Supplemental Environmental Assessment

782357/44102/122221 – Hilton Head Island Beach Restoration

FEMA-DR-4286/4346/4464-SC

Hilton Head Island, Beaufort County, South Carolina

March 2024

U.S. Department of Homeland Security
Federal Emergency Management Agency
Region IV – Atlanta, GA

This page intentionally left blank

Table of Contents

APPENDICES

APPENDIX A: Floodplain Management Checklist and Maps

APPENDIX B: USACE Environmental Assessment and Statement of Findings

APPENDIX C: USACE Permit

APPENDIX D: Biological Opinions

APPENDIX E: SCDES BCM Critical Area Permit and Coastal Zone Consistency Certification

APPENDIX F: SHPO/ THPO Consultation Letters

APPENDIX G: Public Notices

LIST OF ACRONYMS AND ABBREVIATIONS

APE	Area of Potential Effects
BFE	Base Flood Elevation
BMP	Best Management Practice
BO	Biological Opinion
BO/CO	Biological and Conference Opinion
CAA	Clean Air Act
CBIA	Coastal Barrier Improvement Act of 1990
CBRA	Coastal Barrier Resources Act
CBRS	Coastal Barrier Resources System
CEQ	Council on Environmental Quality
CFR	*Code of Federal Regulations*
CWA	Clean Water Act
CY	Cubic Yards
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Plan
EA	Environmental Assessment
EFH	Essential Fish Habitat
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact

IPaC	Information for Planning and Consultation
LF	Linear Feet
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NHL	National Historic Landmark
NMFS	National Marine Fisheries Service
NMFS-HCD	National Marine Fisheries Service - Habitat Conservation Division
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRHP	National Register of Historic Places
OEHP	Office of Environmental Planning & Historic Preservation
OPA	Otherwise Protected Area
PA	Public Assistance
PBO	Programmatic Biological Opinion
PFAs	Per- and Polyfluoroalkyl substances
PNP	Private Non-Profit
PL	Public Law
RPM	Reasonable and Prudent Measure
REO	Regional Environmental Officer
RHA	Rivers and Harbors Act
SARBO	South Atlantic Regional Biological Opinion
SAV	Submerged Aquatic Vegetation

SCDES	South Carolina Department of Environmental Services
SCDES BCM	SCDES Bureau of Coastal Management
SCDES BOW	SCDES Bureau of Water
SCDES CMP	SCDES Coastal Management Program
SCEMD	South Carolina Emergency Management Division
SEA	Supplemental Environmental Assessment
SFHA	Special Flood Hazard Area
SHPO	State Historic Preservation Office or Officer
SOI	Secretary of Interior
Stafford Act	Robert T. Stafford Disaster Relief and Emergency Assistance Act
THPO	Tribal Historic Preservation Office or Officer
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WOTUS	Waters of the U.S.

1. Introduction

Hurricane Matthew impacted South Carolina between October 4, 2016 and October 30, 2016, bringing storm surge and strong wave action. President Obama signed a disaster declaration (FEMA-4286-DR-SC) on October 11, 2016. In addition, South Carolina was impacted by Hurricane Irma, between September 6, 2017 and September 13, 2017, and Hurricane Dorian, between August 31, 2019 and September 6, 2019, both of which brought storm surge and strong wave action. President Trump signed a disaster declaration on October 16, 2017, and September 30, 2019, for Irma (FEMA-4346-DR-SC) and Dorian (FEMA-4464-DR-SC), respectively. These declarations authorized the Department of Homeland Security's Federal Emergency Management Agency (FEMA) to provide federal assistance to the designated areas of South Carolina. This assistance is provided pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), and Public Law (PL)

93-288, as amended. Section 406 of the Stafford Act authorizes FEMA's Public Assistance (PA) Program to repair, restore, and replace state and local government and certain private nonprofit facilities damaged as a result of the declared event.

The objective of FEMA's PA Grant Program is to provide funding assistance to state, tribal and local governments, and certain types of Private Non-Profit (PNP) organizations so that communities can quickly respond to and recover from major disasters or emergencies declared by the President. Through the PA Program, FEMA provides supplemental federal disaster grant assistance for debris removal, emergency protective measures, and the repair, replacement, or restoration of disaster-damaged, publicly owned facilities and the facilities of certain PNP organizations. The PA Program also encourages protection of these damaged facilities from future events by providing funding assistance for hazard mitigation measures during the recovery process.

Beaufort County, South Carolina, was designated in all three above-mentioned disaster declarations to receive federal assistance. The Town of Hilton Head Island has applied through the PA Program to receive funding to restore the eroded Atlantic Coast shoreline along four stretches of engineered beach (South Beach, Central Atlantic, The Heel, and Fish Haul Creek), located on Hilton Head Island, Beaufort County, South Carolina. The area of consideration is approximately 46,500 linear feet (LF) (~8.8 miles); monument and geographic location for each section of engineered beach is listed in Table 1.0.1. The Town of Hilton Head Island began its beach management program in 1986 and completed the first nourishment in 1990, sourcing fill from two nearshore borrow sites to place 2,338,000 cubic yards (CY) along 35,000 LF (6.6 miles) between beach monitoring stations HHI-11 to HHI-28. Since then, there have been 4 nourishments, two emergency beach fills to address "hot spots", plus the construction of two terminal groins and six detached breakwaters. The construction, maintenance, and repair of the engineered beaches is the legal responsibility of the Town of Hilton Head Island. The shoreline is an engineered and maintained beach previously authorized for nourishment and maintenance by the U.S. Army Corps of Engineers (USACE).

Table 1.0.1. Engineered Beach Locations

	Monument	GPS Coordinates
South Beach	HHI-0 to HHI-5	32.113083, -80.829140 to 32.116114, -80.801750
Central Atlantic	HHI-11 to HHI-24	32.135035, -80.762729 to 32.190267, -80.698620
The Heel	HHI-28 to HHI-30	32.212965, -80.672197 to 32.224746, -80.669708
Fish Haul Creek	HHI-33 to HHI-35	32.241454, -80.683392 to 32.244951, -80.688236

The USACE prepared an *Environmental Assessment for the Hilton Head 2025 Beach Renourishment Project* in February 2025 and issued a Statement of Finding on their proposed action. Any federal agency may adopt another federal or state agency's Environmental Assessment (EA) [40 *Code of Federal Regulations* (CFR) §1500.4(n), §1500.5(h), and §1506.3] providing the original document

satisfies the agency's National Environmental Policy Act (NEPA) requirements. FEMA has adopted USACE's EA and has also provided supplemental information through the preparation of a Supplemental Environmental Assessment (SEA). USACE's EA and FONSI are included as Appendix B of this document.

2. Purpose and Need

As a result of the three hurricanes that impacted the South Carolina coast between 2016 and 2019, the engineered shorelines on Hilton Head Island were heavily eroded and incurred extensive dune vegetation loss. The Town of Hilton Head Island, having legal responsibility to maintain these four stretches of engineered beach, may be eligible for funding through the FEMA PA Grant Program pursuant to Title 44 of the CFR § 206.223(a)(3). The community has identified the need to restore the capacity of the shoreline to withstand future storm events, reduce erosion, and decrease risk from future events to human life and improved property. Prior to the construction of the engineered beaches, erosion control structures, and subsequent renourishments, multiple upland areas of Hilton Head Island were significantly impacted by storm impacts and surge inundation. The construction and maintenance of the engineered beaches reduced the risk to improved property landward of the beach, provided additional habitat for sea turtles and shorebirds, and increased recreational values.

Hilton Head Island experiences tourism year-round and receives on over 2,500,000 visitors per year, bringing eco-tourism, hospitality, and recreation dollars to the county, state, and local businesses. The area has become a recognized vacation destination with Coligny Beach, located within the Central Atlantic stretch, being chosen as one of Tripadvisor's "best of the best beaches" in 2024 and the Town making it on U.S. News and Reports Best Family Beach Vacations in the U.S. multiple years. The community has a substantial population of second-home owners as well as over 50% of the population being over the age of 55. Per 2017 North American Industry Sector data, the Health Care and Social Assistance Industry and the Accommodation and Food Services industry account for over 35% of the Town's job market. Since 1990, Hilton Head Island has seen a 64% increase in tourism however to continue the economic growth of the Town, their 20-year plan prioritizes expanding its tourism further into heritage, cultural, and environmental sectors. Restoration of the beach will allow for the State, County, and Town to continue to benefit from their beaches which are an essential economic resource.

In accordance with Federal laws and FEMA regulations, the EA process for a proposed federal action must include an evaluation of alternatives and a discussion of the potential environmental impacts. This SEA was prepared in accordance with FEMA's regulations as required under NEPA to provide supplemental information in addition to USACE's EA. As part of this NEPA review, the requirements of other environmental laws and executive orders are addressed.

3. Project Location and Background

The proposed Hilton Head Island Beach Restoration project is a maintenance renourishment planned to address the eroded Atlantic Coast shoreline along four engineered beaches known as South Beach, Central Atlantic, The Heel, and Fish Haul Creek on Hilton Head Island, Beaufort County, South Carolina. The erosion was caused by natural wave-action and littoral processes, as well as impacts from Hurricanes Matthew, Irma, and Dorian, which became Federally declared events. The project area is

cumulatively comprised of approximately 46,500 LF (8.8 miles) of engineered beach, beach berm, and dune system; monument and geographic location for each section of engineered beach is listed in Table 1.0.1. The entire Restoration project will place 2 million CY of sand as well as vegetation planting along the dune system. Hurricane Matthew resulted in a loss of 146,700 CY of sand plus 29,620 dune plants; Hurricane Irma resulted in a loss of 168,378 CY of sand; and Hurricane Dorian resulted in a loss of 190,000 CY of sand plus 14,050 LF of sand fencing and 390,311 dune plants. Sand will be dredged from the borrow area by hydraulic cutter-suction pipeline dredge to the beach fill areas. The landward and seaward slopes of the construction berm will have a uniform initial slope of 1V:10H.

South Beach is characterized by high-density infrastructure such as homes, hotels, condominiums, and timeshares, as well as South Beach Club and its associated recreational facilities. The Central Atlantic segment, which is the longest, is also highly developed with substantial infrastructure and Coligny Beach Park; there is also a terminal groin at the northern end at the Folly Inlet. The Heel is almost exclusively residential and the engineered beach and has a y-shaped terminal groin projecting East. The northern most segment, Fish Haul Creek, is the least developed area with some infrastructure amongst Fish Haul Beach Park as well as six rock breakwaters. A majority of the upland portion of the coastal transition zone is developed with oceanfront properties, with some areas of shrub forest or dune meadow. There are both private and public beach access trails and structures throughout all four segments. It Is not anticipated that there will be a change in the existing upland uses as a result of the Hilton Head Island Beach Restoration project. The sources of the high-quality, beach-compatible sand to be utilized in this restoration project are Baypoint Shoals, Gaskin Banks, and Barrett Shoals (two sites- BR1 and BR2) which are sand ridges totaling 685+ acres of sea floor approximately 3 miles offshore of Hilton Head Island in the open waters of the Atlantic Ocean (Table 3.0.1). BR1 and the proposed area of Gaskin Banks have never been dredged before; Bay Points dredge template is being slightly expanded from its previous permitted template.

