FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)
FINDING OF NO SIGNIFICANT IMPACT (FONSI)
OKALOOSA COUNTY
PROPOSED WESTERN DESTIN BEACH RESTORATION PROJECT
OKALOOSA COUNTY, FLORIDA
FEMA-4564-DR-FL
PA-04-FL-4564-PW-00559-PN 166972

BACKGROUND

On September 23, 2020, President Trump signed a disaster declaration (FEMA-4564-DR-FL) for the State of Florida (recipient) due to damages caused by Hurricane Sally between September 14, 2020, and September 28, 2020. This disaster declaration authorized the Department of Homeland Security's (DHS) Federal Emergency Management Agency (FEMA) to provide federal assistance to the designated areas. Okaloosa County, the subrecipient, is seeking funding from FEMA in the form of Public Assistance (PA) grant funding for a project on the shoreline of Western Destin Beach in Destin, Okaloosa County, Florida.

In September 2020, strong winds, heavy rains, storm surge, and flooding due to Hurricane Sally caused severe erosion to the shoreline of Western Destin Beach. The need for this project is to improve the capacity of the shoreline to withstand future storm events, reduce erosion, and decrease risk from future events to human life and improved property. Furthermore, there is a need to address additional impacts from erosion including habitat loss for sea turtles and shorebirds, and the recreational value of the beach.

The proposed work is to restore the shoreline of Western Destin Beach to the full engineered design beach template with the amount of sand lost from Hurricane Sally plus additional sand lost from background erosion. The beach-compatible sand for this project would be sourced from an offshore borrow area. Approximately 150,600 cubic yards (CY) of beach-compatible sand and 46,500 dune plants would be placed along approximately 1.2 miles of shoreline between GPS coordinates (30.381458° N, -86.507235° W) to (30.383004° N, -86.494178° W), and (30.383237° N, -86.485312° W) to (30.383313° N, -86.478074° W). Further, an additional 109,400 CY of beach-compatible sand would be installed to account for background erosion sand losses for a combined total of 260,000 CY. The background erosion sand loss would be placed at the same time as the disaster-related sand. This project would minimize the need for future renourishments since it would replace sand up to the full engineered design template.

FEMA has prepared an Environmental Assessment (EA) analysis to evaluate the impacts from the project on environmental resources, for which a public notice is posted on Okaloosa County's website, at the Emerald Coast Convention & Visitors Bureau, and on FEMA's website. The FEMA EA is available for viewing by visiting the following website: Environmental Assessment for

Western Destin Beach Restoration Project, Okaloosa County, Florida, FEMA-DR-4564-FL, 2023 | FEMA.gov.

FINDINGS

The proposed project, and anticipated future actions in the area, would have short-term impacts to commercial and recreational usage of the shoreline and possibly the associated borrow area due to construction efforts. However, it is anticipated there would be no long-term impacts to commercial fisheries, and beneficial long-term impacts to commercial and recreational usage of the shoreline as a result of the continued existence of the engineered beach. The shoreline of Western Destin Beach is a large component of the economy as a contributing factor to the local tourism of the county. The continued maintenance of the engineered beach would continue its benefit for the tourism industry and provide recreational value of the area to the community. Additionally, renourishing the beach would serve to protect the existing improved property along the beach.

In consideration of the overall impacts of the proposed action in relation to impacts from past, present, and reasonably foreseeable future activities, the proposed action is not expected to have significant adverse cumulative impacts on any resource.

CONDITIONS

- Under Alternatives 2 and 3, Okaloosa County would follow the conditions below set forth by the Florida State Historic Preservation Office (SHPO):
    - If human remains or intact archaeological deposits 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 applicant 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 applicant's contractor will provide immediate notice of such discoveries to the applicant. The applicant shall contact the Florida Division of Historic Resources 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 Florida Statutes, Section 872.05.
    - Construction vehicles and equipment will be stored onsite during the project or at existing access points within the Applicant's right-of-way.
    - 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.

    - Inadvertent discoveries of cultural resources, human remains and related Native American Graves Protection and Repatriation Act (NAGPRA) items may occur, even in areas of existing or prior development. Should this occur, the Muscogee (Creek) Nation requests that all work cease and our office as well as other appropriate agencies be notified immediately.
- Handling, storage, and disposal of hazardous materials and waste during construction activities, including measures to prevent releases, must be conducted in accordance with applicable environmental compliance regulations.
- All debris staging sites shall be authorized by the Florida Department of Environmental Protection (FDEP). Okaloosa County shall ensure that all debris is separated and disposed at permitted facilities or at a disposal site or landfill authorized by FDEP. Okaloosa County is responsible for ensuring contracted staging and disposal of debris also follows these guidelines.
- Under Alternatives 2 and 3, the applicant would comply with all conditions for the project, including the Special Conditions in United States Army Corps of Engineers (USACE) permits No. SAJ-2008-00895(IP-SWA), SAJ-2008-00895(IP-SWA) Modification #1, SAJ-2008-00895(IP-SWA) Modification #2, and SAJ-2008-00895 (MOD-TSH) Modification #3, and obtain any additional permit modifications as needed.
- Under Alternatives 2 and 3, the applicant would comply with all conditions in the FDEP Joint Coastal Permit (JCP) and Sovereign Submerged Lands Lease Authorization (No. 0286575-001-JC) and its permit modification (No. 0286575-006-JN), and obtain any additional modifications as needed.
- Under Alternative 2 and 3, the applicant will comply with the following conditions from the USFWS Statewide Programmatic Biological Opinion for Sand Placement (SPBO), # 41910-2011-F-0170, issued to the U.S. Army Corps of Engineers on August 22, 2011, and updated March 13, 2015. Since FEMA became involved with the project after the PBO was issued to the Corps, where the following conditions refer to the Corps, it can be assumed that they also apply to FEMA:
    - Beach-compatible fill shall be placed on the beach or in any associated dune system. Beach compatible fill must be sand that is similar to a native beach in the vicinity of the site that has not been affected by prior sand placement activity. The fill material must be similar in both coloration and grain size distribution to that native beach. Beach compatible fill is material that maintains the general character and functionality of the material occurring on the beach and in the adjacent dune and coastal system. Fill material shall comply with FDEP requirements pursuant to the Florida Administrative Code (FAC) subsection 62B-41.005(15). If a variance is requested from FDEP, the Service must be contacted to discuss whether the project falls outside of the SPBO. A Quality Control Plan shall be implemented pursuant to FAC Rule 62B-41.008(1)(k)4.b.

- Sand placement shall not occur during the period of peak sea turtle egg laying and egg hatching to reduce the possibility of sea turtle nest burial, crushing of eggs, or nest excavation.
    - Sand placement projects in Nassau, Duval, St. Johns, Flagler, Volusia, Miami-Dade, Monroe, Collier, Lee, Charlotte, Sarasota, Manatee, Hillsborough, Pinellas, Franklin, Gulf, Bay, Walton, Okaloosa, Santa Rosa and Escambia Counties may occur during the sea turtle nesting season except on publicly owned conservation lands such as state parks and areas where such work is prohibited by the managing agency or under applicable local land use codes.
- All derelict concrete, metal, and coastal armoring geotextile material and other debris shall be removed from the beach to the maximum extent possible prior to any sand placement in accordance with the dates in b. If debris removal activities take place during shorebird breeding or peak sea turtle nesting season, the work shall be conducted during daylight hours only and shall not commence until completion of daily seabird, shorebird or marine turtle surveys each day.
- The beach profile template for the sand placement project shall be designed to mimic, the native beach berm elevation and beach slopes landward and seaward of the equilibrated berm crest. Prior to drafting the plans and specifications for a beach nourishment project, the Corps must meet with the Service, FWC, and FDEP to discuss the beach profile surveys, dune formation (specifically on high density green turtle nesting beaches), and the sea turtle monitoring reports from previous placement events. The meeting will be used to discuss modifications to the beach profile based on the post-construction monitoring data.

Beach profile may vary depending on location, shoreline dynamics, nature of the fill material, and other factors. If a native beach berm elevation is not possible, due to the beach width, impacts to nearshore hardbottom, or other considerations, as discussed during the meeting, the alternative template shall include features to minimize impacts to sea turtle nesting success and the potential for ponding and escarpment formation for that beach. For all high-density green turtle nesting beaches, the formation of a dune, either through direct creation or natural accretion, will be included in the project design. Dunes and other construction features must be within the scope of the Congressionally authorized project, if it is a civil works project, and constructible without impacting other resources. If a recommended dune is not possible, the Corps will contact the Service to see if consultation needs to be reinitiated or discuss features incorporated with the profile that will enhance the existing dune. Dune features included in the profile design (or project) shall have a slope of 1.5:1 followed by a gradual slope of 4:1 for approximately 20 feet seaward on a high erosion beach (SPBO Figure 13) or a 4:1 slope (SPBO Figure 14) on a low erosion beach. The Corps must explore options to include a dune system in the

project design for existing authorized projects and new non-Federal projects. If another slope is proposed for use, the Corps shall consult the Service. The seaward toe of the dune should be at least 20 feet from the waterline.

- Predator-proof trash receptacles shall be installed and maintained during construction at all beach access points used for the project construction to minimize the potential for attracting predators of sea turtles and beach mice (SPBO Appendix F). The Corps shall provide predator-proof trash receptacles for the construction workers. The Corps shall brief workers on the importance of not littering and keeping the project area trash and debris free.
- A meeting between representatives of the Corps (including the Corps project manager or the managing contractor), the Service, the FWC, the FWC Marine Turtle Permit Holder, and other species surveyors, as appropriate, shall be held prior to the commencement of work on projects. At least 10 business days advance notice shall be provided prior to conducting this meeting. The meeting will provide an opportunity for explanation or clarification of the sea turtle and beach mouse protection measures as well as additional guidelines when construction occurs during the sea turtle nesting season, and will include the following:
    - Staging locations, storing equipment including fuel stations
    - Coordination with the Marine Turtle Permit Holder on nesting surveys and any nighttime work
    - Pipeline placement (between 5 to 10 feet from dune)
    - Minimizing driving
    - Egg relocation- permit holder and location (must be approved by FWC)
    - Free-roaming cat observation (for projects in or near beach mouse habitat)
    - Follow up lighting surveys - dates and inspector
    - Follow up coordination during construction and post construction
    - Coordination on construction lighting including dredge lighting and travel within and adjacent to the work area
    - Direction of the project including progression of sand placement along the beach
    - Late season nests present in project area (if any)
    - Plans for compaction monitoring or tilling
    - Plans for escarpment surveys

At the preconstruction meeting, the Corps shall also provide the Service with specific anticipated shoreline lengths and anticipated duration using the form on the following web link: http://www.fws.gov/northflorida/SeaTurtles/Docs/Corp%20of%20Engineers%20Sea%20Turtle%20Permit%20Information.pdf . Only the following information should be filled out: Corps Permit Number, FWS Log Number, Project Location, Construction Activity,

Duration of Protect, and Actual Take (linear feet of beach). This form shall be emailed to the Service at seaturtle@fws.gov. This form is in addition to the annual report listed below.

- Daily early morning surveys for sea turtle nests shall be required and continue throughout the season as outlined in SPBO Tables 16 and 17 (Nesting Season Monitoring) if construction occurs during the nesting and hatching season. Any known nests recorded just prior to the beginning of Nesting Season Monitoring must be relocated if it will be impacted by the construction activity or marked and avoided if feasible.
- If nests are constructed in the area of anticipated sand placement, the eggs shall be relocated to minimize sea turtle nest burial, crushing of eggs, or nest excavation as outlined in below. If nests are laid on the dune outside of the immediate sand placement area, the Corps must contact the Service to discuss whether relocation or mark and avoidance is required. Any known nests recorded just prior to the beginning of Nesting Season Monitoring must be relocated if it will be impacted by the construction activity or marked and avoided if feasible.
    - For sand placement projects in Nassau, Duval, St. Johns, Flagler, Volusia, Monroe, Collier, Lee, Charlotte, Sarasota, Manatee, Hillsborough, Pinellas, Franklin, Gulf, Bay, Walton, Okaloosa, Santa Rosa and Escambia Counties that occur during the period of sea turtle nest laying (see SPBO Table 17), daily early morning (before 9 a.m.) surveys and egg relocation shall be conducted. If nests are laid in areas where they may be affected by construction activities, eggs shall be relocated per the requirements listed below:
        - Nesting surveys and egg relocations will only be conducted by persons with prior experience and training in these activities and who are duly authorized to conduct such activities through a valid permit issued by FWC, pursuant to FAC 68E-1. Please contact FWC's Imperiled Species Management Section in Tequesta at mtp@myfwc.com for information on the permit holder in the project area. Relocation cannot begin until the Corps has a copy of the FWC permit authorizing relocation for construction purposes at that particular sand placement project. Nesting surveys shall be conducted daily between sunrise and 9 a.m. (this is for all time zones).
        - Only those nests that may be affected by sand placement activities will be relocated. Nest relocation shall not occur upon completion of the project. Nests requiring relocation shall be moved no later than 9 a.m. the morning following deposition to a nearby self-release

beach site in a secure setting where artificial lighting will not interfere with hatchling orientation. Relocated nests shall not be placed in organized groupings. Relocated nests shall be randomly staggered along the length and width of the beach in settings that are not expected to experience daily inundation by high tides or known to routinely experience severe erosion and egg loss, predation, or be subject to artificial lighting. Nest relocations in association with construction activities shall cease when construction activities no longer threaten nests.

- Nests deposited within areas where construction activities have ceased or will not occur for 65 days or nests laid in the nourished berm prior to tilling shall be marked and left in situ unless other factors threaten the success of the nest. The turtle permit holder shall install an on-beach marker at the nest site and a secondary marker at a point as far landward as possible to assure that future location of the nest will be possible should the on-beach marker be lost. No activity will occur within this area nor will any activities occur that could result in impacts to the nest. Nest sites shall be inspected daily to assure nest markers remain in place and the nest has not been disturbed by the project activity.

- Two surveys shall be conducted of all lighting visible from the beach placement area by the Applicant or Corps, using standard techniques for such a survey (SPBO Appendix C), in the year following construction. The first survey shall be conducted between May 1 and May 15 and a fill out FWS Sea Turtle Lighting Survey Form (SPBO Appendix D) and send electronically to seaturtle@fws.gov. The second survey shall be conducted between July 15 and August 1. A summary report of the surveys, including any actions taken, shall be submitted to the Service by December 31 of the year in which surveys are conducted. After the annual report is completed, a meeting shall be set up with the Applicant, county or municipality, FWC, Corps, and the Service to discuss the survey report, as well as any documented sea turtle disorientations in or adjacent to the project area. If the project is completed during the nesting season and prior to May 1, the Corps may conduct the lighting surveys during the year of construction.
- Daily nesting surveys shall be conducted for two nesting seasons following construction in accordance with SPBO Table 18 and reported in accordance with SPBO Table 20 by the Corps or the Applicant if placed material still remains on the beach. Post construction year-one surveys shall record the number of nests, nesting success, reproductive success, disorientations, and lost nests due to erosion and/or inundation. Post construction year two surveys shall only need to record nest numbers, nesting success, and disorientations (SPBO Table 20). This information

will be used to periodically assess the cumulative effects of these projects on sea turtle nesting and hatchling production and monitor suitability of post construction beaches for nesting.

- Sand compaction shall be monitored in the area of sand placement immediately after completion of the project and prior to the dates in SPBO Table 19 for 3 subsequent years.

If tilling is needed, the area shall be tilled to a depth of 36 inches. Each pass of the tilling equipment shall be overlapped to allow more thorough and even tilling. All tilling activity shall be completed at least once prior to the nesting season. An electronic copy of the results of the compaction monitoring shall be submitted electronically to seaturtle@fws.gov prior to any tilling actions being taken or if a request not to till is made based on compaction results. The requirement for compaction monitoring can be eliminated if the decision is made to till regardless of post construction compaction levels. Additionally, out-year compaction monitoring and remediation are not required if placed material no longer remains on the dry beach.

(NOTE: If tilling occurs during shorebird nesting season (February 15-August 31), shorebirds surveys prior to tilling are required per the Migratory Bird Treaty Act. See SPBO Appendix E for shorebird conditions recommended by FWC

- Compaction sampling stations shall be located at 500-foot intervals along the sand placement template. One station shall be at the seaward edge of the dune/bulkhead line (when material is placed in this area), and one station shall be midway between the dune line and the high water line (normal wrack line).
- At each station, the cone penetrometer shall be pushed to a depth of 6, 12, and 18 inches three times (three replicates at each depth). Material may be removed from the hole if necessary to ensure accurate readings of successive levels of sediment. The penetrometer may need to be reset between pushes, especially if sediment layering exists. Layers of highly compact material may lie over less compact layers. Replicates shall be located as close to each other as possible, without interacting with the previous hole or disturbed sediments. The three replicate compaction values for each depth shall be averaged to produce final values for each depth at each station. Reports will include all 18 values for each transect line, and the final six averaged compaction values.
- If the average value for any depth exceeds 500 pounds per square inch (psi) for any two or more adjacent stations, then that area shall be tilled immediately prior to the appropriate date listed in SPBO Table 19.
- If values exceeding 500 psi are distributed throughout the project area but in no case do those values exist at two adjacent stations at the same depth,

then consultation with the Service will be required to determine if tilling is required. If a few values exceeding 500 psi are present randomly within the project area, tilling will not be required.

- Tilling shall occur landward of the wrack line and avoid all vegetated areas 3 square feet or greater with a 3 square foot buffer around the vegetated areas.

- Visual weekly surveys for escarpments along the project area shall be made immediately after completion of the sand placement and within 30 days prior to the start dates for Nesting Season Monitoring in SPBO Table 19 for 3 subsequent years if sand in the project area still remains on the dry beach.

Escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet shall be leveled and the beach profile shall be reconfigured to minimize scarp formation by the dates listed in SPBO Table 19. Any escarpment removal shall be reported by location in the annual report. If the project is completed during the early part of the sea turtle nesting and hatching season (March 1 through April 30), escarpments may be required to be leveled immediately, while protecting nests that have been relocated or left in place. If during weekly escarpment surveys, it is found that subsequent reformation of escarpments interferes with sea turtle nesting or that they exceed 18 inches in height for a distance of 100 feet during the nesting and hatching season, the Service shall be contacted immediately to determine the appropriate action to be taken. If it is determined by the Service or FWC that that escarpment leveling is required during the nesting or hatching season the Service, in coordination with the FWC, will provide a brief written authorization within 5 days that describes methods to be used to reduce the likelihood of impacting existing nests. An annual summary of escarpment surveys and actions taken shall be sent electronically to seaturtle@fws.gov. A summary is required even when no action has been taken (SPBO Table 3).

- Staging areas for construction equipment shall be located off the beach during early (before April 30) and late (after November 1) nesting season for Brevard through Broward counties (see table 14) and peak nesting season (May 1 through October 31) for the remaining counties. Nighttime storage of construction equipment not in use shall be off the beach to minimize disturbance to sea turtle nesting and hatching activities. In addition, all construction pipes placed on the beach shall be located as far landward as possible without compromising the integrity of the dune system. Pipes placed parallel to the dune shall be 5 to 10 feet away from the toe of the dune if the width of the beach allows. Temporary storage of pipes shall be off the beach to the maximum extent possible. If the pipes are stored on the beach, they shall be placed in a manner that will minimize the impact to nesting habitat and shall not compromise the integrity of the dune systems. If the pipes placed parallel to the dune cannot be placed between 5 to 10 feet away from the toe of the dune during

nesting and hatching season, the Corps must reinitiate consultation with the Service as this represents adverse effects not addressed in this SPBO. If it will be necessary to extend construction pipes past a known shorebird nesting site or over-wintering area for piping plovers, then whenever possible those pipes shall be placed landward of the site before birds are active in that area. No pipe or sand shall be placed seaward of a shorebird nesting site during the shorebird nesting season.

- Direct lighting of the beach and nearshore waters shall be limited to the immediate construction area during early (before April 30) and late (after November 1) nesting season for Brevard through Broward counties (see SPBO Table 14) and peak nesting season (May 1 through October 31) for the remaining counties, and shall comply with safety requirements. A light management plan for the dredge and the work site shall be submitted for approval by the Service and FWC prior to the pre-construction meeting. In accordance with this plan, lighting on all equipment shall be minimized through reduction, shielding, lowering, and appropriate placement to avoid excessive illumination of the water's surface and nesting beach while meeting all Coast Guard, Corps EM 385-1-1, and OSHA requirements. Light intensity of lighting equipment shall be reduced to the minimum standard required by OSHA for General Construction areas, in order not to misdirect sea turtles. Shields shall be affixed to the light housing on dredge and land based lights and be large enough to block light from all lamps from being transmitted outside the construction area or to the adjacent sea turtle nesting beach in line-of-sight of the dredge (SPBO Figure 15).
- During the early (before April 30) and late (after November 1) nesting season for Brevard through Broward counties (see SPBO Table 14) and peak nesting season (May 1 through October 31) for the remaining counties, the Corps shall not extend the beach fill more than 500 feet (or other agreed upon length) along the shoreline between dusk and dawn of the following day until the daily nesting survey has been completed and the beach cleared for fill advancement. An exception to this may occur if there is a permitted sea turtle surveyor present on-site to ensure no nesting and hatching sea turtles are present within the extended work area. If the 500 feet is not feasible for the project, an agreed upon distance will be decided on during the preconstruction meeting. Once the beach has been cleared and the necessary nest relocations have been completed, the Corps will be allowed to proceed with the placement of fill during daylight hours until dusk at which time the 500-foot length (or other agreed upon length) limitation shall apply. If any nesting turtles are sighted on the beach within the immediate construction area, activities shall cease immediately until the turtle has returned to the water and the sea turtle permit holder responsible for nest monitoring has relocated the nest.

