Amount
1	Mobilization and Demobilization (5%)	LS	1	\$134,297.28	\$134,297.28
2	WATER MAINS				
2a	12-Inch DI Water Main	LF	5,020	\$250.00	\$1,255,000.00
2b	10-Inch DI Water Main	LF	10	\$230.00	\$2,300.00
2c	8-Inch DI Water Main	LF	260	\$200.00	\$52,000.00
2d	6-Inch DI Water Main	LF	130	\$200.00	\$26,000.00
2e	Additional Fittings	LB	2,000	\$5.00	\$10,000.00
3	VALVES AND HYDRANTS				
3a	12-Inch Gate Valves and Boxes	EA	26	\$5,000.00	\$130,000.00
3d	6-Inch Gate Valves and Boxes	EA	11	\$1,800.00	\$19,800.00
3e	Hydrant Assemblies	EA	11	\$7,500.00	\$82,500.00
4	WATER SERVICE TAPS AND CURB BOXES				
4a	1-Inch Water Service Taps and Curb Boxes	EA	30	\$1,000.00	\$30,000.00
4b	1.5-Inch Water Service Taps and Curb Boxes	EA	2	\$1,200.00	\$2,400.00
4c	2-Inch Water Service Taps and Curb Boxes	EA	1	\$1,400.00	\$1,400.00
5	WATER SERVICES				
5a	1-Inch Water Services	LF	600	\$100.00	\$60,000.00
5b	1.5-Inch Water Services	LF	70	\$120.00	\$8,400.00
5c	2-Inch Water Services	LF	40	\$140.00	\$5,600.00
6	TEMPORARY WATER BYPASS SYSTEM				
6	6-Inch Temporary Water Bypass Piping	LF	440	\$150.00	\$66,000.00
13	CONTAMINATED MATERIAL MANAGEMENT				
13a	AC Pipe Removal and Disposal	LF	170	\$55.00	\$9,350.00
13b	Management and Disposal of Crushed AC Pipe and AC Impacted Soils	CY	50	\$320.00	\$16,000.00
13c	Removal and Disposal of Unforeseen Asbestos	ALLOW	0.5	\$75,000.00	\$37,500.00
13d	Soil Management Plans	LS	0.5	\$75,000.00	\$37,500.00
13e	Removal and Disposal of Background or Unregulated Soil Materials	TON	50	\$20.00	\$1,000.00
13f	Removal and Disposal of Impacted Materials	TON	250	\$25.00	\$6,250.00
13g	Removal and Disposal of Unlined Landfill Materials	TON	375	\$45.00	\$16,875.00
13h	Removal and Disposal of Lined Landfill Materials	TON	50	\$50.00	\$2,500.00
14	REMOVAL/INSPECTION/ABANDONMENT OF UTILITIES				
14e	Remove and Dispose of Existing Cast Iron Water Main	LF	190	\$50.00	\$9,500.00
15	EARTHWORK				
15a	Exploratory Excavation	CY	125	\$34.00	\$4,250.00
15b	Excavation of Unsuitable Materials Below Trench Grade	CY	125	\$8.00	\$1,000.00
15c	Rock Excavation	CY	50	\$64.00	\$3,200.00
15d	Select Fill	CY	250	\$7.50	\$1,875.00
16	PAVEMENT (Water)				
16a	4-Inch Temporary Trench Pavement	SY	2,250	\$35.00	\$78,750.00
16b	6-Inch Intermediate Trench Pavement	SY	2,250	\$60.00	\$135,000.00
16c	2-Inch Milling	SY	8,250	\$8.00	\$66,000.00
16d	2-Inch Overlay	SY	8,250	\$20.00	\$165,000.00
16e	Miscellaneous Bituminous Concrete	TONS	125	\$58.00	\$7,250.00
17	RESTORATION (Water)				
17a	Bituminous Concrete Sidewalk	SY	40	\$15.00	\$600.00
17b	Bituminous Concrete Curb	LF	90	\$25.00	\$2,250.00
17d	Remove and Reset Granite Curb	LF	180	\$70.00	\$12,600.00
17e	Restoration of Growth	SY	109	\$106.00	\$11,545.52
17f	Remove and Replace Guardrail	LF	10	\$200.00	\$2,000.00
17g	Remove and Replace Chain Link Fence	LF	10	\$100.00	\$1,000.00
18	TRAFFIC MANAGEMENT				
18a	Uniformed Police Officer Allowance	ALLOW	0.4	\$380,000.00	\$152,000.00
18b	Traffic Management	LS	0.5	\$150,000.00	\$75,000.00
18c	Variable Message Boards	BOARD-WEEKS	50	\$225.00	\$11,250.00
19	MISCELLANEOUS				
19b	Utility Support and Coordination	ALLOW	0.5	\$50,000.00	\$25,000.00
19c	Abutter Relocation	ALLOW	0.5	\$10,000.00	\$5,000.00
19d	For Furnishing and Placing Environmental Protection	LS	0.5	\$25,000.00	\$12,500.00
19e	Miscellaneous Work and Cleanup	LS	0.5	\$50,000.00	\$25,000.00
Water Subtotal					\$2,820,242.80
Contingency (15%)					\$423,036.42
Engineering Services (20%)					\$564,048.56
Water Total (April 2022)					\$3,807,327.77
Water Total (October 2023)¹					\$4,188,060.55

