

St. Johns County, Florida
Shore Protection Project

Engineering Documentation Report
Additional Sand Source



U.S. Army Corps of Engineers
Jacksonville District

February 2022

The content and format of this report follow Appendix E of ER 1110-2-1150. Minimize the duplication of data presented in previous decision documents; however, take care to cover all areas of insufficiency in the feasibility report and/or engineering appendix.

EXECUTIVE SUMMARY

This Engineering Documentation Report (EDR) documents the additional borrow area source identified for use to renourish the St. Johns County, Florida Shore Protection Project (SPP) along St. Augustine Beach over the project's 50-year authorized life span. This EDR is an implementation document to supplement the St. Johns County, Florida SPP General Reevaluation Report (GRR) which is the most recent decision document for the project dated March 1998. This EDR was prepared in accordance with Engineer Regulation (ER) 1110-2-1150, Engineering and Design for Civil Works Projects, 31 August 1999.

Currently, the authorized borrow source is the St. Augustine Inlet navigation channel and shoal complex. This source has also been identified for the South Ponte Vedra and Vilano Beach Coastal Storm Risk Management Project north of the St. Augustine inlet in St. Johns County. Use of sand from this source is prescribed by the St. Augustine Inlet Management Implementation Plan, which may limit the ability of the United States Army Corps of Engineers (USACE) to construct the template at the time of construction. As such, the existing borrow source may not meet the needs of the project. To better meet project needs, this EDR proposes to add borrow area S-1, located approximately 6 miles offshore of the project area, as a supplemental sand source for up to three future renourishments as well as emergency events. The material within borrow area S-1 is compatible with the project beach and of sufficient quantity to meet, along with the navigation channel and shoal complex, the project's needs over its period of authorization.

Based on the best available information about costs and benefits, the increased cost represents a minor change in cost and the project continues to be economically justified with additional borrow area S-1 being used for up to three future renourishments.

Upon approval of this EDR, USACE intends to amend Article I.A of the Project Cooperation Agreement (PCA) to add a reference to the EDR.

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1 STATUS OF PROJECT AUTHORIZATION

The St. Johns County SPP was initially authorized in Section 501(a) of the Water Resources Development Act (WRDA) of 1986 (Public Law 99-662) and modified in Section 316 of WRDA 1999. The 1999 modification added navigation mitigation as a project purpose. Fifty percent of the total project costs were considered mitigation for the impacts to the shoreline from the navigational improvements at the St. Augustine Inlet and borne solely by the Federal Government. The remaining 50% of the total project cost are cost-shared according to shoreline ownership and access.

2 ITEMS OF LOCAL COOPERATION AND THE PROJECT PARTNERSHIP AGREEMENT (PPA)

The agreement governing initial construction and periodic nourishment of the St. Johns County SPP is the Project Cooperation Agreement (PCA), dated 24 August 2000, between the Department of the Army and St. Johns County, Florida. Article II of the PPA lists the obligations of the Government and the non-Federal sponsor

The non-Federal sponsor is responsible for lands, easements, rights-of-way, relocations, and disposal areas required for the project. The non-Federal sponsor operates and maintains the project in accordance with the project's Florida Department of Environmental Protection (FDEP) Permit (No. 0295429-002-JC, as amended). The non-Federal sponsor performs required hydrographic and environmental monitoring and compliance activities. The non-Federal sponsor also provides and maintains necessary access roads, parking areas, and other public-use facilities open and available to all on equal terms. The non-Federal sponsor has fulfilled all of its non-Federal responsibilities to date in accordance with the PCA. Upon approval of this EDR, USACE intends to amend Article I.A of the PCA to add a reference to the EDR.

3 PREVIOUS INVESTIGATIONS

3.1 1980 Chief of Engineer's Report

The 1980 Chief of Engineer's Report (Chief's Report) was submitted for transmission to Congress on 26 February 1980, along with the reports from District and Division Engineers and the Board of Engineers for Rivers and Harbors. Recommendations from this report provide for initial construction of beach nourishment along 2.5 miles of shoreline between FDEP Range Monuments R-137 and R-151 in St. Augustine Beach and periodic nourishment for a 50-year period. The plan would provide for a sand beach with a width of 60 feet at an elevation 12 feet above mean low water (MLW) from A

Street north to include the southern 4,000 feet of Anastasia State Park. These design dimensions would transition at A Street to the natural beach 0.8 miles to the south for a total length of 2.5 miles of shoreline to be protected. The Chief's Report did not analyze S-1 as a potential sand source for initial construction, renourishment, or emergency events.

