





## Mission

Deliver vital engineering solutions, in collaboration with our partners, to secure our Nation, energize our economy, and reduce disaster risk

## Vision

Engineering solutions for the Nation's toughest challenges

## Priorities

- People
- Readiness
- Partnerships
- Innovate

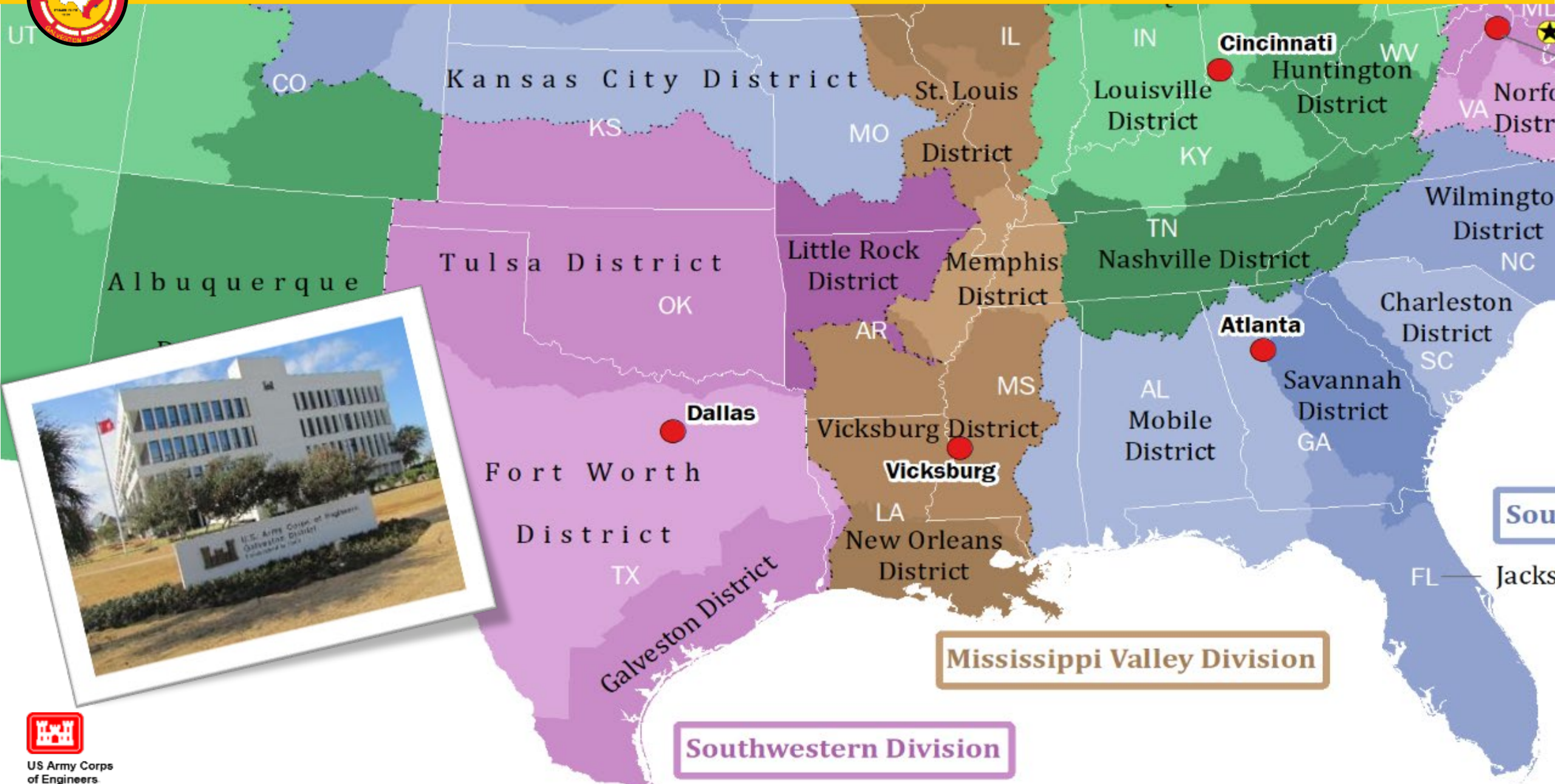


**Winning** = Finishing quality projects, on time and within budget ... **SAFELY**





# USACE Galveston District – Ready | Responsive | Relevant





# USACE SWG - What We Do

- I. Navigation
- II. Flood Risk Management
- III. Coastal Storm Risk Management (CSRM)
- IV. Emergency Management (EM)
- V. Ecosystem Restoration
- VI. Regulatory





- **Established in 1880**
- First engineer district in Texas to oversee river and harbor improvements.
- **Missions.** Navigation, flood risk mitigation, regulatory support, environmental, shoreline protection, emergency management, support for other districts (including military construction).
- **Boundaries.** **50,000** square miles, includes **700** miles of coastline from the Rio Grande to Sabine River, covers **49** counties, **4** parishes and **16** congressional districts.
- **Maintains 1,000+** miles of channel, including **270** miles deep draft and **750** miles shallow draft.
- **Maintains and Operates.** **2** critical dams, the Colorado River Locks and Brazos River Floodgates and **4** outlying project offices.
- **Sustains waterways.** Benefitting **28** ports handling **400** million tons of commerce annually.
- **Dredges.** **15-25** million cubic yards of material annually. If placed on one city block, it would create a mountain **14,000** feet above sea level.
- Employs **beneficial use of dredged material** to build coastal defenses when possible.

