

“Attachment A”

June 14, 2016

City of Greensboro
Department of Water Resources
Greensboro, NC 27402-3136

Attn: Mr. Danny Briggs, EIT (danny.briggs@greensboro-nc.gov)
Senior Civil Project Manager

**Reference: Proposal for Engineering Services
Construction Support Services
Phase II: Mitchell Filter Plant Structural and Basins Repairs**
City of Greensboro Mitchell Water Treatment Plant
SKA Project No. 120122.4
SKA Proposal No. 2016-112-045

Dear Mr. Briggs:

SKA Consulting Engineers, Inc. (SKA) respectfully submits this proposal to the City of Greensboro Department of Water Resources (COG) for engineering services associated with the bidding and construction phases of the project known as Phase II: Mitchell Filter Plant Structural and Basins Repairs (the project).

This proposal summarizes the relevant background information, general scope of repairs, our proposed engineering services, proposed compensation, and limitations of service.

Background:

In 2012, COG contracted with SKA to conduct a condition assessment and evaluation of the structural concrete components at the water treatment plant, including those in the building and as part of the exterior basins. As a result of that assessment, a two phase approach was chosen for addressing structural and durability repairs at the building interior and exterior structural components. Design of Phase I (Mitchell Filter Plant Structural and HVAC Improvement Project) which began in 2013 was focused on building components. This included structural concrete floor and beam replacement at the hypochlorite room and lintel repairs as part of SKA's scope; and additionally included architectural enhancements, HVAC and systems renovations and other renovations by two other design firms. These repairs and renovations were conducted 2014-2015. This current phase of work (Phase II) governed under this proposal is focused on repair and preservation of structural concrete at exterior basins and associated bridges and slabs.

QUALITY. INTEGRITY. INNOVATION.

Structural Mechanical–Electrical–Plumbing–Fire Protection Building Solutions–Roofing–Waterproofing



Design associated with Phase II (basins) was completed as part of the original contract. Phase I Design and Construction and Phase II design was included under the original contract, as modified by separate and supplemental agreements (COG Contract 2013-039; SKA Proposal No 2013-112-016; SKA Project No. 120122.1 and 120122.3).

The next steps in the repair process are to prequalify bidders, obtain competitive bids for the work, execute contracts for the work, and execute Phase II of the project. We understand that COG is requesting that SKA provide engineering services during the bidding and construction phases of the project.

This proposal also requests consideration for overages incurred from Phase I as a result of extended project duration and close-out, and overages for Phase II design based on expansion of the scope of work.

Summary of Repairs

The scope of the repairs currently included in the project is summarized as follows (as described in the 4/25/2016 progress set of drawings):

1. Cementitious bonded overlay on top, bottom and side surfaces of elevated concrete slabs and beams.
2. Cementitious bonded overlay on walls and foundation slabs of sedimentation and flocculation basins.
3. Cementitious bonded overlay at posts and corbels.
4. New bridges over sedimentation basins.
5. New rails at areas where rails are removed as part of the project or required for new walkways.
6. Unit price repairs associated with concrete repairs, additional reinforcing, splices and galvanic anodes.
7. Alternates incorporated into the Bid Documents include the following:
 - a. Alternate 1: Cementitious bonded overlay on surfaces of existing concrete foundation slabs – six sedimentation basins.
 - b. Alternate 2: Removal and replacement of the reinforced concrete slabs over sluice valves at elevation 764.50.



- c. Alternate 3: Removal and replacement of the elevated concrete slabs at existing sluice valves at elevation 764.50 and at elevation 759.67.

Proposed Engineering Services

SKA proposes to perform the following services:

1. Pre-Bidding Phase

- a. Incorporate scope of work in project drawings associated with new bridge platforms requested by COG.
- b. Develop estimates of the probable cost for the project based on progress drawings.
- c. Meet with COG to review drawings and specifications.
- d. Issue a final set of Bid Specifications and Drawings.

