



Water, Sewer, and Solid Waste Committee

12 July 2022

5:30 P.M.

(Or immediately following City Council Agenda Session)

This is a Virtual Meeting

Committee: Council Member Teresa Turk, Council Member Sloan Scroggin, Council Member D'Andre Jones, Council Member Mike Wiederkehr

Copy to: Mayor Lioneld Jordan, Paul Becker, Kara Paxton, Susan Norton, Chris Brown, Alan Pugh, Terry Gulley, Peter Nierengarten, Brian Pugh, Andrea Foren, Mark Rogers, Corey Granderson, Aaron Watkins, Greg Weeks, Monty Sedlak

From: Tim Nyander, Utilities Director

CALL TO ORDER

ROLL CALL

UPDATES

OLD BUSINESS:

1. Rate Study Update – Meeting with Customer Cities

Finance Director Paul Becker will provide an update on the July 1st meeting with the customer cities that utilize Fayetteville's water and sewer services.

2. Biosolids Drying as a Service Agreement

The DaaS Agreement is an agreement between Griffin Residuals and The City of Fayetteville to pursue a business relationship in drying the City's biosolids. Griffin Residuals' will invest the capital equipment and services at the City's Biosolids Management site (BMS) to enable the receiving and drying of the City's biosolids following transport from the Paul R Noland (East) and West Side (West) wastewater treatment plants. The business relationship is anticipated to include the use of property and/or buildings at the BMS and a fee-per-ton for biosolids dried at the Drying as a Service (DaaS) facility.

Griffin Residuals, LLC will install, operate, and train city staff to operate a Biosolids dryer to replace the previous biosolids dryer that suffered a catastrophic failure on December 13, 2021. The machinery owned by Griffin Residuals, LLC will be installed and initially operated and fully maintained by Griffin Residuals, LLC, who will also pay for the electricity and natural gas used to operate the dryer. Griffin Residuals will receive a per ton sludge processing rate of \$65.00 per ton with an

estimated monthly sludge feed amount of 1,250 tons. After an initial three year operation to confirm the quality and ability of the machinery and operation, the City will have the option to exercise a Buy-Out of this sludge processing equipment for a set price of \$1,995,000.00.

Approval of this agreement by the City Council will set into motion the installation of the necessary piping, electrical components, conveyors, and other equipment by the city in preparation for installing the Griffin Residuals dryer.

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

NEW BUSINESS:

3. Conveyor Bid Award

On May 31st, 2022, the City accepted sealed competitive bids for purchasing a dryer feed conveyor to be used in biosolids drying at the Biosolids Management Site (BMS). Three bids were received, and Hampton Equipment, LLC submitted the best bid of \$42,340.00 plus taxes and shipping costs. All bids are shown here:

Hampton Equipment, LLC	\$42,340.00
West River Conveyors & Machinery Co.	\$98,919.74
Bulk Material Handling (Synergies, LLC)	\$126,150.00

This conveyor will be utilized to transfer the partially dried solids from solar houses to the dryer hopper where it can be loaded on the dryer to finish the drying operation.

Funds are available in the Plant Pumps and Equipment account within the Water & Sewer fund.

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

4. Lift Station Pump Award

Farmington Sewer Lift Station (LS12) moves sewage from the neighboring community of Farmington to the West Side facility using 3 submersible pumps. The lift station has historically struggled with large amounts of rags and other heavy debris in the incoming flow resulting in the need for frequent backwashing by Jacobs's maintenance staff. Unfortunately, the original pumps installed in 2008 were poorly designed for the specific needs of this lift station. To alleviate the issue, in 2019 the original pump in the No. 1 position was replaced with a FLYGT Model NP3155 submersible pump which is specifically designed to handle "heavy" influent without seizing or excessive wear. Since commissioning the FLYGT pump in position No. 1, there have no unplanned maintenance calls for backwashing at this lift station; however, this pump has been run continuously since installation. Replacing the pump in the No. 2 position with the same model FLYGT pump will allow for downtime for the No. 1 pump and assure no interruptions in the event pump No.1 experiences mechanical issues.

On June 14th, 2022, the City accepted sealed competitive bids for purchasing a new FLYGT NP3315 submersible pump. One bid was received, submitted by Jack Tyler Engineering with a bid of \$108,621.00 plus taxes and shipping costs.

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

5. Update on the Standard Specifications for Design and Construction of Water and Sewer Lines

The 2017 Edition of these standard specifications was adopted by Ordinance 6003 in October 2017. In 2019 the document was amended for administrative items related to professional endorsements of new city staff. The 2022 Edition includes a variety of technical adjustments and clarifications to better assist developers, engineers, and city reviewers and inspection staff.

The 2022 Edition of the specifications represents the culmination of several years of product reviews and field observation of best practices. A collaborative, consensus-building approach was used including many City Staff: Staff Engineers, Public Works Inspectors, Planning, Transportation, Water/Sewer Operations, Water/Sewer Warehouse. The modifications provide better clarity and definition of the City's expectation for construction of water and sewer infrastructure by private developers and their contractors. Some of the changes to this specification include:

- Clarification on responsible parties, applicability, and variances
- Domestic Steel requirements
- Allowances for new construction methods and materials
- Clarification on easement and building offset requirements from utilities
- Consistency between specification language and standard detail drawings
- Sewer Lift Station specs updated to match current practices and standards
- Updated references to other city standards (e.g., Minimum Street Standards)
- Clarification to common field-questions from engineers and contractors
- Limitations on frequency of repairs to new lines, requiring engineer involvement

Staff recommends approval of an Ordinance to adopt the updated Standard Specifications for Design and Construction of Water Lines and Sewer Lines, 2022 Edition.

