



City of Des Plaines
Public Works and Engineering Department
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MEMORANDUM

Date: June 30, 2015

To: Michael G. Bartholomew, MCP, LEED-AP, City Manager

From: Rick Valent, Superintendent of Utility Services

Cc: Timothy P. Oakley, P.E., CFM, Director of Public Works & Engineering *YPO*
 Timothy Watkins, Assistant Director of Public Works & Engineering

Subject: Peterson Lake Pump Station Improvements – Engineering Services Task Order No. 9

Issue: Engineering services are required for the necessary improvements to the existing Peterson Lake Storm Water Pump Station.

Analysis: The pump station was originally constructed in 1992 to provide flood relief. Many of the system components are in need of replacement or need to be upgraded. These items include: remote monitoring of pump status, measurement and reporting of storm water flow into the lake and out of the pumping station, and installation of electrical surge protection equipment.

Since they have intimate knowledge of the improvements needed at this pump station, we contacted MWH Americas to provide a proposal for this work. In accordance with current master project agreement with MWH they have provided a proposal (Task Order No. 9) for engineering services in the not to exceed amount of \$86,900.

Recommendation: We recommend approval of Task Order No. 9 in the amount of \$86,900.00 from MWH Americas, Inc., 175 West Jackson Blvd., Suite 1900, Chicago, Illinois, 60604. Source of funding would be budgeted CIP Water/Sewer Fund, Professional Services (500-00-580-6000) account.

Attachments:
 Resolution R-127-15
 Exhibit A –Task Order No. 9

CITY OF DES PLAINES

RESOLUTION R - 127 - 15

**A RESOLUTION APPROVING TASK ORDER NO. 9 WITH
MWH AMERICAS, INC., FOR CONSTRUCTION
ENGINEERING SERVICES.**

WHEREAS, Article VII, Section 10 of the 1970 Illinois Constitution authorizes the City to contract with individuals, associations, and corporations in any manner not prohibited by law or ordinance; and

WHEREAS, on August 19, 2013, the City Council approved Resolution R-135-13, which authorized the City to enter into a master contract ("**Master Contract**") with MWH Americas, Inc. ("**Consultant**"), for the performance of certain engineering services related to the City's water system as needed and directed by the City; and

WHEREAS, the City owns and is responsible for maintaining and repairing the pump station located at Peterson Lake in the City ("**Pump Station**"); and

WHEREAS, the City desires to make certain improvements to the Pump Station ("**Improvements**"); and

WHEREAS, the City desires to procure engineering design services ("**Services**") for the construction of the Improvements; and

WHEREAS, in accordance with Chapter 10 of Title 1 of the City Code of the City of Des Plaines and the City purchasing policy, the City has determined that procurement of the Services does not require competitive bidding because the Services require a high degree of professional skill where the ability or fitness of the individual plays an important part; and

WHEREAS, the City has a satisfactory existing relationship with the Consultant, which has satisfactorily performed engineering services for the City in the past; and

WHEREAS, the City requested a proposal from Consultant to perform the Services; and

WHEREAS, Consultant submitted a proposal in the not-to-exceed amount of \$86,900 to perform the Services; and

WHEREAS, the City has appropriated sufficient funds in the Capital Improvements Program Water/Sewer Fund for the procurement of the Services from Consultant; and

WHEREAS, the City desires to enter into Task Order No. 9 under the Master Contract for the procurement of Services from Consultant in the not-to-exceed amount of \$86,900 ("**Task Order No. 9**"); and

WHEREAS, the City Council has determined that it is in the best interest of the City to enter into Task Order No. 9 with Consultant;

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Des Plaines, Cook County, Illinois, in the exercise of its home rule powers, as follows:

SECTION 1: RECITALS. The foregoing recitals are incorporated into, and made a part of, this Resolution as findings of the City Council.

SECTION 2: APPROVAL OF TASK ORDER NO. 9. The City Council hereby approves Task Order No. 9 in substantially the form attached to this Resolution as **Exhibit A**, and in a final form to be approved by the General Counsel, in the not-to-exceed amount of \$86,900.

SECTION 3: AUTHORIZATION TO EXECUTE TASK ORDER NO. 9. The City Council hereby authorizes and directs the City Manager and the City Clerk to execute and seal, on behalf of the City, final Task Order No. 9 only after receipt by the City Clerk of at least one executed copy of Task Order No. 9 from Consultant; provided, however, that if the City Clerk does not receive one executed copy of Task Order No. 9 from Consultant within 60 days after the date of adoption of this Resolution, then this authority to execute and seal Task Order No. 9 will, at the option of the City Council, be null and void.

