

**INTEGRATED
GENERAL REEVALUATION REPORT
AND
ENVIRONMENTAL ASSESSMENT
FOR
COASTAL STORM DAMAGE
REDUCTION PROJECT**

FOLLY BEACH SOUTH CAROLINA

**APPENDIX C
COST ENGINEERING**

1. The Cost Engineering Appendix project costs were prepared to describe the Current Working Estimate (CWE)-October 2019 price level, First Costs-October 2022 price level, and Fully Funded price of the recommended plan at Folly Beach, South Carolina – General Reevaluation Study Report.

The recommended plan for Folly Beach includes a beach template volume of approximately 1.9 million cubic yards over approximately 5.5 miles from Folly River Inlet to Lighthouse Inlet. Initial nourishment midpoint is projected as February 2024.

There will be 3 periodic nourishments every 12 years following the initial nourishment during the 50-year life of the project. The beach reaches are labeled Reaches FB-1 thru FB-9 along with Stationing from 0+00 to 288+90 in Figures 1 & 2.

Two essential features of the selected plan template are a varying dune height and design berm, as shown in the Figures 3 & 4, alternative comparisons evaluated during coastal and economic evaluations.

Five (5) borrow areas, shown in Figure 1, were initially evaluated using SBEACH and Beach-*fx* modeling. Coastal analysis and characterizing the physical characteristics of the shoreline was used for modeling with the Storm-induced Beach Change (SBEACH) model. The SBEACH model output of shoreline responses was then used as an input into the Beach-*fx* model, which uses a Monte Carlo simulation to track beach profile evolution over time and measure average economic damages over multiple project life cycles. Project costs plus a contingency from each borrow area were used in the model of alternatives.

There were three (3) borrow areas that resulted from the alternatives evaluated as the recommended plan as shown in FIGURE 1.

- Two (2) offshore borrow areas “F” (Lighthouse) and “K/E” (Stono Ebb Shoal) approximately 2 and 5 miles offshore, and
- Folly River borrow area (behind Folly Island) as shown in FIGURE 1.

Pipeline cutter suction dredges are most likely the most economical method (vs Hopper dredges) to excavate material and pump material onto the beach. Pipeline cutter suction dredges have also been the historical method of placement for Folly Beach nourishments from other offshore borrow areas and from the Folly River borrow area.

Initial and Periodic nourishments – The borrow use plan involves placing material for Initial nourishment, FY 2024, from offshore area “F” (Lighthouse), based on engineering and economic pricing evaluations. There is enough material in the Lighthouse borrow area “F” to allow initial nourishment.

The first Periodic nourishment, FY- 2036 will use Folly River borrow area. The second periodic nourishment will use offshore area “K/E” (Stono Ebb) borrow area in FY- 2048. The third and last periodic nourishment will use the Folly River borrow area in FY-2060.

2. The TOTAL CURRENT WORKING ESTIMATE (CWE)

- Initial Project - CWE \$35,916,000 - October 2019 price level
(\$45,972,000 with 28% contingency).
- Initial Project - FIRST COST \$38,180,000 – October 2021 price level
(\$48,871,000 with 28% contingency).
- Initial Project -Fully Funded midpoint \$40,770,000 – February 2024 price level
(\$52,186,000 with 28% contingency).

Pricing for Initial is shown in the Total Project Cost Summary (TPCS) Attachment “B”.

Three (3) Periodic Nourishments are estimated to be similar in pricing for approximately 1.9 million cy template volume. The periodic nourishment years occur every 12 years after completion of Initial Construction. The periodic nourishments also assume approximately 6 months of dredging using 1 pipeline cutter suction dredge. Pricing is shown in the Total Project Cost Summary (TPCS) Attachment “C” with the periodic total FULLY FUNDED as follows.

- 3 Periodic Projects - CWE \$114,319,000 - October 2019 price level
(\$144,091,000 with ~ 26% contingency).
- 3 Periodic Projects - FIRST COST \$121,180,000 – October 2021 price level
(\$152,739,000 with ~26% contingency).
- 3 Periodic Projects -Fully Funded \$274,595,000 – Feb 2036 - 2060 price level
(\$345,942,000 with ~26% contingency).

Pricing for each periodic nourishment is shown in the Total Project Cost Summary (TPCS) Attachment “C”.

3. Baseline CWE’s, October 2019 price level, are shown in the MCACES (Microcomputer Aided Cost Engineering System) summary sheets – Attachment “A”.

The MCACES summary sheets are formatted into a Code of Accounts framework for reporting. The costs included under each Code of Accounts are described below.

The Cost Estimates were prepared under guidance given in the Corps of Engineers Regulation ER 1110-2-1302, CIVIL WORKS COST ENGINEERING; ER 1110-1-300, Cost Engineering Policy and General Requirements; and ETL 1110-2-573 Construction Cost Estimating Guide for Civil Works.

