



# Galveston Bay Park Plan

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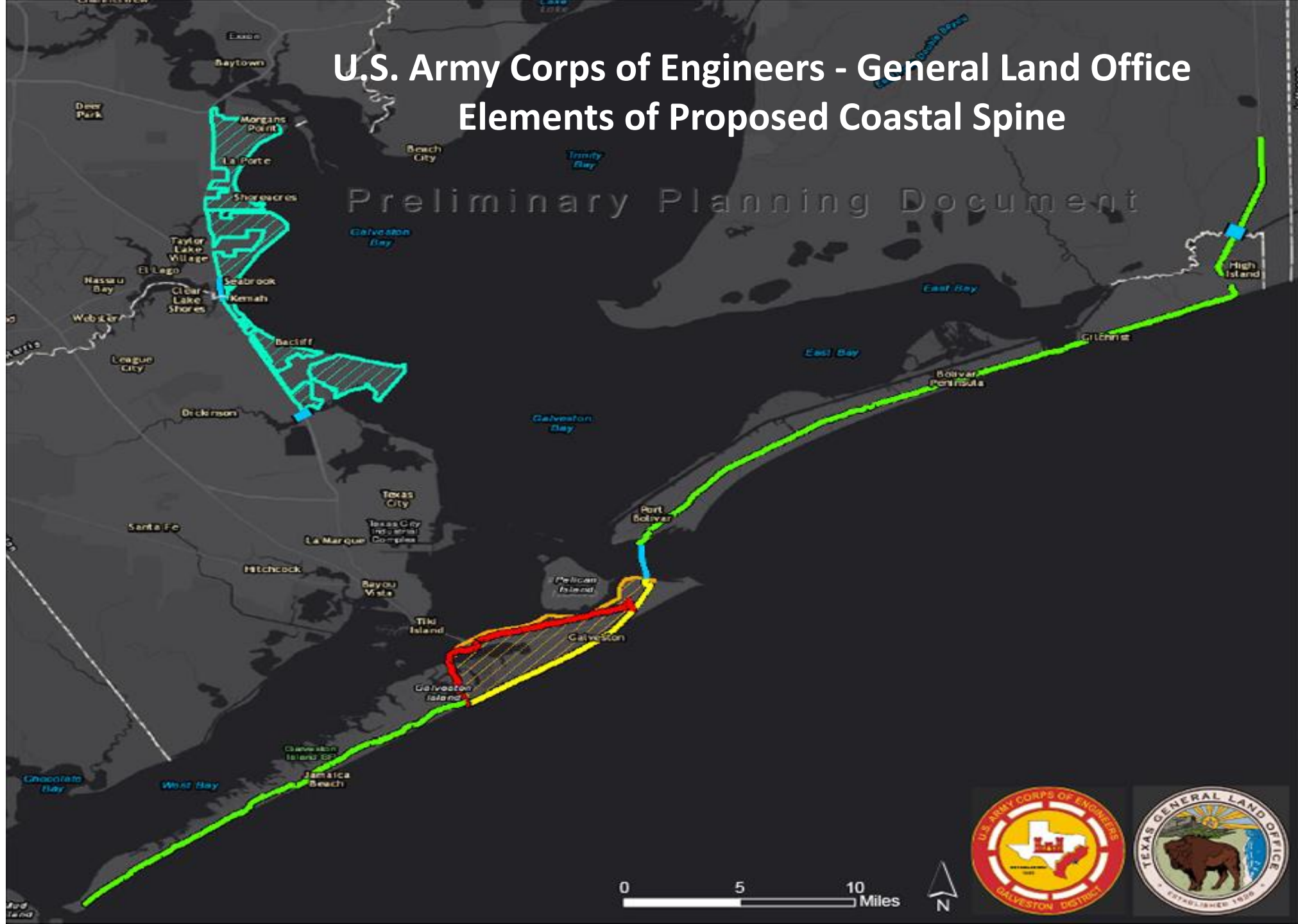
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# U.S. Army Corps of Engineers - General Land Office Elements of Proposed Coastal Spine

Preliminary Planning Document





# Characteristics of Ike Dike

- **Sponsors** – U.S. Army Corps, General Land Office, Texas A&M Galveston
- **Cost** - \$12 to \$21 Billion
- **Timing** – 2035
- **Funding** - Single federal funder plus local sponsor participation
- **Multiple Uses** – none identified
- **Environmental** – major opposition on Bolivar Peninsula and from large coalition of environmental groups due to impact on land resources and beach, endangered species and interference with bay circulation and fish and shellfish movement
- **Level of Protection** has changed 17 feet at City of Galveston, 13 ft to 8 ft – at or below current 100 year recurrence interval

# Elements of the Galveston Bay Park Plan

- 1 Houston-Galveston industrial complex & West-side Protection to 25 Feet
- 2 Texas City Levee Raised to 25 Feet
- 3 Backside Levee around Galveston
- 4 Elevated FM 3005 and Highway 87 for Evacuation
- 5 Sand Nourishment for Beach
- 6 Possible Extension of Galveston Levee to Pelican Island



# Galveston Bay Park Plan

- **Sponsors** – SSPEED Center, Harris County? Others?
- **Cost** - \$3 Billion to \$6 Billion
- **Timing** – 2025-2027
- **Funding** – Potentially multiple sources – Corps, GLO, Port, Harris County, TxDOT, Private Sector
- **Multiple Uses** – Flood Protection, Navigation, Recreation, Environmental Enhancement
- **Environmental** – one announced opponent, minimal impact upon bay circulation and salinity, potential negative impact/benefits to oyster fishery, marine mammal issues
- **Level of Protection** – 17 feet at City of Galveston, 25 feet at west side shoreline and Houston Ship Channel, exceeds current 100 year level of protection on west side by 10 feet

