



Water, Sewer, and Solid Waste Committee

13 October 2020

5:30 P.M.

(Or immediately following Equipment Committee Session)

This is a Virtual Meeting

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

Copy to: Mayor Lioneld Jordan, Paul Becker, Kara Paxton, Susan Norton, Mark Rogers, Corey Granderson, Aaron Watkins, Greg Weeks, Matthew Benton, Tim Luther, Brent Corwin

From: Tim Nyander, Utilities Director *TN*

CALL TO ORDER

ROLL CALL

UPDATES

NEW BUSINESS:

1. Noland Electrical Project Change Order (Midland Construction)

Upon noticed to proceed on the project, the contractor began a review through the Noland Plant to determine their construction schedule. The contractor discovered some smaller, missing items that were left out of the original equipment bid.

However, the largest discovery was that approximately 7,500 feet of underground cable is incompatible and will not work with the ten large transformers ordered for this project. There is an increase of 139% in cable footage. There is no fault on this item, the cable is underground and could not be observed. The original plans did not indicate that this type of cable was used.

There were other "unknowns" discovered, such as concrete pad thickness and additional confined space entry. Staff will discuss the details during the meeting.

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

ATTACHMENTS

Letter from Allgeier, Martin & Associates

ADJOURN

Next Water, Sewer, Solid Waste Committee meets on
Tuesday, November 10th, 2020, 5:30 p.m.



ALLGEIER, MARTIN and ASSOCIATES, INC.
Consulting Engineers

October 6, 2020

Mr. Corey Granderson, P.E.
Utilities Engineer
City of Fayetteville
113 W. Mountain Street
Fayetteville, AR 72701

Re: Noland WWTP Change Order

Dear Mr. Granderson:

Upon noticed to proceed, Midland Industrial Services began a review through the Noland WWTP to determine their construction schedule.

Midland informed Allgeier, Martin the 15kV switchgear was missing a connector bushing. We have recently sent a request to order these since they were left out of the original equipment bid. These have been ordered.

Midland informed my inspector and myself that the 15kV underground cable had a tape shielding not a physical wire concentric neutral. This underground cable does not work well with the ten large transformers ordered for this project. We recommended a Y-Y transformer configuration as opposed to the delta-Y that currently exists. This configuration is more prevalent today and easier to get replacements for if required. They are the industry standard. The tape shielding cannot handle fault currents like the concentric neutral. The original plans did not indicate that tape shielding was used. Tape shielding is used more in the mining industry not industrial plants. The additional underground cable is 7,455 feet. This is a 139% increase in cable footage. This means that all of the 15kV underground cable will need to be replaced and their corresponding terminations.

Unknowns in the manholes have resulted in additional work for pulling and connecting multiple 15kV underground cables and terminations. These were identified in Midlands review of the project. Midland pumped water out of the manholes to see these issues. This will require many additional hours of "confined space work" that was not originally anticipated. The man holes contain termination modules to connect the cables. There are many of these.

Sometime during the bid the process, the manufacturer of the 480-volt switchgear changed their designs of what they sent to Allgeier, Martin. The switchboards at the Aeration Basin and the Ozone Buildings grew in size. We were unaware of this until lately. These changes require additional work at both buildings including concrete slabs and the engineered building covering the switchgear. The size grew by 55% at the Aeration Basin.

Mr. Corey Granderson, P.E.
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The concrete slabs that support the existing 15kV switchgear were thicker than normal which has caused several changes to enable the new switchgear to be installed. The Effluent Area has a concrete slab that is approximately 30 inches thick with no rebar. This is an extremely thick slab for the transformers. There are changes required to provide new electrical supply to the new transformers.

Midland and Allgeier, Martin have had multiple discussions on this additional work. We have concluded that the additional work is warranted, and a change order will be required with an amount of \$349,814.99. This is approximately a 34% increase over the original bid. See the attached information provided by Midland.

When Allgeier, Martin performed the electrical system evaluation back in 2017, we were limited to what equipment was allowed to be opened due to safety concerns. We were told that some equipment may not operate correctly if it were operated. It was discussed that plant processes could not be deenergized just to look at all the equipment. Manholes were flooded and visual inspection could not happen. It was not safe to look at and below most of equipment while it was still energized. Allgeier, Martin made recommendations based upon our previous experience with this type of equipment and other locations.

Midland would also like to have an extension of 60 days to the contract to perform the additional work. I agree with this extension. There have been many conversations to reach these conclusions.

We would like to proceed with a change order for this project.

I am available for discussion on this project.

Sincerely,

ALLGEIER, MARTIN and ASSOCIATES, INC.

Brent Corwin

A. Brent Corwin, P.E.
Electrical Project Manager

ABC

Enclosures

cc: Tim Nyander
Enclosures