Table 3.0.1. Nearshore Borrow Area Locations

Borrow Area	Coordinates
Barrett Shoals Borrow Area 1 (BR1) (New)	32.0785, -80.8051
	32.083, -80.8012
	32.0785, -80.793
	32.0742, -80.7962
Barrett Shoals Borrow Area 2 (BR2)	32.0742, -80.8192
	32.0768, -80.8166
	32.076, -80.8128
	32.0787, -80.8082
	32.0727, -80.8081
	32.0722, -80.8159
Bay Point (Expanded)	32.2342, -80.6286
	32.2347, -80.6271
	32.2324, -80.6203
	32.2279, -80.6167
	32.2205, -80.6173
	32.2254, -80.6225
	32.2297, -80.6261

Gaskin Banks (New)	32.1005, -80.7342
	32.1029, -80.7334
	32.1031, -80.7202
	32.0926, -80.7295

The Town of Hilton Head Island conducted its first beach restoration project in 1990 and has since placed approximately 13.9 million CY along more than 11 miles of the island's shoreline. The 1990 Beach Restoration Project placed 2,338,000 CY of beach-compatible sand from two offshore borrow sites, Joiner Bank and Gaskin Banks, between HHI-11 and HHI-28 within the current Central Atlantic and The Heel segments. In 1997, the Central Atlantic and The Heel segments were renourished as well as the Fish Haul Creek segment; 2,961,700 CY of sand was dredged from the two previously used nearshore borrow sites and 421,300 CY of fill was dredged via the Port Royal shoreline channel relocation. A beach restoration project, which placed 2,725,000 CY of sand along 8.4 miles of shoreline, was conducted in 2006 to 2007 which renourished previous areas as well as engineered more northern segments; sand was sourced from Joiner Shoals and Barrett Shoals. The most recent renourishment occurred in 2016 using Bay Point Shoals and Barrett Shoals as the source for 2,855,800 CY of sand which was placed within all previously constructed segments plus South Beach being slightly expanded. Emergency beach fill projects were conducted along the South Beach segment in 1999 and 2017. The Town of Hilton Head Island's extensive beach management program established Fish Haul Creek, The Heel, Central Atlantic, and South Beach, as engineered beach systems whose construction, maintenance, and repair became the legal responsibility of the Town. None of the segments are federally constructed shorelines under the specific authority of the USACE.

4. Alternatives

Reasonable alternatives are those that meet the purpose and need, are feasible from both technical and economic standpoints, and meet reasonable screening criteria (selection standards) that are suitable to a particular action. Two (2) alternatives are considered in addressing the purpose and need of the Hilton Head Island Beach Restoration project: the No Action Alternative (Alternative 1) and the Preferred Alternative (Alternative 2) which would repair the four segments to their engineered profiles concurrently with scheduled maintenance. Additional alternatives that were determined to not meet the purpose and need were eliminated from detailed analysis in this SEA and are discussed below.

4.1. Alternative 1: No Action Alternative

Under the No Action Alternative, the Hilton Head engineered shorelines would remain in their current state and no dredging activities would occur to place sand on the beach. Ongoing erosion would continue along the shoreline, impacting the existing beach, beach berm, and dune system. Consequently, the upland areas would not be protected from future storm events and improved private and public property would be at risk from storm surge and wave action. If not renourished, the beaches would continue to erode and become gradually narrower and steeper. A narrower and steeper beach adversely affects the recreational use and aesthetics of the beach and associated tourism, as well as the natural values, such as wildlife habitat. The No Action Alternative would not satisfy the overall project purpose and is neither practicable nor feasible.

4.2. Alternative 2: Repair Engineered Beaches Concurrently with Scheduled Maintenance Project (Preferred Alternative)

Under the Preferred Alternative, the engineered beaches would undergo construction and have sand placed per the Town's beach management program schedule, which will place sand lost from background erosion and normal littoral processes as well as address storm impacts. The Town of Hilton Head Island has submitted applications to FEMA for Hurricanes Matthew, Irma, and Dorian, for funding under the PA program for the portion of the overall project that is due to those Federally declared events. Of the 2 million CY of sand to be placed for the entire project, FEMA PA funding would be associated with 505,078CY. The borrow areas are sand ridges located approximately three (3) miles offshore of Hilton Head Island and contain high-quality sand consistent with native beach sediment. An ocean certified cutter-suction pipeline dredge will be used to excavate and transport sand from the borrow areas to the desired fill areas, where bulldozers will be used to regrade and shape the fill area to match the ambient dune and beach elevations. Berm widths will vary, but the seaward slope of the construction berm will have a consistent and uniform initial slope of 1V:20H for all shoreline reaches.

For the South Beach placement area, approximately 750,000 cubic yards of sand will be placed along 10,230 feet of shoreline. Sand will be sourced from the two Barrett Shoals areas which are located directly south of the fill area and occupy 250 acres of seafloor with a dredge depth at Barrett Shoals of -21.0 ft NAVD88. For the Central Island placement area, approximately 700,000 cubic yards of sand will be placed along 28,860 feet of shoreline. Sand will be sourced from Gaskin Banks which is located southeast of the fill area and occupies 240 acres of seafloor. If sand is not exclusively sourced from Gaskin Banks, then Bay Point Shoals will be used if needed. The requested and permitted dredge depth at Gaskin Banks is -21.0 ft NAVD88. For "The Heel" placement area, approximately 500,000 cubic yards of sand will be placed along 5,280 feet of shoreline. Sand will be sourced from Bay Point Shoals which is located northeast in the Port Royal Sound and occupies 195 acres of seafloor with a dredge depth at Bay Point Shoals of -31.0 ft NAVD88. For the Fish Haul Creek placement area, approximately 50,000 cubic yards of sand will be placed along 2,130 feet of shoreline. Sand will be sourced from Bay Point Shoals. Sand loss in future Presidentially declared disasters may be included in this Alternative. This Alternative would most immediately and cohesively increase the level of storm protection to infrastructure and restore the natural and economic values of the beaches. This Alternative contributes to the Town's Beach Maintenance and Management Program and will help sustain the 8–10-year renourishment lifespan.

4.3. Alternatives Considered and Dismissed

While off-site locations and configurations are generally alternatives to be considered, they are neither practical nor reasonable for a beach renourishment or shore protection project, as off-site alternatives would not satisfy the overall project purpose and need. Accordingly, offsite alternatives were not considered.

On-site alternatives were also considered. Shoreline armoring would involve the construction of coastal structures to change longshore sediment transport along the island. Coastal structures such as rock

groins and seawalls are not a practical solution given the expanse of the island and the separation of the engineered beach segments. The costs associated with shoreline armoring would also not outweigh any benefits and would ultimately cause more permanent impacts to aquatic resources. Hardened structures would also detract from the current natural aesthetic of the beach and remove open areas used for recreation. For these reasons, armoring the shorelines was not further considered.

For the current Hilton Head Island Beach Restoration project, an alternative that was considered and subsequently dismissed would entail the repair of the four beach segments to pre-disaster condition without the additional fill to address background erosion. This alternative would restore only the amount of sand lost from Hurricanes Matthew, Ian, and Dorian, and any future federally declared disasters, if applicable, as a stand-alone project rather than combined with the next scheduled renourishment. Restoring the beach to pre-disaster condition without the maintenance fill would require future renourishments for the background sand loss replacement to fill the engineered template. This alternative is less practicable for several reasons. Hilton Head developed a Beach Maintenance and Management Program to have a long-term plan for the engineered beaches' erosion due to natural processes, including storm events. In addition, due to the high costs associated with mobilization and demobilization of a dredge operator, it is more economically reasonable to conduct larger scale nourishment on a less frequent basis, as compared to smaller scale nourishments on a frequent basis. The potential impacts to the aquatic ecosystem are similar for both the repair of Hilton Head's beaches to pre-disaster conditions and the placement of the disaster related sand loss in conjunction with the maintenance sand. By completing a complete renourishment to bring the engineered beaches to their full design template will allow for longer periods between nourishment activities, which equates to less frequent man-made disturbance to the beach. Longer periods between nourishment activities would likely benefit several of the public interest factors discussed below in sections 4.4 and 5.

4.4. Impact Evaluation

The Council on Environmental Quality[1] (CEQ) notes: "Effects includes ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial" (40 CFR 1508.8).

When possible, quantitative information is provided to establish potential impacts; otherwise, the potential qualitative impacts are evaluated based on the criteria listed in Table 4.0.1:

1Consistent with E.O. 14154, CEQ has rescinded the NEPA regulations, effective April 11, 2025, and is working with Federal agencies to revise or establish their own NEPA implementing procedures. Per CEQ Guidance, while revisions are ongoing, agencies should continue to follow their existing practices and procedures implementing NEPA and can voluntary rely on the regulation in 40 CFR 1500-1508 in completing ongoing NEPA reviews (Implementation of the National Environmental Policy Act, February 19, 2025)

Table 4.0.1: Impact Significance and Context Evaluation Criteria for Potential Impacts

Impact Scale	Criteria
None/Negligible	The resource area would not be affected and there would be no impact, OR changes or benefits would either be non-detectable or, if detected, would have effects that would be slight and local. Impacts would be well below regulatory standards, as applicable.
Minor	Changes to the resource would be measurable, but the changes would be small and localized. Impacts or benefits would be within or below regulatory standards, as applicable. Mitigation measures would reduce any potential adverse effects.
Moderate	Changes to the resource would be measurable and have either localized or regional scale impacts/benefits. Impacts would be within or below regulatory standards, but historical conditions would be altered on a short-term basis. Mitigation measures would be necessary, and the measures would reduce any potential adverse effects.
Major	Changes to the resource would be readily measurable and would have substantial consequences/benefits on a local or regional level. Impacts would exceed regulatory standards. Mitigation measures to offset the adverse effects would be required to reduce impacts, though long-term changes to the resource would be expected.

The impact analysis in this SEA evaluates the potential direct and indirect environmental impact of the No Action and Proposed Action alternatives. A summary table of the potential impacts of the No Action and Proposed Action alternatives and the corresponding environmental protection measures and permits required is provided here:

Table 4.0.1: Environmental Consequence by Alternative

Section	Area of Evaluation	Alternative 1: No Action and Alternative 2: Preferred Action	Environmental Protection Measures and Required Permits
5.1	**Physical Resources**		
	Geology and Soils	No change – see USACE EA Section 6.3 Alternative 1 – No impact. Alternative 2 – Minor, short-term impact on the on benthic and non-motile organisms within the nourishment area. Two of the four proposed borrow sites were utilized for previous beach	Hilton Head Island has obtained USACE permit as well as SCDES BCM permit. Hilton Head Island is required to obtain any permit modifications as needed. Verification of compliance and any applicable permitting documents will be required during the FEMA closeout review process.

Section	Area of Evaluation	Alternative 1: No Action and Alternative 2: Preferred Action	Environmental Protection Measures and Required Permits
		nourishment projects; all have undergone sediment analysis to ensure dredged filled is appropriate.	
	Air Quality	No change -- see USACE EA Section 12.1 Alternative 1 – No impact. Alternative 2 – Minor short-term impacts due to exhaust from construction equipment. The USACE analyzed the proposed action for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act (CAA), and the activities proposed would not exceed de minimis levels of direct or indirect emissions of a criteria pollutant or its precursors and are exempted by 40 CFR, Part 93.153.	Not applicable.
	Visual Quality and Aesthetics	No change – see USACE EA Section 6.4.3 Alternative 1 – Impacts could result from future storm damages along the shoreline. Alternative 2 – Minor short-term adverse impact on the aesthetic qualities of the beach in the vicinity of construction associated with the presence of machinery and noise generated during the operation. Longer-term moderate, beneficial	Not applicable.

Section	Area of Evaluation	Alternative 1: No Action and Alternative 2: Preferred Action	Environmental Protection Measures and Required Permits
		effect associated with the completion of the proposed action and resulting wider beach.	
5.2	Water Resources		
	Water Quality	Updated – see USACE EA Sections 6.3, 6.4.3, and 6.8 Alternative 1 – No impact. Alternative 2 – Minor short-term impacts to water quality during construction, primarily turbidity. Given the characteristics of the fill material, it is expected to settle out of the water column quickly.	Hilton Head Island has obtained USACE permit as well as SCDES BCM permit. Hilton Head Island is required to obtain any permit modifications as needed. SCDES BOW waived 401 Water Quality certification. Verification of compliance and any applicable permitting documents will be required during the FEMA closeout review process.
	Floodplains (Executive Order 11988)	Updated – not included in the USACE EA Alternative 1 – No impact. Risk to human life and improved property continues at current level. Alternative 2 – Beneficial impact, as the renourished beach would reduce flood risk to adjacent improved property and nearby parks and preserve the floodplain for open space and recreational use, one of the natural and beneficial values of the floodplain.	Not applicable. An 8-step checklist as required by 44 CFR Part 9 was completed, see Appendix A.
	Wetlands (Executive Order 11990)	Updated – see USACE EA Sections 1.3.2, 8.2, 9.4, 9.5,	An 8-step checklist as required by 44 CFR Part 9 was completed, see Appendix A.