October 2023

SEWER CONSTRUCTION					
Item No.	Description	Units	Bid Quantities	Unit Price	Extended Amount
1	Mobilization and Demobilization (5%)	LS	1	\$215,855.13	\$215,855.13
3	VALVES AND HYDRANTS				
3b	10-Inch Gate Valves and Boxes	EA	1	\$4,500.00	\$4,500.00
3c	8-Inch Gate Valves and Boxes	EA	12	\$3,500.00	\$42,000.00
7	GRAVITY SEWER MAINS				
7a	18-Inch SDR 35 PVC Gravity Sewer Pipe (0-ft to 12-ft Deep)	LF	1,100	\$235.00	\$258,500.00
7b	18-Inch SDR 35 PVC Gravity Sewer Pipe (12-ft to 18-ft Deep)	LF	50	\$250.00	\$12,500.00
7c	15-Inch SDR 35 PVC Gravity Sewer Pipe	LF	2,530	\$225.00	\$569,250.00
7d	8-Inch SDR 35 PVC Gravity Sewer Pipe	LF	50	\$175.00	\$8,750.00
8	SEWER FORCE MAINS				
8a	10-inch SDR 21 PVC Sewer Force Main	LF	1,530	\$145.00	\$221,850.00
8b	8-inch SDR 21 PVC Sewer Force Main	LF	50	\$120.00	\$6,000.00
9	SEWER SERVICE CONNECTIONS				
9a	6-Inch PVC Gravity Sewer Service	LF	510	\$105.00	\$53,550.00
10	SEWER MANHOLES				
10a	4-foot Diameter Sewer Manhole	VF	160	\$1,000.00	\$160,000.00
10b	5-foot Diameter Sewer Manhole	VF	30	\$1,500.00	\$45,000.00
10c	4-foot Diameter Cleanout Manhole	EA	1	\$10,000.00	\$10,000.00
10d	4-foot Diameter Air Release Valve Manhole	EA	1	\$12,000.00	\$12,000.00
10e	6-foot Diameter Overflow Manhole	EA	1	\$30,000.00	\$30,000.00
10f	4-foot Diameter Doghouse Manhole	EA	1	\$20,000.00	\$20,000.00
10g	Sewer Manhole Frame and Cover	EA	25	\$950.00	\$23,750.00
10h	Remove and Dispose of Existing Sewer Manhole	EA	4	\$570.00	\$2,280.00
11	SEWER REHABILITATION				
11a	10-Inch Cast Iron Gravity Sewer Cleaning, Cement Lining and Access Pits	LF	310	\$160.00	\$49,600.00
12	STORMWATER				
12a	4-foot Diameter Deep Sump Catch Basin	EA	2	\$6,000.00	\$12,000.00
12b	12-inch HDPE Drain Pipe	LF	30	\$160.00	\$4,800.00
12c	Removal and Replacement of Storm Water Utilities	IN-FT	900	\$15.00	\$13,500.00
13	CONTAMINATED MATERIAL MANAGEMENT				
13a	AC Pipe Removal and Disposal	LF	170	\$55.00	\$9,350.00
13b	Management and Disposal of Crushed AC Pipe and AC Impacted Soils	CY	50	\$320.00	\$16,000.00
13c	Removal and Disposal of Unforeseen Asbestos	ALLOW	0.5	\$75,000.00	\$37,500.00
13d	Soil Management Plans	LS	0.5	\$75,000.00	\$37,500.00
13e	Removal and Disposal of Background or Unregulated Soil Materials	TON	50	\$20.00	\$1,000.00
13f	Removal and Disposal of Impacted Materials	TON	250	\$25.00	\$6,250.00
13g	Removal and Disposal of Unlined Landfill Materials	TON	375	\$45.00	\$16,875.00
13h	Removal and Disposal of Lined Landfill Materials	TON	50	\$50.00	\$2,500.00
14	REMOVAL/INSPECTION/ABANDONMENT OF UTILITIES				
14a	Abandon Existing Sewer, Force Main and Water Main with LDCC	CY	550	\$3,000.00	\$1,650,000.00
14b	Abandon Existing Structure in Place with CDF	VF	140	\$150.00	\$21,000.00
14c	Cleaning and CCTV Inspection of Existing Sewer Lateral	EA	2	\$2,000.00	\$4,000.00
14d	Cleaning and CCTV Inspection of Existing Gravity Sewer	LF	340	\$10.00	\$3,400.00
15	EARTHWORK				
15a	Exploratory Excavation	CY	125	\$34.00	\$4,250.00
15b	Excavation of Unsuitable Materials Below Trench Grade	CY	125	\$8.00	\$1,000.00
15c	Rock Excavation	CY	50	\$64.00	\$3,200.00
15d	Select Fill	CY	250	\$7.50	\$1,875.00
16	PAVEMENT (Sewer)				
16a	4-Inch Temporary Trench Pavement	SY	2,845	\$35.00	\$99,572.36
16b	6-Inch Intermediate Trench Pavement	SY	2,845	\$60.00	\$170,695.47
16c	2-Inch Milling	SY	8,250	\$8.00	\$66,000.00
16d	2-Inch Overlay	SY	8,250	\$20.00	\$165,000.00
16e	Miscellaneous Bituminous Concrete	TONS	125	\$58.00	\$7,250.00
17	RESTORATION (Sewer)				
17a	Bituminous Concrete Sidewalk	SY	30	\$15.00	\$450.00
17b	Bituminous Concrete Curb	LF	25	\$25.00	\$625.00
17c	Cement Concrete Wheelchair Ramp	SY	20	\$100.00	\$2,000.00
17b	Remove and Reset Granite Curb	LF	150	\$70.00	\$10,500.00
17c	Restoration of Growth	SY	139	\$106.00	\$14,729.76
17d	Remove and Replace Guardrail	LF	10	\$200.00	\$2,000.00
17e	Remove and Replace Chain Link Fence	LF	10	\$100.00	\$1,000.00

18 TRAFFIC MANAGEMENT					
18a	Uniformed Police Officer Allowance	ALLOW	0.6	\$380,000.00	\$228,000.00
18b	Traffic Management	LS	0.5	\$150,000.00	\$75,000.00
18c	Variable Message Boards	DARD-WEE	50	\$225.00	\$11,250.00
19 MISCELLANEOUS					
19a	Clearing for Overflow Sewer	LS	1.0	\$20,000.00	\$20,000.00
19b	Utility Support and Coordination	ALLOW	0.5	\$50,000.00	\$25,000.00
19c	Abutter Relocation	ALLOW	0.5	\$10,000.00	\$5,000.00
19d	For Furnishing and Placing Environmental Protection	LS	0.5	\$25,000.00	\$12,500.00
19e	Miscellaneous Work and Cleanup	LS	0.5	\$50,000.00	\$25,000.00
Notes:				Sewer Subtotal	\$4,532,957.71
(1) Cost increase from April 2022 to October 2023 is based on 10% cost escalation.				Contingency (15%)	\$679,943.66
				Engineering Services (20%)	\$906,591.54
				Sewer Total (April 2022)	\$6,119,492.91
				Sewer Total (October 2023) ¹	\$6,731,442.20

Pleasant Street Pump Station Downstream Utility Replacement
City of Framingham, MA
254-2001
90% Design Opinion of Probable Construction Cost - Combined Water and Sewer Construction

