

## RECORD OF DECISION

### GULF INTRACOASTAL WATERWAY, BRAZOS RIVER FLOODGATES AND COLORADO RIVER LOCKS, TEXAS BRAZORIA AND MATAGORDA COUNTIES, TEXAS

The Final Integrated Feasibility Report and Environmental Impact Statement (IFR/EIS) dated September 2019, for the Gulf Intracoastal Waterway, Brazos River Floodgates and Colorado River Locks, Texas Project addresses Brazos River Floodgates (BRFG) and Colorado River Locks (CRL) opportunities to improve safety and economic efficiency of commercial navigation in Brazoria and Matagorda Counties, Texas. The final recommendation is contained in the report of the Chief of Engineers, dated 23 October 2019. Based on these reports, the reviews by other Federal, State, and local agencies, Tribes, input of the public, and the review by my staff, I find the plan recommended by the Chief of Engineers to be technically feasible, economically justified, in accordance with environmental statutes, and the public interest.

The Final IFR/EIS, incorporated herein by reference, evaluated various alternatives that would alleviate navigational difficulties, delays, and accidents occurring as tow operators' transit through the BRFG and CRL structures and across the Brazos and Colorado Rivers in the study area. The recommended plan is the National Economic Development (NED) Plan and includes:

- At BRFG:
  - Removal of the existing 75-foot gates on both sides of the Brazos River
  - Construction of a new 125-foot sector gate structure approximately 300 feet south of the existing alignment, set back approximately 1,000 feet from the Brazos River on the east side.
  - Construction of a minimum 125-foot open channel on the west side of the Brazos River, with a bottom depth of -12 feet NAVD88 with a bank-to-bank width of approximately 500 feet.
  
- At CRL:
  - Removal of the existing 75-foot lock structures on both sides of the Colorado River.
  - Construction of a new 125-foot sector gate structure on the east and west sides of the Colorado River crossing.
  
- Implementation of the environmental compensatory mitigation and associated monitoring and mitigation area adaptive management plan. Monitoring will continue until the mitigation is determined to be successful based on the identified criteria within the Mitigation Plan included in Appendix D-8 of the IFR/EIS. Monitoring is expected to last no more than 5 years.

In addition to a “no action” plan, multiple action alternatives were evaluated at each location. Five BRFG alternatives and three CRL alternatives were carried forward and were evaluated in detail for comparison and plan selection. Chapter 3 of the IFR/EIS discusses the alternative formulation. Non-structural measures were also considered at both locations, including improvements to scheduled maintenance of the gates/locks, improvements to towing schedules using Automatic Identification System (AIS) or similar scheduling systems, and adding buoys and additional navigation lights to help barges. Non-structural measures have been determined to have negligible impacts on the frequency or duration of navigation accidents and were, therefore, not carried forward for further analysis because they would not meet the study objectives. An exception is the addition of mooring locations, which are being analyzed in a separate study, *Gulf Intracoastal Waterway, Texas, Mooring Basin Modifications, Operations, and Maintenance Discretionary Authority Study*. Non-structural measures would still be used as needed to address any remaining residual risks after the recommended plan is constructed.

At the BRFG, the alternatives included rehabilitating the existing gates and guidewalls (Alt 2a); removing the existing gates and constructing new 125-foot (minimum) gates on each side of the river, set back from the current gate locations (Alt 3a); removing the existing west gate completely and constructing a new 125-foot gate on the east side of the river, set back from the current gate location (Alt 3a.1); constructing an open channel on new alignment (Alt 9a), and constructing new 125-foot gates on new alignment, with flood-control structures on the existing alignment (Alt 9c). At the CRL, the alternatives included rehabilitating the existing lock facilities (Alt 2a); removing the existing lock facilities and constructing an open channel (Alt 3b); and converting the locks to floodgates by removing the river-side gates, or by removing all gates and constructing new 125-foot sector gates on each side of the river (Alt 4b.1).

Of the BRFG-CRL alternative combinations, BRFG Alt 9a and CRL Alt 4b.1 (9a-4b.1) yielded the highest net benefits at \$11.5 million, but there is significant uncertainty regarding sedimentation rates with the open channel and how sedimentation would impact future navigation functionality and environmental resources. BRFG Alt 3a.1 and CRL Alt 4b.1 (3b.1-4b.1) had similar net benefits at \$11.1 million and minimizes the risks associated with the uncertainties identified above. As such, this combination (3b.1-4b.1) provides the best system alternative plan in meeting the U.S. Army Corps of Engineers’ (USACE) navigation missions for the region and is identified as the NED plan.

The recommended plan includes BRFG Alt 3b.1 and CRL Alt 4b.1. The recommended plan was identified as the environmentally preferable alternative.