Section	Area of Evaluation	Alternative 1: No Action and Alternative 2: Preferred Action	Environmental Protection Measures and Required Permits
		Alternative 1 – No impact. Alternative 2 – Minor short-term impact.	
5.3	Coastal Resources		
	Coastal Zone Management Act (CZMA)	No change – see USACE EA Section 6.3 and 10.6.1 Alternative 1 – No impact Alternative 2 – Minor beneficial impact due to restoration of the beach dunes and vegetation along the shoreline. Minor short-term impacts to water quality. SCDES BCM permit constitutes a finding of consistency with South Carolina's Coastal Zone Management Program, as required by Section 307 of the Coastal Zone Management Act (CZMA).	SCDES BCM permit. Hilton Head Island is required to obtain any permit modifications as needed. Verification of compliance and any applicable permitting documents will be required during the FEMA closeout review process.
	Coastal Barrier Resources Act (CBRA) and Coastal Barrier Improvement Act of 1990 (CBIA)	Updated – not included in USACE EA Alternative 1 - No impact Alternative 2 – Project does not occur in or adjacent to CBRA unit.	Not applicable.
5.4	Biological Resources		
	Wildlife and Fish	Updated -- see USACE EA Sections 6.4.1, 6.4.2, 10.1.3, 10.2.3 Alternative 1 – Minor impact. Continuing erosion could lead to ongoing habitat loss. Alternative 2 – Long-term beneficial impact,	Alternative 2 would require implementation of USACE permit and SCDES BCM permit conditions regarding wildlife and fish. In addition, terms and conditions of the NMFS SARBO and USFWS BO/CO, regarding sea turtles, fish, and shorebirds. Hilton Head Island is

Section	Area of Evaluation	Alternative 1: No Action and Alternative 2: Preferred Action	Environmental Protection Measures and Required Permits
		allowing shorebirds and nesting sea turtles to utilize the restored dune and beach profile. Minor, short-term adverse impacts to migratory birds, surf-zone fishes, and aquatic organisms within borrow and nourishment areas are anticipated. Fish, crustaceans, mollusks, benthic, and other aquatic organisms within the borrow area may be entrained by the hopper dredge and either harmed or killed. Species occupying the intertidal zone and near shore area, particularly non-motile benthic organisms may be smothered. Corresponding minor, short-term adverse impacts on the food web and overall productivity of the ecosystem in the vicinity of the project area is expected; however, the preferred alternative is not expected to have a significant impact on the overall populations of the aquatic ecosystem. After construction, fish and wildlife resources are expected to recover.	required to obtain any permit modifications as needed. Best management practices (BMPs) during construction and after were placed on both the USACE permit and SCDES BCM permit requirements. Verification of compliance and any applicable permitting documents will be required during the FEMA closeout review process.
	Vegetation	No change – see USACE EA Sections 6.3, 6.4.2, 6.4.3 Alternative 1 – No impact from construction. Continuing erosion could lead to ongoing dune	Specifications for vegetation planting and other applicable conditions were placed on both the USACE permit and SCDES BCM permit requirements. Hilton Head Island is required to

Section	Area of Evaluation	Alternative 1: No Action and Alternative 2: Preferred Action	Environmental Protection Measures and Required Permits
		vegetation loss due to escarpment. Alternative 2 – Minor impact to dune vegetation during construction; beneficial impact due to restoration of the beach dunes and vegetation planting along the shoreline. Alternative 2 would not affect submerged aquatic vegetation.	obtain any permit modifications as needed. Verification of compliance and any applicable permitting documents will be required during the FEMA closeout review process.
	Threatened and Endangered Species	No Change – see USACE EA Sections 6.4.1 and 6.9 Alternative 1 – No impact, possible loss of suitable habitat for listed species. Alternatives 2 -- Beneficial impacts due to increased habitat for sea turtles and shorebirds. Potential for incidental take during construction minimized by application of measures set forth in the NMFS SARBO and USFWS BO/CO.	Under Alternative 2, Hilton Head Island must comply with the terms and conditions, including the Special Conditions, of USACE permit and associated guidance, as well as all conditions in the SCDES BCM certification. The applicant must also adhere to the Conservation Measures and Terms and Conditions of the NMFS SARBO and USFWS BO/CO. Verification of compliance will be required at closeout proving the conditions and requirements in the referenced permits, biological opinions, and associated guidance documentation were adhered to. See Appendix D for the applicable biological opinions.
	Migratory Bird Treaty Act	Updated – not included in USACE EA	Under Alternative 2, subrecipient will follow all applicable conditions of

Section	Area of Evaluation	Alternative 1: No Action and Alternative 2: Preferred Action	Environmental Protection Measures and Required Permits
		Alternative 1 – Moderate long-term adverse impacts Alternative 2 – Minor short-term adverse impacts	USFWS BO/CO and SCDES BCM permit.
	Essential Fish Habitat	No change – see USACE EA Section 10.2 Alternative 1 – No impact. Alternative 2 – Minor, short-term impacts on EFH and/or federally-managed fisheries.	USACE Public Notice dated May 9, 2023, determined project would impact shrimp and snapper-grouper management complexes. NMFS-HCD provided comment neither supportive of nor in opposition to Alternative 2. Therefore, the USACE is satisfied that the consultation procedures outlined in 50 CFR Section 600.920 of the regulation to implement the EFH provisions of the Magnuson-Stevens Act have been met.
	Bald and Golden Eagles	Updated – not included in USACE EA Alternative 1 – No impact. Alternative 2 – No impact.	Not applicable.
5.5	**Cultural Resources**		
	Historic Standing Structures	Alternative 1 – No impact. Alternative 2 – No NRHPs, NHLs, or historic standing resources were identified within the APE. FEMA has made a determination of No Historic Properties Affected for the Hilton Head Island Beach Restoration project.	SC SHPO concurred with FEMA's determination on 5/17/2024.

Section	Area of Evaluation	Alternative 1: No Action and Alternative 2: Preferred Action	Environmental Protection Measures and Required Permits
	Archaeological Resources	Updated – see USACE EA Sections 10.3 and 10.4 Alternative 1– No impact. Alternative 2– No cultural resources were identified within the APE during remote-sensing surveys of the nearshore borrow sites. No known archaeological sites were identified within the APE per SC's online site file, ArchSite. FEMA has made a determination of No Historic Properties Affected for the Hilton Head Island Beach Restoration project.	FEMA consulted with the SC SHPO and eight (8) Tribes with ancestral interest in the APE: Catawba Indian Nation, Eastern Shawnee Tribe of Oklahoma, Muscogee (Creek) Nation, The Seminole Nation of Oklahoma, Seminole Tribe of Florida, Shawnee Tribe, Thlopthlocco Tribal Town, and Tuscarora Nation. SC SHPO concurred with FEMA's determination on 5/17/2024; no responses were received from Tribes. The Catawba Indian Nation responded on 6/16/2023 to USACE's public notice stating "no immediate concerns". The Town of Hilton Head Island will adhere to all applicable conditions in permits issued by USACE and SCDES BCM. Verification of compliance and any applicable permitting documents will be required during the FEMA closeout review process.
5.6	**Socioeconomic Resources**		
	Land Use and Planning	Updated – not included in USACE EA Alternative 1 – Moderate adverse impacts could result from future storm damages along the shoreline. Alternative 2 -- Minor impacts to water related recreation and aesthetics. This area is	Not applicable.

Section	Area of Evaluation	Alternative 1: No Action and Alternative 2: Preferred Action	Environmental Protection Measures and Required Permits
		largely tourism driven but impacts will be minor short-term, and beneficial in the long term by restoring the beach.	
	Noise	No change – see USACE EA Section 6.4.3 Alternative 1 – No impact. Alternative 2 – Minor short-term impacts from construction equipment.	Not applicable.
	Transportation	Updated – not included in USACE EA Alternative 1 – No impact. Alternative 2 – Negligible to minor, short-term impact on nearshore navigation of small recreational vessels and adjacent roadways during construction of the project.	Not applicable.
	Public Services and Utilities	Updated – see USACE EA Section 6.4.3 Alternative 1 – No impact. Alternative 2 – No impact.	Not applicable.
	Public Health and Safety	Updated – not included in USACE EA Alternative 1 – No impact. Alternative 2 – Minor short-term adverse impacts on public health and safety resulting from construction activities.	To minimize public health and safety risks for Alternative 2, BMPs during construction and after were placed on both the USACE permit and SCDES BCM permit.

Section	Area of Evaluation	Alternative 1: No Action and Alternative 2: Preferred Action	Environmental Protection Measures and Required Permits
	Hazardous, Toxic, and Radioactive Waste	Updated – not included in USACE EA Alternative 1 – No impact. Alternative 2 – Minor short-term impact due to potential for spills during construction. There are no brownfield, petroleum, per- and polyfluoroalkyl substances (PFAS), superfund, or other waste cleanup sites under the agency's cleanup oversight within a one-mile radius of the Hilton Head Island Beach Restoration project area. Based on the location of the borrow site, previous use of the borrow site, and analysis of the sand grains (size, color, carbonate content, silt content), there is no indication that toxic materials (metals or organics) are present in the borrow material.	BMPs per USACE permit and SCDES BCM permit and other Federal and state requirements shall be followed to prevent oil, fuel, or other hazardous substances from entering the air or water; and, for the construction contractor to have a spill contingency plan for hazardous, toxic, or petroleum products in place, to be implemented in the unlikely event of an occurrence.
5.7	**Cumulative Impacts**	Updated – See USACE EA Sections 6.8 and 9.0 Alternative 1 – Future storms could result in impacts to the shoreline, reducing buffer between ocean and infrastructure. Alternative 2 – Not expected to significantly contribute to cumulative impacts on the environment or any resources.	Not applicable.

5. Affected Environment and Potential Impacts

5.1. WATER RESOURCES

5.1.1. WATER QUALITY

Congress enacted the Federal Water Pollution Control Act in 1948, which was later reorganized and expanded in 1972 and became known as the Clean Water Act (CWA) in 1977. The CWA regulates discharge of pollutants into water with sections falling under the jurisdiction of the USACE and the Environmental Protection Agency (EPA). Section 404 of the CWA establishes the USACE permit requirements for discharging dredged or fill materials into Waters of the United States and traditional navigable waterways. USACE regulation of activities within navigable waters is also authorized under the 1899 Rivers and Harbors Act. Under the National Pollutant Discharge Elimination System (NPDES), the EPA regulates both point and non-point pollutant sources, including stormwater and stormwater runoff. SCDES Bureau of Water (SCDES BOW) issues these Section 401 water quality certifications which may be required when obtaining a CWA 404 permit. The threshold level for a significant impact to surface water would be a violation of state water quality criteria, a violation of federal or state discharge permits, or an unpermitted dredge or fill within the boundary of a jurisdictional waterbody or wetland.

Section 1424(e) of the Safe Drinking Water Act of 1974 [Public Law 93–523] authorizes EPA to designate an aquifer for special protection under the sole source aquifer program if the aquifer is the sole or principal drinking water resource for an area (i.e., it supplies 50 percent or more of the drinking water in a particular area) and if its contamination would create a significant hazard to public health. No commitment for federal financial assistance may be provided for any project that EPA determines may contaminate a sole source aquifer such that a significant hazard to public health is created.

Existing Conditions

The Hilton Head Island Breach Restoration project is located along and in the Atlantic Ocean, which is an ocean/near coastal waterbody. The water sources for the Island include groundwater from the Upper Floridian, Middle Floridian, and Cretaceous aquifers, with wholesale water purchased from the Beaufort Jasper Water and Sewer Authority. The Town is a recognized leader in recycled water distribution, with all three public service districts having programs to supply water to golf courses as well as renourish wetland areas. The EPA assesses the water quality of waterbodies in the United States utilizing compiled state, territorial, and authorized tribal water quality standards. Information about the water quality of each waterbody is made available through the interactive online How's My Waterway? Waterbody Report. According to the EPA's waterbody report, the multiple watersheds around the Island are not impaired but have not been assessed fish and shellfish consumption. SCDES has nine water monitoring locations which are mostly utilized seasonally to conduct testing for Enterococcus which is an issue throughout the South Carolina coast.

