

Draft
Clean Water Act Compliance

for

Sabine Pass to Galveston Bay
Port Arthur and Vicinity
Contracts 3B and 3C

August 2022



US Army Corps
of Engineers ®
Galveston District

EVALUATION OF SECTION 404(b)(1) GUIDELINES (SHORT FORM)

Sabine Pass to Galveston Bay

Port Arthur and Vicinity Contracts 3B and 3C

GUIDELINE COMPLIANCE:

1. Review of Compliance (230.10(a)-(d))		
A review of the proposed project indicates that:	Yes	No*
a. The placement represents the least environmentally damaging practicable alternative and, if in a special aquatic site, the activity associated with the placement must have direct access or proximity to, or be located in the aquatic ecosystem, to fulfill its basic purpose (if no, see section 2 and information gathered for EA alternative).		X
b. The activity does not appear to:		
1) Violate applicable state water quality standards or effluent standards prohibited under Section 307 of the Clean Water Act;	X	
2) Jeopardize the existence of Federally-listed endangered or threatened species or their habitat; and	X	
3) Violate requirements of any Federally-designated marine sanctuary (if no, see section 2b and check responses from resource and water quality certifying agencies).	X	
c. The activity will not cause or contribute to significant degradation of waters of the U.S. including adverse effects on human health, life stages of organisms dependent on the aquatic ecosystem, ecosystem diversity, productivity and stability, and recreational, aesthetic, and economic values (if no, see values, Section 2)	X	
d. Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem (if no, see Section 5)	X	

2. Technical Evaluation Factors (Subparts C-F)	Not Applicable	Not Significant	Significant*
a. Physical and Chemical Characteristics of the Aquatic Ecosystem (Subpart C)		X	
1) Substrate impacts		X	
2) Suspended particulates/turbidity impacts		X	
3) Water column impacts		X	
4) Alteration of current patterns and water circulation		X	
5) Alteration of normal water fluctuation/ hydroperiod		X	
6) Alteration of salinity gradients	X		
b. Biological Characteristics of the Aquatic Ecosystem (Subpart D)		X	
1) Effect on threatened/endangered species and their habitat		X	
2) Effect on the aquatic food web		X	
3) Effect on other wildlife (mammals, birds, reptiles and amphibians)		X	
c. Special Aquatic Sites (Subpart E)		X	
1) Sanctuaries and refuges	X		
2) Wetlands		X	
3) Mud flats	X		
4) Vegetated shallows	X		
5) Coral reefs	X		
6) Riffle and pool complexes	X		
d. Human Use Characteristics (Subpart F)		X	
1) Effects on municipal and private water supplies	X		
2) Recreational and commercial fisheries impacts	X		
3) Effects on water-related recreation	X		
4) Aesthetic impacts		X	
5) Effects on parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves	X		

* Where a 'Significant' category is checked, add explanation below.

3. Evaluation of Dredged or Fill Material (Subpart G)		
a. The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material (check only those appropriate)		
1) Physical characteristics	X	
2) Hydrography in relation to known or anticipated sources of contaminants	X	
3) Results from previous testing of the material or similar material in the vicinity of the project	X	
4) Known, significant sources of persistent pesticides from land runoff or percolation	X	
5) Spill records for petroleum products or designated (Section 311 of Clean Water Act) hazardous substances	X	
6) Other public records of significant introduction of contaminants from industries, municipalities or other sources	X	
7) Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities	X	
3. Evaluation of Dredged or Fill Material (Subpart G) (continued)	Yes	No
b. An evaluation of the appropriate information in 3a above indicates that there is reason to believe the proposed dredged or fill material is not a carrier of contaminants, or that levels of contaminants are substantively similar at extraction and placement sites and not likely to degrade the placement sites, or the material meets the testing exclusion criteria.	X	

4. Placement Site Delineation (230.11(f))		
a. The following factors as appropriate, have been considered in evaluating the placement site:		
1) Depth of water at placement site		X
2) Current velocity, direction, and variability at placement site		X
3) Degree of turbulence		X
4) Water column stratification		X
5) Discharge vessel speed and direction		X
6) Rate of discharge		X
7) Fill material characteristics (constituents, amount, and type of material, settling velocities)		X
8) Number of discharges per unit of time		X
9) Other factors affecting rates and patterns of mixing (specify)		
4. Placement Site Delineation (230.11(f)) (continued)	Yes	No
b. An evaluation of the appropriate factors in 4a above indicates that the placement site and/or size of mixing zone are acceptable.	X	

8. Findings (Select One)		Yes
a. The proposed placement site for discharge of or fill material complies with the Section 404(b)(1) Guidelines.		X
b. The proposed placement site for discharge of dredged or fill material complies with the Section 404(b)(1) Guidelines with the inclusion of the following conditions: Mitigation of loss of freshwater emergent wetland habitat.		X
c. The proposed placement site for discharge of dredged or fill material does not comply with the Section 404(b)(1) Guidelines for the following reason(s): 1) There is a less damaging practicable alternative 2) The proposed discharge will result in significant degradation of the aquatic ecosystem 3) The proposed discharge does not include all practicable and appropriate measures to minimize potential harm to the aquatic ecosystem		
_____	_____	
Date	Jeffrey F. Pinsky Chief, Environmental Branch	

NOTES:

* A negative, significant, or unknown response indicates that the permit application may not be in compliance with the Section 404(b)(1) Guidelines.

Negative responses to three or more of the compliance criteria at the preliminary stage indicate that the proposed projects may not be evaluated using this “short form” procedure. Care should be used in assessing pertinent portions of the technical information of items 2a-e before completing the final review of compliance.

Negative response to one of the compliance criteria at the final stage indicates that the proposed project does not comply with the Guidelines. If the economics of navigation and anchorage of Section 404(b)(2) are to be evaluated in the decision-making process, the “short form” evaluation process is inappropriate.

Texas Commission on Environmental Quality 401 State Certification Pre-filing Meeting Request Form

Why is this Pre-Filing Meeting Request Required? The U.S. Environmental Protection Agency published its Clean Water Act Section 401 Certification Rule in the Federal Register on July 13, 2020. It took effect on September 11, 2020. The federal rule requires all project applicants to submit a Pre-filing Meeting Request to the state certifying authority, the Texas Commission on Environmental Quality (TCEQ), at least 30 days prior to submitting a Section 401 Water Quality Certification Request (Certification Request). The TCEQ has prepared this Pre-filing Meeting Request form to help project applicants comply with the new 401 Certification Rule requirements.

Next Steps: The TCEQ will review your request for a Pre-filing Meeting to determine whether it is necessary or appropriate for your specific project, though actually conducting a Pre-filing Meeting is optional. Completing this form will help with the TCEQ's determination. Thank you for using this form.

1. Please submit this request form and a project location map to 401Certs@tceq.texas.gov.
2. If a Pre-filing Meeting is determined to be necessary by either the applicant or the TCEQ, the meeting will be scheduled to discuss the project.
3. If you do not receive a response to your request for a pre-filing meeting, after at least 30 days, you may submit the certification request to the TCEQ if a Section 401 certification is required for your project. Projects that require state certification are 1) all individual permit U.S. Army Corps of Engineer 404 permit applications and, 2) individual conditional certifications for the return water of Nationwide Permit 16.

For more information: EPA's 401 rule: <https://www.epa.gov/cwa-401/final-rule-clean-water-act-section-401-certification-rule>

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Project Information

Project Name: Sabine Pass to Galveston Bay Port Arthur and Vicinity Contracts 3B and 3C
United States Army Corps of Engineers Project Number: Not Applicable
Project Applicant
Name: Justyss Watson
Organization: U.S. Army Corps of Engineers
Phone no.: 817-886-1828
Email: Justyss.a.watson@usace.army.mil
Consultant
Name: NA
Organization: NA
Phone no.: NA
Email: NA
Project Location <i>(Note: Please attach a project location map when submitting this form)</i> Please see Attachment A
Address: Texaco Island Road and 300 W Seventh Street
City: Port Arthur, TX
County: Jefferson
Latitude/Longitude of project location: 29°50'47.33"N, 93°57'17.85"W (PAV03C) 29.86441 N, 93.94144 W (PAV03B)
Brief Project Description and Scope: A description of alternatives analyzed for this project can be found in the Final Integrated Feasibility Report and Environmental Impact Statement (May 2017) for the Sabine to Galveston Bay Coastal Storm Risk Management (CSRМ) Port Arthur & Vicinity Project. The Port Arthur and Vicinity (PAV), Texas Hurricane Flood Protection Project (HFPP) is located in Port Arthur, Jefferson County, TX. This project was authorized by the Flood Control Act of 1962, Public Law 87-874, substantially in accordance with House Document No. 505, 87th Congress, 2nd Session. Construction began in March 1966 and was completed in April 1982. The authorization provided for raising existing seawalls and levees, highway and street ramps, roadway and railway closures, new pumping stations, modifications of existing pumping stations and gravity drainage structures. The system reduces risk to the Port Arthur region from coastal storm surge events coming from the Gulf of Mexico. It also reduces risk from flooding from the Sabine River. The levee system consists of 27.8 miles of earthen embankment and 6.6 miles of concrete and steel sheet pile

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floodwalls. There is also a wave barrier on Pleasure Island. It is operated by Jefferson County Drainage District No. 7 (DD7), the project Non-Federal Sponsor (NFS).

