

“TRANSPARENCY”
&
BADGER WATER METERS

How many times have we heard that term in the last few months? Too many to count for sure! Seems that everyone wants to accuse the council for a lack of “transparency”, leaving at least some of us on council confused. There were many topics mentioned at this last council meeting that citizens wanted to know about or had questions about. With the exception of the questions relating to the water meters, all of the topics that people had questions about had been covered in open council meetings or open workshops. Budgets, both city side and utility side, were posted on a projector screen and discussed as well as the analysis that was performed by former councilman Allen Pride at each meeting. Votes were taken on these topics by council members in full view of the public. Topics such as Roads & drainage had not only been reported on in past council meetings, but also been the subject of articles in newsletters as well as individual mail outs when deemed important enough to send a mail out. The only problem is, at all of these meeting prior to the raising of water & sewer rates, less than 10 people on average attended these meetings....sometimes less. So, from our side of the table, it would appear there was a” *lack of interest*” problem prior to the raising of water & sewer rates.

None the less, we have heard your concerns, loud and clear, and to that end, we will be providing articles on a regular basis, posted on the city’s FB and website as determined by Kimberely addressing a variety of topics. These topics will include but may not be limited to: water meter questions & issues, roads & drainage, budgets, both city and utility, water quality and utility operations, our two bond projects, civic center rebuild, insurance proceeds, and others as the need or interest or questions should arise. Hopefully, these articles will help to explain and clear up any questions as well as mis-information that gets passed around as “the truth” on social media. If after reading these articles or explanations you still have questions, you can contact Ali or Kimberely at City Hall with your questions

and if they can't answer them, they will either get you the answer or have someone get back with you that can help you.

I would like to say that we will be posting these articles on a once a week basis, but I can't make that promise. Many of these topics will need to be researched to ensure that we provide accurate information and that takes time. Not only does it take time, but it takes time away from the work of running the city on a day to day basis.

And speaking of that, since there are so many new folks here in Bevil Oaks today, I thought it might be worthwhile reviewing how we have to operate Bevil Oaks. First, as most everyone knows, from Mayor to all of the council members, this is an unpaid position, meaning that we donate our time for the citizens of Bevil Oaks. But in addition to the that and more importantly, the city has only two paid employees. One is Kimberely, who is our City Secretary and Office Manager. The second is Ali, who oversees the majority of the water & sewer items, and is in training to help Kimberely in other business. This includes, but is not limited to: Elections & contracting with the County, Permitting, scheduling of inspections, Floodplain permits and inspections, audits with local, state and federal auditing requirements, FEMA, multiple grants, roads and their documentation, code enforcement and court documents, in constant contact with the Judge and Attorney, accounts payable and receivables, preparing for and keeping Council meeting records, citizen notices, items related to the emergency management plans, and being the liaison between the city and state or federal agencies. Shannah, who you will see at the front desk when you come to City Hall, holds a position that is allowed by FEMA, and will be refunded as each project is closed out due to Hurricane Harvey. This is to assist with the overload of application, phone calls, etc. created by the disaster. The City employs a utility contractor, Utility Innovations, that tends to the day to day operation of our water plant and sewer lift stations and works at **our** direction on a "work order" basis making needed repairs and all other things utility related. All other functions of city business that need to be conducted that would ordinarily be conducted by staff or paid employees is conducted by council members...again on a volunteer and free basis. The bulk of all of this is carried out by the Mayor and Mayor Pro Tem Fruge

with Michelle Nelson tending to community development and Doug Emmons taking care of building maintenance. Currently, there is no one that is taking care of street signs or street lighting. This is how we have to operate our city with a combined budget of approximately \$650,000/year. So, again, that's why I can't promise a once a week article, but they will be forth coming!

WATER METERS

Many questions were asked about the water meters at last Thursday night's council meeting. Between Kimberely and me, we will try to address all that we can remember. If we miss a question or topic, again, simply call.

The Badger E-Series meter has a 10 year unlimited warranty with another 10 year prorated warranty. The battery that powers these meters is warranted for 20 years. There is no calibration required for these meters as there are no moving parts and the complete meter is sealed or encased in an epoxy type substance or, as they describe in the attached info, a polymer. This prevents any maintenance on this type of meter. If it's faulty, it simply has to be replaced. We have had some warranty issues with meters that we returned to Badger and they sent us new replacements. In each case, if there was a problem with the reading of the customer's bill, it was reviewed and corrected.