- All vegetation planting shall be designed and conducted to minimize impacts to sea turtles and beach mice. Dune vegetation planting may occur during the sea turtle nesting season under the following conditions:
  - Daily early morning sea turtle nesting surveys (before 9 a.m.) shall be conducted during the Nest Laying period for all counties in Florida where sea turtle nesting occurs (see SPBO Tables 16 and 17). Nesting surveys shall only be conducted by personnel with prior experience and training in nesting surveys. Surveyors shall have a valid FWC permit. Nesting surveys shall be conducted daily between sunrise and 9 a.m. (all times). No dune planting activity shall occur until after the daily turtle survey and nest conservation and protection efforts have been completed. Hatching and emerging success monitoring will involve checking nests beyond the completion date of the daily early morning nesting surveys;
  - Any nests deposited in the dune planting area not requiring relocation for conservation purposes shall be left in place. The turtle permit holder shall install an on-beach marker at the nest site and a secondary marker at a point as far landward as possible to assure that future location of the nest will be possible should the on-beach marker be lost. A series of stakes and highly visible survey ribbon or string shall be installed to establish a 3-foot radius around the nest. No planting or other activity shall occur within this area nor will any activities be allowed that could result in impacts to the nest. Nest sites shall be inspected daily to assure nest markers remain in place and the nest has not been disturbed by the planting activity;
  - If a nest is disturbed or uncovered during planting activity, the Corps, or the Applicant shall cease all work and immediately contact the project turtle permit holder. If a nest(s) cannot be safely avoided during planting, all activity within 10 feet of a nest shall be delayed until hatching and emerging success monitoring of the nest is completed;
  - All dune planting activities shall be conducted by hand and only during daylight hours;
  - All dune vegetation shall consist of coastal dune species native to the local area; (i.e., native to coastal dunes in the respective county and grown from plant stock from that region of Florida). Vegetation shall be planted with an appropriate amount of fertilizer and antidesiccant material for the plant size;
  - No use of heavy equipment shall occur on the dunes or seaward for planting purposes. A lightweight (all-terrain type) vehicle, with tire pressures of 10 psi or less may be used for this purpose; and
  - Irrigation equipment, if needed, shall be authorized under a FDEP permit.
- Beach mouse habitat shall be avoided when selecting sites for equipment, pipes, vehicle storage and staging to the maximum extent possible. Suitable beach mouse

habitat constitutes the primary dunes (characterized by sea oats and other grasses), secondary dunes (similar to primary dunes, but also frequently includes such plants as woody goldenrod, false rosemary), and interior or scrub dunes.

- Equipment placement or storage shall be excluded in the area between 5 to 10 feet seaward of the existing dune toe or 10 percent of the beach width (for projects occurring on narrow eroded beach segments) seaward of the dune toe in areas of occupied beach mouse habitat (SPBO Figure 16). The toe of the dune is where the slope breaks at the seaward foot of the dune. If the pipes placed parallel to the dune cannot be placed between 5 to 10 feet away from the toe of the dune as required during sea turtle nesting and hatching season, the Corps must reinitiate consultation with the Service as this represents adverse effects not addressed in this SPBO.
- Existing beach access points shall be used for vehicle and equipment beach access to the maximum extent possible. These access points shall be delineated by post and rope or other suitable material to ensure vehicles and equipment transport stay within the access corridor. The access corridors shall be fully restored to the preconstruction conditions following project completion. Parking areas for construction crews shall be located as close as possible to the work sites, but outside of vegetated dune areas to minimize impacts to existing habitat and transporting workers along the beachfront.
- The location of new or expanded existing beach access corridors for vehicles and equipment within beach mouse habitat consisting of vegetated dunes shall be spaced no closer than every four miles. The distribution of access areas will result in the least number of access areas within beach mouse habitat as possible and delineated by post and rope or other suitable material to ensure vehicles and equipment transport stay within the access corridor. The access corridors shall be (1) no more than 25 feet wide for vehicles and (2) no more than 50 feet wide for equipment. Expanded or new beach access points that impact vegetated dunes shall be restored within 3 months following project completion. Habitat restoration shall consist of restoring the dune to preconstruction conditions with planting of at least three species of appropriate native dune vegetation (i.e., native to coastal dunes in the respective county and grown from plant stock from that region of Florida). Seedlings shall be at least one inch square with a 2.5-inch pot. Planting shall be on 18-inch centers throughout the created dune; however, 24-inch centers may be acceptable depending on the area to be planted. Vegetation shall be planted with an appropriate amount of fertilizer and antidesiccant material, as appropriate, for the plant size. No sand stabilizer material (coconut matting or other material) shall be used in the dune restoration. The plants may be watered without installing an irrigation system. In order for the restoration to be considered successful, 80 percent of the total planted vegetation shall be documented to survive six months following

planting of vegetation. If the habitat restoration is unsuccessful, the area shall be replanted following coordination with the Service.

- A report with the following shall be submitted to the Service electronically (seaturtle@fws.gov) by December 31 after completion of construction.
  - A summary of the information listed in SPBO Table 20 for construction.
  - A summary of the information listed in SPBO Table 21 for post-construction.
- In the event a sea turtle nest is excavated during construction activities, the project turtle permit holder responsible for egg relocation for the project shall be notified immediately so the eggs can be moved to a suitable relocation site.

Upon locating a dead or injured sea turtle adult, hatchling, egg, or beach mouse that may have been harmed or destroyed as a direct or indirect result of the project, the Corps, Applicant shall be responsible for notifying FWC Wildlife Alert at 1-888-404-FWCC (3922) and the appropriate Service Field Office immediately (SPBO Table 3). Care shall be taken in handling injured sea turtles, eggs or beach mice to ensure effective treatment or disposition, and in handling dead specimens to preserve biological materials in the best possible state for later analysis.

- Manatees
  - Barges shall install mooring bumpers that provide a minimum 4-foot standoff distance under maximum compression between other moored barges and large vessels, when in the vicinity of inlets, river mouths, and large estuaries where manatees are known to congregate.
  - Pipelines shall be positioned such that they do not restrict manatee movement to the maximum extent possible. Plastic pipelines shall be weighted or floated. Pipelines transporting dredged material within the vicinity of inlets, river mouths, and large estuaries where manatees are known to congregate shall be weighted or secured to the bottom substrate as necessary to prevent movement of the pipeline and to prevent manatee entrapment or crushing.
  - In the event that such positioning has the potential to impact submerged aquatic vegetation (SAV) or nearshore hardbottom, the pipeline may be elevated or secured to the bottom substrate to minimize impacts to SAV.
- Migratory Birds
  - The Applicant should follow the latest Florida Fish and Wildlife Conservation Commission (FWC) standard guidelines to protect against impacts to nesting shorebirds during implementation of this project during the periods from February 15 to August 31.

- Under Alternative 2 and 3, the applicant will comply with the following additional conditions from the USFWS Programmatic Piping Plover Biological Opinion (P3BO), Service Log #04EF1000-2013-F-0124, dated May 22, 2013:

- The Corps or the Permittee must provide the following information to the Service Field Supervisor of the appropriate Field Office at least 10 business days prior to the commencement of work:
  - Project location (include FDEP Range Monuments and latitude and longitude coordinates);
  - Project description (include linear feet of beach, actual fill template, access points, and borrow areas);
  - Date of commencement and anticipated duration of construction; and
  - Names and qualifications of personnel involved in piping plover surveys.
- Prior to construction, the Corps shall delineate preferred piping plover habitat (intertidal portions of ocean beaches, ephemeral pools, washover areas, wrack lines) adjacent to or outside of the project footprint that might be impacted by construction activities. Obvious identifiers shall be used (for example, pink flagging on metal poles) to clearly mark the beginning and end points to prevent accidental impacts to use areas.
- Piping plover habitat delineated adjacent to or outside of the project footprint shall be avoided to the maximum extent practicable when staging equipment, establishing travel corridors, and aligning pipeline.
- Driving on the beach for construction shall be limited to the minimum necessary within the designated travel corridor, which will be established just above or just below the primary "wrack" line.
- Predator-proof trash receptacles shall be installed and maintained during construction at all beach access points used for the project construction to minimize the potential for attracting predators of piping plovers. Workers shall be briefed on the importance of not littering and keeping the project area trash and debris free. See P3BO Appendix B for examples of suitable receptacles.
- Educational signs shall be installed at public access points within the project area with emphasis on the importance of the beach habitat and wrack for piping plovers. When the project area has a pet or dog regulation, the provisions of the regulation shall be included on the educational signs.
- For one full piping plover migration and winter season (beginning July 15 to May 15) prior to construction, and 2 years following each dredging and sand placement event, bimonthly (twice-monthly) surveys for piping plovers shall be conducted in the beach fill and in any other intertidal or shoreline areas within or affected by the project. If a full season is not available, at least 5 consecutive months with three surveys per month spaced at least 9 days apart are required. During emergency projects, the surveys will begin as soon as possible prior to, and up to implementing the project. Piping plover identification, especially when in non-breeding plumage, can be difficult. If preconstruction monitoring is not practicable, it will be so indicated in the notification to the Service (see P3BO Term and Condition #2) and

the Service will decide whether to require a separate individual consultation. See introductory paragraph to Reasonable and Prudent Measures.

- The person(s) conducting the survey must demonstrate the qualifications and ability to identify shorebird species and be able to provide the information listed below. The following will be collected, mapped, and reported:
  - Date, location, time of day, weather, and tide cycle when survey was conducted;
  - Latitude and longitude of observed piping plover locations (decimal degrees preferred);
  - Any color bands observed on piping plovers;
  - Behavior of piping plovers (e.g., foraging, roosting, preening, bathing, flying, aggression, walking);
  - Landscape features(s) where piping plovers are located (e.g., inlet spit, tidal creeks, shoals, lagoon shoreline);
  - Habitat features(s) used by piping plovers when observed (e.g., intertidal, fresh wrack, old wrack, dune, mid-beach, vegetation);
  - Substrata used by piping plovers (e.g., sand, mud/sand, mud, algal mat);
  - The amount and type of recreational use (e.g., people, dogs on or off leash, vehicles, kite-boarders); and
  - All other shorebirds/waterbirds seen within the survey area.

  All information shall be provided in an Excel spreadsheet. Monitoring results shall be submitted (datasheets, maps, database) on standard electronic media (e.g., CD, DVD) to the appropriate Field Office by July 31 of each year in which monitoring is completed. If an appropriate web based reporting system becomes available, it would be used in lieu of hard copy/media.

  [NOTE: As a condition to a permit from the FDEP, the bird monitor may also be required to report shorebird data to the Florida Fish and Wildlife Conservation Commission (FWC) https://public.myfwc.com/crossdoi/shorebirds/SigninExploreData.aspx.]

- Under Alternative 2 and 3, the applicant will comply with the following conditions from the Sea Turtle and Smalltooth Sawfish Construction Conditions, issued by the National Oceanic and Atmospheric Administration National Marine Fisheries Service on March 23, 2006:
  - The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species.
  - The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973.

  - Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida.
  - All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.
  - If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.
  - Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.
  - Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.

- The applicant will comply with the following additional Terms and Conditions from the Dredging of Gulf of Mexico Navigation Channels and Sand Mining ("Borrow") Areas Using Hopper Dredges by USACE Galveston, New Orleans, Mobile, and Jacksonville Districts (consultation number F/SER/2000/01287), dated November 19, 2003:
  - *Hopper Dredging*: Hopper dredging activities in Gulf of Mexico waters from the Mexico-Texas border to Key West, Florida up to one mile into rivers shall be completed, whenever possible, between December 1 and March 31, when sea turtle abundance is lowest throughout Gulf coastal waters. Hopper dredging of Key West channels is covered by the existing August 25, 1995, RBO to the USACE's SAD. The USACE shall discuss with NOAA Fisheries why a particular project cannot be done within the December 1-March 31 "window."
  - *Annual Reports*: The annual summary report, discussed below, must give a complete explanation of why alternative dredges (dredges other than hopper dredges) were not used for maintenance dredging of channels between April and November.

- *Observers*: The USACE shall arrange for NOAA Fisheries-approved observers to be aboard the hopper dredges to monitor the hopper spoil, screening, and dragheads for sea turtles and Gulf sturgeon and their remains.
    - Brazos Santiago Pass east to Key West, Florida: Observer coverage sufficient for 100% monitoring (i.e., two observers) of hopper dredging operations is required aboard the hopper dredges year-round from Brazos Santiago Pass to (not including) Key West, Florida between April 1 and November 30, and whenever surface water temperatures are 11EC or greater.
    - Observer coverage of hopper dredging of sand mining areas shall ensure 50% monitoring (i.e., one observer).
- *Operational Procedures*: During periods in which hopper dredges are operating and NOAA Fisheries-approved observers are not required, the appropriate USACE District must:
    - Advise inspectors, operators and vessel captains about the prohibitions on taking, harming, or harassing sea turtles.
    - Instruct the captain of the hopper dredge to avoid any turtles and whales encountered while traveling between the dredge site and offshore disposal area, and to immediately contact the USACE if sea turtles or whales are seen in the vicinity.
    - Notify NOAA Fisheries if sea turtles are observed in the dredging area, to coordinate further precautions to avoid impacts to turtles.
    - Notify NOAA Fisheries immediately by phone (727/570-5312) or fax (727/570-5517) if a sea turtle or Gulf sturgeon is taken by the dredge.
- *Screening*: When sea turtle observers are required on hopper dredges, 100% inflow screening of dredged material is required and 100% overflow screening is recommended. If conditions prevent 100% inflow screening, inflow screening may be reduced gradually, as further detailed in the following paragraph, but 100% overflow screening is then required. NOAA Fisheries must be consulted prior to the reductions in screening and an explanation must be included in the dredging report.
    - Screen Size: The hopper's inflow screens should have 4-inch by 4-inch screening. If the USACE, in consultation with observers and the draghead operator, determines that the draghead is clogging and reducing production substantially, the screens may be modified sequentially: mesh size may be increased to 6-inch by 6-inch, then 9-inch by 9-inch, then 12-inch by 12-inch openings. Clogging should be greatly reduced with these flexible options; however, further clogging may compel removal of the screening altogether, in which case effective 100% overflow screening is mandatory. The USACE shall notify NOAA Fisheries beforehand if inflow screening

is going to be reduced or eliminated, and provide details of how effective overflow screening will be achieved.

- Need for Flexible, Graduated Screens: NOAA Fisheries believes that this flexible, graduated-screen option is necessary, since the need to constantly clear the inflow screens will increase the time it takes to complete the project and therefore increase the exposure of sea turtles to the risk of impingement or entrainment. Additionally, there are increased risks to sea turtles in the water column when the inflow is halted to clear screens, since this results in clogged intake pipes, which may have to be lifted from the bottom to discharge the clay by applying suction.

- *Dredging Pumps*: Standard operating procedure shall be that dredging pumps shall be disengaged by the operator when the dragheads are not firmly on the bottom, to prevent impingement or entrainment of sea turtles within the water column. This precaution is especially important during the cleanup phase of dredging operations when the draghead frequently comes off the bottom and can suck in turtles resting in the shallow depressions between the high spots the draghead is trimming off.
- *Sea Turtle Deflecting Draghead*: A state-of-the-art rigid deflector draghead must be used on all hopper dredges in all Gulf of Mexico channels and sand mining sites at all times of the year except that the rigid deflector draghead is not required in MR-SWP at any time of the year.
- *Dredge Take Reporting*: Observer reports of incidental take by hopper dredges must be faxed to NOAA Fisheries' Southeast Regional Office (727-570-5517) by onboard endangered species observers within 24 hours of any sea turtle, Gulf sturgeon, or other listed species take observed.

A preliminary report summarizing the results of the hopper dredging and any documented sea turtle or Gulf sturgeon takes must be submitted to NOAA Fisheries within 30 working days of completion of any dredging project. Reports shall contain information on project location (specific channel/area dredged), start-up and completion dates, cubic yards of material dredged, problems encountered, incidental takes and sightings of protected species, mitigative actions taken (if relocation trawling, the number and species of turtles relocated), screening type (inflow, overflow) utilized, daily water temperatures, name of dredge, names of endangered species observers, percent observer coverage, and any other information the USACE deems relevant.

An annual report (based on fiscal year) must be submitted to NOAA Fisheries summarizing hopper dredging projects and documented incidental takes.

- *Sea Turtle Strandings*: The USACE Project Manager or designated representative shall notify the Sea Turtle Stranding and Salvage Network (STSSN) state representative (contact information available at: http://www.sefsc.noaa.gov/seaturtleSTSSN.jsp) of the start-up and completion of

hopper dredging operations and bed-leveler dredging operations and ask to be notified of any sea turtle/sturgeon strandings in the project area that, in the estimation of STSSN personnel, bear signs of potential draghead impingement or entrainment, or interaction with a bed-leveling type dredge.

Information on any such strandings shall be reported in writing within 30 days of project end to NOAA Fisheries' Southeast Regional Office. Because of different possible explanations for, and subjectivity in the interpretation of potential causes of strandings, these strandings will not normally be counted against the USACE's take limit; however, if compelling STSSN observer reports and evidence indicate that a turtle was killed by a hopper dredge or a bed-leveling type dredge, that take will be deducted from the ITS' anticipated take level for that COE District where the take occurred.

- *Reporting - Strandings*: Each COE District shall provide NOAA Fisheries' Southeast Regional Office with an annual report detailing incidents, with photographs when available, of stranded sea turtles and Gulf sturgeon that bear indications of draghead impingement or entrainment. This reporting requirement may be included in the end-of-year report.
- *District Annual Relocation Trawling Report*: Each USACE District shall provide NOAA Fisheries' Southeast Regional Office with end-of-project reports within 30 days of completion of relocation trawling projects, and an annual report summarizing relocation trawling efforts and results within their District. The annual report requirement may be included in the end-of-year report.
- *Conditions Requiring Relocation Trawling*: Handling of sea turtles captured during relocation trawling in association with hopper dredging projects in Gulf of Mexico navigation channels and sand mining areas shall be conducted by NOAA Fisheries-approved endangered species observers. Relocation trawling shall be undertaken by the USACE at all projects where <u>any</u> of the following conditions are met; however, other ongoing projects not meeting these conditions are not required to conduct relocation trawling:
  - Two or more turtles are taken in a 24-hour period in the project.
  - Four or more turtles are taken in the project.
  - 75% of a District's sea turtle species quota for a particular species has previously been met.
- *Relocation Trawling Waiver*: For individual projects the affected USACE District may request by letter to NOAA Fisheries a waiver of part or all of the relocation trawling requirements. NOAA Fisheries will consider these requests and decide favorably if the evidence is compelling.
- *Relocation Trawling - Annual Take Limits*: This Opinion authorizes the annual (by fiscal year) take of 300 sea turtles (of one species or combination of species) and eight Gulf sturgeon by duly-permitted, NOAA Fisheries-approved observers in

association with all relocation trawling conducted or contracted by the four Gulf of Mexico USACE Districts to temporarily reduce or assess the abundance of these listed species during (and in the 0-3 days immediately preceding) a hopper dredging project in order to reduce the possibility of lethal hopper dredge interactions, subject to the following conditions:

- *Trawl Time*: Trawl tow-time duration shall not exceed 42 minutes (doors in - doors out) and trawl speeds shall not exceed 3.5 knots.
- *Handling During Trawling*: Sea turtles and sturgeon captured pursuant to relocation trawling shall be handled in a manner designed to ensure their safety and viability, and shall be released over the side of the vessel, away from the propeller, and only after ensuring that the vessel's propeller is in the neutral, or disengaged, position (i.e., not rotating). Resuscitation guidelines are attached (GRBO Appendix IV).
- *Captured Turtle Holding Conditions*: Captured turtles shall be kept moist, and shaded whenever possible, until they are released.
- *Weight and Size Measurements*: All turtles shall be measured (standard carapace measurements including body depth) and tagged, and weighed when safely possible, prior to release; Gulf sturgeon shall be measured (fork length and total length) and–when safely possible–tagged, weighed, and a tissue sample taken prior to release. Any external tags shall be noted and data recorded into the observers log. Only NOAA Fisheries-approved observers or observer candidates in training under the direct supervision of a NOAA Fisheries-approved observer shall conduct the tagging/measuring/weighing/tissue sampling operations.
- *Take and Release Time During Trawling* - Turtles: Turtles shall be kept no longer than 12 hours prior to release and shall be released not less than three nautical miles (nmi) from the dredge site. If two or more released turtles are later recaptured, subsequent turtle captures shall be released not less than five nmi away. If it can be done safely, turtles may be transferred onto another vessel for transport to the release area to enable the relocation trawler to keep sweeping the dredge site without interruption.
- *Take and Release Time During Trawling - Gulf Sturgeon*: Gulf sturgeon shall be released immediately after capture, away from the dredge site or into already dredged areas, unless the trawl vessel is equipped with a suitable (not less than: 2 ft high by 2 ft wide by 8 ft long), well-aerated seawater holding tank where a maximum of one sturgeon may be held for not longer than 30 minutes before it must be released or relocated away from the dredge site.
- *Injuries and Incidental Take Quota*: Any protected species injured or killed during or as a consequence of relocation trawling shall count toward the

appropriate USACE District's incidental take quota. Minor skin abrasions resulting from trawl capture are considered non-injurious. Injured sea turtles shall be immediately transported to the nearest sea turtle rehabilitation facility.

