



## **Water System Expansion Design West of the Nantucket Memorial Airport Town of Nantucket, MA**

### **Statement of Work Revised August 29, 2022**

Due to the presence of PFAS in domestic wells west of the Nantucket Memorial Airport (the Airport), the Town of Nantucket (the Town) through the Nantucket Water Department intends to expand the Wannacomet water distribution system along Lovers Lane, Okorwaw Avenue, Skyline Drive, Monohansett Road, Webster Street, and Nobadeer Way, totaling approximately 15,200 feet. Road restoration and drainage repairs varies by street. The location map and limit of work is furnished in **Attachment A**.

The Town previously undertook a water system planning effort to assess water demand, system supply/capacity, and distribution system hydraulics to provide recommendations on water main size in these streets. Presented below is a scope of work, schedule, and budget to be conducted for a water main design for the Town's water service expansion effort.

The water system expansion project is listed on the 2022 Drinking Water Intended Use Plan (IUP) for the Massachusetts Department of Environmental Protection (MassDEP) State Revolving Fund (SRF) loan program. Design will proceed in accordance with SRF requirements.

The level of effort for design engineering services are provided below.

### **Scope of Work**

This design proposal includes development of contract documents (plans and specifications) and development of construction cost estimates for installation of approximately 15,200 linear feet of 8-inch and/or 12-inch PVC water main. Final pipe diameter is subject to confirmation with the Town.

Documents will be prepared in accordance with MassDEP SRF requirements.

### **Task 1 – Design Phase**

#### **Task 1.1 – Utility Compilation of Project Area**

- CDM Smith will utilize existing GIS-based surveys provided by the Town along Skyline Drive, and Webster Street (and short segments of Monohansett Road Extension and Okorwaw Avenue Extension); topographic survey completed for the Town by GPI along Lovers Lane,

Okorwaw Avenue, and Monohansett Road; and survey by Blackwell Associates along Nobadeer Way. CDM Smith will supplement the GIS based survey (approximately 6,200 feet total, along portions or all of Orkowaw Avenue extension, Skyline Drive, Webster Street, Monohansett Road extension, Nobadeer Way) with information readily available from the utility companies to identify the locations of underground utilities to minimize conflicts with the water main installation (to the extent possible). Anticipated buried utilities include cable, telephone, and electric.

- No comprehensive topographic or easement survey is required for this project at this time. Additional survey services, if determined necessary, may be added by Amendment.

### **Task 1.2 – Plans and Specifications**

- Prepare for incorporation in the Contract Documents Final Drawings showing the scope, extent, and character of the work to be performed and furnished by Contractor and Specifications (which will be prepared, where appropriate, in general conformance with the standards of the Construction Specifications Institute).
- Develop Project Plans
  - Develop design drawings for the water main extension as summarized in Attachment A, and as discussed above. The sheets will be 40-scale; up to 10 design drawings depicting the water main installation are assumed.
  - Design drawings shall include a Cover, a Legend/General Notes, plan civil sheets, and miscellaneous technical details, not already covered by Town Standard Details. Traffic control sheets are not anticipated for this design.
  - The project plans will assume that some streets remain as dirt, and some will be repaved with either trench pavement or full mill and overlay. The design approach will be to utilize town provided GIS contours and note on the drawings that the Construction Contractor will match existing contours. Full topographic survey of these segments and/or street surface alignment modifications are not incorporated into this scope.
- Develop Project Specifications
  - Use CDM Smith’s standard boilerplate Division 0 and technical standards/requirements in the new CSI 52 Division format. Incorporate SRF bid document requirements. An allowance of 16 hours is included for review and coordination of Division 0 with the Town’s purchasing department.
  - Due to the known presence of PFAS in the area west of the Airport, design must include the potential for handling excavated soils with PFAS. The design approach will require the Contractor to maximize return of excavated soils to the water main construction trench. To address excess soils, CDM Smith will develop specifications and procedures to collect, characterize, store, transport, and dispose of any excess excavation/soils. PFAS is believed to be the only soil contaminant of concern, however specifications will require

any excess soil to be properly characterized for transport and disposal in accordance with applicable regulations (including the applicable parameters list, sampling frequency, etc.). Contractor will be required to sample and analyze soils to determine disposal needs.