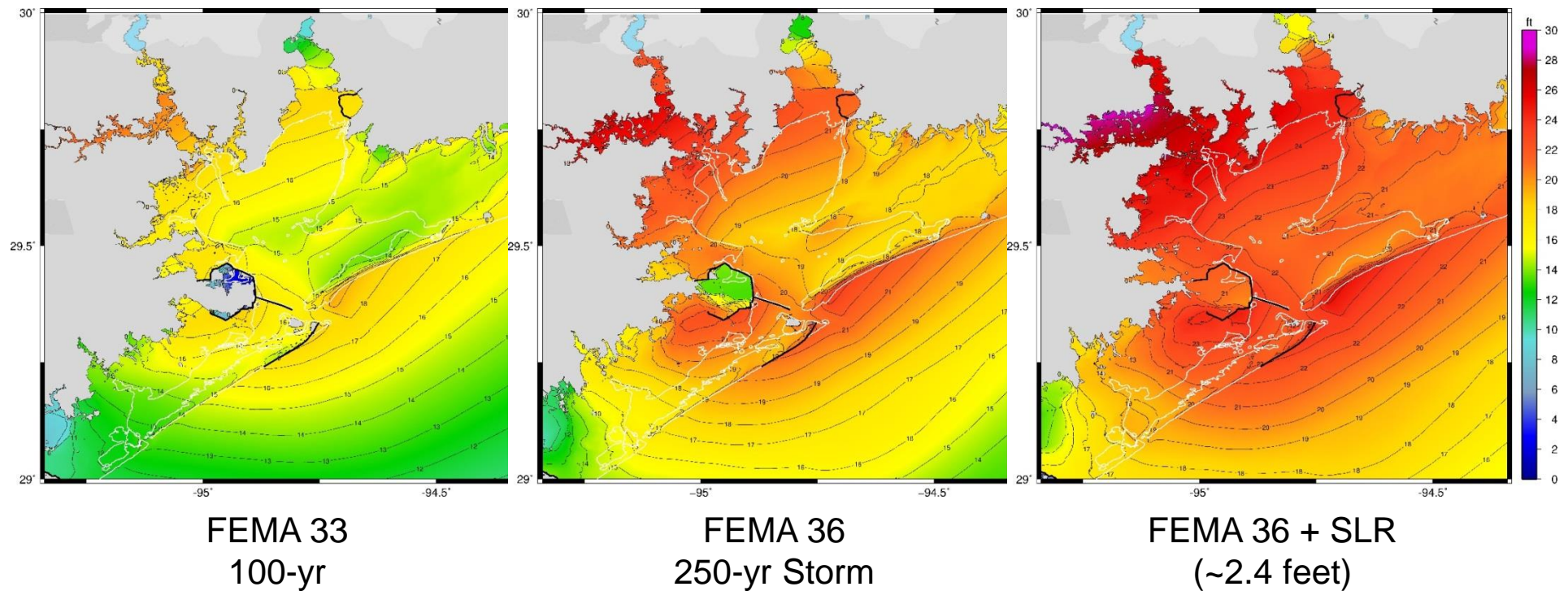


## WHY GALVESTON BAY PARK?

**Effective in protecting the Houston Galveston Industrial Complex and the West-side**



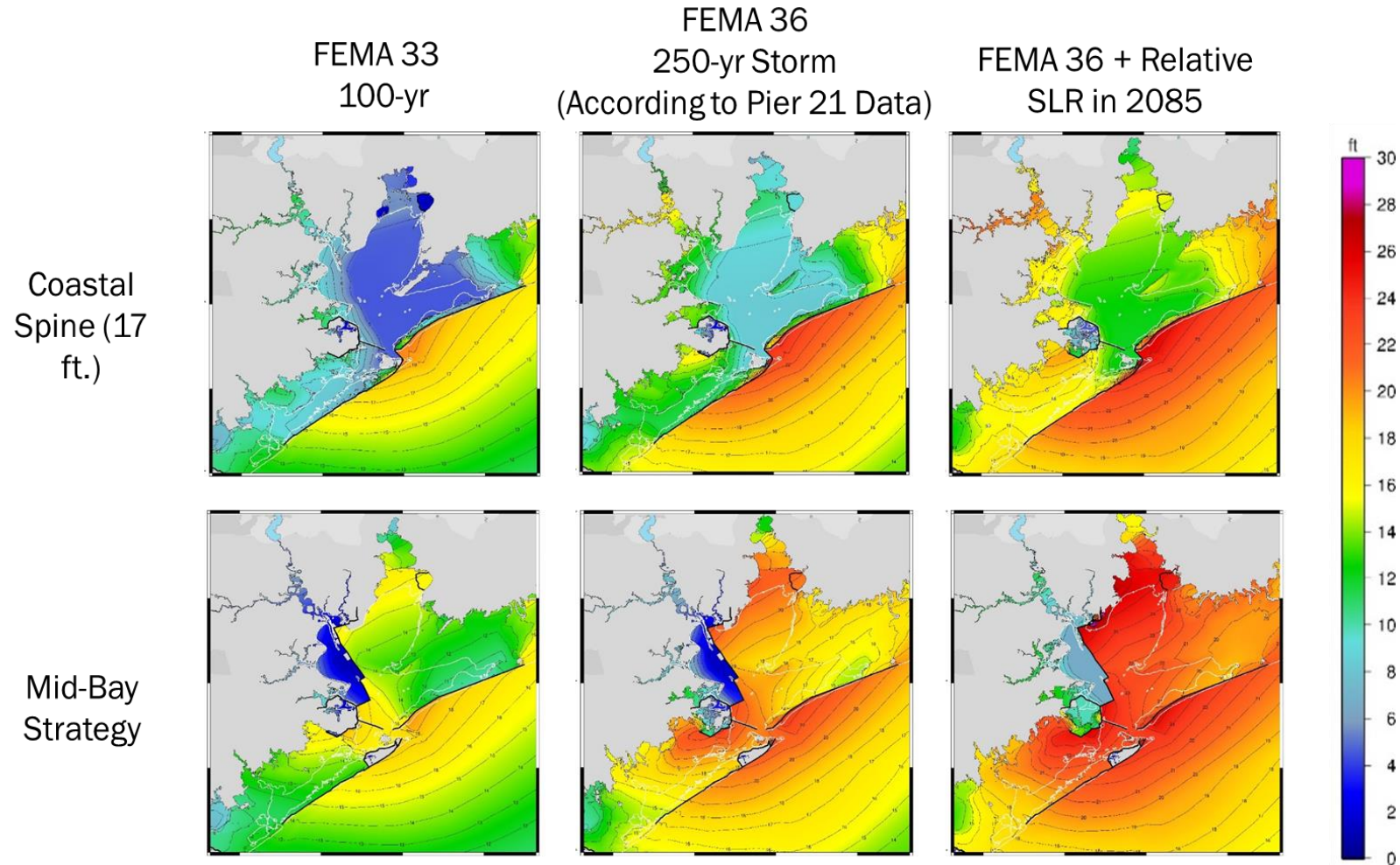
# Max WSEL: Existing Protection



(Note: Westerly Landfall Location assumed)



