DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
701 San Marco Boulevard
JACKSONVILLE, FLORIDA 32207-8175

REPLY TO
ATTENTION OF

CESAJ-PM-W

27 OCT 2017

MEMORANDUM FOR Commander, South Atlantic Division (CESAD-DDR-E), 60 Forsyth Street SW, RM 10M15, Atlanta, GA 30303

SUBJECT: Public Law 84-99 Addendum to the 2016 Project Information Report (PIR) for the Rehabilitation Effort for the Pinellas County, Florida Shore Protection Project.

1. The subject Addendum has been completed and is available for review and approval. The Addendum to the 2016 PIR recommends repair of the subject project under PL 84-99 to address damages sustained during Hurricane Irma. Transmitted with this letter are the Legal Review, and the 2017 Project Information Report including the Review Checklist (Appendix Z).

2. POC is Laurel Reichold, Project Manager, at (904) 232-1458 or by email at Laurel.P.Reichold@usace.army.mil.

Encl

for JASON A. KIRK, P.E.
Colonel, EN
Commanding

CERTIFICATION OF LEGAL REVIEW

The Addendum to the 2016 Project Information Report for the Rehabilitation Effort for the Pinellas County, Florida, Shore Protection Project has been fully reviewed by Office of Counsel, Jacksonville District and is legally sufficient.

GRAY.RACHEL.D.1521677950 Digitally signed by GRAY.RACHEL.D.1521677950 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=GRAY.RACHEL.D.1521677950 Date: 2017.10.25 13:32:02 -04'00'

Rachel D. Gray
Assistant District Counsel
October 25, 2017

ADDENDUM
TO THE

2016 PROJECT INFORMATION REPORT

FOR THE

REHABILITATION EFFORT FOR THE
PINELLAS COUNTY, FLORIDA
SHORE PROTECTION PROJECT

October 2017

US Army Corps
of Engineers
Jacksonville District

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Part I. Executive Summary

In response to Hurricane Hermine in September 2016, SAJ prepared a PIR for the Pinellas County Shore Protection Project at Sand Key, Treasure Island, and Long Key, that recommended restoration of the full construction template of the Sand Key segment of the Pinellas County SPP in conjunction with the rehabilitation effort under Public Law (PL) 84-99. The Flood Control and Coastal Emergency (FCCE) portion of the Hermine restoration work involves the placement of 353,119 cy of material. Restoration to the full construction template was initially determined to require a renourishment volume of 877,819 cy, but, as described below, subsequently recalculated to require a renourishment volume of 1,000,000 cy. The 2016 PIR did not recommend PL 84-99 funding due to Hurricane Hermine for the Long Key and Treasure Island segments. The PIR was approved on January 25, 2017. Its recommended approach for rehabilitation includes combining FCCE and Construction General (CG) renourishment efforts to restore the Sand Key segment to the authorized construction template dimensions.

On March 1, 2017, SAJ and the non-Federal sponsor, Pinellas County, signed a Cooperation Agreement (CA) for the rehabilitation of the Pinellas County SPP at Sand Key. The CA defines the “Rehabilitation Effort” as a single beach fill placement to the project’s design profile template which involves placement of approximately 353,119 cy of material from FDEP monuments R57-R66 and R72-R107 as generally described in the PIR prepared by SAJ, dated November 2016 and approved on January 25, 2017.

During preconstruction, engineering and design (PED), survey 17-081 was contracted out by Geomatics to Hyatt Survey Services, Inc. The volumes for the full construction template were recalculated based on the pre-construction survey work performed between April 3, 2017 and May 15, 2017. As a result, the volume needed for renourishment of the full construction template for the Sand Key segment is 1,000,000 cy.
SAJ awarded a contract on September 26, 2017 for the Pinellas County Beach Renourishment Project that, in part, provides for placement of 1,000,000 cy of beach-quality sand on the Sand Key segment (Clearwater Beach to North Redington Beach). Construction is expected to begin by late November, with completion scheduled for October of 2018.

Prior to initiation of the approved post-Hermine repairs, Hurricane Irma caused an additional 365,000 cy of erosion damage to the Project on 10-11 September 2017. This damage included significant beach erosion and scarping of the primary berm occurred along the majority of the Project shoreline, and loss of dune and berm sand along the oceanfront of Pinellas County. The 365,000 cy of storm volume loss represents 337,000 cy of loss along the Sand Key segment, 36,000 cy of loss along the Treasure Island segment, and a gain of 8,000 cy along the southern portion of Long Key. No further action is recommended for the Long Key and Treasure Island Segment. This addendum focuses on the Sand Key segment.

From the 2016 PIR, the amount of sand needed to rebuild the Sand Key segment from the post-storm conditions to the full construction template consists of 877,819 cy and the total estimated cost is $31,563,000. These estimates include mobilization, contingency, preconstruction, engineering and design (PED), and supervision and administration (S&A) in accordance with EP 500-1-1 and ER 500-1-1.

Following Irma, the proposed additional volume of 337,000 cy, would carry an additional estimated cost of $14,873,000. The restoration of the full construction template after Hurricane Irma consists of the renourishment volume of 1,337,000 cy, which is estimated to cost $41,156,000. These estimates include mobilization, contingency, preconstruction, engineering and design (PED), and supervision and administration (S&A) in accordance with EP 500-1-1 and ER 500-1-1. The combined work to restore the construction template is economically justified with an updated benefit to cost ratio (BCR) of 8.51.