4. CODE OF ACCOUNTS

CODE OF ACCOUNT 01 – LANDS AND DAMAGES: The detail estimated costs were prepared and furnished by the Real Estate Division, Savannah District as discussed in the Real Estate Appendix.

CODE OF ACCOUNT 17 – BEACH REPLENISHMENT: This account includes project costs for beach nourishment mobilization and demobilization, dredging, beach fill shaping, beach tilling, dune vegetation, sand fencing, and other construction contract pricing such as structural vibration monitoring, surveys, turtle monitoring, etc.

Emphasis was placed on accuracy of dredging costs during evaluation of alternative borrow area locations to evaluate the resulting recommended plan. The location and features of borrow areas in relation to the project, as well as historical production of dredges for similar projects, were used in conjunction with the Corps of Engineers Dredge Estimating Program (CEDEP).

CEDEP considers details of borrow area characteristics, depth of borrow, effective production time, distances from borrow sites, costs of dredge plant ownership, operating and repair, fuel consumption/prices, and other economic adjustments for labor and equipment.

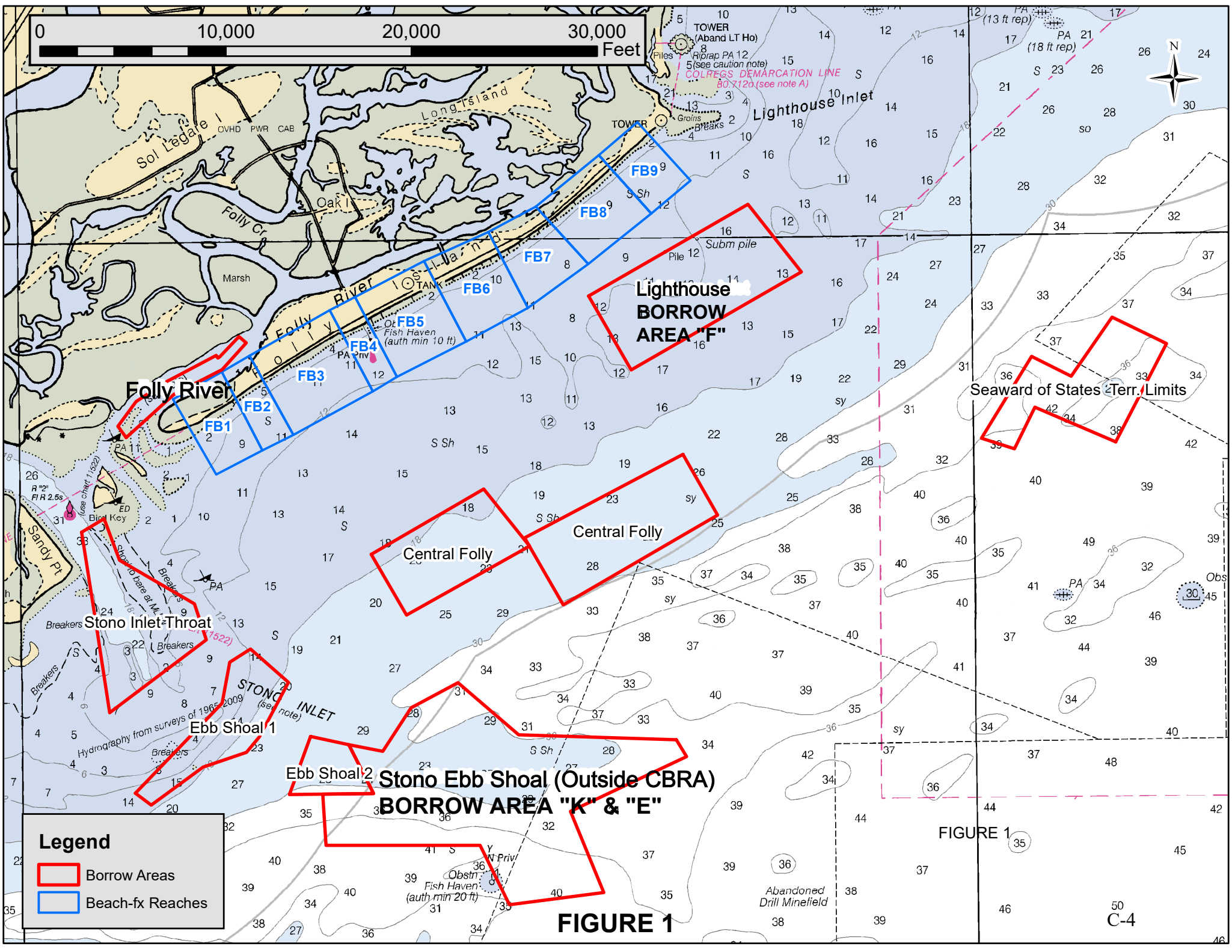
a. For Initial Construction, it was determined one large (Ocean Certified) pipeline cutter suction dredge would be used to place sand on the beach from Borrow Area “F” (Lighthouse).