2. Bidding Phase

- a. Assist with developing a list of prequalified Bidders. This process includes review of prequalification information as submitted to SKA and participation in preliminary conversations and/or conference calls with prospective bidders as requested.
- b. Attend and lead the technical portions of a Prebid Conference at Mitchell Water Treatment Plant with prequalified Bidders. Provide minutes and an addendum resulting from the Prebid Conference.
- c. Answer technical questions from Bidders and issue addenda (if necessary) during the bidding process.
- d. Review Bid Proposals and provide commentary relevant to selecting members of the construction team.

3. Construction Phase

- a. Make final revisions to the project documents (reflecting Alternates chosen/not chosen, information from addenda, and any other changes) and issue Construction Documents.
- b. Attend and lead the technical portions of the Preconstruction Conference.



- c. Review technical submittals (and re-submittals) and provide feedback to contractor.
- d. Review proposed warranties for compliance with the project documents and provide feedback to the project team.
- e. Attend Pre-Installation Meetings for the primary components of the construction.
- f. Participate in monthly project meetings to be scheduled with regular inspections. Issue meeting minutes for progress meetings.
- g. Review RFI's and provide responses.
- h. Provide technical guidance to the contractor for implementing design.
- i. Review pay applications and change order requests. Provide recommendations to the Owner. Issue associated work change directives and change orders.
- j. Conduct construction site visits to perform observations, monitor quantities for unit price work and review of visible portions of the on-going construction. Provide field reports with photographs to COG and Contractor with site observations and guidance for following the design and direction and correcting observed deficiencies. Issue directives as necessary.
 - i. This proposal includes heightened field presence during more involved portions of the work. This is defined as thirty (30) to forty (40) hours per week during normal Monday-Friday business hours, including field report preparation time for a duration of twenty (20) weeks during the project.
 - ii. This proposal includes periodic site visits during slower portions of the work by SKA or a subcontractor, assumed to be fifteen (15) to twenty (20) partial day site visits.
 - iii. This proposal includes fifteen (15) to twenty (20) periodic site visits by the Project Engineer, potentially concurrent with other described site visits.
 - iv. These visits include participating in the final inspection.



- k. A portion of this work will be subcontracted to an MWBE firm meeting the requirements of the City of Greensboro.
 - i. Engage an MWBE firm and incorporate into the Construction Phase (Item 3) to conduct site visits to observe and report on construction activities. This will include a minimum of twenty (20) site visits, each approximately six (6) to eight (8) hours long, with associated field reports.
 - ii. It is expected that Critik Engineering Group (1 Centerview Drive, Suite 307, Greensboro, NC 27407: 336-348-1889), will be subcontracted by SKA to perform this work.
- l. Maintain a project ShareFile Website with project correspondence.

4. Project Close-Out Phase

- a. Assist COG with project close-out.
- b. Review the As-Built documents (from the construction team) and incorporate that information into a set of Record Documents. Issue the Record Documents.

5. Additional Services Reserve. It is the nature of Repair Projects that many unknowns must be addressed in the course of the project. Additional engineering services are typically necessary for varying reasons. Our proposed fees include an estimate for unforeseen services that may include one or more of the following:

- a. As authorized, provide support for resolution of hidden or unforeseen conditions, or additional work associated with contractor inefficiency, rejected submittals, additional review of non-compliant work, inclusion of other scope items at Owner's request, or other non-scope items.
- b. Additional meetings (beyond what is included above).
- c. Additional site visits, time on site, or directives based on non-compliant work, delays, weather, or hidden or unforeseen conditions.
- d. Additional time beyond the estimated project duration or work conducted into 2018.
- e. Testing services.



- f. Other services as requested by The City of Greensboro.
- g. The Additional Service Reserve will only be used as requested in writing by the City of Greensboro.

Proposed Compensation

SKA proposes to provide the services described in the Proposed Engineering Services in exchange for fees equal to the number of hours expended by SKA employees multiplied by SKA's Standard Billing Rates plus reimbursable expenses.