The non-Federal sponsor, Pinellas County, is willing to sign an amendment to the cooperation agreement, which was executed on March 1, 2017, to amend the description of the work and include this additional material (337,000 cy). The change in volume due to Hurricane Irma does not trigger the need for additional NEPA analysis because the additional material would be placed within the footprint that was the scope of the previous analysis, and there are no changed conditions or new information bearing on the proposed action or its impacts. There are no listings under the Endangered Species Act (ESA) that have not already been considered, and no changes in laws/regulations or conditions that would warrant additional NEPA analysis or reinitiation of consultation under the ESA. The sediment source for the Sand Key portion of the project will be Egmont East Borrow Area which is the same one proposed for the rehabilitation work after Hurricane Hermine in 2016. Engineering design section determined the borrow area capacity using the latest borrow area survey, performed from April 3 to May 15, 2017, and determined that the target depth for Egmont shoal east contained approximately 2.3 million cubic yards. Therefore, the project proposed borrow area has enough capacity to place the 1.3 million cubic yards needed for the Sand Key Segment, and not additional sound source will be needed for the rehabilitation project.

The previously approved PIR is hereby amended to recommend an increase in the estimated volume needed to restore the project. In conclusion; it is recommended that these additional storm losses be included in the upcoming construction project by variation in estimated quantity or by contract modification, as required.

Approval of this PIR Addendum is requested to save approximately $4,762,000 of mobilization and demobilization costs that would be incurred by a performance of the recommended rehabilitation in a separate, later contract.

Part II. Basic Report

1. DISASTER INCIDENT

Hurricane Irma made landfall along the Southwest Florida coast as a major, category 3 hurricane on 10 September 2017 and traveled northward along the Florida peninsula for the next 24 hours with hurricane force winds stretching nearly from coast to coast and tropical storm force winds extending much further beyond that. The storm had devastating consequences on Florida's federal coastal storm risk management projects causing extensive beach and dune erosion along several hundred miles of Florida coastline. Due to the intensity and size of the storm, high-energy waves and elevated water levels (storm surge and wave setup) affected areas far from the core of the storm over a duration of greater than a day. The combination of high waves and water levels over a long duration creates the potential for extensive beach erosion. Along Southwest Florida, the coastal NOAA Naples gauge registered a peak water level of 4.83 ft NAVD, which exceeds the NOAA 100-year Exceedance Probability at that gauge of 4.49 ft NAVD88. The Fort Myers gauge, which is located inland along the Caloosahatchee River registered a peak water level of 3.55 ft NAVD88 which correlates to an approximately 40-year exceedance probability based on NOAA's data. Irma created wave heights of 18.4 ft and 23.6 ft at the NDBC West Tampa and Pulley Ridge wave gauges, respectively, which rank 16 and 6 all time in the USACE WIS database. Based on the observed water level, wave, and wind data, SAJ has found a preponderance of evidence to support the fact that Hurricane Irma is an extraordinary storm per ER 500-1-1, paragraph 5-20.f along the Southwest Florida coast.

2. DAMAGE DESCRIPTION

2.1 Updates due to Hurricane Irma

Damage within the Pinellas County Shore Protection Project fill area consisted of erosion of the dry beach and in the intertidal zone (**Figure 2-1**). The pre-storm sandbar was largely eroded and flattened with the sand transported seaward outside of the monitoring extents. These damages have lessened the project's ability to provide the designed coastal storm damage reduction. Inspections following the passing of Irma noted no significant damage to shorefront infrastructure within the project area.

Figure 2-1: Post Storm view of berm erosion and water line pushed up to near the shorefront infrastructure just south of R-84 on Sand Key.

In order to quantify the degree of storm damage to the Project from the hurricane a volumetric change analysis was performed. The project sponsor (Pinellas County) had a wading depth beach profile survey conducted following the passing of Hurricane Irma. This post-storm (September 2017) survey was compared with a pre-storm (August 2017) survey to determine volume losses using Matlab software and cross-checked with MicroStation Inroads to determine volume change at each profile. The average end area method was used to calculate the total volume. The beach surveys are collected for Pinellas County by the University of South Florida as part of their coastal monitoring program. As such, both the pre-storm and post-storm beach profiles are wading/swimming depth surveys that extend to approximately -10ft NAVD88. Therefore the volume calculations do not account for volume change (erosion or accretion) along the nearshore portion of the profile that may have occurred as a result of Hurricane Irma. As noted, the nearshore sand bar was flattened and that material likely moved offshore, outside the extent of the survey. It is impossible to tell where this material deposited offshore and when it will migrate back onshore, however it is likely that this material remains in the nearshore zone. A typical beach profile showing berm erosion is shown for R-84 in **Figure 2-2**.

