

Appendix B – Costs

**Galveston Island Coastal Erosion,
City of Galveston, Galveston County, Texas
Section 204
Final Integrated Detailed Project Report and
Environmental Assessment**

February 2023



**US Army Corps
of Engineers**

Galveston District

(NOTE: This page intentionally left blank.)

Table of Contents

Page 1 – Cost Report
Page 3 – Base Plan MII Report
Page 6 – Alternate 2 MII Report
Page 9 – Base Plan Abbreviated Risk Analysis
Page 12 – Alternative 2 Abbreviated Risk Analysis
Page 15 – Total Project Cost Summary

List of Tables

Page 2 – Construction Calendar
Page 2 – Contract Calendar

List of Acronyms

ARA – Abbreviated Risk Analysis
CAP – Continuing Authorities Program
CEDEP – Cost Engineering Dredge Estimating Program
CESWG – Corps of Engineers Galveston District
CM – Construction Management
FWOP – Future with out Project (Federal Base Plan)
H&H – Hydraulics and Hydrology
MII – Micro-Computer Aided Cost Estimating System, Second Generation
NED – National Economic Development
O&M – Operations and Maintenance
PDT – Project Delivery Team
PED – Planning, Engineering, and Design
PM – Project Manager
TPCS – Total Project Cost Summary

**461161 – Galveston Island Coastal Erosion (CAP SEC 204)
October 2021 Price Levels**

This study focuses on beneficial use of dredged material for beach nourishment on the west end of Galveston Island. Two alternative placement areas were considered. Both extend for 1.7 miles and are offset from each other by approximately 0.5 miles.

Class 4 cost estimates and an Abbreviated Risk Analysis (ARA) were developed for the alternatives. Costs include a Future With Out Project (FWOP) alternative so that the incremental costs above the FWOP state could be found for the other alternatives.

Alternative 2 was selected as the plan with the greatest benefit to cost ratio. Alternative 2 calls for dredge material to be brought to the west end of Galveston Island by a hopper dredge with pumpout capabilities for beach placement beginning at Sunbather Lane and extending 1.7 miles west.

A class 3 cost estimate and an ARA were developed for Alternative 2. The ARA resulted in a 26% contingency, which the PDT deemed as reasonable for this project. This contingency is applied to all costs except Real Estate.

The PDT developed, quality controlled, and verified quantities. The estimate was organized in accordance with the work breakdown structure using the following codes of account.

ACCOUNT CODE 01 - LANDS AND DAMAGES: The Galveston District Real Estate Division developed costs and contingency for Lands and Damages.

ACCOUNT CODE 12 – NAVIGATION PORTS AND HARBORS: H&H Branch provided the quantities associated with this account. It was assumed that the dredge material would come from the Galveston Entrance Channel using traditional dredging methods for the area. The dredging cost was developed using a CEDEP and based on standard operating practices for the Galveston District.

ACCOUNT CODE 30 – PLANNING, ENGINEERING, AND DESIGN: The cost for this account code was developed using a percentage of the construction work and in coordination with the PM/PDT.

ACCOUNT CODE 31 - CONSTRUCTION MANAGEMENT: The cost for this account code was developed using a percentage of the construction work and in coordination with the PM/PDT.

The construction schedule was estimated given CEDEP values for dredging time as well as prior projects of similar scope with regards to beach nourishment. The resulting calendars (Tables 1 and 2) show the resulting project length of four months and the construction schedule estimate. The four months includes 2 months of mobilization and dredging of the ship channel, followed by an additional 2 months of pumping, shaping material, and closeout. Lastly, the Total Project Cost Summary, attached at the end of the appendix, gives the total cost for a fully funded project. This includes contingency and escalation/inflation before and during project construction. The total project cost is \$23,061,000. Subtracting the cost of the Federal Standard (Base Plan - \$7,946,000), which will be funded by Operations and Maintenance funds, the final bottom line total for a fully funded project is **\$15,115,000**.

Table 1

Construction Calendar

--- NEW WORK ---														
P2-461161 - Galveston Island Coastal Erosion (CAP Sec 204) - NED Plan														
Feasibility Study														
October 2021 Price Levels														
VISUAL CALENDAR														
			FY 2024 - YEAR 1											
NO.	DESCRIPTION	DURATION	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
			1	2	3	4	5	6	7	8	9	10	11	12
CONT 1	Dredging													

Table 2

Contract Calendar

--- NEW WORK ---						
P2-461161 - Galveston Island Coastal Erosion (CAP Sec 204) - NED Plan						
Feasibility Study						
October 2021 Price Levels						
CONTRACT CALENDAR						
CONTRACT	DESCRIPTION	DURATION (month)	DESIGN MIDPOINT	START DATE	MIDPOINT	END DATE
1	Dredging	4	Apr-24 (2024Q3)	Oct-24 (2025Q1)	Nov-24 (2025Q1)	Jan-25 (2025Q2)

Galveston Beach Nourishment

Estimated by Mason McGown
Designed by CESWG-ECE-P
Prepared by U.S. Army Corps of Engineers - Galveston District

Preparation Date 10/29/2021
Effective Date of Pricing 10/1/2021
Estimated Construction Time 30 Days

This report is not copyrighted, but the information contained herein is For Official Use Only.

