



Water, Sewer, and Solid Waste Committee

September 10, 2019

5:30 P.M.

(Or immediately following Equipment Committee Session)

City Hall – Room 326

Committee: Chairman Mark Kinion; Council Member Sonia Gutierrez, Council Member Sloan Scroggin, Council Member Teresa Turk

Copy to: Mayor Lioneld Jordan, Don Marr, Paul Becker, Sondra Smith, Susan Norton, Chris Brown, Alan Pugh, Terry Gulley, Peter Nierengarten, Jeff Coles, Brian Pugh, Mark Rogers, Corey Granderson, Aaron Watkins, Greg Weeks, Mayo Miller, Tim Luther

From: Tim Nyander, Utilities Director

CALL TO ORDER

ROLL CALL

OLD BUSINESS:

1. Discussion of Draft Regulation 37 – Nutrient Trading

NANTRAG held a scheduled meeting on September 5, 2019 at the Illinois River Watershed Partnership Learning Center in Cave Springs. The meeting was held to discuss motions made by Springdale and Fayetteville to amend Regulation 37. Discussion on the outcome of those motions.

NEW BUSINESS:

2. Replacement of the HMI touchscreen for the UV disinfection system's PLC computer system at the West Side WWTP.

The West Side Treatment Facility utilizes an ultraviolet (UV) disinfection system as a final treat treatment process. An industrial PLC (Programmable Logic Controller) computer system continuously monitors operation of the Wedeco-brand disinfection system and automatically controls its operation based on pre-configured programming and flow variances. The PLC computer system is composed of several sub-systems and individual components such as processors, input and output assemblies, power supply, software, programming and HMI (Human-Machine Interface).

The disinfection system's 11-yr old PLC computer system has been evaluated as out-of-date and a system upgrade has been recommended. A later phase of the SCADA Study will include a comprehensive look into the disinfection system's PLC system along with other

PLC and RTU systems at the West Side facility. There is a short-term system need that staff recommends moving forward with in the meantime. This involves replacement of a failed HMI, where touchscreen capability has been partially lost.

Quotes have been requested from local vendors for price comparison. Staff anticipates a project total NTE \$16,000, including taxes, for completion of the proposed touch-screen replacement and programming. A budget adjustment will be necessary for this purchase

STAFF REQUESTS THIS BE FORWARDED TO THE CITY COUNCIL FOR CONSIDERATION FOR APPROVAL

3. Lake Fayetteville Spillway Feasibility Study

The Lake Fayetteville Dam is regulated by the Arkansas Natural Resources Commission (ANRC) and is classified as an 'intermediate-size, high-hazard' dam based on storage volume and downstream conditions, respectively. The City of Fayetteville Water and Sewer Division is responsible for Dam maintenance, inspection, and upkeep. The ANRC completed a comprehensive inspection of the dam and available reports/plans most recently in Fall 2018. One of the key findings by ANRC was that the spillway is reported to have a capacity to pass 50% of the Probable Maximum Flood (PMF), however, for an intermediate/high-hazard classification the spillway must be capable of passing 100% of the PMF.

FTN Associates, Inc. is a local engineering firm with expertise in lakes, dams, hydraulics, and hydrology. They were formally selected (RFQ 19-01, Selection #8) to provide engineering analysis and design regarding the current Lake Fayetteville spillway capacity and to explore options for increasing this capacity to pass 100% of the PMF. Phase One of this study will provide the hydraulic and hydrologic calculations necessary to define the PMF in this watershed and assess the actual capacity of the current spillway. Future Phases Two and Three would analyze downstream effects (City of Johnson) and construction-level engineering design. After each phase of this project, the City will meet with ANRC to ensure compliance and agreement for next steps. Phase One of this study is not to exceed \$63,466.00.