SKA's fees will be invoiced monthly. SKA's Standard Billing Rates are subject to revision on January 1 of each year (after which time, the new rates apply). Typical reimbursable expenses will include Sharefile administration costs. SKA's Standard Billing Rates are attached and describe the administrative fees associated with reimbursable expenses.

SKA will subcontract a portion of the construction observations associated with Item 3 to a third-party MWBE firm. There is a 10% administrative mark-up for the subcontracted work. The MWBE sum (Item 3k) will be at least 10% of our billed services and is currently estimated to be a total of \$30,000. We plan for Crittek to assist us with Construction Phase services as described in Items 3j and 3k (above). SKA will denote the MWBE participation services on our invoices.

Estimates for our fees have been provided in the table below. The total estimate as listed is a 'Not to Exceed' amount that shall not be exceeded without written authorization of the COG:

Service	Engineering Service Item No.	Estimated Fee
Pre-Bidding Phase	1	\$15,000
Bidding Phase	2	\$10,000
Construction Phase	3	\$220,000
Project Closeout Phase	4	\$10,000
Additional Services Reserve *	5	\$40,000
Total Not To Exceed Amount (Sum of Items 1-5)		\$295,000.00

* The Additional Service Reserve (Item 5) will only be used as requested in writing by the City of Greensboro.



Limitations of Service

SKA's proposed services are subject to the following limitations:

1. SKA's proposed scope of services is based on the Summary of Repairs described in this proposal. Services for additional repairs may incur additional engineering fees.
2. Pre-Bidding Phase: This phase includes only the design changes specifically noted herein. Additional design changes will be additional services.
3. Bidding Phase: A single bid process is anticipated and included in the fee estimates within this proposal. If requested, SKA would participate in subsequent bid periods (if any) with the understanding that additional fees may be incurred for revision of Bid Documents and additional bidding services.
4. Construction Phase: The proposal is based on an eight (8)-month duration for the Construction Phase (including all services described in Item 2 of the Proposed Engineering Services herein). Furthermore, this proposal assumes construction will take place fall 2016 through summer 2017. If the project extends beyond the 8-month period or occurs within a different year, additional engineering fees may be incurred.
5. Project Closeout Phase: The proposed scope of service includes one (1) pre-final, one (1) final inspection of the work, and one (1) meeting with the City to finalize the closeout process. Additional inspections and/or meetings are additional services.
6. Surveys conducted during design at representative areas are for the purpose of estimating quantities of repairs by extrapolating results with an added level of contingency. The difference between distressed areas and actual concrete repair areas depends on geometry and level of interior deterioration. Additional deterioration may develop in the time between design and construction. Thus, actual repair areas may be greater than or less than those developed during design. Distressed areas will be identified in the field during construction under the framework of the repair contractor's scope of work.
7. Deterioration of water treatment facilities is an on-going process. It should be expected that maintenance will be required and additional repairs will be necessary in the future. SKA understands that budgeting constraints may require that some of the anticipated repairs are prioritized and deferred. Deferred areas not included as part of this project will require monitoring and may require repair in the near future. Services for assessment, monitoring, design, etc. for deferred areas are not included in this proposal.



8. The proposal does not include any testing or laboratory services by third parties. Contractor assistance with review of conditions is also not included.
9. SKA endeavors to identify conditions that require correction; however, cannot guarantee that all such issues, visible or hidden, will be identified as part of this repair project.

SKA Consulting Engineers, Inc. (SKA) appreciates the opportunity to provide this proposal. Please let us know if you have any questions regarding this proposal.

Sincerely,

SKA CONSULTING ENGINEERS, INC.

A handwritten signature in blue ink that reads "David G. Tepke".

David G. Tepke, Technical Specialist, PE
Building Solutions Group

A handwritten signature in blue ink that reads "Stephen P. Robinson".