<u>Description</u>	<u>Quantity</u>	<u>UOM</u>	<u>ProjectCost</u>
Project Cost Summary Report			5,602,105.00
Contract 1	1	JOB	5,602,105.00
12 Navigation, Ports, and Harbors	1	JOB	5,602,105.00
0001 Mobilization and Demobilization	1	JOB	2,830,205.00
0002 Dredging	530,000	CY	2,771,900.00

Description	Page
Project Cost Summary Report	1
Contract 1	1
12 Navigation, Ports, and Harbors	1
0001 Mobilization and Demobilization	1
0002 Dredging	1

Galveston Beach Nourishment

Estimated by Mason McGown
Designed by CESWG-ECE-P
Prepared by U.S. Army Corps of Engineers - Galveston District

Preparation Date 10/29/2021
Effective Date of Pricing 10/1/2021
Estimated Construction Time 120 Days

This report is not copyrighted, but the information contained herein is For Official Use Only.

<u>Description</u>	<u>Quantity</u>	<u>UOM</u>	<u>ProjectCost</u>
Project Cost Summary Report			14,401,251.36
Contract 1	1	JOB	14,401,251.36
12 Navigation, Ports, and Harbors	1	JOB	14,401,251.36
0001 Mobilization and Demobilization	1	JOB	5,528,456.00
0002 Pipeline Management & Beach Shaping	1	JOB	1,690,328.36
02 Beach Shaping	376	HR	766,507.24
03 Floating Pipeline Management	1	JOB	86,740.52
04 Submerged Pipeline Management	1	JOB	260,221.57
05 Shoreline Pipeline Management	1	JOB	90,739.05
06 Mobilize/Demobilize for Beach Restoration	1	LS	486,119.98
0003 Beach Placement	530,000	CY	6,863,500.00
0004 Endangered Species Monitoring	1	JOB	121,109.63
0005 Depth of Closure Survey	1	JOB	197,857.37
09 Upland and Nearshore Profiles	40	DAY	117,201.86
10 Offshore Profiles	18	DAY	77,343.38

Description	Page
Project Cost Summary Report	1
Contract 1	1
12 Navigation, Ports, and Harbors	1
0001 Mobilization and Demobilization	1
0002 Pipeline Management & Beach Shaping	1
02 Beach Shaping	1
03 Floating Pipeline Management	1
04 Submerged Pipeline Management	1
05 Shoreline Pipeline Management	1
06 Mobilize/Demobilize for Beach Restoration	1
0003 Beach Placement	1
0004 Endangered Species Monitoring	1
0005 Depth of Closure Survey	1
09 Upland and Nearshore Profiles	1
10 Offshore Profiles	1

Abbreviated Risk Analysis

Project (less than \$40M): **461161-Galveston Beach Nourishment CAP sec 204**
 Project Development Stage/Alternative: **Feasibility (Recommended Plan)**
 Risk Category: **Low Risk: Typical Construction, Simple**

Alternative: Base Plan

Meeting Date: 8/4/2022

Total Estimated Construction Contract Cost = \$ **6,498,000**

	<u>CWWBS</u>	<u>Feature of Work</u>	<u>Estimated Cost</u>	<u>% Contingency</u>	<u>\$ Contingency</u>	<u>Total</u>
	01 LANDS AND DAMAGES	Real Estate	\$ -	0%	\$ -	\$ -
1	01 LANDS AND DAMAGES	Real Estate	\$ -	0%	\$ -	\$ -
2	12 NAVIGATION, PORTS AND HARBORS	Dredging	\$ 5,602,000	12%	\$ 662,188	\$ 6,264,188
3	30 PLANNING, ENGINEERING, AND DESIGN	PED	\$ 560,000	12%	\$ 66,195	\$ 626,195
4	31 CONSTRUCTION MANAGEMENT	Const. Man.	\$ 336,000	12%	\$ 39,717	\$ 375,717
5			\$ -	0%	\$ -	\$ -
6			\$ -	0%	\$ -	\$ -
7			\$ -	0%	\$ -	\$ -
8			\$ -	0%	\$ -	\$ -
9			\$ -	0%	\$ -	\$ -
10			\$ -	0%	\$ -	\$ -
11			\$ -	0%	\$ -	\$ -
12	All Other	Remaining Construction Items	\$ -	0.0%	\$ -	\$ -
13	30 PLANNING, ENGINEERING, AND DESIGN	Planning, Engineering, & Design	\$ -	0%	\$ -	\$ -
14	31 CONSTRUCTION MANAGEMENT	Construction Management	\$ -	0%	\$ -	\$ -
XX	FIXED DOLLAR RISK ADD (EQUALLY DISPERSED TO ALL, MUST INCLUDE JUSTIFICATION SEE BELOW)				\$ -	\$ -

