



**Port Lavaca Water Plant Terminal Storage Reservoir
CDBG-Mitigation Project**



Port Lavaca Terminal Storage Reservoir Expansion

On August 30, 2019, the US Department of Housing and Urban Development (HUD) published a Federal Register Notice that provides guidance for the new mitigation component of the CDBG disaster recovery program. This component, identified as CDBG-MIT, represents the first allocation solely for the purposes of mitigating the impact of future disasters funds to grantees. HUD has allocated \$6.875B in CDBG-MIT funds to 14 grantees recovering from qualifying 2015, 2016 and 2017 disasters. The State of Texas has been allocated 4.2 Billion dollars to address mitigation needs. Calhoun County was listed as a “State of Texas” Most Impacted and Distressed County (MID). This designation allows entities to apply for federal funds to mitigate future events.

The Guadalupe-Blanco River Authority (GBRA) owns and operates the Port Lavaca Water Treatment Plant (WTP) which serves the City of Port Lavaca (City), Calhoun Country Rural Water Supply System (CCRWSS), and the Port O’Connor Municipal Utility District (POCMUD). The conventional WTP was constructed in 1968 and was expanded in 1991 and is the only drinking water supply for the City and CCRWSS. The WTP is located near Chocolate Bay southwest of the City along the Gulf Coast and the raw water supply is a 30-mile canal system that ultimately connects to the Guadalupe River downstream of the confluence with the San Antonio River. At the plant, raw water is held in the Terminal Storage Reservoir (TSR). Due to the proximity of the plant and raw water supply to the coast the raw water canal, TSR, and WTP are at risk of flooding during storm events.

According to the National Weather Service, the frequency of a hurricane striking any 50 mile stretch along the Texas Coast is one in every 6 years, and the annual probability ranges from about 30 to 40 percent. Due to the WTPs location and due to the coastal proximity and route of the water supply canal, both are at risk for partial or complete inundation in a Category 1 storm or greater. During a Category 3 storm event major plant equipment, such as the flocculator drives, filter gallery piping, and electrical panels at raw water pump station are at risk of inundation. In a Category 5 storm critical plant infrastructure such as the filters and the high service pump station would be inundated, compromising the effectiveness of treatment and quality of water produced. Furthermore, inundation at the WTP will increase exposure of the mechanical and electrical equipment to sea water and cause accelerated infrastructure corrosion, and electrical equipment will be damaged. No mitigation strategies to reduce flood risk are in place.

The WTP water supply is also a critical safety component for the population of Calhoun County. As the provider for water for the City of Port Lavaca Fire Department, uninterrupted operation of the WTP is critical to maintain fire safety throughout the County. This Fire Department supports several VFD’s in Calhoun County: Six Mile Community, the Alamo Beach/Magnolia Beach/Indianola Beach Communities, Port O’Connor Community, Seadrift Community and Olivia Community. These have mutual aid agreements to work the City of Port Lavaca Fire Department through a City–County agreement as well as sharing Emergency Medical Services. Maintaining the functionality of the water supply is critical for county-wide public fire safety.

An evaluation of the WTP conducted in 2017-2018 identified multiple improvements and rehabilitation items at the WTP that will ultimately increase the reliability of the plant. The purpose of the TSR expansion project is to mitigate damages caused by flooding resulting from storms. To address this issue, it is proposed to expand the TSR, which will increase the plant raw water storage capacity, and the soil excavated will be utilized to build an 11-ft berm around structures at the plant with the highest flood risk. The storage provided by the expanded TSR will provide a 30-day water supply that is protected from saltwater inundation, and the berm will protect the plant from the anticipated flooding from a Category 3 storm surge. Additionally, a storm water pump station will be constructed to remove stormwater from the site that is collected inside the berm.

