

# PROJECTS UPDATE

October 16, 2024



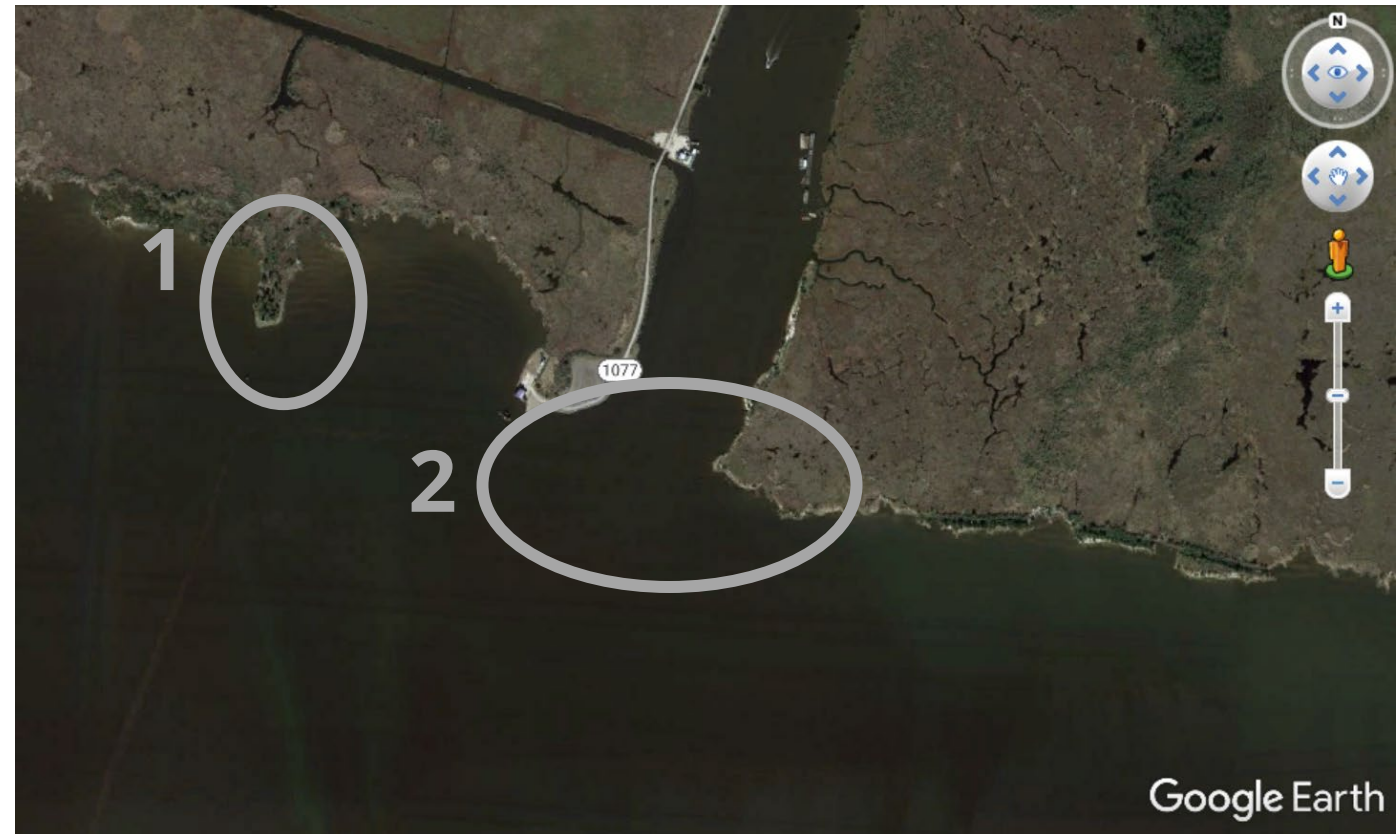
1077

# LOWER TCHEFUNCTE RIVER

# PROJECTS SUMMARY



1. Tchefuncte Habitat Restoration and Shoreline Protection
2. Lower Tchefuncte Breakwater



# SCOPE & HISTORY



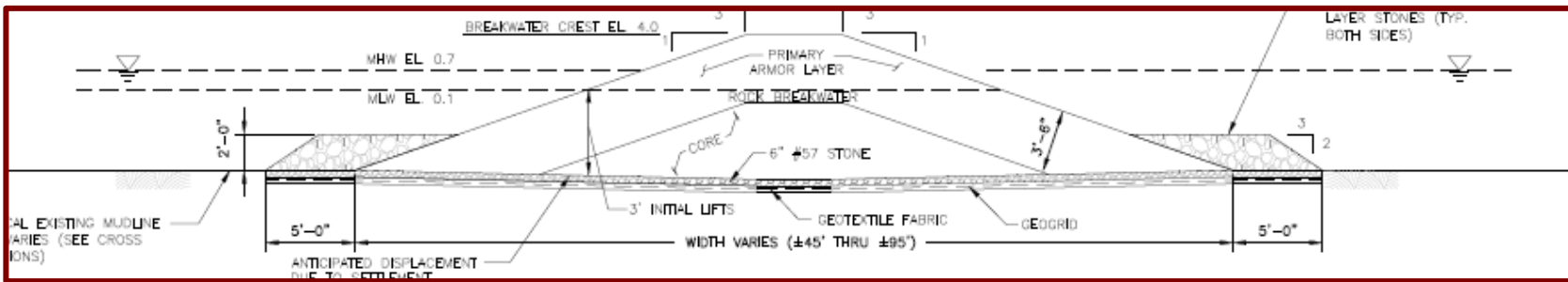