These meters provide much information that is not only helpful to the city but to the customer as well. These meters are read daily via the cellular network sometimes after mid night each day. When they are read, it records the hourly usage, the total usage for the day, and sends us an alert each morning if it detects what it sees as a leak. This by itself is a tremendous benefit to the customer since the day after a leak occurs and starts and is still leaking, the city is notified and then the customer can be contacted and made aware so that they can take care of it in a timely fashion. Before with the standard meters, if you had a leak that started soon after the meters were manually read each month, by the time your bill arrived in your mail box, the leak had been occurring for 5 or so weeks! If you get up during the middle of the night to use the bathroom, from the usage

records, this event can be detected. I point this out because there have been times when a leaking commode started during this event and continued until the user was contacted and the commode stopped or repaired.

This feature is only useful if we have the correct contact information on file. Many times we call with no answer and no answering machine, or “number no longer in use” or the email address on file has changed or whatever. We can’t help you in this case; it’s one reason why it is so important to update your info with the city as it changes.

Another issue mentioned is the fact that some meters show to be in Beaumont. Do not be concerned about this. There is more than one reason for this but the explanation is too long for this discussion. The main things to know is that the cellular end point that is connected to **your** water meter, reads only that meter, regardless of where it might show it to be. The end point number as well as the meter number are on file in the system so that we know, *with certainty*, that the reading that we receive is yours. No other utility in our area uses this type of system so there is **NO** chance that it could be reading someone else’s meter. As councilman Emmons mentioned during the last meeting, as a check, if you use the “eye on water” app on your phone, you can check this yourself if the app says that your meter is somewhere else. Simply check the usage amount on the app versus the reading on your meter taking into account that the reading was taken sometime after midnight and will not be exactly the same. Based on the time of day, throw in a few gallons for bathing or washing clothes or whatever you think occurred since the meter read last versus the time of day that you are checking; it should be close.

And while on the topic of end points and meters, a continuing problem that we have that affects your meter reading is the fact that many people take the lid off of their meter to turn the water off (presumably) and leave the lid on its side on the ground or in some cases, even upside down. The system cannot read your meter with the cellular endpoint in this position. The meter continues to read and store usage data; it just can’t transmit it until the end point is upright facing the sky again. So, if at the end of the month we cannot get a reading on your meter,

we must send a utility person to your location to both read the meter manually as well as set the lid on the meter box correctly. At the very minimum, this cost the city (you) a quarter hour of labor or \$13.75. This is an ongoing problem with all of the construction that is going on and we spend a few hundred dollars/month manually reading these meters. I suspect we will be taking up the issue of charging customers when we must manually read these meters where the lids are not properly in place.

The last item I would like to address is the lawsuit that a citizen mentioned. While we know nothing about this, I did a quick search on the internet regarding Badger Meters and lawsuits and all that I found was a lawsuit in Santa Fe, NM regarding “smart meters”. We do not use this type of meter, we use the E-Series meter and there is warranty and general information attached to this article for everyone’s review. Also, another point of interest, the PUC rate consultant that we were assigned mentioned in our “draft review” meeting the other day that the Texas Rural Water Association had commissioned him to perform a study on all water meter brands and present it to them. The Badger E-Series meter was by far the best meter on the market today according to his research.

Again, after reading this if you still have unanswered questions, just call the office and ask and we will get you an answer.

Mayor Pro Tem, Danny Fruge

Kimberely Vandver, City Office Manager, Certified Floodplain Manager, State ID: 2482-13N



Badger Meter

E-Series® Ultrasonic Meter

Cold Water Engineered Polymer Meter, 5/8" x 3/4" and 3/4"
NSF/ANSI Standard 61 Certified, Annex G

DESCRIPTION

The E-Series® Ultrasonic meter uses solid-state technology in a compact, totally encapsulated, weatherproof, and UV-resistant housing, suitable for residential and commercial applications. Electronic metering provides information—such as rate of flow and reverse flow indication—and data not typically available through traditional, mechanical meters and registers. Electronic metering eliminates measurement errors due to sand, suspended particles and pressure fluctuations.

The Ultrasonic 5/8" x 3/4" and 3/4" meters feature:

- Minimum extended low-flow rate lower than typical positive displacement meters.
- Simplified one-piece electronic meter and register that are integral to the meter body and virtually maintenance free.
- Sealed, non-removable, tamper-protected meter and register.
- Easy-to-read, 9-digit LCD display presents consumption, rate of flow, reverse-flow indication, and alarms.
- High resolution industry standard ASCII encoder protocol.