The initial construction time for placement of sand is estimated to be 6 months for 1.9 million cubic yards based on pipeline cutter suction dredge. There are no specific calendar environmental window limits but likely placement on the beach was assumed to occur November through April.

Construction contract time for mob/demob and pipe set up on the beach will be included for each contract. Mobilization and demobilization of pipe and equipment off the beach, as well as beach tilling, dune vegetation, sand fencing, etc. will be included.

b. For Periodic Nourishments, it was determined large pipeline cutter suction dredges would also be the most economical and suitable method to place sand on the beach. This was also based on the same overall offshore borrow proximity and water depths near the beach.

0 10,000 20,000 30,000 Feet



Legend



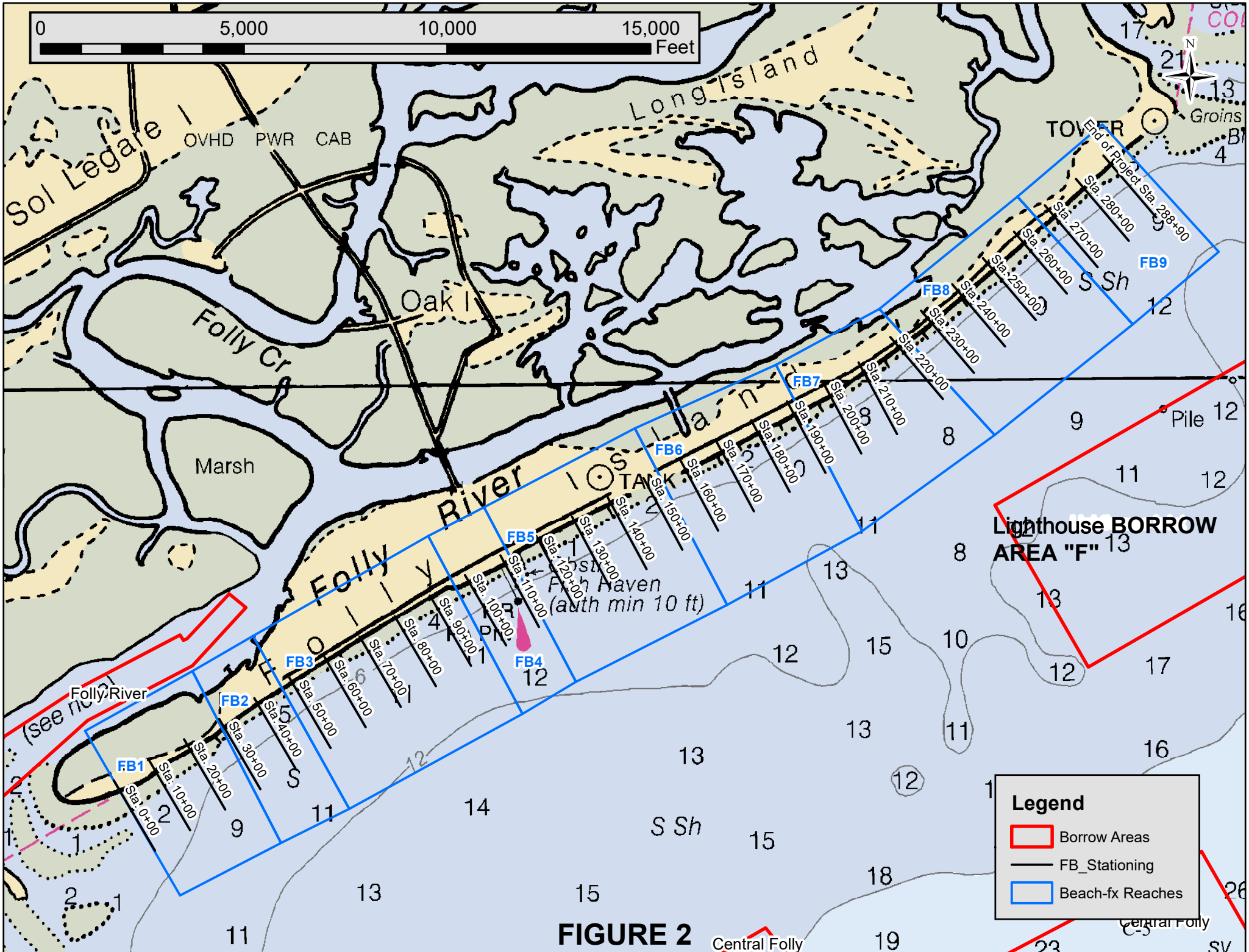
-  Borrow Areas
-  Beach-fx Reaches

FIGURE 1

FIGURE 1



Northeast Folly Beach – Reach FB8 - Existing Profile and Design

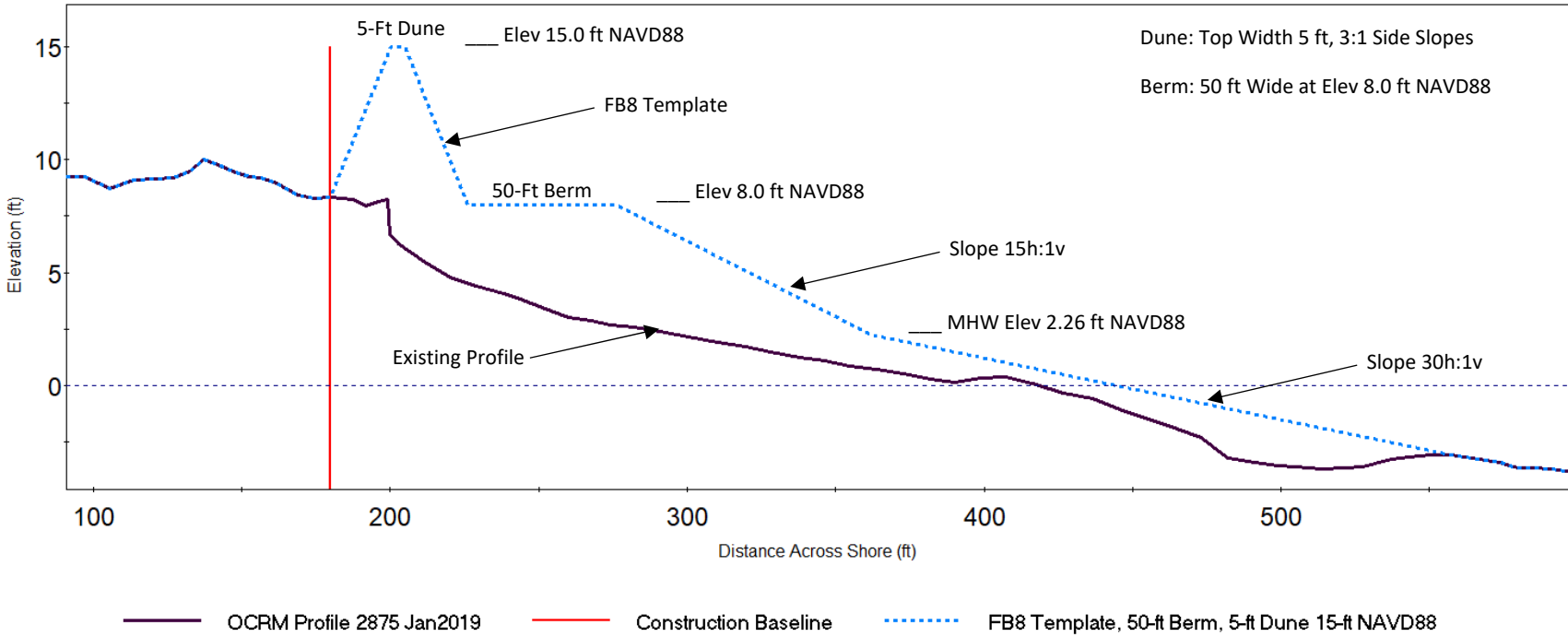


FIGURE 3 COST APPENDIX

Southwest Folly Beach – Reach FB3 - Existing Profile and Design

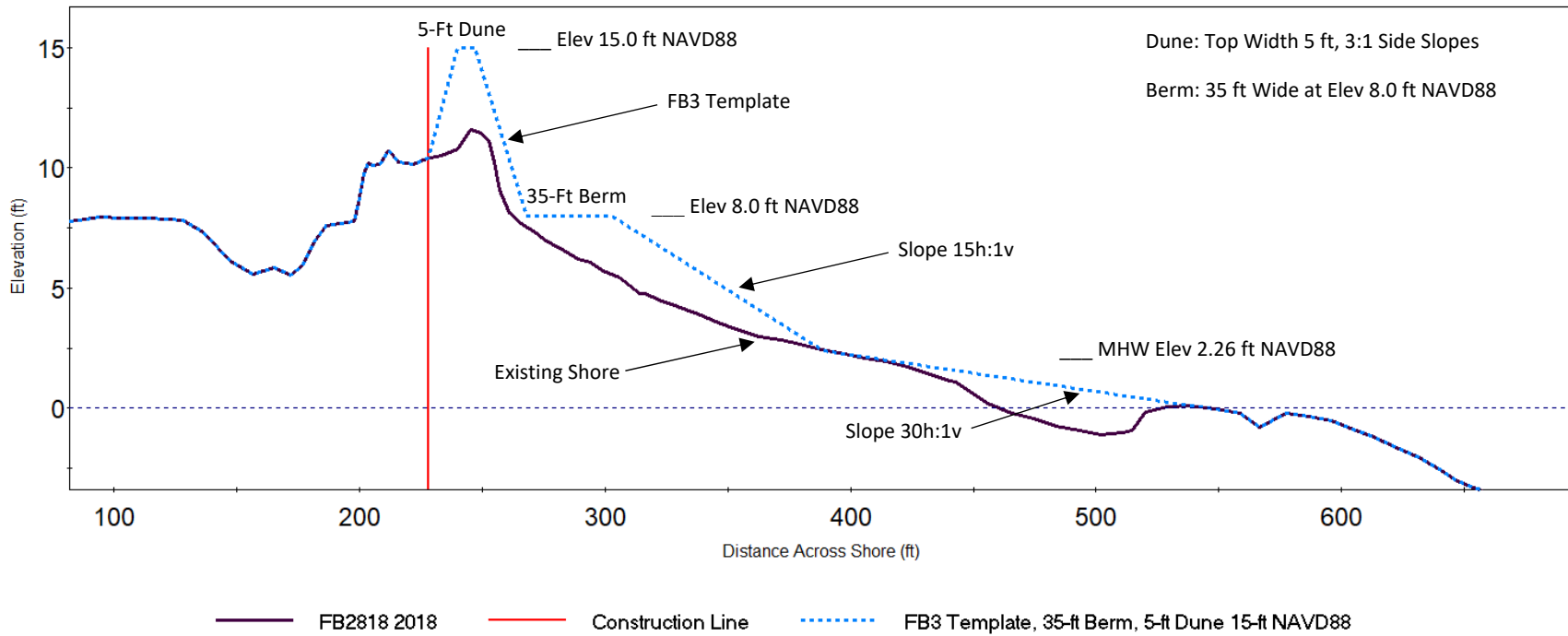


FIGURE 4 COST ENGINEERING APPENDIX

The Periodic Nourishment construction time for placement of sand is estimated to be 6 months for approximately 1.9 million cubic yards template volume. The final periodic nourishment is estimated to be 2.5 million cubic yards to account for last 2 years of the project life cycle of 50 years.

