

BRAZOS RIVER FLOODGATES AND COLORADO RIVER LOCKS, TX

INLAND WATERWAYS USERS BOARD MEETING NO. 98

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1 December 2022

*World-Class Delivery...
Real-World Impact!*



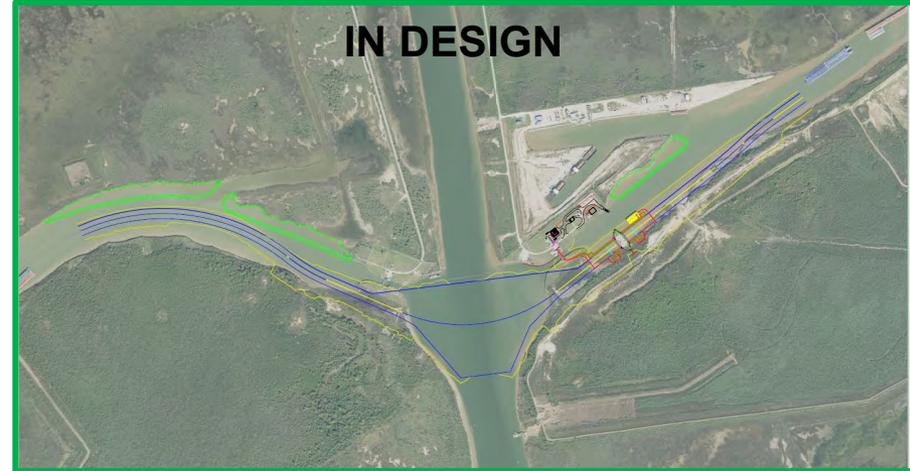
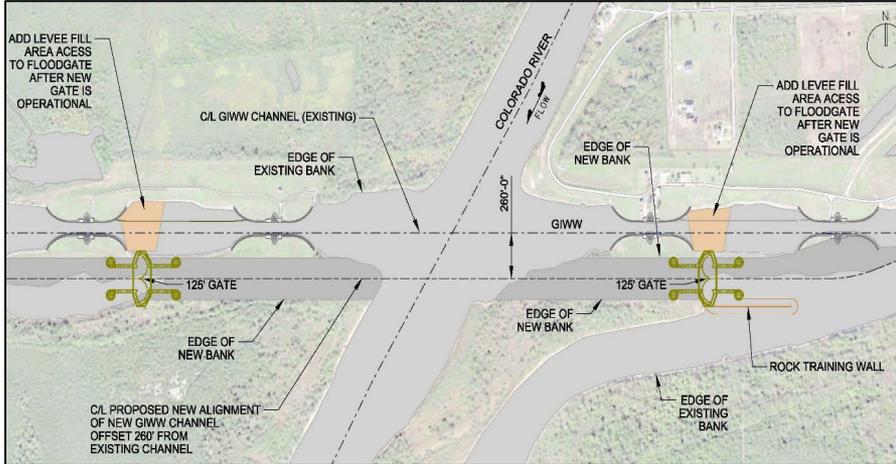
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Brazos River Crossing



Colorado River Crossing



Colorado River Crossing Plan

- Removal of all existing buildings and 75-ft locks on both sides of the river
- Construction of 125-foot channel from east to west, realigned
- Construction of two new 125-foot gates (east and west)
- Construction of new control houses, administration building, warehouse, boathouse
- Creation of ~ 1 acre of tidal wetlands

Brazos River Crossing Plan

- Removal of existing buildings and 75-ft gates on both sides of the river
- Construction of 125-foot channel from east to west, realigned
- Construction of a new 125-foot gate at the east side
- Construction of a new control house, administration building, warehouse, boathouse
- Creation of ~ 14 acres of tidal wetlands



LOCAL, STATE, NATIONAL INTERESTS



- **GIWW is a high use waterway; Energy (Petro/Chemical)**
- **Upgrade infrastructure (constructed in the 1940s)**
- **Increase navigation industry efficiency:** Wider gate openings, realigned channels will allow wider tow/barge configurations, cross faster, eliminating/decreasing impact to navigation industry of \$10M+ per year, 2019 estimate
- **Increase safety:** Wider gate openings, realigned channels will eliminate/reduce collisions to gates significantly
- **Partnership efforts (GICA Captains involved; Briefings to local, state, federal governments; External stakeholder briefings)**
- **High Benefit-to-Cost Ratio (5.03)**
- **Category # 2 project (authorized and awaiting construction funds)**



Tows must break into a single row barges to pass narrow gates opening which creates substantial economic impacts to the industry translating into local, state, and national economic impacts.



