

COMMISSION FILE NO: 16-145-11 **DATE INTRODUCED:** November 14, 2016

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

REFERRED BY COMMISSION CHAIRPERSON TO: Operations Committee

RELATING TO: Contract TS-2636, Conveyance Operation and Maintenance Manual – Phase One

SUMMARY:

The Commission is requested to authorize the Executive Director to execute on behalf of the District Contract TS-2636, Conveyance Operation and Maintenance Manual – Phase One, with Donohue & Associates, Inc., in an amount not to exceed \$228,450. Donohue & Associates, Inc., was the highest scoring responsible, responsive proposer of four proposals received.

The District owns, and Veolia Water Milwaukee (Veolia) operates, a wastewater collection, conveyance, and storage system. The Metropolitan Interceptor Sewer (MIS) system collects wastewater from 28 communities and conveys it to either the Jones Island or the South Shore Water Reclamation Facilities. When the MIS is unable to convey all sewage to the water reclamation facilities, some sewage is diverted to the Inline Storage System (ISS or Deep Tunnel), which stores excess sewage until it can be treated at the water reclamation facilities.

The process of conveying wastewater requires numerous facilities, including sewers, pumping stations, diversion structures, and level monitoring stations. The operation of the ISS requires facilities containing hydraulic flow control gates, diversion structures, and level monitoring. These facilities contain equipment, including electrical control panels, hydraulic systems for gate control, level monitoring instrumentation, and communication systems. These systems require ongoing maintenance and repairs to ensure reliable operation and to reduce the number and volume of sewage overflows. Maintenance and repair of the conveyance facilities relies on accurate, up-to-date, and readily available information.

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

OP_Award_TS-2636_Conveyance_OM_Manual_legislative_file.docx
10-26-16

COMMITTEE ACTION: _____ **DATE:** _____

COMMISSION ACTION: _____ **DATE:** _____

SUMMARY (Cont'd)

Contract TS-2636, Conveyance Operation and Maintenance Manual – Phase One

Veolia operators and District staff (during wet weather) monitor conditions throughout the system using a Supervisory Control and Data Acquisition (SCADA) system, and make operational decisions using information gathered.

The District currently does not have a comprehensive and consolidated Conveyance System Operations and Maintenance (O&M) Manual. The District has O&M information about each conveyance system site, but this information is not consolidated into a single location. There is no manual that identifies how the overall system operates during a variety of conditions; the District has site process control narratives, but some are incomplete or outdated. The ISS O&M manual is also outdated. It is difficult for users to collect information regarding each site, as this information is not in a single location. In addition, the District does not have a single, systemwide, wet weather operations manual that provides standard and general operating procedures for operators and decision makers to utilize during wet weather events. Existing operational information about each site (i.e. how the site is programmed to operate) may not be consistent with how each site is configured. Finally, the District also lacks information on pipeline cathodic protection systems, a set of standard maintenance procedures, and defined emergency procedures.

This contract is phase one of a multiphase project to create a complete Conveyance System Operation and Maintenance Manual. Phase one will define and create the overall layout, structure, and organization of the O&M Manual. This contract will also build the informational foundation of the manual. This is mainly to identify, gather, and compile information about:

- 1) The seven subsystems and which control structures are in each subsystem, including diversion chambers, diversion structures, intercepting structures, bypass structures, and pump stations;
- 2) The ISS, including dropshafts, trash racks, control buildings, access shafts, and odor controls;
- 3) The interfaces with the water reclamation facilities, including the Jones Island Harbor Siphons, the ISS Pump Station, and the South Shore Flow Control Structure; and
- 4) Wet weather operations, including event preparation, real-time controls, and active management decision making.

In addition, in this phase, the consultant will create a complete set of documentation for three control sites. This effort includes updating or creating a process control narrative, gathering all control logic and settings, electrical drawings, process diagrams, site plans, utility information, etc., and organizing the information into the manual. Creating a complete set of documentation for each site involves significant effort. Only three sites will be addressed in this phase, so that the method for compiling the information can be adequately detailed and costed prior to beginning the full effort.

SUMMARY (Cont'd)

Contract TS-2636, Conveyance Operation and Maintenance Manual – Phase One

The contract will also recommend and develop a method of storing and accessing information. The contract will also recommend and develop a method of allowing maintenance personnel to remotely access the O&M Manual while at conveyance sites. The O&M Manual will allow for the adding of new information as it becomes available as well as editing existing information.

Future phases of the project will:

- 1) Complete the documentation for each of the individual sites in the conveyance and storage system, which numbers approximately 300;
- 2) Complete the documentation on the cathodic protection systems, maintenance management, and emergency procedures; and
- 3) Compile all other information necessary for a complete and comprehensive O&M Manual.

The O&M Manual created by the project will increase the efficiency of O&M activities by making current information readily available from a single source to maintenance personnel and making this information available in the field via remote access devices. It will also allow prompt updating of information as changes and additions are made in the conveyance system.

The O&M Manual will be a resource for Veolia and MMSD staff involved with the operation of the conveyance system and the Deep Tunnel. The O&M Manual will document the decision making process utilized in wet weather operations and management of both the MIS system and Deep Tunnel storage system. It will document the automated controls in the SCADA system, Real Time Control Strategy, and the process of determining the volume reserved for separate sewerage. It will also document the process of operating the Harbor Siphon gate structure and the South Shore Flow Control structure, both of which have impacts on the conveyance system.

This manual will also be useful as a tool to train new staff on the conveyance system.

RESOLUTION

Contract TS-2636, Conveyance Operation and Maintenance Manual – Phase One

RESOLVED, by the Milwaukee Metropolitan Sewerage Commission, that the Executive Director is authorized to execute on behalf of the District Contract TS-2636, Conveyance Operation and Maintenance Manual – Phase One, with Donohue & Associates, Inc., in an amount not to exceed \$228,450.