- *Flipper Tagging*: All sea turtles captured by relocation trawling shall be flipper-tagged prior to release with external tags which shall be obtained prior to the project from the University of Florida's Archie Carr Center for Sea Turtle Research. This Opinion serves as the permitting authority for any NOAA Fisheries-approved endangered species observer aboard these relocation trawlers to flipper-tag with external tags (e.g., Inconel tags) captured sea turtles. Columbus crabs or other organisms living on external sea turtle surfaces may also be sampled and removed under this authority.
- *Gulf Sturgeon Tagging*: Tagging of live-captured Gulf sturgeon may also be done under the permitting authority of this Opinion; however, it may be done only by personnel with prior fish tagging experience or training, and is limited to external tagging only, unless the observer holds a valid sturgeon research permit (obtained pursuant to section 10 of the ESA, from the NOAA Fisheries' Office of Protected Resources, Permits Division) authorizing sampling, either as the permit holder, or as designated agent of the permit holder.
- *PIT-Tag Scanning*: All sea turtles captured by relocation trawling (or dredges) shall be thoroughly scanned for the presence of PIT tags prior to release using a scanner powerful enough to read dual frequencies (125 and 134 kHz) and read tags deeply embedded deep in muscle tissue (e.g., manufactured by Biomark or Avid). Turtles which scans show have been previously PIT tagged shall never-the-less be externally flipper tagged. The data collected (PIT tag scan data and external tagging data) shall be submitted to NOAA, National Marine Fisheries Service, Southeast Fisheries Science Center, Attn: Lisa Belskis, 75 Virginia Beach Drive, Miami, Florida 33149. All data collected shall be submitted in electronic format within 60 working days to Lisa.Belskis@noaa.gov.
- *CMTTP:* External flipper tag and PIT tag data generated and collected by relocation trawlers shall also be submitted to the Cooperative Marine Turtle Tagging Program (CMTTP), on the appropriate CMTTP form, at the University of Florida's Archie Carr Center for Sea Turtle Research.
    - *Tissue Sampling*: All live or dead sea turtles captured by relocation trawling or dredging shall be tissue-sampled prior to release, according to the protocols described in Appendix II or Appendix III of this Opinion. Tissue samples shall be sent within 60 days of capture to: NOAA, National Marine Fisheries Service, Southeast

Fisheries Science Center, Attn: Lisa Belskis, 75 Virginia Beach Drive, Miami, Florida 33149. All data collected shall be submitted in electronic format within 60 working days to Lisa.Belskis@noaa.gov. This Opinion serves as the permitting authority for any NOAA Fisheries-approved endangered species observers aboard relocation trawlers or hopper dredges to tissue-sample live- or dead-captured sea turtles, without the need for a section 10 permit.

- Cost Sharing of Genetic Analysis: The USACE's Gulf of Mexico Districts shall combine to provide a one-time payment of $10,000 to NOAA Fisheries to share the cost of NOAA-Fisheries' analysis of 300 tissue samples taken during USACE hopper dredging/trawling operations in the Gulf of Mexico. This cost is currently estimated by NOAA Fisheries to be about $100-150 per sample, or $30,000-$45,000. USACE funds shall be provided to NOAA Fisheries' Southwest Fisheries Center's Dr. Peter Dutton as a part of a Memorandum of Understanding (MOU) to be developed between Dr. Dutton and the USACE's combined Gulf of Mexico Districts and Divisions within six months of the issuance of this Opinion.
- *PIT Tagging*: PIT tagging is not required or authorized for, and shall not be conducted by, ESOs who do not have 1) section 10 permits authorizing said activity and 2) prior training or experience in said activity; however, if the ESO has received prior training in PIT tagging procedures and is also authorized to conduct said activity by a section 10 permit, then the ESO **must** PIT tag the animal prior to release (in addition to the standard external flipper tagging). PIT tagging must then be performed in accordance with the protocol detailed at NOAA Fisheries' Southeast Science Center's webpage: http://www.sefsc.noaa.gov/seaturtlefisheriesobservers.jsp. (See GRBO Appendix C on SEC's "Fisheries Observers" webpage). PIT tags used must be sterile, individually wrapped tags to prevent disease transmission. PIT tags should be 125 kHz, glass-encapsulated tags - the smallest ones made. Note: If scanning reveals a PIT tag and it was not difficult to find, then **do not** insert another PIT tag; simply record the tag number and location, and frequency, if known. If for some reason the tag is difficult to detect (e.g., tag is embedded deep in muscle, or is a 400 mHz tag), then insert one in the other shoulder.
- *Other Sampling Procedures*: All other tagging and external or internal sampling procedures (e.g., PIT tagging, blood letting, laparoscopies, anal and gastric lavages, mounting satellite or radio transmitters, etc.) performed on live sea turtles or live sturgeon are not permitted under this Opinion unless the observer holds a valid sea turtle or sturgeon research permit

(obtained pursuant to section 10 of the ESA, from the NOAA Fisheries' Office of Protected Resources, Permits Division) authorizing the activity, either as the permit holder, or as designated agent of the permit holder.

- *Handling Fibropapillomatose Turtles*: Observers handling sea turtles infected with fibropapilloma tumors shall either: 1) clean all equipment that comes in contact with the turtle (tagging equipment, tape measures, etc.) with mild bleach solution, between the processing of each turtle or 2) maintain a separate set of sampling equipment for handling animals displaying fibropapilloma tumors or lesions. Tissue/tumor samples shall be sent within 60 days of capture to: NOAA, National Marine Fisheries Service, Southeast Fisheries Science Center, Attn: Lisa Belskis, 75 Virginia Beach Drive, Miami, Florida 33149. All data collected shall be submitted in electronic format within 60 working days to Lisa.Belskis@noaa.gov. This Opinion serves as the permitting authority for all NOAA Fisheries-approved endangered species observers aboard a relocation trawler or hopper dredge to tissue-sample fibropapilloma-infected sea turtles without the need for a section 10 permit.

- *Hardground Buffer Zones*: All dredging in sand mining areas will be designed to ensure that dredging will not occur within a minimum of 400 feet from any significant hardground areas or bottom structures that serve as attractants to sea turtles for foraging or shelter. NOAA Fisheries considers (for the purposes of this Opinion only) a significant hardground in a project area to be one that, over a horizontal distance of 150 feet, has an average elevation above the sand of 1.5 feet or greater, and has algae growing on it. The USACE Districts shall ensure that sand mining sites within their Districts are adequately mapped to enable the dredge to stay at least 400 feet from these areas. If the USACE is uncertain as to what constitutes significance, it shall consult with NOAA Fisheries' Habitat Conservation Division and NOAA Fisheries' Protected Resources Division for clarification and guidance.
- *Training - Personnel on Hopper Dredges*: The respective USACE Districts must ensure that all contracted personnel involved in operating hopper dredges (whether privately-funded or federally-funded projects) receive thorough training on measures of dredge operation that will minimize takes of sea turtles. It shall be the goal of each hopper dredging operation to establish operating procedures that are consistent with those that have been used successfully during hopper dredging in other regions of the coastal United States, and which have proven effective in reducing turtle/dredge interactions. Therefore, USACE Engineering Research and Development Center experts or other persons with expertise in this matter shall be involved both in dredge operation training, and installation, adjustment, and monitoring of the rigid deflector draghead assembly.

- *Dredge Lighting*: From May 1 through October 31, sea turtle nesting and emergence season, all lighting aboard hopper dredges and hopper dredge pumpout barges operating within three nmi of sea turtle nesting beaches shall be limited to the minimal lighting necessary to comply with U.S. Coast Guard and/or OSHA requirements. All non-essential lighting on the dredge and pumpout barge shall be minimized through reduction, shielding, lowering, and appropriate placement of lights to minimize illumination of the water to reduce potential disorientation effects on female sea turtles approaching the nesting beaches and sea turtle hatchlings making their way seaward from their natal beaches.

CONCLUSIONS

Based on the findings of the EA, coordination with the appropriate agencies, comments from the public, and adherence to the project conditions set forth in this FONSI, FEMA has determined that the proposed project qualifies as a major federal action that will not significantly affect the quality of the natural and human environment, nor does it have the potential for significant cumulative effects. As a result of this FONSI, and in accordance with FEMA Instruction 108-1-1, an EIS will not be prepared, and the proposed project as described in the attached SEA may proceed.

APPROVAL

STEPHANIE D EVERFIELD
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Date: 2023.04.21 10:50:50 -04'00'

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Stephanie D. Everfield
Regional Environmental Officer
FEMA, Region 4

MICHAEL A PHILLIPS
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Michael A. Phillips
Public Assistance Branch Chief
FEMA, Region 4

Final Environmental Assessment

Okaloosa County, Florida
Western Destin Beach Restoration Project
FEMA DR-4564-FL

April 2023

U.S. Department of Homeland Security
Federal Emergency Management Agency Region 4
Atlanta, Georgia

TABLE OF CONTENTS

APPENDICES

LIST OF ACRONYMS

BMP	Best Management Practice
CAA	Clean Air Act
CATEX	Categorical Exclusion
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CHHA	Coastal High Hazard Area
CWA	Clean Water Act
CY	cubic yards
DHS	Department of Homeland Security
EA	Environmental Assessment
EFH	Essential Fish Habitat
EO	Executive Order
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FDEP	Florida Department of Environmental Protection
FEMA	Federal Emergency Management Agency
FGS	Florida Geological Survey
FIRM	Flood Insurance Rate Map
FPPA	Farmland Protection Policy Act
FT	feet
FWC	Fish and Wildlife Conservation Commission
GHG	greenhouse gas
GRBO	Regional Biological Opinion on Hopper Dredging of Navigational Channels and Borrow Areas in the Gulf of Mexico
LLC	Limited Liability Company
MSA	Magnuson–Stevens Fishery Conservation and Management Act of 1976
NAAQS	National Ambient Air Quality Standards
NAVD	North American Vertical Datum
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places

OSHA	Occupational Safety and Health Administration
PA	Public Assistance
PBO	Programmatic Biological Opinion
PL	Public Law
RCRA	Resource Conservation and Recovery Act
RHA	Rivers and Harbors Act
Stafford Act	Robert T. Stafford Disaster Relief and Emergency Assistance Act
SWPPP	Stormwater Pollution Prevention Plan
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
US	United States
VOC	volatile organic compounds
WOTUS	waters of the United States
WSRA	Wild and Scenic River Act
WSR	Wild and Scenic Rivers

1.0 INTRODUCTION

Hurricane Sally impacted Florida between September 14, 2020, and September 28, 2020, bringing strong winds, heavy rains, storm surge, and flooding. President Trump signed a disaster declaration (FEMA-4564-DR-FL) on September 23, 2020, authorizing the Department of Homeland Security's (DHS) Federal Emergency Management Agency (FEMA) to provide federal assistance to the designated areas of Florida. 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 event.

Okaloosa County, Florida was designated to receive federal assistance for this disaster. Okaloosa County has applied for funding from FEMA under the PA program and intends to restore the eroded shoreline at Western Destin Beach. The project is located along the Gulf of Mexico beach, east of East Pass, and consists of two reaches (two distinct segments) spanning a total of 1.2 miles of beach. Reach 1 begins at Florida Department of Environmental Protection (FDEP) coastal range monument R-16.6, just east of the jetty at East Pass, and extends eastward to R-20.7. Reach 2 begins at R-23.5 and extends eastward to R-25.5. The construction, maintenance, and repair of this is the legal responsibility of Okaloosa County, and the shoreline is authorized for nourishment and maintenance by the United States Army Corps of Engineers (USACE).

The proposed action presented by Okaloosa County does not qualify for use of DHS Categorical Exclusion (CATEX) (N5) for federal assistance for actions in coastal areas subject to moderate wave action or V zones because the proposed project activities to repair beach erosion damage at Western Destin Beach is greater than one-half acre, which is not permitted by the CATEX.

This draft Environmental Assessment (EA) has been prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) of 1969, (PL 91-190, as amended), and its implementing regulations at 40 Code of Federal Regulations (CFR) § 1500 to 1508, promulgated by the President's Council on Environmental Quality (CEQ). Recent changes to the CEQ regulations (40 CFR § 1500 to 1508) became effective on September 14, 2020; 85 Federal Register 43304-76 (July 16, 2020). As stated in 40 CFR § 1506.13, the new regulations apply to any NEPA process begun after September 14, 2020.

2.0 PURPOSE AND NEED

The objective of FEMA's PA Grant Program is to assist the community in recovering from the damage caused by natural disasters. The purpose of the action alternatives presented in this EA is to restore the eroded shoreline of Western Destin Beach. As a result of the storm surge and wave action caused by Hurricane Sally, Western Destin Beach in Okaloosa County, Florida suffered

substantial erosion. The need for this project is to improve the capacity of the shoreline to withstand future storm events, reduce erosion, and decrease risk from future events to human life and improved property. Furthermore, there is a need to address additional impacts from erosion including habitat loss for sea turtles and shorebirds, and the recreational value of the beach.

This EA was prepared in accordance with FEMA's regulations, federal laws and executive orders as required under NEPA. It also addresses an evaluation of alternatives and a discussion of the potential environmental impacts for the proposed federal action.

3.0 PROJECT LOCATION AND BACKGROUND

The 2013 Western Destin Beach Restoration Project, constructed from January 29, 2013 to February 25, 2013, restored two shoreline segments totaling approximately 1.2 miles. The Reach 1 project area extends from the eastern jetty of East Pass (GPS coordinates: 30.381458° N, -86.507235° W to 30.383004° N, -86.494178° W) to the east property boundary of Destin on the Gulf of Mexico (GPS coordinates: 30.383237° N, -86.485312° W to 30.383313° N, -86.478074° W), approximately 700 feet (FT) east of the FDEP Range Monument R-20.7. The Reach 2 project area extends from the western property boundary of Sandpiper Cove at FDEP Range Monument R-23.5 (GPS coordinates: 30.383961° N, -86.485106° W) to the eastern boundary of Southbay on the Gulf of Mexico at FDEP Range Monument R-25.5 (GPS coordinates: 30.384202° N, -86.478060° W). The constructed project represents a subset of the originally planned 1.7-mile continuous project. The beach-quality sand borrow material for the Western Destin Beach Restoration Project originated from the northern portion of the regionally permitted borrow site located approximately 1.3 miles offshore and 4 miles west of East Pass. Taylor Engineering, LLC designed the borrow site based on the availability of beach-quality sand and the proximity of the borrow site to the project area. The City of Destin contracted Great Lakes Dredge and Dock to dredge approximately 634,000 cubic yards (CY) of sand from the borrow site with a hopper dredge.

The 2020 East Pass Maintenance Dredging Project occurred between February 29, 2020, to June 21, 2020. The action area for the dredging project extended from approximately 600 FT east of FDEP Range Monument R-17 (GPS coordinates: 30.384084° N, -86.503425° W) to 700 FT east of FDEP Range Monument R-20 (GPS coordinates: 30.383249° N, -86.494334° W). The beach fill template extended from the approximate +3 FT-North American Vertical Datum (NAVD) contour of the pre-construction shoreline out to the seaward limit of the Western Destin Beach Restoration Project fill template. The beach fill template was approximately 150 FT wide near the west and east fill limits, located at FDEP Range Monuments R-17.5 (GPS coordinates: 30.384084° N, -86.503425° W) and R-20.5 (GPS coordinates: 30.383249° N, -86.494334° W), and nearly 250 FT wide near the center of the fill area located at FDEP Range Monument R-19 (GPS coordinates: 30.383427° N, -86.499598° W). The beach quality material for the project originated from two

sections of the East Pass Federal Navigation Channel with respective estimated dredge quantities of approximately 123,000 CY and 80,000 CY. In total, the USACE continuing services contractor Mike Hooks, Limited Liability Company (LLC), hydraulically dredged approximately 203,000 CY from the East Pass Navigation Channel during the 2020 maintenance dredging.

In September 2020, Hurricane Sally negatively impacted Western Destin Beach, damaging the beach after the completion of the 2020 dredging and beach restoration project. No work has been started on the proposed 2022 restoration project at the time of drafting this EA.

4.0 ALTERNATIVES

The alternatives considered in addressing the purpose and need stated are the No Action Alternative, restoration of Western Destin Beach to its pre-disaster design profile, and the comprehensive beach restoration project (Preferred Action Alternative).

4.1 Alternative 1: No Action Alternative

Under the No Action Alternative, the beach restoration project would not be completed. Thus, the beach and community would not be protected from future storm surge events. Erosion would continue to occur along the beach, negative impacts to species may occur due to degradation of available habitat, and the recreational value created by the beaches would continue to decrease. Therefore, the No Action Alternative has the potential to negatively affect the community, the environmental habitat, and tourism and economy in the vicinity of the coastline.

4.2 Alternative 2: Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile

Under Alternative 2, Okaloosa County would restore only the amount of sand lost from Hurricane Sally as a stand-alone nourishment project rather than combining it within the next scheduled maintenance renourishment. The project has one regionally permitted offshore borrow site, located approximately 4 miles west of the proposed project location (**Appendix A**), from which beach-compatible sand would be obtained. Okaloosa County has submitted applications to FEMA for funding under the PA program to repair damages as a result of FEMA-4564-DR-FL. Approximately 150,600 CY of beach-compatible sand and 46,500 dune plants would be placed at Western Destin Beach along approximately 1.2 miles of shoreline between GPS coordinates (30.381458° N, -86.507235° W) to (30.383004° N, -86.494178° W), and (30.383237° N, -86.485312° W) to (30.383313° N, -86.478074° W). This Alternative would immediately increase the level of storm protection to the existing shore, upland habitat, and infrastructure. However, this Alternative would likely require future renourishments for background sand loss replacement to fill the engineered template.

4.3 Alternative 3: Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile Plus Background Erosion (Preferred Alternative)

Under Alternative 3, Okaloosa County would restore the shoreline to the full engineered design beach template with the amount of sand lost from Hurricane Sally plus additional sand lost from background erosion. The beach-compatible sand for this Alternative would be sourced from the same offshore borrow area considered in Alternative 2. Okaloosa County has submitted an application to FEMA for funding under the PA program to repair damages as a result of FEMA-4564-DR-FL. Approximately 150,600 CY of beach-compatible sand and 46,500 dune plants would be placed at Western Destin Beach along approximately 1.2 miles of shoreline between GPS coordinates (30.381458° N, -86.507235° W) to (30.383004° N, -86.494178° W), and (30.383237° N, -86.485312° W) to (30.383313° N, -86.478074° W). Under this Alternative, an additional 109,400 CY of beach-compatible sand would be installed to account for background erosion sand losses for a combined total of 260,000 CY. The background erosion sand loss would be placed at the same time as the disaster-related sand. This Alternative would minimize the need for future renourishments since it would replace sand up to the full engineered design template.

4.4 Alternatives Considered and Dismissed

Okaloosa County considered several potential alternatives to restore the Western Destin Beach shoreline, including the use of shoreline protection structures such as breakwaters and groins. In 2019, prior to Hurricane Sally's landfall, the applicant's consultant, Taylor Engineering, Inc., conducted an alternatives analysis evaluating the potential installation of a breakwater and groin combination and modification of the East Pass eastern jetty, as well as two beach fill alternatives. The coastal structure alternatives were not selected due to reduced benefit along the eastern reach of the project (Reach 2), a lengthy permitting process, and the potential for negative environmental impacts. Ultimately, the study recommended renourishing the shoreline to the existing engineered design fill template but recommended it should be continuous between the two reaches and not excluding the 2,900-foot section as discussed for Alternatives 2 and 3.

4.5 Impact Evaluation

The 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 4.5.1 below.

Table 4.5.1: 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 EA evaluates the potential environmental direct and indirect impact of the No Action, return to pre-disaster condition, and Proposed Action alternatives. A summary table of the potential impacts of Alternative 1, 2, and 3 is provided in Table 4.5.2 below.

Table 4.5.2: Environmental Consequences and Environmental Protection Measures and Required Permits by Environmental Resource

Resource and Resource Type	Environmental Consequence	Environmental Protection Measures and Required Permits
Physical Resource: Geology and Soils, and Farmland Protection Policy Act (FPPA)	No Action Alternative: *No Impact* Alternative 2: *No Impact* Alternative 3: *No Impact*	Alternatives 2 and 3 would require a Joint Coastal Permit (JCP) from FDEP which would necessitate the placement of beach-compatible sand. Okaloosa County has obtained JCP and Sovereign Submerged Lands Lease Authorization (No. 0286575-001-JC) and its permit modification (No. 0286575-006-JN) from FDEP.
Physical Resource: Air Quality and Clean Air Act (CAA)	No Action Alternative: *No Impact* Alternative 2: *Negligible Impact – Not Significant* Alternative 3: *Negligible Impact – Not Significant*	Construction and equipment-generated fugitive dust would be controlled using standard construction best management practices (BMPs), including watering of exposed surfaces and enclosing or covering stockpiled material.
Physical Resource: Climate Change	No Action Alternative: *No Impact* Alternative 2: *Minor Impact – Not Significant* Alternative 3: *Minor Impact – Not Significant*	Not applicable.
Water Resources: Clean Water Act (CWA) and Surface Water	No Action Alternative: *No Impact* Alternative 2: *Minor Impact – Not Significant* Alternative 3: *Minor Impact – Not Significant*	Alternatives 2 and 3 would require implementing all permit conditions and BMPs included in USACE Permit No. SAJ-2008-00895(IP-SWA), SAJ-2008-00895(IP-SWA) Modification #1, SAJ-2008-00895(IP-SWA) Modification #2, and SAJ-2008-00895 (MOD-TSH) Modification #3. Okaloosa County would be required to obtain any permit modifications as needed.
Water Resource: Floodplain Management (EO 11988)	No Action Alternative: *No Impact* Alternative 2: *Minor Impact –Significant* Alternative 3: *Moderate Impact –Significant*	Not applicable.

