

Meeting Date: 8/4/2016

Report Type: Consent

Report ID: 2016-00747

Title: Supplemental Agreement: Programming Services for the Water Treatment Plants Rehabilitation Design Project (Z14006000)

Location: Districts 3 and 6

Recommendation: Pass a Motion authorizing the City Manager, or the City Manager's designee, to execute Supplemental Agreement No. 2 to City Agreement No. 2013-0607 with JSP Automation, for additional programming services in an amount not-to-exceed \$210,568, bringing the agreement's total not-to-exceed amount to \$1,505,193.

Contact: Dan Sherry, Engineering & Water Resources Manager, (916) 808-1419; Dave Hansen, Supervising Engineer, (916) 808-1421; Charley Cunningham, O&M Superintendent, (916) 808-5518, Department of Utilities

Presenter: None

Department: Department Of Utilities

Division: Electrical & Instrumentation

Dept ID: 14001361

Attachments:

1-Description/Analysis

2-Background

3-Agreement

4-Attachment 1 to Agreement

City Attorney Review

Approved as to Form

Joe Robinson

7/21/2016 2:54:14 PM

Approvals/Acknowledgements

Department Director or Designee: Bill Busath - 7/15/2016 9:34:05 AM

Description/Analysis

Issue Detail: Staff recommends Council approve a supplemental agreement with JSP Automation to provide additional programming services for improvements currently under construction at the Sacramento River Water Treatment Plant (SRWTP) and the E.A. Fairbairn Water Treatment Plant (EAFWTP).

Due to schedule changes, construction delays, unanticipated coordination with other suppliers, design changes during construction, and necessary programming modifications, an increase of JSP Automation's programming services, beyond what was anticipated at the start of the Water Treatment Plants Rehabilitation Design Project (Z14006000, Project), is required.

Policy Considerations: The Project, which provides updated infrastructure for a safe and reliable drinking water supply, is consistent with City Council focus areas of public safety, economic development, livability, and sustainability. City Council approval is required for this supplemental agreement because it exceeds the limit of the City Manager's approval authority.

Economic Impacts: None.

Environmental Considerations: The Community Development Department, Environmental Planning Services prepared a Mitigated Negative Declaration for the Project. City Council approved the Mitigated Negative Declaration and adopted the Mitigation Monitoring Report on March 20, 2012 (Resolution No. 2012-067). Approval of the proposed supplemental agreement will not result in any new environmental impacts not previously identified and analyzed in the adopted Mitigated Negative Declaration.

Sustainability: The Project is consistent with the City's Sustainability Master Plan by providing a safe and reliable water supply for the Sacramento region.

Commission/Committee Action: Not applicable.

Rationale for Recommendation: Approval of Supplemental Agreement No. 2 will authorize JSP Automation to complete the necessary programming services for the Project. These additional services are needed to accommodate changes in design and contractor coordination that occurred during construction of the Project. These tasks are critical to ensure the timely completion of the project and the safe and continual operation of the City's water treatment facilities.

Financial Considerations: Supplemental Agreement No. 2 is for an amount not-to-exceed \$210,568, for a new total contract amount not-to-exceed \$1,505,193. There are sufficient Water Funds (Fund 6005) in the Project for these services.

Local Business Enterprise (LBE): JSP Automation is an LBE.

BACKGROUND

The City's two surface water treatment plants, the Sacramento River Water Treatment Plant (SRWTP) and the EA Fairbairn Water Treatment Plant (EAFWTP), were constructed in the 1920s and 1960s, respectively. Rehabilitation and improvement work is being performed as part of the Water Treatment Plants Rehabilitation Project. Construction of these improvements began in May 2013.

JSP Automation was selected through a Request for Qualifications (RFQ) process to provide SCADA and PLC programming services for the Project. On April 2, 2013, the City Council authorized a professional services agreement with JSP Automation (Contract 2013-0607) to perform Programming Services for the Water Treatment Plants Rehabilitation Project. Due to schedule changes, construction delays, and necessary programming modifications, on March 8, 2016 City Council authorized supplemental agreement 1 for an amount not to exceed \$405,000, which increased programming services beyond what was anticipated at the start of the Water Treatment Plants Rehabilitation Project. The current contract amount, which includes the original amount and supplemental agreement 1, is not-to-exceed \$1,294,625. This second supplemental agreement will increase the original agreement to a not-to-exceed amount of \$1,505,193. This agreement includes programming Programmable Logic Controllers (PLCs), Human Machine Interfaces (HMI), and multiple Schneider Electric Modicon Quantum Unity processors.

