



Date: August 20, 2014

To: Water Utility Board

From: Al Larson, PE, BCEE

Re: Request to Advertise for Professional Services Proposals

Project: Master Planning

In August 2013 we requested permission to advertise for Professional Engineering Services for the purpose of updating the 2005 Infrastructure Management Plan and completing the update of the 2006 Water Master Plan. At that meeting the request was referred to the October 2013 meeting by the Board with a request for additional information. We were asked to look at how we could efficiently and effectively utilize Water Utility staff to complete all or a part of this update. A year has passed and due to other pressing time commitments we have not been able to compile the information requested by the Board. One of the unexpected benefits of this delay is that several things have changed during the past year which has impacted how this project is shaped and how it will be scoped.

Things that have changed since August 2013 include but certainly are not limited to: The CAP process has been revised and updated; we has started the process of developing an asset management program with the anticipated 2015 hire of an Asset Manager; and we have completed our AMI system and are gathering good geographically tagged water demand data. We will use all of this information in developing the scope of work for the project.

We are once again asking your permission to advertise for Professional Engineering Services to complete the update of the Water Master Plan. The need for this update has been noted in comments about the need for future wells on the west side and about future capital project scheduling and financial planning. We look forward to your favorable review and approval of this revised request.

Revised General Scope

Madison Water Utility (MWU) is seeking to advertise to receive professional services proposals from interested and qualified firms for the updating of the Utility's Water Master Plan. Professional engineering services shall include but may not be limited to updating system demand projections to 2035, distribution system computer modeling and training, capital improvement program development, cost estimating, and capital improvement financial planning for a 5 year and 20 year planning horizon.

Utility staff will coordinate and direct the project, lead the Citizen's Advisory Panel process, and coordinate data compilation and growth projections with other City Agencies.

Background

MWU completed its first Water Master Plan in 1964 and has a goal of updating the Master Plan every 6 to 8 years. Most recently, a portion of the Water Master Plan was updated by the East Side Water Supply Project. That project looked at long term system needs within Pressure Zones 3, 4, 5, and 6E (east of the Yahara River and north of Buckeye Road) in 2011 and 2012. This proposed update will incorporate that study and update the Water Master Plan for the remainder of the City.

Staff Availability

MWU Engineering staff currently does not have the expertise in distribution system computer modeling to efficiently complete this project. Having that expertise on staff would benefit the Utility. While we could acquire that skill set through use of and training with our model, that orientation and training effort would require significant effort and time. The hour projections used by Black and Veatch for the East Side Water Supply project included over 1,400 hours for demand forecasting and modeling. See attached level of effort projections for the East Side project. It is expected that this effort will require a similar if not greater time commitment to complete. This is equivalent to one person full time for almost 35 weeks or someone working 5-1/4 hours per day for a year. A combination of orientation and training time and the time necessary to complete the project would require someone to work on the project full time for approximately one year.

Dedicating a staff person for such a large block of time would impact our ability to complete such tasks as water main design, water main lining projects, facility upgrades, and the day to day interactions with the general public and other City Agencies. We may have to stop providing certain services. Overtime may be required to complete current tasks and sustain our level of service. Another option would be that work currently completed by staff may have to be completed by consultants or limited term employees. This may not be the most efficient means of sustaining our current level of service.

As a part of this project we would propose to work closely with the selected consultant to begin the process of developing the in-house skill set necessary to utilize the hydraulic model developed by the consultant for system analysis. It is our intent to build the expertise in house over the next several years that will allow us to move to a more dynamic and routine update of our Water Master Plan. Having the ability to utilize AMI and SCADA data and the model will allow staff to effectively schedule and plan capital projects.

Budgeting and Estimated Cost

Total project budget for the Water Master Plan update is \$175,000. Funds are provided in the Capital Budget.

How the project relates to the MWU mission

Adequate long range planning and infrastructure renewal is a core value of MWU. Capital improvement planning and sustaining financial viability for future generations is essential to Utility operations.