PAV03B

Contract PAV03b consists of the construction of approximately 4,000 linear feet of floodwall and levee on property occupied by the Port of Port Arthur (PPA), Kansas City Southern Railroad (KCS), JBS Packing, and Entergy Texas, Inc. The work also includes demolition and removal of the existing sheet pile floodwall and gate closures only where required for new construction. The majority of the existing alignment through the 3B area will remain in place but be removed from the Federal Project, and ownership will revert to DD7. See Attachment A for an overview of the existing project location.

Contract 3b extends from Station (STA) 617+00 to 647+89 per the feasibility study, with an existing floodwall elevation through this area of 15.5 ft. Based on site specific restrictions, particularly the Port of Port Arthur operational facilities that have been constructed over top of the existing alignment, a revised alignment location was developed by the PDT in coordination with the NFS and the local landowners, PPA, and KCS. Refer to Attachment B for details of the development of the design alignment via the Alternatives Analysis. The new design alignment will tie into the existing system's levee at STA 617+00 and STA 655+00. The existing levee between stations 647+89 and 655+00 will be removed from the federal project, and turned back over to the NFS. The design alignment is shown in Attachment A – Figure 2, with each of the 6 closure gates called out by number. The 7th alignment crossing shown will be a ramp crossing over top of the levee.

The existing ground surface elevations throughout the contract area vary from approximately 0 feet (') elevation in the KCS-owned property, to 6' at the existing floodwall location near the docks. The first approximately 700' of the floodwall alignment, beginning from the northeast at STA 617+00, will replace the existing wall. This portion will also be built to a higher design elevation to accommodate its location along the waterway.

The first 2800' of the alignment will be a pile-founded concrete T-wall. This portion crosses through busy operational areas used by the PPA, JBS Packing, and Standard Alloys. Providing reasonable accommodations for the continued operations of these facilities will be a part of the design effort, while meeting all design criteria. Gates 1, 2 and 4 shown on Figure 2 in Attachment A will be single-leaf swing gates. Gate 3, which crosses 4th Ave, will be a roller gate given the required clear crossing width of 43'. Gates 5 and 6 and their associated storage monoliths have been removed from the PAV03b Contract, as they require further design coordination with KCSRR that cannot be completed in the required schedule for this effort. Point 7 is an over-the-levee road crossing with no closure gate.

Contract 3b will tie into the existing levee system as its starting and ending points of STA 617+00 and 655+00. New stationing has been provided for this Contract since it significantly deviates from the existing system. The north tie-ins will be in accordance with the standard floodwall to levee transition details provided in the Sabine Pass to Galveston Bay Design Criteria. The south tie-in will be an extension of the existing levee, while meeting the new design elevations. There will be an additional tie-in at Sta. 7+00 to the existing I-wall system which will remain in place through the Port of PA's facilities.

PAV03C

Originally, PAV03C was a part of Contract PAV03A. Contract PAV03A provides for the delivery of contract documents for the construction of improvements to existing levees, floodwalls, closure structures, highway crossings, and pump station fronting protection to improve HFPP for Port Arthur, in Jefferson County, Texas. The scope of this contract is to address risk drivers identified as Potential Failure Modes (PFM) that were determined during a Semi-Quantitative Risk Analysis (SQRA) for the Sabine Pass to Galveston Bay Coastal Storm Risk Management (CSRM) & Ecosystem Restoration. The objective includes both hurricane flood protection and ecosystem restoration. The contract includes eight segments identified as Zones 1 through 8.

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Between STA. 731+03.06 B and STA. 733+30.14 B the existing utility corridor area contains a utility pipe bridge and counterfort wall that has dozens of pipes passing through the wall below grade. It is not feasible or cost-effective to retrofit the counterfort to meet the required design loads, so a new floodwall will be installed on the landside of the existing counterfort. In addition, the existing pipe bridge is with the right of way or conflicts with the new wall and will need to be removed. Pipe will be relocated to a new pipe bridge. The new pipe bridge and pipe relocation are not part of this projects scope; however, the construction sequence of the work has been considered. The floodwalls will be constructed by the Government hired contractor while the pipe bridge and pipe relocation will be constructed by a different contractor under separate contract. Both contractors will have to coordinate construction of each of their elements with each other. Because the floodwalls are pile supported, all underground piping/utilities have to be relocated prior to driving piles. In addition, the portions of the floodwall should be built prior to construction of the pipe bridge. The pipe bridge and pipe relocation are considered PAV03C (Figures 7 and 8).

Photos of the impact sites associated with PAV03B and PAV03C are shown in Attachment C.

Please provide the type of federal permit for which the applicant is seeking state 401 certification. Please include a federal permit number if available.

Applicant is seeking Clean Water Act Section 401 Water Quality Certification. The previous Water Quality Certification can be found in Attachment D.

Jurisdictional Impacts

Fill/Excavate	Wetland (Cowardin Class), Seagrass, Oyster	Acres	Stream (linear feet)		
			<i>intermittent</i>	<i>perennial</i>	<i>tidal</i>
Permanent Fill	Palustrine Emergent Wetland (PEM)	8			

Best Management Practices (BMPs) to be implemented:

The USACE shall mitigate wetland habitat that is likely to be impacted by implementation of this project. The USACE is currently working through the option below to ensure appropriate mitigation.

- Purchase of mitigation credits within the Sabine Lake HUC.

The USACE is preparing a Draft Supplemental Environmental Assessment (SEA) that will describe the baseline conditions of the impacted habitat, as well as the conservation and mitigation measures necessary for environmental compliance. Upon completion of the Draft SEA, the USACE will provide the document for review to resource agencies to include TCEQ.

The Contractor awarded with PAV03B and PAV03C will be responsible for submitting a plan to address temporary and permanent stormwater management and control via these and other BMPs in the Environmental Protection Plan for USACE approval; however, the general construction BMPs described below shall be implemented and are stated as specifications within PAV03B and PAV03C.

- Do not alter water flows or otherwise significantly disturb the native habitat adjacent to the project and critical to the survival of fish and wildlife, except as specified and permitted.
- Except in areas to be cleared, do not remove, cut, deface, injure, or destroy trees or shrubs without the Contracting Officer's permission. Do not fasten or attach ropes, cables, or guys to existing nearby trees for anchorages unless authorized by the Contracting Officer. Where

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such use of attached ropes, cables, or guys is authorized, the Contractor is responsible for any resultant damage.

- Protect existing trees that are to remain to ensure they are not injured, bruised, defaced, or otherwise damaged by construction operations. Remove displaced rocks from uncleared areas. Coordinate with the Contracting Officer to determine appropriate action for trees and other landscape features scarred or damaged by equipment operations.
- Do not discharge stormwater from construction sites to the sanitary sewer. If the water is noted or suspected of being contaminated, it may only be released to the storm drain system if the discharge is specifically permitted.
- Provide a Construction General Permit with the Storm Water Pollution Prevention Plan to USACE, as required by the State of Texas TXR150000 Construction General Permit. Under the terms and conditions of the permit, install, inspect, maintain BMPs, prepare stormwater erosion and sediment control inspection reports, and maintain SWPPP inspection reports. Maintain construction operations and management in compliance with the terms and conditions of the general permit for stormwater discharges from construction activities.
- Submit a project-specific Stormwater Pollution Prevention Plan (SWPPP) to the Contracting Officer (USACE) for approval, prior to the commencement of work. The SWPPP must meet the requirements of 40 CFR 122.26 and the Texas TXR150000 Construction General Permit for stormwater discharges from construction sites and shall include the following:
 - a. Comply with terms of the Texas TXR150000 Construction General Permit general permit for stormwater discharges from construction activities. Prepare SWPPP in accordance with state requirements.
 - b. Select applicable BMPs from EPA Fact Sheets located at <http://water.epa.gov/polwaste/npdes/swbmp/Construction-Site-StormWater-Run-Off-Control.cfm> or in accordance with applicable state or local requirements.
 - c. Include a completed copy of the Notice of Intent, BMP Inspection Report Template, and Stormwater Notice of Termination, except for the effective date.
- Prepare and submit the Notice of Intent for TPDES coverage under the general permit for construction activities to USACE for review and approval. Submit the approved NOI and appropriate permit fees to the TCEQ for approval. No land disturbing activities may commence without permit coverage. Maintain an approved copy of the SWPPP at the onsite construction office, and continually update as regulations require, reflecting current site conditions.
- Provide erosion and sediment control measures in accordance with state and local laws and regulations. Preserve vegetation to the maximum extent practicable.
- Erosion control inspection reports may be compiled as part of a stormwater pollution prevention plan inspection reports.
- Stabilize slopes as required by site plans and in accordance with the TXR150000 Construction General Permit for effective erosion control. Use of hay bales is prohibited.
- Implement sediment control practices to divert flows from exposed soils, temporarily store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Implement sediment control practices prior to soil disturbance and prior to creating areas with concentrated flow, during the construction process to minimize erosion and sediment laden runoff.
- The Contractor shall operate the construction site to comply with the TXR150000 Construction General Permit at all times.
- Mark the areas that need not be disturbed under this Contract prior to commencing construction activities. Mark or fence isolated areas within the general work area that are not to be disturbed. Protect monuments and markers before construction operations

