

Barge Design Solutions, Inc. (Barge) is proposing the following scope of services for the City of Kingsport (City) to provide State Revolving Fund (SRF) preliminary engineering documentation, environmental permitting, easement document preparation, construction documents services, bidding assistance, and construction administration for the Reedy Creek Trunk Sewer Improvements, in accordance with the Professional Services Agreement (Agreement). The scope of work is presented in the following elements:

- I. Project Description
- II. Scope of Services
- III. Project Schedule
- IV. Compensation
- V. Additional Services

I. Project Description

The Reedy Creek Trunk Sewer Improvements project is located in the northern portion of the City of Kingsport's wastewater collection system. The purpose of the project is to increase capacity while reducing infiltration and inflow with new infrastructure. The project begins at the former lift station site at Lovedale Drive near its intersection with W. Sullivan Street. The upstream end of the proposed sewer is the west side of John B. Dennis Highway. The existing gravity trunk sewer system consists of parallel pipes that traverse along Reedy Creek through a mix of commercial, residential, and undeveloped areas, each increasing in size as additional flows are added. The proposed trunk sewer is 21,000 linear feet (LF) and requires rehabilitation of existing mains and side line connections.

Previous engineering on this project includes the "Preliminary Engineering Report (PER) – Reedy Creek Trunk Sewer Improvements Phase 2" by Barge Design Solutions, Inc. dated July 15, 2021, geotechnical investigation, 90% design of the entire alignment submitted to the City of Kingsport on December 4, 2023, Tennessee Department of Environment and Conservation (TDEC) Individual Aquatic Resource Alteration Permit (ARAP) application, and United States Army Corps of Engineers (USACE) Nationwide Permit (NWP) #58 for Utility Line Activities for Water and Other Substances application.

The scope of this agreement updates the PER to a SRF Facilities Plan, adds easement documents, cultural and archaeological resources surveys, and endangered bat mist net survey for known species identified on the project for the entire trunk sewer alignment. A final set of sealed construction documents suitable for bidding the initial phase (approximately 2,400 LF of new 36-inch trunk sewer and 2,100 LF of existing 18-inch rehabilitation) of the project from the former Lovedale lift station site to the creek crossing upstream of Clinchfield

Street will be produced. TDEC Division of Water Resources for authorization to construct, and TDEC SWPPP Construction General Stormwater Permit are also included for the initial phase from the former Lovedale lift station site to the creek crossing upstream of Clinchfield Street.

II. Scope of Services

The scope of services is summarized into the following major tasks:

Task 1 – SRF Facilities Plan

Task 2 – Property Location and Easement Documents

Task 3 – Construction Documents

Task 4 –National Environmental Policy Act Services

The following sections provide a description of the purpose, activities, and deliverables anticipated for each of the tasks. Throughout the following tasks, Barge will manage the activities of our staff and subconsultants, coordinate monthly status meetings with City staff, and submit monthly invoices with updated schedules and cost projections as applicable.

Task 1 – SRF Facilities Plan

This initial phase of the project will update the “Preliminary Engineering Report (PER) – Reedy Creek Trunk Sewer Improvements Phase 2” by Barge Design Solutions, Inc. dated July 15, 2021 to a SRF Facilities Plan for the City to request funding. Tasks include the following:

- Facilities Plan including the following components:
 - Purpose and need for the project in the Facilities Plan. The purpose and need will document regulatory compliance needs.
 - General information related to the area served, collection system, and wastewater treatment plant. The potential for serving additional areas, performance of wastewater components, financial status of the existing facilities, and any energy audits will be documented.
 - Inflow and infiltration studies and monitoring
 - Future land use projections and population forecast for the area served
 - Presentation of alternatives, design parameters, mapping, environmental impacts, land use, potential construction issues, sustainability concerns, cost opinions, and alternative selection from the PER.
 - Details of the recommended alternative as documented in the PER.

