



Hazen and Sawyer
4011 WestChase Boulevard, Suite 500
Raleigh, NC 27607 • 919.833.7152

June 21, 2017

Monica Jarrett, EI
Utility Design Engineer, Department of Water Resources
City of Greensboro
2602 S. Elm-Eugene St.
Greensboro, NC 27406

Re: Scope and Fee Proposal for Preconstruction, CM and RPR Services for the CMAR Package 4 Electrical Project

Dear Ms. Jarrett:

Hazen and Sawyer is pleased to submit the enclosed proposal to provide Design, Construction Management and Resident Project Representative Services as described below for the TZ Osborne WRF Package 4 Major Electrical and NPW Pump Station and Electrical Upgrades Project delivered by the Construction Manager at Risk (CMAR) method.

The scope of the CMAR as defined in meetings with the City of Greensboro shall include the previously completed NPW Project and associated electrical upgrades and all 5kV electrical components as associated with Package 4 including:

- Medium Voltage (5kV) Electrical Switchgear
- Medium Voltage Unit Substation
- Termination Cabinets
- Motor Control Centers
- Masonry Electrical Buildings to house switchgear and MCCs
- Associated ductbank, conduit, and wiring

The Contract break between the CMAR project and Package 4 will be at manholes placed outside the electrical buildings.

The following major tasks are anticipated as part of this project:

1. CMAR Selection Assistance
2. Engineering Pre-Construction Services
3. Construction Field Services
4. Construction Office Services

1. CMAR Selection Assistance

CMAR Selection Process – Hazen will provide support to the City to assist in writing the Request for Qualifications, manage all questions from interested construction managers during the advertisement period, review financial statements submitted and call all references provided by the potential CMs in the SOQ. We will be available during the selection process to the committee to help coordinate scoring sheets and answer questions. Hazen will provide assistance as required to the City to help with scope

preparation with the CMAR in understanding the project and the requirements to maintain plant operations during construction. Hazen will break down the delineation between Package 4 and the CMAR scope.

2. Pre-Construction Services

Contract Kickoff Meeting & MWBE Outreach – Hazen will prepare a presentation to describe the scope of the project in detail to the CMAR and will also be present at an MWBE Outreach meeting given prior to the subcontractor prequalification submittal deadline.

Repackaging of Contract Documents for CMAR – Hazen and Sawyer will develop a drawing package to provide to the CMAR. The drawing package will consist of the following parts:

- CMAR Scope Package 4 Major Electrical
 - Drawings will be created to show work required in the CMAR package. All Package 4 information not included in the CMAR scope (such as NRCY pump VFDs and PLCs located in the BNR Electrical Buildings) will be shown as work to be completed by Others. Consequently, the Package 4 drawings will also require modifications to show the CMAR scope to be performed by Others.
 - Package 4 Technical Specifications will be repurposed for the CMAR project but project specific specifications such as the Front End Documents and 01520-Maintenance of Plant Operations (MOPO) will be revised to address the CMAR project specifically. Package 4 specifications will also be revised accordingly.
- NPW Contract Drawings
 - Hazen and Sawyer will provide Volume I (by Chester Engineers) and Volume II (by Hazen) Contract Drawings and Specifications created for the project originally to the CMAR as separate packages. Changes to these documents to accommodate the CMAR are expected to be minor however, some fee will be included to modify the MOPO as required by the CMAR.

Informal Value Engineering Evaluation and Comment Incorporation– Hazen will evaluate all VE opportunities presented by the CMAR and will provide suggestions to the Team for implementation.

Subcontractor Prequalification Process – Hazen will assist the CMAR and provide reviews of the prequalification documents. Hazen will not perform a full review of the qualification packages, but will be available to provide comments and input on the qualifications packages. Hazen will plan on attending one meeting to review of the qualifications packages that are submitted after review of the packages by the CMAR.

Equipment Package Selection – Hazen will work with the CMAR to produce equipment packages for pre-purchase by the CMAR. Once the CMAR receives bids, Hazen will participate in the selection process by evaluating the bid packages and will provide a recommendation on selection. Once the major electrical equipment is selected, Hazen will review all submittals from the equipment manufactures and provide comment based on the requirements of the drawings and specifications.

Work Packages – Hazen will participate as needed to assist the CMAR in breaking down work packages. Hazen assumes the CMAR will cover most of this effort, and proposes up to 8 hours of review and meeting attendance.

MWBE Outreach Workshop – Hazen will be available to give a presentation on the project during the bid period if desired and answer any questions potential contractors may have.

GMP Negotiation – Hazen will be available to assist the Owner in negotiations if desired.