3.2 1998 General Reevaluation Report (GRR)

This GRR is of feasibility scope and contains an engineering appendix suitable for preparing plans and specifications for the project. The GRR considered modifications to the SPP with the potential to reduce the average annual equivalent cost of project implementation. The National Economic Development (NED) plan consists of a 2.5-mile-long beach fill between R-137 and R-151, with 600-foot transition sections (tapers) at the northern and southern limits of the project. The design template berm is characterized by a 60-foot extension of the pre-project mean high water shoreline at an elevation of +12.0 feet MLW. At the location of the seaward extent of the design berm, the design template slopes 1V:20H seaward to the location of MLW and thence 1V:30H out to the intersection with the existing beach. The authorization calls for periodic nourishment of 1,625,000 cubic yards (cy) every five years over the 50-year project life. The sand source identified in the GRR is the St. Augustine Inlet system, including the ebb and flood shoals, Vilano Point (Porpoise Point) shoals, and the Federal navigation channel and any associated shoals.

3.3 2005 Project Information Report (PIR)

USACE prepared the 2005 Project Information Report (PIR) in response to the storms of 2004 (Tropical Storm Bonnie, a strong nor'easter, and Hurricanes Charley, Frances, Ivan, and Jeanne), which impacted northeast Florida during the six-week period from 12 August through 26 September 2004 and adversely affected the St. Johns County, Florida SPP. Assistance was provided under Public Law 84-99 in the amount of 839,100 cy for the Flood Control and Coastal Emergencies (FCCE) portion of the first periodic nourishment event in 2005.

3.4 2016 Project Information Report (PIR)

USACE prepared the 2016 PIR in response to Hurricane Matthew, which impacted northeast Florida from 7 October to 8 October 2016 and adversely affected the St. Johns County, Florida SPP. Hurricane Matthew caused 217,512 cy of erosion in the project area; however, USACE determined that the project was not eligible for FCCE rehabilitation based on the criteria outlined in ER 500-1-1.

3.5 2017 Project Information Report (PIR)

USACE prepared the 2016 PIR in response to Hurricane Irma which impacted northeast Florida from 10 September to 11 September 2017 and adversely affected the St. Johns County, Florida SPP. Hurricane Irma caused 291,140 cy of erosion in the project area; however, USACE determined that the project was not eligible for FCCE rehabilitation based on the criteria outlined in ER 500-1-1.

3.6 2019 Engineering Documentation Report (EDR) – Dune Resilience

USACE prepared the 2019 EDR to assess how the St. Johns County, Florida SPP – St. Augustine Beach Segment could be adapted to increase project resilience. The document considered various design refinements that were within the existing project authority to meet this objective. The recommended plan called for incorporating a dune into the project in the northern and southern reaches but not within the middle reach. The dune would include enhancements such as dune vegetation, sand fencing, pedestrian access, vehicle access, and storm water outfall pipes.

4 PROJECT DESCRIPTION

The St. Johns County SPP was designed to protect upland infrastructure along the St. Augustine Beach shoreline in a way that maximized primary NED net benefits. Erosion and long-term shoreline recession have rendered encroaching upland development in St. Johns County increasingly vulnerable to damages from storms. This erosion has been exacerbated by the creation and maintenance of the St. Augustine Inlet Federal Navigation Project.

The SPP consists of 2.5 miles of shoreline restoration between FDEP range monuments R-137A to R-151. The design template consists of a 60-foot-wide berm at 12 feet elevation above MLW (+9 feet NAVD88) with tapers extending 600 feet to the north and south. At the location of the seaward extent of the design berm, the design template slopes 1V:20H seaward to the location of MLW and thence 1V:30H out to the intersection with the existing beach.

The construction template, which is made up of the unequilibrated design template plus advance nourishment, consists of a variable width berm at an elevation of +9 feet NAVD88 and a foreshore slope of 1V:20H. The project limits, shown in Figure 1, start approximately 2.7 miles south of the St. Augustine Inlet and extend south approximately 2.5 miles.



