

## **Appendix A –Scope, Schedule, and Compensation**

This is an attachment to the North Durham WRF and Acadia Street Waterline Replacement design services Contract, in which details associated with the scope, fee, and schedule are provided. Additionally, specific information regarding project assumptions, CITY responsibilities, work breakdown structure, and CONTRACTOR rate schedule are also provided in this appendix.

### **SCOPE OF SERVICES**

CONTRACTOR shall provide engineering and other professional services to the CITY as described herein. Alphanumeric subtask item numbers are for internal coding purposes only.

#### **TASK 1 – FIELD SURVEY AND INVESTIGATION**

Description of Sites – There are two sites which will require survey for the proposed waterline replacement/installation. The Site 1 survey area is approximately 2,200-feet within the right-of-way of Acadia Street from the intersection with West Markham Avenue continuing northward to the I85 right-of-way line. The Site 2 survey area is approximately 1,200-feet along the rear property line of the City of Durham NDWRF and along the City of Durham Fire Training Facility site to the eastern right-of-way line of Camden Avenue.

**Subtask A2.99 – Property Owner Notifications** – CONTRACTOR shall provide 30-day notification of survey activities to all affected property owners adjacent to Site 1. The 30-day notification shall be made via certified letter. CONTRACTOR shall also provide 7-day notification of noisy activities to all affected private property owners. Noisy conditions will consist of drilling activities associated with the geotechnical investigation and vacuum extraction activities associated with Level A SUE.

**Subtask A5.20 - Base Data Collection and Review** - CONTRACTOR shall collect available information in reference to Sites 1 and 2 from the City including record drawings, maps, and information about preferred pipeline routing, and review the information in order to develop a determination regarding the preliminary waterline routes. CONTRACTOR shall verify if there is an active site plan for the Durham Fire Training Facility, and whether or not a site plan update is needed as part of the Site 2 waterline project.

**Subtask B2.30 - Underground Utilities** - CONTRACTOR shall provide utility designation by marking the underground utilities with spray paint using electromagnetic equipment within Site 1 (right-of-way only) and Site 2 (limited to a 50 foot corridor). CONTRACTOR shall show underground utilities from field-designated information and any existing drawings provided. CONTRACTOR does not guarantee that the underground utilities shown either comprise all such utilities in the area, in service or abandoned. CONTRACTOR further does not warrant that the underground utilities shown are in the exact location indicated, although they do certify that they are located as accurately as possible from information available. Level “A” vacuum extraction will be provided to definitively locate existing utilities for a limited time of one day for both sites combined.

**Subtask B2.40 - Topographic/Location Survey** – CONTRACTOR shall conduct field survey in accordance with the “Standards of Practice for Land Surveying in North Carolina”, Horizontal Control will be referenced to North Carolina Geodetic Survey datum NAD83 adjustment and the vertical datum will be NAVD 88. The contour interval will be 1-foot to define existing topography for use in determining property impacts. Planimetric information necessary for design of improvements includes:

- Drives – location, type, and width.
- Signs – location, type, and size.
- Utilities - locations of underground utilities will be based on visible above ground structures. More specifically, the following data will be collected in regard to the utilities within the survey limits:
  - Storm drainage – location, size (with sizes labeled on each side of inlet), type, top, invert elevations, and inlet and outlet locations both inside and outside planimetric limits.
  - Sanitary sewer – location, size, type, top, invert elevations and cleanouts (typically outside the right-of-way limits).
  - Water – location of valves, meters, and hydrants.
  - Gas – location valves and meters.
  - Underground transmission – visible location, pedestals, markers, and type to include power, telephone, cable TV, and SUE paint markings made as part of this Contract.
- Physical improvements – Pavements, lighting, walls, steps & fences.
- Soil Borings – Location of all soil borings performed as part of this Contract.

A Title Report shall be provided by the CITY for the establishment of recorded easements within the project limits.

**Subtask B2.41 - Specimen Trees Location Survey** – CONTRACTOR shall locate specimen trees within Site 1 and Site 2. A specimen tree shall be defined as any evergreen canopy tree eighteen (18) inches dbh or greater, any deciduous canopy tree twelve (12) inches dbh or greater and any understory tree (deciduous or evergreen) eight (8) inches dbh or greater, except any tree listed as a non-native invasive plant by the US Forest Service or listed as Prohibited for Any Use in the Landscape Guidelines for Durham, North Carolina.

**Subtask B2.99 - Control Monuments** - Conduct field survey in accordance with the “Standards of Practice for Land Surveying in North Carolina”, to set two control monuments referenced to North Carolina Geodetic Survey datum NAD83 adjustment and the vertical datum will be NAVD 88.