Resource and Resource Type	Environmental Consequence	Environmental Protection Measures and Required Permits
Water Resource: Protection of Wetlands (EO 11990) and Wild and Scenic Rivers (WSR)	No Action Alternative: *No Impact* Alternative 2: *Minor Impact – Not Significant* Alternative 3: *Minor Impact – Not Significant*	Alternatives 2 and 3 would require compliance with the conditions and BMPs outlined in the FDEP JCP and Sovereign Submerged Lands Lease Authorization (No. 0286575-001-JC), and its permit modification (No. 0286575-006-JN). Additionally, Okaloosa County has obtained USACE Permit No. SAJ-2008-00895 (IP-SWA), SAJ-2008-00895(IP-SWA) Modification #1, SAJ-2008-00895(IP-SWA) Modification #2, and SAJ-2008-00895 (MOD-TSH) Modification #3. Okaloosa County is required to obtain any permit modifications as needed.
Water Resource: Coastal Zone Management Act (CZMA) and Coastal Barrier Resources Act (CBRA)	No Action Alternative: *No Impact* Alternative 2: *Minor Impact - Significant* Alternative 3: *Minor Impact - Significant*	Alternatives 2 and 3 would require an FDEP JCP, which would constitute consistency review under Florida's Coastal Zone Management (CZM) program. Okaloosa County has obtained the FDEP JCP and Sovereign Submerged Lands Lease Authorization (No. 0286575-001-JC) and its permit modification (No. 0286575-006-JN). Okaloosa County is required to obtain any permit modifications as needed.
Water Resource: Drinking Water and Groundwater	No Action Alternative: *No Impact* Alternative 2: *No Impact* Alternative 3: *No Impact*	Hazardous materials used and hazardous wastes generated during construction would be managed in accordance with applicable environmental compliance regulations to prevent releases to groundwater.
Biological Resource: Fish and Wildlife	No Action Alternative: *No Impact* Alternative 2: *Minor Impacts – Significant* Alternative 3: *Minor Impacts – Significant*	Alternatives 2 and 3 would require implementation of FDEP JCP and USACE permit conditions regarding Essential Fish Habitat (EFH) and MBTA, including provisions in applicable PBOs regarding sea turtles, fish, and shorebirds.
Biological Resource: Vegetation	No Action Alternative: *No Impact* Alternative 2: *Minor Impact – Significant* Alternative 3: *Minor Impact – Significant*	Alternatives 2 and 3 would require implementation of FDEP JCP and USACE permit conditions and BMPs regarding vegetation protection during construction, and dune planting.

Resource and Resource Type	Environmental Consequence	Environmental Protection Measures and Required Permits
Biological Resource: Threatened and Endangered Species (Endangered Species Act)	No Action Alternative: *No Impact* Alternative 2: *Minor Impact – Significant* Alternative 3: *Moderate Impact – Significant*	Under Alternatives 2 & 3, the following measures would be implemented from the applicable PBOs: 1. USFWS Statewide Programmatic Biological Opinion (PBO) for Shore Protection Activities along the Coast of Florida Placement #41910-2011-F-0170 issued to the U.S. Army Corps of Engineers on August 22, 2011, and updated March 13, 2015. 2. USFWS Programmatic Piping Plover Biological Opinion (P3BO), Service Log #04EF1000-2013-F-0124, dated May 22, 2013. 3. Sea Turtle and Smalltooth Sawfish Construction Conditions, dated March 23, 2006. 4. (Revised) National Marine Fisheries Service for Dredging of Gulf of Mexico Navigation Channels and Sand Mining ("Borrow") Areas Using Hopper Dredges by USACE Galveston, New Orleans, Mobile, and Jacksonville Districts (Consultation Number F/SER/2000/01287), dated January 9, 2007. All applicable conditions for these PBOs are listed in Section 7.0 for Permits and Project Conditions.
Biological Resource: Migratory Bird Treaty Act (MBTA)	No Action Alternative: *No Impact* Alternative 2: *Minor Impact – Significant* Alternative 3: *Minor Impact – Significant*	Alternative 2 and 3 would require Okaloosa County to follow the latest Florida Fish and Wildlife Conservation Commission (FWC) standard guidelines to protect against impacts to nesting shorebirds during implementation of this project during the period from February 15 to August 31.
Biological Resource: Magnusson-Stevens Fisheries Conservation Act (MSA)	No Action Alternative: *No Impact* Alternative 2: *Minor Impact – Not Significant* Alternative 3: *Minor Impact – Not Significant*	Alternatives 2 and 3 would require implementation of the FDEP JCP and USACE permit conditions regarding Essential Fish Habitat (EFH) including provisions in applicable PBOs regarding EFH.

Resource and Resource Type	Environmental Consequence	Environmental Protection Measures and Required Permits
Biological Resource: Bald and Golden Eagle Protection Act (BGEPA)	No Action Alternative: *No Impact* Alternative 2: *No Impact* Alternative 3: *No Impact*	Not applicable.
Cultural Resource: Historic and Archaeological Resources	No Action Alternative: *No Impact* Alternative 2: *No Impact – Not Significant; No Historic Properties Affected* Alternative 3: *No Impact – Not Significant; No Historic Properties Affected*	Consultation letters were sent to the Florida State Historic Preservation Office (SHPO) and eleven Tribes with vested interest in Okaloosa County, Florida for Alternatives 2 and 3 on January 4, 2022, with the following conditions: 1. If human remains or intact archaeological deposits 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 applicant 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 applicant's contractor will provide immediate notice of such discoveries to the applicant. The applicant shall contact the Florida Division of Historic Resources 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 Florida Statutes, Section 872.05. 2. Construction vehicles and equipment will be stored onsite during the project or at existing access points within the Applicant's right-of-way. 3. Any changes to the approved scope of work will require submission to, and evaluation and approval by, the State and FEMA, prior

Resource and Resource Type	Environmental Consequence	Environmental Protection Measures and Required Permits
		to initiation of any work, for compliance with Section 106. One Tribe has also requested the addition of the following condition: 4. Inadvertent discoveries of cultural resources, human remains and related NAGPRA items may occur, even in areas of existing or prior development. Should this occur, the Muscogee (Creek) Nation requests that all work cease and our office as well as other appropriate agencies be notified immediately.
Socioeconomic Resource: Land Use	No Action Alternative: *No Impact* Alternative 2: *No Impact* Alternative 3: *No Impact*	Not applicable.
Socioeconomic Resource: Noise	No Action Alternative: *No Impact* Alternative 2: *Minor Impact – Not Significant* Alternative 3: *Minor Impact – Not Significant*	Noise generated from construction activities described in Alternatives 2 and 3 would be intermittent, heard only during daytime, and only for the duration of the project activities.
Socioeconomic Resource: Transportation and Traffic	No Action Alternative: *No Impact* Alternative 2: *Minor Impact - Significant* Alternative 3: *Minor Impact - Significant*	Not applicable.
Socioeconomic Resource: Hazardous Materials/Wastes & Solid Waste	No Action Alternative: *No Impact* Alternative 2: *Negligible Impact – Not Significant* Alternative 3: *Negligible Impact – Not Significant*	Any hazardous materials discovered, generated, or used during implementation of the proposed project for Alternatives 2 and 3 would be disposed of and handled in accordance with applicable state and federal regulations. Any permits, or authorizations, if required, would be obtained prior to handling and disposal.
Socioeconomic Resource: Occupational Health and Safety	No Action Alternative: *No Impact* Alternative 2: *Negligible Impact – Not Significant* Alternative 3: *Negligible Impact – Not Significant*	To minimize occupational health and safety risks for Alternatives 2 and 3, workers would wear and use appropriate personal protective equipment and follow all applicable Occupational Safety and Health Administration (OSHA) standards and procedures.

Resource and Resource Type	Environmental Consequence	Environmental Protection Measures and Required Permits
		A health and safety plan would be developed and implemented prior to beginning work. Work areas would be clearly marked with appropriate signage and secured against unauthorized entry. Standard construction traffic control measures would be used to protect workers, residents, and the travelling public.
Socioeconomic Resource: Utilities	No Action Alternative: *No Impact* Alternative 2: *No Impact* Alternative 3: *No Impact*	Not applicable.
Socioeconomic Resource: Environmental Justice (EO 12898), Equity, and Protection of Children	No Action Alternative: *No Impact* Alternative 2: *No Impact* Alternative 3: *No Impact*	Not applicable.

5.0 AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS

5.1 PHYSICAL RESOURCES

5.1.1 GEOLOGY AND SOILS, AND FARMLAND PROTECTION POLICY ACT (FPPA)

According to the Florida Geological Survey (FGS), accessed July 6, 2022, the landform in which the project area is located is considered Gulf coastal lowlands, and the Florida Stratigraphic Geology of the project area is from the Holocene, within the Quaternary Period. Per the United States Department of Agriculture's (USDA) National Resources Conservation Service (NRCS) Web Soil Survey soil data, accessed July 6, 2022, soils underlying the project area include: beaches (National Map Unit 1kh9r), described as beaches on marine terraces; Newhan-Corolla complex, 2% to 30% slopes (National Map Unit 2w4gq), described as dunes on marine terraces; and urban land (National Map Unit 1khbj), described as marine terraces.

The purpose of the FPPA is to "minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses" (7 United States Code (USC) § 4201(b)). For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, cropland, or other land, but not water or urban built-up land. Prime farmland is defined as land that has the best

combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is available for these uses. None of the map units (1kh9r, 2w4gq, and 2w4gq) are classified as prime farmland.

Alternative 1 – No Action Alternative

The No Action Alternative would not result in any construction activities; therefore, the No Action Alternative would have no impact on geology or soils.

Alternative 2 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile

Alternative 2 would disturb soils during sand placement, vegetation planting, and dredging activities. Soils in the area have been previously disturbed during past beach renourishment activities and other development in the area. Based on the review conducted, Alternative 2 would have minor, short-term impacts on soils, as beach compatible sand, meeting the engineering and aesthetic requirements put forth by FDEP, would be used during construction. The impact would not be significant.

Alternative 3 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile Plus Background Erosion (Preferred Alternative)

Alternative 3 would disturb soils during sand placement, vegetation planting, and dredging activities. Soils in the area have been previously disturbed during past beach renourishment activities and other development in the area. Based on the review conducted, Alternative 3 would have minor, short-term impacts on soils, as beach compatible sand, meeting the engineering and aesthetic requirements put forth by FDEP, would be used during construction. The impact would not be significant.

5.1.2 AIR QUALITY AND CLEAN AIR ACT (CAA)

The CAA requires the US Environmental Protection Agency (EPA) to establish national ambient air quality standards for certain common and widespread pollutants based on standards established under the National Ambient Air Quality Standards (NAAQS) for the following criteria pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide. Areas that meet the quality standards for the criteria pollutants are designated as being in attainment. Areas that do not meet the air quality standards for one of the criteria pollutants are designated as being in nonattainment for that standard. Okaloosa County is currently classified as being in attainment for all criteria pollutants stipulated under NAAQS. The threshold level for a significant impact to air quality is defined as a violation of an ambient air quality standard or regulatory threshold.

Alternative 1 – No Action Alternative

The No Action Alternative would not result in any construction activities; therefore, the No Action Alternative would have no impact on air quality.

Alternative 2 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile

Alternative 2 would generate short-term construction equipment exhaust emissions and short-term fugitive dust emissions. These air emissions would vary daily, depending on the level and type of work conducted, and would be limited to the project construction period. Pollutants that would be emitted from the internal combustion engine exhausts of construction vehicles and equipment include certain criteria pollutants, volatile organic compounds (VOCs), and certain greenhouse gases (GHGs). Annual construction emissions are expected to be less than the federal de minimis thresholds for criteria pollutants and VOCs. Construction-related GHG emissions are expected to be negligible in terms of overall quantity and within the range expected for construction of this type and size. Fugitive dust would be generated by construction vehicles and equipment operations on dirt and sandy surfaces and by wind action on stockpiled materials. Generated fugitive dust would consist primarily of non-toxic particulate matter and would be controlled at the sites using BMPs, including watering of exposed surfaces and enclosing or covering stockpiled material. Based on the review conducted, Alternative 2 would have a negligible impact on air quality. The impact would not be significant.

Alternative 3 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile Plus Background Erosion (Preferred Alternative)

Alternative 3 would generate short-term construction equipment exhaust emissions and short-term fugitive dust emissions for a longer period of time compared to Alternative 2. These air emissions would vary daily, depending on the level and type of work conducted, and would be limited to the project construction period. Pollutants that would be emitted from the internal combustion engine exhausts of construction vehicles and equipment include certain criteria pollutants, VOCs, and certain GHGs. Annual construction emissions are expected to be less than the federal de minimis thresholds for criteria pollutants and VOCs. Construction-related GHG emissions are expected to be negligible in terms of overall quantity and within the range expected for construction of this type and size. Fugitive dust would be generated by construction vehicles and equipment operations on dirt and sandy surfaces and by wind action on stockpiled materials. Generated fugitive dust would consist primarily of non-toxic particulate matter and would be controlled at the sites using BMPs, including watering of exposed surfaces and enclosing or covering stockpiled material. Based on the review conducted, Alternative 3 would have a negligible impact on air quality. The impact would not be significant.

5.1.3 CLIMATE CHANGE

GHGs are emitted by both natural processes and human activities, and their accumulation in the atmosphere regulates temperature. GHGs included carbon dioxide, methane, nitrous oxide, and other compounds. There are currently no established thresholds or standards for GHGs. However, according to current guidance from the CEQ, a quantitative analysis and disclosure of GHG emissions is not warranted unless the proposed action's direct annual emissions would be greater than 25,000 metric tons of carbon dioxide equivalent.

Alternative 1 – No Action Alternative

The No Action Alternative would not result in any construction activities; therefore, the No Action Alternative would have no impact on climate change and no GHGs would be emitted.

Alternative 2 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile

Alternative 2 would result in minor short-term impacts from temporary air emissions due to fuel usage by the construction equipment. These temporary emissions would be expected to be below regulatory standards and would have a minor impact.

Alternative 3 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile Plus Background Erosion (Preferred Alternative)

Alternative 3 would result in minor short-term impacts from temporary air emissions due to fuel usage by the construction equipment for a longer period of time compared to Alternative 2. These temporary emissions would be expected to be below regulatory standards and would have a minor impact.

5.2 WATER RESOURCES

5.2.1 CLEAN WATER ACT (CWA) AND SURFACE WATER

The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States (WOTUS) and regulating quality standards for surface waters. Section 404 of the CWA establishes a program to regulate the discharge of dredged or fill material into WOTUS, including wetlands. Activities in WOTUS regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports) and mining projects. Section 404 requires a permit before dredged or fill material may be discharged into WOTUS, unless the activity is exempt from Section 404 regulation (e.g., certain farming and forestry activities).

In Florida, a National Pollutant Discharge Elimination System (NPDES) stormwater construction permit is required from the FDEP for any proposed project that would disturb at least one or more acres of land and those that discharge stormwater to surface waters of the state. As part of this permit, the proponent of the project is required to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP), which outlines BMPs and engineering controls to be used to prevent and minimize erosion, sedimentation, and pollution during construction.

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.

Alternative 1 - No Action Alternative

The No Action Alternative would not result in any construction or dredging activities; therefore, the No Action Alternative would have no impact on surface waters and WOTUS.

Alternative 2 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile

Alternative 2 construction activities would require work below the annual high tide line. Based on the review conducted, Alternative 2 would have short-term minor impacts on surface waters and WOTUS due to the temporary use of equipment during construction. Short-term impacts due to construction activities would be minimized by implementing BMPs and by following the conditions of USACE Permit Nos. SAJ-2008-00895(IP-SWA), SAJ-2008-00895(IP-SWA) Modification #1, SAJ-2008-00895(IP-SWA) Modification #2, and SAJ-2008-00895 (MOD-TSH) Modification #3 (**Appendix B**).

Alternative 3 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile Plus Background Erosion (Preferred Alternative)

Alternative 3 construction activities would require work below the annual high tide line. Based on the review conducted, Alternative 3 would have short-term minor impacts on surface waters and WOTUS due to the temporary use of equipment during construction for a longer period of time compared to Alternative 2. Short-term impacts due to construction activities would be minimized by implementing BMPs and by following the conditions of USACE Permit Nos. SAJ-2008-00895(IP-SWA), SAJ-2008-00895(IP-SWA) Modification #1, SAJ-2008-00895(IP-SWA) Modification #2, and SAJ-2008-00895 (MOD-TSH) Modification #3.

5.2.2 FLOODPLAIN MANAGEMENT

Executive Order 11988, Floodplain Management (EO 11988), 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." The 100-year floodplain is the area covered by water in the event of a 100-year flood, which is a flood that has a 1% annual chance of being equaled or exceeded in magnitude in any given year. 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% annual chance of being equaled or exceeded in magnitude in any given year. The 100- and 500-year floodplains are mapped on FEMA Flood Insurance Rate Maps (FIRMs).

Based on the current FEMA FIRM that covers the area of the Proposed Action, the proposed project location is identified on the FEMA FIRM as being within Flood Zone VE, which is also known as the Coastal High Hazard Area (CHHA) (**Appendix C**).

Alternative 1 - No Action Alternative

The No Action Alternative would not result in any construction activities; therefore, the No Action Alternative would have no impact on the floodplain. Improved property adjacent to the project area would remain at risk from future flooding events.

Alternative 2 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile

Alternative 2 would occur within the floodplain. Restoring Western Destin Beach would serve to reduce the flood risk to the areas landward of the existing shoreline, including improved property and upland habitat. Alternative 2 would provide partial protection as the beach would only be restored to the pre-disaster condition. Western Destin Beach is functionally dependent upon its location within the floodplain. The beach also serves to facilitate open space use of the floodplain for recreational value, which is one of the natural and beneficial values of floodplains, outlined in 44 CFR Part 9. Based on the review conducted, Alternative 2 would have minor beneficial impacts on the floodplain.

Alternative 3 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile Plus Background Erosion (Preferred Alternative)

Alternative 3 would occur within the floodplain. Restoring Western Destin Beach would serve to reduce the flood risk to the areas landward of the existing shoreline, including improved property and upland habitat. Alternative 3 would provide greater protection than Alternative 2 as the beach would be restored to the full extent of its engineered design profile, incorporating disaster sand

loss and background erosion loss. Western Destin Beach is functionally dependent upon its location within the floodplain. The beach also serves to facilitate open space use of the floodplain for recreational value, which is one of the natural and beneficial values of floodplains, outlined in 44 CFR Part 9. An 8-step decision-making checklist, as required by 44 CFR Part 9 (**Appendix D**), has been completed for Alternative 3 (the Preferred Alternative). Based on the review conducted, Alternative 3 would have minor beneficial impacts on the floodplain.

5.2.3 PROTECTION OF WETLANDS (EO 11990) AND WILD AND SCENIC RIVERS ACT (WSRA)

Executive Order 11990, Protection of Wetlands (EO 11990), requires federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.

Section 404 of the CWA regulates the discharge of dredged or fill material into WOTUS, including wetlands. Section 10 of the Rivers and Harbors Act (RHA) grants the USACE permitting jurisdiction for structures or works in or affecting navigable WOTUS. FDEP's Environmental Resource Program (ERP) program regulates dredging and filling in wetlands and surface waters, and activities in uplands that generate stormwater runoff or otherwise alter surface water flows.

The purpose of the WSRA of 1968 (PL 90 to 542; 16 USC § 1271 to 1287) is to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations through the creation of the National Wild and Scenic Rivers System (NWSRS). River segments are designated part of the system by Congress or, if certain requirements are met, the Secretary of the Interior. Each designated river or segment is administered by a federal or state agency, tribe or local government. The U.S. Forest Service (USFS), National Park Service (NPS), Bureau of Land Management (BLM), and the U.S. Fish and Wildlife Service (USFWS) are the four primary federal agencies with responsibility for the NWSRS. There are two WSRs located in Florida, the Wekiva River and Loxahatchee River.

The proposed project location is adjacent to the Gulf of Mexico. According to the USFWS's National Wetlands Inventory (NWI), accessed July 6, 2022, the proposed project location is within a designated wetland (**Appendix E**). According to the FDEP OFW mapper, accessed July 6, 2022, the project area is not within an OFW. Additionally, the Wekiva River and Loxahatchee River are not located in the vicinity of the project.

The threshold level for a significant impact to wetlands or a WSR would be a violation of federal or state discharge permits.

Alternative 1 - No Action Alternative

The No Action Alternative would not result in any construction activities; therefore, the No Action Alternative would have no impact on wetlands or a WSR.

