

Memo



To: Clay Pearson, City Manager
From: Jameson Appel, Project Manager
CC: Jon Branson, Deputy City Manager
Trent Epperson, Assistant City Manager
Robert Upton, P.E., Director of Engineering
Clarence Wittwer, Director of Public Works
Skipper Jones, Assistant Director of Capital

11/21/19

To:
Mayor and City
Council members
Construction of the actual new water
tank on FM 521 nearly complete.
Ready to award the next phase for
pumps and electronic systems to
operate. Clay

Date: November 21, 2019

Re: Pre-Award for FM521 Ground Storage Tank Expansion Project,
Phase II Construction Contract – Electrical, Instrumentation &
Controls, and Pump Upgrades

Purpose:

This memo provides information regarding the award of the construction contract for Phase II of the FM521 Ground Storage Tank (GST) Expansion project. Phase II includes upgrades to electrical, instrumentation and control and upsizing of two pumps. Continued growth and increasing demands on the water distribution system along with planning for the future distribution of surface water requires increased storage capacity within this distribution facility. This facility's storage and the means to distribute that stored water are essential to maintaining a high performing, healthy distribution infrastructure.

Background:

Phase I for the FM521 GST Expansion included the installation of a 3.0-million-gallon pre-stressed concrete storage tank. Additional storage at this location will allow the City to improve the operation of the existing distribution system by adding additional capacity to meet peak demands, improve maintenance of system pressure and improve the quality of delivered water through proper blending of all current and future sources. The City recently extended the FM521 Waterline into the Shadow Creek development. This link will be extended to the FM521 plant and serve as the connection from the future Surface Water Treatment Plant. Once connected Surface Water from the new plant will supply water to this booster pump station reducing the quantity of water purchased from the more expensive City of Houston take point.

November 26, 2018 DN Tanks was awarded the construction contract for Phase I, the construction of the new 3-million-gallon ground storage tank. The contract included 360 calendar days for substantial completion and carried a Notice to Proceed date of January 28, 2019. Costello, Inc was awarded design contract for Phase II March 2019; timing of contracts was built to coincide the completion of Phase I construction and award of Phase II construction. Currently DN Tanks is in the final stages of Phase I construction and the site is prepared to begin Phase 2.

Scope of the Project:

The design of Phase II addressed the build out pump sizing based upon May 2019 water model projections, revisions to the electrical system, pump controls, and the installation of fiber and associated conduit. The project includes replacement of two existing 75HP booster pumps with two 150HP booster pumps, and installation of five new 150 HP Variable Frequency Drives (VFDs). The addition of the VFDs will allow pump operations to ramp up or down depending on pressure in the system and volume demand. With the same size pumps in operation this will provide for rotation and balanced Run Hours between the five pumps. Work to the motor control center (MCC) includes new pump controllers, automatic transfer switch, feeder breakers, starters for auxiliary equipment, and additional modules to the existing control system. New Supervisory Control and Data Acquisition (SCADA) programming will be required for the five VFDs and improvements to plant operational programming to take full advantage of these improvements. The fiber run consists of 1600' of fiber optic conduit extension from the MCC to a pull box along FM 2234 which will connect the plant's SCADA system into the City's fiber optic network.

Contract Award and Proposed Schedule

Advertising for the project commenced on October 9, 2019. Bids were opened at City Hall Council Chambers on November 5, 2019. Two contractors submitted bids in the amounts of \$2,075,000 and \$2,636,161. W.W. Payton Corporation was the apparent low bidder and was approximately 12% above the engineer's construction estimate of \$1,856,930. The discrepancy between the engineer's estimate and bidders is found in how the bidders accounted for the costs associated with maintaining power and service during the demolition phase of the entire water plant's electrical and backup power systems. W.W. Payton Corporation has worked with the Engineer of Record on previous projects and the Engineer has confirmed that they have demonstrated timeliness and quality of work in the past. The City has received the Engineer's Recommendation of Award and is planning to present the construction contract to Council December 9, 2019 along with a recommendation to award.

The construction contract is 300 calendar days for substantial completion with an additional 30 days to achieve final completion. Pending Council approval in early December, Staff plan to hold the preconstruction conference in late December and issue the notice to proceed for early January 2020. The expected completion date is approximately November 2020 if NTP is issued in January 2020.

