



Harvey Mitigation Competition Application

CDBG-MIT Public Notice

October 12, 2020

Project: Sabine River Authority Terminal Canal Reservoir

Introduction:

The Sabine River Authority (SRA) is giving notice of its intent to submit an application to the Texas General Land Office (GLO) for funds through the Community Development Block Grant - Mitigation (CDBG-MIT) program. The application will be to construct a Terminal Storage Reservoir for mitigation against freshwater supply interruption.

The CDBG-MIT program is funded through the United States Department of Housing and Urban Development (HUD) and administered at the state level by the GLO. Applications are due to GLO

The SRA will receive public comments for fourteen (14) days from the date of this posting, until October 26th, 2020. The public is encouraged to submit comments to Mark Mann, Director of Engineering Services, at Sabine River Authority, 12777 Highway 87 North, Orange, TX 77632 or via email to CDBGinfo@sratx.org. All input must be received by 5:00pm on October 26, 2020. Comments will be incorporated into the draft application documents, as appropriate. The application will prioritize the mitigation of the devastating effects of natural disasters, as well as ensure the project is in line with environmental regulations, affirmatively furthering fair housing activities, and, if applicable, minimizing displacement of persons by project activities.

Upon the expiration of this comment period, the SRA will review and address the public comments in the proposed application. For more information, contact Mark Mann at 409-746-2192.

Sabine River Authority:

The Sabine River Authority's (SRA) mission is to provide for economic utilization and preservation of the waters of the Sabine River and its tributaries by promoting economic development, irrigation, navigation, improved water supply reliability, drainage, public recreation, and hydroelectric power for the citizens of Texas. The boundaries of its authority comprise all the area lying within the watershed of the Sabine River and its tributary streams; this watershed area includes all or parts of twenty-one counties in Texas.



Hazard Risk Description:

The Sabine River Authority's Gulf Coast Division is responsible for the Authority's water supply and related operations in Orange County, TX, just east of Houston and in one of the most disaster-prone areas of the state. Orange County is one of the HUD-identified Most Impacted and Distressed Counties for Hurricane Harvey, and according to the Composite Disaster Index created for the GLO CDBG-MIT Action Plan, the county ranks in the top 10% of disaster impacted counties in Texas. The SRA and the jurisdictions therein are susceptible to a wide range of natural hazards, including floods, hurricanes and tropical storms, droughts, and hazardous materials incidents. These hazards pose serious threats to community lifelines to the health, safety, and livelihoods of those residing in the watershed area.

All SRA Texas Facilities are vulnerable to flooding due to their proximity to bodies of water and severe damage to equipment has resulted in previous occurrences of flooding. The Gulf Coast Canal System pump station in Orange County has been previously inundated with flood water. The Gulf Coast Division Office and Maintenance Buildings, Gulf Coast Division Pumping Station, Environmental Services Division Water Quality Lab, and the Authority General Office were all impacted by Hurricane Harvey in August 2017 (DR-4332).

Tropical Storms and Hurricanes pose two distinct hazards, storm surge and riverine flooding, to Orange County and specifically to the freshwater supply provided by SRA. With hurricanes that bring significant storm surge to the upper Texas coast, the Sabine River Authority, and by extension Orange County, may be subjected to the loss of freshwater supply due to seawater inundation of normally freshwater intakes on the Sabine River. In the event of high storm surges which push salt water upstream to the SRA pump station, the station must be shut down to prevent introduction of salt contamination into the freshwater supply canals. As the sole raw water source for multiple industrial and municipal facilities across Orange County, the SRA freshwater canal system is critical infrastructure. Multiple entities depend on freshwater from the SRA Canal System to provide drinking water to residents, critical cooling water to petrochemical facilities, and firefighting water throughout the county. When SRA's freshwater intake becomes unusable due to saltwater migration upstream, then all users become dependent on the limited supply of water held within the canal system, but unable to be replenished, until the intakes are again clear of seawater. In addition to impacts of storm surge, the proximity of the SRA Canal System pump station leaves it susceptible to riverine flooding as a result hurricanes and tropical storms that produce extreme rainfall events, such as Hurricane Harvey. When the pump station becomes flooded, even in a freshwater, riverine flood event, the pumps become unsafe to operate and there is a risk of physical damage to the facility and equipment which can further delay the pump station's restart after the passage of the flood event. Several of the FEMA-identified community lifelines face associated hazard risks, including Safety and Security (specifically, fire services and community safety), and Food, Water, Shelter (specifically, water). An interruption in the operation of the SRA freshwater pump station and the Authority's ability to continually replenish the flows within their freshwater distribution canal system could lead to system failures, refinery explosions, loss of firefighting water in some rural areas, and lack of potable water access to residents of Rose City.



This proposed project would develop a terminal canal reservoir in Orange County with approximately one week's reserve of fresh water to support the essential functions of the SRA should a hurricane or tropical storm result in a disruption of fresh river water.

