



City of Grand Island

Tuesday, September 14, 2010

Council Session

Item G14

**#2010-248 - Approving Addendum Number 2 for Supervisory
Control And Data Acquisition (SCADA) System**

Staff Contact: Steven P. Riehle, Public Works Director

Council Agenda Memo

From: Steven P. Riehle, Public Works Director

Meeting: September 14, 2010

Subject: Approving Addendum Number 2 for Supervisory Control And Data Acquisition (Scada) System

Item #'s: G-14

Presenter(s): Steven P. Riehle, Public Works Director

Background

On June 24, 2008 the Wastewater Division of the Public Works Department for the City of Grand Island presented Resolution Number 2008-168 to the Grand Island City Council. This negotiated agreement with Huffman Engineering of Lincoln, Nebraska was for the professional services associated with Evaluation/Recommendation, Design, Installation/Integration, and replacement of components in the Supervisory Control Data Acquisition (SCADA) system. Work in the original agreement is to be performed at actual costs, with a maximum of \$241,880.00.

On October 13, 2009 by Resolution Number 2009-269, the City Council of Grand Island approved Addendum Number 1. The addendum, for an additional \$7,800.00, provided services described as "General Conditions of Contract" and defined the specific roles and responsibilities of each respective party of the SCADA construction contract.

Discussion

During the design of the project by Huffman Engineering and also during the installation of the SCADA equipment by IES Industrial, Inc. there were changes requested by the City to the design of the SCADA that required additional engineering work to be performed by Huffman Engineering. The additional engineering work is beyond the scope of services that was detailed in the original agreement and therefore an addendum is necessary. The additional engineering work is explained below and detailed on the attached Addendum Number 2 to the agreement. The addendum shows the actual hours accrued by the consultant, the estimated hours in the original agreement, and the negotiated compensation hours for Amendment Number 2. The negotiated amount of Amendment Number 2 is \$37,800.00.

Original Agreement	\$ 241,880.00
Addendum Number 1	\$ 7,800.00
Addendum Number 2	\$ 37,800.00
Revised Agreement Total	\$ 287,480.00

Item 1 - Concrete Panel Layouts

The panel layouts were built as part of the 1995 Wastewater Plant expansion project. Bentec of Minnesota was the subcontractor that built the RTU (Remote Termination Unit) panels. At project closeout time, Bentec's business was closed after a raid by the IRS. The City was unable to obtain as-built drawings that reflected changes that were made to the panels during construction.

The consultant had to rework the drawings and spend considerable time studying and testing inputs and outputs to prepare a full set of plans to be used by the contractor to put together a firm bid for the work. The end result for bids and after construction was a well documented set of as-built drawings. The original agreement included a total of 414 hours for the work. Since there were no as-built drawings, the consultant accrued a total of 1,109 actual hours (overrun of 695 hours) to perform the work. Wastewater staff negotiated with the consultant and agreed to pay for an additional 164 hours using the same labor rates as the original agreement.

Item 2 - Design & Specify Components for HMI System

The SCADA system has an HMI (Human Machine Interface) that uses software PC's and computer screens. The City had originally planned to acquire the software & computer hardware for the HMI. Since electrical contractors bidding on the SCADA project have a working relationship with software & hardware vendors, the contractor would be able to get a better price. The consultant developed alternatives for the components of the HMI system. Upon opening the bids, the City recommended awarding the alternatives resulting in substantial costs savings.

The original agreement included a total of 16 hours for the work. The consultant was asked to develop alternatives for the components of the HMI system that were outside of the scope of the original agreement. The consultant accrued a total of 152 hours to perform the work. Wastewater staff negotiated with the consultant and agreed to pay for an additional 40 hours using the same labor rates as the original agreement.

Item 3 - Submittal Review/Responses in Specification Forms

There were numerous requests for information from the panel contractor to Huffman Engineering regarding questions on the installation. Since the request for information work performed was within the scope of the original Request for Proposals and the approved agreement, no hours are included in this addendum under this item.