SECTION 4: EFFECTIVE DATE. This Resolution shall be in full force and effect from and after its passage and approval according to law.

PASSED this ____ day of _____, 2015.

APPROVED this ____ day of _____, 2015.

VOTE: AYES ____ NAYS ____ ABSENT ____

MAYOR

Approved as to form:

ATTEST:

CITY CLERK

Peter M. Friedman, General Counsel

DP-Resolution Approving Task Order No 9 with MWH Americas for Peterson Lake Engineering Services

#36103826_v2

City Des Plaines, Illinois

And

MWH Americas, Inc.

TASK ORDER NO. 09 – Peterson Lake Pump Station Improvements

In accordance with Section 1.2 of the Master Contract dated August 19, 2013 between the City of Des Plaines (the “City”) and MWH Americas, Inc., (the “Consultant”), the Parties agree to the following Task Number 09: Peterson Lake Pump Station Improvements.

PURPOSE:

The purpose of this Task Order is to:

Provide engineering services associated with the planning and preliminary design of improvements to the existing Peterson Lake Stormwater Pump Station and related facilities. Improvements will address the need for remote monitoring of pump status, measurement and reporting of stormwater flow into the lake and out of the pumping station, and installation of electrical surge protection equipment.

CONTRACTED SERVICES:

MWH’s efforts under this task order will consist of the following tasks:

- Task 1 – Kickoff Meeting and Site Inspection
- Task 2 – Hydraulic Calculations
- Task 3 – Remote Display of Flow, Lake Level, and Pump Status
- Task 4 – Procurement Documents for Installation of Electrical Surge Protection Equipment
- Task 5 – Review of Pump Station Operations

Key elements of each task are outlined below.

Task 1 - Kickoff Meeting and Site Inspection

MWH will meet with City staff to coordinate technical and contract requirements. MWH will confirm with the City that the plans it has of the Peterson Lake Pumping Station are the record drawings for the facility prior to the kickoff meeting. Other action items for the meeting include:

- Review of project objectives and constraints
- Definition of key features of the contract, lines of communication and schedule

- Review any questions pertaining to as-built documents previously provided by the City
- Preparation of meeting minutes and items for action.

In conjunction with the Kickoff Meeting, MWH will visit the Peterson Lake Pump Station site and the existing stormwater inlet to the lake to examine the existing conditions to confirm configurations shown on the record drawings, and gather information required for subsequent tasks. MWH will also review the City's existing remote status screen used for monitoring conditions at the Oakton Street stormwater reservoir as a model for the new screen for the Peterson Lake Pump Station.

Deliverables:

- Kickoff Meeting/Site Inspection minutes

Task 2 – Hydraulic Calculations

MWH will perform hydraulic calculations to determine the inflow to Peterson Lake with the existing sluice gate set 1 foot above the invert elevation of the inlet sewer and an assumed upstream hydraulic grade line (based on previous design completed by MWH), and the outflow from the lake through the existing gravity outlet. The City desires to demonstrate that it can control the flow into the lake so as to limit the potential for flooding in the event of a failure of the stormwater pump station. MWH will document the results of its analysis in a brief (1-2) page technical memorandum.

Deliverables:

- Hydraulic Analysis Technical Memorandum

Task 3 – Remote Display of Lake Level, Flow and Pump Status

The City wants to establish a system that will allow for remote monitoring by City staff and individuals external to the City of inflow to Peterson Lake through the existing 78-inch diameter storm sewer as well as lake level and stormwater pump status at Peterson Lake. The proposed system would be similar to the existing system in place at the Oakton Street Stormwater Reservoir.

As there is currently no SCADA in place at the storm sewer discharge to the lake or at the Peterson Lake Pump Station, MWH will develop a conceptual plan for the installation of instrumentation and communication equipment required to capture and transmit the following data to a public website:

- Flow in the 78-inch diameter storm sewer to Peterson Lake
- Lake level (as measured in the wet well of the Peterson Lake Pump Station)

- Pump Status (On/Off)

It is assumed that flow monitoring and communication equipment for the storm sewer to the lake will be installed at or near the site of the existing sluice gate structure located east of the end of North Park Drive. The concept plan will also address the need for provision of power at the sewer monitoring site. It is assumed that UPS will be provided at the flow meter panel and communication will be via wireless connection from flow meter panel to Peterson Lake PS panel.

