

CITY OF HIGH POINT

AGENDA ITEM



Title: Material Recovery Facility - Phase 3 Improvements

From: Terry Houk – Public Services Director
Robby Stone – Asst. Director Public Services

Meeting Date: February 20, 2017

Public Hearing: N/A

Advertising Date: N/A
Advertised By: On-Call

Attachments: Attachment A – Scope of Services

PURPOSE:

The City budgeted for the equipment, facility, and safety related upgrades at the Material Recovery Facility (MRF). The scope of services will authorize the City to work with the consultant to develop a project that upgrades facilities and brings other operational areas into safety compliance.

BACKGROUND:

The professional engineering services to be provided for this project involve work associated with upgrades to employee office, bathroom, multi-purpose meeting room, and breakroom space; major electrical improvements; expansion of the fire suppression system; new sewer pump station and force main; addition of a SCADA system; and other miscellaneous building repairs. These tasks are anticipated to take six (6) months to complete.

BUDGET IMPACT:

Funds for the construction administration are in the Material Recovery Facility Capital Improvement Plan.

RECOMMENDATION / ACTION REQUESTED:

The Public Services Department recommends approval and asks for the Council to award the professional engineering services to CDM Smith, Inc. in the amount of \$216,805.00.

**SCOPE OF SERVICES SUPPLEMENTAL AGREEMENT
BETWEEN
CITY AND ENGINEER
FOR
PROFESSIONAL ENGINEERING SERVICES**

FURTHER DESCRIPTION OF ENGINEERING SERVICES AND RELATED MATTERS

This is an exhibit attached to and made a part of the Contract dated February , 2017, between the City of High Point (City) and CDM Smith Inc. (Engineer/Consultant) for Professional Engineering Services.

The Basic Services of the Consultant as described in Section 2 of said Contract are supplemented as follows for services associated with the MRF Phase 3 Improvements:

PROJECT DESCRIPTION

The City is currently upgrading the existing single-stream MRF processing line with state-of-the-art sorting and recycling equipment as Phase 2 of an overall MRF improvements plan. The City is prepared to initiate work on the Phase 3 component of the improvements plan which includes upgrades to employee office, bathroom, multi-purpose meeting room, and breakroom space; major electrical improvements; expansion of the fire suppression system; new sewer pump station and force main; addition of a SCADA system; and other miscellaneous building repairs.

The professional engineering services to be provided for this project involve work associated with design and bidding services associated with the MRF Phase 3 Improvements project.

BASIC SERVICES

Basic Services to be provided by the Engineer under this Agreement shall be limited to the following:

- Task 1 – Kickoff Workshop
- Task 2 – Preliminary Design – Civil, Electrical, Fire Suppression, and Automation
- Task 3 – Final Design – Civil, Electrical, Fire Suppression, and Automation
- Task 4 – Architectural Design
- Task 5 – Technical Review Meetings
- Task 6 – Bidding Services

The detailed scope of services for the basic services included under this Amendment (Tasks 1 through 6) are provided below.

TASK 1 – KICKOFF WORKSHOP

A kickoff meeting will be held between Engineer and the City to discuss the full scope and critical components of the Phase 3 improvements project. The workshop discussion will focus on expanded office

building size and space needs; electrical requirements, preliminary building code analysis, fire flow requirements, SCADA system requirements, and sewer pump station/force main alignment.

Under this task, Engineer will collect project related information from City of High Point including fire flow test data, site maps, utility locations, and elevation data to be used in developing conceptual layouts and preliminary designs. Aerial images from GoogleMaps (or other available sources) and GIS data such as existing property and right-of-way boundaries will also be used for force main routing.

In conjunction with the kickoff workshop, Engineer's civil, automation, and electrical engineers along with architect Moser Mayer Phoenix (MMP) staff will conduct a site inspection of the project area. The purpose of the site investigation is to determine the preferred locations and orientation for the new infrastructure and associated systems and to identify potential conflicts with existing infrastructure.

Engineer will engage a Professional Land Surveying Subcontractor to provide easement survey and any survey data such as spot elevations around the existing MRF building and along the force main route, as required for the design. Engineer assumes that accurate property corners will be available for the private property easement associated with the force main. If additional field surveying effort is required, Engineer will request additional funding by amendment.

TASK 2 – PRELIMINARY DESIGN – Civil, Electrical, Fire Suppression, and Automation

Under this Task, Engineer will produce a preliminary design (30 percent design stage), including a basis of design memorandum, preliminary design drawings and an opinion of construction cost for the pump station and force main and electrical, SCADA and fire suppression.

Through the preliminary design task, Engineer will work to refine the preferred types, sizes, and performance characteristics of the pumps, wet well, and other ancillary equipment (flow meters, etc.) and force main alignment.

