

COASTAL TX PROTECTION AND RESTORATION FEASIBILITY STUDY

SWG Annual Dredging Meeting Study Update

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US Army Corps of Engineers (Corps)
Galveston District

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"The views, opinions and findings contained in this report are those of the authors(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other official documentation."

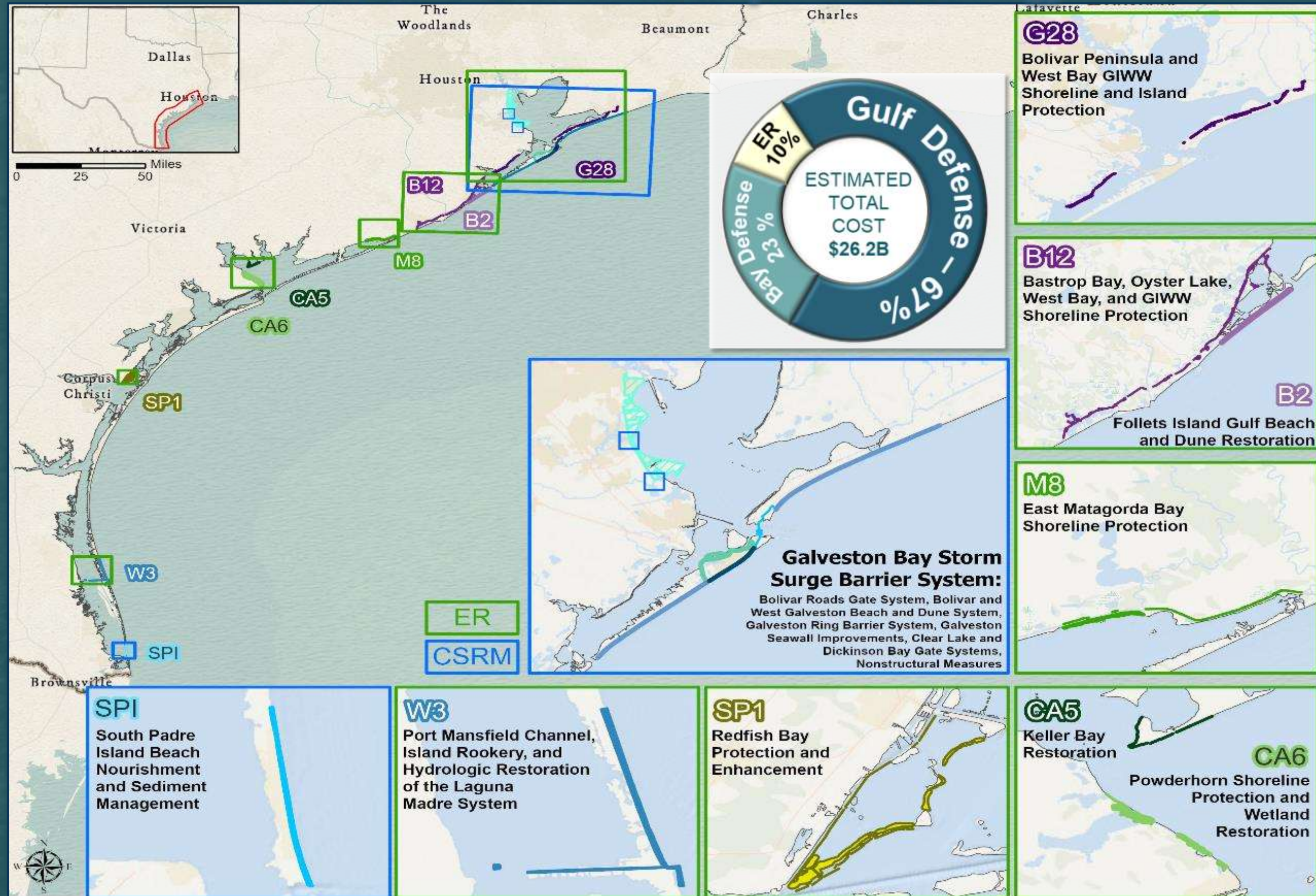


**US Army Corps
of Engineers**





Revised Coastal Resilience Comprehensive Strategy



Coastal Storm Risk Management

- 2 large & 4 small sector gates
- 15 vertical lift gates
- 16 shallow water environmental gates
- 1 mi combi-wall tie-in
- 3 mi levee tie-in
- 43 mi of gulf-side dune/beach barrier
- 15.8 mi of ring barrier
- 8 pumping stations
- 55 drainage structures
- 4-ft high extension of the seawall
- 49 gated closures (roads & rail)
- Non-structural measures anticipated
- 2.9 mi beach/dunes on South Padre
- 1,328 ac mitigation



Ecosystem Restoration (6,600+ ac)

- 114 mi of breakwaters
- 15.2 mi of bird rookeries
- 2,052 ac of marshes
- 12.32 mi of oyster reefs
- 19.5 mi of dunes/beaches