Alternative 2 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile

The proposed project location is not located near or adjacent to a WSR; therefore, no impacts to WSR are anticipated. Alternative 2 would involve placing sand in the near and foreshore environment, and the action would involve dredging of marine wetlands. Temporary increases to turbidity would be expected due to the dredging and sand placement activities; however, no long-term impacts are expected due to the lack of estuarine or marshy wetlands in the project vicinity. Short-term negative impacts would also be expected to commercial and recreational fisheries near the shoreline and the dredge area, but impacts are expected to be limited to the construction timeframe. Impacts would include the higher turbidity in the habitat causing species to move from the area and reducing the number of catch available for a short period of time. The long-term impacts to the marine wetlands would be beneficial for preserving habitat and recreational value as well as reducing rates of sand loss and erosion from future storms. The applicant would be required to comply with the FDEP Joint Coastal Permit and Sovereign Submerged Lands Lease Authorization (No. 0286575-001-JC), its permit modification (No. 0286575-006-JN), and by following the conditions of USACE Permit Nos. SAJ-2008-00895(IP-SWA), SAJ-2008-00895(IP-SWA) Modification #1, SAJ-2008-00895(IP-SWA) Modification #2, and SAJ-2008-00895 (MOD-TSH) Modification #3 to minimize impacts from construction. The FDEP permit documentation is found in **Appendix F.**

Alternative 3 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile Plus Background Erosion (Preferred Alternative)

The proposed project location is not located near or adjacent to a WSR; therefore, no impacts to WSR are anticipated. Alternative 3 would involve placing sand in the near and foreshore environment, and the action would involve dredging of marine wetlands for a longer period of time compared to Alternative 2. Temporary increases to turbidity would be expected due to the dredging and sand placement activities; however, no long-term impacts are expected due to the lack of estuarine or marshy wetlands in the project vicinity. Short-term negative impacts would also be expected to commercial and recreational fisheries near the shoreline and the dredge area, but impacts are expected to be limited to the construction timeframe. Impacts would include the higher turbidity in the habitat causing species to move from the area and reducing the number of catch available for a short period of time. The long-term impacts to the marine wetlands would be beneficial for preserving habitat and recreational value as well as reducing rates of sand loss and

erosion from future storms. The applicant will be required to comply with the FDEP Joint Coastal Permit and Sovereign Submerged Lands Lease Authorization (No. 0286575-001-JC), its permit modification (No. 0286575-006-JN), and by following the conditions of USACE Permit Nos. SAJ-2008-00895(IP-SWA), SAJ-2008-00895(IP-SWA) Modification #1, SAJ-2008-00895(IP-SWA) Modification #2, and SAJ-2008-00895 (MOD-TSH) Modification #3 to minimize impacts from construction. The FDEP permit documentation is found in **Appendix F**.

5.2.4 COASTAL ZONE MANAGEMENT ACT (CZMA) and COASTAL BARRIER RESOURCES ACT (CBRA)

The CZMA provides for the management of the nation's coastal resources. The CZMA defines the coastal zones where development must be managed to protect areas of natural resources unique to coastal regions. States are required to define the area that will comprise coastal zone and develop management plans that will protect these unique resources through enforceable policies of state CZM programs. 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. Federal as well as local actions must be determined to be consistent with the CZM plans and policies before they can proceed.

The CBRA of 1982 and subsequent amendments are designed to address problems caused by coastal barrier development by restricting most Federal expenditures and financial assistance that tend to encourage such development. Three important goals of CBRA are to minimize loss of human life by discouraging development in high-risk areas, reduce wasteful expenditure of federal resources, and protect the natural resources associated with coastal barriers. The Coastal Barrier Improvement Act of 1990 (CBIA) reauthorized the CBRA and added new units. The CBIA, an addition to the CBRA, designated a new category of lands known as "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.

Alternative 1 - No Action Alternative

The No Action Alternative would not result in any construction activities; therefore, the No Action Alternative would have no impact to coastal resources or the coastal zone.

Alternative 2 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile

Under Alternative 2, activity and construction would occur in the coastal zone. Okaloosa County has obtained FDEP JCP and Sovereign Submerged Lands Lease Authorization from FDEP's Beaches, Inlets, and Ports Program (Permit No. 0286575-001-JC and Modification No. 0286575-

006-JN), which lists construction conditions and monitoring requirements. Issuance of this permit constitutes a consistency review for the project. Additionally, Alternative 2 would not involve any construction activities within a CBRS Unit or an OPA; therefore, there would be no impact to coastal resources.

Alternative 3 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile Plus Background Erosion (Preferred Alternative)

Under Alternative 3, activity and construction would occur in the coastal zone. Okaloosa County has obtained FDEP JCP and Sovereign Submerged Lands Lease Authorization from FDEP's Beaches, Inlets, and Ports Program (Permit No. 0286575-001-JC and Modification No. 0286575-006-JN), which lists construction conditions and monitoring requirements. Issuance of this permit constitutes a consistency review for the project. Additionally, Alternative 3 would not involve any construction activities within a CBRS Unit or an OPA; therefore, there would be no impact to coastal resources.

5.2.5 DRINKING WATER AND GROUNDWATER

The Safe Water Drinking Act, passed in 1974, authorizes the EPA to set national health-based standards for drinking water to protect against both naturally occurring and man-made contaminants that may be found in drinking water. According to the EPA's Map of Sole Source Aquifer Locations, accessed July 8, 2022, Western Destin Beach, Florida is not located within a sole source aquifer.

Alternative 1 - No Action Alternative

The No Action Alternative would not result in any construction activities; therefore, the No Action Alternative would have no impact to drinking water or groundwater.

Alternative 2 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile

Under Alternative 2, the Western Destin Beach restoration project would not have an impact on groundwater or drinking water as there are no Sole Source Aquifers in the City of Destin.

Alternative 3 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile Plus Background Erosion (Preferred Alternative)

Under Alternative 3, the Western Destin Beach restoration project would not have an impact on groundwater or drinking water as there are no Sole Source Aquifers in the City of Destin.

5.3 BIOLOGICAL RESOURCES

5.3.1 FISH AND WILDLIFE

The natural sandy Western Destin beach serves as foraging and nesting habitat for numerous species, including threatened and endangered 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.

Alternative 1 - No Action Alternative

The No Action Alternative would not result in any construction activities; therefore, the No Action Alternative would have no direct impacts to fish and wildlife. Species habitat would continue to decline due to continued erosion of the beach shoreline.

Alternative 2 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile

Under Alternative 2, short-term changes in nearshore and offshore habitat areas may occur. Temporary impacts to migratory birds and surf-zone fishes are likely to occur. After construction, fish and wildlife resources are expected to recover and no long-term impacts are expected. Alternative 2 would require implementation of the county's FDEP and USACE permit conditions regarding EFH and the MBTA, including provisions in the applicable PBOs regarding shorebirds. Based on the review conducted, Alternative 2 would have short-term minor impacts to fish and wildlife.

Alternative 3 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile Plus Background Erosion (Preferred Alternative)

Under Alternative 3, short-term changes in nearshore and offshore habitat areas may occur. Temporary impacts to migratory birds and surf-zone fishes are likely to occur. After construction, fish and wildlife resources are expected to recover and no long-term impacts are expected. Alternative 3 would require implementation of the county's FDEP and USACE permit conditions regarding EFH and the MBTA, including provisions in the applicable PBOs regarding shorebirds. Based on the review conducted, Alternative 3 would have short-term minor impacts to fish and wildlife.

5.3.2 VEGETATION

Vegetation is a necessary component of a functioning coastal dune as the root systems 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. Western

Destin Beach dune vegetation is currently comprised of sea oats (Uniola paniculata), panic grasses (Panicum amarum), and other native diversity species.

Alternative 1 - No Action Alternative

The No Action Alternative would not result in any construction activities; therefore, the No Action Alternative would have no impacts to vegetation. Continuing erosion could lead to ongoing dune vegetation loss due to escarpment.

Alternative 2 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile

Okaloosa County would replace approximately 46,500 dune plants as part of Alternative 2, which would have minor beneficial impacts on the Western Destin Beach. The shoreline would be restored to pre-disaster condition, thus partially strengthening the shore's buffer from storm surge and minimizing the chance of continuing erosion of the beach and dune system.

Alternative 3 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile Plus Background Erosion (Preferred Alternative)

For Alternative 3, Okaloosa County would replace approximately 46,500 dune plants and place an additional 153,500 plants of three different types of salt-tolerant vegetation, including a minimum of 70% coverage by sea oats, as required by the county's FDEP JCP and Sovereign Submerged Lands Lease Authorization (No. 0286575-001-JC), bringing the total number of plants proposed to be placed to 200,000. The plants would be spaced at intervals of approximately 1 plant per square foot. Further information on the dune plantings placement is located in the Western Destin Dune Vegetation Project Construction and As-Built Drawings (**Appendix G**). Alternative 3 would have minor beneficial impacts on the Western Destin beach restored shoreline by strengthening the shore's buffer from storm surge and minimizing the chance of continuing erosion of the beach and dune system.

5.3.3 THREATENED AND ENDANGERED SPECIES

In accordance with Section 7 of the Endangered Species Act (ESA) of 1973, the project was evaluated for the potential occurrences of federally listed threatened and endangered species. The ESA requires any federal agency that funds, authorizes or carries out an action to ensure their action is not likely to jeopardize the continued existence of any endangered or threatened species, or result in the destruction or adverse modification of designated critical habitat.

ESA-listed species that may occur within the proposed project location were identified by accessing the USFWS Information for Planning and Consultation (IPaC) database (accessed July

7, 2022) and the National Oceanic and Atmospheric Administration (NOAA) Fisheries Species Directory (https://www.fisheries.noaa.gov/species-directory). The species likely to occur within the project area include: the federally endangered Choctawhatchee beach mouse (*Peromyscus polionotus allophrys*), the federally threatened West Indian manatee (*Trichechus manatus*), the federally threatened eastern black rail (*Laterallus jamaicensis ssp. jamaicensis*), the federally threatened eastern indigo snake (*Drymarcon corais couperi*), the federally threatened wood stork (*Mycteria americana*), the federally threatened Gulf sturgeon (*Acipenser oxyrinchus (oxyrhynchus) desotoi*), the federally threatened green sea turtle (*Chelonia mydas*), the federally threatened loggerhead sea turtle (*Caretta caretta*), the federally endangered Kemp's Ridley sea turtle (*Lepidochelys kempii*), the federally endangered leatherback sea turtle (*Dermochelys coriacea*), the federally endangered smalltooth sawfish (*Pristis pectinata*), and the federally threatened giant manta ray (*Manta birostris*). However, the likelihood of the eastern black rail, eastern indigo snake, and the wood stork being present within the proposed project area is unlikely, as those species do not prefer beach habitats. There is designated critical habitat for the Gulf sturgeon present within the Gulf of Mexico adjacent to the shoreline of the proposed project location.

Alternative 1 - No Action Alternative

The No Action Alternative would not result in any construction activities; therefore, the No Action Alternative would have no direct impacts to threatened and endangered species. Species habitat would continue to decline due to continued erosion of the beach shoreline.

Alternative 2 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile

Alternative 2 is expected to have impacts to species along the shoreline and in the nearshore environment due to sand placement and dredging. If sand placement and renourishment of the beach occurs during sea turtle nesting season, the action may adversely affect nesting sea turtles and hatchlings. Dredging activities may affect, but are not likely to adversely affect, sea turtles, smalltooth sawfish, manatees, Gulf sturgeon, or giant manta rays near the dredging area and nearshore environment due to the usage of a hopper dredge. Due to the use of hopper dredging for this project, conditions within the National Marine Fisheries Service (NMFS) Regional Biological Opinion on Hopper Dredging of Navigational Channels and Borrow Areas in the Gulf of Mexico (GRBO) would need to be followed (**Appendix H**). The project would be required to meet the terms and conditions of the USFWS statewide PBO for Shore Protection Activities Along the Coast of Florida (dated August 22, 2011) (**Appendix I**) to minimize impacts to listed species. The project would also adhere to the Florida Standard Manatee Conditions (**Appendix J**), Piping Plover Conservation Measures (**Appendix K**), and Sea Turtle and Smalltooth Sawfish Conditions

(**Appendix L**) as required by the PBOs. The terms and conditions of these documents can be found in Section 7.0 of this SEA.

Under Alternative 2, environmental impacts to species along the shoreline are anticipated due to construction activities. Sea turtles and shorebirds would be impacted by the temporary disruption of the shore habitat. Pelagic marine species would be impacted by the temporary disruptions caused by dredging. The impacts to ESA-listed species would be temporary, and the species are expected to recover once construction has been completed. The restoration of the shoreline to pre-disaster condition would have long-term benefits to threatened and endangered species.

Alternative 3 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile Plus Background Erosion (Preferred Alternative)

Alternative 3 is expected to have impacts to species along the shoreline and in the nearshore environment due to sand placement and dredging. If sand placement and renourishment of the beach occurs during sea turtle nesting season, the action may adversely affect nesting sea turtles and hatchlings. Dredging activities may affect, but are not likely to adversely affect, sea turtles, smalltooth sawfish, manatees, Gulf sturgeon, or giant manta rays near the dredging area and nearshore environment due to the usage of a hopper dredge. Due to the use of hopper dredging for this project, conditions within the NMFS GRBO would need to be followed (**Appendix H**).

The project would be required to meet the terms and conditions of the USFWS statewide PBO for Shore Protection Activities Along the Coast of Florida (dated August 22, 2011) (**Appendix I**) to minimize impacts to listed species. The project would also adhere to the Florida Standard Manatee Conditions (**Appendix J**), Piping Plover Conservation Measures (**Appendix K**), and Sea Turtle and Smalltooth Sawfish Conditions (**Appendix L**) as required by the PBOs. The terms and conditions of these documents can be found in Section 7.0 of this SEA.

Under Alternative 3, environmental impacts to species along the shoreline are anticipated due to construction activities. Sea turtles and shorebirds would be impacted by the temporary disruption of the shore habitat. Pelagic marine species would be impacted by the temporary disruptions caused by dredging. The impacts to ESA-listed species would be temporary, and the species are expected to recover once construction has been completed. The restoration of the shoreline to pre-disaster condition with additional sand placement to accommodate for background erosion losses would have long-term benefits to threatened and endangered species.

5.3.4 MIGRATORY BIRD TREATY ACT (MBTA)

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.

The entire state of Florida is considered a flyway zone for migratory birds. According to the USFWS IPaC database accessed on July 7, 2022, 34 migratory bird species were identified as being potentially present within the project area, and 18 of the species have a designated breeding season which could occur within the project vicinity.

Alternative 1 – No Action Alternative

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. Species habitat would continue to decline due to continued erosion of the beach shoreline.

Alternative 2 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile

Under Alternative 2, minor short-term impacts to species within the project area would potentially occur due to construction activities. If the sand placement activities occur during breeding season, these actions may adversely affect nesting shore birds and their young, and 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 from the FDEP JCP and Sovereign Submerged Lands Lease Authorization (No. 0286575-001-JC) and its permit modification (No. 0286575-006-JN), which includes shorebird conditions and requirements to mitigate impacts to migratory bird species. Once the project is complete, the coastal dune system would provide long-term positive effects by providing a partially restored habitat and foraging area for these species.

Alternative 3 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile Plus Background Erosion (Preferred Alternative)

Under Alternative 3, minor short-term impacts to species within the project area could potentially occur due to construction activities. If the sand placement activities occur during breeding season, these actions may adversely affect nesting shore birds and their young, and 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 from the FDEP JCP and Sovereign Submerged Lands Lease Authorization (No. 0286575-001-JC) and its permit modification (No. 0286575-006-JN), which includes shorebird conditions and requirements to 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.

5.3.5 MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT (MSA)

The MSA is the primary law governing marine fisheries management in US federal waters and is meant to foster long-term biological and economic sustainability of our nation's marine fisheries. Key objectives of the MSA are to prevent overfishing, rebuild overfished stocks, increase long-term economic and social benefits, and ensure a safe and sustainable supply of seafood. The NOAA EFH Mapper online tool can be used to determine designated EFH for species. The Florida Fish and Wildlife Conservation Commission (FWC) Fish and Wildlife Research Institute hardbottom habitat data can also be used to determine the nearest hardbottom habitats from a project location. While there is EFH present at the proposed project location, there are no hardbottom, coral, or seagrass habitats present.

Alternative 1 – No Action Alternative

The No Action Alternative would not involve any construction activities, therefore there would be no impact on fisheries or breeding habitat.

Alternative 2 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile

The sand placement activities associated with Alternative 2 would involve work below the annual high tide line and could potentially increase the possibility of the sand washing offshore and into EFH, which could adversely impact EFH. Further, the offshore dredging activities could also adversely impact EFH by causing ground disturbance. In order to minimize impacts to EFH, the applicant must adhere to the conservation measures of USACE Permit Nos. SAJ-2008-00895(IP-SWA), SAJ-2008-00895(IP-SWA) Modification #1, SAJ-2008-00895(IP-SWA) Modification #2, and SAJ-2008-00895 (MOD-TSH) Modification #3, including the GRBO, the statewide PBO, and the sea turtle and smalltooth sawfish conditions. The impact to adjacent fisheries resources is expected to be minor.

Alternative 3 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile Plus Background Erosion (Preferred Alternative)

The sand placement activities associated with Alternative 3 involve work below the annual high tide line and could potentially increase the possibility of the sand washing offshore and into EFH, which could adversely impact EFH. Further, the offshore dredging activities could also adversely impact EFH by causing ground disturbance. In order to minimize impacts to EFH, the applicant must adhere to the conservation measures of USACE Permit Nos. SAJ-2008-00895(IP-SWA), SAJ-2008-00895(IP-SWA) Modification #1, SAJ-2008-00895(IP-SWA) Modification #2, and SAJ-2008-00895 (MOD-TSH) Modification #3, including the GRBO, the statewide PBO, and the sea turtle and smalltooth sawfish conditions. The impact to adjacent fisheries resources is expected to be minor.

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.”

According to the FWC Historical Bald Eagle Nesting Areas mapper and the Audubon Florida EagleWatch Nest Application, accessed on July 11, 2022, no documented bald eagle nests are located within the project area. The general nesting season for bald eagles in the southeast is from about October 1 to May 15. Golden eagles inhabit tundra, grasslands, forested habitat and woodland-brushlands, south to arid deserts and 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 and no impacts are expected.

Alternative 1 – No Action Alternative

Alternative 1 would not involve any construction activities, therefore there would be no impact to bald or golden eagles.

Alternative 2 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile

The Alternative 2 project area is not within the vicinity of a known bald eagle nest nor is the area suitable for golden eagle habitat; therefore, Alternative 2 would have no impact on these species.

Alternative 3 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile Plus Background Erosion (Preferred Alternative)

The Alternative 3 project area is not within the vicinity of a known bald eagle nest nor is the area suitable for golden eagle habitat; therefore, Alternative 3 would have no impact on these species.

5.4 CULTURAL RESOURCES

5.4.1 HISTORIC AND ARCHEOLOGICAL RESOURCES

Cultural resources include historic architectural properties (including buildings, structures, and objects), prehistoric and historic archaeological sites, historic districts, designed landscapes, and traditional cultural properties. The primary federal statutes that apply to cultural resources are NEPA and Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended. The NHPA created the National Register of Historic Places (NRHP) and criteria to determine if cultural resources are eligible for listing in the NRHP. The NHPA defines historic properties as any prehistoric or historic district, site, building, structure, or object that is listed in, or eligible for listing in, the NRHP (36 CFR 800.16). When NRHP-eligible properties are present, federal agencies must assess the effect of the undertaking on them and consider ways to avoid, minimize, or mitigate potential adverse effects.

The area of potential effect (APE) for cultural resources is limited to the area within which all construction and ground-disturbing activities would be confined and the viewshed of the proposed project. A literature review of the Florida Master Site File (FMSF) was conducted on January 4, 2022. The literature review focused on the APE and included a 0.25-mile buffer around the APE. three cultural resource investigations occurred within portions of the APE; however, no historic resources were identified within the APE. Concurrence from SHPO was received on January 26, 2022, with a finding of No Historic Properties Affected.

FEMA submitted a formal consultation to the SHPO on January 4, 2022. The Programmatic Agreement between FEMA and the Florida SHPO signed September 10, 2014, and the Duration Amendment, effective September 2, 2021, does not include Programmatic Allowances addressing the potential new ground disturbance associated with beach renourishment activities.

The threshold level for significant impacts to cultural resources under NHPA would be those impacts that adversely affect any historic property that is eligible for or listed in the NRHP under Section 106 or has been identified by a federally recognized tribe as a sacred site or traditional cultural property.

Alternative 1 - No Action Alternative

The No Action Alternative would not involve any construction activities and no federal undertaking would occur; therefore, there would be no impact to cultural resources or further responsibility under Section 106.

Alternative 2 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile

Alternative 2 would include renourishing the beach utilizing an offshore sand source. It is not anticipated for the work along the shoreline to have an impact on historic resources as any known sites are located outside of the APE and renourishment activities have occurred in this area previously. Ground disturbance would be limited to construction activities and there would be no excavation below the existing beach profile. The addition of sand would serve as an additional layer of protection for any in situ archaeological or historic material.

