S5005030
March 18, 2024
Revised May 17, 2024

Mr. Stephen Johnson
Southampton Select Board
210 College Highway, Suite 7
Southampton, MA 01073

Re: **Proposed Work Order for Contract No. 22-001-04**
Southampton Greenway Sewer Extension Study

Dear Mr. Johnson:

In accordance with your request, we have prepared a proposal to provide engineering services to the Town of Southampton (the Town) for the performance of a Sewer Extension Study that would generally include the Village Area in Southampton. The approximate extent of the area where sewer service will be considered is shown on Map 1, attached, and is based on input received from the Town.

The Town has identified the need for sewer service in the area noted above to address failing septic systems and to accommodate future developments/facilities.

Background

Through a railbanking agreement, the Town of Southampton has acquired the rights to develop the Southampton Greenway Rail Trail along the former Pioneer Valley Railroad right-of-way, which will allow for greenway construction from Coleman Road at the Manhan Rail Trail to Route 10 at Brickyard Road. The Town would like to assess whether a new sewer could be constructed along the Greenway Rail Trail to serve as a "trunk" sewer that would receive wastewater flow from sewers that would be constructed in the Village Area. In this analysis, the "Greenway Trunk Sewer" would connect to the end of the existing gravity sewer in Easthampton that is located adjacent to the Manhan Rail Trail and conveys wastewater to Easthampton's Wastewater Treatment Facility. The end of this existing Manhan Rail Trail sewer is located approximately 76 feet northeast of the Southampton town line.

Our proposed Scope of Services is described below and will be performed to:

1. Evaluate providing sewer service to the Village Area based on the service area limits shown on Map 1, attached.
2. Provide a conceptual sewer layout that include gravity sewers, to the extent possible, and municipal wastewater pump stations, where needed.
3. Estimate the capital costs to provide new sewers and pump stations to serve the Village Area.

Scope of Services

The engineering services that will be provided for the project are described below.

Task 1 – Review Background Information

Tighe & Bond will review available information regarding the area targeted for sewer service and the existing sewers to which Southampton's Greenway Trunk Sewer will connect. As part of this effort, we assume that the Town will provide the following information:

1. Any past studies regarding providing sewer service for the noted area.
2. Available water consumption data for the facilities that are expected to be served by the proposed sewers. We assume that the available water consumption data will be provided electronically in Microsoft Excel format or in a format that can be imported into Microsoft Excel.
3. Available information on future developments within the sewer service area.

Task 2 – Estimate Wastewater Flows

Tighe & Bond will estimate wastewater flows from the Village Area using water consumption data from the existing residential, commercial, and industrial facilities in this area, where available. Where water consumption data is not available, we will use typical wastewater flow rates published in reference documents and regulations such as:

1. *TR-16, Guides for the Design of Wastewater Treatment Works*, 2011 edition, as revised in 2016 (TR-16), published by the New England Interstate Water Pollution Control Commission. This document is commonly used in New England to guide the design of sewers, pump stations, and wastewater treatment facilities.
2. Massachusetts Regulation 310 CMR 15.000, *The State Environmental Code, Title 5: Standard Requirements for the Siting, Construction, Inspection, Upgrade and Expansion of On-Site Sewage Treatment and Disposal Systems and for the Transport and Disposal of Septage* (Title 5). This document includes conservative unit flow rates for residential, commercial, and institutional facilities and schools, and is commonly used to estimate wastewater flows.

Tighe & Bond will also include in this analysis the projected wastewater flow from future facilities based on input from the Town on planned developments within the proposed sewer service area shown on Map 1, attached. The wastewater flow from these developments will be estimated using water use data from similar type facilities, where available, or reference documents, as noted above.

Task 3 – Develop Layouts and Estimate Sewer Sizes

Tighe & Bond will develop a preliminary layout of the proposed sewers to serve the Village Area that will include the Greenway Trunk Sewer and approximate locations for pump stations, as determined to be necessary. The preliminary layout will be shown on Geographic Information System (GIS) mapping that will be developed for the project. We will utilize the survey data collected for the Greenway Rail Trail project and GIS LiDAR data to determine approximate ground elevations where new sewers are proposed.

The ground surface elevation data and preliminary sewer layouts will be used to approximate sewer slopes and, correspondingly, estimate sewer sizes needed to convey the projected wastewater flows from the Village Area to Easthampton's sewer system. Approximate sewer depths will be determined as part of this task, which will be used to help determine the cost to construct new sewers to serve the two areas noted.

This task will generally be performed in accordance with TR-16 guidelines.

Task 4 – Assess Existing Manhan Rail Trail Sewers

Tighe & Bond will perform a limited assessment of the ability of the existing sewers along the Manhan Rail Trail that will be downstream of the proposed Southampton sewer connection within Easthampton to accommodate the proposed wastewater flows. The existing sewers from the Southampton Town line to Sunset Avenue will be included in this assessment.