Potential Impacts and Proposed Mitigation

Alternative 1: No Action

Under the no action alternative, there would be no change in water quality.

Alternative 2: Repair Engineered Beaches Concurrently with Scheduled Maintenance Project (Preferred Alternative)

Restoration of the beaches is anticipated to have a minor, short-term effect on water quality in the immediate vicinity of the project areas. The discharge of dredged materials in the near shore environment would likely reduce the clarity in the immediate vicinity of active nourishment temporarily. The associated discharge may also contribute minor temporary changes in the pH and temperature, chemical content, and dissolved gas levels within the immediate vicinity of active nourishment.

The proposed project could potentially affect water quality, primarily regarding turbidity. It is reasonable to expect that beach nourishment activity would result in re-suspension of fine-grained materials currently trapped in the sediment at the borrow site which will result in a minor short-term effect in the vicinity of the project. Fine-grained material that moves back into marine waters would be exposed to tidal action within the near shore environment and would be quickly dispersed into the marine environment. Turbid plumes may develop during active nourishment of the beach, but such plumes would quickly dissipate, as would any other re-suspended fine-grained material. Any turbidity created by the project would be limited to the construction phase. Additionally, the proposed borrow areas have consist mostly of beach compatible sand with very low silt content; as such, high levels of turbidity are not anticipated. Although SCDES DWR waived 401 water quality certification for this project, special conditions were included in the Critical Area Permit and Coastal Zone Consistency permit issued by SCDES BCM to address water quality and to ensure that State Water Quality Standards would not be contravened.

Considering the size of the active nourishment area, at any point in time, relative to the dynamic nature of the near shore marine environment, (i.e., tidal change, mixing, etc.) minor, short-term adverse effects to water could occur. The proposed project does not involve diversion of fresh water or estuarine water and would not restrict such flows. Alternative 2 is expected to have minor, short-term adverse impacts to water quality. These impacts would not be significant.

5.1.2. FLOODPLAINS

Executive Order (EO) 11988: Floodplain Management, amended January 29, 2015, and as implemented in 44 CFR Part 9, requires federal agencies to “avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.” Special Flood Hazard Areas (SFHAs) are areas that have special flood, mudflow, or flood-related erosion hazards and will be inundated with water in the event of a 100-year (base) flood, which is a flood that has a 1 percent chance of being equaled or exceeded in magnitude in any given year. SFHAs are also referred to as the 100-year floodplain. The 500-year floodplain is the area covered by water in the event of a 500-year flood, which is a flood that has a 0.2 percent chance of being equaled or

exceeded in magnitude in any given year. Moderate flood hazard areas are those areas between the limits of the 100- and 500-year floodplains. Areas of minimal flood hazard fall outside of the SFHA (100-year floodplain) and are higher than the elevation of the 0.2-percent-chance annual flood (500-year floodplain). The zone VE, or Coastal High Hazard Area (CHHA), are coastal areas with a 1 percent or greater change of flooding including an additional hazard associated with storm waves. SFHAs, moderate flood hazard areas, areas of minimal flood hazard, CHHA, and both the 100- and 500-year floodplains are mapped on FEMA Flood Insurance Rate Maps (FIRMs).

Existing Conditions

Based on the current FEMA FIRMs, the project area is located within the coastal high hazard area designated as Zone VE (Appendix A). The VE zone is the coastal area subject to a velocity hazard (wave action) where Base Flood Elevations (BFEs) are provided. As VE zones are SFHAs, they fall within the limits of the 100-year floodplain. The borrow areas are located in areas designated as "open water" on the FIRM and therefore have no floodplain designation and are not subject to evaluation under EO 11988.

Potential Impacts and Proposed Mitigation

Alternative 1: No Action

Under the no action alternative, no construction would occur, and the floodplain would be allowed to return to its nonengineered state. However, open space use and protection of a community's health, safety, and wellbeing are considered beneficial values for floodplain resources. A full beach template enables a floodplain to facilitate open space use through recreation and provide a buffer to minimize impacts upon a community during flood events. Erosion to the beach system, if unaddressed, negatively impacts the potential for these resources to function as intended. As the beach continues to suffer erosion during future similar events, the beach could cease to function as a recreational facility for the community which have direct negative effects and indirect effects to the tourism-based economy. Furthermore, as the beach continues to erode, the community will experience increased impacts as a result of similar flooding events. This could continue until improved property is ultimately reclaimed by natural events and dynamics of a barrier island. Due to this, the no action alternative would have moderate long-term adverse impacts upon the floodplain. These impacts would be significant.

Alternative 2: Repair Engineered Beaches Concurrently with Scheduled Maintenance Project (Preferred Alternative)

Under the preferred alternative, construction to renourish the beaches to their full engineered template would occur within the floodplain. Restoring the engineered beach segments would serve to reduce the flood risk to the areas landward of the existing shorelines, including improved property and upland habitat. The beaches are functionally dependent upon their location within the floodplain. The beach system exhibits several natural and beneficial values of floodplains as noted in 44 CFR Part 9. The beaches facilitate open space use of the floodplain for recreational value. Additionally, the beach provides nearshore habitat for flora and fauna, including endangered species such as turtles and shore birds. An 8-step checklist, as required by 44 CFR Part 9, has been completed for this alternative

(Appendix A). Alternative 2 has been determined to have minor, long-term, beneficial impacts to the floodplain. These impacts are significant.

5.1.3. WETLANDS

Executive Order (EO) 11990: Protection of Wetlands requires Federal agencies to avoid funding activities that directly or indirectly support occupancy, modification, or development of wetlands, whenever there are practicable alternatives. FEMA uses the 8-step decision-making process to evaluate potential effects on, and mitigate impacts to, wetlands and floodplains in compliance with EO 11990 and EO 11988.

Existing Conditions

Per the USFWS National Wetlands Inventory, accessed February 6, 2025, the Hilton Head Island Beach Restoration project area is located in and adjacent to mapped estuarine and marine wetlands. The borrow areas for Hilton Head Island Beach Restoration project are approximately three (3) miles offshore and are not in a mapped wetland.

Potential Impacts and Proposed Mitigation

Alternative 1: No Action

Under the no action alternative, there would not be any FEMA undertaking and no corresponding construction; therefore, FEMA would have no responsibility under EO 11990 for this alternative.

Alternative 2: Repair Engineered Beaches Concurrently with Scheduled Maintenance Project (Preferred Alternative)

Under the preferred alternative, sand would be obtained from nearshore borrow areas and placed on the beach to replace material lost as a result of erosion and repair the engineered beach profiles and features. Temporary increases to turbidity are likely to occur during both the excavation of sand at the borrow areas and during sand placement operations on the beach. Conditions of work are required by both the USACE Individual Permit #SAC-2022-01660 and SCDES BCM Permit #2022-01660. Beneficial impacts to estuarine and marine wetlands are expected to persist by a restored beach area providing a buffer against coastal erosion preserving habitat and recreational values.

An 8-step checklist, as required by 44 CFR Part 9, has been completed for this alternative (Appendix A). The Town of Hilton Head Island will have to provide verification that all permitting requirements and conditions were adhered to during and after the construction work. This verification will be required at project closeout. Under Alternative 2, minor short-term adverse impacts are anticipated as a result of construction activity. These impacts would not be significant.

5.2. COASTAL RESOURCES

5.2.1. COASTAL ZONE MANAGEMENT ACT (CZMA)

The Coastal Zone Management Act (CZMA), administered by states with shorelines in coastal zones, requires those states to have a Coastal Zone Management Plan (CZMP) to manage coastal development. As defined in the Act, the coastal zone includes coastal waters extending to the outer

limit of state submerged land title and ownership, adjacent shorelines, and land extending inward to the extent necessary to control shorelines. Projects falling within designated coastal zones must be evaluated to ensure they are consistent with the CZMP and projects receiving federal assistance must follow the procedures outlined in 15 CFR § 930.90 – 930.101 for federal coastal zone consistency determinations.

In order to guide development and resource management within South Carolina's coastal area, the South Carolina Coastal Management Program (SCCMP) was approved by the National Oceanic and Atmospheric Administration (NOAA) in 1979 and codified by the South Carolina General Assembly that same year. The program also authorized a consistency review process.

SCDES BCM's Critical Area Permitting section regulates activities occurring in areas defined as coastal waters, tidelands, beaches, and beach/ dune system. A SCDES BCM Critical Area Permit is required for activities located on those lands subject to periodic inundation by tidal and wave action so that no non-littoral vegetation is established plus all land from the mean high-water mark of the Atlantic Ocean landward to the 40-year setback line described in SC Code Reg. §48–39–280. SCDES BCM's Critical Area Permitting section reviews proposed alterations to the critical areas to ensure that they are consistent with the applicable laws found in the Coastal Tidelands and Wetlands Act and the Coastal Division Regulations in addition to the policies of the South Carolina Coastal Management Program (SCCMP).

Existing Conditions

There are eight (8) counties defined as the "coastal zone" and are managed under the authority of SCDES BCM. The Hilton Head Island Beach Restoration's project area is located within Beaufort County, one of the eight counties and therefore in the coastal zone. The location and nature of the work also places the project within multiple Critical Areas. Per the SCCMP, Federal permits issued in the State under the jurisdiction of *Section 10* of the Rivers and Harbors Act; *Sections 401, 402* and *404* of the Clean Water Act are subject to Federal consistency provisions and reviewed by SCBCM.

Potential Impacts and Proposed Mitigation

Alternative 1: No Action

Under the no action alternative, no work would occur and there would be no impact to the coastal zone. The critical coastal areas and ecosystems would be unprotected and susceptible to further coastal erosion.

Alternative 2: Repair Engineered Beaches Concurrently with Scheduled Maintenance Project (Preferred Alternative)

Under the preferred alternative, activity and construction would occur in the coastal zone and critical areas. The project would restore eroded areas of the shore by replacing beach compatible sand to a designed beach profile. SCDES BCM authorized the preferred alternative by issuing a Critical Area Permit and Coastal Zone Consistency Certification (2022-01660), issued February 20, 2025. This permit constitutes a finding of consistency with South Carolina's CZMP, as required by Section 307 of

the CZMA. Special and general conditions were provided with the permit to minimize negative impacts on water quality, marine productivity, beach and shoreline stability, and other environmental aspects.

5.2.2. COASTAL BARRIER RESOURCES ACT (CBRA) AND COASTAL BARRIER IMPROVEMENT ACT (CBIA) OF 1990

The Coastal Barrier Resources Act (CBRA) of 1982 and subsequent amendments encourage the conservation of storm-prone and dynamic coastal barriers by prohibiting Federal funding for actions that would encourage development in areas that have been designated as System Units within the Coastal Barrier Resource System (CBRS). There are exemptions to the Act and actions that meet specific exemptions must demonstrate consistency with the three purposes of CBRA. The purposes of CBRA are to minimize the loss of human life, the wasteful expenditure of Federal revenues, and the damage to fish, wildlife, and other natural resources. CBRA was amended by the Coastal Barrier Improvement Act (CBIA) of 1990, designating a new category of units within the CBRS, Otherwise Protected Areas (OPAs). OPAs are based on areas established under federal, state, or local law, or held by a qualified organization, primarily for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes. OPAs don't have the same restrictions as System Units and Federal funding is not prohibited in these areas.

Existing Conditions

No portion of the Hilton Head Island Beach Restoration project takes place within or adjacent to a CBRS.

Potential Impacts and Proposed Mitigation

Alternative 1: No Action

Under the no action alternative, no work would occur and there would be no impact CBRS units.

Alternative 2: Repair Engineered Beaches Concurrently with Scheduled Maintenance Project (Preferred Alternative)

As there are no CBRS units in or adjacent to the project area, Alternative 2 will have no impact under the CBRA.

5.3. BIOLOGICAL RESOURCES

5.3.1. FISH AND WILDLIFE

Biological resources include native or naturalized plants and animals and their habitats (e.g., wetlands, forests, and grasslands). This SEA does not cover adverse impacts to species or habitats of concern over relatively large areas, or if disturbances cause reductions in population size or distribution. FEMA used potential physical impacts such as habitat loss, noise, and impacts to water quality to assess the effects of the Action Alternatives on biological resources.