# Max WSEL: Coastal Spine & Mid-Bay

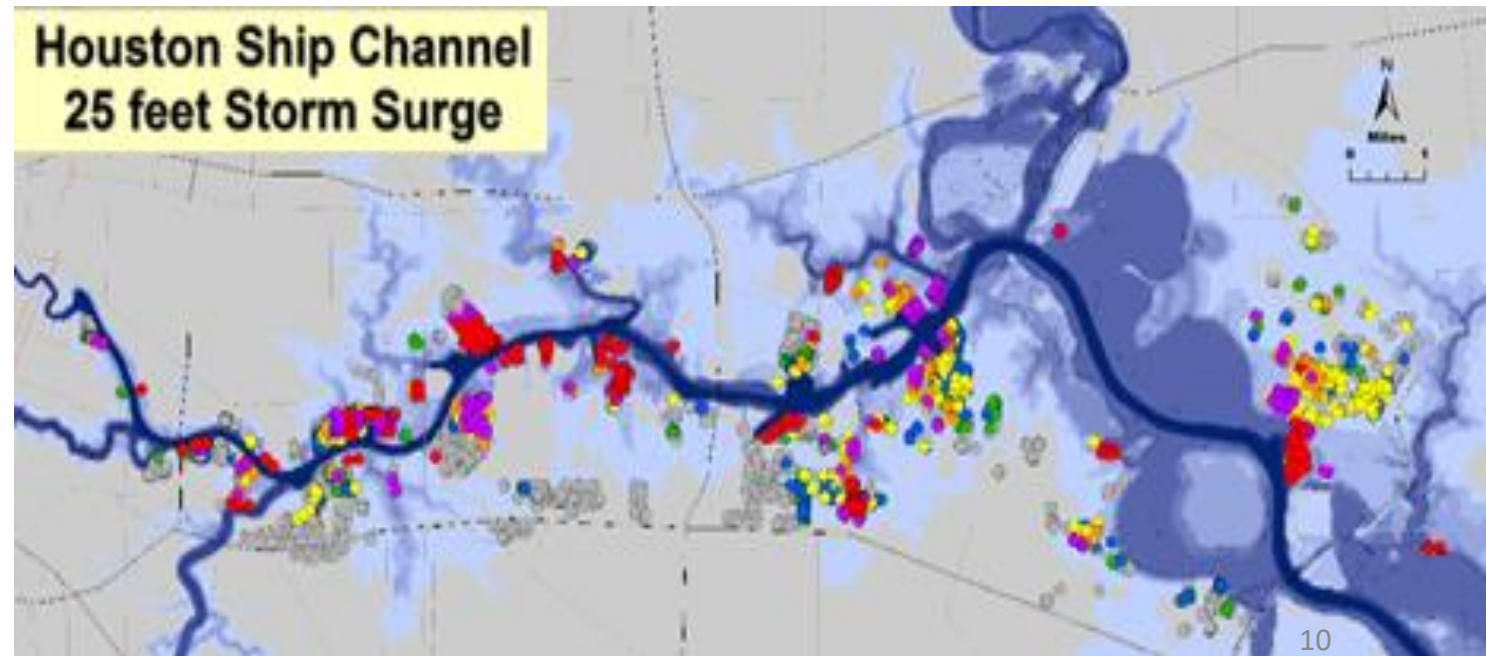
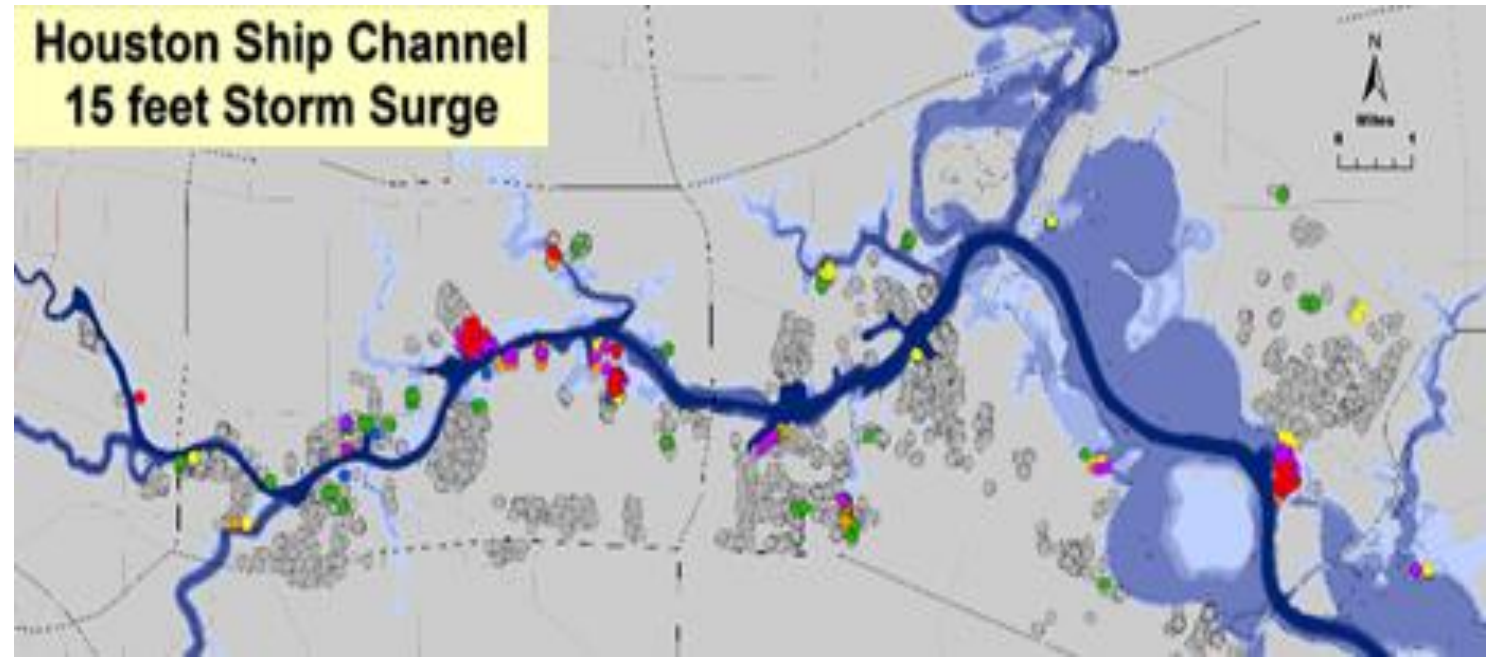
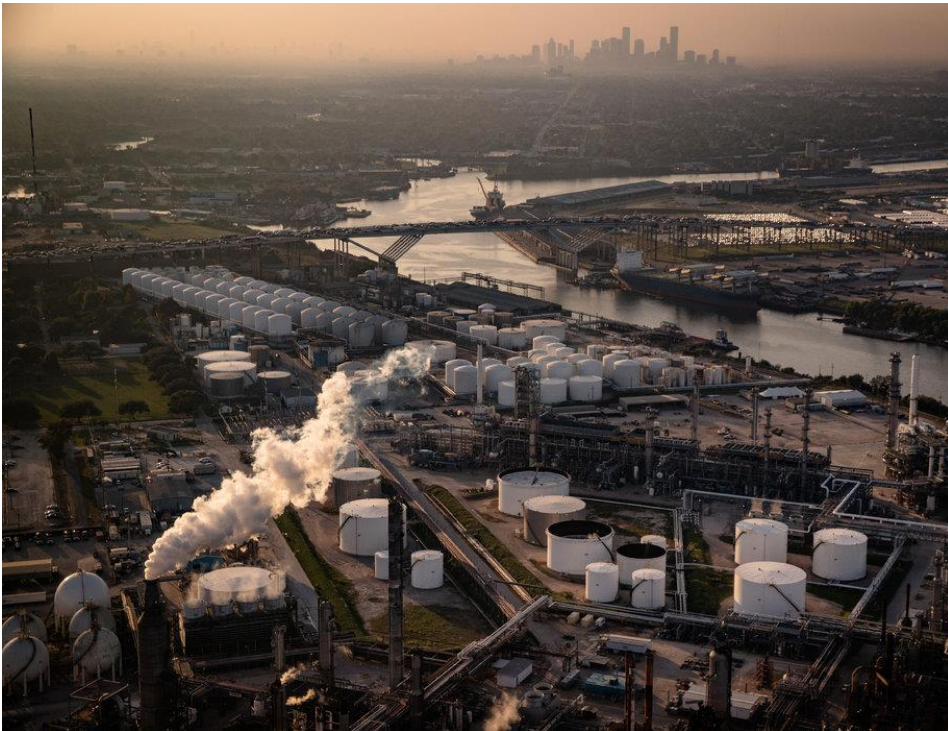