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4. Lake Sequoyah Dredging and Water Quality Improvements

Lake Sequoyah is owned by the City of Fayetteville and is the responsibility of the Water and Sewer Division. The lake is fed by the Middle Fork and White River, and just downstream of the dam, confluences with the West Fork. The lake has historically acted as a sediment trap for these two feeding rivers and has accumulated significant amounts of sediment, prevented from migrating downstream into Beaver Lake. Previously the City, in partnership with Jacobs, performed a dredging pilot study (2012), coordinated initial permitting with many state agencies, and constructed a dredging dewatering area with associated access haul roads (2018).

The next step in this process is to create a detailed plan of action regarding dredging and overall rehabilitation of this lake. This plan needs to consider the day-to-day dredging operation, end market for dirt generated, finalize permitting, quantify incoming sediment, and

holistically ensure that a sustainable plan is in place for the long-term health of this reservoir and protection of downstream Beaver Lake. Olsson was formally selected (RFQ 19-01 Selection #7) to provide this engineering service for a not-to-exceed fee of \$114,220.00. The scope of work includes detailed bathymetric surveys and watershed loading analyses, evaluation of sediment removal options and methodologies, and preparation of a 30% concept design and cost estimations of the project, comprehensive of physical lake modifications, permitting, funding, and long term O&M. After completion, this project would be expanded to include a detailed engineering design, bidding, and implementation of the recommendations.

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5. SCADA System Upgrade

We are currently working with Jacobs/CH2M to review the Supervisorial Control and Data Acquisition system that monitors and manages the wastewater plants and water distribution system. The SCADA system consists of software, associated servers, network equipment that connects sites and equipment. This includes both wired and wireless connectivity and numerous end points called PLC's that either actuate equipment or provide monitoring capabilities.

Over the past year the City Utilities and the City IT staff have been working with CH2M local staff and Jacobs network and SCADA teams to upgrade the entire SCADA system to increase security, stability, functionality, and provide a path for future enhancements. We have deployed over 40 new enterprise class network switch endpoints over the last 6 months to begin the upgrade project but are now to the point we need to replace major SCADA components. City IT staff, CH2M, and Jacobs have had many discussions on how to proceed with the upgrade and are at the point of needing to develop a detailed implementation plan.

SCADA systems are complex and require a holistic review and design to ensure the new system provide the required functionality with the least complexity and expense as possible. CH2M has provided the City with a statement of work to develop a detailed network plan, software implementation plan, and server plan. This plan will detail the exact design, required equipment, software, and provide a cost estimate to implement.

The staff is requesting approval of the attached SCADA statement of work in the amount of \$77,719 as a change order to the existing CH2M O & M contract. CH2M has stated they will start working on this project immediately if approved with the intent to complete the work within 3 months. Once this work is completed, we will be returning to the committee for review of the implementation plan which will include the purchase of new software, hardware, and implementation services from CH2M.

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6. Verizon Wireless – Fourth Amendment to the Lease for Cellular Communications Equipment on the Gulley Water Tank

On October 20, 1999, the City of Fayetteville made an agreement with Fayetteville MSA Limited Partnership (a subsidiary of Alltel Communications, which later became Verizon Wireless) to allow them to place cellular communications equipment on the Gulley Water Tank located at 3265 North Gulley Road. The First, Second, and Third Amendments to the original agreement regarded changes to equipment, renewal terms, and rental amount increases.

The Fourth Amendment to the Water Tower Attachment Communications Site Agreement will continue the lease with Verizon Wireless for two (2) additional terms of five (5) years each, commencing on October 20, 2019. The rental price of the lease will also increase 20% from \$2,022.84 to \$2,427.41. At each renewal term, the rental amount will automatically increase 20% from the previous term's amount.

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PRESENTATIONS

7. Overview of WWTP Monthly Report

Discussion of August's Monthly WWTP Report

ATTACHMENTS

UV Touchscreen
Lake Fayetteville Spillway - FTN
Lake Sequoyah Agreement
CH2M Hill SCADA Proposal
Verizon Fourth Amendment
WWTP July 2019 Monthly Report

ADJOURN

Next Water, Sewer, Solid Waste Committee meets on Tuesday, October 8th, 2019, 5:30 p.m., Room 326.