Engineer will review fire flow test data and determine if adequate water flow and pressure is available for the expanded and new fire sprinkler system. Engineer will develop preliminary design concepts to assist MMP in development of preliminary layouts.

Engineer will arrange with a geotechnical subcontractor for a minimal exploration program consisting of one or two soil borings performed in the proposed building expansion area. The soil test borings, installed with ATV-mounted drilling equipment, will be performed to help determine geotechnical design and construction aspects related to the expanded building foundation.

Engineer, using our construction branch, CDM Constructors Inc. (CCI), will prepare and submit an opinion of probable construction cost (OPCC) to the City at the 30% level for budgeting purposes.

Engineer will prepare a preliminary design memorandum to document the basis of design for the various project aspects. The memorandum will include:

- Summary of design criteria
- 30 percent design drawings including electrical single line diagrams and equipment layout
- Automation system architecture drawing
- Fire protection design concepts
- Opinion of probable construction cost
- List of permits required for the scope of construction

City will review the memorandum and any comments generated will be incorporated into the final design phase of the project. Existing MRF drawings along with digital photographs and field measurements will be used as the base for the design drawings. Additional CAD design will be required to accurately convey the existing conditions in the final design documents.

TASK 3 – FINAL DESIGN – Civil, Electrical, Fire Suppression, and Automation

Under this task, Engineer will produce final design drawings and technical specifications for the purpose of bidding the Phase 3 MRF Improvements project. The design documents developed under this task will include civil, electrical, fire suppression, and automation improvements. The drawings and specifications developed under Task 3 will be incorporated with the architectural drawings prepared by MMP under Task 4. The combined drawings and specifications prepared under Task 3 and 4 will be the bidding documents for the Phase 3 MRF Improvement project. Engineer will also develop the front-end (Division 0 and 1) specifications.

Electrical Design

Engineer will provide the electrical design for the new 3,000-4,000 square foot office building, which will include lighting, power, data network, telephone, fire alarm, and security system design. This Task also includes the electrical system modifications for the existing MRF building (approximately 66,000sf), which involves replacing the existing 2500A, 480V switchboard with a new switchboard that will be installed in the new electrical room located in the new building extension. Engineer understands that the new process line equipment and its associated motor control center (MCC) will be covered under the Phase 2 construction project; however, we will need to provide feeders to each of the downstream MCCs and/or panelboards from the new electrical switchboard. The electrical design will also include miscellaneous items, such as lighting design over the new process lines, power and controls to the new sewer pump station, surveillance cameras and digital recorder in the recycling process area.

Fire Protection System

Engineer assumes that adequate water flow and pressure is available for the fire protection system, and that a fire pump will not be required. If the preliminary design, under Task 2, determines that a fire pump is required, Engineer will meet with the City to review the additional scope of work required and discuss the potential for additional funding.

Performance-type plans and specifications will be prepared by CDM Smith and include all pertinent information required to allow a fire protection system contractor to prepare detailed installation drawings. Specifications will cover all major pieces of equipment and systems to be installed. The fire protection contractor will submit the stamped and signed plans and calculations to the engineer and Fire Department for their review.

Engineer estimates that up to thirty drawings (6 civil, 3 mechanical, 4 automation, and 17 electrical) will be necessary to accurately convey the Phase 3 improvements. Two sets of plans and technical specifications will be presented to the City for review at the 60%, and 90% completion stages. Two sets of completed documents, as well as one set on a CD ROM will be submitted at project completion. Engineer will prepare and submit an OPCC to the City at the 90% level for budgeting purposes.

Engineer will prepare permit application for DOT encroachment permit submittal on behalf of City of High Point. The City will pay any associated application fees. Expected permits include Standard Sewer Extension Permitting.

Engineer has assumed that a traffic control plan is not required for this project. Engineer has also assumed that driveway or access permits will not be required for the new sewer force main.

TASK 4 – ARCHITECTURAL DESIGN

Engineer will prepare and execute a subcontract agreement with MMP for architectural services. MMP will be responsible for the architectural, structural, plumbing and HVAC design. Their scope includes:

- Proposed 1 story addition along the exterior west wall near the existing pad mounted transformer. The addition would provide employee toilets, employee break room, staff offices, a visitor's/multi-purpose meeting room, and support space for mechanical and electrical equipment. Specific programming and space planning must be performed but the addition may be 3,000 to 4,000 SF and would be accommodated by a pre-engineered building.
- Miscellaneous repairs to the existing metal building and "push walls" to be performed. Repairs include repair of damaged blanket insulation, partial replacement of rusted wall panels (along floors), and replacement of damaged CMU walls. One existing overhead door and operator requires replacement.
- Provisions for emergency eye wash stations in locations to be determined. (Need to verify if drench showers are also required).
- Reconfiguration of existing backflow preventer (unless the new addition eliminates this requirement).