1 Sabine Neches Waterway



2 Sabine Pass to Galveston Bay



3 Wallisville Lake



4 Houston Ship Channel



5 Galveston Harbor and Channel



6 Channel to Port Bolivar



7 Texas City Channel



8 Clear Creek Flood Control



9 Cedar Bayou



10 Sims Bayou



11 Brays Bayou



12 Buffalo Bayou



13 White Oak Bayou



14 Hunting Bayou



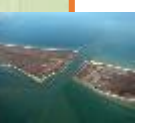
15 Greens Bayou



16 Addicks Reservoir



23 Matagorda Ship Channel



26 Corpus Christi Ship Channel



29 Dickinson Bayou



31 Brazos Island Harbor



33 Jefferson County Shore Protection



36 Brownsville Watershed



37 Port Arthur



39 Colorado River Locks



25 Double Bayou



28 Channel to Port of Mansfield



30 Channel of Harlingen



32 Resacas at Brownsville



34 Brazos River, Fort Bend County



35 Trinity River and Tributaries



38 Brazos River Floodgates



40



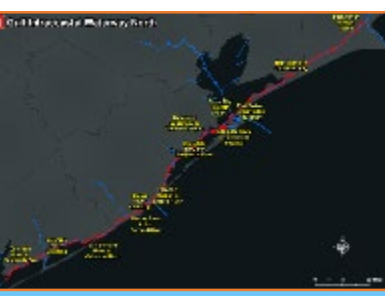
17 Barker Reservoir



21 Freeport Hurricane Flood Protection



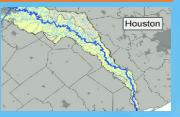
18 Chocolate Bayou, 19 HI to Brazos river, 24 channel of Victoria, 27 GIWW



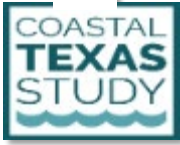
20 Freeport Harbor



22 Mouth of Colorado River



Constructed Depth/Authorized Construction (Green circle) Constructed Depth/Construction ongoing (Light Green circle) Constructed Depth/Pending Authorization (Orange circle)





# USACE Galveston District – National Relative Deep Draft Tonnage



Rest of Pacific Coast  
233 MT

Los Angeles  
60 MT

Longbeach  
79 MT

Rest of Texas  
372 MT

Houston  
276 MT

Rest of Gulf  
110 MT

South Louisiana  
225 MT

Rest of Louisiana  
258 MT

Duluth / Superior  
25 MT

Rest of the Great Lakes  
130 MT

Baltimore  
35 MT

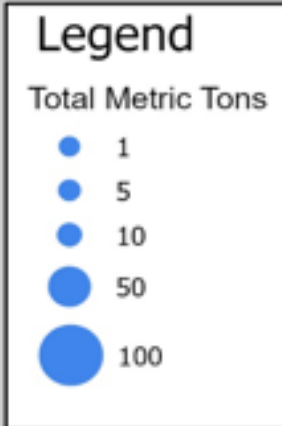
Port of Virginia  
58 MT

Savannah  
44 MT

New York / New Jersey  
124 MT

Rest of Atlantic Coast  
205 MT

REGION	TOTAL (MT)	%	DOMESTIC (MT)	%
Nation	2,529.7	100.00%	1,136.0	44.91%
Gulf	1,240.2	49.03%	485.3	42.72%
Texas Ports	647.7	25.60%	183.7	16.17%
Houston Complex (Galv-TC-Hou)	326.5	12.91%	88.6	7.80%
Sabine-Neches	111.8	4.42%	42.1	3.71%
Corpus Christi	150.8	5.96%	25.1	2.21%





# USACE Galveston District Navigation Program



## TEXAS

## LOUISIANA

### LEADING U.S. PORTS

(2020 tonnage)