Totals						
	Real Estate	\$ -	0%	\$ -	\$ -	\$ -
	Total Construction Estimate	\$ 6,498,000	12%	\$ 768,100	\$ 7,266,100	\$ 7,266,100
	Total Planning, Engineering & Design	\$ -	0%	\$ -	\$ -	\$ -
	Total Construction Management	\$ -	0%	\$ -	\$ -	\$ -
	Total Excluding Real Estate	\$ 6,498,000	12%	\$ 768,100	\$ 7,266,100	\$ 7,266,100
		Confidence Level Range Estimate (\$000's)		Base	50%	80%
				\$6,498k	\$6,959k	\$7,266k

* 50% based on base is at 5% CL.

Fixed Dollar Risk Add: (Allows for additional risk to be added to the risk analysis. Must include justification. Does not allocate to Real Estate.)

461161-Galveston Beach Nourishment CAP sec 204 Base Plan

Feasibility (Recommended Plan)

Abbreviated Risk

14305994

Meeting Date: 4-Aug-22

Risk Level					
Very Likely	2	3	4	5	5
Likely	1	2	3	4	5
Possible	0	1	2	3	4
Unlikely	0	0	1	2	3
	Negligible	Marginal	Moderate	Significant	Critical

Risk Register

Risk Element	Feature of Work	Concerns	PDT Discussions & Conclusions (Include logic & justification for choice of Likelihood & Impact)	Impact	Likelihood	Risk Level	
Project Management & Scope Growth						Maximum Project Growth	40%
PS-1	Real Estate	NA	NA	Negligible	Unlikely	0	
PS-2	Dredging	USACE Funding Constraint	For the Base Plan, O&M funding should be extremely low risk	Marginal	Unlikely	0	
PS-3	PED	USACE Funding Constraint	For the Base Plan, O&M funding should be extremely low risk	Marginal	Unlikely	0	
PS-4	Const. Man.	USACE Funding Constraint	For the Base Plan, O&M funding should be extremely low risk	Marginal	Unlikely	0	
Acquisition Strategy						Maximum Project Growth	30%
AS-1	Real Estate	NA	NA	Negligible	Unlikely	0	
AS-2	Dredging	LERRD Provision - NFS requires a PCA with GLO to provide the capacity	There are no agreements required for the Base Plan. There is a potential for other acquisition delays (e.g. unawardable contract environment), but these are unlikely.	Marginal	Unlikely	0	
AS-3	PED	LERRD Provision - NFS requires a PCA with GLO to provide the capacity	There are no agreements required for the Base Plan. There is a potential for other acquisition delays (e.g. unawardable contract environment), but these are unlikely.	Marginal	Unlikely	0	
AS-4	Const. Man.	LERRD Provision - NFS requires a PCA with GLO to provide the capacity	There are no agreements required for the Base Plan. There is a potential for other acquisition delays (e.g. unawardable contract environment), but these are unlikely.	Marginal	Unlikely	0	
Construction Elements						Maximum Project Growth	15%
CON-1	Real Estate	NA	NA	Negligible	Unlikely	0	
CE-2	Dredging	Hopper Dredge(s) not available	Base Plan has a much wider range of possible dredges. Low risk of cost increases due to delays or more expensive dredges	Marginal	Unlikely	0	
CE-3	PED	Hopper Dredge(s) not available	Base Plan has a much wider range of possible dredges. Low risk of cost increases due to delays or more expensive dredges	Marginal	Unlikely	0	