Item No.	Description	Units	Bid Quantities	Unit Price	Extended Amount
1	Mobilization and Demobilization (5%)	LS	1	\$352,254.91	\$352,254.91
2	WATER MAINS				
2a	12-Inch DI Water Main	LF	5,020	\$250.00	\$1,255,000.00
2b	10-Inch DI Water Main	LF	10	\$230.00	\$2,300.00
2c	8-Inch DI Water Main	LF	260	\$200.00	\$52,000.00
2d	6-Inch DI Water Main	LF	130	\$200.00	\$26,000.00
2e	Additional Fittings ⁽¹⁾	LB	2,000	\$5.00	\$10,000.00
3	VALVES AND HYDRANTS				
3a	12-Inch Gate Valves and Boxes	EA	26	\$5,000.00	\$130,000.00
3b	10-Inch Gate Valves and Boxes	EA	1	\$4,500.00	\$4,500.00
3c	8-Inch Gate Valves and Boxes	EA	12	\$3,500.00	\$42,000.00
3d	6-Inch Gate Valves and Boxes	EA	11	\$1,800.00	\$19,800.00
3e	Hydrant Assemblies	EA	11	\$7,500.00	\$82,500.00
4	WATER SERVICE TAPS AND CURB BOXES				
4a	1-Inch Water Service Taps and Curb Boxes	EA	30	\$1,000.00	\$30,000.00
4b	1.5-Inch Water Service Taps and Curb Boxes	EA	2	\$1,200.00	\$2,400.00
4c	2-Inch Water Service Taps and Curb Boxes	EA	1	\$1,400.00	\$1,400.00
5	WATER SERVICES				
5a	1-Inch Water Services	LF	600	\$100.00	\$60,000.00
5b	1.5-Inch Water Services	LF	70	\$120.00	\$8,400.00
5c	2-Inch Water Services	LF	40	\$140.00	\$5,600.00
6	TEMPORARY WATER BYPASS SYSTEM				
6	6-Inch Temporary Water Bypass Piping	LF	440	\$150.00	\$66,000.00
7	GRAVITY SEWER MAINS				
7a	18-Inch SDR 35 PVC Gravity Sewer Pipe (0-ft to 12-ft Deep)	LF	1,030	\$235.00	\$242,050.00
7b	18-Inch SDR 35 PVC Gravity Sewer Pipe (12-ft to 18-ft Deep)	LF	20	\$250.00	\$5,000.00
7c	15-Inch SDR 35 PVC Gravity Sewer Pipe	LF	2,530	\$225.00	\$569,250.00
7d	8-Inch SDR 35 PVC Gravity Sewer Pipe	LF	50	\$175.00	\$8,750.00
8	SEWER FORCE MAINS				
8a	10-inch SDR 21 PVC Sewer Force Main	LF	1,530	\$145.00	\$221,850.00
8b	8-inch SDR 21 PVC Sewer Force Main	LF	75	\$120.00	\$9,000.00
8c	10-inch Epoxy Lined DI Sewer Force Main	LF	190	\$200.00	\$38,000.00
9	SEWER SERVICE CONNECTIONS				
9a	6-Inch PVC Gravity Sewer Service	LF	510	\$105.00	\$53,550.00
10	SEWER MANHOLES				
10a	4-foot Diameter Sewer Manhole	VF	170	\$1,000.00	\$170,000.00
10b	5-foot Diameter Sewer Manhole	VF	40	\$1,500.00	\$60,000.00
10c	4-foot Diameter Cleanout Manhole	EA	1	\$10,000.00	\$10,000.00
10d	4-foot Diameter Air Release Valve Manhole	EA	1	\$12,000.00	\$12,000.00
10e	6-foot Diameter Overflow Manhole	EA	1	\$30,000.00	\$30,000.00
10f	4-foot Diameter Doghouse Manhole	EA	1	\$20,000.00	\$20,000.00
10g	Sewer Manhole Frame and Cover	EA	25	\$950.00	\$23,750.00
10h	Remove and Dispose of Existing Sewer Manhole	EA	4	\$570.00	\$2,280.00
11	SEWER REHABILITATION				
11a	Cleaning and Structural CIPP Lining - 10-inch Sewer	LF	310	\$160.00	\$49,600.00
12	STORMWATER				
12a	4-foot Diameter Deep Sump Catch Basin	EA	2	\$6,000.00	\$12,000.00
12b	12-inch HDPE Drain Pipe	LF	30	\$160.00	\$4,800.00
12c	Removal and Replacement of Storm Water Utilities ⁽¹⁾	IN-FT	900	\$15.00	\$13,500.00
13	CONTAMINATED MATERIAL MANAGEMENT				
13a	AC Pipe Removal and Disposal	LF	340	\$55.00	\$18,700.00
13b	Management and Disposal of Crushed AC Pipe and AC Impacted Soils ⁽¹⁾	CY	100	\$320.00	\$32,000.00
13c	Removal and Disposal of Unforeseen Asbestos ⁽¹⁾	ALLOW	1	\$75,000.00	\$75,000.00
13d	Soil Management Plans	LS	1	\$75,000.00	\$75,000.00
13e	Removal and Disposal of Background or Unregulated Soil Materials ⁽¹⁾	TON	100	\$20.00	\$2,000.00
13f	Removal and Disposal of Impacted Materials ⁽¹⁾	TON	500	\$25.00	\$12,500.00
13g	Removal and Disposal of Unlined Landfill Materials ⁽¹⁾	TON	750	\$45.00	\$33,750.00
13h	Removal and Disposal of Lined Landfill Materials ⁽¹⁾	TON	100	\$50.00	\$5,000.00

Pleasant Street Pump Station Downstream Utility Replacement
City of Framingham, MA
254-2001
90% Design Opinion of Probable Construction Cost - Combined Water and Sewer Construction

Item No.	Description	Units	Bid Quantities	Unit Price	Extended Amount
14	REMOVAL/INSPECTION/ABANDONMENT OF UTILITIES				
14a	Abandon Existing Sewer, Force Main and Water Main with LDCC	CY	550	\$3,000.00	\$1,650,000.00
14b	Abandon Existing Structure in Place with CDF	VF	140	\$150.00	\$21,000.00
14c	Cleaning and CCTV Inspection of Existing Sewer Lateral	EA	2	\$2,000.00	\$4,000.00
14d	Cleaning and CCTV Inspection of Existing Gravity Sewer	LF	340	\$10.00	\$3,400.00
14e	Remove and Dispose of Existing Cast Iron Water Main	LF	190	\$50.00	\$9,500.00
15	EARTHWORK				
15a	Exploratory Excavation	CY	250	\$34.00	\$8,500.00
15b	Excavation of Unsuitable Materials Below Trench Grade ⁽¹⁾	CY	250	\$8.00	\$2,000.00
15c	Rock Excavation ⁽¹⁾	CY	100	\$64.00	\$6,400.00
15d	Select Fill ⁽¹⁾	CY	500	\$7.50	\$3,750.00
16	PAVEMENT				
16a	4-Inch Temporary Trench Pavement	SY	5,095	\$35.00	\$178,322.36
16b	6-Inch Intermediate Trench Pavement	SY	5,095	\$60.00	\$305,695.47
16c	2-Inch Milling	SY	16,500	\$8.00	\$132,000.00
16d	2-Inch Overlay	SY	16,500	\$20.00	\$330,000.00
16e	Miscellaneous Bituminous Concrete ⁽¹⁾	TONS	250	\$58.00	\$14,500.00
17	RESTORATION				
17a	Bituminous Concrete Sidewalk	SY	70	\$15.00	\$1,050.00
17b	Bituminous Concrete Curb	LF	115	\$25.00	\$2,875.00
17c	Cement Concrete Wheelchair Ramp	SY	20	\$100.00	\$2,000.00
17d	Remove and Reset Granite Curb	LF	330	\$70.00	\$23,100.00
17e	Restoration of Growth	SY	248	\$106.00	\$26,275.28
17f	Remove and Replace Guardrail	LF	20	\$200.00	\$4,000.00
17g	Remove and Replace Chain Link Fence	LF	20	\$100.00	\$2,000.00
18	TRAFFIC MANAGEMENT				
18a	Uniformed Police Officer Allowance ⁽²⁾	ALLOW	1	\$380,000.00	\$380,000.00
18b	Traffic Management	LS	1	\$150,000.00	\$150,000.00
18c	Variable Message Boards	BOARD-WEEKS	100	\$225.00	\$22,500.00
19	MISCELLANEOUS				
19a	Clearing for Overflow Sewer	LS	1	\$20,000.00	\$20,000.00
19b	Utility Support and Coordination	ALLOW	1	\$50,000.00	\$50,000.00
19c	Abutter Relocation	ALLOW	1	\$10,000.00	\$10,000.00
19d	For Furnishing and Placing Environmental Protection	LS	1	\$25,000.00	\$25,000.00
19e	Miscellaneous Work and Cleanup	LS	1	\$50,000.00	\$50,000.00

Notes

1) Cost increase from April 2022 to October 2023 is based on 10% cost escalation.