**Houston #1 – 275.9 million tons**

#1 Foreign Tonnage & Total Tonnage

**Corpus Christi #3 – 150.8 m.tons**

America's Energy Gateway

**Beaumont #8 – 70.6 m.tons**

#1 Military Port in World

**Port Arthur #15 – 41.2 m.tons**

Vital Break-Bulk Port

**Freeport #16 – 38.7 m.tons**

Connecting Global Services  
Via Caribbean Relay Port

**Texas City #20 – 33.7 m.tons**

Services Largest Petrochemical Complex

**Galveston #46 – 11.9 m.tons**

#1 Cruise Ship Port in gulf

**Brownsville #66 – 6.8 m.tons**

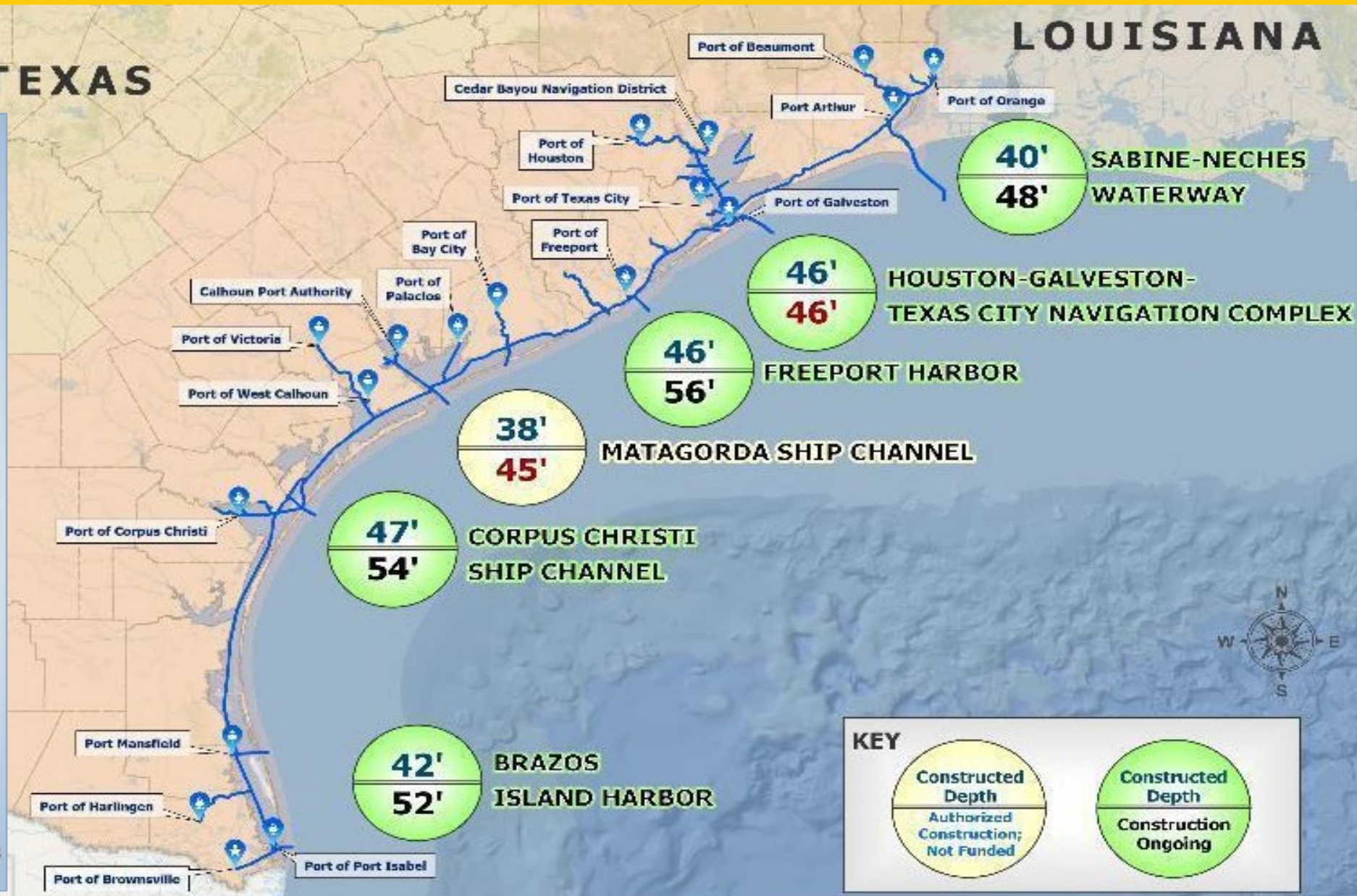
#1 Ship Recycling Port

**Sabine Pass Port #73 – 5.5 m.tons**

First in the U.S. with crude oil imports.

**Calhoun County Port #77 - 4.8 m.tons**

(Matagorda Ship Channel)



### KEY





# USACE SWG - CSRSM and FRM System of Systems

## People

Home to approx. 10 Million people including the city of Houston (4th largest in U.S.)  
Demographically diverse  
Significant vulnerable population centers