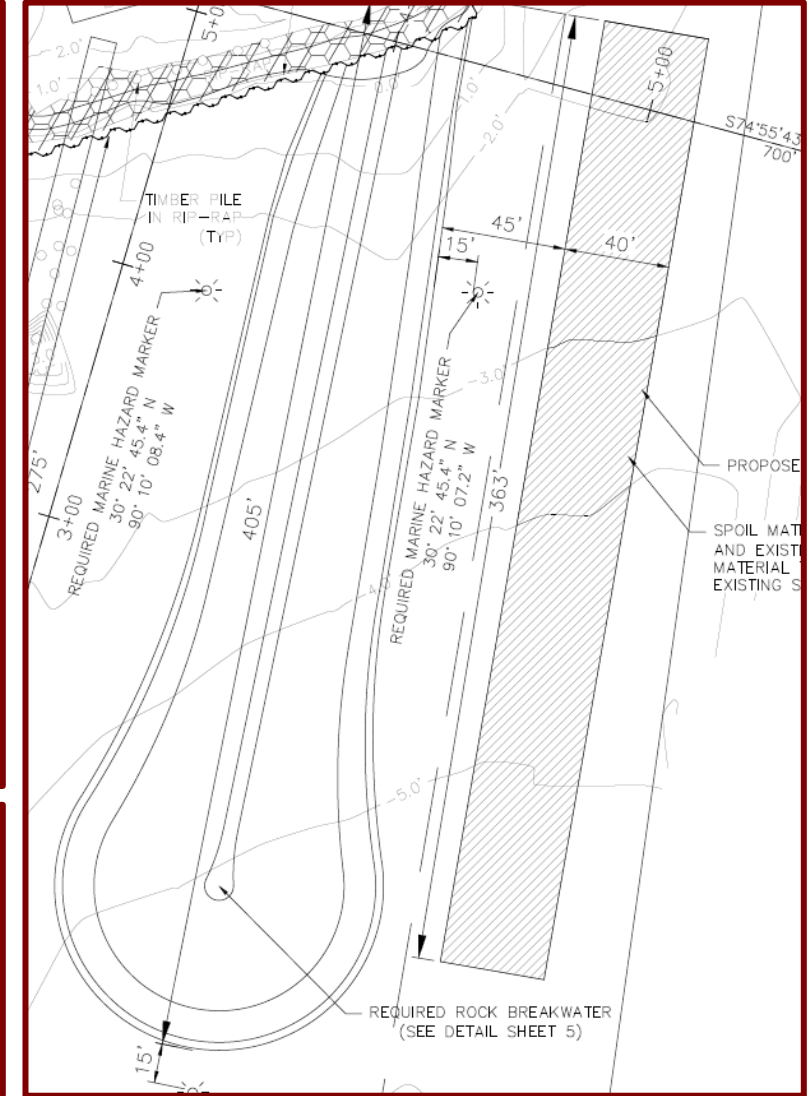
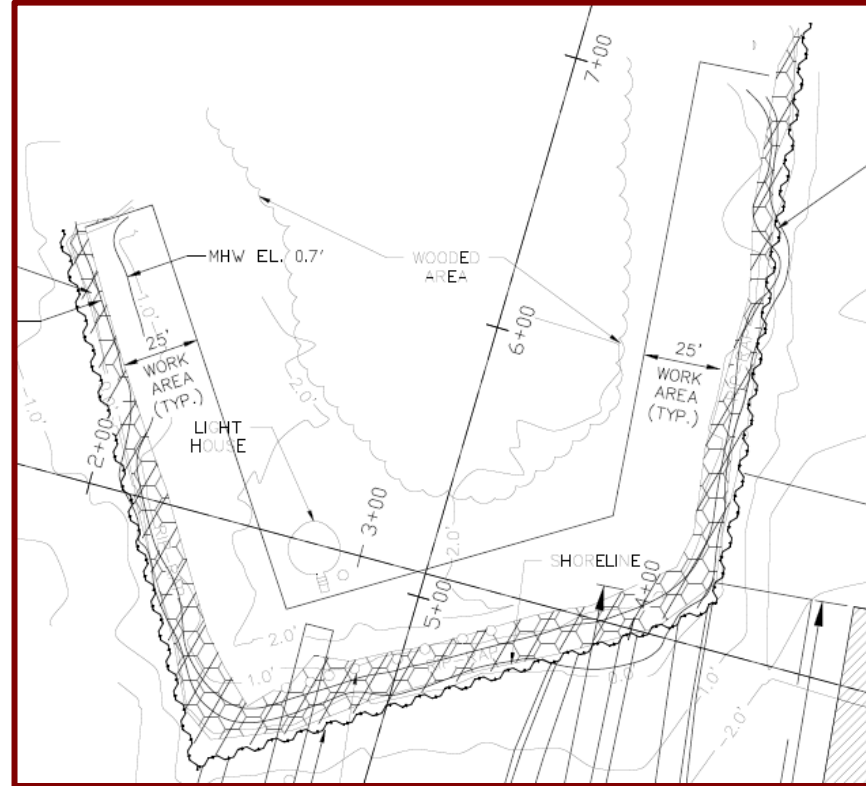
- Shoreline protection and restoration project
- Design funded by Lake Pontchartrain Basin Restoration Program
- Original design completed and permits secured in 2016