Based on the results of previous investigations and FEMA's historic property identification efforts, no properties listed in the NRHP were located within the APE, and only one site potentially eligible for listing in the NRHP was located within the APE. FEMA has made a determination of No Historic Properties Affected and received concurrence from the Florida SHPO on January 24, 2022. Additionally, FEMA contacted 11 Native American Tribes. Two of the tribes provided concurrence with FEMA's finding of No Historic Properties Affected and the remaining 9 tribes did not express any objections to the proposed project. The following conditions would be applied to the project:

- If human remains or intact archaeological deposits 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 applicant 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 applicant's contractor will provide immediate notice of such discoveries to the applicant. The applicant shall contact the Florida Division of Historic Resources 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 Florida Statutes, Section 872.05.
- Construction vehicles and equipment will be stored onsite during the project or at existing access points within the Applicant's right-of-way.
- 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.
- Inadvertent discoveries of cultural resources, human remains and related NAGPRA items may occur, even in areas of existing or prior development. Should this occur, the Muscogee

(Creek) Nation requests that all work cease and our office as well as other appropriate agencies be notified immediately.

Based on the analysis conducted and the conditions required for fortuitous finds or unexpected discoveries, Alternative 2 would have no impact on historic and archaeological resources.

Alternative 3 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile Plus Background Erosion (Preferred Alternative)

Alternative 3 would include renourishing the beach utilizing an offshore sand source. It is not anticipated for the work along the shoreline to have an impact on historic properties as any known sites are located outside of the APE and renourishment activities have occurred in this area previously. Ground disturbance would be limited to construction activities and there would be no excavation below the existing beach profile. The addition of sand would serve as an additional layer of protection for any in situ archaeological or historic material.

Based on the results of previous investigations and FEMA's historic property identification efforts, no properties listed in the NRHP were located within the APE, and only one site potentially eligible for listing in the NRHP was located within the APE. FEMA has made a determination of No Historic Properties Affected and received concurrence from the Florida SHPO on January 24, 2022. Additionally, FEMA contacted 11 Native American Tribes. Two of the tribes provided concurrence with FEMA's finding of No Historic Properties Affected and the remaining 9 tribes did not express any objections to the proposed project. The following conditions would be applied to the project:

- If human remains or intact archaeological deposits 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 applicant 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 applicant's contractor will provide immediate notice of such discoveries to the applicant. The applicant shall contact the Florida Division of Historic Resources 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 Florida Statutes, Section 872.05.
- Construction vehicles and equipment will be stored onsite during the project or at existing access points within the Applicant's right-of-way.

- 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.
- Inadvertent discoveries of cultural resources, human remains and related NAGPRA items may occur, even in areas of existing or prior development. Should this occur, the Muscogee (Creek) Nation requests that all work cease and our office as well as other appropriate agencies be notified immediately.

Based on the analysis conducted and the conditions required for fortuitous finds or unexpected discoveries, Alternative 3 would have no impact on historic and archaeological resources.

5.5 SOCIOECONOMIC RESOURCES

5.5.1 LAND USE

The project area consists of undeveloped coastal beach, federally owned conservation land, and is adjacent to residential improved properties. The proposed project to restore Western Destin Beach would not alter or change the current intended land use of the area.

Alternative 1 - No Action Alternative

The No Action Alternative would not involve any construction activities, therefore there would be no alteration of the current land use.

Alternative 2 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile

Alternative 2 would have no impact on land use and planning. The beach was a pre-existing coastal system and restoring the beach would not change the current intended land use of the area. Additionally, restoring the beach back to its pre-disaster condition would have a long-term beneficial impact on land use and planning by preserving the area for public open space recreational use for the local community. The possibility of development into private commercial or residential property would be limited.

Alternative 3 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile Plus Background Erosion (Preferred Alternative)

Alternative 3 would have no impact on land use and planning. The beach was a pre-existing coastal system and restoring the beach would not change the current intended land use of the area. Additionally, restoring the beach to its pre-disaster design profile plus the background erosion would have an increased long-term beneficial effect on land use and planning by preserving the

area for public open space recreational use for the local community and make the shoreline more resilient to storm events in the future. The possibility of development into private commercial or residential property would be limited.

5.5.2 NOISE

Noise is unwanted sound. Sound levels are measured in decibels (dB). A-weighted sound measures emphasize the frequency range of human hearing and are expressed in terms of A-weighted decibels (dBA). In general, animals and humans are stressed by noisy environments. The effects of noise on humans include annoyance, sleep disturbance, and health impacts. In animals, high noise can interfere with communication, reproduction, identifying food sources, and can induce fear, forcing species to abandon their habitat. The primary source of ambient noise in the project area is vehicular traffic.

Based on the data presented in the US EPA publication, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances (USEPA, 1971), the main phases of outdoor construction typically generate noise levels that range from 78 dBA to 89 dBA, approximately 50 feet from the construction site. Noise levels are estimated to decrease by approximately 6 dBA with every doubling of distance from a noise source. The threshold level for a significant noise impact is defined as a permanent increase in noise or prolonged periods of nighttime noise in noise-sensitive areas.

Alternative 1 – No Action Alternative

The No Action Alternative would not involve any construction activities, therefore, there would be no impact on noise levels in the area.

Alternative 2 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile

Alternative 2 would involve construction activities to partially restore the profile of the beach shoreline and dune system to pre-disaster condition; therefore, minor short-term impacts on noise levels resulting from the use of construction equipment in the project area would be expected. After the construction activities are complete, there would be no long-term impacts on noise levels in the area. Based on the review conducted, Alternative 2 would have minor noise-related impacts. The impacts would not be significant.

Alternative 3 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile Plus Background Erosion (Preferred Alternative)

Alternative 3 would involve construction activities to restore the full profile of the beach shoreline and dune system; therefore, minor short-term impacts on noise levels resulting from the use of construction equipment in the project area would be expected for a longer period of time compared to Alternative 2. However, after the construction activities are complete, there would be no long-term impacts on noise levels in the area. Based on the review conducted, Alternative 3 would have minor noise-related impacts. The impacts would not be significant.

5.5.3 TRANSPORTATION AND TRAFFIC

The proposed project would not include the construction of any new transportation features, as the work would be completed using the existing roads in the area. The construction equipment and vehicles would utilize Gulf Shore Drive, located adjacent to the proposed project, and no road closures are expected during construction that would impact the local community.

Alternative 1 - No Action Alternative

The No Action Alternative would not involve any construction activities, therefore, no impacts on existing infrastructure or transportation would occur within the project area.

Alternative 2 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile

Alternative 2 would involve construction activities and would have minor short-term impacts from construction equipment entering and leaving the project areas to transport sand and construction equipment to the project locations. The impacts from Alternative 2 would be short-term and limited to the construction period; however, the completely restored shoreline would provide long term benefits from flood and storm protection to the adjacent roads and public infrastructure.

Alternative 3 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile Plus Background Erosion (Preferred Alternative)

Alternative 3 would involve construction activities and would have minor short-term impacts from construction equipment entering and leaving the project areas to transport sand and construction equipment to the project locations. The impacts from Alternative 3 would be short-term and limited to the construction period; however, the completely restored shoreline would provide long term benefits from flood and storm protection to the adjacent roads and public infrastructure.

5.5.4 HAZARDOUS MATERIALS AND SOLID WASTES

Hazardous materials are declared hazardous through various federal regulations including 40 CFR Parts 302.4 and 355, and 29 CFR Part 1910.1200. Hazardous waste is any solid, liquid, or contained gas waste that is dangerous or potentially harmful to humans and the health of the environment. Thousands of contaminated sites exist nation-wide due to hazardous waste being dumped, left out in the open, or otherwise improperly managed and disposed. In response, Congress established the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) on December 11, 1980. CERCLA, commonly known as Superfund, was enacted to allow EPA to clean up contaminated sites. The EPA utilizes the National Priorities List (NPL), the list of contaminated sites of national priority, to guide the determination of which sites warrant further investigation. According to the NPL, accessed July 8, 2022, the project area does not contain any Superfund sites.

An EPA designated Brownfield site is a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. A Brownfield area is a contiguous area of one or more Brownfield sites.

The threshold level for a significant impact to hazardous materials and waste would include a release of hazardous materials or waste, or a violation of local, state, or federal regulations pertaining to hazardous materials or waste.

Alternative 1 - No Action Alternative

The No Action Alternative would not involve any construction activities, therefore, there would be no potential to disturb existing hazardous materials or create any potential new hazardous waste sites within the area. There would be no impact to human health or the surrounding environment from hazardous or solid waste.

Alternative 2 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile

Alternative 2 would involve the restoration of the beach shoreline and would have a minor short-term impact on the beach due to construction activities. The handling of hazardous materials and waste generated during construction activities would be handled in accordance with applicable Resource Conservation and Recovery Act (RCRA) and state regulations for managing solid and hazardous waste materials. Potential for spills from construction equipment would be minimized and handled in accordance with applicable regulations. There is no potential for any construction activities related to this project to impact hazardous waste sites designated under CERCLA as there are no Superfund sites at or near the proposed project area.

Alternative 3 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile Plus Background Erosion (Preferred Alternative)

Alternative 3 would involve the restoration of the beach shoreline and would have a minor short-term impact on the beach due to construction activities. The handling of hazardous materials and waste generated during construction activities would be handled in accordance with applicable RCRA and state regulations for managing solid and hazardous waste materials. Potential for spills from construction equipment would be minimized and handled in accordance with applicable regulations. There is no potential for any construction activities related to this project to impact hazardous waste sites designated under CERCLA as there are no Superfund sites at or near the proposed project area.

5.5.5 OCCUPATIONAL HEALTH AND SAFETY

Occupational health and safety hazards could include chemical agents (such as asbestos or lead), physical agents (such as noise or vibration), physical hazards (such as slip, trip, and fall hazards, electricity, or machinery), or biological hazards (such as infectious waste, poisonous plants, ticks, or another hazardous biota). Occupational health and safety concerns could affect both workers and other non-workers near the project site. Okaloosa County employees and contractors are responsible for following applicable OSHA regulations and for conducting their work in a manner that does not pose any risk to other workers or the public. The threshold level for a significant impact to occupational health and safety would be exposure of workers to health and safety hazards without proper protection or creating health and safety hazards that could affect the public.

Alternative 1 - No Action Alternative

The No Action Alternative would not involve any construction activities, therefore, there would be no risk of occupational health and safety hazards within the area. There would be no impact to human health or the surrounding environment.

Alternative 2 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile

Occupational health and safety hazards under Alternative 2 would include those common to construction activities, such as loud noise, heavy machinery, debris, and hazardous materials used or encountered during work. To minimize occupational health and safety risks, workers would wear and use appropriate personal protective equipment and follow all applicable OSHA standards and procedures. A health and safety plan would be developed and implemented for work. Work areas would be clearly marked with appropriate signage and secured against unauthorized entry. Standard construction traffic control measures would be used to protect workers, residents, and the

travelling public. Based on the review conducted, Alternative 2 would have a negligible impact on occupational health and safety.

Alternative 3 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile Plus Background Erosion (Preferred Alternative)

Occupational health and safety hazards under Alternative 3 would include those common to construction activities, such as loud noise, heavy machinery, debris, and hazardous materials used or encountered during work. To minimize occupational health and safety risks, workers would wear and use appropriate personal protective equipment and follow all applicable OSHA standards and procedures. A health and safety plan would be developed and implemented for work. Work areas would be clearly marked with appropriate signage and secured against unauthorized entry. Standard construction traffic control measures would be used to protect workers, residents, and the travelling public. Based on the review conducted, Alternative 3 would have a negligible impact on occupational health and safety.

5.5.6 UTILITIES

There are no existing utilities in the vicinity of the project area that would be impacted by the Western Destin Beach restoration project, nor are any new utilities expected to be installed as part of the beach restoration project. The threshold level for significant impact to utilities would be an exceedance of the existing utility service capacity.

Alternative 1 – No Action Alternative

Under the No Action Alternative, Okaloosa County would not renourish Western Destin Beach shoreline. No construction activities would occur; therefore, the No Action Alternative would have no impact to utilities.

Alternative 2 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile

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

Alternative 3 – Restoration of Western Destin Beach Shoreline to its Pre-Disaster Design Profile Plus Background Erosion (Preferred Alternative)

Under Alternative 3, the shoreline restoration activities would not require the installation of new utilities, nor would it involve any replacement, repair, or modification to existing utilities in the area. Therefore, Alternative 2 would have no impact on utilities.

5.5.7 ENVIRONMENTAL JUSTICE, EQUITY, AND PROTECTION OF CHILDREN

EO 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations, directs federal agencies to address and avoid disproportionate environmental and human health impacts from federal actions on minority populations and low-income populations. All federal agencies must analyze the environmental effects, including human health, social, and economic effects, on minority and low-income communities. The impacted area includes all areas of the scope of work for the proposed project, any staging areas or hauling routes, and any areas outside of the immediate project area that may be impacted indirectly by the proposed project.

In January 2021, President Biden issued EO 13985, Executive Order on Diversity, Equity, Inclusion, and Accessibility in the Federal Workforce, and EO 14008, Tackling the Climate Crisis at Home and Abroad, to further address the need to achieve environmental justice and equity across the federal government. These new executive orders direct federal agencies to renew their energy, effort, resources, and attention to implement environmental justice and underscore the administration's commitment to environmental justice.

Guidelines for the protection of children are specified in EO 13045, Protection of Children from Environmental Health Risks and Safety Risk (Federal Register, Volume, 62, Number 78, April 23, 1997). This EO requires that federal agencies make it a high priority to identify and assess policies, programs, and standards addressing disproportionate adverse risks to children resulting from environmental health or safety risks.

According to the American Community Survey (ACS) 2015 to 2019 report data, Okaloosa County has a total population of 203,794. Based on the ACS 5-year estimates for 2015 to 2019, children 18 years and younger in Okaloosa County are 22% of the population; minorities (African American, Native American, Asian, Native Hawaiian and Pacific Islanders, Hispanic or Latino, or a mix of these races) are 26% of the population; and families below the poverty level (with household income below $25,000 per year) are 15% of the population. Additionally, 16% of the population is 65 years and over, the total labor force is 163,148 people, the median household income is $63,412, and the per capita income is $33,019 (US Census Bureau, 2022 and EPA EJ Screening Tool, 2022).

The threshold level for a significant impact to environmental justice is disproportionately high or adverse human health or environmental effects on minority or low-income populations. The threshold level for a significant impact to protection of children is disproportionate environmental health or safety risks to children.

existence of improved property and redevelopment of those properties may be associated with the continued maintenance and renourishment of the Western Destin Beach engineered design profile.

The proposed project, and anticipated future actions in the area, would have short-term impacts to commercial and recreational usage of the shoreline and possibly the associated borrow area due to construction efforts. However, it is anticipated there would be no long-term impacts to commercial fisheries, and beneficial long-term impacts to commercial and recreational usage of the shoreline as a result of the continued existence of the engineered beach. The shoreline of Western Destin Beach is a large component of the economy as a contributing factor to the local tourism of the county. The continued maintenance of the engineered beach would continue its benefit for the tourism industry and provide recreational value of the area to the community. Additionally, renourishing the beach would serve to protect the existing improved property along the beach.

The proposed action is not expected to have any significant adverse cumulative impacts on any resource based on the review conducted when added to past, present, and reasonably foreseeable future actions within the proposed project area.

7.0 PERMIT AND PROJECT CONDITIONS

1. Under Alternative 2 and 3, Okaloosa County would follow the conditions below set forth by the Florida SHPO:
    a. If human remains or intact archaeological deposits 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 applicant 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 applicant's contractor will provide immediate notice of such discoveries to the applicant. The applicant shall contact the Florida Division of Historic Resources 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 Florida Statutes, Section 872.05.
    b. Construction vehicles and equipment will be stored onsite during the project or at existing access points within the Applicant's right-of-way.
    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.
    d. Inadvertent discoveries of cultural resources, human remains and related NAGPRA items may occur, even in areas of existing or prior development. Should this occur, the

Muscogee (Creek) Nation requests that all work cease and our office as well as other appropriate agencies be notified immediately.

2. Handling, storage, and disposal of hazardous materials and waste during construction activities, including measures to prevent releases, must be conducted in accordance with applicable environmental compliance regulations.
3. All debris staging sites shall be authorized by FDEP. Okaloosa County shall ensure that all debris is separated and disposed at permitted facilities or at a disposal site or landfill authorized by FDEP. Okaloosa County is responsible for ensuring contracted staging and disposal of debris also follows these guidelines.
4. Under Alternative 2 and 3, the applicant would comply with all conditions for the project, including the Special Conditions in USACE permits No. SAJ-2008-00895(IP-SWA), SAJ-2008-00895(IP-SWA) Modification #1, SAJ-2008-00895(IP-SWA) Modification #2, and SAJ-2008-00895 (MOD-TSH) Modification #3, and obtain any permit modifications as needed.
5. Under Alternative 2 and 3, the applicant would comply with all conditions in the FDEP JCP and Sovereign Submerged Lands Lease Authorization (No. 0286575-001-JC) and its permit modification (No. 0286575-006-JN), and obtain any additional modifications as needed.
6. Under Alternative 2 and 3, the applicant will comply with the following conditions from the USFWS Statewide Programmatic Biological Opinion for Sand Placement (SPBO), # 41910-2011-F-0170, issued to the U.S. Army Corps of Engineers on August 22, 2011, and updated March 13, 2015. Since FEMA became involved with the project after the PBO was issued to the Corps, where the following conditions refer to the Corps, it can be assumed that they also apply to FEMA:
    a. Beach-compatible fill shall be placed on the beach or in any associated dune system. Beach compatible fill must be sand that is similar to a native beach in the vicinity of the site that has not been affected by prior sand placement activity. The fill material must be similar in both coloration and grain size distribution to that native beach. Beach compatible fill is material that maintains the general character and functionality of the material occurring on the beach and in the adjacent dune and coastal system. Fill material shall comply with FDEP requirements pursuant to the Florida Administrative Code (FAC) subsection 62B-41.005(15). If a variance is requested from FDEP, the Service must be contacted to discuss whether the project falls outside of the SPBO. A Quality Control Plan shall be implemented pursuant to FAC Rule 62B-41.008(1)(k)4.b.
    b. Sand placement shall not occur during the period of peak sea turtle egg laying and egg hatching to reduce the possibility of sea turtle nest burial, crushing of eggs, or nest excavation.
        1. Sand placement projects in Nassau, Duval, St. Johns, Flagler, Volusia, Miami-Dade, Monroe, Collier, Lee, Charlotte, Sarasota, Manatee, Hillsborough, Pinellas, Franklin, Gulf, Bay, Walton, Okaloosa, Santa Rosa

and Escambia Counties may occur during the sea turtle nesting season except on publicly owned conservation lands such as state parks and areas where such work is prohibited by the managing agency or under applicable local land use codes.

c. All derelict concrete, metal, and coastal armoring geotextile material and other debris shall be removed from the beach to the maximum extent possible prior to any sand placement in accordance with the dates in b. If debris removal activities take place during shorebird breeding or peak sea turtle nesting season, the work shall be conducted during daylight hours only and shall not commence until completion of daily seabird, shorebird or marine turtle surveys each day.

d. The beach profile template for the sand placement project shall be designed to mimic, the native beach berm elevation and beach slopes landward and seaward of the equilibrated berm crest. Prior to drafting the plans and specifications for a beach nourishment project, the Corps must meet with the Service, FWC, and FDEP to discuss the beach profile surveys, dune formation (specifically on high density green turtle nesting beaches), and the sea turtle monitoring reports from previous placement events. The meeting will be used to discuss modifications to the beach profile based on the post-construction monitoring data.

   Beach profile may vary depending on location, shoreline dynamics, nature of the fill material, and other factors. If a native beach berm elevation is not possible, due to the beach width, impacts to nearshore hardbottom, or other considerations, as discussed during the meeting, the alternative template shall include features to minimize impacts to sea turtle nesting success and the potential for ponding and escarpment formation for that beach. For all high-density green turtle nesting beaches, the formation of a dune, either through direct creation or natural accretion, will be included in the project design. Dunes and other construction features must be within the scope of the Congressionally authorized project, if it is a civil works project, and constructible without impacting other resources. If a recommended dune is not possible, the Corps will contact the Service to see if consultation needs to be reinitiated or discuss features incorporated with the profile that will enhance the existing dune. Dune features included in the profile design (or project) shall have a slope of 1.5:1 followed by a gradual slope of 4:1 for approximately 20 feet seaward on a high erosion beach (SPBO Figure 13) or a 4:1 slope (SPBO Figure 14) on a low erosion beach. The Corps must explore options to include a dune system in the project design for existing authorized projects and new non-Federal projects. If another slope is proposed for use, the Corps shall consult the Service. The seaward toe of the dune should be at least 20 feet from the waterline.

e. Predator-proof trash receptacles shall be installed and maintained during construction at all beach access points used for the project construction to minimize the potential for

attracting predators of sea turtles and beach mice (SPBO Appendix F). The Corps shall provide predator-proof trash receptacles for the construction workers. The Corps shall brief workers on the importance of not littering and keeping the project area trash and debris free.

f. A meeting between representatives of the Corps (including the Corps project manager or the managing contractor), the Service, the FWC, the FWC Marine Turtle Permit Holder, and other species surveyors, as appropriate, shall be held prior to the commencement of work on projects. At least 10 business days advance notice shall be provided prior to conducting this meeting. The meeting will provide an opportunity for explanation or clarification of the sea turtle and beach mouse protection measures as well as additional guidelines when construction occurs during the sea turtle nesting season, and will include the following:
    1. Staging locations, storing equipment including fuel stations
    2. Coordination with the Marine Turtle Permit Holder on nesting surveys and any nighttime work
    3. Pipeline placement (between 5 to 10 feet from dune)
    4. Minimizing driving
    5. Egg relocation- permit holder and location (must be approved by FWC)
    6. Free-roaming cat observation (for projects in or near beach mouse habitat)
    7. Follow up lighting surveys - dates and inspector
    8. Follow up coordination during construction and post construction
    9. Coordination on construction lighting including dredge lighting and travel within and adjacent to the work area
    10. Direction of the project including progression of sand placement along the beach
    11. Late season nests present in project area (if any)
    12. Plans for compaction monitoring or tilling
    13. Plans for escarpment surveys

At the preconstruction meeting, the Corps shall also provide the Service with specific anticipated shoreline lengths and anticipated duration using the form on the following web link: http://www.fws.gov/northflorida/SeaTurtles/Docs/Corp%20of%20Engineers%20Sea%20Turtle%20Permit%20Information.pdf . Only the following information should be filled out: Corps Permit Number, FWS Log Number, Project Location, Construction Activity, Duration of Protect, and Actual Take (linear feet of beach). This form shall be emailed to the Service at seaturtle@fws.gov. This form is in addition to the annual report listed below.

g. Daily early morning surveys for sea turtle nests shall be required and continue throughout the season as outlined in SPBO Tables 16 and 17 (Nesting Season Monitoring) if construction occurs during the nesting and hatching season. Any known nests recorded just prior to the beginning of Nesting Season Monitoring must be relocated if it will be impacted by the construction activity or marked and avoided if feasible.

h. If nests are constructed in the area of anticipated sand placement, the eggs shall be relocated to minimize sea turtle nest burial, crushing of eggs, or nest excavation as outlined in below. If nests are laid on the dune outside of the immediate sand placement area, the Corps must contact the Service to discuss whether relocation or mark and avoidance is required. Any known nests recorded just prior to the beginning of Nesting Season Monitoring must be relocated if it will be impacted by the construction activity or marked and avoided if feasible.