BLUF STATUS – SUMMARY DASHBOARD



PROJECT SAFETY



NA. In Design

PROJECT STATUS SUMMARY



Schedule:	Orig.	Last	Current
Design	Mar 2023	Mar 2023	Mar 2023
Advertise	Apr 2023	Apr 2023	Apr 2023

Next Major Contract Award(s):
Sep 2023

FINANCIAL STATUS SUMMARY



Received PED	\$23,550,000
Obligated PED	\$20,887,000
Remaining PED	\$2,663,000
Received CONST	\$0

Data Date: 30 Sep 2022

EXECUTIVE SUMMARY:

- Design:
 - Design continues progressing well toward completion in March 2023. Currently at 95% design
 - H&H modeling completed Oct 2022, with physical modeling pending Dec 2022
 - Major design changes relative to authorized plan:
 - ✓ Sector gate shifted closer to river to minimize forebay sediments deposits and avoid encroaching to nearby placement area
 - ✓ Adjusted guide-walls to aid navigation
 - ✓ Targeted mitigation areas changed, still providing requirement of 14 ac of tidal wetlands
- Advertise by April 2023 and Award by September 2023, pending appropriation of construction funds
- FY 2023 capability revised from \$223,377,000 to \$259,973,195



COMPREHENSIVE TECHNICAL ANALYSIS



Tools

- 2 Digital Models (2D and 3D)
- 1 Physical Model
- Over 350 Ship Simulations with Navigation Working Group
 - Golding – Captains JR Miller (24y), Todd Hundley (15y)
 - Enterprise – Captains Donnie LeBeouf (35y), James Leonard (15y)
 - Kirby – Captains Adam Grasser (22y), Karl T Comeaux (13y)

Calibrations / Modeled Scenarios

- Sunny days – Jan and Sep 2020, <5,000 cfs
- Moderate flows – May-Jul 2020, 55,000 cfs; Sep-Nov 2021, 60,000 cfs
- High flows – Aug-Sep 2017 Hurricane Harvey, >120,000 cfs
- 1-y simulations (Jul 2020 – Jul 2021) with both numerical models with focus on sedimentation



USACE's ERDC Ship Tow Simulator



1x3 loaded (54' x 900') – Rakes forward on the front barge and backwards on the back barge.



2x2 empty (108' x 600') – All rakes forward. Three barges in this configuration. Barge position vary on eastbound/westbound transits.

Tow Configurations tested based on most common configurations used by GIWW users.



KEY ACTIVITIES SUMMARY



Completed: 65% design work Sep 2022 (A), including numerical modeling Oct 2022 (A)

Ongoing: 95% design work

Scheduled: Complete 95% design Dec 22, Final Design Mar 2023, Advertise Apr 2023

Brazos River Crossing



Construction funds must be appropriated to advertise and award the construction contract (65% General, 35% IWTF).

POP revised to 1,200 days

Colorado River Crossing



Delayed to focus funding on BRFG

POP revised to 1,200 days



FUNDING SUMMARY



ITEM	TOTAL PROJECT COST ESTIMATE * (Oct 2022)
Authorized Cost:	\$635,593,000
902 Limit:	\$717,548,000
Engineering & Design Cost:	\$84,959,000
Supervision & Admin Cost:	\$46,068,000
Mitigation Cost:	\$1,006,000

Source: FY22 Budget Estimates pending updates and new cost certification.

	PED	CONSTRUCTION		TOTAL
		CON (65%)	IWTF (35%)	
Total Project Cost (TPC) Estimate (Oct 2022):				\$572,342,000
FY2021 Allocation ¹⁾	\$16,618,000	\$0	\$0	\$16,618,000
FY2022 Allocation	\$6,932,000	\$0	\$0	\$6,932,000
FY2023 Allocation	\$0	TBD	TBD	TBD
Total Allocations to Date:				\$23,550,000
Remaining TPC Balance:				\$548,792,000

¹⁾ Includes \$178K reallocated feasibility funds to PED.

Commentary:

- FY 2023 capability revised from \$223,377,000 to \$259,973,195. Cost increases due to material cost increases.

Fiscal Year Funding Capabilities (Construction and IWTF combined):

FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Total
\$259,973,195 BRFG only	\$36,223,000 BRFG and CRL	\$27,600,000 BRFG and CRL	TBD BRFG and CRL	TBD CRL	TBD Total Project

* TBD. A new certified Total Project Cost Summary is due Jan 2023, which will update Total Project Cost Estimates.



PROJECT ISSUES/CHALLENGES



- **Brazos River Crossing Facility not included in FY23 President's Budget**
- **Construction may not start in FY23, impacts to continue**
 - **\$10M+ per year (FY2019 prices) impact to navigation industry will continue (local, state, national economic impacts)**
 - **High safety risks (frequent allisions) to navigation industry will continue**
- **Costs increases**



THANK YOU

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