The engineered sandy beaches are to be constructed to mimic a natural beach and will serve as foraging and nesting habitat for numerous species. These include various species of shorebirds, wading birds, sea birds, crabs, mammals, and sea turtles. There are no seagrass habitats nor hardbottom and coral habitats located offshore in the vicinity of the project area.

Existing Conditions

The Region of Interest (ROI) includes all areas transited by dredging vessels and equipment, barges, and other vessels utilized including portions of the outer continental shelf, nearshore borrow areas, and the waters in and around the barrier island. The inlets separating the barrier island give way to small bays and estuaries where Submerged Aquatic Vegetation (SAV), mangroves, and wetlands provide forage, nursery, and habitat for various life stages of managed species and their prey. Common amphibians known to occur within the ROI include various species of toads, frogs, and salamanders. Reptiles include alligator (*Alligator mississippiensis*) and other reptiles, to include various species of snakes, lizards, and terrapins. Mammals known to occur within the ROI include rodents (voles, mice, rats, squirrels, groundhogs, etc.), raccoons (*Procyon lotor*), black bears (*Ursus americanus*), opossum (*Didelphis virginiana*), armadillos (*Dasypus novemcinctus*), and whitetail deer (*Odocoileus virginianus*). Bird species include migratory shorebirds, wading birds, raptors, and songbirds, including whooping crane (*Gus americana*), brown pelican (*Pelecanus occidentalis*), and eastern bluebird (*Sialia sialis*). Of the aquatic species or species groups along the Atlantic coast, a wide variety of coastal migratory pelagic (Spanish mackerel (*Scombrus maculatus*)), and King Mackerel (*Scomberomorus cavalla*) and penaeid shrimp species (brown shrimp (*Farfanteepenaeus aztecus*), white shrimp (*Litopenaeus setiferus*), red royal shrimp (*Pleaticus robustus*), and pink shrimp (*Farfantepenaeus duorarum*)) may occur within the ROI. There are no reefs or hardbottom resources within or immediately adjacent to the beaches or borrow areas. The diverse assemblages of fishes found in and adjacent to the ROI is vital to the health of the marine ecosystem which supports commercial and recreational fishing as well as various ecotourism activities.

Potential Impacts and Proposed Mitigation

Alternative 1: No Action

Alternative 1 entails no construction activities; therefore, the No Action Alternative would have no direct impacts to fish and wildlife. However, species habitats would continue to decline due to continued erosion of the beach shoreline. This background erosion and future storm erosion could eventually lead to moderate long-term adverse impacts to the habitat of wildlife present on the beach. These impacts would be significant.

Alternative 2: Repair Engineered Beaches Concurrently with Scheduled Maintenance Project (Preferred Alternative)

Under Alternative 2, short-term changes in nearshore and nearshore habitat areas may occur during construction activities. Dredging activities will increase noise and turbidity in and around the borrow areas disturbing local wildlife. It is anticipated that these actions will encourage flight of wildlife found in the immediate area, so harm to present species should be minimal. Similar impacts are to be expected within the beach segments undergoing nourishment activities. Noise from heavy machinery and workers should discourage wildlife from being within proximity of the work site. During periods of inactivity, nuisance and opportunistic species such as racoons and opossum may forage the worksite due to the presence of food waste from construction workers. Regardless, harm to species around the work site is anticipated to be minimal. Fish and wildlife resources are expected to recover, and no long-term impacts are expected. Alternative 2 would require implementation of the SCDES BCM and USACE permit conditions as well as the project specific Biological and Conference Opinion issued by USFWS. Although most conditions and measures are regarding Federally protected species, they will contribute

to minimizing the risk to fish and wildlife overall. Based on the review conducted, Alternative 2 would have minor short-term adverse impacts to fish and wildlife. These impacts would not be significant.

5.3.2. VEGETATION

Vegetation is a necessary component of a functioning coastal dune as the root system serve to keep the dunes structure intact and resistant to erosion caused by wind and storm surge. In addition, dune vegetation provides foraging and nesting habitat to animals such as shorebirds. Other forms of vegetation that can be found within coastal environments include algae and seagrasses.

Existing Conditions

A majority of the Island's oceanic shoreline has vegetation within the upper geomorphological zones of the beach profile. The most common species include sea oats (*Uniola paniculata*), bitter panicgrass (*Panicum amarum*), and sea rocket (*Cakile maritima*). Dune planting is also a component of the Town's comprehensive beach management plan. As a result of Hurricane Matthew, 29,620 dune plants were lost; as a result of Hurricane Dorian an estimated 33 acres of vegetation was lost. Seagrass is not found in coastal South Carolina.

Potential Impacts and Proposed Mitigation

Alternative 1: No Action

With this alternative, continued erosion and overwash are expected to occur resulting in further loss to vegetative resources. With the loss of the dune vegetation, the stability of the area would become compromised further. The No-action Alternative would have indirect impacts on vegetative resources which would have moderate long-term negative effects upon vegetation within the engineered beach segments. These impacts would be significant.

Alternative 2: Repair Engineered Beaches Concurrently with Scheduled Maintenance Project (Preferred Alternative)

For Alternative 2, it is anticipated that shoreline vegetation would be exposed to minor negative impacts from the deployment and use of heavy machinery. Additionally, shoreline vegetation may be exposed to additional foot traffic from workers accessing the construction areas. The Town will be conducting dune planting along all four segments; over 400,000 dune plants will be planted to replace those lost as a result of Hurricanes Matthew and Dorian. Due to these actions, the preferred alternative is anticipated to have a moderate long-term beneficial impact on vegetation within the project area. This impact will not be significant.

5.3.3. THREATENED AND ENDANGERED SPECIES

The Endangered Species Act (ESA) of 1973 provides for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The lead Federal agencies for implementing ESA are the USFWS and the U.S. National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS). The law requires Federal agencies to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species. The law also prohibits any action that causes a "taking" of any listed species of endangered

fish or wildlife. A “take” includes the following actions: “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.”

Existing Conditions

In accordance with Section 7 of the Endangered Species Act (ESA) of 1973, the Hilton Head Island Beach Restoration project was evaluated for the potential impact to federally listed threatened and endangered species that may be present in the project area. In its EA, the USACE considered the following threatened and endangered species: Frosted flatwoods salamander (*Ambystoma cingulatum*), American wood stork (*Mycteria americana*), Eastern black rail (*Laterallus jamaicensis jamaicensis*), Piping plover (*Charadrius melodus*), Red-cockaded woodpecker *(Picoides borealis*), Rufa red knot (*Calidris canutus rufa*), Atlantic sturgeon (*Acipenser oxyrinchus*), Shortnose sturgeon (*Acipenser brevirostrum*), Finback whale (*Balaenoptera physalus*), Humpback whale (*Megaptera novaeangliae*), Northern long-eared bat (*Myotis septentrionalis*), Right whale (*Eubalaena glacialis*), Sei whale (*Balaenoptera borealis*), Sperm whale (*Physeter macrocephalus*), West Indian manatee (*Trichechus manatus*), American chaffseed (*Schwalbea americana*), Pondberry (*Lindera melissifolia*), Green sea turtle (*Chelonia mydas*), Kemp's Ridley sea turtle (*Lepidochelys kempii*), Leatherback sea turtle (*Dermochelys coriacea*), and the Loggerhead sea turtle (*Caretta caretta*) have. The Heel Beach Fill area is located within a portion of Critical Habitat Unit SC-15 for wintering piping plovers and Proposed Critical Habitat Unit SC-22 for rufa red knots. The Fish Haul Beach Fill area is also located within Proposed Unit-22 for wintering rufa red knots, but not wintering piping plover critical habitat. Sand will be sourced from the Bay Point Shoals borrow area. One (1) additional threatened and endangered species with the potential to be present in the project area were identified by accessing the USFWS Information for Planning and Consultation (IPaC) database on February 20, 2025. As such, the project was also evaluated for potential impacts to the threatened eastern black rail (*Laterallus jamaicensis spp. jamaicensis*). The shoreline of the project area is suitable sea turtle nesting habitat for listed sea turtles and wintering habitat for the piping plover and rufa red knot.

Potential Impacts and Proposed Mitigation

Alternative 1: No Action

Alternative 1 does not involve any Federal; undertaking, nor any construction; therefore, there would be no potential impacts. and no further responsibility under the ESA. Under the No Action Alternative, the Hilton Head Island shoreline would remain in its current state and sand would not be placed on the beach. Ongoing erosion would continue along the shoreline, impacting the existing beach, beach berm, and dune system. Consequently, habitat for sea turtles, rufa red knot, and piping plover would continue to be minimized until potentially completely lost as the receding beach reaches developed property.

Alternative 2: Repair Engineered Beaches Concurrently with Scheduled Maintenance Project (Preferred Alternative)

Under the preferred alternative, beneficial impacts to species along the shoreline environment are anticipated to occur due to the sand placement activities and revegetation of the dunes. If the sand placement and dune planting occur during sea turtle nesting season, the action may adversely affect

nesting sea turtles and hatchlings. Short-term adverse impacts may be expected to the piping plover and rufa red knot due to disruption in foraging habitat during construction.

In preparation of its EA, the USACE evaluated potential impact to federally listed threatened and endangered species that may be present in the project area using the NMFS' South Atlantic Regional Biological Opinion (SARBO) to the U.S. Army Corps of Engineers, issued March 27, 2020. While two of the borrow areas (Baypoint Shoals and Barrett Shoals BR2) have been previously permitted and used, the project involves two new borrow areas at Barrett Shoals BR1 and Gaskin Shoals. In order to qualify for the SARBO, the Town conducted remote sensing surveys of the new borrow areas to identify any non-coral hardbottom areas or bottom structures that may serve as attractants to sea turtles for foraging and shelter. The survey concluded that the project will have no impacts to hardbottom areas, therefore, the new borrow areas are also eligible to be covered under the 2020 SARBO.

The USACE requested informal consultation with the USFWS for potential effects the project may have on the West Indian manatee, loggerhead turtle, green turtle, leatherback turtle, and Kemp's ridley turtle, as well as piping plover and rufa red knot habitat. The USFWS responded by letter sent to the USACE on June 8, 2023, with concurrence that the project may affect but is not likely to adversely affect the West Indian manatee, green sea turtle, Kemp's Ridley sea turtle, and Leatherback sea turtle. Due to the project timeline overlapping with sea turtle nesting season, USFWS recommended initiating formal consultation for the loggerhead sea turtle. USFWS also recommended formal consultation regarding the piping plover and rufa red knot critical habitat. The Corps initiated formal consultation by letter dated October 11, 2023, and received the USFWS's Biological and Conference Opinion on August 9, 2024. Following extensive coordination between the Corps, the Town of Hilton Head Island and the USFWS, the USFWS revised their BO/CO on January 14, 2025, concluding formal consultation.

One additional threatened and endangered species with the potential to be present in the project area not previously considered by the USACE was identified by accessing the USFWS Information for Planning and Consultation (IPaC) database on February 20, 2025. As such, the Hilton Head Island Beach Restoration project was also evaluated for potential impacts to the threatened eastern black rail (*Laterallus jamaicensis spp. jamaicensis*). FEMA has determined the project will have no effect to the eastern black rail as the project area does not provide suitable habitat for these species.

Upon implementation of the Conservation Measures, Reasonable and Prudent Measures, Terms and Conditions, Special Conditions, and Incidental Take Statement, included in the USFWS Biological and Conference Opinion (Service Log #2023-0091041, dated August 8, 2024, amended January 15, 2025), NMFS South Atlantic Regional Biological Opinion (SARBO) (Consultation Number F/SER31/2019/03111, issued March 27, 2020), as well as adherence to the USACE Individual Permit (SAC-2022-01660) and SCDES BCM Critical Area and Coastal Zone Consistency Certification (2022-01660), the project is not likely to jeopardize the continued existence of the loggerhead sea turtle, piping plover and its designated habitat, and rufa red knot and its proposed critical habitat. The project is not likely to adversely affect the green sea turtle, Kemp's ridley sea turtle, leatherback sea turtle, or the West Indian manatee.