The Ultrasonic meter is available with a wired lead, 308 in-line connector or fully prewired to ORION® and GALAXY® AMR/AMI endpoints. It is also offered with the Itron® in-line connector, in-line connector with pit endpoint, or prewired to an Itron remote endpoint.

APPLICATIONS

Use the Ultrasonic meter for measuring potable cold water in residential, commercial and industrial services. The meter is also ideal for non-potable, irrigation water applications or less than optimum water conditions where small particles exist.

The Ultrasonic meter complies with applicable portions of ANSI/AWWA Standard C700 and NSF/ANSI Standard 61, Annex G. There is currently no AWWA standard that specifically addresses ultrasonic meters for residential applications.

OPERATION & PERFORMANCE

As water flows into the measuring tube, ultrasonic signals are sent consecutively in forward and reverse directions of flow. Velocity is then determined by measuring the time difference between the measurement in the forward and reverse directions. Total volume is calculated from the measured flow velocity using water temperature and pipe diameter. The LCD display shows total volume and alarm conditions and can toggle to display rate of flow.



In the normal temperature range of 45...85° F (7...29° C), the Ultrasonic "new meter" consumption measurement is accurate to:

- ±1.5% over the normal flow range
- ±3.0% from the extended low flow range to the minimum flow value

CONSTRUCTION

E-Series Ultrasonic meters feature an engineered polymer, lead-free meter housing, an engineered polymer and stainless steel metering insert, a meter-control circuit board with associated wiring, LCD, and battery. Wetted elements are limited to the pressure vessel, polymer/stainless steel metering insert and the transducers. The electronic components are housed and fully potted within a molded, engineered polymer enclosure, which is permanently attached to the meter housing. The transducers extend through the polymer housing and are sealed by O-rings.

The metering insert holds the stainless steel ultrasonic reflectors in the center of the flow area, enabling turbulence-free water flow through the tube and around the ultrasonic signal reflectors. The metering insert's patented design virtually eliminates chemical buildup on the reflectors, ensuring long-term metering accuracy.

METER INSTALLATION

The meter is completely submersible and can be installed using horizontal or vertical piping, with flow in the up direction. The meter will not measure flow when an "empty pipe" condition is experienced. An empty pipe is defined as a condition when the flow sensors are not fully submerged.

ABOUT THE E-SERIES ULTRASONIC METER

The Badger Meter E-Series Ultrasonic meter is an electronic meter using ultrasonic technology and solid-state electronics contained in a compact, totally encapsulated, weatherproof and UV-resistant housing for residential and commercial applications. The ultrasonic measurement system has no moving parts, provides long-term accuracy and eliminates measurement errors due to sand, suspended particles, air pockets and pressure fluctuations.

The Ultrasonic meter is permanently sealed to eliminate the intrusion of moisture, dirt or other contaminants and is suitable for installation in all environments, including meter pits subject to continuous submergence.

The meter can be installed using horizontal or vertical piping, with water flow in the up direction. The meter will not measure flow when an "empty pipe" condition is experienced. An empty pipe is defined as a condition when the flow sensors are not fully submerged.

SAFETY INFORMATION

The installation of the E-Series Ultrasonic meter must comply with all applicable federal, state, and local rules, regulations, and codes.

Failure to read and follow these instructions can lead to misapplication or misuse of the E-Series Ultrasonic meter, resulting in personal injury and damage to equipment.

PRODUCT UNPACKING AND INSPECTION

Upon opening the shipping container, visually inspect the product and applicable accessories for any physical damage such as scratches, loose or broken parts, or any other sign of damage that may have occurred during shipment.

NOTE: If damage is found, request an inspection by the carrier's agent within 48 hours of delivery and file a claim with the carrier. A claim for equipment damage in transit is the sole responsibility of the purchaser.

REQUIREMENTS

IMPORTANT

For proper handling of the higher reading resolution and the extended status indicator capabilities of the HR-E-Series Ultrasonic meter, the following software versions are required for your reading system:

Reading Data Management Software

- *ReadCenter Data: Version 1.11.12.27 or higher (does not include extended status indicator capabilities)*
- *ReadCenter Analytics and ReadCenter Analytics Mobile: Version 2.12.7.6 or later*
- *ReadCenter Analytics Pro and ReadCenter Analytics+: Version 1.0.0 or later*

Mobile Reading Systems

- *ORS: Version 2.2.1 or later*

Handheld Reading Systems

- *Badger Field Application Suite: Version 2.2.3 or later*
- *ORION Field Application route reading software: Version 2.2.3 or later*
- *ORION Endpoint Utility programming & quick read software: Version 2.2.2 or later*

For assistance, please contact Badger Meter Technical Support at 1-800-876-3837 or the appropriate endpoint provider.