CE-4	Const. Man.	Hopper Dredge(s) not available	Base Plan has a much wider range of possible dredges. Low risk of cost increases due to delays or more expensive dredges	Marginal	Unlikely	0	
Specialty Construction or Fabrication						Maximum Project Growth	50%
SC-1	Real Estate	NA	NA	Negligible	Unlikely	0	
SC-2	Dredging	NA	NA	Negligible	Unlikely	0	
SC-3	PED	NA	NA	Negligible	Unlikely	0	
SC-4	Const. Man.	NA	NA	Negligible	Unlikely	0	
Technical Design & Quantities						Maximum Project Growth	20%
T-1	Real Estate	NA	NA	Negligible	Unlikely	0	
T-2	Dredging	Sand quality and/or quantity not available on schedule due to HSC O&M requirements	Base Plan has no sand quantity requirements resulting in delays. Only potential for more sand than estimated, but unlikely given regular dredging and knowledge of shoaling rates for this area.	Marginal	Unlikely	0	
T-3	PED	Sand quality and/or quantity not available on schedule due to HSC O&M requirements	Base Plan has no sand quantity requirements resulting in delays. Only potential for more sand than estimated, but unlikely given regular dredging and knowledge of shoaling rates for this area.	Marginal	Unlikely	0	
T-4	Const. Man.	Sand quality and/or quantity not available on schedule due to HSC O&M requirements	Base Plan has no sand quantity requirements resulting in delays. Only potential for more sand than estimated, but unlikely given regular dredging and knowledge of shoaling rates for this area.	Marginal	Unlikely	0	
Cost Estimate Assumptions						Maximum Project Growth	25%
EST-1	Real Estate	NA	NA	Negligible	Unlikely	0	
EST-2	Dredging	Cost increases	Storm events can increase costs via fuel inflation & market volatility impacting competition & pricing. Cost estimate has been updated to account for current conditions and market volatility, especially in fuel prices, partially reducing the risk of further cost increases.	Marginal	Unlikely	0	
EST-3	PED	Cost increases	Storm events can increase costs via fuel inflation & market volatility impacting competition & pricing. Cost estimate has been updated to account for current conditions and market volatility.	Marginal	Unlikely	0	
EST-4	Const. Man.	Cost increases	Storm events can increase costs via fuel inflation & market volatility impacting competition & pricing. Cost estimate has been updated to account for current conditions and market volatility.	Marginal	Unlikely	0	
External Project Risks						Maximum Project Growth	20%
EX-1	Real Estate	NA	NA	Negligible	Unlikely	0	
EX-2	Dredging	Potential for severe adverse weather	* Adverse weather could increase sand requirement and project duration. Cannot predict all probabilities such as storm events	Marginal	Possible	1	
EX-3	PED	Potential for severe adverse weather	* Adverse weather could increase sand requirement and project duration. Cannot predict all probabilities such as storm events	Marginal	Possible	1	
EX-4	Const. Man.	Potential for severe adverse weather	* Adverse weather could increase sand requirement and project duration. Cannot predict all probabilities such as storm events	Marginal	Possible	1	

Abbreviated Risk Analysis

Project (less than \$40M): **461161-Galveston Beach Nourishment CAP sec 204**
 Project Development Stage/Alternative: **Feasibility (Recommended Plan)**
 Risk Category: **Low Risk: Typical Construction, Simple**

Alternative: Alternative 2

Meeting Date: 10/9/2021

Total Estimated Construction Contract Cost = \$ **16,705,000**

	<u>CWWBS</u>	<u>Feature of Work</u>	<u>Estimated Cost</u>	<u>% Contingency</u>	<u>\$ Contingency</u>	<u>Total</u>
	01 LANDS AND DAMAGES	Real Estate	\$ 59,000	25%	\$ 14,750	\$ 73,750
1				0%	\$ -	\$ -
2	12 NAVIGATION, PORTS AND HARBORS	Dredging	\$ 14,401,000	26%	\$ 3,810,886	\$ 18,211,886
3	30 PLANNING, ENGINEERING, AND DESIGN	PED	\$ 1,440,000	26%	\$ 381,062	\$ 1,821,062
4	31 CONSTRUCTION MANAGEMENT	Const. Man.	\$ 864,000	26%	\$ 228,637	\$ 1,092,637
5			\$ -	0%	\$ -	\$ -
6			\$ -	0%	\$ -	\$ -
7			\$ -	0%	\$ -	\$ -
8			\$ -	0%	\$ -	\$ -
9			\$ -	0%	\$ -	\$ -
10			\$ -	0%	\$ -	\$ -
11			\$ -	0%	\$ -	\$ -
12	All Other	Remaining Construction Items	\$ -	0.0%	\$ -	\$ -
13	30 PLANNING, ENGINEERING, AND DESIGN	Planning, Engineering, & Design	\$ -	0%	\$ -	\$ -
14	31 CONSTRUCTION MANAGEMENT	Construction Management	\$ -	0%	\$ -	\$ -
XX	FIXED DOLLAR RISK ADD (EQUALLY DISPERSED TO ALL, MUST INCLUDE JUSTIFICATION SEE BELOW)				\$ -	\$ -

Totals					
	Real Estate	\$ 59,000	25%	\$ 14,750	\$ 73,750.00
	Total Construction Estimate	\$ 16,705,000	26%	\$ 4,420,585	\$ 21,125,585
	Total Planning, Engineering & Design	\$ -	0%	\$ -	\$ -
	Total Construction Management	\$ -	0%	\$ -	\$ -
	Total Excluding Real Estate	\$ 16,705,000	26%	\$ 4,420,585	\$ 21,125,585
		Base		50%	80%
Confidence Level Range Estimate (\$000's)		\$16,705k	\$19,358k	\$21,126k	

* 50% based on base is at 5% CL.

