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Department of Utilities
Wastewater Treatment Plant
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To: Chairperson Meltzer and Members of the Utilities Committee

From: Utilities Deputy Director, Chris Stempa

Date: February 27, 2020

Re: ***Award AWWTP Filtrate Tank Joint Repair Contract to R-Industries in the amount of $12,400 plus a 15% contingency of $1,860 for a total cost not to exceed $14,260***

BACKGROUND:

The Appleton Wastewater Treatment Plant (AWWTP) utilizes three (3) Belt Filter Presses (BFP's) to dewater anaerobically digested biosolids. The filtrate (a byproduct) from the belt presses travels through a network of 10-inch and 12-inch Ductile Iron (DI) pipe to a 688,160 gallon capacity concrete storage tank. Filtrate is conveyed from this tank in a controlled manner by gravity through 10-inch DI piping to the lower section of the facility where it is reintroduced in the aeration process for biological treatment.

The filtrate tank was originally constructed as a sludge digester in 1935 (original wastewater plant construction) then repurposed as a filtrate storage during 1992 AWWTP Improvements Project. Over that period, scale formation within the filtrate piping and along the filtrate storage tank sidewalls has occurred. This hard scale is described as "struvite" (Magnesium Ammonium Phosphate) and/or Calcium Carbonate (Calcite). Scale formation is a common occurrence with treatment facilities that dewater anaerobically digested sludge. A consequence of scale formation within the piping or within tanks is that it eventually decreases capacity. Contractors with high-pressure water blasting equipment (10,000 PSI) are hired to remove this scale formation from piping every two to three years to prevent flow obstruction. To remove scale formation from interior tank walls requires high pressure water blasting, mechanical removal, or both.

Observations during 2019 scale removal activities, which include subsequent inspections, confirmed that piping inside the filtrate storage tank was nearly 100% obstructed. Inspections inside the filtrate tank also confirmed that the wall-floor joint required rehabilitation of the original asphalt seal. As part of the 2019 AWWTP Improvements Project, McMahon developed plans and specifications as part of a Request for Quotation (RFQ) to address the tank joint repair work. This work will involve the contractor removing scale from the lower one-foot of the tank wall (entire tank circumference) and one-foot out along the tank floor

from the joint. A portion of the existing asphalt filler will be removed and joint surface prepared before reestablishing the asphalt seal. The joint repair work will be coordinated with filtrate tank piping and repair modifications covered under a separate RFQ (reference AWWTP Filtrate Tank Piping Repair and Modifications memorandum).

QUOTES:

On Thursday, February 27, 2020 McMahon reviewed the contractor quotations and verified that each met submittal requirements. The least cost quote was submitted by R-Industries. A summary of quote results is found below.

Company	Base Bid
Great Lakes Mechanical	$49,300
James J. Calmes Construction	$97,350
R-Industries	$12,400
RJM Construction	NR
Suez	NR
Ziese Construction	NR

Note: NR – No response, did not provide a quote

RECOMMENDATION:

I am requesting an award of the Filtrate Tank Joint Repair contract to R-Industries in the amount of in the amount of $12,400 plus a 15% contingency of $1,860 for a total cost not to exceed $14,260. If you have any questions or require additional information regarding this project please contact Chris Stempa at 920-832-5945.