

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

Arcadis G&M of North Carolina,
Inc.
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North Carolina 27407
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Subject:

Proposal for Engineering Services
Birch Creek Water and Sewer Extension Design and Bidding Phases

WATER

Date:
May 24, 2018

Dear Mr. Guffey:

Arcadis G&M of North Carolina, Inc. (Arcadis) is pleased to submit this proposal to provide engineering services for the Design and Bidding Phases of the Birch Creek Water and Sewer Extension improvements project.

Contact:
David Hamilton, PE

ARCADIS will work with sub-consultants JC Waller and Associates, PC, Cartographic Aerial Mapping, Inc., and S&ME, Inc. to perform these services. M/WBE participation from these firms is expected to be approximately 20%.

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A separate proposal for Construction Phase services will be submitted following completion of the 90% submittal of Final Design Phase, or when requested.

ARCADIS G&M of North Carolina, Inc.

NC Engineering License # C-1869
NC Surveying License # C-1869

Project Considerations

The City of Greensboro is anticipating commercial/industrial development in their service area east of the City, south of US Hwy 70 (Burlington Road) and on each side of Birch Creek Road. The City plans to provide water and sewer service via trunk mains both on site (water) and off site (sewer) of the development. The water main is anticipated to be approximately 3,600 LF of 16-inch and traverse across the development site to loop with existing City water mains. Since the expected development area is located within a drainage basin tributary to Little Alamance Creek, sewer service will be provided by gravity to the existing 24-inch sewer outfall that crosses I-85 and ultimately connects to the Stewart Mill Lift

Station (under construction). Approximately 9,600 LF of 12-inch, 18-inch, and 21-inch gravity sewer will be required off-site for this service.

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 water main and gravity sewer routes based upon actual field conditions.
2. Provide subsurface utility location services (includes up to 10 soft digs).
3. Provide geotechnical services via a sub-consultant (includes up to 10 soil bores).
4. Identify regulatory requirements/restrictions for the water main and gravity sewer improvements related to streams/buffers and wetlands, sewer extension, water system construction, road right-of-way encroachments, floodplain development, etc.
5. Develop base plan and profile sheets in a format consistent with City standards and indicating locations of potential conflicts/obstacles.
6. Develop preliminary table of contents for the basic technical specifications sections anticipated.
7. Furnish a preliminary opinion of probable construction cost for the project based on the 30% drawings.
8. 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.
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. 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)
 - f. COG-Stormwater Services (Floodplain Development permit)
 - g. FEMA/NCFMP (Flood Insurance Rate Map revision/CLOMR).
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. Perform floodplain modelling based on post-construction conditions, prepare Conditional Letter of Map Revision and submit application and backup data to FEMA for approval, and provide \$6,750 CLOMR application fee.
 4. Coordinate the payment of all other regulatory agencies application fees to be paid by the City.
 5. Furnish copies of the drawings and specifications for agency review purposes.
 6. 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 fifteen (15) 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 the following as needed:

1. Provide information, including drawing sets (two full size and two half size) and Project Manual (two copies) as well as .pdf files of the complete Bidding Documents, to City for advertising as requested.
2. Attend and participate in Pre-Bid conference.
3. Assist City in issuing Addenda as appropriate to clarify, correct, or change the Bidding Documents.
4. Conduct "or equal" reviews of materials or equipment requested during the bid phase in accordance with the construction contract documents. Assumes 2 "or equal" item reviews.
5. Attend Bid Opening (up to 2 meetings) and assist City in evaluating Bids, and negotiating when needed, for the construction work as requested, including a recommendation on bid acceptance based on whether bidder is responsive and responsible and whether bidders' historical performance is acceptable.

6. Consult with City as to the acceptability of subcontractors, suppliers, and other individuals and entities proposed by Contractor for those portions of the Work for which such acceptability is required by the Bidding Documents.
7. If a re-bid is required, those services will be considered eligible for negotiation with the City as additional services.

Responsibilities of the City

It is our understanding that the City will be responsible for the following:

1. Furnish available information pertinent to the project to allow ARCADIS to provide the scope of services contained herein.
2. Provide information pertaining to major material and equipment selection preferences for the project.
3. Assist in locating and clearing existing City utility R/W's as requested and at times convenient to the City.
4. Provide existing record drawings and existing utility mapping in either AutoCAD (.dwg) or GIS (shape file) format. Information will include digital orthophotography, property lines, contours, existing sanitary sewer, storm sewer, and water line locations, stream locations, and other data that may be available.
5. Pay for all fees associated with various regulatory review submittals, except the FEMA CLOMR fee which is to be paid by Arcadis.
6. Provide, as required for the project, accounting, financial, insurance, or legal advisory services to address issues that the City requires or ARCADIS reasonably requests.
7. Advise ARCADIS of associated project issues as they arise, such as changes in scope or schedule.
8. Attend project meetings as necessary for timely information exchange and decision-making.
9. Give prompt notice to ARCADIS when City becomes aware of any environmental condition (hazardous or otherwise), or other developments that affect scope or schedule of services provided by ARCADIS.
10. Provide private property-owner public outreach as necessary. ARCADIS' private-property-owner public outreach involvement will be provided as additional services if requested.

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 \$800,000. The contract maximum fee will not be exceeded without prior authorization by the City. The fee estimate is itemized below.

Mr. Jay Guffey, PE
City of Greensboro
May 24, 2018

Phase/Task	Estimated Fee
Design Phase	
Design (Arcadis) including FEMA permit fee	\$602,000
Survey – Aerial (CAM)	\$23,000
Survey – Location (JCW)	\$53,000
Geotech (S&ME)	\$20,000
Design Subtotal	\$698,000
Easement Phase (JCW)	\$92,000
Bidding Phase (Arcadis)	\$10,000
Total	\$800,000

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 very much for this opportunity.

Sincerely,

Arcadis G&M of North Carolina, Inc.



David Hamilton, PE
Project Manager, Vice President

Copies:

Ms. Virginia Spillman (COG)

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.