Fixed Dollar Risk Add: (Allows for additional risk to be added to the risk analysis. Must include justification. Does not allocate to Real Estate.)

461161-Galveston Beach Nourishment CAP sec 204 Altern

Feasibility (Recommended Plan)

Abbreviated Risk

14305994

Meeting Date: 9-Oct-21

Risk Level					
Very Likely	2	3	4	5	5
Likely	1	2	3	4	5
Possible	0	1	2	3	4
Unlikely	0	0	1	2	3
	Negligible	Marginal	Moderate	Significant	Critical

Risk Register

Risk Element	Feature of Work	Concerns	PDT Discussions & Conclusions (Include logic & justification for choice of Likelihood & Impact)	Impact	Likelihood	Risk Level
Project Management & Scope Growth						Maximum Project Growth 40%
PS-1	0	NA	RE Contingency to be developed internally in RE Section	Negligible	Unlikely	0
PS-2	Dredging	USACE Funding Constraint	If FED cost share exceeds \$10M, reduce scope of sand placement or sponsor pays excess	Marginal	Possible	1
PS-3	PED	USACE Funding Constraint	If FED cost share exceeds \$10M, reduce scope of sand placement or sponsor pays excess	Marginal	Possible	1
PS-4	Const. Man.	USACE Funding Constraint	If FED cost share exceeds \$10M, reduce scope of sand placement or sponsor pays excess	Marginal	Possible	1
Acquisition Strategy						Maximum Project Growth 30%
AS-1	0	NA	RE Contingency to be developed internally in RE Section	Negligible	Unlikely	0
AS-2	Dredging	LERRD Provision - NFS requires a PCA with GLO to provide the capacity	No LERRD - no project. Texas GLO is an active study participant, supports this project as well as previous ones	Significant	Unlikely	2
AS-3	PED	LERRD Provision - NFS requires a PCA with GLO to provide the capacity	No LERRD - no project. Texas GLO is an active study participant, supports this project as well as previous ones	Significant	Unlikely	2
AS-4	Const. Man.	LERRD Provision - NFS requires a PCA with GLO to provide the capacity	No LERRD - no project. Texas GLO is an active study participant, supports this project as well as previous ones	Significant	Unlikely	2
Construction Elements						Maximum Project Growth 15%
CON-1	0	NA	RE Contingency to be developed internally in RE Section	Negligible	Unlikely	0
CE-2	Dredging	Hopper Dredge(s) not available	Can postpone sand placement as required sail time increases need for the limited number of hopper dredges	Moderate	Possible	2
CE-3	PED	Hopper Dredge(s) not available	Can postpone sand placement as required sail time increases need for the limited number of hopper dredges	Moderate	Possible	2

CE-4	Const. Man.	Hopper Dredge(s) not available	Can postpone sand placement as required sail time increases need for the limited number of hopper dredges	Moderate	Possible	2	
Specialty Construction or Fabrication						Maximum Project Growth	50%
SC-1	0	NA	NA	Negligible	Unlikely	0	
SC-2	Dredging	NA	NA	Negligible	Unlikely	0	
SC-3	PED	NA	NA	Negligible	Unlikely	0	
SC-4	Const. Man.	NA	NA	Negligible	Unlikely	0	
Technical Design & Quantities						Maximum Project Growth	20%
T-1	0	NA	RE Contingency to be developed internally in RE Section	Negligible	Unlikely	0	
T-2	Dredging	Sand quality and/or quantity not available on schedule due to HSC O&M requirements	Can limit sand scope/ increase schedule. Re: schedule, NFS could alter the order of its placement locations	Marginal	Possible	1	
T-3	PED	Sand quality and/or quantity not available on schedule due to HSC O&M requirements	Can limit sand scope/ increase schedule. Re: schedule, NFS could alter the order of its placement locations	Marginal	Possible	1	
T-4	Const. Man.	Sand quality and/or quantity not available on schedule due to HSC O&M requirements	Can limit sand scope/ increase schedule. Re: schedule, NFS could alter the order of its placement locations	Marginal	Possible	1	
Cost Estimate Assumptions						Maximum Project Growth	25%
EST-1	0	NA	RE Contingency to be developed internally in RE Section	Negligible	Unlikely	0	
EST-2	Dredging	Cost increases	Storm events can increase costs via fuel inflation & market volatility impacting competition & pricing	Marginal	Possible	1	
EST-3	PED	Cost increases	Storm events can increase costs via fuel inflation & market volatility impacting competition & pricing	Marginal	Possible	1	
EST-4	Const. Man.	Cost increases	Storm events can increase costs via fuel inflation & market volatility impacting competition & pricing	Marginal	Possible	1	
External Project Risks						Maximum Project Growth	20%
EX-1	0	NA	RE Contingency to be developed internally in RE Section	Negligible	Unlikely	0	
EX-2	Dredging	Potential for severe adverse weather	* Adverse weather would increase sand requirement and project duration. Assumed shoreline change between 2019 and 2038 will continue at a similar rate. Cannot predict all probabilities such as storm events	Marginal	Possible	1	
EX-3	PED	Potential for severe adverse weather	* Adverse weather would increase sand requirement and project duration. Assumed shoreline change between 2019 and 2038 will continue at a similar rate. Cannot predict all probabilities	Marginal	Possible	1	
EX-4	Const. Man.	Potential for severe adverse weather	* Adverse weather would increase sand requirement and project duration. Assumed shoreline change between 2019 and 2038 will continue at a similar rate. Cannot predict all probabilities	Marginal	Possible	1	