Gulf Defense: Hardened Perimeter at the Gulf Inlet

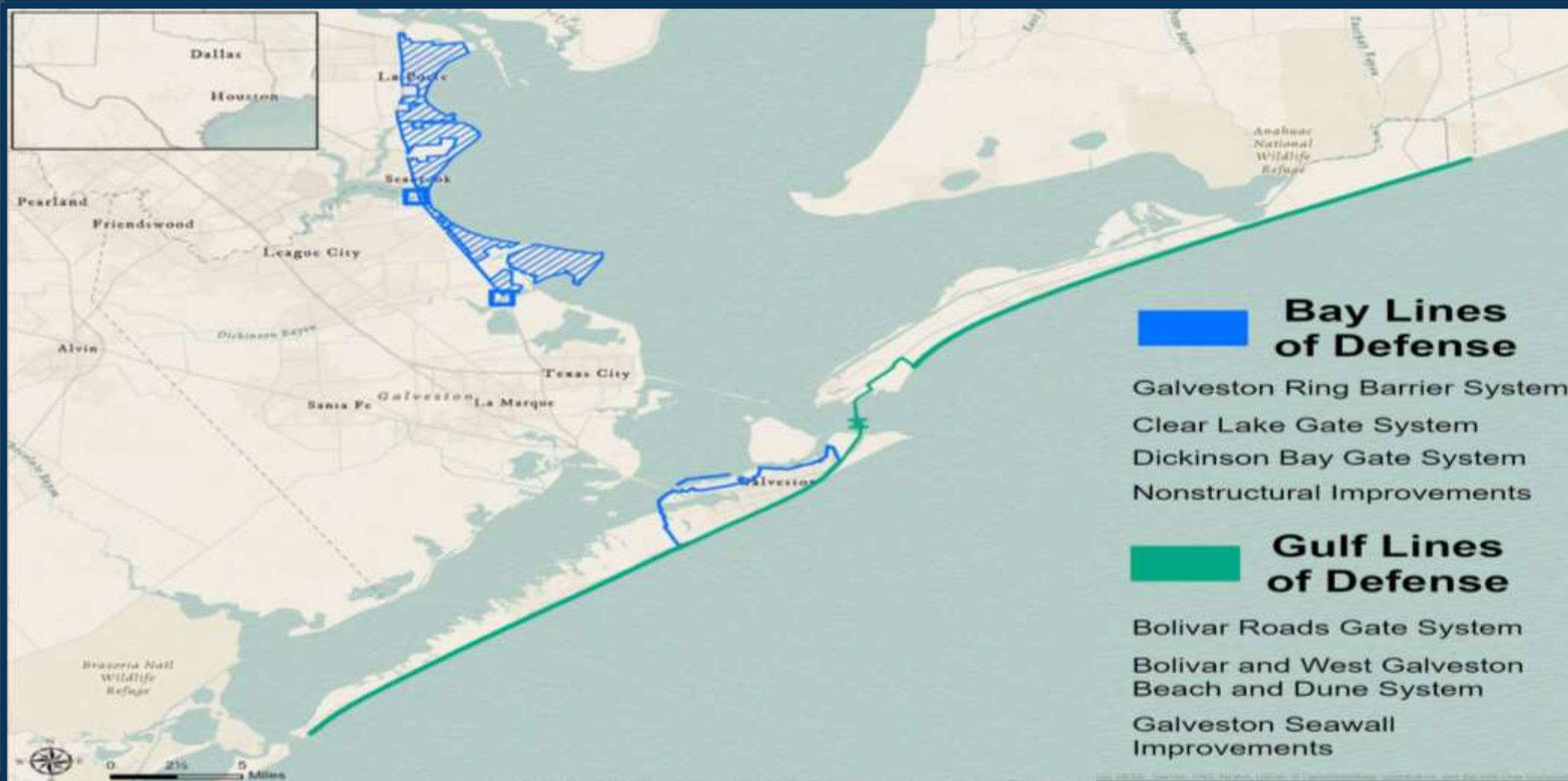
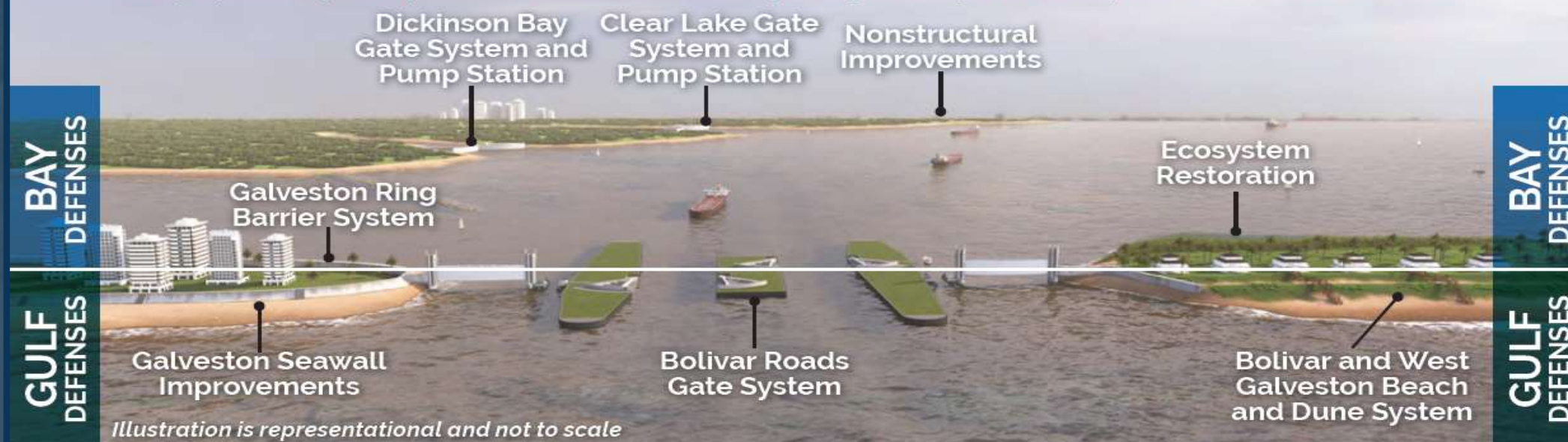
- ✓ Storm Surge Gates
- ✓ Dune Flanks
- ✓ Seawall Improvements