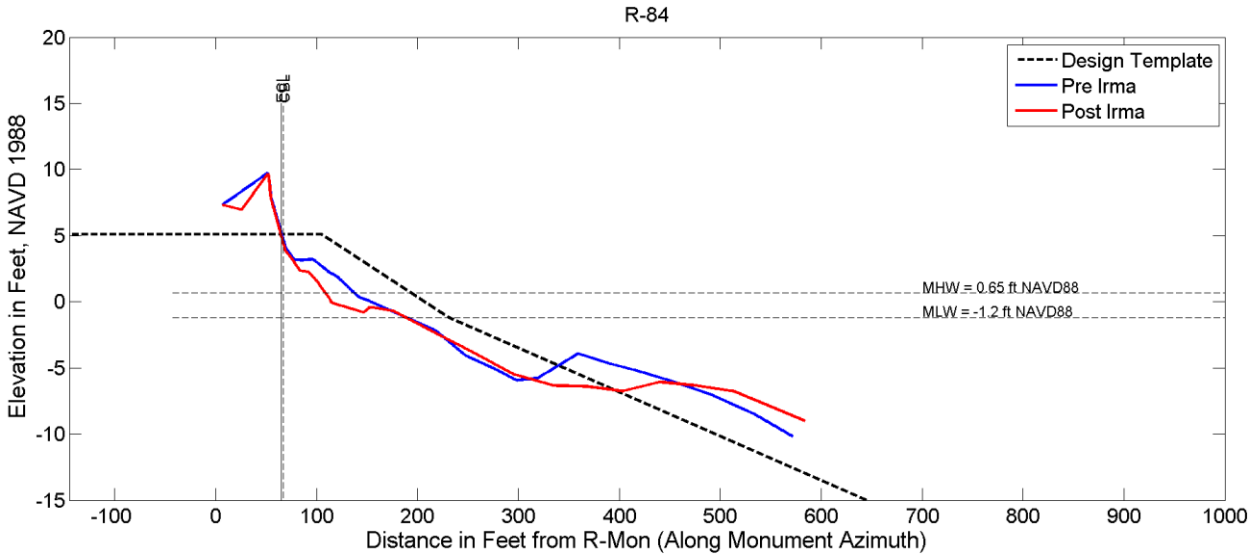

Figure 2-2: Typical beach profile showing berm erosion right up to the toe of the dune

Overall, pre- to post-storm erosion of approximately 365,000 cy was estimated for the Pinellas County project area (**Table 2-1**). This is broken down as 337,000 cy along the Sand Key project area, 36,000 cy along the Treasure Island project area, and a gain of 8,000 cy along the southern portion of Long Key.

For the Sand Key segment, approximately 690,000 cy are estimated to be needed to rebuild the authorized design template and 1,362,000 cy are estimated to be needed to build the full construction template, which was slated for construction in FY18.

Table 2-1: Volume Change Summary

Reach	R-Monument	Irma Pre-to-Post Storm Volume Loss (CY)	Post-Storm to Design Template (CY) Requirement	Post-Storm to Construction Template (CY) Requirement
Sand Key	**R-55 to R-66 & R-71 to T-106**	**-337,000**	**690,000**	**1,362,000**
Treasure Island	**R-136 to R-141**	**-36,000**	**106,000**	**287,000**
Long Key	**R-160 to R-165**	**8,000**	**26,000**	**76,000**
Total		**-365,000**	**822,000**	**1,725,000**

Overall, almost all of Sand Key experienced dry beach and nearshore erosion. The majority of the erosion occurred in the nearshore, where the nearshore bar was flattened and much of that sand moved further offshore. Dry beach losses accounted for roughly one-third of the overall losses with nearshore losses

covering the remaining two-thirds. Along Treasure Island a similar erosion pattern existed. Post-storm visual assessments showed the southern portion experienced heavy erosion. Survey data was only collected along the southern Sunset Beach segment and it confirmed that the beach there is narrow and received dry beach losses. Along Long Key, the surveyed profiles converged in the offshore at the seaward limit. This indicates that the majority of the erosion that occurred along the dry beach and in the nearshore was accounted for in accretion further offshore along the profile. Due to this fact, a slight net accretion was tabulated along this segment.

2.2 Significant Damage Assessment

The cost of the rehabilitation effort to effect repair of the Sand Key Segment (placement of 690,000 cy) is $19,389,000 (exclusive of dredge mobilization and demobilization costs), which exceeds the $1,000,000 and $6,000,000 criteria as is shown in Table 4-3 of this addendum. In addition, the incremental costs of storm damages caused by Hurricane Irma represent well over 2% of the initial construction cost in current dollars ($86,952,276). Additionally, approximately 64% of the planned or historically placed sand for renourishment (524,700 cy) was lost, which represents well over the 1/3 criteria. Therefore, Hurricane Irma caused significant amounts of damage to the Pinellas County SPP Sand Key segment (which is in addition to the significant amounts of damage that Hurricane Hermine caused to the Project in 2016). Therefore, the requirement of ER 500-1-1 paragraph 5-20.e.(2) is met.

3. PROPOSED WORK

The Sand Key segment of the Pinellas County SPP is eligible for rehabilitation assistance because Hurricane Irma and Hurricane Hermine were “extraordinary storms” and caused, separately and together, “significant amounts of damage” per the criteria in ER 500-1-1, Section 5-20.e.(2)(a).

Hurricane Irma caused 337,000 cy of damage to the Sand Key segment of the Pinellas County SPP; the FCCE portion of the Hermine restoration work involves the placement of approximately 353,000 cy of material. Therefore, a total volume of 690,000 cy is needed to restore the design berm. The updated FCCE volume is 690,000 cy, and the advance fill (CG) to account for losses during the next five years is 647,000 cy. Restoration of the full construction template (1,337,000 cy) is recommended. This work is economically justified with a BCR greater than 1.0.