- Overall project costs with proposed financing and operating costs
- Environmental impacts including environmental resources present, geology and soils, water resources, environmentally sensitive features, archeological and historical sites, and floodplains. Barge will review agency databases, graphics, and other online or electronic resources to confirm the level of study that is needed for each resource and collect information regarding environmental features to be further characterized during environmental field surveys.
- Environmental justice concerns
- Facilities Plan draft to the City for review
- A Facilities Plan review meeting will be held with the City, and comments will be incorporated into the Final Facilities Plan for submittal to SRF.
- Revised Facilities Plan based on one round of SRF comments

Task 1 Deliverables

The following deliverables will be provided as part of this task:

- Draft of Facilities Plan (PDF copy and 3 hard copies)
- Final Facilities Plan (PDF copy and 7 hard copies)

Task 1 Assumptions

The following assumptions are applicable to the above scope of services:

- The City understands that Barge has no control over the cost or availability of labor, equipment materials, over-market conditions, or the Contractor's method of pricing, and that Barge's Opinion of Probable Construction (OPCC) is made on the basis of Barge's professional judgment and experience. Barge makes no warranty, express or implied, that the bids or the negotiated cost of the work will not vary from Barge's OPCC.

Task 2 – Property Location and Easement Documents

- Field location of property boundaries to produce legal easement drawings and descriptions.
- Barge will provide temporary and permanent easement descriptions on each parcel on which easements are required for the entire 21,000 linear foot trunk sewer alignment for the City's use in acquiring the easements. The legal description of each easement will include a figure identifying and dimensioning the easement to correspond with the written descriptions and will include the area

in square feet and acres for each easement. Barge assumes no more than 50 easement documents will be required.

Task 2 Deliverables

The following deliverables will be provided as part of this task:

- Signed and sealed legal easement descriptions, including figures on each parcel or property on which easements are required

Task 3 – Construction Documents

The following tasks will be conducted to produce construction documents for submittal to SRF and bidding:

Construction Documents

- Complete set of plans and specifications and submit signed construction documents addressing comments from the City's review of the final design documents. The construction documents will be suitable for bidding the initial phase of the project from the former Lovedale lift station site to the creek crossing upstream of Clinchfield Street.
- Final geotechnical baseline report
- Updated OPCC
- Estimated construction schedule
- SRF procurement documents and General Conditions in the construction documents

NPDES Construction Stormwater Permit

- A TDEC Stormwater Pollution Prevention Plan (SWPPP) Construction General Stormwater Permit application will be prepared based on site specific erosion and sedimentation controls between the former Lovedale lift station site to the creek crossing upstream of Clinchfield Street.

TDEC Division of Water Resources

- The sealed construction plans will be submitted to the TDEC Division of Water Resources for authorization to construct for the trunk sewer from the former Lovedale lift station site to the creek crossing upstream of Clinchfield Street.

Task 3 Deliverables

The following deliverables will be provided as part of this task:

- Construction documents signed and sealed for initial phase of the project from the former Lovedale lift station site to the creek crossing upstream of Clinchfield Street.
- TDEC SWPPP Construction General Stormwater Permit between the former Lovedale lift station site to the creek crossing upstream of Clinchfield Street.
- TDEC Division of Water Resources authorization to construct between the former Lovedale lift station site to the creek crossing upstream of Clinchfield Street.

Task 3 Assumptions

The following assumptions are applicable to the above scope of services:

- Traffic control plans for roadway crossings are not included in the scope of services. Traffic control plans for the greenbelt will be included as necessary.
- Bypass pumping plans are not included in the scope of services. A bypass pumping specification of minimum requirements will be included however.
- Vacuum potholing and other subsurface location of existing utilities are not included in the scope of services.
- Permitting fees will be paid by the City.
- The City understands that Barge has no control over the cost or availability of labor, equipment materials, over-market conditions, or the Contractor's method of pricing, and that Barge's OPCC is made on the basis of Barge's professional judgment and experience. Barge makes no warranty, express or implied, that the bids or the negotiated cost of the work will not vary from Barge's OPCC.

Task 4 – National Environmental Policy Act Services

SRF will provide an Environmental Assessment (EA) in accordance with National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act, Section 7 of the Endangered Species Act, and other applicable federal, state, and local environmental laws as part of the funding request. This would include a review of natural resources (e.g., streams, wetlands, and endangered species) and the human/built environment (e.g., cultural resources, social impacts, and hazardous materials).