Figure 1: Location of the St. Johns County SPP

The initial construction of the St. Johns County, Florida SPP, completed in January 2003, extended approximately 2.7 miles from Anastasia State Park (FDEP reference monument R-137A) to the City of St. Augustine Beach (R-151). The State of Florida separately funded a northward extension of the beach restoration project to include approximately 0.9 miles of beach outside and to the north of the limits of the Federal project, stretching into Anastasia State Park. The combined project placed approximately 3.8 million cy of material in this area.

Following the severe 2004 and 2005 hurricane seasons, the first nourishment project (approximately 2.8 million cy), completed in December 2005, spanned the identical 2.7 miles of shoreline (R-137A to R-151) as the initial Federal project. The second nourishment (approximately 2.1 million cy), completed in September 2012, covered a shorter 1.5-mile segment from R-139 to R-147. The third nourishment (approximately 750,000 cy), completed in July 2018, ranged from R-139.7 to R-144.4 (about 0.9 mi).

Portions of the St. Augustine Inlet ebb shoal and navigation channel served as the borrow source for all projects. The 2012 SPP also used the Porpoise Point (Vilano Point) shoal. Table 1 summarizes these St. Johns County SPP nourishment events.

Table 1: St. Johns County SPP Area Placement Events

Year	Volume (cy)	Project	Description
2003*	3,800,000	SPP	Initial Construction (137A - R151)
2005	2,800,000	SPP	1st Nourishment (R137A - R151)
2012	2,100,000	SPP	2nd Nourishment (R139 - R147)
2018	750,000	SPP	3rd Nourishment (R139.7 - R144.4)

*The 2003 project included an additional 0.9-mile segment of beach nourishment along the Anastasia State Park shoreline paid for by the State of Florida. The volume reported here includes that material placed outside the footprint of the Federal project.

5 DESIGN CHANGE

The change to the authorized project is the identification of an additional sand source for the St. Johns County SPP. Since the project currently uses sand from the St. Augustine Inlet navigation channel and shoal complex, it is subject to FDEP placement objectives set out by an Inlet Management Plan (IMP). IMPs establish strategies to best manage sand bypassing activities for placement of beach quality sand on adjacent eroding beaches of inlets or passes. The intent of these IMP strategies is to replicate, as much as possible, the natural transport of sand around the inlet that would occur in the absence of human alteration or maintenance of the inlet. One way to accomplish this is to impose limits on where the sediment removed from the inlet may be placed. The St. Augustine IMP (called the "Inlet Management Implementation Plan") specifies that one third of the sediment removed from the inlet to be placed on the shoreline to the north and the remaining two thirds to be placed on the shoreline to the south (FDEP, 2014).

The IMP prescribes the quantity of sand that may be dredged for this project at any given time, which may limit the ability of USACE to construct the template that is called for at the time of construction. As such, the inlet may not meet the needs of the project.

To better meet project needs, this EDR proposes to add borrow area S-1 as a supplemental sand source for up to three future renourishments as well as any emergency events. The sand placement area remains unchanged from that specified in the 2019 EDR. The use of the additional sand source represents a minor design refinement to the Federal action from that developed in the 1998 GRR.

5.1 Potential Offshore Sand Source

In 2008, S.E.A., Inc. prepared an Offshore Sand Borrow Site Reconnaissance Report for St. Johns County. Existing reconnaissance data - the Inner Continental Shelf Sediment and Structure Study conducted in the 1960s, more recent Florida Geological Survey studies, and sub-bottom survey data collected by FDEP – were examined. These reports identified several prominent individual sand ridges and large sand banks on the inner continental shelf.

USACE identified several potential sources of beach-quality sand offshore of St. Johns County that could serve as borrow areas for future projects. The initial investigation of offshore sources identified two regions of study: The North Offshore Borrow Area (NOBA) and the South Offshore Borrow Area (SOBA) (see Figure 2). Through preliminary geotechnical investigation, N-1, N-2, N-3, and S-1 were all identified as potential sand sources for use in St. Johns County (USACE, 2015). USACE collected Vibracores in 2012 within site S-1 (Figure 3) and found the material to be suitable as a sand source for the St. Johns County shoreline. The material was deemed sufficient in quantity and suitable for beach placement.

The SOBA is approximately 6 miles southeast of the City of St. Augustine Beach, Florida and covers an area of approximately 30 square miles. SOBA has been subdivided into one proposed sand source, S-1, as shown in Figure 3. The remainder of SOBA will be investigated as additional sand sources are needed. USACE began investigating potential borrow area S-1 with three reconnaissance vibracores in 2006. Nine additional vibracores were collected in 2009. In 2012, 100 vibracores were collected within the limits of S-1.