**Subtask F2.60 - Easement Platting** – Prepare a recordable easement dedication plat based on the NAD 83 horizontal adjustment meeting the requirements of Durham County and NCGS 47-30 as amended for the approved parcels, easements and set property corner irons as required. Platting shall be performed as a single phase. The plat will be submitted to the City of Durham for review, approval and recordation in the Durham County Land Records. The client is responsible for all required submittal and recording fees.

**Subtask L1.10 – Geotechnical Investigation** – CONTRACTOR, through a subconsultant, shall provide geotechnical services associated with Site 1 and Site 2 as follows:

- Collect and analyze up to 15 soil borings total, at 10 feet of depth or auger refusal, along the proposed waterline alignment for Sites 1 and 2; and
- Develop a geotechnical report evaluating subsurface conditions relative to trench excavation and backfill of the proposed waterlines for Sites 1 and 2.

## **TASK 2 – 50% DESIGN**

Upon completion of Task 1, the CONTRACTOR shall complete the following design services.

**Subtask A5.20 – 50% Design** – The CONTRACTOR shall provide a 50% design package to the CITY for review and comment. The 50% design package shall consist of the following:

- Plan view of all pipeline drawings showing the proposed horizontal waterline alignment and all survey data completed in Task 1; and
- All technical specifications.

Following CITY review of the 50% design package, a meeting will be held between the CITY and CONTRACTOR to relay the CITY's comments.

### **TASK 3 – 90% DESIGN AND PERMITTING**

Upon completion of Task 2, the CONTRACTOR shall complete the following design and permitting services.

**Subtask D5.20 – 90% Design** – The CONTRACTOR shall provide a 90% design package to the CITY for review and comment. The 90% design package shall consist of the following:

- Plan and profile view of all pipeline drawings, with all notes, and survey data;
- all detail sheets;
- necessary traffic control plans;
- complete bid documents with construction sequencing and technical specifications (CITY to provide front-end specifications);
- Construction cost estimate;

Following CITY review of the 90% design package, a meeting will be held between the CITY and CONTRACTOR to relay the CITY's comments.

**Subtask E5.10 – Permitting and Encroachment Agreements** – The CONTRACTOR shall prepare permitting applications for CITY review, for the following permits:

- Durham County Land Disturbance;
- Floodplain development permit (for Site 2);
- Durham Public Works Department Plan Review;
- Durham Public Works Department Extension Permit (for Site 2); and
- NCDOT Encroachment Agreement (for Site 2).

Following CITY review and signing of permit applications, CONTRACTOR shall submit applications and associated fees to the permitting agencies. Permitting fees shall be reimbursed by the CITY.

### **TASK 4 – 100% DESIGN**

Upon completion of Task 3, the CONTRACTOR shall respond to any permitting requirements to obtain all required permits, and shall complete the following design services.

**Subtask H7.10 – Bid Package Development** – The CONTRACTOR shall prepare and submit the bid package for CITY use in procurement of a construction contractor for waterline construction associated with Site 1 and Site 2. The final bid package shall include the following:

- Complete set of plans with cover sheet, notes, plan and profile sheets, traffic control plans, and details;
- Bid documents including front-end specifications (from CITY), technical specifications, construction sequencing, geotechnical investigation report; and
- Updated construction cost estimate.

## **TASK 5 – RECORD DRAWINGS**

Upon completion of construction, the CITY shall provide the CONTRACTOR with construction contractor as-built drawings. The CONTRACTOR shall then develop record drawings for CITY approval and certification.

## **TASK 6 – ADDITIONAL SERVICES**

The following services are not included in the Contract, but may be requested by the CITY with associated CONTRACTOR compensation as Not-to-Exceed tasks.

- Services to provide an updated site plan in reference to Site 2 improvements for the Durham Fire Training Facility;
- Bidding, construction contractor procurement, or construction administration services;
- Permit applications beyond those identified in Task 3;
- Meetings beyond those specifically mentioned in the Scope of Services;
- Plan modifications due to CITY or other utility changes, beyond those specifically mentioned in the Scope of Services;
- Certification of Record Drawings; and
- Any unforeseen conditions.

## **ASSUMPTIONS**

Following are assumptions that were used in the development of the Scope of Services and Compensation. Scope and Compensation adjustments may be necessary if these assumptions are incorrect.

1. The CITY will require no further services of the CONTRACTOR following delivery and CITY acceptance of the 100% Contract Documents, other than completing the Record Drawing submittal.
2. Level A SUE services shall be limited to one day of vacuum extraction services.
3. Geotechnical investigation shall be limited to 15 soil borings, with depths up to 10 feet or auger refusal.
4. CITY will provide all as-built drawings from the construction contractor to the CONTRACTOR. CONTRACTOR will not be required to provide any field services in the development of the RECORD DRAWINGS.
5. 30-day notification letters will only be provided to Acadia Street addresses within Site 1. 7-day notifications will only be provided for Level A SUE and soil boring collection activities for Site 1.