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commence. Where construction operations are to be conducted during darkness, any markers must be visible in the dark. Personnel must be knowledgeable of the purpose for marking and protecting particular objects.

- Comply with the State of Texas water quality standards and anti-degradation provisions and the Clean Water Act Section 404. Do not discharge excavation ground water to the sanitary sewer, storm drains, or to surface waters without prior specific authorization in writing from the Government. Discharge of hazardous substances will not be permitted under any circumstances. Use sediment control BMPs to prevent construction site runoff from directly entering any storm drain or surface waters.
- Do not enter, disturb, destroy, or allow discharge of contaminants into waters of the United States. Authorization to enter specific waters of the United States identified does not relieve the Contractor from any obligation to protect other waters of the United States within, adjacent to, or in the vicinity of the construction site and associated boundaries.

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ATTACHMENT A

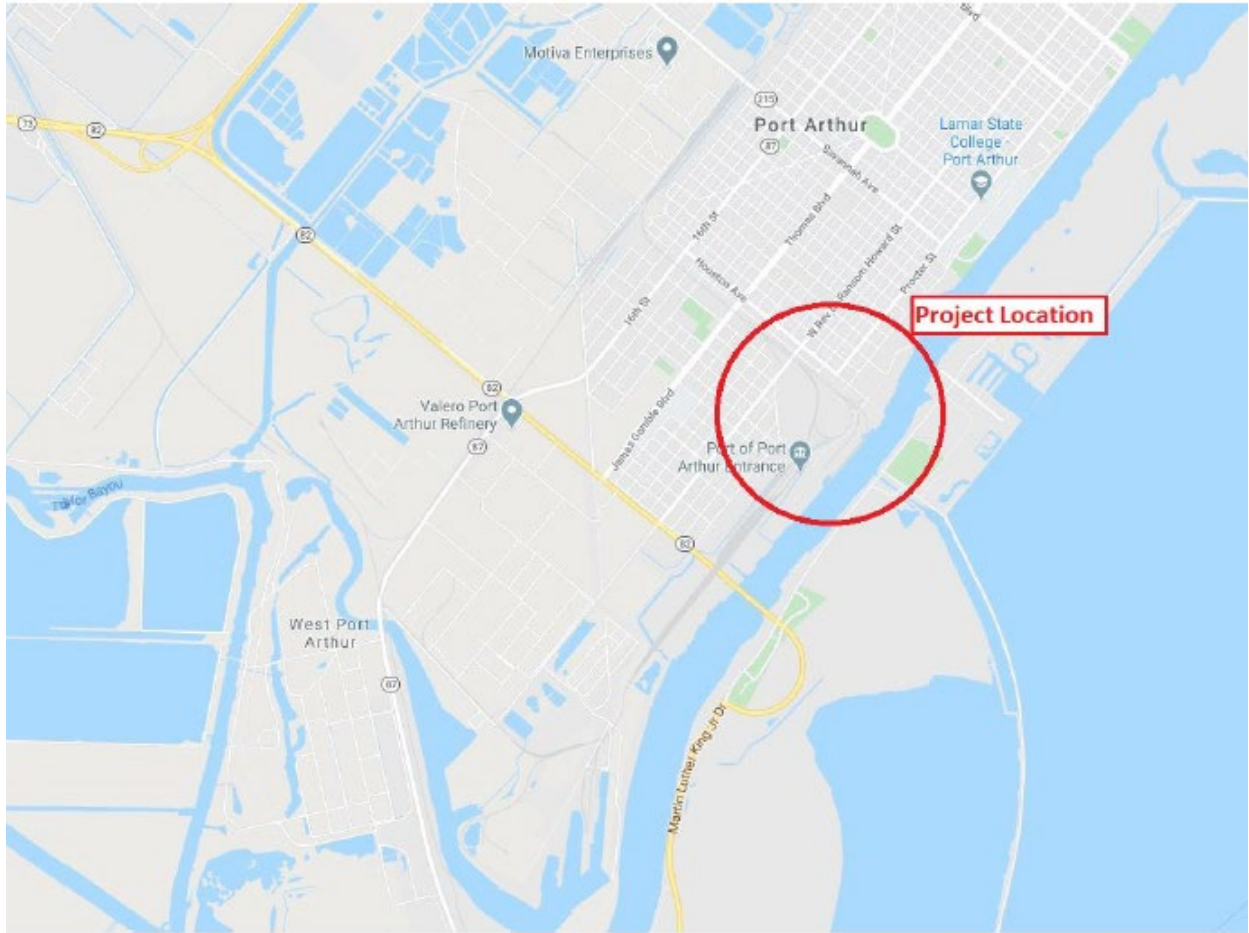


Figure 1. Project Vicinity Map

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Figure 2. Contract 3b Alignment

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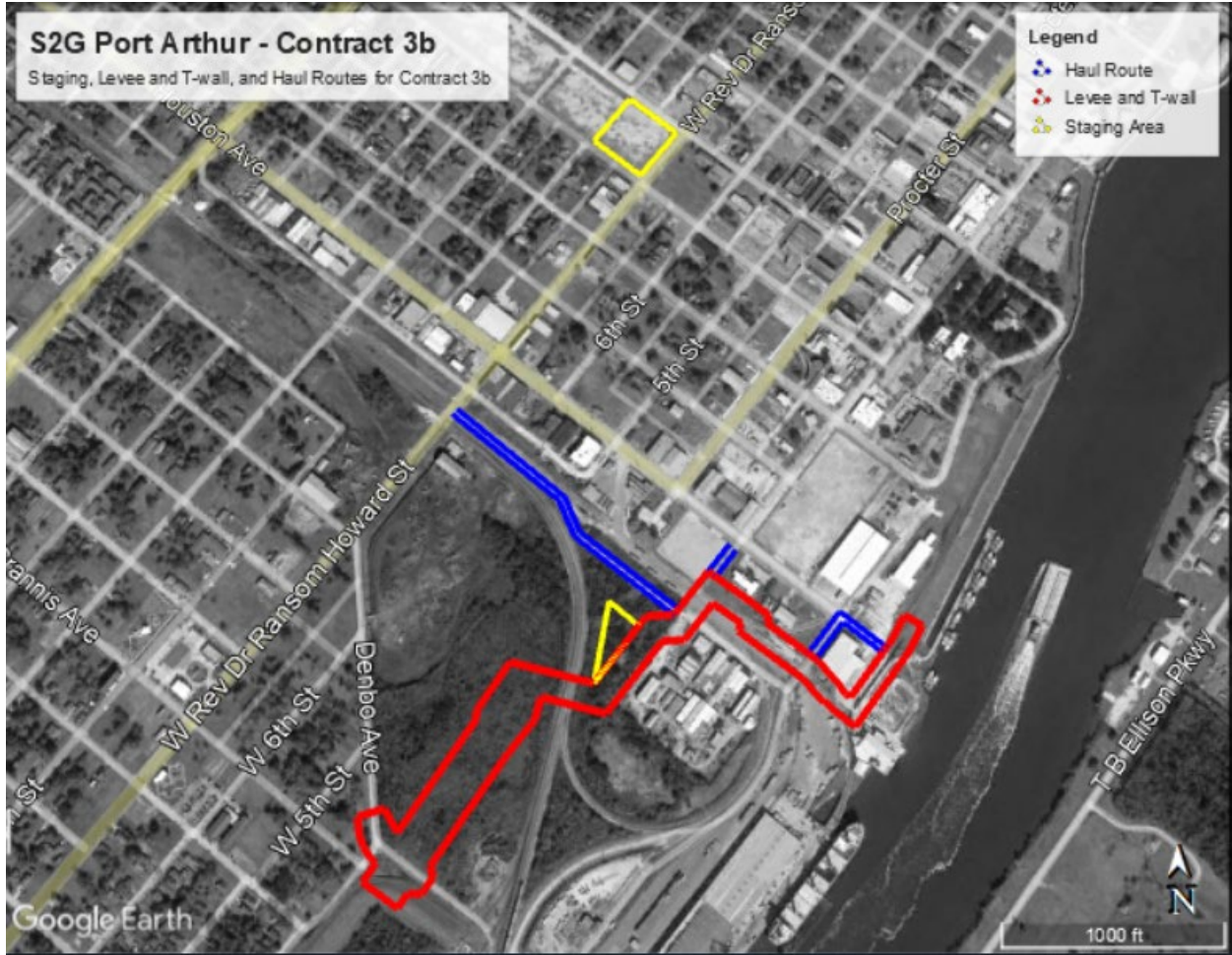


