



## Legislation Details (With Text)

**File #:** 2019-147      **Version:** 1      **Name:**  
**Type:** Resolution      **Status:** New Business  
**File created:** 3/28/2019      **In control:** Board of Directors  
**On agenda:** 4/24/2019      **Final action:**  
**Title:** Proposed Amendment No. 2  
GLWA-CS-039  
Units of Service for Non-Master Metered Customers  
of Great Lakes Water Authority and System Water Audit  
CIP#: Not Applicable  
**Sponsors:** Suzanne Coffey  
**Indexes:** Planning Services  
**Code sections:**  
**Attachments:**

Date	Ver.	Action By	Action	Result
4/24/2019	1	Board of Directors	Denied	Fail
4/11/2019	1	Operations and Resources Committee	Recommended for Approval	Pass

**Proposed Amendment No. 2**  
**GLWA-CS-039**  
**Units of Service for Non-Master Metered Customers**  
**of Great Lakes Water Authority and System Water Audit**  
**CIP#: Not Applicable**

Agenda of: April 24, 2019

Item No.: **2019-147**

Amount:	Original Contract	\$ 805,740.00
	Amendment No. 1	\$ 495,000.00
	Proposed Amendment No. 2	\$ 574,100.00
	Total Revised Contract	\$1,874,840.00

**TO:** The Honorable  
Board of Directors  
Great Lakes Water Authority

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

**DATE:** April 8, 2019

**RE: Proposed Amendment No. 2  
Contract No.: GLWA-CS-039  
Units of Service for Non-Master Metered Customers of  
Great Lakes Water Authority and System Water Audit  
Vendor: Black & Veatch Ltd. Of Michigan**

### **MOTION**

Upon recommendation of Suzanne Coffey, Chief Planning Officer, 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-039 Amendment No. 2, “Units of Service for Non-Master Metered Customers of Great Lakes Water Authority and System Water Audit” with Black and Veatch Ltd. of Michigan (B&V), at an increased amount of \$574,100.00 for a total cost not to exceed \$1,874,840.00 and for an increased duration of two (2) years for a total contract length of four (4) years and five (5) 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) entered into a contract with B&V for “Units of Service for Non-Master Metered Customers of GLWA and System Water Audit” on January 31, 2017. The project had two (2) phases. Both Phase 1 and Phase 2 have been completed. The primary focus of the Phase 2 work was the completion of the four (4) District Metered Areas (DMAs), two (2) in Detroit and two (2) in Dearborn. This field work was very labor intensive and was sufficient to successfully update water demands for Detroit, Dearborn and Highland Park for Fiscal Year (FY) 2020. Additionally, Phase 2 included the completion of a long-term water audit for the regional water system. At the end of Phase 2, B&V prepared a report which included their conclusions and recommendations. Phase 2 was planned to accomplish several additional follow-on tasks from Phase 1 that were not completed due to the intensity of work needed to complete the DMAs in a manner which was acceptable to Dearborn, Detroit and our Member Partners in the Analytical Work Group. Among the work not fully completed is the finalization of master metering plans for Dearborn, Detroit and Highland Park. To ensure units of service would be completed by the date needed for charge setting for FY2020, it was determined that the report at the end of Phase 2 would exclude the master metering work. The Phase 2 report also contains many recommendations for future work to improve upon the non-master metered community demands and the GLWA System Water Audit.

### **JUSTIFICATION**

To continue the important work started with this effort, GLWA’s Team Members with the continued support of B&V is proposed. The major elements of a “Phase 3” of this initiative are detailed below.

- ***Finalize Master Metering Plans:***

- **Detroit** - B&V will complete the master metering work identified in Phase 2 by developing a conceptual plan for master metering for the City Detroit identifying the number of metering points required. The plan will also identify pipe sizes at these

locations, closed connection locations, and any meter math necessary to determine the volume of water supplied to the City of Detroit from the GLWA system. The progress of this activity will be coordinated with developments of an arbitration between GLWA and DWSD regarding ownership of certain pipes in the water system.