Item 4 - Witness Equipment & Panel Factory Acceptance Testing

The agreement was set up for the consultant to provide construction project management services with a Wastewater Division employee to perform daily on-site Resident Project Representative (RPR) services. Adverse weather conditions prevented the City from

making the trip to Omaha to perform Factory Acceptance Testing (FAT) in Omaha on December 14, 2009. Since Huffman Engineering has employees in Omaha and Interstate Industrial Instruments is located in Omaha, Huffman Engineering was able to perform the FAT services for the City. The original agreement didn't include any hours for this work as it was originally to be performed by City staff.

The original agreement had city employees providing inspection of factory acceptance testing in Omaha. The negotiated hours are actual time spent by the consultant on performing the testing in Omaha using the same labor rates as the original agreement.

Item 5 - Modify Programming Timing Blocks

The original agreement included re-writing the program code to match existing past practices & projects. During installation of the hardware & software, City staff asked for programming changes on the timing blocks and HMI operation that also changed the tagging of the pumps. Making the change allows the pumps to be coordinated and will make for more constant wasting for the Return Waste Activated Sludge (RWAS) and primary sludge (PS) pumps.

The original agreement didn't include any hours for this work. Wastewater staff negotiated with the consultant and agreed to pay for 40 hours using the same labor rates as the original agreement.

Item 6 - Human Machine Interface Modifications

The original agreement included rewriting the computer programming code for the existing HMI (Human Machine Interface). The colors, fonts, and layout, etc. for the work station screens was set up working with operators and supervisors. Upon installation in the control room, the lighting in the room, shadows, ergonomics, and layouts needed changed. The new SCADA screen outlook is much more customizable and further improvements and changes to the programming will be easier to make.

The work was in addition to the hours and scope that was included in the original agreement. Wastewater staff negotiated with the consultant and agreed to pay for 48 hours using the same labor rates as the original agreement.

Item 7 - Document Programming Logic Control Bases

The original agreement included PLC (Programming Logic Control) for the existing Wastewater Treatment Plant and known future projects such as Aerated Static Pile Composting and Aeration Basins. Changes to the PLC were needed to accommodate new or future projects such as Primary Clarifiers and Main Pump Station improvements.

The consultant added connection points in the PLC bases and added them to the final drawings. The number of cards was increased and the chassis size was also increased.

The work was in addition to the hours and scope that was in the original agreement. Wastewater staff negotiated with the consultant and agreed to pay for 32 hours of time

for drafting and documentation on the drawing sets using the same labor rates as the original agreement.

Item 8 - Review & Incorporate Network Internet Protocol in Standards

The original agreement included standard Internet Protocol (IP) addressing. The IP addressing was re-allocated to government IP addressing standards for security and internal navigation of the subcomponents within the system.

The work was in addition to the hours and scope that was in the original agreement. Wastewater staff negotiated with the consultant and agreed to pay for 16 hours for the work.

Item 9 - Revise Subconsultants Contract on Interface

The original agreement included hours for Dakota Hogback as a subconsultant to Huffman Engineering. The City requested additional programming work be performed by Dakota Hogback on the SCADA work related to the interface between the current projects and the future projects at the Wastewater Treatment Plant.

The work was in addition to the hours and scope that was in the agreement (see Item Number 7). Wastewater staff negotiated with the consultant and agreed to pay for 16 hours of time for the additional work using the same labor rates as the original agreement.

Alternatives

It appears that the Council has the following alternatives concerning the issue at hand. The Council may:

1. Move to approve
2. Refer the issue to a Committee
3. Postpone the issue to future date
4. Take no action on the issue

Recommendation

Public Works Administration recommends that the Council approve Addendum Number 2 with Huffman Engineering of Lincoln, Nebraska.

Sample Motion

Move to approve Addendum number 2 with Huffman Engineering of Lincoln, Nebraska.

Asset	Actual Task Hours	Hours in Original Agreement	Variation	Negotiated Compensation Hours	Rate	Total
Technician	589	270	(319)	104	\$105.00	\$ 10,920.00
Drafting	520	144	(376)	60	\$60.00	\$ 3,600.00
ADDITIONAL COMPENSATION FOR ITEM 1						\$ 14,520.00

Item 6 Human Machine Interface (HMI) screen block and text modifications.