Figure 3. Staging Areas, Levee and T-wall, and Haul Routes for Contract 3b

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S2G Port Arthur - Contract 3b



April 5, 2022

Wetlands	Freshwater Emergent Wetland	Lake
Estuarine and Marine Deepwater	Freshwater Forested/Shrub Wetland	Other
Estuarine and Marine Wetland	Freshwater Pond	Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Figure 4. Wetlands within the Project Area as Described by the National Wetlands Inventory Mapper

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Figure 5. PAV03B Wetland Impacts

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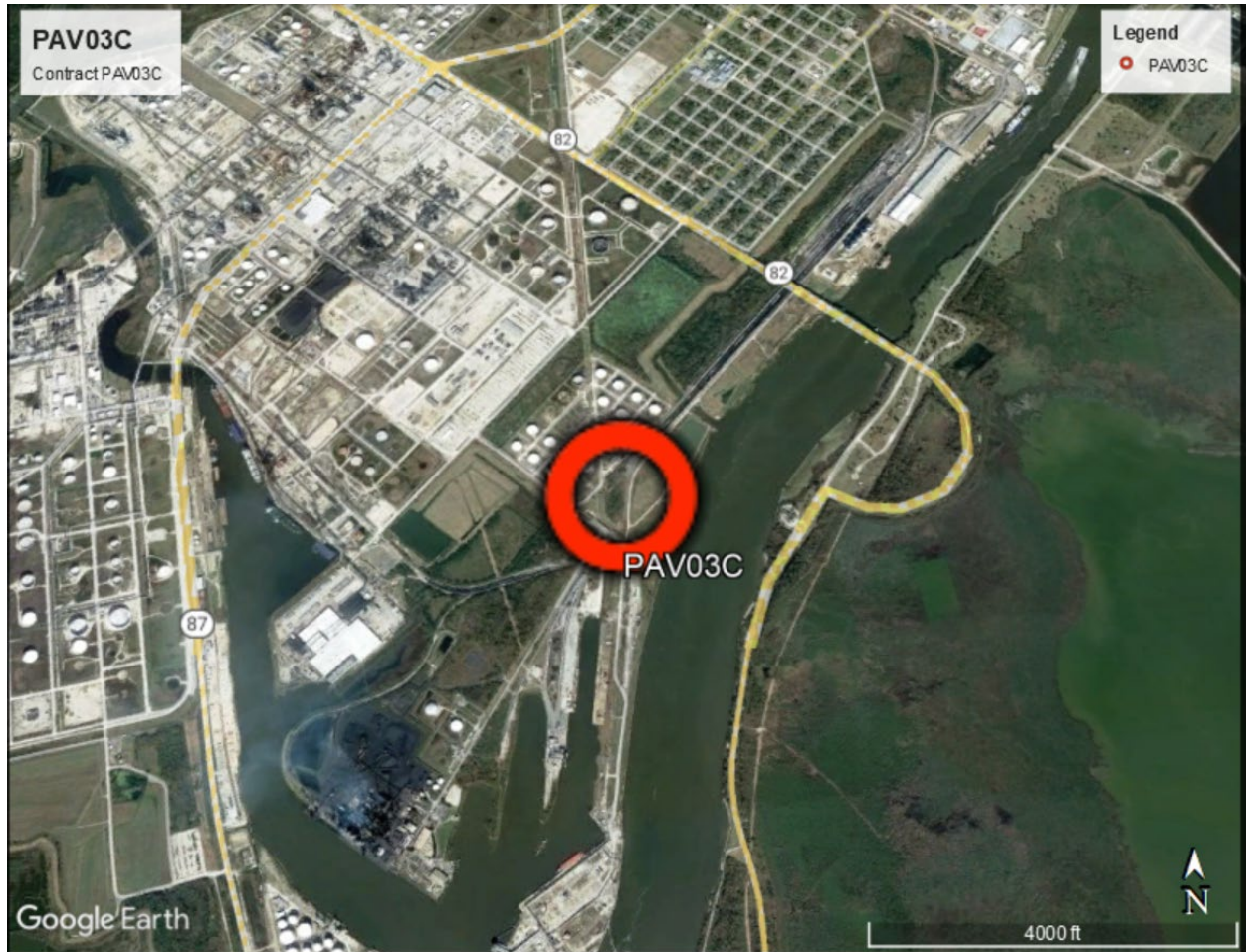


Figure 6. Project Vicinity Map

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Figure 7. Construction Staging Alignment

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Figure 8. Presence of Wetlands within the Alignment of the PAV03C

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ATTACHMENT B

Alternative Analysis

Per the approved feasibility report, the existing steel I-wall is to be replaced with a new floodwall to meet the updated flood height and loading requirements. The feasibility report assumed for estimating purposes that the floodwall would remain in its current alignment, but noted that two areas, including the area at the Port of Port Arthur (PPA) covered in Contract 3b, would be investigated for possible realignment during the Preconstruction, Engineering, and Design (PED) Phase due to existing infrastructure.

The purpose of the Alternatives Analysis was to document the initial design analysis and cost estimates of several alternatives for Port Arthur & Vicinity Contract 3b in order to allow the U.S. Army Corps of Engineers (USACE) and the non-Federal Sponsor (NFS) to select a design alignment to carry through the PED phase.

Alignment 1 contained several options along the existing Port dock, labelled here as 'a' for the train car roller gate option, and 'b' for the flip-up gate option.

Advantages of Alignment 1 include:

- This option is the only one that maintains the current alignment around the PPA's north facilities.
- Cheapest alternatives based on the Rough Order of Magnitude (ROM) cost estimate.

Disadvantages to Alignment 1 include:

- Complex logistics to operate during a flood event, requiring significant work by Jefferson County Drainage District No. 7 (DD7).
- Assumes that the PPA keeps their equipment and materials out of the way of the gates' operations, to avoid damage to the gates and allow speedy operation during a flood event.
- *Critical Item:* Further analysis is required to verify how these gates would transfer loads to the existing cutoff wall under the dock, and whether the dock face itself can withstand the required uplift forces.

During discussion of this report with DD7, a third option (1c) was discussed which would install a series of 16 conventional roller gates at each building exterior doorway, along with new abutments running along the building wall in between. Structural analysis of the existing dock determined that only Alignment 1b, with a flip-up gate through the existing building, remained viable as the existing dock could not sustain the required uplift forces. See Figure 1 for an example of a flip-up gate.

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Figure 1. Example Flip-up Gate



Figure 2. Alignment 1

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Advantages of Alignment 2 include:

- Standard pile-founded T-wall design,
- Does not include any unusual design elements.
- With the exception of a few hundred feet along Lake Shore Drive which must contend with nearby rail lines, there is also sufficient clearance for a new wall along the majority of this alignment.
- While Alignment 2 does not maintain the entire existing project alignment, it is relatively similar to the as-built alignment and protects the Port of Port Arthur's command center building.

Disadvantages include:

- This alignment is the most expensive option presented, based on the ROM cost estimate.
- *Critical factor:* The alignment is through the center of the PPA's site operations, which will likely provide construction complications, and is not favored by the Port due to its stated disruption to their operations and potential future expansion.



Figure 3. Alignment 2

Alignment 3 was removed from consideration prior to the full analysis of alternatives, and so is not included here. The alignment is very similar to Alignment 2, which was determined to a better option between the two.