# Industrial Risk

Implications are

- Local
- Regional
- National

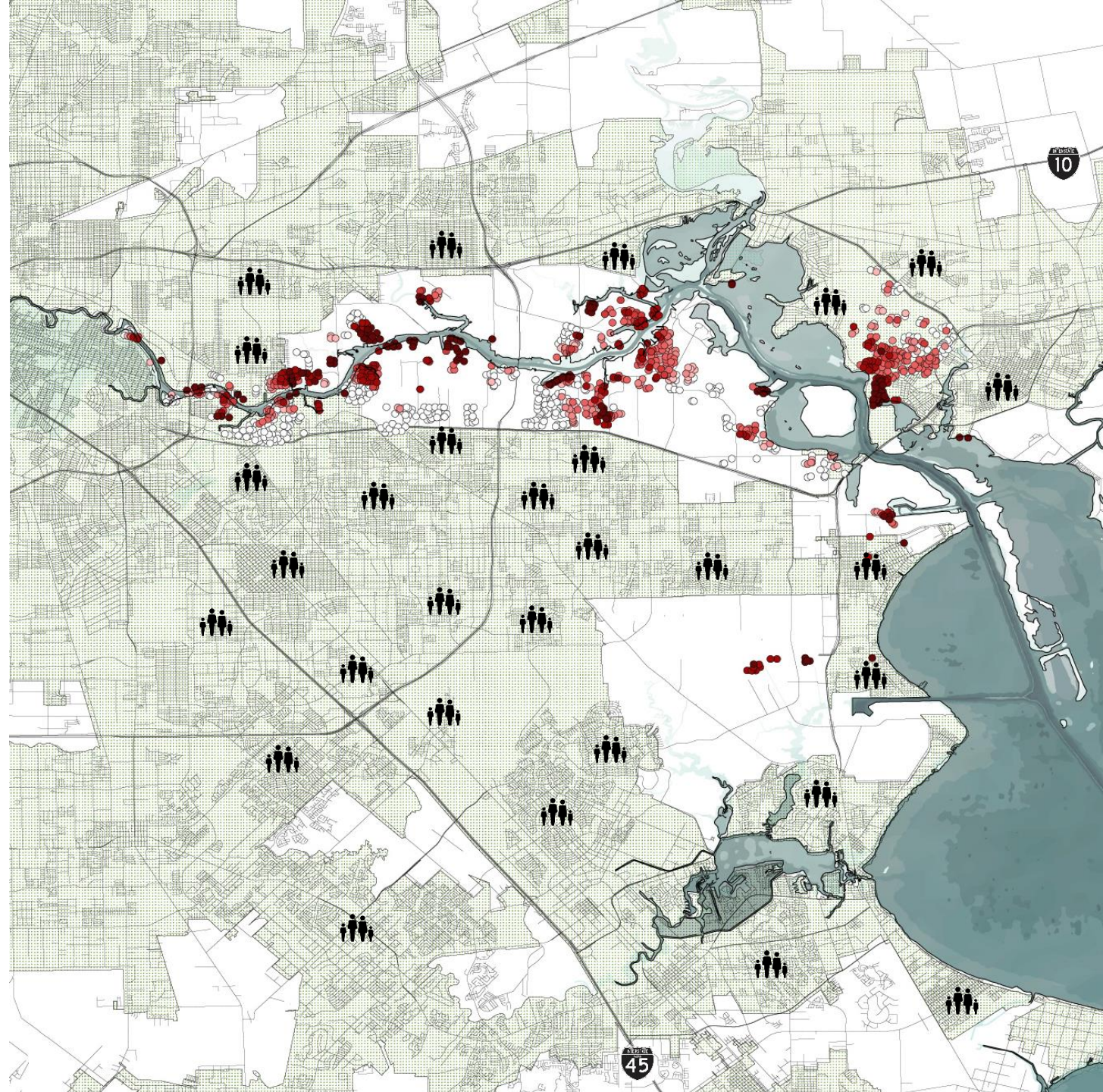




# Human Risk

 BAYFRONT COMMUNITY & WORKFORCE HOUSING

EXAMPLE ASSESSMENT OF TANK FLOTATION FAILURE PROBABILITY:





