

# LANDBRIDGE RESTORATION PROJECT UPDATE

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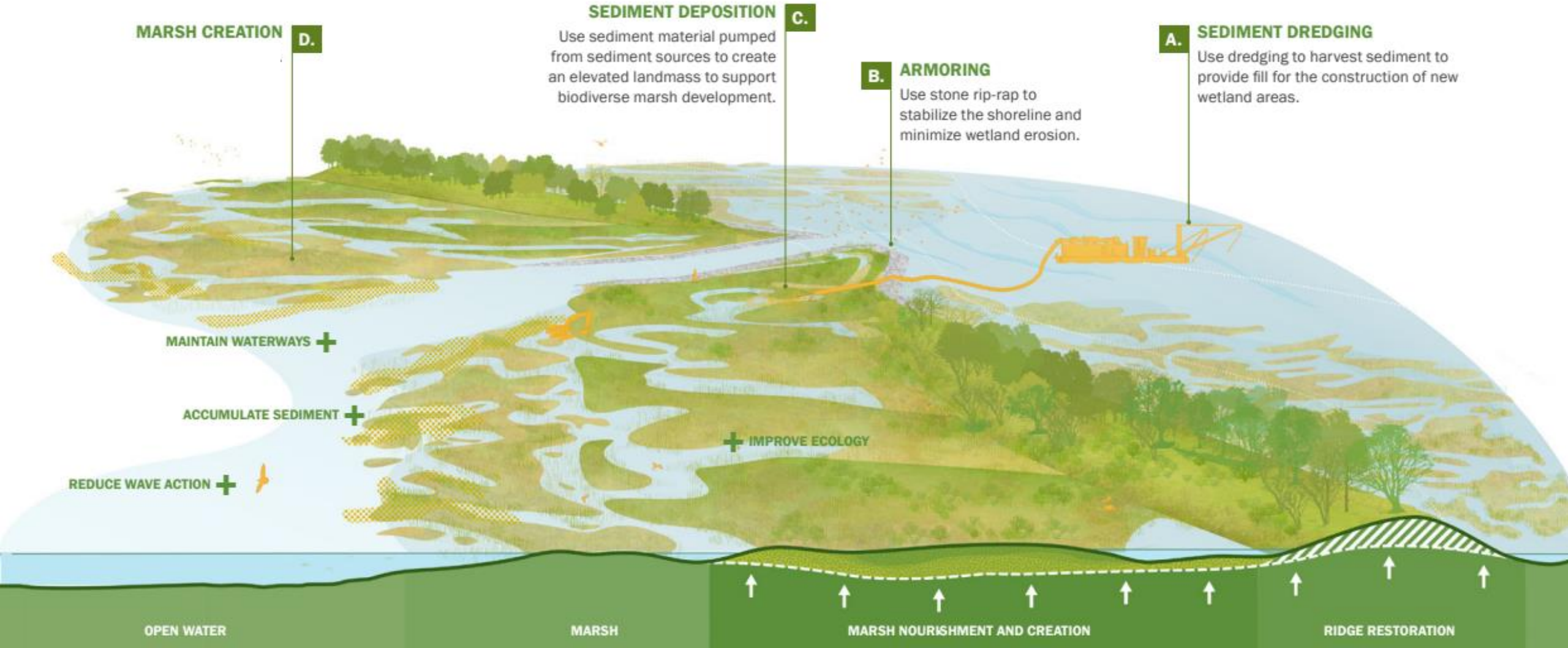
# WHAT IS A LANDBRIDGE?

Landbridges are large-scale linear tracks of constructed marshes oriented across coastal basins which provide important habitat, restore hydrology, and attenuates waves.

Project features typically include marsh creation/nourishment areas, earthen ridges, living shoreline, and shoreline protection measures.