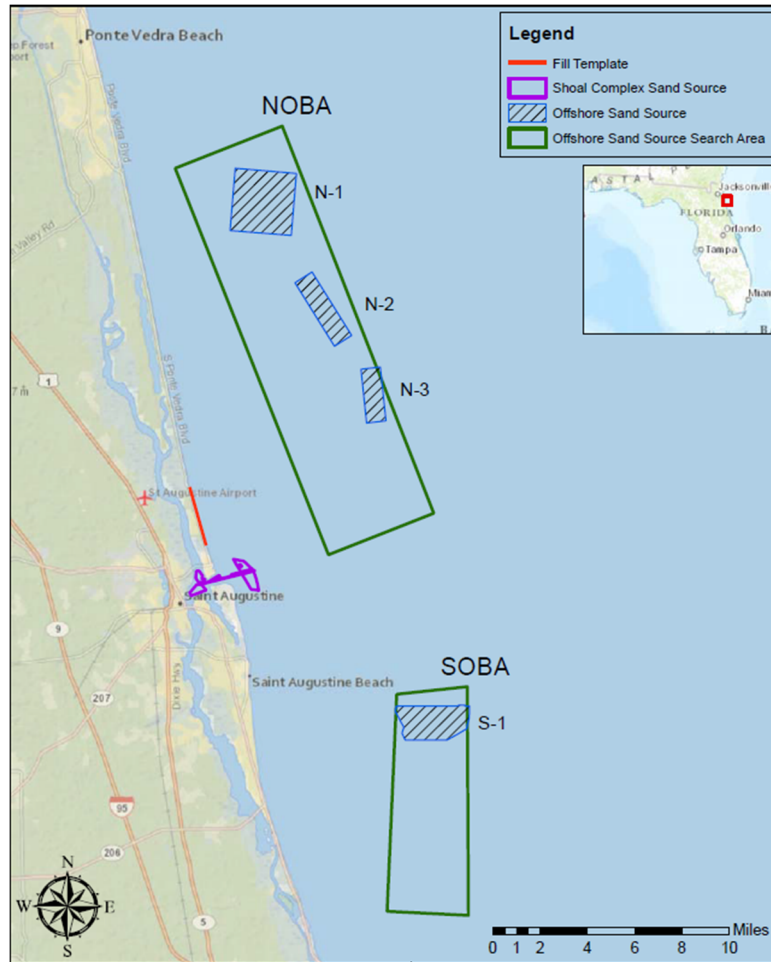


Figure 2: Offshore Borrow Study Areas

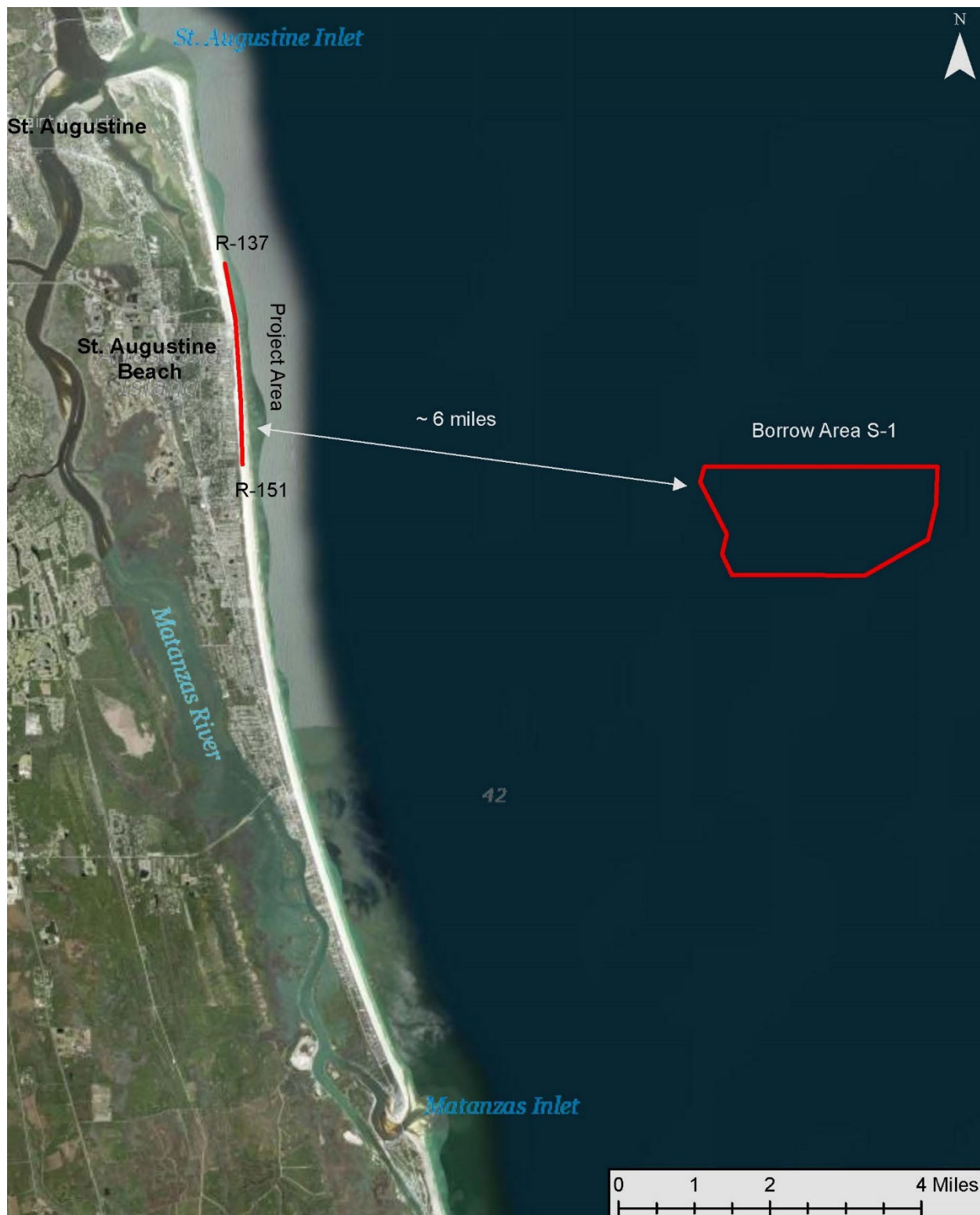


Figure 3: Location of St. Johns County SPP and Proposed Borrow Area S-1

5.1.1 Borrow Area Sediment Characteristics

In Florida, offshore borrow areas must meet the requirement of FDEP's Sand Rule, F.A.C. 62B-41.007(2)(j), which establishes special guidelines required for coastal construction, including restrictions on the type of sediment that may be placed on Florida beaches. The Sand Rule, which was further amended January 11, 2017, requires that only beach-compatible fill be placed on Florida's beaches and, where adequate geotechnical data is available, "fill material shall be similar to the characteristics of native beach sediment." The Sand Rule further states, in part:

Such material shall be predominately of carbonate, quartz, or similar material with a particle size distribution ranging between 0.062 mm (4.0 ϕ) and 4.76 mm (-2.25 ϕ) (classified as sand by either the Unified Soils or the Wentworth classification), shall be similar in color and grain size distribution (sand grain frequency, mean and median grain size and sorting coefficient) to the native beach sediment or to the material in the existing coastal system at the disposal site and shall not:

- 1. contain greater than 5%, by weight, silt, clay, or colloids passing the #230 sieve (4.0 ϕ),*
- 2. contain greater than 5%, by weight, fine gravel retained on the #4 sieve (-2.25 ϕ),*
- 3. contain coarse gravel, cobbles, or material retained on the 3/4-inch sieve in a percentage or size greater than found on the native beach,*
- 4. contain construction debris, toxic material, or other foreign matter, or*
- 5. result in cementation of the beach.*

In addition to the Sand Rule, FDEP's Offshore Sand Search Guidelines require a 2-foot vertical buffer above non-beach-compatible material and a 400-foot buffer around hardbottom resources.

In 2015, USACE completed a feasibility study, including a sediment compatibility analysis, that evaluated the suitability of material from borrow area S-1 to be used for placement on St. Johns County shorelines. The sediment compatibility analysis also compares the sediment characteristics of the native material on St. Augustine Beach and the borrow area material from S-1. Those findings are summarized in brief below.

