

FINDING OF NO SIGNIFICANT IMPACT

Modification of an Existing Negotiated Agreement for Use of Outer Continental Shelf Sand from Borrow Area T1 in the Collier County Beach Renourishment Project

Pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations implementing NEPA (40 CFR 1500-1508) and Department of the Interior (DOI) regulations implementing NEPA (43 CFR 46), the Bureau of Ocean Energy Management (BOEM) prepared an environmental assessment (EA) to determine whether the modification of an existing negotiated agreement for the use of Outer Continental Shelf (OCS) sand in the Collier County Beach Renourishment Project (project) would have a significant effect on the human environment and whether an environmental impact statement (EIS) should be prepared.

Several NEPA documents have been previously prepared by the U.S. Army Corps of Engineers (USACE), BOEM and project sponsors evaluating impacts of the project. In 1995, prior to initial construction, the USACE prepared an Environmental Assessment (EA) to describe the affected environment, evaluate potential environmental impacts resulting from the proposed action, and describe alternatives to the proposed action. Subsequently, two other EAs were prepared by Collier County and adopted by BOEM in 2005 and 2013 to evaluate the potential impacts of using a new OCS borrow area, T1. This 2017 EA, prepared by Collier County and adopted by BOEM, incorporates by reference the previous effects analyses determined to still be valid and augments a subset of analyses in light of changes in the proposed action.

Proposed Action

Collier County (project sponsor) has requested use of OCS sand resources from the T1 borrow area (up to 1.7 million cubic yards [cy]) to nourish 8.9 miles of Collier County's shoreline, including Vanderbilt Beach, Pelican Bay, Park Shore, and Naples Beach along the southwest coast of Florida. BOEM's proposed action is the modification of an existing negotiated agreement to increase the length of the lease term and increase the volume of OCS sand authorized for use in the project. Collier County was previously authorized to use 0.5 million cy of OCS sand from T1 under lease (Negotiated Agreement No. OCS-G 35160); the existing lease will expire on April 14, 2018. In June 2017 Collier County requested a lease extension and increase in authorized volume as Collier County planned to renourish beach sections previously permitted by the USACE and Florida Department of Environmental Protection (DEP). In September 2017 Hurricane Irma passed through the Gulf of Mexico and caused extension erosion along the project area. In order to restore the beaches to design template, additional beach fill is now required. Collier County has requested to use 1.7 million cy of OCS sand in the project and proposes to complete renourishment within three years.

Alternatives to the Proposed Action

Based upon a combination of economic, engineering, and environmental factors, Collier County identified beach nourishment as a central component of its comprehensive beach management program. Previous NEPA documents have considered a range of potential shore protection alternatives, including structural and non-structural options, varying beach berm widths, and

multiple sources of fill material. The project was previously authorized and initially constructed in 1996 using a state water sand source. The first maintenance construction cycles was completed in 2006 using borrow area T1. Between 2010 and 2016, Collier County nourished Naples and Vanderbilt several times using truck-hauled, upland sand, as well as beneficial use sand sources. The proposed action represents the second maintenance cycle and use of the T1 borrow area.

In addition to considering the preferred alternative of authorizing use of the T1 borrow area, Collier County and BOEM considered renourishment using an upland borrow source, as well as the No Action alternative. If BOEM decided not to authorize use of T1, the project proponents could either:

- (a) re-evaluate the project to identify and use another alternative sand source to restore Vanderbilt Beach, Pelican Bay, Park Shore, and Naples Beach,
- (b) not undertake the project at this time.

Use of an upland source is likely to result in increased environmental disruption and effect from onshore excavation and overland transport. In the case of no project, coastal erosion would continue, sea turtle and shorebird nesting habitat would deteriorate, the recreational amenity associated with the public beach would be severely affected, and the likelihood and frequency of property and storm damage would increase.

Environmental Effects

This 2017 EA evaluates the potential environmental effects of using OCS sand from T1 in the project. The connected actions of screening, rehandling, conveyance, and placement of the sand are considered. The EA and Finding of No Significant Impact (FONSI) identify all mitigation, monitoring, and reporting requirements necessary to avoid, minimize, and/or reduce and track any foreseeable adverse impacts that may result from all phases of construction. A subset of mitigation, monitoring, and reporting requirements, specific to activities under BOEM's jurisdiction, will be incorporated into the negotiated agreement to avoid, minimize, and/or reduce and track any foreseeable adverse impacts (Attachment 1).

In addition to evaluating the effects of additional volume and project duration, BOEM and Collier County identified and reviewed new information to determine if any resources should be re-evaluated, or if the new information would result in significantly different effects.

Significance Review

Pursuant to 40 CFR 1508.27, BOEM evaluated the significance of potential environmental effects considering both CEQ context and intensity factors. The potential significance of environmental effects has been analyzed in both spatial and temporal context. Potential effects are generally considered reversible because they will be minor to moderate, localized, and short-lived. No significant or cumulatively significant adverse effects were identified. The ten intensity factors were considered in the EA and are specifically addressed below:

1. Impacts that may be both beneficial and adverse.

Potential adverse effects to the physical environment, biological resources, cultural resources, and socioeconomic resources have been considered. Impacts to hardbottom communities in the vicinity of the T1 borrow area would be avoided by a 400 foot buffer between areas dredged and adjacent hard bottom. Coarsening habitat impacts could occur in the vicinity of the borrow area, as well as screening and rehandling areas if physical screening and redeposition of shell and rock fragments occur. However, such morphologic changes and artificial habitat would be comparable to hard bottom outcrops typical to the inner shelf offshore the west Florida coast. Impacts to nearshore hardbottom would occur in the project area from beach fill equilibration or alongshore spreading, so pre- and post-construction monitoring would be conducted to observe and offset potential impacts. Nearshore hardbottom impacts would be minimized through the use of project dikes to limit alongshore turbidity and spreading. Impacts resulting from the physical placement and retrieval of conveyance pipelines would be minimized by the use of pipeline collars and also by floating pipelines before relocation. Temporary reduction of water quality is expected due to turbidity during dredging, screening, and placement operations; turbidity will be monitored relative to background levels in the nearshore. Small, localized, temporary increases in concentrations of air pollutant emissions are expected, but the short-term impact by emissions from the dredge, tugs, or other construction equipment would not affect the overall air quality of the area. A temporary increase in noise level and a temporary reduction in the aesthetic value offshore during construction in the vicinity of the dredging would occur. For safety reasons, navigational and recreational resources located in the immediate vicinity of the dredging operation would temporarily be unavailable for public use. No archaeological resources were identified in the proposed borrow area, rehandling areas, or pipeline corridors during remote sensing or diver surveys. GPS-positioning equipment will be used to ensure the dredge is operating in the authorized location. An unexpected finds clause would be implemented in case an archaeological resource is discovered during operations. Short-term and local adverse effects to benthic and fishery resources are expected within the dredging, screening, rehandling, and placement areas. If a hopper dredge is used, potential dredging entrainment risk of sea turtles is reduced through the use of sea turtle deflecting dragheads and associated operating parameters. Potential effects to marine mammals are reduced through vessel speed and avoidance protocols. Temporary displacement or behavior modification of birds near the borrow area and/or along the reach of beach placement could occur through direct construction impacts and/or indirect impacts to benthic prey base. There would be beneficial impacts from increased storm protection and an improved recreational beach. In addition, the nourishment effort would result in the restoration of habitat for nesting sea turtles.