The agreement was based on providing the scope of services anticipated prior to the commencement of construction on the project. Due to schedule changes, construction delays, unanticipated coordination with other suppliers, design changes during construction and necessary programming modifications, the scope of services has increased beyond what was anticipated at the start of this project.

SUPPLEMENTAL AGREEMENT

Project Title and Job Number: Z14006000 - WTP's REHABILITATION PROJECT

Date: 7/7/16

Purchase Order #: 20777

Supplemental Agreement No.: 2

The City of Sacramento ("City") and JSP AUTOMATION ("Contractor"), as parties to that certain Professional Services Agreement designated as Agreement Number 2013-0607, including any and all prior supplemental agreements modifying the agreement (the agreement and supplemental agreements are hereafter collectively referred to as the "Agreement"), hereby supplement and modify the Agreement as follows:

1. The scope of Services specified in Exhibit A of the Agreement is amended as follows:

JSP to provide all necessary SCADA and PLC programming services that have been identified through Design Clarification Memorandum (DCM), change order, Request For Information (RFI), submittal response, and contractor coordination for the Water Treatment Plants Rehabilitation Project. (refer to Attachment describing additional services)

attached hereto and incorporated by this reference.

2. In consideration of the additional and/or revised services described in section 1, above, the maximum not-to-exceed amount that is specified in Exhibit B of the Agreement for payment of Contractor's fees and expenses, is increased by \$210,567.50, and the Agreement's maximum not-to-exceed amount is amended as follows:

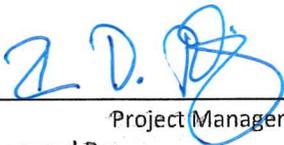
Agreement's original not-to-exceed amount:	\$ 889,625.00
Net change by previous supplemental agreements:	\$ 405,000.00
Not-to-exceed amount prior to this supplemental agreement:	\$ 1,294,625.00
Increase by this supplemental agreement:	\$ 210,567.50
New not-to exceed amount including all supplemental agreements:	\$ 1,505,192.50

3. Contractor agrees that the amount of increase or decrease in the not-to-exceed amount specified in section 2, above, shall constitute full compensation for the additional and/or revised services specified in section 1, above, and shall fully compensate Contractor for any and all direct and indirect costs that may be incurred by Contractor in connection with such additional and/or revised services, including costs associated with any changes and/or delays in work schedules or in the performance of other services or work by Contractor.

4. Contractor warrants and represents that the person or persons executing this supplemental agreement on behalf of Contractor has or have been duly authorized by Contractor to sign this supplemental agreement and bind Contractor to the terms hereof.

5. Except as specifically revised herein, all terms and conditions of the Agreement shall remain in full force and effect, and Contractor shall perform all of the services, duties, obligations, and conditions required under the Agreement, as supplemented and modified by this supplemental agreement.

Approval Recommended By:


Project Manager

Approved By:


Contractor

Approved By:

City of Sacramento

Approved As To Form By:


City Attorney

Attested To By:

City Clerk

Date: 6/13/16

ENGINEERING AND INTEGRATION SERVICES COST PROPOSAL

Project Location: City of Sacramento
Project Name: Water Treatment Plants
Subject: Cost Proposal for Programming Services

This document is offered to address the additional time and budget to complete the above referenced contract and include additional services requested by the City to update the existing PLC infrastructure to maintain operation consistency between PLC programs and SCADA applications that were developed as a part of the new construction project. The following proposal is offered based on a review of the past and current schedules, JSP work logs and meeting with the City regarding project enhancements and schedules for completion. The costs are separated for each item of discussion to provide the City with supporting information for review.