# WHAT IS A LANDBRIDGE?





# BARATARIA BASIN RIDGE & MARSH CREATION - SPANISH PASS

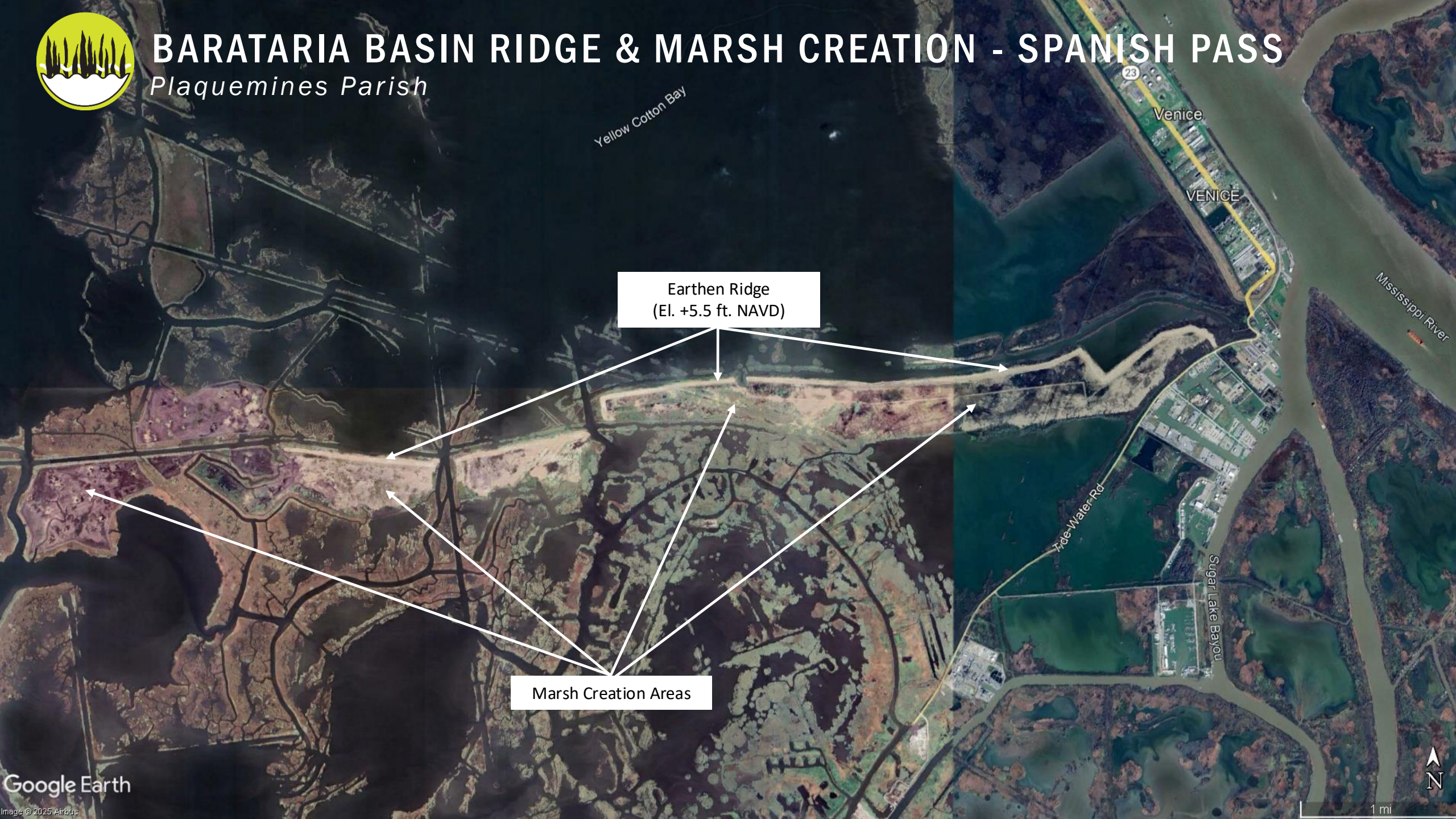
*Plaquemines Parish*





# BARATARIA BASIN RIDGE & MARSH CREATION - SPANISH PASS

Plaquemines Parish



Yellow Cotton Bay

Venice

VENICE

Mississippi River

Earthen Ridge  
(El. +5.5 ft. NAVD)