2. The degree to which the proposed action affects public health or safety.

The proposed activities are not expected to significantly affect public health. Construction noise will temporarily increase ambient noise levels and equipment emissions would decrease air quality in the immediate vicinity of placement activities. The public is typically prevented from entering the segment of beach under construction, so recreational activities will not be occurring in close proximity to operations. Dredging operations will be performed in accordance with an environmental protection plan, addressing marine pollution, waste disposal, and air pollution.

3. *Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.*

No prime or unique farmland, park lands, designated Wild and Scenic reaches, wetlands, or Habitats of Particular Concern would be impacted by implementation of this project. Critical habitat has been designated in the vicinity of the T1 borrow area and shoreline for loggerhead sea turtles (marine and terrestrial critical habitat), as well as manatee. BOEM and the USACE have previously consulted with NMFS on the potential effects of dredging activities on these protected species and critical habitat designations. Agencies have concluded that the proposed activities will not adversely affect designated critical habitat. Impacts to EFH would occur in T1, rock disposal, rehandling, and nearshore areas, but the limited spatial and temporal extent of dredging and rehandling suggests these impacts will not adversely affect EFH on a broad scale. Dredging will locally modify the overall seafloor morphology within the T1 Borrow Area. Similar microhabitat will exist pre- and post-dredging and benthic re-colonization should occur within a few years given recruitment from adjacent undisturbed communities. Demersal and pelagic fishes may temporarily avoid the dredged area because of locally reduced prey availability, but are expected to return following benthic re-colonization. Potential impacts to nearshore hardbottom will be avoided by placing pipeline corridors in areas devoid of hardbottom.

4. *The degree to which the effects on the quality of the human environment are likely to be highly controversial.*

No effects are expected that are scientifically controversial. Effects from beach nourishment projects, including dredging on the OCS, are well studied. The effects analyses in the EA has relied on the best available scientific information, including information collected from previous dredging and nourishment activities in and adjacent to the project area. Numerous studies and monitoring efforts have been undertaken along the coast of Florida evaluating the effects of dredging and beach nourishment on shoreline change, nearshore hard bottom habitat, benthic communities, nesting and swimming sea turtles, manatees, and shorebirds.

5. *The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.*

Beach nourishment is a common solution to coastal erosion problems along the western coast of Florida. Federally-authorized beach nourishment projects in Collier County date to the 1990's. The T1 borrow area has been previously dredged. No significant adverse effects have been documented during or as a result of past operations. Prior dredge events have not resulted in the entrainment of sea turtles, but numerous sea turtles have been captured and relocated during relocation trawling. Such take was considered in the applicable biological opinion(s) and determined not to jeopardize the continued existence of the species. NMFS provided concurrence on March 22, 2017 that the proposed project was covered under the Gulf of Mexico Regional Biological Opinion and project-specific Biological Opinion, assuming implementation of protective measures. The effects of the proposed action are not expected to be highly uncertain, and the proposed activities do not involve any unique or unknown risks.

6. *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.*

No precedent for future action or decision in principle for future consideration is being made in BOEM's decision to authorize re-use of the T1 for this nourishment cycle. BOEM considers each use of a borrow area on the OCS as a new federal action. The Bureau's authorization of the use of the borrow area does not dictate the outcome of future leasing decisions. Future actions will also be subject to the requirements of NEPA and other applicable environmental laws.

7. *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.*

Significance may exist if it is reasonable to anticipate cumulatively significant impacts that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. The EA and previous NEPA documents conclude that the activities related to the proposed action are not reasonably anticipated to incrementally add to the effects of other activities to the extent of producing significant effects. Because the seafloor is expected to equilibrate and moving sand will slowly accumulate in T1, the proposed project provides an incremental, but localized effect on the reduction of offshore sand resources. Although there will be a short-term and local decline in benthic habitat and populations, both are expected to recover within a few years. Therefore, no significant cumulative impacts to benthic habitat are expected from the use of the borrow area.

8. *The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.*

The proposed action is not expected to adversely affect historic or pre-contact resources. Seafloor-disturbing activities (e.g., dredging, anchoring, pipeline emplacement and relocation) may occur during proposed construction activities. The greatest risk to cultural resources exists in the borrow area where dredging will occur. Archaeological clearance surveys have been performed within both the T1 borrow area, rehandling, pipeline corridors, and pump-out, booster or off-loading locations, and beach nourishment locations. No cultural resources or historic properties have been identified. BOEM will also work with Division of Historical Resources (DHR) and State Historic Preservation Officer (SHPO) should shipwreck remains or other cultural resources be unexpectedly discovered. No significant impacts to cultural resources in the project area are anticipated with implementation of the measures to protect existing identified resources, cease of work if an unexpected discovery occurs, and immediate notification to DHR/SHPO. If an unexpected site is discovered, the SHPO may then determine if the resource is significant or not and make the determination of the best means to protect the resource. All of these activities have been completed in accordance with the National Historic Preservation Act (NHPA), as amended; the Archeological and Historic Preservation Act (AHPA), as amended; and Executive Order 11593. The project is in full compliance with the NHPA as well as the AHPA and E.O. 11593.

9. *The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.*

Collier County would comply with all requirements of biological opinions associated with this project provided under the Endangered Species Act (ESA) including the USFWS State

Programmatic Biological Opinion (SPBO), USFWS Programmatic Piping Plover Biological Opinion (P3BO), NMFS Gulf of Mexico RBO, and Collier County Renourishment Project Biological Opinion.

Nesting and swimming sea turtles and manatees present in the project area during and after construction operations may be adversely affected. Sea turtle species in the project area include loggerhead, green, Kemp's ridley, and leatherback sea turtles. To minimize the risk to nesting sea turtles, standard sea turtle protection conditions would be implemented such as environmental windows, monitoring surveys, sand compaction monitoring, and lighting restrictions. If a hopper dredge is used for the dredging operations, potential in-water impacts to sea turtles could occur. To minimize the risk to swimming sea turtles, standard sea turtle protection conditions according to the GOM RBO and Collier County Renourishment Project Biological Opinion will be implemented such as the use of a state-of-the-art rigid deflector draghead at all times, inflow screens, voluntary non-capture sweep trawling, and/or observer monitoring of the operation. Collier County plans to implement the Standard Manatee Construction Protection Specifications to ensure manatee protection since manatee are frequently observed in the project area.

NMFS provided written concurrence that the dredging and construction operations for the respective renourishment projects may affect, but is not likely to adversely affect smalltooth and largetooth sawfish. Due to the location of the project, the species' mobility, and the implementation of NMFS' Sea Turtle and Smalltooth Sawfish Construction Conditions, the risk of injury and harassment is minor. Placement of material may affect, but is not likely to adversely affect, the piping plover, Least tern or red knot. Material placement is not likely to adversely affect Roseate terns. Collier County would implement conditions defined in P3BO. FWS concurred that applying these conditions will also mitigate impacts to the rufa red knot, a shorebird that uses similar habitat as the piping plover.