The existing sand on St. Augustine Beach was characterized by 33 representative beach samples collected between FDEP R-monuments R-134 and R-149 in 2010 at the following locations along the beach profile: the toe of dune, mid-berm, mid-tide, -3 feet, -5 feet, -10 feet, and -15 feet NAVD88. Laboratory analyses showed that the existing

beach was characterized as poorly graded, fine quartz sand with little fine to medium sand-sized shell fragments. The existing beach in 2010 had a mean grain size of 0.17 mm. The average percent fines was 1.03% and the average percent gravel was 0.27%. The typical Munsell color was 5Y 8/1 (Table 2)

The material in S-1 consists principally of quartz-rich, fine-grained sand with varying amounts of shell fragments.

- The grain size statistics show a representative mean grain size across all samples of 0.25 mm (2.04 ϕ), with individual sample mean grain sizes ranging between 0.13 mm to 0.90 mm.
- The sediment is moderately sorted, with an average sorting value across all samples of 0.85 ϕ .
- The silt content (passing the #230 sieve) ranges from 0% to 4.76%, for an average across samples of 1.85%.
- The fine gravel content averages 0.7%, ranging from 0% to 11.79%.
- Visual shell content averages 13.1%, ranging from 2.0% to 60.0%.
- The moist Munsell color of the material is predominantly a value of 6 or lighter, though some samples at deeper elevations have values of 5 or darker.

See Table 2 below, for a detailed breakdown of the sediment characteristics. The laboratory testing results show that the material within S-1 is compatible with the existing beach and meets the requirements of the FDEP's Sand Rule, F.A.C. 62B-41.007(2)(j).

Table 2: Sediment Compatibility of Sand Source – S-1

Parameters	St Augustine Beach 2010	Post Construction Beach 2018	S-1 Composite
Mean Grain Size	0.17 mm	0.52 mm	0.25 mm
% Gravel (Retained above #4 Sieve)	0.27%	2.31%	0.70%
% Fines (Passing #230 Sieve)	1.03%	0.73%	1.85%
Munsell Color	5Y 8/1	10YR 6/2	5Y 8/1

5.1.2 Borrow Area Capacity

To account for typical construction losses during dredging and transport, borrow area designs typically call for the identification of approximately 1.5 times the required beach placement volume. An estimated volume of approximately 15 million cy of beach-compatible sand exists within proposed borrow area S-1. This volume, combined with the quantity that may be removed from the inlet under the IMP, is sufficient to serve the estimated needs of the SPP through the remainder of its 50-year authorization.

6 CURRENT ENGINEERING STUDIES, INVESTIGATIONS, AND DESIGN

The 1998 St. Johns County, Florida SPP GRR Engineering Appendix (USACE, 1998) is the most recent Engineering Appendix, and it governs the analysis presented in this EDR. The 2019 Dune Resilience EDR modified the authorized design to include a dune feature. Monitoring reports written after each construction event detail this project's history along with shoreline and volume changes over time. The most recent monitoring report is the St. Johns County SPP 2021 Year 3 Post-Construction Monitoring Report (Taylor, 2022).

7 COST ESTIMATE

As per the recommended plan for this EDR, the total estimated cost for the use of the S-1 offshore borrow area up to three times is estimated to be \$281,256,000. The current certified total estimated cost, using the presently authorized borrow area, is \$259,840,000. This equates to an approximate 8% increase. This increased cost represents a minor change in cost associated with a technical change to the project design that is appropriate to document in an EDR per paragraph 8.3 of ER 1110-2-1150. Additionally, this minor cost increase is well within the 20% limit for delegated approval authority described in paragraph G-13 of ER 1105-2-100.

A Preliminary Time and Cost (PT&C) Estimate was developed in October 2021 in support of this EDR. Construction is estimated to cost approximately \$25,200,000 (FY22 price level) for the average renourishment's beach fill and associated general work items (using the borrow area proposed in this EDR). The Period of Performance is estimated to be 180 calendar days from Notice to Proceed. This assumes a 60-calendar day commencement period. The estimate is based upon the advertised plans and specifications that were used for the initial construction of this project as well as design data used for cost certification. The assumptions in the estimate pertain to the selection of equipment, production, mobilization, demobilization, and the associated work items that account for the scope outlined in the design documents. In addition, the cost

estimate takes into consideration the historic information from other similar projects. The estimate also relies on credible quotes, detailed quantities, and site-specific crew-based details. The PT&C Estimate is an estimate of an average renourishment event using the proposed borrow area only. It does not account for the separate action and cost associated with post-construction environmental and physical monitoring. These costs are captured and accounted for separately in the Certified Total Project Cost.