Item 1. - Additional Project Budget

JSP requested a budget increase to the project to add additional services, overcome many of the schedule delays and deficiencies and overruns associated with the start-up and commissioning of the above referenced project. This initial increase covered costs to provide additional services, maintain a continual site presence for system testing and commissioning. Given that there is no precise mechanism to estimate the schedule and delays associated with the project commissioning, JSP worked with the City to arrive at a budget increase based on the anticipated commissioning schedule back in November of 2015. This estimate was based on perceived time requirements requiring JSP's continual presence that would carry JSP through June in accordance with the following site work effort:

- 100 percent work effort from January to March
- 50 percent work effort from April to May
- 10 percent work effort to address minor issues and program revisions

Upon review of the JSP work logs several factors have contributed to JSP services to exceed the estimated work effort (100 percent work effort through June thus requiring additional budget to complete the contracted services. This additional budget can be attributed to the following:

- Schedule delays in start-up and commissioning
- Testing delays associated with extended testing times, failure of mechanical components and lack of system readiness.
- JSP on several occasions had to modify or develop PLC code as a work around to accomplish testing on systems that were not complete mechanically to perform the specified testing services.

- Modifications and additions to code during the start-up and commissioning effort to work around deviations in packaged system supplier systems, to provide additional features and functionality identified during the start-up effort to improve system operation and increase maintainability.
- Program research and development to provide a uniform solution to communicate with Modbus Serial devices.

Based on the current schedule and the services remaining JSP believes that an accurate estimate can now be provided to close-out the project requirements and complete all the required testing and commissioning associate with the construction contract completion.

Location	Cost
Extended Services through June	\$ 76,167.50
Training	\$ 2,500.00
Area 71 Start-up Per Schedule 6/15/15 8 days	\$ 16,000.00
Area 52 Filter Revisions and Operational Testing	\$ 12,500.00
SCADA and PLC System Punchlist Items	\$ 20,000.00
Total Cost	\$127,167.50

Exclusion:

- Standby time for system that are unavailable or not mechanically ready for commissioning.
- Demobilizing and Remobilizing Programming service resulting from last minute schedule changes less 24 hours.

Item 2. - Serial Modbus Communications

During the course of project construction, there were issues associated with Modbus Serial to Ethernet communications required for communications with valves, power monitors and other components. The issues at hand were related to product availability (product discontinued), and the inability of the replacement product (Pro-Soft Module) to operate in redundant mode. Based on this JSP worked with the City to develop a working prototype that would utilize M340 processors to handle the communications and provide the desired redundancy. Since JSP was able to provide this functionality, the solution can now be deployed at all City requested locations.

JSP will provide SCADA, PLC and network configuration services to program and configure the M340 PLC's as communications hubs for serial based Modbus communications to work in a redundant configuration where indicated below. All sites will be programmed in accordance with the prototype development already achieved by JSP. Programming will occur at the following locations:

- Sacramento 19 Redundant Operation (22 Valves and a PQM)
- Sacramento 19A Single Operation (2 Valves and a PQM)
- Sacramento 42 Redundant Operation (9 valves and a PQM)
- Sacramento 52 Redundant Operation (34 Valves)
- Sacramento 71 Redundant Operation (11 Valves, 2 PQM, 2 BC, 2Flowmeters)
- Sacramento 49 Redundant Operation (13 Valves and a PQM)

- Sacramento 82 Single Unit Operation (PQM, Breaker, 2 Blowers, 2 Backwash Pumps)
- Fairbairn 19 Redundant Operation (12 Valves and a PQM)
- Fairbairn 19 A Single Operations (2 Valves and PQM)

Cost:

Location	Cost
Sacramento Area 19	\$ 19,000.00
Sacramento Area 19A	\$ 4,000.00
Sacramento Area 42	\$ 6,500.00
Sacramento Area 52	\$ 13,500.00
Sacramento Area 49	\$ 8,200.00
Sacramento Area 71	\$ 8,200.00
Sacramento Area 82	\$ 12,500.00
Fairbairn Area 19	\$ 9,500.00
Fairbairn Area 19A	\$ 2,000.00
Total Cost	\$83,400.00

Assumptions:

1. City to provide all hardware and installation of hardware.
2. City to assist in testing and verification of the physical devices such as valves, power monitors, etc.
3. Excludes process testing, since processes have already been verified. If additional process testing is required JSP will provide at its published rate.
4. All field devices are functional and configured for communications.

Exclusion:

1. Materials
2. Installation
3. Programming of Filed Devices
4. Field Technician (Provided by City) to verify end device operation.

END OF PROPOSAL