Beach template fill placement costs are included as part of the dredging unit price. Beach fill consists of shaping the dredged material with dozers to the required cross section while the dredge is pumping material onto the beach.

The costs for other contract items such as beach tilling, dune vegetation, sand fencing, surveys, etc. were based on similar historical costs for similar projects.

c. For offshore borrow area nourishments, a contingency of 28% was included to represent unanticipated conditions and uncertainties at the time the estimate was developed for offshore borrow areas. For Folly River borrow area nourishments, a contingency of 25% was included to represent unanticipated conditions and uncertainties not known at the time the estimate was developed. The overall average contingency for periodic nourishment is nearly 26% average.

There is a better than average level of confidence in the dredge pricing, because of the detailed geotechnical investigations of borrows areas, similarities of other beach nourishment projects, and the historical costs for Folly Beach projects. These contingency percentages are similar to several other beach nourishment projects with similar conditions and risks. A detailed Cost Schedule and Risk Analysis (CSRA) is currently being developed through coordination with the Cost Center of Expertise in Walla Walla, Washington.

CODE OF ACCOUNT 30 – PLANNING, ENGINEERING AND DESIGN: The costs included in this account were furnished by CESAC project management elements responsible for performing each activity. This account includes plans and specifications, field and borrow area investigations, surveys, cost estimates, engineering during construction, environmental monitoring, and project management. A 25% contingency for Folly River and 28% for offshore borrow areas “F” (Lighthouse) and “K/E” (Stono Ebb) was assigned to ACCOUNT 30.

CODE OF ACCOUNT 31 – CONSTRUCTION MANAGEMENT – This account includes supervision and administration of the contracts by construction management, hydrologic surveys during construction, environmental/coastal monitoring after construction, and contracting personnel during construction. A 25% contingency for Folly River and 28% for offshore borrow areas Lighthouse and Stono Ebb was assigned to ACCOUN

FOLLY BEACH GRR INITIAL + PERIODICsplit- JUNE 27 2020
ALL COSTS ARE OCT 1, 2019 PRICE LEVEL

ATTACHMENT "A" FOR COST ENGINEERING APPENDIX "D"

Estimated by Caldwell/Norton
Designed by USACE - SAW - SAC - SAJ
Prepared by Caldwell/Norton

Preparation Date 6/27/2020
Effective Date of Pricing 10/1/2019
Estimated Construction Time 180 Days

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PROJECT: FOLLY BEACH GRR STUDY

DISTRICT: USAED - CHARLESTON

PREPARED: 6/27/2020

PROJECT NO: P2 - 477186
 LOCATION: FOLLY BEACH, South Carolina

POC: CHIEF, COST ENGINEERING, Stephen Roman
 USAED - WILMINGTON

This Estimate reflects the scope and schedule in report;