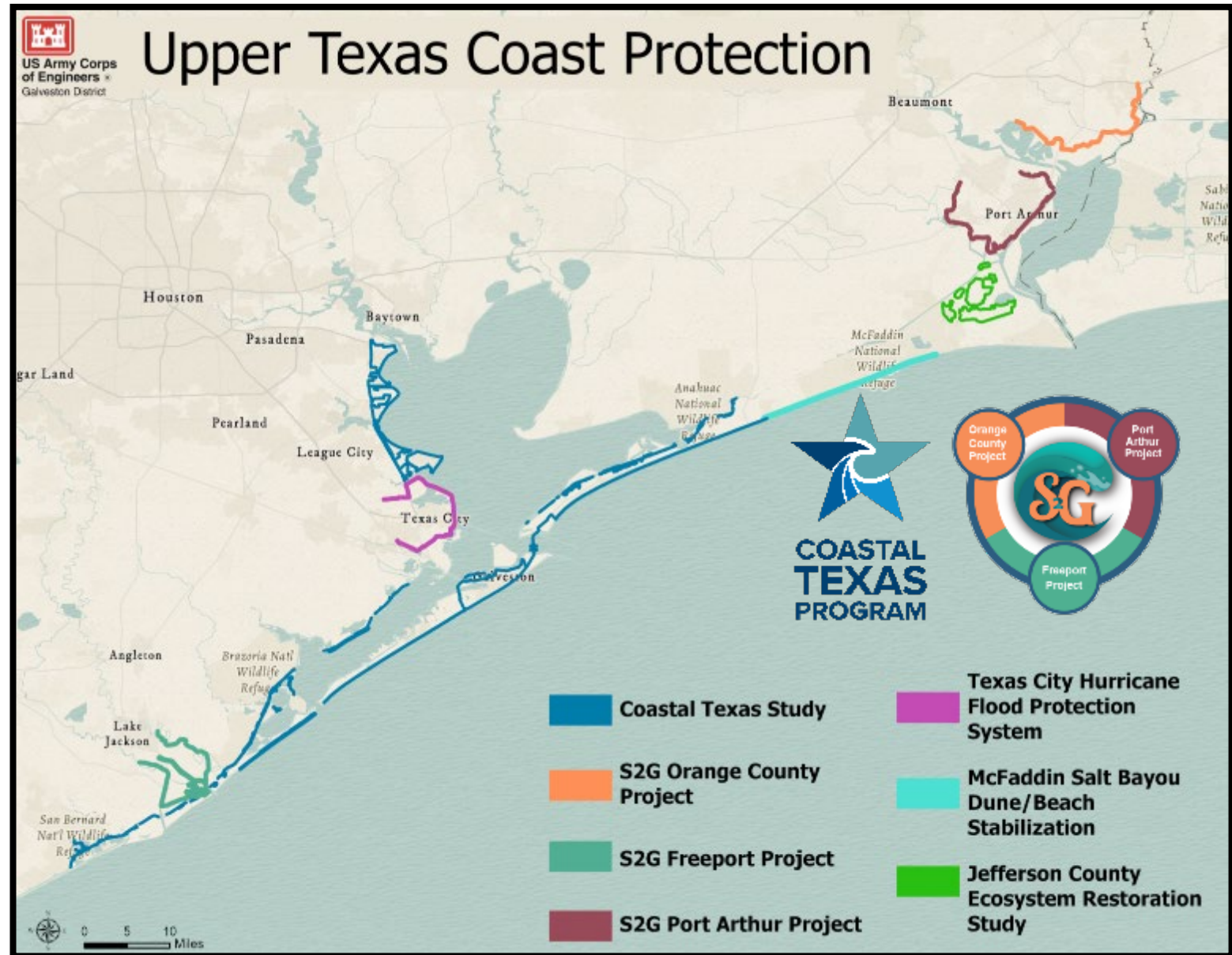
## Infrastructure

*(Petrochemical, Supply Chain, Municipal)*

40% of the US petrochemical industry  
25% of the US refining capacity (including 3 of the top 10 in the world)  
#1 Deep Draft Port in the US and the Texas Coast is collectively 25% National Deep Draft capacity  
Key import gateway for renewable energy products

## Environment

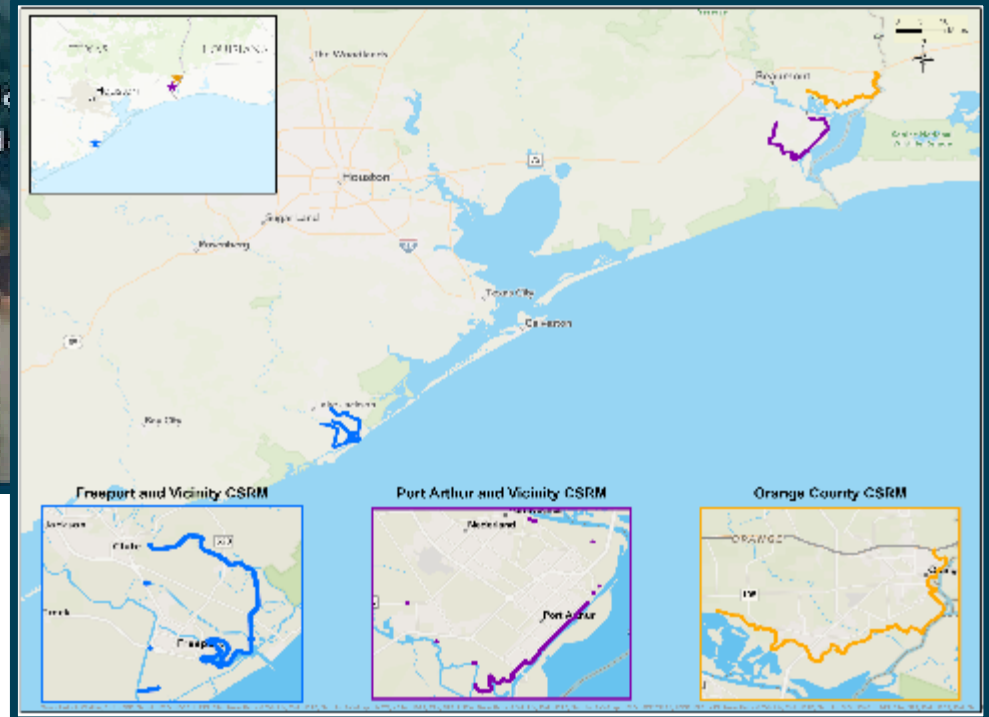
Attracts 3 million visitors who spend approx. \$1.6B annually  
Agriculture/commercial fisheries represent another \$500M and \$156M respectively  
Habitat for Kemp's Ridley Sea Turtle (endangered species)





## Sabine Pass to Galveston Bay Coastal Storm Risk Management Program

the S2G Program and  
as they are constructed.



Click to website

[Sabine Pass to Galveston Bay \(army.mil\)](http://army.mil)





# USACE Galveston District – Coastal Texas Program



## THE VALUABLE TEXAS COAST

BY THE NUMBERS...

