

ITEM # 10  
DATE February 10, 2009

## COUNCIL ACTION FORM

**SUBJECT: WATER POLLUTION CONTROL FACILITY RESIDUALS HANDLING  
AND STORAGE IMPROVEMENTS STUDY**

### **BACKGROUND:**

The City's Water Pollution Control (WPC) Facility began operations in 1989. Sludge from the treatment processes is treated in two primary anaerobic digesters equipped with internally mounted draft tube mixing systems. The digested sludge, referred to as biosolids or residuals, is then transferred to a secondary digester for storage and further stabilization. Digested sludge is routinely transferred from the secondary digester to a sludge storage lagoon for holding until final disposal. Methane gas generated during the sludge digestion process is stored and used to generate electricity to shave electrical usage during peak demand times.

Currently, the City owns and maintains two AgChem 2505 Terragators, which have been in use since 1989, to land-apply the digested sludge to approximately 300 acres of city-owned agricultural land. Additional privately-owned land is available for application as needed. The biosolids are used as a soil conditioner and fertilizer, which help reduce the cost of fertilizers for crop production. Biosolids are loaded into the Terragators from the biosolids storage lagoon via a dredge or directly from the secondary digester.

The two Terragators are approaching the end of their useful life and will need to be replaced in the near future. The aging dredge equipment is creating operational difficulties for WPC Facility staff and is in need of replacement. It is suspected that adequate mixing is not occurring in the digesters, resulting in lower methane gas production than may be possible. In addition, likely changes in wastewater treatment regulations will have significant impacts on biosolids production and disposal options for the WPC Facility in the near future. Prior to investing significant funds into replacing the land application equipment, an evaluation of the existing biosolids handling and storage operations is needed to ensure that WPC Facility continues to use the most cost-effective biosolids handling operation. This study will also include an evaluation of whether it continues to be cost-effective to operate biosolids disposal in house or contract the operations similar to what is done with the Water Treatment Plant lime sludge disposal.

City staff competitively solicited proposals from 11 consulting firms for engineering services to conduct a Residuals Handling and Storage Improvements Study. Six proposals were received. The scope of work for this study includes an evaluation of the current biosolids storage and handling operations and a recommendation on equipment and process changes that may lead to more cost-effective storage and handling

operations. The end result of this study will be a strategic plan for the WPC Facility's biosolids handling and storage operations.

A qualifications-based evaluation of the responding firms was performed by Water and Pollution Control Department staff. In addition, a preliminary fee proposal was requested of each firm to allow staff to better understand the proposed scope of services and their associated costs. The top firm was invited to make a presentation of its proposal to staff. At the conclusion of the presentation, staff identified Howard R. Green Company of Johnston, Iowa as the preferred design firm.

The current Capital Improvements Plan included \$50,000 in 2008-09 for engineering services to perform the WPC Residuals Handling and Storage Improvements Study. An additional \$50,000 was recently added to the 2008-09 adjusted budget, bringing total available funding to \$100,000.

**ALTERNATIVES:**

1. Approve a contract to Howard R. Green Company in an amount not to exceed \$95,000 for engineering services related to studying the WPC Facility's residuals handling and storage operations.
2. Do not approve a contract at this time.

**MANAGER'S RECOMMENDED ALTERNATIVE:**

Costs for purchasing new land application and dredge equipment will be significant. In addition, changes in regulations may affect how the WPC Facility stores and disposes of biosolids. Prior to investing significant funds in new land application equipment, the City needs to determine whether or not the current method of biosolids handling and storage is the most cost-effective for the City and compatible with likely regulations changes.

Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1, thereby awarding a contract to Howard R. Green Company in an amount not to exceed \$95,000 for the WPC Facility Residuals Handling and Storage Improvements Study.