Project Description:

The Sabine River Authority intends to undertake a project to secure the fresh water supply to Orange County should access be restricted due to hurricane or tropical storm impacts to the SRA Canal System pump station on the Sabine River. This proposed project would develop a terminal canal reservoir in Orange County with approximately one week reserve of fresh water to support the essential functions of the SRA freshwater supply system should a hurricane or tropical storm result in a disruption at the freshwater pump station.

This Terminal Canal Reservoir would increase the SRA's resilience to this identified disaster risk by lessening the impact of future disasters through the protection of critical infrastructure and municipal and industrial freshwater supply. It will also reduce the risk of potential harm to the health and safety of residents in the county through regional protection of the public health, safety, and welfare, as the industrial customers which depend on the SRA for a steady supply of freshwater risk system failures or explosions should that service be interrupted. In addition to the identified priority risk of hurricane and tropical storm, the proposed project will mitigate risk of drought as well, which is identified as a high mitigation priority by the SRA (flood, hurricane/tropical storm, and drought being the "high mitigation priorities" identified by the Authority's Hazard Mitigation Action Plan). This project is an eligible activity under the Texas GLO's CDBG-MIT Action Plan as an infrastructure improvement.

The proposed reservoir project, which would be located in northeastern Orange County, constructed on a 250-acre tract owned by SRA, would provide freshwater storage. In addition to the excavation of the pond, the project will include all associated water control structures to manage the flows to and from the facility to maximize utility and supply during emergency situations. This would provide the SRA will approximately one week's supply of fresh water as a reserve to be accessed in case of an interruption to the fresh water supply of the Sabine River.

National Objective:

All activities funded with CDBG-MIT are required by the U.S. Department of Housing and Urban Development (HUD) to meet a national objective. The Terminal Canal Reservoir project will meet the national objective of Urgent Need - Mitigation.

Urgent Need – Mitigation. This project meets the Urgent Need Mitigation National Objective as it will result in measurable and verifiable reductions in the risk of loss of life and property from future disasters and yield community development benefits.

Budget

The anticipated total cost of this project is \$10,254,483.70. Of this cost, the SRA has already committed as leverage a total of \$490,000, which represents the cost for the acquisition of



the land for the project site. This acquisition took place in early 2020. As a result, \$9,764,483.70 is being requested from the GLO for the development of the reservoir on this land. A detailed cost estimate for retail costs is attached.

Service Area

A freshwater reserve would provide a benefit to the entirety of Orange County, and as such, the service area is defined as Orange County. The development of this reservoir would secure community lifelines across the county. As the supplier of water to industrial customers, including several petrochemical facilities, a secure and uninterrupted fresh water supply is necessary to maintain the safety of these facilities. The health and safety of the residents surrounding these industrial customers is dependent on uninterrupted service by the SRA. SRA also provides a municipal water supply to the residents of Orange County in Rose City. Finally, not only does the SRA serve its customers, but residents throughout the county benefit by the protection of another critical lifelines, fire services. SRA provides water access to fire departments along its canals. This is a public service which benefits the broader community and would be at risk should the freshwater supply be compromised by a storm.

Project and service area maps are attached.



**CDBG-MIT: Budget Justification of Retail Costs
(Former Table 2)**

Cost Verification Controls must be in place to assure that construction costs are reasonable and consistent with market costs at the time and place of construction.

Applicant/Subrecipient:	Sabine River Authority of Texas					
Site/Activity Title:	Fresh Water Terminal Storage Reservoir					
Eligible Activity:	Community Resilience & Long-term Vulnerability Reduction					
Materials/Facilities/Services	\$/Unit	Unit	Quantity	Construction	Acquisition	Total
Acquisition	\$ 490,000.00	LS	1	\$ -	\$ 490,000.00	\$ 490,000.00
Environmental Mitigation	\$ 35,000.00	EA	30	\$ 1,050,000.00	\$ -	\$ 1,050,000.00
Clearing and Grubbing	\$ 2,500.00	EA	75	\$ 187,500.00	\$ -	\$ 187,500.00
Embankment Construction/Elevation	\$ 40.00	CY	50000	\$ 2,000,000.00	\$ -	\$ 2,000,000.00
Excavation	\$ 10.00	CY	400000	\$ 4,000,000.00	\$ -	\$ 4,000,000.00
Abandoned Pipeline Removal	\$ 50.00	LF	3000	\$ 150,000.00	\$ -	\$ 150,000.00
Water Control Structure-	\$ 150.00	SY	2000	\$ 300,000.00	\$ -	\$ 300,000.00
Water Control Gates	\$ 15,000.00	EA	6	\$ 90,000.00	\$ -	\$ 90,000.00
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TOTAL	\$ 542,750.00			\$ 7,777,500.00	\$ 490,000.00	\$ 8,267,500.00

1. Identify and explain the annual projected operation and maintenance costs associated with the proposed activities.

Annual operation and maintenance activities involve routine mowing, inspection, and operation of water control gates as needed for proper flow management. The anticipated annual O&M costs for facilities constructed under this project are estimated at \$5,000 per year. The Sabine River Authority will operate and maintain these facilities as part of their normal business.