This project was fully coordinated under the ESA and is in full compliance with the Act. BOEM and the USACE have consulted with the USFWS and NMFS. If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed or critical habitat designated that may be affected by the identified action, consultation will need to be reinitiated.

10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

Collier County and its contractors must comply with all applicable Federal, State, and local laws and requirements. The dredging contractor is required to provide an environmental protection plan that verifies compliance with environmental requirements. BOEM and the USACE have undertaken the necessary consultations with NMFS, USFWS, and relevant state agencies. A Department of Army (DA) Permit, Florida DEP Joint Coastal Permit (JCP) and Florida DEP consistency concurrence have been issued for the proposed action. The DA and JCP permits include mitigation and monitoring requirements that are applicable to the connected state activities, but not to BOEM's proposed action.

The proposed action is in compliance with the Marine Mammal Protection Act. Marine mammals are not likely to be adversely affected by the project and incorporation of safeguards to protect threatened and endangered species during project construction would also protect marine mammals in the area. Migratory birds are not likely to be adversely affected by the proposed action. Water quality will be monitored to ensure state water quality standards are not violated.

Consultations and Public Involvement

BOEM and the USACE have coordinated with the USFWS, NMFS, FDEP, and Florida SHPO. Pertinent correspondence with Federal and state agencies are provided in Appendices X of the EA. After signature of this FONSI, the EA and FONSI will be posted to BOEM's website (<https://www.boem.gov/Florida-Projects/>).

Conclusion

BOEM has considered the consequences of modifying a negotiated agreement to authorize use of OCS sand from T1 in the Collier County Renourishment Project. Collier County prepared and BOEM reviewed and adopted the attached EA (Attachment 2), and BOEM finds that the EA complies with the relevant provisions of the CEQ regulations implementing NEPA, DOI regulations implementing NEPA, and other Marine Mineral Program requirements. Based on the NEPA and consultation process, appropriate terms and conditions enforceable by BOEM will be incorporated into the negotiated agreement to avoid, minimize, and/or mitigate any foreseeable adverse impacts (Attachment 1).

Based on the evaluation of potential impacts and mitigating measures discussed in the EA, BOEM finds that modifying the existing negotiated agreement, with the implementation of the mitigating measures, does not constitute a major Federal action significantly affecting the quality of the human environment, in the sense of NEPA Section 102(2)(C), and will not require preparation of an EIS.



Jil Lewandowski
Chief, Division of Environmental
Assessment

11/2/17

Date

Attachment 1

Proposed Mitigation and Minimization Measures

APPENDIX A ATTACHMENT 1 PROPOSED MITIGATION MEASURES

This attachment includes the draft Plan and Performance Measures that are to be provided to the BOEM Leasing Division for inclusion in the Lease.

A.1 Plans and Performance Requirements

Collier County will include this Lease as a reference document in the advertised "Construction Solicitation and Specifications Plan" (hereinafter referred to as the "Plan"). Collier County will ensure that all operations at Borrow Area T1 are conducted in accordance with the final approved Plan and all terms and conditions in this Lease, as well as all applicable statutes, regulations, orders and any guidelines or directives specified or referenced herein. Collier County will send BOEM a copy of the plans and any modifications when available.

The dredging method for removing sand from Borrow Area T1 will be consistent with the NEPA and authorizing documents, as well as project permits. Collier County will allow BOEM to review and comment on modifications to the Plan that may affect the borrow area or pipeline corridors on the OCS, including the use of submerged or floated pipelines to directly convey sediment from the borrow area to the placement site. Said comments will be delivered in a timely fashion so as to not unnecessarily delay Collier County's construction contract or schedule.

If dredging and/or conveyance methods are not wholly consistent with those evaluated in relevant NEPA documents prepared by BOEM for this Project and environmental and cultural resource consultations, and those authorized by the USACE and State Permits, additional environmental review may be necessary. If the additional NEPA, consultations, or permit modifications would impact or otherwise supplement the provisions of the Lease, an amendment may be required.

Prior to the commencement of construction, Collier County must electronically provide BOEM with a summary of the construction schedule. Collier County, at the reasonable request of BOEM or the Bureau of Safety and Environmental Enforcement (BSEE), must allow access, at the site of any operation subject to safety regulations, to any authorized Federal inspector and must provide BOEM or BSEE any documents and records that are pertinent to occupational or public health, safety, environmental protection, conservation of natural resources, or other use of the OCS as may be requested.

A.2 Environmental Responsibilities and Environmental Compliance

BOEM must ensure that the project complies with all other applicable environmental laws, including but not limited to ESA, MSA, NHPA, and CZMA. Collier County agrees to include in its Plan and implement all proposed avoidance and minimization measures identified and analyzed in the underlying NEPA documents related to this project (see *Environmental Assessment for the Issuance of a Negotiated Agreement for Use of Outer Continental Shelf Sand from Borrow Area T1 in the Collier County Beach Renourishment Project* (October 2017), available at <http://www.boem.gov/Collier-County-EA-Attachments/>).

The County will instruct its contractor(s) to implement the mitigations terms, conditions and measures as required by NMFS, USFWS, Florida DEP and BOEM pursuant to applicable Federal and State laws and regulations prior to commencement of activities authorized under this Lease, including extraction, transportation and placement of sand resources from Borrow Area T1. The required mitigation terms, conditions, and measures are reflected in the relevant Biological Opinions, Conservation Recommendations, Consistency Determinations, and JCPs. Electronic copies of all relevant correspondence, monitoring data, and reports related to the activities covered by this MOA, will be provided electronically to BOEM within 14 days of issuance (including observer, FDEP, and dredging reports). Construction may not commence until the pre-construction requirements have been completed.

A.2.1 Section 7 ESA Consultation

The USACE will serve as the lead Federal agency for ESA Section 7 consultation concerning protected species under the purview of the U.S. Fish and Wildlife Service (USFWS). BOEM will serve as the lead Federal agency for ESA Section 7 consultation concerning National Marine Fisheries Service (NMFS Biological Opinion and amendments (dated August 13, 2013, available online at <http://www.boem.gov/Collier-County-BO/> and Appendix D in the 2017 Environmental Assessment). For all activities undertaken pursuant to the Project, Collier County agrees to implement all terms, conditions and recommendations in the NMFS Biological Opinion and subsequent amendments, which are incorporated by reference as terms and conditions of the Lease (extracts of which are provided for your reference in **Attachment 2**; to the extent the extracts or this Lease differ from or conflict with the Biological Opinion, the Biological Opinion governs). The County will instruct its contractor(s) to implement the mitigation terms, conditions, and measures required or recommended by NMFS in the Biological Opinion. In the event that the USACE is not able to provide the required inspection of the turtle deflector equipment, the County will notify BOEM prior to conducting the activity and the County will be required to provide a NMFS-approved third party contractor to perform the inspection.

In the case of any collision with or injury of a threatened or endangered species, including but not limited to sea turtles, Collier County and/or its contractor(s) must immediately contact the NMFS's Protected Resources Division (727-824-5312, fax 727-824-5309, or electronic mail takereport.nmfs@noaa.gov), the local authorized sea turtle stranding/rescue organization (provided online at <http://www.sefsc.noaa.gov/species/turtles/strandings.htm>) and BOEM (dredgeinfo@boem.gov and 703-787-1215).

