Ivins City Staff Report
City Council Meeting 11/17/22

Agenda Item: Discuss and Consider Water System AMI (Automated Metering Infrastructure) Project Costs and Funding

Submitted by: Charles R. Gillette, P.E., Public Works Director and City Engineer

Recommended City Council Action:
none

BACKGROUND:
Currently Ivins City uses radio equipment to read more than 4,000 water meters in less than one day. The current system is identified as automated meter reading or AMR. With this system we read the meters once per month and this data is sent out in our monthly bills to inform customers how much water they used in the previous month.

Automated Metering Infrastructure (AMI) is the next level of metering where meters are ready more frequently, at least once per day, but in some cases could provide real time metering information to an Internet based software program. This data can be accessed by the utility or the customers to provide better feed back on how one uses water.

AMI systems are another way to increase water efficiencies. The system can provide notifications to the user and the utility if there is constant running water that could be an indication of leak as well as provide feedback to users so that they can better adjust their usage.

Councilman Scott requested that costs and funding of an AMI project be discussed

FINDINGS AND ANALYSIS:
The City has long hoped to obtain grants for such a system and in the process of preparing grant applications has put together some estimates.

We currently use ITRON meter reading equipment therefore it is most likely that our least cost option for an AMI system is using ITRON since less equipment would have to be swapped out.

ITRON offers two possible AMI solutions:

- Fixed Towers Radio Transmission
    - Advantages: Implementation cost is estimated at $610,000 which is about 60% of the cost of the cellular solution. 45% of the system has already been converted to the new type of radios that work with the tower system.
    - Disadvantages: It is estimated that 5 tower locations are needed to cover the system. Two of the locations would require new 50' tall radio towers be installed. City code may need to be amended to allow the 50' towers. See attached map. This system is more likely to have problems that require additional maintenance as the City would be responsible to keep radio towers in operation 24/7. The meters are only read once per day, however, hourly data can be uploaded with each meter reading.
- Cellular Orion System
    - Advantages: Since relying on existing cellular towers, it would be in some ways easier to implement since no new towers would need to be installed. The cellular

network can read the meter multiple times per day and thus is closer to real time feedback. Maintenance by city staff would be reduced since the city would not be maintaining communication towers.

- Disadvantages: Implementation cost is estimated at approximately $1 million. Additionally, the cellular system charged $0.95 per month per meter which equates to $47,000 per year. Part of the reason the cellular system is more expensive is that each meter would need to retrofitted with a new cellular endpoint $160 ea, and a new polymer lid $42 ea.

SUPPORT MATERIALS:
Cost Estimates
Map of Fixed Towers

FINANCIAL IMPACT:
$600,000 to $1,000,000 of implementation costs.
Additional maintenance costs and if cellular additional ongoing costs of $47,000/year.

Respectfully Submitted:

Charles Gillette, P.E., Public Works Director & City Engineer

Content Review:

Dale Coulam, City Manager