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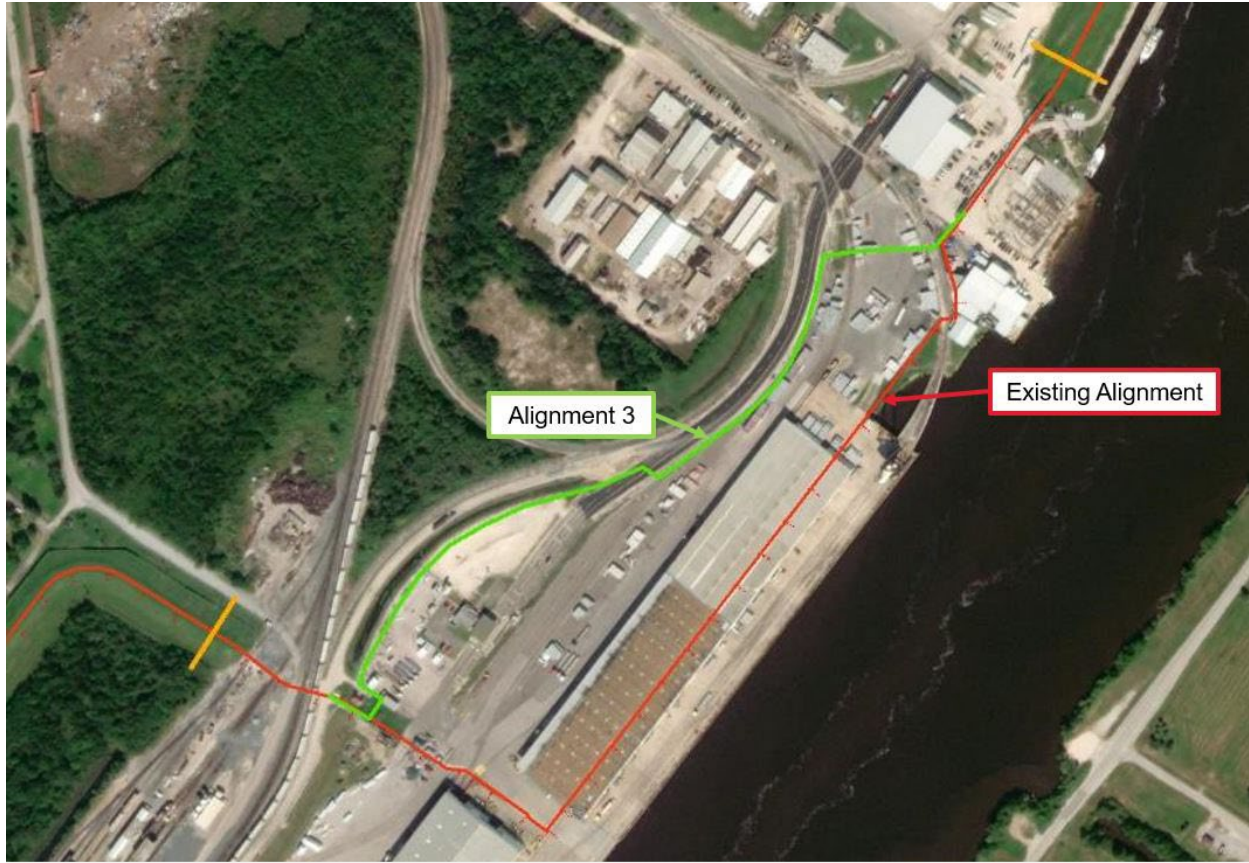


Figure 4. Alignment 3

Advantages of Alignment 4 include:

- Availability of land for construction, as the proposed alignment runs through open Kansas City Southern Railroad (KCSRR) owned land and along the side of an existing roadway.
- The alignment will not impact Port operations, and does not require DD7 to coordinate complex closures with the Port during a flood event.
- The alignment avoids the majority of PPA property, and so if the local sponsor cannot come to a real estate easement agreement with the Port this alignment could be constructed by working with KCSRR instead.
- This alignment is based on a standard levee and pile-founded T-wall design, and does not include any unusual design elements.

Disadvantages of Alignment 4 include:

- Longer alignment length

During discussion of the Alternatives Analysis with DD7, the possibility of protecting the Standard Alloys facility on KCSRR owned property was mentioned as a priority. The design team then investigated a revised Alignment 4b shown in Figure 6, which would shift the floodwall in front of this Standard Alloys

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facility. This version of the alignment would consist solely of pile founded T-wall at approximately 2,800' in length.