The County will implement relocation trawling 24 hours prior to dredging and will continue throughout the dredging portion of the project. Any non-lethal turtle relocations will be immediately report to BOEM. Within 24 hours, the County (or its contractor) will submit the Observer Report with complete information regarding each turtle relocated (size, weight and sex, if possible) as well as any photos of the turtle and thorough information on any bycatch.

If a turtle is non-lethally relocated the turtle will be thoroughly scanned for the presence of PIT tags prior to release (see conditions on BO). If a turtle does not have an existing PIT Tag the turtle will be PIT tagged by an approved observer. PIT tagging may only be conducted by observers with PIT-tagging training or experience. See Attachment 2 for additional NMFS BO requirements.

Any protected species injured or killed during or as a consequence of relocation trawling or dredge operations shall count toward the incidental take quota. All lethal takes will be immediately reported to the designated lead for ESA compliance at BOEM, the USACE and the local stranding network.

Collier County acknowledges and agrees that, even where it is otherwise in compliance with the terms and conditions of this Lease and other required authorizations, incidental take of sea turtles or other endangered species by Collier County or its authorized contractors, within federal waters, may require suspension of the Lease by BOEM and reinitiation of consultation with NMFS. The amount and severity of incidental take that will trigger suspension, and the need for any such suspension or reinitiated consultation, will be determined in the sole discretion of BOEM. Depending on the results of an assessment of the take or reinitiated consultation, BOEM in its sole discretion may reinstate the Lease, revoke and terminate the Lease, negotiate with Collier County an amendment to the existing Lease or enter into a new lease with additional terms and conditions to protect threatened or endangered species. Collier County understands and agrees on behalf of itself, its agents, contractors, and other representatives, that no claim, legal action in equity for damages, adjustment, or other entitlement against BOEM will arise as a result of any suspension or related action.

A.3 Pre-Construction Notification of Activity in or near the Borrow Area

Collier County will invite BOEM to attend a pre-construction meeting that describes Collier County and/or its contractors' or agents' plan and schedule to construct the Project.

Collier County will notify BOEM electronically at least 72 hours prior to the commencement, and within 24 hours after termination, of operations at Borrow Area T1. BOEM will electronically notify Collier County in a timely manner of any OCS activity within the jurisdiction of the DOI that may adversely affect Collier County's ability to use OCS sand for the Project.

A.4 Dredge Positioning

During all phases of the Project, Collier County will ensure that the dredge and any bottom-disturbing equipment is outfitted with an onboard global positioning system (GPS) capable of maintaining and recording location within an accuracy range of no more than plus or minus 3 meters. The GPS must be installed as close to the cutterhead or draghead as practicable or must use appropriate instrumentation to accurately represent the position of the hydraulic dredge. During dredging operations, Collier County and/or its agents will immediately notify BOEM electronically if dredging occurs outside of the approved borrow area. Such notification will be made as soon as possible after the time the County becomes aware of dredging outside of the approved borrow area.

Anchoring, spudding, or other bottom disturbing activities are not authorized outside of the approved borrow area on the OCS, except for immediate concerns of safety, navigation risks or emergency situations.

Collier County and/or its agents, in collaboration with the USACE will provide BOEM, electronically, with all appropriate Dredging Quality Management (DQM) data (incorrectly identified in NMFS Biological Opinion as Silent Inspector data) acquired during the Project using procedures jointly developed by the USACE's National Dredging Quality Management (DQM) Data Program Support Center and BOEM. Collier County will submit the DQM data, including draghead depth biweekly. A summary DQM dataset will be submitted within 90 days of completion of the Project. If the County and its contractor(s) elect to utilize a cutterhead dredge, cutterhead depth will be reported biweekly. If available, Collier County will also submit Automatic Identification System (AIS) data for vessels qualifying under the International Maritime Organization's (IMO) International Convention for the Safety of Life at Sea.

A.5 Dredge Operation

To minimize the severity of benthic impact, Collier County will require dredge contractors to leave undisturbed space between the dredge cuts to allow the relatively intact benthic communities between the furrows to be a source of colonists to adjacent disturbed areas.

A.6 Submittal of Production and Volume Information

Collier County and/or its agents, in cooperation with the dredge operator, must submit to BOEM a summary of the dredge track lines, outlining any deviations from the original Plan on a biweekly basis. A color-coded plot of the draghead, cutterhead, or other hydraulic or mechanical dredging device will be submitted, showing any horizontal or vertical dredge violations. The dredge track lines must show dredge status: hotelling, dredging, transiting, or unloading. This map will be provided in PDF format.

Collier County and/or its agents will provide at least a biweekly report electronically, of the construction progress including estimated volumetric production rates to BOEM. The project completion report, as described below, will also include production and volume information, including Daily Operational Reports.

A.7 Local Notice to Mariners

Collier County and/or its agents will require its contractor(s) for the Project to place a notice in the U.S. Coast Guard Local Notice to Mariners regarding the timeframe and location of dredging and construction operations in advance of commencement of dredging.

A.8 Marine Pollution Control and Contingency Plan

Collier County and/or its agents must require its contractor(s) and subcontractor(s) to prepare for and take all necessary precautions to prevent discharges of oil and releases of waste or hazardous materials that may impair water quality. In the event of such an occurrence, notification and response will be in accordance with applicable requirements of 40 C.F.R. Part 300. All dredging and support operations must be compliant with U.S. Coast Guard regulations and the U.S. Environmental Protection Agency's Vessel General Permit, as applicable. Collier County and/or its agents must notify BOEM of any noncompliant discharges and remedial actions taken, and will provide copies of reports of the incident and resultant actions electronically.

A.9 Borrow Area Disposal

Collier County will ensure that no rock or shell material is redeposited in Borrow Area T1 without prior approval by BOEM. Prior to construction the County and its contractor(s) should disclose to BOEM how any shell/rock is going to be collected and disposed of in order to ensure the collection does not inhibit the ability of the Protected Species Observers to monitor the dredge inflow. All rock and shell material will be appropriately disposed of in the approved "Rock Disposal Area" are found on the USACE Permit drawings (Environmental Assessment Appendix B) and 2017 Environmental Assessment Figure 3 per the conditions of any applicable Federal and/or State permits.

A.10 Encounter of Ordnance

If any ordnance is encountered while conducting dredging activities at CSII, the USACE will report the discovery within 24 hours to Dr. Jeff Reidenauer, Chief, BOEM Marine Minerals Branch at XX and dredginfo@boem.gov.