- Develop required Bid Form and Measurement and Payment.
- The Town has engaged another engineer (GPI) to develop drainage improvements at the intersection of Okorwaw Avenue and Skyline Drive. CDM Smith will incorporate GPI's stamped drawing(s) (and Specification Sections and Opinion of Probable Costs) for the drainage work on Okorwaw for inclusion in the Bid Documents, if required by the Town. Coordination time with GPI is included in Task 1.7.
- Perform technical review as design progresses of plans and specifications in accordance with CDM Smith's QAQC program. This will include a CDM Smith Technical Review Committee meeting at the 10% design level, technical specialist reviews at 60% and 90%; and final check of the 100% bid set.
- Submit for review plans and specifications to the Town at the following milestones:
  - 60-percent (with a list of technical specifications)
  - 90-percent
  - As-bid set
- Furnish copies of the above documents, Drawings and Specifications and review them with the Town.

### **Task 1.3 – Field Reconnaissance**

- Field visits are required for the purpose of field checking existing survey plans along water main routes; field identification of additional utilities along water main routes; review of roadway conditions to evaluate need for road reclamation, or mill and overlay; and site review of Nobadeer Way relative to drainage concerns. An allowance of up to 80 hours is included for this field reconnaissance effort, plus travel expenses. Initial field reconnaissance will guide scoping of future drainage and road reclamation design needs for certain streets. Incorporation of such design efforts will be via Amendment.

### **Task 1.4 – Construction Cost Estimate**

- Provide Opinions of Probable Construction Cost (OPCC) at two stages, 60-percent and 90-percent.
  - GPI to provide OPCC for the drainage design at the Okorwaw Avenue and Skyline Drive intersection to be included in the overall project OPCC.

- Advise the Town of any adjustments to the OPCC and any adjustments to Total Project Costs known to ENGINEER as a result of changes in scope, extent, character, or design requirements of the Project.

### **Task 1.5 – SRF Application**

- Assist the Town with preparation and submission of a State Revolving Fund Loan Application. Up to 60 hours of time are assumed for the development of this application.

### **Task 1.6 – Project Management and Coordination**

- Participate in up to six monthly virtual meetings with the Town to provide project progress.
- Attend two in person meetings (with two staff) to review the draft design documents to discuss the Town’s comments on the 60% and 90% draft plans.
- Coordinate with Town Departments to facilitate the design project implementation; such coordination will be conducted in association with the field visits and/or review meetings defined above.
- Provide project management to administer the project, inclusive of project setup and tracking of scope, budget, and schedule. Conduct internal project meetings to monitor progress relative to the SRF deadline of October 14, 2022.
- Submit monthly project invoices based on percentage of work completed along with a project status report of work performed.

### **Task 1.7 – Surfside Area Improvements Coordination**

- An allowance of up to 40 hours is included for coordination of design efforts related to the Surfside Area Improvements by others relative to drainage, roadway, and bike path designs being prepared for Lovers Lane, Orkowaw Avenue, and Monohansett Road. Coordination may include, but is not limited to meetings (assumed virtual) and documentation of meeting notes, review of design plans for consistency between projects, and working to ensure a common approach between projects.

### **Task 1.8 – Public Participation**

- Participate in up to two public meetings to be held in person with the Select Board and/or area residents. Prepare a PowerPoint presentation regarding the water main expansion project design, project status, SRF funding, and construction schedule. Review the presentation with the Town in advance of the meeting. Prepare notes documenting the meeting and respond to any outstanding questions.