Bay Defense: Lateral and Interior Features

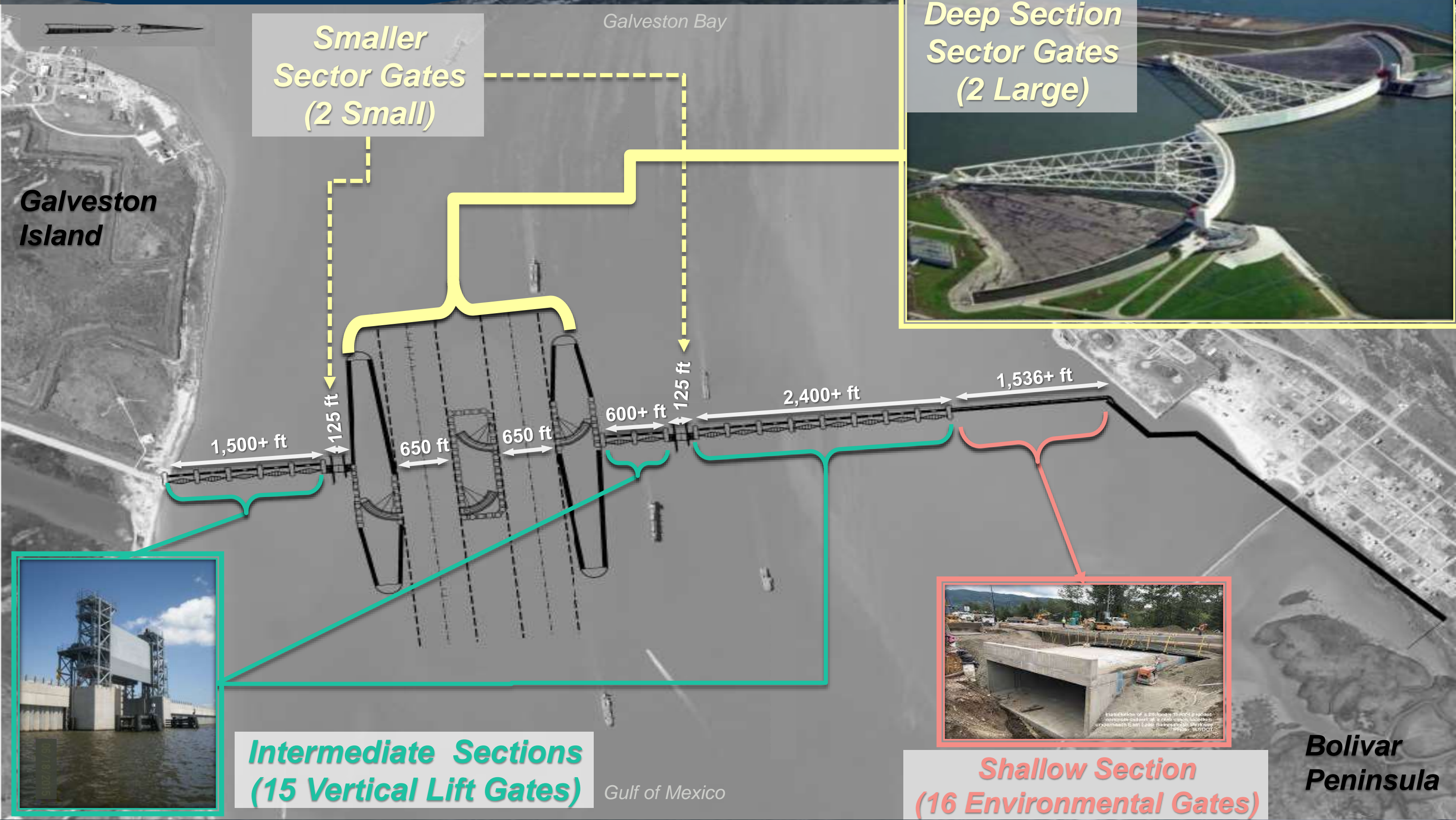
- ✓ Ring Barrier
- ✓ Upper West Bay – Clear Lake, Dickinson Bay & Non-Structural Improvements
- ✓ GIWW Breakwaters
- ✓ Oyster Reefs
- ✓ ER Site-specific restoration features (e.g., marsh creation)

MULTIPLE LINES OF DEFENSE ON THE TEXAS COAST

The Recommended Plan includes a combination of ER and CSRM features that function as a system to reduce the risk of coastal storm damages to natural and built infrastructure and to restore degraded coastal ecosystems through a comprehensive approach employing multiple lines of defense. Focused on redundancy and robustness, the proposed system provides increased resiliency along the Bay and is adaptable to future conditions.