Marsh Creation Areas

Tide Water Rd

Sugar Lake Bayou



# PAST PROJECT ACCOMPLISHMENTS



Western Terrebonne Landbridge



Upper Barataria Landbridge

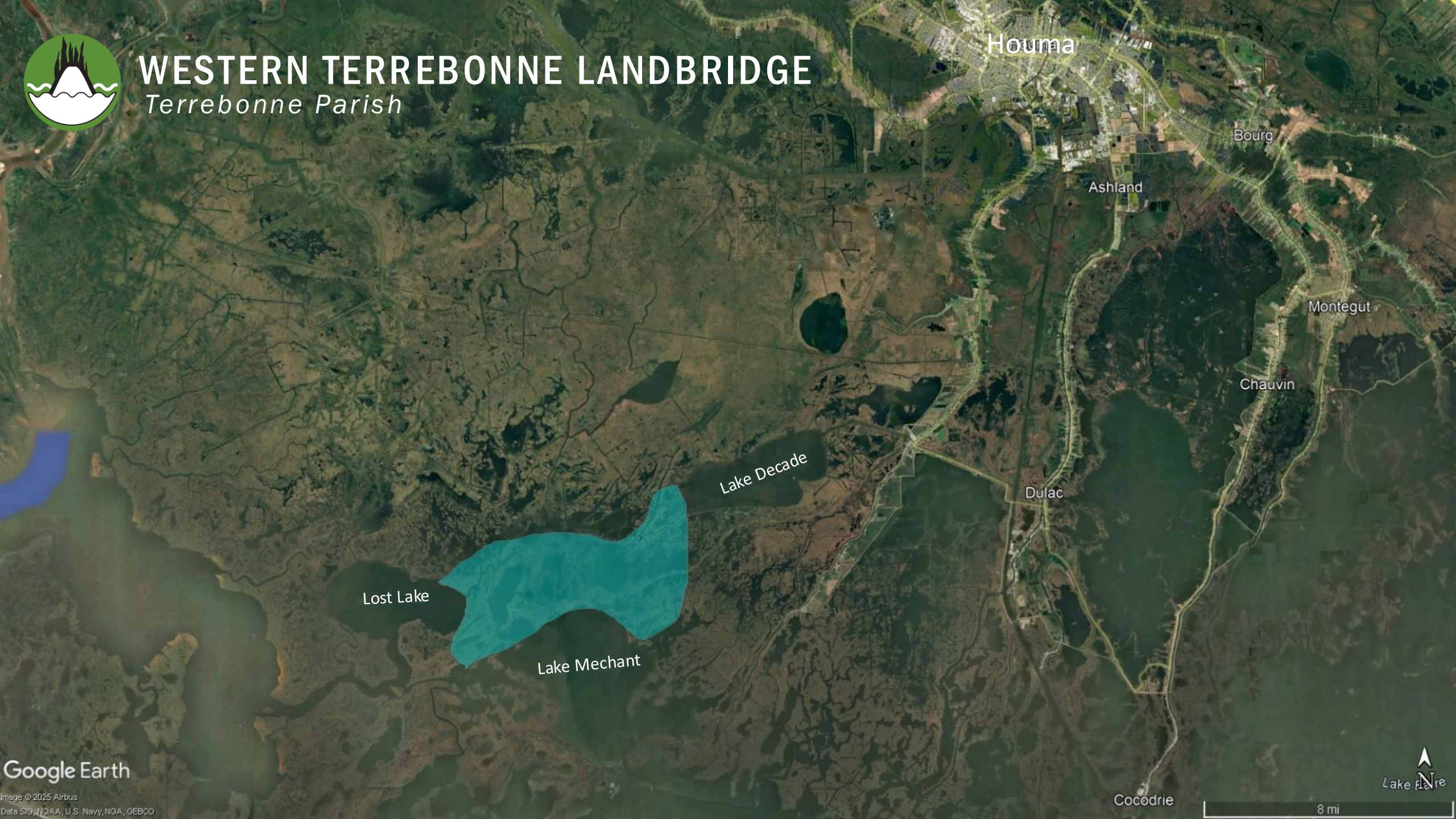


Breton Landbridge



# WESTERN TERREBONNE LANDBRIDGE

*Terrebonne Parish*



Houma

Bourg

Ashland

Montegut

Chauvin

Lake Decade

Dulac

Lost Lake

Lake Mechant

Cocodrie

Google Earth

Image © 2025 Airbus  
Data SIO, NOAA, U.S. Navy, NGA, GEBCO

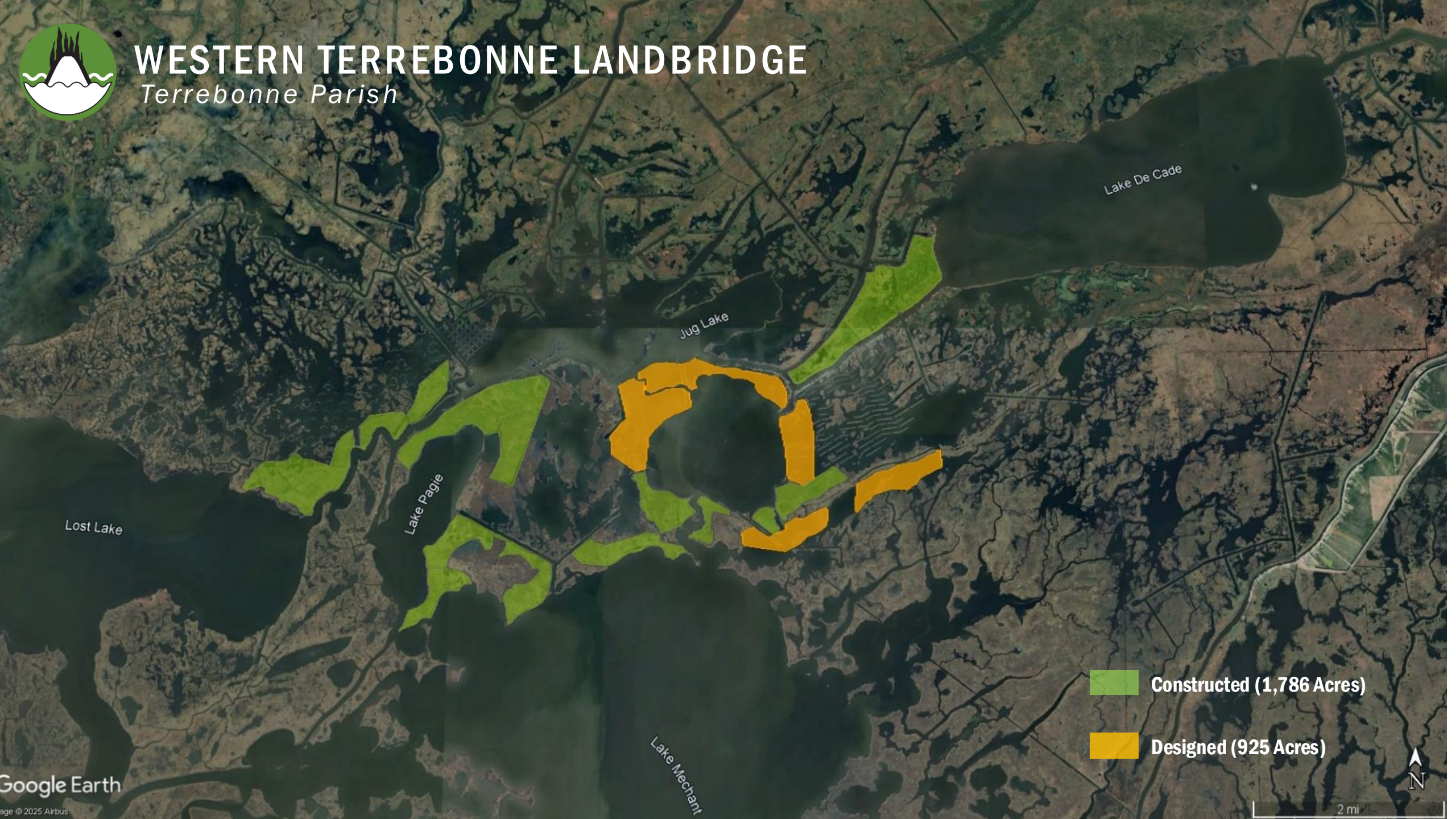



8 mi



# WESTERN TERREBONNE LANDBRIDGE

Terrebonne Parish



 **Constructed (1,786 Acres)**

 **Designed (925 Acres)**



Jean Lafitte

Barataria

# UPPER BARATARIA LANDBRIDGE

*Plaquemines and Jefferson Parish*



Alliance

Carlisle

Mississippi River

Phoenix

Lafitte

The Pen

Barataria Bay Waterway

Bayou Rigollet's

Bayou Perot

River Aux

23

23

23

23





# UPPER BARATARIA LANDBRIDGE

*Plaquemines and Jefferson Parish*

The Pen

Barataria Bay Waterway

Mississippi River

IRONTON

-  **Constructed (2,968 Acres)**
-  **Partially Designed (1,100 Acres)**





# BRETON LANDBRIDGE

*Plaquemines and St. Bernard Parish*



Google Earth

Image © 2025 Airbus  
Image NOAA  
Data SIO, NOAA, U.S. Navy, NGA, GEBCO