A.11 Bathymetric Surveys

The County will provide BOEM with pre- and post-dredging bathymetric surveys of the borrow area. The pre-dredging survey of the Borrow Area will be conducted within 60 days prior to dredging and the data will be provided to BOEM for review, allowing for a minimum of 7 working days for BOEM to provide concurrence prior to the commencement of dredging. A qualified hydrographic surveyor, independent from the dredging/construction contractor must conduct, oversee, and approve the survey before transmitting to BOEM. The post-dredging survey of the borrow area will be conducted within 30 days after the completion of dredging. BOEM recommends that the County conduct additional bathymetric surveys of the Borrow Area one (1) and three (3) years after the completion of dredging to document borrow area evolution and provide information to inform future decisions and consultations regarding use of OCS sand resources. Surveys, error analysis, and reporting will be performed in accordance with the most recent edition of NOAA's Office of Coast Survey Hydrographic Survey Field Procedure Manual. Survey standards and requirements are specified and can be found on the Coast Survey Document Library (<https://www.nauticalcharts.noaa.gov/hsd/specs/specs.htm>). For bathymetric surveys, one hundred percent coverage using multi-beam bathymetric survey methods is required. All bathymetric data will be roll, pitch, heave, and tide corrected using best practices. Sound velocity corrections will be applied based on measurements made during and throughout the duration of the survey using a profiling sound velocity meter to obtain water column sound velocities with casts that log the entire water column to the seafloor. Survey lines of the specific dredge area will be established at intervals necessary to provide 100 percent coverage. All survey lines will extend at least 100 meters (328 feet) beyond the edge of the Borrow Area limits as defined in this Lease. All data will be collected in such a manner that post-dredging bathymetric surveys are compatible with the pre-dredging bathymetric survey data to enable the latter to be subtracted from the former to calculate the volume of sand removed, the shape of the excavation, and the nature of post-dredging bathymetric change. Pre-dredge bathymetric survey transects will be reoccupied during the post-dredging surveys. Surveys will be conducted using kinematic GPS referenced to a GPS base station occupying an established (NAVD 88 vertical control) monument within 15 kilometers (9 miles) of the survey area, a National Geodetic Survey real-time network, or a water-level gauge deployed within the vicinity of the Borrow Area and referenced to an established monument (NAVD 88 vertical control), unless alternative methods

are approved by BOEM. Pre- and post-dredging surveys will be referenced to the same water-level gauge, tide gauge, real-time network, benchmark, or BOEM-approved method. An uncertainty or error analysis will be conducted on the bathymetric dataset based on calculated differences of measured elevations (depths) at all transect crossings (also note that other best practices typically employed to identify potential error or quantify uncertainty, such as daily bar-checks, will be conducted and documented). A methods and results of the uncertainty analysis report, field notes, and metadata must be submitted to BOEM with the processed bathymetric data products.

Copies of processed pre-dredging and post-dredging hydrographic data will be submitted to BOEM via dredgeinfo@boem.gov within 30 days after each survey is completed. Pre-dredging bathymetric survey results and attendant products must be provided to BOEM for approval, and BOEM must review and deem them acceptable prior to commencement of dredging activity. If data accuracy, coverage, quality, or other parameters for either pre- or post-dredging surveys are not sufficient to provide for accurate comparisons between the pre-dredge and post-dredge surveys (e.g. do not meet specifications and standards discussed or referenced above), BOEM may require that a new survey (at the pre-dredge and/or post-dredge phase) be conducted.

The delivery format for bathymetry data submission is an ASCII file containing x, y, z data and a digital elevation model in a format agreed upon between BOEM and the County in writing. The horizontal data will be provided in the NAD83 Florida State Plane East, U.S. survey feet. Vertical data will be provided in the NAVD 88, U.S. survey feet unless otherwise specified. An 8.5 x 11 inch plan view plot of the pre- and post-construction data will be provided showing the survey vessel navigation tracks, as well as contour lines at appropriate elevation intervals. A plot of the digital elevation model will also be provided. These plots will be provided in Adobe PDF format. Images and descriptions of side scan sonar or bathymetric anomaly targets will be included and identified on an index map.

A.12 Archaeological Resources

A.12.1 Onshore Prehistoric or Historic Resources

If Collier County discovers any previously unknown historic or archeological resources while accomplishing the activity onshore, Collier County beaches, the County will notify BOEM and the USACE of any finding. BOEM will work with USACE to initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

A.12.2 Offshore Prehistoric or Historic Resources

Analysis of remote sensing data revealed no acoustic and/or magnetic anomalies within or near Borrow Area T1. Although the potential exists for prehistoric archaeological resources to occur regionally, none were found or identified during the investigation. In the event that the parties and/or dredge operators discover any archaeological resources prior dredging operations in the borrow area or in the vicinity of pump-out operations, Collier County will immediately report the discovery to Chief, Division of Environmental Assessment, BOEM, Jill Lewandowski @ Jill.Lewandowski@boem.gov or 703-787-1703. If investigations determine that the resource is significant, the parties will together determine how best to protect it.

If the parties and/or dredge operators discover any archaeological resources while conducting dredging operations, the County will require that dredge and/or pump-out operations be halted immediately and avoid the resource. Collier County will immediately report the discovery to Chief, Division of Environmental Assessment, BOEM (see contact info above). BOEM will develop the measures needed to evaluate, avoid, protect, and, if needed, mitigate adverse impacts from an unanticipated discovery.

A.13 Responsibilities

BOEM does not warrant that the OCS sand resources used in this project are suitable for the purpose for which they are intended by the County. BOEM's responsibility under this Project is limited to the authorization of access to OCS sand resources from Borrow Area T1, as described in this Lease, and therefore BOEM disclaims any and all responsibility for the physical and financial activities undertaken by other Parties in pursuit of the Project.

A.14 Project Completion Report

A project completion report will be submitted by Collier County to BOEM within 120 days following completion of the activities authorized under this Lease. This report and supporting materials should be sent in writing and electronically. The report will contain, at a minimum, the following information:

- the names and titles of the project managers overseeing the effort (for Collier County, the engineering firm (if applicable), and the contractor), including contact information (phone numbers, mailing addresses, and email addresses);
- the location and description of the project, including the final total volume of material extracted from the borrow area and the volume of material actually placed on the beach or shoreline (including a description of the volume calculation method used to determine these volumes);
- the percentage of shell and rock material screened from the borrow area, if screening and disposal is necessary;
- DQM data, in ASCII files, containing the x, y, z and time stamp of the cutterhead or drag arm locations;
- a narrative describing the final, as-built features, boundaries, and acreage, including the restored beach width and length;
- a narrative discussing the construction sequences and activities, and, if applicable, any problems encountered and solutions;
- a list and description of any construction change orders issued, if applicable;
- a list and description of any safety-related issues or accidents reported during the life of the project;
- a narrative and any appropriate tables describing any environmental surveys or efforts associated with the project and costs associated with these surveys or efforts;
- a table, an example of which is illustrated below, showing the various key project cost elements;

	Cost Incurred as of Construction Completion (\$)
Construction	
Engineering and Design	
Pre- and Post-Dredging Bathymetric Surveys	
Compilation of Project Completion Report	
Total	

- a table showing the various phases of the project construction, the types of construction equipment used, the nature of their use;
- a table listing significant construction dates beginning with bid opening and ending with final acceptance of the project by the County;
- digital appendices containing the as-built surveys, beach-fill cross-sections, and survey data;
- any additional pertinent comments;
- a table, an example of which is illustrated below, showing the various items of work construction, final quantities, and monetary amounts;

Item No.	Item	Estimated Quantity	Unit	Unit Price	Estimated Amount	Final Quantity	Bid Unit Price	Final Amount	% Over/Under
1	Mobilization and Demobilization								
2	Beach Fill								
3	Any beach or offshore hard structure placed or removed								

- a listing of construction and construction oversight information, including the prime and subcontractors, contract costs, etc.;
- a list of all major equipment used to construct the project;
- a narrative discussing the construction sequences and activities, and, if applicable, any problems encountered and solutions;
- a list and description of any construction change orders issued, if applicable;
- a list and description of any safety-related issues or accidents reported during the life of the project;
- a narrative and any appropriate tables describing any environmental surveys or efforts associated with the project and costs associated with these surveys or efforts;
- a table listing significant construction dates beginning with bid opening and ending with final acceptance of the project by Collier County;

- digital appendices containing the as-built drawings, beach-fill cross-sections, and survey data; and any additional pertinent comments.

