

Bureau of Ocean Energy Management Final Environmental Assessment South Ponte Vedra Beach and Dune Restoration Project South Ponte Vedra, St. Johns County, Florida

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**U.S. Department of the Interior
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Headquarters, Sterling, VA**



Bureau of Ocean Energy Management Draft Environmental Assessment South Ponte Vedra Beach and Dune Restoration Project South Ponte Vedra, St. Johns County, Florida

Version: November 2025

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Contents

List of Figures	v
List of Tables.....	v
List of Abbreviations and Acronyms.....	vii
1 Introduction.....	1
1.1 Project Location	2
1.2 Project Background and History.....	4
1.3 Project Purpose and Need	7
1.4 Project Authority.....	8
1.5 Related Environmental Documents.....	8
1.6 Decisions to be Made.....	10
1.7 Scoping and Issues.....	10
1.8 Public Interest Factors.....	10
2 Alternatives	12
2.1 Description of Alternatives.....	12
2.1.1 Alternative 1: No Action Alternative (Status Quo).....	12
2.1.2 Alternative 2: Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)	12
2.1.3 Alternative 3: Beach Nourishment using Dredged Sand from Offshore Borrow Area N-2.....	16
2.1.4 Alternative 4: Beach Nourishment using Dredged Sand from Offshore Borrow Area N-3.....	16
2.1.5 Alternative 5: Beach Nourishment using Truck Hauled Sand from an Upland Mine.....	16
2.2 Alternatives Eliminated from Detailed Evaluation.....	17
2.3 Final Array of Alternatives	17
3 Affected Environment.....	18
3.1 General Setting	18
3.2 Natural Environment.....	18
3.2.1 Fish and Wildlife Resources.....	18
3.2.2 Benthic Resources	19
3.2.3 Threatened and Endangered Species.....	19
3.2.3.1 Piping Plover and Red Knot.....	20
3.2.3.2 Sea Turtles.....	21
3.2.3.3 Whales.....	22
3.2.3.4 West Indian Manatee.....	23
3.2.3.5 Anatasia Island Beach Mouse.....	23
3.2.3.6 Atlantic Sturgeon.....	23
3.2.3.7 Giant Manta Ray.....	23
3.2.3.8 Oceanic Whitetip Shark.....	24
3.2.3.9 Scalloped Hammerhead Shark	24
3.2.3.10 Smalltooth Sawfish.....	24
3.2.4 Essential Fish Habitat.....	24
3.2.5 Dune and Upland Vegetation	25
3.2.6 Coastal Barrier Resources	25
3.3 Physical Environment.....	26
3.3.1 Geology.....	26
3.3.1.1 Existing Beach (R-76-103.5).....	26

3.3.1.2	Offshore Geology	27
3.3.2	Water Quality	28
3.3.3	Air Quality	28
3.3.4	Noise	28
3.3.5	Cultural Resources	29
3.3.5.1	Previous Cultural Resource Investigations	29
3.3.5.1.1	2020 Phase I Submerged Cultural Resource Remote-Sensing Survey of a Potential Offshore Borrow Area, Eight Temporary Pipeline Corridors, and Assessment of Previously Identified Terrestrial Sites in the Project Nourishment Area of Potential Effect, Ponte Vedra Beach, SJC, Florida	29
3.3.5.1.2	2021 Submerged Cultural Resource Assessment Survey for the St. Johns County Sand Borrow Area Project, SJC, Florida	31
3.3.5.1.3	2022 Submerged Cultural Resources Assessment for the St. Johns County Offshore and Nearshore Project, SJC, Florida	31
3.3.5.2	Paleolandforms	32
3.3.6	Tribal Nations	35
3.3.7	Aesthetic Resources	35
3.3.8	Recreational Resources	35
3.3.9	Navigation	35
3.3.10	Munitions and Explosives of Concern	36
3.4	Economic Environment and Considerations	38
3.4.1	Socioeconomic Resources	38
4	Environmental Effects	39
4.1	General Setting	39
4.1.1	Alternative 1: No Action Alternative	39
4.1.2	Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)	40
4.2	Natural Environment	40
4.2.1	Fish and Wildlife Resources	40
4.2.1.1	Alternative 1: No Action Alternative	40
4.2.1.2	Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)	40
4.2.2	Benthic Resources	41
4.2.2.1	Alternative 1: No Action Alternative	41
4.2.2.2	Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)	41
4.2.3	Threatened and Endangered Species	42
4.2.3.1	Alternative 1: No Action Alternative	42
4.2.3.2	Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)	42
4.2.4	Essential Fish Habitat	45
4.2.4.1	Alternative 1: No Action Alternative	45
4.2.4.2	Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)	45
4.2.5	Dune and Upland Vegetation	46
4.2.5.1	Alternative 1: No Action Alternative	46
4.2.5.2	Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)	46
4.2.6	Coastal Barrier Resources	47

4.2.6.1	Alternative 1: No Action Alternative.....	47
4.2.6.2	Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)	47
4.3	Physical Environment.....	47
4.3.1	Geology.....	47
4.3.1.1	Alternative 1: No Action Alternative.....	47
4.3.1.2	Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)	47
4.3.2	Water Quality.....	48
4.3.2.1	Alternative 1: No Action Alternative.....	48
4.3.2.2	Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)	48
4.3.3	Air Quality.....	49
4.3.3.1	Alternative 1: No Action Alternative.....	49
4.3.3.2	Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)	49
4.3.4	Noise	53
4.3.4.1	Alternative 1: No Action Alternative.....	53
4.3.4.2	Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)	53
4.3.5	Cultural Resources.....	53
4.3.5.1	Alternative 1: No Action Alternative.....	53
4.3.5.2	Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)	53
4.3.6	Tribal Nations	54
4.3.6.1	Alternative 1: No Action Alternative.....	54
4.3.6.2	Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)	54
4.3.7	Aesthetic Resources	54
4.3.7.1	Alternative 1: No Action Alternative.....	54
4.3.7.2	Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)	54
4.3.8	Recreational Resources	55
4.3.8.1	Alternative 1: No Action Alternative.....	55
4.3.8.2	Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)	55
4.3.9	Navigation	55
4.3.9.1	Alternative 1: No Action Alternative.....	55
4.3.9.2	Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)	55
4.3.10	Munitions and Explosives of Concern	55
4.3.10.1	Alternative 1: No Action Alternative.....	55
4.3.10.2	Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)	56
4.4	Economic Environment and Considerations.....	56
4.4.1	Socioeconomics	56
4.4.1.1	Alternative 1: No Action Alternative.....	56
4.4.1.2	Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)	56

4.5	Reasonably Foreseeable Trends and Actions.....	57
4.5.1	Noise.....	57
4.5.2	Cultural Resources.....	57
4.5.3	Tribal Nations.....	57
4.5.4	Aesthetic Resources.....	57
4.5.5	Recreation.....	58
4.5.6	Navigation.....	58
4.5.7	Socioeconomics.....	58
4.6	Unavoidable Adverse Environmental Effects.....	62
4.7	Irreversible and Irretrievable Commitment of Resources.....	62
4.7.1	Irreversible.....	62
4.7.2	Irretrievable.....	62
4.8	Conflicts and Controversy.....	62
4.9	Mitigation, Monitoring, and Adaptive Management.....	62
5	Environmental Commitments and Compliance.....	63
5.1	Environmental Commitments.....	63
5.2	Environmental Compliance.....	64
5.2.1	National Environmental Policy Act of 1969.....	64
5.2.2	Abandoned Shipwrecks Act of 1987 (43 USC 2101-2106).....	64
5.2.3	American Indian Religious Freedom Act of 1978.....	64
5.2.4	Anadromous Fish Conservation Act of 1965.....	65
5.2.5	Archaeological Resources Protection Act of 1979.....	65
5.2.6	Clean Air Act of 1972.....	65
5.2.7	Clean Water Act of 1972.....	65
5.2.8	Coastal Barrier Resources Act and Coastal Barrier Improvement Act of 1990.....	65
5.2.9	Coastal Zone Management Act of 1972.....	65
5.2.10	Endangered Species Act of 1973.....	66
5.2.11	Estuary Protection Act of 1968.....	66
5.2.12	Farmland Protection Policy Act of 1981.....	66
5.2.13	Federal Water Project Recreation Act, as Amended.....	66
5.2.14	Fish and Wildlife Coordination Act of 1958.....	66
5.2.15	Magnuson-Stevens Fishery Conservation and Management Act of 1976, as Amended.....	67
5.2.16	Marine Mammal Protection Act of 1972, as Amended.....	67
5.2.17	Marine Protection, Research and Sanctuaries Act.....	67
5.2.18	Migratory Bird Treaty Act and Migratory Bird Conservation Act.....	67
5.2.19	National Historic Preservation Act of 1966.....	67
5.2.20	Native American Graves Protection and Repatriation Act (25 U.S.C. § 3001 et seq.).....	67
5.2.21	Rivers and Harbors Act of 1899.....	68
5.2.22	Submerged Lands Act of 1953.....	68
5.2.23	The Bald and Golden Eagle Protection Act of 1940.....	68
5.2.24	Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.....	68
5.2.25	Wild and Scenic River Act of 1968.....	69
5.2.26	E.O. 11988, Flood Plain Management.....	69
5.2.27	E.O. 11990, Protection of Wetlands.....	69
5.2.28	E.O. 13045, Protection of Children.....	69
5.2.29	E.O. 13089, Coral Reef Protection.....	69
5.2.30	E.O. 13112, Invasive Species.....	69
5.2.31	E.O. 13175, Consultation and Coordination with Indian Tribal Governments.....	70
5.2.32	E.O. 13186, Responsibilities of Federal Agencies to Protect Migratory Birds.....	70
6	List of Preparers and Reviewers.....	71
7	References.....	72
	Appendix A: Consultation History.....	77

List of Figures

Figure 1. General Location Map.....	3
Figure 2. Related Federal CSRMs, Constructed Projects, and Borrow Areas.	5
Figure 3. Borrow Area N-1 Modified.....	13
Figure 4. Preferred Action Alternative Location Map.....	15
Figure 5. OPA CBRS Guana River Unit FL-03P.	26
Figure 6. Map from TAR 2020 Identifying the Borrow Area and 8 Corridor Survey Areas.	30
Figure 7. Map Showing SEARCH Targets 1 and 2 Well Outside of the Southern Limit of Fill.....	32
Figure 8. Seismic Profiles of Two Relict Channels and Feature of Note on Lines 1N and 22N with Area Overview Indicating as Run Track Lines and Channel Features Digitized.....	33
Figure 9. Elevation Map of the Top of Feature of Note.	34
Figure 10. MEC Areas and FUDS off the Northeast Coast of Florida (NOAA 2025).....	37

List of Tables

Table 1. Project Funding Summary.....	1
Table 2. Agency Authorization Status Summary.....	1
Table 3a. Summary of SJC Shore Protection Projects at St. Augustine Beach (Federally Authorized).	6
Table 3b. Summary of CSRMs Vilano Beach (Federally Authorized) Projects Constructed in SJC.	6
Table 3c. Summary of the SPV Beach Project (SAJ-2018-00349-TMM) Constructed in SJC.	7
Table 3d. Summary of the Ponte Vedra Beach Restoration Project (SAJ-2020-03812-TMM) Constructed in SJC.	7
Table 4. Summary of NEPA Documentation.....	9
Table 5a. Beach Placement Design Summary Table (Dune).....	12
Table 5b. Beach Placement Design Summary Table (Berm).....	13
Table 6a. Status of Federally Listed Species that May Occur in the Project Area (Birds).....	19
Table 6b. Status of Federally Listed Species that May Occur in the Project Area (Reptiles).	20
Table 6c. Status of Federally Listed Species that May Occur in the Project Area (Fish).	20
Table 6d. Status of Federally Listed Species that May Occur in the Project Area (Mammals).....	20
Table 7. Piping Plover (<i>Charadrius melodus</i>) and Red Knot (<i>Calidris canutus rufa</i>) Observations within and Adjacent to the Project Area, 2019-2025 (eBird 2025).....	21
Table 8. Sea Turtle Nesting Data for SJC (FWC, 2025). Nests are Denoted by N and Non-Nesting Emergences are Denoted as NNE.....	22
Table 9. North Atlantic Right Whale (<i>Eubalaena glacialis</i>) Sighting Data near the Placement Area and Borrow Area, 2019-2025 (Johnson et al. 2021).	22
Table 10. SAFMC Designated EFH (SAFMC 1998).	25
Table 11. List of Relevant Cultural Resource Reports.	29
Table 12a. Effects Determinations for T& E Species Listed Under the ESA (Birds).	42
Table 12b. Effects Determinations for T& E Species Listed Under the ESA (Reptiles).....	43

Table 12c. Effects Determinations for T& E Species Listed Under the ESA (Fish).....	43
Table 12d. Effects Determinations for T& E Species Listed Under the ESA (Mammals).....	44
Table 12e. Effects Determinations for T& E Species Listed Under the ESA (Critical Habitat).....	44
Table 13a. Summary of Inside State Waters Emissions by Source and Location for HC, VOC, CO, NOx, PM, CO ₂ , and CH ₄	51
Table 13b. Summary of Outside State Waters Emissions by Source and Location for HC, VOC, CO, NOx, PM, CO ₂ , and CH ₄	52
Table 13c. Summary of All Locations and Sources Emissions for HC, VOC, CO, NOx, PM, CO ₂ , and CH ₄	52
Table 14. Summary of Reasonably Foreseeable Effects.	59
Table 15. Summary of Environmental Commitments.....	63
Table 16. List of Preparers.....	71
Table 17. List of Reviewers.....	71

List of Abbreviations and Acronyms

BO	Biological Opinion
BOEM	Bureau of Ocean Energy Management
CAA	Clean Air Act
CBIA	Coastal Barrier Improvement Act of 1990
CBRA	Coastal Barrier Resources Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CSRMM	Coastal Storm Risk Management
CWA	Clean Water Act
CY	Cubic Yards
DHS	Department of Homeland Security
DOI	U.S. Department of Interior
DPEC	Dredging Project Emissions Calculator
DPS	Distinct Population Segment
E.O	Executive Order
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
EPP	Environmental Protection Plan
ESA	Endangered Species Act
F.A.C.	Florida Administrative Code
FDEM	Florida Division of Emergency Management
FDEP	Florida Department of Environmental Protection
FEMA	Federal Emergency Management Agency
FMP	Fishery Management Plan
FONSI	Finding of No Significant Impact
FRA	Fiscal Responsibility Act of 2023
ft	Feet or Foot
FUDS	Formerly Used Defense Site
FWC	Florida Fish and Wildlife Conservation Commission
GIS	Geographic Information System
GRMAP	Guana River Marsh Aquatic Preserve
GRWMA	Guana River Wildlife Management Area
GTMNERR	Guana-Tolomato-Matanzas National Estuarine Research Reserve
HMS	Highly Migratory Species
IFR	Integrated Feasibility Report
IWW	Intracoastal Waterway
JCP	Joint Coastal Permit
m	Meter(s)
MALAA	May Affect, Likely to Adversely Affect
MANLAA	May Affect, Not Likely to Adversely Affect
MCY	Million Cubic Yards
MEC	Munitions and Explosives of Concern
MHW	Mean High Water

mi	Mile(s)
mm	Millimeter(s)
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
NA	Not Applicable
NAAQS	National Ambient Air Quality Standard
NAVD	North American Vertical Datum
ND	No Data
NE	No Effect
NEPA	National Environmental Policy Act
NLAM	May Affect, Not Likely to Adversely Modify
NMFS	National Marine Fisheries Service
NO ₂	Nitrogen Dioxide
NOAA	National
NOBA	North Offshore Borrow Area
NTU	Nephelometric Turbidity Unit
NWS	National Weather Service
O ₃	Ozone
OCS	Outer Continental Shelf
OCSLA	Outer Continental Shelf Lands Act
OFW	Outstanding Florida Waters
OPA	Otherwise Protected Area
P.L.	Public Law
P ³ BO	Programmatic Biological Opinion Piping Plover Biological Opinion
Pb	Lead
PBF	Physical or Biological Features
PCE	Primary Constituent Elements
PDC	Project Design Criteria
PEA	Preliminary EA
PM	Particulate Matter
PN	Public Notice
QA/QC	Quality Assurance/Quality Control
QMA	Qualified Marine Archaeologist
SAFMC	South Atlantic Fisheries Management Council
SARBO	South Atlantic Regional Biological Opinion
SAV	Submerged Aquatic Vegetation
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SJC	St. Johns County
SO ₂	Sulfur Dioxide
SOBA	South Offshore Borrow Area
SPBO	Statewide Programmatic Biological Opinion
SPP	Shore Protection Project
SPV	South Ponte Vedra
SUP	Special Use Permit
T&E	Threatened and Endangered
TAR	Tidewater Atlantic Research LLC
TBD	To Be Determined
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
VOC	Volatile Organic Compounds

1 Introduction

St. Johns County, Florida (SJC) is proposing to place beach-compatible material to nourish and maintain a 5.5-mile-long segment of critically eroded beach in South Ponte Vedra (SPV) Beach. The project is intended to mitigate the erosional effects of Hurricanes Ian, Nicole, and Debby in SPV Beach, and provide necessary shore protection to help reduce the effects of future storm impact. The project is anticipated to be administered by SJC using a combination of federal (Federal Emergency Management Agency [FEMA]) and state (Florida Department of Environmental Protection [FDEP] and Florida Division of Emergency Management [FDEM]) funding. A Presidential declaration of a major disaster for the State of Florida was issued for each of the hurricanes listed above. SJC was designated in each of the disasters to receive federal assistance and the status of each request is provided in Table 1. The status of state and local funding is also provided.

Table 1. Project Funding Summary.

Funding Entity	Type	Storm	Designation
FEMA	Category G Grant	Hurricane Ian (2022)	DR-4673-FL
FEMA	Category G Grant	Hurricane Nicole (2022)	DR-4680-FL
FEMA	Category G Grant	Hurricane Debby (2024)	DR-4806-FL
FDEM	NA	Hurricane Ian (2022)	NA
FDEM	NA	Hurricane Nicole (2022)	NA
FDEP	NA	Hurricanes Ian & Nicole (2022)	NA
SJC	Uncovered expense	NA	NA

Regulatory authorizations for this project are required from Bureau of Ocean Energy Management (BOEM), U.S. Army Corps of Engineers (USACE), and FDEP (Table 2).

Table 2. Agency Authorization Status Summary.

Agency	Type	Reference No.	Expiration
BOEM	Lease	TBD (to be determined)	TBD
USACE	Permit	SAJ-2018-00349 (SP-TMM)	Sept 2036
FDEP	Joint Coastal Permit (JCP)	0340616-003-JC	Sept 2035
FDEP	Special Use Permit (SUP)	TBD	TBD

This draft Environmental Assessment (EA) has been prepared under contract to SJC for adoption by BOEM and FEMA in compliance with the National Environmental Policy Act (NEPA) (42 United States Code [U.S.C.] §§ 4321 et seq.); the Council on Environmental Quality (CEQ) Regulations (Title 40 Code of Federal Regulations [CFR] parts 1500–1508); and U.S. Department of the Interior (DOI) regulations (43 CFR part 46) (for BOEM)¹.

¹ E.O. 14154, Unleashing American Energy (Jan. 20, 2025), and a Presidential Memorandum, Ending Illegal Discrimination and Restoring Merit-Based Opportunity (Jan. 21, 2025), require the Department to strictly adhere to the NEPA, 42 U.S.C. §§ 4321 et seq. Further, such Order and Memorandum repeal E.O. 12898 (Feb. 11, 1994) and 14096 (Apr. 21, 2023). Because E.O. 12898 and E.O. 14096 have been repealed, complying with such Orders is a legal impossibility. BOEM verifies that it has complied with the requirements of NEPA, including the Department’s regulations and procedures implementing NEPA at 43 C.F.R. Part 46 and Part 516 of the Departmental Manual, consistent with the President’s January 2025 Order and Memorandum.

1.1 Project Location

SJC is located along the northeast Atlantic coast of Florida, midway between the Florida/Georgia state line and Cape Canaveral. SJC is bounded to the north by Duval County and to the south by Flagler County. The Atlantic Coast shoreline for this county is approximately 42 miles long and composed of three barrier islands separated by St. Augustine Inlet and Matanzas Inlet. The SPV Beach project area spans from FDEP R-Monuments R-76 to R-103.5 and lies entirely within one of the SJC beach segments designated as critically eroded. From the northern limit at R-76 to approximately 200 feet south of R-100, the project area lies within the Guana River Marsh Aquatic Preserve (GRMAP), part of the Guana-Tolomato-Matanzas National Estuarine Research Reserve (GTMNERR) (Figure 1). As such, most of the project area is encompassed by Outstanding Florida Waters (OFW). Landward of the project area, the Guana River Wildlife Management Area (GRWMA) is a designated Coastal Barrier Resources Act (CBRA) Otherwise Protected Area (OPA). The eastern limit of the OPA is A1A and does not encompass the beach except for two small segments where the OPA extends across the beach to the Atlantic Ocean (to roughly the 30-foot ([ft] depth contour) at approximately R-83 and R-95.

Sand for the beach nourishment project will be excavated from offshore Borrow Area N-1 lying in federal waters, approximately 4 to 6 miles offshore of the GRWMA in SJC, FL (R-36 to R-42) and is roughly 10.2 miles north-northeast from the center of the project area (R-76 to R-103.5). Borrow area N-1 lies in ambient water depths of 40 to 55 ft. Because N-1 is in federal waters (more than 3 nautical miles offshore) on the Outer Continental Shelf (OCS), BOEM possesses the authority to authorize use of OCS sand.

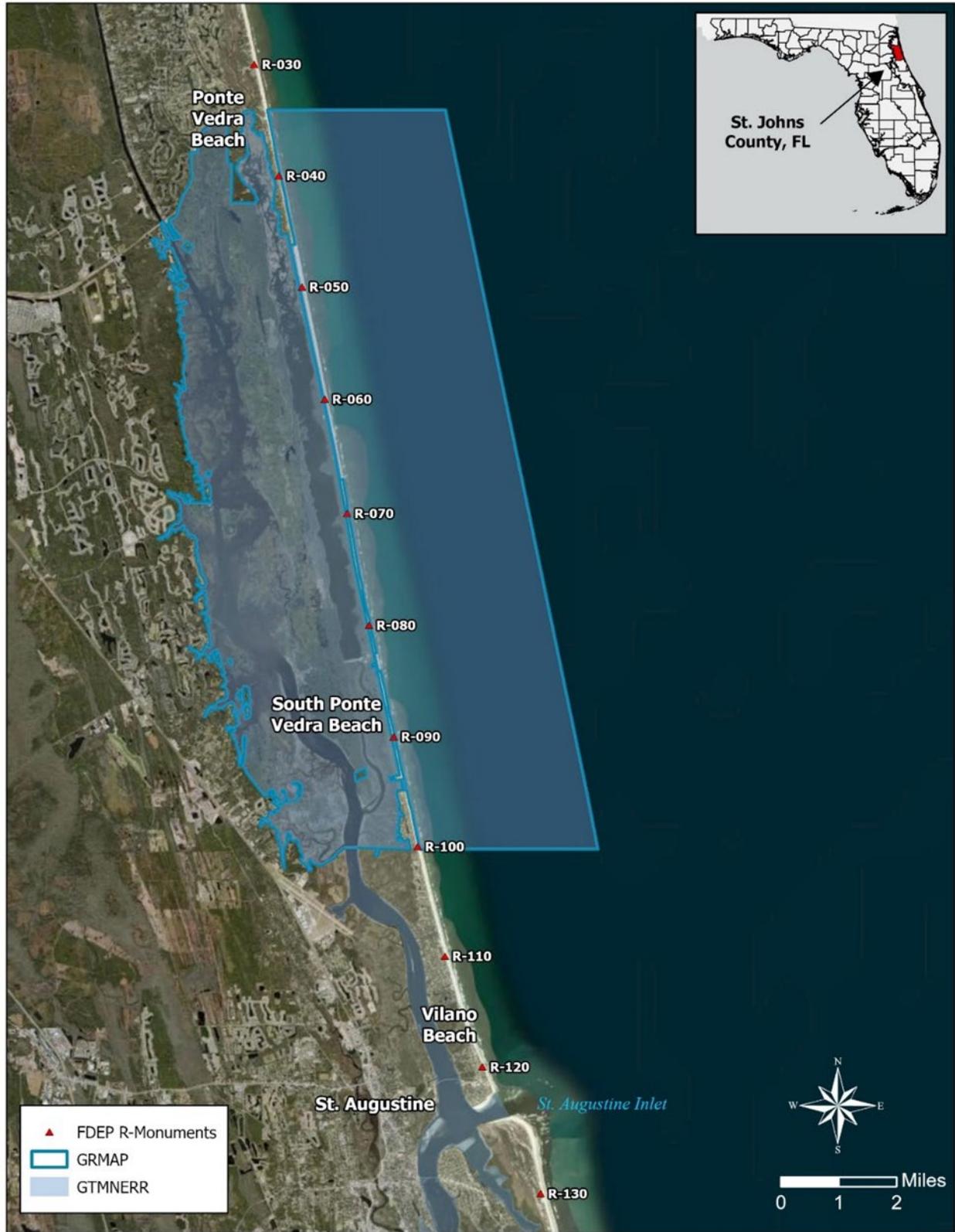


Figure 1. General Location Map.

