



CITY of NOVI CITY COUNCIL

Agenda Item 1
July 31, 2017

SUBJECT: Approval to award engineering and construction services to Ferguson Waterworks for the implementation of a Fixed Network System to be used for reading and collecting information from the water meters throughout the City's water distribution system, in the amount of \$302,454.

SUBMITTING DEPARTMENT: Department of Public Services, Water and Sewer Division *ZLC*

CITY MANAGER APPROVAL: *(Signature)*

EXPENDITURE REQUIRED	\$ 302,454
AMOUNT BUDGETED	\$ 384,473
LINE ITEM NUMBER	592-592.00-982.026

BACKGROUND INFORMATION:

The Department of Public Services, Water and Sewer Division is planning to install Advanced Metering Infrastructure (AMI), which is a fixed network system using technology that will allow City staff to remotely obtain meter reading data and other information such as consumption, potential leakage, meter tampering, and backflow events for each user in the City's water distribution system. This would replace the City's current Automated Meter Reading system, which involves staff driving by each meter in close enough proximity to allow a collector to receive transmitted data. The AMI system will eliminate the need to drive the entire City to collect meter data, which is typically a four to six day process.

This project involves the installation of collector towers (standard wood utility poles equipped with antennas) at locations around the City to provide appropriate coverage. Per the propagation study (see attached Figure 1) performed by Ferguson Waterworks (formerly Michigan Meter), thirteen to fifteen collector towers will be needed to provide coverage for over 99-percent of the City. The City's Capital Improvement Program has two items in the FY 2017-18 budget related to the implementation of the AMI system: 1) the installation of the AMI infrastructure needed to collect and transmit the meter data, as described above, and 2) the replacement of the older meters and the non-compatible meters, which will be a multi-year project anticipated to be completed between now and FY 2020-21.

Ferguson was asked for a proposal to complete the implementation of the fixed network system for the City. Ferguson is the sole distributor of Neptune water meters in the state of Michigan, and supplies all the water meters purchased by the City. The attached proposal was provided for the completion of the AMI implementation project, and the pricing for the equipment included is based on the Oakland County Cooperative Purchasing Contract.

The Water and Sewer Division will be coordinating with the IT Department regarding how the data will be stored and managed. The City will likely purchase a dedicated server (a 6TB server at ~\$8,000) to host the data collected.

Once the AMI system is up and running, the City can consider the incorporation of a customer engagement interface that will provide Novi's water customers with greater flexibility for managing their account. This type of interface would provide the ability for residents and other customers to view their hourly usage, set up notifications and alarms, along with many other functionalities. It would also allow the City to quickly notify customers about upcoming and existing service interruptions, etc.

RECOMMENDED ACTION: Approval to award engineering and construction services to Ferguson Waterworks for the implementation of a Fixed Network System to be used for reading and collecting information from the water meters throughout the City's water distribution system, in the amount of \$302,454.



Meter & Automation Group

July 21, 2017

Mr. Ben Croy
City of Novi
26300 Lee BeGole Dr.
Novi, MI 48375

Subject: City of Novi AMI System Proposal

Dear Mr. Croy:

Ferguson Waterworks is pleased to provide the City of Novi with the following proposal for the implementation of an R900 Fixed Network System. The City of Novi, Ferguson Waterworks (Formerly Michigan Meter Technology Group), and Neptune Technology Group have a long standing and valued relationship and we sincerely appreciate this opportunity. The pricing and implementation costs in the following proposal are taken directly from Year 3 of the Oakland County Cooperative Purchasing Contract #004361 with Ferguson Waterworks, where applicable.

Ferguson Waterworks is the sole distributor of Neptune Water Meters in the state of Michigan, as well as in 8 other states across the country. As such, we have experience implementing several Fixed Network AMI Systems across the country. Ferguson Waterworks' Meter and Automation's Michigan headquarters is located in Madison Heights, where we maintain a very large inventory of Neptune products.

Neptune's R900 system provides a clear cut migration path from a mobile or drive by reading solution to a complete fixed network system. The R900 Fixed Network system consists of Neptune R900 Meter Interface Units, Gateway Data Collectors and N_Sight PLUS Host Software. This system will provide the city accurate daily reads, daily flags for leak, tamper, and reverse flow detection, consumption data to assist conservation programs, and final daily reads that eliminate truck rolls for off-cycle automatic meter reading. This data can be used as a customer service tool and will allow the city to address issues related to high bill complaints and out of the ordinary water loss which could be caused by broken pipes or excessive leaks. The Neptune R900 system operates on an unlicensed frequency band and all System radio components are approved by the FCC as Part 15.247 components, and labeled as such.

Again, thank you for the opportunity to work with the City of Novi on this project. Should you have any questions regarding this proposal, please do not hesitate to contact us.

Sincerely,

A handwritten signature in black ink, appearing to read "Matthew Rizzo".

Matthew Rizzo
Operations Manager
Ferguson Waterworks, Meter and Automation

Ferguson Waterworks Meter and Automation
799 E Whitcomb
Madison Heights, MI 48071

Section One | Process

Secure Sites for Collector Installation

Ferguson Waterworks and the City of Novi worked together to identify sites that could potentially be used for collector locations. We will need to be provided a “notice to proceed” from the owner of each site before a collector can be installed. Some chosen sites require FAA approval, due to their flight path proximity.

Install Data Collector System

Once a notice to proceed is granted for each location, Trendset Communications Group will install the collectors, Uninterruptable Power Supplies and antennas on the appropriate application.

Concurrently, a server to house the meter read data and host software will be installed at a location to be designated by the City. As discussed, this server will be provided by the City.

Install Software and Train Staff

Client versions of N_Sight software will be installed on computers designated by the City and system training will be conducted by Ferguson Waterworks personnel.



Meter & Automation Group

Section Two | Proposal

Description	Unit cost	Quantity	Total Cost
V4 R900 Gateway Data Collector	\$ 6,679.13	13	\$ 86,828.69
R900 Gateway RF Antenna	\$ 393.59	13	\$ 5,116.67
R900 Gateway UPS	\$ 1,908.32	13	\$ 24,808.16
N_Sight Software Maintenance – 3 year	\$ 2,400.00	1	\$ 2,400.00
N_Sight Software Uplift Fee*	\$ 3,300.00	1	\$ 3,300.00
Software System Implementation	\$ 2,500.00	1	\$ 2,500.00
Software Training	\$ 2,500.00	1	\$ 2,500.00
Installation of Data Collectors	\$ 13,461.53	13	\$ 174,999.89
Project Total:			\$ 302,453.41

- All Neptune products are direct ship FOB City of Novi, MI
- All orders must be \$22,000.00 or greater to avoid shipping charges
- Proposal does not include costs associated with property acquisition or easements
- Proposal does not include costs associated with cellular service needed for each collector
- Neptune Equipment pricing is provided by Oakland County Cooperative Contract #004361

*N_Sight Software Version 5.5 was released after the OCCC #004361 was finalized

Figure 1

Signal Coverage Map

