

ADDENDUM NO. 1

DATE: March 6, 2024

PROJECT NO.: LUX-21-01

PROJECT: Water System Improvements, Contract 1 – Water Distribution System Replacement

LETTING DATE: March 13, 2024 @ 10:00 a.m. (Local Time)

LOCATION: Luxora City Hall, 204 North Main, Luxora, Arkansas 72358

OWNER: City of Luxora

ENGINEER: Civil Engineering Associates, LLC

SUBJECT: RESIDENTIAL WATER METERS

Attached is a copy of the REVISED Specification Section 15150 – Residential Water Meters and Appurtenances. Please disregard the original Section 15150 provided with the Bid Documents and use the attached Section 15150 when preparing your Bid.

Please use this information when preparing your bids.

Addendum Issued by:



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SECTION 15150

RESIDENTIAL WATER METERS AND APPURTENANCES

PART 1. GENERAL

1.1 SUMMARY

- A. Furnish and install water meters and appurtenances for potable water service.
- B. The Automated Reading Technology shall consist of a meter with an integrated radio transmitter. No exposed wires shall be allowed.
- C. To eliminate any potential communications disruptions, the system shall operate on a primary use (unshared) FCC license for the communications frequency. The Owner requires that the operating frequency for the AMR system be a primary-license type, reserved for meter reading exclusively, with the Owner being granted an operational lease of the assigned spectrum.
- D. The current installation shall be a drive by AMR system with the capability to upgrade to a fixed base mode without any additional hardware at the meter locations.

1.2 RELATED SECTIONS

- A. Section 01100 – Summary of Work.
- B. Section 01310 – General Construction Requirements.
- C. Section 01330 – Submittal Requirements

1.3 SUBMITTALS

- A. Submit under provisions of Section 01330 – Submittal Requirements.
- B. Product Data:
 1. Materials.
 2. Manufacturer's standard installation instructions.

PART 2. PRODUCTS

2.1 METERS AND APPURTENANCES

- A. Meter:
 1. All cold water meters shall use ultrasonic measuring technology with no moving parts.
 2. Meter shall be resistant to wear and impurities in the water.
 3. All sensors and electronics shall be designed such that no direct exposure is made with fluid.
 4. Meters shall be hermetically and vacuum sealed to prevent humidity from entering the electronics and avoid condensation between the glass and display.
 5. Meters shall be produced in an ISO 9001C facility.
 6. Meters shall be manufactured by Kamstrup, or approved equal.
- B. Meter Box & Lid:
 1. 5/8"x3/4" Box: Model DFW.1300.12.3R, black plastic box w/black lid.
 2. Or approved equal.
- C. Meter Reading: Automatic Meter Reading (AMR)
 1. Meter and RF communication module shall be one single, integrated unit, hermetically sealed for easy installation.
 2. Meter shall be IP68 rated and submersible suited for installation in flooded meter pits.

3. Meter shall be capable of two (2) communication modes operating within an unlicensed frequency FCC part 15 for the 902-928 MHz band for mobile drive-by operation and support a licensed frequency FCC part 90 within the 450-470 MHz band.
4. Or approved equal.

D. Data Storage

1. Meter data shall store data loggers in the EEPROM, retrievable via Bluetooth converter.
2. Storage shall provide 20-years of annual data, 36-months of monthly data, hourly values for 100-days, and the last 50 event codes (such as leak, reverse, burst, dry, tamper, and battery capacity).
3. Logged hourly and daily usage data may be viewed on a mobile device or on the headend server.
4. Meter shall have the ability to log total usage over various flow rates for historical analysis for right sizing and low flow analysis.
5. Daily maximum and minimum rate values shall be available.
6. Data Options
 - a. Meter shall be programmable to support technology changes, feature enhancements, configuration changes, and transmission intervals.
 - b. Firmware updates shall be permissible over RF without having to gain physical access to the meter and implemented in groups.
 - c. Standard data communication intervals will be every 3-hours, or up to 8-times per day, delivering the past three (3) hourly values.
 - d. Meter shall be capable of delivering the following:
 - 1) Leak – continuous flow for the past 24-hours based on a configurable limit of greater than 0.1%, 0.25%, 0.5%, 1.0%, and 2.0% of maximum flow.
 - 2) Reverse Flow – indicating water is running the opposite direction of normal flow. Reverse flows shall be logged in a separate internal register.
 - 3) Burst – indicating 30-minutes of flow based on a configurable limit of 5.0%, 10.0%, or 20.0% of maximum flow.
 - 4) Dry – indication of air in the pipe and not water through the meter.
 - 5) Tamper – indication that electronics or meter have been compromised.
 - 6) Low Ambient Temperature – temperature lower than configurable limit of 37°F or 43°F to indicate freezing.
 - 7) High Ambient Temperature – temperature higher than configurable limit of 95°F or 122°F to indicate hot temperatures.

E. Invoice/Billing Integration

1. Data collection shall be compatible with the Owner's current billing software. Metering System provider shall be responsible for coordination and scheduling any upgrades in the Owner's software required for compatibility with the specified metering system and assisting the Owner with setup.

PART 3. EXECUTION

3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Backfill around meter box to be hand tamped to ensure no settlement. Adjust box such that lid is 3" (min)/4" (max) above finished grade.
- C. Test for leaks, repair or replace defective meters and appurtenances.

3.2 WARRANTY

- A. Meters shall be guaranteed against defects in material and workmanship for one (1) year from the date of installation.
- B. To prevent determination of fault arguments, all components from, the actual water meter, encoded registers, AMR (Automatic Meter Read) transmitters and collectors, shall be of one manufacturer when bid and installed and the supplier shall be an authorized distributor capable of processing warranty claims for the equipment provided.
- C. The Transmitter and accuracy shall carry a 20-year warranty (10-year replacement and 10-year pro-rated).

END OF SECTION

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