FOLLY BEACH - INITIAL NOURISHMENT 2024

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)					TOTAL PROJECT COST (FULLY FUNDED)				
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B	COST (\$K) C	CNTG (\$K) D	CNTG (%) E	TOTAL (\$K) F	Program Year (Budget EC): 2022 Effective Price Level Date: 1 OCT 21				Spent Thru: 1-Jun-20 (\$K) K	TOTAL FIRST COST (\$K) K	INFLATED (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
						ESC (%) G	COST (\$K) H	CNTG (\$K) I	TOTAL (\$K) J						
17	BEACH REPLENISHMENT	\$31,112	\$8,711	28.0%	\$39,824	5.9%	\$32,956	\$9,228	\$42,184	\$0	\$42,184	6.7%	\$35,151	\$9,842	\$44,994
CONSTRUCTION ESTIMATE TOTALS:		\$31,112	\$8,711		\$39,824	5.9%	\$32,956	\$9,228	\$42,184	\$0	\$42,184	6.7%	\$35,151	\$9,842	\$44,994
01	LANDS AND DAMAGES	\$4	\$1	28.0%	\$4	5.9%	\$4	\$1	\$5	\$0	\$5	2.9%	\$4	\$1	\$5
30	PLANNING, ENGINEERING & DESIGN	\$2,400	\$672	28.0%	\$3,072	8.8%	\$2,610	\$731	\$3,341	\$0	\$3,341	6.6%	\$2,782	\$779	\$3,561
31	CONSTRUCTION MANAGEMENT	\$2,400	\$672	28.0%	\$3,072	8.8%	\$2,610	\$731	\$3,341	\$0	\$3,341	8.5%	\$2,833	\$793	\$3,626
PROJECT COST TOTALS:		\$35,916	\$10,056	28.0%	\$45,972		\$38,180	\$10,690	\$48,871	\$0	\$48,871	6.8%	\$40,770	\$11,416	\$52,186

- _____ CHIEF, COST ENGINEERING, Stephen Roman
- _____ PROJECT MANAGER, Kent Tranter
- _____ CHIEF, REAL ESTATE, Ralph Werthmann
- _____ CHIEF, PLANNING, Elden Gatwood
- _____ CHIEF, ENGINEERING, Greg Williams
- _____ CHIEF, OPERATIONS, Daniel Brown
- _____ CHIEF, CONSTRUCTION, Dennis Lynch
- _____ CHIEF, CONTRACTING, John Mayo
- _____ CHIEF, PM-PB, Robert Keistler
- _____ CHIEF, DPM, Christine Brayman

ESTIMATED TOTAL PROJECT COST: \$52,186
FEDERAL 85% \$44,358
STATE-LOCAL 15% \$7,828

ATTACHMENT "B" INITIAL NOURISHMENT

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

**** CONTRACT COST SUMMARY ****

PROJECT: FOLLY BEACH GRR STUDY

DISTRICT: USAED - CHARLESTON

PREPARED: 6/27/2020

LOCATION: FOLLY BEACH, South Carolina
This Estimate reflects the scope and schedule in report;

FOLLY BEACH - INITIAL NOURISHMENT 2024

POC: CHIEF, COST ENGINEERING, Stephen Roman

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: Effective Price Level:		27-Jun-20 1-Oct-19		Program Year (Budget EC): Effective Price Level Date:		2022 1 OCT 21						
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K) C	CNTG (\$K) D	RISK BASED		ESC (%) G	COST (\$K) H	CNTG (\$K) I	TOTAL (\$K) J	Mid-Point Date P	INFLATED (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
				CNTG (%) E	TOTAL (\$K) F									
17	INITIAL CONSTRUCTION 2024 BEACH REPLENISHMENT	\$31,112	\$8,711	28.0%	\$39,824	5.9%	\$32,956	\$9,228	\$42,184	2024Q2	6.7%	\$35,151	\$9,842	\$44,994
	CONSTRUCTION ESTIMATE TOTALS:	\$31,112	\$8,711	28.0%	\$39,824		\$32,956	\$9,228	\$42,184			\$35,151	\$9,842	\$44,994
01	LANDS AND DAMAGES	\$4	\$1	28.0%	\$4	5.9%	\$4	\$1	\$5	2023Q1	2.9%	\$4	\$1	\$5
30	PLANNING, ENGINEERING & DESIGN 7% Project Management	\$2,400	\$672	28.0%	\$3,072	8.8%	\$2,610	\$731	\$3,341	2023Q4	6.6%	\$2,782	\$779	\$3,561
31	CONSTRUCTION MANAGEMENT Construction Management	\$2,400	\$672	28.0%	\$3,072	8.8%	\$2,610	\$731	\$3,341	2024Q2	8.5%	\$2,833	\$793	\$3,626
	CONTRACT COST TOTALS:	\$35,916	\$10,056		\$45,972		\$38,180	\$10,690	\$48,871			\$40,770	\$11,416	\$52,186