Alternatives for achieving a simple communications installation through the use of technologies such as cellular connections or wireless I/O devices will be considered and reviewed with City staff.

MWH will prepare and submit to the City a brief design concept memorandum describing the proposed approach to the installation of the instrumentation, power, and communications equipment required to provide the required remote monitoring. The memorandum will include a Class IV opinion of probable construction costs (OPCC) for the improvements. Following City review of the memorandum, MWH will participate in a meeting with City staff to answer questions/address comments regarding the plan.

Upon approval of the design concept by the City, MWH will complete the preliminary design of the system to a 10-15% level and provide preliminary design documents (including technical drawings and specifications listed in Appendix A) which can be used by the City in conjunction with the City's standard contractual documents to obtain quotations for the work. It is assumed that the City of Des Plaines will provide all contractual documents that must be included with the procurement package. It is assumed that the procurement package will include the requirement for the contractor/vendor to complete the final design as required to install the new equipment. MWH will provide assistance with evaluation of the submitted proposals and provide a letter of recommendation.

During installation of the required equipment by others, MWH will prepare a draft mock-up of a public status screen to be developed for the Peterson Lake Pump Station and submit it to the City for review and comment. It is anticipated that the screen will show flowrate into the lake, lake level, and pump status (on/off) for each of the pumps using data from the instrumentation installed by others at the Pump Station. MWH will make one revision of the screen mock-up based on the City's comments and proceed with programming required to create the screen, test its functionality, and deploy it as a webpage. It is assumed wireless communication will be used and city network has capacity. Three days of effort associated with implementation of webpage and assistance with SCADA integration is also included in this scope.

Deliverables:

- Concept Memorandum for instrumentation, power, and communication improvements
- Technical drawings and specifications for procurement of and installation of required instrumentation, control, power, and communications equipment as detailed in Appendix A
- Letter of recommendation for award of contract
- Mock-up of public status screen for Peterson Lake Pump Station
- Public webpage showing status of conditions at the Peterson Lake Pump Station

Task 4 - Procurement Documents for Installation of Surge Protection Equipment

MWH will assist with the preparation of procurement documents for the turnkey delivery of surge protection equipment at the Peterson Lake Pump Station. MWH technical staff will review the current as-built drawings to determine the requirements for provision of surge protection for the incoming power line(s) (ComEd) and for the standby generator. MWH write a specification for the provision of surge protection and identify key design criteria as well as site-specific constraints. It is assumed the City will incorporate the specification into procurement documents for use in soliciting contractor proposals for the turn-key design and installation of the surge protection system. MWH will also provide assistance with evaluation of the submitted proposals and provide a letter of recommendation.

The effort associated with this task is based on the assumption that the technical design documents will include those Documents listed in Appendix B. It is assumed that the City of Des Plaines will provide all contractual documents and will be compiling the procurement package.

Deliverables:

- Surge Protection Specification and reference drawings
- Letter of recommendation for award of contract

Task 5 – Review of Pump Station Operations

MWH will provide up to 10 person-hours of technical support for the review of operating conditions at the inlet, gravity outlet, and pump station outlet at the Peterson Lake Pump Station. Results from analyses performed will be communicated to the City via e-mail.

Deliverables:

- Email containing results from analysis

Project Management

MWH will assign a Project Manager to serve as the primary point of contact for services under this task order. The Project Manager will coordinate activities being performed by members of

the MWH team, monitor expenditures and progress, prepare monthly invoices, and provide bi-weekly e-mail updates summarizing the status of work activities to the Client. The Project Manager or designee will meet with the Client on a monthly basis to review the status of project activities and discuss/resolve any issues identified as potentially impacting project schedule or budget.

Owner-controlled Allowance for Unidentified Work

An amount of \$8,000 is included in this task order to serve as an allowance for unanticipated services that may be authorized by the City during the performance of the Scope of Services. This allowance shall only be used by MWH at the specific direction of the City to perform required services not included in the current Scope of Services.

PROJECT ASSUMPTIONS

- 1) Engineering Services during construction or Construction Management/Resident Engineering services are not part of this scope of work.
- 2) Effort associated with review of vendor designs or submittals related to the final design for Task 3 is not part of this scope of work.
- 3) This scope includes development of the webpage for the Peterson Lake information. However, no effort associated with SCADA screen development have been included in this scope of work.

