



Legislation Details (With Text)

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Title: GLWA-CON-250
Pumping Station No. 1 Rack and Grit and MPI 1 and
Jefferson Sampling Stations Improvements
Sponsors: Suzanne Coffey (WRRF)
Indexes: Wastewater Operations
Code sections:
Attachments: 1. GLWA-CON-250 Approval Checklist Form

Date	Ver.	Action By	Action	Result
1/24/2018	1	Board of Directors	Approved as Amended	Pass
1/10/2018	1	Operations and Resources Committee	Recommended for Approval	Pass

GLWA-CON-250

Pumping Station No. 1 Rack and Grit and MPI 1 and Jefferson Sampling Stations Improvements

Agenda of: January 24, 2018

Item No.: **2018-542**

Amount: \$6,193,801.41

TO: The Honorable
Board of Directors
Great Lakes Water Authority

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

DATE: January 8, 2018

RE: **Contract No.: GLWA-CON-250**
**Pumping Station No. 1 Rack and Grit and MPI 1 and Jefferson Sampling Stations
Improvements**
Vendor: Weiss Construction Company, LLC
Designer: Benesch

MOTION

Upon recommendation of Suzanne Coffey, Chief Planning Officer, Interim Chief Operating Officer - Wastewater, The Board of Directors (Board) of the Great Lakes Water Authority (GLWA), authorizes the Chief Executive Officer (CEO) to enter into Contract No. GLWA-CON-250, **"Pumping Station No. 1 Rack and Grit and MPI 1 and Jefferson Sampling Stations Improvements"** with Weiss Construction, LLC, at a cost not to exceed \$6,193,801.41 for a duration of 598 days; in addition, funding of \$1,740,000.00 is authorized to be allocated from the Capital Improvement Program allowance account 170100; and authorizes the CEO to take such other action as may be necessary to accomplish the intent of this vote.

BACKGROUND

The initial step in the wastewater treatment and resource recovery process is screening and grit removal. Because wastewater contains large solids and grit that can interfere with treatment processes and cause undue mechanical wear and increased maintenance on equipment, these materials require separate handling. We call this process area "Rack and Grit". The rack portion includes bar racks or screens that effectively strain out large items. The grit removal system separates the grit (sand, gravel, and other heavy solid materials that are heavier than the organic biodegradable solids) and removes it from the wastewater stream. After removal of this type of material, the wastewater flow moves onward to the primary clarifiers/sedimentation tanks.

The current rack and grit facility was constructed in the late 1930s. Major replacement and/or rehabilitation projects were undertaken on various elements of the facility in 1969, 1976, 1980s, 1990s and early 2000s. The current rack and grit facility houses eight bar racks, 16 grit units and a conveyance system.

On November 13, 2013, the Detroit Water and Sewerage Department (DWSD) entered into Contract No. PC-789 (Pumping Station No.1 Rack and Grit and MPI 1 and Jefferson Sampling Stations Improvements) with Weiss Construction Company, LLC in the amount of \$20,335,000.00. It was an open competitive lowest bid contract. The project was scoped with the goal to improve the reliability of the bar rack/screens, grit collection, conveyance system, sampling systems and replace some hot water and clarifier scum lines. Further, the renewal and improvement of the system would reduce system maintenance requirements and improve screenings/grit collection and its transportation.

On May 27, 2015, the Board of Water Commissioners approved Change Order No. 1, increasing the contract amount by \$580,000.00 to bring the total contract amount to \$20,915,000.00.

On June 12, 2015 the City of Detroit and the GLWA entered into certain lease agreements which, in relevant part, assigned certain contracts to the GLWA including this contract effective January 1, 2016.

In 2016, the project was underway and the contractor had completed the rehabilitation of two rack and grit collection systems for grit channels 7 and 8, flight conveyor 2, grit cross conveyor 2, and was working on grit channels 5 and 6 when a series of delays and impacts were experienced due to quality of material and performance issues. These included shear pin and sprocket failures, misalignments, and perceived poor grit collection on channels placed in service. GLWA hired a third-party consultant to investigate and analyze the performance of the system.

On August 21, 2017, GLWA approved a second change order to the contract increasing the time duration by 183 calendar days with no additional funds to allow time for a third-party investigation. Because of the challenges with quantifying grit removal and the complex hydraulics of the grit channels, the third-party expert's results were inconclusive with regard to pre and post construction grit collection efficacy. However, the expert opinions were invaluable in increasing GLWA's ability to understand the complex properties of the grit removal system and identify and implement a low cost, minor modification to the bucket design which has shown to have significantly improved grit removal efficacy.

The investigation of the performance and delay issues was done jointly by WRRF Engineering, GLWA Financial Services team members and our consultants PMA Consultants LLC (PMA). That same team negotiated a proposed settlement of all delays, impacts and claims with the contractor.

CURRENT STATUS OF WORK AND NECESSARY GO FORWARD STEPS

The contractor has completed the South Offload Building and North Offload Building work. All critical equipment submittals such as bar screens, grit collectors for the rack and grit building have been reviewed and approved. The contractor has completed the rehabilitation of half of the rack and grit collection systems and is currently working on the rack and grit system rehabilitation for main lift pumps 1 and 4 and the Jefferson Sample Station. There are three elements of the contract that are necessary to move the project forward to completion.