1.2 Project Background and History

Several projects have been evaluated and constructed along the SJC coastline and include two federal coastal projects and two federal navigation projects (Figure 2). A federal project was also constructed to the north in Duval County (Duval County Shore Protection Project [SPP]). The federal coastal projects included the SJC, Florida Coastal Storm Risk Management (CSRМ) Project (SPV and Vilano Beach Reaches) and the SJC, Florida SPP. The federal navigation projects include dredging the channel in the St. Augustine Inlet and the Intracoastal Waterway (IWW) near the Matanzas Inlet. SJC has multiple sand source options to consider utilizing as borrow areas, including Borrow Areas N-1 (N1-A and N1-B), N-2, and N-3, collectively referred to as the North Offshore Borrow Area (NOBA). The South Offshore Borrow Area (SOBA) includes S-1. Table 3 provides project construction details including the sand source, volume of material dredged and placed, project limits, and construction dates.

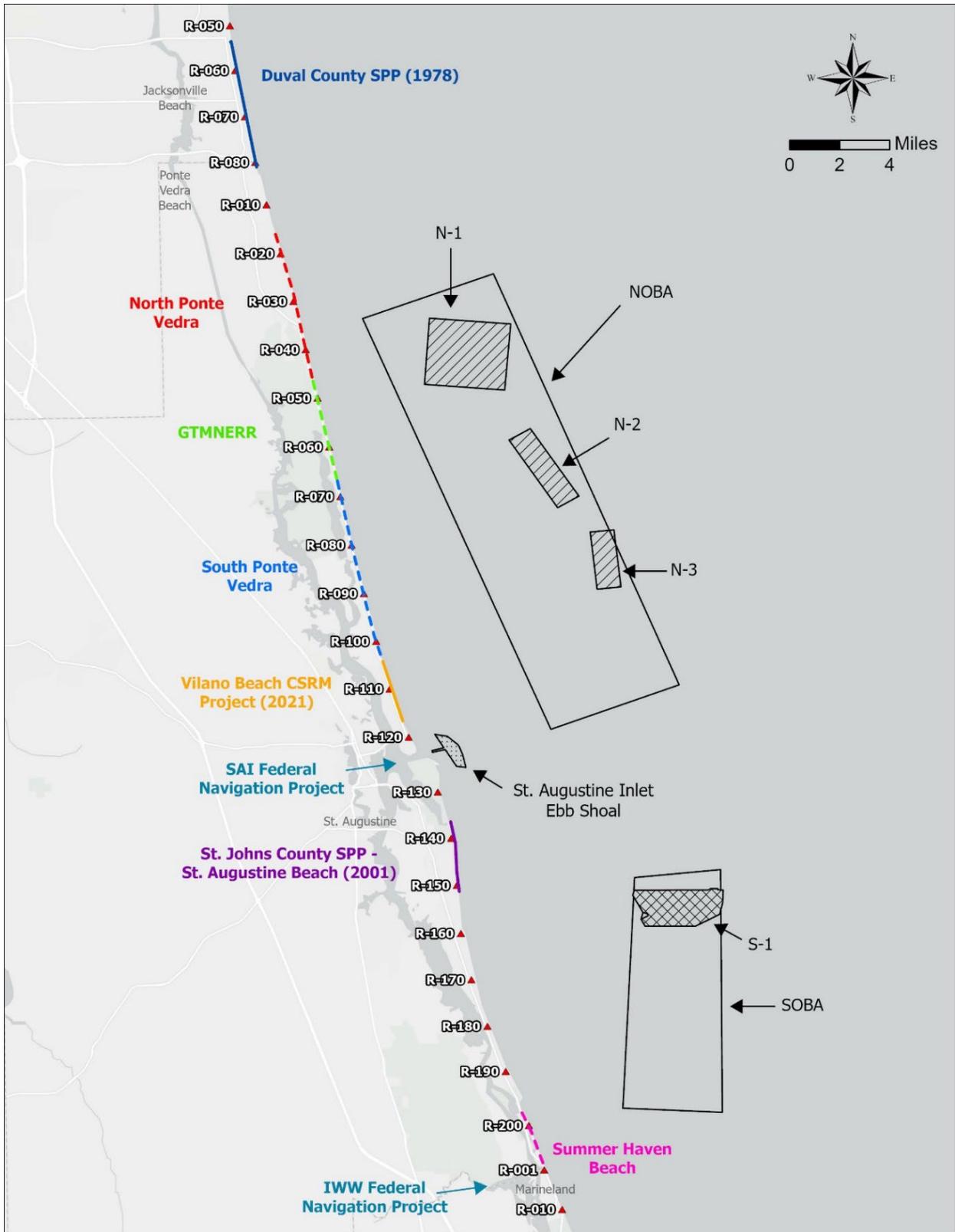


Figure 2. Related Federal CSRM Studies, Constructed Projects, and Borrow Areas.

Recreated from Figure 1-5 in the 2024 USACE EA. Constructed Projects are Shown with a Solid Line and Initial Construction Year.

Table 3a. Summary of SJC Shore Protection Projects at St. Augustine Beach (Federally Authorized).

NEPA Dates	Construction Dates	Volume Dredged (cy)*	Volume Placed (cy)	Template	Sand Source	Federal Nourishment Interval
ND	2003	4.37M	3.8M	R-137 to R-151	St. Augustine Inlet Ebb Shoal and SOBA	5 years
ND	2005	3.22M	2.8M	R-137 to R-151	St. Augustine Inlet Ebb Shoal and SOBA	5 years
ND	2012	2.4M	2.1M	R-137 to R-151	St. Augustine Inlet Ebb Shoal and SOBA	5 years
ND	2018	862,500	750,000	R-137 to R-151	St. Augustine Inlet Ebb Shoal and SOBA	5 years
ND	2024	2.88M	2.5M	R-137 to R-151	St. Augustine Inlet Ebb Shoal and SOBA	5 years

*Dredged volumes estimated based on volume placed as reported by SJC ([Coastal Projects - St. Johns County](#)).

Table 3b. Summary of CSRM Vilano Beach (Federally Authorized) Projects Constructed in SJC.

NEPA Dates	Construction Dates	Volume Dredged (cy)	Volume Placed (cy)	Template	Sand Source	Federal Nourishment Interval
ND	2020/2021	1.27M	1.1M	R-102.5 to R-117	St. Augustine Inlet Flood Shoal	5 years
ND	2023/2024	1.5M	1.3M	R-102.5 to R-117	N-3	5 years

Table 3c. Summary of the SPV Beach Project (SAJ-2018-00349-TMM) Constructed in SJC.

NEPA Dates	Construction Dates	Volume Dredged (cy)	Volume Placed (cy)	Template	Sand Source	Federal Nourishment Interval
PN: 2/4/20 Permit Issued: 6/25/21	2022	895,000	778,206	R-76 to R-103.5	N-3	5 years

Table 3d. Summary of the Ponte Vedra Beach Restoration Project (SAJ-2020-03812-TMM) Constructed in SJC.

NEPA Dates	Construction Dates	Volume Dredged (cy)	Volume Placed (cy)	Template	Sand Source	Federal Nourishment Interval
PN: 1/10/20 Permit Issued: 9/17/21	2024	2.3M	2M	R-1 to R-46.2	N-1	10 years

1.3 Project Purpose and Need

The purpose of the project is to nourish the beaches and dunes to mitigate storm impacts, restore protection the beaches provide to upland infrastructure, restore recreational benefits (an important economic driver), and restore lost habitat for sea turtles and shorebirds. The need for this project is to mitigate the erosional effects of Hurricanes Ian, Nicole, and Debby in SPV Beach (R-76 to R-103.5) and improve the capacity of the shoreline to withstand future storm events, reduce erosion, and decrease risk from future events to human life and improved property. The beach and dune nourishment project qualified under Section 8(k) of the Outer Continental Shelf Lands Act (OCSLA) and is clearly in the public interest as it would:

- Provide protection for upland infrastructure including dwellings, businesses, parks, and State Road A1A, a critical evacuation route.
- Restore essential habitat for nesting and marine turtles, shorebirds, and other threatened and endangered species.
- Restore the beaches that provide abounding recreational opportunities and substantially contribute to the local economy.

This EA supplements existing analyses and updates potential environmental effects (described in Section 1.5). This EA further supports or elaborates on the analyses or information in existing NEPA documents, but it does not substantially change the conclusions of any of those analyses. The purpose of this EA is to determine if the proposed project, considering new information or circumstances, could result in different effects and potentially contribute to significant effects on the human environment, which may require a re-evaluation of resources and effects previously analyzed.

1.4 Project Authority

Pursuant to the NEPA, this EA was prepared under contract to SJC for adoption by BOEM in support of its decision to issue a negotiated agreement to use OCS sand resources to construct the project under its authority under the OCSLA. The NEPA process has been integrated to achieve compliance with other environmental regulations to reflect relevant environmental concerns, avoid delays, and address potential conflicts or challenges.

BOEM's Action: BOEM is authorized under PL 103-426 [43 U.S.C. 1337(k)(2)] to negotiate on a non-competitive basis the rights to OCS sand resources for shore protection projects. BOEM's purpose would be to authorize the use of OCS sand/sediment resources from Borrow Area N-1 to provide the necessary beach quality material for SJC to nourish and maintain a 5.5-mile-long segment of critically eroded beach.

1.5 Related Environmental Documents

A summary of related environmental documents is provided in Table 4. An extensive list is also provided in the 2024 SJC CSRMS Final Integrated Feasibility Report (IFR) and EA (USACE 2024). As mentioned above, this EA supplements existing analyses and updates potential environmental effects, and as such this EA will incorporate by reference the analyses conducted for the placement area (R-76 to R-103.5) included in the 2020 Use of OCS Sand from Borrow Area N-3 for the SPV Beach Restoration Project EA (BOEM 2020), and the analyses conducted for Borrow Area N-1 included in the 2024 Final IFR and EA (USACE 2024).

The 2020 EA was prepared by Taylor Engineering, Inc under contract to SJC for adoption by BOEM to satisfy the NEPA requirements for authorizing use of OCS sand from Borrow Area N-3 for the SPV Beach Restoration Project, SJC, Florida. Based on the evaluation of potential effects and associated mitigation measures discussed in the 2020 EA, BOEM issued a Finding of No Significant Impact (FONSI) relevant to the use of that borrow area. The 2024 Final IFR and EA was prepared by the USACE with SJC as the non-federal sponsor for the SJC CSRMS study. USACE was the Lead Federal Agency and BOEM was a Cooperating Agency. USACE released the proposed FONSI, draft IFR/EA, and associated appendices for a 30-calendar day public and agency review period starting on April 17, 2023. A signed FONSI was issued by the USACE on June 18, 2024, which stated that "all applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Based on this report, the reviews by other federal, state, and local agencies, tribes, input of the public, and the review by my staff, it is my [Colonel James L. Booth] determination that the Recommended Plan would not cause significant adverse effects on the quality of the human environment; therefore, preparation of an Environmental Impact Statement is not required."

Table 4. Summary of NEPA Documentation.

Year	Document	Agency	Project	Placement Area	Sand Source	Construction
2017	Final Integrated Feasibility Study and EA	USACE	SJC CSRM Project	9.8 miles of shoreline: SPV (R-84 to R-104) Vilano Beach (R-104 to R-117) Summer Haven (R-197 to R-209)	St. Augustine Inlet system, including the ebb, flood, Vilano Point shoals, and the federal navigation channel; NOBA; and SOBA NOBA=N-1, N-2, N-3 SOBA=S-1	Villano Beach CSRM 2021
2020	EA and FONSI	BOEM	Use of OCS Sand from Borrow Area N-3 for the SPV Beach Restoration Project	SPV (R-76 to R-103.5)	N-3	2022
2022	EA and FONSI	USACE BOEM	SJC Additional Offshore Borrow Areas SPP and CSRM Project SPV Beach and Vilano Beaches	SPP Project: starts about 2.7 miles south of St. Augustine inlet in Anastasia State Park and extends south for 2.5 mi from R-137 to R-150. CSRM Project: (SPV Beach and Vilano Beach Reaches) consists of 2.6 mi from R-103.5 to R-116.5 in Vilano Beach.	S-1 and N-3 N-3 identified as most suitable sand source for Vilano Beach	2024
2024	Final IFR and EA	USACE	SJC CSRM Project Ponte Vedra Beach	North Ponte Vedra: R-16.4-R-46.2 (5.7 mi) GTMNERR: R-46.2-R-67 (4.3 mi) SPV: R-67-R-103.5 (7.0 mi)	NOBA=N-1, N-2, N-3	TBD

1.6 Decisions to be Made

The purpose of the EA is to determine if the proposed action and alternatives would cause any significant impacts to irreplaceable environmental resources or adverse project-related effects, which require mitigation, as well as affect the human environment and whether an Environmental Impact Statement (EIS) is needed. This document will also aid in BOEM's decision to authorize the use of OCS sand.

1.7 Scoping and Issues

The proposed project is being coordinated with the following agencies: BOEM, FEMA, USACE, FDEP, United States Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), the Florida Fish and Wildlife Conservation Commission (FWC).

SJC agrees to implement the Terms and Conditions and/or Project Design Criteria (PDCs) described in the following documents:

- NMFS South Atlantic Regional Biological Opinion (SARBO)
- USFWS Statewide Programmatic Biological Opinion (SPBO)
- USFWS Programmatic Biological Opinion Piping Plover Biological Opinion (P³BO)

1.8 Public Interest Factors

The project, as currently authorized by FDEP Permit 0340616-003-JC, was previously demonstrated to be clearly in the public interest and the modifications proposed here are not such that they alter the public interest.

- Upland infrastructure along the project area is primarily private residential, landward of which is A1A, an important evacuation route. Many private property owners have installed seawalls to protect their homes. The project will provide a clear benefit in protecting upland infrastructure from future storm erosion and will be a benefit to public health, safety, and protection of the property of others.
- The project will not adversely affect the conservation of fish and wildlife, including endangered or threatened species, or their habitats. During the period of construction, there will be temporary disruption to the beaches and dunes, but all permit conditions for the protection of threatened and endangered species and their habitat will be followed. The disruption of the beaches will be limited to the duration of construction, estimated to be approximately 90 days. Following construction, the project will have a positive benefit to species that utilize and inhabit the beach and dune system by restoring storm impacted habitats, including installation of vegetation along the dunes.
- The project will not adversely affect navigation, or the flow of water, or cause harmful erosion, or shoaling. The project will mitigate the harmful erosion that has occurred since the 2022 storm season.
- The project will not adversely affect the fishing or recreational values or marine productivity in the vicinity of the activity. While construction will temporarily impact the productivity of benthic infauna in the placement area, these organisms are expected to rebound quickly upon completion of construction. Adjacent beaches will continue to support these benthic organisms during the period of construction.
- The disruption caused by construction will be temporary, approximately 90 days. The beach nourishment is not permanent, but barring direct significant storm impacts, should continue to provide the intended protection and beneficial habitat on the order of years. While no specific nourishment interval has been defined, the estimate is to provide protection for five years or more.

The beach template estimated in the USACE EA calls for approximately twice the volume proposed here and anticipates nourishment approximately every 10 years, again noting that direct storm impacts may increase frequency.

- The project will neither adversely affect or enhance significant historical and archaeological resources.
- The current conditions across the project area can be described as an eroded and deflated beach and dune system. In this state, there is a loss of protection to upland properties, beach and dune habitat, and recreational space and opportunity. Restored beaches and dunes will enhance habitat for species that inhabit the beach and dune system, as well as restore recreational beach opportunities, which is an important driver of the local economy.

In addition, the following factors are relevant to this project and detailed analyses can be found in the section noted below:

- Endangered species (Sections 3.2.3; 4.2.3)
- Essential Fish Habitat (Sections 3.2.4, 4.2.4)
- Sediment Characteristics and Bathymetry (Sections 3.3.1, 4.3.1)
- Air Quality (Sections 3.3.3, 4.3.3)
- Aesthetics (Sections 3.3.7, 4.3.7)

2 Alternatives

As mentioned in Section 1.5, the USACE recently prepared a county-wide EA and published their Final IFR and EA for SJC in February 2024. Beach nourishment was identified as the preferred alternative to restore the storm-impacted shoreline and is the preferred alternative of SJC.

This section describes in detail the No Action Alternative and other reasonable beach nourishment sand source alternatives that were evaluated and/or eliminated from further analysis. Section 3 describes the existing environmental resources of areas that would be affected if any of the alternatives were implemented (Affected Environment) and Section 4 (Environmental Effects) presents the analysis of potential effects of each alternative.

2.1 Description of Alternatives

Alternatives 1–5 are described in the following subsections.

2.1.1 Alternative 1: No Action Alternative (Status Quo)

Under the No Action Alternative, the beach and dune restoration project would not be constructed, as there is no assurance that the USACE will receive funding to initiate a CSRSM project at SPV and until/unless they do, SJC is proactively managing the SPV shoreline. The USACE recommended plan includes a renourishment frequency of every 10 years, which could take an unspecified amount of time to occur (USACE 2024). Consequently, the area near the shoreline would not be protected from future storm events. Ongoing erosion would continue along the shoreline, the available habitat for listed threatened and endangered species would continue to degrade, and the recreational value created by the beach would continue to decrease. Therefore, the No Action Alternative has the potential to negatively affect the physical environment, environmental habitat, as well as the tourism and economy in the vicinity of the coastline.

2.1.2 Alternative 2: Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)

SJC is proposing to utilize Borrow Area N-1 Modified (described in detail below) for use of up to 2.1 million cubic yards (MCY) of material for the next renourishment of the SPV Beach Nourishment Project. Within the next five years, SJC may utilize up to 1.5 MCY of material from Borrow Area N-1 Modified for an additional renourishment effort, with the total volume removed not to exceed 2.5 MCY. The SPV Beach Nourishment Project includes placing beach-compatible material (in compliance with 62B-41.007 Florida Administrative Code [F.A.C.]) along approximately 5.5 miles of beach. The beach fill template is from R-76 to R-103.5 and will include a dune that is at least 15 ft wide as well as a 40-ft-wide berm. Table 5 describes elements of the proposed beach placement design in more detail. Up to 1.3 MCY of sand will be required to fill the initial proposed beach fill template.

Table 5a. Beach Placement Design Summary Table (Dune).

Location	R-76 to R-79	R-80 to R-83	R-84 to R-101	R-102 to R-103
Max Elevation	15 ft	15 ft	14 ft	16 ft
Crest Width	15 ft	15 ft	15 ft	15 ft
Seaward Slope	4H:1V	4H:1V	4H:1V	4H:1V
Landward Slope	4H:1V	4H:1V	4H:1V	4H:1V

Table 5b. Beach Placement Design Summary Table (Berm).

Location	R-76 to R-79	R-80 to R-83	R-84 to R-101	R-102 to R-103
Max Elevation	12 ft	11 ft	11 ft	11 ft
Width	40 ft	40 ft	40 ft	40 ft
Berm Slope	100H:1V	100H:1V	100H:1V	100H:1V
Seaward Slope	15H:1V	15H:1V	15H:1V	15H:1V

The staging areas and points of upland access remain the same as currently authorized. Two staging areas are identified. The first is the SPV Park, managed by SJC just north of R-95, and the second is located at the GTMNERR Beach Parking Area near the Exxon gas station, just south of R-83. A SUP is required for each maintenance event and is currently being sought for use of the staging area at the GTMNERR Beach Parking Area.

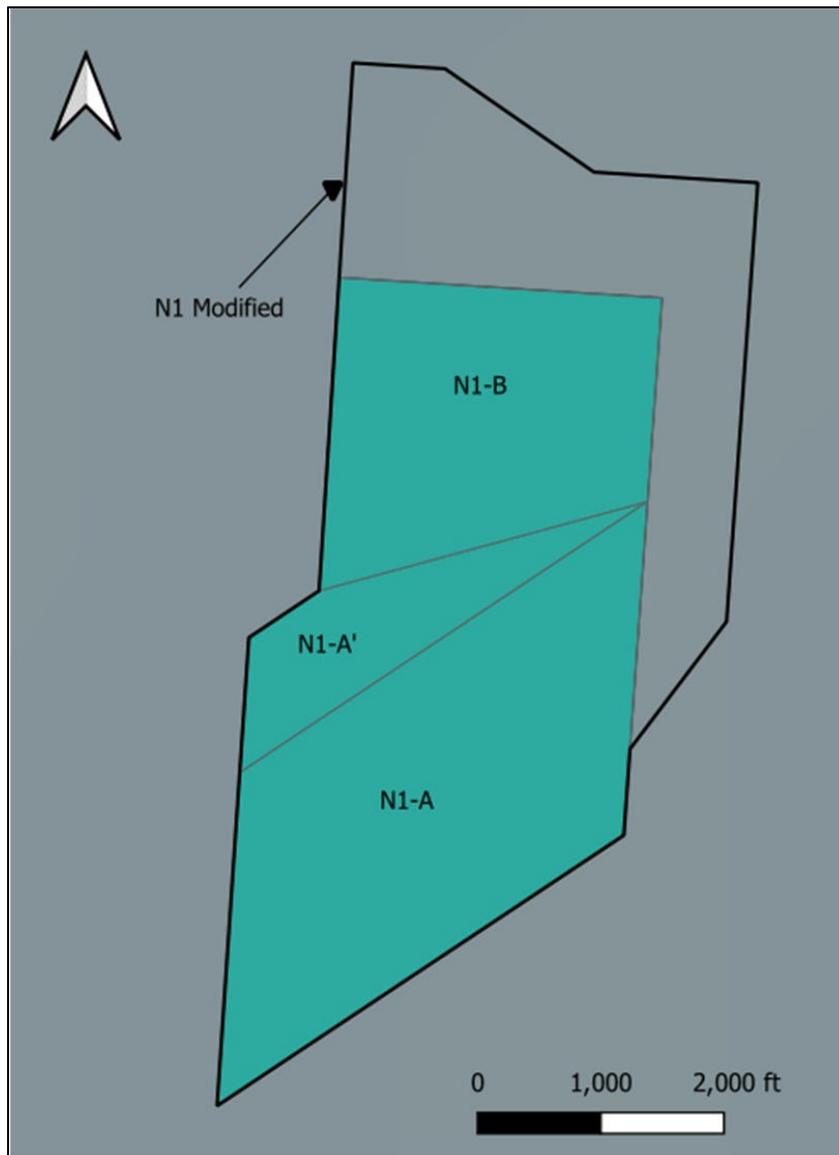


Figure 3. Borrow Area N-1 Modified.

Alternative 2 involves extracting beach quality material from Borrow Area N-1 and placing the sand within the proposed SPV Beach fill template. A second renourishment effort is also considered with a decreased volume of material. Previous design-level investigations have divided N-1 into N-1A and N-1B (Figure 3). The southern portion of Borrow Area N-1, N-1A, has previously been developed, leased (BOEM Lease OCS-A-0535; expired September 30, 2024), excavated, and utilized for the 2024 Ponte Vedra Beach Nourishment Project. The proposed borrow area for this project, N-1 Modified, incorporates N-1A and N-1B, extending N-1B to the north and east to fully utilize the remaining material in this sand source. Borrow Area N-1 Modified consists of approximately 520 acres of beach quality sand, located in federal waters approximately 4 to 6 miles offshore of the GRWMA in SJC, Florida (R-36 to R-42) and is roughly 10.2 miles north-northeast from the center of the project area (Figure 4).