BOLIVAR ROADS GATE SYSTEM



Smaller Sector Gates (2 Small)

Deep Section Sector Gates (2 Large)

Galveston Island

Intermediate Sections (15 Vertical Lift Gates)

Shallow Section (16 Environmental Gates)

Bolivar Peninsula



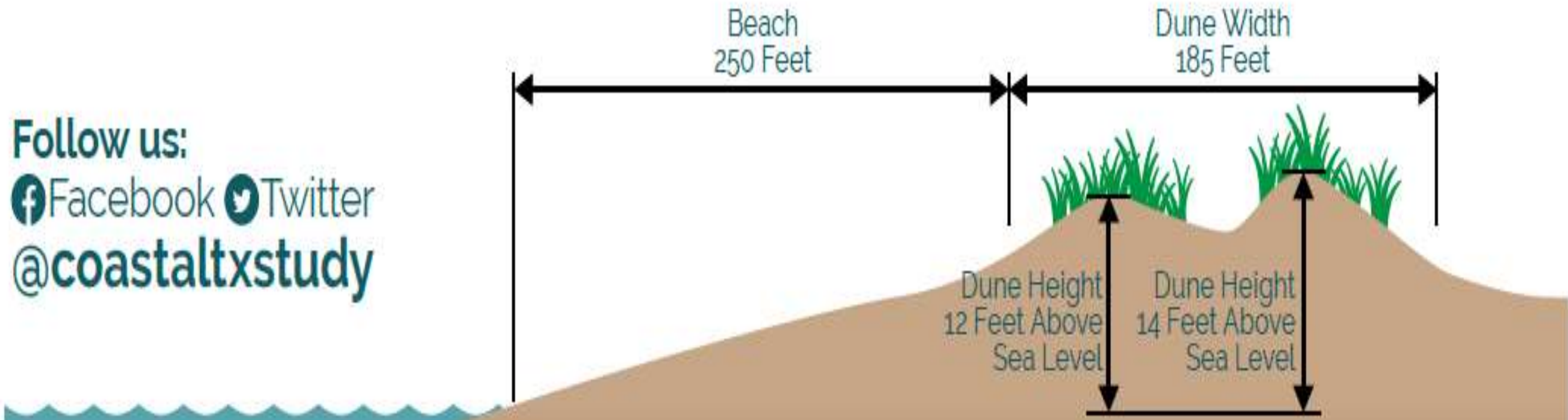
Gulf of Mexico

Galveston Bay

BOLIVAR AND WEST GALVESTON BEACH AND DUNE SYSTEM



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Beach and Dune System Components

(Drawing is representational and for illustrative purposes only. All dimensions are approximate)