SRF will prepare project introductory letters to US Fish and Wildlife Service (USFWS), TDEC, and Tennessee State Historic Preservation Office (TN-SHPO). State and local agencies are contacted regarding any environmental concerns on the project site. Endangered Northern long-eared bat roosting sites have been identified in the project area, so a bat mist net study is anticipated under Section 7 of the Endangered Species Act. Section 106 of the National Historic Preservation Act will require a cultural resources study.

SRF will issue a decision on the final EA of either A Finding of No Significant Impact (FONSI) or a request for an Environmental Impact Statement (EIS).

The following permitting tasks will be conducted for the 21,000 linear feet trunk sewer alignment unless specifically noted otherwise:

Bat Mist Net Survey

- USFWS study plan submittal
- Field surveys based on 2023 USFWS Bat Survey Guidelines and assumes the level of survey effort for Northern long-eared bat's requiring 4 Net Nights/km of forested habitat. The project site has 6 Km of forested habitat for an assumed effort of 6 net sites and 24 net nights.
- Report development
- Radio tracking for a maximum of two bats. The effort assumes that not more than one bat is tracked at one time. Bats will be tracked during the day within a search radius of 2.5 miles from the point of capture to locate roost trees, up to a maximum of seven days. Daily telemetry searches will be conducted until the bat is located for a minimum of four hours and a maximum of 8 hours per day.
- Attend SRF public meeting

Cultural Resources Survey

- Phase 1 cultural resource survey
- The scope of work for the project includes both archaeological and architectural surveys. The Area of Potential Effects (APE) for the project is approximately 228 acres in size. Previous disturbances within the APE (parking lots, buildings, roads, etc.) have disturbed approximately 75 acres of the survey area. This leaves 153 acres of area that will need to be shovel tested. Disturbed areas will be subject to pedestrian survey.
- Soils data indicates that a large portion of the project area is situated in floodplain soils. A sample of these soils will need to be bucket augered to determine the potential for buried archaeological deposits.

- Examine archaeological site files maintained by the Tennessee Division of Archaeology (TDOA) in Nashville will be consulted to determine if any known sites are located in the project area or within one mile of it.
- The entire proposed project area will be subjected to pedestrian survey.
- Pedestrian survey will be supplemented by screened shovel testing. Shovel tests will be excavated at a 30-meter interval on transects spaced 30 meters apart in areas with less than 50 percent surface visibility and less than 15 percent slope. Each test will measure approximately 30 centimeters square and will be excavated to the sterile subsoil, but not deeper than 70 cm. If deposits extending beyond 70 cm are encountered, a bucket auger will be used to determine the depth of the deposit if possible. If there is a positive shovel test, the interval between the tests will be reduced to 15 meters and the transect will continue until two consecutive negative tests are encountered. It is estimated that no more than 780 shovel tests will be excavated on no more than 10 archaeological sites within the APE. Photographs of representative shovel tests will be taken.
- A maximum of 5 bucket augers will be excavated.
- Any artifacts recovered will be placed in paper bags marked with the appropriate provenience information. The scope assumes recovery of a maximum of 500 artifacts recovered.
- Laboratory analysis will be performed on recovered artifacts within guidelines of TDOA. Following completion of the analysis of artifacts, they will be prepared to be returned to the individual property owners. No curation facility costs will be incurred.
- Review of survey records maintained by the Tennessee Historical Commission (THC) to identify any previously recorded architectural resources located in or in the immediate vicinity of the permit area.
- Document historic architectural resources (50 years of age or older) located within the project area. Based on available mapping, no more than 35 resources are estimated within the project corridor. If the records review identifies any National Register listed or eligible sites within the immediate viewshed of the project area, sufficient photographs will be taken to assess the project's effects to these sites.