5.3.4. ESSENTIAL FISH HABITAT

Federal agencies are required to assess the potential impacts that proposed actions and alternatives may have on Essential Fish Habitat (EFH), in accordance with the Magnuson-Stevens Fishery Conservation and Management Act.

Existing Conditions

In its EA, the USACE considered potential impacts of the Hilton Head Beach Restoration project on essential fish habitats and determined 925 acres of both shrimp and snapper-grouper management complexes containing estuarine substrates utilized by various life stages would be impacted. The USACE received comment from the National Marine Fisheries Service's Habitat Conservation Division (NMFS-HCD) in response to the corresponding public notice confirming work would occur in EFH and NMFS-HCD' position is neither supportive of nor in opposition of the proposed work. Therefore, the USACE stated that it was satisfied that the consultation procedures outlined in 50 CFR Section 600.920 of the regulation to implement the EFH provisions of the Magnuson-Stevens Act have been met.

Potential Impacts and Proposed Mitigation

Alternative 1: No Action

Under the no action alternative, no impacts to essential fish habitat would occur.

Alternative 2: Repair Engineered Beaches Concurrently with Scheduled Maintenance Project (Preferred Alternative)

Under the preferred alternative, minor, short-term impacts on EFH and/or federally managed fisheries within the project area are anticipated. The USACE determined that the Hilton Head Island Beach Restoration project would not affect submerged aquatic vegetation, emergent marsh, hard bottom corals, oyster reefs, or similar such resources. Additionally, the USACE noted that sediment conditions and benthic communities within the Barrett Shoals and Bay Point borrow areas have demonstrated rapid recovery (i.e., within 12 months) following dredging. The USACE asserts that the shrimp and snapper-grouper management complexes areas would not be substantially impacted by the work. The Town of Hilton Head will follow the permit issued by SCDES BCM Critical Area Permit and Coastal Zone Consistency Certification which contains special conditions regarding water quality that will minimize potential impacts of the dredging on EFH. Alternative 2 will have short-term adverse effects; these impacts would not be significant.

5.3.5. MIGRATORY BIRD TREATY ACT

The MBTA of 1918 provides a program for the conservation of migratory birds that fly through lands of the United States. The lead federal agency for implementing the MBTA is the USFWS. The law makes it illegal for anyone to "take" (meaning to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture or collect), attempt to take, capture, or kill, possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export, any migratory bird, any part, nest, or egg of any such bird, or any product, whether

or not manufactured, which consists, or is composed in whole or part, of any such bird or any part, nest, or eggs.

Existing Conditions

The entire state of South Carolina is considered a flyway zone for migratory birds. According to the USFWS IPaC database accessed on February 20, 2025, 47 migratory bird species were identified as being potentially present within the project area, and 28 of the species have a designated breeding season which could occur within the project's anticipated timeline.

Potential Impacts and Proposed Mitigation

Alternative 1: No Action

The No Action Alternative would not result in any construction activities; therefore, the No Action Alternative would have no direct impacts to migratory bird species. However, species habitats would further decline due to continuing erosion of the beach shoreline. This background erosion and future storm erosion could eventually lead to moderate long-term adverse impacts to the habitat of wildlife present on the beach. These impacts would be significant.

Alternative 2: Repair Engineered Beaches Concurrently with Scheduled Maintenance Project (Preferred Alternative)

If the sand placement activities occur during breeding season, these actions may adversely affect nesting shore birds and their young. Additionally, the disruption in the foraging habitat during construction activities could cause short-term impacts for migratory bird species near the project area. Due to the moderate short-term impact, the proposed action would be required to follow the conditions in USFWS Biological and Conference Opinion (Service Log #2023-0091041, dated August 8, 2024, amended January 15, 2025) and SCDES BCM SCDES BCM Critical Area Permit and Coastal Zone Consistency Certification, which include ornithological related conditions and requirements that will mitigate impacts to migratory bird species. Once the project is complete, the coastal dune system would provide long-term positive effects by providing a restored habitat and foraging area for these species to the full design profile. Under Alternative 2, minor short-term adverse impacts to species within the project area would be anticipated. These impacts would not be significant.

5.3.6. BALD AND GOLDEN EAGLE PROTECTION ACT (BGEPA)

The BGEPA (16 USC § 668 to 668c), enacted in 1940, prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald and golden eagles, including their parts, nests, or eggs. Like the MBTA, the law makes it illegal for anyone to "take," possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or their parts, feathers, nests, or eggs. "Take" is defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

Existing Conditions

According to South Carolina Natural Heritage Program, accessed on February 20, 2025, no documented eagle nests are located in or near the project area. The general nesting season for bald eagles in the southeast is from approximately October 1 to May 15, which is mostly outside of the project's anticipated work window.

Potential Impacts and Proposed Mitigation to Bald and Golden Eagles

Alternative 1: No Action

Under the no action alternative, no impacts to bald and golden eagles would occur.

Alternative 2: Repair Engineered Beaches Concurrently with Scheduled Maintenance Project (Preferred Alternative)

Golden eagles inhabit tundra, grasslands, forested and woodland-brushlands, and arid deserts. They avoid nesting in urban habitat. Due to the species habitat being inconsistent with the habitat of the project location, the presence of a golden eagle is unlikely to occur within the project area. Additionally, based on SCNHP data bald eagles are not anticipated to occur within the project area. Based on these considerations, Alternative will have no impact on bald or golden eagles.

5.4. CULTURAL RESOURCES

As a Federal agency, FEMA must consider the potential effects of its actions upon cultural resources prior to engaging in any undertaking. This obligation is defined in Section 106 of the National Historic Preservation Act (NHPA), as amended and implemented by 36 CFR Part 800. The NHPA of 1966 defines a historic property as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on the National Register." Eligibility criteria for listing a property on the National Register of Historic Places (NRHP) are found at 36 C.F.R. Part 60.

The South Carolina Department of Archives and History maintains an online site file of South Carolina's known archaeological resources, ArchSite. The ArchSite is regularly updated, in part, based on reports prepared by cultural resources professionals in advance of construction projects that are subject to review by the State Historic Preservation Officer (SHPO), federal agencies, and FEMA's Office of Environmental Planning & Historic Preservation (OEHP). Requirements for review include the identification of significant cultural resources that may be impacted by the undertaking. Cultural resources are defined as prehistoric and historic sites, structures, districts, buildings, objects, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons.

Only those cultural resources determined to be potentially significant under NHPA are subject to protection from adverse impacts resulting from an undertaking. To be considered significant, a cultural resource must meet one or more of the criteria established by the National Park Service (NPS) that would make that resource eligible for inclusion in the NRHP. Significance is conveyed through the property's retention of historic integrity. The seven (7) aspects of historic integrity that are identified and evaluated are: location, design, setting, materials, workmanship, feeling, and association. In order to retain historic integrity, a property must possess multiple, if not all, of the seven (7) aspects. Retention of the aforementioned aspects is crucial to conveying significance and while there is a subjective judgement in evaluating integrity, a property's physical features shape the foundation for understanding and relating significance to the public. The term "eligible for inclusion in the NRHP" includes all properties that meet the NRHP listing criteria, which are specified in the Department of Interior regulations Title 36, Part 60.4 and NRHP Bulletin 15. Sites that have not been evaluated at

the time of the undertaking may be considered potentially eligible for inclusion in the NRHP and, as such, are afforded the same regulatory consideration as nominated properties.

Pursuant to 36 CFR 800.4(a)(1), the Area of Potential Effects (APE) is defined as the geographic area(s) within which the undertaking may directly or indirectly affect cultural resources. Within the APE, impacts to cultural resources are evaluated prior to the undertaking for both Standing Structures (above ground resources) and Archaeology (below ground resources).

Since 1998, five remote-sensing surveys have been conducted to evaluate potential borrow areas in the nearshore shoals of Hilton Head Island. The surveys were performed by Tidewater Atlantic Research, Inc. (TAR) of Washington, North Carolina, and utilized magnetic and acoustic remote-sensing techniques to identify any submerged cultural resources within the surveyed regions. The surveys covered four specific areas: Barrett Shoals borrows BR1 and BR2, Gaskin Banks borrow, Bay Point Shoals borrow. The Barrett Shoals offshore borrow areas (BR1 and BR2) were surveyed in 1998, 2005, 2014, and 2022 to identify cultural resources. The surveys identified six (6) potentially significant submerged cultural resources. The 2022 survey did not identify any additional buffer areas. The Gaskin Banks borrow location had not been previously permitted and was included in the 2022 remote sensing survey. No potentially significant submerged cultural resources were identified during the survey. The Bay Point Shoals offshore borrow area was surveyed in 2009 and 2014 and these surveys identified potentially significant submerged cultural resources. This area was avoided during 2016 beach renourishment activities. The proposed Bay Point borrow area has been expanded 500 feet to the southeast from the 2016 beach renourishment project. Remotes sensing surveys in this area did not identify any culturally significant cultural resources.

The USACE determined the project would have no effect on historic properties. and published a public notice for the Hilton Head Island Beach Restoration project on May 9, 2023, prior to authoring its EA, and requested concurrence from SC SHPO and any other interested parties to provide concurrence or comment. SC SHPO responded via letter on June 9, 2023, concurring with the USACE's determination. Catawba Indian Nation provided a letter on June 16, 2023, stating they had no immediate concerns and requested to be notified if Native American artifacts and/or human remains were located.

FEMA, the SC SHPO, the South Carolina Emergency Management Division (SCEMD), and the Advisory Council on Historic Preservation (ACHP) have executed a Statewide Programmatic Agreement dated October 16, 2014, and amended (4) September 24, 2024, to streamline the Section 106 review process. Per the guidelines outlined in the Programmatic Agreement, the undertaking does not meet the allowances agreed upon in Appendix B and, therefore, required consultation with interested parties.

FEMA determined that the APE for the Hilton Head Island Beach Restoration project is 13.74 miles of beach, with a 500-foot (ft.) wide buffer, as well as four (4) adjacent nearshore borrow areas (see Tables 1.0.1. and 3.0.1.). Utilizing the NPS National Register of Historic Places (NRHP) GIS resource, data from SC's ArchSite, historic aerial imagery and topographic maps, and the two most recent APE-specific surveys*, A Remote-Sensing Survey of Two Proposed Borrow Areas Located off Hilton Head Island, Beaufort County, South Carolina 2023,* and *A Remote-Sensing Survey of Expanded Borrow*

Areas off Hilton Head Island, Beaufort County, South Carolina 2014, FEMA determined the undertaking would have No Adverse Effect to Historic Properties, in accordance with 36 CFR 800.4(d)(1).

On April 26, 2024, FEMA initiated consultation with the SC SHPO and eight (8) Tribes with ancestral interest in Hilton Head Island, Beaufort County, South Carolina: Catawba Indian Nation, Eastern Shawnee Tribe of Oklahoma, Muscogee (Creek) Nation, The Seminole Nation of Oklahoma, Seminole Tribe of Florida, Shawnee Tribe, Thlopthlocco Tribal Town, and Tuscarora Nation. No objections to the proposed project were received from the eight (8) Tribes with ancestral interest SC SHPO provided a letter concurring with FEMA's determination and conditions placed on the project.

5.4.1. HISTORIC (STANDING) STRUCTURES

Existing Conditions

FEMA identified potential cultural resources in the APE utilizing the NPS National Register of Historic Places (NRHP) GIS resource, data from SC's ArchSite, historic aerial imagery and topographic maps, and the two most recent APE-specific surveys*, A Remote-Sensing Survey of Two Proposed Borrow Areas Located off Hilton Head Island, Beaufort County, South Carolina 2023,* and *A Remote-Sensing Survey of Expanded Borrow Areas off Hilton Head Island, Beaufort County, South Carolina 2014.* FEMA's review identified no historic structures, buildings, objects, or districts within the APE of the Hilton Head Island Beach Restoration project area.

Potential Impacts and Proposed Mitigation to Standing Historic Structures

Alternative 1: No Action

Under the no action alternative, no impacts to historic structures, buildings, objects, or districts would occur.

Alternative 2: Repair Engineered Beaches Concurrently with Scheduled Maintenance Project (Preferred Alternative)

The Hilton Head Island Beach Restoration project area and proposed borrow area were previously subjected to a cultural resource assessment survey and submerged remote sensing survey, respectively. No historic structures, buildings, objects, or districts were identified within the APE or viewshed. FEMA has made a determination of No Adverse Effect for this project.