## **Assumptions**

- The Town intends to engage CDM Smith to assist in the development and design of road reconstruction along Skyline Drive and to address street drainage issues along Skyline Drive and Nobadeer Way. Both parties agree that additional effort is needed to scope this work which will be the subject of a future amendment.

- The Town will provide existing 2018 survey in AutoCAD by GPI (including underground utilities) for Lovers Lane, Okorwaw Avenue, and Monohansett Road that will be utilized for the design drawings. For the remaining streets, base plans were developed by the Town using GIS parcel maps and photogrammetry data. The Town will add the contours to the base maps. Underground utilities will be located and added to these base plans under Task 1.1 as outlined above.
- Scope of work does not include easement or right of way surveys.
- Wetland flagging and permitting services are not anticipated for this project.
- Sandy soils are anticipated throughout the limits of work. Soil borings are not included in this proposal. Accordingly, it is expected that most soils in the area should be suitable for backfill for the trenches in this project area.
- This proposal does not include cost and services for bidding services, general services during construction, and resident engineering services. These tasks may be authorized by Amendment.

## Schedule

**Deliverable – SRF Application:** The SRF Application will be prepared for submission to MassDEP by the SRF deadline of October 14, 2022. The Application will include plans and technical specifications prepared sufficient for SRF approval at this project stage.

**Deliverable – 100% Bid Documents:** Final Bid Documents inclusive of plans, technical specifications and contract documents will be submitted by December 31, 2022.

CDM Smith recommends a contract end date of June 30, 2023 which allows for incorporation of any design additions by Amendment requested by the Town relative to road reclamation and/or drainage.