Attachment 2

Extracts of ESA Section 7 Conditions per NMFS Biological Opinion dated August 13, 2013 and additional correspondence

Extracts¹ of ESA Section 7 Conditions per NMFS Biological Opinion dated August 13, 2013

Conditions written for BOEM per the August 13, 2013 biological opinion entitled “Lease of Borrow Area T1 to the Collier County Parks and Recreation Department for the Collier County Beach Renourishment Project (Consultation Number SER-2012-9274)” (<http://www.boem.gov/Non-Energy-Minerals/Marine-Mineral-Projects.aspx>) and associated amendments as found in *Environmental Assessment for the Issuance of a Negotiated Agreement for Use of Outer Continental Shelf Sand from Borrow Area T1 in the Collier County Beach Renourishment Project Appendix D:*

Incidental Take

Sea Turtles

Based on historical distribution data, hopper dredge observer reports, nesting data, relocation trawling information, and observations of past strandings, loggerhead, Kemp’s ridley, and green sea turtles may occur in the action area and may be taken by the relocation trawling or hopper dredging operations in federal waters for this project. NMFS anticipates that documented (i.e., by onboard observers) incidental take in federal waters, by hopper dredge entrainment, will consist of 2 sea turtle mortalities (either 2 loggerheads or 1 loggerhead and 1 Kemp’s ridley). NMFS also anticipates the non-injurious incidental take, by relocation trawling, of 100 sea turtles (75 loggerheads, 10 Kemp’s ridleys, and 15 green sea turtles) during the 140 days of the hopper dredging in federal waters.

Takes by Hopper Dredge		Takes by Relocation Trawling	
Species	Observed Take #	Species	Observed Take #
Loggerhead	2	Loggerhead	75
OR		Kemp’s ridley	10
Loggerhead	1	Green	15
Kemp’s ridley	1		
Total	2 *	Total	100*
*Does not account for 2 unobserved takes that NMFS assumes will be loggerheads		*No lethal take authorized for relocation trawling	

Smalltooth Sawfish

It is anticipated that one non-injurious incidental take of a smalltooth sawfish by relocation trawling will occur during the 47 days of the project in federal waters over the 10-year time frame.

1. The following terms and conditions implement the Reasonable and Prudent Measures (RPM):

¹ Attachment 2 is a summary provided for your reference; to the extent it differs or conflicts with the Biological Opinion, the terms and conditions of the Biological Opinion govern.

² See March 22, 2017 correspondence with Joe Cavanaugh of NMFS (EA Appendix D).

1. An endangered species project report summarizing the results of the dredging and the sea turtle take (if any) must be submitted to BOEM within 30 working days of completion. Reports shall contain information on project location, start-up and completion dates, cubic yards of material dredged, problems encountered, incidental takings (include photographs, if available) 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 BOEM and/or contractor deems relevant. This report must be provided to NMFS's PRD at the address provided in RPM 1 above and notification of take shall be provided to NMFS at the following e-mail address within 24 hours, referencing the present opinion by NMFS identifier number (SER-2012-9274), title, and date: **takereport.nmfsser@noaa.gov**. BOEM shall provide NMFS's Southeast Regional Office (address provided in RPM 1 above) with an end-of-project relocation trawling report within 30 days of completion of any relocation trawling. This report may be included within the project report (RPM 1).

2. Collier County shall notify the BOEM of the start-up and completion of hopper dredging operations and ask to be notified of any sea turtle strandings in the project area that, in the estimation of the STSSN personnel, bear signs of potential draghead impingement or entrainment. Information on any such strandings shall be reported in writing within 30 days of project end to BOEM, or included in the project report (Term and Condition # 1).

3. Collier County shall arrange for NMFS-approved protected species observers to be aboard the hopper dredge to monitor the hopper bin, screening, and dragheads for sea turtles and their remains. For the proposed action, 100 percent observer monitoring is required. Beach observers cannot be used in place of shipboard observers for hopper dredging of borrow areas (RPM 2).

4. Relocation trawling is required to commence 24 hours prior to dredging and will continue throughout the dredging portion of the project. (RPM 3).

5. The following conditions must be observed during relocation trawling. (RPM 3):

a. Trawl Time: Trawl tow-time duration shall not exceed 42 minutes (doors in – doors out) and trawl speeds shall not exceed 3.5 knots.

b. Handling During Trawling: Sea turtles and smalltooth sawfish² captured pursuant to relocation trawling shall be handled in a manner designed to ensure their safety and viability, by implementing the measures below.

c. Captured Turtle Holding Conditions: Captured turtles shall be kept moist, and shaded whenever possible, until they are released. They may be held for up to 24 hours if opportunistic, ancillary, "piggy-back" research (e.g., opportunistic satellite tagging) is proposed. NMFS encourages the USACE to make fuller use of protected species taken during hopper dredging and relocation trawling by allowing and encouraging duly permitted "piggy-back" research projects on protected species taken during these activities (In accordance with the GRBO's T & C 15-d, Conservation Recommendation 5).

d. *Weight and Size Measurements*: All turtles shall be measured (standard carapace measurements including body depth) and tagged (Passive Integrative Transponder [PIT] or Inconel), and weighed prior to release when safely possible; smalltooth sawfish shall be measured (fork length and total length) and— when safely possible—tagged, weighed, and a tissue sample taken prior to release. Only NMFS-approved observers or observer candidates in training under the direct supervision of a NMFS-approved observer shall conduct the tagging/measuring/weighing/tissue sampling operations.

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 NMFS-approved endangered species observer a relocation trawler 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.

PIT Tagging and 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 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. PIT tagging may only be conducted by observers with PIT-tagging training or experience. This opinion provides the authority to NMFS-approved observers to PIT tag captured sea turtles without the need for an ESA Section 10 permit.

e. *Take and Release Time During Trawling - Turtles*: Turtles shall be kept no longer than 12 hours prior to release (except as noted in 5.c. above) and shall be released not less than 3 nautical miles (nm) from the dredge site. Recaptured turtles shall be released not less than 5 nm away 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). 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.

f. *Take and Release Time During Trawling - Smalltooth Sawfish*: Smalltooth sawfish 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 well-aerated seawater holding tank (e.g., plastic "kiddie pool" not less than 1ft in depth by 5 ft in diameter), where a maximum of one sawfish may be held for not longer than 30 minutes before it must be released or relocated away from the dredge site.

g. *Injuries and Incidental Take Quota*: Any protected species injured or killed during or as a consequence of relocation trawling shall count toward the incidental take quota. Minor skin abrasions resulting from trawl capture are considered non-injurious. Injured sea turtles shall be immediately transported by Collier County and/or its representative at their own expense to the

nearest sea turtle rehabilitation facility; all rehabilitation costs and sea turtle transportation costs shall be borne by Collier County.

h. *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.

i. *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 the November 19, 2003, Gulf of Mexico Regional Biological Opinion on Hopper Dredging, as revised through Revision No. 2, included as Appendix 1 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. The present opinion to BOEM serves as the permitting authority for any NMFS-approved endangered species observers aboard relocation trawlers or hopper dredges to tissue sample live- or dead-captured sea turtles, without the need for an ESA Section 10 permit.