- Dearborn - B&V will refine the conceptual plan for master metering of Dearborn developed in Phase 2. As GLWA is currently in negotiation with Dearborn regarding a Model Water Contract, of which a Master Metering Plan is a part, finalization of the plan will be coordinated with the contract negotiations.
- Highland Park - B&V will review any available hydraulic modeling for Highland Park and evaluate the existing temporary metering of Highland Park for permanent metering locations. At this time Highland Park is metered at three (3) locations. Highland Park has initiated a discussion with GLWA to become master metered.
- **Wholesale Master Meter Testing:** B&V and its subcontractor will work with GLWA and Member Partners, where necessary, to perform meter testing on up to 20 GLWA master meters. B&V will review Wholesale Automatic Meter Reading data and work with GLWA's System Analytics and Meter Operations Group to identify meters for potential testing. This will provide validation of the flow measurement that is beyond the electronic signal calibration that is currently the testing practice for differential pressure and magnetic meters.
- **Review and Analysis of Water Treatment Plant (WTP) Pumping Data:** GLWA is actively improving the measurement of finished water volumes at its WTPs. B&V will meet with Managers of the WTPs and the Director of Water Operations to identify and obtain available data for the purposes of improving or verifying estimates of finished water. This work is expected to result in further improvements in the assessment of finished water measurement accuracy.
- **Improve Quantification of Water Losses:**
  - Planning and Implementation of District Metered Areas (DMAs): B&V will coordinate with Dearborn and Detroit to plan and implement one (1) DMA in Dearborn and two (2) DMAs in Detroit within Phase 3. These will be new areas relative to the DMAs completed in Phase 2 and will therefore require additional hydraulic modeling and planning discussions with Dearborn and Detroit.
  - Review of Small and Large Meter Test Data:
    - Phases 1 and 2 determined that very minimal meter testing is currently performed on Dearborn's meters and therefore very minimal data was available to assess the current level of meter inaccuracy. Given the average age and volumetric usage of Dearborn's meters it is likely that the meters may be

degrading. A testing program will assist in determining this and will aid in the establishment of recommended timing of replacement. The meter testing will also provide reliable data to improve understanding of current metering accuracy and overall levels of apparent loss.

- Detroit has a meter test bench that is equipped to perform meter testing. The Phase 2 report presented a recommendation for customer meter testing. This Phase 3 scope item includes collaboration with DWSD to review meter testing protocols, including selection methodology for the meters to be tested.
- **Training for GLWA Staff:** B&V and its sub-contractor will provide training to GLWA staff on a variety of meter best practices. These methods include flow testing, installation of ABB insertion meters, configuration and installation of Technolog Cello units, and the use of pitot rods for testing wholesale meters.
- **Attend, Conduct and/or Present at Customer Outreach and NMMC Meetings:** Given the complexity and gravity of the work being conducted in Phase 3, GLWA anticipates the need for B&V to attend and/or present at many meetings. Approximately 22 visits which include both field work and meetings are planned.
- **Development of Future Units of Service for Non-Master Metered Customers:** B&V will incorporate the relevant findings associated with Phase 3 activities into updated Units of Service recommendations.

#### **PROJECT MANAGEMENT STATUS - Duration**

Original Contract	Two (2) Years	01/31/17 to 01/31/19
Amendment No. 1	Five (5) Months	02/01/19 to 06/30/19
Amendment No. 2	Two (2) Years	07/01/19 to 06/30/21
New Contract	Four (4) Years Five (5) months	01/31/17 to 06/30/21

#### **PROJECT ESTIMATE**

Original Contract Price	\$805,740.00
Amendment No. 1	495,000.00

Amendment No. 2	<u>574,100.00</u>
New Contract Total	<u>\$1,874,840.00</u>

### **FINANCIAL PLAN IMPACT**

**Summary:** The proposed Amendment No. 2 of this contract was not specifically included in the FY 2020 or FY 2021 financial plan. There are, however, sufficient funds in the existing Systems Analytics Operations & Maintenance (O&M) budget to cover this proposed amendment. A budget amendment will be required in FY 2020 to transfer resources in the financial plan from Contractual Operating Services (5910-886401.000-617900-WS7900) to fund this phase. Budget will be moved from the same GL String for FY 2021.

**Funding Source:** Operations and Maintenance Budget

**Cost Center:** Systems Analytics (Centralized Services Cost Center 886401)

**Expense Type:** Contractual Professional Services (Account 617903)

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

<u>Fiscal Year</u>	<u>Amount</u>
FY 2017 Budget (Prorated)	\$ 235,740.00
FY 2018 Budget	570,000.00
FY 2019 Budget	495,000.00
FY 2020 Budget	0.00
FY 2021 Budget	<u>0.00</u>
Total Financial Plan Estimate	\$ 1,300,740.00
Total Adjusted Contract	<u>1,874,840.00</u>
Negative Estimated Variance	\$ (574,100.00)

### **COMMITTEE REVIEW**

This item was presented to the Operations and Resources Committee at its meeting on April 11, 2019. 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.