Subtotal	\$7,397,353.01
Contingency (15%)	\$1,109,602.95
Engineering Services (20%)	\$1,479,470.60
Total (April 2022)	\$9,986,426.56
Total (October 2023)¹	\$10,985,069.22



- Legend**
-  Pump Station
 -  Parcels
 -  Existing Sewer
 -  Force Main Replacement Limits
 -  Water Main Replacement Limits
 -  Gravity Replacement Sewer Limits
 -  New Gravity Sewer Limits
 -  Gravity Sewer Rehabilitation Limits

Pleasant Street Water and Sewer Replacement - Phase I
Project Area Locus Map
Framingham, MA
June 2021

**CITY OF FRAMINGHAM
CAPITAL PROJECT/EQUIPMENT REQUEST - FY2025-2034 CIP**

DEPARTMENT:

DEPARTMENT PRIORITY:

(1) **PROJECT NAME:**
PROJECT STATUS:

(2) **PROJECT DESCRIPTION AND JUSTIFICATION:**

In Fiscal Year 2025 we are requesting funding for Sanitary Sewer Evaluation Study Defect Repairs Phase 4 to continue addressing recommended High Priority and Medium Priority sewer system repairs as identified through the Water and Wastewater Division's SSES program. Included herewith is our list of assets requiring repair and each associated cost based on current contract pricing. Whenever possible pipes will be rehabilitated using cured-in-place pipe (CIPP) or lining techniques, which is more cost-effective and does not require roadway excavation. Where lining is not possible, pipe will be replaced. In many cases manholes will be repaired and lined, but will be replaced when necessary. The High Priority and Medium Priority defect repairs aim to eliminate sources of clean water infiltration (typically groundwater) into the sewer collection system, which reduces pipe capacity for wastewater flow. Elimination of clean water from the collection system results in cost savings to the City by reducing the pumped volume at our sewer pump stations – which translates into energy savings and reduced wear and tear at the City's pump stations – and decreasing the overall flow from Framingham to the MWRA's system. High Priority and Medium Priority sewer defect repairs extend the reliable service life of sewer infrastructure by deferring the need to replace sewer pipes for lack of capacity, and reinforcing the integrity of the system. We recommend that funding for this appropriation be sought through the MWRA's Infiltration and Inflow (I&I) Local Financial Assistance program. The work itemized on the recommended High Priority and Medium Priority defect repair list is eligible for the MWRA's Infiltration and Inflow (I&I) Local Financial Assistance program, and funding from this program is already available for use by the City for this purpose.

PROJECT ADDITIONS/CHANGES JUSTIFICATION:
 Advanced from FY25. Needed to meet MassDEP I/I requirements.

(3) **PURPOSE OF PROJECT:**

<input checked="" type="checkbox"/>	Replace existing infrastructure
<input type="checkbox"/>	Replace existing capital asset
<input type="checkbox"/>	Replace existing vehicle
<input type="checkbox"/>	Replace equipment
<input type="checkbox"/>	New infrastructure
<input type="checkbox"/>	New capital asset
<input type="checkbox"/>	New vehicle
<input type="checkbox"/>	New equipment

Strategic/Comprehensive/Master plan

(4) **BUDGET REQUEST BY YEAR:**

	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30-34
a. Land Acquisition						
b. Planning / Feasibility						
c. Design						
d. Construction	1,000,000		1,000,000		1,000,000	
e. Equipment/Vehicles						
f. Contingency						
g. Other						
TOTAL	1,000,000	-	1,000,000	-	1,000,000	-

(5) **PRIORITY:**

a. **health and safety** safety concern, hazardous condition, agency compliance, non-functional, etc

b.	<input checked="" type="checkbox"/>	level service maintenance	maintains City desired level of service						
c.	<input type="checkbox"/>	economic development	adds to the City's economic vibrancy						
d.	<input type="checkbox"/>	service improvement	new or improved service to meet demand						
(6) EFFECTS ON ANNUAL OPERATING BUDGET:									
			FY 25	FY 26	FY 27	FY 28	FY 29	FY30	YEARS 30-34
Personnel									
Operating									
(7) PROPOSED FUNDING SOURCE(S):							(10) PROJECT OR EQUIPMENT LOCATION:		
1) Bond							City-wide - see list in supporting documentation		
2)							(11) ASSET TYPE:		
3)							Building		
(7a) POTENTIAL GRANT FUNDING SOURCE IF APPLICABLE: (List source and matching requirements)									
MWRA I/I assistance account									
(8) PROJECT LEAD NAME & CONTACT INFO: (ADDITIONAL PROJECT INFO AS NEEDED)									
Robert A. Lewis									
(9) FINANCE DEPARTMENT NOTES:									



CITY OF FRAMINGHAM

DEPARTMENT OF PUBLIC WORKS | OPERATIONS

OPERATIONS CENTER
100 Western Avenue
Framingham, MA 01702

508-532-6060
wastewater@framinghamma.gov
www.framinghamma.gov

MEMORANDUM

DATE: 9/22/2023

TO: Steve Leone
Director of Water & Wastewater

FROM: Stephanie Tarves
Senior Water & Wastewater Engineer

RE: Sanitary Sewer Evaluation Study (SSES) Defect Repairs Phase 4

SSES – High Priority and Medium Priority Identified Defects

SSES Phase 6

The work of Phase 6 SSES was completed in the fall of 2021 and the consulting engineer delivered the completed final Phase 6 SSES report to the Division in June 2022. A comprehensive list of the recommended High Priority and Medium Priority repairs from SSES Phase 1 through 6 was reviewed and updated in the spring of 2023. The Phase 6 SSES program was completed in June of 2023.

SSES Phase 7

Phase of the 7 SSES was initiated in January 2023. The areas of study included sub-areas J and R, which are located in the southern and central portions of the City. Phase 7 includes manhole inspections, flow isolation, closed circuit television inspection, smoke testing, and dye testing.

305 manhole inspections were completed in March 2023. An estimated 9,072 GPD of infiltration and 2,000 GPD of inflow were identified during manhole inspections.

Flow isolation of approximately 63,360 linear feet was completed in March 2023. Approximately 400,000 GPD of infiltration was measured during flow isolation. Television inspection of approximately 63,460 was completed in March and April 2023.

Flow isolation and smoke testing for Phase 7 SSES began in late summer 2023. Dye testing will be completed during the fall of 2023 if smoke testing results warrant. Following completion of the work, the consultant will prepare a report summarizing the findings of the Phase 7 SSES, which will include recommended High Priority and Medium Priority repairs from the work of SSES Phase 7. The SSES Phase 7 recommended repairs will be added to the existing High Priority and Medium Priority recommended repairs list. The Phase 7 SSES program is anticipated to be completed in the spring of 2023.

