Legislation Text

File #: 2018-990, **Version:** 1

Proposed Change Order No. 2

GLWA-CS-108

Automation Needs Assessment

Agenda of:	November 28, 2018	
Item No.:	**2018-990**	
Amount:	Original Contract	$ 1,395,944.25
	Change Order No. 1	0.00
	Proposed Change Order No. 2	357,225.00
	Total Revised Contract	$ 1,753,169.25

TO: The Honorable
Board of Directors
Great Lakes Water Authority

FROM: Sue F. McCormick
Chief Executive Officer
Great Lakes Water Authority

DATE: November 9, 2018

RE: **Proposed Change Order No. 2**

Contract No. GLWA-CS-108
Automation Needs Assessment
Vendor: Arcadis

MOTION

Upon recommendation of Cheryl Porter, Chief Operating Officer - Water and Field Services, the Board of Directors (Board) of the Great Lakes Water Authority (GLWA), authorizes the Chief Executive Officer (CEO) to **enter into Contract No. GLWA-CS-108 Proposed Change Order No. 2 "Automation Needs Assessment" with Arcadis, at an increased cost of $357,225.00 for a total not to exceed amount of $1,753,169.25 and for an increased duration of 8 months for a total contract duration of 19 months;** and authorizes the CEO to take such other action as may be necessary to accomplish the intent of this vote.

BACKGROUND

The Great Lakes Water Authority (GLWA) owns and operates five water treatment facilities which provide water to nearly 4 million customers in southeastern Michigan. The Northeast (NE), Springwells (SPW), Southwest (SW), Lake Huron (LH), and Water Works Park (WWP) Water Treatment Plants (WTP) have a firm high service pumping capacity of 2,400 million gallons per day. Four of the five plants (NE, SPW, SW, and WWP) are conventional treatment facilities with the following process trains: rapid mix, coagulation, flocculation, sedimentation, granular media filtration, and disinfection. Lake Huron is the only facility which is operated as a “modified direct filtration” plant, which means the sedimentation basins are used as contact basins and do not require a minimum detention time of 4 hours. In addition, Water Works Park is the only plant which employs intermediate ozonation for primary disinfection control.

The supervisory control and data acquisition (SCADA) industry is constantly evolving as new technologies are introduced to the marketplace. Instruments and devices are becoming smarter, with more data available for use in SCADA systems. In addition, digital communications are becoming more commonplace for instruments. A robust growth rate is expected in the next 10 years for the global SCADA market. SCADA systems can provide a significant savings in time and money for industries by enhancing efficiency via improved communication and rapid distribution of information, along with improved efficiency of facility operations. SCADA in the water industry has developed over the last few decades from an add-on service to a key part of industry operations. Many utilities have reached critical decision points related to SCADA for which there are several reasons. First, due to an aging workforce that has a vast amount of institutional knowledge, challenges exist in training a replacement workforce to maintain water industry operations. Second, many original installations of SCADA systems have either become obsolete or are legacy systems with limited support and functionality. This results in difficult and expensive decisions for migration of old SCADA systems to newer ones. Third, as SCADA systems have become more accessible and merged into the IT systems of water municipalities, alarming and cybersecurity have become an increased area of focus. These challenges have resulted in added pressure on water utilities to stay at the leading edge of technology while balancing cost as well.

JUSTIFICATION

GLWA desires to maintain a world-class utility outlook and fully leverage the benefits of SCADA and automation, including the implementation of future-proof systems, or systems that can leverage emerging trends and technologies. To meet this overall vision, several pillars are critical. The Condition Assessment report provided an in-depth review of the existing WTP plant SCADA systems. In general, the plant SCADA systems need phased improvements to achieve the visions outlined above.

What is needed is an overall approach to improvements recognizing the need to establish a baseline set of standards, followed by targeting specific areas of improvement at each plant.

Many water utilities today have developed a working SCADA Governance Document (SGD) that addresses ongoing standards, processes, and procedures for the utility’s SCADA system. Many of the elements included in an SGD are identified herein and would form the basis for GLWA’s SGD. For larger utilities, this set of governance documents addresses the entire range of issues affected by the utility’s SCADA system - technical device specifications, sole-source item justifications, staffing needs, and approved procurement methods and procedures to name a few. The SGD provides the necessary guidance so that future upgrade and replacement projects are implemented according to established standards. The existing condition assessment of the GLWA WTP’s SCADA assets revealed a paramount need to champion and develop such a document. As part of an immediate need, a project to develop the SGD should be undertaken to capture and document GLWA’s vision with respect to many necessary aspects.

PROJECT MANAGEMENT STATUS

Original Contract Duration: 7 Months

Change Order No. 1:	4 Months
Proposed Change Order No. 2:	8 Months
New Contract Duration:	19 Months

PROJECT ESTIMATE

Original Contract Price:	$ 1,395,944.25
Change Order No. 1:	0.00
Proposed Change Order No. 2:	357,225.00
New Contract Total:	$ 1,753,169.25

FINANCIAL PLAN IMPACT

Summary: Sufficient funds are provided in the financial plan for this proposed project change order.

Funding Source: Water Construction Bond

Cost Center: Water Engineering

Expense Type: Design/Study (5519-882111.000-617950-170301)

Estimated Cost by Year and Related Estimating Variance: See table below.

Fiscal Year	
FY 2019 Budget	$ 61,000.00
Financial Plan Estimate	$ 61,000.00
Proposed Change Order	357,225.00
Negative Estimating Variance	$(296,225.00)

SAVINGS, COST OPTIMIZATION, AND REVENUE ENHANCEMENT IMPACT

This project is a water plant automation study and preliminary design. Cost savings are not determinable at the time of this award.

The award of this change order to the vendor creates a negative estimating variance of $296,225.00. This variance will be funded from the construction phase by a budget amendment.

Project FY 19 estimate	$ 61,000.00
Proposed change order award	357,225.00

Construction Phase adjustment $ (296,225.00)

COMMITTEE REVIEW

This item was presented to the Operations and Resources Committee at its meeting on November 14, 2018. The Operations and Resources Committee unanimously recommended that the GLWA Board adopt the resolution as presented.

SHARED SERVICES IMPACT

This item does not impact the shared services agreement between GLWA and DWSD.