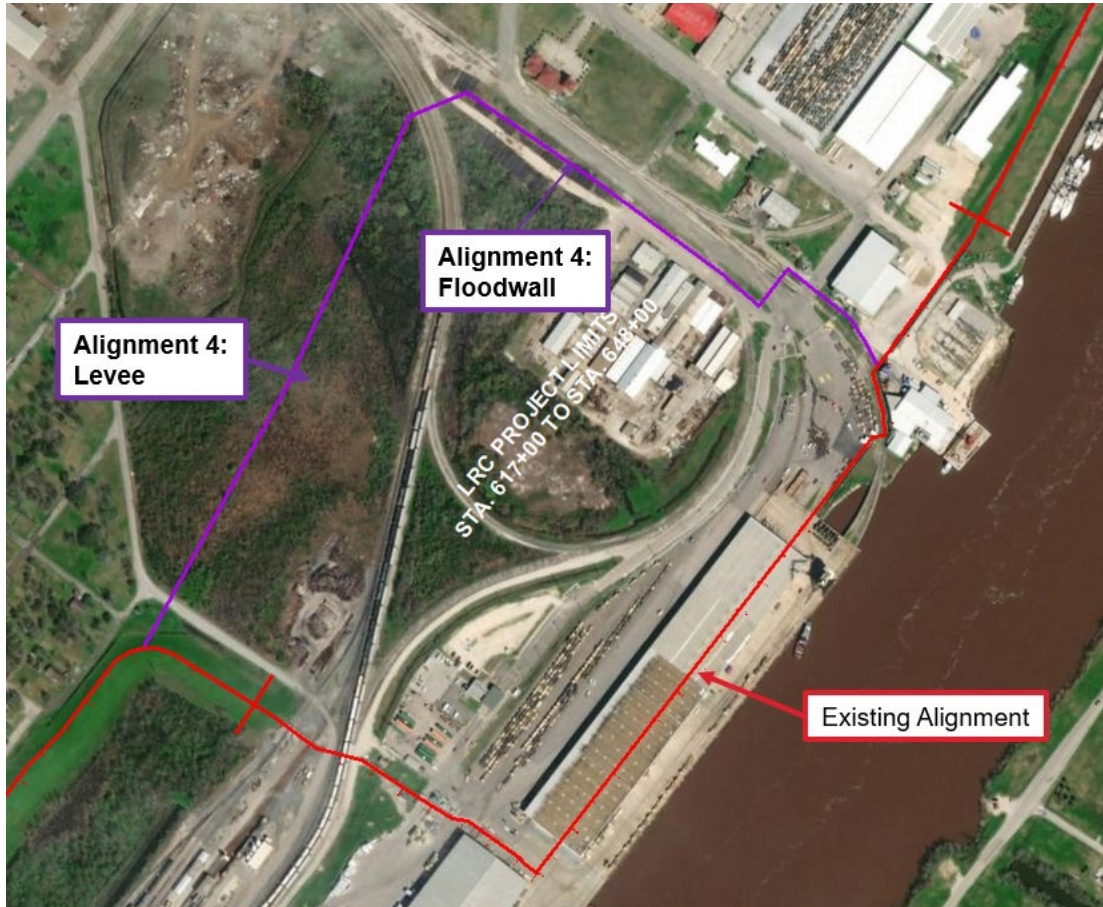


Figure 5. Alignment 4

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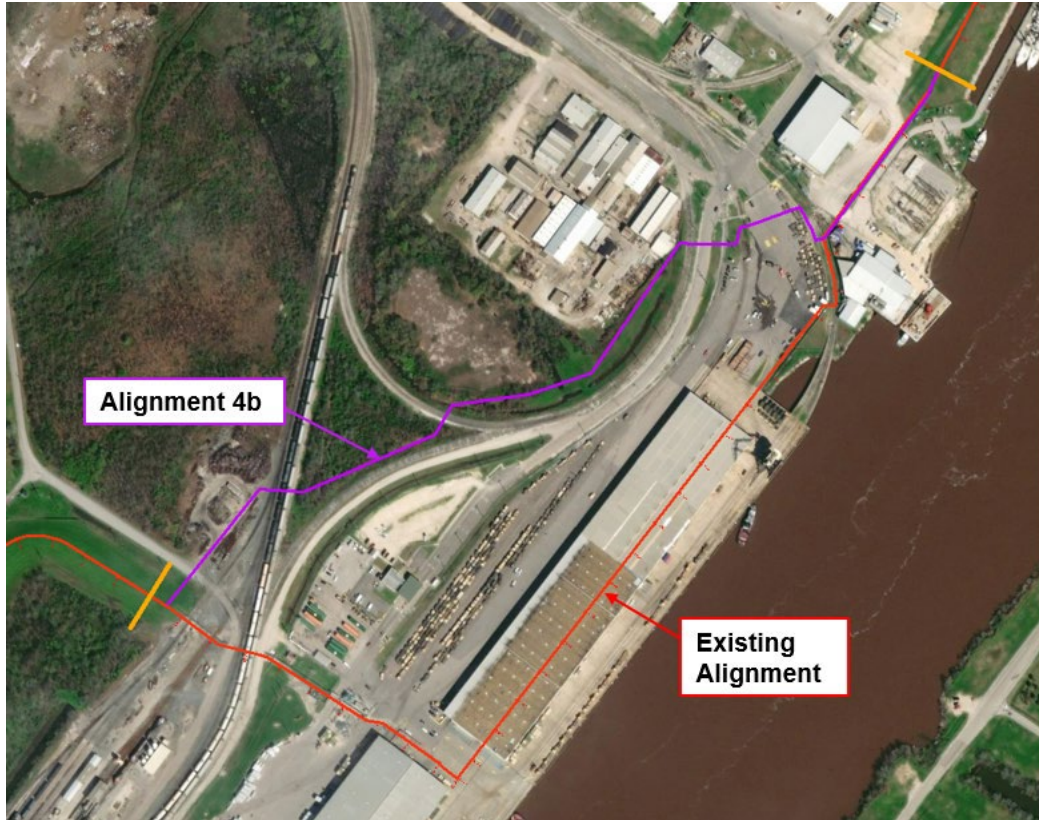


Figure 6. Alignment 4b

The pertinent features of each alternative are summarized below. Note that the ROM cost estimates were based on a 5-10 percent level design, have continued to be updated throughout the remainder of the PED process. These estimates were however considered sufficient as a basis of comparison between the alternatives.

Table 1. Alternatives Analysis Summary

	Alignment 1 (a & b)	Alignment 2	Alignment 4	Alignment 4b
Alignment Length	3,230'	2,870'	4,000'	3,500'
Number of Gates	9	10	6	10
Levee/Floodwall	Floodwall with flip/roller gates	Floodwall	Levee and Floodwall	Floodwall
Approx. Easement Width	21' + subgrade easement	21' + subgrade easement	21' + subgrade easement	21' + subgrade easement
Port in Line of Protection	Yes	Partial	No	No
ROM Cost Estimate	\$46,077,000 & \$44,573,000	\$57,465,000	\$48,521,000	\$49,199,000
Major Risks	Unusual design elements	Easement availability	Landowner support	Landowner support

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Based on this analysis, the design team considered alignments 1b and 4 or 4b to be the most viable alternatives. Based on Local sponsor coordination with landowners PPA and KCSRR, Alignment 4b is the preferred alternative. Neither the local sponsor nor the PPA prefer alternative 1b, which requires operation of gates within active port facilities during a flood scenario. Stakeholder support is considered a significant factor in the decision process, as the project cannot move forward without significant real estate acquisition. As Alignment 4b is also cost competitive and appears to have a viable design path forward, the PDT will move forward to detailed design on this alignment.

Following the completion of the Alternatives Analysis, the PDT reached out to the landowners for this project to further refine the proposed alternative 4b Alignment. Discussions with KCSRR and PPA led to further adjustments to the alignment to allow for planned track expansions in the area and to allow for a portion of the project to be levee instead of floodwall, providing cost savings. The alignment was also shifted back from the Port's main entrance to avoid unacceptable interruptions to operations during construction and once the floodwall is built. The final design alignment is referred to in the alternatives analysis as alignment 4D, and the detailed design of that alignment is reflected throughout the remainder of the Design Report prepared by USACE.

The change from the existing alignment was summarized in a memorandum for record routed for approval at Galveston District, to document all relevant USACE departments, NFS, and landowner concurrence with the plan.

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ATTACHMENT C

PAV03B



PAV03B 01 North



PAV03B 01 East



PAV03B 01 South



PAV03B 01 West

PAV03B



PAV03B 02 North



PAV03B 02 East



PAV03B 02 South



PAV03B 02 West

PAV03B



PAV03B 03 North



PAV03B 03 East



PAV03B 03 South

PAV03B



PAV03B 04 North



PAV03B 04 East



PAV03B 04 South



PAV03B 04 West

PAV03B

No photos were taken at PAV03B 05.



PAV03B 06 North



PAV03B 06 East



PAV03B 06 South



PAV03B 06 West

PAV03B



PAV03B 06.5 North



PAV03B 06.5 East



PAV03B 06.5 South



PAV03B 06.5 West

PAV03C



PAV03C 01 North



PAV03C 01 East



PAV03C 01 South



PAV03C 01 West

PAV03C



PAV03C 01 North



PAV03C 01 East



PAV03C 01 South



PAV03C 01 West

Texas Commission on Environmental Quality
401 State Certification Pre-filing Meeting Request Form

ATTACHMENT D

**Sabine Pass to Galveston Bay, Texas
Coastal Storm Risk Management and Ecosystem
Restoration
Final Integrated Feasibility Report and
Environmental Impact Study**

Appendix H

CLEAN WATER ACT SECTION 404(b)(1) EVALUATION

May 2017

EVALUATION OF SECTION 404(b)(1) GUIDELINES (SHORT FORM)

PROPOSED PROJECT: Sabine Pass to Galveston Bay, Texas, Coastal Storm Risk Management and Ecosystem Restoration Final Integrated Feasibility Report and Environmental Impact Statement (covering 3 separate project elements: Orange 3 CSRМ Recommended Plan, Port Arthur and Vicinity CSRМ TSP Recommended Plan, and Freeport and Vicinity CSRМ Recommended Plan)

	Yes	No*
1. Review of Compliance (230.10(a)-(d))		
A review of the proposed project indicates that:		
a. The placement represents the least environmentally damaging practicable alternative and, if in a special aquatic site, the activity associated with the placement must have direct access or proximity to, or be located in the aquatic ecosystem, to fulfill its basic purpose (if no, see section 2 and information gathered for EA alternative).	X	
b. The activity does not appear to:		
1) Violate applicable state water quality standards or effluent standards prohibited under Section 307 of the Clean Water Act;	X	
2) Jeopardize the existence of Federally-listed endangered or threatened species or their habitat; and	X	
3) Violate requirements of any Federally-designated marine sanctuary (if no, see section 2b and check responses from resource and water quality certifying agencies).	X	
c. The activity will not cause or contribute to significant degradation of waters of the U.S. including adverse effects on human health, life stages of organisms dependent on the aquatic ecosystem, ecosystem diversity, productivity and stability, and recreational, aesthetic, an economic values (if no, see values, Section 2)	X	
d. Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem (if no, see Section 5)	X	

	Not Applicable	Not Significant	Significant*
2. Technical Evaluation Factors (Subparts C-F) (where a 'Significant' category is checked, add explanation below.)			
a. Physical and Chemical Characteristics of the Aquatic Ecosystem (Subpart C)			
1) Substrate impacts		X	
2) Suspended particulates/turbidity impacts		X	
3) Water column impacts		X	
4) Alteration of current patterns and water circulation		X	
5) Alteration of normal water fluctuation/hydroperiod		X	
6) Alteration of salinity gradients		X	
b. Biological Characteristics of the Aquatic Ecosystem (Subpart D)			
1) Effect on threatened/endangered species and their habitat		X	

2) Effect on the aquatic food web		X	
3) Effect on other wildlife (mammals, birds, reptiles and amphibians)		X	
	Not Applicable	Not Significant	Significant*
2. Technical Evaluation Factors (Subparts C-F) (where a 'Significant' category is checked, add explanation below.)			
c. Special Aquatic Sites (Subpart E)			
<p>1) Sanctuaries and refuges</p> <p>No wetland or other special aquatic site impacts are anticipated in conjunction with the Port Arthur and Vicinity or Freeport and Vicinity CSRMs. Wetland impacts of the Orange 3 CSRMs plan were avoided and minimized to the greatest extent practicable by modifying the new levee system's alignment location. Remaining unavoidable impacts of the Orange 3 CSRMs plan to "Sanctuaries and Refuges" would occur to approximately 45.0 acres as shown in the FIFR-EIS. Approximately 28.8 acres would be directly impacted by construction within the right-of-way, while approximately 16.2 acres are remnants that would be not affected by construction, but cut-off from the rest of TPWD property in the area. In the Tony Houseman Wildlife Management Area (WMA), approximately 1.4 acres of the right-of-way impacts are forested wetlands and adjacent waters. In the Lower Neches WMA, approximately 18.9 acres of the right-of-way are wetlands, with the majority of impacts occurring to coastal marsh. The TPWD wetland impacts have been evaluated and quantified with the Wetland Value Assessment model along with all wetland impacts of the Orange 3 CSRMs plan. The plan would not impact any TPWD structures. All impacts are fully compensated by the overall mitigation plan described for the Orange 3 CSRMs plan. TPWD has accepted the feasibility-level impact and mitigation analysis, but wants coordination to continue into the PED phase when further hydraulics and hydrology analysis would be conducted. Final approval or concurrence by TPWD cannot occur until requirements of Chapter 26 of the Parks and Wildlife Code are met, and that would occur after the project is authorized. At this time, no obstacles to this approval have been identified.</p>			X