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

PROJECT: FOLLY BEACH GRR STUDY 2020

DISTRICT: USAED - CHARLESTON

PREPARED: 6/27/2020

PROJECT NO: P2 - 477186
 LOCATION: FOLLY BEACH, South Carolina

POC: CHIEF, COST ENGINEERING, Stephen Roman
 USAED - WILMINGTON

This Estimate reflects the scope and schedule in report;

FOLLY BEACH GRR - PERIODICS FY 2036, 2048 & FY 2060

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)					TOTAL PROJECT COST (FULLY FUNDED)				
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B	COST (\$K) C	CNTG (\$K) D	CNTG (%) E	TOTAL (\$K) F	Program Year (Budget EC): 2022 Effective Price Level Date: 1 OCT 21				Spent Thru: 1-Oct-19 (\$K)	TOTAL FIRST COST (\$K) K	INFLATED (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
						ESC (%) G	COST (\$K) H	CNTG (\$K) I	TOTAL (\$K) J						
17	BEACH REPLENISHMENT	\$111,244	\$28,973	26.0%	\$140,217	5.9%	\$117,838	\$30,690	\$148,528	\$0	\$148,528	124.6%	\$264,835	\$68,816	\$333,651
CONSTRUCTION ESTIMATE TOTALS:		\$111,244	\$28,973		\$140,217	5.9%	\$117,838	\$30,690	\$148,528	\$0	\$148,528	124.6%	\$264,835	\$68,816	\$333,651
01	LANDS AND DAMAGES	\$75	\$20	26.0%	\$95	5.9%	\$79	\$21	\$100	\$0	\$100	112.4%	\$169	\$44	\$213
30	PLANNING, ENGINEERING & DESIGN	\$1,500	\$390	26.0%	\$1,890	8.8%	\$1,631	\$424	\$2,055	\$0	\$2,055	190.9%	\$4,748	\$1,231	\$5,979
31	CONSTRUCTION MANAGEMENT	\$1,500	\$390	26.0%	\$1,890	8.8%	\$1,631	\$424	\$2,055	\$0	\$2,055	196.7%	\$4,843	\$1,256	\$6,099
PROJECT COST TOTALS:		\$114,319	\$29,772	26.0%	\$144,091		\$121,180	\$31,559	\$152,739	\$0	\$152,739	126.5%	\$274,595	\$71,347	\$345,942

- _____ CHIEF, COST ENGINEERING, Stephen Roman
- _____ PROJECT MANAGER, Kent Tranter
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- _____ CHIEF, CONSTRUCTION, Dennis Lynch
- _____ CHIEF, CONTRACTING, John Mayo
- _____ CHIEF, PM-PB, Robert Keistler
- _____ CHIEF, DPM, Christine Brayman

ESTIMATED TOTAL PROJECT COST: \$345,942
FEDERAL 85% \$294,051
STATE-LOCAL 15% \$51,891

ATTACHMENT C - PERIODIC NOURISHMENTS

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

**** CONTRACT COST SUMMARY ****

PROJECT: FOLLY BEACH GRR STUDY 2020

DISTRICT: USAED - CHARLESTON

PREPARED: 6/27/2020

LOCATION: FOLLY BEACH, South Carolina
This Estimate reflects the scope and schedule in report;

FOLLY BEACH GRR - PERIODICS FY 2036, 2048 & FY 2060

POC: CHIEF, COST ENGINEERING, Stephen Roman

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
2036		Estimate Prepared: Effective Price Level:		27-Jun-20 1-Oct-19		Program Year (Budget EC): Effective Price Level Date:		2022 1 OCT 21						
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K) C	CNTG (\$K) D	RISK BASED		ESC (%) G	COST (\$K) H	CNTG (\$K) I	TOTAL (\$K) J	Mid-Point Date P	INFLATED (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
				CNTG (%) E	TOTAL (\$K) F									
17	FOLLY RIVER BORROW PHASE 2 or CONTRACT 2 BEACH REPLENISHMENT	\$32,712	\$8,178	25.0%	\$40,890	5.9%	\$34,651	\$8,663	\$43,314	2036Q2	50.3%	\$52,084	\$13,021	\$65,105
CONSTRUCTION ESTIMATE TOTALS:		\$32,712	\$8,178	25.0%	\$40,890		\$34,651	\$8,663	\$43,314			\$52,084	\$13,021	\$65,105
01	LANDS AND DAMAGES	\$25	\$6	25.0%	\$31	5.9%	\$26	\$7	\$33	2035Q1	45.0%	\$38	\$10	\$48
30	PLANNING, ENGINEERING & DESIGN 7% Project Management	\$500	\$125	25.0%	\$625	8.8%	\$544	\$136	\$680	2035Q4	67.0%	\$908	\$227	\$1,135
31	CONSTRUCTION MANAGEMENT Construction Management	\$500	\$125	25.0%	\$625	8.8%	\$544	\$136	\$680	2036Q2	70.3%	\$926	\$231	\$1,157
CONTRACT COST TOTALS:		\$33,737	\$8,434		\$42,172		\$35,765	\$8,941	\$44,707			\$53,957	\$13,489	\$67,446

