

## SCOPE OF WORK – PHASE I DEPLOYMENT

### GENERAL

#### 1.1 LOCATION OF THE PROJECT

- A. The project is located in the City of Margate, Florida.

#### 1.2 PROJECT DESCRIPTION

- A. The project consists of supplying a complete conversion of the existing drive-by system to a fixed network system totaling approximately 4,094 Meter Interface Unit (MIU) endpoints. Water meter infrastructure system utilizing two way MIUs capable of both drive by and fixed mesh network installations and working on the 902-928MHz license free ISM band. Any replacement or new products shall be a “Stealth” brand system as manufactured and/or supplied by Zenner USA (Zenner) with all current manufacturer warranties.
- B. Furnish and install an additional 2,000 Zenner Stealth MIU’s, as needed, for a complete operating fixed network system for Cycle 1 and all commercial accounts of the City’s water metering system.
- C. Zenner shall supply and install three (3) Ethernet ready Collectors at three (3) locations. Each collector shall be capable of collecting data from the system should the other Collector be offline. High and Hot work is not included.

Zenner shall supply and install AC powered Enhanced Repeaters and Battery Enhanced Repeaters as necessary to collect the data from the MIUs and send it to the Collectors. A minimum of seven (7) Enhanced Repeaters shall be installed (as per the topographic propagation study). High and hot work is not included.

- D. Zenner shall provide Project Management, Coordination, Supervision, Programing, Software Installation, Testing, and on and Off-Site Monitoring as needed to provide a complete operating system.
- E. Zenner shall provide Training for utilizing the AMI software in conjunction with the Owner’s current billing software. Zenner shall provide Training for programing of the MIUs and proper installation of the MIUs and other hardware/appurtenances supplied in this Scope of Work. If additional trips are needed beyond what has been bid as requested by the City of Margate and through no fault of Zenner, the City shall be responsible for additional expenses.

- F. Zenner shall provide Billing System Configuration, MIU Data Entry, & Billing Assistance to the Water / Sewer Billing Dept. during the first billing cycle. If an onsite visit is required and is requested by Margate and through no fault of Zenner, Margate will pay all additional expenses. .
- G. Zenner shall supply items of hardware/services as itemized in the Quote Form which shall be installed by Zenner. Zenner shall provide training to Margate and their assigns for proper installation of same as outlined above.
- H. Zenner shall provide bid prices for the 1<sup>st</sup> year and 2<sup>nd</sup> year projected deployments beyond Phase One.

### **1.3 MATERIAL REQUIREMENTS**

The following material and equipment is required for a complete operating fixed network system to include the entire Cycle 1 and Commercial endpoints (6,000 total endpoints) including three (3) Collectors (One on hand from Free Pilot and two additional Collectors)

- 3 AC Repeaters
- 4 Battery enhanced Repeaters
- 30 MIU Repeaters
- 30 MIU Enclosures
- 12 Days Project Management
- \$18 Per MIU Conversion (with expenses included. Assumption is that Zenner can perform conversions on Fridays and Saturdays at their discretion where aid of Margate personnel is not necessary for work to take place)
- \$10 Per Removal and installation of Failed Firefly MIUs)
- \$20 for installation of new MIU's

### **1.4 EXECUTION**

- Install the infrastructure
- Load mesh firmware utilizing a Stealth Mobile unit.
- Audit each location for battery status, reading, firmware, and lid lock (replace if necessary).

### **1.5 BASIS FOR SCOPE OF WORK**

- Conversion of 4,094 Fireflys to Stealth fixed network system plus installation of 2,000 new MIU's for a complete operating system for Cycle 1 and commercial endpoints.
- Six (6) days of project management to install the infrastructure and additional six days for quality checks during and after all fireflys have been audited.
- Utilize local utility assistance with Zenner Project Management and closely monitor the quality of work. Zenner and Customer expect to complete the deployment within an 8 week period.

- A total of 4,094 units with an estimated 800 MIU Checks/Conversions per week (4 techs, 200 each week). An additional 2 1/2 weeks to consider bad weather days, troubleshooting and unexpected delays (8 weeks total). The additional 2,000 new units installed will require two additional technicians to maintain 8 week schedule.
- The time frame to complete firmware loading utilizing a handheld could take 10 to 15 minutes, and the total number of fireflies not converted by the mobile unit will require being loaded with a handheld.