2) Wetlands No wetland or other special aquatic site impacts are anticipated in conjunction with the Port Arthur and Vicinity or Freeport and Vicinity CSRMs. Direct wetland impacts to approximately 160.2 acres, would result from construction of the Orange 3 CSRMs plan. Indirect impacts on about 2,249.5 acres would be associated with functional impacts to fisheries access and sediment, nutrient and organic matter exchange in the extensive marshes in the lower Cow and Adams Bayous floodplains. These indirect impacts also include limited indirect hydrologic impacts from construction of the levee and surge gates in a few locations. Ecological modeling of impacts of the Orange 3 CSRMs plan has determined that about 143 average annual habitat units (AAHUs) would be lost due to direct and indirect impacts to fresh, intermediate and brackish marsh, and about 43 AAHUs would be lost due to direct and indirect impacts to cypress-tupelo swamp and bottomland hardwood forests, over the 50-year period of analysis (see FIFR-EIS Appendix O). A mitigation plan has been proposed that would provide a total of about 263 AAHUs to fully compensate for the total loss of 186 AAHUs by restoring coastal marsh and preserving forested wetlands in perpetuity.			X
3) Mud flats	X		
4) Vegetated shallows	X		
5) Coral reefs	X		
6) Riffle and pool complexes	X		
d. Human Use Characteristics (Subpart F)			
1) Effects on municipal and private water supplies	X		
2) Recreational and Commercial fisheries impacts	X		
3) Effects on water-related recreation	X		
4) Aesthetic impacts		X	
5) Effects on parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves	X		

	Yes
3. Evaluation of Dredged or Fill Material (Subpart G)	
a. The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material (check only those appropriate)	
1) Physical characteristics	X
2) Hydrography in relation to known or anticipated sources of contaminants	X
3) Results from previous testing of the material or similar material in the vicinity of the project	X
4) Known, significant sources of persistent pesticides from land runoff or percolation	
5) Spill records for petroleum products or designated (Section 311 of Clean Water Act) hazardous substances	X

6) Other public records of significant introduction of contaminants from industries, municipalities or other sources	X
7) Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities	

List appropriate references:

- 1) USACE. 2008. Final Environmental Assessment – Restoration of the Mouth of the San Bernard River to the Gulf of Mexico, Brazoria County, Texas. Galveston District, Galveston, Texas.
- 2) USACE. 2011. Final Environmental Impact Statement for Sabine-Neches Waterway Channel Improvement Project, Southeast Texas and Southwest Louisiana. Galveston District, Galveston, Texas.
- 3) USACE. 2012. Final Environmental Impact Statement for Freeport Harbor Channel Improvement Project, Brazoria County, Texas. Galveston District, Galveston, Texas.
- 4) USACE. 2015. Appendix N, Hazardous, Toxic and Radioactive Waste Assessment for Sabine Pass to Galveston Bay Integrated Feasibility Report and EIS.
- 5) SOL Engineering Services, LLC. 2012. Letter Report of Results of Sediment and Elutriate Testing and Analysis for Maintenance Dredging of the Sabine-Neches Waterway.

	Yes	No
b. An evaluation of the appropriate information in 3a above indicates that there is reason to believe the proposed dredged or fill material is not a carrier of contaminants, or that levels of contaminants are substantively similar at extraction and placement sites and not likely to degrade the placement sites, or the material meets the testing exclusion criteria.	X	

	Yes
4. Placement Site Delineation (230.11(f))	
a. The following factors as appropriate, have been considered in evaluating the placement site:	N/A
1) Depth of water at placement site	
2) Current velocity, direction, and variability at placement site	
3) Degree of turbulence	
4) Water column stratification	
5) Discharge vessel speed and direction	
6) Rate of discharge	
7) Fill material characteristics (constituents, amount, and type of material, settling velocities)	
8) Number of discharges per unit of time	

9) Other factors affecting rates and patterns of mixing (specify)	
---	--

List appropriate references:

	Yes	No
b. An evaluation of the appropriate factors in 4a above indicates that the placement site and/or size of mixing zone are acceptable.	N/A	

	Yes	No
5. Actions to Minimize Adverse Effects (Subpart H)		
All appropriate and practicable steps have been taken, through application of recommendations of 230.70-230.77 to ensure minimal adverse effects of the proposed discharge.	X	

List actions taken:

- 1) Silt curtains will be utilized to prevent inadvertent discharge of fill material into adjacent wetlands or waterbodies. Forestry BMPs will be utilized to prevent disturbance of forest floors.

	Yes	No*
6. Factual Determination (230.11)		
A review of appropriate information as identified in items 2-5 above indicates that there is minimal potential for short- or long-term environmental effects of the proposed discharge as related to:		
a. Physical substrate at the placement site (review Sections 2a, 3, 4, and 5 above)	X	
b. Water circulation, fluctuation and salinity (review Sections 2a, 3, 4, and 5)	X	
c. Suspended particulates/turbidity (review Sections 2a, 3, 4, and 5)	X	
d. Contaminant availability (review Sections 2a, 3, and 4)	X	
e. Aquatic ecosystem structure and function (review Sections 2b and c, 3, and 5)	X	
f. Placement site (review Sections 2, 4, and 5)	X	
g. Cumulative impacts on the aquatic ecosystem	X	
h. Secondary impacts on the aquatic ecosystem	X	

7. Evaluation Responsibility
a. This evaluation was prepared by: Janelle Stokes Position: Regional Technical Specialist, Unit A, CESWF-PEC-CC

8. Findings	Yes
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a. The proposed placement site for discharge of or fill material complies with the Section 404(b)(1) Guidelines.	X
b. The proposed placement site for discharge of dredged or fill material complies with the Section 404(b)(1) Guidelines with the inclusion of the following conditions:	

List of conditions:

c. The proposed placement site for discharge of dredged or fill material does not comply with the Section 404(b)(1) Guidelines for the following reason(s):	
1) There is a less damaging practicable alternative	
2) The proposed discharge will result in significant degradation of the aquatic ecosystem	
3) The proposed discharge does not include all practicable and appropriate measures to minimize potential harm to the aquatic ecosystem	
1 November 2016 <hr/> Date	<p style="text-align: right;">Digitally signed by BURKS-COPES.KELLY.A.1231450927 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=BURKS-COPES.KELLY.A.1231450927 Date: 2016.11.01 10:27:33 -05'00'</p> <hr/> <p style="text-align: center;">BURKS- COPES.KELLY.A.1231450927</p> <hr/> <p style="text-align: center;">KELLY BURKS-COPES Chief, Coastal Section, CESWF-PEC-CC</p>

NOTES:

- * A negative, significant, or unknown response indicates that the permit application may not be in compliance with the Section 404(b)(1) Guidelines.

Negative responses to three or more of the compliance criteria at the preliminary stage indicate that the proposed projects may not be evaluated using this “short form” procedure. Care should be used in assessing pertinent portions of the technical information of items 2a-e before completing the final review of compliance.

Negative response to one of the compliance criteria at the final stage indicates that the proposed project does not comply with the Guidelines. If the economics of navigation and anchorage of Section 404(b)(2) are to be evaluated in the decision-making process, the “short form” evaluation process is inappropriate.

Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Jon Niermann, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 17, 2016

Ms. Kelly Burkes-Copes
Galveston District
U.S. Army Corps of Engineers
P.O. Box 1229
Galveston, Texas 77553-1229

Attention: Ms. Janelle Stokes

Re: Sabine Pass to Galveston Bay Coastal Storm Risk Management and Ecosystem Restoration

Dear Ms. Burkes-Copes:

This letter is in response to your letter dated November 1, 2016, requesting state water quality certification for the US Army Corps of Engineers (Corps), Galveston District and the Texas General Land Office (GLO) proposed Sabine Pass to Galveston Bay, Texas, Ecosystem Restoration (ER) and Coastal Storm Risk Management (CSRM) project. The Recommended Plan proposes to reduce risks of tropical storm surge impacts by constructing a new CSRM system in Orange County, and increase the level of risk reduction and resiliency of the existing Port Arthur and Vicinity and Freeport and Vicinity Hurricane Flood Protection (HFP) systems in Jefferson and Brazoria Counties, Texas, respectively.

