

COMMISSION FILE NO: 25-074-6 **DATE INTRODUCED:** June 9, 2025

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 J04077C01, Equalization and Blend Tanks Odor Control Upgrade at Jones Island Water Reclamation Facility; Change Order Request, Contract J04077D01, Engineering Services – Equalization and Blend Tanks Odor Control; and Restore Executive Director's Original Delegated Authority

SUMMARY:

The Commission is requested to award and to direct the Executive Director to execute on behalf of the District Contract J04077C01, Equalization and Blend (E&B) Tanks Odor Control Upgrade at Jones Island Water Reclamation Facility (JIWRF), to J. F. Ahern Co. (Ahern) in the amount of \$1,255,995. Ahern was the lowest responsible, responsive bidder among four bids received.

Further, the Commission is requested to authorize the Executive Director to execute a change order to Contract J04077D01, Engineering Services – E&B Tanks Odor Control, with Mead & Hunt, Inc., (M&H) in an amount not to exceed \$64,130 and to restore the Executive Director's original delegated authority.

The E&B Facility is part of the biosolids processing system for both JIWRF and South Shore Water Reclamation Facility (SSWRF). The E&B Facility receives biosolids from both JIWRF and SSWRF. It is comprised of two large tanks, a mixing air compressor system, and a blended sludge pump station. Tank No. 1 normally provides short-term storage of JIWRF primary sludge prior to conveyance to SSWRF for anaerobic digestion. Tank No. 2 normally mixes biosolids (waste activated sludge and digested sludge) to the required blend ratio prior to the production of Milorganite®.

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

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COMMITTEE ACTION: _____ **DATE:** _____

COMMISSION ACTION: _____ **DATE:** _____

SUMMARY (Cont'd)

Award of Contract J04077C01, Equalization and Blend Tanks Odor Control Upgrade at Jones Island Water Reclamation Facility; Change Order Request, Contract J04077D01, Engineering Services – Equalization and Blend Tanks Odor Control; and Restore Executive Director's Original Delegated Authority

The mixing air discharged from the two E&B tanks contains hydrogen sulfide (H₂S) and other odorous compounds. The existing odor control system consists of:

- Piping to collect and transport the odorous air from the E&B tanks.
- A carbon absorption unit to filter the odorous air.
- Water supply and drain piping system to regenerate the carbon bed.
- Instrumentation to measure differential pressure, temperature, and H₂S saturation at the carbon adsorption unit.
- Piping to transport the filtered air from the carbon absorption unit to a point where it is released outside the building.

The odorous air from the primary sludge storage tank has significantly higher concentrations of H₂S compared to the blended sludge tank. The existing carbon adsorption unit was designed to treat odorous air from tanks containing blended sludge, and not from a tank solely containing primary sludge. This results in frequent regeneration and replacement of the carbon in the existing adsorption unit.

This project will expand the E&B tank odor control system with a new biological treatment unit to remove the majority of the H₂S prior to discharge to a new carbon adsorber unit. The new carbon adsorber unit will serve as a polishing stage for further removal of odorous compounds. The biological treatment unit will reduce the frequency of carbon adsorber media regeneration and replacement. The goal of the new two-stage system is to reduce operations and maintenance (O&M) costs to treat the odorous air from the E&B tanks while maintaining or improving the reliability of H₂S removal.

Under Contract J04077C01, Ahern will:

- Remove the existing carbon adsorption unit, instrumentation, control panel, odorous air ducts, and piping.
- Vertically expand the odor control room to house the new biological treatment unit, including all architectural and structural components, lighting, heating, and ventilation.
- Install new odor control system, including biological treatment unit, carbon adsorption unit, pumps, control panels, odorous air ducts, and piping.
- Provide new electrical conduit and conductors for the new equipment.
- Provide new instrumentation and control equipment.
- Paint and label piping, mechanical, and electrical equipment.

The contract duration is 634 days.

SUMMARY (Cont'd)

Award of Contract J04077C01, Equalization and Blend Tanks Odor Control Upgrade at Jones Island Water Reclamation Facility; Change Order Request, Contract J04077D01, Engineering Services – Equalization and Blend Tanks Odor Control; and Restore Executive Director's Original Delegated Authority

In October 2022, the Commission authorized the Executive Director to enter Contract J04077D01 with M&H in an amount not to exceed \$348,445. The scope of this engineering design contract includes:

- Reviewing past air test results and performing additional testing, if needed.
- Identifying and evaluating feasible odor treatment technologies.
- Designing a new additional odor control system, including air piping, fans, and monitoring systems.
- Determining the location and housing for new odor treatment equipment, including an E&B Facility building addition, if needed.
- Associated geotechnical, civil, structural, mechanical, electrical, instrumentation and controls design.
- Identifying construction sequencing to minimize the disruption of facility operations during construction.
- Completing final design, including preparing bid and construction documents.
- Providing engineering services during construction.
- Preparing startup plans, updates to facility O&M manuals, O&M staff training, and post-startup assistance.
- Performing applications engineering.