Badger Meter

E-Series® Ultrasonic Meter

Cold Water Lead-Free Meters,
5/8", 5/8" x 3/4", 3/4", 1"

PRODUCTS

This warranty shall apply to all Badger Meter E-Series® Ultrasonic lead-free meters (stainless steel or engineered polymer), sizes 5/8", 5/8" x 3/4", 3/4", and 1", when used to measure potable water and the internal register/encoder and battery used with these meters (collectively "Product"), sold on or after April 1, 2013. This warranty is not transferable and is extended only to utilities, municipalities, other commercial users and authorized distributors, hereafter referred to as "Customer" and does NOT apply to consumers or any person or entity who is not an original customer of Badger Meter or its authorized distributors.

MATERIALS AND WORKMANSHIP

Badger Meter, Inc. ("Badger Meter") warrants Product to be free from defects in materials and workmanship appearing within the earlier of the following time frames.

Lead-Free Housings

Twenty (20) years and six (6) months after shipment from Badger Meter.

Electronics, Battery, Transducers, and Register/Encoder Supplied with the Meters Listed Herein

Twenty (20) years and six (6) months, prorated, after shipment from Badger Meter.

This warranty is prorated as follows: the first ten (10) years of the warranty and at prorated price discounts during the last ten (10) years of the warranty. Badger Meter will apply these prorated price discounts to the Product list prices in effect at the time of Product return and according to the following prorated price discount schedule: Years 11 through 12 — 75% discount; Years 13 through 15 — 50% discount; Year 16 — 40% discount; Year 17 — 30% discount; Year 18 — 20% discount; and Years 19 through 20 — 10% discount.

Specifically, Badger Meter will repair or replace, at its discretion, a non-performing Product at no cost during the first ten (10) years of the warranty and at prorated price discounts during the last ten (10) years of the warranty. Badger Meter will apply these prorated price discounts to the Product list prices in effect at the time of Product return and according to the following prorated price discount schedule:

- Years 11 through 12—75% discount;
- Years 13 through 15—50% discount;
- Year 16—40% discount;
- Year 17—30% discount;
- Year 18—20% discount; and
- Years 19 through 20—10% discount.

METER ACCURACY

The meter product will meet or exceed meter accuracy of $\pm 1.5\%$ between the gallons per minute (gpm) "minimum flow rate" to "maximum flow rate" for twenty (20) years from date of shipment:

5/8" and 5/8" x 3/4" Meter

0.1 gpm to 25 gpm

3/4" Meter

0.1 gpm to 32 gpm

1" Meter

0.4 gpm to 55 gpm

EXTENDED LOW-FLOW METER ACCURACY

Badger Meter further warrants the meter product to meet or exceed extended low-flow accuracy of $\pm 3\%$ from the following "extended low-flow rates" to the "minimum flow rate" for twenty (20) years from date of shipment:

5/8" and 5/8" x 3/4" Meter

0.05 gpm up to 0.1 gpm

3/4" Meter

0.05 gpm up to 0.1 gpm

1" Meter

0.25 gpm up to 0.4 gpm

PRODUCT RETURNS

Any Product proved to the satisfaction of Badger Meter to have failed the foregoing warranties will, at the option of Badger Meter, be repaired or replaced without charge to the Customer. The Badger Meter obligation hereunder shall be limited to such repair and replacement and shall be conditioned upon Badger Meter receiving written notice of any alleged defect within ten (10) days after its discovery. This exclusive remedy shall not be deemed to have failed its essential purpose so long as Badger Meter is willing and able to replace defective products or issue a credit to purchaser within a reasonable time of proof to Badger Meter that a defect is involved. Product returns must be shipped by the Customer prepaid F.O.B. to the nearest Badger Meter factory or distribution center. The Customer shall be responsible for all direct and indirect costs associated with removing the original Product and reinstalling the repaired or replacement Product.

LIMITS OF LIABILITY

This warranty shall not apply to Product repaired or altered by parties other than Badger Meter. The foregoing warranty applies only to the extent that the Product is installed, serviced and operated strictly in accordance with AWWA Standard C700 and AWWA M6 Manual, as applicable. The warranty shall not apply and shall be void with respect to Product exposed to conditions other than those detailed in the Badger Meter Product technical literature and Installation and Operation Manuals (IOMs), or