As part of this effort, we will estimate existing wastewater flow to these sewers using water use data obtained from the City of Easthampton. The approximate hydraulic capacities of the sewer segments noted above will be calculated using information available on pipe type, size, and slope. We will then use the sewer capacities, current wastewater flows from Easthampton, and estimated future wastewater flows from Southampton to calculate the remaining hydraulic capacities of these existing sewer segments. We assume that any future wastewater flow from Easthampton to these sewer segments will be minimal.

If we determine the existing sewers cannot accommodate all of the estimated future wastewater flow from the Village Area, we will provide an estimate of approximately how much future wastewater can be accommodated.

Task 5 – Develop Cost Estimate

Tighe & Bond will develop a planning phase Engineer's Opinion of Probable Capital Cost (OPCC) to provide sewer service to the Village Area. This estimate will include the construction cost of new sewers, new pump stations, and improvements to existing sewers within Easthampton, if needed, to accommodate the projected wastewater flows from the Village Area. This estimate will also include engineering and permitting costs (to the extent that they can be determined during the study phase) and an appropriate contingency.

Task 6 – Prepare Technical Memorandum

Tighe & Bond will prepare a technical memorandum detailing the tasks described above and summarizing the results. The memorandum will provide recommendations regarding next steps if the Town proceeds with providing sewer service to the Village Area.

Task 7 – Meetings

We will meet with the Town twice during execution of the project. The first meeting will be a kickoff meeting for the project to review the project goals and tasks. During this meeting we will also confirm the service area limits and obtain input on sewer service priorities.

The second meeting will be held to review the draft technical memorandum findings and recommendations and to obtain Town feedback. Suggested changes provided by the Town to the draft memorandum will be incorporated into a final technical memorandum.

Services Not Included in Scope

The following services are not included in our proposed scope of services. If these services are required, we will submit a scope and anticipated fee for these additional services.

- A topographical/detail survey of the project area.
- Geotechnical field investigations (i.e., the advancement of soil borings or performing soil sampling and testing).
- Environmental review. An environmental review and environmental screening will not be performed to identify locations where there could be environmental concerns (i.e., contaminated soil and/or groundwater) that could impact the cost of constructing new sewers and pump stations (if needed).

- Projecting future development beyond the future development identified by the Town within the proposed sewer service area (the Village Area).
- Assessing sewer service outside of the proposed service area limits shown on Map 1, attached.
- Considering the impact of other utilities on the preliminary sewer layouts.
- Assessing alternate sewer technologies, such as low pressure sewers.

Schedule

We are prepared to begin this project upon receiving a Notice to Proceed from the Town. We anticipate that a draft of the memorandum can be completed within 4 months of the Notice to Proceed.

Engineering Fee

Tighe & Bond will perform these services for a lump sum fee of $30,700, invoiced monthly based upon percentage complete. In the event that the scope of work is increased for any reason, the lump sum fee to complete the work shall be mutually revised by written amendment. The terms and conditions of Contract Number 22-001-04, Contract for On Call Engineering Services dated June 2, 2022, shall apply to this proposal.

For information purposes, Table 1 below presents our budget with a breakdown by task. Invoices will be submitted based on the total project fee and not individual line item budgets.

TABLE 1
Estimated Engineering Services Costs

Task	Budget
1 – Review Background Information	$900
2 – Estimate Wastewater Flows	$4,300
3 – Develop Layouts and Estimate Sewer Sizes	$10,200
4 – Assess Existing Manhan Rail Trail Sewers	$1,800
5 – Develop Cost Estimate	$3,200
6 – Prepare Technical Memorandum	$6,400
7 – Meetings	$3,900
TOTAL	**$30,700**

If this proposal is acceptable, please sign below and return one signed copy to our office. If you have any questions or require any additional information, please contact Joe Popielarczyk by telephone at 413-572-3280 or by email at JMPopielarczyk@tigheBond.com.

Very truly yours,

TIGHE & BOND, INC.

Joseph Popielarczyk, PE
Project Manager

TIGHE & BOND, INC.

Tiffany Labrie, PE
Senior Vice President

Enclosures: Map 1 – Proposed Sewer Service Area

ACCEPTANCE:

On behalf of the **Town of Southampton**, the scope, fee, and schedule of this proposal is acceptable and services are hereby authorized under Contract Number 22-001-04.

_____ _____

Authorized Representative Date

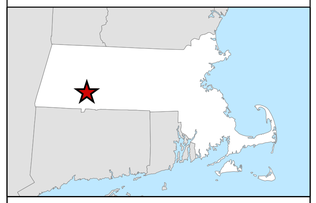
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LEGEND

- Proposed Greenway Rail Trail
- Existing Manhan Rail Trail
- Potential Sewer Service Area
- Parcel Boundary
- Town Boundary

LOCUS MAP



N

0 400 800 Feet

1:4,800

NOTES

1. Based on MassGIS Color Orthophotography (2023).
2. Existing Rail Trail data courtesy of MassGIS.

MAP 1
PROPOSED SEWER SERVICE AREA

Sewer Extension Study
Southampton, Massachusetts

May 2024

Tighe&Bond

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