Budget:

Funding Sources	Series	To Date	Future	Total Budget
General Revenue - Cash				-
Certificates of Obligation				-
Certificates of Obligation				-
W/S Revenue Bonds	2017C	152,525		152,525
W/S Revenue Bonds	2019B	2,759,975		2,759,975
Impact Fee - Debt				-
Impact Fee - Cash		2,759,975		2,759,975
Other Funding Sources (Fund Balance)		152,525		152,525

Total Funding Sources	5,825,000	-	5,825,000
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Expenditures	To Date	Future	Total
PER			-
Land			-
Design	572,827		572,827
Construction	2,925,430		2,925,430
Construction - Phase 2		2,075,000	2,075,000
Construction Materials Testing	10,486	2,500	12,986
FF&E			-
Total Expenditures	3,508,743	2,077,500	5,586,243

Project Balance/Contingency	238,757
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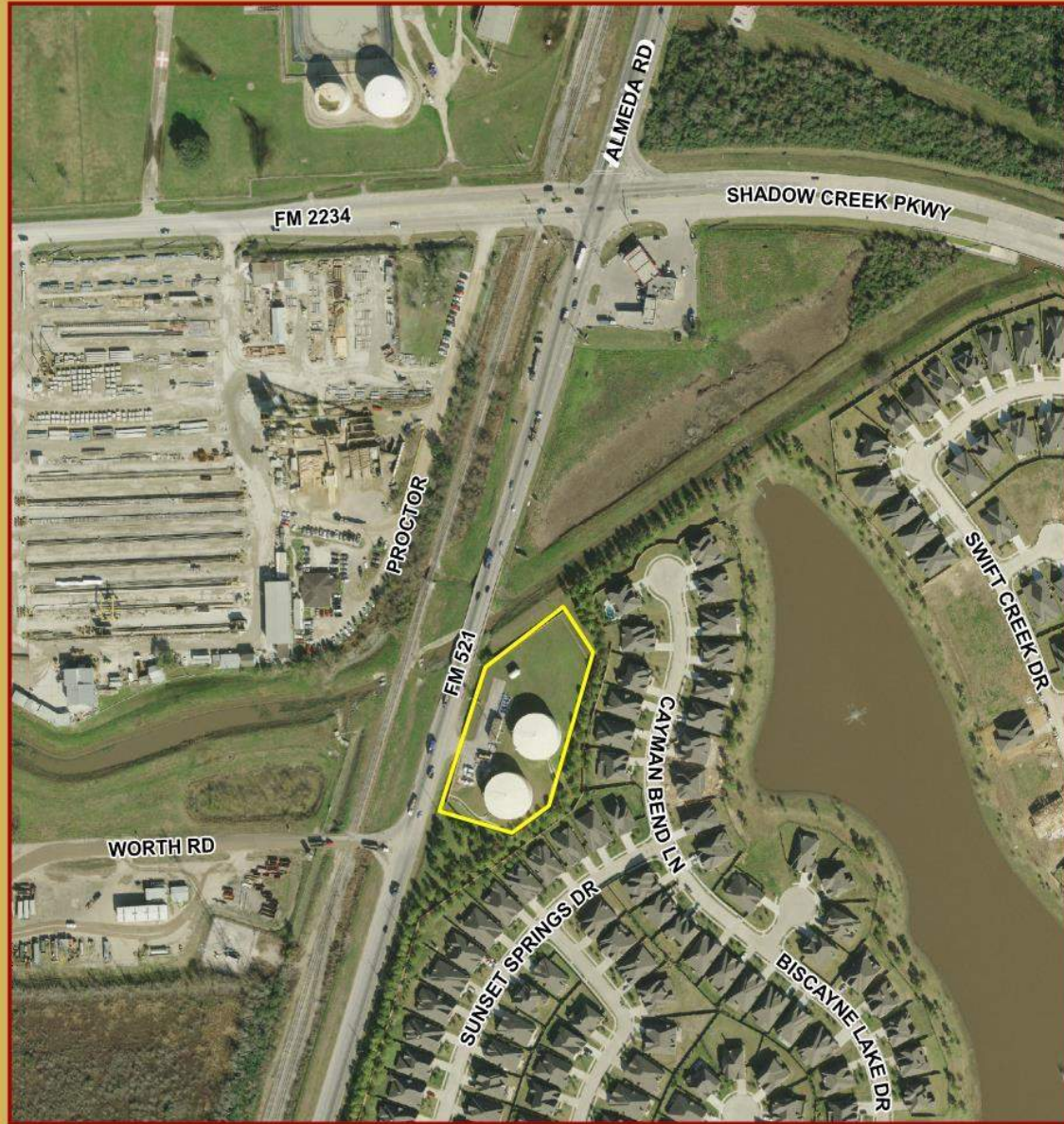
Schedule Info:

Phase 2	Base Line	Current
<i>Design Start</i>	March-19	March -19
<i>Bid Start</i>	July-19	October-19
<i>Construction Start</i>	January-19	January-19
<i>Construction Completion</i>	October-20	

Request for Council Action:

At the December 9th City Council meeting staff will recommend that Council award the contract for Construction to W.W. Payton Corporation in the amount of \$2,075,000.

Figure 1 : Project Location



CITY OF PEARLAND

**FM 521
Water Plant**

 Property Line



This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries.

1 inch = 300 feet

JUNE 2018
GIS DEPARTMENT



Figure 2: Newly construction 3 MG GST