5.4.2. ARCHAEOLOGICAL RESOURCES

Existing Conditions

FEMA identified potential cultural resources adjacent to the APE, utilizing the NPS National Register of Historic Places (NRHP) GIS resource, data from SC's ArchSite, historic aerial imagery and topographic maps, and the two most recent APE-specific surveys*, A Remote-Sensing Survey of Two Proposed Borrow Areas Located off Hilton Head Island, Beaufort County, South Carolina 2023,* and *A Remote-Sensing Survey of Expanded Borrow Areas off Hilton Head Island, Beaufort County, South Carolina 2014.* The Barrett Shoals surveys resulted in the creation of six (6) avoidance buffer areas around potentially significant submerged cultural resources. None of these avoidance areas fall within the proposed borrow areas and there will be no impacts to cultural resources. Avoidance buffer areas were

created for Bay Point based on the 2009 and 2014 survey results with only one of the buffer areas lying partially within the proposed borrow area. This buffer area was avoided during 2016 beach renourishment activities and will be avoided during the currently proposed beach renourishment. The proposed Bay Point borrow area has been expanded 500 feet to the southeast from the 2016 beach renourishment project. Remotes sensing surveys in this area did not identify any culturally significant cultural resources. One buffer area lies partially within the currently proposed borrow area. Avoidance of this area will result in no effects to significant cultural resources.

Prehistoric Archaeological Resources

No pre-contact (prehistoric) archaeological resources were identified within the proposed project's APE.

Historic Archaeological Resources

Utilizing SC's online site file, ArchFile, no recorded archaeological sites were identified within the APE; four (4) potential historic archaeological resources were identified. FEMA's NHPA review, completed by Secretary of the Interior (SOI) qualified archaeologists and historians, found there are no historic properties listed or eligible for listing in the NRHP, National Historic Landmarks (NHLs), or known historic buildings, objects, sites, or districts within the proposed APE.

Potential Impacts and Proposed Mitigation, Archaeological Resources

Alternative 1: No Action

Under the no action alternative, no impacts to archaeological resources would occur.

Alternative 2: Repair Engineered Beaches Concurrently with Scheduled Maintenance Project (Preferred Alternative)

Based on the continued avoidance of the submerged archaeological resources and adherence to their associated buffers during dredging activities, the proposed Hilton Head Island Beach Restoration project should have no effect on these potential historic archaeological resources. FEMA has made a determination of No Historic Properties Affected for the project. The following conditions shall be adhered to for Alternative 2:

- If any vessel remains are discovered during the project dredging operations, work will be shifted away from the discovery site and the South Carolina Institute of Archaeology and Anthropology (SCIAA), the South Carolina State Historic Preservation Office, and FEMA will be contacted immediately.
- If human remains or intact archaeological features or deposits (e.g. arrowheads, pottery, glass, metal, etc.) are uncovered, work in the vicinity of the discovery will stop immediately and all reasonable measures to avoid or minimize harm to the finds will be taken. The subrecipient will ensure that archaeological discoveries are secured in place, that access to the sensitive area is restricted, and that all reasonable measures are taken to avoid further disturbance of the discoveries. The subrecipient's contractor will provide immediate notice of such discoveries to the applicant. The subrecipient shall contact the ***SC County Sheriff or local law enforcement*** and FEMA within 24 hours of the discovery. Work in the vicinity of the discovery may not resume until FEMA has completed consultation with SHPO, Tribes, and

other consulting parties as necessary. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with ***South Carolina Code, Section 16-17-600***.

- Any changes to the approved scope of work will require submission to, and evaluation and approval by, the State and FEMA, prior to initiation of any work, for compliance with Section 106.

5.5. SOCIOECONOMIC RESOURCES

5.5.1. TRANSPORTATION

The South Carolina Department of Transportation (FDOT) is the jurisdictional authority for traffic and transportation in the state of South Carolina. SCDOT's mission is to connect communities and drives the State's economy through the systematic planning, construction, maintenance, and operation of the state highway system and the statewide intermodal transportation and freight.

The Beaufort County Traffic Operations works with local, State, and Federal partners to enhance the roadways throughout the county, including Hilton Head Island.

Existing Conditions

Hilton Head Island is accessed by J. Wilton Graves bridge, a concrete bridge spanning Skull Creek that separates Hilton Head Island from the mainland. It is the sole point of vehicular and pedestrian access to the Town of Hilton Head Island for those living, working, or visiting the community. This route allows heavy equipment and construction staff to be transported to and from the beach area.

Potential Impacts and Proposed Mitigation

Alternative 1: No Action

Under the no action alternative, there would not be any construction activities, and, accordingly, this alternative would not have an impact on existing infrastructure.

Alternative 2: Repair Engineered Beaches Concurrently with Scheduled Maintenance Project (Preferred Alternative)

The proposed work for Alternative 2 would utilize existing roads in the area and no new transportation features would be constructed. The land-based work would be conducted using upland sand truck hauls, bulldozers, excavators, front-end loaders, dump trucks, and off-road vehicles. A temporary increase of traffic is anticipated resulting from construction equipment and staff accessing the project areas. During the restoration period, road access may be limited or restricted to aid in beach access for heavy machinery. Temporary pedestrian access routes and fencing at the project areas may be required, however no road or waterway closures are expected during restoration that would impact the local and commercial community. Negligible to minor short-term impacts on nearshore navigation of small recreational vessels during the construction of the beach restoration project are also anticipated.

5.5.2. LAND USE AND PLANNING

Local regulatory bodies, such as municipalities or counties, utilize zoning as a planning tool for controlling and regulating the function of real estate markets within their jurisdiction. This is typically achieved by dividing land into sections within a jurisdiction and limiting land uses based on categories

dictated by a regulatory body. Examples of these categories include residential, commercial, industrial, agricultural, etc. Through zoning, local regulatory authorities, and city planners, can dictate the particular use, layout, and permitting of cities to control present use and plan future development. In most cases, the development of comprehensive plans through a public participation process, as approved by publicly elected officials, will capture local values and attitudes of planning and future development. Zoning ordinances and land use regulations vary throughout the United States. The National Environmental Policy Act requires agencies to identify and address the effects of a proposed action on the human environment, which includes the physical and socioeconomic. Section 101 of the Act establishes responsibilities of the federal government, including to "assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings" and "attain the widest range of beneficial uses of the environment without degradation, risk to health and safety, or other undesirable and unintended consequences".

Existing Conditions

The land-based project areas consist of approximately 8.8 miles of engineered beach, beach berm, and dune systems on Hilton Head Island in Beaufort County, South Carolina. Some segments contain Town parks and development is limited to the park infrastructure. All inland areas of the four beach segments are developed, including single family, multi-family, and condominium residences, restaurants, businesses, and infrastructure. None of the segments are federally constructed shorelines under the specific authority of the USACE.

Potential Impacts and Proposed Mitigation

Alternative 1: No Action

Under the no action alternative, the beach system would not undergo repairs and would remain in a diminished state. Continued natural erosion and future similar hurricane events, could fully impair the facility from functioning as an area for recreation, residential, tourism, and ecological utilization. The no action alternative would have moderate long-term adverse impacts on the intended land use of the Hilton Head Island Beach Restoration project beaches. These impacts would be significant.

Alternative 2: Repair Engineered Beaches Concurrently with Scheduled Maintenance Project (Preferred Alternative)

During construction activities, the beach would be inaccessible to beachgoers due to safety considerations. The preferred alternative would not permanently alter the intended land use of the beach system. Once construction activities are complete, the beaches would facilitate the widest range of beneficial uses, including recreation, residential, tourism, and ecological use. With an increasing population and as a tourist destination, the engineered beaches repaired to their full template would provide pleasant surroundings for all people. This project is also in alignment with both the Town's 20-year comprehensive report, "Our Plan", and long-term Beach Maintenance and Management Plan. The preferred alternative would have minor short-term adverse impacts on the land use; these impacts would not be significant.

5.5.3. HAZARDOUS MATERIALS

Existing Conditions

Based on the information available on SCDES's Contamination Locator Map, there are no brownfield, petroleum, per- and polyfluoroalkyl substances (PFAS), superfund, or other waste cleanup sites under the agency's cleanup oversight within a one-mile radius of the Hilton Head Island Beach Restoration project area.

Potential Impacts and Proposed Mitigation

Alternative 1: No Action

Under the no action alternative, there would be no construction and no associated potential impacts from hazardous materials.

Alternative 2: Repair Engineered Beaches Concurrently with Scheduled Maintenance Project (Preferred Alternative)

Under the preferred alternative, minor short-term impacts due to the potential for spills during construction are anticipated. The potential for spills from construction equipment will be minimized and handled in accordance with applicable regulations and state and federal permitting. The contractor shall perform all maintenance of equipment, including but not limited to refueling, filter changes, and replacement of hydraulic lines in a manner so as not to contaminate soils, ground or surface waters, or any other natural resources.

The two of the four proposed borrow areas for the preferred alternative have been utilized for previous nourishment of Hilton Head Island. They are located along a sand ridge in the Atlantic, approximately 3 miles East of the proposed nourishment areas, and are not proximal to a river mouth or any known point source of pollution. The proposed borrow material is composed primarily of sand, which is a naturally occurring material. Hilton Head Island has completed an analysis of the sediment size, color, and silt content of material from all borrow areas to ensure that the proposed fill is compatible and meets the requirements of USACE and SCDES BCM permitting as well as the project specific biological and conference opinion issued by USFWS. Based on the nature and location of the proposed borrow site, previous use of fill material from this source, analysis of the sand grains (size, color, carbonate content, silt content) it contains, and issuance of applicable permits by the USACE and SCDES BCM, there is no indication that toxic materials (metals or organics) or contaminants are present in the borrow material. Accordingly, there are not anticipated to be any impacts from hazardous materials associated with the use of the proposed borrow area under the preferred alternative.

5.5.4. PUBLIC SERVICES AND UTILITIES

This section evaluates the potential impacts of the Action Alternatives on public utilities. A public utility is an organization that maintains the infrastructure for a public service. The interruption of public utilities can cause public health concerns. A reduction in the reliability of public utility services affects all areas of daily life. The threshold level for significant impact to public services and utilities would be an exceedance of the existing utility service capacity.

Existing Conditions

The segments of beaches' public services and utilities include public transit stops, public parking lots, public beach parks, and public beach accesses. The only utility directly managed by the Town is stormwater, but there are multiple service providers; however, there are no existing public services or utilities in the vicinity of the project area that would be impacted by the restoration project.

Potential Impacts and Proposed Mitigation

Alternative 1: No Action

Under the no action alternative, there would be no construction activities, thus, this alternative would not have an impact on existing public services or utilities.

Alternative 2: Repair Engineered Beaches Concurrently with Scheduled Maintenance Project (Preferred Alternative)

Under Alternative 2, the restoration activities would not require the installation of new public services or utilities, nor would it involve any replacement, repair, or modification to existing public services and utilities in the area. Alternative 2 would have no impact on public services or utilities.

5.5.5. PUBLIC HEALTH AND SAFETY

Public Health and Safety hazards could include chemical (e.g., lead or fumes), biological (infectious water or hazardous biota), or physical (machinery, noise, or debris) hazards that arise in or from the work area that could impair health and well-being of the public. Public health and safety concerns could affect both workers and the public near or within the project areas. Erosion of coastal areas could trigger increased vulnerability to extreme weather events that could result in impacts on both water and land systems, potentially affecting tourism-based economy, general well-being, and an increase in biological hazards. The threshold level for significant impacts to public health and safety would be the byproducts of project construction causing either an imminent, significant, or demonstrable threat or impact to public health or safety.

Existing Conditions

The Atlantic shoreline is heavily eroded along Hilton Head Island. The coastal areas of the Island play a significant role both socio-economically and ecologically and provides a wide range of services to the community, including contributing to well-being, health, and safety. Due to erosion, the project areas are less resilient against flooding which could exacerbate ecosystem decline and inland public health and safety risks due to impacts from potential future flooding.