# SHORELINE PROTECTION FEATURES



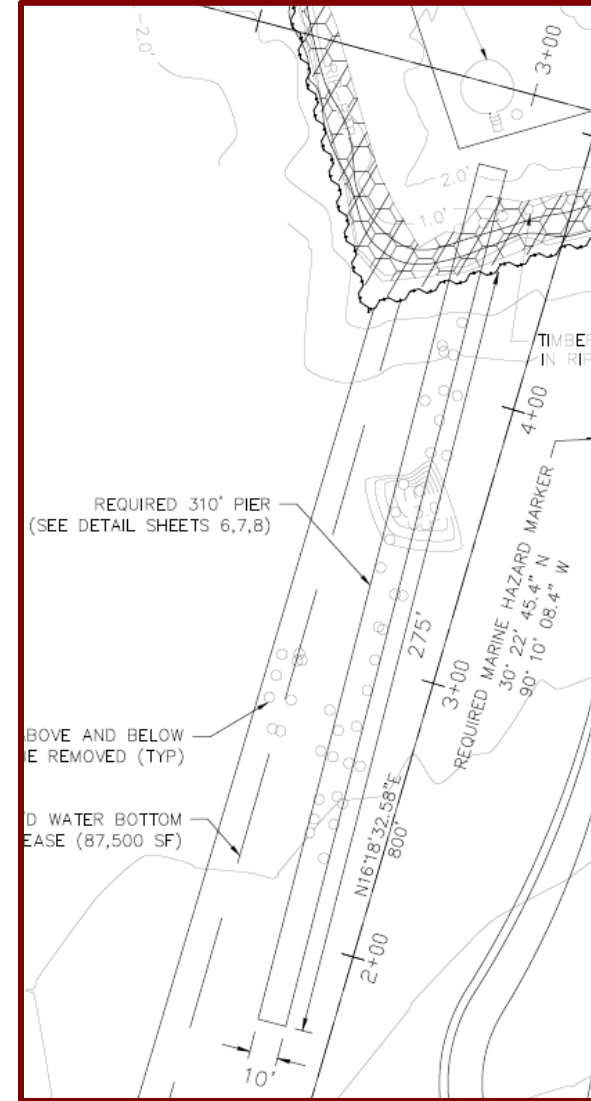
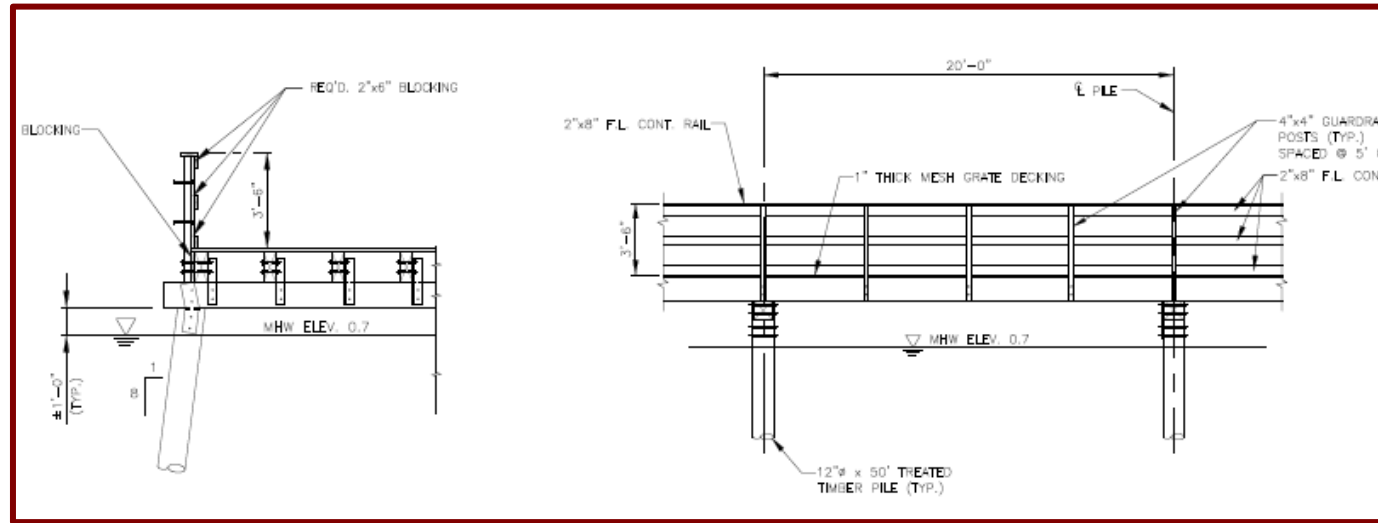
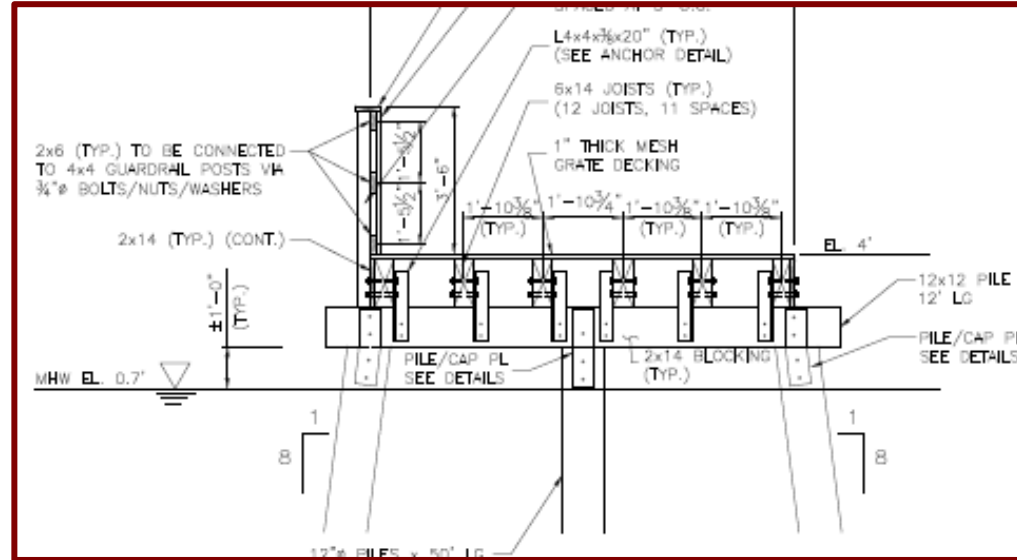
- Sheet pile to reinforce shoreline
- Breakwater to reduce wave action
- Beneficial use of dredged sediment to rebuild shoreline



# ACCESS FEATURES



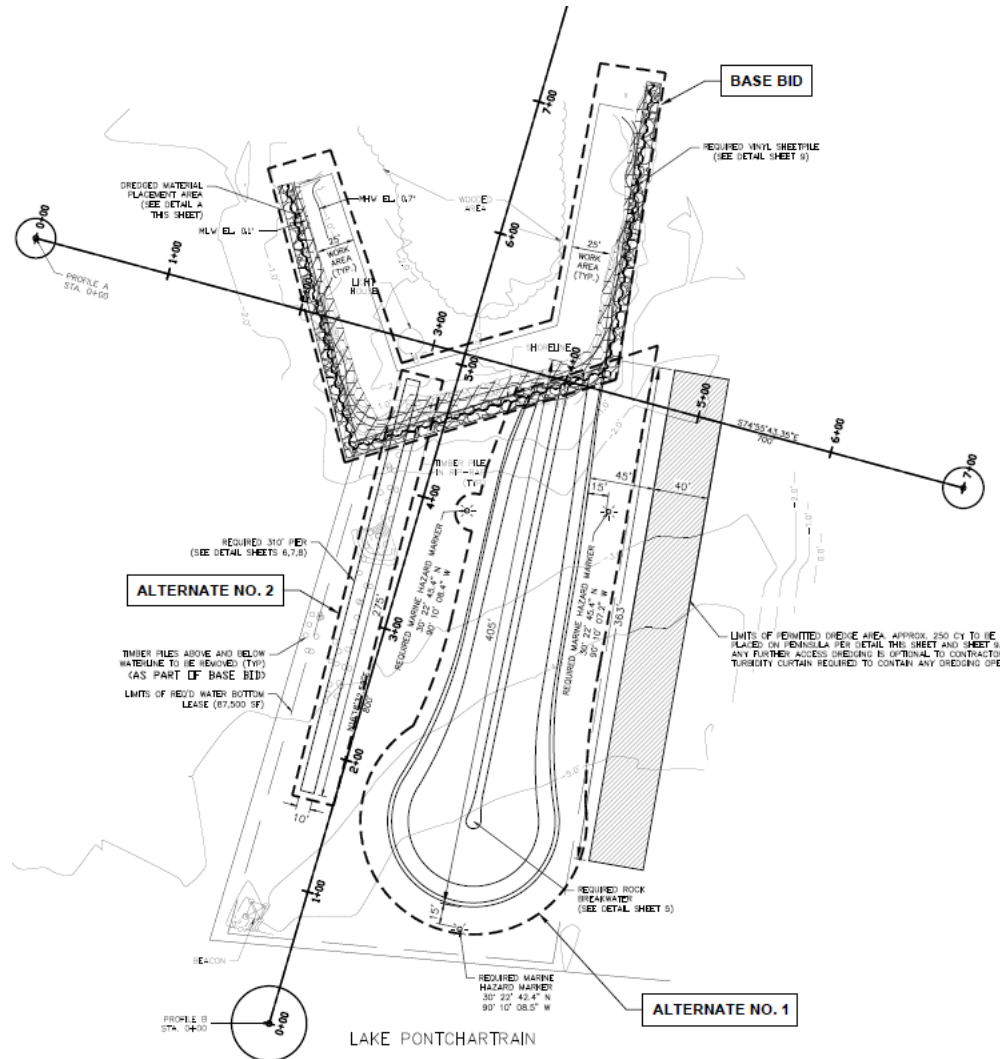
- 300' dock for boat access
- To be used by Maritime Museum Louisiana for educational outreach