Task 4 Deliverables

The following deliverables will be provided as part of this task:

- Draft bat mist net report (PDF format)
- Final bat mist net report (PDF format)
- Draft cultural resources field report (PDF format)

- Final cultural resources field report (PDF format)
- Draft archeological technical report (PDF format)
- Final archeological technical report (PDF format)
- Draft architectural history technical report (PDF format)
- Final architectural history technical report (PDF format)

Task 4 Assumptions

The following assumptions are applicable to the above scope of services:

- Barge will have access to the site and adjoining areas, as required.
- No cultural or architectural resource surveys will be provided outside of the 228-acre project boundaries.
- Permitting fees will be paid by the City.
- Fish sweeps, and/or macroinvertebrate/crayfish/mussel threatened or endangered species surveys are included in the scope of services.
- Based on the proposed construction activities, it is anticipated that no air quality or noise assessments will be needed and are thus not included.
- It is assumed that additional public involvement activities, beyond the comment period, would not be required. Attendance at one public meeting is included in the scope of services. If needed, Barge is available to assist with additional public involvement activities as additional services if requested.
- Preparation of an EIS is not included in the scope of services.

III. Project Schedule

The preliminary project schedule is shown in the table below.

Tasks	2024Q2	2024Q3	2024Q4	2025Q1	2025Q2	2025Q3
Task 1 – SRF Facilities Plan						
Task 2 – Property Location and Easement Documents						
Task 3 – Construction Documents						
Task 4 – NEPA Permitting						

IV. Compensation

The cost to complete the scope of work as defined in the tasks above is provided in the fee summary table below. City agrees to pay Barge a Lump Sum Fee of \$447,000 to complete the scope of work as defined above.

Fee Summary Table

Items	Fee Type	Fee Amount
Task 1 – SRF Facilities Plan	Lump Sum	\$80,000
Task 2 – Easement Documents	Lump Sum	\$60,000
Task 3 – Construction Documents ¹	Lump Sum	\$141,000
Task 4 – NEPA Permitting ²	Lump Sum	\$166,000
TOTAL		\$447,000

¹ Delve Underground is \$43,507 of this item

² Jackson Environmental is \$64,860 of this item and Cultural Resource Analysts, Inc. is \$90,168 of this item.

V. Additional Services

Additional engineering support services, including but not limited to the items listed below, can be provided upon request and approval of detailed scope and fee by the City.

- Bid phase services
- Construction phase services
- Resident Project Representative (RPR) services
- Additional meetings with local, State, or Federal agencies to discuss the Project beyond those indicated in the Basic Services.
- Appearances at public hearings or before special boards, except as specifically indicated in the Basic Services.
- Supplemental engineering work required to meet the requirements of regulatory or funding agencies that become effective subsequent to the date of this agreement.
- Special consultants or independent professional associates, other than those indicated in the scope above, that are requested or authorized by the City.
- Support services in connection with public information/relations activity as requested by the City.
- Services of a qualified appraiser to appraise the property or rights-of-way and easements to be acquired, and to meet and negotiate with the property owners.
- Preparation for litigation, arbitration, or other legal or administrative proceedings; and appearances in court or at arbitration sessions in connection with bid protests, change orders, or construction incidents.
- Services resulting from significant changes in the scope, extent, or character of the portions of the Project designed or specified by Engineer or its design requirements including, but not limited to, changes in size, complexity, City's schedule, character of construction, or method of financing; design changes initiated by the City after City's acceptance of milestone reviews; and revising previously accepted studies, reports, Drawings, Specifications, or Contract Documents when such revisions are required by changes in Laws and Regulations enacted subsequent to the Effective Date of this Agreement or are due to any other causes beyond Engineer 's control.

- Involvement with and responding to a formal Value Engineering review conducted by a third party. Revisions of design, drawings, and specifications arising from the formal third-party Value Engineering review which cause changes in the general scope, extent or character of the Project, including but not limited to changes in size, complexity, City's schedule, character of construction, or method of financing.
- Determining the acceptability of substitute materials and equipment proposed during the Bidding or Negotiating Phase when substitution prior to the award of contracts is allowed by the Bidding Documents.
- Providing stream or wetland compensatory mitigation plans.
- Providing construction surveys and staking; and providing other special field surveys.
- All review or permit fees charged by the State or other agencies are not included in the basic compensation and will be paid directly by the City.
- Providing permitting assistance beyond the level of effort outlined in Basic Services.
- Preparing additional Bidding Documents or Contract Documents for alternate bids or prices requested by the City for the Work or a portion thereof.
- Other services performed or furnished by Engineer not otherwise provided for in this Agreement.