Per ER 500-1-1 Paragraph 5-20d, the Risk Test – the need for funding under PL 84-99 will be based on an assessment of the risk to life and property, and the need for immediate action. Infrastructure landward of the project is in danger of experiencing storm damage if the project is not rehabilitated as soon as practicable. Hurricane Irma caused an additional 337,000 cy (Hermine caused 361,944cy) of damage according to pre-to-post storm survey to Pinellas County SPP, Sand Key Segment. Thus if the shore protection project is not rehabilitated

to the design level, there is an increased risk of subsequent loss of property and damage to structural improvements along the shoreline.

The sediment source for the Sand Key portion of the project will be Egmont East Borrow Area which is located adjacent to Tampa Harbor entrance channel and is approximately 25 miles south of Clearwater Beach renourished area.

4. COST ESTIMATE

The updated cost estimate to include the quantity lost due to Hurricane Irma is provided in Table 4-1. This estimate assumes that the additional quantity of 337,000 cy will be included in the current contract. The non-Federal sponsor, Pinellas County, desires to fully restore the Project to the construction template (restoration of 1,337,000 cy). The estimated cost for the additional volume (337,000 cy) is $14,873,000. This estimate includes mobilization, contingency, preconstruction, engineering and design (PED), and supervision and administration (S&A) in accordance with EP 500-1-1 and ER 500-1-1. Consistent with guidance in ER 500-1-1, a contingency of 15% was used for this analysis.

All work associated with the FCCE funds is assumed to be 100% Federal (restoration of 690,000 cy). All The CG work would be apportioned according to the PCA, 62.80% Federal and 37.20% non-Federal (See Tables 4-2 and 4-3).

The sediment source for the Sand Key portion of the project will be Egmont East Borrow Area which is the same one proposed for the rehabilitation work after Hurricane Hermine in 2016. Engineering design section determined the borrow area capacity using the latest borrow area survey, performed from April 3 to May 15, 2017, and determined that the target depth for Egmont shoal east contained approximately 2.3 million cubic yards. Therefore, the project proposed borrow area has enough capacity to place the 1.3 million cubic yards needed for the Sand Key Segment, and not additional sound source or increase in cost will be needed for the rehabilitation project.

Table 4-1: Summary Cost Table

WBS Code	Project Feature	Restore to Pre Storm Conditions	Restore to Design Template	Restore to Full Construction Template
	Calculated Quantity (CY)	**337,000**	**690,000**	**1,337,000**
17	Mobilization and	$4,762,000	4,762,000	$4,762,000
17	Beach Replenishment	$8,740,000	17,894,000	$34,672,000
17	Associated General Items	$771,000	895,000	$1,122,000
30	Engineering and Design	$150,000	150,000	$150,000
31	Construction Management	$450,000	450,000	$450,000
	Total Cost	**$14,873,000**	**$24,151,000**	**$41,156,000**

Table 4-2: Updated Cost Apportionment with Hurricane Irma Impacts

COST APPORTIONMENT OF PINELLAS COUNTY SAND KEY SHORE PROTECTION PROJECT					
Project Feature	**Project Cost**	**Federal Share**	**Federal Cost**	**Non-Federal Share**	**Non-Federal Cost**
Mobilization	$4,762,000				
Hermine FCCE	$1,257,282	100.00%	$1,257,282	0.00%	$0
Irma FCCE	$1,200,295	100.00%	$1,200,295	0.00%	$0
CG proportional MOB costs	$2,304,423	62.80%	$1,447,178	37.20%	$857,245
Beach Replenishment	$34,672,000				
Hermine FCCE	$9,154,238	100.00%	$9,154,238	0.00%	$0
Irma FCCE	$8,739,315	100.00%	$8,739,315	0.00%	$0
Shore Protection - CG	$16,778,447	62.80%	$10,536,865	37.20%	$6,241,582
Associated Items	$1,122,000				
Hermine FCCE	$296,235	100.00%	$296,235	0.00%	$0
Irma FCCE	$282,808	100.00%	$282,808	0.00%	$0
Shore Protection - CG	$542,957	62.80%	$340,977	37.20%	$201,980
Engineering & Design SUNK	$150,000				
Hermine FCCE	$39,604	100.00%	$39,604	0.00%	$0
Irma FCCE	$37,809	100.00%	$37,809	0.00%	$0
Shore Protection - CG	$72,588	62.80%	$45,585	37.20%	$27,003
Post Constr Monitoring Costs	$0				
Hermine FCCE	$0	100.00%	$0	0.00%	$0
Irma FCCE	$0	100.00%	$0	0.00%	$0
Shore Protection - CG	$0	62.80%	$0	37.20%	$0
	$0				
Construction Management	$450,000				
Hermine FCCE	$118,811	100.00%	$118,811	0.00%	$0
Irma FCCE	$113,426	100.00%	$113,426	0.00%	$0
Shore Protection - CG	$217,764	62.80%	$136,756	37.20%	$81,008
Real Estate/Administrative SUNK	$0				
Hermine FCCE	$0	100.00%	$0	0.00%	$0
Irma FCCE	$0	100.00%	$0	0.00%	$0
Shore Protection - CG	$0	62.80%	$0	37.20%	$0
Total Cost	**$41,156,000**				
FCCE* (51.61% Proportional Cost)	$21,239,820	100.00%	$21,239,820	0.00%	$0
Hermine FCCE	$10,866,169	100.00%	$10,866,169	0.00%	$0
Irma FCCE	$10,373,651	100.00%	$10,373,651	0.00%	$0
Shore Protection - CG	**$19,916,179**	**62.80%**	**$12,507,361**	**37.20%**	**$7,408,819**
		total	**$33,747,181**		**$7,408,819**

