



Date: July 28, 2015
To: Water Utility Board
From: Al Larson, PE, BCEE
Pete Holmgren, PE
Re: **Request to Advertise for Engineering Design Proposals**
Project: **Blackhawk Tower**

General Scope

Madison Water Utility (MWU) is seeking to advertise for proposals from interested, qualified firms to provide professional engineering services for the design and construction of a new water tower – “Blackhawk Tower” – on the far west side of Madison.

The proposed 1 million gallon water tower would:

- Provide additional gravity-fed water storage capacity within the existing Pressure Zone 10 boundary.
- Add needed storage capacity to the existing Pressure Zone 11 boundary.
- Allow for a merging of Pressure Zones 10 and 11 by hydraulically balancing the two zones.
- Supplement the storage at the Well 26 site on High Point Road.
- Provide a second feed (improved reliability) to the area by using Booster Pump Station 128.

The proposed site of this water tower is on the MWU-owned parcel of land located at the southeast intersection of Pioneer Road and Old Sauk Road (Town of Middleton). Professional engineering services shall include but not be limited to planning, alternative development, site layout, design, coordination, and construction administration of the water tower.

Background

The 2006 Water Master Plan identified an eventual need for two new water towers on the far west side; however this proposed project would meet those needs with a single tower.

Pressure Zone 11 is currently fed using a variable speed pumping station. With development in the area the capacity of the pumping station is approaching its capacity, creating the need for a new water tower. The 250,000 gallon High Point Road reservoir (Pressure Zone 10) is reaching its capacity, and already does not provide sufficient emergency reserve capacity. Development within Zone 10 is also starting to stress the limits of the system to provide minimum fire protection. Providing minimum fire flow requirements to this area of the distribution system is necessary to meet MWU’s level of service standards.

Due to these considerations, MWU Engineering staff requests permission to advertise for qualified applicants to submit proposals to develop drawings, specifications and contract documents to construct this water tower and correct an identified deficiency in the system.

Staff Availability

MWU Engineering staff does not have the expertise in water storage reservoir project development and design required to complete this project. MWU will work closely with the selected consultant to ensure project objectives are met.

Estimated Cost

The total design and construction project budget is estimated at approximately **\$3.6 million**, distributed as follows:

Consultant Services

- Consultant Engineering Services: \$300,000
- Facility/Reservoir Construction: \$2,800,000

Water Utility Staff Engineering Work

- Water Utility Engineering Services: \$100,000
- *Pipeline Improvements: \$400,000

Total Estimated Project Cost: \$3,600,000

*Pipeline work will be contracted and executed separately.

Project and MWU Mission

This project mitigates potential distribution and storage deficiencies identified in the Master Plan between Pressure Zones. Meeting these objectives supports MWU's core mission to provide water to customers for consumption and fire protection, and helps MWU achieve its goals for adequate water quantity; operational optimization and reliability; and infrastructure stability.