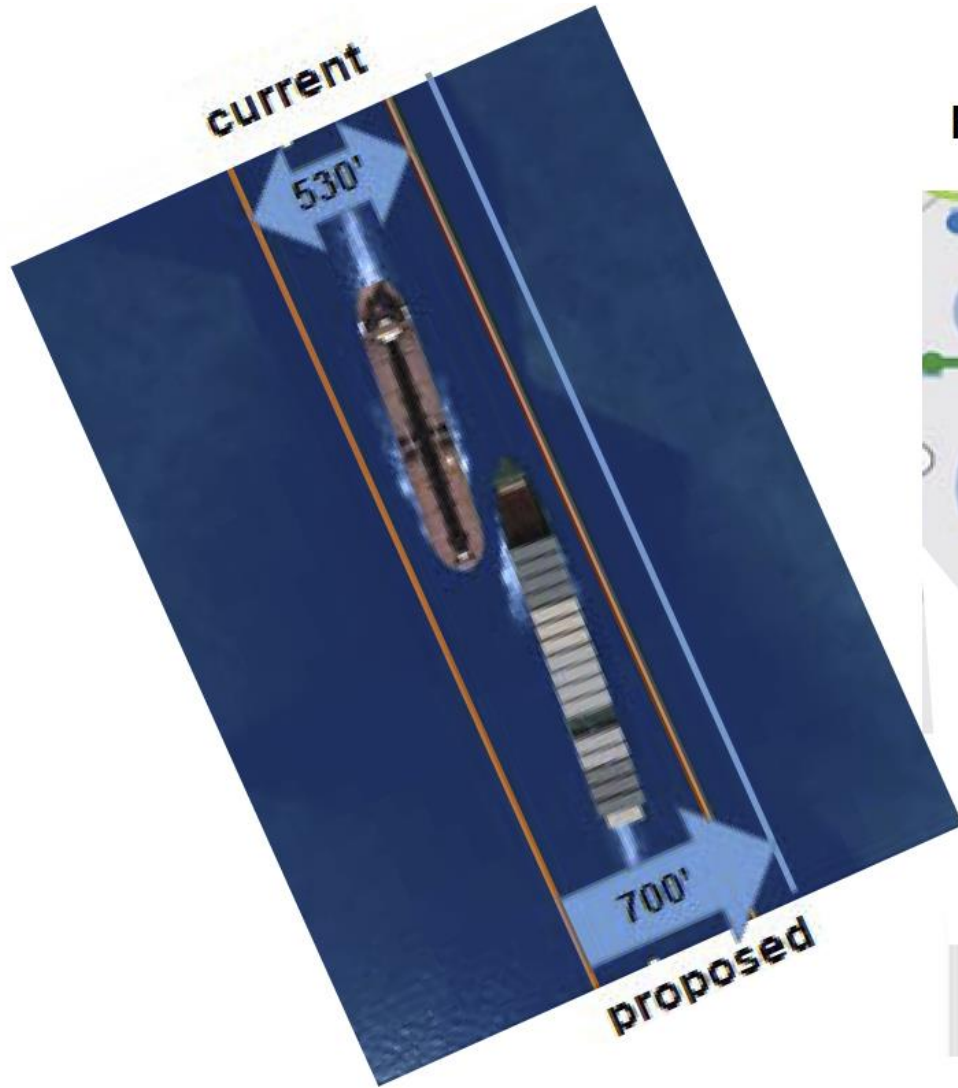
# Deepening and Widening HSC



## The Study Area



Channel  
s:



### Federal Recommended Plan



**Widening is necessary for safety and efficiency**





WHY GALVESTON BAY PARK?

**Fast to implement**



# PHASING

## CURRENT

EXISTING  
CONDITIONS



