



# Metropolitan Water Reclamation District of Greater Chicago

100 East Erie Street  
Chicago, IL 60611

## Legislation Details (With Text)

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**Title:** Issue a purchase order and enter into an agreement with the University of Illinois at Urbana-Champaign for professional engineering services for Contract 10-048-4C, Modeling Geysering and Hydraulic Transients on North Branch Tunnel of the Mainstream TARP System, in an amount not to exceed \$84,837.00, Account 401-50000-601410, Requisition 1309916

**Sponsors:**

**Indexes:**

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Date	Ver.	Action By	Action	Result
8/12/2010	1	Committee of the Whole	Recommended	Pass
8/12/2010	1	Board of Commissioners	Approved	Pass

### TRANSMITTAL LETTER FOR BOARD MEETING OF AUGUST 12, 2010

#### COMMITTEE ON PROCUREMENT

Mr. Richard Lanyon, Executive Director

Issue a purchase order and enter into an agreement with the University of Illinois at Urbana-Champaign for professional engineering services for Contract 10-048-4C, Modeling Geysering and Hydraulic Transients on North Branch Tunnel of the Mainstream TARP System, in an amount not to exceed \$84,837.00, Account 401-50000-601410, Requisition 1309916

Dear Sir:

Authorization is requested to issue a purchase order and enter into an agreement with the University of Illinois at Urbana-Champaign (U of I) for professional engineering services for Contract 10-048-4C, Modeling Geysering and Hydraulic Transients on North Branch Tunnel of the Mainstream TARP System.

This project will be conducted under the auspices of the Master Agreement between the U of I and the District authorized by the Board of Commissioners at the Board Meeting of September 19, 2002, and amended to extend the termination date by the Board of Commissioners at the Board Meetings of October 16, 2003 and September 18, 2008.

The purpose of the Master Agreement was to allow the District to directly take advantage of the expertise offered by the U of I Department of Civil and Environmental Engineering. This agreement has been used to date for hydraulic model studies of the Calumet Pumping Station, Calumet Water Reclamation Plant settling tanks, sediment management in the SEPA stations, Phase I Modeling of both Calumet and Mainstream/Des Plaines TARP systems, and Phase II Modeling of the Calumet TARP System.

The modeling of geysering and hydraulic transients in the north branch tunnel includes an analysis of recent

rainfall data, performing simplified hydrologic simulations, utilizing the Illinois Transient Model for performing hydraulic simulations, and performing computational fluid dynamics simulations in order to provide a better understanding of the pressure changes and transient forces present in the tunnel during extreme fill events. This scope of work also includes an analysis of various proposed design solutions for mitigating the effects of transients in the north branch tunnel.

The total fee for the agreement is \$84,837.00.

The time for completion of the geysering and transient modeling is 4.5 months after award of the contract. There are no provisions in the agreement for the extension of time except for such reasonable period as may be agreed upon between parties.

The deliverables to be provided under this agreement include:

- A report describing the different storm scenarios simulated and the results of those scenarios with the objective of solving the geysering problem at DS-N20.
- Reports describing the simulations of various proposed design solutions for mitigating the effects of the transients in the North Branch Tunnel.

Two key personnel and 1,990 hours of university time are estimated for this work. The estimated average payroll rate is \$29.21/hour.

The components of the total fee for the agreement are as follows:

1. Direct Labor Costs:	\$58,131.00
2. Indirect Costs:	\$24,306.00
3. Reimbursable Direct Costs:	\$2,400.00
Total Fee (Not to Exceed):	\$84,837.00

Since the services to be provided are professional in nature, and the aforementioned university is reputable, it is recommended that the purchase order be issued without advertising, as per Section 11.4 of the Purchasing Act.

In view of the foregoing, it is recommended that the Director of Procurement and Materials Management be authorized to issue a purchase order to the University of Illinois at Urbana-Champaign, in an amount not to exceed \$84,837.00.

Funds are available in Account 401-50000-601410.

Requested, Kenneth A. Kits, Director of Engineering, WSS:KMF  
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 12, 2010