    1. For sand placement projects in Nassau, Duval, St. Johns, Flagler, Volusia, Monroe, Collier, Lee, Charlotte, Sarasota, Manatee, Hillsborough, Pinellas, Franklin, Gulf, Bay, Walton, Okaloosa, Santa Rosa and Escambia Counties that occur during the period of sea turtle nest laying (see SPBO Table 17), daily early morning (before 9 a.m.) surveys and egg relocation shall be conducted. If nests are laid in areas where they may be affected by construction activities, eggs shall be relocated per the requirements listed below:
        1. Nesting surveys and egg relocations will only be conducted by persons with prior experience and training in these activities and who are duly authorized to conduct such activities through a valid permit issued by FWC, pursuant to FAC 68E-1. Please contact FWC's Imperiled Species Management Section in Tequesta at mtp@myfwc.com for information on the permit holder in the project area. Relocation cannot begin until the Corps has a copy of the FWC permit authorizing relocation for construction purposes at that particular sand placement project. Nesting surveys shall be conducted daily between sunrise and 9 a.m. (this is for all time zones).
        2. Only those nests that may be affected by sand placement activities will be relocated. Nest relocation shall not occur upon completion of the project. Nests requiring relocation shall be moved no later than 9 a.m. the morning following deposition to a nearby self-release beach site in a secure setting where artificial lighting will not interfere with hatchling orientation. Relocated nests shall not be placed in organized groupings. Relocated nests shall be randomly staggered along the length and width of the beach in settings that are not expected to experience daily

inundation by high tides or known to routinely experience severe erosion and egg loss, predation, or be subject to artificial lighting. Nest relocations in association with construction activities shall cease when construction activities no longer threaten nests.

3. Nests deposited within areas where construction activities have ceased or will not occur for 65 days or nests laid in the nourished berm prior to tilling shall be marked and left in situ unless other factors threaten the success of the nest. The turtle permit holder shall install an on-beach marker at the nest site and a secondary marker at a point as far landward as possible to assure that future location of the nest will be possible should the on-beach marker be lost. No activity will occur within this area nor will any activities occur that could result in impacts to the nest. Nest sites shall be inspected daily to assure nest markers remain in place and the nest has not been disturbed by the project activity.

i. Two surveys shall be conducted of all lighting visible from the beach placement area by the Applicant or Corps, using standard techniques for such a survey (SPBO Appendix C), in the year following construction. The first survey shall be conducted between May 1 and May 15 and a fill out FWS Sea Turtle Lighting Survey Form (SPBO Appendix D) and send electronically to seaturtle@fws.gov. The second survey shall be conducted between July 15 and August 1. A summary report of the surveys, including any actions taken, shall be submitted to the Service by December 31 of the year in which surveys are conducted. After the annual report is completed, a meeting shall be set up with the Applicant, county or municipality, FWC, Corps, and the Service to discuss the survey report, as well as any documented sea turtle disorientations in or adjacent to the project area. If the project is completed during the nesting season and prior to May 1, the Corps may conduct the lighting surveys during the year of construction.

j. Daily nesting surveys shall be conducted for two nesting seasons following construction in accordance with SPBO Table 18 and reported in accordance with SPBO Table 20 by the Corps or the Applicant if placed material still remains on the beach. Post construction year-one surveys shall record the number of nests, nesting success, reproductive success, disorientations, and lost nests due to erosion and/or inundation. Post construction year two surveys shall only need to record nest numbers, nesting success, and disorientations (SPBO Table 20). This information will be used to periodically assess the cumulative effects of these projects on sea turtle nesting and hatchling production and monitor suitability of post construction beaches for nesting.

k. Sand compaction shall be monitored in the area of sand placement immediately after completion of the project and prior to the dates in SPBO Table 19 for 3 subsequent years.

If tilling is needed, the area shall be tilled to a depth of 36 inches. Each pass of the tilling equipment shall be overlapped to allow more thorough and even tilling. All tilling activity shall be completed at least once prior to the nesting season. An electronic copy of the results of the compaction monitoring shall be submitted electronically to seaturtle@fws.gov prior to any tilling actions being taken or if a request not to till is made based on compaction results. The requirement for compaction monitoring can be eliminated if the decision is made to till regardless of post construction compaction levels. Additionally, out-year compaction monitoring and remediation are not required if placed material no longer remains on the dry beach.

(NOTE: If tilling occurs during shorebird nesting season (February 15-August 31), shorebirds surveys prior to tilling are required per the Migratory Bird Treaty Act. See SPBO Appendix E for shorebird conditions recommended by FWC

1. Compaction sampling stations shall be located at 500-foot intervals along the sand placement template. One station shall be at the seaward edge of the dune/bulkhead line (when material is placed in this area), and one station shall be midway between the dune line and the high-water line (normal wrack line).
2. At each station, the cone penetrometer shall be pushed to a depth of 6, 12, and 18 inches three times (three replicates at each depth). Material may be removed from the hole if necessary to ensure accurate readings of successive levels of sediment. The penetrometer may need to be reset between pushes, especially if sediment layering exists. Layers of highly compact material may lie over less compact layers. Replicates shall be located as close to each other as possible, without interacting with the previous hole or disturbed sediments. The three replicate compaction values for each depth shall be averaged to produce final values for each depth at each station. Reports will include all 18 values for each transect line, and the final six averaged compaction values.
3. If the average value for any depth exceeds 500 pounds per square inch (psi) for any two or more adjacent stations, then that area shall be tilled immediately prior to the appropriate date listed in SPBO Table 19.
4. If values exceeding 500 psi are distributed throughout the project area but in no case do those values exist at two adjacent stations at the same depth, then consultation with the Service will be required to determine if tilling is required. If a few values exceeding 500 psi are present randomly within the project area, tilling will not be required.
5. Tilling shall occur landward of the wrack line and avoid all vegetated areas 3 square feet or greater with a 3 square foot buffer around the vegetated areas.

l. Visual weekly surveys for escarpments along the project area shall be made immediately after completion of the sand placement and within 30 days prior to the

start dates for Nesting Season Monitoring in SPBO Table 19 for 3 subsequent years if sand in the project area still remains on the dry beach.

Escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet shall be leveled and the beach profile shall be reconfigured to minimize scarp formation by the dates listed in SPBO Table 19. Any escarpment removal shall be reported by location in the annual report. If the project is completed during the early part of the sea turtle nesting and hatching season (March 1 through April 30), escarpments may be required to be leveled immediately, while protecting nests that have been relocated or left in place. If during weekly escarpment surveys, it is found that subsequent reformation of escarpments interferes with sea turtle nesting or that they exceed 18 inches in height for a distance of 100 feet during the nesting and hatching season, the Service shall be contacted immediately to determine the appropriate action to be taken. If it is determined by the Service or FWC that that escarpment leveling is required during the nesting or hatching season the Service, in coordination with the FWC, will provide a brief written authorization within 5 days that describes methods to be used to reduce the likelihood of impacting existing nests. An annual summary of escarpment surveys and actions taken shall be sent electronically to seaturtle@fws.gov. A summary is required even when no action has been taken (SPBO Table 3).

m. Staging areas for construction equipment shall be located off the beach during early (before April 30) and late (after November 1) nesting season for Brevard through Broward counties (see table 14) and peak nesting season (May 1 through October 31) for the remaining counties. Nighttime storage of construction equipment not in use shall be off the beach to minimize disturbance to sea turtle nesting and hatching activities. In addition, all construction pipes placed on the beach shall be located as far landward as possible without compromising the integrity of the dune system. Pipes placed parallel to the dune shall be 5 to 10 feet away from the toe of the dune if the width of the beach allows. Temporary storage of pipes shall be off the beach to the maximum extent possible. If the pipes are stored on the beach, they shall be placed in a manner that will minimize the impact to nesting habitat and shall not compromise the integrity of the dune systems. If the pipes placed parallel to the dune cannot be placed between 5 to 10 feet away from the toe of the dune during nesting and hatching season, the Corps must reinitiate consultation with the Service as this represents adverse effects not addressed in this SPBO. If it will be necessary to extend construction pipes past a known shorebird nesting site or over-wintering area for piping plovers, then whenever possible those pipes shall be placed landward of the site before birds are active in that area. No pipe or sand shall be placed seaward of a shorebird nesting site during the shorebird nesting season.

n. Direct lighting of the beach and nearshore waters shall be limited to the immediate construction area during early (before April 30) and late (after November 1) nesting season for Brevard through Broward counties (see SPBO Table 14) and peak nesting season (May 1 through October 31) for the remaining counties, and shall comply with safety requirements. A light management plan for the dredge and the work site shall be submitted for approval by the Service and FWC prior to the pre-construction meeting. In accordance with this plan, lighting on all equipment shall be minimized through reduction, shielding, lowering, and appropriate placement to avoid excessive illumination of the water's surface and nesting beach while meeting all Coast Guard, Corps EM 385-1-1, and OSHA requirements. Light intensity of lighting equipment shall be reduced to the minimum standard required by OSHA for General Construction areas, in order not to misdirect sea turtles. Shields shall be affixed to the light housing on dredge and land-based lights and be large enough to block light from all lamps from being transmitted outside the construction area or to the adjacent sea turtle nesting beach in line-of-sight of the dredge (SPBO Figure 15).

o. During the early (before April 30) and late (after November 1) nesting season for Brevard through Broward counties (see SPBO Table 14) and peak nesting season (May 1 through October 31) for the remaining counties, the Corps shall not extend the beach fill more than 500 feet (or other agreed upon length) along the shoreline between dusk and dawn of the following day until the daily nesting survey has been completed and the beach cleared for fill advancement. An exception to this may occur if there is a permitted sea turtle surveyor present on-site to ensure no nesting and hatching sea turtles are present within the extended work area. If the 500 feet is not feasible for the project, an agreed upon distance will be decided on during the preconstruction meeting. Once the beach has been cleared and the necessary nest relocations have been completed, the Corps will be allowed to proceed with the placement of fill during daylight hours until dusk at which time the 500-foot length (or other agreed upon length) limitation shall apply. If any nesting turtles are sighted on the beach within the immediate construction area, activities shall cease immediately until the turtle has returned to the water and the sea turtle permit holder responsible for nest monitoring has relocated the nest.

p. All vegetation planting shall be designed and conducted to minimize impacts to sea turtles and beach mice. Dune vegetation planting may occur during the sea turtle nesting season under the following conditions:

    1. Daily early morning sea turtle nesting surveys (before 9 a.m.) shall be conducted during the Nest Laying period for all counties in Florida where sea turtle nesting occurs (see SPBO Tables 16 and 17). Nesting surveys shall only be conducted by personnel with prior experience and training in nesting surveys. Surveyors shall have a valid FWC permit. Nesting surveys shall be

conducted daily between sunrise and 9 a.m. (all times). No dune planting activity shall occur until after the daily turtle survey and nest conservation and protection efforts have been completed. Hatching and emerging success monitoring will involve checking nests beyond the completion date of the daily early morning nesting surveys;

2. Any nests deposited in the dune planting area not requiring relocation for conservation purposes shall be left in place. The turtle permit holder shall install an on-beach marker at the nest site and a secondary marker at a point as far landward as possible to assure that future location of the nest will be possible should the on-beach marker be lost. A series of stakes and highly visible survey ribbon or string shall be installed to establish a 3-foot radius around the nest. No planting or other activity shall occur within this area nor will any activities be allowed that could result in impacts to the nest. Nest sites shall be inspected daily to assure nest markers remain in place and the nest has not been disturbed by the planting activity;
3. If a nest is disturbed or uncovered during planting activity, the Corps, or the Applicant shall cease all work and immediately contact the project turtle permit holder. If a nest(s) cannot be safely avoided during planting, all activity within 10 feet of a nest shall be delayed until hatching and emerging success monitoring of the nest is completed;
4. All dune planting activities shall be conducted by hand and only during daylight hours;
5. All dune vegetation shall consist of coastal dune species native to the local area; (i.e., native to coastal dunes in the respective county and grown from plant stock from that region of Florida). Vegetation shall be planted with an appropriate amount of fertilizer and antidesiccant material for the plant size;
6. No use of heavy equipment shall occur on the dunes or seaward for planting purposes. A lightweight (all-terrain type) vehicle, with tire pressures of 10 psi or less may be used for this purpose; and
7. Irrigation equipment, if needed, shall be authorized under a FDEP permit.

q. Beach mouse habitat shall be avoided when selecting sites for equipment, pipes, vehicle storage and staging to the maximum extent possible. Suitable beach mouse habitat constitutes the primary dunes (characterized by sea oats and other grasses), secondary dunes (similar to primary dunes, but also frequently includes such plants as woody goldenrod, false rosemary), and interior or scrub dunes.
r. Equipment placement or storage shall be excluded in the area between 5 to 10 feet seaward of the existing dune toe or 10 percent of the beach width (for projects occurring on narrow eroded beach segments) seaward of the dune toe in areas of occupied beach mouse habitat (SPBO Figure 16). The toe of the dune is where the slope breaks at the

seaward foot of the dune. If the pipes placed parallel to the dune cannot be placed between 5 to 10 feet away from the toe of the dune as required during sea turtle nesting and hatching season, the Corps must reinitiate consultation with the Service as this represents adverse effects not addressed in this SPBO.

s. Existing beach access points shall be used for vehicle and equipment beach access to the maximum extent possible. These access points shall be delineated by post and rope or other suitable material to ensure vehicles and equipment transport stay within the access corridor. The access corridors shall be fully restored to the preconstruction conditions following project completion. Parking areas for construction crews shall be located as close as possible to the work sites, but outside of vegetated dune areas to minimize impacts to existing habitat and transporting workers along the beachfront.

t. The location of new or expanded existing beach access corridors for vehicles and equipment within beach mouse habitat consisting of vegetated dunes shall be spaced no closer than every four miles. The distribution of access areas will result in the least number of access areas within beach mouse habitat as possible and delineated by post and rope or other suitable material to ensure vehicles and equipment transport stay within the access corridor. The access corridors shall be (1) no more than 25 feet wide for vehicles and (2) no more than 50 feet wide for equipment. Expanded or new beach access points that impact vegetated dunes shall be restored within 3 months following project completion. Habitat restoration shall consist of restoring the dune to preconstruction conditions with planting of at least three species of appropriate native dune vegetation (i.e., native to coastal dunes in the respective county and grown from plant stock from that region of Florida). Seedlings shall be at least one inch square with a 2.5-inch pot. Planting shall be on 18-inch centers throughout the created dune; however, 24-inch centers may be acceptable depending on the area to be planted. Vegetation shall be planted with an appropriate amount of fertilizer and antidesiccant material, as appropriate, for the plant size. No sand stabilizer material (coconut matting or other material) shall be used in the dune restoration. The plants may be watered without installing an irrigation system. In order for the restoration to be considered successful, 80 percent of the total planted vegetation shall be documented to survive six months following planting of vegetation. If the habitat restoration is unsuccessful, the area shall be replanted following coordination with the Service.

u. A report with the following shall be submitted to the Service electronically (seaturtle@fws.gov) by December 31 after completion of construction.

    1. A summary of the information listed in SPBO Table 20 for construction.
    2. A summary of the information listed in SPBO Table 21 for post-construction.

v. In the event a sea turtle nest is excavated during construction activities, the project turtle permit holder responsible for egg relocation for the project shall be notified immediately so the eggs can be moved to a suitable relocation site.

Upon locating a dead or injured sea turtle adult, hatchling, egg, or beach mouse that may have been harmed or destroyed as a direct or indirect result of the project, the Corps, Applicant shall be responsible for notifying FWC Wildlife Alert at 1-888-404-FWCC (3922) and the appropriate Service Field Office immediately (SPBO Table 3). Care shall be taken in handling injured sea turtles, eggs or beach mice to ensure effective treatment or disposition, and in handling dead specimens to preserve biological materials in the best possible state for later analysis.

w. Manatees
    1. Barges shall install mooring bumpers that provide a minimum 4-foot standoff distance under maximum compression between other moored barges and large vessels, when in the vicinity of inlets, river mouths, and large estuaries where manatees are known to congregate.
    2. Pipelines shall be positioned such that they do not restrict manatee movement to the maximum extent possible. Plastic pipelines shall be weighted or floated. Pipelines transporting dredged material within the vicinity of inlets, river mouths, and large estuaries where manatees are known to congregate shall be weighted or secured to the bottom substrate as necessary to prevent movement of the pipeline and to prevent manatee entrapment or crushing.
    3. In the event that such positioning has the potential to impact submerged aquatic vegetation (SAV) or nearshore hardbottom, the pipeline may be elevated or secured to the bottom substrate to minimize impacts to SAV.

x. Migratory Birds
    1. The Applicant should follow the latest Florida Fish and Wildlife Conservation Commission (FWC) standard guidelines to protect against impacts to nesting shorebirds during implementation of this project during the periods from February 15 to August 31.

7. Under Alternative 2 and 3, the applicant will comply with the following additional conditions from the USFWS Programmatic Piping Plover Biological Opinion (P3BO), Service Log #04EF1000-2013-F-0124, dated May 22, 2013:
    a. The Corps or the Permittee must provide the following information to the Service Field Supervisor of the appropriate Field Office at least 10 business days prior to the commencement of work:
        1. Project location (include FDEP Range Monuments and latitude and longitude coordinates);
        2. Project description (include linear feet of beach, actual fill template, access points, and borrow areas);
        3. Date of commencement and anticipated duration of construction; and
        4. Names and qualifications of personnel involved in piping plover surveys.

b. Prior to construction, the Corps shall delineate preferred piping plover habitat (intertidal portions of ocean beaches, ephemeral pools, washover areas, wrack lines) adjacent to or outside of the project footprint that might be impacted by construction activities. Obvious identifiers shall be used (for example, pink flagging on metal poles) to clearly mark the beginning and end points to prevent accidental impacts to use areas.
c. Piping plover habitat delineated adjacent to or outside of the project footprint shall be avoided to the maximum extent practicable when staging equipment, establishing travel corridors, and aligning pipeline.
d. Driving on the beach for construction shall be limited to the minimum necessary within the designated travel corridor, which will be established just above or just below the primary "wrack" line.
e. Predator-proof trash receptacles shall be installed and maintained during construction at all beach access points used for the project construction to minimize the potential for attracting predators of piping plovers. Workers shall be briefed on the importance of not littering and keeping the project area trash and debris free. See P3BO Appendix B for examples of suitable receptacles.
f. Educational signs shall be installed at public access points within the project area with emphasis on the importance of the beach habitat and wrack for piping plovers. When the project area has a pet or dog regulation, the provisions of the regulation shall be included on the educational signs.
g. For one full piping plover migration and winter season (beginning July 15 to May 15) prior to construction, and 2 years following each dredging and sand placement event, bimonthly (twice-monthly) surveys for piping plovers shall be conducted in the beach fill and in any other intertidal or shoreline areas within or affected by the project. If a full season is not available, at least 5 consecutive months with three surveys per month spaced at least 9 days apart are required. During emergency projects, the surveys will begin as soon as possible prior to, and up to implementing the project. Piping plover identification, especially when in non-breeding plumage, can be difficult. If preconstruction monitoring is not practicable, it will be so indicated in the notification to the Service (see P3BO Term and Condition #2) and the Service will decide whether to require a separate individual consultation. See introductory paragraph to Reasonable and Prudent Measures.
h. The person(s) conducting the survey must demonstrate the qualifications and ability to identify shorebird species and be able to provide the information listed below. The following will be collected, mapped, and reported:
    1. Date, location, time of day, weather, and tide cycle when survey was conducted;
    2. Latitude and longitude of observed piping plover locations (decimal degrees preferred);

3. Any color bands observed on piping plovers;
4. Behavior of piping plovers (e.g., foraging, roosting, preening, bathing, flying, aggression, walking);
5. Landscape features(s) where piping plovers are located (e.g., inlet spit, tidal creeks, shoals, lagoon shoreline);
6. Habitat features(s) used by piping plovers when observed (e.g., intertidal, fresh wrack, old wrack, dune, mid-beach, vegetation);
7. Substrata used by piping plovers (e.g., sand, mud/sand, mud, algal mat);
8. The amount and type of recreational use (e.g., people, dogs on or off leash, vehicles, kite-boarders); and
9. All other shorebirds/waterbirds seen within the survey area.

