

Sub-Appendix F-3

Design Maturity Memo

Matagorda Ship Channel Improvement, Port Lavaca, Texas
Validation Report and Supplemental Environmental Impact
Statement,
Calhoun and Matagorda Counties, Texas

May 2026



**US Army Corps
of Engineers**

Galveston District

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Design Maturity Determination for Cost Certification

Date: 4/3/26

P2 Designation/Project Name: 451954/Matagorda Ship Channel Improvement Project

The Chief of Engineering is responsible for the technical content and engineering sufficiency for all engineering products produced by the command. As such, I have performed the Management Control Evaluation per Engineer Regulation (ER) 1110-2-1150, Engineering and Design for Civil Works Projects, Appendix H, Internal Management Control Review Checklist.

The current design DOES NOT require HQ approval (i.e., engineering waivers), requiring a deviation from mandatory requirements and mandatory standards, as defined in ERs, Engineering Manuals, Engineering Technical letters, and Engineering Circulars.

The current hydrology and hydraulics modeling is at 35 % design maturity, per reference (h) below.

The current geotechnical data and subsurface investigations are at 35 % design maturity, per reference (h) below. Subsurface investigations shall also include investigations of potential borrow and spoil areas.

The current survey data is at 35 % design maturity, per reference (h) below.

Other major technical and/or scope assumptions and risks include the following, which will be refined as the design progresses.

The current design employs a desktop analysis to best estimate long-term placement area capacity. Real capacities should be verified for neat-line requirements during the PED phase of the project by bathymetric surveying. Plans consist of engineering plates and design templates that will be refined during PED; this is not considered a direct impact to design maturity.

The aggregate for all features is 35 % design maturity. Therefore, per the CECW-EC memorandum dated 05-June-2023, I certify that the design deliverables used to generate the cost products for this project and the estimate meet the requirements for a CLASS 3 estimate, as per reference (a) below. Design risks, impacts and remaining efforts are summarized on page 2.

Considering risks and assumptions noted above, along with all other concerns documented in the Risk Register, the Cost and Schedule Risk Analysis has developed a contingency of 28 % at the 80 % confidence level for the defined project scope.

Chief of Engineering

Joseph L. King, RA
Deputy Division Chief for Engineering
USACE, Galveston District

Printed Name

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Date: 2026.03.26 10:22:09 -05'00'

Signature

Design Maturity Determination for Cost Certification, Remaining Work

If an engineering waiver is required, list the risks and remaining design work needed to mitigate this issue in the current design. Identify remaining effort to complete the design required for 100% design.
N/A

Identify remaining effort to complete geotechnical design effort required for 100% design. List the risks and cost and schedule impacts needed to mitigate this issue in the current design.

Remaining effort will be focused on placement area (Bird Island, other OWPA's with utilities nearby) subsurface condition assessment to design for settlement/loading. The impact to cost and schedule will be vibracoring (samples) at the PED phase to support the geotechnical analysis. Risk is relatively low for schedule. Standard risk is assumed for the budget needed for field investigation.

Identify remaining effort required to complete H&H required for 100% design. List the risks and cost and schedule impacts needed to mitigate this issue in the current design.

H&H work during feasibility phase of the project consisted of the update and modification to the existing coastal model to inform the shoaling analysis (maintenance costs). The model has not been implemented for modeling of design features in a detailed investigation. The interaction of design features in the coastal setting has not been well understood; currents, waves, adverse impacts, or project success criteria have not been the primary focus in feasibility given the experience and familiarity with such designs. The existing model has been recently validated and is deemed reasonable for use in PED in its current state. The main focus of H&H in PED will be refining concept-level designs to incorporate environmental, structural, and recreational requirements. Cost and schedule risks associated with these potential changes are captured in the CSRA.

Identify remaining effort needed to complete survey data required for 100% design. List the risks and cost and schedule impacts needed to mitigate this issue in the current design.

Surveying will include all proposed disposal and mitigation areas outside of ODMDs. To mitigate the risk to schedule and cost impact, surveys should encompass the minimum resolution needed to have 95% confidence on dredged material capacity. PED design will rely on these new surveys to finalize the project features, such as the Bird Island and Oyster mitigation sites. Impact to cost will be for survey contracting and processing to inform the engineering design. Efforts should be made to schedule the surveys such that inherent dependencies are respected for the project design. Risk to schedule is low.

If the project is anticipated to be executed in parts, provide a design assessment (percent complete) of each part/phase below.

The project will be executed in 5 separate "parts":

- (1) Relocations (30%)
- (2) Mitigation (30%)
- (3) Pipeline Dredging (30%)
- (4) Hopper Dredging (30%)
- (5) Bird Island (22%)

The weighted aggregate of the design parts results is an average score near 30% when considering risks to project cost (weighted by cost). Completion of reviews assigns an additional 5% to the maturity score (automatically) such that the design maturity for the project is at 35%.

References:

- a. ER 1110-2-1302 – Civil Works Cost Engineering
- b. CECW-EC memorandum dated 05-June-2023MFR, Guidance on Cost Engineering Products update for Civil Works Projects in accordance with Engineer Regulation 1110-2-1302 – Civil Works Cost Engineering
- c. ER 1165-2-217 – Civil Works Review Policy
- d. ER 1110-2-1150 – Engineering and Design for Civil Works Projects
- e. ER 1110-3-12 – Quality Management
- f. ER 1110-345-700 – Design Analysis, Drawings and Specifications
- g. EM 5-1-11 – Project Delivery Business Process (PDBP)
- h. Engineering and Construction Bulletin (ECB) 2023-9 – Civil Works Design Milestone Checklists

Design Maturity Determination for Cost Certification – Instructions

Paragraph 1 – Design Date: Use the drop-down menu to populate the date of the design.

Paragraph 1 – Project Information: Enter the P2 Project number and Project name.

Paragraph 3 – Engineering Waivers: Use the drop-down menu to populate this field with either “Does,” or “Does not.” If an engineering waiver is needed, or anticipated to be needed, provide the specific waiver required for the Project. A waiver is any deviation from current mandatory standards, as indicated.

Paragraph 4 – Hydrology and Hydraulics: Populate this field with the % design maturity.

Paragraph 5 – Geotechnical Information: Populate this field with the % design maturity.

Paragraph 6 – Survey Data: Populate this field with the % design maturity.

Paragraph 7 – Other Technical Assumptions and/or Scope: Enter any other major technical assumptions or scope assumptions here. Only include assumptions that pertain to design. Template discussion fields are provided as a courtesy. Please include additional pages as necessary.

Paragraph 8 – Signature: Print the name and title and provide the signature for the District’s Chief of Engineering. This authority cannot be delegated; however, the Deputy Chief of Engineering and Design may sign the form in the absence of the Chief of Engineering. All fillable fields must be populated (use N/A if not applicable) in order for the document to be signed.

Page 2 – Remaining Work: Identify the current baseline design assumptions and the remaining design effort and risks to complete 100% design for the authorized project. If the project is to be broken into parts or phases, provide details on the aggregate design level of each phase and anticipated timeline for completion.