Stephen P. Robinson, PE
Vice President

Attachments – (in order)

Signature Page

COG Supplemental Agreement

MWBE Professional Services Certification

Attachment A –Proposal Letter (with attachment – Billing Rate Sheet with Reimbursable Expenses)

SKA Certificate of Professional Liability

SKA Certificate of General Liability plus Endorsement Page

cc: File, RGK, CLV, LLR



CHARGE AND BILLING RATES FOR 2016

	<u>RATE PER HOUR</u>
SENIOR ENGINEERING CONSULTANT	\$ 246.00
SENIOR GROUP MANAGER	\$ 204.00
GROUP MANAGER	\$ 192.00
GROUP DIRECTOR	\$ 166.00
SENIOR TECHNICAL SPECIALIST, P.E.	\$ 187.00
TECHNICAL SPECIALIST, P.E.	\$ 132.00
SENIOR PROJECT MANAGER, P.E.	\$ 158.00
PROJECT MANAGER, P.E.	\$ 142.00
SENIOR ANALYST	\$ 134.00
SENIOR PROJECT ENGINEER, P.E.	\$ 124.00
STRUCTURAL ANALYST	\$ 112.00
PROJECT ENGINEER, P.E., II	\$ 122.00
PROJECT ENGINEER, P.E., I	\$ 111.00
ENGINEERING INTERN IV	\$ 108.00
ENGINEERING INTERN III	\$ 100.00
ENGINEERING INTERN II	\$ 93.00
ENGINEERING INTERN I	\$ 84.00
SENIOR TECHNICAL SPECIALIST	\$ 111.00
TECHNICAL SPECIALIST, E.I.	\$ 100.00
TECHNICAL SPECIALIST	\$ 86.00
GRADUATE INTERN	\$ 81.00
FIRE PROTECTION SPECIALIST	\$ 117.00
SENIOR DESIGNER II	\$ 130.00
SENIOR DESIGNER I	\$ 114.00
DESIGNER	\$ 109.00
ROOFING TECHNICAL SPECIALIST	\$ 101.00
TECHNICIAN III	\$ 90.00
TECHNICIAN II	\$ 79.00
TECHNICIAN I	\$ 59.00
TECHNICIAN	\$ 54.00
CLERICAL	\$ 72.00



2016 REIMBURSABLE EXPENSES

Subconsultants:	Cost + 10%
Postage:	Cost + 10%
Prints/Plots: Bond	\$ 1.75/each
Copies : (8 ½" x 11" - Black & White)	\$ 0.08/each
Copies : (Color)	\$ 0.50/each
Travel: Motel, Airfare, Rental Car, Parking	Cost + 10%
Per Diem	\$ 53.00/day
Mileage	\$ 0.64/Mile

EQUIPMENT/TESTING

Group 1 (\$25): Items including Laser Level Survey (per day), M-Scope Metal Survey (per day), Use of On-Site Small Power Tools (per day), Wood or Concrete Surface Moisture Content Testing (per day), AAMA 501.2 Nozzle Testing (per day), Concrete Chloride Content Testing by the RCT Field Method (each), Powder Extraction from Concrete (each) and similar testing items and equipment

Group 2 (\$50): Items including Borescope Testing (per day), Calcium Chloride Moisture Tests (each) and similar testing items and equipment.

Group 3 (\$100): Items including Concrete Relative Humidity Testing (each) and similar testing items and equipment.

Group 4 (\$250): Items including Concrete Resistivity Testing (per day with weekly maximum of \$500), Concrete Cover Testing (per day with weekly maximum of \$500), Window/Door Air Testing (per day), Spray Rack Test (ASTM E1105) (per day), Blower Door Testing (per week), Infrared Testing (per hour with \$500 minimum charge), Brick Chamber Test (per day), and similar testing items and equipment.

Group 5 (\$500): Items including Concrete Half-Cell Testing (per day with weekly maximum of \$1,000), and similar testing items and equipment.

Purchased or Rented Equipment: Cost + 10%

Other Testing or Equipment: As Indicated in Proposal