

## AGENDA ITEM MEMO

**BOARD MEETING DATE:** July 7, 2021

**TO:** Board Members

**THROUGH:** Jeff Walker, Executive Administrator  
Ashley Harden, General Counsel  
Rebecca Trevino, Chief Financial Officer

**FROM:** Richard A. Wade, Deputy Executive Administrator, Texas Natural Resources Information System  
John T. Dupnik, Deputy Executive Administrator, Water Science and Conservation

**SUBJECT:** Budget approval for the Laguna Madre Coastal Bathymetry Project

### ACTION REQUESTED

Consider authorizing the Executive Administrator to execute multiple contracts in a total amount not to exceed \$1,250,000 through the Texas Strategic Mapping Program.

### BACKGROUND

Bathymetry is the measure of bed elevation in rivers, lakes, bays, and oceans. As the underwater equivalent of topography, bathymetry represents the three-dimensional features of underwater terrain. Bathymetry can be measured using boat-based sonar technology or remote sensing technology through specialized airborne lidar systems. Coastal bathymetric data has a range of uses for navigation, coastal and ocean science, and hydrodynamic modeling. More specifically, bathymetric data is essential for creating high-resolution grids of hydrodynamic models for a variety of different applications, such as:

- Coastal flood inundation and hurricane storm surge modeling
- Water planning and floodplain management and planning
- Predicting tides and currents for oil spill response
- Environmental flow and coastal resiliency studies

The Texas Natural Resources Information System (TNRIS) and the Office of Water Science and Conservation (WSC) have partnered to acquire coastal bathymetric data for Texas.

#### Our Mission

Leading the state's efforts in ensuring a secure water future for Texas and its citizens

#### Board Members

Brooke T. Paup, Chairwoman | Kathleen Jackson, Board Member

Jeff Walker, Executive Administrator

TNRIS staff will procure services through the Texas Strategic Mapping Program and their associated contracts at the Texas Department of Information Resources.

As an end user of the bathymetric data, WSC staff will provide technical and administrative support throughout the life of the project.

### **KEY ISSUES**

The contract services will support a pilot coastal bathymetry project and will target data collection for an area up to 100 square nautical miles of the Laguna Madre, a long, shallow, lagoon along the Texas coast in Nueces, Kenedy, Kleberg, Willacy, and Cameron counties. Bathymetric data acquired through the Laguna Madre Bathymetry Project will be used to improve the accuracy of new, three-dimensional coastal hydrodynamic models for the Laguna Madre. These models will be used in coastal inundation and hurricane storm surge simulation, regional flood planning, and coastal resiliency studies. Further, this project will inform how models can be developed and improved in other areas of the Texas coast.

TNRIS and WSC staff will leverage multiple funding sources for this project, including:

- Floodplain Management Account (within the Texas Infrastructure Resiliency Fund) in an amount not to exceed \$125,000
- Texas Strategic Mapping Program funds in an amount not to exceed \$1,125,000.

The total project cost will be determined through competitive bids, and is estimated not to exceed \$1,250,000.

### **RECOMMENDATION**

The Executive Administrator recommends approving the execution of multiple contracts in a total amount not to exceed \$1,250,000 through the Texas Strategic Mapping Program.