Asset	Actual Task Hours	Hours in Original Agreement	Variation	Negotiated Compensation Hours	Rate	Total
Engineer	48	0	(48)	48	\$135.00	\$ 6,480.00
ADDITIONAL COMPENSATION FOR ITEM 6						\$ 6,480.00

Item 7 Document current/near future component connection points in Programmable Logic Controller (PLC) bases in final drawings.

Asset	Actual Task Hours	Hours in Original Agreement	Variation	Negotiated Compensation Hours	Rate	Total
Drafting	32	0	(32)	32	\$60.00	\$ 1,920.00
ADDITIONAL COMPENSATION FOR ITEM 7						\$ 1,920.00

Item 8 Review and incorporate Network Internet Protocol (IP) addressing throughout the Ethernet infrastructure in city network standards.

Asset	Actual Task Hours	Hours in Original Agreement	Variation	Negotiated Compensation Hours	Rate	Total
Engineer	16	0	(16)	16	\$135.00	\$ 2,160.00
ADDITIONAL COMPENSATION FOR ITEM 8						\$ 2,160.00

Item 9 Revise Sub consultant contracts per variations in scope of work.

Asset	Actual Task Hours	Hours in Original Agreement	Variation	Negotiated Compensation Hours	Rate	Total
Management	16	0	(16)	16	\$135.00	\$ 2,160.00
ADDITIONAL COMPENSATION FOR ITEM 9						\$ 2,160.00

ADDENDUM NUMBER 2 GRAND TOTAL

\$37,800.00

(iii) **Agreement Form; Contract Agreement; Page CA-2; ARTICLE II; as stated:**

ARTICLE II. That the City shall pay to the consultant for the performance of the work embraced in this agreement and the consultant will accept as full compensation therefore the sum (subject to; not to exceed line items limits as provided by the agreement) of ~~Two hundred forty one thousand eight hundred eighty dollars & zero cents Dollars \$ 241,880.00~~ ~~Two hundred forty nine thousand six hundred eighty dollars & zero cents Dollars \$ 249,680.00~~ **Two hundred eighty seven thousand four hundred eighty dollars & zero cents Dollars \$ 287,480.00** for all services, materials, and work covered by and included in the agreement award and designated in the foregoing Article I; payments thereof to be made in cash or its equivalent in the manner provided in the agreement.

IN WITNESS WHEREOF, owner and engineer have executed this Addendum Number 2.

City of Grand Island, Nebraska
OWNER

Huffman Engineering
ENGINEER

By: _____

By: _____

Name: Margaret Hornady

Name: Howard Huffman

Title: Mayor

Title: President

Date: _____

Date: _____

Attest:

RaNae Edwards, City Clerk

Approved as to Form _____ September 14, 2010 City Attorney

RESOLUTION 2010-248

WHEREAS, on June 24, 2008, by Resolution Number 2008-168, the City Council of the City of Grand Island approved an agreement with the consulting engineering firm, Huffman Engineering of Lincoln, Nebraska for the professional services associated to the Evaluation/Recommendation, Design, and Installation/integration of the replacement of components in the Supervisory Control Data Acquisition (SCADA) System; and

WHEREAS, on October 13, 2009, by Resolution Number 2009-269, the City Council of the City of Grand Island approved Addendum Number 1 for \$7,800.00 with the consulting engineering firm, Huffman Engineering; and

WHEREAS, Addendum Number 2 for \$37,800.00 was negotiated with the consulting engineering firm Huffman Engineering of Lincoln, Nebraska; and

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE CITY OF GRAND ISLAND, NEBRASKA, that Addendum Number 2 for \$37,800.00 with the consulting engineering firm, Huffman Engineering of Lincoln, Nebraska, is hereby approved; and

BE IT FURTHER RESOLVED, that the Mayor is hereby authorized and directed to execute such addendum to the agreement on behalf of the City of Grand Island.

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Adopted by the City Council of the City of Grand Island, Nebraska, September 14, 2010.

Margaret Hornady, Mayor

Attest:

RaNae Edwards, City Clerk

Approved as to Form	<input type="checkbox"/> _____
April 13, 2010	<input type="checkbox"/> City Attorney