## PHASE 01

BARRIERS &  
GATES



## PHASE 02

BARRIER  
ISLANDS



## PHASE 03

ADDITIONAL  
PROGRAMS





Storm surge barrier in Delft, Netherlands



Seabrook Gate, New Orleans, LA

# TECHNOLOGY

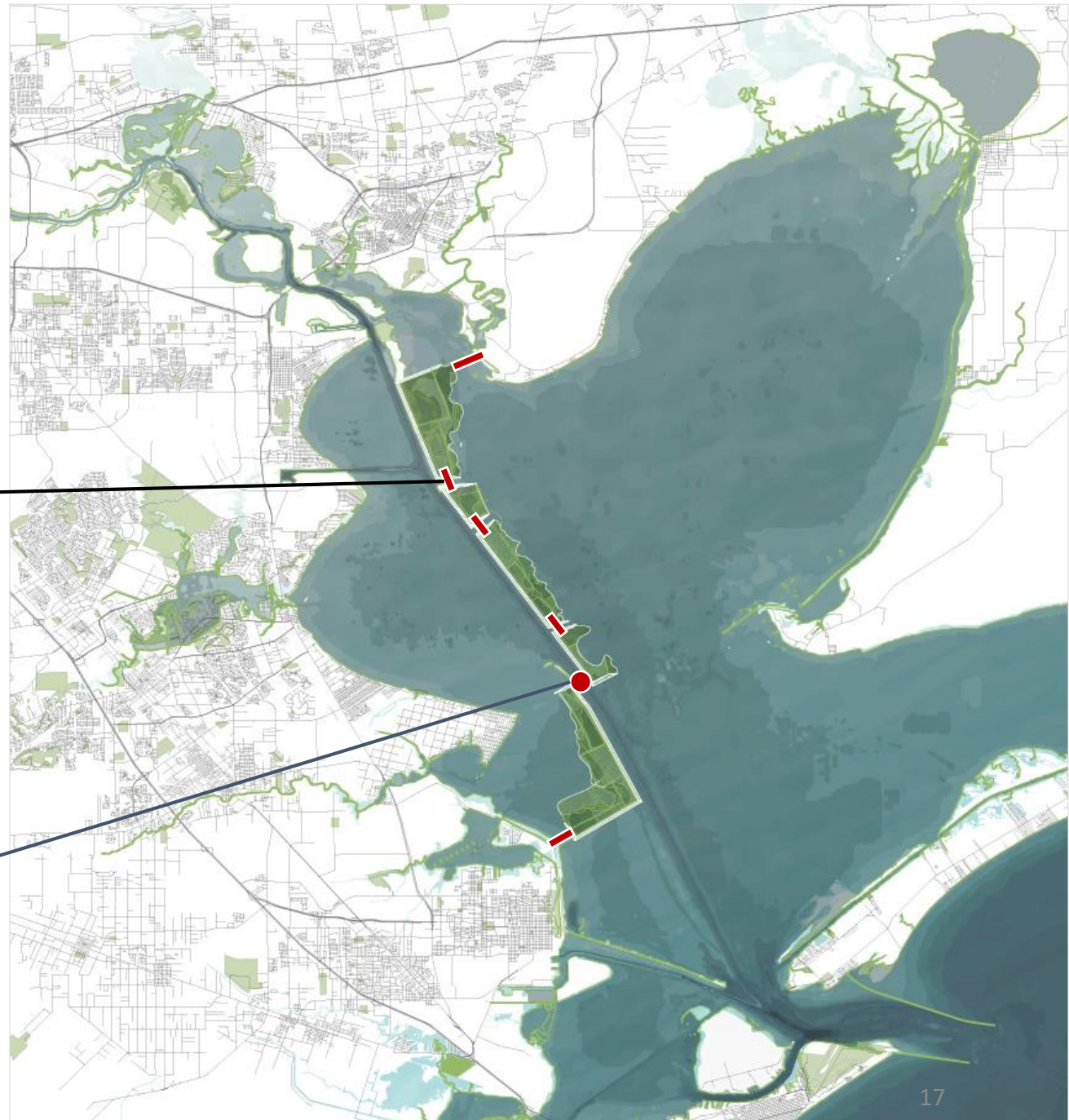
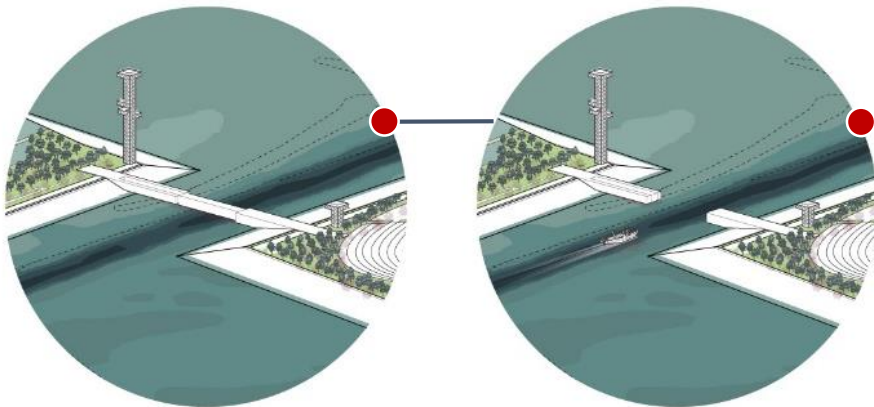
LEVERAGE EXISTING TECHNOLOGIES



