21 January 2021
To: Mayor and City Council members
Update on water tank replacement in Southdown area. Clay

Southdown Plant Ground Storage Tank Replacement

Is It In Budget?		Is It On Schedule?		Community Benefit
■ Yes	☐ No	■ Yes	☐ No	*Increase Water Supply Available to the Surrounding Community*
		Project Phase?		
		Construction		

Highlights:

- Existing bolted steel ground storage tank has been removed.
- Two existing hydro-tanks have been removed.
- Gas line underground has been run to generator pad.
- Electrical underground has been run to generator pad.
- Generator pad has been poured and generator has been installed.
- All electrical components in control room have been demoed.
- New electrical systems and control panels have been installed.
- Underground electrical duct banks have been installed and encased in concrete.

Construction activities have uncovered several operational issues affecting plant operations:

- The PLC was not working due to a bad power supply. The project will be replacing the power supply to make the plant operational.
- The tank ring foundation had to be moved to avoid an existing underground gas line which has been determined to be incorrectly located outside of the utility easement. Staff are working with CenterPoint Gas to move their trunk line inside their easement. To keep the project moving forward the project was able to shift the tank over to avoid the gas line and not affect the project.
- One of the 12" water main butterfly valves feeding the plant was nonfunctioning and must be replaced in order to isolate the plant.

Budget Info:

Funding Sources	Series	To Date	Future	Total Budget
System Revenue - Cash		350,000		350,000
System Revenue - Cash				-
System Revenue - Cash				-
General Obligation Bonds				-
General Obligation Bonds				-
W/S Revenue Bonds	2020B	2,150,000		2,150,000
Impact Fee - Debt				-
Other Funding Sources				-
Total Funding Sources		**2,500,000**	**-**	**2,500,000**

Expenditures	To Date	Future	Total
PER			-
Land			-
Design	273,068		273,068
Construction	1,973,458		1,973,458

Construction Management/Inspection			-
Construction Materials Testing	25,842		25,842
FF&E			-
Total Expenditures	**2,272,368**	**-**	**2,272,368**

Project Balance/Contingency	**227,632**

Schedule Info:

	Base Line	***Current***
Design Start	April-19	April-19
Bid Start	February-20	March-20
Construction Start	May-20	July-20
Proposed Construction Completion	May-21	

Rain Days: 0

Upcoming Work Items:

- All Electrical conduit and supply conductors will be run into control room.
- The re-located foundation of the ground storage tank will be poured.
- The construction of the ground storage tank will begin.
- The control room will be operational, and the existing tank will be brought back on line in order to resume partial plant operations.

Project Manager: Fatema Weekly

Construction Manager: Michael Collins

Designer: KIT Professionals, Inc.

Contractor: W.W. Payton

Scope: Project scope consist of the design to remove and replace the existing 140,000-gallon bolted steel ground storage tank (GST) with a new 500,000-gallon welded steel GST and associated yard piping, permanent removal of two existing hydro-pneumatic pressure tanks, and installation of a variable frequency drive (VFD) on an existing booster pump.

Justification: The water well and booster pump station were originally constructed with the subdivision development prior to the area's annexation into the City. Consequently, the City inherited the two original storage tanks. The bolted steel tank has already been decommissioned due to the tank reaching the end of its expected life and showing signs of leaking. Bolted steel tanks generally have a shorter life span than welded steel tanks or concrete tanks, with the decommissioning of this bolted tank it leaves the site with a single 500K-gallon tank to meet the current demand of nearly 1 million gallons per day. With a peaking factor of 2.0, the peak hourly demand for the service area is approximately 1.8 MGD (1,250 GPM). As a result, the well pump will run continuously to maintain water availability during these peak demands. Confirmation is based on the review of SCADA data for the Southdown WP GST Operational Levels for 2018.

Previous Memos: 03/07/2019, 10/31/2019, 01/09/2020, 04/16/2020

Project Location Map:

VICINITY MAP

Legend/Notes

Parcels

1:879

1 inch = 73 feet

NORTH

This product is for informational purposes only and may not be prepared or be suitable for legal, engineering, or surveying purposes.

MAP PREPARED: MARCH 5, 2019

Project Photos:

Pre-Construction

Pre- Construction

Removal of Tank

Generator Pad Poured

Tank Removed

Generator Has Been Installed