6+ MILLION RESIDENTS

3,300 MILES OF COASTLINE

24% OF STATE'S POPULATION | 15.8% OF U.S. PORT CARGO HANDLED

30% OF U.S. REFINING CAPACITY



US Army Corps of Engineers Galveston District



COASTAL TEXAS PROGRAM  
COASTAL TEXAS RESILIENCY IMPROVEMENT PLAN

## MULTIPLE LINES OF DEFENSE THE GALVESTON BAY STORM SURGE BARRIER SYSTEM

### Program Benefits

FLOOD DAMAGE REDUCTION



\$2.31 Billion  
EQUIVALENT ANNUAL BENEFITS

1.91 BENEFIT TO COST RATIO

77% REDUCTION IN DAMAGED STRUCTURES

64% REDUCTION IN FLOODED CRITICAL INFRASTRUCTURE POINTS

ENVIRONMENTAL ENHANCEMENT



PROTECTING NATIONALLY AND GLOBALLY SIGNIFICANT HABITAT

21,010 AHAUS ECOLOGICAL LIFT

6,610 ACRES HABITAT IMPROVED

ECONOMIC RESILIENCY



SAFEGUARDING...

#1 U.S. PORT FOR WATERBORNE TONNAGE

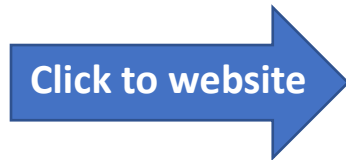
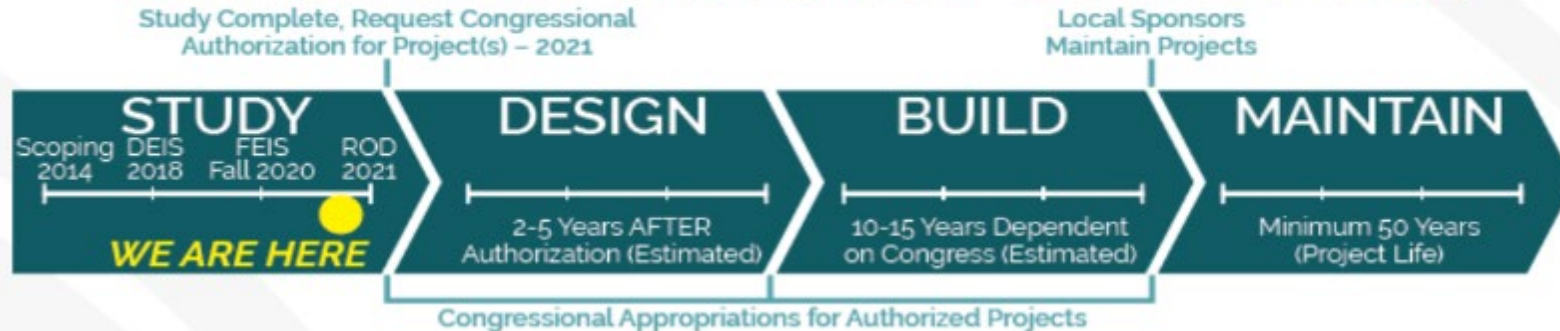
30% OF THE NATION'S TOTAL REFINING CAPACITY

60% OF THE NATION'S AVIATION FUEL

42% OF THE NATION'S SPECIALTY CHEMICAL FEEDSTOCK

80% OF THE NATION'S MILITARY GRADE FUEL

## ESTIMATED PROJECT SCHEDULE



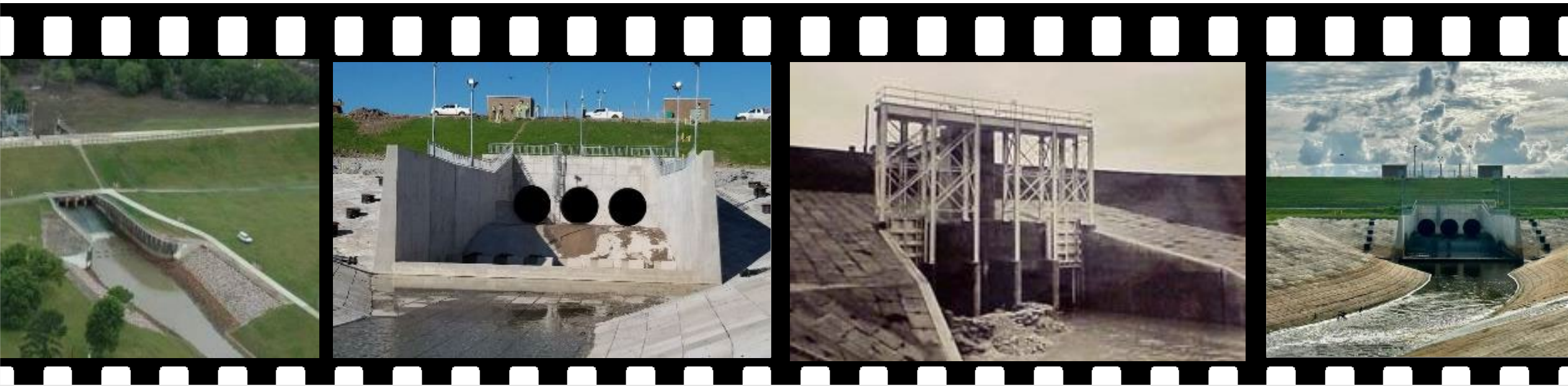
US Army Corps of Engineers

# USACE SWG Flood Risk Management – Buffalo Bayou & Tributaries Addicks & Barker Dams/Reservoirs

Addicks and Barker Reservoirs are designed to **reduce flood damage** along Buffalo Bayou that flows through Houston serving approximately 1.2 Million people

- Original construction costs were approximately \$4M
- Authorized by the Rivers and Harbors Act of 1938
- Recent dam safety project fully funded through federal dollars @ \$124,306,000