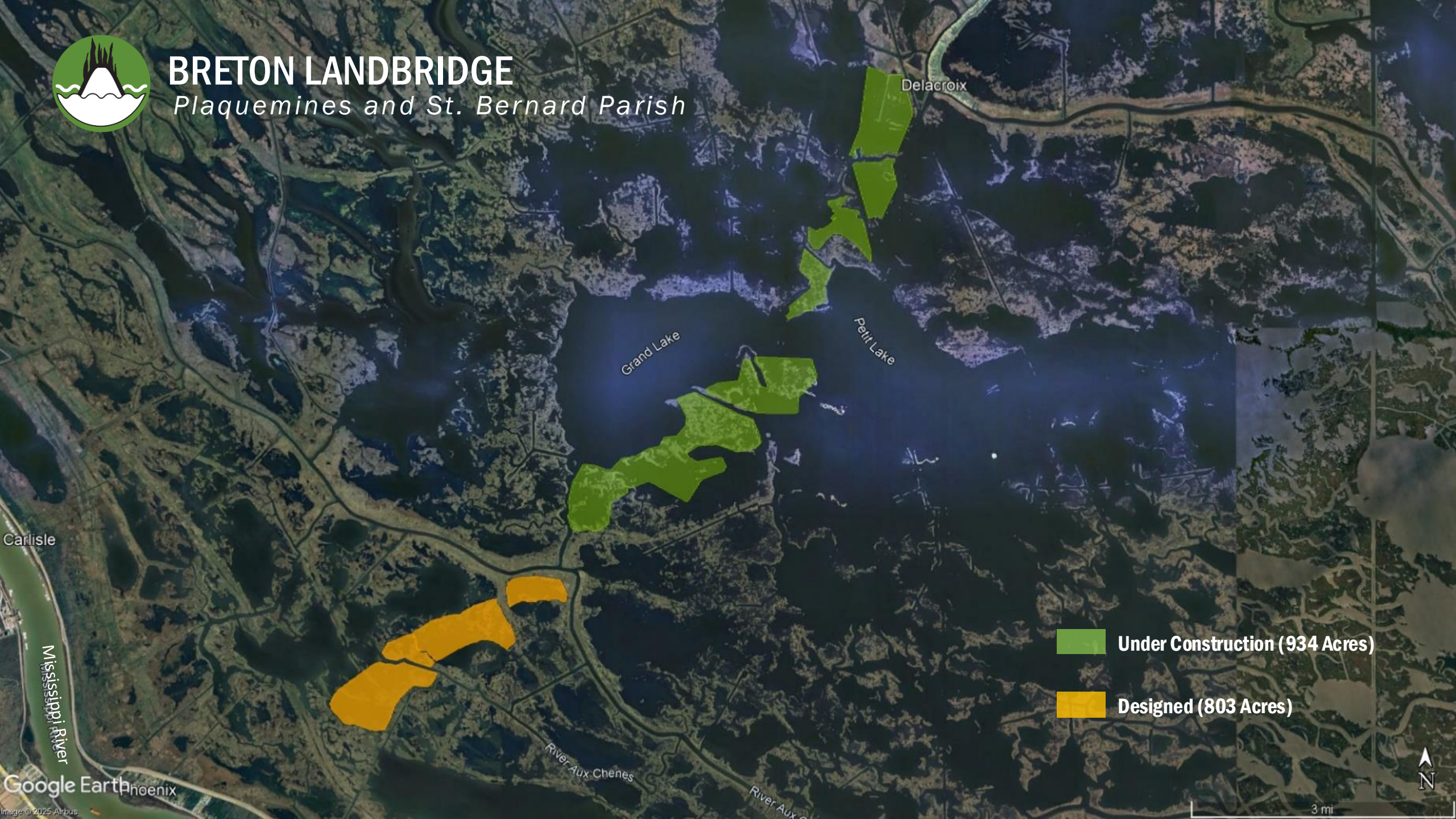


6 mi



# BRETON LANDBRIDGE

*Plaquemines and St. Bernard Parish*



Delacroix

Grand Lake

Petit Lake

Carlisle

Mississippi River

River Aux Chenes

River Aux C...

 Under Construction (934 Acres)

 Designed (803 Acres)





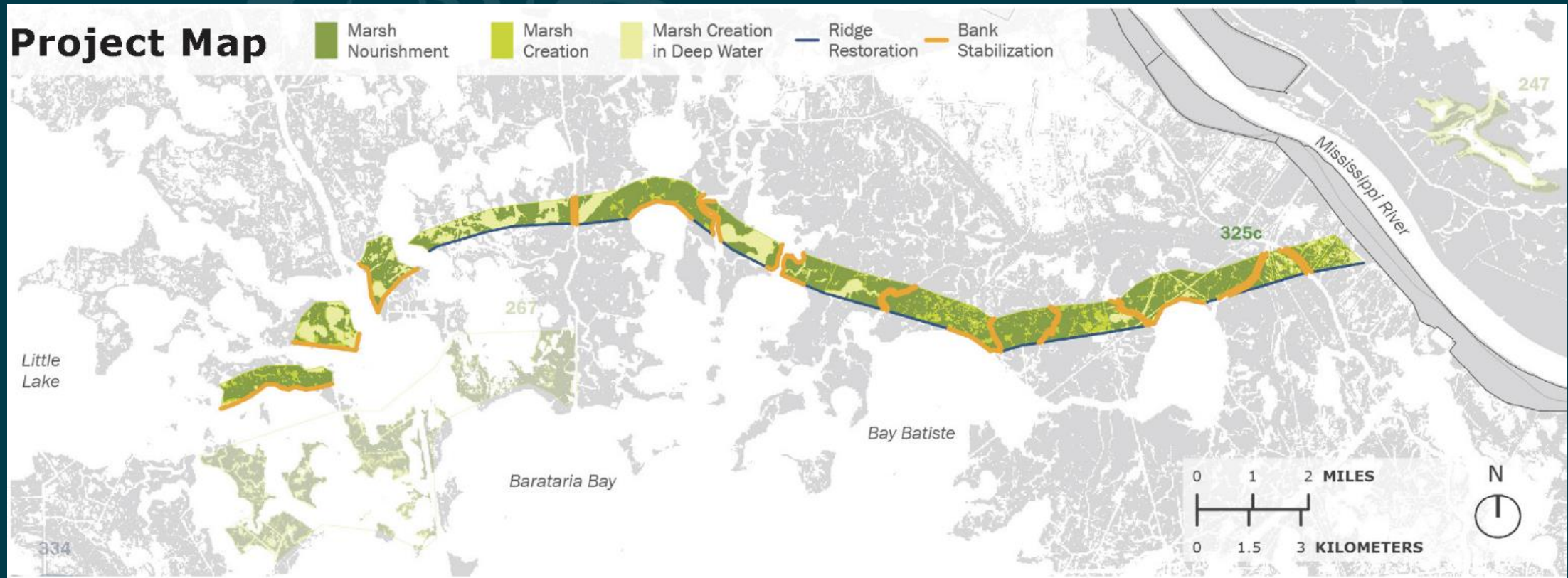
# **BARATARIA LANDBRIDGE RESTORATION**



# BARATARIA LANDBRIDGE RESTORATION

*Plaquemines and Jefferson Parishes*

- ~10,000 acre benefit area spanning from Plaquemines to Lafourche Parish
- Restores degraded marsh, reduces wave erosion, creates new habitat
- Built with Mississippi River and local borrow sources (Gulf, lakes and bays)
- Bank stabilization/living shoreline features





# BARATARIA LANDBRIDGE RESTORATION

*Plaquemines and Jefferson Parishes*

## Summary of Engineering and Design Scope:

### Phase 1:

- Identify a project for near-term implementation
- Identify and develop a reasonable range of conceptual alternative alignments by end of 2025
- Range of alignments to be informed by potential synergy with current/planned projects, areas of need, borrow sources, pipelines/infrastructure, faults, local subsidence, water depth, permitting feasibility, landrights, etc.