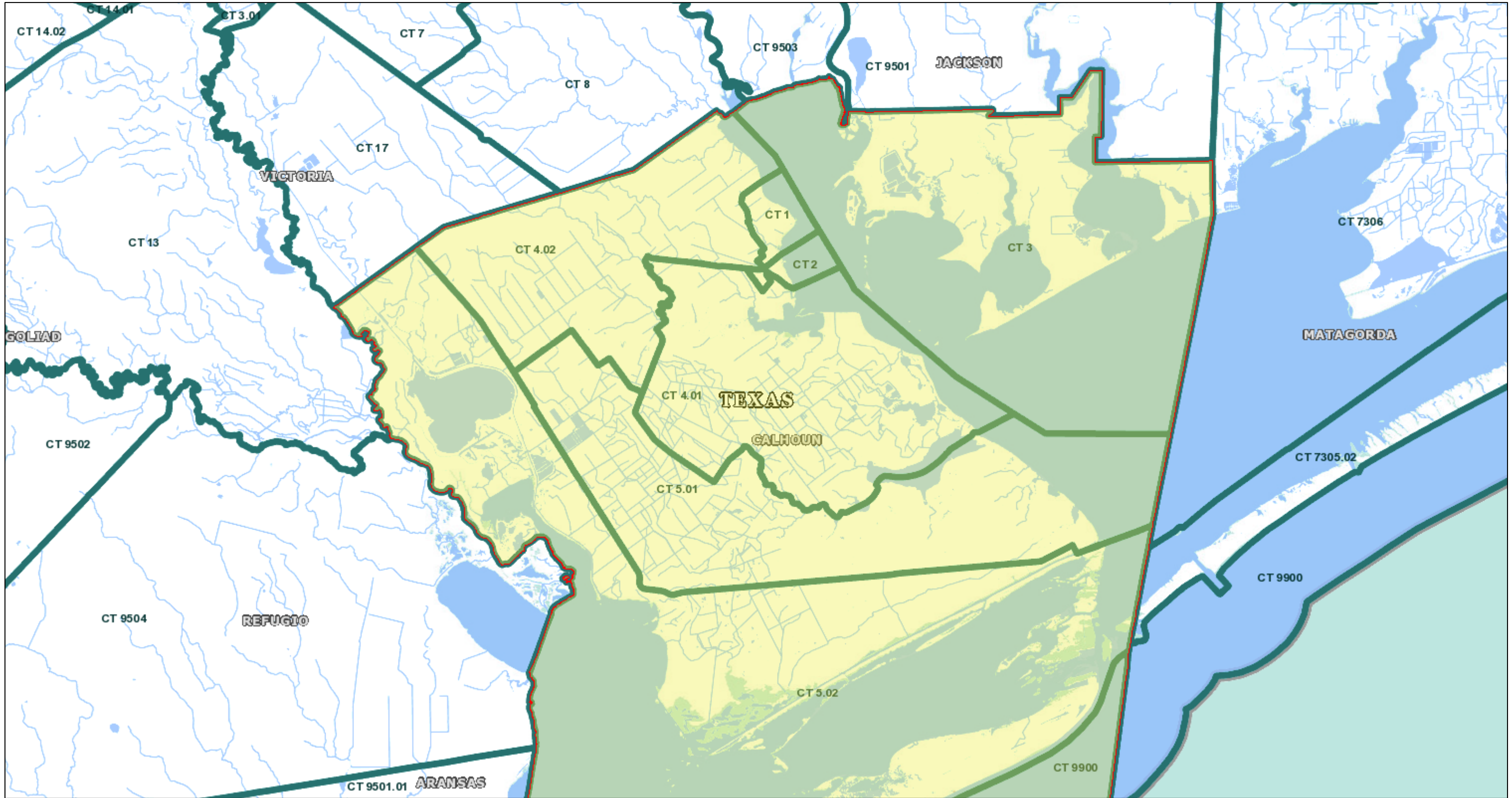
These improvements will provide the following benefits to GBRA and its customers:

- Raising the berm to prevent flooding during storms events will protect the health and safety of plant operators, as well as the critical treatment structures. The improvements would increase the reliability of the plant to supply safe water for the public and for fire protection during and after storm events.
- Using the soil from increasing the size of the TSR to construct the berm is a way to save the cost of hauling in soil for the berm while providing additional raw water storage that is protected from saltwater inundation during and after a storm event. The additional volume would allow the plant to continue operating for a month after a storm event while floodwaters recede, and saltwater is drained from the canal system.
- Raising the berm allows for continual operation and, as the provider for water for the City of Port Lavaca Fire Department, the uninterrupted operation of the WTP is critical to maintain fire safety throughout the County. This Fire Department supports several VFD's in Calhoun County: Six Mile Community, the Alamo Beach/Magnolia Beach/Indianola Beach Communities, Port O'Connor Community, Seadrift Community and Olivia Community. These have mutual aid agreements to work the City of Port Lavaca Fire Department through a City –County agreement as well as sharing Emergency Medical Services. Maintaining the functionality of the water supply is critical for county-wide public fire safety.




Project Beneficiaries

geoname	Lowmod	Lowmoduniv	Lowmod_pct
Block Group 1, Census Tract 1, Calhoun County, Texas	545	1255	43.43%
Block Group 2, Census Tract 1, Calhoun County, Texas	780	3300	23.64%
Block Group 3, Census Tract 1, Calhoun County, Texas	865	1030	83.98%
Block Group 1, Census Tract 2, Calhoun County, Texas	465	745	62.42%
Block Group 2, Census Tract 2, Calhoun County, Texas	1035	1630	63.50%
Block Group 3, Census Tract 2, Calhoun County, Texas	285	450	63.33%
Block Group 4, Census Tract 2, Calhoun County, Texas	585	1410	41.49%
Block Group 1, Census Tract 3, Calhoun County, Texas	125	745	16.78%
Block Group 2, Census Tract 3, Calhoun County, Texas	245	650	37.69%
Block Group 1, Census Tract 4, Calhoun County, Texas	1265	2240	56.47%
Block Group 2, Census Tract 4, Calhoun County, Texas	645	1615	39.94%
Block Group 3, Census Tract 4, Calhoun County, Texas	135	1495	9.03%
Block Group 4, Census Tract 4, Calhoun County, Texas	525	1130	46.46%
Block Group 1, Census Tract 5, Calhoun County, Texas	395	1160	34.05%
Block Group 2, Census Tract 5, Calhoun County, Texas	375	910	41.21%
Block Group 3, Census Tract 5, Calhoun County, Texas	570	1060	53.77%
Block Group 4, Census Tract 5, Calhoun County, Texas	155	575	26.96%
Block Group 0, Census Tract 9900, Calhoun County, Texas	0	0	0.00%
	8995	21400	
Project Beneficiaries	21,400		
Low to Moderate Beneficiaries	8,995		

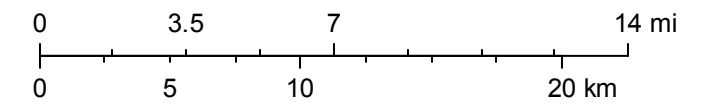
Port Lavaca Water Plant Terminal Storage Reservoir



October 1, 2020

- Census Tracts
- States
- Counties
-  Census Tracts
-  States
-  Counties

1:288,895



Source: U.S. Census Bureau
Sources: Esri, USGS, NOAA