During the project design phase, District staff executed change orders under Executive Director authority to expand M&H's design scope to add two engineering design scope items for the E&B Facility as follows:

- Heating, ventilation, and air conditioning (HVAC) controls: The E&B Facility, including the odor control room, is served by a single HVAC unit. Veolia Water Milwaukee, LLC, (VWM) managed the replacement of this HVAC unit in 2020 under a material capital replacement authorization from the District. The scope of that replacement did not include replacing the existing HVAC controls. After the new HVAC unit was installed, the controls were found to be ineffective and outdated. VWM has since submitted a new request to replace the HVAC controls and associated actuators, sensors, thermostats, and other equipment required to effectively and efficiently operate the air supply unit.

SUMMARY (Cont'd)

Award of Contract J04077C01, Equalization and Blend Tanks Odor Control Upgrade at Jones Island Water Reclamation Facility; Change Order Request, Contract J04077D01, Engineering Services – Equalization and Blend Tanks Odor Control; and Restore Executive Director's Original Delegated Authority

- National Fire Protection Association (NFPA) 820 improvements: NFPA 820 establishes standards for construction, ventilation, and electrical installation in wastewater facilities for protection against fire and explosion hazards. After the start of design for the E&B tanks odor control upgrade, the District separately completed an NFPA 820 compliance evaluation of the E&B Facility. This evaluation recommends HVAC improvements and flammable gas detection to achieve compliance with NFPA 820.

The scope of the requested change order includes the engineering services during the construction phase specifically for these two items. The major tasks include:

- Project management.
- Engineering services during construction.
- Facility O&M updates.
- Services to oversee commissioning of the HVAC upgrades.
- Applications engineering.

Following is a summary of the other change orders executed under Executive Director's authority:

- Develop an Abbreviated Facility Plan for this project, as required by the Wisconsin Department of Natural Resources.
- Provide estimates for energy use and greenhouse gas emissions necessary to meet the District's Comprehensive Environmental Management Policy.
- Evaluate the availability of equipment to meet the Build America Buy America (BABA) requirements associated with the Clean Water Fund Program. BABA requirements went into effect after the start of this contract.

SUMMARY (Cont'd)

Award of Contract J04077C01, Equalization and Blend Tanks Odor Control Upgrade at Jones Island Water Reclamation Facility; Change Order Request, Contract J04077D01, Engineering Services – Equalization and Blend Tanks Odor Control; and Restore Executive Director's Original Delegated Authority

CONTRACT COST CHANGES

	AMOUNT	PERCENTAGE INCREASE OVER ORIGINAL CONTRACT	AUTHORIZED BY	SWMBE
Original Contract	\$348,445		Commission	26.2%
Previous Change Orders	\$49,878	14.3%	Executive Director	-3.0%
Requested Change Order	\$64,130	18.4%	Request of the Commission	73.3%
Total Change Orders	\$114,008	32.7%		39.9%
TOTAL	\$462,453			29.6%

For engineering service contracts less than \$500,000, the Commission has delegated to the Executive Director the authority to make changes up to \$50,000. To date, the Executive Director has utilized \$49,878 of this authority, leaving a balance of \$122. Without this restored authority, work may need to stop while staff obtain the necessary change order authority from the Commission.

Staff will decrease the total cost for Project J04077, Odor Control E&B Facility, by \$591,500, because the low bid is less than budgeted.

RESOLUTION

Award of Contract J04077C01, Equalization and Blend Tanks Odor Control Upgrade at Jones Island Water Reclamation Facility; Change Order Request, Contract J04077D01, Engineering Services – Equalization and Blend Tanks Odor Control; and Restore Executive Director's Original Delegated Authority

RESOLVED, by the Milwaukee Metropolitan Sewerage Commission, that Contract J04077C01, Equalization and Blend Tanks Odor Control Upgrade at Jones Island Water Reclamation Facility, is awarded to J. F. Ahern Co., in the amount of \$1,255,995, and that the Executive Director is directed to execute a contract on behalf of the District.

FURTHER RESOLVED, by the Milwaukee Metropolitan Sewerage Commission, that the Executive Director is authorized to execute a change order to Contract J04077D01, Engineering Services – Equalization and Blend Tanks Odor Control, with Mead & Hunt, Inc., in an amount not to exceed \$64,130, and that the Executive Director's original delegated authority is restored.