### Phase 2:

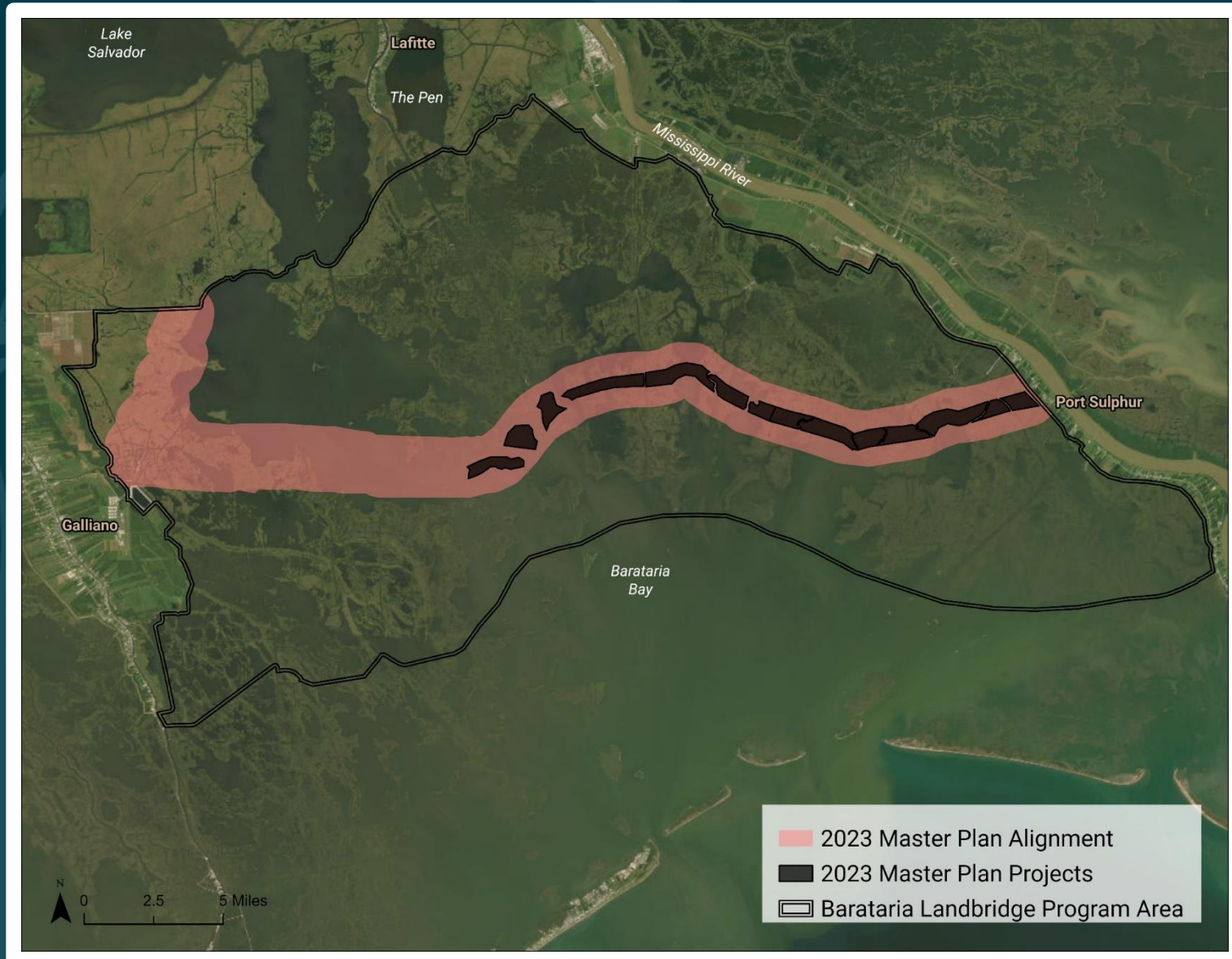
- Projected to begin Jan. 2026
- Initiate data collection, design, and construction sequence
- Revise and refine alignments, design features, borrow source sequencing, and costs based on collected data and modeling



# BARATARIA LANDBRIDGE RESTORATION

*Plaquemines Parish*

- Data Collection and Preliminary Design will cover larger landbridge “swath”
- Other alternative alignments within basin
- Shoreline protection, bank stabilization, and living shoreline features



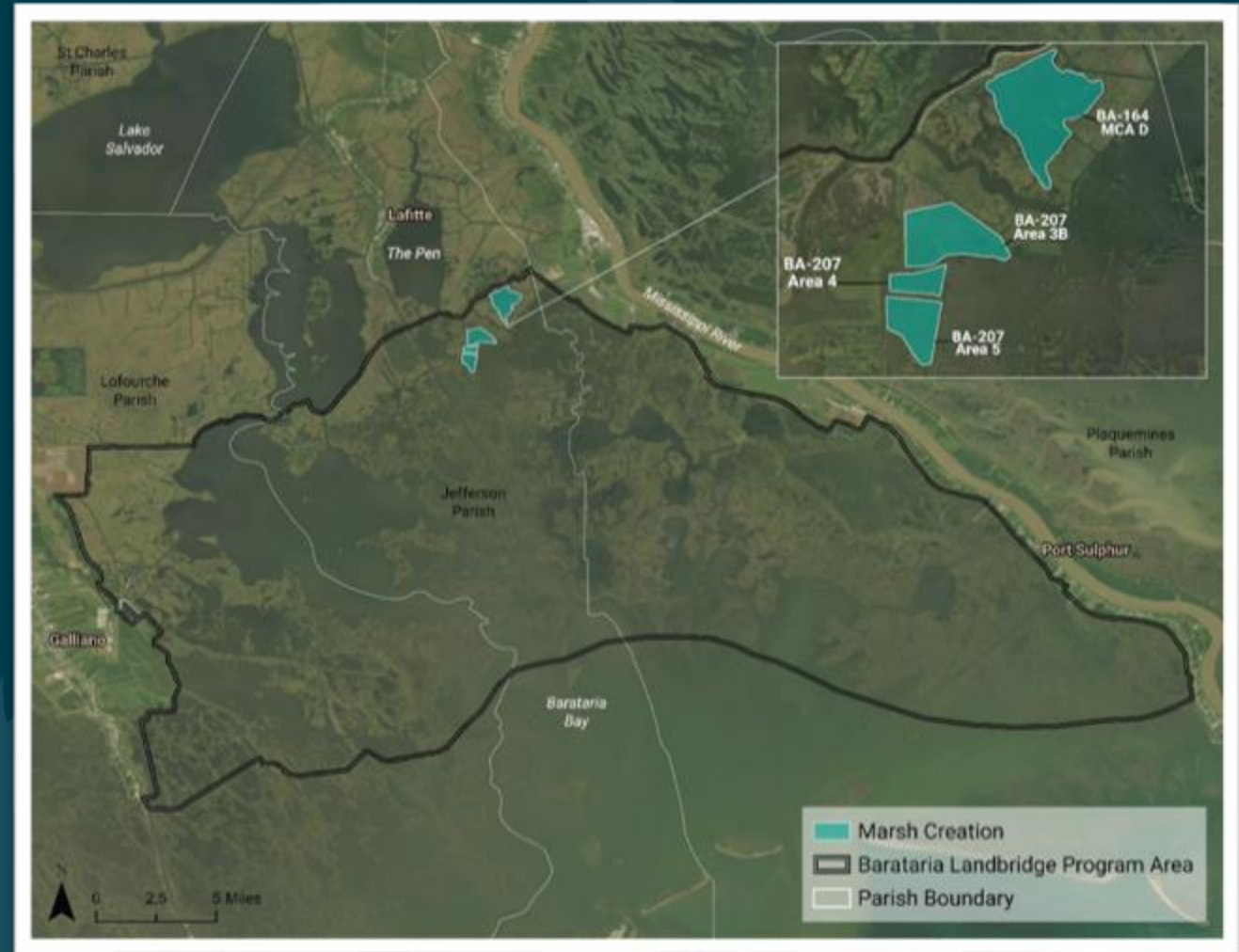


# BARATARIA LANDBRIDGE RESTORATION

*Plaquemines Parish*

## Near-Term Implementation

- Remaining Components of Large-Scale Barataria Marsh Creation: Upper Barataria Component (LSBMC-UBC) project (BA-207)
- Subset of MCA D of the Bayou Dupont Sediment Delivery - Marsh Creation (BA-039)
- Near-Term Direct Land Creation
- Use of Renewal Sediment Source
- Demonstrated Stakeholder Support