PROJECT COMPLETION DATE:

Engineer’s services associated with the design phase will begin upon approval and execution of this Task Order by both parties and shall be completed within 8 weeks after the Effective Date. Services associated with the webpage development are dependent on the construction schedule, but are expected to be completed within 5 months of NTP. Key Milestone Dates are as follows:

Task 1 – Kickoff Meeting/Site Investigation

- Kickoff Meeting Held 1 weeks from NTP

Task 2 – Hydraulic Analysis

- Submit Draft Memorandum 3 weeks from NTP
- Receive City Comments 4 weeks from NTP
- Submit Final Hydraulic Analysis 5 weeks from NTP

Task 3 – Remote Display of Lake Level, Flow and Pump Status

- Submit Draft Concept Memorandum 3 weeks from NTP
- Receive City Comments 4 weeks from NTP

- Submit Final Concept Memorandum and Class IV OPCC 5 weeks from NTP
- Submit Draft Preliminary Design Documents 6 weeks from NTP
- Receive City Comments 7 weeks from NTP
- Submit Draft Preliminary Design Documents 8 weeks from NTP

Task 4 - Procurement Documents for Installation of Surge Protection Equipment

- Submit Draft Surge Protection Specifications and Reference Drawings 3 weeks from NTP
- Receive City Comments 4 weeks from NTP
- Submit Final Surge Protection Specifications and Reference Drawings 5 weeks from NTP

Task 5 – Review of Pump Station Operations

- Send email with results of Analysis 3 weeks from NTP

PROJECT SPECIFIC PRICING:

Owner shall pay the Engineer on an hourly basis in accordance with the fee schedule included in the Master Contract. Engineer’s total compensation for services identified in this Task Order shall not exceed the amount of \$78,900.00 unless authorized by the Owner. The summary of tasks and costs are shown below in Table 1, Summary of Tasks and Costs

**TABLE 1
SUMMARY OF TASKS AND COSTS**

Task	Labor Hours	Labor Costs	Direct Costs & Subs	Estimated Cost/Task
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Task 1 – Kickoff Meeting and Site Inspection	22	\$3,600	\$400	\$4,000
Task 2 – Hydraulic Calculations	10	\$2,300	\$0	\$2,300
Task 3 – Remote Display of Flow, Lake Level, and Pump Status	352	\$59,200	\$2,000	\$61,200
Task 4 – Procurement Documents for Installation of Surge Protection Equipment	22	\$4,500	\$0	\$4,500
Task 5 – Review of Pump Station Operations	10	\$2,400	\$0	\$2,400
Project Management	22	\$4,500	\$0	\$4,500
TOTAL	438	\$76,500	\$2,400	\$78,900
Owner-controlled Allowance for Unidentified Services				\$8,000
Grand Total				\$86,900

EFFECTIVE DATE

This Task Order is effective as of the ___ day of _____, 2015.

[Signature page follows]

CITY

CONSULTANT

Signature
Director of Public Works
And Engineering

_____, 20____
Date

Signature

Name (Printed or Typed)

_____, 20____
Date

If greater than, \$2,500, the City Manager's signature is required.

Signature
City Manager

_____, 20____
Date

If compensation greater than \$10,000, then the City Council must approve the Task Order in advance and the City Manager or Mayor's signature is required.

Signature
City Manager

_____, 20____
Date

Appendix A – List of Remote Monitoring Technical Documents

SPECIFICATIONS:

1. Summary of Work
2. Design Criteria
3. Submittal Requirements
4. Electrical Specifications: Assumed to be 5 sections (general, grounding, wire and cable, raceway, underground raceway)
5. I&C Specifications: Assumed 7 sections (general, flow detection, level detection, control description, PLC-based control system hardware, PLC Control systems software, control panels)
6. City of Des Plaines General Requirements (provided by City)

DRAWINGS (11x17):

1. G-1: Cover Sheet and General Location Map
2. GE-1: General/Electrical Notes/Symbols/Abbreviations
3. E-1: Site Plan – Flow meter Electrical
4. E-2: PS Site Plan (panel location) and Plan of Internal Layout of PS Building
5. GI-1: General Notes
6. GI-2: General Notes
7. GI-3: Network Diagram
8. I-1: New flow meter P&ID
9. I-2: Peterson Lake PS P&ID (level sensor)
10. Record Drawings for Inlet and PS(Pratt Ave. Relief Sewer Drawings)

Appendix B – List of Electrical Surge Protection Technical Documents

REQUEST FOR QUOTATIONS:

1. Request for Quotations
2. Summary of Work and Surge Protection Requirements Specification
3. City of Des Plaines General Requirements (provided by City)

DRAWINGS (11x17):

1. Record Drawings for Peterson Lake Pump Station