# CURRENT STATUS



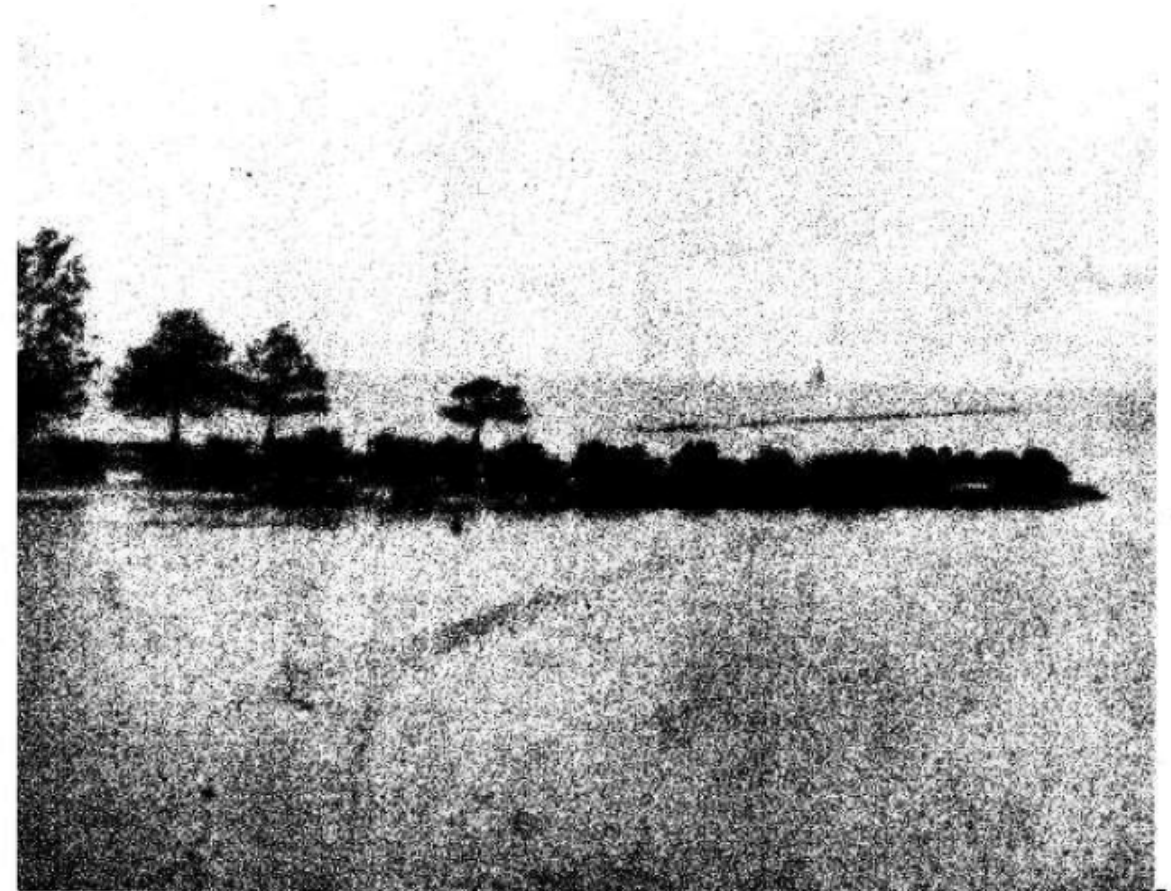
- Funds for construction dedicated by St. Tammany Parish November 2020
- Began “off-the-shelf” activities April 2021
- Re-applied for permits in July 2021
- Bids received June 27, 2024 (Base bid + Alternates)
- Base bid: \$667,000
- Shoreline protection and fill will be constructed
- Construction Contractor: Gill’s Crane and Dozer
- Notice to Proceed:
- Groundbreaking: October 29<sup>th</sup>, 2024



# SCOPE

Construct a breakwater structure to:

- Provide shoreline protection from immediate threats;
- Simulate historic flow of the Tchefuncte River; and
- Simulate the historic eastern peninsula at the mouth of the Tchefuncte River