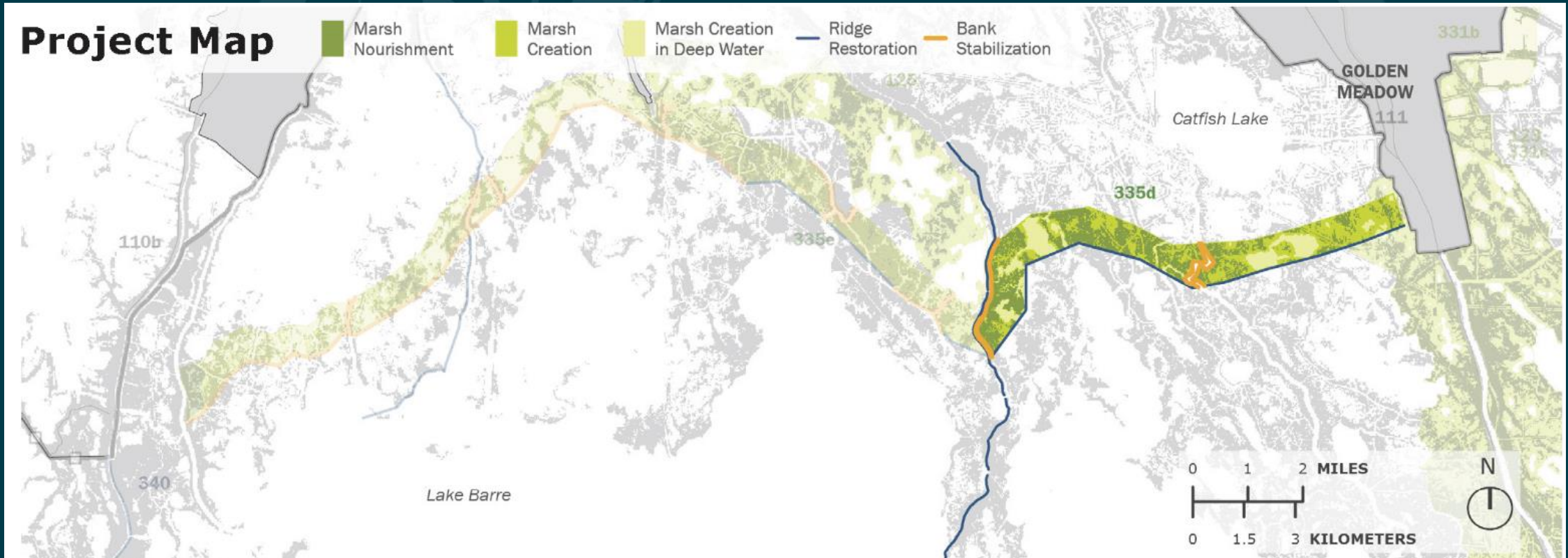
# TERREBONNE LANDBRIDGE RESTORATION



# EASTERN TERREBONNE LANDBRIDGE - EAST

*Lafourche Parish*

- ~5,000 acre benefit area spanning from Bayou Lafourche to Terrebonne Parish
- Restores degraded marsh, reduces wave erosion, and provides buffer for levee systems
- Primarily built with local borrow sources (Gulf, lakes and bays)
- Bank stabilization/living shoreline features

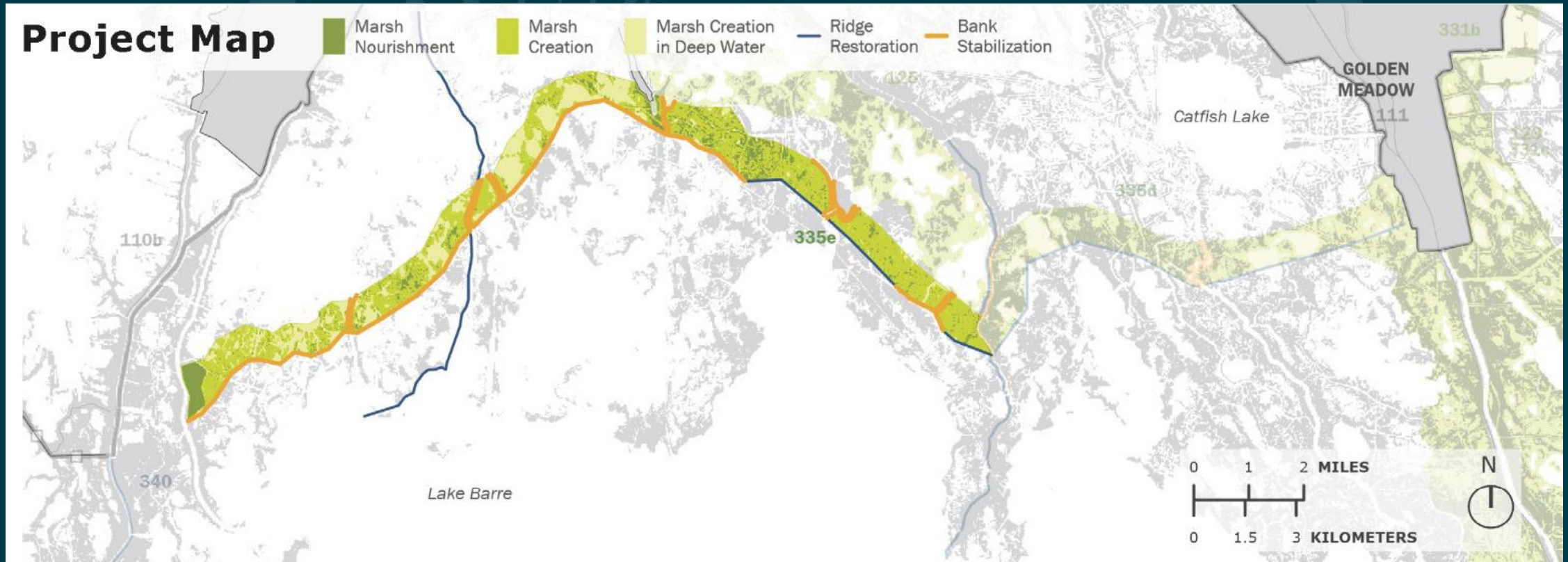




# EASTERN TERREBONNE LANDBRIDGE – WEST/CENTRAL

*Terrebonne Parish*

- +7000 acre benefit area spanning from Lafourche Parish to Bayou Terrebonne
- Restores degraded marsh, reduces wave erosion, provides buffer for levee systems
- Primarily built with local borrow sources (Gulf, lakes and bays)
- Bank stabilization/living shoreline features