**WALLA WALLA COST ENGINEERING
MANDATORY CENTER OF EXPERTISE**

COST AGENCY TECHNICAL REVIEW

CERTIFICATION STATEMENT

For Project No. 461161

**SWG – Section 204 Regional Sediment Management,
Beneficial Use of Dredged Material
Galveston Island Coastal Erosion Gulf of Mexico**

The Galveston Island Coastal Erosion Section 204 project, as presented by Galveston District, has undergone a successful Cost Agency Technical Review (Cost ATR), performed by the Walla Walla District Cost Engineering Mandatory Center of Expertise (Cost MCX) team. The Cost ATR included study of the project scope, report, cost estimates, schedules, escalation, and risk-based contingencies. This certification signifies the products meet the quality standards as prescribed in ER 1110-2-1150 Engineering and Design for Civil Works Projects and ER 1110-2-1302 Civil Works Cost Engineering.

As of August 11, 2022, the Cost MCX certifies the estimated total project cost:

FY 23 Project First Cost: \$14,427,000
Fully Funded Amount: \$15,115,000
Federal Cost of Project: \$10,000,000

Cost Certification assumes Efficient Implementation (Funding). It remains the responsibility of the District to correctly reflect these cost values within the Final Report and to implement effective project management controls and implementation procedures including risk management through the period of Federal Participation.



A handwritten signature in black ink, appearing to read 'M. Jacobs'.

2022.08.11
10:57:52 -07'00'

Michael P. Jacobs, PE, CCE
Chief, Cost Engineering MCX
Walla Walla District

**** TOTAL PROJECT COST SUMMARY ****

PROJECT: Galveston Island Coastal Erosion (CAP Sec 204)
PROJECT NO: 461161
LOCATION: Galveston, Texas

DISTRICT: Galveston District

PREPARED: 3/25/2022

POC: CHIEF, COST ENGINEERING, Martin Regner, PE, CCE

This Estimate reflects the scope and schedule in report; Draft Report, Nov 2021

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)					TOTAL PROJECT COST (FULLY FUNDED)					
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	REMAINING COST (\$K)	Program Year (Budget EC): 2023		TOTAL FIRST COST (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
										Effective Price Level Date: 1-Oct-22	Spent Thru: 1-Oct-15					
12	NAVIGATION PORTS & HARBORS	\$8,799	\$3,072	35%	\$11,871	4.2%	\$9,171	\$3,202	\$12,373			\$12,373	4.7%	\$9,604	\$3,353	\$12,957
				-		-							-			
				-		-							-			
				-		-							-			
	CONSTRUCTION ESTIMATE TOTALS:	\$8,799	\$3,072		\$11,871	4.2%	\$9,171	\$3,202	\$12,373			\$12,373	4.7%	\$9,604	\$3,353	\$12,957
01	LANDS AND DAMAGES	\$59	\$15	25%	\$74	4.2%	\$61	\$15	\$77			\$77	4.7%	\$64	\$16	\$80
30	PLANNING, ENGINEERING & DESIGN	\$880	\$307	35%	\$1,187	4.1%	\$916	\$320	\$1,236			\$1,236	5.1%	\$963	\$336	\$1,299
31	CONSTRUCTION MANAGEMENT	\$528	\$184	35%	\$712	4.1%	\$550	\$192	\$742			\$742	5.1%	\$578	\$202	\$779
	PROJECT COST TOTALS:	\$10,266	\$3,578	35%	\$13,844		\$10,698	\$3,729	\$14,427			\$14,427	4.8%	\$11,208	\$3,907	\$15,115

REGNER.MARTIN.B.13673
77794

Digitally signed by
REGNER.MARTIN.B.136737794
Date: 2022.08.15 08:37:38 -05'00'