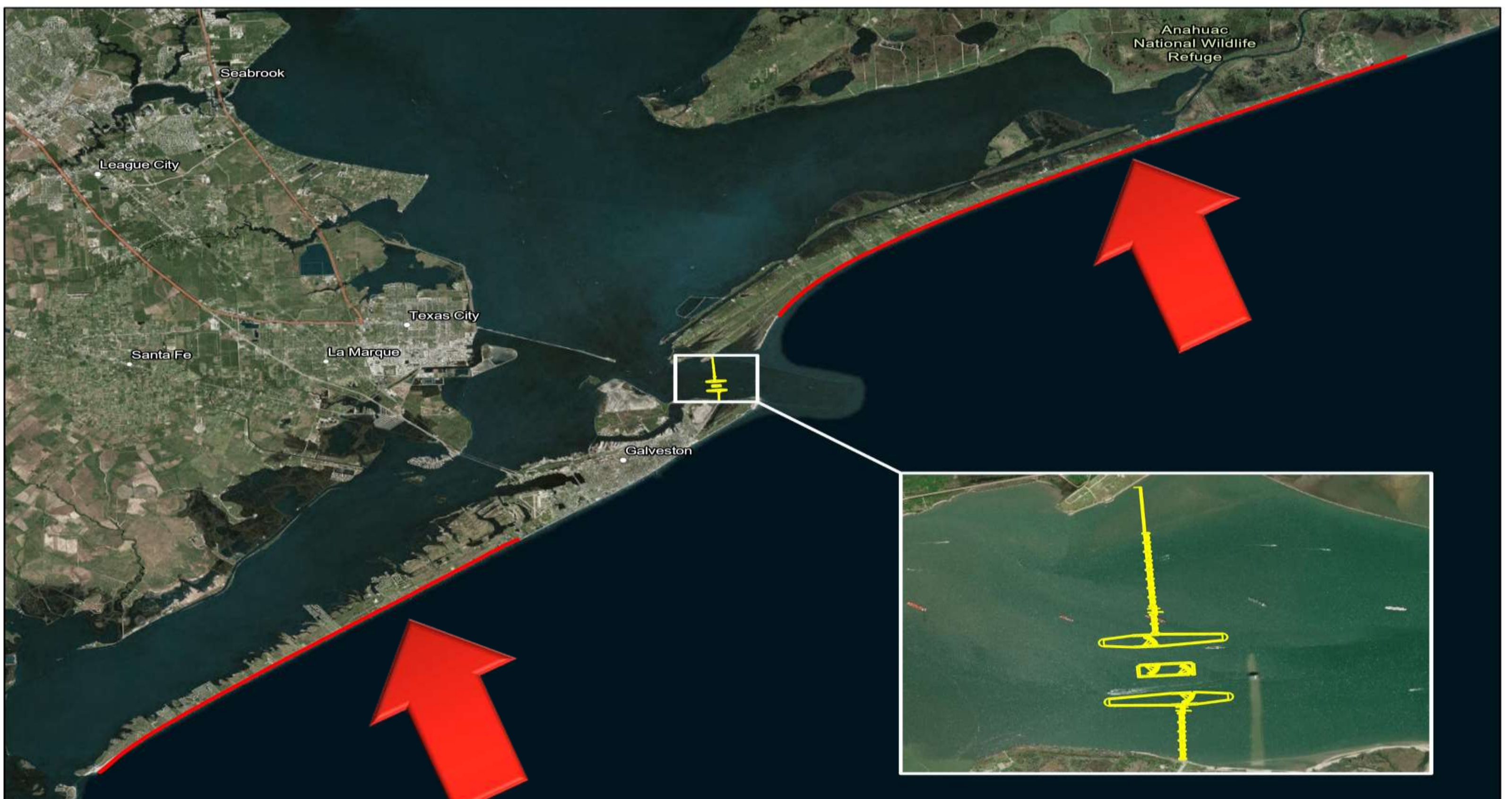
More information is available online at: coastalstudy.texas.gov

BOLIVAR AND WEST GALVESTON BEACH AND DUNE SYSTEM



<http://CoastalStudy.Texas.gov>

CoastalTXStudy



BOLIVAR AND WEST GALVESTON BEACH AND DUNE SYSTEM



GALVESTON RING BARRIER AND SEAWALL IMPROVEMENTS



<http://CoastalStudy.Texas.gov>

CoastalTXStudy



Stick-Up Heights (approximate)

0 – 2 ft
2 – 4 ft
4 – 6 ft
6 – 8 ft
8 – 10 ft
10 – 12 ft
12 – 14 ft

Legend

- Drainage Structure
- Access Gate
- Rail Closure
- Road Closure
- Combi Wall
- Circulation Gate
- Navigation Gate
- Channel Realignment
- Existing Levee
- Seawall
- Breakwaters

0 0.25 0.5 1 Miles



- Dickinson Bay Gate & Pumps
- Clear Lake Gate & Pumps
- Non-structural Improvements – flood proofing, raisings & buyouts

