

**CITY OF NAPERVILLE
MANAGER'S MEMORANDUM**

DATE: March 7, 2019

TO: Doug Krieger, City Manager

THROUGH: Marcie Schatz, Deputy City Manager

FROM: Mark Curran, Water Utilities Interim Director
Amy Ries, Water Utilities Deputy Director
Josh Strait, Senior Civil Environmental Engineer

SUBJECT: Water Utility Automated Meter Infrastructure Business Case Status

PURPOSE:

The purpose of this memo is to provide Council with an update on the status of the Water Utility Automated Meter Infrastructure Business Case.

BACKGROUND:

At the Dec. 4, 2018, City Council meeting, Council awarded a contract to West Monroe Partners, LLC to complete a Water Utility Automated Metering Infrastructure Business Case analysis to examine options and feasibility of implementing alternatives to manual water meter reading.

For numerous reasons, manual water meter reading is no longer viewed as a sustainable method to obtain water meter reads. This process generates a large percentage of estimated reads (approximately 25% of the time). In addition, high employee turnover rates and environmental and man-made conditions such as poor weather, animals and locked fences affect the reliability and cost of the process. The City's current manual meter reading vendor, Alexander, does not want to continue contracting with the City for manual read services beyond the current contract requirements, which expire in August 2021 and have requested a cost increase for the upcoming year. Staff is not optimistic about obtaining favorable bids if the manual meter reading contract is re-bid.

In evaluating the goals of the business case, the following factors were considered:

1. ***Inadequacy of the current system:*** The current manual reading system is inadequate for a variety of reasons; the primary one being the City's challenge to provide accurate monthly bills.
2. ***Appropriate and expected service levels:*** Implementing a new system will allow the City to raise the level of service to our customers. A new system would provide greatly reduced estimated reads, customer-side leak detection, more data to help inform customers about their usage and increased opportunities for

customer water conservation. A new system will also allow for a streamlined process for final reads.

3. ***Integration with upcoming technology platforms:*** The City is in the midst of a technology transition to powerful new tools that will allow customers to interact with the City in ways they are coming to expect in today's technology climate. As the City takes a holistic approach to implementing new technology, now is the time to transition to new technology in the Water Utility. The new enterprise resource planning (ERP) system and utility billing platforms, coupled with modern meter reading technology, will enhance the customer experience and provide efficiencies for utility billing.

West Monroe Partners looked at various factors for the business case analysis, including available technologies, potential benefits of the various systems, how to leverage existing assets, long-term sustainability and internal operational benefits.

DISCUSSION:

During the business case analysis, four technology options were compared against a baseline manual meter reading scenario. The first three options below are all capable of providing more frequent meter reads than the current monthly scenario. These include:

1. *Leveraging the City's current Elster AMI system that is used to read electric meters.*
2. *Installing a low-site point to multi-point AMI network.* This option would utilize approximately 35 to 40 collectors mounted on objects 30 feet high, such as street lights.
3. *Installing a high-site point to multi point AMI network.* This option would utilize approximately six base stations mounted at 150-190 feet high, such as on water towers.
4. *Utilizing a mobile radio AMR system.* This option would involve meter reads being collected via a motor vehicle-mounted mobile radio system.

Several key assumptions were made in analyzing the various options. A 20-year battery life was assumed for the endpoints, with a failure rate of 1% for years 1-10 and a 2% for years 11-20. A deployment period of one year using installation contractors was assumed to allow for project completion prior to the end of the manual meter reading contract and to allow for integration into the new ERP utility billing system. The options were evaluated using a 20-year life cycle cost.

Other important program components such as a Customer Bill of Rights to maximize customer privacy protections, a customer opt-out selection to allow customers to choose a non-wireless option, funding options, communications strategy and deployment scenarios were analyzed and recommended.

West Monroe Partners is in the process of finalizing the Business Case Analysis. The Public Utilities Advisory Board (PUAB) will be considering the options, benefits and assumptions at its March 14 meeting. A special PUAB meeting will be held in April to

consider the completed Business Case Analysis and make a recommendation for Council consideration.

RECOMMENDATION:

Please distribute this memorandum to the City Council through the Manager's Memorandum.