This borrow area extension aims to maximize the sand source and provide the necessary volume of material to complete this project. Borrow Area N-1 Modified contains approximately 2,460,000 cubic yards (CY) of beach-compatible sands, covering 520 acres within a roughly shore-parallel sand ridge, which is greater than 1,060 acres in size, and has composite grain size characteristics consisting of a mean grain size of 0.31mm, a sorting of 0.91phi, 1.86 percent silt (passing the #230 sieve), and wet and dry Munsell values of 7. Additional sand is located below the targeted dredge depth that would remain within the borrow area. This volume will provide adequate contingency to account for potential losses during dredging, unexpected encounter of incompatible material, and avoidance areas.

Up to 2.1 MCY will be dredged from Borrow Area N-1 Modified for the initial event. Within the next five years, SJC may utilize up to 1.5 MCY of material (dependent on remaining borrow area volume) from Borrow Area N-1 Modified for a second renourishment effort, with the total volume removed not to exceed 2.5 MCY. The proposed maximum target dredge depth for N-1 Modified is -51 ft North American Vertical Datum (NAVD) (-15.5 m). The project will be constructed using a hopper dredge to extract and transport the material to the nearshore where material will be pumped through a submerged pipeline for discharge and distribution. The pipeline will be placed perpendicular to shore in designated locations, which include five authorized pipeline corridors located at approximately R-80, R-85, R-90, R-95, and R-100 (Figure 4). The pipeline will be relocated several times to facilitate pump-out along the project template. The pipeline will be rafted, floated into place, flooded, submerged to the sea floor, and marked with buoys. The placement and relocation of the nearshore mooring buoys may involve the use of tender tugboats and a barged pipeline hauler or crane. Pump-out buoys may be anchored using multi-ton point anchors and/or clump weights. Support vessels and tugboats may support the hopper dredge in other activities, such as crew rotations and pump-out connections. The project schedule includes construction activities occurring during the winter/spring months. Depending on the equipment size, speed, and quantity, it is estimated that the number of days of dredging operations will range from 45 and 75 days with an estimated dredge and placement cycle of 4 to 9 hours, per load, to obtain the necessary volume.

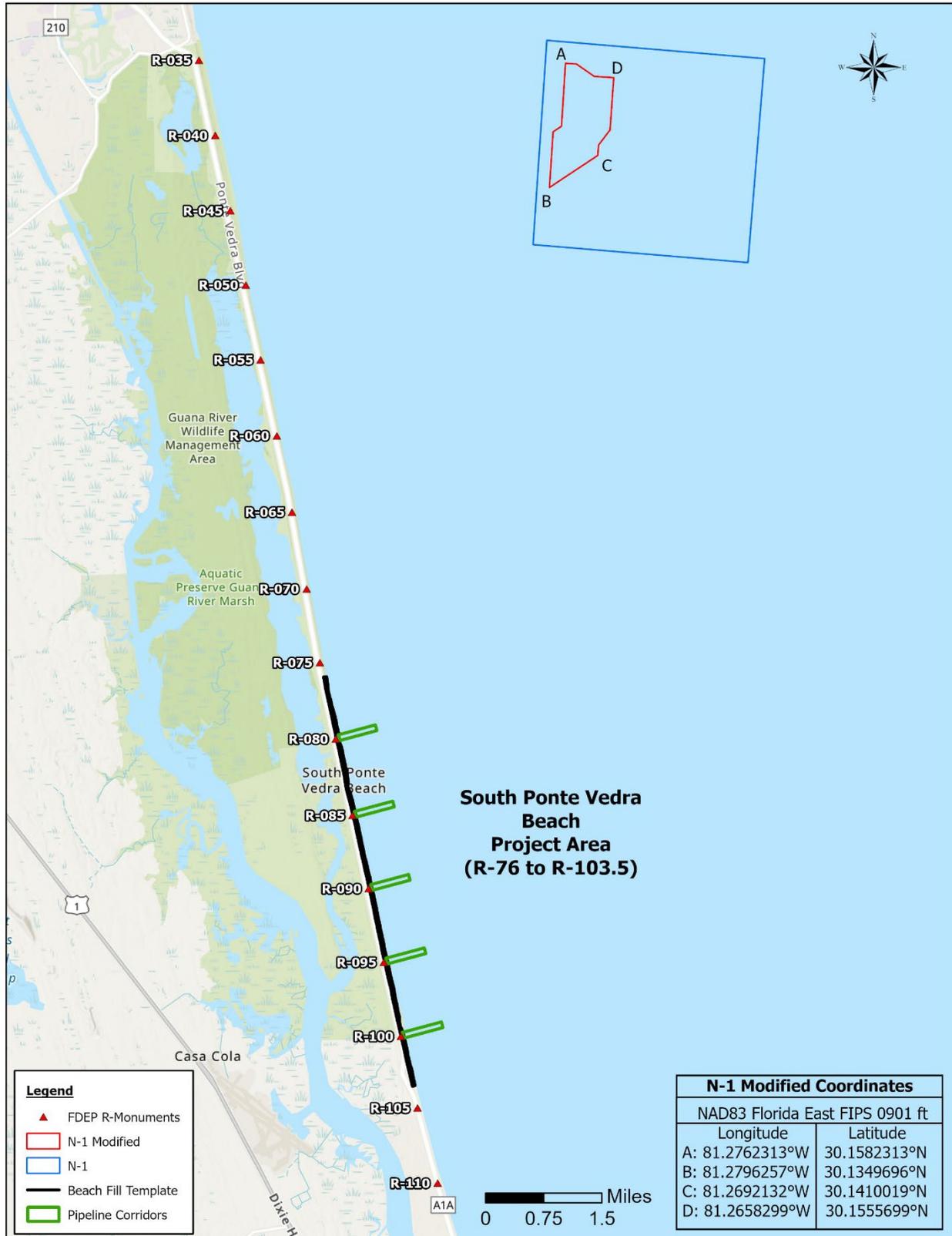


Figure 4. Preferred Action Alternative Location Map.

2.1.3 Alternative 3: Beach Nourishment using Dredged Sand from Offshore Borrow Area N-2

Alternative 3 would include the same beach template, volume needs, and construction methods as described in Alternative 2 but would use Borrow Area N-2 as the sand source. Borrow Area N-2 is approximately 8 miles from the center of the project area. Data on Borrow Area N-2 were collected by USACE in 2015 to determine sediment volume that could be used for potential beach restoration projects. Vibracores were collected in this area that showed 10 to 15 ft of sand that is beach compatible for projects conducted in SJC. N-2 was estimated to contain 15 MCY of sand at the time of assessment; however, only a small segment of the sand source containing approximately 8 MCY has been fully developed. Additional geophysical data and vibracores would need to be collected in the northern section of N-2 to confirm the overall volume of N-2. The data collected by USACE has determined that N-2 is a viable sediment borrow area; however, it would need to be further investigated for design-level sand information before being used for future projects and would not meet the project schedule needs.

2.1.4 Alternative 4: Beach Nourishment using Dredged Sand from Offshore Borrow Area N-3

Alternative 4 would include the same beach template, volume needs, and construction methods as described in Alternative 2 but would use Borrow Area N-3 as the sand source. Borrow Area N-3 is approximately 8.4 miles from the center of the project area. Borrow Area N-3 has been identified and proven as a compatible sand source through vibracore sampling conducted by USACE and is currently being reviewed for current and future projects. USACE was investigating the area to use sediment at this location for beach nourishment for Ponte Vedra Beach, impacted by Hurricane Matthew in 2016. During this investigation, USACE collected high-resolution geophysical data (magnetometer, sidescan, and seismic) with a survey trackline spacing of 30 m as well as 37 vibracores throughout the borrow source. The USACE identified that this borrow area has an estimated 8 to 10 ft thick layer of beach compatible sand near the surface with an estimated volume of 10 MCY within the borrow area, however, only a small segment of the sand source containing approximately 8 MCY has been fully developed. Additional vibracores would need to be collected in the northern section of N-3 to confirm the overall volume of N-3.

Borrow Area N-3 was used in 2022 for the initial SPV Beach Restoration Project and was used again in 2024 by the USACE for nourishment of the Vilano Beach CSRM Project. N-3 is closer to the SPV Beach Nourishment Project site; however, the USACE requested SJC instead target Borrow Area N-1 for SPV as the USACE prefers to reserve use of Borrow N-3 for future Vilano Beach CSRM Project nourishment events.

2.1.5 Alternative 5: Beach Nourishment using Truck Hauled Sand from an Upland Mine

Alternative 5 would require the use of upland sand mines that are substantially far from the project site, and it would be difficult to find the necessary volume of sand needed for the project. Sand would need to be acquired from multiple mines to meet the volume requirement. The added distance between the upland mine locations and project area would increase duration of the project operations significantly and make the project cost prohibitive. This alternative would also negatively impact public use and infrastructure as existing public beach access would need to be shut down for use as delivery, staging, and distribution areas. New staging and access areas would need to be established, and delivery by truck would create a maintenance of traffic issue along A1A, a two-lane highway, which is the only access road and an important evacuation route. The added truck traffic will also increase wear and tear on the roadways.

2.2 Alternatives Eliminated from Detailed Evaluation

Alternatives 3, 4, and 5 were evaluated and deemed unfit to meet the current project needs. Coordination was conducted with the necessary regulatory agencies (FDEP, USACE, and BOEM) to obtain a clear understanding of the advantages and disadvantages of using each borrow source. Each borrow area has been evaluated and considered based on data coverage, historic use, future planned use, project proximity, beach compatibility, environmental concerns, marine hazards, dredging feasibility, and permitting and approvals to evaluate and provide recommendations on further courses of action. The relative cost of much more distant and expensive upland sand sources in comparison to the location and existence of historic geophysical and geotechnical data make the use of upland sand sources a prohibitive alternative for this project.

2.3 Final Array of Alternatives

Alternatives 1 (No Action) and 2 (Preferred Action Alternative) are carried forward for further analysis. Section 4 (Environmental Effects) compares the alternatives in more detail, providing a clear basis for choice to the decision maker and the public.

3 Affected Environment

The section describes the existing environmental conditions that would be affected if the No Action Alternative or Preferred Action Alternative were implemented, subdivided into the natural, physical, and economic environments. It does not describe the entire existing environment, but only those environmental resources that would affect (or that would be affected by) the alternatives if they were implemented. This section, in conjunction with consideration of no action being taken, forms the baseline conditions for determining the environmental impacts of the proposed action.

For more information about any of the resources listed below please see the descriptions provided for the placement area (R-76 to R-103.5) included in the 2020 Use of OCS Sand from Borrow Area N-3 for the SPV Beach Restoration Project EA (BOEM 2020) and the descriptions provided for Borrow Area N-1 included in the 2024 Final IFR and EA (USACE 2024).

3.1 General Setting

SJC is on the northeast coast of Florida, between Duval County and Flagler County. There are three island segments that make up the 42 miles of the SJC coastline and vary in width from 750 ft to three miles. These islands are separated from the mainland by the IWW, Guana River, Tolomato River, Salt Run and the Matanzas River. The St. Augustine Inlet (R-122) and the Matanzas Inlet (R-196A) are also within SJC boundary.

The SPV Beach project placement area (R-76 to R-103.5) is located approximately 4 miles north of the St. Augustine Inlet and mostly lies within the GTMNERR. The area directly adjacent to the beach includes mainly residential properties, with a few vacation rentals, commercial properties, and the SPV Beach Recreation Area. The pipeline placement area includes the five authorized pipeline corridors located at approximately R-80, R-85, R-90, R-95, and R-100.

Borrow Area N-1 Modified is in federal waters approximately 4 to 6 miles offshore of the GRWMA in SJC, Florida (R-36 to R-42) and is roughly 10.2 miles north-northeast from the center of the project placement area.

3.2 Natural Environment

3.2.1 Fish and Wildlife Resources

Fish and wildlife resources common to Florida coastal and offshore habitats can be found within and adjacent to the beach placement area and offshore borrow area. Coastal and nearshore fauna may include small mammals and reptiles; migratory birds and shorebirds; invertebrates, fish, and infaunal and epifaunal species. Receding waves tend to wash amphipods (shrimp-like crustaceans) and isopods (small crustaceans such as woodlice) out of their burrows and suspend these organisms in the water column where they serve as an important food source for a variety of nearshore fish and shorebirds. A variety of polychaete worms that are also adapted to this highly dynamic and stressful environment can be found within the intertidal zone of the SJC beaches. These intertidal organisms provide an important food source for foraging shore and wading birds, including least tern (*Sternula antillarum*), Wilson's plover (*Charadrius wilsonia*), black skimmer (*Rynchops niger*), and American oystercatcher (*Haematopus palliatus*).

Offshore fauna may include marine mammals such as bottlenose dolphin (*Tursiops truncatus*) and Atlantic spotted dolphin (*Stenella frontalis*), as well as pelagic birds, pelicans, gulls, and terns. A wide variety of fin fish and shellfish species that dwell in softbottom and coastal pelagic (i.e., at or near the sea surface in the water column) habitats are caught and landed off the coast of northeast Florida (Section 3.2.4). Important

commercial fisheries species from these groups include northern brown shrimp, northern white shrimp (softbottom), snappers, and king mackerel (*coastal pelagic*).

3.2.2 Benthic Resources

The placement area and pipeline placement area are comprised of marine unconsolidated substrates. No hardbottom or submerged aquatic vegetation (SAV) resources are present in the placement or pipeline placement project areas. The intertidal and subtidal habitat of the nearshore placement area serves as habitat to benthic and infaunal organisms, as well as foraging grounds for birds and finfish (FNAI and FDNR 1990). Organisms common to this environment include polychaetes, echinoderms, mollusks, amphipods, isopods, and interstitial organisms that feed on bacteria and unicellular algae. In addition, mole crabs (*Emerita talpoida*), coquina clams (*Donax spp.*) and ghost crabs (*Ocypode quadrata*) can be found in this community (Gorzelay and Nelson 1987; Irlandi and Arnold 2008). These organisms are important marine ecological community members because they burrow within and oxygenate the sediments, may filter large volumes of water, contribute organic materials to the overall marine system, and serve as food for bottom-feeding fish and other invertebrates. A similar benthic assemblage can be found in the pipeline placement area.

The offshore borrow area is mainly sand-bottom habitat serving as habitat to infaunal and epifaunal invertebrates. No hardbottom or SAV resources are present in the offshore borrow area. The predominant infauna includes polychaetes, crustaceans, echinoderms, and mollusks (Zarillo et al. 2009). The epifaunal invertebrates observed at offshore borrow sites near Jacksonville included several species of echinoderms, including sand dollars (*Luidia clathrata*) and sea stars (*Astropecten spp.*) (Lotspeich and Associates 1997). Studies suggest that seasonality is the main driver affecting infaunal distribution and diversity and substrate composition and temperature may affect epifaunal distribution (Lotspeich and Associates 1997; Wenner and Read 1982; Zarillo et al. 2009).

3.2.3 Threatened and Endangered Species

Threatened and endangered (T&E) species that may occur in the project area and may be affected by the proposed project and associated critical habitat are listed in Table 6.

Table 6a. Status of Federally Listed Species that May Occur in the Project Area (Birds).

Scientific Name	Common Name	Federal Status/ Coordinating Agency	Critical Habitat
<i>Charadrius melodus</i>	Piping Plover	Threatened- USFWS	NA
<i>Calidris canutus rufa</i>	Rufa Red Knot	Threatened- USFWS	NA

Table 6b. Status of Federally Listed Species that May Occur in the Project Area (Reptiles).

Scientific Name	Common Name	Federal Status/ Coordinating Agency	Critical Habitat
<i>Chelonia mydas</i> ¹	Green Sea Turtle	Threatened- NMFS Endangered- USFWS	FL01: Florida (proposed)
<i>Caretta caretta</i> ²	Loggerhead Sea Turtle	Threatened- NMFS Threatened- USFWS	LOGG-N-14-NMFS
<i>Lepidochelys kempii</i>	Kemp's Ridley Sea Turtle	Endangered- NMFS Endangered- USFWS	NA
<i>Eretmochelys imbricata</i>	Hawksbill Sea Turtle	Endangered- NMFS Endangered- USFWS	NA
<i>Dermochelys coriacea</i>	Leatherback Sea Turtle	Endangered- NMFS Endangered- USFWS	NA

¹ North Atlantic distinct population segment (DPS)

² Northwest Atlantic DPS

Table 6c. Status of Federally Listed Species that May Occur in the Project Area (Fish).

Scientific Name	Common Name	Federal Status/ Coordinating Agency	Critical Habitat
<i>Acipenser oxyrinchus</i>	Atlantic Sturgeon	Endangered- NMFS	NA
<i>Manta birostris</i>	Giant Manta Ray	Threatened- NMFS	NA
<i>Carcharhinus longimanus</i>	Oceanic Whitetip Shark	Threatened- NMFS	NA
<i>Sphyrna lewini</i>	Scalloped Hammerhead Shark	Endangered- NMFS	NA
<i>Pristis pectinata</i>	Smalltooth Sawfish	Endangered- NMFS	NA

Table 6d. Status of Federally Listed Species that May Occur in the Project Area (Mammals).

Scientific Name	Common Name	Federal Status/ Coordinating Agency	Critical Habitat
<i>Trichechus manatus latirostris</i>	West Indian (Florida) Manatee	Threatened- USFWS	NA
<i>Eubalaena glacialis</i>	North Atlantic Right Whale	Endangered- NMFS	Southeastern U.S. Calving Area Unit 2 NMFS
<i>Balaenoptera musculus</i>	Blue Whale	Endangered- NMFS	NA
<i>Balaenoptera physalus</i>	Fin Whale	Endangered- NMFS	NA
<i>Balaenoptera borealis</i>	Sei Whale	Endangered- NMFS	NA
<i>Physeter macrocephalus</i>	Sperm Whale	Endangered- NMFS	NA
<i>Peromyscus polionotus phasma</i>	Anastasia Island Beach Mouse	Endangered- USFWS	NA

3.2.3.1 Piping Plover and Red Knot

Piping plovers (*Charadrius melodus*) are small, migratory shorebirds that breed in only three geographic regions of North America: on sandy beaches along the Atlantic Ocean, on sandy shorelines throughout the Great Lakes region, and on the river-bank systems and prairie wetlands of the Northern Great Plains. Piping plover breeding populations were federally listed in 1986. The Northern Great Plains and Atlantic Coast breeding populations are threatened, and the Great Lakes population is endangered. Piping plovers from all

three breeding populations winter along South Atlantic, Gulf Coast, and Caribbean beaches and barrier islands, primarily on intertidal beaches with sand and/or mud flats with no or very sparse vegetation.

The rufa red knot (*Calidris canutus*) was federally listed as threatened on December 11, 2014. Florida is known as an overwintering habitat for the rufa red knot. In migration and winter, it prefers coastal mudflats, tidal zones, and sometimes open sandy beaches where it feeds on small invertebrates such as small mollusks, marine worms, and crustaceans (Kaufman 1996). Wintering rufa red knots are most recorded on the west coast where the population was estimated at around 10,000 in the 1980s (Niles et. al. 2006).

Updated bird observation data from the eBird database, including piping plover and red knot records from 2019 to 2025, is presented below in Table 7 (eBird 2025). Sighting data include observations within the project placement area (R-76 to R-103.5) and approximately 5 miles north and south of the project placement area, as well as 1-3 miles west of the project area within the GTMNERR. Observations south of the placement area include sightings around the St. Augustine Inlet.

Table 7. Piping Plover (*Charadrius melodus*) and Red Knot (*Calidris canutus rufa*) Observations within and Adjacent to the Project Area, 2019-2025 (eBird 2025).

Year	Sightings within Project Area (<i>C. melodus</i>)	Sightings outside Project Area (within 5 mi) (<i>C. melodus</i>)	Sightings within Project Area (<i>C. canutus rufa</i>)	Sightings outside Project Area (within 5 mi) (<i>C. canutus rufa</i>)
2019	0	2	0	5
2020	0	0	0	140
2021	0	4	0	35
2022	0	12	0	13
2023	0	22	0	11
2024	2	10	0	37
2025	0	3	0	6

3.2.3.2 Sea Turtles

Five species of sea turtles can be found in Florida waters: loggerhead (*Caretta caretta*), green (*Chelonia mydas*), leatherback (*Dermochelys coriacea*), hawksbill (*Eretmochelys imbricata*), and Kemp’s ridley (*Lepidochelys kempii*). The USFWS and NMFS have listed leatherback, hawksbill, and Kemp's Ridley sea turtles as endangered and green and loggerhead sea turtles are listed as either threatened or endangered depending on the distinct population segment classification. In SJC, loggerhead, green, and leatherback sea turtles are known to nest along the beaches while hawksbill and Kemp’s Ridley sea turtles may be utilize the offshore waters. Adult loggerhead females inhabit nearshore waters during the summer months between nesting attempts, typically laying three to six clutches in two-week intervals. Sub-adults may use nearshore waters year-round for foraging. Table 8 provides the sea turtle nesting data for SJC from 2019 to 2024 (FWC 2025); nesting season for SJC is May 1 through October 31.

Table 8. Sea Turtle Nesting Data for SJC (FWC, 2025). Nests are Denoted by N and Non-Nesting Emergences are Denoted as NNE.

Year	<i>C. caretta</i> (N)	<i>C. caretta</i> (NNE)	<i>C. mydas</i> (N)	<i>C. mydas</i> (NNE)	<i>D. coriacea</i> (N)	<i>D. coriacea</i> (NNE)
2019	1077	720	73	40	4	1
2020	780	594	47	18	21	1
2021	799	501	20	9	7	0
2022	1154	1088	65	39	15	1
2023	1061	980	130	97	15	4
2024	831	640	20	14	9	0

The coastal waters of SJC primarily provide migratory and reproductive habitat for the five sea turtle species. Mating generally takes place in offshore waters near the nesting beach, and males rarely come ashore (Fuller 1978). Migrating sea turtles, nesting females, and hatchlings may traverse through the borrow area.

The sand placement area is in designated loggerhead nearshore reproductive critical habitat unit LOGG-N-14 (from the mean high water [MHW] line seaward 1.6 km) from the southern boundary of Kathryn Abbey Hanna Park to Matanzas Inlet. Nearshore reproductive habitat is a portion of the nearshore waters adjacent to the nesting beach that is used by hatchlings to egress to the open-water environment as well as by nesting females to transit between the beach and open water during the nesting season. The placement area and borrow area are in proposed green sea turtle critical habitat unit FL01, which includes essential reproductive, migratory, and benthic foraging/resting features occur from the MHW line to 20 m depth (88 FR 46572).

3.2.3.3 Whales

Five whale species listed as federally endangered occur in the Atlantic Ocean along the SJC coastline during certain times of the year. These species include the North Atlantic right whale (*Eubalaena glacialis*), Sei Whale (*Balaenoptera borealis*), Fin Whale (*Balaenoptera physalus*), Blue Whale (*Balaenoptera musculus*), and Sperm Whale (*Physeter catadon macrocephalus*). Designated critical habitat for the North Atlantic right whale is located offshore of SJC and includes the offshore borrow area, transit corridors, and areas adjacent to the placement area. Right whales are known to concentrate off the northeast coast of Florida during November through April. NMFS established the Southeast Seasonal Management Area between November 15 to April 15 since the southeast Atlantic Coast serves as calving and nursery grounds for this endangered species. Table 9 provides North Atlantic right whale sighting data from 2019 to 2025 adjacent to the placement area and within or directly adjacent to the borrow area.

Table 9. North Atlantic Right Whale (*Eubalaena glacialis*) Sighting Data near the Placement Area and Borrow Area, 2019-2025 (Johnson et al. 2021).