Clear Lake

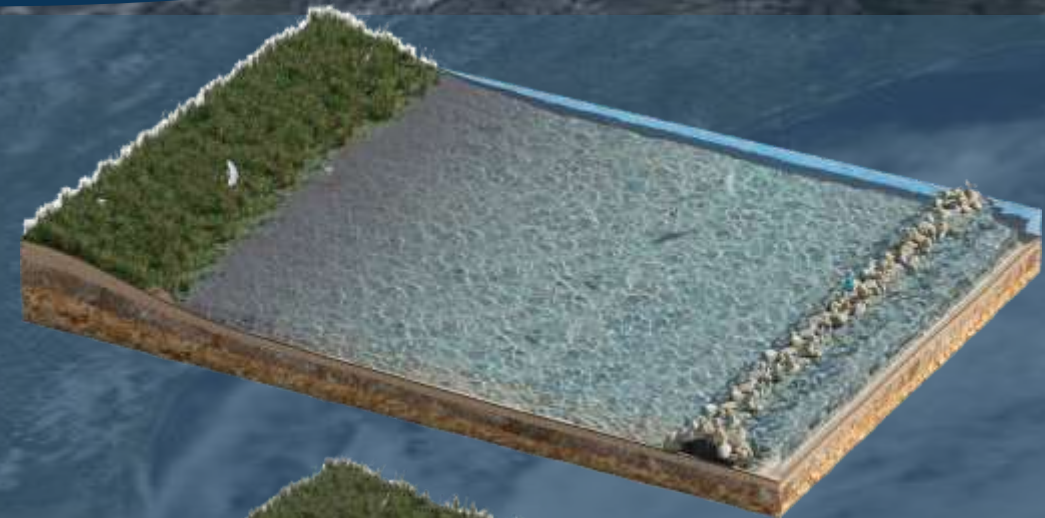


Dickinson Bay





Breakwaters



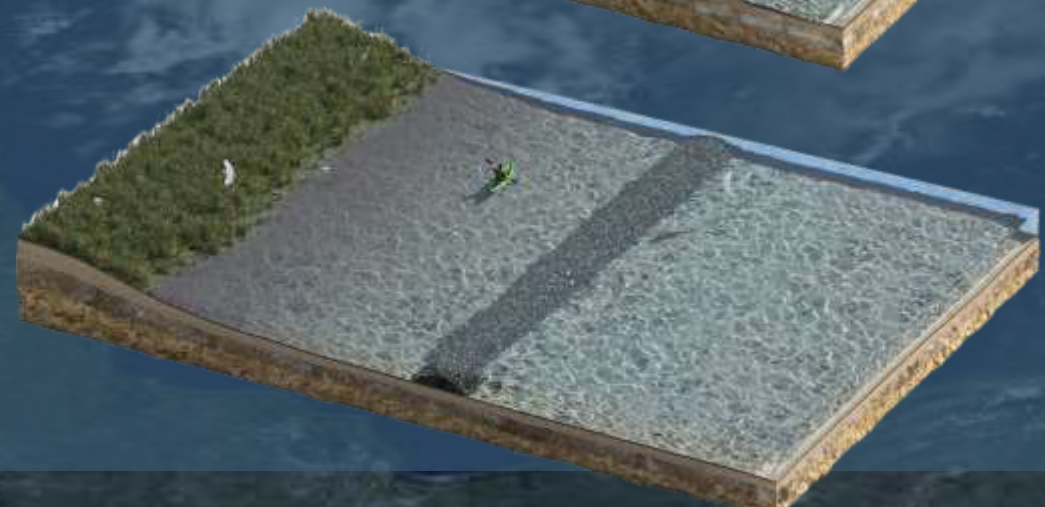
Marshes



Beaches

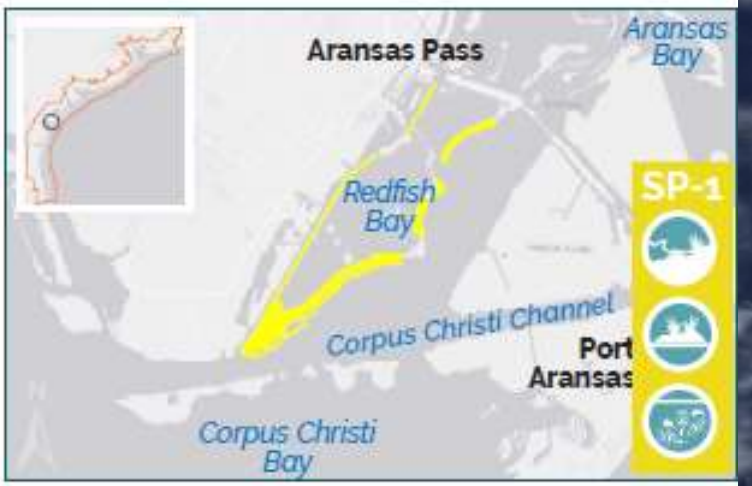


Oyster Reefs



ECOSYSTEM RESTORATION MEASURES

Marsh Restoration	Beach Restoration	Oyster Reef Restoration	Island Restoration	Breakwater Creation	Hydrologic Restoration





Environmental Impact Analysis

- NEPA is the nation's foremost environmental law
- NEPA drives our process by requiring the identification of direct, indirect and cumulative impacts
- Tiered NEPA has been authorized for this study