Total (Volume cy)	Total FCCE Volume cy	CG Volume cy	Betterment	Hermine FCCE Volume cy	Irma FCCE Volume cy
1,337,000	690,000	647,000	0	353,000	337,000
	51.61%	48.39%	0.00%	26.40%	25.21%

Table 4-3: Updated Cost Apportionment Summary Table with Irma Impacts

Cost Apportionment Summary Table

Total Hermine FCCE (100% Federal)	$10,866,169
Total Irma FCCE (100% Federal)	$10,373,651
Total FCCE (Hermine & Irma)	**$21,239,820**
Federal CG	$12,507,361
Non-Federal CG	$7,408,819
Total CG	**$19,916,179**
Total Cost Full Construction	**$41,156,000**

4.1 Updates to Benefits

The benefit and cost analysis has been updated to account for the additional loss of protection due to Hurricane Irma. The benefit analysis is updated to include the additional quantity from Hurricane Irma in the restoration of the full construction which is an economically justified action with a BCR of 8.51. Table 4-4 demonstrates the BCR calculation and Table D-1 of the Appendix D displays the remaining cost summary for the recommended action of restoration to the full design template. Restoration to the full construction template includes restoring the quantity lost in Hurricane Hermine as well.

Restoring just the quantity lost during Hurricane Irma (366,000CY) is also incrementally economically justified. Table D-2 of the Appendix D displays what will occur in the absence of any FCCE action (FWOP) to a degraded design template eroding at a rate of 104,940CY[1] over a six-year period of analysis[2] and compares that to replacing the lost quantity from Irma. From this comparison SAJ Economists were able to ascertain the incremental benefits of FCCE action and compare them to the incremental costs, resulting in a BCR of 5.81.

1 This rate is from the 1997 Design Memorandum established by SAJ Engineering
2 This POA is established based on when we would reasonably assume the next periodic nourishment would occur after FCCE action

Table 4-4: BCR to Restore the Full Construction Template

	Current Rate FY18
Rate:	2.750%
Total Cost Present Value:	$57,575,377
AAEQ Cost	$3,128,713
AAEQ Benefits	$26,625,600
AAEQ Net-Benefits	$23,496,887
Total BCR	**8.51**

5. ENVIRONMENTAL CONSIDERATIONS

An Environmental Impact Statement (EIS) was completed and a Record of Decision signed in 1984 for the Pinellas County Beach Erosion Control (BEC) project. An Environmental Assessment (EA) was completed in 1997 to update the 1984 EIS. This EA included the use of the Egmont Channel Shoal borrow area as a sand source for the Sand Key nourishment event. Subsequent NEPA analyses completed in 2003 and 2011 assessed the use of offshore sand sources, but these sources were depleted during previous nourishment events at Sand Key. Most recently, a supplemental EA was completed to update the analysis. The entire Pinellas County BEC shoreline was assessed, and the sand sources included Clearwater Pass, Blind Pass, Johns Pass, Pass-a-Grille, and Egmont Shoals. A Finding of No Significant Impact was signed on 10 August 2017 (see Appendix C). The analysis considered the effects of placing material from the proposed sand source to the authorized dimensions. No additional evaluation in accordance with NEPA is required to conduct the work associated with the additional material to be placed on the beach as a result of Hurricane Irma. There are no changed conditions or new information bearing on the proposed action or its impacts. Although the proposed renourishment volume has increased since the NEPA analyses were completed, this change does not warrant additional NEPA review because studies during PED determined the borrow area capacity for each of the borrow areas to assure that 150% of the volume shown for place is available at the borrow areas. The latest borrow area survey determined that the target depth for Egmont shoal east contained approximately 2.3 million cubic yards. Therefore, the project proposed borrow area has enough capacity to place the 1.3 million cubic yards needed for the Sand Key Segment.

Threatened and endangered species that may occur within the project area include sea turtles, Florida manatee, wintering piping plover, wintering *rufa* red knot, and Gulf sturgeon. Nesting sea turtles and the Florida manatee are covered by the Statewide Programmatic Biological Opinion (SPBO, revised 2015). Effects to wintering piping plover are considered in the Piping Plover Programmatic Biological Opinion (P3BO) issued in 2013 by the U.S. Fish and Wildlife Service

(USFWS). The USFWS determined that it was appropriate to apply these programmatic biological opinions to this project in a letter dated 7 August 2017. In this letter, they also provided a biological opinion for potential effects to the *rufa* red knot. Potential effects to swimming sea turtles in the water and to Gulf sturgeon are considered in the NMFS' Gulf of Mexico Regional Biological Opinion (GRBO) issued in 2003 and revised in 2005 and 2007.

Potential impacts to essential fish habitat were addressed in the 2017 supplemental EA. NMFS response dated 13 July 2017 indicated that they did not anticipate any adverse effects to marine and anadromous fishery resources due to the proposed project, and they did not provide any essential fish habitat conservation recommendations.

