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**CITY OF HALLANDALE BEACH
FY 2013-2014-006 Continuing Professional Services
Discipline: Construction Management Services**

**HAZEN AND SAWYER
WORK AUTHORIZATION CM2019-001
Technical Assistance During Construction of PW-9**

In accordance with Resolution #2014-138, RFP #FY 2013-2014-006 Continuing Professional Services, the following scope of services is provided by Hazen and Sawyer (CONSULTANT) as requested by the City of Hallandale Beach (CITY).

BACKGROUND

This project includes construction, development and testing of PW-9. Under this work authorization, CONSULTANT shall provide engineering assistance during the construction of PW-9 as detailed in the following scope of services. CITY will perform as construction manager with CONSULTANT providing technical assistance to the CITY.

SCOPE OF SERVICES

TASK 1 – ENGINEERING SERVICES DURING CONSTRUCTION

This project will be constructed in three phases, as follows:

- Phase 1: Well Construction (designed by Hazen)
- Phase 2: Wellhead Construction (designed by Hazen)
- Phase 3: Raw Water Pipeline Construction (designed by Calvin, Giordano & Associates, Inc.)

CONSULTANT shall provide technical assistance during construction for Phase 1 and Phase 2. Services for Phase 3 will not be provided by CONSULTANT. CITY will provide construction management services for all phases. CONSULTANT shall provide the services as described below during Phases 1 and 2.

- 1.1. General Management: CONSULTANT shall manage engineer services during construction of Phase 1. Management activities shall include project coordination with the CITY, coordinating and scheduling observation of CONSULTANT's engineering staff during well testing, coordination of shop drawing review, and general correspondence with CITY, construction contractor and subcontractors.
- 1.2. Shop Drawings: CONSULTANT shall review technical submittals and return to the Contractor. This scope of services assumes the following:
 - a. Number of Phase 1 technical shop drawings CONSULTANT will review: up to 13 submittals

- b. Number of Phase 2 technical shop drawings CONSULTANT will review: up to 55 submittals
- c. CITY will review nontechnical submittals.
- 1.3. Request for Information (RFI) Response: CONSULTANT shall provide interpretations of the contract documents, plans and specifications. CONSULTANT shall respond to up to four contractor RFIs during Phase 1 and Phase 2. Non-technical RFIs shall be the responsibility of the CITY.
- 1.4. Change Support: CONSULTANT scope is limited to input on the technical input needed for up to three change orders.
- 1.5. Engineering Observations and Startup: CONSULTANT shall perform periodic site-visits by engineering staff as follows:
 - a. Phase 1: Up to 32 hours of service will be provided as indicated below.

Item	Site Visits	Engineer Observation (hrs/visit)	Labor Hours
Pilot Hole Caliper and gamma ray log	1	8	8
Caliper logging of 32-inch borehole	0	8	0
Install 24-inch casing and cement	1	4	4
Develop Well by high rate pumping for 120 hours	2	4	8
Step draw-down test	1	8	8
Alignment test	1	4	4
Total			32

- b. Phase 2: Up to 124 hours of service will be provided as indicated below.

Visit	Persons per Visit	Site Visits	Hours per visit	Hours
Mechanical Site Visits	1	7	4	28
Electrical Site Visits	1	2	4	8
Instrumentation Site Visits	1	1	4	4
Structural Site Visits	1	2	4	8
Control system preliminary design meetings	1	1	4	4
Controls: Witness Loop Checks	1	2	8	16
Controls: Witness Control Strategy Checks	1	1	8	8
Controls: Witness HMI Graphic Displays	1	1	8	8
Startup: I&C Engineer	1	3	8	24
Startup: Electrical Engineer	1	1	8	8
Startup: Mechanical Engineer	1	1	4	4
Punch List: I&C, Mechanical, Electrical	1	1	4	4
Total				124

- 1.6. Construction Meetings: CITY will prepare for and oversee the periodic construction meetings. CONSULTANT shall participate in up to 12 construction meetings.
- 1.7. Resident Project Representation (RPR): CONSULTANT shall furnish an RPR to periodically

observe construction of Phase 1. The RPR shall observe full-time (8-hrs/day) during key well construction activity and part-time when warranted by the construction activity. The RPR will serve as the CONSULTANT's agent and will act as directed by and under the supervision of the CONSULTANT. The RPR duties and responsibilities are as follows:

- Construction Observation – Conduct on-site observations of well drilling during Phase 1 as follows:
 - Document that construction is proceeding in accordance with the Contract Documents
 - Inform CONSULTANT and the CITY whenever RPR believes that any construction is unsatisfactory, faulty or defective or does not conform to the Contract Documents
 - Inform the Contractor upon the commencement of any construction requiring a submittal if the submittal has not been accepted
 - Visually inspect and review suitability and method of storage of materials, equipment and supplies delivered to the construction site in accordance with the Contract Documents
- Photographic Record – Maintain a photographic record of the construction. All photos shall be digital.
- Well Performance Testing – Observe and record hydraulic information during the performance testing of the new well. The following data shall be collected
 - Pumping rate
 - Water levels during pumping period
 - Static water level prior to pumping
 - Drawdown
- Site Visit Log – RPR shall maintain a record of observations. Logs shall be electronically available to the CITY.
- Punch Lists: CONSULTANT shall conduct inspections and prepare a punch list of uncompleted and unsatisfactory work. The CONSULTANT will confirm that the contractor addresses the punch list items. Once the punch list items are completed, CONSULTANT shall perform one final inspection.

CONSULTANT shall provide up to 184 hours of RPR service.

- 1.8. DEP Certification and Record Drawings Relative to Phases 1 and 2: Prior to placing this project into service, CONSULTANT's engineer-of-record shall submit, at a minimum, the following to the Florida Department of Environmental Protection (DEP) for evaluation and approval for operation, as provided in Rules 62-555.340 and 62-555.345, Florida Administrative Code (FAC):
 - a. The engineer's Certification of Construction Completion and Request for Clearance to Place Permitted PWS Components Into Operation {DEP Form 62-555.900(9)};
 - b. Bacteriological test results for the well and wellhead.

- c. Certified record drawings, if there are any changes noted for the permitted project.

ASSUMPTIONS

1. CITY will chair all construction meetings. CITY will prepare and issue meeting minutes from construction meetings.
2. CONSULTANT shall not be responsible for the acts or omissions of any construction contractor, any construction subcontractor or any other person (except CONSULTANT's own employees and agents) at the project site.
3. CONSULTANT shall not be responsible for Construction Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto.
4. CONSULTANT shall issue all technical instructions to the Construction Contractor and shall interpret all technical requirements of the Construction Contract documents.
5. Phase 1 and 2 construction will proceed in parallel. The overall construction period is estimated as follows:
 - Substantial completion: 330 calendar days from contractor notice to proceed
 - Final completion: 365 calendar days from contractor notice to proceed
6. Record drawings and clearance requests for Phase 3 are the responsibility of the CITY.
7. If the construction of Phase 3 is not completed within the timeframe necessary for startup of the wellhead then the CITY may be required to re-disinfect the well and re-submit disinfection documentation and Certification of Construction Completion and Request for Clearance to Place Permitted PWS Components Into Operation {DEP Form 62-555.900(9)}.
8. Payment shall be through a check; P-card payment is not included.

SCHEDULE OF COMPLETION

The work will be completed in parallel with the CONTRACTOR's construction schedule. The project duration is 365 calendar days.

COMPENSATION

Compensation shall be made to CONSULTANT as indicated in the table below.

Task	Description	Compensation Type	Estimated Fee
1	Engineering Services During Construction		
1.1	General Management	Lump Sum	\$20,817
1.2	Shop Drawings	Lump Sum	\$55,077
1.3	RFIs	Lump Sum	\$13,710
1.4	Change Support	Lump Sum	\$5,878
1.5	Engineering Observation & Startup	T&M	\$32,876
1.6	Construction Meetings	Lump Sum	\$8,817
1.7	RPR	T&M	\$28,520
1.8	DEP Certification and Record Drawings	Lump Sum	\$4,079
TOTAL			\$169,774

T&M: Time and Materials

AUTHORIZATION - HAZEN AND SAWYER, P.C.



Accepted: Janeen M. Wietgreffe, P.E.
Associate Vice President

July 6, 2020

Date