3. Construction Field Services

Inspection Services: Hazen will provide part-time inspection services for the CMAR portion of the work as detailed below

Field Inspection Services are intended to be billed by the hour at a negotiated rate with a not to exceed ceiling.

- The Resident Project Engineer (RPR) will intend to spend up to 12 hours per week on average for 40 weeks working with the CMAR team and their subcontractors in the field and bill at the Sr. RPR rate in Table 2.
- James Houk will serve as the lead resident inspector for the CMAR project and will be responsible for observing the work ensuring quality control during construction. He will intend to dedicate 20 hours per week for 40 weeks on this project and bill to the RPR rate in Table 2.
- We have reserved funds to hire an intern to work with the project team during construction for a time period of 20 hours per week for 16 weeks.
- John Davenport Engineering, Inc. is a minority subconsultant to Hazen and Sawyer and will provide approximately 11 hours per week of inspection for 52 weeks on the CMAR project and another 9 hours per week on a separate NPW Pump Station project, previously under contract, for a total of 20 hours per week commitment.

4. Construction Office Services

Construction Phase services will also include the Office services as described below.

Construction Clarification, Work Changes and Claims: Hazen and Sawyer will review, in partnership with the City of Greensboro, all questions requested by the CMAR (RFI's) and all construction related claims resulting from the work. Hazen will prepare Work Change Directives and Change Orders documentation when necessary.

Shop Drawings and Submittals: Hazen expects to review administrative submittals including the baseline progress schedule, shop drawing schedule, schedule of values, monthly progress schedule updates, and monthly progress payment requests at a minimum. Hazen expects limited shop drawing review on this phase of the project.

Meetings: Hazen will organize, prepare agendas, record meeting minutes and conduct progress meetings from the pre-construction meeting to the end of the 9 month project. Meetings will also include onsite Contractor coordination meetings and operations meetings as required by the City. For budgetary purposes 24 meetings are anticipated.

Construction Materials Testing: Hazen excludes all third party construction materials testing required from this contract but is expected to work with the City's selected testing agency for coordination when needed. Hazen will aid in selection and review of scope for this contract if desired by the City.

Startup and Testing: Hazen will provide technical support during startup and testing of all equipment associated with the project. Hazen will also provide support and coordination with CITI to program and commission all SCADA required and will review new screens for the proposed pump station. This cost will be included in shop drawing review and Inspection Services.

Record Drawings: Hazen will prepare record drawings for Hazen's design scope and coordinate with the CMAR to provide a comprehensive document for the project. Hazen anticipates the level of effort to be approximately 80 man hours total to prepare, review and issue these documents.

Hazen and Sawyer is pleased to partner with John Davenport Engineering, Inc. and Westcott, Small & Associates, PLLC as a subconsultant for the construction phase services for the above referenced project. Both Davenport (M) and Westcott, Small (W) are City approved M/WBE consultants and we look forward to the opportunity of working with them on this project. Davenport will provide inspection services at 20 hours/week for a period of 52 weeks at \$95/hour plus expenses of \$3,500 for a total of \$55,500.00 to the CMAR (\$46,800 will be applied to the NPW Contract). Westcott Small will provide design services to break out the Electrical Building Drawings from the Package 4 Drawings and to provide shop drawing review services on their design scope for a cost of \$45,000.00. Hazen will include a 10% subcontractor markup to account for administrative management of the subconsultant.

Please find Table 1 below summarizing the total effort for this project. Lump Sum and Not to Exceed items have been noted.

Table 1 - Summarized Fee for the CMAR Project

Task	Fee	Type
CMAR Selection Assistance	\$59,839	Lump Sum
Pre-Construction Services	\$185, 241	Lump Sum
Construction Services - Field	\$176,750	Cost Ceiling - Not to Exceed; Billed by fixed categorical rates per Table 2.
Construction Services - Office	\$164,752	Lump Sum
Westcott, Small & Associates, PLLC	\$45,000	Lump Sum
John Davenport Engineering, Inc.	\$55,500	Cost Ceiling - Not to Exceed; Billed by fixed categorical rates per Table 2.
Total Contract Value	\$687,082	

Table 2 – Categorical Billing Rates

Task	Fee per hour
Senior Resident Project Representative	\$160
Resident Project Representative	\$100
Technician/Intern	\$45
<u>John Davenport Engineering, Inc.</u>	<u>\$95</u>

Please feel free to contact us at any time if you have any questions or would like to meet to discuss the items enclosed. Thank you again for the opportunity and we look forward to continuing to work for the City of Greensboro.

Very truly yours,



Patricia Drummey Stiegel, PE
Senior Associate

Enclosure: Fee Breakdown

cc: Aaron Babson, PE, Alan Stone, PE

