

COMMISSION FILE NO: 21-081-6 **DATE INTRODUCED:** June 14, 2021

INTRODUCED BY: Executive Director (Signature on File in the Office of the Commission)

REFERRED BY COMMISSION CHAIRPERSON TO: Operations Committee

RELATING TO: Award of Contract S06038C16, Waste Activated Sludge Pump Replacements at South Shore Water Reclamation Facility

SUMMARY:

The Commission is requested to award and to direct the Executive Director to execute on behalf of the District Contract S06038C16, Waste Activated Sludge (WAS) Pump Replacements at South Shore Water Reclamation Facility (SSWRF), to Lee Plumbing Mechanical Contractors, Inc., (Lee Mechanical) in the amount of \$224,765. Lee Mechanical was the lowest responsible, responsive bidder among three bids received.

The activated sludge process is one of the fundamental steps in the water reclamation process. The process involves growing microorganisms in large aeration basins, where the microorganisms consume the organic material in wastewater. The source of the microorganisms is return activated sludge (RAS) from secondary clarifiers, which combine with primary clarifier effluent at the beginning of the aeration basins to form mixed liquor. The mixed liquor is continuously supplied with oxygen for several hours, which allows and promotes the microorganisms to consume the organic material in the wastewater.

The mixed liquor travels through the aeration basins to the secondary clarifiers. In the secondary clarifiers, the mixed liquor settles by gravity, creating activated sludge. The activated sludge is collected at the bottom of each secondary clarifier. Most of this activated sludge is returned as RAS and combined again with the primary clarifier effluent at the beginning of the aeration basins. With the continuous supply of new organic material, excess activated sludge is produced in the secondary clarifiers, which then must be “wasted”, creating WAS. WAS pumps remove the WAS from the SSWRF secondary clarifiers by either sending the WAS to the digesters for storage or pumping the WAS to the Jones Island Water Reclamation Facility for Milorganite® production.

ATTACHMENTS: **BACKGROUND** ☐ **KEY ISSUES** ☐ **RESOLUTION** ☒
FISCAL NOTE ☒ **S/W/MBE** ☒ **OTHER** ☐ _____

OP_Award_S06038C16_WasteActivatedSludgePumps_legislative_file.docx
05-17-21

COMMITTEE ACTION: _____ **DATE:** _____

COMMISSION ACTION: _____ **DATE:** _____

SUMMARY (Cont'd)

Award of Contract S06038C16, Waste Activated Sludge Pump Replacements at South Shore Water Reclamation Facility

At SSWRF, there are four WAS pumps (WAS Pumps 1, 2, 3, and 4). The four WAS pumps were installed in 1984 and have exceeded their useful service lives. Rotating parts show signs of severe wear, metallic parts are corroded beyond repair, and the pump seals leak activated sludge on the floor. This results in pumps frequently requiring repairs, and, if multiple pumps are out at the same time, could result in reduced plant capacity. The purpose of this project is to help ensure a reliable means to withdraw WAS from the system and keep the plant at full capacity.

Under this contract, the contractor will:

- Remove the existing pump motors, motor stands, pumps, suction elbows, and pump pedestals.
- Blast clean and epoxy coat the existing motor stands, suction elbows, and pump pedestals.
- Install new pumps and pump motors.
- Connect, align, and balance the four new pumps and motors.
- Perform pump startup and testing.

The contract duration is 240 days.

RESOLUTION

Award of Contract S06038C16, Waste Activated Sludge Pump Replacements at South Shore Water Reclamation Facility

RESOLVED, by the Milwaukee Metropolitan Sewerage Commission, that Contract S06038C16, Waste Activated Sludge Pump Replacements at South Shore Water Reclamation Facility, is awarded to Lee Plumbing Mechanical Contractors, Inc., in the amount of \$224,765, and that the Executive Director is directed to execute a contract on behalf of the District.