SSES Defect Repairs – Phase 4

FY2025 Sewer Defect Repairs Appropriation Request

In Fiscal Year 2025 we are requesting funding in the sum of **\$400,000 for Sanitary Sewer Evaluation Study Defect Repairs Phase 4** to continue addressing recommended High Priority and Medium Priority sewer system repairs as identified through the Division’s SSES program. Included herewith is our list of assets requiring repair and each associated cost based on current contract pricing. Whenever possible, pipes will be rehabilitated using cured-in-place pipe (CIPP) or lining techniques, which is more cost-effective and does not require roadway excavation. Where lining is not possible, pipe will be replaced. In many cases manholes will be repaired and lined, but will be replaced when necessary.

The High Priority and Medium Priority defect repairs aim to eliminate sources of clean water infiltration (typically groundwater) into the sewer collection system, which reduces pipe capacity for wastewater flow. Elimination of clean water from the collection system results in cost savings to the City by reducing the pumped volume at our sewer pump stations – which translates into energy savings and reduced wear and tear at the City’s pump stations – and decreasing the overall flow from Framingham to the MWRA’s system. High Priority and Medium Priority sewer defect repairs extend the reliable service life of sewer infrastructure by deferring the need to replace sewer pipes for lack of capacity, and reinforcing the integrity of the system. We recommend that funding for this appropriation be sought through the MWRA’s Infiltration and Inflow (I&I) Local Financial Assistance program. The work itemized on the recommended High Priority and Medium Priority defect repair list is eligible for the MWRA’s Infiltration and Inflow (I&I) Local Financial Assistance program, and funding from this program is already available for use by the City for this purpose.

SEWER PIPES I&I CIPP (prices under current contract 2023)

ALL NEW CIPP - 17 LOCATIONS															
LOCATION	LENGTH	EST GRM	PIPE SIZE	DEPTH	NOTES	CPSR	CIPP	Lat. Re-locate	Grout T&S	Lat. Grout	Clean & TV/Day	Manhole Lining	Date Complete	SSES	Est. Costs
upper jollyn (whole st)	1300	2+brk	8	8	vcp main-8 pipe segemts-17 lats-10 m.h.s from 1000767 to 1000771		\$ 50,000.00	\$ 9,000.00				\$ 12,000.00			\$ 71,000.00
oodyn rd - easment to merlin	1000	5+brk	8	7	vcp main-5 pipe segemts-16 lats-5 m.h.s from 1000773 to 1000785		\$ 36,000.00	\$ 8,000.00				\$ 8,000.00			\$ 52,000.00
scott dr to brook (easment)	1300	5+ro	10	6	ACP main-6 pipe segments-no lats-7 m.h.s. from 1005485 to 1002362		\$ 51,000.00	na				\$ 9,000.00			\$ 60,000.00
singleary rd (easment)	1900	4+ro	8	5	ACP main-8 pipe segments-3 lats-9 m.h.s from 1001792 TO 1001786		\$ 75,000.00	\$ 1,000.00				\$ 17,000.00			\$ 93,000.00
hodder rd (easment)	1200	3+brks	8	6	ACP main-5 pipe segemts-7 lats-6 m.h.s. from 1001833 TO 1001796		\$ 44,000.00	\$ 3,500.00				\$ 9,000.00			\$ 56,500.00
griffin rd (easment aqueduct)	400	2+brks	10	6	vcp main-2 pipe segments-2 lats-3 m.h.s. from 1008288 to 1000378		\$ 15,500.00	\$ 500.00				\$ 2,500.00			\$ 18,500.00
griffin to joseph (easment)	600	8+ brks	10	8	vcp main-3 pipe segments-4 lats-4 m.h.s. from 1003313 to 1003654		\$ 23,000.00	\$ 1,000.00				\$ 6,500.00			\$ 30,500.00
blum (easment #5-#29)	1700	4+ro	8	7	ACP main-7 pipe segments-3 lats-8 m.h.s from 1002200 to 1005831		\$ 66,000.00	\$ 1,000.00				\$ 12,000.00			\$ 79,000.00
blum (easment culdesac to woods)	300	4+brks	8	8	ACP main-2 pipe segments-lats-na-m.h.s.-3 from-1006827 to 1005831		\$ 12,000.00	na				\$ 4,500.00			\$ 16,500.00
azeebar to hemingway p/s	1200	8+	8	7	ACP main-6 pipe segments-1 lat-7 m.h.s. from 1001828 to 1007330		\$ 45,000.00	\$ 500.00				\$ 10,500.00			\$ 56,000.00
mcAdas to westview	700	4+ro	8	7	ACP main-2 pipe segments-2 lats-3 m.h.s. from 1001999 to 1001600		\$ 27,000.00	\$ 500.00				\$ 5,000.00			\$ 32,500.00
westview to lyman (easment)	950	4+brks	8	8	ACP main-5 pipe segments-1 lat-6 m.h.s from 1001600 to 1001582 to 1001577		\$ 37,000.00	\$ 500.00				\$ 12,500.00			\$ 50,000.00
rdhilton to edgell (easment)	1100	4+brks	10	6	ACP main-5 pipe segments-2 lats-6 m.h.s. from 1001313 to 1005849		\$ 42,000.00	\$ 1,000.00				\$ 9,000.00			\$ 52,000.00
pleasant to maspike (easment)	600	4+brks	12	8	vcp main-2 pipe segments-1 lats-3 m.h.s. from 1005190 to 1000275		\$ 22,000.00	\$ 500.00				\$ 4,500.00			\$ 27,000.00
sanivally @pike to e/locustoria	1300	4+brks	12	8	vcp main-7 pipe segments-8 lats-8 m.h.s. from 1005192 to 1001297		\$ 50,000.00	\$ 1,500.00				\$ 11,000.00			\$ 62,500.00
donovan dr (easment)	1500	6+brks	12	8	ACP main-7 pipe segments-2 lats-8 m.h.s. from 1007213 to 1001829		\$ 60,000.00	\$ 1,000.00				\$ 15,000.00			\$ 76,000.00
whiting ave (easment)	600	4+brks	8	7	ACP main-2 pipe segments-2 lats-3 m.h.s. from 1002287 to 1000331		\$ 20,000.00	\$ 330.00				\$ 2,500.00			\$ 22,830.00
pleasantview to boworth (easmt)	550	2+brks	8	6	ACP main-3 pipe segments-3 lats-4 m.h.s. from 1001069 to 1000808		\$ 22,000.00	\$ 1,000.00				\$ 7,000.00			\$ 30,000.00
union ave terr- (whole st)	450	brks	15	8	vcp main-3 pipe segments-9 lats- 3 m.h.s. from 1008342 to 1000117		\$ 30,000.00	\$ 4,000.00				\$ 5,500.00			\$ 39,500.00
rite 9 (hatch line crossover)	140	2+brks	10	7	vcp main-1 pipe segment-no lats-2 m.h.s. from 1005268 to 1005427		\$ 5,000.00	na				\$ 3,000.00			\$ 8,000.00
beaver st island to bridge	1300	3+brks	10	8	vcp main-7 pipe segments-40 lats-10m.h.s from 1005813 to 1005953		\$ 53,000.00	\$ 19,000.00				\$ 20,000.00			\$ 92,000.00
beaver st @ bridge to park lot	400	2+brks	10	7	castiron main-2 pipe segments-4 lats-3 m.h.s. from 1006208 to 1006205		\$ 16,000.00	\$ 1,500.00				\$ 5,000.00			\$ 22,500.00
hartford st (top section)	240	3+brks	8	7	vcp main-2 pipe segments 6 lats-4 m.h.s. from 1004720 to 1007890		\$ 10,000.00	\$ 3,000.00				\$ 6,000.00			\$ 19,000.00
hartford st (middle section)	350	3+brks	8	7	vcp main-2 pipe segments-7 lats-4 m.h.s. from 1004711 to 1004713		\$ 14,000.00	\$ 3,500.00				\$ 7,000.00			\$ 24,500.00
hartford st (bottom section)	700	3+brks	8	8	vcp main-5 pipe segment-18 lats-7 m.h.s from 1004711 to 1005921		\$ 30,000.00	\$ 10,000.00				\$ 12,000.00			\$ 52,000.00
rite 9 @lockland to fraser (easment)	1100	3+brks	8	9	vcp main-5 pipe segments-3 lats-5 m.h.s from 1005466 to 1003325		\$ 43,000.00	\$ 2,000.00				\$ 11,000.00			\$ 56,000.00
lockland @ e/m.h to rite 9 brs	1500	3+brks	8	8	vcp main-5 pipe segments-30 lats-6 m.h.s from 1001187 to 1005466		\$ 57,000.00	\$ 15,000.00				\$ 10,000.00			\$ 82,000.00
st bridge access rd to rite 9 bridge	1100	5+brks	12	8	vcp main-4 pipe segments-9 lats-5 m.h.s from 1005564 -1005563 +1000136 to 1000137		\$ 42,000.00	\$ 10,000.00				\$ 12,000.00			\$ 64,000.00
rite 9 @rite 9 w/b to beacon st	1600	3+brks	8	7	vcp main-8 pipe segments-20 lats-9 m.h.s from 1004656 to 1005447		\$ 64,000.00	\$ 10,000.00				\$ 14,000.00			\$ 88,000.00
rite 9 @rite 9 d/r m.h to target lot	2200	5+brks	8	7	ACP main-8 pipe segments-11 lats-9 m.h.s from 1006359 to 1006375		\$ 83,000.00	\$ 8,000.00				\$ 13,000.00			\$ 104,000.00

