

COMMISSION FILE NO: 25-114-9 **DATE INTRODUCED:** September 8, 2025

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

REFERRED BY COMMISSION CHAIRPERSON TO: Operations Committee

RELATING TO: Contract J04084D01, Engineering Services – Ferric Chloride and Polymer System Upgrades in the Dewatering and Drying Facility

SUMMARY:

The Commission is requested to authorize the Executive Director to execute on behalf of the District Contract J04084D01, Engineering Services – Ferric Chloride and Polymer System Upgrades in the Dewatering and Drying (D&D) Facility, with Applied Technologies, Inc., (ATI) in an amount not to exceed \$644,428. ATI was the highest scoring proposer based on a qualifications-based selection method among four proposals received.

The District's D&D Facility, located within the Jones Island Water Reclamation Facility, houses equipment utilized to produce Milorganite®. Equipment includes 24 belt filter presses (BFP's) in the D&D Facility to dewater blended sludge (digested primary and waste activated sludge). Ferric chloride and polymer systems inject those chemicals into the blended sludge before the BFP's to promote the dewatering of solids, produce a drier sludge cake, increase the capture of solids in the cake, and control the size of Milorganite®. The BFP's increase sludge solids concentration of about 3.25% percent to about 16% in the dewatered cake.

The dewatered sludge cake is then fed into 12 rotary dryers, where it is heat dried to further reduce moisture, kill pathogens, and raise solids concentration to approximately 95%. The dried product is then screened and classified to remove oversized and fine material before bagging, producing the final Milorganite® product. Because heat drying is energy intensive, increasing the solids concentration through the BFP's and prior to drying reduces the amount of water to be evaporated, thereby decreasing overall energy demand.

The ferric chloride and polymer systems include storage tanks, piping, feed pumps, electrical, instrumentation, and controls. Most of the ferric chloride and polymer systems have been in service since the D&D Facility went online in 1994 and are original to the building.

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

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

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SUMMARY (Cont'd)

Contract J04084D01, Engineering Services – Ferric Chloride and Polymer System Upgrades in the Dewatering and Drying Facility

Issues with the ferric chloride system include:

- Unreliable operations due to pumps that become airlocked and overheat and due to outdated controls and strainers.
- System has worn, leaking valves and piping.
- Inability to fully drain the system.
- System does not have the ability to deliver ferric chloride at different rates to the north and south side BFP's. Having this ability can improve Milorganite® production process.

Issues with the polymer system include:

- The system is unreliable, and it is difficult to obtain replacement parts.
- One of the three systems is out of service and is used to supply parts for the remaining two systems.
- The strainer requires manual operation and lacks a backup mode.
- The polymer transfer system has inconsistent pump performance that needs frequent calibration.

These operational and maintenance issues have resulted in the need for a project focused on system replacement and improvements. Project J04084 aims to improve system reliability and operability and to ensure continuous biosolids processing and Milorganite® production. The general scope of this project includes the following:

- Replacing and upgrading pumps, valves, piping, and strainers.
- Rehabilitating one polymer mix/feed tank and returning it to service.
- Replacing and upgrading electrical, instrumentation and controls, including conduits, wiring, and conductors.

SUMMARY (Cont'd)

Contract J04084D01, Engineering Services – Ferric Chloride and Polymer System Upgrades in the Dewatering and Drying Facility

Under this proposed engineering contract, ATI will, relative to the project scope:

- Review existing reference information.
- Conduct meetings with representatives from the District and Veolia Water Milwaukee, LLC.
- Perform engineering evaluations and preliminary design.
- Prepare a design report.
- Evaluate and recommend construction constraints, sequences, and schedules to minimize impacts to D&D Facility operations.
- Prepare bid and construction documents (plans and specifications).
- Conduct bid and award services.
- Perform engineering services during construction.
- Provide facility operation and maintenance (O&M) manual updates, O&M training, and startup services.
- Perform applications engineering related to the new ferric chloride and polymer systems.

After design work is complete, the District will publicly bid the construction contract. The duration of this contract is approximately 45 months.

RESOLUTION

Contract J04084D01, Engineering Services – Ferric Chloride and Polymer System
Upgrades in the Dewatering and Drying Facility

RESOLVED, by the Milwaukee Metropolitan Sewerage Commission, that the Executive Director is authorized to execute Contract J04084D01, Engineering Services – Ferric Chloride and Polymer System Upgrades in the Dewatering and Drying Facility, with Applied Technologies, Inc., in an amount not to exceed \$644,428.