## **DELIVERABLES**

The CONTRACTOR shall provide the following deliverables to the CITY:

1. One easement plat (Site 2);
2. 50% design package via electronic delivery (PDF);
3. Eight (8) copies and an electronic (PDF) version of the 90% design package;
4. All permit and encroachment applications for CITY signature;
5. Eight (8) copies and an electronic (PDF) version of the 100% design package; and

6. Completed Record Drawings in a format required by the CITY.

### **CITY RESPONSIBILITES**

The CITY shall perform the following duties for this project:

1. CITY shall provide available data of all CITY utilities within Site 1 and Site 2.
2. City shall provide review comments within two weeks following CONTRACTOR submittal of deliverables.
3. CITY shall provide front-end documents for inclusion in the bid documents.
4. CITY shall conduct all bidding and construction procurement services.
5. CITY shall provide CONTRACTOR with complete as-built drawings from the construction contractor.

### **SCHEDULE**

The Firm's services shall be performed as expeditiously as is consistent with professional skill and care and the orderly progress of the project. The following is the expected schedule for completion of work on this project:

- Task 1 - Completion eight (8) weeks following Notice-to-Proceed;
- Task 2 - 50% Design Deliverable submitted three (3) weeks following Task 1 completion;
- Task 3 – 90% Design Deliverable submitted four (4) weeks following Task 2 approval;
- Task 4 – 100% Design Deliverable submitted two (2) weeks following Task 3 and permit and encroachment approvals;
- Task 5 – Record Drawings submitted two (2) weeks following receipt of as-built drawings from the CITY;

The time limits and schedule set forth above have been agreed to by the CITY and CONTRACTOR, but the time limits and schedule shall be extended for (1) reasonable cause, or for (2) any delays associated with the CONTRACTOR's work on the project that are not the sole responsibility of the CONTRACTOR.

### **COMPENSATION**

CONTRACTOR shall be compensated by the CITY for the SCOPE OF SERVICES described herein as follows:

<b>Task</b>	<b>Not-to-Exceed Fee</b>	<b>Lump Sum Fee</b>
Task 1 – Field Survey and Investigation	\$48,380	
Task 2 – 50% Design		\$12,180
Task 3 – 90% Design and Permitting		\$24,480
Task 4 – 100% Design		\$5,710
Task 5 – Record Drawings		\$3,200
Task 6 – Additional Services	\$5,000	
<b>Totals</b>	<b>\$53,380</b>	<b>\$45,570</b>

The total cost of Not-to-Exceed fees combined with Lump Sum fees is \$98,950.

The Work Task Breakdown associated with the Compensation is provided as Attachment A.

The CONTRACTOR rate schedule to be utilized with “Not-to-Exceed” fee tasks is provided as Attachment B.





## Attachment B McAdams Rate Schedule

1. For contract by hourly charge, the following rates apply:

Chairman, President, Vice President .....	\$275.00/hour
Department Head .....	200.00 – 225.00/hour
Project Manager .....	110.00 – 180.00/hour
Licensed Professional .....	90.00 – 150.00/hour
GIS Technician .....	90.00- 110.00/hour
Design Technician .....	70.00 – 115.00/hour
Project Coordinator .....	80.00/hour
Administrative Assistant .....	65.00/hour
Courier .....	50.00/hour
2 Man Survey Crew .....	110.00 – 135.00/hour
Construction Observer .....	75.00 – 115.00/hour

Hourly services are recorded and rounded to the nearest 1/2 hour.

2. The following charges apply on all contracts, for copies of plans and specifications sent out of the Engineer's office (to Owner, City regulatory agencies, bidders, contractor, other consultants, etc.):

Oversize and color		
Reproductions .....	\$3.00/each	Oversize Mylar Sepia \$15.00/each
Paper reproductions .....	2.00/each	Mylar Sepia .....
Specifications .....	0.10/page	Paper Sepia .....

3. The following rates are charged in addition to the above fees:

Outside Photocopying, Travel, Overnight Delivery,	
Postage for Mass Mailings .....	Cost Plus 5%
Subcontractor Invoices .....	Cost Plus 5%

4. Fees are subject to adjustment at the beginning of each calendar year.
5. Projects are billed on a monthly basis and invoices are due upon receipt. Invoices which have been not been paid within 30 days are past due and subject to finance charges of 1.5% per month.

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