All information shall be provided in an Excel spreadsheet. Monitoring results shall be submitted (datasheets, maps, database) on standard electronic media (e.g., CD, DVD) to the appropriate Field Office by July 31 of each year in which monitoring is completed. If an appropriate web based reporting system becomes available, it would be used in lieu of hard copy/media.

[NOTE: As a condition to a permit from the FDEP, the bird monitor may also be required to report shorebird data to the Florida Fish and Wildlife Conservation Commission (FWC) https://public.myfwc.com/crossdoi/shorebirds/SigninExploreData.aspx.]

8. Under Alternative 2 and 3, the applicant will comply with the following conditions from the Sea Turtle and Smalltooth Sawfish Construction Conditions, issued by the National Oceanic and Atmospheric Administration National Marine Fisheries Service on March 23, 2006:
    a. The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species.
    b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973.
    c. Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida.
    d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the

draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.

e. If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.

f. Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.

g. Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.

9. The applicant will comply with the following additional Terms and Conditions from the Dredging of Gulf of Mexico Navigation Channels and Sand Mining ("Borrow") Areas Using Hopper Dredges by USACE Galveston, New Orleans, Mobile, and Jacksonville Districts (consultation number F/SER/2000/01287), dated November 19, 2003:

    a. *Hopper Dredging*: Hopper dredging activities in Gulf of Mexico waters from the Mexico-Texas border to Key West, Florida up to one mile into rivers shall be completed, whenever possible, between December 1 and March 31, when sea turtle abundance is lowest throughout Gulf coastal waters. Hopper dredging of Key West channels is covered by the existing August 25, 1995, RBO to the USACE's SAD. The USACE shall discuss with NOAA Fisheries why a particular project cannot be done within the December 1-March 31 "window."

    b. *Annual Reports*: The annual summary report, discussed below, must give a complete explanation of why alternative dredges (dredges other than hopper dredges) were not used for maintenance dredging of channels between April and November.

    c. *Observers*: The USACE shall arrange for NOAA Fisheries-approved observers to be aboard the hopper dredges to monitor the hopper spoil, screening, and dragheads for sea turtles and Gulf sturgeon and their remains.

        1. Brazos Santiago Pass east to Key West, Florida: Observer coverage sufficient for 100% monitoring (i.e., two observers) of hopper dredging operations is required aboard the hopper dredges year-round from Brazos Santiago Pass to (not including) Key West, Florida between April 1 and November 30, and whenever surface water temperatures are 11EC or greater.
        2. Observer coverage of hopper dredging of sand mining areas shall ensure 50% monitoring (i.e., one observer).

d. *Operational Procedures*: During periods in which hopper dredges are operating and NOAA Fisheries-approved observers are not required, the appropriate USACE District must:
    1. Advise inspectors, operators and vessel captains about the prohibitions on taking, harming, or harassing sea turtles.
    2. Instruct the captain of the hopper dredge to avoid any turtles and whales encountered while traveling between the dredge site and offshore disposal area, and to immediately contact the USACE if sea turtles or whales are seen in the vicinity.
    3. Notify NOAA Fisheries if sea turtles are observed in the dredging area, to coordinate further precautions to avoid impacts to turtles.
    4. Notify NOAA Fisheries immediately by phone (727/570-5312) or fax (727/570-5517) if a sea turtle or Gulf sturgeon is taken by the dredge.
e. *Screening*: When sea turtle observers are required on hopper dredges, 100% inflow screening of dredged material is required and 100% overflow screening is recommended. If conditions prevent 100% inflow screening, inflow screening may be reduced gradually, as further detailed in the following paragraph, but 100% overflow screening is then required. NOAA Fisheries must be consulted prior to the reductions in screening and an explanation must be included in the dredging report.
    1. Screen Size: The hopper's inflow screens should have 4-inch by 4-inch screening. If the USACE, in consultation with observers and the draghead operator, determines that the draghead is clogging and reducing production substantially, the screens may be modified sequentially: mesh size may be increased to 6-inch by 6-inch, then 9-inch by 9-inch, then 12-inch by 12-inch openings. Clogging should be greatly reduced with these flexible options; however, further clogging may compel removal of the screening altogether, in which case effective 100% overflow screening is mandatory. The USACE shall notify NOAA Fisheries beforehand if inflow screening is going to be reduced or eliminated, and provide details of how effective overflow screening will be achieved.
    2. Need for Flexible, Graduated Screens: NOAA Fisheries believes that this flexible, graduated-screen option is necessary, since the need to constantly clear the inflow screens will increase the time it takes to complete the project and therefore increase the exposure of sea turtles to the risk of impingement or entrainment. Additionally, there are increased risks to sea turtles in the water column when the inflow is halted to clear screens, since this results in clogged intake pipes, which may have to be lifted from the bottom to discharge the clay by applying suction.

f. *Dredging Pumps*: Standard operating procedure shall be that dredging pumps shall be disengaged by the operator when the dragheads are not firmly on the bottom, to prevent impingement or entrainment of sea turtles within the water column. This precaution is especially important during the cleanup phase of dredging operations when the draghead frequently comes off the bottom and can suck in turtles resting in the shallow depressions between the high spots the draghead is trimming off.

g. *Sea Turtle Deflecting Draghead*: A state-of-the-art rigid deflector draghead must be used on all hopper dredges in all Gulf of Mexico channels and sand mining sites at all times of the year except that the rigid deflector draghead is not required in MR-SWP at any time of the year.

h. *Dredge Take Reporting*: Observer reports of incidental take by hopper dredges must be faxed to NOAA Fisheries' Southeast Regional Office (727-570-5517) by onboard endangered species observers within 24 hours of any sea turtle, Gulf sturgeon, or other listed species take observed.

   A preliminary report summarizing the results of the hopper dredging and any documented sea turtle or Gulf sturgeon takes must be submitted to NOAA Fisheries within 30 working days of completion of any dredging project. Reports shall contain information on project location (specific channel/area dredged), start-up and completion dates, cubic yards of material dredged, problems encountered, incidental takes and sightings of protected species, mitigative actions taken (if relocation trawling, the number and species of turtles relocated), screening type (inflow, overflow) utilized, daily water temperatures, name of dredge, names of endangered species observers, percent observer coverage, and any other information the USACE deems relevant.

   An annual report (based on fiscal year) must be submitted to NOAA Fisheries summarizing hopper dredging projects and documented incidental takes.

i. *Sea Turtle Strandings*: The USACE Project Manager or designated representative shall notify the Sea Turtle Stranding and Salvage Network (STSSN) state representative (contact information available at: http://www.sefsc.noaa.gov/seaturtleSTSSN.jsp) of the start-up and completion of hopper dredging operations and bed-leveler dredging operations and ask to be notified of any sea turtle/sturgeon strandings in the project area that, in the estimation of STSSN personnel, bear signs of potential draghead impingement or entrainment, or interaction with a bed-leveling type dredge.

   Information on any such strandings shall be reported in writing within 30 days of project end to NOAA Fisheries' Southeast Regional Office. Because of different possible explanations for, and subjectivity in the interpretation of potential causes of strandings, these strandings will not normally be counted against the USACE's take limit; however, if compelling STSSN observer reports and evidence indicate that a turtle was killed by a hopper dredge or a bed-leveling type dredge, that take will be

deducted from the ITS' anticipated take level for that COE District where the take occurred.

j. *Reporting - Strandings*: Each COE District shall provide NOAA Fisheries' Southeast Regional Office with an annual report detailing incidents, with photographs when available, of stranded sea turtles and Gulf sturgeon that bear indications of draghead impingement or entrainment. This reporting requirement may be included in the end-of-year report.

k. *District Annual Relocation Trawling Report*: Each USACE District shall provide NOAA Fisheries' Southeast Regional Office with end-of-project reports within 30 days of completion of relocation trawling projects, and an annual report summarizing relocation trawling efforts and results within their District. The annual report requirement may be included in the end-of-year report.

l. *Conditions Requiring Relocation Trawling*: Handling of sea turtles captured during relocation trawling in association with hopper dredging projects in Gulf of Mexico navigation channels and sand mining areas shall be conducted by NOAA Fisheries-approved endangered species observers. Relocation trawling shall be undertaken by the USACE at all projects where any of the following conditions are met; however, other ongoing projects not meeting these conditions are not required to conduct relocation trawling:
    1. Two or more turtles are taken in a 24-hour period in the project.
    2. Four or more turtles are taken in the project.
    3. 75% of a District's sea turtle species quota for a particular species has previously been met.

m. *Relocation Trawling Waiver*: For individual projects the affected USACE District may request by letter to NOAA Fisheries a waiver of part or all of the relocation trawling requirements. NOAA Fisheries will consider these requests and decide favorably if the evidence is compelling.

n. *Relocation Trawling - Annual Take Limits*: This Opinion authorizes the annual (by fiscal year) take of 300 sea turtles (of one species or combination of species) and eight Gulf sturgeon by duly-permitted, NOAA Fisheries-approved observers in association with all relocation trawling conducted or contracted by the four Gulf of Mexico USACE Districts to temporarily reduce or assess the abundance of these listed species during (and in the 0-3 days immediately preceding) a hopper dredging project in order to reduce the possibility of lethal hopper dredge interactions, subject to the following conditions:
    1. *Trawl Time*: Trawl tow-time duration shall not exceed 42 minutes (doors in - doors out) and trawl speeds shall not exceed 3.5 knots.
    2. *Handling During Trawling*: Sea turtles and sturgeon captured pursuant to relocation trawling shall be handled in a manner designed to ensure their

safety and viability, and shall be released over the side of the vessel, away from the propeller, and only after ensuring that the vessel's propeller is in the neutral, or disengaged, position (i.e., not rotating). Resuscitation guidelines are attached (GRBO Appendix IV).

3. *Captured Turtle Holding Conditions*: Captured turtles shall be kept moist, and shaded whenever possible, until they are released.
4. *Weight and Size Measurements*: All turtles shall be measured (standard carapace measurements including body depth) and tagged, and weighed when safely possible, prior to release; Gulf sturgeon shall be measured (fork length and total length) and–when safely possible–tagged, weighed, and a tissue sample taken prior to release. Any external tags shall be noted and data recorded into the observers log. Only NOAA Fisheries-approved observers or observer candidates in training under the direct supervision of a NOAA Fisheries-approved observer shall conduct the tagging/measuring/weighing/tissue sampling operations.
5. *Take and Release Time During Trawling* - Turtles: Turtles shall be kept no longer than 12 hours prior to release and shall be released not less than three nautical miles (nmi) from the dredge site. If two or more released turtles are later recaptured, subsequent turtle captures shall be released not less than five nmi away. If it can be done safely, turtles may be transferred onto another vessel for transport to the release area to enable the relocation trawler to keep sweeping the dredge site without interruption.
6. *Take and Release Time During Trawling - Gulf Sturgeon*: Gulf sturgeon shall be released immediately after capture, away from the dredge site or into already dredged areas, unless the trawl vessel is equipped with a suitable (not less than: 2 ft high by 2 ft wide by 8 ft long), well-aerated seawater holding tank where a maximum of one sturgeon may be held for not longer than 30 minutes before it must be released or relocated away from the dredge site.
7. *Injuries and Incidental Take Quota*: Any protected species injured or killed during or as a consequence of relocation trawling shall count toward the appropriate USACE District's incidental take quota. Minor skin abrasions resulting from trawl capture are considered non-injurious. Injured sea turtles shall be immediately transported to the nearest sea turtle rehabilitation facility.
8. *Flipper Tagging*: All sea turtles captured by relocation trawling shall be flipper-tagged prior to release with external tags which shall be obtained prior to the project from the University of Florida's Archie Carr Center for Sea Turtle Research. This Opinion serves as the permitting authority for any NOAA Fisheries-approved endangered species observer aboard these

relocation trawlers to flipper-tag with external tags (e.g., Inconel tags) captured sea turtles. Columbus crabs or other organisms living on external sea turtle surfaces may also be sampled and removed under this authority.

9. *Gulf Sturgeon Tagging*: Tagging of live-captured Gulf sturgeon may also be done under the permitting authority of this Opinion; however, it may be done only by personnel with prior fish tagging experience or training, and is limited to external tagging only, unless the observer holds a valid sturgeon research permit (obtained pursuant to section 10 of the ESA, from the NOAA Fisheries' Office of Protected Resources, Permits Division) authorizing sampling, either as the permit holder, or as designated agent of the permit holder.
10. *PIT-Tag Scanning*: All sea turtles captured by relocation trawling (or dredges) shall be thoroughly scanned for the presence of PIT tags prior to release using a scanner powerful enough to read dual frequencies (125 and 134 kHz) and read tags deeply embedded deep in muscle tissue (e.g., manufactured by Biomark or Avid). Turtles which scans show have been previously PIT tagged shall never-the-less be externally flipper tagged. The data collected (PIT tag scan data and external tagging data) shall be submitted to NOAA, National Marine Fisheries Service, Southeast Fisheries Science Center, Attn: Lisa Belskis, 75 Virginia Beach Drive, Miami, Florida 33149. All data collected shall be submitted in electronic format within 60 working days to Lisa.Belskis@noaa.gov.
11. *CMTTP:* External flipper tag and PIT tag data generated and collected by relocation trawlers shall also be submitted to the Cooperative Marine Turtle Tagging Program (CMTTP), on the appropriate CMTTP form, at the University of Florida's Archie Carr Center for Sea Turtle Research.
    1. *Tissue Sampling*: All live or dead sea turtles captured by relocation trawling or dredging shall be tissue-sampled prior to release, according to the protocols described in Appendix II or Appendix III of this Opinion. Tissue samples shall be sent within 60 days of capture to: NOAA, National Marine Fisheries Service, Southeast Fisheries Science Center, Attn: Lisa Belskis, 75 Virginia Beach Drive, Miami, Florida 33149. All data collected shall be submitted in electronic format within 60 working days to Lisa.Belskis@noaa.gov. This Opinion serves as the permitting authority for any NOAA Fisheries-approved endangered species observers aboard relocation trawlers or hopper dredges to tissue-sample live- or dead-captured sea turtles, without the need for a section 10 permit.

12. Cost Sharing of Genetic Analysis: The USACE's Gulf of Mexico Districts shall combine to provide a one-time payment of $10,000 to NOAA Fisheries to share the cost of NOAA-Fisheries' analysis of 300 tissue samples taken during USACE hopper dredging/trawling operations in the Gulf of Mexico. This cost is currently estimated by NOAA Fisheries to be about $100-150 per sample, or $30,000-$45,000. USACE funds shall be provided to NOAA Fisheries' Southwest Fisheries Center's Dr. Peter Dutton as a part of a Memorandum of Understanding (MOU) to be developed between Dr. Dutton and the USACE's combined Gulf of Mexico Districts and Divisions within six months of the issuance of this Opinion.
13. *PIT Tagging*: PIT tagging is not required or authorized for, and shall not be conducted by, ESOs who do not have 1) section 10 permits authorizing said activity and 2) prior training or experience in said activity; however, if the ESO has received prior training in PIT tagging procedures and is also authorized to conduct said activity by a section 10 permit, then the ESO **must** PIT tag the animal prior to release (in addition to the standard external flipper tagging). PIT tagging must then be performed in accordance with the protocol detailed at NOAA Fisheries' Southeast Science Center's webpage: http://www.sefsc.noaa.gov/seaturtlefisheriesobservers.jsp. (See GRBO Appendix C on SEC's "Fisheries Observers" webpage). PIT tags used must be sterile, individually wrapped tags to prevent disease transmission. PIT tags should be 125 kHz, glass-encapsulated tags - the smallest ones made. Note: If scanning reveals a PIT tag and it was not difficult to find, then **do not** insert another PIT tag; simply record the tag number and location, and frequency, if known. If for some reason the tag is difficult to detect (e.g., tag is embedded deep in muscle, or is a 400 mHz tag), then insert one in the other shoulder.
14. *Other Sampling Procedures*: All other tagging and external or internal sampling procedures (e.g., PIT tagging, blood letting, laparoscopies, anal and gastric lavages, mounting satellite or radio transmitters, etc.) performed on live sea turtles or live sturgeon are not permitted under this Opinion unless the observer holds a valid sea turtle or sturgeon research permit (obtained pursuant to section 10 of the ESA, from the NOAA Fisheries' Office of Protected Resources, Permits Division) authorizing the activity, either as the permit holder, or as designated agent of the permit holder.
15. *Handling Fibropapillomatose Turtles*: Observers handling sea turtles infected with fibropapilloma tumors shall either: 1) clean all equipment that comes in contact with the turtle (tagging equipment, tape measures, etc.) with mild bleach solution, between the processing of each turtle or 2) maintain a separate set of sampling equipment for handling animals displaying

fibropapilloma tumors or lesions. Tissue/tumor samples shall be sent within 60 days of capture to: NOAA, National Marine Fisheries Service, Southeast Fisheries Science Center, Attn: Lisa Belskis, 75 Virginia Beach Drive, Miami, Florida 33149. All data collected shall be submitted in electronic format within 60 working days to Lisa.Belskis@noaa.gov. This Opinion serves as the permitting authority for all NOAA Fisheries-approved endangered species observers aboard a relocation trawler or hopper dredge to tissue-sample fibropapilloma-infected sea turtles without the need for a section 10 permit.

o. *Hardground Buffer Zones*: All dredging in sand mining areas will be designed to ensure that dredging will not occur within a minimum of 400 feet from any significant hardground areas or bottom structures that serve as attractants to sea turtles for foraging or shelter. NOAA Fisheries considers (for the purposes of this Opinion only) a significant hardground in a project area to be one that, over a horizontal distance of 150 feet, has an average elevation above the sand of 1.5 feet or greater, and has algae growing on it. The USACE Districts shall ensure that sand mining sites within their Districts are adequately mapped to enable the dredge to stay at least 400 feet from these areas. If the USACE is uncertain as to what constitutes significance, it shall consult with NOAA Fisheries' Habitat Conservation Division and NOAA Fisheries' Protected Resources Division for clarification and guidance.

p. *Training - Personnel on Hopper Dredges*: The respective USACE Districts must ensure that all contracted personnel involved in operating hopper dredges (whether privately-funded or federally-funded projects) receive thorough training on measures of dredge operation that will minimize takes of sea turtles. It shall be the goal of each hopper dredging operation to establish operating procedures that are consistent with those that have been used successfully during hopper dredging in other regions of the coastal United States, and which have proven effective in reducing turtle/dredge interactions. Therefore, USACE Engineering Research and Development Center experts or other persons with expertise in this matter shall be involved both in dredge operation training, and installation, adjustment, and monitoring of the rigid deflector draghead assembly.

q. *Dredge Lighting*: From May 1 through October 31, sea turtle nesting and emergence season, all lighting aboard hopper dredges and hopper dredge pumpout barges operating within three nmi of sea turtle nesting beaches shall be limited to the minimal lighting necessary to comply with U.S. Coast Guard and/or OSHA requirements. All non-essential lighting on the dredge and pumpout barge shall be minimized through reduction, shielding, lowering, and appropriate placement of lights to minimize illumination of the water to reduce potential disorientation effects on female sea turtles

approaching the nesting beaches and sea turtle hatchlings making their way seaward from their natal beaches.

8.0 AGENCY COORDINATION AND PUBLIC INVOLVEMENT

The following agencies were contacted during the preparation of this EA:

- Florida Department of Environmental Protection (FDEP)
- Florida Division of Historic Resources (SHPO)
- Florida State Clearinghouse
- United States Army Corps of Engineers (USACE)

FEMA issued a disaster-wide initial public notice for Hurricane Sally on October 21, 2020 (**Appendix M**), to notify the public of projects under the PA, Individual Assistance, and Hazard Mitigation Grant programs that may be occurring within floodplains or wetlands. The public was notified of the availability of this EA for review and comment by posting of the public notice (**Appendix N**) on FEMA's website, Okaloosa County's website, and near the proposed project location, and a hard copy of the EA was made available at the Emerald Coast Convention and Visitor's Bureau, located at 1540 Miracle Strip Parkway Southeast, Fort Walton Beach, Florida 32548, open from 9AM until 5PM. The public comment period ended on April 13, 2023 after 30 days from the date of initial posting (March 14, 2023) with no comments received.

9.0 LIST OF PREPARERS

Name	Organization	Title
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Amanda Calhoun	FEMA	Environmental Protection Specialist
Kari Elkins	FEMA	Environmental Protection Specialist
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10.0 REFERENCES

EPA. Current Nonattainment Counties for All Criteria Pollutants. Accessed on July 17, 2022. Retrieved from: https://www3.epa.gov/airquality/greenbook/ancl.html#Top

FDEP. Outstanding Florida Waters Mapper. Accessed July 14, 2022. Retrieved from: https://floridadep.gov/dear/water-quality-standards/content/outstanding-florida-waters

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Appendices available upon request to FEMA Region 4 EHP (FEMA-R4EHP-FLORIDA@fema.dhs.gov)