Year	Sightings adjacent to Placement Area	Sightings within 5 mi of Placement Area	Sightings within/directly adjacent to Borrow Area
2019	2	3	0
2020	1	2	0
2021	1	12	1
2022	6	5	2
2023	0	2	0
2024	0	11	2
2025	2	7	2

3.2.3.4 West Indian Manatee

The West Indian manatee (*Trichechus manatus*) is listed as a federally threatened marine mammal and is protected under the Endangered Species Act (ESA), the Marine Mammal Protection Act, and Florida State Law. The Florida manatee (*Trichechus manatus latirostris*), a subspecies of the West Indian Manatee, resides primarily in the fresh and estuarine waters of Georgia and Florida, but may also be found in the adjacent marine environment. Manatees, herbivores, feed on a wide variety of submerged, emergent, and floating vegetation and thus frequently inhabit shallow areas where seagrasses and other vegetation grow. Shallow grass beds with easy access to deep channels are ideal feeding areas in riverine and coastal habitats (USFWS 2001). Manatees migrate seasonally, especially along the east coast of Florida, and occasionally use open ocean passages to travel to preferred habitats. In SJC, manatees frequently visit inshore waters including the Matanzas and Tolomato Rivers. Manatee sightings within the nearshore waters of SJC's Atlantic coast are less common. Manatee critical habitat is not designated in the intracoastal or offshore waters of SJC.

3.2.3.5 Anastasia Island Beach Mouse

The endangered Anastasia Island beach mouse (*Peromyscus polionotus phasma*) inhabits the primary and secondary dune systems within a 14.5-mile length of Anastasia Island and historically sections of the GTMNERR; there is no evidence of beach mice utilizing the project area.

The Anastasia Island beach mouse may have ranged from Florida's St. Johns River in Duval County, south to Anastasia Island in SJC. The beach mouse currently occurs on Anastasia Island, primarily on the north (Anastasia State Park) and south (Fort Matanzas National Monument) ends of the island. In 1992, mice from these two populations were reintroduced into suitable historical habitat between Ponte Vedra Beach and SPV Beach in north SJC at the GTMNERR. The reintroduced population is surviving, although in low numbers (USFWS 2015).

3.2.3.6 Atlantic Sturgeon

Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) is listed as endangered by NMFS and may occur within the project area; however, they have not been encountered during previous dredging events adjacent to N-1 Modified. The historic range of the Atlantic sturgeon was from St. Croix, Maine, to the St. Johns River, Florida. They spend most of their lives in marine waters and migrate up rivers from February through March to spawn. It is possible that this species may be present in the offshore area in the vicinity of the borrow area as it is just 30 miles south of the St. Johns River.

3.2.3.7 Giant Manta Ray

NMFS listed the giant manta ray (*Manta birostris*) as threatened on January 22, 2018 (83 FR 2916). This species is threatened by global commercial fishing pressures, which include targeted fishing and being caught as bycatch. The giant manta ray is also a coveted species harvested for the international trade of gill rakers and fins, especially in Asian markets. Giant manta rays are a migratory species typically found in tropical, subtropical, and temperate oceans of the world; however, they have also been found in estuarine waters near oceanic inlets. These estuarine areas may serve as nursing grounds. This species uses a wide range of depths for feeding (10 meters [m] to over 1,000 m deep). Generally solitary, giant manta rays will aggregate to feed and mate. Their seasonal migratory behavior may be attributed to the movement of zooplankton (their food source, seasonal upwelling, seawater temperature, and possibly mating behavior). The giant manta ray typically gives birth to only one pup every two or three years. This low fecundity contributes the inability of this species to recover from increased fishing pressure (NMFS 2025a).

3.2.3.8 Oceanic Whitetip Shark

The oceanic whitetip shark (*Carcharhinus longimanus*) was listed as threatened under the ESA by NMFS on January 20, 2018 (83 FR 4153). This species was listed primarily due to the threat it faces from commercial fishing pressure, which includes the selling of their fins into the international shark fin trade. This large shark matures late and has a low reproductive output, making it vulnerable to depletions with a low likelihood of recovery (NMFS 2025b). Critical habitat has not been designated for this species. Oceanic whitetip sharks are a pelagic species, found in tropical and subtropical oceans of the world. This species prefers offshore areas in the open ocean, on the OCS, or around oceanic islands in water depths greater than 600 ft. This species is typically identified by their rounded dorsal fins and long, paddle-like pectoral fins, both of which have mottled white markings. Oceanic whitetip sharks are a top predator with an opportunistic diet that consists of bony fishes, squid, large pelagic sportfish, sea birds, other sharks and rays, and marine mammals (NMFS 2025b).

3.2.3.9 Scalloped Hammerhead Shark

Scalloped hammerhead sharks (*Sphyrna lewini*) are moderately large sharks recognized by their distinctively curved, scalloped-shaped cephalofoil. They have a broad global distribution, particularly favoring coastal and pelagic waters. In the western Atlantic Ocean, their range spans from the northeast coast of the U.S., stretching from New Jersey to Florida, and down to Brazil. Due to significant population declines driven by overfishing, habitat degradation, and bycatch in commercial fisheries, four distinct population segments of this species were listed for federal protection in July 2014. The Eastern Atlantic DPS and Eastern Pacific DPS were listed as endangered. The Central and Southwest Atlantic DPS and Indo-West Pacific DPS were listed as threatened.

3.2.3.10 Smalltooth Sawfish

NMFS listed the U.S. DPS of smalltooth sawfish (*Pristis pectinata*) as endangered on April 1, 2003 (68 FR 15674) and designated two critical habitat units in 2009 on the southwest coast of Florida. Sawfish are usually found in shallow waters very close to shore over muddy and sandy bottoms within sheltered bays, on shallow banks, and in estuaries or river mouths (NMFS 2025c). Smalltooth sawfish may rarely occur within the project area. The species has not been observed during previous dredging events.

3.2.4 Essential Fish Habitat

The Magnuson Fishery Conservation and Management Act of 1976, amended Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) by the Sustainable Fisheries Act of 1996, set forth a mandate to identify and protect important marine and estuarine fish and their habitats. Essential Fish Habitat (EFH) is defined as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” (16 U.S.C. 1802 (10)). The MSFCMA; PL 94-265, as amended by the Sustainable Fisheries Act of 1996 (PL 104-297), requires federal agencies to consult with NMFS for spawning, breeding, or growth to maturity.

The SPV project areas (beach placement, pipeline placement area, and offshore borrow area) fall under the jurisdiction of NMFS and the South Atlantic Fisheries Management Council (SAFMC). NMFS is responsible for managing Highly Migratory Species (HMS) due to their distribution throughout the Atlantic Ocean, Caribbean Sea, and Gulf of Mexico. HMS such as Atlantic tunas (8 species), swordfish (2 species), sharks (73 species), and billfish (4 species) all have the potential to occur in the project area, although their highly mobile and migratory nature would make them a transient presence (National Oceanographic and Atmospheric Administration [NOAA] EFH Mapper tool: <https://www.habitat.noaa.gov/apps/efhmapper/>). The SAFMC is responsible for the conservation and management of fish stocks within the federal 200-mile limit of the Atlantic Ocean off the coasts of North Carolina, South Carolina, Georgia, and the Florida

Atlantic coast to Key West. The SAFMC currently manages eight fisheries: coastal migratory pelagics, coral and live bottom habitat, dolphin-wahoo, golden crab, penaeid shrimp, snapper-grouper, spiny lobster, and Sargassum; all but the coral and live bottom habitat, dolphin-wahoo, and the golden crab have the potential to be present in the project areas (SAFMC Mapper EFH Mapper tool: <https://safmc.net/fishery-management-plans/habitat/>).

The SAFMC has identified various estuarine and marine areas as EFH based on the stages of designated managed species (Table 10). Although unconsolidated (soft) bottom is not defined as an EFH category in Fishery Management Plan (FMP) Amendments by the SAFMC, it has been listed as EFH for certain life stages of snapper-grouper, spiny lobster and shrimp FMPs (SAFMC 2014) and is therefore also included under the marine areas.

Table 10. SAFMC Designated EFH (SAFMC 1998).

Marine Areas	Estuarine Areas
Live/hardbottoms	Estuarine emergent wetlands
Coral and coral reefs	Estuarine scrub/shrub mangroves
Artificial/manmade reefs	Estuarine scrub/shrub mangroves
Sargassum	Submerged Aquatic Vegetation
Water column	Oyster reefs and shell banks
Unconsolidated bottom (soft sediments)	Intertidal flats
	Palustrine emergent and forested wetlands
	Aquatic beds
	Estuarine water column

Marine EFH within the beach placement area and nearshore area where pipeline will be placed to move sand from the hopper to the beach placement area and where decanted water from the placement activities will flow, include unconsolidated bottom (soft sediments), unvegetated substrate, and water column. There are no hardbottom or SAV resources in the nearshore project area.

Marine EFH within the boundaries of the offshore borrow area consist of water column with an unconsolidated substrate (soft sediments). There are no hardbottom or SAV resources located within the vicinity of Borrow Area N-1 Modified. The EFH species and management units are described in detail in Section 5.4 in the 2020 EA and Section 2.2.4 in the 2024 EA.

3.2.5 Dune and Upland Vegetation

Coastal development has limited the dune system in SPV to relatively small portions, primarily along the SPV Beach Recreation Area and near the Guana-Tolomato-Matanzas Research Reserve Visitor Center. The areas with intact dunes are dominated by a mixture of sea oats, beach pennywort, gaillardia, saltwort, sea rocket, railroad vine, prickly-pear cactus, sea grape, and beach tea. Extensive expanses of salt marshes, dominated by cordgrass and needle rush, are inland of the project area along the Guana River and Tolomato River.

3.2.6 Coastal Barrier Resources

Congress passed the CBRA in 1982 and the Coastal Barrier Improvement Act of 1990 (CBIA) to address problems caused by coastal barrier development. These Acts defined a list of undeveloped coastal barriers along the Atlantic and Gulf coasts and were passed to limit federally subsidized development within a defined Coastal Barrier Resources System (unit). SPV lies within a portion of the Guana River Unit FL-03P (Figure 5). This unit is designated as an OPA, which specifies that the only federal spending prohibition is on federal flood insurance (USFWS 2025). The eastern limit of the OPA is A1A and does not encompass

the beach except for two small segments where the OPA extends across the beach to the Atlantic (to roughly the 30-ft depth contour) at approximately R-83 and R-95.



Figure 5. OPA CBRS Guana River Unit FL-03P.

3.3 Physical Environment

3.3.1 Geology

SPV Beach is part of Florida's dynamic coastal system, shaped by wave action, sediment transport, and long-term geological processes. The beach consists primarily of fine quartz sand, with minimal shell fragments.

3.3.1.1 Existing Beach (R-76-103.5)

Beach samples have been collected during past studies to characterize the native beach. In 2002 and 2003, the Florida Geological Survey collected beach sand throughout SJC (Phelps et al. 2009), including six sampling locations (spaced approximately every mile) between R-76 and R-101.5. Samples were collected from the swash zone, mid-beach, and back beach. Phelps et al. (2009) reported an average mean grain size of 0.56 mm, carbonate content of 40.1 percent, and post-carbonate removal mean grain size of 0.32 mm along the SJC beaches north of St. Augustine Inlet. The report also provided general descriptions of each sand sample. However, the report did not provide detailed statistics of each sample.

In 2008, 72 samples were collected from the native beach along 8 transects — at FDEP monuments R-70, R-77, R-84, R-91, R-98, R-105, R-112, and R-120 — north of St. Augustine Inlet. The study analyzed 9 samples — representing the 15, 7, 3, 0, -3, -6, -9, and -15 ft elevations (datum not specified) and a composite of all samples — per transect to determine grain size statistics and Munsell color. Carbonate content was determined for 32 samples. On average, PBS&J (2009) reports the native beach sand has a 0.55 mm mean grain size, 38 percent carbonate content, and Munsell color in the range of 10YR 8.5/1 to 10 YR 8/2. The grain size correlated with carbonate content, as samples with a large mean grain size generally contained a high percentage of carbonate. PBS&J (2009) states the post-carbonate removal mean grain size ranged from 0.20 mm to 0.25 mm; however, the report did not provide tabulated post-carbonate removal data of individual samples.

USACE (2015) collected 30 native beach samples in 2010 between FDEP reference monuments R-101 and R-117 in Vilano Beach. The study analyzed 6 samples—representing the mid-berm, mid-tide, -3, -15, -10, and -15 ft locations—per transect to determine grain size, visual shell content, carbonate content, and color. USACE repeated the tests following removal of carbonates from all samples. The results indicated that the beach has a mean grain size of 0.42 mm corresponding to an average carbonate content of 26 percent, while the noncarbonate (i.e., quartz) fraction has a mean grain size of 0.24 mm. Test results for individual samples indicated that the mean grain size ranged from 0.13–1.42 mm (corresponding to 5.6 percent and 70.4 percent carbonate content) for native beach samples and 0.13–0.60 mm for the quartz fraction. The visual shell content of the native beach samples ranged from 2.9–83.7 percent, Munsell color values and chroma ranged from 5–7 and 1–4 (5/3–7/4), and the silt and fine gravel content did not exceed 5 percent, except for an anomaly of 18 percent fine gravel at the R-113 mid-tide location.

3.3.1.2 Offshore Geology

Offshore of the beaches and modern barrier islands of northeast Florida is the Atlantic continental shelf. The Atlantic continental shelf varies considerably in width, gradient, and morphologic complexity over the 1,864 miles it extends along the east coast of the United States. Off SJC, the shelf has a broad, shallow, low relief and extends approximately 80 miles offshore. The most prominent geological and geomorphological features along the northeast coast of Florida include sand flats and ebb-tidal deltas on the inner shelf; sand waves, shoals, and banks on the middle shelf; and large sand ridges on the outer shelf. The main morphological seafloor features on the continental shelf offshore SJC include, from the shore seaward: the St. Augustine Ebb-Tidal Delta, St. Johns Ebb-Tidal Delta, Farmton Sand Flat, Duval Ridge Field, Espanda Ridge Field, Sawgrass Bank, Summerhaven Sand Wave, St. Johns Bank, and undifferentiated seafloor with transverse ridges as described in Finkl et al. (2007).

There are an estimated 400 MCY of sand within the main NOBA (Figure 2). Of this, 40 MCY was indicated by preliminary data, collected and assessed by the USACE in 2015, to be contained in Borrow Area N-1. Borrow Area N-1, which falls within the NOBA, was evaluated for use in this project. Sediment samples of the bottom substrate in Borrow Area N-1 from 1996, 2006, 2009 and 2022 indicate the presence of poorly graded, fine to medium-grained sand sized quartz with few to some medium sand to gravel-sized shell and trace silt with an average visual shell content of 12.7 percent. The mean sediment grain size is 0.33 mm with a standard deviation of 1.02 phi. Most samples within the area contain less than 5 percent silt with an average silt content of 2.71 percent. In 2019, side-scan sonar surveys including the identification and delineation of bottom habitat(s) and substrate types within the original N-1 borrow area were conducted. The N-1 borrow area substrates were confirmed to be unconsolidated (sand) sediments with no features such as hardbottom or rock outcrops. N-1 was extended to the north and the east and designated N-1 Modified. It contains approximately 2,460,000 CY of beach-compatible sands, covering 520 acres, and has composite grain size characteristics consisting of a mean grain size of 0.31mm, a sorting of 0.91phi, 1.96 percent silt (passing the #230 sieve), and wet and dry Munsell values of 7.

3.3.2 Water Quality

The Atlantic Ocean along the project shoreline is an open system influenced by many factors including local tides, currents, winds, and the location of the gulf stream (approximately 50-70 nautical miles from the St. Augustine Inlet; National Weather Service [NWS] 2025). The nearshore project area features a dynamic, sandy coastline shaped by high-energy wave activity. The beach composition consists predominantly of fine sand-sized quartz with minimal shell fragments. Due to the intense hydrodynamic forces along the SJC coastline, sand is continuously re-suspended in the water column with each breaking wave. This persistent sediment movement contributes to the characteristically high turbidity levels observed in the nearshore waters of the project area.

The project area lies within the GRMAP, part of the GTMNERR, and as such, most of the project area is designated as an OFW, which are waters designated worthy of special protection because of their natural attributes. The nearshore and offshore waters are designated by the State of Florida as Class III, which are classified as being suitable fish consumption, recreation, propagation, and maintenance of a healthy, well-balanced population of fish and wildlife.

3.3.3 Air Quality

The Clean Air Act (CAA), as amended (42 U.S.C. 7401 et seq.), requires Federal actions to conform to an approved state implementation plan (SIP) designed to achieve or maintain an attainment designation for air pollutants as defined by the National Ambient Air Quality Standard (NAAQS). The NAAQS were designed to protect public health and welfare. The criteria pollutants include carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter (PM_{2.5} and PM₁₀), volatile organic compounds (VOC), and lead (Pb). The General Conformity Rule (40 CFR Parts 51 and 93) implements these requirements for actions occurring in air quality nonattainment areas.

The project area is in the Jacksonville (Florida)-Brunswick (Georgia) Interstate Air Quality Control Region, as established by 40 CFR § 81.91. U.S. Environmental Protection Agency (EPA) (40 CFR § 81.310) designates air quality compliance on a county level. A review of USEPA data indicates that the project area (SJC) is in attainment status for all the criteria pollutants. USEPA has not established air quality standards for Federal waters.

The air quality in SPV Beach is generally fair to good, with pollutant levels remaining within acceptable ranges for most individuals. The primary air pollutants monitored in the area include PM_{2.5} (fine particulate matter), PM₁₀ (larger particulate matter), nitrogen dioxide (NO₂), and ozone (O₃). PM_{2.5} and PM₁₀ levels are typically fair, meaning they may cause minor respiratory irritation for sensitive groups but are not a major concern for the general population. Ozone levels are rated excellent, posing minimal risk to air quality. Nitrogen dioxide concentrations are also within a fair range, with prolonged exposure potentially affecting individuals with respiratory conditions (Accuweather 2025). The sea breezes along the coastline help disperse airborne pollutants, maintaining relatively clean atmospheric conditions despite localized emissions from motorized vehicles and coastal activity.

3.3.4 Noise

Overall, ambient noise levels in the project area range from low to moderate. The primary sources of noise include breaking surf, activity from nearby residential and resort areas, and human-generated sounds from recreational activities such as boating and fishing. Additional contributors include vehicular noise from A1A motorists, commercial vessels transiting along the coast, and various natural sounds from the physical and biological environment.

3.3.5 Cultural Resources

SPV and the surrounding SJC area have a rich cultural heritage. The region has been shaped by centuries of Indigenous, Spanish, British, and American influences, with numerous sites reflecting its diverse past. SJC maintains a Cultural Resource Inventory, documenting historical landmarks and sites of significance. The area has deep Indigenous roots, with evidence of Timucua settlements and early Spanish colonial activity. The county features landmarks and properties listed on the National Register of Historic Places, preserving structures and locations that highlight the area's development over the past centuries. The SJC Submerged Cultural Resources Inventory and Management Plan has identified maritime archaeological sites, including shipwrecks and remnants of historical coastal infrastructure. Additionally, Florida's Division of Historical Resources oversees archaeological research and conservation efforts throughout the state.

3.3.5.1 Previous Cultural Resource Investigations

This section lists and briefly summarizes previous cultural resource investigations relevant to the project area and were made available to APTIM's Qualified Marine Archaeologist (QMA) by the Florida Master Site File or located within APTIM's in-house library (Table 11). The State Historic Preservation Office (SHPO) number is provided, if applicable. This list was not intended to be exhaustive, but rather includes projects based on their proximity to the current project area.

Table 11. List of Relevant Cultural Resource Reports.

Date	SHPO No.	Author(s)	Report Title
2020	N/A	Gordon Watts	Phase I Submerged Cultural Resource Remote-Sensing Survey of A Potential Offshore Borrow Area, Eight Temporary Pipeline Corridors and Assessment of Previously Identified Terrestrial Sites in the Project Nourishment Area of Potential Effect
2021	28193	Kyle Lent, Austin Burkhard	Submerged Cultural Resource Assessment Survey for the St. Johns County Sand Borrow Area Project, SJC, Florida
2022	N/A	Kyle Lent, Austin Burkhard	Submerged Cultural Resources Assessment Survey for the St. Johns County Offshore and Nearshore Project, SJC, Florida

3.3.5.1.1 2020 Phase I Submerged Cultural Resource Remote-Sensing Survey of a Potential Offshore Borrow Area, Eight Temporary Pipeline Corridors, and Assessment of Previously Identified Terrestrial Sites in the Project Nourishment Area of Potential Effect, Ponte Vedra Beach, SJC, Florida

This archaeological survey analysis produced by Tidewater Atlantic Research LLC (TAR) reviews data within an offshore survey area, as well as 8 potential sediment transport pipeline corridors along the beach. The entirety of Borrow Area N-1 Modified is encompassed completely by TAR's offshore survey area, while the 8 corridors are to the north and line the beach from monuments R-1 to R-46.2 (Figure 6). The survey consisted of full-suite geophysical survey instruments and TAR utilized the remote sensing data as well as historic core results to evaluate the survey areas for potential submerged cultural resources. TAR recommended clearance for project activities for all areas except for Corridor 2 due to a cluster of magnetic anomalies in this area. These anomalies could be associated with the Ponte Vedra Beach Wreck (Florida Master Site File 8SJ04871).

Important to note is that TAR calls attention to the geologic feature described in the paleolandforms section that follows; however, TAR notes that this feature was cored in 2009 and "was comprised of marine sediments rather than terrestrial material" (TAR 2020:11).

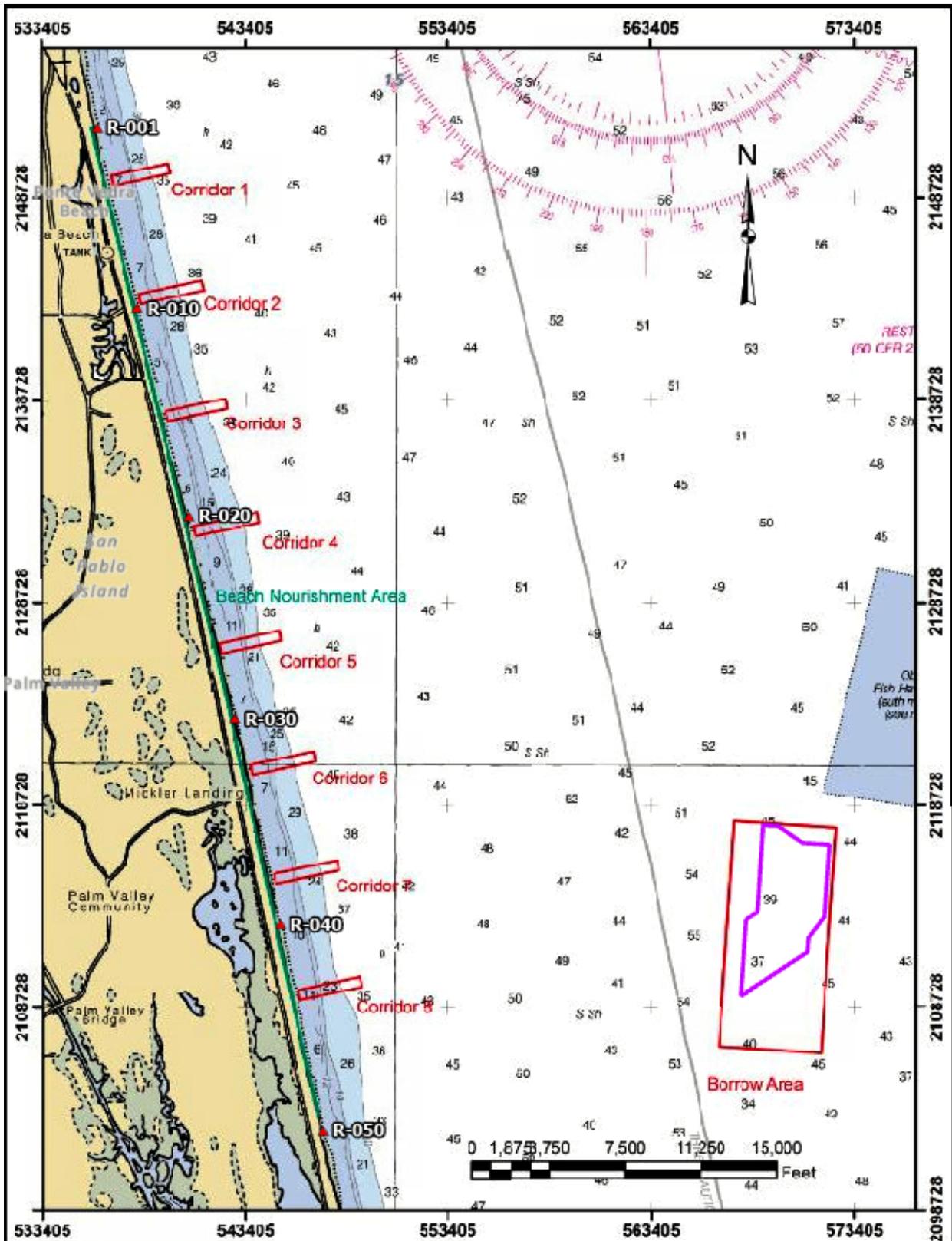


Figure 6. Map from TAR 2020 Identifying the Borrow Area and 8 Corridor Survey Areas.
 N-1 Modified Shown in Purple (TAR 2020:3)

3.3.5.1.2 2021 Submerged Cultural Resource Assessment Survey for the St. Johns County Sand Borrow Area Project, SJC, Florida

This survey and report conducted by SEARCH on behalf of the USACE utilized full-suite geophysical survey instrumentation on a potential borrow area south of the N-1 borrow area's vicinity (approximately 10 miles southeast of the St. Augustine Inlet). SEARCH recommended clearance of the project area from an archaeological perspective, which the Florida SHPO concurred with (DHR Project File No.: 2022-0226: February 15, 2022). SEARCH did not identify any sub-bottom features of archaeological interest in their review of seismic data, which in turn contributes to the general understanding of the geologic framework of the area when considering pre-contact landscapes.