6. For the proposed action, 100 percent shipboard observer monitoring is required year-round. If conditions disallow 100 percent inflow screening, inflow screening can be reduced gradually, but 100 percent overflow screening is required, and an explanation must be included in the project report. The hopper's inflow screens should have 4-inch by 4-inch screening. If BOEM, 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. NMFS believes that this flexible, graduated-screen option may be necessary since the need to constantly clear the inflow screens will increase the time it takes to complete the project; therefore, it will increase the exposure of sea turtles to the risk of impingement or entrainment. Inflow screen clogging should be greatly reduced with these flexible options; however, further clogging (e.g., as when encountering heavy clay or debris) may compel removal of the inflow screening altogether, in which case *effective* 100 percent overflow screening is mandatory. BOEM shall notify NMFS *beforehand* if inflow screening is going to be reduced or eliminated, and provide details of how effective overflow screening will be achieved. NMFS, in consultation with the dredging company, Collier County, and BOEM/USACE, shall determine what constitutes effective overflow screening (RPM 4).

2. Collier County has further agreed to comply with NMFS' *Sea Turtle and Smalltooth Sawfish Construction Conditions* (Appendix 3 of the "Lease of Borrow Area T1 to the Collier County Parks and Recreation Department for the Collier County Beach Renourishment Project (Consultation Number SER-2012-9274)":

Although smalltooth sawfish trawl captures are not expected, these terms and conditions are included for such an eventuality. Any take of sawfish would require immediate reinitiation of consultation with NMFS.

The permittee shall comply with the following protected species construction conditions:

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.

- 3. And the reasonable and prudent measures, and implementing terms and conditions, of NMFS' 2003 Gulf of Mexico regional biological opinion (GRBO) to the United States Army Corps of Engineers (USACE), as amended through Revision 2 dated January 9, 2007 (Appendices 1 and 2 of the "Lease of Borrow Area T1 to the Collier County Parks and Recreation Department for the Collier County Beach Renourishment Project (Consultation Number SER-2012-9274)":**

1. *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 are covered by the existing September 25, 1997, RBO to the [USACE]'s South Atlantic Division (SAD).

2. *Non-hopper Type Dredging*: Pipeline or hydraulic dredges, because they are not known to take turtles, must be used whenever possible between April 1 and November 30 in Gulf of Mexico waters up to one mile into rivers. This should be considered particularly in channels such as those associated with Galveston Bay and Mississippi River - Gulf Outlet (MR-GO), where lethal takes of endangered Kemp's ridleys have been documented during summer months, and Aransas Pass, where large numbers of loggerheads may be found during summer months. In the MR-GO, incidental takes and sightings of threatened loggerhead sea turtles have historically been highest during April and October.

3. *Annual Reports*: The annual summary report, discussed below (No. 9), 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.

4. *Observers*: The [USACE] shall arrange for NMFS-approved protected species observers to be aboard the hopper dredges to monitor the hopper bin, screening, and dragheads for sea turtles and Gulf sturgeon and their remains.

a. 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 11 degrees C or greater.

b. Observer coverage of hopper dredging of sand mining areas shall ensure 50% monitoring (i.e., one observer).

c. Observers are not required at any time in Mississippi River - Southwest Pass (MRSWP).

5. *Operational Procedures*: During periods in which hopper dredges are operating and NMFS-approved protected species observers are *not* required (as delineated in No. 4 above), the appropriate [USACE] District must:

a. Advise inspectors, operators, and vessel captains about the prohibitions on taking, banning, or harassing sea turtles.

b. 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.

c. Notify NMFS if sea turtles are observed in the dredging area, to coordinate further precautions to avoid impacts to turtles.

d. Notify NMFS immediately by phone (727/824-5312), fax (727/824-5309), or electronic mail (takereport.nmfs@noaa.gov) if a sea turtle or Gulf sturgeon or any other threatened or endangered species is taken by the dredge.

6. *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.

a. *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 NMFS beforehand if inflow screening is going to be reduced or eliminated, and provide details of how effective overflow screening will be achieved.

b. *Need for Flexible, Graduated Screens*: NMFS 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.

c. *Exemption - MR-SWP*: Screening is not required at any time in Mississippi River – Southwest Pass (MR-SWP).

7. *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.

8. *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.

9. Dredge Take Reporting: Observer reports of incidental take by hopper dredges must be faxed or e-mailed to NMFS' Southeast Regional Office [fax: (727) 824-5309; e-mail: takereport.nmfs@noaa.gov] by onboard NMFS-approved protected 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 NMFS 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 NMFS summarizing hopper dredging projects and documented incidental takes.

10. Sea Turtle and Gulf Sturgeon Strandings: The [USACE] or its 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, bed-leveler dredging, and relocation trawling operations and ask to be notified of any sea turtle 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. Similarly, the [USACE] shall notify NMFS SERO PRD of any Gulf 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 completion to NMFS' Southeast Regional Office. Because the deaths of these turtles, if hopper dredge or bed-leveler dredge related, have already been accounted for in NMFS' jeopardy analysis, these strandings will not be counted against the [USACE]'s take limit.

11. Reporting- Strandings: Each [USACE] District shall provide NMFS' 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 or any dredge-type interaction. This reporting requirement may be included in the end-of-year report required in Term and Condition No.9, above.

12. District Annual Relocation Trawling Report: Each [USACE] District shall provide NMFS' 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 required in Term and Condition No. 9, above.

13. Conditions Requiring Relocation Trawling: Handling of sea turtles and Gulf sturgeon captured during relocation trawling in association with hopper dredging projects in Gulf of Mexico navigation channels and sand mining areas shall be conducted by NMFS approved

protected 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:

- a. Two or more turtles are taken in a 24-hour period in the project.
- b. Four or more turtles are taken in the project.
- c. 75% of any of the incidental take limits, including per species limits, specified in Section 8.1, has previously been met.