A. Amount Remaining from PC-789 and Necessary Time Extension

Substantial work totaling \$4,453,801.41 remains to be completed on the contract. Schedule analyses were performed to identify the activities that contributed the delay/impacts.

Based on the latest schedule update provided by Weiss dated October 10, 2017, substantial

completion of the entire project can be achieved by March 22, 2019 and final completion can be achieved by September 18, 2019. Given that this project is anticipated to continue for another two years, it was decided that moving to a new GLWA form of contract was appropriate as opposed to issuing a change order to the current contract.

B. Settlement of Claims

GLWA received a letter from the contractor dated October 11, 2017 for the delay claim amounting to \$1,278,575.00. In addition, contractor indicated that there were unresolved claims for change/cost proposal Nos. 16, 30, 32, 33, 38, and 41. A negotiation meeting was held on October 16, 2017 among GLWA (Construction and Procurement Groups), PMA Consultants, and the contractor. Contractor's October 11, 2017 letter and the schedule analysis of the PC-789 Contract were the basis of the negotiation. Delay/impact items were identified. During the October 16, 2017 meeting, amounts due to delay/impact by GLWA was negotiated with the contractor for an amount of \$727,000.00. Negotiation was not completed on that day. Two of the pending items were Weiss's liquidated damage amount for 130 calendar days as indicated in Weiss's October 11, 2017 letter and the previously denied unresolved claims. These two items were subsequently negotiated between the GLWA's Director of Engineering and Maintenance and Weiss Construction and the total negotiated amount for these two items were an additional \$13,000.00. Therefore, the total negotiated amount for all the delays/impacts and all unresolved claims as of this date have been negotiated for an additional amount of \$740,000.00 (\$727,000.00 plus \$13,000.00).

C. Owner Requested Additional Work (Not-To-Exceed)

A number of items have been identified by GLWA's Engineering team members which are required for a successful completion of this project. These proposed outstanding changes have been identified in the form of cost proposals (CPs) received from the contractor and are yet to be reviewed by GLWA and negotiated with the contractor. Total amount for these outstanding items is \$943,269.15 (see table below). A total amount of \$195,979.00 is available from the current provisionary allowances. Therefore, an additional amount of \$943,269.15 less \$195,979.00 equates to \$747,290.15, rounded to \$750,000, will be needed to add this work.

CPs	Description	CP Amounts
CP-31	Provide Type D1 Explosion proof light fixtures	\$40,000.00
CP-46	Replacement of HVAC Grille and Panel Steel Frames	\$45,000.00
CP-71	Changes to MPI Sample Pump Piping	\$9,528.05

CP-80	Add catwalk, hoist, beams/ trolley South offload bldg.	\$245,013.00
CP-84	Grout Swale under Grit Flight conveyor #2	\$5,126.00
CP-86	Additional testing/grit collector/bar screen sprockets	\$3,042.90
CP-87	Move Sprockets-Grit Tank 7N & 7S	\$46,622.20
CP-88	Pressure grout around 30 inch caisson at JSS	\$57,278.00
CP-89	Grout existing slots in the bar screen channels	\$45,081.00
CP-92	Add ground wire from N offload bldg. to MCC-5	\$5,784.00
CP-93	Test flights/flights wear shoes/bucket wear shoes	\$3,064.00
CP-98	Conduit Changes at Cross Conveyor #1	\$10,280.00
CP-99	Extension Edges for Grit Buckets	\$427,450.00
Total:		\$943,269.15

Because this is a retrofit project, additional changes are anticipated and therefore a contingency amount of \$250,000 is requested for unknown future changes for the remainder duration of the extended contract. Any unused money will be credited back to GLWA via the final change order.

The \$750,000.00 for owner requested changes added to the \$250,000.00 contingency for likely future changes total \$1,000,000.00.

Project Costs

Amount Remaining From PC-789	\$4,453,801.41
Settlement of Claims	740,000.00
Additional costs at Owner's Request	<u>1,000,000.00</u>
Total Contract Amount	\$6,193,801.41

Project Management Status

A. Start Work	January 30, 2018
B. Substantial Completion	March 22, 2019
C. Final Completion Date	September 19, 2019

Litigation

This vendor is not currently nor has been previously involved in any litigation with the GLWA or DWSD.

Financials

A financial risk assessment was performed by the GLWA via Dun & Bradstreet and was determined that the selected vendor has the financial capacity to perform the tasks under this contract. This information is available for the Board of Directors to review upon request.

BUDGET IMPACT

A reallocation from the allowance funding in the capital improvement plan FY 2018 in the amount of \$1,740,000.00 is necessary to cover the additional costs that will be incurred to successfully complete the project.

SAVINGS, COST OPTIMIZATION, AND REVENUE ENHANCEMENT IMPACT

The award of the contract has no quantifiable financial impact, however resolution of this matter will result in the successful completion of this project allowing for all assets to be placed in service.

COMMITTEE REVIEW

This matter was reviewed by the Operations and Resources Committee at its meeting on January 10, 2018.

SHARED SERVICES IMPACT

The proposed procurement does not have a shared services element.