Sewer Defect Repairs: Phase 4 – FY25 Capital Project Submission



Sewer defect: Sewer main with root intrusion

- Why repair sewer defects?**
- ***Infiltration & inflow of clean water causes increased bills to customers.***
 - ***Defects allow debris to gather in pipes causing backups and sewer system overflows.***
 - ***Defect repairs extend life of sewers saving the City from costly sewer replacements.***



Sewer defect: Cracked sewer main



Sewer defect: misaligned pipe joint

Sewer Defect Repairs: Phase 4 – FY25 Capital Project Submission



Sewer defect: eroded surface



Sewer defect: eroded manhole table and inverts



Repaired sewer manhole



Crew performing sewer lining

**CITY OF FRAMINGHAM
CAPITAL PROJECT/EQUIPMENT REQUEST - FY2025-2034 CIP**

DEPARTMENT:

DEPARTMENT PRIORITY:

(1) **PROJECT NAME:**
PROJECT STATUS:

(2) **PROJECT DESCRIPTION AND JUSTIFICATION:**
 This appropriation will provide funds for development of a plan to perform strategic capital improvements of the system architecture comprised of computers, peripheral measurement and communications equipment, and infrastructure that make up the City's Water and Wastewater Supervisory Control and Data Acquisition (SCADA) system. Providing strategic capital improvements to the SCADA system vulnerabilities to create an in and cyber security. The City's Water and Wastewater Supervisory Control and Data Acquisition (SCADA) system is a control system architecture comprised of computers, peripheral measurement and communications equipment, and infrastructure networked to transmit, compile, and store data communications. This data is available to water and wastewater system operators via graphical user interfaces for the purpose of supervisory control and management of the water and wastewater systems. The SCADA system is the primary means by which operators are able to manage, monitor, and operate the City's water and wastewater systems and is vital to maintaining compliant systems. Advancement of technology and the need to continually protect against cyber-attack requires SCADA equipment, infrastructure, network architecture, and user interfaces to be serviced, repaired, and replaced. Aged elements in the SCADA system present vulnerabilities that inhibit effective and successful operation of the water and wastewater systems. The development of a SCADA Master Plan will provide a guide for performing strategic capital improvements that will allow the City to maintain the integrity of its SCADA system and provide continued efficient and effective operation of the City's water and wastewater systems.

(3) **PURPOSE OF PROJECT:**

<input type="checkbox"/>	Replace existing infrastructure
<input type="checkbox"/>	Replace existing capital asset
<input type="checkbox"/>	Replace existing vehicle
<input type="checkbox"/>	Replace equipment
<input type="checkbox"/>	New infrastructure
<input type="checkbox"/>	New capital asset
<input type="checkbox"/>	New vehicle
<input type="checkbox"/>	New equipment

PROJECT ADDITIONS/CHANGES JUSTIFICATION:

Strategic/Comprehensive/Master plan

(4) **BUDGET REQUEST BY YEAR:**

	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30-34
a. Land Acquisition						
b. Planning / Feasibility	120,000					
c. Design						
d. Construction						
e. Equipment/Vehicles						
f. Contingency						
g. Other						
TOTAL	120,000	-	-	-	-	-

(5) **PRIORITY:**

a.	<input type="checkbox"/> health and safety	safety concern, hazardous condition, agency compliance, non-functional, etc
b.	<input checked="" type="checkbox"/> level service maintenance	maintains City desired level of service
c.	<input type="checkbox"/> economic development	adds to the City's economic vibrancy

d.	service improvement	new or improved service to meet demand					
(6) EFFECTS ON ANNUAL OPERATING BUDGET:							
	FY 25	FY 26	FY 27	FY 28	FY 29	FY30	YEARS 30-34
Personnel							
Operating							
(7) PROPOSED FUNDING SOURCE(S):				(10) PROJECT OR EQUIPMENT LOCATION:			
1)	Bond			City-wide			
2)				(11) ASSET TYPE:			
3)				Study/Master Plan			
(7a) POTENTIAL GRANT FUNDING SOURCE IF APPLICABLE: (List source and matching requirements)							
(8) PROJECT LEAD NAME & CONTACT INFO: (ADDITIONAL PROJECT INFO AS NEEDED)							
Robert A. Lewis							
(9) FINANCE DEPARTMENT NOTES:							

41 Hutchins Drive
Portland, Maine 04102
www.woodardcurran.com

T 800.426.4262
T 207.774.2112
F 207.774.6635

Via Electronic Mail

September 11, 2023



Stephanie Tarves, P.E.
Senior Water & Wastewater Engineer
City Of Framingham Department of Public Works
100 Western Avenue
Framingham, MA 01702

Re: Justification for SCADA Master Plan

Dear Stephanie:

I hope this letter finds you well. I am writing to provide an understanding and justification for the implementation of a Supervisory Control and Data Acquisition (SCADA) Master Plan for the City of Framingham.

