

COMMISSION FILE NO: 21-130-10 **DATE INTRODUCED:** October 11, 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 J01028C01, Jones Island Water Reclamation Facility
Primary Clarifiers Drive Improvements

SUMMARY:

The Commission is requested to award and to direct the Executive Director to execute on behalf of the District, Contract J01028C01, Jones Island Water Reclamation Facility (JIWRF) Primary Clarifiers Drive Improvements, to J.F. Ahern Company in the amount of \$2,222,000. J.F. Ahern was the lowest responsible, responsive bidder between two bids received.

Primary clarification is a key unit process used for the removal of biological oxygen demand and total suspended solids from the influent wastewater stream. JIWRF has eight circular primary clarifiers each 160 feet in diameter. Each clarifier contains a slowly rotating rake arm mechanism that collects primary sludge at the bottom of the clarifier and floating fats, oils, and grease (scum) from the surface of the clarifier. The rake arms are all fabricated from structural steel and are driven by a motorized clarifier drive mechanism located in the center of the clarifier.

The clarifier drive mechanisms were installed in 1980 and rehabilitated in 2010-2013. In the last few years, the clarifier drives have experienced excess wear. Water is intruding into the drive mechanisms during high wet weather flows, ultimately resulting in this excess drive wear and reduced system reliability. Since discovery of this issue, operating staff have modified wet weather operational procedures to limit those flows and help reduce the risk of clarifier drive damage.

The purpose of this project is to improve the reliability of the primary clarification process. Staff proposes to modify the clarifier drives by increasing the height of the drive mechanism 14 inches above the water level of each clarifier to prevent water intrusion into the drive mechanism. In addition, staff recommends replacing the clarifier drive mechanisms. Finally, staff recommends improvements to the torque control system to reduce excess wear on the clarifier drives.

ATTACHMENTS: **BACKGROUND** ☐ **KEY ISSUES** ☐ **RESOLUTION** ☒

FISCAL NOTE ☒ **S/W/MBE** ☒ **OTHER** ☐ _____

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SUMMARY (Cont'd)

Award of Contract J01028C01, Jones Island Water Reclamation Facility Primary Clarifiers Drive Improvements

Under Contract J01028C01, the contractor will:

- Replace the existing clarifier drives with a new modified drive system that:
 - Is located at a higher elevation.
 - Includes a larger maintenance platform to provide more working area.
- Raise the clarifier drive access walkways to match the increased height of the clarifier drives.
- Replace automatic condensate drains and heat tracing. This is necessary with the clarifier drives being replaced.
- Replace the existing torque protection system with an improved system that includes continuous torque monitoring.

The contract duration will be 790 days.

RESOLUTION

Award of Contract J01028C01, Jones Island Water Reclamation Facility Primary Clarifiers Drive Improvements

RESOLVED, by the Milwaukee Metropolitan Sewerage Commission, that Contract J01028C01, Jones Island Water Reclamation Facility Primary Clarifiers Drive Improvements, is awarded to J.F. Ahern Company in the amount of \$2,222,000, and that the Executive Director is directed to execute a contract on behalf of the District.