[Addicks and Barker | Facebook](#)



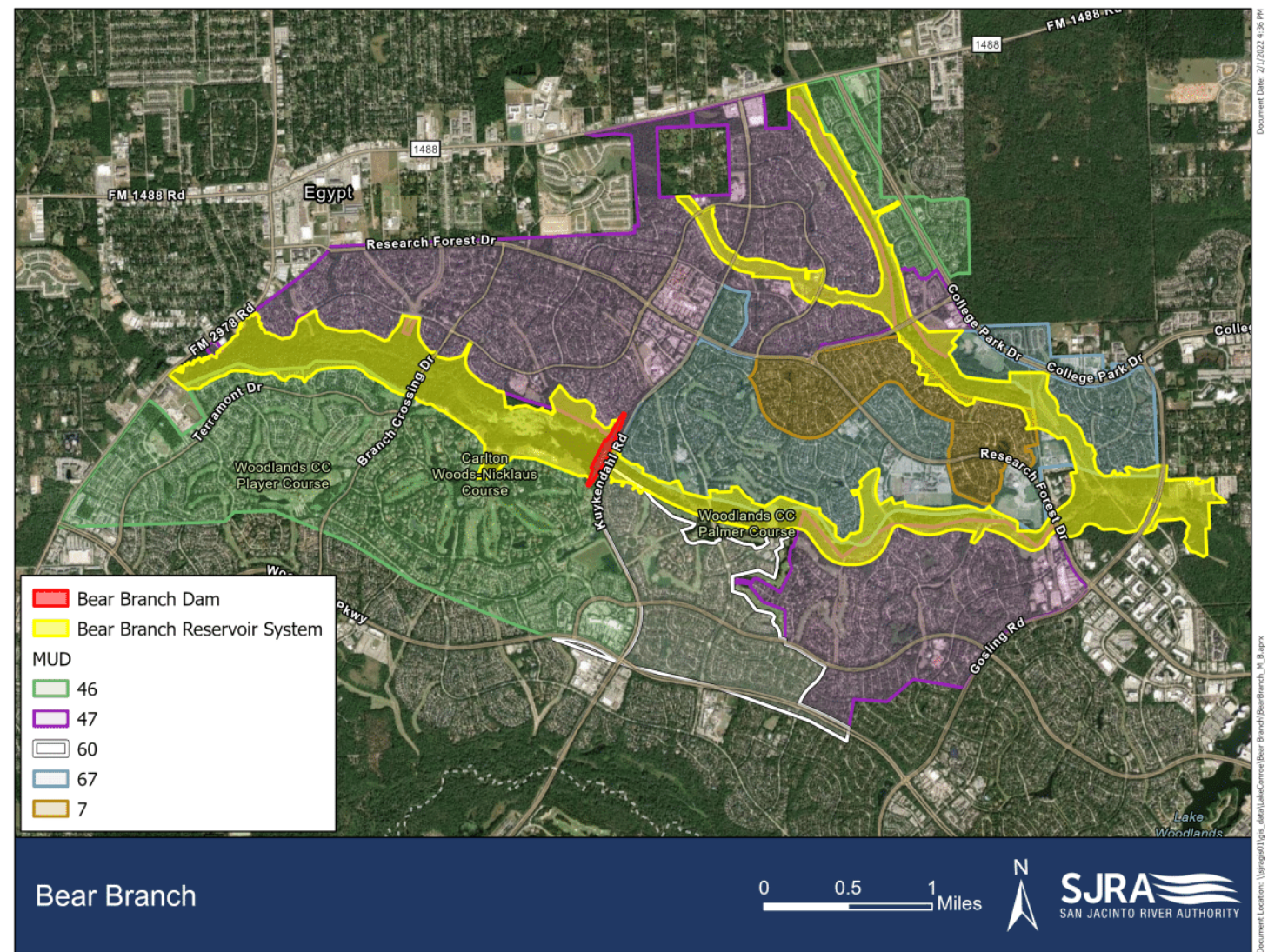
# BEAR BRANCH DAM MODIFICATION

- **PURPOSE**

- SWG to provide Federal construction assistance to the SJRA for the construction of the replacement of the Bear Branch Dam service spillway and plunge pool, the soil cement armoring system, and the rehabilitation of the low-flow vault box.

- **AUTHORITY**

- Construction assistance or implementation for this project is authorized by Section 5138 of the Water Resource Development Act (WRDA) of 2007 (Public Law 110-114), as amended by Section 8376(b)(11) of WRDA 2022 (Public Law 117-263).



# BEAR BRANCH DAM MODIFICATION

## • **PROJECT DESCRIPTION**

- The Bear Branch Dam Modification project is estimated to cost \$5,050,000 and is a Capital Improvement project included in the 10-year Project Plan for SJRA's Bear Branch Division.
- Bear Branch Dam and reservoir:
  - is a part of the stormwater drainage system owned and maintained by SJRA. The reservoir is impounded by an earthen dam containing an uncontrolled concrete-lined, trapezoidal service spillway located in the center of an uncontrolled concrete emergency spillway.
  - was constructed in 1983 - since construction certain areas are coming to the end of their serviceable life and need replacement and/or rehabilitation.