As you are well aware, the City operates critical infrastructure, which is essential for the smooth functioning of your operations. Over the last several years the City has made considerable required investments in upgrading the water and wastewater remote sites, SCADA computers and network infrastructure, for the SCADA system. These investments were made in response to aged and vulnerable equipment and software systems that did not meet the latest industry standards and regulatory requirements and were at risk of failure or compromise. The investment made in the SCADA system brought the City's systems that were deficient up to current standards. Over the last several years W&C has been the City's SCADA consultant performing the required tasks as requested. As a SCADA consultant it is our responsibility to provide recommendations.

As technology continues to evolve, it becomes increasingly important to maintain the existing system, look ahead to keep the system current, and look for ways to increase efficiency, reliability and supportability. The SCADA Master Plan is a structured approach to ensure successful and efficient deployment, operation, and maintenance of SCADA systems looking ahead for the next 5 to 10 years and satisfy the City's stakeholder needs. Additionally, with the ongoing evolution of technology and communications, the need for cybersecurity resiliency is becoming increasingly important – not only for protection against "bad actors" but to meet the increasing regulatory requirements for municipal systems. Not keeping up with the latest cybersecurity standards and recommended best-practices puts the City at risk.

The SCADA Master Plan will identify, evaluate, and recommend instrumentation, communication, and control system(s) for future replacements for the existing wastewater pump stations, water pump stations, water tanks and all other components of the SCADA network that facilitates communication within the City's infrastructure. The SCADA Master Plan will define projects for the resulting recommendations with budgetary cost estimates. In addition, W&C will obtain input from the Department stakeholders to formulate a concise schedule and approach to completely implement the SCADA Master Plan resultant projects over the next 5-10 years with priority projects scheduled within the first five years. By having



this work identified ahead of time and included in your short- and long-term planning, the costs will be anticipated and spread out over time.

SCADA Master Plan Goals and Objectives

Vision: Understanding the City's short-term and long-term goals, operations, controls, data analytics and business intelligence, and aligning the City's vision with a road map (Master Plan) to achieve those goals.

Gap Analysis: Analyzing the City's current SCADA system to meet the City's future needs.

Financial Planning: Providing predictive SCADA cost planning, including annual cost projections to maintain the current system, and 5- or 10-year reoccurring costs.

Enhanced Visibility and Control: Identifying opportunities to leverage the SCADA system's real-time monitoring and control capabilities that provide operators detailed insights into the various treatment, distribution, and collection processes. This enhanced visibility and control enables swift identification of abnormalities and prompt responses, reducing downtime and mitigating potential incidents.

Improved Operational Efficiency: Identifying opportunities to leverage the SCADA system's centralized data collection and analysis capabilities to optimize resource utilization, streamline processes, and minimize manual interventions - leading to cost savings, increased productivity, and better resource allocation.

Proactive Maintenance and Predictive Analytics: Offering predictive maintenance recommendations, and product life cycle analyses, to enable operations and maintenance staff to address potential issues before they escalate into costly problems. Predictive analytics anticipates equipment failures, minimizing unplanned downtime and reducing maintenance costs.

Enhanced Safety and Risk Management: Identifying opportunities to leverage the SCADA system's monitoring and control in conjunction with its alarm management capabilities to help staff monitor, react, and manage safety-critical parameters in real-time. With immediate notifications and alerts, staff can respond promptly to any safety concerns, reducing the likelihood of accidents and ensuring a safer work environment.

Regulatory Compliance: Adhering to industry-specific regulations and standards and maintaining accurate and comprehensive data for reporting to demonstrate compliance.

Business Continuity and Resilience: Preparing for business continuity during unforeseen events like natural disasters or cyber-attacks. Redundancy and failover capabilities identified in a SCADA Master Plan safeguard critical operations, minimizing disruptions.

Long-term Cost Savings: Optimizing operations, reducing downtime, and improving resource allocation will result in significant cost savings over time.

Future Scalability and Flexibility: Accommodating future expansion and integration with emerging technologies. This flexibility ensures that SCADA systems can adapt to technological advancements seamlessly.



Budgetary Cost Estimate: *Our recommended budget for this work, based on comparable work performed in communities similar to Framingham would be **\$120,000**. Please note, this budgetary cost estimate assumes work as described above, compiled in a document with supporting documentation, comparable to that shown in the included Sample Table of Contents. Woodard and Curran will work with Department stakeholders to prepare a proposal including detailed scope of services and proposed fee, catered to the needs of the Department.* In conclusion, the SCADA Master Plan is not only a prudent investment but also a strategic value for the City's growth. It addresses critical aspects of your operations, from efficiency and safety to compliance and risk management. By leveraging advanced SCADA technologies, a well-developed and executed SCADA Master Plan will position the City very well for the growing need for resiliency and reliability of the City's water and wastewater systems.

If you require any additional information or have any questions, please do not hesitate to contact me. I look forward to discussing this matter further.

Sincerely,

A handwritten signature in black ink that reads "Robert Amaral".

Robert Amaral
National Practice Leader



**City of Framingham
Technology Services**

Memorial Building
150 Concord Street, Room B10
Framingham, MA 01702
James V Schiavone, Asst Director

T: 508-532-5829
F: 508-532-5701
E: Jvs@framinghamma.gov
www.framinghamma.gov

September 29, 2023

RE: SCADA Mater Plan – Technology Services Department Support

I am writing to express my support for the Water & Wastewater Division’s development of a Supervisory Control and Data Acquisition (SCADA) Master Plan. As the Assistant Director of Technology Services, having served the City’s Technology Services needs for 24 years, I have partnered with the Water & Wastewater Division over those years to assist in the development of the current SCADA system. This SCADA system is comprised of critical infrastructure and communication networks at and between 43 wastewater pump stations, 7 water pump stations, 7 water tanks, and the DPW headquarters. Our department assists the Water & Wastewater Division by maintaining computing hardware and software along with network connectivity, maintenance, and installation. This includes but is not limited to: recommending and executing upgrades, consulting and supporting build-out plans, and establishing and maintaining secure communications between and within the Water and Wastewater Division’s SCADA system.

The Technology Services Department worked with the Water & Wastewater Division through the recent SCADA system upgrades, which eliminated aged and vulnerable equipment and software from our network. These investments were vital in today’s climate of terrorism through cyberattacks on industrial systems to protect the City’s infrastructure. Now that these investments have been made, it is particularly important for the continued reliability of providing uninterrupted water and wastewater services to customers, to maintain the robust systems that are in place, and as technology changes, anticipate future investment needs.

A well-thought-out SCADA Master Plan provides for vigilance through proactive planning. A Water & Wastewater SCADA Master Plan will benefit both the Technology Services Department and the Department of Public Works in our joint capital planning efforts. The Master Plan will allow Technology Services to efficiently manage resources to ensure we have the expertise, support contracts, and physical resources, available to you when you need them.