3.3.5.1.3 2022 Submerged Cultural Resources Assessment for the St. Johns County Offshore and Nearshore Project, SJC, Florida

This survey and report conducted by SEARCH on behalf of the USACE examines a survey just east of the present N-1 Modified borrow area. While it is referred to as the N-1 borrow area in SEARCH's report, it does not intersect with the N-1 Modified borrow area boundaries at any point. The SEARCH report also covers the N-2 borrow area and 3 nearshore placement swaths along the beach. The survey consisted of full-suite geophysical survey instruments and identified 51 magnetic anomalies, 55 acoustic sidescan sonar contacts, and no unique acoustic reflectors in the sub-bottom data. SEARCH recommended avoidance or further investigation of 2 targets, which the Florida SHPO concurred with in their letter to USACE archaeologist Brian Seymour (DHR Project File No.: 2022-0226-C: November 16, 2022) upon finishing their review of SEARCH's report and data products. Target 1 corresponds with previously recorded archaeological site 8SJ03525 known as Compton's Wreck and Target 2 remains uninvestigated. Both targets will be avoided by the recommended 50-m buffer and will not be impacted by project activities (Figure 7).

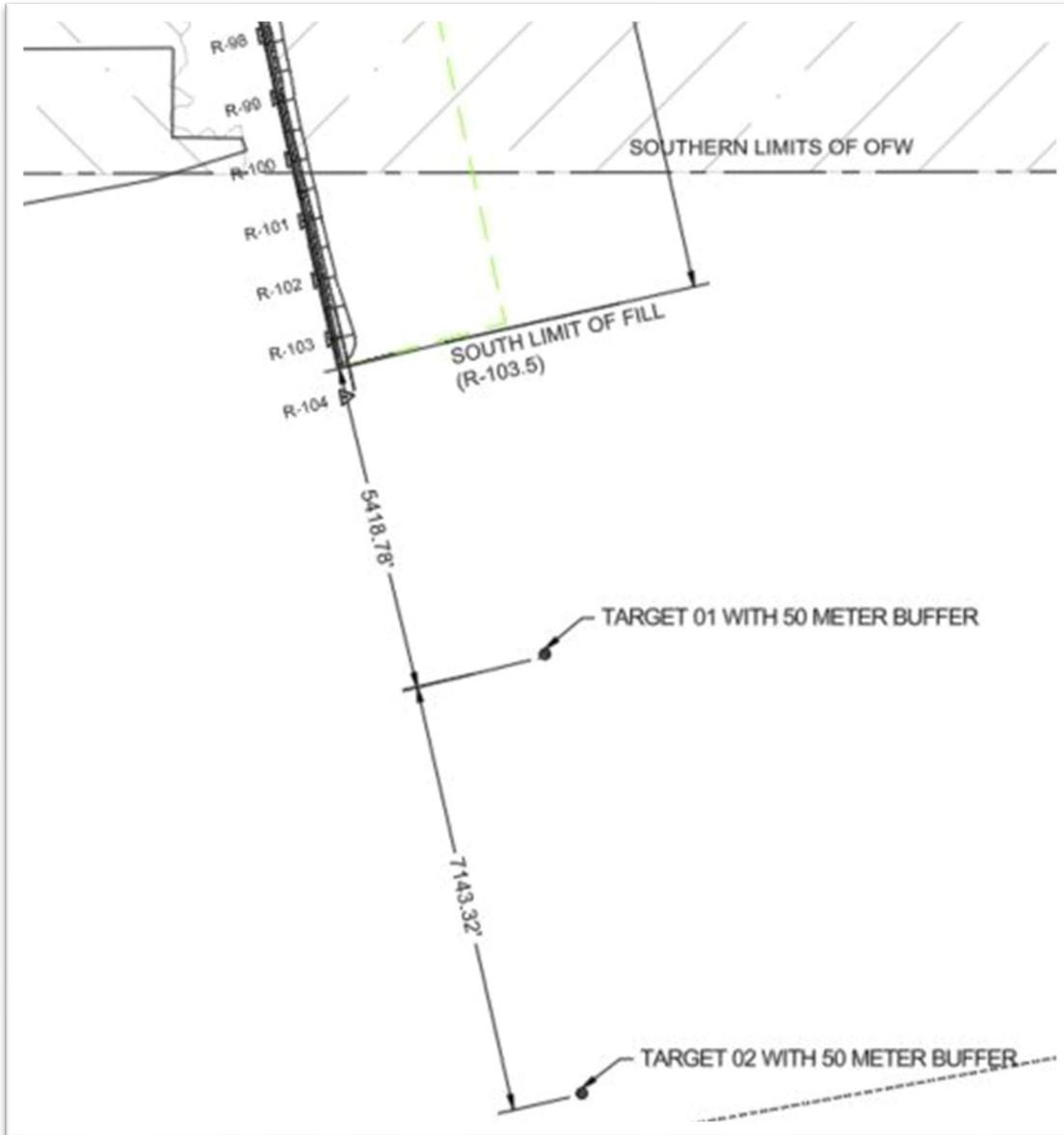


Figure 7. Map Showing SEARCH Targets 1 and 2 Well Outside of the Southern Limit of Fill.

3.3.5.2 Paleolandforms

The November 2020 Geotechnical Investigation for Borrow Area Development, prepared by Olsen Associates, Inc for SJC, Florida identified two deep buried relict channel formations located along the WNW edge of N-1 and was listed as a possible paleolandform. The presence of a paleolandform does not alone confirm the existence of human habitation and presence within the landform. There are multiple aspects of paleolandform interpretation from an archaeological perspective that enable the proper identification of the geologic formation that has thus far been misinterpreted as a “paleolandform”. Therefore, the formation will henceforth be referred to as the “feature of note”. Vibracore, VB-SJSP09-21 was collected at the peak of the feature of note between the channels and revealed layers of silty sand and clayey sand. These sediments were determined to be marine rather than terrestrial material and did not contain any culturally significant terrestrial evidence (TAR 2020). Additionally, the perceived level of erosion caused by marine transgression (as discovered in the sediment vibracores) suggests the feature of

note would not meet the criteria for further investigation and/or avoidance, even if the vibracore revealed terrestrial material. Marine transgression would make it unlikely for the feature to have preserved any potentially significant cultural resources related to previous human occupation. Furthermore, the TAR report (2020) states that other sub-bottom features in the borrow area also indicate resorting that would lead to an adverse impact on any archaeological evidence. This evidence collectively refutes the presence of a paleolandform (Figure 8).

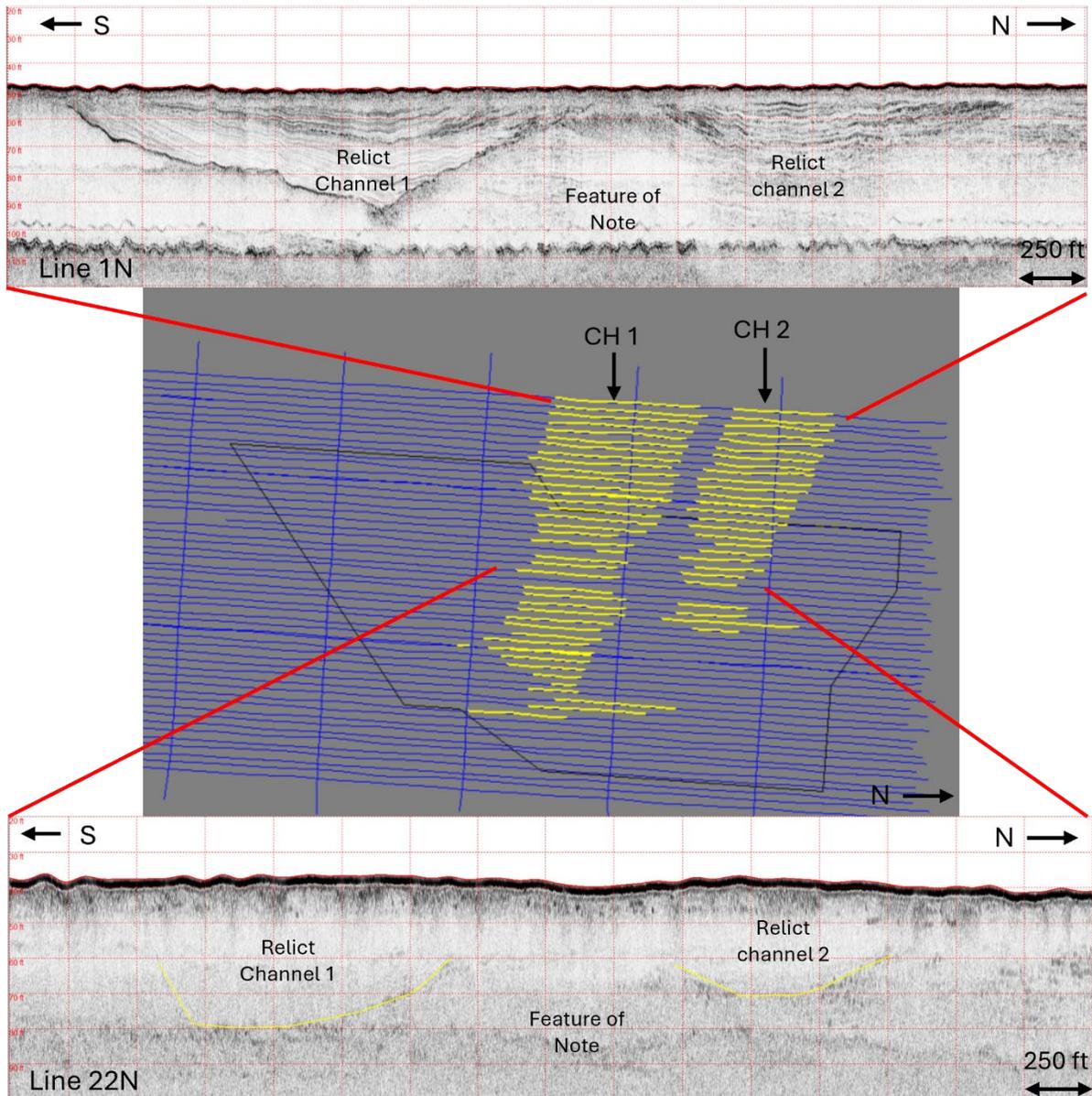


Figure 8. Seismic Profiles of Two Relict Channels and Feature of Note on Lines 1N and 22N with Area Overview Indicating as Run Track Lines and Channel Features Digitized.

Borrow area N-1 is indicated with a black boundary while the red lines indicate the location and extents of the features digitized in the seismic profiles.

Additionally, the current borrow area design and proposed dredge cuts ensure that this Feature of Note will not be impacted. APTIM reviewed and re-interpreted the 2020 Sonographics seismic data, placing features representing the top of these relict channels. These features were then converted into a thickness isopach and were combined with the pre-construction bathymetry to provide an isopach representing the elevation

at the top of the relict channels and Feature of Note (Figure 9). The elevation of the top of the Feature of Note ranges in depth from -60.5 to -68.5 ft NAVD88. The proposed max dredge cut depth for the proposed borrow area is -51 ft NAVD88. This provides a 9.5 to 17.5 ft buffer between the top of the Feature of Note and the bottom of the proposed dredged borrow area.

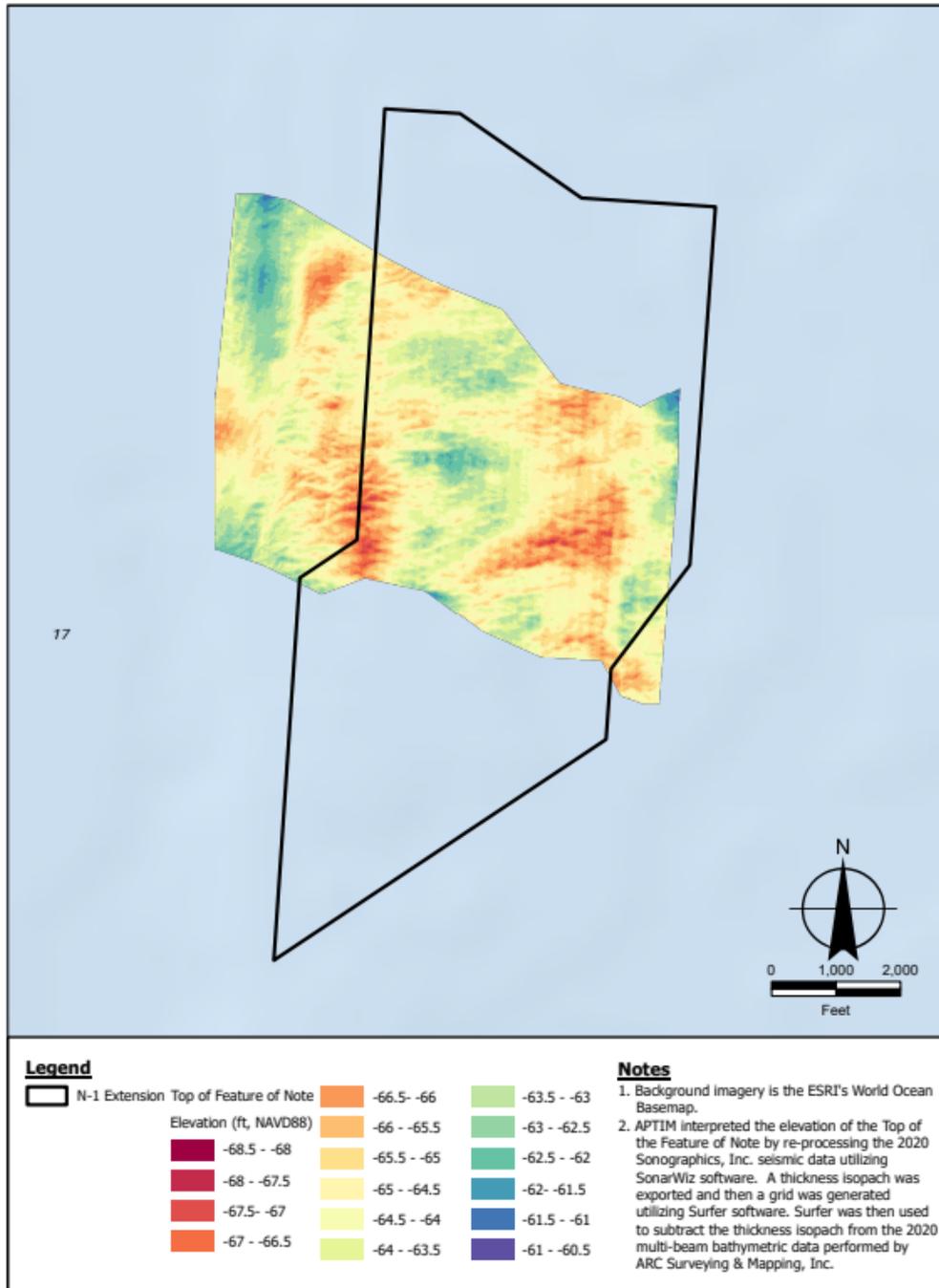


Figure 9. Elevation Map of the Top of Feature of Note.

3.3.6 Tribal Nations

There are no known Native American-owned lands, reservation lands or federally recognized tribal territories directly in SPV Beach. However, Florida has a rich Indigenous history, with tribes such as the Timucua historically inhabiting the region. While most of their lands were lost due to European colonization, remnants of their cultural presence can still be found in archaeological sites and historical records.

Consultation between USACE and Native American tribes having ancestral ties to this region, including the Seminole Tribe of Florida, the Seminole Nation of Oklahoma, the Thlopthlocco Tribal Town, the Miccosukee Tribe of Indians of Florida, and Muscogee (Creek) Nation was initiated on July 2, 2021, updated on October 13, 2022, to provide the results of the borrow area and pipeline corridor surveys. No response was received from any of the federally recognized tribes mentioned above within 30 days, thus implying concurrence pursuant to 36 C.F.R. Part 800 (USACE 2024). SJC is currently seeking a USACE permit modification, and additional tribal consultation is in progress.

3.3.7 Aesthetic Resources

The aesthetics of the project area reflect those of low-density residential beach communities, where natural beauty coexists with developed shoreline environments. However, the beach ecosystem has experienced extreme erosion since the early 1970s. This prolonged erosion has resulted in a narrow beach berm and a minimal intertidal zone, altering the coastline's visual and ecological characteristics.

While select sections of the coastline still retain natural dune formations, many areas have experienced substantial degradation due to overwash and erosion, diminishing the presence of native dune vegetation. Despite these challenges, small pockets of native flora, including dune grasses, morning glory, and other resilient flowering groundcovers, persist in certain areas, contributing to the visual appeal and ecological integrity of the landscape.

3.3.8 Recreational Resources

SPV Beach offers a variety of recreational resources that make it a popular destination for both locals and visitors. The SPV Beach Recreation Area provides amenities such as picnic pavilions, restroom facilities, showers, and beach walkovers, making it an accessible spot for outdoor activities. A beach access point is also located near the GTMNERR visitor center (<https://www.sjcfll.us/beach-services/beach-access/>). The beach itself is ideal for swimming, sunbathing, surfing, beachcombing, and fishing, while the nearby GTMNERR offers opportunities for hiking, biking, kayaking, and birdwatching.

There is no documentation to suggest that the Borrow Area N-1 Modified is utilized by recreational or commercial fishermen. However, a wide variety of finfish and shellfish species that dwell in softbottom and coastal pelagic (i.e., at or near the sea surface in the water column) species are caught and landed off the coast of northeast Florida. Important commercial fisheries species from these groups include northern brown shrimp, northern white shrimp (softbottom), snappers, and king mackerel (coastal pelagic) (MMS 2004).

3.3.9 Navigation

Navigation transit routes within the project area are primarily utilized by commercial and recreational watercraft, supporting industries such as fishing and various leisure activities including sailing, jet skiing, and pleasure boating. Recreational transit for fishing and diving does occur, with vessels navigating nearshore waters to access popular fishing spots and offshore dive sites.

While large shipping vessels transiting to the Port of Jacksonville typically remain further offshore, their routes may occasionally bring them near the offshore borrow areas. These deeper navigation corridors provide passage for commercial vessels, though direct interaction with smaller recreational watercraft is limited.

3.3.10 Munitions and Explosives of Concern

To determine the project's Munitions and Explosives of Concern (MEC) risk, a probability assessment was conducted to determine if the use of the offshore borrow area is no risk, low risk, or moderate to high risk using the USACE EM 385-1-97 Appendix Z. The probability assessment considers the potential type of munitions as well as the munitions source. Based on the previously discovered MEC (primarily 20 mm projectiles) in Borrow Area N-1 (OHI 2024), the result of the risk probability assessment is moderate to high.

Formerly Used Defense Site (FUDS) are sites that potentially contain MEC. A review of the information available on the NOAA MEC online database ([Munitions and Explosives of Concern | GIS for Ocean](#)) and the USACE FUDS Geographic Information System (GIS) ([FUDS GIS](#)) did not identify known FUDS or MEC locations in or adjacent to Borrow Area N-1 Modified or the SPV beach and pipeline placement areas. In the larger OCS region, the nearest identified MEC areas occur approximately 16 miles to the north at the entrance to the St. Johns River (described as "Mines"), a large area about 80-90 miles to the south centered around Cape Canaveral (described as "Unexploded Ordinance"), and a site approximately 100 miles ENE (described as "Explosives Dumping Area Disused") (Figure 10).

A 2024 Closeout Report (OHI 2024) provided the results of on-site MEC monitoring for the Ponte Vedra Beach Restoration Project, which previously utilized borrow area N-1. A total of 201 MEC items were found during the beach fill operations over the course of the 82-day project. All MEC was transferred either to St. John's County's Bomb Squad or the Navy's Explosive Ordinance Disposal.

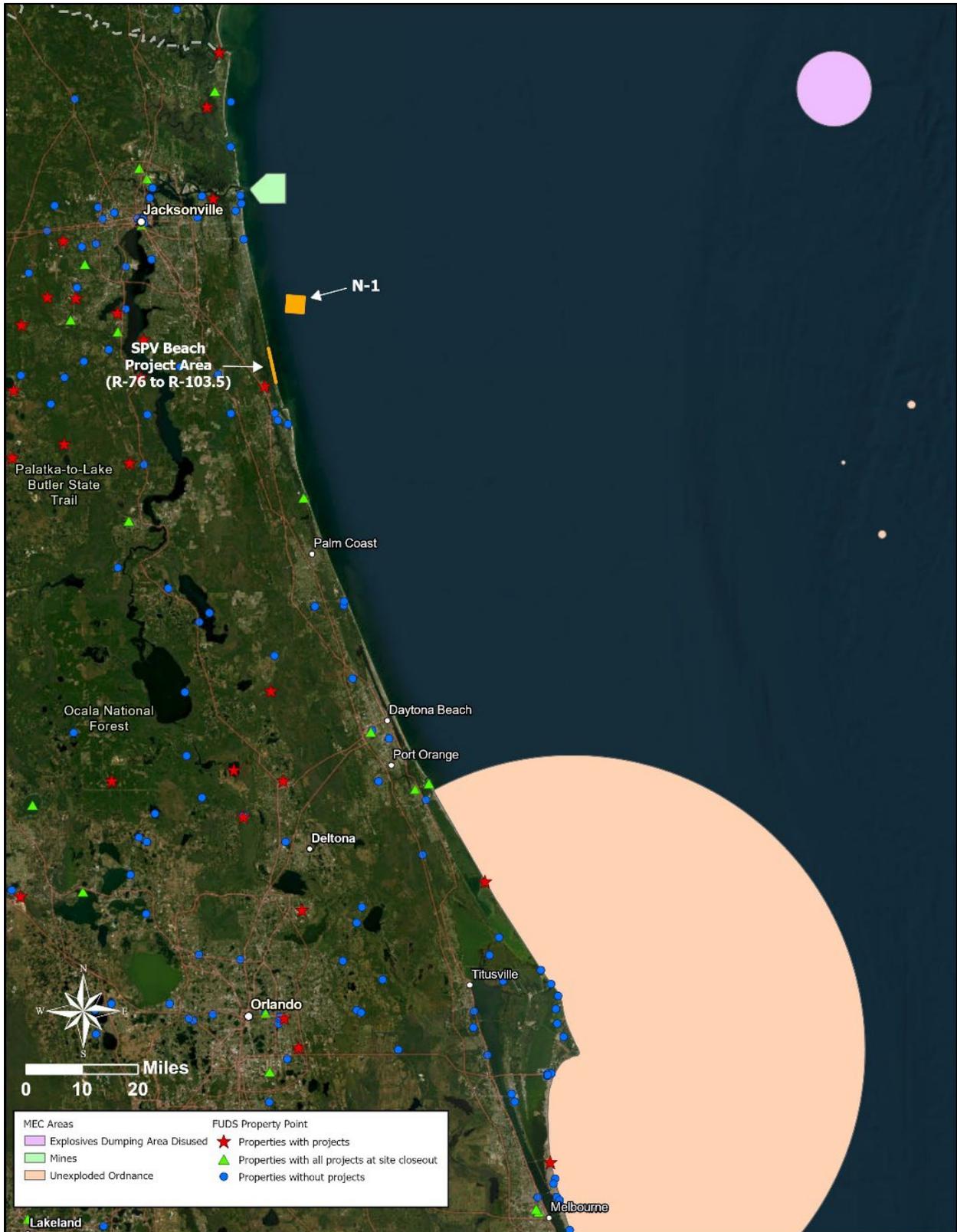


Figure 10. MEC Areas and FUDS off the Northeast Coast of Florida (NOAA 2025).