WEST end. Which includes the Breakwall to Lake

# SCOPE & HISTORY



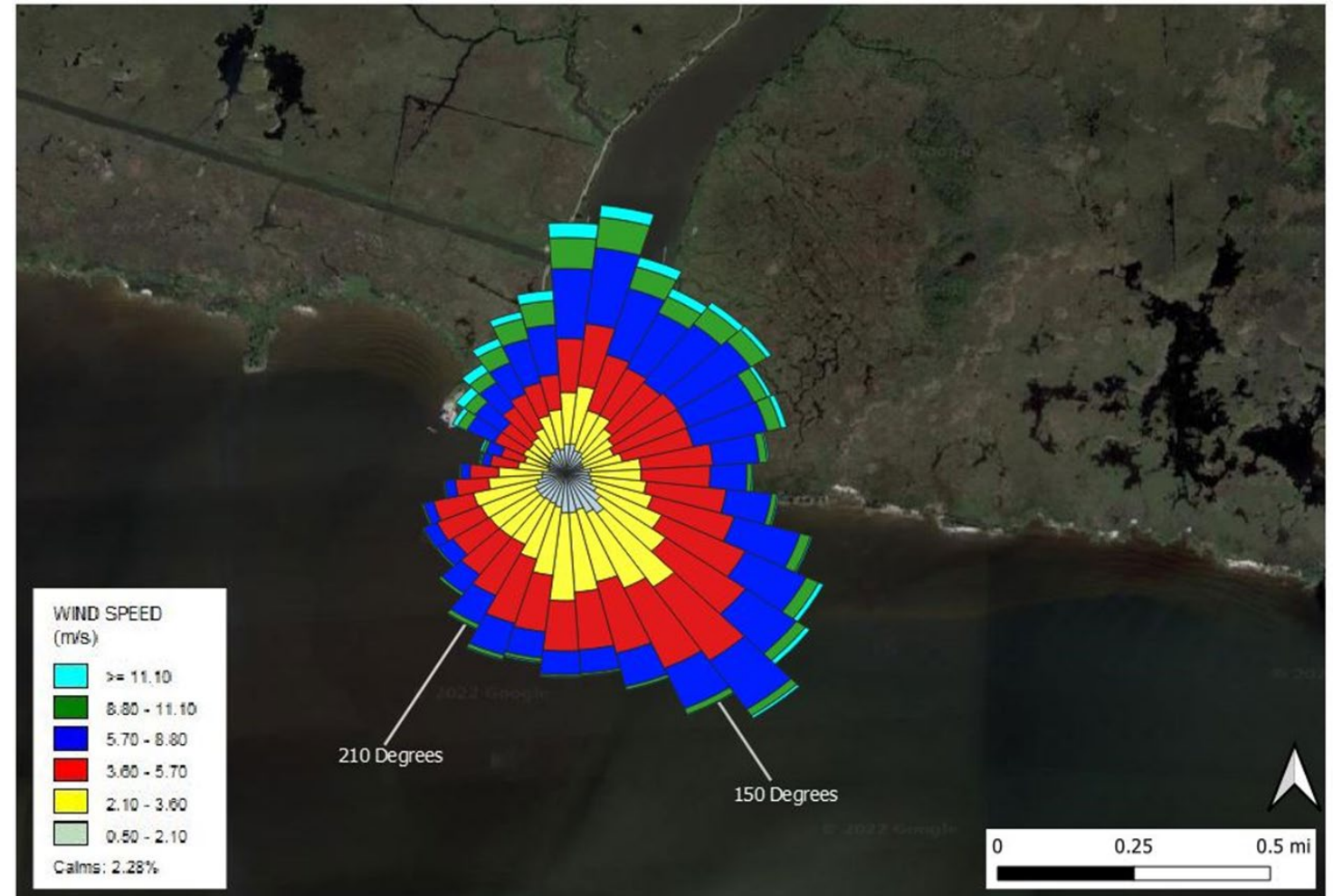
- Topographic, Bathymetric, Magnetometer surveys
- Geotechnical Investigation
- Hydrodynamic / sediment transport modeling
- Engineering Design and Construction Documents



# DESIGN CONSIDERATIONS



- Dominant wind / wave conditions
- Evaluate river's morphological response to structure
- Optimize design based on bathymetry