USACE considers this a Class 2 estimate. Class 2, per Engineering Regulation 1110-2-1302 (30 June 2016), is defined as “technical information (including designs) quality and confidence approaching 60-80% definition”. USACE has confidence in the technical information for the project since the quantities are not based on assumptions.

Furthermore, there is enough available data and information that pertains to the project without having to depend on a cost book. The typical contingency range is from 15% to 30%.

The PT&C Estimate currently contains profit and contingency. The estimated contingency in the PT&C Estimate is 35%, referencing the most recent cost certification and Cost and Schedule Risk Analysis. This is a minor increase from the certified 30% to reflect uncertainties associated with this not-yet-executed contract approach.

8 ECONOMIC ANALYSIS

This section documents the updated benefit-cost ratio (BCR) and remaining benefit remaining cost ratio (RBRCR) based on the updated cost information provided in Section 7. NED benefits, as estimated in the 1998 GRR and verified in a 2011 Economic Update (Level 1 Reaffirmation Report), include primary damage reduction benefits to structures, contents, coastal armor, and loss of land as well as incidental recreation benefits. A summary of the benefits from the feasibility report is provided in Table 3.

The total project BCR and RBRCR were updated on the benefits described in Table 3 and the updated costs (assuming three offshore renourishment events) as described in Section 7. The total BCR and RBRCR at different discount rates are summarized in Table 4 and Table 5, respectively. The current (FY22) water resources discount rate is 2.25% and the Office of Management and Budget (OMB) discount rate is 7%. The RBRCR is higher as this measure does not include sunk cost (i.e., the cost of initial construction). The best available information about costs and benefits indicated that the project continues to be economically justified when three offshore placements are used.

Table 3: Benefits Summary from 1998 GRR

Primary Benefits Prevention of Damage	Average Annual Benefit
Upland Development	\$3,911,000
Coastal Armor	\$440,000
Backfill	\$100,000
Loss of Land	\$134,000
Subtotal for Primary Benefits	\$4,585,000
Incidental Recreation Benefits	\$216,000
Total Benefits	\$4,801,000

Table 4: Total BCR Summary at Various Discount Rates

	Project Rate (1997)	Current Rate (FY22)	Applicable Rate (2001)	OMB Rate
Rate:	7.375%	2.250%	6.375%	7.000%
Total Present Value:	\$35,098,119	\$70,130,414	\$38,822,609	\$36,394,153
Amortized Cost:	\$2,664,422	\$2,350,656	\$2,592,922	\$2,637,115
AAEQ Benefits	\$4,801,000	\$4,801,000	\$4,801,000	\$4,801,000
Total BCR	1.80	2.04	1.85	1.82

Table 5: RBRCR Summary at Various Discount Rates

With Recreation	Project Rate (1997)	Current Rate (FY22)	Applicable Rate (2001)	OMB Rate
Rate:	7.375%	2.250%	6.375%	7.000%
Total Present Value:	\$35,804,381	\$56,203,881	\$38,590,647	\$36,800,325
Amortized Cost:	\$2,718,036	\$1,883,862	\$2,577,429	\$2,666,546
AAEQ Benefits	\$4,801,000	\$4,801,000	\$4,801,000	\$4,801,000
Total BCR	1.77	2.55	1.86	1.80

9 COST ALLOCATION AND COST SHARING

The current project cost share for periodic nourishment is 80.5% Federal and 19.5% non-Federal. No change was made to this cost allocation for periodic nourishments associated with the design refinements recommended by this EDR.

10 ENVIRONMENTAL DOCUMENTATION AND COORDINATION

A National Environmental Policy Act (NEPA) Environmental Assessment (EA), scheduled for completion in April 2022, is currently underway. This EA analyzes the potential effects to the quality of the natural and human environment for the use of a new offshore borrow area, S-1, as an additional sand source for the St. Johns County Shore Protection Project (SPP). Site S-1 is in Federal waters; therefore, the EA is being coordinated with the Bureau of Ocean Energy Management (BOEM). In an email dated November 10, 2021, BOEM accepted USACE's invitation to act as a cooperating agency on the draft EA. Effects of the beach placement were fully analyzed in the 1998 GRR/EA (USACE, 1998).