3.4 Economic Environment and Considerations

3.4.1 Socioeconomic Resources

SPV Beach plays a significant role in the local economy through its tourism, coastal property value, and fishing industries. Visitors are drawn to the area for recreational activities such as swimming, boating, and fishing, which support local businesses, including hotels, restaurants, and tour operators. Additionally, waterfront properties contribute to the area's economic landscape, with high-value real estate generating demand for vacation rentals and property tax revenue. The region also benefits from commercial and recreational fishing, with charter services and seafood markets relying on the productive waters offshore. There is no evidence that commercial dive operations occur within the borrow area, especially considering the absence of hardbottom or reef structure. Dive trips offered by local dive shops include trips to south Florida reefs, the Bahamas, Caribbean, or sites 30-60 miles offshore.

4 Environmental Effects

This section is the scientific and analytic basis for the comparisons of the alternatives carried forward as required by NEPA. This section is organized by resource topic as described in Section 3 and presents an analysis of potential effects of each alternative described within each resource section. This evaluation includes determining reasonably foreseeable effects of the alternatives described in Section 2 on the existing conditions described in Section 3, relative to the No Action Alternative.

This EA supplements existing analyses and updates potential environmental effects and as such this EA will incorporate by reference the analyses conducted for the placement area (R-76 to R-103.5) included in the 2020 Use of OCS Sand from Borrow Area N-3 for the SPV Beach Restoration Project EA (BOEM 2020) and the analyses conducted for Borrow Area N-1 included in the 2024 Final IFR and EA (USACE 2024).

- (a) For this analysis, effects are defined as changes to the human environment from the proposed action or alternatives that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action or alternatives.

The potential effects of the alternatives are described in this EA using the following terms:

- **Beneficial:** A positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.
- **Adverse:** A change that moves the resource away from a desired condition or detracts from its appearance or condition.

Intensity, or severity of the potential impact, was rated as follows:

- **Negligible Effect:** Change to the resource or discipline is barely perceptible, not measurable, and confined to a small area.
- **Minor Effect:** Change to the resource or discipline is perceptible, measurable, and localized.
- **Moderate Effect:** Change is clearly detectable and could have appreciable effect on the resource or discipline; or the effect is perceptible and measurable throughout the study area.
- **Major Effect:** Change to the resource or discipline is substantial, highly noticeable, and would occur on a regional scale.

Duration of the potential impact was rated as follows:

- **No Duration:** No effect.
- **Temporary:** Effects generally occur during construction by the end of which the resources recover their pre-construction conditions.
- **Short-term:** Effects generally occur during construction and for a limited time thereafter, generally less than two years, by the end of which the resources recover to their preconstruction conditions.
- **Long-term:** Effects last beyond the construction period, and the resources may not regain their preconstruction conditions for a longer period.

4.1 General Setting

4.1.1 Alternative 1: No Action Alternative

If the No Action Alternative is selected, SJC will not construct any components of the project. Shoreline erosion and degradation of the beach template will continue to occur on SPV with an adverse minor to moderate long-term effect. There would be no impacts to the offshore borrow area if dredging did not occur.

4.1.2 Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)

The proposed project is expected to have a net moderate beneficial impact to the coastal system through nourishment of the highly eroded beach and dune system. The proposed project contains a critically eroded beach segment and will enhance the shoreline from both a physical and environmental standpoint. The proposed activity will mitigate the effects of long-term chronic beach erosion and severe storm damage that have reduced the level of storm protection to upland infrastructure, available recreational beach, and beach habitat. This beneficial impact to the coastal system is a tradeoff for short-term impacts associated with dredging in the offshore borrow area and placement along the shoreline.

4.2 Natural Environment

4.2.1 Fish and Wildlife Resources

4.2.1.1 Alternative 1: No Action Alternative

If the No Action Alternative was selected, potential adverse reasonably foreseeable effects may include fish and wildlife habitat (ex., shorebird foraging habitat) loss due to the continued erosion of the shoreline in the project placement area. The No Action Alternative would result in no impacts to fish and wildlife resources in the offshore borrow area.

4.2.1.2 Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)

Placement of sand on the beach would widen the beach, and proposed construction of a dune would contribute to development of a stable dune habitat for many plant and animal species. During construction, impacts to extant dune vegetation will be minor, as operations will avoid placing sand directly onto the vegetation and construction vehicles will utilize already-existing access corridors. For the initial effort, approximately 370,826-cubic-yards of fill would be placed into 77-acres of uplands. If needed, a second event may be constructed using a reduced amount of fill in the same area of disturbance. Impacts from the second effort would be similar but lessened by the reduced fill volume. Construction would temporarily adversely affect the biological community that forages on and inhabits the beach, including macrofauna, infauna and shorebirds. Noise disturbance created by heavy machinery may drive birds from their foraging or nesting activities (Speybroeck et al. 2006). The placement of sand is expected to increase turbidity at the project site and adjacent nearshore waters during construction. Fish will most likely avoid any conditions of turbidity until water quality returns to ambient levels, which is anticipated to occur shortly after completion of construction. Implementation of proper design and best management practices may reduce the extent of the impacts from a proposed activity. There is sufficient area north and south of the construction zone that can be used by displaced birds and wildlife during construction. Beach nourishment would likely have an overall long-term beneficial effect on wildlife resources. Increasing the size of the beach would provide additional area for nesting and foraging wildlife and migratory birds.

During offshore dredging operations, fish and wildlife will experience temporary displacement due to increased turbidity, sediment suspension, and habitat disturbance (Wenger et al. 2017). However, once construction ceases and the environment begins to re-equilibrate, these species are expected to return and reoccupy the affected areas. Negative impacts to these species are expected to be minimal due to the limited extent of the dredging operations relative to the abundance of similar adjacent habitat and the mobility of these resources. There is entrainment risk associated with hopper dredge operations to fish and wildlife in the area of the dredge drag head. The potential impacts on fish and wildlife are anticipated to be minor, largely due to the limited spatial extent of the dredging activities and the availability of adjacent,

undisturbed habitats that can serve as temporary refuges. Many aquatic species exhibit high mobility, allowing them to relocate during disturbances and return once conditions stabilize. Additionally, opportunistic species will be among the first to recolonize the dredged areas through larval settlement and adult migration, followed by a gradual return to pre-construction species composition (Bolam and Rees 2003). Studies indicate that dredging had only temporary effects on the infaunal community, and differences in infaunal communities were attributed to seasonal variability or to hurricanes rather than to dredging (Murie, et al. 2024; Posey and Alphin 2000).

4.2.2 Benthic Resources

4.2.2.1 Alternative 1: No Action Alternative

There would be no impacts to benthic resources if the proposed dredging and beach placement activities did not occur.

4.2.2.2 Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)

Beach and nearshore zones are subject to dynamic and extreme conditions driven by sediment transport and fluctuating turbidity (Nelson 1985). It can therefore be assumed that organisms in this environment are highly tolerant of fluctuating conditions such as repeated burial and exposure. Even with this high tolerance, organism resilience is still limited. As most benthic organisms live within the top 10 cm of sediment, deposition of fill material can bury, smother or crush organisms (Miller et al., 2002). Adriaanse and Coosen (1991) state that placement of 0.5 m of material would result in mortality for nearly all benthic species present, as only a few are capable of moving upward through a layer of this thickness.

However, fauna inhabiting the shallow nearshore marine habitat in the project area are adapted to a dynamic environment and therefore the recovery of these communities can take place relatively quickly (Nelson 1993). A review of infaunal studies suggests that invertebrate recovery following placement of dredged material in relatively stable, unstressed marine environments generally takes between one and four years, while recovery in more naturally stressed areas is faster, often achieved within nine months (Bolam and Rees 2003). A study conducted in Brevard County, Florida found that distribution, abundance, and diversity of nearshore benthic fauna did not experience significant negative effects following beach nourishment (Gorzelay and Nelson 1987). Most studies that did find impacts to nearshore infaunal communities generally found only limited or short-term alterations in the abundance, diversity, and species composition (NRC 1995). The quality of the dredged material in Borrow Area N-1 Modified is similar to that of the beaches in the project area, and therefore, similar to the subtidal marine environment. The similarity of the dredged sediment to the native sediment will aid in the recovery of the benthic communities impacted by the placement of the fill material.

Removal of sediment from borrow areas has a reasonably foreseeable biological impact by removing benthic infaunal and epifaunal assemblages found within and on the surficial sediments in the borrow area (Culter and Mahadevan 1982; Greene 2002; Diaz et. al. 2004). Impacts include temporary and localized reductions in epifaunal and infaunal density, abundance, biomass, diversity, and overall productivity. However, due to the high reproductive capacity and adaptability of infaunal organisms, recovery is expected to occur relatively quickly. A literature review of studies conducted on offshore benthic assemblages along the Gulf of Mexico and the U.S. East continental shelf showed that overall, benthic assemblages recovered from anthropogenic disturbance within three months to 2.5 years (Brooks et. al. 2006). Hammer et. al. (2005) indicated that potential impacts from dredging within proposed borrow areas are expected to be localized and short-term because surrounding areas can serve as a primary source for re-colonization of the benthos. Provided the benthic substrate remains similar post-dredging, the benthic community will undergo

progressive succession, ultimately restoring pre-construction species composition. If draghead screening is utilized to address potential MEC concerns, this may affect the benthic recruitment and recovery time as the shell fraction of the substrate may increase due to the use of the screen.

Due to the relatively small area that will be impacted (445 acres within N-1 Modified and 140.6 acres within waters of the U.S.) as viewed on a spatial scale, impacts to the benthic community during the initial effort and a second event (if needed) are anticipated to be minor and short-term due to the relatively short period of recovery by infaunal communities following disturbance. Adjacent areas not impacted would most likely be the primary source of recruitment to the impacted area.

4.2.3 Threatened and Endangered Species

4.2.3.1 Alternative 1: No Action Alternative

The continued shoreline erosion may lead to habitat reduction for piping plover and red knot; however, based on their infrequent use of the area, the future without project conditions would likely not have an impact on these two species. Continued erosion may adversely affect sea turtles through diminishing nesting habitat.

4.2.3.2 Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)

Table 12 summarizes the effects conclusions for threatened and endangered species in the project areas based on previous determinations conducted by the USACE (BOEM 2022; USACE 2024). USACE requested concurrence from the USFWS, and NMFS that the proposed action is covered under the NMFS SARBO (2020), USFWS SPBO (2015), and USFWS P³BO (2013), assuming adherence to all applicable PDCs, Terms and Conditions, and Reasonable and Prudent Measures. The 2022 SPV Beach Restoration Project was authorized and constructed in compliance with the Biological Opinions (BOs) listed above.

Table 12a. Effects Determinations for T& E Species Listed Under the ESA (Birds).

Scientific Name	Common Name	Federal Status/ Coordinating Agency	BO	Effect Determination
<i>Charadrius melodus</i>	Piping Plover	Threatened- USFWS	P ³ BO	MANLAA
<i>Calidris canutus rufa</i>	Rufa Red Knot	Threatened- USFWS	P ³ BO	MANLAA

MANLAA (may affect, not likely to adversely affect).

Table 12b. Effects Determinations for T& E Species Listed Under the ESA (Reptiles).

Scientific Name	Common Name	Federal Status/ Coordinating Agency	BO	Effect Determination
<i>Chelonia mydas</i>	Green Sea Turtle	Threatened- NMFS Endangered- USFWS	SARBO 2020 SPBO 2015	MALAA MALAA
<i>Caretta caretta</i>	Loggerhead Sea Turtle	Threatened- NMFS Threatened- USFWS	SARBO 2020 SPBO 2015	MALAA MALAA
<i>Lepidochelys kempii</i>	Kemp's Ridley Sea Turtle	Endangered- NMFS Endangered- USFWS	SARBO 2020 SPBO 2015	MALAA MANLAA
<i>Eretmochelys imbricata</i>	Hawksbill Sea Turtle	Endangered- NMFS Endangered- USFWS	SARBO 2020 SPBO 2015	MALAA NE
<i>Dermochelys coriacea</i>	Leatherback Sea Turtle	Endangered- NMFS Endangered- USFWS	SARBO 2020 SPBO 2015	MALAA MALAA

NE (no effect), MALAA (may affect, likely to adversely affect), MANLAA (may affect, not likely to adversely affect).

Table 12c. Effects Determinations for T& E Species Listed Under the ESA (Fish).

Scientific Name	Common Name	Federal Status/ Coordinating Agency	BO	Effect Determination
<i>Acipenser oxyrinchus</i>	Atlantic Sturgeon	Endangered- NMFS	SARBO 2020	MANLAA (may affect if relocation trawling is implemented)
<i>Manta birostris</i>	Giant Manta Ray	Threatened- NMFS	SARBO 2020	MANLAA (may affect if relocation trawling is implemented)
<i>Carcharhinus longimanus</i>	Oceanic Whitetip Shark	Threatened- NMFS	SARBO 2020	MANLAA
<i>Sphyrna lewini</i>	Scalloped Hammerhead Shark	Endangered- NMFS	SARBO 2020	MANLAA
<i>Pristis pectinata</i>	Smalltooth Sawfish	Endangered- NMFS	SARBO 2020	MANLAA

MANLAA (may affect, not likely to adversely affect).

Table 12d. Effects Determinations for T& E Species Listed Under the ESA (Mammals).

Scientific Name	Common Name	Federal Status/ Coordinating Agency	BO	Effect Determination
<i>Trichechus manatus latirostris</i>	West Indian (Florida) Manatee	Threatened- USFWS	SPBO 2015	MANLAA
<i>Eubalaena glacialis</i>	North Atlantic Right Whale	Endangered- NMFS	SARBO 2020	MANLAA
<i>Balaenoptera musculus</i>	Blue Whale	Endangered- NMFS	SARBO 2020	MANLAA
<i>Balaenoptera physalus</i>	Fin Whale	Endangered- NMFS	SARBO 2020	MANLAA
<i>Balaenoptera borealis</i>	Sei Whale	Endangered- NMFS	SARBO 2020	MANLAA
<i>Physeter macrocephalus</i>	Sperm Whale	Endangered- NMFS	SARBO 2020	MANLAA
<i>Peromyscus polionotus phasma</i>	Anastasia Island Beach Mouse	Endangered- USFWS	SPBO 2015	NE

NE (no effect), MANLAA (may affect, not likely to adversely affect).

Table 12e. Effects Determinations for T& E Species Listed Under the ESA (Critical Habitat).

Scientific Name	Common Name	Federal Status/ Coordinating Agency	BO	Effect Determination
<i>Caretta caretta</i>	Loggerhead Sea Turtle	LOGG-N-14- NMFS	SARBO 2020	NLAM
<i>Eubalaena glacialis</i>	North Atlantic Right Whale	Southeastern U.S. Calving Area Unit 2 NMFS	SARBO 2020	NLAM

NLAM (may affect, not likely to adversely modify).

The shoreline in this area is not optimal habitat for piping plover or red knot; therefore, effects (both adverse and beneficial) are minimal. Beach placement of material would temporarily impact wintering piping plover and red knot due to displacement from their foraging and roosting habitat. In addition, the benthic invertebrates that are prey species will be affected by the placement of sand. Recovery of the benthic infauna should occur with normal seasonal recruitment patterns. During pump-out of the dredged material, there may be some opportunistic feeding at the placement area by shorebirds, including piping plover and red knot. The P³BO provides additional details on the potential effects of beach nourishment on piping plovers in the "Effects of the Action" section (page 21–27). These effects would be substantially similar in nature to red knots as well.

In addition, the presence of a dredge in the nearshore waters and pipeline on the beach could temporarily impact the physical or biological features (PBF) and primary constituent elements (PCE) of loggerhead critical habitat unit LOGG-N-14 during construction. Hatchling egress from the water's edge to open water, and nesting female transit back and forth between the open water and the nesting beach during nesting season, could be hindered by the presence of the dredge and pipeline. However, the construction phase (for the initial effort and the second renourishment, if needed) will last approximately three months and the overnight construction activity would occur within a limited area at a time (approximately 500 linear feet per night). Finally, the placement of sand may increase sea turtle nesting habitat if the placed sand is highly compatible (i.e., grain size, shape, color, etc.) with naturally occurring beach sediments in the area, and compaction and escarpment remediation measures are incorporated into the project (i.e., the project

complies with the terms and conditions of the SPBO). The SPBO details the potential effects of beach nourishment on sea turtles in the “Effects of the Action” section (page 56–64).

The proposed borrow area dredging may affect sea turtles, but is not likely to adversely affect, manatees, whales, Atlantic sturgeon, oceanic whitetip shark, smalltooth sawfish, scalloped hammerhead shark, and the giant manta ray. If relocation trawling is implemented as a part of the action, then the effects conclusion for Atlantic sturgeon and giant manta ray would change to may affect. Hopper dredges, with their trailing dragheads, may impact swimming sea turtles through entrainment of adults and sub-adults. Entrainment risk associated with hopper dredge operations may impact other ESA-listed species in the draghead area as well, however, this risk is reduced through implementation of the NMFS 2020 SARBO PDCs. Relocation trawling for the removal of sea turtles prior to dredge operations in the offshore borrow areas also has the potential to incidentally impact other ESA-listed species, specifically the Atlantic sturgeon and/or giant manta ray. There are also a risk of vessel strikes to ESA-listed species in the project transit corridor areas (whales, including North Atlantic right whale); however, this risk is reduced through implementation of the SARBO PDCs. Additionally, these species are highly mobile and, with reduced vessel speeds, would likely be able to avoid equipment working in this area. Section 6.1 of the SARBO provides additional details on the potential effects of dredging and trawling on these species.

Additionally, if implemented, draghead screening adversely affects the ability to accurately assess sea turtle take (NMFS 2020). Due to the decreased efficiency, the dredge would also need to spend more time offshore leading to the potential for increased take. For projects covered under the SARBO, a secondary review by NMFS is required if MEC screening at the draghead is proposed to ensure that the use of the screening is limited, and that unobserved take is not expected to be above the estimated 50 percent. Other considerations that would be part of the secondary NMFS review include the likelihood of take based on the site conditions, likelihood of take based on expected species presence depending on the location and time of year, and length of time that MEC screening will be needed.

4.2.4 Essential Fish Habitat

4.2.4.1 Alternative 1: No Action Alternative

The No Action Alternative would have no effect on EFH within the project placement area, pipeline placement area, or offshore borrow area.

4.2.4.2 Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)

The Preferred Action Alternative includes activities that have the potential to temporarily impact EFH. Temporary impacts to EFH include displacement of fishes from the offshore borrow area and nearshore areas during fill placement; reduction of water quality due to turbidity; reduction in phytoplankton primary productivity; short-term disruption and reduction in foraging habitat for fishes and macroinvertebrates; disruption of migration patterns of fishes; potential loss of larval fishes in the water column during dredging operations; and mortality of demersal fishes and epifauna within the borrow area (SAFMC 2023). These impacts are considered limited in duration enough to allow EFH to recover without measurable impact.

Placement of dredged material on the beach could have a reasonably foreseeable effects to approximately 138.4 acres of unconsolidated bottom (soft sediments) in the high salinity surf zone. If needed, a second event may be constructed using a reduced amount of fill in the same area of disturbance. Long-term adverse impacts (i.e. suppression of re-colonization of the infaunal community) are not anticipated if nourishment events are spaced more than five years apart. In addition, material placed will be beach-quality sediment similar in composition to the existing beach sediments. Beach placement is anticipated to take approximately 90 days and migrating larvae and/or juvenile fish could be subject to project-related elevated

turbidity and suspended sediment levels during that period. Fish species in nearshore habitats likely have greater tolerance than offshore species to elevated suspended solids (Michel et al. 2013). Beach construction techniques settle most of the sand, reducing the turbidity of the decanted water, and turbidity compliance monitoring will be used to maintain water quality within regulatory standards.

The proposed dredging of Borrow Area N-1 Modified could impact up to approximately 520 acres of OCS unconsolidated bottom (soft sediments), including a long-term dredging area depth change and temporary impacts to benthic resources used by managed species. If needed, a second renourishment effort may utilize a reduced amount of material from Borrow Area N-1 Modified, impacting the same acreage of disturbance. Repeat use of the borrow area could slow down the benthic recovery. Many finfish and shellfish species managed by the SAFMC occur in the general project area (SAFMC 1998). Most adult fish and mobile demersal fish species can avoid areas of active sediment removal but sediment entrainment and increased suspended sediments, smothering of fish eggs as sediments are redeposited, and removal of benthos food resources may impact finfishes. Michel et al. (2013) concluded that “the most likely impacts would result from changes to the food supply from benthic resources, loss of spawning habitat, and loss of eggs and larvae of demersal species.” However, these effects occur in a very small area compared to the extent of similar habitat surrounding the borrow area.

4.2.5 Dune and Upland Vegetation

4.2.5.1 Alternative 1: No Action Alternative

If the No Action Alternative was selected, the dune will continue to erode and eventually be eliminated. Loss of frontal dune vegetation and escarpment formation would be expected during storm events, resulting in the loss of foredune areas along the project area. The storm protection value of existing dunes within the project area would be reduced by major storm events.

If the dune is breached and overwash occurs into the salt marsh, vegetation will be affected by higher salinity, which may alter the species composition. If an overwash or breach of the island were to occur, this disturbance may temporarily adversely affect marsh and estuarine habitats; however, these ecosystems are naturally adaptive and expected to recover within a relatively short timeframe. Overwash is an inherent feature of barrier islands, particularly as sea levels rise, allowing marsh and seagrass habitats to withstand certain levels of disruption. However, prolonged changes in water depth could drive salt marsh vegetation to migrate or degrade.

4.2.5.2 Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)

The project will be beneficial to species that utilize and inhabit the beach and dune system by restoring storm impacted habitats, including installation of vegetation along the dunes. The placement of sand can contribute to the stabilization of dune and beach habitats, potentially increasing the available area for new vegetation to establish. This process supports natural dune formation, which enhances coastal resilience by reducing erosion and providing habitat for native plant species.

Temporary impacts to existing vegetation and habitat may occur due to beach profile construction, sand offloading, and operational access from upland areas. These disturbances could lead to localized vegetation loss, but any damaged vegetation will be replanted following project completion (for both the initial effort and second event, if needed). No effect to dune and upland vegetation is expected from using the offshore sand source.

4.2.6 Coastal Barrier Resources

4.2.6.1 Alternative 1: No Action Alternative

The coastal barrier resources in the project area will continue to slowly erode over time in the future without-project conditions.

4.2.6.2 Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)

Sand placement will restore and stabilize the beaches in those segments of the designated CBRA OPA (Guana River FL-03P Unit) that fall within the SPV project area (two small beach segments near R-83 and R-95). The only federal spending prohibition within OPAs is on federal flood insurance; other federal expenditures are permitted. The proposed project does not include the construction of structures that would require federal flood insurance. Per USFWS policy, consultation with the USFWS is not needed if the proposed action or project is located within an OPA (USFWS 2022); therefore, USFWS was not consulted for concurrence to place sand in the OPA.

Dredging of Borrow Area N-1 Modified will have no effect to the Guana River FL-03P Unit as it is located approximately 4 miles offshore in water depths greater than the 30 ft-contour.

4.3 Physical Environment

4.3.1 Geology

4.3.1.1 Alternative 1: No Action Alternative

The future without-project conditions of the native beach are similar to the existing conditions. No change to the sand composition of the native beach is anticipated to occur without the project. However, sea level rise may accelerate coastal erosion rates and increase impacts resulting from erosion. The future without-project conditions of the offshore borrow area are similar to the existing conditions.