# Main Gate at Galveston Bay Park



● MAIN GATE  
— MECHANICAL GATE







## WHY GALVESTON BAY PARK?

### **Shared Cost Opportunities**

# Shared Cost Opportunities

- Highway Funds – Raising FM 3005 & SH 87
- Houston Ship Channel Maintenance Funds
- Potential Channel Widening
- Potential Land Leases for Recreational Use







## WHY GALVESTON BAY PARK?

**Year Round Benefits**

**Navigation – Recreation – Protection – Ecology – Revenue Generating**



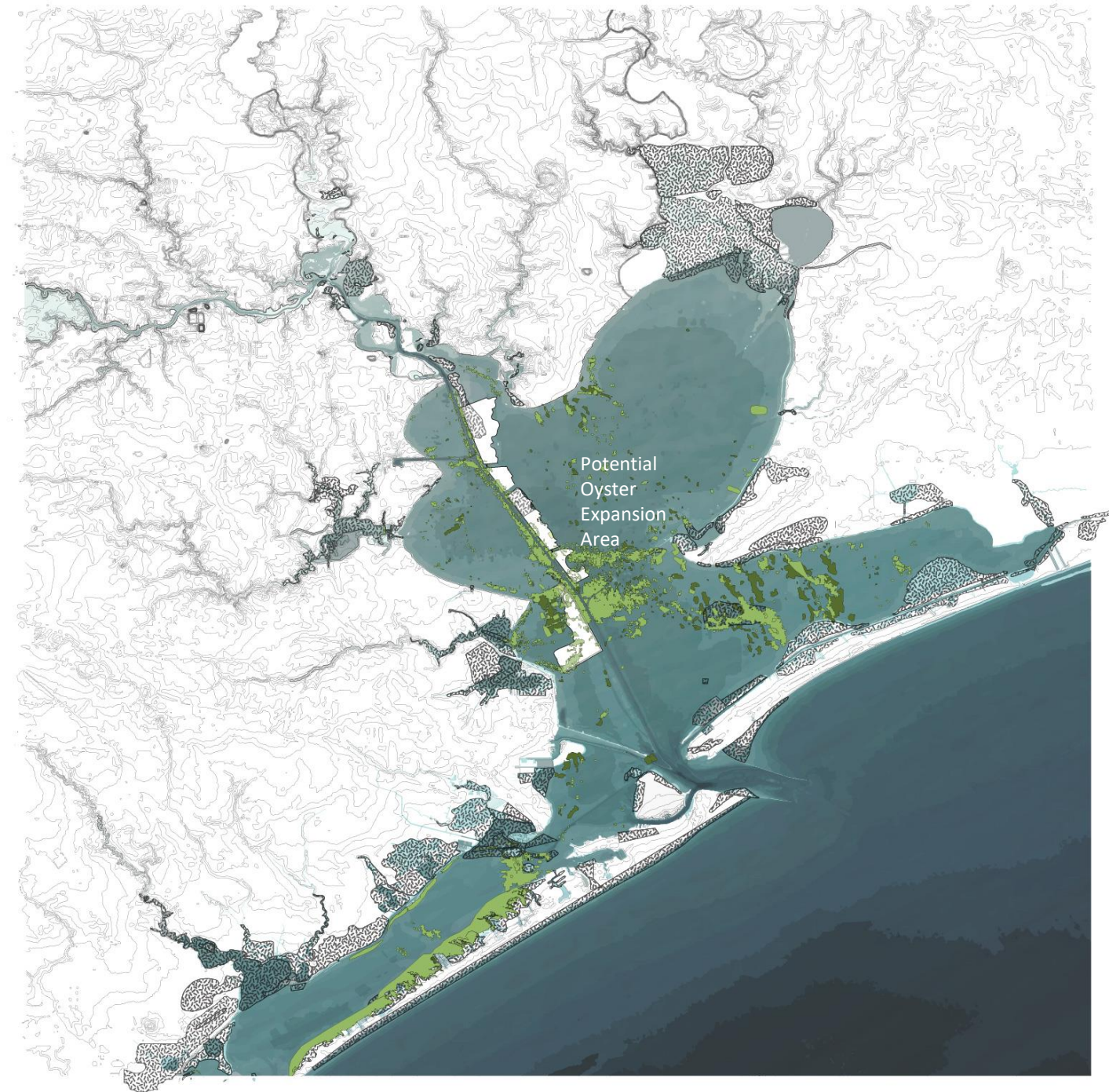


Visualization of the type of park space that will exist on Galveston Bay Park

# **GALVESTON BAY PARK BELONGS TO THE PEOPLE**

# Environmental Impacts Oyster Reef Restoration

- CURRENT OYSTER REEFS
- HISTORIC OYSTER REEFS
- PRIORITY PROTECTION HABITATS

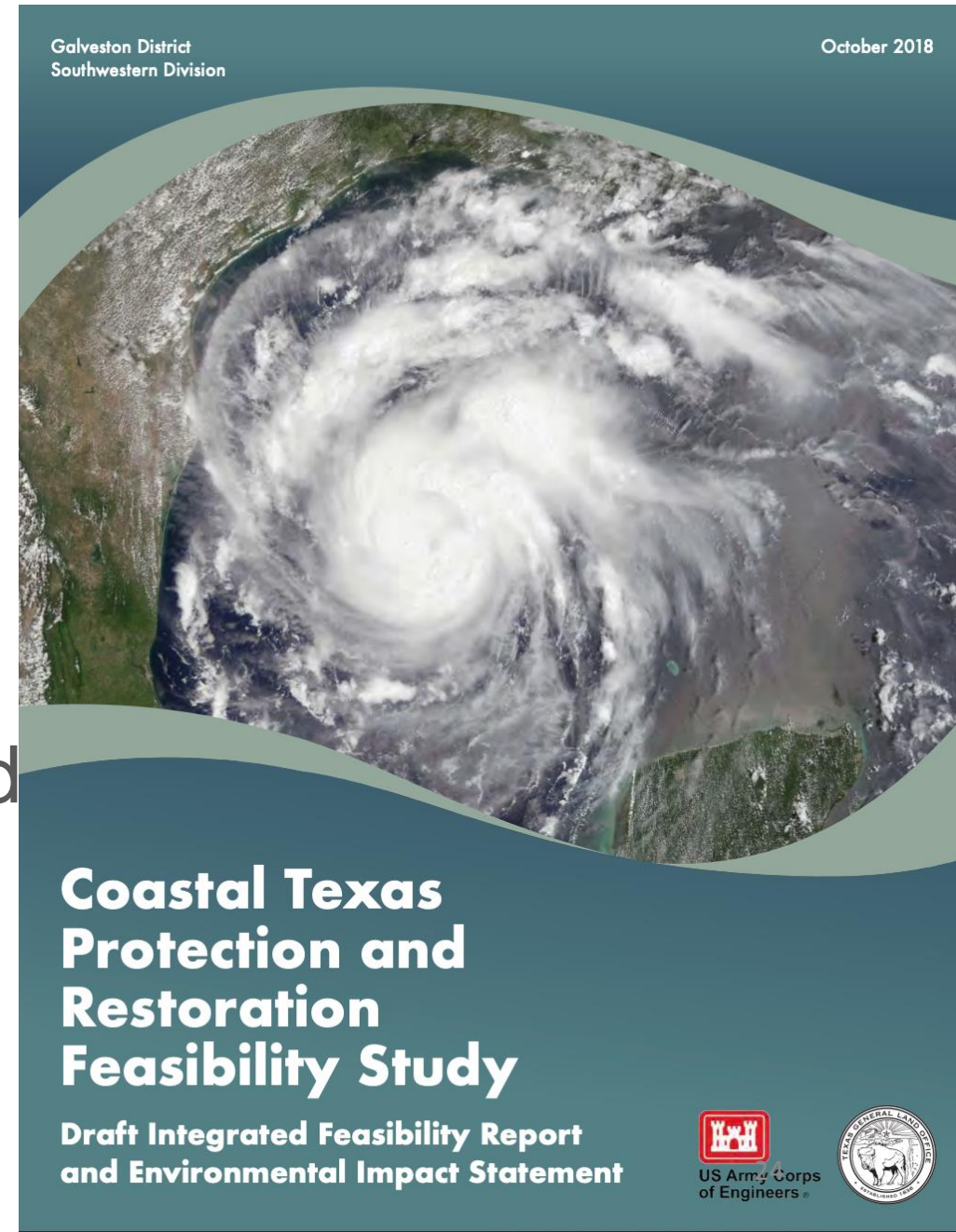






# Alternative Procedural Scenarios to Construct Galveston Bay Park Plan

- Prepare Supplemental DEIS on coastal spine and include GBPP as a new alternative
- Work with existing DEIS on ship channel widening and deepening – portion of GBPP already included and analyzed with widening scenario but no funding for widening.





# Alternative Procedural Scenarios to Construct Galveston Bay Park Plan

- Submit Separate Section 10 and Section 404 Permit Application along with necessary environmental clearance documents
- Prepare Feasibility Study Under Section 1043(a)(1) of WRRDA 2014 for Joint Hurricane Damage Abatement and Navigation Improvement Work
- Pay For Gate Installation as privately financed option
- Pay for road raising with Highway Funds
- Pay for Galveston Levee with GLO funds



# Consensus-Based Design



- MUST form large, working partnership
- SSPEED Center and Harris County bring together City of Houston, Port of Houston, General Land Office, Corps of Engineers and Texas Parks and Wildlife at the least
- Strong Support From Bayou City Initiative citizen's group – use them
- Reach out to the Galveston Bay Foundation, Houston Audubon Society, the Bolivar Residents, the Houston Yacht Club, the Texas Corinthian Yacht Club, Sierra Club and Bayou City Waterkeeper
- Reach out to Galveston County, Chambers County, City of Galveston, Galveston Bayshore Communities and Bay Area Houston Economic Partnership





# Galveston Bay Park



# The Galveston Bay Park Plan



**Hurricane Ike slams  
the Galveston Sea  
Wall**

**Image courtesy of  
Houston Chronicle**