

1/9/2020

To: Mayor and City Council members

Design coming forward for upgrades/replace at Southdown water operation. Clay



# Southdown Plant Ground Storage Tank Replacement

**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 was 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.

**Project Manager:** Fatema Weekly

**Designer:** KIT Professionals, Inc.

**Contractor:** N/A

**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	TBS	2,350,000		2,350,000
Impact Fee - Debt				-
Other Funding Sources				-
<b>Total Funding Sources</b>		<b>2,700,000</b>	<b>-</b>	<b>2,700,000</b>

Expenditures	To Date	Future	Total
PER			-
Land			-
Design	273,068		273,068
Construction		1,552,300	1,552,300
Construction Management/Inspection			-
Construction Materials Testing		23,000	23,000

FF&E			-
<b>Total Expenditures</b>	<b>273,068</b>	<b>1,575,300</b>	<b>1,848,368</b>

<b>Project Balance/Contingency</b>			<b>851,632</b>
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**Schedule Info:**

	<b>Base Line</b>	<b>Current</b>
<b>Design Start</b>	April-19	April-19
<b>Bid Start</b>	February-20	
<b>Construction Start</b>	April-20	
<b>Construction Completion</b>	March-21	

**Rain Days: N/A**

**Highlights:**

- Operational history has shown that this plant requires additional ground storage. Recommendations from the water model include permanent removal of two existing hydro-pneumatic pressure tanks, installation of a variable frequency drive (VFD) on one of the existing booster pumps, and constructing an additional 500K gallon ground storage tank within the plant site (total 1 million gallons of storage) and adjusting operational sequencing to improve overall plant performance, reduce electrical costs and improve service to the surrounding areas of Southdown, Crystal Lake and Country Place.
- As per the project schedule, staff received 90% design plans, specifications and opinion of probable construction costs on December 9, 2019. Those documents are currently pending completed review/comments from Staff and anticipated in early January 2020. Preliminary comments do not show any extraordinary issues of concern.
- The Engineer's Opinion of Probable cost at 90% indicates the project is within budget at this time.
- Project has been submitted to the Texas Commission on Environmental Quality (TCEQ) for design approval; anticipated TCEQ review timeframe is 60-90 days. Upon receipt of final approval, plans will be finalized and readied for bid in February.
- Due to the possible delay resulting from TCEQ review requirements, there may be a potential 30-day impact to both the project bid and construction schedule.

**Upcoming Work Items:**


- Review of City and TCEQ comments and incorporate in bid ready plan set.
- Finalize project specifications and opinion of probable construction costs estimate
- Prepare Notice to Bidders and list of bid items
- Conduct a Pre-Bid Conference for potential bidders

**Previous Memos:** 3/7/19, 10/31/19

# VICINITY MAP



### Legend/Notes

 Parcels



1:879  
1 inch = 73 feet



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

MAP PREPARED: MARCH 6, 2019

Existing bolted steel ground storage tank (GST) to be removed



Hydro Tanks and Pedestal to be removed to provide room on site for new Ground Storage Tank

