CITY OF DES MOINES	**Council Communication** Office of the City Manager	**Date** January 26, 2009 **Agenda Item No.** 6 **Roll Call No.** 09- **Communication No.** 09-039 **Submitted by: Jeb E. Brewer, P.E.** **City Engineer**

AGENDA HEADING:

Ordering construction of the following: Ashworth Pool Filter Replacement - receiving bids, (2-24-09), and setting date of hearing, (3-9-09). (Construction Estimate - $285,000).

SYNOPSIS:

Recommend the City Council proceed with construction of the improvement and set dates to receive bids and hold a public hearing, as required by Iowa Code, utilizing the method of financing referenced below. This project provides for the replacement of the existing vacuum sand filter system, which is near the end of its useful life and is not in compliance with current Iowa Department of Health Standards, with a pressure sand filter system. Replacement of the filter system should improve water clarity in the pool and should reduce the frequency and staff time required to backwash the filters. Construction will occur after the swimming pool closes for the season next fall.

FISCAL IMPACT:

Amount: $285,000 City Engineer's Estimate ($240,000 base bid and $45,000 add alternate to replace the pool heater)

Funding Source: 2008-2009 CIP, Page Parks-27, Swimming Pools and Aquatic Infrastructure, PKS153, being G. O. Bonds with a transfer of $285,000 in G. O. Bonds from Park Redevelopment, Page Parks-19, PKS100.

ADDITIONAL INFORMATION:

Constructed in 1983, the Ashworth Pool is similar to many pools constructed during the time, consisting of an L-shaped structure with diving and an adjacent shallow wading area. The filter system for Ashworth Pool is the original vacuum sand filter, located in the adjacent filter building at an elevation below the pool water level.

Concerns regarding the Ashworth pool include operational issues and the capacity of the filter to maintain the pool water quality. The filter requires frequent backwashing, which is also ineffective. A key issue with vacuum sand filters is the potential for “air binding”. When air binding occurs, air bubbles accumulate within the filter sand bed. The air bubbles fill the small gaps between sand grains, thus preventing dirt and debris from having a place to be captured within the filter. The filter bed can become so filled with air bubbles that the filter cannot function properly. The backwashing process forces the air bubbles to leave the filter.

The existing filter system was designed for pool recirculation and water treatment standards that were appropriate for 1983, which included an eight-hour turnover period (time that it takes to effectively remove, filter, and chemically treat the entire volume of water for the pool). However, the standards have changed since the date of construction, decreasing the turnover period to six-hours for the lap pool and two-hours for the shallow wading area. Decreasing the pool turnover period requires an increase in the rate of recirculation and filtration. The existing filter system does not have the capacity to meet the current standards.

A new filter system would meet the current standards, improve the water clarity, and reduce the maintenance required. The proposed system includes above-grade pressure tanks, located to the north of the filter building. The internal components of the existing vacuum sand filter would be removed and the vessel would be utilized as a surge tank.

The Engineering Department has prepared plans, specifications, form of contract documents, and City Engineer's estimate for the construction of the Ashworth Pool Filter Replacement, 11-2009-008. The improvement includes replacement of the existing vacuum sand filter system with a pressure sand filter system, demolition and structural modifications to the filter building, painting, mechanical, electrical, concrete work, clean up and debris disposal all in accordance with the contract documents including Plan File Nos. 495-1/21 at Ashworth Swimming Pool, 102 45th Street, Des Moines, Iowa.

The estimated construction cost is $285,000. The proposed plans, specifications, and form of contract documents are available for public inspection in the City Engineer's Office.

PREVIOUS COUNCIL ACTION(S): NONE

BOARD/COMMISSION ACTION(S): NONE

ANTICIPATED ACTIONS AND FUTURE COMMITMENTS:

Anticipated actions include public hearing, receive and file bids, designate lowest bidder, and approve contract and bond; also partial payments to the contractor and final acceptance of work.