The Texas Commission on Environmental Quality (TCEQ) has reviewed the Draft Integrated Feasibility Report and Environmental Impact Statement (Draft IFR-EIS) for the Sabine Pass to Galveston Bay CSRM and ER dated September 2015, the Corps' response to TCEQ comments in a letter dated August 5, 2016, Appendices O and P dated September 2016 of the forthcoming Final IFR-EIS, and related information along with your letter. Although the TCEQ does not typically make a water quality certification decision for an EIS prior to review of the Final IFR-EIS and the Record of Decision (ROD), TCEQ has determined it appropriate to make a decision in this case based on the available information, including the documents noted above. On behalf of the Executive Director and based on our evaluation of the information contained in these documents, the TCEQ certifies that there is reasonable assurance that the project will be conducted in a way that will not violate water quality standards. General information regarding this water quality certification, including standard provisions of the certification, is included as an attachment to this letter.

The Orange 3 CSRM Recommended Plan would consist of a 27-mile long levee and floodwall system along the edge of the Sabine and Neches River floodplains from the City of Orange to the vicinity of Orangefield, Texas. Ecological modeling of impacts of the final

Ms. Kelly Burkes-Copes
U.S. Army Corps of Engineers
Sabine Pass to Galveston Bay, Texas CSRM
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Orange 3 CSRM Plan determined that 143 average annual habitat units (AAHUs) would be lost due to direct and indirect impacts to fresh, intermediate, and brackish marsh, and 43 AAHUs would be lost due to direct and indirect impacts to cypress-tupelo swamp and bottomland hardwood forests. The Port Arthur and Freeport CSRM Recommended Plans would raise existing levees, construct and reconstruct floodwalls, replace vehicular closure structures and increase resiliency by installing erosion protection. The Port Arthur and Freeport Plans would result in only negligible impacts.

The proposed mitigation plan would provide a total of 263 AAHUs to compensate for the total loss 186 AAHUs by restoring coastal marsh and preserving forested wetlands in perpetuity.

No review of property rights, location of property lines, nor the distinction between public and private ownership has been made, and this certification may not be used in any way with regard to questions of ownership.

If you require additional information or further assistance, please contact Mr. C. Brad Caston, Water Quality Assessment Section, Water Quality Division (MC-150), at (512) 239-4711 or by email at Charles.Caston@tceq.texas.gov.

Sincerely,



David W. Galindo, Director
Water Quality Division
Texas Commission on Environmental Quality

DWG/CBC/tc

Attachment

cc: Mr. Ray Newby, Texas General Land Office, P. O. Box 12873, Austin, Texas 78711-2873

Ms. Kelly Burkes-Copes
U.S. Army Corps of Engineers
Sabine Pass to Galveston Bay, Texas CSRSM
Attachment - Dredge and Fill Certification
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WORK DESCRIPTION: As described in Draft Integrated Feasibility Report and Environmental Impact Statement (Draft IFR-EIS) for the Sabine Pass to Galveston Bay Coastal Storm Risk Management (CSRSM) and Ecosystem Restoration (ER) dated September 2015 and Appendices O and P dated September 2016 of the forthcoming Final IFR-EIS.

SPECIAL CONDITIONS: None

GENERAL: This certification, issued pursuant to the requirements of Title 30, Texas Administrative Code, Chapter 279, is restricted to the work described in Draft IFR-EIS for the Sabine Pass to Galveston Bay CSRSM and ER dated September 2015 and Appendices O and P dated September 2016 of the forthcoming Final IFR-EIS. This certification may be extended to any minor revision of the project when such change(s) would not result in an impact on water quality. The Texas Commission on Environmental Quality (TCEQ) reserves the right to require full joint public notice on a request for minor revision.

STANDARD PROVISIONS: These following provisions attach to any permit issued by the COE and shall be followed by the permittee or any employee, agent, contractor, or subcontractor of the permittee during any phase of work authorized by a COE permit.

1. The water quality of wetlands shall be maintained in accordance with all applicable provisions of the Texas Surface Water Quality Standards including the General, Narrative, and Numerical Criteria.
2. The applicant shall not engage in any activity which will cause surface waters to be toxic to man, aquatic life, or terrestrial life.
3. Permittee shall employ measures to control spills of fuels, lubricants, or any other materials to prevent them from entering a watercourse. All spills shall be promptly reported to the TCEQ by calling the State of Texas Environmental Hotline at 1-800-832-8224.
4. Sanitary wastes shall be retained for disposal in some legal manner. Marinas and similar operations which harbor boats equipped with marine sanitation devices shall provide state/federal permitted treatment facilities or pump out facilities for ultimate transfer to a permitted treatment facility. Additionally, marinas shall display signs in appropriate locations advising boat owners that the discharge of sewage from a marine sanitation device to waters in the state is a violation of state and federal law.

Ms. Kelly Burkes-Copes
U.S. Army Corps of Engineers
Sabine Pass to Galveston Bay, Texas CSR
Attachment - Dredge and Fill Certification
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5. Materials resulting from the destruction of existing structures shall be removed from the water or areas adjacent to the water and disposed of in some legal manner.
6. A discharge shall not cause substantial and persistent changes from ambient conditions of turbidity or color. The use of silt screens or other appropriate methods is encouraged to confine suspended particulates.
7. The placement of any material in a watercourse or wetlands shall be avoided and placed there only with the approval of the Corps when no other reasonable alternative is available. If work within a wetland is unavoidable, gouging or rutting of the substrate is prohibited. Heavy equipment shall be placed on mats to protect the substrate from gouging and rutting if necessary.
8. Dredged Material Placement: Dredged sediments shall be placed in such a manner as to prevent any sediment runoff onto any adjacent property not owned by the applicant. Liquid runoff from the disposal area shall be retained on-site or shall be filtered and returned to the watercourse from which the dredged materials were removed. Except for material placement authorized by this permit, sediments from the project shall be placed in such a manner as to prevent any sediment runoff into waters in the state, including wetlands.
9. If contaminated spoil that was not anticipated or provided for in the permit application is encountered during dredging, dredging operations shall be immediately terminated and the TCEQ shall be contacted by calling the State of Texas Environmental Hotline at 1-800-832-8224. Dredging activities shall not be resumed until authorized by the Commission.
10. Contaminated water, soil, or any other material shall not be allowed to enter a watercourse. Noncontaminated storm water from impervious surfaces shall be controlled to prevent the washing of debris into the waterway.
11. Storm water runoff from construction activities that result in a disturbance of one or more acres, or are a part of a common plan of development that will result in the disturbance of one or more acres, must be controlled and authorized under Texas Pollutant Discharge Elimination System (TPDES) general permit TXR150000. A copy of the general permit, application (notice of intent), and additional information is available at:
http://www.tceq.texas.gov/permitting/stormwater/wq_construction.html or by contacting the TCEQ Storm Water & Pretreatment Team at (512) 239-4671.

Ms. Kelly Burkes-Copes
U.S. Army Corps of Engineers
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12. Upon completion of earthwork operations, all temporary fills shall be removed from the watercourse/wetland, and areas disturbed during construction shall be seeded, riprapped, or given some other type of protection to minimize subsequent soil erosion. Any fill material shall be clean and of such composition that it will not adversely affect the biological, chemical, or physical properties of the receiving waters.
13. Disturbance to vegetation will be limited to only what is absolutely necessary. After construction, all disturbed areas will be revegetated to approximate the pre-disturbance native plant assemblage.
14. Where the control of weeds, insects, and other undesirable species is deemed necessary by the permittee, control methods which are nontoxic to aquatic life or human health shall be employed when the activity is located in or in close proximity to water, including wetlands.
15. Concentrations of taste and odor producing substances shall not interfere with the production of potable water by reasonable water treatment methods, impart unpalatable flavor to food fish including shellfish, result in offensive odors arising from the water, or otherwise interfere with reasonable use of the water in the state.
16. Surface water shall be essentially free of floating debris and suspended solids that are conducive to producing adverse responses in aquatic organisms, putrescible sludge deposits, or sediment layers which adversely affect benthic biota or any lawful uses.
17. Surface waters shall be essentially free of settleable solids conducive to changes in flow characteristics of stream channels or the untimely filling of reservoirs, lakes, and bays.
18. The work of the applicant shall be conducted such that surface waters are maintained in an aesthetically attractive condition and foaming or frothing of a persistent nature is avoided. Surface waters shall be maintained so that oil, grease, or related residue will not produce a visible film of oil or globules of grease on the surface or coat the banks or bottoms of the watercourse.
19. This certification shall not be deemed as fulfilling the applicant's/permittee's responsibility to obtain additional authorization/approval from other local, state, or federal regulatory agencies having special/specific authority to preserve and/or protect resources within the area where the work will occur.