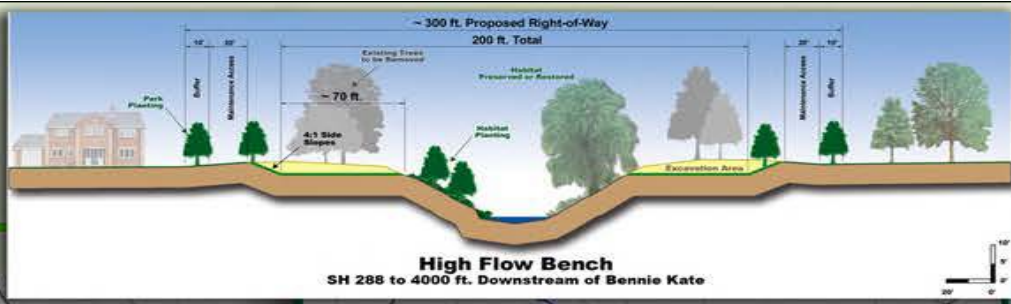
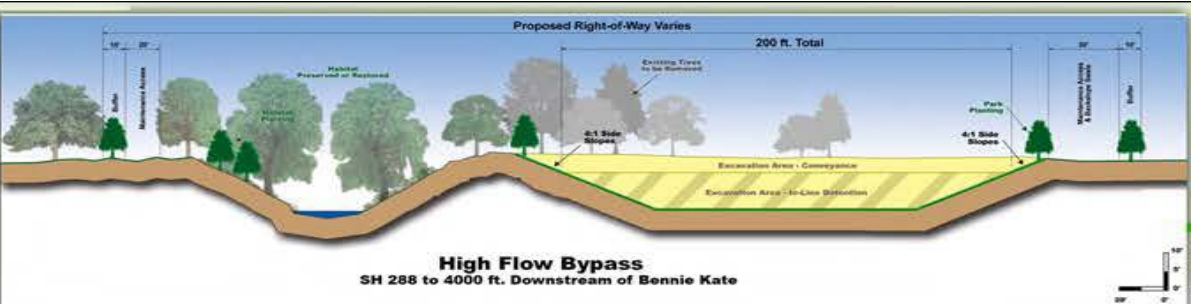
- There are three core focus areas.
  - Design and construction of a new armoring system consisting of removing the top 12 inches of the existing soil cement and replacing it with reinforced concrete
  - Design and construction of a new service spillway and plunge pool
  - Investigation of the cause and location of the infiltration and ultimately a recommended path forward to remedy the situation as needed

## **STATUS**

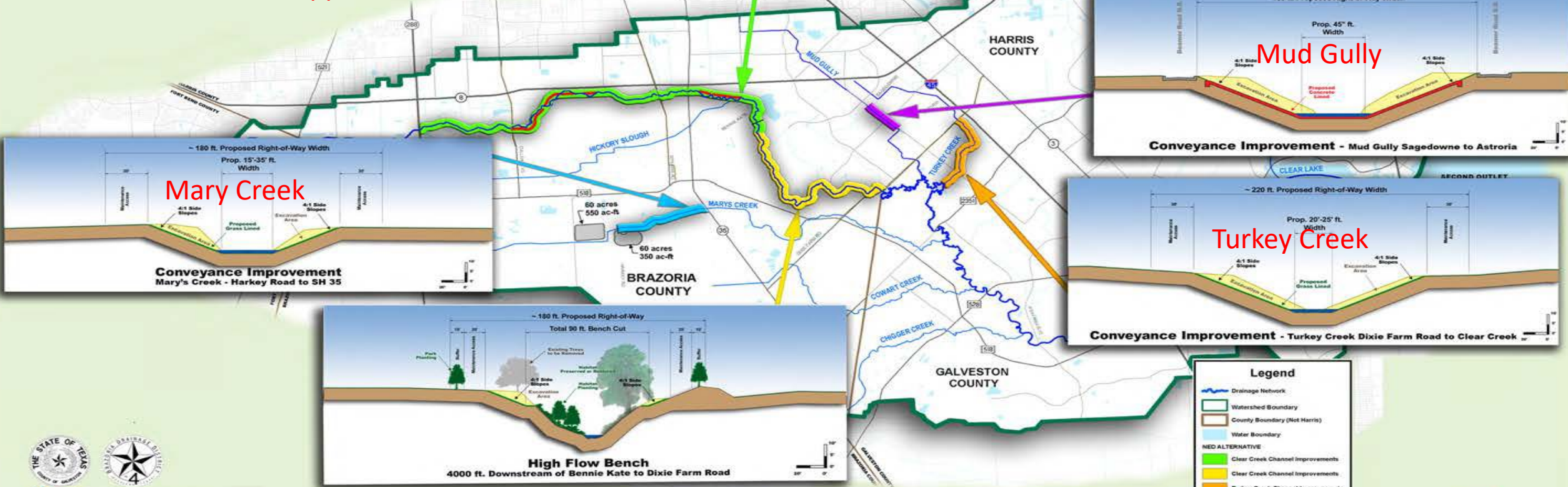
PPA executed on 08 MARCH 2024.  
Construction expected to begin in 2025.



# USACE SWG – Clear Creek FRM (Section 1043b) Refinement in progress



Clear Creek mainstem upper reach with inline basins



Clear Creek mainstem with oxbow rehabilitation





## USACE SWG – Section 1043(b)

### Authority

Section 1043(b) of the Water Resources Reform and Development Act of 2014, as amended by Section 1137 of the Water Resources Development Act of 2018

### As Pilot Program

- Directs the Secretary to establish a pilot program of authorized construction projects only;
- Evaluate alternatives for the decentralization of the project management, design, and construction for authorized projects.
- Reduces the backlog of authorized U.S. Army Civil Works projects;
- Evaluate the technical, financial, and organizational efficiencies of a non-Federal interest carrying out design, execution, management, and construction of one or more projects;
- Expires June 10, 2019, 5 years after enactment of WRRDA 2014

At the time of Clear Creek Sec 1043 (b) PPA execution, there was only one other under construction.



