

GIWW Brazos River Floodgates - Colorado River Locks System Feasibility Study



Inland Waterways Users Board Meeting

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US Army Corps of Engineers

Galveston District

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Texas
Department
of Transportation



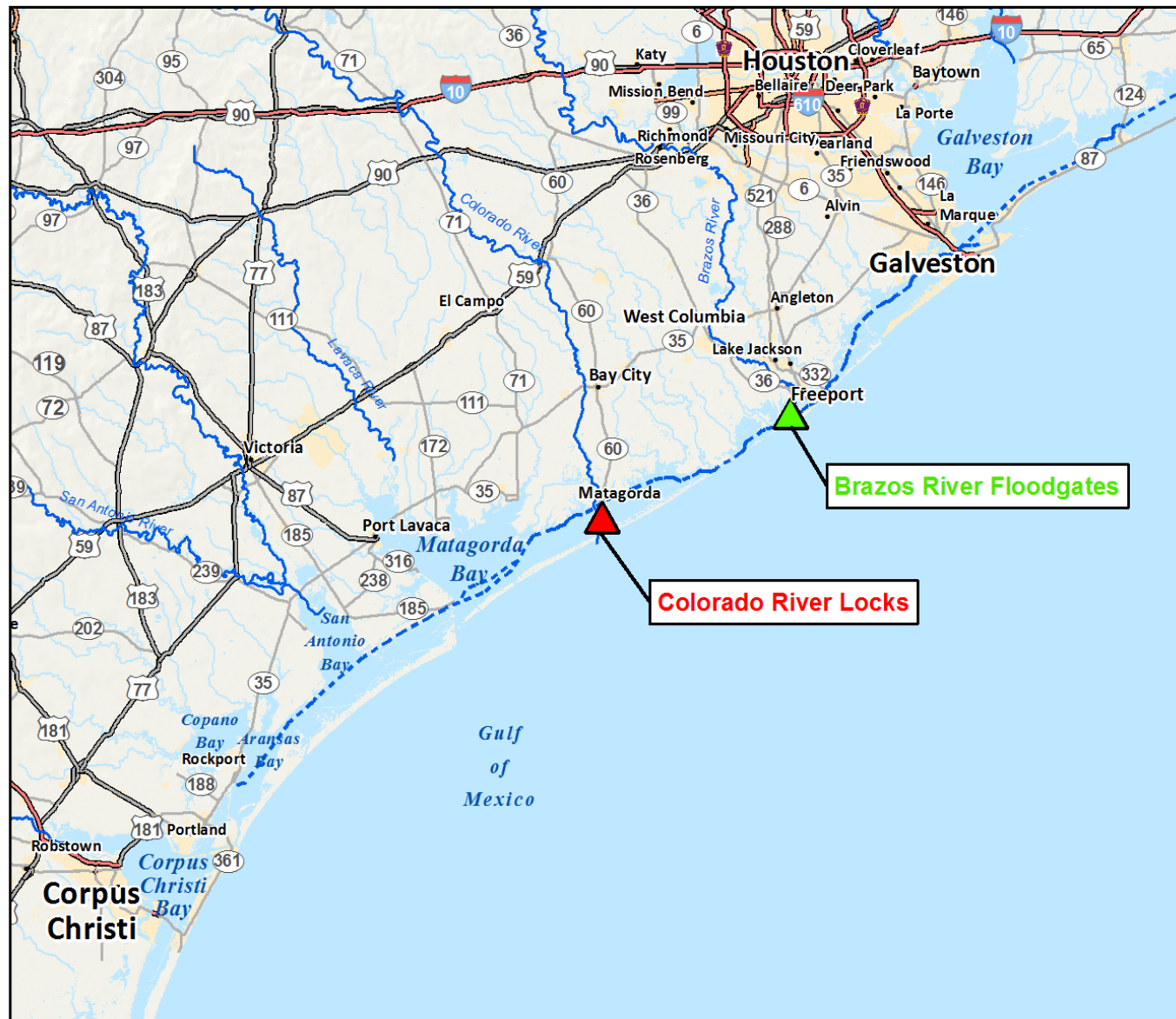
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Brazos River Floodgates and Colorado River Floodgates - Project Location



Legend

- ▲ Brazos River Floodgates
- ▲ Colorado River Locks
- - - Gulf Intracoastal Waterway
- ~ River