CHIEF, COST ENGINEERING, Martin Regner, PE, CCE

TREVINO.REUBEN.ANDREW
1589563766

Digitally signed by
TREVINO.REUBEN.ANDREW.1589563766
Date: 2022.08.15 14:39:46 -05'00'

PROJECT MANAGER, Reuben Trevino

NELSON.TIMOTHY
Y.J.1230372922

Digitally signed by
NELSON.TIMOTHY.J.1230372922
Date: 2022.08.24 10:10:04 -05'00'

CHIEF, REAL ESTATE, Timothy Nelson

CHIEF, PLANNING, Brian Harper (Vacant)

CHIEF, ENGINEERING, Willie Joe, PE

CHIEF, OPERATIONS, Chris Frabota

CHIEF, CONSTRUCTION, Don Carelock, PE

CHIEF, CONTRACTING, Shamekia Chapman

CHIEF, PM-PB, Nicholas Laskowski, PG, PWS

CHIEF, DPM, Byron Williams, PE

ESTIMATED PROJECT COST:	\$15,115
ESTIMATED FEDERAL COST:	63% \$9,550
ESTIMATED NON-FEDERAL COST:	37% \$5,565
22 - FEASIBILITY STUDY (CAP studies):	\$450
ESTIMATED FEDERAL COST:	100% \$450
ESTIMATED NON-FEDERAL COST:	
ESTIMATED FEDERAL COST OF PROJECT	\$10,000

**** TOTAL PROJECT COST SUMMARY ****

**** CONTRACT COST SUMMARY ****

PROJECT: Galveston Island Coastal Erosion (CAP Sec 204)
LOCATION: Galveston, Texas
This Estimate reflects the scope and schedule in report: Draft Report, Nov 2021

DISTRICT: Galveston District
POC: CHIEF, COST ENGINEERING, Martin Regner, PE, CCE
PREPARED: 3/25/2022

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 27-Oct-21		Estimate Price Level: 1-Oct-21		Program Year (Budget EC): 2023		Effective Price Level Date: 1-Oct-22						
		RISK BASED												
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O
CONTRACT 1: Dredging and Beach Placement														
12	NAVIGATION PORTS & HARBORS	\$14,401	\$3,744	26.0%	\$18,146	4.2%	\$15,010	\$3,902	\$18,912	2025Q1	4.7%	\$15,718	\$4,087	\$19,805
CONSTRUCTION ESTIMATE TOTALS:		\$14,401	\$3,744	26.0%	\$18,146		\$15,010	\$3,902	\$18,912			\$15,718	\$4,087	\$19,805
01	LANDS AND DAMAGES	\$59	\$15	25.0%	\$74	4.2%	\$61	\$15	\$77	2025Q1	4.7%	\$64	\$16	\$80
30	PLANNING, ENGINEERING & DESIGN													
1.00%	Project Management	\$144	\$37	26.0%	\$181	4.1%	\$150	\$39	\$189	2025Q1	5.1%	\$158	\$41	\$199
0.50%	Planning & Environmental Compliance	\$72	\$19	26.0%	\$91	4.1%	\$75	\$19	\$94	2025Q1	5.1%	\$79	\$20	\$99
3.75%	Engineering & Design	\$540	\$140	26.0%	\$680	4.1%	\$562	\$146	\$708	2025Q1	5.1%	\$591	\$154	\$744
1.00%	Reviews, ATRs, IEPRs, VE	\$144	\$37	26.0%	\$181	4.1%	\$150	\$39	\$189	2025Q1	5.1%	\$158	\$41	\$199
0.50%	Life Cycle Updates (cost, schedule, risks)	\$72	\$19	26.0%	\$91	4.1%	\$75	\$19	\$94	2025Q1	5.1%	\$79	\$20	\$99
0.50%	Contracting & Reprographics	\$72	\$19	26.0%	\$91	4.1%	\$75	\$19	\$94	2025Q1	5.1%	\$79	\$20	\$99
1.00%	Engineering During Construction	\$144	\$37	26.0%	\$181	4.1%	\$150	\$39	\$189	2025Q1	5.1%	\$158	\$41	\$199
1.00%	Planning During Construction	\$144	\$37	26.0%	\$181	4.1%	\$150	\$39	\$189	2025Q1	5.1%	\$158	\$41	\$199
0.50%	Adaptive Management & Monitoring	\$72	\$19	26.0%	\$91	4.1%	\$75	\$19	\$94	2025Q1	5.1%	\$79	\$20	\$99
0.25%	Real Estate In-House Labor	\$36	\$9	26.0%	\$45	4.1%	\$37	\$10	\$47	2025Q1	5.1%	\$39	\$10	\$50
31	CONSTRUCTION MANAGEMENT													
4.00%	Construction Management	\$576	\$150	26.0%	\$726	4.1%	\$600	\$156	\$756	2025Q1	5.1%	\$630	\$164	\$794
1.00%	Project Operation:	\$144	\$37	26.0%	\$181	4.1%	\$150	\$39	\$189	2025Q1	5.1%	\$158	\$41	\$199
1.00%	Project Management	\$144	\$37	26.0%	\$181	4.1%	\$150	\$39	\$189	2025Q1	5.1%	\$158	\$41	\$199
CONTRACT COST TOTALS:		\$16,764	\$4,358		\$21,122		\$17,470	\$4,541	\$22,011			\$18,303	\$4,758	\$23,061