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

6. Noland Facility Master Plan Update

A formal selection committee was held on March 28, 2022, to select three engineering firms to interview for conducting a Facility Master Plan of the Paul R. Noland WRRF. The three firms selected were Black & Veatch, Freese & Nichols and Garver. Interviews were conducted on April 22, 2022, and Garver was selected to perform the study.

The City's last Facilities Master Plan for wastewater treatment was performed in 1997 and resulted in the City's construction of the West Side Water Resource Recovery Facility, along with associated sewers to route over half of Fayetteville's wastewater to this new plant. As population continues to increase, it is pertinent to keep long range capacity planning efforts

updated so that future capital financing can be considered proactively. This plan will address existing and future capacities of each unit and ancillary process at the Paul R. Noland WRRF.

This Facilities Master Plan will begin with assessment of the wastewater characteristics and loadings arriving at the Noland WRRF. Past data will be analyzed, and additional sampling will be conducted. An in-depth facility tour and inspection will be conducted to look at each individual asset's condition and a risk analysis will be performed. The plant will then be modeled hydraulically, biologically, chemically, and physically and calibrated to match field measurements. This model will be used for technical evaluations of each unit process to develop a 'Gap Analysis' identifying bottlenecks or future constraints of the overall process.

Next, future projects will be graphically laid-out on site plans to ensure high-level feasibility given the existing campus constraints. All this information will be used to generate an interactive capital planning tool, looking forward 20-years. This plan will identify minor and major projects and recommend implementation schedules for each. All this information will culminate in a Final Report, approximately 16 months after the issuance of the Notice to Proceed.

INFORMATION ONLY

7. Design of the 48-inch West Transmission Line

The City of Fayetteville owns and operates two parallel water transmission lines from Beaver Water District (BWD) in Lowell that enter from the northeast corner of the City. These lines are a 36-inch pipe installed in 1967 and a 42-inch pipe installed in 1993. BWD intends to build a western water distribution point near HWY-112 and the newly constructed Springdale Northern Bypass, HWY-612. This facility will supply a western water transmission feed to all four customer cities, helping with hydraulics, critical redundancy, and overall utility resiliency. Fayetteville's 11-mile connection to the proposed BWD facility has been identified in water master plans for many years, but the timeline was previously unknown.

In 2012, the City of Fayetteville hired McClelland Consulting Engineers (MCE) to establish a preliminary alignment for a waterline along this western corridor (Res. 120-12) and begin easement acquisitions. The contract was amended in 2021 (Res. 179-21) to increase funds for appraisals and acquisition support.

BWD has been notified by Springdale Water Utility (SWU) that a connection to the western corridor delivery point is desired by first-quarter 2026. BWD and SWU have begun final design for alignments and pump stations to make this project a reality. The City of Fayetteville previously desired a connection to this facility by 2030. However, there are three primary reasons this timeline should be expedited, and Fayetteville be ready to tie onto this new facility nearer to the BWD/SWU timeframe.

First, the condition of the original 36-inch transmission main is rapidly deteriorating in several areas due to corrosion from shale soils. This has resulted in several recent large waterline leaks which have caused home damage, property damage, and complete street reconstruction in their vicinities. During these large leaks, the water system is susceptible to mass water outages across the service area. Furthermore, the city cannot operate this line at any pressures above the absolute minimum to meet increasing water demands, as this triggers further leaks.

Second, the demands on our water system have increased due to population and use increases beyond those previously projected. In 2017, during the City's last water modeling and master

planning, the West Corridor line was projected to be needed in 2033 to provide adequate water to our system. However, a recent update to these projections shows the line is needed by 2029 simply to meet maximum day demands in the summertime.

Finally, the 3rd reason for expediting this project is the logistical intersection between the first two reasons. Due to existing water demands and usage, the 36-inch line cannot be taken out of service long enough to replace sections of the line experiencing the worst corrosion. While replacement of large portions of this line has been previously identified as the most critical project needed for delivery of water to the City's system, the only way to increase our capacity is to construct the 48-inch West Corridor water transmission line as expeditiously as possible. Once in operation, the West Corridor line will allow for the older 36-inch line to be replaced and provide the redundancy needed to support the future growth in the City.

The critical path next step to accomplishing these goals is to move forward with the preliminary engineering and environmental permitting phase of the West Corridor line. The future funding of the West Corridor line is being considered as well but is not the most pressing 'next step' to expediting the project.

For these reasons, Amendment No. 2 is proposed which will provide funds to keep the project progressing and on its critical path. Immediate next steps will include preliminary design, Section 404 permit consulting services and associated coordination with state/federal agencies, geotechnical investigations, and additional topographic surveys in the project corridor.

INFORMATION ONLY

8. Backflow Testing and Shut-Offs

Backflow Technician Emmett Hall will discuss the process the Utility has developed to ensure that backflow preventors are properly tested on a routine basis. Included in this process is the shut-off procedure for noncompliance.

INFORMATION ONLY

9. Overview of WWTP Monthly Report

May's Monthly WWTP Report

PRESENTATIONS

Presentation of May's Monthly WWTP Report

ATTACHMENTS

Draft Drying as a Service Agreement
Conveyor Bid Tab
Lift Station Pump Quote
ADH Approval of W&S Standard Specs
2022 Fayetteville W&S Standard Specs
May's Monthly WWTP Report

ADJOURN

Next Water, Sewer, Solid Waste Committee meets on