4.3.1.2 Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)

The Preferred Action Alternative would have no long-term adverse impacts on sediment characteristics on the beach. During construction, the dredging contractor will visually monitor the quality of sediment placed on the beach. If any unsuitable material is detected, corrective actions will be taken. All work will comply with the currently approved sediment Quality Assurance/Quality Control (QA/QC) plan.

This alternative includes using the total footprint of offshore Borrow Area N-1 Modified, which is approximately 520 acres in size with water depths ranging from -40 to -55 ft NAVD88. At these depths, the dredge cuts are not expected to backfill at an observable rate over the project lifespan (initial effort and second event, if needed). It is estimated that Borrow Area N-1 Modified contains 2.5 MCY of beach compatible sand (as designed). Additional sand is located below the target dredge depth that would remain within the borrow area. The borrow area is located approximately 5 miles offshore. As such, the dredge cuts are not anticipated to cause any adverse impacts to the existing SJC shoreline.

The Borrow Area N-1 Modified is a small portion of the greater OCS sand shoals off the northeast coast of Florida. The borrow area represents a small fraction of a larger sand shoal complex off the SJC coast. The borrow area lies within the USACE-designated exploration area NOBA, which encompasses 79 square

miles (50,560 acres) and contains an estimated 400 MCY of beach quality sand north of St. Augustine Inlet (USACE 2017). Thus, the proposed dredging area does not represent a significant portion of the surrounding shoals in the region. While the dredging of the Borrow Area N-1 Modified may alter the morphology of these shoals, the large presence of similar features adjacent to these shoals ensures that the broader scale geological feature remains functional as a sand shoal complex. If draghead screening is utilized to address potential MEC concerns, this will likely result in a higher concentration of MEC on the seafloor, diminishing the ability for future use of the borrow area, and potentially changing the seafloor habitat by having concentrated hard material on the surface of the seafloor where it was not before. Effects will be semi-permanent, as the ridges/peaks created from dredging are expected to form mound-like “sloping” structures in time due to natural processes (offshore currents).

4.3.2 Water Quality

4.3.2.1 Alternative 1: No Action Alternative

The No Action Alternative would have no effect on water quality within the project placement area, pipeline placement area, or offshore borrow area.

4.3.2.2 Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)

The primary anticipated change in water quality at the beach placement site is a temporary increase in turbidity due to sediment suspension during dredging and sand placement activities. According to Florida’s Class III water quality standards, turbidity levels during dredged material placement must not exceed 29 nephelometric turbidity units (NTUs) above background levels at the edge of a 150-m mixing zone, which serves as the regulatory standard for dredging and beach nourishment projects. Given the proximity of the placement area to the GRMAP (approximately 0.5 miles away), additional precautions are necessary.

The proposed mixing zone is the same as currently authorized by FDEP at 150 m in the cross-shore direction and 1,000 m alongshore within the GRMAP OFW, and 150 m alongshore outside of the OFW. The proposed NTU variability is also the same as currently authorized, 6 NTU within the OFW and 29 NTU outside the OFW. At the dredge site, a standard 150 m mixing zone with a 29 NTU variability is requested. While the same cross-shore limit of the mixing zone is requested (150 m), the modification of the FDEP permit turbidity monitoring language is also included that sampling be conducted outside the influence of breaking waves and surf. The requested minor modifications to the turbidity monitoring language came about due to safety concerns that were reported in 2022 when collecting samples during heightened wave conditions. The proposed language provides clear direction during heightened wave conditions and improves data collection and correlation with site conditions for future analysis.

The primary method to control turbidity during beach fill operations is the construction of an alongshore sand dike behind which the pipe will discharge the sand slurry onto the beach. The dike will be continuously maintained ahead of the discharge to allow maximum settlement of sand from the slurry onto the beaches and minimize the degree of turbidity in the water that is discharged into the nearshore.

The main expected change in water quality at Borrow Area N-1 Modified is a temporary increase in turbidity during dredging. This increase in turbidity would occur for each dredge event. Past studies indicate that the extent of the sediment plume from offshore dredging activities is generally limited to between 1,640- 4,000 ft from the dredge and that elevated turbidity levels are generally short-lived, on the order of an hour or less (USACE 1983; Hitchcock et al. 1999; Anchor Environmental 2003; Wilber et al. 2006). The size and shape of the plume depend on factors including the hydrodynamics of the water column and sediment composition and grain size. The predominant sand material within the borrow area should settle rapidly causing less turbidity and oxygen demand compared to fine-grained sediments. Borrow area

dredging should not adversely affect water parameters such as dissolved oxygen, pH, or temperature due to low sediment organic content and biological oxygen demand. Dredging activities would occur within the open ocean where the hydrodynamics of the water column are subject to mixing and exchange with oxygen rich surface waters. Elevated turbidity within the water column would be short and should not extend more than several thousand feet from the dredging operation. Dredging operations should only result in minor, temporary impacts on water quality at the offshore borrow area.

4.3.3 Air Quality

4.3.3.1 Alternative 1: No Action Alternative

The No Action Alternative would have no effect on air quality within the project placement area, pipeline placement area, or offshore borrow area.

4.3.3.2 Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)

Emissions of criteria pollutants, greenhouse gases, and other hazardous air pollutants will result from operation of the dredge pumps and coupled pump-out equipment, dredge propulsion engines, and tugs, barges, and support vessels used in the placement and relocation of mooring buoys. In addition, air emissions will result from bulldozers, trucks, and other heavy equipment used in the construction of the berm, beach, and dunes. Carbon monoxide and particulate emissions at the project site, during construction, may be considered offensive; but are generally not considered far-reaching. The primary emissions will result from the burning of fossil fuels by this equipment. Variables that will affect the impact to ambient air quality include the amount of material dredged, the distance from shore at which the dredge operates, and meteorological conditions (e.g., wind velocity and direction). Generally, the dredge produces the majority of emissions during a nourishment project. If a second nourishment event is constructed it would have similar but fewer emissions due to the decreased volume to be dredged.

To ensure the proposed activity's emissions do not violate NAAQS for criteria pollutants including carbon monoxide (CO), nitrogen dioxide (NO₂), lead (Pb), sulfur dioxide (SO₂), hydrocarbons (HC) and particulate matter (PM), an emissions analysis was performed to estimate the levels of each of these pollutants that may be generated during project construction. In cooperation with BOEM, ENVIRON International Corp. and the Woods Hole Group developed a Dredging Project Emissions Calculator (DPEC) to estimate the emissions levels that will be generated by proposed beach nourishment and coastal restoration projects (ENVIRON International Corp. and Woods Hole Group 2013). This Microsoft Access program can be used to calculate emissions during multiple phases of a project, from dredging, to pump-out and sand placement, thereby providing a basis to determine conformity with regulations and impacts analysis. The analysis was run for the SPV nourishment project using a large hopper dredge with 6,540 CY hopper capacity, and Borrow Area N-1 Modified, which represents the farthest distance the dredge will need to travel. The hopper dredge is the likeliest methodology employed for this project. The following analysis also included auxiliary equipment (such as tenders, tow boats and crew boats) as well as shore-based equipment (such as loaders and excavators). Estimated emissions levels generated by the DPEC for this project are shown in Table 13. The total project emissions are dominated by CO₂ followed by NO_x (represents the sum of Nitric oxide (NO) and NO₂ emissions). CH₄ emission factors are 2 percent of HC emission factors (USEPA 2023) and were also calculated as part of this emissions analysis. CH₄ emissions from diesel engines are of minor importance (Cooper and Gustafsson 2004).

There will be no long-term accumulation of particulates in the project area because offshore sea breezes are likely to disperse pollutants away from the coast and the construction activity is brief and temporary in nature. Exhaust from the construction equipment will have an effect on the immediate air quality around

the construction operation but should not impact area away from the construction area. These emissions will subside upon cessation of operation of heavy equipment. No air quality permits are required for this borrow area lease.

Federal actions for the project are exempt from the CAA General Conformity Regulations because the project is not located in a designated nonattainment area. The State of Florida does not regulate emissions from off-road equipment or marine vessels; however, implementation of the project at Borrow Area N-1 Modified will result in minor, temporary degradation of air quality due to emissions during dredging operations. Air quality is expected to revert to background levels following the completion of construction.

Table 13a. Summary of Inside State Waters Emissions by Source and Location for HC, VOC, CO, NOx, PM, CO₂, and CH₄.

Type	Mode	Emissions HC (tons)	Emissions VOC (tons)	Emissions CO (tons)	Emissions NOx (tons)	Emissions PM ₁₀ (tons)	Emissions PM _{2.5} (tons)	Emissions CO ₂ (tons)	Emissions CH ₄ (tons)
Crew Boat	NA	0.04	0.04	0.22	1.39	0.03	0.03	94.2355	0.0007
Tender 1	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000
Tow Boat	NA	0.07	0.08	0.50	2.55	0.05	0.05	188.4710	0.0015
Bulldozer	NA	0.0042	0.0044	0.0050	0.0106	0.0005	0.0005	16.9184	0.0001
Bulldozer	NA	0.0042	0.0044	0.0050	0.0106	0.0005	0.0005	16.9184	0.0001
Excavator	NA	0.01	0.01	0.01	0.02	0.00	0.00	32.13	0.0001
Dredge Vessel Generator	Transit	0.0079	0.0084	0.0471	0.2884	0.0068	0.0066	19.9930	0.0002
Dredge Vessel Main	Transit	0.0701	0.0739	1.2982	5.5226	0.1099	0.1066	355.6450	0.0014
Dredge Vessel Generator	Pumping	0.0165	0.0174	0.0979	0.5998	0.0141	0.0137	41.5792	0.0003
Dredge Vessel Main	Pumping	0.1459	0.1536	2.6999	11.4853	0.2286	0.2218	739.6301	0.0029

NOx (represents the sum of Nitric oxide (NO) and nitrogen dioxide (NO₂) emissions).

Table 13b. Summary of Outside State Waters Emissions by Source and Location for HC, VOC, CO, NOx, PM, CO₂, and CH₄.

Type	Mode	Emissions HC (tons)	Emissions VOC (tons)	Emissions CO (tons)	Emissions NOx (tons)	Emissions PM ₁₀ (tons)	Emissions PM _{2.5} (tons)	Emissions CO ₂ (tons)	Emissions CH ₄ (tons)
Dredge Vessel Generator	Dredging	0.0083	0.0087	0.0492	0.3015	0.0071	0.0069	20.9032	0.0002
Dredge Vessel Main	Dredging	0.0733	0.0772	1.3573	5.7740	0.1149	0.1115	371.8359	0.0015
Dredge Vessel Generator	Transit	0.0053	0.0056	0.0314	0.1923	0.0045	0.0044	13.3287	0.0001
Dredge Vessel Main	Transit	0.0468	0.0492	0.8655	3.6817	0.0733	0.0711	237.0967	0.0009

NOx (represents the sum of Nitric oxide (NO) and nitrogen dioxide (NO₂) emissions).

Table 13c. Summary of All Locations and Sources Emissions for HC, VOC, CO, NOx, PM, CO₂, and CH₄.

Type	Emissions HC (tons)	Emissions VOC (tons)	Emissions CO (tons)	Emissions NOx (tons)	Emissions PM ₁₀ (tons)	Emissions PM _{2.5} (tons)	Emissions CO ₂ (tons)	Emissions CH ₄ (tons)
Total Emissions	0.50	0.53	7.18	31.82	0.65	0.63	2133.66	0.01

NOx (represents the sum of Nitric oxide (NO) and nitrogen dioxide (NO₂) emissions).

4.3.4 Noise

4.3.4.1 Alternative 1: No Action Alternative

While the area may experience a decrease in tourist activity, noise levels in the project area are not likely to change significantly from the existing conditions in the future without-project conditions.

4.3.4.2 Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)

Noise would temporarily increase at the beach placement area during construction and then would return to ambient levels after project completion. Noise generated by the dredge may minimally impact those living on the beaches during project construction but will likely not be too noticeable over ambient noise of wind and waves. This temporary increase in noise would occur for each dredging event. Equipment such as booster pumps will be properly maintained to minimize effects of noise.

Dredging noise can affect marine mammals, sea turtles, birds, and fishes. Possible effects of dredging noise can vary depending on a variety of internal and external factors and can be divided into masking (obscuring of sounds of interest by interfering sounds, generally at similar frequencies), response, discomfort, hearing loss, and injury (MALSF 2009). Deeper water operations may propagate sound over greater distances than those in confined nearshore areas (Hildebrandt 2004). Noise during construction activities will likely be minor and short term with minimal impacts to fish and wildlife that use the project area. Species with sufficient motility would avoid the project area during construction and return after completion of construction activities. Dredging operations should only result in minor, temporary impacts on noise as the offshore borrow area.

4.3.5 Cultural Resources

4.3.5.1 Alternative 1: No Action Alternative

The No Action Alternative would have no effect on cultural resources.

4.3.5.2 Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)

No cultural resources will be adversely impacted since the existing avoidance buffers for known wrecks, previously identified sites, and potential submerged cultural resource targets identified in past archaeological surveys will be adhered to during project activities. In the unlikely event that archaeological artifacts are encountered during project activities, the project will cease all activity involving subsurface disturbance in the immediate vicinity of the discovery and contact the Florida Division of Historical Resources for direction on how to proceed. No work in the area of the discovery may continue until authorization is given. Additionally, in accordance with Section 872.05, Florida Statutes, all work shall stop immediately if unmarked human remains are encountered and contact the proper authorities. SJC is currently seeking a USACE permit modification and Section 106 (CRS) consultation is in progress. Dredging operations would result in no impacts to cultural resources at the offshore borrow area.

4.3.6 Tribal Nations

4.3.6.1 Alternative 1: No Action Alternative

No portion of the project placement area or offshore borrow area is located within or adjacent to known Native American-owned lands, reservation lands, or Traditional Cultural Properties. The future without-project conditions are not likely to change from the existing conditions regarding Native American-owned lands, reservation lands, or Traditional Cultural Properties.

4.3.6.2 Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)

There are no known Native American properties within the project placement area and the project will not have any effects to Native Americans.

There are no known tribal lands, resources, or areas of historic significance within the offshore borrow area. Submerged cultural resource assessment surveys to determine if resources or areas of historic significance are present within Borrow Area N-1, including the Borrow Area N-1 Modified extents, were completed in 2020 (TAR) and 2022 (SEARCH). The current borrow area design and proposed dredge cuts ensure that the Feature of Note will not be impacted. The elevation of the top of the Feature of Note ranges in depth from -60.5 to -68.5 ft NAVD88. The proposed max dredge cut depth for the proposed borrow area is -51 ft NAVD88. This provides a 9.5 to 17.5 ft buffer between the top of the Feature of Note and the bottom of the proposed dredged borrow area.

Previous consultation between USACE and Native American tribes having ancestral ties to this region, including the Seminole Tribe of Florida, the Seminole Nation of Oklahoma, the Thlopthlocco Tribal Town, the Miccosukee Tribe of Indians of Florida, and Muscogee (Creek) Nation was initiated on July 2, 2021, updated on October 13, 2022 (USACE 2024; Appendix G) to provide the results of the borrow area and pipeline corridor surveys. No response was received from any of the federally recognized tribes mentioned above within 30 days, thus implying concurrence pursuant to 36 C.F.R. Part 800. SJC is currently seeking a USACE permit modification and consultation is in progress.

4.3.7 Aesthetic Resources

4.3.7.1 Alternative 1: No Action Alternative

The aesthetics of the project area are anticipated to decline in the future without-project condition due to increased erosion and the continued narrowing of the beach.

4.3.7.2 Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)

Short term, adverse aesthetic impacts would occur during construction due to the presence of construction equipment. Equipment used during dredging operations (including the presence of a dredging vessel working in Borrow Area N-1 Modified during project construction and associated pumping and offloading through pipeline placement areas) would be visible during construction, which may be considered unsightly by members of the public. This may result in a temporary reduction in the aesthetic value of the offshore waters and nearby beach areas during dredging and offloading activities.

The aesthetics of the beach placement area would be temporarily adversely impacted during construction due to the presence of construction equipment on the beach. In the longer term, the beach aesthetics will be improved over the previously eroded shoreline with the construction of a more natural beach. Aesthetics of

the sand source locations would also experience temporary adverse impacts due to the presence of dredge equipment during construction.

4.3.8 Recreational Resources

4.3.8.1 Alternative 1: No Action Alternative

The recreational usage of the project area is anticipated to decline in the future without-project condition due to increased erosion and the continued narrowing of the beach, which will make it less suitable for recreating.

4.3.8.2 Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)

Beach recreation, including sunbathing and surfing, will experience temporary disruptions for several months due to the presence of construction equipment. However, recreational usage in the future with-project condition would be improved over the long-term due to the availability of a wider beach face, improving accessibility.

Use of the offshore borrow area and the associated pipeline placement area would temporarily impact recreation during construction due to the equipment located just offshore from the beach. Dredge vessels and associated offloading activities may cause temporary inconveniences for recreating, such as temporary impediments for those enjoying swimming, kayaking, motorboat operation, and water-based activities in the nearshore region. Recreational use of the offshore borrow areas would also be impacted due to the presence of dredge vessels and the closure of areas in proximity to the offshore borrow area to recreational boat traffic (including recreational fishing).

4.3.9 Navigation

4.3.9.1 Alternative 1: No Action Alternative

The navigation transit routes of the project area would not likely be affected in the future without-project condition. Increased erosion and the continued narrowing of the beach would not impact navigation. Large shipping vessels will continue to transit the offshore water of this area and there would likely be no change in the existing conditions.

4.3.9.2 Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)

Temporary and minor adverse effects to navigation would occur during construction. Boating in the nearshore adjacent to the beach placement area and in the area of active offshore dredging will be restricted due to equipment and pipeline activities. These effects would only occur during active construction and navigation will resume to pre-construction conditions upon completion of the project.

4.3.10 Munitions and Explosives of Concern

4.3.10.1 Alternative 1: No Action Alternative

There would be no risk of MEC if the proposed dredging and beach placement did not occur.

4.3.10.2 Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)

Based on the previously discovered MEC (primarily 20 mm projectiles) in Borrow Area N-1 (OHI 2024), the result of the risk probability assessment is moderate to high. Supplemental measures will be taken during construction to address the potential for MEC. SJC intends to require pipeline discharge screening on the beach for MEC in accordance with industry standards. A 3/4 in fines screen would be required for 20 mm sized MEC. During the screening process, larger fragments are sorted from the beach fill along with any potential MEC. Material will be inspected for the presence of MEC by independent qualified staff. Any MEC discovered will be properly stored, processed, and when necessary, transferred to the appropriate authorities. Non-MEC natural materials (shell hash, etc.) will be mechanically returned to the beach placement area ahead of fill operations and will be dispersed in a thin layer to be reincorporated with the pumped and screened sand material. Placement will be consistent with beach fill compatibility standards.

The USACE manual (EM 385-1-97) suggests the use of draghead screening for probability assessments resulting in moderate to high risk and the use of draghead screening is considered in this EA. There are distinct advantages and disadvantages to draghead screening. The screening would limit the risk of MEC entering the dredge and placement area. However, draghead screening would likely result in a higher concentration of MEC on the seafloor, diminishing the ability for future use of the borrow area, and potentially changing the seafloor habitat by having concentrated hard material on the surface of the seafloor where it was not before. Additionally, it would slow down production rates and increase the total cost and duration of dredging operations.

Draghead screening also adversely affects the ability to accurately assess endangered species take (NMFS 2020). Due to the decreased efficiency, the dredge would also need to spend more time offshore leading to the potential for increased take. For projects covered under the SARBO, a secondary review by NMFS is required if MEC screening at the draghead is proposed to ensure that the use of the screening is limited, and that unobserved take is not expected to be above the estimated 50 percent. Other considerations that would be part of the secondary NMFS review include the likelihood of take based on the site conditions, likelihood of take based on expected species presence depending on the location and time of year, and length of time that MEC screening will be needed.

4.4 Economic Environment and Considerations

4.4.1 Socioeconomics

4.4.1.1 Alternative 1: No Action Alternative

The shoreline would continue to erode, and the beach and dune system would decrease in size. The narrowing of the beach would occur, which will make it less suitable for recreating. Reduced recreation and tourism would negatively affect socioeconomics for the area. Without the project, there is a significant risk of losing structures (i.e., falling into the ocean) and critical infrastructure, like A1A, which is the sole evacuation route.

4.4.1.2 Alternative 2. Beach Nourishment using Dredged Sand from Offshore Borrow Area N-1 Modified (Preferred Action Alternative)

Implementing this alternative would increase shore stabilization and resilience through beach renourishment, effectively mitigating coastal storm damage risks to infrastructure. Beach renourishment would benefit recreation, tourism, and property values, supporting economic activity. It would also continue to protect A1A as it is the only evacuation route off the island. While construction may disrupt local

businesses, these effects would be temporary, lasting only for the duration of the project. Additionally, project revenue generation and job creation would benefit the socioeconomics of the community.

There is no documented evidence that the offshore borrow area is actively used by recreational or commercial fishermen. However, the waters off northeast Florida support a diverse range of finfish and shellfish species, particularly those inhabiting softbottom environments and coastal pelagic zones. While commercial and recreational fishing vessels transit through the area, potential disruptions during dredge operations are expected to be minimal due to the availability of alternative routes and fishing locations, as well as the short duration of dredging activities.

Similarly, there is no indication that commercial dive operations occur within these borrow areas, given the absence of hardbottom or reef structures. Consequently, any impacts to such operations are anticipated to be negligible.

4.5 Reasonably Foreseeable Trends and Actions

Reasonably foreseeable means sufficiently likely to occur such that a person of ordinary prudence would take it into account in reaching a decision (89 FR 35442). The summary below identifies the impacts of the proposed project in terms of related past, present and reasonably foreseeable future actions that are related to the proposed project either geographically or otherwise impacting the same resources.

Based on current available information, there are some resources that are not likely to experience reasonably foreseeable effects because there is an insignificant incremental impact to these resources; however, this EA has addressed the specific effects of the proposed project in accordance with NEPA. If additional information becomes available or because of public or agency comments received, a reasonably foreseeable effects analysis for these resources will be addressed. The resource areas and the basis for not including a reasonably foreseeable effect analysis for these areas currently are as follows:

4.5.1 Noise

Noise impacts would be temporary with construction activities and the project would not result in any foreseeable future actions that would result in a reasonably foreseeable effect.

4.5.2 Cultural Resources

It is not anticipated that any cultural or historic resources would be affected by the project. Therefore, no reasonably foreseeable effects to these resources would result from this project.

4.5.3 Tribal Nations

It is not anticipated that any Native American-owned lands, reservation lands, or traditional cultural properties would be affected by the project. Therefore, no reasonably foreseeable effects to these resources would result from this project.

4.5.4 Aesthetic Resources

Only temporary adverse effects to aesthetic resources would occur during construction (heavy machinery on the beach and adjacent roadways); therefore, there would be no adverse reasonably foreseeable effects to aesthetic resources resulting from this project.

4.5.5 Recreation

Only temporary adverse effects to recreation would occur during construction; therefore, there would be no adverse reasonably foreseeable effects to recreation resulting from this project.

4.5.6 Navigation

Only temporary adverse effects to navigation would occur during construction; therefore, there would be no adverse reasonably foreseeable effects to navigation resulting from this project.

4.5.7 Socioeconomics

Only temporary adverse effects to local businesses would occur during construction and there is no documentation to suggest that the offshore borrow area is utilized by recreational or commercial fisherman or commercial dive operators. No adverse reasonably foreseeable effects will result from this project.

The scope of this analysis was focused on specific resources and impact areas for which there is a likelihood of reasonably foreseeable accumulation of impacts. This was done to follow the NEPA guidelines that state, "Impacts shall be discussed in proportion to their significance" [40 CFR § 1502.2(b)]. Table 14 summarizes the impact of such reasonably foreseeable actions by identifying the past, present, and reasonably foreseeable future condition of the various resources in combination with the alternatives.

Table 14. Summary of Reasonably Foreseeable Effects.