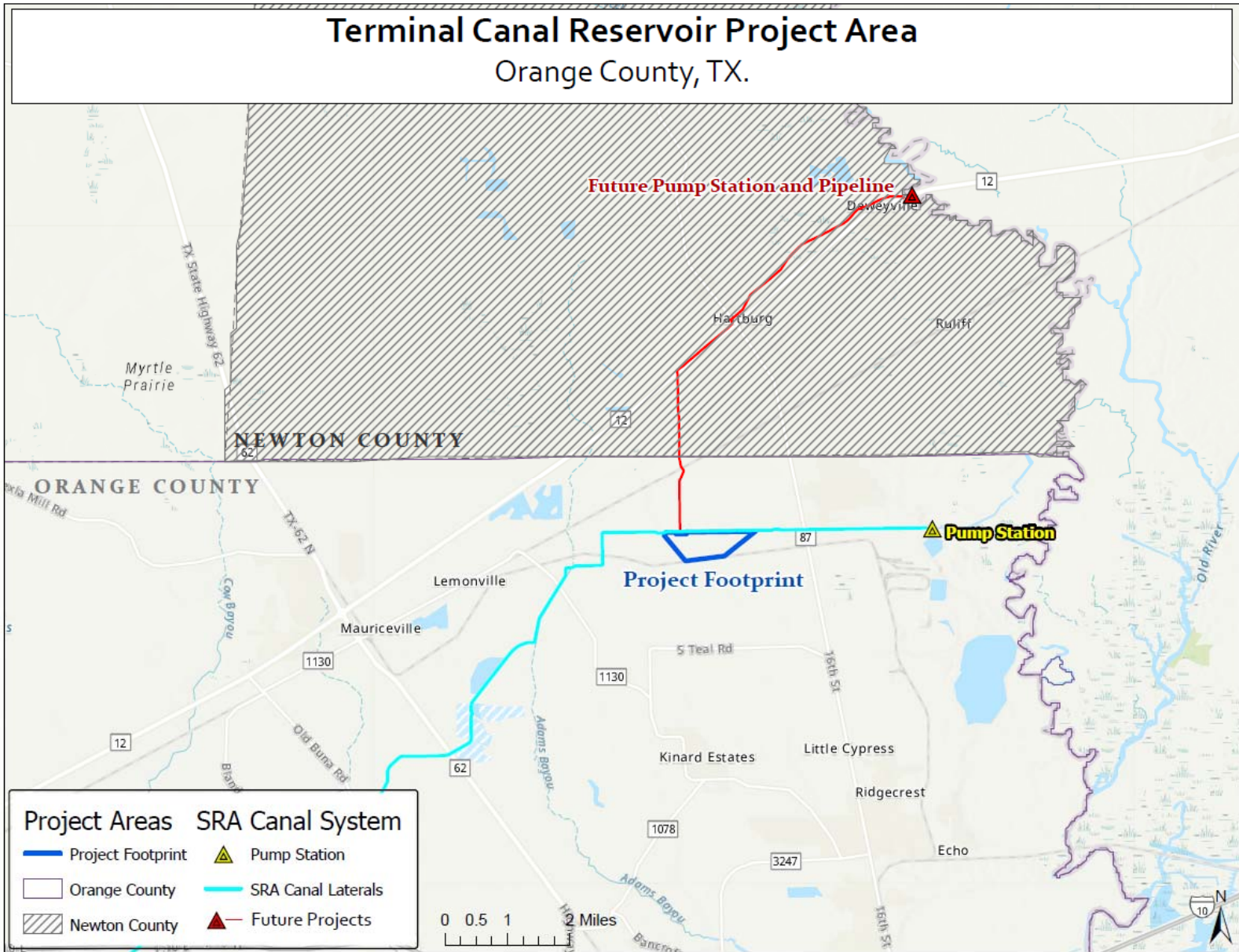
2. Identify and explain any special engineering activities.

Engineering will include hydraulic analysis to determine appropriate size and configuration of diversion dikes and associated water control features to prevent stagnation of water within the reservoir, geotechnical evaluation associated with design and construction of structures and embankments, detailed surveying, and construction inspection/engineering services to provide quality control and quality assurance on all aspects of construction.

Seal					
	<table border="1" style="width: 100%;"> <tr> <td style="width: 60%;">Date:</td> <td>10/9/2020</td> </tr> <tr> <td>Phone Number:</td> <td>409.554.8994</td> </tr> </table>	Date:	10/9/2020	Phone Number:	409.554.8994
	Date:	10/9/2020			
Phone Number:	409.554.8994				
Signature of Registered Engineer/Architect Responsible For Budget Justification:					

Engineering	15% of Construction	\$ 1,166,625.00
Administrative Expenses	8% of Total Project	\$ 820,358.70
TOTAL PROJECT BUDGET		\$ 10,254,483.70

Note: Environmental Mitigation, and Clearing/Grubbing are budgetted on a per acres unit price basis, but no unit option for acres was available.



Terminal Canal Reservoir Service Area Orange County, TX.