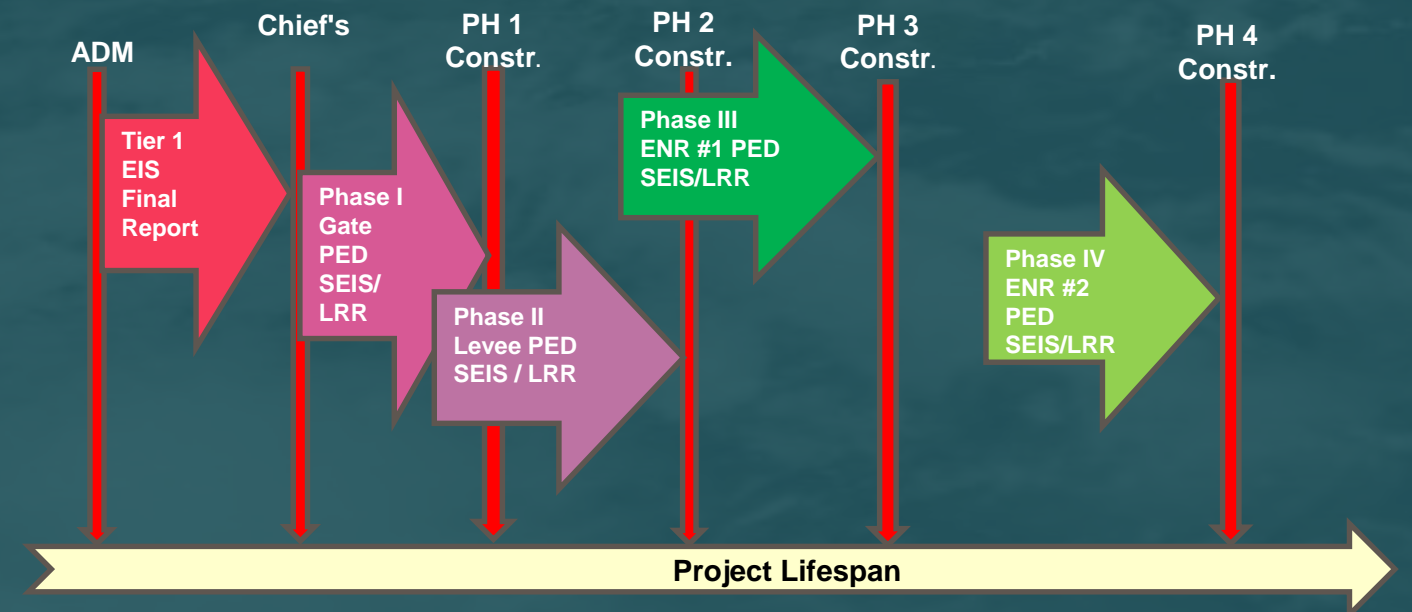
Analyses Underway

- Direct Impacts
 - Habitat Evaluation Procedures (HEP)
 - Quality x Quantity of Species Habitat
 - Advanced Hydrologic Modeling
 - Salinity, Velocity & Sediment Transport
 - Particle Track Modeling
 - Larval Movement & Recruitment Success
- Indirect & Cumulative Impacts

Mitigation Plan –

Complete & Ready for Review

Conceptual Tiered NEPA Approach



Mitigation and Sediment Source Sites

- Dickinson Bayou
- Dickinson Bayou Source
- Greens Lake
- Greens Lake Source
- Horseshoe Lake
- Sievers Cover
- Horseshoe Lake and Sievers Cove Source
- Seabrook
- Seabrook Source
- Alligator Point Rookery*
- Dickinson Bayou Oyster*
- Oyster Evia Island*
- Marquette* *

* Commercial Source
** No Sediment Source





Site	Source	Quantity (CY)	Renourishment (CY per 10 yrs)
Coastal Storm Risk Management			
Galveston Beach & Dune	Sabine and Heald Banks	17,190,000	874,000
Bolivar Beach & Dune	Sabine and Heald Banks	22,140,000	1,900,000
Tie-In Structure (Bolivar)	Sabine and Heald Banks	366,400	-
Sub Total		39,696,400	2,774,000
Ecosystem Restoration			
B2	Sabine and Heald Banks	802,000	588,000
B12	Gulf Intracoastal Waterway dredging maintenance cycle	399,863	-
CA5	N/A	N/A	-
CA6	Matagorda Ship Channel dredging maintenance cycle	385,760	-
G28	Marsh Restoration: GWW Island Restoration: HSC Anchorage and/or expansion dredge areas	6,305,054	-
M8	Marsh Restoration: GWW Island Restoration: PA102C	1,368,995	-
SP1	ODMDS PA1	6,685,556	-
W3	W3 Borrow Source Area	1,500,000	-
Sub Total		17,447,228	588,000
Mitigation			
Alligator Point Rookery	Commerical Source	26,670	-
Dickinson Bayou	Dickinson Gate dredge area	8,752	-
Dickinson Bayou Oyster	Commerical Source	4,638	-
Greens Lake	Offats Bayou gate and GWW dredge area	249,341	-
Horseshoe Lake 1	HSC Anchorage and/or expansion dredge areas	21,175	-
Horseshoe Lake 2	HSC Anchorage and/or expansion dredge areas	22,869	-
Horseshoe Lake 3	HSC Anchorage and/or expansion dredge areas	8,470	-
Marquette Tract 3	N/A	N/A	-
Marquette Tract 4	N/A	N/A	-
Marquette Tract 5	N/A	N/A	-
Evia Island Oyster	Commerical Source	271,343	-
Seabrook	Clear Creek Gate dredge area	3,388	-
Sievers Cove	Anchorage Areas and HSC expansion dredge areas from Gate	1,102,996	-
Sub Total		1,719,642	-
TOTALS		58,863,270	3,362,000



New ▾



Kelly ▾

COASTAL TEXAS STUDY

Coastal Texas Study Main Website



Coastal Texas Story Map Homepage

COASTAL
TEXAS
STORY MAP

This Story Map is a visual representation of the 2020 Draft Report for the Coastal Texas Protection and Restoration Study (Coastal TX Study).

www.CoastalStudy.Texas.gov



US Army Corps
of Engineers®
Galveston District



GIS StoryMap technology animates the complicated concepts discussed in the Draft Proposal by allowing you to:

- See the difference in flooding this project has the ability to make in the Houston and Galveston areas
- Experience a virtual landscape with the proposed beach and dune systems in place
- Examine potential environmental impacts and review our proposed mitigation plans



#1 Download the Report to Review & Check out our website for more details

www.CoastalStudy.Texas.gov

#2 - Attend a Public Meeting Virtually

November 16, 2020

11:00am – 1:00pm

6:00pm – 8:00pm

December 02, 2020

11:00am – 1:00pm

6:00pm – 8:00pm

December 08, 2020

11:00am – 1:00pm

6:00pm – 8:00pm



#3 - Send a Letter

MAIL TO:

U.S. Army Corps of Engineers

Galveston District

Attn: Mr. Jeff Pinsky

Environmental Compliance Branch

Regional Planning and Environmental

Center

P.O. Box 1229

Galveston, TX 77553-1229

#4 - Send an Email

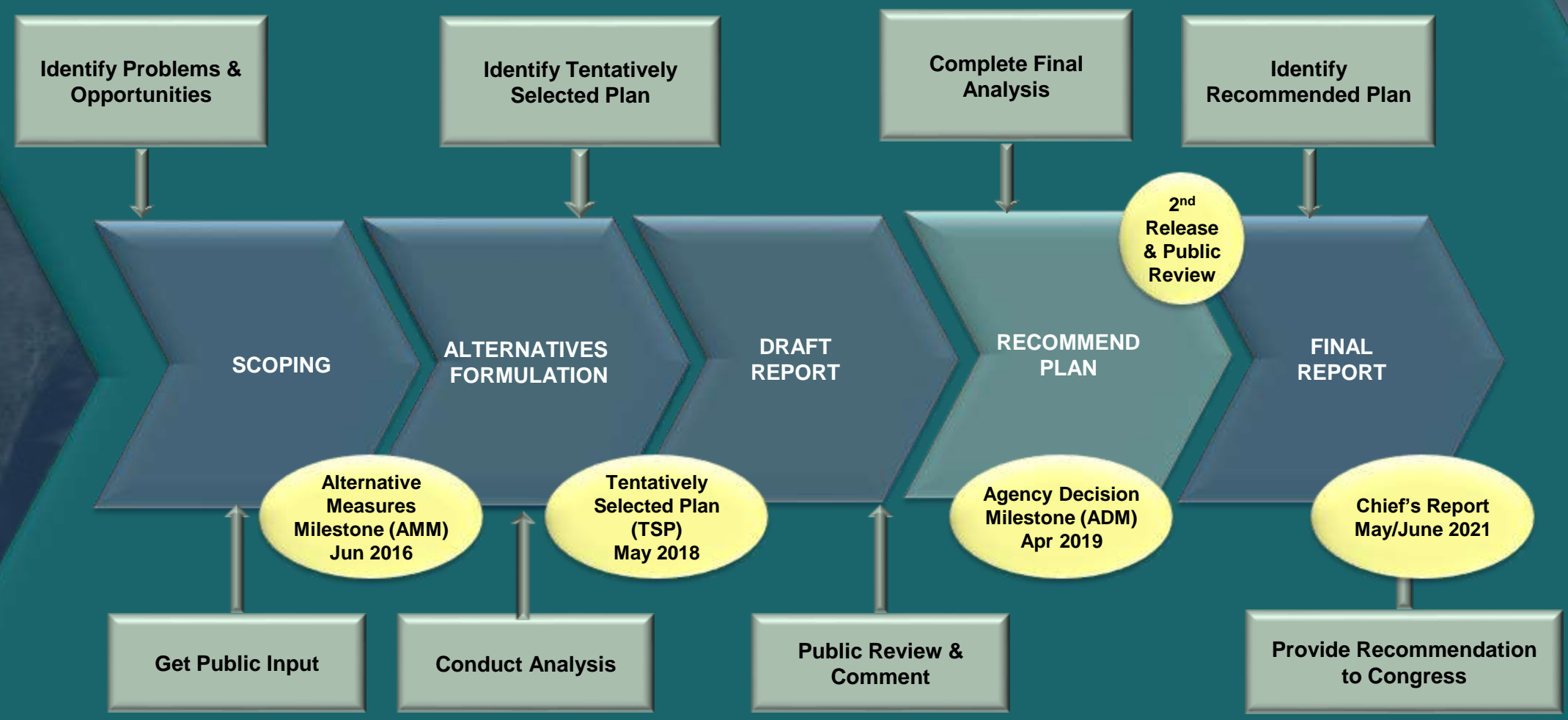
CoastalTexas@usace.army.mil

Deadline:

December 14, 2020



STUDY





Web: <http://CoastalStudy.Texas.gov>

Facebook: [CoastalTXStudy](https://www.facebook.com/CoastalTXStudy)



The screenshot shows the Coastal Texas Study website with a navigation menu (Overview, Study Progress, Get Involved, Resources, Contacts) and five main content sections: 'The Need', 'Current Overview', 'What's Happening Area?', 'Fact Sheets', and 'Misconceptions'. Each section includes an illustration and a 'LEARN MORE' button.

COASTAL TEXAS STUDY



The screenshot shows the Coastal Texas Study Facebook page. It features a post from July 30 at 12:10 PM titled 'MISCONCEPTION: Rice University's SSPEED Center has proposed a less costly plan called the "Bay Park Plan" that can be built in less time and will have the same (or greater) level of protection with little or no environmental impacts.' Below the post is a comment from Sharon Manzella Tirpak and two others. The page also includes an 'About' section with contact information, a 'Page Transparency' section, and a 'Related Pages' section listing Rick's Bar, Susan Criss for Senat..., and Texas Southern Colleg....

