Galveston Bay Park Plan
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Elements of Proposed Coastal Spine
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

FEMA 33
100-yr

FEMA 36
250-yr Storm

FEMA 36 + SLR
(~2.4 feet)

(Note: Westerly Landfall Location assumed)
Max WSEL: Coastal Spine & Mid-Bay

Coastal Spine (17 ft.)

FEMA 33
100-yr

FEMA 36
250-yr Storm
(According to Pier 21 Data)

FEMA 36 + Relative
SLR in 2085

Mid-Bay Strategy
Industrial Risk

Implications are
- Local
- Regional
- National
Human Risk

Example Assessment of Tank Floation Failure Probability:
- 0.00 - 0.01
- 0.02 - 0.05
- 0.06 - 0.10
- 0.11 - 0.20
- 0.21 - 0.25
- 0.26 - 0.50
- 0.51 - 1.00
- Urban Areas
Deepening and Widening HSC
Widening is necessary for safety and efficiency
WHY GALVESTON BAY PARK?

Fast to implement
PHASE 01
BARRIERS & GATES

PHASE 02
BARRIER ISLANDS

PHASE 03
ADDITIONAL PROGRAMS

CURRENT
EXISTING CONDITIONS

PHASING
TECHNOLOGY

LEVERAGE EXISTING TECHNOLOGIES

Storm surge barrier in Delft, Netherlands

Seabrook Gate, New Orleans, LA
Main Gate at Galveston Bay Park
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

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