## Proposed Fee

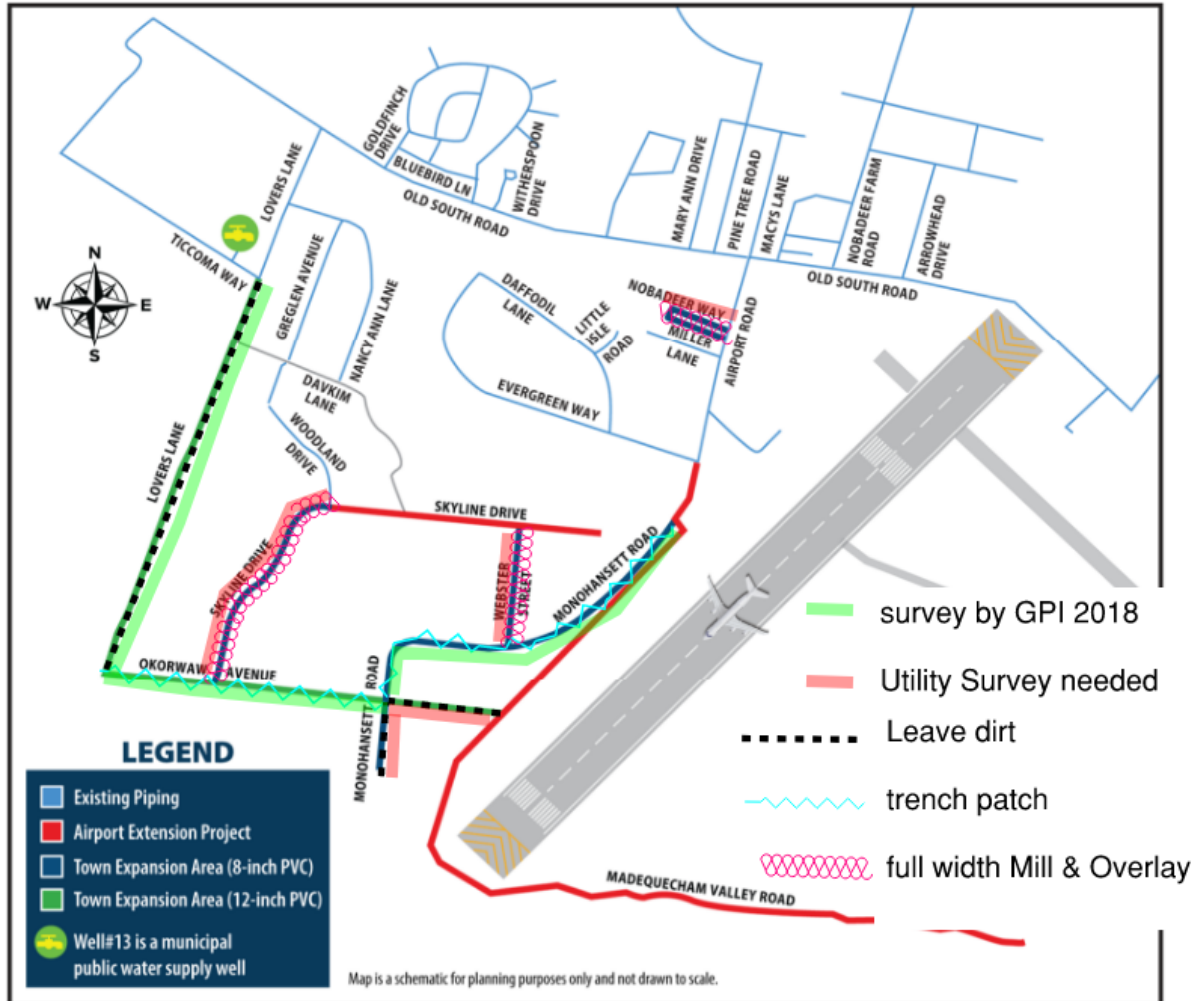
The fee for the Water System Expansion Design West of the Nantucket Memorial Airport Statement of Work presented herein is a not to exceed upper limit of \$250,800. Invoicing will be on a Cost-Plus method based on Direct Labor Cost (salaries) plus Indirect Labor Cost plus a Fee. The Indirect Labor Cost will be based on an Indirect Cost Rate Factor of 176.3 percent (includes overhead and fringe to be multiplied by direct labor). A fee of 10 percent will be applied to the sum of the Direct Labor and Indirect Labor combined. Invoicing will be monthly based on the work completed. Other direct expenses and any subcontract/laboratory costs will be invoiced at actual cost.

In the performance of these services, CDM Smith may request use of personnel and resources from CDM Smith affiliated companies, subject to the Town’s written authorization. Notwithstanding any provision to the contrary contained in this Agreement, the personnel from CDM Smith Global Services India LLP will be billed at the hourly billing rates provided below. Should CDM Smith require additional Job Codes and Hourly Billing Rates, they may be added with prior written authorization of the Town.

Drafter 1-5                      \$54.45

Drafter 6 and greater      \$72.60

ATTACHMENT A - Summary of Work



Note: Final water main diameters (8" or 12") to be confirmed with Town during design.

**ATTACHMENT A – Summary of Work**

Street Name	Feet of Pipe	Pipe * Diameter	Road Reconstruction	Survey?
Monohansett Road – Airport to Okorwaw	3,200	12"	Trench patch	Yes – 2018
Monohansett Road – Okorwaw south	600	12"	Trench patch	Utility survey needed
Okorwaw Avenue – Lovers to Monohansett	2,200	12"	Trench patch	Yes – 2018
Okorwaw Avenue – Monohansett to Airport main	1,000	12"	Trench patch	Utility survey needed
Skyline Drive	2,300	12"	Full width mill & overlay	Utility survey needed
Webster Road	1,100	12"	Full width mill & overlay	Utility survey needed
Nobadeer Way	1,200	12"	Full width mill & overlay	Utility survey needed
Lovers Lane	3,600	12"	Leave dirt	Yes - 2018
<b>TOTAL</b>	<b>15,200</b>			

\*Note: Final water main diameters (8" or 12") to be confirmed with Town during design.