1:2,000,000

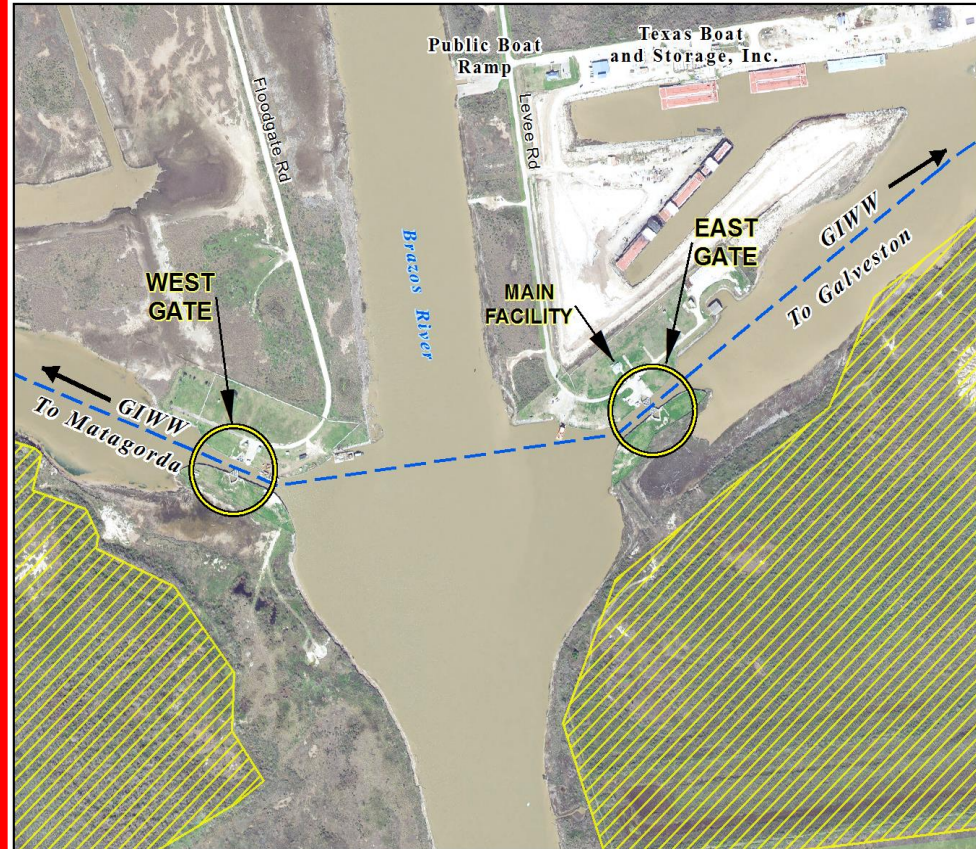
0 10 20 40
Miles

Base Map: ESRI

Location Map



AERIAL IMAGERY OF BRAZOS RIVER FLOODGATES AND COLORADO RIVER LOCKS



BOTTOM LINE UP FRONT

AN INVESTMENT IN THE NATIONAL INTEREST:

- Capitalize on a new study start granted, which are very limited in the U.S. Army Corps of Engineers to acquire, considering scarce resources.
- Uses a system approach for efficiently, effectively, simultaneously identifying modernization requirements of both structures.
- Responsive to Inland Waterway User Board strategy of using lifecycle approach to support USACE infrastructure asset management, ensuring longevity of systems performance



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RATIONALE FOR SYSTEMS ANALYSIS

- Traffic commonality suggests any substantial change at one project has the potential to alter traffic patterns or operations at the other project.
- Assessing benefits outside of a system context reduces the certainty of all potential project benefits being accurately captured.
- Performing a systems level analysis is the typical recommendation of the Planning Center of Expertise for Inland Navigation and Risk-Informed Economics Division (PCXIN-RED) when any substantial changes to a navigable waterway or navigation structure are being evaluated.

Project Name	Average Tonnage	Average Through All	Commonality
Brazos Floodgates	22,497,593.00	21,038,012	97%
Colorado Locks	21,607,965.00		99%



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BENEFIT ANALYSIS

•Benefit/Cost and Net Annual Benefits by Alternative:

System Combination Alternatives	Annual Benefits (\$000)	Annual Cost (\$000)	BCR	Net Annual Benefits (\$000)
Brazos River Floodgates				
Rehab Existing + Guidewalls (2a)	\$2,253	\$1,836	1.23	\$416
Rebuild New Floodgates (3a)	\$6,858	\$5,684	1.21	\$1,174
Open Channel (9a)	\$11,443	\$6,154	1.86	\$5,289
New Alignment – Gates (9b)	\$8,082	\$8,308	0.97	-\$226
New Alignment – Gates + Control (9c)	\$8,177	\$8,308	0.98	-\$131
New Alignment – Locks (9d)	\$8,188	\$14,255	0.57	-\$6,067
Colorado River Locks				
Rehab Existing (2b)	\$629	\$1,968	0.32	-\$1,338
Open Channel (3b)	\$7,396	\$3,530	2.09	\$3,866
Convert Locks to Floodgates (4b)	\$2,835	\$5,684	0.50	-\$2,849
Build New Locks – Same Location (6)	\$3,619	\$11,631	0.31	-\$8,012

BRFG & CRL STUDY MILESTONES

Activity		Milestones Dates
Study Start	PMP Approved	July 2016
Alternative Evaluation and Analysis	Alternatives Milestone	September 2016
Exemption	Exemption Approval by Senior Leaders	Submit after Agency Decision Milestone
Alternative Evaluation and Analysis	Tentatively Selected Plan (TSP) Milestone	December 2017
Feasibility Level Analysis	Agency Decision Milestone	June 2018
	Feasibility Report Complete	October 2018
	Civil Works Review Board (CWRB)	April 2019
	S&A Review	May 2019
	Chief's Report	June 2019