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

15. *Relocation Trawling- Annual Take Limits:* This opinion authorizes, without the need for an ESA section 10 permit: the annual (by fiscal year) non-injurious take of 300 sea turtles (of one species or combination of species including Kemp's ridley, loggerhead, green, leatherback, and hawksbill) and 8 Gulf sturgeon, and annual (by fiscal year) lethal or injurious takes of up to 2 sea turtles and 1 Gulf sturgeon, by trawlers conducting relocation trawling, and handling of those captured threatened or endangered species by NMFS-approved protected species 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 or bed-leveling project in order to reduce the possibility of lethal hopper dredge or bed-leveler interactions, subject to the following conditions:

- a. *Trawl Time:* Trawl tow-time duration shall not exceed 42 minutes (doors in – doors out) and trawl speeds shall not exceed 3.5 knots.
- b. *Handling During Trawling:* Sea turtles and Gulf 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 found in Appendix IV of the 2007 NMFS BO.
- c. *Captured Turtle and Gulf Sturgeon Holding Conditions:* Turtles and Gulf sturgeon may be held briefly for the collection of important scientific measurements, prior to their release. Captured sea turtles shall be kept moist, and shaded whenever possible, until they are released, according to the requirements of Terms and Conditions (T&C) 15-e, below. Captured Gulf sturgeon shall be held in a suitable well-aerated seawater enclosure until they are released, according to the conditions of T&C 15-f, below.

d. *Scientific Measurements:* When safely possible, all turtles shall be measured (standard carapace measurements including body depth), tagged, weighed, and a tissue sample taken prior to release. When safely possible, all Gulf sturgeon shall be measured (fork length and total length), tagged, weighed, and a tissue sample taken prior to release. Any external tags shall be noted and data recorded into the observers log. Only NMFS-approved protected species observers or observer candidates in training under the direct supervision of a NMFS-approved protected species observer shall conduct the tagging/measuring/weighing/tissue sampling operations.

NMFS-approved protected species observers may conduct more invasive scientific procedures (e.g., blood letting, laparoscopies, anal and gastric lavages, mounting satellite or radio transmitters, etc.) and partake in or assist in "piggy back" research projects but only if the observer holds a valid federal sea turtle or Gulf sturgeon research permit (and any required state permits) authorizing the activities, either as the permit holder, or as designated agent of the permit holder, and has first notified NMFS' Southeast Regional Office, Protected Resources Division.

e. *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 3 (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 5 (five) nmi away. If it can be done safely and without injury to the turtle, 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.

f. *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 well-aerated seawater holding tank, container, trough, or pool where a maximum of one fish may be held for not longer than 30 minutes before it must be released or relocated away from the dredge site.

g. *Injuries and Incidental Take Limits:* Any protected species injured or killed during or as a consequence of relocation trawling shall count toward the Gulf-wide limit for injurious or lethal takes during relocation trawling (0-2 sea turtles and 0-1 Gulf sturgeon per fiscal year). 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.

h. *Turtle Flipper External 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 NMFS-approved protected species observer aboard these relocation trawlers to flipper-tag with external-type 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.

i. *PIT Tagging*: This opinion serves as the permitting authority for any NMFS approved protected species observer aboard a relocation trawler to PIT-tag captured sea turtles and Gulf sturgeon. PIT tagging of sea turtles and Gulf sturgeon is not required to be done, if the NMFS-approved protected species observer does not have prior training or experience in said activity; however, if the observer has received prior training in PIT tagging procedures, then the observer shall PIT tag the animal prior to release (in addition to the standard external tagging):

Sea turtle PIT tagging must then be performed in accordance with the protocol detailed at NMFS' Southeast Fisheries Science Center's Web page: <http://www.sefsc.noaa.gov/seaturtlefisheriesobservers.jsp> (See Appendix on SEFSC's "Fisheries Observers" Web page);

Gulf sturgeon PIT tagging must then be performed in accordance with the protocol detailed at the NMFS SERO PRD Web site address: <http://sero.nmfs.noaa.gov/pr/protres.htm>. 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-kHz tag), then insert one in the other shoulder.

j. *Other Sampling Procedures*: All other tagging and external or internal sampling procedures (e.g., blood letting, laparoscopies, anal and gastric lavages, mounting satellite or radio transmitters, etc.) performed on live sea turtles or live Gulf sturgeon are not permitted under this opinion unless the observer holds a valid sea turtle sturgeon research permit authorizing the activity, either as the permit holder, designated agent of the permit holder.

k. *PIT-Tag Scanning and Data Submission Requirements*: All sea turtles and Gulf sturgeon captured by relocation trawling or dredges shall be thoroughly scanned for the presence of PIT tags prior to release using a multi-frequency scanner powerful enough to read multiple frequencies (including 125-, 128-, 134-, and 400-kHz tags) and read tags deeply embedded in muscle tissue (e.g., manufactured by Trovan, Biomark, or Avid). Turtles whose scans show they have been previously PIT tagged shall nevertheless be externally flipper tagged. Sea turtle 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 sea turtle data collected shall be submitted in electronic format within 60 days of project completion to Lisa.Belskis@noaa.gov and Sheryan.Epperly@noaa.gov. Sea turtle 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.

Gulf sturgeon data (PIT tag scan data and external tagging data) shall be submitted within 60 days of project completion to NOAA, National Marine Fisheries Service, Protected Resources Division, 263 13th Avenue South, St. Petersburg, Florida 33701, or by fax: (727) 824-5309; or by e-mail: takereport.nmfsser@noaa.gov, Attn: Dr. Stephania Bolden.

1. *Handling Fibropapillomatose Turtles*: NMFS-approved protected species observers are not required to handle or sample viral fibropapilloma tumors if they believe there is a health hazard to themselves and choose not to. When handling sea turtles infected with fibropapilloma tumors, observers must 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.

16. *Requirement and Authority to Conduct Tissue Sampling for Genetic Analyses*: This opinion serves as the permitting authority for any NMFS-approved protected species observer aboard a relocation trawler or hopper dredge to tissue-sample live- or dead captured sea turtles, and live- or dead-captured Gulf sturgeon, without the need for an ESA section 10 permit.

All live or dead sea turtles and Gulf sturgeon captured by relocation trawling and hopper dredging (for both [USACE]-conducted and [USACE]-permitted activities) shall be tissue-sampled prior to release. Sampling shall continue uninterrupted until such time as NMFS determines and notifies the [USACE] in writing that it has sufficient samples from specific areas across the Gulf of Mexico in order to obtain reliable genetic information on the nesting or sub-population identity of sea turtles and Gulf sturgeon being captured or lethally taken, to improve the effectiveness of future consultations.

Sea turtle tissue samples shall be taken in accordance with NMFS' Southeast Fisheries Science Center's (SEFSC) procedures for sea turtle genetic analyses. The [USACE] shall ensure that tissue samples taken during a dredging project are collected and stored properly and mailed within 60 days of the completion of their dredging project to: NOAA, National Marine Fisheries Service, Southeast Fisheries Science Center, Attn: Lisa Belskis, 75 Virginia Beach Drive, Miami, Florida 33149.

Gulf sturgeon tissue samples (i.e., fin clips or barbel clips) shall be taken in accordance with NMFS SERO's Protected Resources Division's Gulf Sturgeon Tissue Sampling Protocol found at the NMFS SERO PRD Web site address: <http://sero.nmfs.noaa.gov/pr/protres.htm>. The [USACE] shall ensure that tissue samples taken during a dredging project are collected and stored properly and mailed to SERO PRD (Attn: Dr. Stephania Bolden) within 60 days of the completion of their dredging project.

17. *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. NMFS 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 NMFS SERO's Habitat Conservation Division (727-824-5317) and NMFS' Protected Resources Division (727- 824-5312) for clarification and guidance. Walls of federally-maintained navigation channels, and jetties and other such man-made structures, are not considered hardgrounds for the purpose of this opinion.

18. *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.

19. *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 3 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 nonessential 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.