Mud Gully, Houston TX





## USACE SWG – Clear Creek FRM / Harris County Flood Control District

### Galveston District Sec 1043(b) Project

- Clear Creek Flood Risk Management Project
- Sponsor (Non- Federal) Harris County Flood Control District (HCFCD)
- Funded by Bipartisan Budget Act 2018 and delivered under Section 1043(b) WRRDA 2014
- Project Partnership Agreement executed 06June2019.
- Construction underway at Mud Gully (tributary of Clear Creek)
- Remaining portion of the project undergoing design refinements to preserve project benefits vis-à-vis current site conditions
- Estimated total project cost  
(Federal and Non-Federal) **\$295M**



## USACE SWG - Wallisville Lake Project

The Wallisville Lake Project was authorized by Congress in 1952 for five purposes

- Navigation
- Salinity control
- Water supply
- Fish and wildlife enhancement
- Recreation



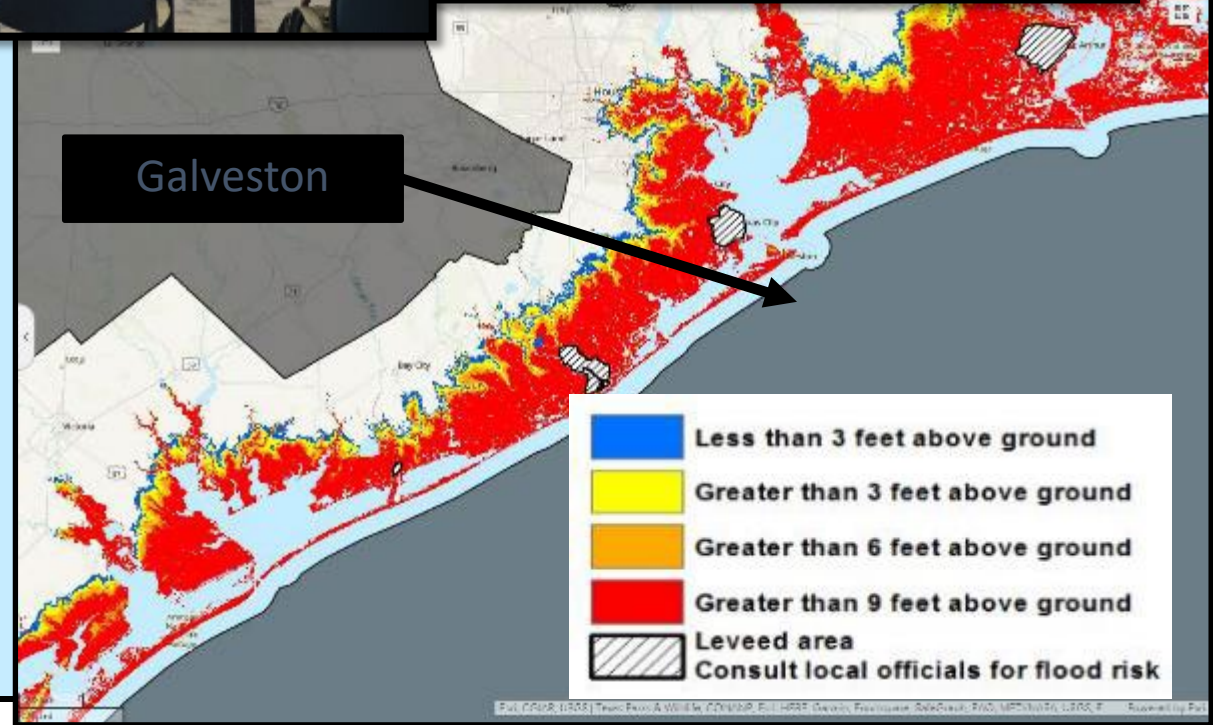
# USACE SWG - Emergency Management



Hurricane Ike 2008



Hurricane Harvey 2016



# USACE SWG – Emergency Management (EM)

## Critical Public Facilities Team -

### *King Kamehameha III Elementary School Temporary Facility Assistance*



### Situation

- School was destroyed in the August 2023 Lahaina fires
- SWG team deployed on site within weeks (*mid-September*)



### Mission

- On behalf of FEMA, Plan, Design, Procure and Construct a temporary school for **600-700** students
- Partner with State of Hawaii, FEMA, and Department of Education
- Completed the project before **March 2024**



### Challenges

- Design, oversee, and complete a project 4 months after NTP was issued (*20Nov2023*)
- Location & weather (rain) caused difficulties in construction and receiving materials



**Construction completed 23FEB24 and students begin classes on 01APR2024**

# Galveston District's Commitment to Quality Excellence

✓ Dedicated Quality Manager



Academy of Coastal, Ocean, Port and Navigation Engineers (ACOPNE)

✓ Verified peer reviews for all work conducted by or for the District



American Academy of Water Resources Engineers (AAWRE)

✓ Required professional licensure for responsible engineers



Academy of Geo-Professionals (AGP)

✓ Encouraged Board Certification, demonstrating that highly qualified professionals are leading our projects

