

Mr. Jay Guffey, PE  
Project Manager  
City of Greensboro  
Water Resources Department  
2602 S. Elm-Eugene Street  
Greensboro, NC 27406

Arcadis G&M of North Carolina,  
Inc.  
7029 Albert Pick Road  
Suite 101  
Greensboro  
North Carolina 27409  
Tel 336 292 2271

Subject:

Greensboro, North Carolina  
Birch Creek Water & Sewer Extension Design and Bidding Phases:  
COG Contract No. 2018-0420  
**Proposal For Amendment No. 1 – US 70 Outfalls**

WATER

Date:

February 8, 2019

Contact:

David Hamilton

Phone:

336.443.2472

Email:

david.hamilton  
@arcadis.com

Our ref:

GRGRN400.D001

**ARCADIS G&M of North Carolina, Inc.**

NC Engineering License # C-1869

NC Surveying License # C-1869

Dear Mr. Guffey:

Arcadis G&M of North Carolina, Inc. (Arcadis) is currently providing engineering services under the above referenced City Contract for the Birch Creek Water and Sewer Extension project. Our project scope has evolved, at the direction of the City, to incorporate design of the sewer outfalls that cross the Publix property and serve US 70 and north of US 70. The line will be extended from the original design. The additional scope of work includes the design, permitting and bidding of approximately 2,600 LF of 12 inch sewer line on the western portion of the Publix property up to and crossing US 70, 800 LF of 12 inch sewer line continuing north of US 70, and 2,600 LF of 18 inch sewer line on the eastern portion of the Publix property up to and crossing US 70.

## Design Phase

Design services will begin with a preliminary design. The preliminary design phase will generally identify the “basis of design” for the water main and gravity sewer (route, anticipated utility conflicts, property and regulatory concerns, etc.). This phase will generate preliminary drawings for the City’s approval.

During the final design phase of this project, detailed drawings and specifications, contract documents, and an estimate of the overall construction cost will be prepared and provided to the City. The design phase also includes

a detailed quality assurance review by an experienced quality control engineer with Arcadis. The design phase will conclude by addressing any comments received from the quality assurance review, the review with the City, and the review by regulatory agencies required for Authorization to Construct.

Specific tasks anticipated for these phases include the following:

#### **Task A. Communications**

1. Meet initially with the City to review and finalize design scope and mutually agreeable schedule.
2. Meet with City staff and officials and others throughout the design phase (particularly at approximately 30% (Preliminary Design completion), 60% and 90% completion as a minimum) and develop and distribute meeting minutes.
3. Communicate as needed with various project stakeholders (utility companies, regulatory agencies, etc.).

#### **Task B. Survey**

1. Surveying services will be provided in coordination with JC Waller and Associates, PC. Cartographic Aerial Mapping, Inc. will provide sub-consultant services to JC Waller.
2. Utilize horizontal survey control along the project route to Class AA boundary survey specifications as defined in the Standards of Practice for Land Surveying in North Carolina, NCAC Title 21, Chapter 56.1600 and based on NAD 83. The horizontal control survey will be coordinated with the City's Engineering and Inspections Department staff to facilitate their work in regard to additional horizontal control for property acquisition, and eventual construction staking.
3. Utilize vertical control along the project route to Class A vertical control survey specifications as defined in the Standards of Practice for Land Surveying in North Carolina, NCAC Title 21, Chapter 56.1600 and based on NAVD 88.
4. Notify potentially affected property owners 30 days prior to accessing their property.
5. Perform location surveys of planimetric features by aerial photography followed by ground survey to confirm location of existing objects in the proposed utility construction corridor.
6. Develop topographic information along the proposed water main and gravity sewer routes.
7. Locate buried utility designation markings within the project corridor and indicate those crossings as required. Locate conflicting utilities vertically based on vacuum excavations to expose the utilities.
8. Horizontally and vertically locate nearby sanitary and storm sewer structures needed to evaluate potential conflicts with sewers that cross the proposed utilities.

#### **Task C. Preliminary Design**

1. Determine the gravity sewer routes based upon actual field conditions.
2. Identify regulatory requirements/restrictions for the gravity sewer improvements related to streams/buffers and wetlands, sewer extension, road right-of-way encroachments, etc.

3. Develop base plan and profile sheets in a format consistent with City standards and indicating locations of potential conflicts/obstacles.
4. Develop preliminary table of contents for the basic technical specifications sections anticipated.
5. Furnish a preliminary opinion of probable construction cost for the project based on the 30% drawings.
6. Provide three (3) sets of preliminary drawings, specifications table of contents, geotechnical report, and cost opinion for City review.