For all alternatives, the potential effects were evaluated, as appropriate. A summary assessment of the potential effects of the recommended plan are listed in Table 1:

**Table 1: Summary of Potential Effects of Recommend Plan**

	Significant adverse effect	Insignificant effects due to mitigation	Insignificant effects	Resource unaffected by action
Aesthetics	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Air quality	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Aquatic resources/wetlands	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Invasive species	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fish and wildlife habitat	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Threatened/Endangered species	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Historic properties	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other cultural resources	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Floodplains	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Hazardous, toxic & radioactive waste	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Hydrology	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Land use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Navigation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Noise levels	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Public infrastructure	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Socio-economics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Environmental justice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Soils	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Tribal trust resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Water quality	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Climate change	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

All practicable means to avoid or minimize adverse environmental effects were analyzed and incorporated into the recommended plan. Best management practices (BMPs) as detailed in the IFR/EIS will be implemented to minimize impacts. Planning for the avoidance and minimization of impacts began with the initial alternatives screening and agency coordination and will continue through the Pre-Construction, Engineering, and Design (PED) phase of the project. The proposed realignments and gate construction are as close as possible to the existing alignment while allowing for continued operation of the existing facilities during construction, thereby minimizing impacts to wetlands located along the GIWW banks. All remaining unavoidable impacts are fully compensated with in-kind mitigation.

The recommended plan will result in unavoidable adverse impacts to wetlands including the loss of 14.5 acres of estuarine marsh (intertidal marsh and high marsh). Habitat Evaluation Procedures (HEP) models were used to evaluate wetland impacts in terms of average annual habitat units (AAHUs) and to develop an appropriate compensatory mitigation plan. The wetland impacts result in a loss of 12.1 AAHUs. To fully compensate for these unavoidable adverse impacts, the USACE will create 14.9 acres of estuarine marsh, which will provide 12.1 AAHUs. A detailed description of the mitigation plan is presented in Appendix D-8 of the IFR/EIS.

Public review of the draft IFR/EIS was completed on 11 April 2018. All comments submitted during the public comment period were responded to in the Final IFR/EIS. A 30-day waiting period and state and agency review of the Final IFR/EIS was completed on 19 July 2019.

Pursuant to section 7 of the Endangered Species Act of 1973, as amended, the National Marine Fisheries Service (NMFS) concurred with the effect determinations documented in the Biological Assessment (BA) in a letter dated 10 April 2019. The National Marine and Fisheries Service (NMFS) response determined that the recommended plan will not adversely impact or jeopardize the continued existence of the following federally listed species or adversely modify designated critical habitat: green, Kemp's ridley, loggerhead, or hawksbill sea turtles. The USFWS concurred with the effect determinations documented in the BA in a letter issued 8 August 2019. The USFWS response determined that the recommended plan will not adversely impact or jeopardize the continued existence of the following federally listed species or adversely modify designated critical habitat: West Indian manatee, whooping crane, piping plover, rufa red knot, or nesting green, leatherback, hawksbill, and Kemps ridley sea turtles. All terms and conditions, conservation measures, and reasonable and prudent measures resulting from these consultations will be implemented in order to minimize take of endangered species and avoid jeopardizing the species.

During a resource agency meeting in April 2018, NMFS indicated that USACE has sufficiently addressed Essential Fish Habitat (EFH), and no further coordination with NMFS regarding EFH is required. The USACE EFH Assessment is provided in Appendix D-4 of the IFR/EIS.

Further coordination with NMFS under the Marine Mammal Protection Act (MMPA) is required to address the potential impact of noise levels resulting from the installation of pilings on bottlenose dolphin behavior. As the take permit for this potential impact is only valid for one year, USACE will reinitiate and complete MMPA coordination during the Pre-construction, Engineering, and Design phase of the project before construction activities would commence.

Pursuant to section 106 of the National Historic Preservation Act of 1966, as amended, the USACE determined that historic properties would not be adversely affected by the recommended plan. The Texas State Historic Preservation Office concurred with the determination on 23 January 2019.

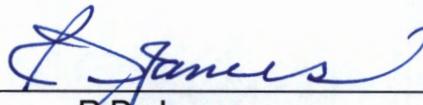
Pursuant to the Clean Water Act of 1972, as amended, all discharges of dredged or fill material associated with the recommended plan have been found to be compliant with the section 404(b)(1) Guidelines (40 CFR 230). The Clean Water Act Section 404(b)(1) Guidelines evaluation is found in Appendix D-1 of the IFR/EIS.

A water quality certification pursuant to section 401 of the Clean Water Act was obtained from the Texas Council on Environmental Quality. All conditions of the water quality certification shall be implemented in order to minimize adverse impacts to water quality.

A determination of consistency with the Texas Coastal Zone Management program pursuant to the Coastal Zone Management Act of 1972 was obtained from the Texas General Land Office. All conditions of the consistency determination shall be implemented in order to minimize adverse impacts to the coastal zone.

Technical, environmental, economic, and cost effectiveness criteria used in the formulation of alternative plans were those specified in the Water Resources Council's 1983 Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies. All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Based on the review of these evaluations, I find that benefits of the recommended plan outweigh the costs and any adverse effects. This Record of Decision completes the National Environmental Policy Act process.

3/2/20  
Date

  
R.D. James  
Assistant Secretary of the Army  
(Civil Works)