Collaborating with your team, I am confident a tailored SCADA Master Plan can be created that aligns with the goals of both our departments. Please feel free to reach out to me to discuss how we can work together to formulate and execute a SCADA Master Plan for the Water & Wastewater Division. I look forward to the opportunity to contribute to this effort.

Sincerely,

James Schiavone

James V. Schiavone
Assistant Director, Technology Services

Dedicated to Excellence in Public Service

**CITY OF FRAMINGHAM
CAPITAL PROJECT/EQUIPMENT REQUEST - FY2025-2034 CIP**

DEPARTMENT:

DEPARTMENT PRIORITY:

(1) **PROJECT NAME:**
PROJECT STATUS:

(2) **PROJECT DESCRIPTION AND JUSTIFICATION:**
 During daily wastewater pump station inspections operators identify defects as they arise. This appropriation will provide funds for repair and replacement to correct larger-scale defects at the City's wastewater pumping stations. Common projects include but are not limited to repair or replacement of pump motor, pumps, check valves, motor starters, gate valves, air compressors, electrical equipment, manifold piping, rail systems, and building or site upgrades. These larger defects are typically not routine replacements and may require designing, planning, procuring, and constructing with in-house staff or sometimes with the services of a contractor or consultant. This appropriation will be utilized to address identified, prioritized defects as well as emergent defects that develop and require immediate attention. The lifespan and reliability of the City's wastewater pump stations can be extended a decade or more through the replacement of component parts as they become worn and inefficient, thereby reducing the near-term need for significant capital expenditures to replace stations in their entirety.

(3) **PURPOSE OF PROJECT:**

<input checked="" type="checkbox"/>	Replace existing infrastructure
<input type="checkbox"/>	Replace existing capital asset
<input type="checkbox"/>	Replace existing vehicle
<input checked="" type="checkbox"/>	Replace equipment
<input type="checkbox"/>	New infrastructure
<input type="checkbox"/>	New capital asset
<input type="checkbox"/>	New vehicle
<input type="checkbox"/>	New equipment
<input type="checkbox"/>	Strategic/Comprehensive/Master plan

PROJECT ADDITIONS/CHANGES JUSTIFICATION:

(4) **BUDGET REQUEST BY YEAR:**

	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30-34
a. Land Acquisition						
b. Planning / Feasibility						
c. Design						
d. Construction						
e. Equipment/Vehicles	500,000		500,000		500,000	
f. Contingency						
g. Other						
TOTAL	500,000	-	500,000	-	500,000	-

(5) **PRIORITY:**

a. <input checked="" type="checkbox"/> health and safety	safety concern, hazardous condition, agency compliance, non-functional, etc
b. <input checked="" type="checkbox"/> level service maintenance	maintains City desired level of service
c. <input type="checkbox"/> economic development	adds to the City's economic vibrancy
d. <input type="checkbox"/> service improvement	new or improved service to meet demand

(6) **EFFECTS ON ANNUAL OPERATING BUDGET:**

	FY 25	FY 26	FY 27	FY 28	FY 29	FY30	YEARS 30-34
Personnel							
Operating							

(7) **PROPOSED FUNDING SOURCE(S):**

-
-
-

(10) **PROJECT OR EQUIPMENT LOCATION:**

 (11) **ASSET TYPE:**

(7a) **POTENTIAL GRANT FUNDING SOURCE IF APPLICABLE:** (List source and matching requirements)

(8) PROJECT LEAD NAME & CONTACT INFO: (ADDITIONAL PROJECT INFO AS NEEDED)	
	Robert A. Lewis
(9) FINANCE DEPARTMENT NOTES:	



CITY OF FRAMINGHAM

DEPARTMENT OF PUBLIC WORKS | OPERATIONS

OPERATIONS CENTER
100 Western Avenue
Framingham, MA 01702

508-532-6060
wastewater@framinghamma.gov
www.framinghamma.gov

MEMORANDUM

DATE: 8/30/2023

TO: Steve Leone
Director of Water and Wastewater

FROM: Chuck Chase
Pump Stations Operations Manager

RE: **FY2025 Pump Station Equipment Replacement Request**

In 2023 Pump Stations staff continued to conduct routine daily inspections of all wastewater pump stations. During these inspections minor defects have been discovered and repaired, and maintenance of all stations is ongoing. The following larger-scale defects were discovered where multiple components need replacement.

Identified defects to be addressed with FY2025 funding if approved:

- Fenwick Sewer Pump Station – Procure and install Pulsair mixing system;
- A Street Sewer Pump Station – Replace 2 check valves;
- Fenwick Sewer Pump Station – Replace 3 variable frequency drives;
- New York Ave Sewer Pump Station – Replace 3 variable frequency drives;
- Hemenway Sewer Pump Station – Repair and replace Bioxide chemical feed system;
- Larnis Sewer Pump Station – Replace 2 pumps, 2 motors, 2 motor starters, 2 check valves;
- Woodland Sewer Pump Station – Replace 2 pumps and replace and reconfigure piping;
- Fenwick Sewer Pump Station – Replace 2 access hatches;
- Hemenway Sewer Pump Station – Replace 2 access hatches;
- Woodland Sewer Pump Station – Replace 3 access hatches.

Please Note: Anticipated priorities listed above are subject to change.

We are requesting funding in the sum of **\$500,000 for FY2025 Pump Station Equipment Replacement** to address these identified and prioritized repairs as well as any emergent repairs that are required, that have yet to be identified. These larger defects may require designing, planning, procuring, and constructing with in-house staff or sometimes with the services of a contractor or consultant. These repairs are usually longer-term projects as opposed to a routine replacement. Common projects include but are not limited to replacement of pump motors, pumps, check valves, motor starters, gate valves, air compressors, electrical equipment, manifold piping, rail systems, and building or site upgrades. The lifespan and reliability of the City's wastewater pump stations can be extended a decade or more through the replacement of component parts as they become worn and inefficient, thereby reducing the near-term need for significant capital expenditures to replace stations in their entirety.

Sewer Pump Station Equipment Replacement – FY25 Capital Project Submission



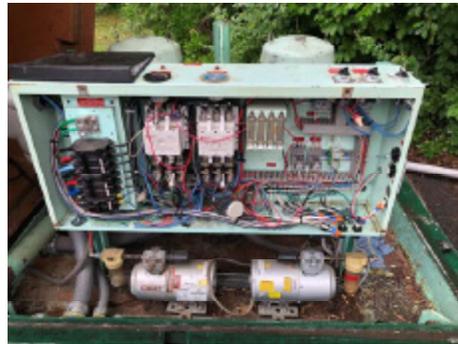
New bioxide chemical feed pumps: Hemenway PS



Woodland PS: Pumps and piping



*New Access Hatches: Hemenway,
Fenwick, Woodland, NY Ave PS*



Larnis PS: Pumps and motors

Sewer Pump Station Equipment Replacement – FY25 Capital Project Submission



New variable frequency drives: New York Ave, Fenwick PS



Check valves: A Street PS



Pulsair mixing system: Fenwick PS