



## CITY COUNCIL MEMORANDUM

**FROM:** The Office of the City Manager   **DATE:** July 26, 2021  
**SUBJECT:** Consider award of RFB No. 21-019 to Felix Construction for construction of the Conn Pump Station Rehabilitation Project (UT2008) in the amount of \$2,151,884.00, authorize the City Manager to execute such agreement, and approve associated budget transfer.  
**PRESENTER:** Caroline Waggoner, Director of Public Works

### **SUMMARY:**

The City Council is being asked to award a construction contract for the Conn Pump Station Rehabilitation Project (UT2008) and approve associated budget transfer.

### **GENERAL DESCRIPTION:**

A bid opening was conducted for the Conn Pump Station Rehabilitation Project on June 30, 2021. The Conn Pump Station is a critical utility asset for the City of North Richland Hills, needed in order to deliver a consistent supply of water to the entire city, but primarily the southern third of NRH. The existing pump station is aging and its current piping configuration is contributing to premature pump failure. The current operational procedures for staff to maintain adequate pressures in the system require almost 24/7 monitoring. Staff is required to manually (via SCADA) turn on/off certain pumps due to changes in pressure in the system. The original project was budgeted based on the assumption that the pumps would simply be replaced, along with necessary electrical code updates. However, following extensive analysis performed by Kimley-Horn during the design phase, it was determined that the pump station could be further improved through the use of more modern pump technology that had previously been thought incompatible with the existing building.

The construction scope consists of replacing the existing four-pump configuration and associated yard piping with three variable frequency drive (VFD) pumps and upgraded electrical components within the existing pump station building envelope. The scope also includes realigned yard piping and a new access door for the building to accommodate a separation of key electrical hardware from the pumps themselves.

Use of VFD's will allow a constant pressure to be maintained at a desired set point. The pumps will automatically adjust flow to meet this set point. This will allow operations staff to spend less time monitoring and exercising the pumps and will result in a more resilient system.



- As the speed of the pump/motor/VFD are reduced so is the energy usage of the motor resulting in lower electrical costs. Considering savings from electricity use alone, VFDs would pay for themselves within just over 5 years.
- Additional inherent efficiencies of VFDs would allow the City to improve system performance and extend equipment life, adding to the benefits of VFD usage:
  - VFDs reduce the number of start/stops on a pump, thus extending the pump longevity.
  - VFDs run at a higher power factor, which reduces electrical losses and improves voltage regulation, thus resulting in additional energy savings.
  - VFDs lower the inrush current when pumps are starting up, thus lowering any peak electrical demand charges that may occur.

Notice of the city's intent to bid was advertised in local newspapers, as required by state statute, and posted on the city's website. Bid specifications were viewed on the city's website by multiple entities. The project received three bids, which were opened during the June 30<sup>th</sup> bid opening. The bids are provided below:

<b>CONTRACTOR NAME</b>	<b>BASE BID</b>
Felix Construction	\$2,151,884.00
Rey-Mar Construction	\$2,357,016.00
Dake Construction	\$2,641,246.00

City staff recommends awarding the contract to the lowest bidder: Felix Construction, who has successfully completed similar projects for other DFW municipalities in the past five years.

The construction duration as outlined in the contract is a full year (365 calendar days). Because the Conn Pump Station is required to maintain water pressure and supply, we cannot shut the pump station down for long enough to perform all of the work; therefore, the construction must be phased. The optimal time for any minor service interruptions would be during the winter months when water demands are lowest. The proposed duration will allow the contractor to procure the components and perform all preparatory work prior to those low-demand months.

Funding for this project was included in the FY 2020-21 Adopted Capital Projects Budget for the Conn Pump Station Rehabilitation Project (UT2008). However, the bids came in \$980,859 higher than originally anticipated due to the proposed VFD design. City staff identified project savings in another utility funded project to cover the anticipated increased construction costs prior to committing to the VFD design. Staff is proposing to utilize \$1,100,000 in construction savings from the Walker Branch Interceptor Project (UT1607) to cover the shortfall (\$980,859) and to provide for a project contingency (\$119,141). The Walker Branch Interceptor Project was completed in 2020.



**RECOMMENDATION:**

Award RFB No. 21-019 to Felix Construction for construction of the Conn Pump Station Rehabilitation Project (UT2008) in the amount of \$2,151,884.00, authorize the City Manager to execute the agreement and approve the associated budget transfer.