6. RECOMMENDATIONS

Emergency rehabilitation of the Project is recommended to be performed under the authority of Public Law 84-99. The proposed work includes full restoration of the Project to the full construction template and provides net National Economic Development benefits of $23,496,887. The FCCE portion of this work involves the rehabilitation of approximately 690,000 cy of material which reflects the FCCE portion of the Hermine restoration work (353,000 cy) and the fill lost due to the extraordinary storm Irma (337,000 cy). Restoration of the full construction template is recommended; the renourishment volume of 1,337,000 cy provides additional storm damage reduction benefits and is a cost effective acquisition strategy.

for Jason A. Kirk, P.E.
Colonel, U.S. Army
District Commander

for G. Aaron Stormant
Chief, Emergency Management Branch

Part III. Appendices

Appendix A. Public sponsor's request for assistance

Pinellas County PUBLIC WORKS

September 18, 2017

Laurel Reichold, Project Manager
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Subject: REQUEST TO THE USACE TO SEEK REHABILITATION FOR THE PINELLAS COUNTY SHORE PROTECTION PROJECT

Dear Ms. Reichold:

The Pinellas County Shore Protection Project at Sand Key, Treasure Island and Long Key, has received damage from Hurricane Irma. We request that the Unites States Army Corps of Engineers evaluate and repair the damage to this project.

On behalf of Pinellas County, I am grateful for all the effort put forth in maintaining the Pinellas County Shore Protection Project and look forward to continued collaborative efforts with the US Army Corps of Engineers moving forward.

Sincerely,

John E. Bishop, Ph.D.
Coastal Management Coordinator
Division of Environmental Management

Pinellas County Environmental Management
22211 U.S. Hwy 19 N. • Bldg. 10
Clearwater, FL 33765
Main Office: (727) 464-4425
Fax: (727) 464-4403
V/TDD: (727) 464-4062

www.pinellascounty.org

Appendix B. Hurricane Hermine PIR Approval

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
WASHINGTON, D.C. 20314-1000

JAN 25 2017

CECW-HS

MEMORANDUM FOR COMMANDER, SOUTH ATLANTIC DIVISION

SUBJECT: Approval of the Rehabilitation Effort for the Pinellas County Shore Protection Project at Sand Key, Treasure Island and Long Key, November 2016

1. References:

a. Engineer Regulation 500-1-1, I September 2001, Civil Emergency Management Program.

b. Implementation Guidance for Section 3029(a)(2) of the Water Resources Reform and Development Act (WRRDA) of 2014, April 2016, Emergency Response to Natural Disasters; Repair or Restoration of Coastal Storm Risk Management Projects to Design Level of Protection.

c. Memorandum, CESAD-DDR-E, 9 December 2016, Subject: Community Request for Federal Assistance to Rehabilitate Pinellas County, Sand Key Beach Coastal Storm Risk Management (CSRM) Project, CWIS #014100.

2. The enclosed Project Information Report (PIR) has been reviewed in accordance with the criteria set forth in References 1.a. and 1.b., and is approved.

3. The PIR demonstrates that an "extraordinary storm" occurred as evident from the storm characteristics of Hurricane Hermine.

4. In accordance with reference 1b., the approved level of FCCE restoration is defined as, "the project's design profile template that reflects the project's minimum design dimensions that provide for the project's benefits that would trigger renourishment of the project." It is recognized that concurrent FCCE and Construction General (CG) renourishment efforts will be the optimal scenario to restore this project.

5. The economic justification in this PIR demonstrates a positive project benefit to cost ratio. If the total projected FCCE cost exceeds that permitted by reference 1b., then a resubmittal to CECW-HS with updated information for approval will be required.

6. Funding for this rehabilitation will be subject to the prioritization and availability of FCCE funds. Unless otherwise approved by CECW-HS, transmitted FCCE funds may be retained for a period no later than 180 days from project physical completion.

CECW-HS
SUBJECT: Approval of the Rehabilitation Effort for the Pinellas County Shore Protection Project at Sand Key, Treasure Island and Long Key, November 2016

7. The point of contact for this action is Mr. Willem Helms, PL 84-99 Program Manager, at willem.ha.helms@usace.army.mil (202) 761-5909.

DAVID F. DALE, P.E., PMP, SES
Acting Director of Contingency Operations
Homeland Security, and Northwestern
Division/Pacific Ocean Division RIT Leader

Appendix C. Supplemental EA and Finding of No Significant Impact

US Army Corps of Engineers
JACKSONVILLE DISTRICT

FINDING OF NO SIGNIFICANT IMPACT

PINELLAS COUNTY
BEACH EROSION CONTROL PROJECT

PINELLAS COUNTY, FLORIDA

The U.S. Army Corps of Engineers, Jacksonville District (Corps), has prepared a Supplemental Environmental Assessment (EA) in accordance with the National Environmental Policy Act of 1969, as amended (NEPA), and the White House's Council on Environmental Quality regulations to assess the environmental effects of dredging beach compatible sand from the Egmont Shoals (just north of the Tampa Harbor Federal Navigation Channel and east of Mullet Key) or the following inlets and their associated ebb shoals: Clearwater Pass, Johns Pass, Blind Pass, and Pass-a-Grille. The sand will be placed along the shorelines of Pinellas County to protect upland infrastructure and to restore beach habitats.

The Supplemental EA evaluates the effects of both the Preferred Alternative and the No Action Alternative. Past analyses conducted pursuant to NEPA evaluated other alternatives that are no longer considered to be viable for this project, including a number of offshore sand sources.