The existing employee toilets and break room will not be included in MMP's scope of work since a new building addition will be provided.

TASK 5 – TECHNICAL REVIEW MEETINGS

Engineer senior technical staff will conduct technical and quality control reviews at each of the deliverable milestones. Engineer will also conduct client review meetings at the same milestones. The design documents will be discussed at the meetings and changes will be incorporated into the documents as appropriate.

Under this task, Engineer will conduct design review meetings with the City at the 60%, and 90% design milestones. The 60% and 90% meetings will be face-to-face at the City offices, with Engineer senior technical staff participating by conference call.

Engineer will prepare meeting minutes after each meeting to document the design and operational decisions made during the meeting. Meeting minutes will be distributed to the City within 7 days of the meeting. Engineer will incorporate agreed upon features, as discussed in the meetings, into the design as appropriate.

Engineer will facilitate design review/project update meetings at the 60% and 90% design stage to review progress to date and solicit input from staff. Minutes for each meeting will be produced to document major discussion items and decisions made at each meeting.

TASK 6 – BIDDING SERVICES

Once Tasks 1 through 5 are completed, Engineer will provide services to assist the City in the selection of a qualified bidder for the MRF improvements construction. All costs assume one bid opening.

Engineer will coordinate the bidding process in accordance with the requirements specified in the Contract Documents for the proposed MRF improvements project. Included in the bidding services will be the preparation of the bid advertisement, which will present the work associated with the project.

The scope of services for this Task includes the following:

- Prepare such clarifications and addenda to the bid documents as may be required. Clarifications and/or addenda will be provided to the City and all prospective bidders.
- Schedule and conduct one prebid conference with prospective bidders to review the Project requirements. Engineer will provide representative(s) from our team to participate in the prebid conference to explain and clarify the bid documents.
- Following the prebid conference, Engineer will deliver to the City an addendum to document any changes(s) to the Construction Documents resulting from the prebid conference, along with prebid conference meeting minutes.
- Engineer will support the City in obtaining and evaluating proposals from Contractors in strict compliance with applicable North Carolina General Statutes.

Engineer assumes that the City will contract with Duncan Parnell, or other vendor, to handle production and distribution of bid documents to prospective bidders along with maintaining a current list of all plan holders.

Engineer will review all proposals received and make written recommendations to the City relative to acceptance/rejection of proposals and award of the Contract to the lowest responsible bidder, taking into consideration prior experience on similar projects as required in the specifications, past performance and contractor ability to complete the project in the time specified in the proposals for performance of the Contract. This task does not include Engineer staff attending the bid opening.

2. The responsibilities of the City are as follows:

- City will review and provide any comments on the preliminary design and various final design milestone deliverables within 2 weeks.
- City will provide any available AutoCAD drawings of the site and MRF building including civil, mechanical, electrical, or automation drawings.
- City will provide existing sewer flow data, fire flow test data, and fire suppression system data.
- City will provide site survey and utility locations.
- City will provide geotechnical investigation data for new building foundation.

3. The time periods for the performance of the Engineer's services are as follows.

The Engineer will complete Tasks 1 through 5 over a period of 6 months. Bidding services will begin upon initiation of the bidding process by the City.

4. The method of payment for services rendered by the Engineer shall be as set forth below.

For Basic Services (for tasks 1 through 6), Engineer shall be paid a lump sum fee of \$216,805.00. In addition to this compensation, the City reserves the right to amend this Contract so that the Engineer may furnish additional services as may be needed.

A breakdown of the estimated lump sum fees for each Task are as follows. These estimates by Task are for tracking purposes only and do not reflect upper limits for each task. Monthly payments shall be made in accordance with the amount of work completed and invoiced on a monthly basis based on a percent of completion.

	CDM Smith
Task 1 – Kickoff Meeting	\$6,200
Task 2 – Preliminary Design	\$36,185
Task 3 – Final Design	\$90,305
Task 4 – Architectural Design	\$55,206
Task 5 – Technical Review Meetings	\$8,735
Task 6 – Bidding Services	\$20,174
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Total	\$216,805

The Engineer shall submit its invoices applicable under the terms of this Contract on a monthly basis. The Engineer's invoices shall be paid within 30 days of receipt by the City. The Engineer shall submit its final invoice applicable under the terms of this Contract within 30 days of the Contract termination date.

5. The City has established the following special provisions and/or other considerations or requirements in respect of the Assignment:

None.

This Task Order is executed this _____ day of _____ 2017.

CDM SMITH, INC.

WITNESS

By: _____

David L. Collins, P.E.
Vice President

Martin D. Sanford, P.E.
Principal

CITY OF HIGH POINT

WITNESS

By: _____

Terry Houk