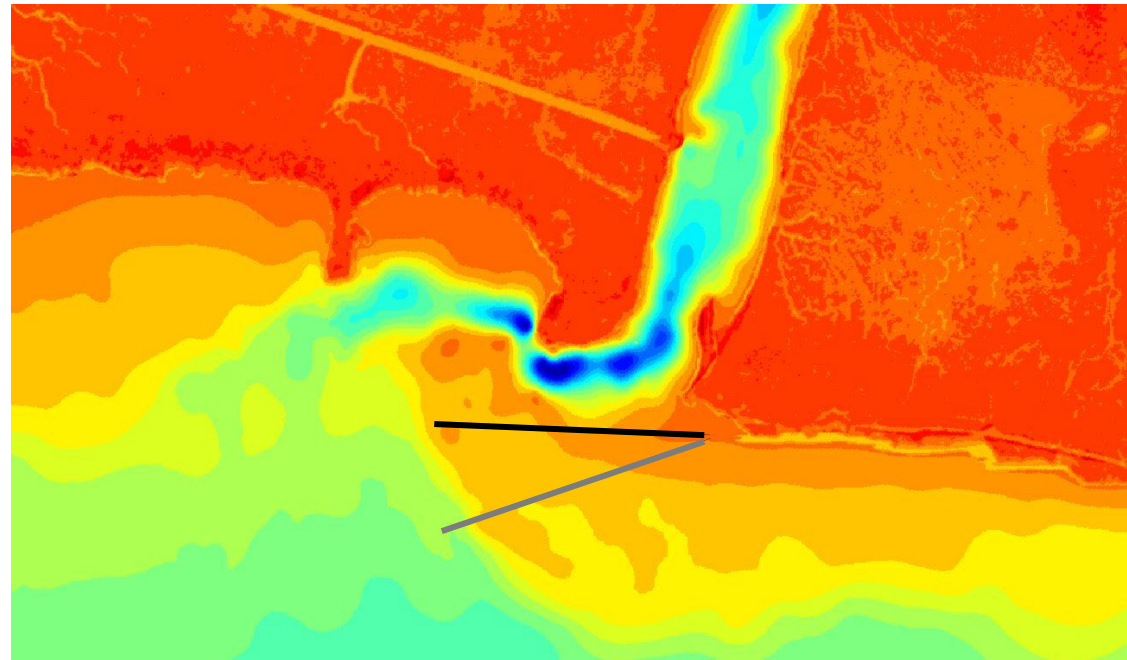


*Credit: Royal Engineers and Consultants*

# ALTERNATIVES CONSIDERED

Alternative 1: Parallel to shoreline / shoal / river mouth

Alternative 2: Normal to dominant wave condition

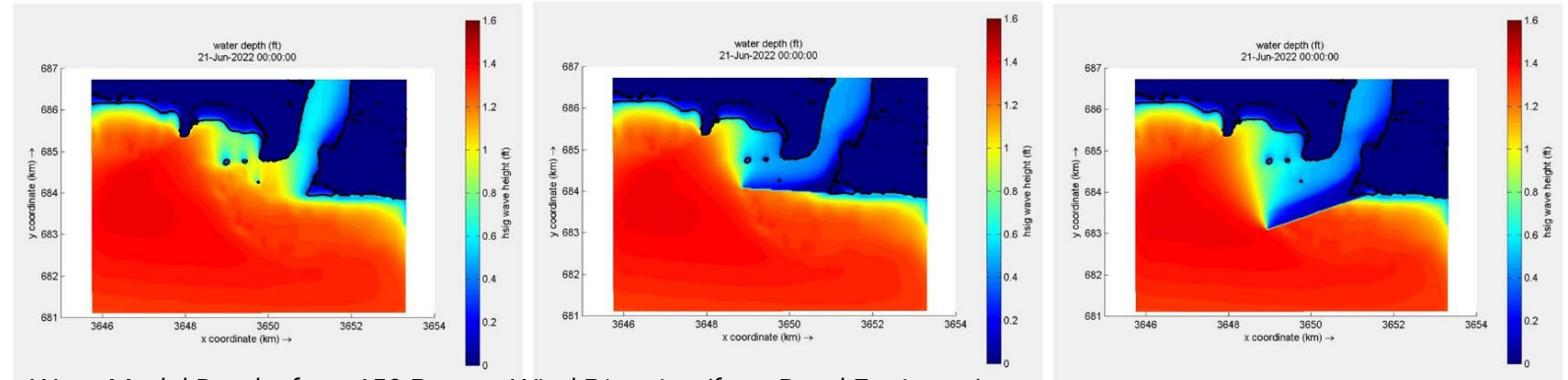


# WAVE MODEL RESULTS

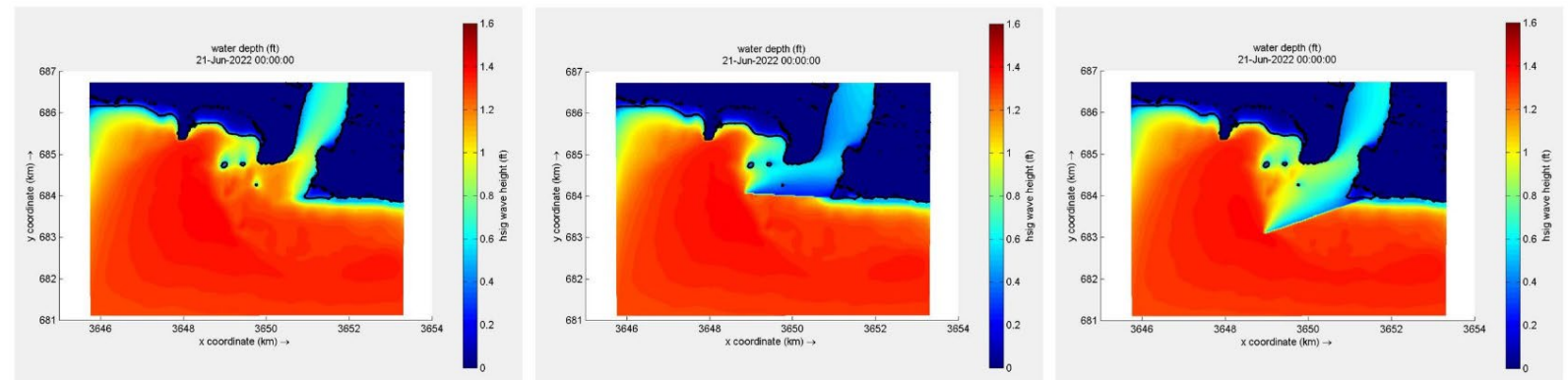


Both alternatives were modeled with the most significant wind conditions:

1. Wind from southeasterly direction (most common)
2. Wind from southwesterly direction (longest fetch)



Wave Model Results from 150 Degree Wind Direction (from Royal Engineers)

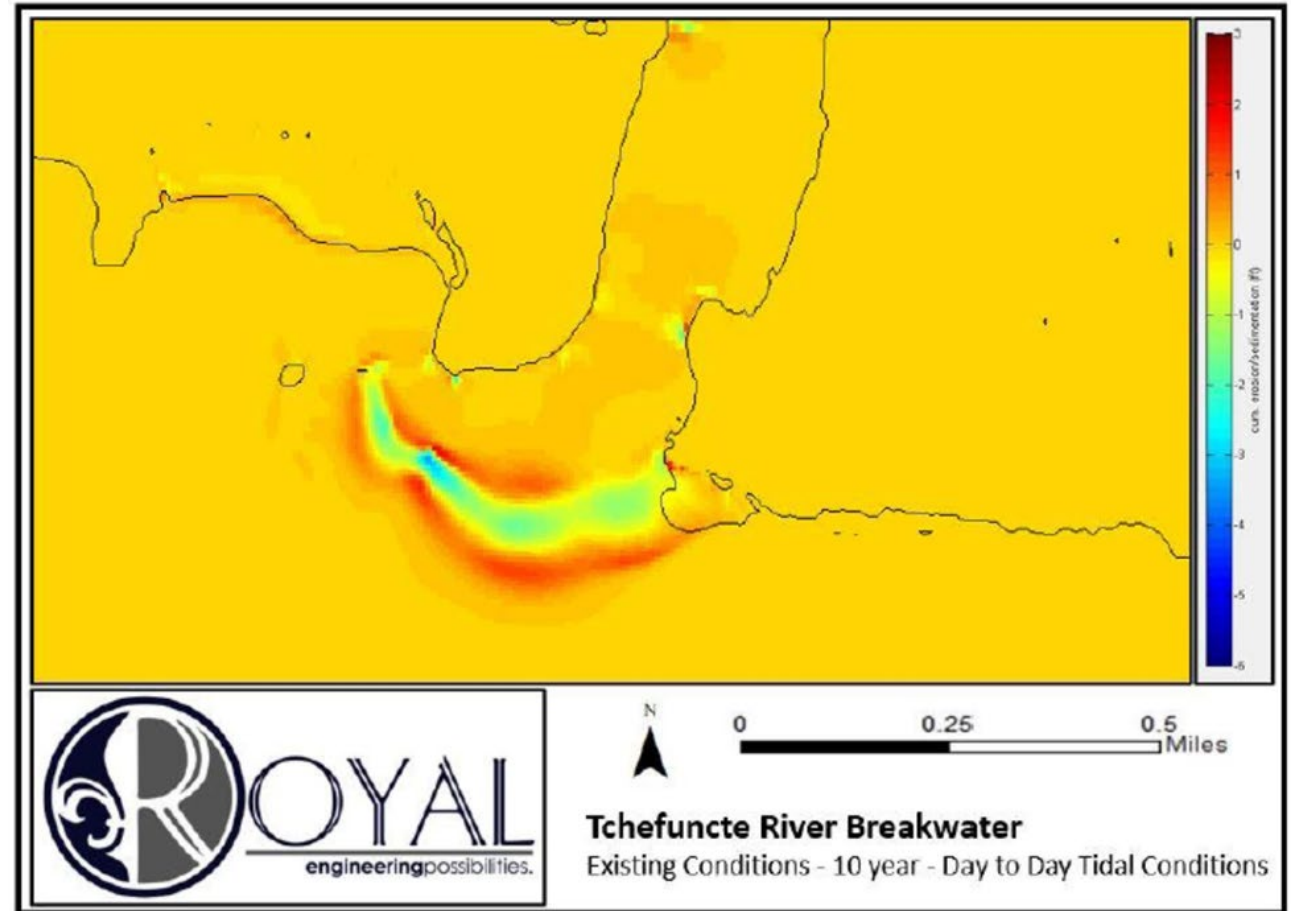


Wave Model Results from 210 Degree Wind Direction (from Royal Engineers)