I have reviewed the Supplemental EA for the Preferred Alternative. This Finding incorporates by reference all discussions and conclusions contained in the Supplemental EA enclosed hereto. Based on the information analyzed in the Supplemental EA, which reflects pertinent information obtained from agencies having jurisdiction by law and/or special expertise, I conclude that the Preferred Alternative will not significantly affect the quality of the human environment and does not require an Environmental Impact Statement. Reasons for this conclusion are, in summary:

a. The Preferred Alternative is in compliance with the Endangered Species Act of 1973, as amended. The U.S. Fish and Wildlife Service's (USFWS) *Statewide Programmatic Biological Opinion for Shore Protection Activities along the Coast of Florida* (SPBO; revised March 13, 2015) and the *Piping Plover Programmatic Biological Opinion* (P3BO; issued May 22, 2013) apply to this project. The USFWS concurred with the Corps' determination that the Preferred Alternative "may affect, but is not likely to adversely affect" threatened piping plover in a letter dated August 7, 2017. The USFWS also determined that the project may adversely affect the threatened rufa red knot, and provided a biological opinion in their August 7, 2017 letter. The Corps determined that the project may adversely affect sea turtles in the water if a hopper

dredge is utilized for project construction. In this case, the National Marine Fisheries Service's (NMFS) *Gulf of Mexico Regional Biological Opinion* (GRBO; issued November 19, 2003; revised June 24, 2005 and January 9, 2007) applies to this project.

b. All applicable water quality standards will be met during project construction. The State of Florida issued Water Quality Certification in the form of Joint Coastal Permits from the Florida Department of Environmental Protection (FDEP) dated July 13, 2017 (Permit Nos. 0238664-008-JN and 0221569-017-JN), and July 26, 2017 (Permit No. 0270453-004-JN).

c. The State of Florida has concurred with the Corps' determined that the proposed project is consistent with the Florida Coastal Zone Management Program through the issuance of the FDEP Joint Coastal Permits referenced above.

d. The Preferred Alternative has been coordinated with the Florida State Historic Preservation Officer and the appropriate federally recognized Tribes in accordance with the National Historic Preservation Act and consideration given under the NEPA. Coordination will be completed prior to project construction.

e. The proposed project has been evaluated pursuant to the Migratory Bird Treaty Act. The Jacksonville District's Migratory Bird Protection procedures will be implemented for this project. These procedures have been coordinated with the USFWS and the State of Florida.

f. Benefits to the public will include the restoration of habitat for protected species and other wildlife; protection of upland structures from storm damage; and enhanced opportunity for recreation.

All practicable means to avoid and minimize adverse environmental effects have been incorporated into the Preferred Alternative. Measures that will be in place during construction to eliminate, reduce, or avoid adverse impacts to below the threshold of significance to fish and wildlife resources include the following:

- Dredging and placement activities will occur within the authorized and permitted template;
- Water-based activities will follow standard sea turtle protection measures and the terms and conditions of the NMFS GRBO;
- Water quality shall be protected by adherence to the State of Florida water quality criteria for the Boca Ciega Bay and Pinellas County Aquatic Preserves;
- Dredged material placement will comply with the shoreline protection measure conditions of the SPBO and the P3BO issued by the USFWS; and
- Any water-based activity would follow standard manatee protection measures.

In view of the above and the attached Supplemental EA, and after consideration of public and agency comments received on the project, I conclude that the Preferred Alternative would not result in a significant effect on the quality of the human environment. This Finding of No Significant Impact incorporates by reference all discussions and conclusions contained in the EA enclosed herewith.

Jason A. Kirk, P.E.
Colonel, U.S. Army
District Commander

10 AUG 2017
Date

Appendix D. Economics Appendix

Table D-1: Remaining Cost Summary

FY	Costs	Current Rate Present Worth Adj. Factor	Price Level Adj. Factor	Price Level & Present Worth Adj.
2018	$ 41,156,000	1.0000	0.5358	$ 22,049,737
2019	$ 86,140	0.9732	0.5358	$ 44,915
2020	$ 86,140	0.9472	0.5358	$ 43,713
2021	$ 76,700	0.9218	0.5358	$ 37,881
2022	$ 1,244,900	0.8972	0.5358	$ 598,380
2023	$ 21,379,436	0.8732	0.5358	$ 10,001,321
2024	$ 86,140	0.8498	0.5358	$ 39,218
2025	$ 86,140	0.8270	0.5358	$ 38,168
2026	$ 76,700	0.8049	0.5358	$ 33,076
2027	$ 1,244,900	0.7834	0.5358	$ 522,478
2028	$ 21,379,436	0.7624	0.5358	$ 8,732,693
2029	$ 86,140	0.7420	0.5358	$ 34,243
2030	$ 86,140	0.7221	0.5358	$ 33,327
2031	$ 76,700	0.7028	0.5358	$ 28,880
2032	$ 1,244,900	0.6840	0.5358	$ 456,204
2033	$ 21,379,436	0.6657	0.5358	$ 7,624,986
2034	$ 86,140	0.6479	0.5358	$ 29,900
2035	$ 86,140	0.6305	0.5358	$ 29,099
2036	$ 76,700	0.6137	0.5358	$ 25,217
2037	$ 1,244,900	0.5972	0.5358	$ 398,336
2038	$ 21,379,436	0.5813	0.5358	$ 6,657,787
2039	$ 86,140	0.5657	0.5358	$ 26,107
2040	$ 86,140	0.5506	0.5358	$ 25,408
2041	$ 76,700	0.5358	0.5358	$ 22,018
2042	$ 76,700	0.5215	0.5358	$ 21,429
2043	$ 76,700	0.5075	0.5358	$ 20,855
			Total PV	**$ 57,575,377**