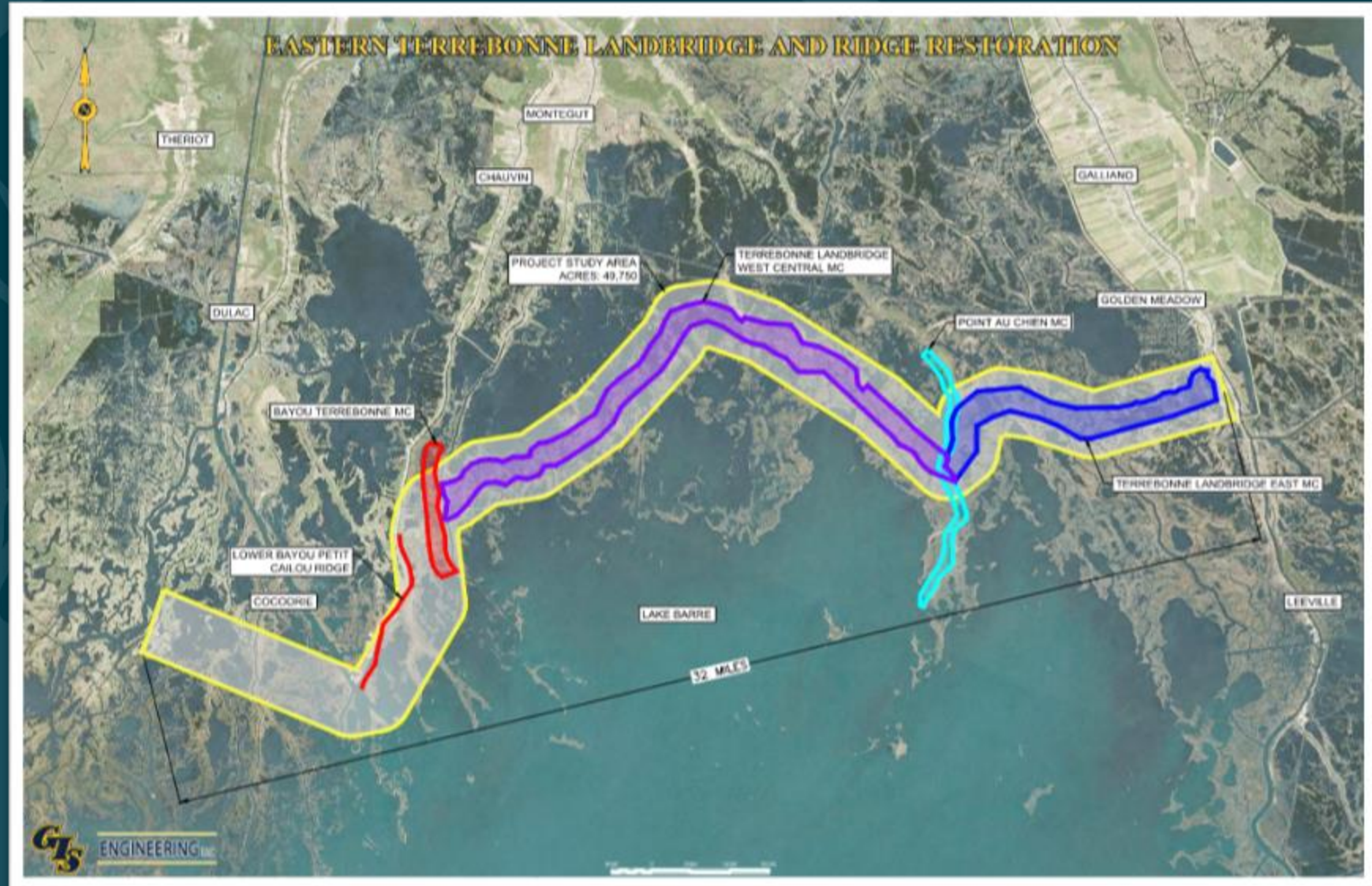




# TERREBONNE LANDBRIDGE RESTORATION

*Terrebonne Parish*

- General project area is directly related to the current Terrebonne Basin Marsh Creation projects identified in the Master Plan
  - a. Lower Petit Caillou Marsh and Ridge
  - b. Bayou Terrebonne Marsh Creation
  - c. Terrebonne Landbridge West Central Marsh Creation
  - d. Terrebonne Landbridge East Marsh Creation





# TERREBONNE LANDBRIDGE RESTORATION

*Terrebonne Parish*

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- Range of alignments to be informed by potential synergy with current/planned projects, areas of need, borrow sources, pipelines/infrastructure, faults, local subsidence, water depth, permitting feasibility, landrights, etc.

### Phase 2:

- Projected to begin Jan. 2026
- Initiate data collection, design, and construction sequence
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# TERREBONNE LANDBRIDGE RESTORATION

*Terrebonne Parish*

## Near Term Implementation:

Terrebonne Basin Ridge and Marsh Creation: Bayou Terrebonne Increment (TE-139)

- Engineering & Design is 95% Complete
- 1,500 acre footprint
- Marsh Creation and Ridge Restoration features



The background features a large, faint, light-blue graphic. On the left, there is a stylized tree with a thick trunk and several thin, vertical branches. On the right, there is a large, rounded water drop shape. The entire graphic is set against a dark teal background.

# **SITE SCREENING AND SELECTION**

# CONSTRUCTION EQUIPMENT ACCESS



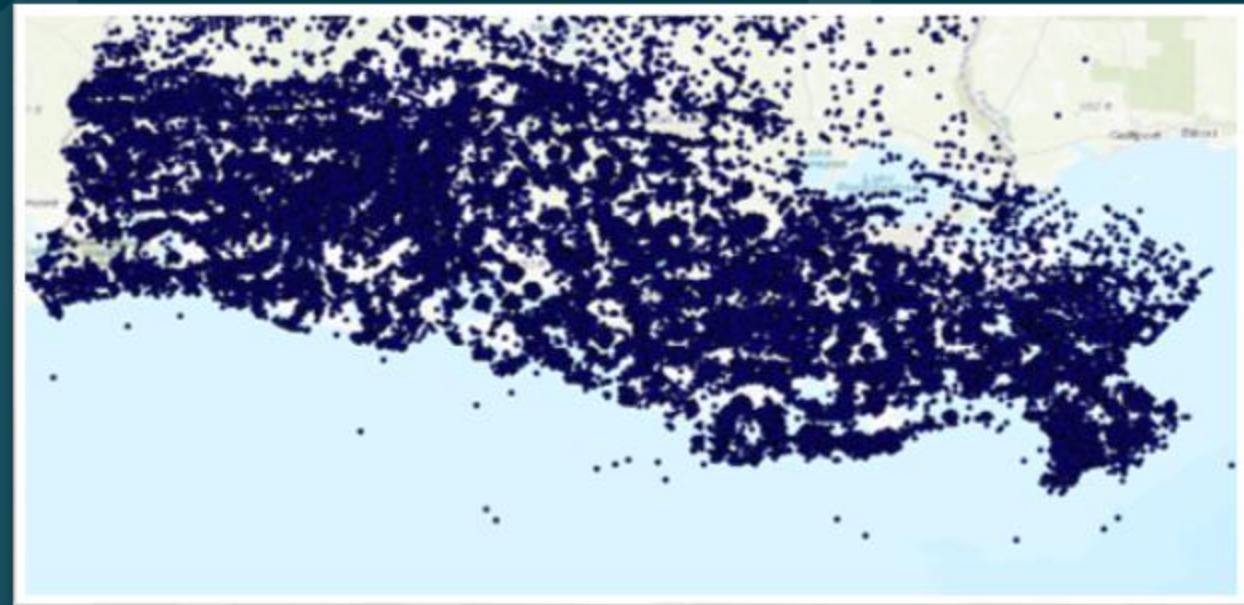
# OIL AND GAS INFRASTRUCTURE



Pipelines and Flowlines (Active, Inactive, Proposed from NPMS Database)