# SEDIMENT MODELING



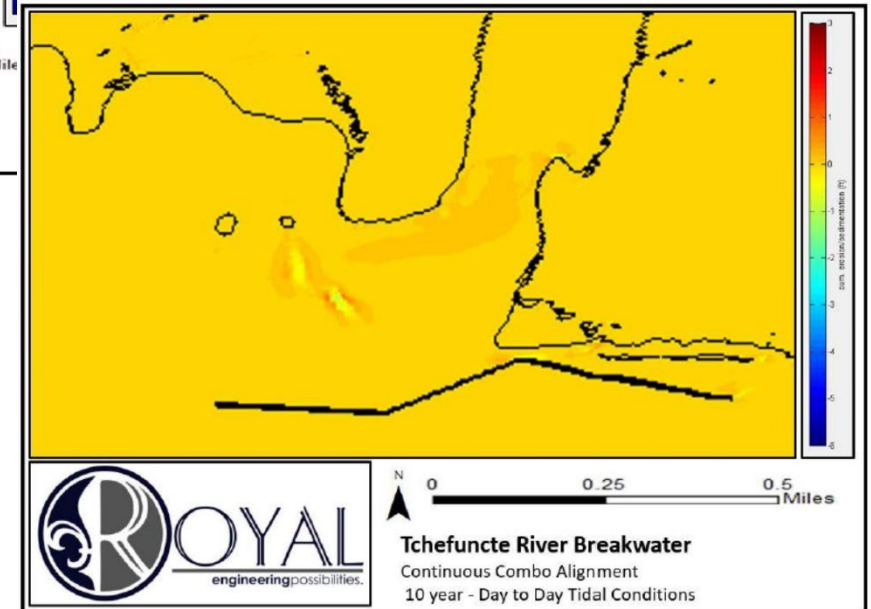
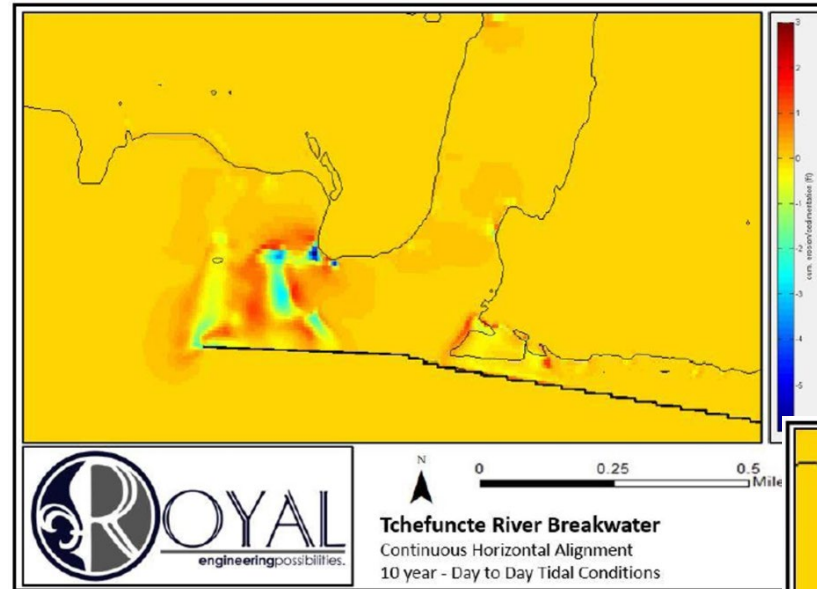
- Utilized grab samples from the riverbed to determine grain size distribution
- Results based on 10-year simulation of day-to-day tidal conditions



# RESULTS



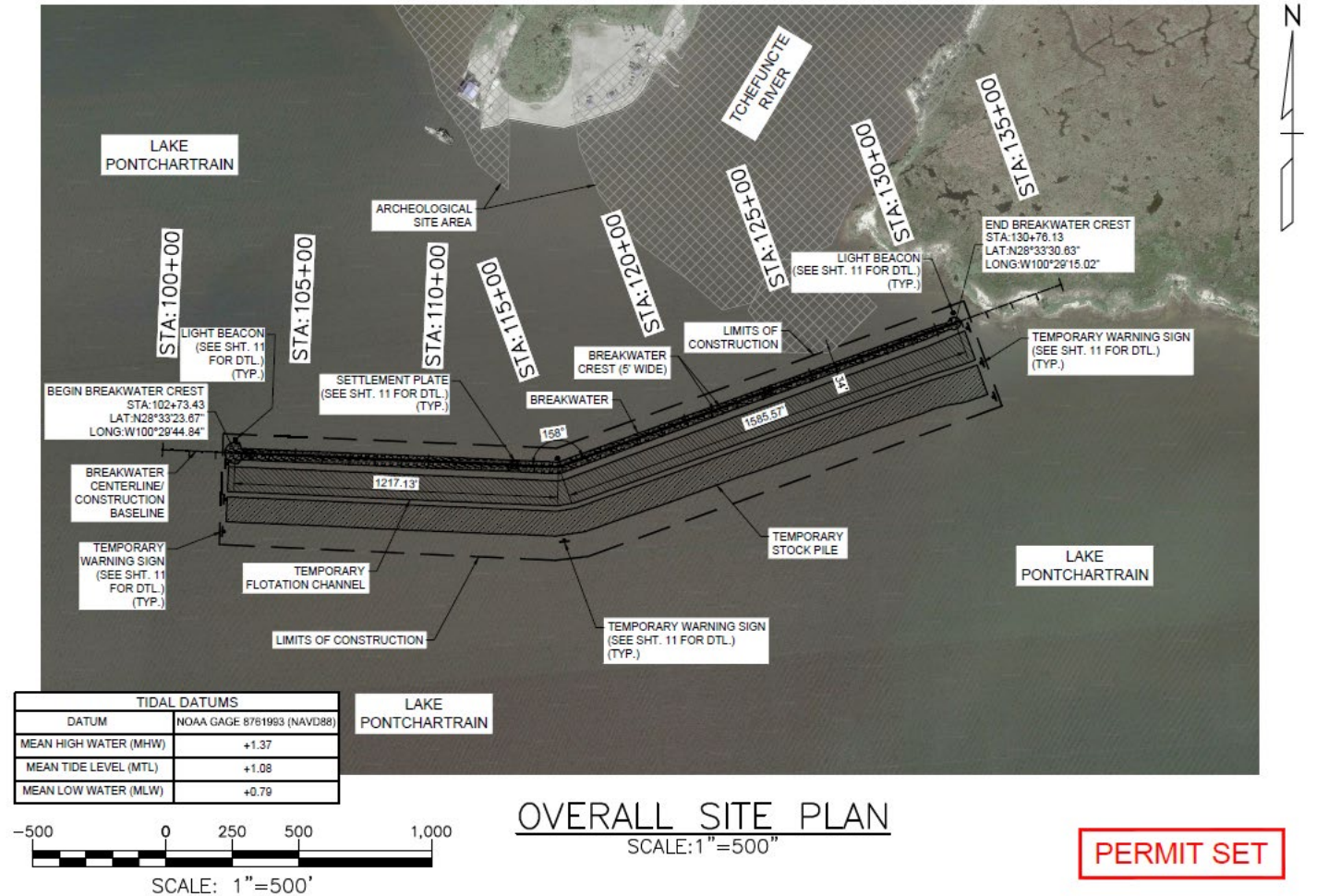
- No action results in flattening of existing bottom features
- Alignments 1 and 2 result in bed load shifts
- Third alternative, combination of Alignments 1 and 2, maintains existing features