Resource	Past (Baseline)	Present (Existing Condition)	Alternative 1: No Action Alternative	Alternative 2. Beach Nourishment using Dredged Sand
Fish and Wildlife Resources and Benthic Resources	No impacts other than those from historic fishing activities and vessel use.	No change from historic human activity impacts. Past studies show that no significant cumulative impacts to benthic infauna and fishes have occurred.	Increased erosion will cause beach habitat to continue to shrink. No effect to the softbottom community.	There will be a change in infaunal community structure; grazers that feed upon the macroinvertebrates may be temporarily displaced during construction activities. Reasonably foreseeable impacts to fish communities will be minor. The motility of most fish species should allow these species to leave the disturbed area during construction activities and return when conditions return to pre-construction conditions.
Protected Species	More abundant and widespread prior to development.	Erosion causing continued decline in beach habitat. Individuals becoming increasingly rare.	Increased erosion will cause beach habitat to continue to shrink. Individuals are not acutely affected by dredging.	Individuals may be affected by placement activities; coastal habitat is sustained for life of project. Individuals may be affected by dredging activities, including dredge material transportation, and offloading activities.
Dune Vegetation	Abundant vegetative cover of appropriate dune species with moderate diversity.	Areas of shoreline have lost dune and associated vegetation from development and armoring. Existing dunes are subject to erosion resulting in vegetation loss.	Areas containing vegetated dunes will continue to erode, causing stress to plant species and a subsequent decrease in overall habitat/species diversity.	Reconstruction of dunes will stabilize the coastal ecosystem. Replanting with appropriate native species will increase diversity and improve overall dune habitat.

Resource	Past (Baseline)	Present (Existing Condition)	Alternative 1: No Action Alternative	Alternative 2. Beach Nourishment using Dredged Sand
Essential Fish Habitat	Past effects of EFH effects associated with commercial fishing (particularly shrimping) disturbance of benthic habitat. Shrimp net “doors” dragged along the bottom disturb surface sediments.	Commercial trawling may contribute to benthic disturbance and declines in foraging fish because of reduced prey, bi-catch, and over-fishing.	No change from existing conditions and related impacts.	Motile species will avoid placement and dredging activities. Temporary reduction in sessile benthic habitat prey species and immature or small finfish and shellfish unable to avoid the dredging. Benthic habitat recovery expected within 2-3 years. Repeat use of the borrow area could slow down this recovery. Motile species will avoid turbidity plume. Potential impacts to planktonic or slow-moving water column species.
Sand Resources	Offshore sand from Borrow Area N-1 was not utilized until 2024 for the Ponte Vedra Beach Restoration Project.	Sufficient offshore sand resources exist for planned beach nourishment projects in northeast Florida including the proposed project.	Offshore sand resources will continue to be dredged from NOBA.	Offshore sand resources identified within Borrow Area N-1 Modified will be reduced, but not depleted over the life of this project. Additional sand is located below the targeted dredge depth that would remain within the borrow area.
Water Quality	Pristine prior to development; increasing recreational usage and development may have caused some decline in water quality. Typical of regional OCS conditions near the coastline.	Some degradation due to anthropogenic actions. Typical of regional OCS conditions near the coastline.	No change from existing conditions.	Temporary increases in local turbidity due to shoreline beach placement construction; no long-term change to degraded state. Temporary increases in local turbidity due water column disturbances at the offshore borrow area.

Resource	Past (Baseline)	Present (Existing Condition)	Alternative 1: No Action Alternative	Alternative 2. Beach Nourishment using Dredged Sand
Air Quality	Pristine	Air quality throughout state has become increasingly degraded due to anthropogenic actions.	No impacts to air quality would occur.	There will be no long-term accumulation of particulates in the project area because offshore sea breezes are likely to disperse pollutants away from the coast and the construction activity is brief and temporary in nature. Exhaust from the construction equipment will have an effect on the immediate air quality around the construction operation but should not impact area away from the construction area. These emissions will subside upon cessation of operation of heavy equipment.
MEC	No FUDS or MEC locations in or adjacent to the SPV beach placement area or Borrow Area N-1 Modified.	On-site MEC monitoring conducted for the 2024 Ponte Vedra Beach Restoration Project, which utilized Borrow Area N-1, found MEC items during the beach fill operations. All items were transferred for disposal.	No effect on MEC; no MEC discovery or removal will take place.	Moderate to high probability MEC could be located during the project dredging or filling. Supplemental measures will be taken during construction to address the potential for MEC. SJC intends to require screening for MEC in accordance with industry standards.

4.6 Unavoidable Adverse Environmental Effects

Relatively non-motile infaunal species that live in softbottom habitats at the beach placement area and at the offshore borrow area will unavoidably be lost during dredging and direct burial during beach sand placement. Common species are expected to recolonize after project completion from adjacent similar habitat.

4.7 Irreversible and Irretrievable Commitment of Resources

4.7.1 Irreversible

An irreversible commitment of resources is one in which the ability to use and/or enjoy the resource is lost forever. The use of sand from the offshore borrow area would commit sand resources to the given project, thus diminishing chances for future use in nourishment projects. Also, the fuel and supplies used for construction equipment and transport vehicles would result in an irreversible commitment of resources.

4.7.2 Irretrievable

An irretrievable commitment of resources is one in which, due to decisions to manage the resource for another purpose, opportunities to use or enjoy the resource as they presently exist are lost for a period of time. Dredging from the offshore borrow area would result in the borrow area sand being removed from the offshore system and placement of the sand would result in irretrievable commitment of resources. Additionally, temporary disruption of aesthetics, recreational opportunities, and navigation represent irretrievable commitment of resources.

4.8 Conflicts and Controversy

At this time, there is no known conflict or controversy associated with the proposed action. SJC continually strives to include all interested parties in its decision-making process and will continue to do so as issues arise.

4.9 Mitigation, Monitoring, and Adaptive Management

Mitigation of environmental impacts would be addressed in terms of avoidance, minimization, and other actions, such as best management practices, which reduce or offset the negative environmental impacts. Implementation of this alternative action is not expected to result in environmental impacts that would require compensatory mitigation.

5 Environmental Commitments and Compliance

This section documents compliance of the Preferred Action Alternative with NEPA and its implementing regulations.

5.1 Environmental Commitments

SJC is committed to avoiding, minimizing, or mitigating for adverse effects during construction activities by including the commitments listed in Table 15 in the contract specifications.

Table 15. Summary of Environmental Commitments.

Resource	SJC's Commitment
Fish and Wildlife Resources	The Contractor will describe in their Environmental Protection Plan (EPP) how they will implement protective measures for species that require specific attention, methods for protection of features (e.g., vegetation, animals, water) to be preserved within authorized work areas, and procedures to be implemented that will provide the required environmental protection to comply with applicable laws and regulations.
T & E Species	<p>Adverse effects to T&E species will be avoided and/or minimized. For the Preferred Action Alternative, a hopper dredge would be used to perform the proposed work. Implementation of standard protection conditions and BMPs will ensure that the potential adverse effects to these species are reduced to the maximum extent practicable.</p> <p>SJC will include applicable T&Cs and PDCs of the SARBO, SPBO, and P³BO in the project plans and specifications. Additionally, NMFS' sea turtle and smalltooth sawfish construction conditions as well as the USFWS standard manatee conditions for in-water work will be implemented. T&E species protection criteria will be included in the Contractor's EPP.</p>
Cultural Resources	An unexpected cultural resources finds clause will be included in the project specifications. If any potentially significant cultural resources are uncovered during construction activities, all activities will be halted immediately within the area. Once reported, SJC staff will initiate coordination with the appropriate Federal and state agencies to determine if archaeological investigation is required. Additional work in the area of the discovery will be suspended at the site until compliance with all Federal and state regulations is successfully completed and SJC's staff members provide further directive.

Resource	SJC's Commitment
Water Quality	<p>The State of Florida water quality regulations require that water quality standards are not violated during constructions operations. Should turbidity exceed state water quality standards as determined by monitoring, the Contractors will be required to cease work until conditions return to normal. Increased turbidity at the borrow area during excavation should be minor.</p> <p>The Contractor will prevent oil, fuel, or other hazardous substances from entering the air or water. This will be accomplished by design and procedural controls. All wastes and refuse generated by project construction would be removed and properly disposed. The Contractor will implement a spill contingency plan for hazardous, toxic, or petroleum material for the borrow area.</p>

5.2 Environmental Compliance

5.2.1 National Environmental Policy Act of 1969

NEPA requires agencies to cooperate with other federal agencies and state and local government, and to involve public stakeholders or citizens. The purpose of NEPA is “To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality” (42 USC Section 4321).

Pursuant to the NEPA, this EA was prepared under contract to SJC for adoption by BOEM in support of its decision to issue a negotiated agreement for the use of OCS sand resources to construct the project pursuant to its authority under the OCSLA. Environmental information on the project has been compiled and this EA has been prepared in compliance with NEPA.

5.2.2 Abandoned Shipwrecks Act of 1987 (43 USC 2101-2106)

This Act grants U.S. states ownership rights over certain abandoned shipwrecks located in state waters and submerged lands. The Act ensures that shipwrecks with historical, archaeological, or recreational significance are protected and managed by the states rather than being subject to private salvage claims. The project will not adversely affect shipwrecks located in federal, state, or tribal waters. The project complies with the Act.

5.2.3 American Indian Religious Freedom Act of 1978

The American Indian Religious Freedom Act is a U.S. federal law designed to protect and preserve the religious rights of American Indians, Eskimos, Aleuts, and Native Hawaiians. It ensures Native Americans can practice their traditional religions without government interference, protects the right to visit and use sacred lands for religious ceremonies, allows possession and use of ceremonial items, including those traditionally considered sacred, and requires federal agencies to evaluate their policies to eliminate barriers to Native American religious practices. The project complies with the Act.

5.2.4 Anadromous Fish Conservation Act of 1965

This Act aims to conserve, develop, and enhance anadromous fish populations—species that migrate from saltwater to freshwater to spawn, such as salmon and striped bass. The project does not occur in an anadromous fish river or stream; therefore, no anadromous fish are expected to be present. This Act is not applicable.

5.2.5 Archaeological Resources Protection Act of 1979

This Act was enacted to safeguard archaeological sites and artifacts on public lands and Indian lands from unauthorized excavation, removal, and destruction. The project does not anticipate the need to excavate or in any way disturb potentially significant cultural resources existing on federal lands. The project complies with this Act.

5.2.6 Clean Air Act of 1972

The CAA requires Federal actions to conform to an approved SIP designed to achieve or maintain an attainment designation for air pollutants as defined by the NAAQS. The NAAQS were designed to protect public health and welfare. The criteria pollutants include carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter (PM_{2.5} and PM₁₀), and lead (Pb). The project complies with this Act.

5.2.7 Clean Water Act of 1972

The Federal Water Pollution Control Act Amendments of 1972 became commonly known as the Clean Water Act (CWA) with its amendment in 1977. The Act established the basic structure for regulating discharges of pollutants into the waters of the United States. The project would result in the discharge of clean fill in navigable waters and requires a CWA, Section 404 Dredge and Fill Permit issued by USACE. Permit SAJ-2018-00349 (SP-TMM) was issued on September 27, 2021 and a request to modify the permit is currently under review.

FDEP Permit No. 0340616-003-JC and Modification No. 0340616-005-JN (issued June 16, 2025) constitutes certification of compliance with state water quality standards pursuant to Section 401 of the CWA, 33 U.S.C. 1341.

5.2.8 Coastal Barrier Resources Act and Coastal Barrier Improvement Act of 1990

These Acts defined a list of undeveloped coastal barriers along the Atlantic and Gulf coasts and were passed to limit federally subsidized development within a defined Coastal Barrier Resources System (unit). SPV lies within a portion of the Guana River Unit FL-03P (Figure 5). This unit is designated as an OPA, which specifies that the only federal spending prohibition is on federal flood insurance, which is not a component of the project. The project complies with these Acts.

5.2.9 Coastal Zone Management Act of 1972

The Coastal Zone Management Act of 1972, as amended, provides the national policy to preserve, protect, develop, and restore the nation's coastal zones and was established to encourage states to better manage their coastal resource. The statute assists coastal states in developing state coastal management programs and achieving a balance between competing uses of coastal resources. The statute requires that federal actions that may affect any land or water use of the coastal zone be “consistent” with the enforceable

policies of a coastal state's or territory's federally approved coastal management program. FDEP Permit No. 0340616-003-JC and Modification No. 0340616-005-JN constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Zone Management Act.

5.2.10 Endangered Species Act of 1973

The ESA provides protections for species that are threatened or endangered throughout all or a significant portion of their geographic range and the habitats that those species use. In the ESA, "endangered" species are defined as in danger of extinction throughout all or a significant portion of its range, and "threatened" species are likely to become endangered within the foreseeable future throughout all or a significant portion of its range. The USACE has performed an initial review of the permit modification application, the USFWS Information for Planning and Consultation, NMFS Section 7 Mapper, National Regulatory Viewer to determine if any threatened, endangered, proposed, or candidate species, as well as the proposed and final designated critical habitat may occur in the vicinity of the proposed project. Pursuant to Section 7 ESA, any required consultation with the Service(s) will be conducted in accordance with 50 CFR part 402.

5.2.11 Estuary Protection Act of 1968

This Act was enacted to preserve and protect estuarine areas due to their ecological, economic, and recreational importance. It recognizes estuaries as valuable natural resources and promotes their conservation, restoration, and sustainable development. The GTMERR (managed through FDEP) covers 76,760 acres of coastal land across St. Johns and Flagler counties, including 4.3 miles along the SJC shoreline from R-46.2 to R-67. The project placement area (R-76 to R-103.5) does not fall within the GTMERR, as these marsh communities landward of A1A are well outside of the project influence, however most of the project area is within the GRMAP OFW in the Atlantic. The project is in compliance with the Act.

5.2.12 Farmland Protection Policy Act of 1981

This Act was enacted to minimize the impact of federal programs on the conversion of farmland to nonagricultural uses. No farmland exists in the project area. The Act is not applicable.

5.2.13 Federal Water Project Recreation Act, as Amended

This Act established policies for incorporating recreation and fish and wildlife conservation into federal water resource projects. It ensures that outdoor recreation and ecological benefits are considered in navigation, flood control, reclamation, hydroelectric, and multi-purpose water projects. Recreational opportunities, as well as the effects of the project on outdoor recreation, have been described in Sections 3.3.8 and 4.3.8. This project complies with the Act.

5.2.14 Fish and Wildlife Coordination Act of 1958

The Fish and Wildlife Coordination Act requires that fish and wildlife receive the equal consideration as other project components for proposed water resource development projects. SJC is currently seeking a USACE permit modification and consultation is in progress.

5.2.15 Magnuson-Stevens Fishery Conservation and Management Act of 1976, as Amended

The purpose of the Magnuson-Stevens Fishery Conservation and Management Act is to promote the protection of EFH in the review of federal and state actions that may adversely affect EFH. EFH consultation was initiated previously in 2020; however, no response was received from NMFS. SJC is currently seeking a USACE permit modification and consultation is in progress.

5.2.16 Marine Mammal Protection Act of 1972, as Amended

The Marine Mammal Protection Act strictly prohibits the harassment, feeding, hunting, capturing, killing (collectively referred to as "take"), and importing of marine mammals and marine mammal products. The project placement area and borrow area are accessible to marine mammals, including species such as the Florida manatee and whales. Noise associated with dredging and vessel strikes in transit areas are known to cause impacts. Incorporation of the USFWS 2011 Standard Manatee Conditions for In-water Work, BMPs, as well as applicable T&Cs and PDCs of the SARBO into the project plans and specifications will ensure that the potential adverse effects to these species are reduced to the maximum extent practicable. Implementation of the safeguards used to protect T&E species during construction and operation would extend protections to marine mammals within the area. No take of marine mammals is anticipated. The project is in compliance with the Act.

5.2.17 Marine Protection, Research and Sanctuaries Act

This Act also known as the Ocean Dumping Act, is a key environmental law that regulates ocean dumping and establishes marine sanctuaries to protect marine ecosystems. The term "dumping" as defined in the Act (33 U.S.C. 1402(f)) does not apply to the placement of material for beach nourishment or to the placement of material for a purpose other than disposal (i.e., placement of rock material as an artificial reef or the construction of artificial reefs as mitigation). Therefore, this Act is not applicable to the project.

5.2.18 Migratory Bird Treaty Act and Migratory Bird Conservation Act

The Migratory Bird Treaty Act prohibits the taking, killing, capturing, selling, trading, or transporting of protected migratory bird species without authorization from the USFWS. SJC will include standard migratory bird protection measures in the project plans and specifications and will require the contractor to abide by those requirements. The project complies with these Acts.

5.2.19 National Historic Preservation Act of 1966

The National Historic Preservation Act was enacted to provide adequate protection for historic resources, including archaeological sites. That National Register of Historic Places, National Historic Landmarks, and the post of SHPO were established under this Act. NHPA require federal agencies to take into consideration the effects of their undertaking on cultural resources that are listed in, eligible for, or nominated to the National Register of Historic Places. Federal agencies must consult with the SHPO and interested federally recognized Native American tribes. SJC is currently seeking a USACE permit modification and Section 106 (CRS) consultation is in progress.

5.2.20 Native American Graves Protection and Repatriation Act (25 U.S.C. § 3001 et seq.)

This Act is designed to protect Native American human remains, funerary objects, sacred objects, and cultural patrimony. It establishes a framework for repatriating these items to tribes, Native Hawaiian

organizations, and lineal descendants and mandates consultation with tribes before excavating or removing remains from federal or tribal lands. Should Native American graves or human remains be encountered during construction, additional consultation with the appropriate tribes will take place to ensure that the project remains in compliance with this Act.

Previous consultation between USACE and Native American tribes having ancestral ties to this region, including the Seminole Tribe of Florida, the Seminole Nation of Oklahoma, the Thlopthlocco Tribal Town, the Miccosukee Tribe of Indians of Florida, and Muscogee (Creek) Nation was initiated on July 2, 2021, updated on October 13, 2022 (USACE 2024; Appendix G) to provide the results of the borrow area and pipeline corridor surveys. No response was received from any of the federally recognized tribes mentioned above within 30 days, thus implying concurrence pursuant to 36 C.F.R. Part 800. SJC is currently seeking a USACE permit modification, and additional consultation is in progress.

5.2.21 Rivers and Harbors Act of 1899

This Act primarily regulates activities affecting navigable waters, ensuring that waterways remain free from obstructions and pollution. Project activities may temporarily obstruct navigable waters of the U.S. during construction. The proposed action will be subject to the public notice, public hearing, and other evaluations normally conducted for activities subject to the Act. The disturbance to navigation would be temporary at the time of construction and small vessels can easily navigate around the construction vessels. The project complies with the Act.

5.2.22 Submerged Lands Act of 1953

The project would occur on submerged lands of the State of Florida. The project has been coordinated with the State and is in compliance with the Act.

5.2.23 The Bald and Golden Eagle Protection Act of 1940

This Act provides federal protection for bald eagles and golden eagles, ensuring their conservation and preventing harm to their populations. The Act prohibits the taking, possession, sale, purchase, barter, transport, export, or import of these eagles, including their parts, nests, or eggs, without a permit.

Review of the EagleWatch Nest Map (<https://eaglewatch-audubon.hub.arcgis.com/>), which includes all nests documented by the FWC (through 2017) and the EagleWatch Program, indicated that no active nests are present in the project area (R-76 to R-103.5). The closest active nest (Nest SJ031) is approximately 0.5 miles west of the project shoreline, along the western side of the Guana River in the GTMNERR. SJC will include standard migratory bird protection measures in the project plans and specifications and will require the contractor to abide by those requirements. The project complies with this Act.

5.2.24 Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970

The purpose of this Act is to ensure that owners of real property to be acquired for federal and federally assisted projects are treated fairly and consistently and that persons displaced as a direct result of such acquisition will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. The project does not involve real property acquisition and/or displacement of property of property owners or tenants. The project will be in full compliance with the Act at the time of construction.

5.2.25 Wild and Scenic River Act of 1968

No designated Wild and Scenic River reaches would be affected by project related activities. This Act is not applicable.

5.2.26 E.O. 11988, Flood Plain Management

This E.O. requires that federal agencies avoid supporting development in floodplains unless there is no practicable alternative and evaluate the potential effects of their actions on floodplains and ensure their planning reflects flood hazard risks. The project is in the public interest and is anticipated to have long-term, minor to moderate beneficial impacts to floodplains and wetlands from the Proposed Action due to the associated increased resilience against storm surge and will not involve development in the floodplain. This project is in compliance with the Act.

5.2.27 E.O. 11990, Protection of Wetlands

This E.O. was issued to minimize the destruction, loss, or degradation of wetlands and to preserve their natural benefits. The project is in the public interest and is anticipated to have long-term, minor to moderate beneficial impacts to floodplains and wetlands from the Proposed Action due to the associated increased resilience against storm surge. This project is in compliance with the Act.

5.2.28 E.O. 13045, Protection of Children

This E.O. requires that each federal agency: (a) shall make it a high priority to identify and assess the environmental health risks and safety risks that may disproportionately affect children; and (b) shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks. The proposed project will not result in environmental health risks or safety risks that may have a disproportionate effect on children due to appropriate use of safety zones and erecting of safety barriers around construction activities. The project is in compliance with this E.O.

5.2.29 E.O. 13089, Coral Reef Protection

This E.O. directs federal agencies to identify actions that may affect U.S. coral reef ecosystems, utilize their programs and authorities to protect and enhance coral reef conditions, and ensure that any actions they authorize, fund, or carry out do not degrade coral reef ecosystems. It also supports research, mapping, and restoration efforts. There are no coral reef or hardbottom habitats within the project areas. This E.O. is not applicable.

5.2.30 E.O. 13112, Invasive Species

This E.O. defines invasive species as non-native organisms that cause or are likely to cause harm to the environment, economy, or human health. The project will not affect the status of invasive species, negatively or positively. The plans and specifications will include requirements for the contractor to inspect equipment and clean equipment to prevent spread of existing invasive species. The project is in compliance with the goals of this E.O.

5.2.31 E.O. 13175, Consultation and Coordination with Indian Tribal Governments

This E.O. requires federal agencies to engage in meaningful consultation with tribal officials when developing policies that have tribal implications. Previous consultation between USACE and Native American tribes having ancestral ties to this region, including the Seminole Tribe of Florida, the Seminole Nation of Oklahoma, the Thlopthlocco Tribal Town, the Miccosukee Tribe of Indians of Florida, and Muscogee (Creek) Nation was initiated on July 2, 2021, updated on October 13, 2022 (USACE 2024; Appendix G) to provide the results of the borrow area and pipeline corridor surveys. No response was received from any of the federally recognized tribes mentioned above within 30 days, thus implying concurrence pursuant to 36 C.F.R. Part 800. SJC is currently seeking a USACE permit modification and additional consultation is in progress.

5.2.32 E.O. 13186, Responsibilities of Federal Agencies to Protect Migratory Birds

This E.O. strengthens the Migratory Bird Treaty Act by directing federal agencies to take actions that support the conservation of migratory birds. Federal agencies must assess their actions that may negatively impact migratory bird populations and take steps to minimize harm and develop Memoranda of Understanding with the USFWS to outline conservation measures. SJC will include applicable standard migratory bird protection requirements in the project plans and specifications and will require the contractor to abide by those requirements. The project is in compliance with the goals of this E.O.

6 List of Preparers and Reviewers

Table 16. List of Preparers.

Name	Organization	Role
Beau Suthard	APTIM	Project Manager; Geologist
Beth Forrest	APTIM	Geologist
Chris Dvorscak	APTIM	Marine Archaeologist
Katy Brown	APTIM	Biologist
Patrick Bryce	APTIM	Geologist
Shelby Riffey	First Line Coastal	Coastal Engineer
Stacey Roberts	First Line Coastal	Project Manager; Coastal Engineer

Table 17. List of Reviewers.

Name	Organization	Role
Marcy Garris	SJC	Project Manager
Stephen Hammond	SJC	Project Manager
Jennifer Bucatari	BOEM	Oceanographer; NEPA lead
Victoria Brady	BOEM	Biologist
Shelly Severns	APTIM	Section 508 Compliance

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Appendix A: Consultation History

- Essential Fish Habitat Assessment and Consultation
- ESA Consultation – NMFS
- ESA Consultation – USFWS
- NHPA Coordination
- CZMA Coordination