#### **Task D. Final Design Construction Contract Documents Development**

1. Prepare final drawings and specifications to define the scope, extent, and character of the work to be performed by contractors. It is assumed that the design for this amendment scope will be included with the construction documents for the original scope and bid as a single construction project.
2. Reference the City's standard construction drawing details where available and develop additional project-specific drawing details as needed.
3. Develop material and equipment specifications, bidding documents, general and supplemental conditions, contract agreement forms, etc. in concert with the City Master specifications and the City staff input. Develop project-specific specifications as needed.
4. Identify and show property owner information on the drawings. House/building numbers will be added where applicable.
5. Indicate required permanent and temporary utility easement widths associated with the improvements.
6. Complete in-house quality and constructability reviews. Revise documents and submit them to City staff for review and approval.
7. Furnish an itemized opinion of probable construction cost for the project based on the final drawings and specifications in the City's bid form (bidder proposal) format.
8. Provide three (3) sets of final drawings and specifications for City's use.

#### **Task E. Regulatory Permitting**

1. Prepare applications, technical criteria and design data for use in obtaining regulatory agency approvals. It is assumed that the design and documentation for permitting this amendment scope will be packaged with the original scope for permitting applications and approvals. Submittals will be required for:
  - a. NCDEQ-Division of Water Resources (sanitary sewer extension permit)
  - b. NCDEQ-Division of Water Resources and USACE (PCN for 401/404 permit)
  - c. NCDEQ-Division of Energy, Mineral and Land Resources (erosion control permit)
  - d. NC Department of Transportation (encroachment agreements)
  - e. COG-Engineering (Construction Drawing review)

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2. Prepare applications, technical criteria and design data for use in obtaining property right-of-way encroachment approvals from affected utility companies (e.g. gas and telecommunications encroachments).
3. Coordinate the payment of all other regulatory agencies application fees to be paid by the City.
4. Furnish copies of the drawings and specifications for agency review purposes.
5. Respond to any comments received from review agencies.

### **Easement Mapping and Legal Descriptions**

1. Prepare easement documents to include individual easement maps as required by City of Greensboro for up to four (4) affected private properties, including metes and bounds descriptions of easement on each property in conformance with the City standards. These documents will be prepared by JC Waller and Associates, PC (sub-consultant to Arcadis) and will be suitable for recordation. We have noted that the properties are quite large, so significant easement effort is expected.
2. The scope of services will include conversations and meetings with the City or property owners throughout the property/easement acquisition phase. Design drawing changes, revisions to regulatory permits or applications, or significant easement adjustments resulting from property/easement negotiations with the property owner will be considered additional services and eligible for additional fee. Advance notice will be given to the City as these occurrences are foreseen.

### **Bidding Phase Services**

Arcadis will perform Bidding Phase services as needed in accordance with the original contract. It is assumed this amendment scope will be bid with the original scope as a single construction contract.

### **Responsibilities of the City**

It is our understanding that the City will have the same responsibilities for this amendment scope as described for the original contract scope.

### **Fee Proposal**

ARCADIS proposes to provide the above engineering services according to the terms of the existing On-Call Services agreement on a time and materials fee basis with a 3.2 multiplier on direct labor, plus expenses at a 1.0 multiplier, for the maximum estimated fee of \$275,000. The contract maximum fee will not be exceeded without prior authorization by the City. The fee estimate is itemized below.

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Mr. Jay Guffey, PE  
 City of Greensboro  
 February 8, 2019

Phase/Task	Estimated Fee
Design Phase-Amendment 1	
Design (Arcadis)	\$215,441
Survey – Aerial (CAM)	\$16,219
Survey – Location (JCW)	\$24,290
Geotech (S&ME)	\$7,000
Design Subtotal	\$262,950
Easement Phase (JCW)	\$12,050
Total	\$275,000

Reimbursable expenses are described as follows:

1. Mileage and associated travel costs for employees working on the project at current IRS-approved rate per mile. Rental car costs associated with staff traveling to the project site from other offices.
2. Hotel and meal costs associated with overnight stays for staff from other offices being in Greensboro to work directly on the project.
3. Reproduction of project-related materials by outside vendors.
4. Postage and shipping charges associated with the project.
5. Subcontractor expenses at a multiplier of 1.1.

Fees for Construction Administration Phase engineering services for the improvements are considered additional services and associated scopes and fees will be negotiated after the City’s review and acceptance of the Final Design or when requested.

We look forward to assisting the City of Greensboro in providing these services. If this proposal meets your approval, please provide a Supplemental Agreement to our existing Agreement for Professional Services for execution. We and our sub-consultant team thank you for this opportunity.

Sincerely,

Arcadis G&M of North Carolina, Inc.



David Hamilton, PE  
 Project Manager

Copies:

- Ms. Virginia Spillman, PE (COG)
- Mr. Jeremy McCall, PE (Arcadis)

*This proposal and its contents shall not be duplicated, used or disclosed — in whole or in part — for any purpose other than to evaluate the proposal. This proposal is not intended to be binding or form the terms of a contract. The scope and price of this proposal will be superseded by the contract. If this proposal is accepted and a contract is awarded to Arcadis as a result of — or in connection with — the submission of this proposal, Arcadis and/or the client shall have the right to make appropriate revisions of its terms, including scope and price, for purposes of the contract. Further, client shall have the right to duplicate, use or disclose the data contained in this proposal only to the extent provided in the resulting contract.*