Table D-2 Hurricane Irma Incremental Justification BCR Table

	Condition of Design Berm (CY)		Condition of Design Berm (%)		Annual Benefits Maintained ($)				
Year	FWOP	FWP	FW OP	FWP	FWOP	FWP	FCCE Benefits	PV Factor	PV FCCE Benefits
0	751,200	1,088,200	69%	100%	$18,380,032	$26,625,600	$8,245,568	1.0000	$8,245,568
1	646,260	983,260	59%	90%	$15,812,406	$24,057,974	$8,245,568	0.9732	$8,024,884
2	541,320	878,320	50%	81%	$13,244,780	$21,490,348	$8,245,568	0.9472	$7,810,106
3	436,380	773,380	40%	71%	$10,677,154	$18,922,722	$8,245,568	0.9218	$7,601,076
4	331,440	668,440	30%	61%	$8,109,528	$16,355,097	$8,245,568	0.8972	$7,397,641
5	226,500	563,500	21%	52%	$5,541,903	$13,787,471	$8,245,568	0.8732	$7,199,651
								Total PV	$46,278,926
								AAEQ Benefit	$ 8,472,321
								AAEQ Cost	$ 1,458,774
								Net Benefits	$ 7,013,547
								BCR	5.81

Appendix E. Hurricane Irma PIR Review Checklist (Appendix Z)

	YES	NO	N/A	
1.	X			The project is a Federally authorized and constructed coastal storm risk management project. {ER, 5-20.a.}
2.	X			The project is Active in the RIP {ER, 5-2.a.]. Last inspection date: September 2017
3.	X			The public sponsor has requested CSRM Rehabilitation Assistance in writing. [EP, 5-18.b.]
4.	X			The FCCE-funded CSRM Rehabilitation Assistance is necessary to restore the project to its design level of protection.
5.	X			There is sufficient evidence in the PIR to support a finding that the CSRM was damaged by an extraordinary storm. [ER, 5-20.e.]
6.	X			There are "significant amounts of damage" to the CSRM. [ER, 5-20.e.(2)]. The criterion used to make this determination is: _X_ the cost of the construction effort to effect repair of the CSRM (*exclusive of dredge mob/demob costs*) (a) exceeds $1 million and (b) is greater than 2 percent of the original project construction costs (expressed in current day dollars.); or, _X_ the cost of the construction effort to effect repair of the CSRM (*exclusive of dredge mob/demob costs*) exceeds $6 million; or, _X_ more than one-third of the planned or historically placed sand for renourishment was lost. _n/a_ only hard features are involved.
7.	X			The public sponsor has agreed to sign the Cooperation Agreement which will occur before USACE begins rehabilitation work. [EP, 5-18.1]
8.	X			The rehabilitation project has a favorable benefit cost ratio of greater than 1.0:1 [ER, 5-20.a.].
9.	X			The public sponsor has access to sufficient funds to meet its required cost contributions. [EP, 5-18.h.]
10.	X			The cost estimate in the PIR itemizes the work and identifies the Public Sponsor's cost responsibility for items such as deferred and deficient maintenance. [ER, 5-2.g.]
11.	X			The cost estimate in the PIR allocates costs between what may be paid for under PL84-99 Rehabilitation Assistance, and what is cost shared between the Corps (using CG funds) and the public sponsor under periodic renourishment terms of the PCA. [EP, 5-18.d.].
12.	X			Dredge mobilization/demobilization costs are borne proportionally among contributing sources of funds for sand renourishment. [ER, 5-20.i.]
13.	X			Contingency funds for the FCCE-funded portion of the project are limited to 15 percent for dredging-related costs, and 10 percent for all other costs. [ER, 5-2.v.]

	YES	NO	N/A	
14.	X			The repair option selected is the option that is the least cost to the Federal government. [ER, 5-2.h.]
15.	X			The benefit cost ratio calculation excludes all recreation benefits. [ER, 5-20.a.]
16.			X	Betterments are paid by the Public Sponsor. [ER, 5-20.o.]
17.			X	Cost for betterments are identified separately in the cost estimate. [ER, 5-2.o.]
18.	X			Based on the projected schedule, project history, anticipated degree of contention of undertaking the project, and similar items, the Rehabilitation Assistance will be finished prior to the onset of the next storm season, or within one year of the date of occurrence of the damage, whichever is less. [ER, 5-20.j.]
19.	X			The proposed work will not modify the CSRM to increase the degree of protection or capacity, or provide protection to a larger area. [ER, 5-2.n.]
20.	X			An assessment of environmental requirements was completed. [ER, 5-13.e.]
21.	X			The Endangered Species Act was appropriately considered. Dredging will not be adversely impacted. [ER, 5-13.e.]
22.	X			The Archeological and Historical Preservation Act was appropriately considered. [ER, 5-13.h.]
23.	X			EO 11988 was appropriately considered. [ER,5-13.f.]
24.	X			Other permitting and evaluations were appropriately considered and result in no impediment to the Rehabilitation Assistance effort. [ER, 5-13.a.]
25.	X			The cover letter forwarding the PIR to the MSC will contain the projected schedule for completing the Rehabilitation Assistance. [EP, 5-18.f.(2)]
26.	X			The completed PIR has been reviewed and the PIR checklist has been reviewed and signed by the Emergency Management Office. [EP, 5-18.f.(1)]
27.	X			The completed PIR meets all policy, procedural, content, and formatting requirements of ER 500-1-1 and EP 500-1-1. [ER, 2-3.b.]