ATTACHMETN C - PERIODIC NOURISHMENTS

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

**** CONTRACT COST SUMMARY ****

PROJECT: FOLLY BEACH GRR STUDY 2020

DISTRICT: USAED - CHARLESTON

PREPARED: 6/27/2020

LOCATION: FOLLY BEACH, South Carolina
This Estimate reflects the scope and schedule in report;

FOLLY BEACH GRR - PERIODICS FY 2036, 2048 & FY 2060

POC: CHIEF, COST ENGINEERING, Stephen Roman

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
2048 Civil Works		Estimate Prepared: Effective Price Level:		27-Jun-20 1-Oct-19		Program Year (Budget EC): Effective Price Level Date:		2022 1 OCT 21						
WBS NUMBER A	Feature & Sub-Feature Description STONO EBB SHOAL BORROW PHASE 3 or CONTRACT 3 2048	COST (\$K) C	CNTG (\$K) D	CNTG (%) E	TOTAL (\$K) F	ESC (%) G	COST (\$K) H	CNTG (\$K) I	TOTAL (\$K) J	Mid-Point Date P	INFLATED (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
17	BEACH REPLENISHMENT	\$38,734	\$10,846	28.0%	\$49,580	5.9%	\$41,030	\$11,488	\$52,519	2048Q2	111.8%	\$86,911	\$24,335	\$111,246
CONSTRUCTION ESTIMATE TOTALS:		\$38,734	\$10,846	28.0%	\$49,580		\$41,030	\$11,488	\$52,519			\$86,911	\$24,335	\$111,246
01	LANDS AND DAMAGES	\$25	\$7	28.0%	\$32	5.9%	\$26	\$7	\$34	2047Q1	104.4%	\$54	\$15	\$69
30	PLANNING, ENGINEERING & DESIGN PED	\$500	\$140	28.0%	\$640	8.8%	\$544	\$152	\$696	2047Q4	169.6%	\$1,466	\$410	\$1,876
31	CONSTRUCTION MANAGEMENT Construction Management	\$500	\$140	28.0%	\$640	8.8%	\$544	\$152	\$696	2048Q2	175.0%	\$1,495	\$419	\$1,914
CONTRACT COST TOTALS:		\$39,759	\$11,133		\$50,892		\$42,144	\$11,800	\$53,945			\$89,926	\$25,179	\$115,106

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

**** CONTRACT COST SUMMARY ****

PROJECT: FOLLY BEACH GRR STUDY 2020

DISTRICT: USAED - CHARLESTON

PREPARED: 6/27/2020

LOCATION: FOLLY BEACH, South Carolina
This Estimate reflects the scope and schedule in report;

FOLLY BEACH GRR - PERIODICS FY 2036, 2048 & FY 2060

POC: CHIEF, COST ENGINEERING, Stephen Roman

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	Estimate Prepared: Effective Price Level:		27-Jun-20 1-Oct-19	TOTAL (\$K) F	Program Year (Budget EC):		2022	TOTAL (\$K) J	Mid-Point Date P	INFLATED (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
		COST (\$K) C	CNTG (\$K) D	CNTG (%) E		Effective Price Level Date: 1 OCT 21	ESC (%) G	COST (\$K) H						
17	2060 FOLLY RIVER BORROW PHASE 4 or CONTRACT 4 2060 BEACH REPLENISHMENT	\$39,797	\$9,949	25.0%	\$49,747	5.9%	\$42,156	\$10,539	\$52,695	2060Q2	198.5%	\$125,840	\$31,460	\$157,300
	CONSTRUCTION ESTIMATE TOTALS:	\$39,797	\$9,949	25.0%	\$49,747		\$42,156	\$10,539	\$52,695			\$125,840	\$31,460	\$157,300
01	LANDS AND DAMAGES	\$25	\$6	25.0%	\$31	5.9%	\$26	\$7	\$33	2059Q1	188.0%	\$76	\$19	\$95
30	PLANNING, ENGINEERING & DESIGN PED	\$500	\$125	25.0%	\$625	8.8%	\$544	\$136	\$680	2059Q4	336.6%	\$2,374	\$594	\$2,968
31	CONSTRUCTION MANAGEMENT Construction Management	\$500	\$125	25.0%	\$625	8.8%	\$544	\$136	\$680	2060Q2	345.4%	\$2,422	\$605	\$3,027
	CONTRACT COST TOTALS:	\$40,822	\$10,206		\$51,028		\$43,270	\$10,818	\$54,088			\$130,712	\$32,678	\$163,390

ATTACHMENT C - PERIODIC NOURISHMENTS