NEPA documentation and coordination includes compliance with applicable state and federal laws and regulations, including National Historic Preservation Act of 1966 (Section 106), Clean Water Act of 1972 (Section 401 and 404B) (CWA), and the Endangered Species Act of 1973 (ESA). State Historic Preservation Office (SHPO) consultation was initiated on July 29, 2021. Due to continued changes to project parameters, SHPO concurrence with a finding of no historic properties affected will not be possible prior to the signing of the aforementioned EA. USACE will employ Stipulation V of its 2021 Programmatic Agreement for Operation, Navigation, and Shore Protection Programs in order to meet its Section 106 compliance requirements. USACE determined that the project complies with the ESA by adhering to the applicable Project Design Criteria of the 2020 National Marine Fisheries Service, South Atlantic Regional Biological Opinion for Dredging and Material Placement Activities in the Southeast United States, the applicable Terms and Conditions of the U.S. Fish and Wildlife Service' (USFWS) Statewide Programmatic Biological Opinion (SPBO) (revised 2015), Programmatic Piping Plover Biological Opinion (2013 as amended), and the 2017 EA's individual consultations with USFWS in a letter dated December 22, 2016 for the Anastasia Island beach mouse and rufa red knot. The project complies with the CWA by adhering to the conditions of the FDEP's Joint Coastal Permit 0295429-003-JN (and subsequently issued modifications) to ensure State of Florida water quality standards are met.

A Notice of Availability for the draft EA is being coordinated with pertinent agencies and interested stakeholders for 30-calendar days in February/March 2022 to allow for public and agency review and comment. A copy of all comments received during the public and agency review and comment period, as well as a summary matrix of the comments and USACE responses, will be included in the final EA. A Finding of No Significant Impact is anticipated to be signed in April 2022 with the finalization of the EA.

11 APPROVAL

Engineering Documentation Reports may be approved by the District Commander when the recommended modifications are minor changes in design and cost from the authorizing reports. I approve the modifications as described in this EDR for the St. Johns County Storm Protection Project.

James L. Booth
Colonel, U.S. Army
District Commander

12 REFERENCES

- Florida Department of Environmental Protection (FDEP), January 2014. *Final Order Adopting St. Augustine Inlet Management Implementation Plan*. Tallahassee, FL.
- Taylor Engineering Incorporated, 2022. *St. Johns County Shore Protection Project 2021 Year 3 Post-Construction Monitoring Report*. Taylor Engineering Inc., Jacksonville, FL.
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- U.S. Army Corps of Engineers (USACE), December 2015. *Geotechnical Appendix of St. Johns County, Florida, South Ponte Vedra, Vilano Beach, and Summer Haven Reaches, Coastal Storm Risk Management Project, Final Integrated Feasibility Study and Environmental Assessment*. Jacksonville District, Jacksonville, FL.
- U.S. Army Corps of Engineers (USACE), March 2017. *St. Johns County, Florida, South Ponte Vedra, Vilano Beach, and Summer Haven Reaches, Coastal Storm Risk Management Project, Final Integrated Feasibility Study and Environmental Assessment*. Jacksonville District, Jacksonville, FL.
- U.S. Army Corps of Engineers (USACE), 2022 (in process). *Draft Supplemental Environmental Assessment – Additional Borrow Areas – St. Johns County, Florida Shore Protection Project and St. Johns County, Florida South Ponte Vedra Beach, Vilano Beach, and Summer Haven Reaches Coastal Storm Risk Management Project*. Jacksonville District, Jacksonville, FL.
- U.S. Army Corps of Engineers (USACE), 2022 (in process). *Finding of No Significant Impact – Additional Borrow Areas – St. Johns County, Florida Shore Protection Project and St. Johns County, Florida South Ponte Vedra Beach, Vilano Beach, and Summer Haven Reaches Coastal Storm Risk Management Project*. Jacksonville District, Jacksonville, FL.
- USACE, April 2021. Programmatic Agreement among the United States Army Corps of Engineers, the Florida State Historic Preservation Officer, the Bureau of Ocean Energy Management, and the Advisory Council on Historic Preservation Regarding Compliance with Section 106 of the National Historic Preservation Act during Implementation of the United States Army Corps of Engineers, Jacksonville District Operation, Navigation, and Shore Protection Programs. Jacksonville District, Jacksonville, FL.