# PATH FORWARD



- 100% Design completed July 2023
- Permit drawings submitted July 2023
- Advertise for bids upon receiving permits
- Permit Status
  - CUP received
  - USACE in progress
  - Water Bottoms Lease in progress



# PROJECT COST



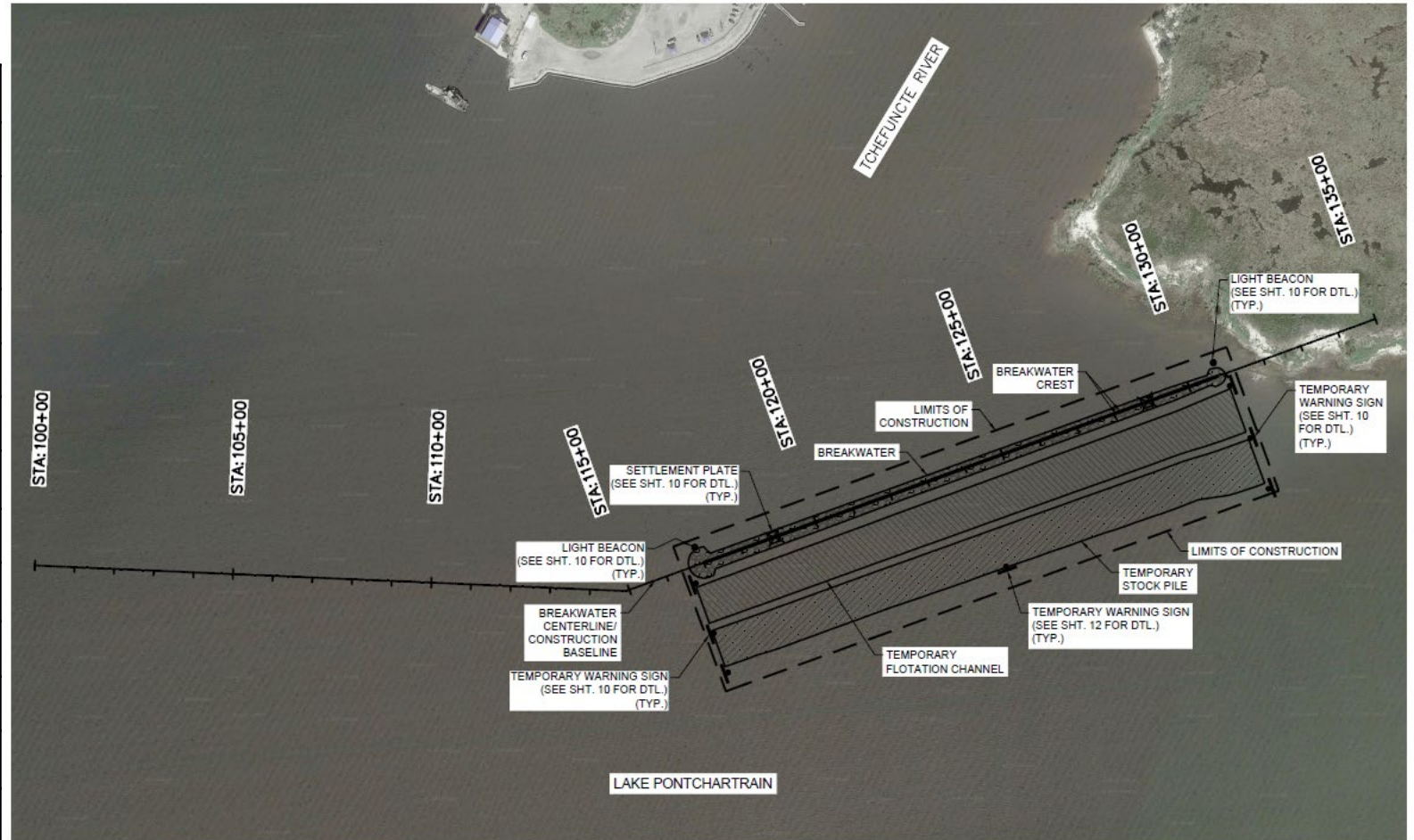
## PROJECT COST

### ST. TAMMANY PARISH LOWER TCHEFUNCTE BREAKWATER PROJECT

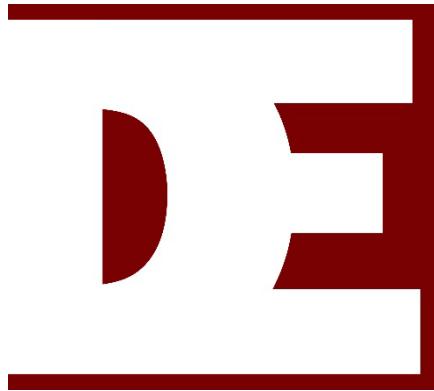
Engineer's Opinion of Probable Construction Cost

OCTOBER 2024

ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL AMOUNT
1	Mobilization	LS	\$ 308,206.40	1	\$ 308,206.40
2	Surveying	LS	\$ 30,000.00	1	\$ 30,000.00
3	Lighted Beacons	EA	\$ 7,000.00	4	\$ 28,000.00
4	Settlement Plates	EA	\$ 2,000.00	3	\$ 6,000.00
5	Access Dredging	CY	\$ 12.00	9,522	\$ 114,264.00
6	Geotextile + Geogrid	SY	\$ 25.00	6,750	\$ 168,750.00
7	Armor Stone	TON	\$ 190.00	14,395	\$ 2,735,050.00
				Subtotal	\$ 3,390,270.40
				10% Contingency	\$ 339,027.04
				<b>TOTAL</b>	<b>\$ 3,729,297.44</b>



# QUESTIONS?



Andrew Woodroof, P.E.  
Digital Engineering & Imaging, Inc.  
504.468.6129  
[awoodroof@deii.net](mailto:awoodroof@deii.net)