



Metropolitan Water Reclamation District of Greater Chicago

100 East Erie Street
Chicago, IL 60611

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Title: Issue purchase order and enter into an agreement with the University of Illinois at Urbana-Champaign, for an investigation of Microbial Populations Responsible for Enhanced Biological Phosphorus Removal at the Stickney Water Reclamation Plant Using Molecular Microbiology Tools, in an amount not to exceed \$60,000.00, Account 201-50000-601170, Requisition 1400751

Sponsors:

Indexes:

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Date	Ver.	Action By	Action	Result
8/6/2015	1	Board of Commissioners	Approved	Pass
8/6/2015	1	Committee of the Whole	Recommended	Pass

TRANSMITTAL LETTER FOR BOARD MEETING OF AUGUST 6, 2015

COMMITTEE ON Procurement

Mr. David St. Pierre, Executive Director

Issue purchase order and enter into an agreement with the University of Illinois at Urbana-Champaign, for the Development of Molecular Tools to Monitor Microbial Populations Responsible for Enhanced Biological Phosphorus Removal at the Stickney Water Reclamation Plant, in an amount not to exceed \$60,000.00, Account 201-50000-601170, Requisition 1400751

Dear Sir:

Authorization is requested to issue a purchase order and enter into an agreement with the University of Illinois at Urbana-Champaign (UIUC), according to the terms and conditions of the Master Agreement, to conduct an investigation of microorganisms responsible for Enhanced Biological Phosphorus Removal (EBPR) at the Stickney Water Reclamation Plant (WRP), using molecular microbiology tools in collaboration with the study team of the District's Phosphorus Task Force. The project will also explore the correlation between phosphate accumulating organisms (PAOs) and EBPR performance, as well as evaluate and develop rapid methods for the routine monitoring of EBPR performance for process control purposes. The results of this study will greatly enhance the understanding of microbiology in the EBPR process configuration tailored to the Stickney WRP. This purchase order will expire July 31, 2016.

The principal investigator for this project will be Wen-Tso Liu, Ph.D., who is a professor in the Department of Civil and Environmental Engineering at UIUC. Dr. Liu is a reputable scientific investigator and has over 20 years of experience using molecular microbiology tools to monitor and identify microorganisms in various environments, including EBPR processes. Dr. Liu's research team has recently collaborated with the District's Monitoring and Research and Maintenance and Operations Departments in using the molecular microbiology tools to identify the microorganisms responsible for converting organic materials in the sludge to biogas in the

anaerobic digesters at the Stickney WRP with his own project funding. Dr. Liu's expertise in this field will be utilized in the biological phosphorus removal and recovery studies that the District is undertaking at the Stickney WRP.

Although the EBPR process has been established since 2013, the EBPR performance at the Stickney WRP, for reasons not fully understood, has been inconsistent. Dr. Liu and his team will work with the study team of the District's Phosphorus Removal Task Force to investigate the causes of this inconsistency in the EBPR process, that the District's study team developed using the existing infrastructure at the Stickney WRP, and develop tools that could be used for the routine monitoring of microorganisms related to the EBPR performance. The success of EBPR at the Stickney WRP will ensure that phosphorus in the wastewater liquid stream is removed and subsequently sent to the phosphorus recovery system for producing valuable fertilizers.

UIUC, particularly Dr. Liu, the expert provider in using the molecular microbiology tools to identify microbial populations responsible for EBPR, has submitted pricing for the services required. Inasmuch as Dr. Liu of the UIUC is the expert provider for the services required, nothing would be gained by advertising for bids (Section 11.4 of the Purchasing Act).

UIUC is a non-profit educational institution and is therefore not required to register with the State of Illinois.

The Multi-Project Labor Agreement is not applicable due to the specialized nature of the services required.

Inasmuch as the UIUC possesses a high degree of professional skill, it is recommended that the Director of Procurement and Materials Management be authorized to issue a purchase order and enter into an agreement without advertising, per Section 11.4 of the Purchasing Act, in an amount not to exceed \$60,000.00.

Funds are available in Account 201-50000-601170.

Requested, Thomas C. Granato, Director of Monitoring and Research, TCG:MPC:KB:mh
Recommended, Darlene A. LoCascio, Director of Procurement and Materials Management
Respectfully Submitted, Barbara J. McGowan, Chairman Committee on Procurement
Disposition of this agenda item will be documented in the official Regular Board Meeting Minutes of the Board of Commissioners for August 6, 2015