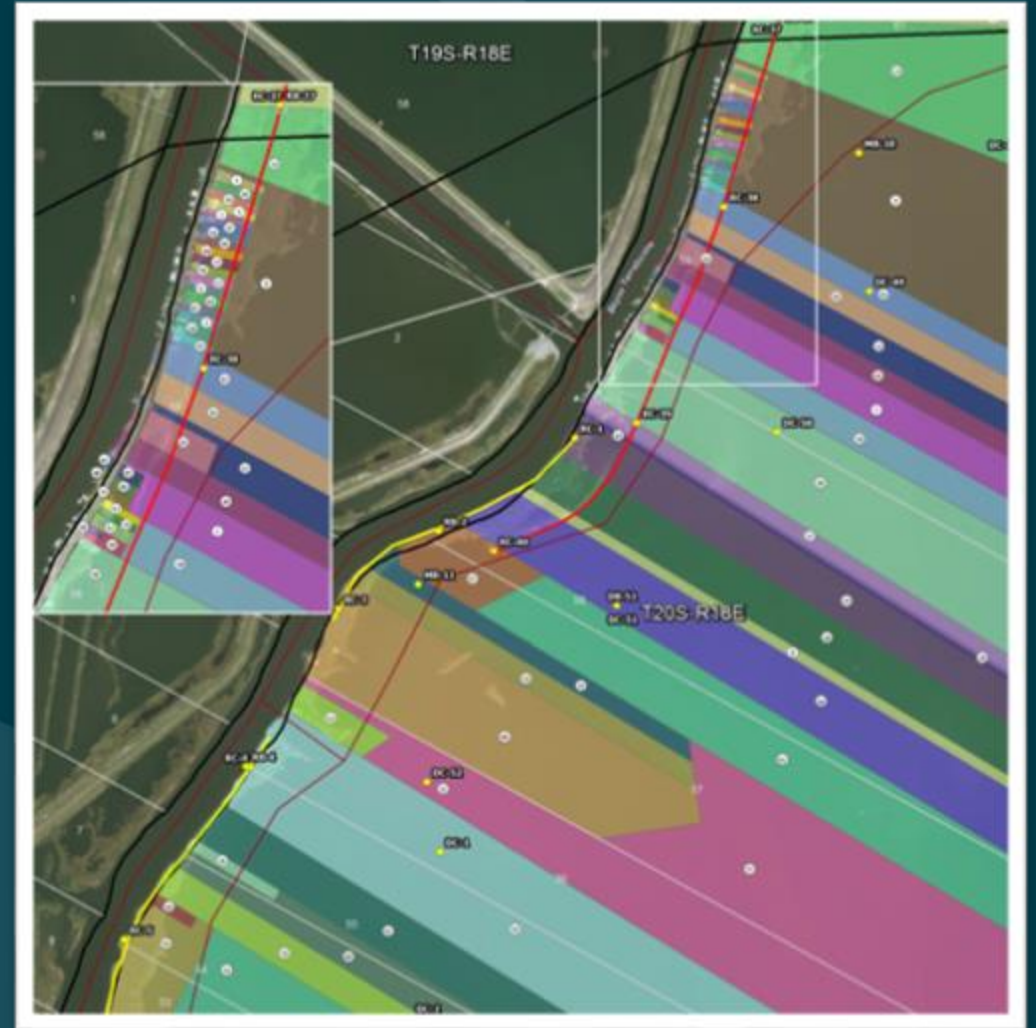


Wells (Active, Inactive, Exploration; from SONRIS Database)



# RIGHT OF ENTRY AND SERVITUDES

- Right of entry permission for data collection (surveying, geotechnical, etc.)
- Cultural Resources clearance
- Construction Servitudes



# SUBSURFACE CONDITIONS

## SUITABLE GEOTECHNICAL DESIGN

Drilled		Start	End	Total	Logged By	SJW	Driller	Specialized Environmental Resources, LLC		Drilling Method	Wet Rotary								
4/18/2018		4/18/2018	4/18/2018	Depth (ft)	60	IAH													
Surface Elevation (ft)			-3		Hammer Data		Cathead Hammer		Drilling Equipment										
Vertical Datum			NAVD88				140 (lbs) / 30 (in) Drop		Pontoon Drill Rig										
Latitude			29.2543		System Datum		Geographic		Depth of water to mudline at time of exploration (ft)										
Longitude			-90.1823				NAD83 (feet)		5.0										
Notes: Cement-bentonite grout full depth																			
Elevation (feet)	FIELD DATA						LABORATORY DATA												
	Depth (feet)	Interval	Recovered (in)	Blows/foot or Pocket Pen (TSF)	Collected Sample	Sample Name	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Water Content, %	Dry Density, (pcf)	Shear Strength, (KSF)	Confining Pressure, (PSI)	Strain, %	Liquid Limit (LL), %	Plasticity Index (PI), %	Passing No. 200 Sieve, %	Minimum Shear Strength (KSF)
0	22					1		PT	Dark brown peat with organic clay (organic content = 14.1%)	210									
2	24					2			Dark brown peat with organic clay (very soft)	443	14.1	0.04	5	6	211	162		0.04	
5	22					3		CL	Gray clay with silt, sand lenses and silt layers (very soft) (specific gravity = 2.67)	50	68.6				43	21		0.06	
4	21					4		CH	Gray clay with silt layers, sand pockets, shells and organic matter (very soft)	102	48.5	0.12	5	5					
5	23					5			Gray clay with silt layers and shell fragments (very soft)	72	69.4	0.13	5	4				0.16	
10	25					6		CL	Gray clay with silt, sand and shell fragments (very soft)	57	69.6	0.23	5	6					
15	25					7			Gray sandy clay (very soft)	31	85.2	0.2	6.4	6					
20	23					8		SC	Gray clayey sand	30					26	9	36	0.07	

High moisture content

Low shear strength

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