Potential Impacts and Proposed Mitigation

Alternative 1: No Action

Under the no action alternative, there would not be any construction activities, thus, this alternative would have no direct impact on public health and safety within the project area.

Alternative 2: Repair Engineered Beaches Concurrently with Scheduled Maintenance Project (Preferred Alternative)

Public health and safety hazards would include those common to construction activities, including loud noise, hazardous material used or encountered, and air quality. To minimize the potential public health and safety risks, BMPs during and after the restoration process would be adhered to, according to permitting requirements for both USACE and SCDES BCM. Alternative 2 would have minor short-term adverse impacts on public health and safety from the project's restoration activities. These impacts would not be significant.

5.6. OTHER IMPACTS

Per the FEMA Instruction 108-1-1 (dated 10/10/2018), cumulative impacts are the impacts on the environment when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non- Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (Section 3.4(C)(2)). In accordance with NEPA, this SEA considered the combined effect of the preferred alternative and other actions occurring or proposed in the vicinity of the proposed project site.

The shoreline along Hilton Head Island is vulnerable to natural coastal erosion and subject to damages from future tropical storms and hurricanes, which may result in presidential declarations. Future restorations to maintain these engineered segments are anticipated per Hilton Head Island's Beach Maintenance and Management Plan, with a typical cycle of 6-7 years. The proposed project is expected to increase the level of storm protection to the improved property along the existing shoreline while also protecting remaining habitat for numerous floral and faunal species, including nesting sea turtles and shorebirds. It is not expected that that project will increase development along the Hilton Head shorelines.

In addition to Hilton Head Island's engineered beaches, there are currently 15 other coastal communities in South Carolina with engineered shorelines of varying complexity. A majority of these communities are north of Hilton Head Island. Folly Beach, SC, located approximately 50 miles north of Hilton Head Island in Charleston County has had 15 sand placements since 1982, with the most recent occurring in 2014. Dafuskie Island, immediately to the south of Hilton Head Island underwent a nourishment in 1998 but currently does not have an official beach maintenance program. As there are no other engineered beaches within the close proximity to Hilton Head Island and the nearshore borrow areas identified as a fill source for its beaches, there are no foreseeable significant impacts from the dredging and sand placement operations along the South Carolina coast.

Nourishment and maintenance activities, such as those described within the preferred alternative, are designed to maintain the general profile of a natural beach while maximizing features to increase resiliency. It can be argued that restoration of beach systems encourages coastal encroachment through human development leading to increased negative impacts upon the natural resources associated with beaches. According to the United States Census Bureau 29.1 percent of all Americans live within a coastal county, a number that has continued to grow over the past several decades. Compared to other municipalities in the southeast, the Town of Hilton Head Island has experienced

250% growth since 1980. This human encroachment upon the beaches enabled decreased and deteriorated habitat for threatened and endangered species, an increase in nearshore and offshore ocean pollution, and placed human lives at greater risk to tropical events with ever-increasing severity. Still, it is unlikely that foregoing maintenance activities on the shoreline will discourage the continued growth of these beach communities. Furthermore, allowing unaddressed erosion to the beach will eventually lead to greater long-term negative impacts upon the health and safety of community members and their private property. Abandonment of these communities through coastal retreat will have a profound impact on the cultural and economic fabric of the country at large and is thus not practical. Therefore, maintenance of the coasts must be considered.

The project and anticipated future actions in the area will likely have short-term impacts to commercial and recreational usage of the shoreline and associated borrow area due to construction efforts. However, it is anticipated beneficial long-term impacts to occur immediately because of the restoration of the engineered beach. The shorelines of Hilton Head Island generate tourism that contributes significantly to the local and state economy, and continued maintenance of the engineered beaches will ensure that its recreational value, and associated economic value, persist. Based on the review conducted, when added to past, present, and reasonably foreseeable actions, the proposed action is not expected to have significant adverse cumulative impacts on any resource within the natural and human environment.

6. Permits and Project Conditions

1. Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.

2. This review does not address all federal, state, and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state, and local laws. Failure to obtain all appropriate federal, state, and local environmental permits and clearances may jeopardize federal funding.

3. If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.

4. Under Alternative 2, the Town of Hiton Head would follow the conditions below per consultation with the South Carolina State Historic Preservation Office:

    a. If any vessel remains are discovered during the project dredging operations, work will be shifted away from the discovery site and the South Carolina Institute of Archaeology and Anthropology (SCIAA), the South Carolina State Historic Preservation Office, and FEMA will be contacted immediately.
    b. If human remains or intact archaeological features or deposits (e.g. arrowheads, pottery, glass, metal, etc.) are uncovered, work in the vicinity of the discovery will stop immediately and all reasonable measures to avoid or minimize harm to the finds will be taken. The subrecipient will ensure that archaeological discoveries are secured in place, that access to the sensitive area is restricted, and that all

reasonable measures are taken to avoid further disturbance of the discoveries. The subrecipient's contractor will provide immediate notice of such discoveries to the applicant. The subrecipient shall contact the SC County Sheriff or local law enforcement and FEMA within 24 hours of the discovery. Work in the vicinity of the discovery may not resume until FEMA has completed consultation with SHPO, Tribes, and other consulting parties as necessary. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with South Carolina Code, Section 16-17-600.

c. Any changes to the approved scope of work will require submission to, and evaluation and approval by, the State and FEMA, prior to initiation of any work, for compliance with Section 106.

6. The Subrecipient shall handle, manage, and dispose of potentially hazardous waste, universal waste, and hazardous materials in accordance with the requirements of local, state, and federal regulations. These materials may include, but are not limited to asbestos, lead-based paint, laboratory reagents, propane cylinders, paints and solvents, coolants containing chlorofluorocarbons (CFCs), used oil, other petroleum products, used oil filters, fuel filters, cleaning chemicals, pesticides, batteries, and unlabeled tanks and containers. Equipment that may include these materials are ice machines, refrigerators, generators, computers, televisions, mercury switches, fluorescent lights, fluorescent light ballasts, sandblast units, paint sprayers, etc. Failure to comply with these conditions may jeopardize FEMA funding; verification of compliance will be required at project closeout.

7. The Subrecipient shall ensure that all debris staging sites are authorized by SC Department of Environmental Services. The Subrecipient shall ensure that all debris is separated and disposed at permitted facilities or at a disposal site or landfill authorized by SC Department of Environmental Services. The Subrecipient is responsible for ensuring contracted staging and disposal of debris also follows these guidelines. Failure to comply with these conditions may jeopardize FEMA funding; verification of compliance will be required at project closeout.

8. Under Alternative 2, the Subrecipient must comply with the terms and conditions, including the Special Conditions, of USACE Permit No. SAC-2022-01660 and associated guidance. The Subrecipient must obtain permit modifications as necessary. Failure to comply with these conditions may jeopardize FEMA funding; verification of compliance will be required at project closeout.

9. Under Alternative 2, the Subrecipient must comply with all conditions in the South Carolina Department of Environmental Services Bureau of Coastal Management Critical Area Permit and Coastal Zone Consistency Certification, and obtain any additional modifications as needed. Failure to comply with this condition may jeopardize FEMA funding; verification of compliance will be required at project closeout.

10. Under Alternative 2, Lee County must adhere to the Reasonable and Prudent Measures and Terms and Conditions of the following Biological Opinions (BO): U.S. Fish and Wildlife Service Town of Hilton Head Island Beach Renourishment Project Biological and Conference Opinion (FWS Log: 2023-0091041, issued August 8, 2024, and as amended January 15, 2025) and

National Marine Fisheries South Atlantic Regional Biological Opinion (SARBO, SERO-2019-03111, issued March 27, 2020). The subrecipient must also adhere to the attached Sea Turtle and Smalltooth Sawfish Construction Conditions (Revised March 23, 2006) and Standard Manatee Conditions for In-Water Work (2011). Failure to comply with these conditions may jeopardize FEMA funding; verification of compliance will be required at project closeout.

7. Agency Coordination and Public Involvement

USACE is the lead federal agency that conducted the original NEPA analysis and issued a statement of finding on February 25, 2025. USACE issued the public notice for the Hilton Head Island Beach Restoration project on May 9, 2023, with a June 8, 2023, end date for the public notice comment period.

FEMA issued disaster-wide initial public notices for Hurricanes Matthew, Irma, and Dorian, on December 1, 2016, November 20, 2017, and October 24, 2019, respectively, to notify the public of projects under the Public Assistance program that may be occurring within floodplains. SCDES BCM maintains a list of Critical Area projects, including beach restoration projects, at: https://gis.dhec.sc.gov/renourishment/. The public was notified that the drafted FEMA SEA was available for review and comment, by posting a public notice on the Subrecipient's website on _____, at the project sites on _____, and on FEMA's websites on ____ (Appendix G). An electronic version of the DSEA is posted on FEMA's NEPA Repository website at: https://www.fema.gov/emergency-managers/practitioners/environmental-historic/region/4.

Appendices are available for review upon request to: FEMA-R4EHP@fema.dhs.gov.

Several of the findings of the USACE were adopted per Unified Federal Review. The following agencies and organizations were contacted by USACE and/or FEMA:

Table 7.0.1: Agencies and Organizations Contacted by USACE and/or FEMA

Agency or Organization
U.S. Fish and Wildlife Service (USFWS) South Carolina Ecological Services Field Office
National Marine Fisheries Service (NMFS)
U.S. Army Corps of Engineers (USACE), Charleston District
SC Department of Archives and History (SCDAH), State Historic Preservation Office (SHPO)
SC Department of Environmental Services, Bureau of Water (SCBOW)
SC Department of Environmental Services, Bureau of Coastal Management (SCBCM)
Catawba Indian Nation
Eastern Shawnee Tribe of Oklahoma

Agency or Organization
Muscogee (Creek) Nation
The Seminole Nation of Oklahoma
Seminole Tribe of Florida
Shawnee Tribe
Thlopthlocco Tribal Town
Tuscarora Nation

8. List of Preparers

Table 8.0.1: List of Hilton Head Island Beach Restoration Project SEA Preparers

Preparer	Title
Scott Fletcher	Lead Environmental Planning and Historic Preservation Advisor
Kristin Morris	Environmental Planning and Historic Preservation Advisor
David Abbott	Reviewer, Historic Preservation Specialist Lead
	Legal Review, Attorney-Advisor

9. References

Claire McDonald, Sarah. “SC Beach One of the 10 Best in the US in 2024” *The Island Packet,* https://www.islandpacket.com/news/state/south-carolina/article285953941.html. Accessed 22 Feb. 2025.

Hilton Head Properties. “Public Transportation in Hilton Head | HHPR&R - Hilton Head Properties Realty & Rentals.” *Hiltonheadpropertiesrandr.com*, 2025, www.hiltonheadpropertiesrandr.com/blog/free-inexpensive-public-transportation-hilton-head. Accessed 9 Apr. 2025.

South Carolina Department of Health and Environmental Control, Office of Ocean and Coastal Resource Management. “South Carolina Management Program Document.” South Carolina Department of Health and Environmental Control, July 1995.

South Carolina Department of Health and Environmental Control. “SC Brownfields Sites/ Opportunity Zones.” South Carolina Department of Health and Environmental Control, 2019.

South Carolina Department of Transportation. The Strategic 10-Year Asset Management Plan. Mar. 2023.

Town of Hilton Head Island Community Development Department. "Our Plan 2020-2040." Town of Hilton Head Island, Oct. 2020.

USACE, 2014. MEMORANDUM FOR RECORD: Department of the Army Environmental Assessment and Statement of Finding for Permit Application SAJ-2003-10496 (SP-TSH).

U.S. Census Bureau (2019); "Coastline America"; Accessed on September 6, 2023, Retrieved from: https://www.census.gov/content/dam/Census/library/visualizations/2019/demo/coastline-america.pdf

Von Tersch, Elizabeth. "16 Best Family Beach Vacations in the U.S. for 2025" *U.S. News Travel*, U.S. News and World Report, travel.usnews.com/rankings/best-family-beach-vacations-in-the-usa/. Accessed 22 Feb. 2025.

"Zoning." *Hiltonheadislandsc.gov*, 2024, hiltonheadislandsc.gov/development/zoning.cfm. Accessed 9 Apr. 2025.