**** TOTAL PROJECT COST SUMMARY ****

**** CONTRACT COST SUMMARY ****

PROJECT: Galveston Island Coastal Erosion (CAP Sec 204)
LOCATION: Galveston, Texas
This Estimate reflects the scope and schedule in report; Draft Report, Nov 2021

DISTRICT: Galveston District
POC: CHIEF, COST ENGINEERING, Martin Regner, PE, CCE
PREPARED: 3/25/2022

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 27-Oct-21		Estimate Price Level: 1-Oct-21		Program Year (Budget EC): 2023		Effective Price Level Date: 1-Oct-22						
		RISK BASED												
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O
12	Base Plan NAVIGATION PORTS & HARBORS	-\$5,602	-\$672	12.0%	-\$6,274	4.2%	-\$5,839	-\$701	-\$6,539	2025Q1	4.7%	-\$6,114	-\$734	-\$6,848
CONSTRUCTION ESTIMATE TOTALS:		-\$5,602	-\$672		-\$6,274		-\$5,839	-\$701	-\$6,539			-\$6,114	-\$734	-\$6,848
01	LANDS AND DAMAGES													
30	PLANNING, ENGINEERING & DESIGN													
1.00%	Project Management	-\$56	-\$7	12.0%	-\$63	4.1%	-\$58	-\$7	-\$65	2025Q1	5.1%	-\$61	-\$7	-\$69
0.50%	Planning & Environmental Compliance	-\$28	-\$3	12.0%	-\$31	4.1%	-\$29	-\$3	-\$33	2025Q1	5.1%	-\$31	-\$4	-\$34
3.75%	Engineering & Design	-\$210	-\$25	12.0%	-\$235	4.1%	-\$219	-\$26	-\$245	2025Q1	5.1%	-\$230	-\$28	-\$257
1.00%	Reviews, ATRs, IEPRs, VE	-\$56	-\$7	12.0%	-\$63	4.1%	-\$58	-\$7	-\$65	2025Q1	5.1%	-\$61	-\$7	-\$69
0.50%	Life Cycle Updates (cost, schedule, risks)	-\$28	-\$3	12.0%	-\$31	4.1%	-\$29	-\$3	-\$33	2025Q1	5.1%	-\$31	-\$4	-\$34
0.50%	Contracting & Reprographics	-\$28	-\$3	12.0%	-\$31	4.1%	-\$29	-\$3	-\$33	2025Q1	5.1%	-\$31	-\$4	-\$34
1.00%	Engineering During Construction	-\$56	-\$7	12.0%	-\$63	4.1%	-\$58	-\$7	-\$65	2025Q1	5.1%	-\$61	-\$7	-\$69
1.00%	Planning During Construction	-\$56	-\$7	12.0%	-\$63	4.1%	-\$58	-\$7	-\$65	2025Q1	5.1%	-\$61	-\$7	-\$69
0.50%	Adaptive Management & Monitoring	-\$28	-\$3	12.0%	-\$31	4.1%	-\$29	-\$3	-\$33	2025Q1	5.1%	-\$31	-\$4	-\$34
0.25%	Real Estate In-House Labor	-\$14	-\$2	12.0%	-\$16	4.1%	-\$15	-\$2	-\$16	2025Q1	5.1%	-\$15	-\$2	-\$17
31	CONSTRUCTION MANAGEMENT													
4.00%	Construction Management	-\$224	-\$27	12.0%	-\$251	4.1%	-\$233	-\$28	-\$261	2025Q1	5.1%	-\$245	-\$29	-\$274
1.00%	Project Operation:	-\$56	-\$7	12.0%	-\$63	4.1%	-\$58	-\$7	-\$65	2025Q1	5.1%	-\$61	-\$7	-\$69
1.00%	Project Management	-\$56	-\$7	12.0%	-\$63	4.1%	-\$58	-\$7	-\$65	2025Q1	5.1%	-\$61	-\$7	-\$69
CONTRACT COST TOTALS:		-\$6,498	-\$780		-\$7,278		-\$6,772	-\$813	-\$7,584			-\$7,095	-\$851	-\$7,946