



**Request for City Council Committee Action
From the Department of Public Works**

Date: September 16, 2003
To: Honorable Sandra Colvin Roy, Chair Transportation & Public Works Committee
Referral to: Honorable Barbara Johnson, Chair Ways & Means/Budget Committee
Subject: **Performance Testing Agreements for Ultrafiltration Equipment
Procurement for Membrane Filtration Plant at Fridley**

Recommendation:

1. Authorize execution of agreements with up to five qualified equipment manufacturers to conduct performance testing of ultrafiltration membrane pilot-scale systems. Stipend for successfully completing testing will be \$50,000 per system. Funds are available within the project budget (Water 7400/ 950/ 9515/ C5200024).

Previous Directives:

- On August 11, 2000, the City Council authorized the development of similar agreement for an earlier phase of the ultrafiltration project for the Columbia Heights plant.
- Several actions related to the Membrane Filtration Plant in Columbia Heights.

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Approved by:

Klara A. Fabry, P.E., City Engineer, Director of Public Works

Presenters: Adam J. Kramer, P.E., Director, Water Works

Financial Impact (Check those that apply)

No financial impact - or - Action is within current department budget.
(If checked, go directly to Background/Supporting Information)

Action requires an appropriation increase to the Capital Budget

Action requires an appropriation increase to the Operating Budget

Action provides increased revenue for appropriation increase

Action requires use of contingency or reserves

Other financial impact (Explain):

Request provided to the Budget Office when provided to the Committee Coordinator

Background/Supporting Information:

The City of Minneapolis Capitol Improvement Plan includes building a new 95 million gallon per day (mgd) Water Treatment Plant using Ultrafiltration Membranes as the treatment technology. This proposed plant, called the Fridley Membrane Filtration Plant (FMFP) will be connected to the existing Fridley Filtration Plant (FFP) which was mostly constructed in 1925.

Public Works, with the technical assistance of consultants, conducted a treatment feasibility study for the entire water supply and treatment system. The team recommended the construction of two new membrane filtration plants, one at Columbia Heights Filtration Plant (CHFP) site, and the second near the existing Fridley Filtration Plant (FFP) site. The recommendation was reviewed by a Value Engineering study (conducted by experts from six top environmental engineering consults), and a Citizen's Advisory Committee (including Minneapolis residents, state health experts, and suburban customers). All concurred with the selection of the proposed membrane filtration technology.

The project is being done in phases. Phase One was performance testing and Procurement of membrane equipment for the Membrane Filtration Plant at Columbia Heights (CHMFP). Phase Two was the design and construction of the CHMFP building and piping system to house and operate the UF equipment. These phases are both underway.

Phase Three (current project) is the procurement of membrane equipment for FMFP at Fridley. This phase includes about 9 months of performance testing to evaluate membrane capacity, operational efficiency, life-cycle costs, and design parameters of each manufacturer's membrane system.

A future phase in the overall plan includes design and construction of the FMFP building system. The overall plan also includes evaluation of treatment enhancements to optimize membrane life span such as the addition of a granular activated carbon treatment system. The primary objective of the overall plan is to meet future regulations by providing physical removal of pathogenic microorganisms.

Current Request

Technical Information Packages and Bids were received on August 26, 2003 from four vendors, which offered 5 different ultrafiltration membrane systems. (The specifications allowed a manufacturer to offer more than one membrane system, as long as each system met the qualification criteria.) The (cost) Bids will remain sealed until after the completion of the performance testing.

The Technical Information Packages are under review by Public Works and consultants to evaluate the qualifications of each system. We may execute up to five agreements with qualified equipment manufacturers to conduct performance testing. Each system will need to successfully complete the specified testing protocol and have successful results to receive the stipend.