

TECHNICAL SPECIFICATIONS

2019 PARK SHORE BEACH RENOURISHMENTS

Prepared for:

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COLLIER COUNTY
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COLLIER COUNTY
2019 PARK SHORE BEACH RENOURISHMENTS
TECHNICAL SPECIFICATIONS
PART 1 – GENERAL PROVISIONS

1. SCOPE OF WORK

The Work covered in this section consists of furnishing all trucks and support equipment, labor, supplies, and materials to perform all operations in connection with transporting, placing, dressing, grading, and tilling the beach as indicated in the Plans and required by the Contract Documents. The County will purchase the sand directly from Stewart's Immokalee sand mine and is prepared to pay for the transport, fill placement, and grading of beach fill delivered to the beach not to exceed the bid quantity (tons).

The County is soliciting bids from capable contractors to build this project using one of two construction access options as defined below. Separate bid forms are provided for each construction access option. Bidders are encouraged to submit pricing for both bid alternatives. The County will determine the preferred construction access option for local stakeholders and then initiate contract negotiations with the lowest qualified bidder for that bid alternative.

The responsive bid must provide the following information:

- (a) Bidder's proposed methods and preliminary schedule for completion.
- (b) The size and type of equipment proposed for this project.
- (c) Qualifications and prior experience of bidder's key personnel.
- (d) Prior experience of completed truck hauled beach renourishment projects.
- (e) References.

Bid Alternative A: Transport, placement and grading of pre-purchased beach fill material from Stewart's Immokalee Sand mine to Park Shore beaches, and associated construction tasks. Beach construction access will be at Horizon Way and via conveyor through the County's North Gulf Shore Beach access point. For bidding purposes, it is assumed that approximately equal quantities will be delivered through each access point, quantities will be updated based upon the pre-placement survey.

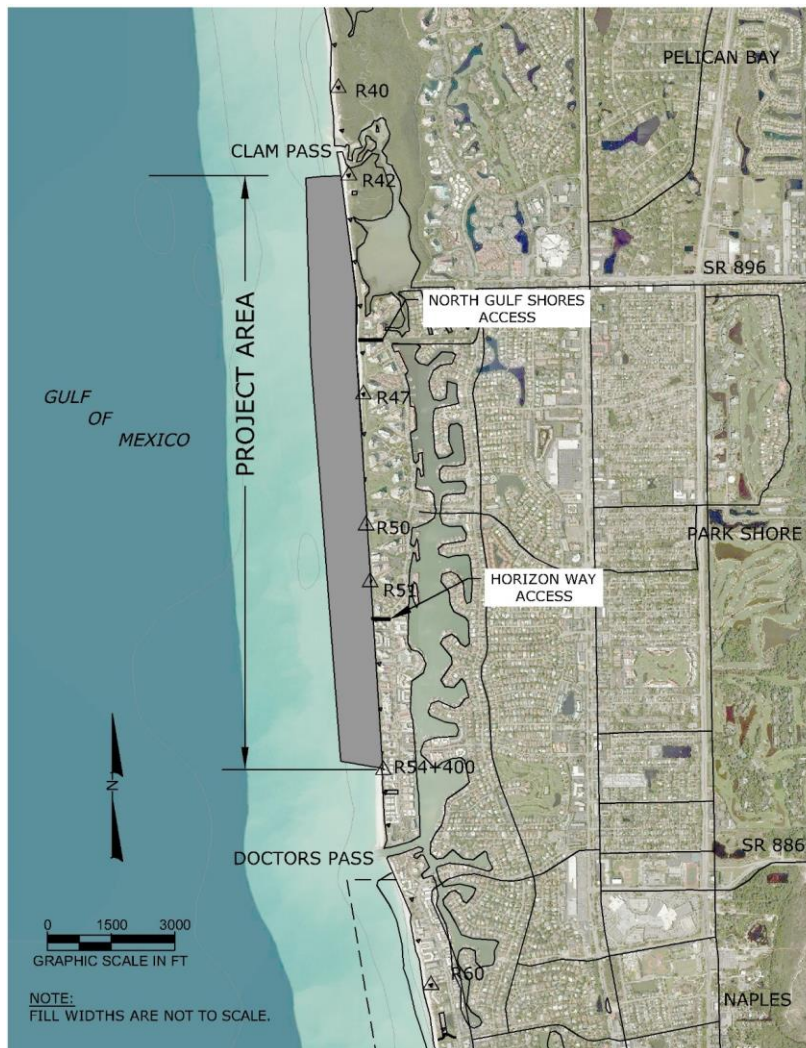


Figure 1: Bid Alternative A Construction Accesses

Bid Alternative B: Transport, placement and grading of pre-purchased beach fill material from Stewart’s Immokalee Sand mine to Park Shore beaches, and associated construction tasks. Direct beach construction access will be at Horizon Way and through Naples Cay along Seagate Drive. Precise location of beach access through vegetation to be determined in consultation with County, contractor and local stakeholders. For bidding purposes, it is assumed that approximately equal quantities will be delivered through each access point, quantities will be updated based upon the pre-placement survey.

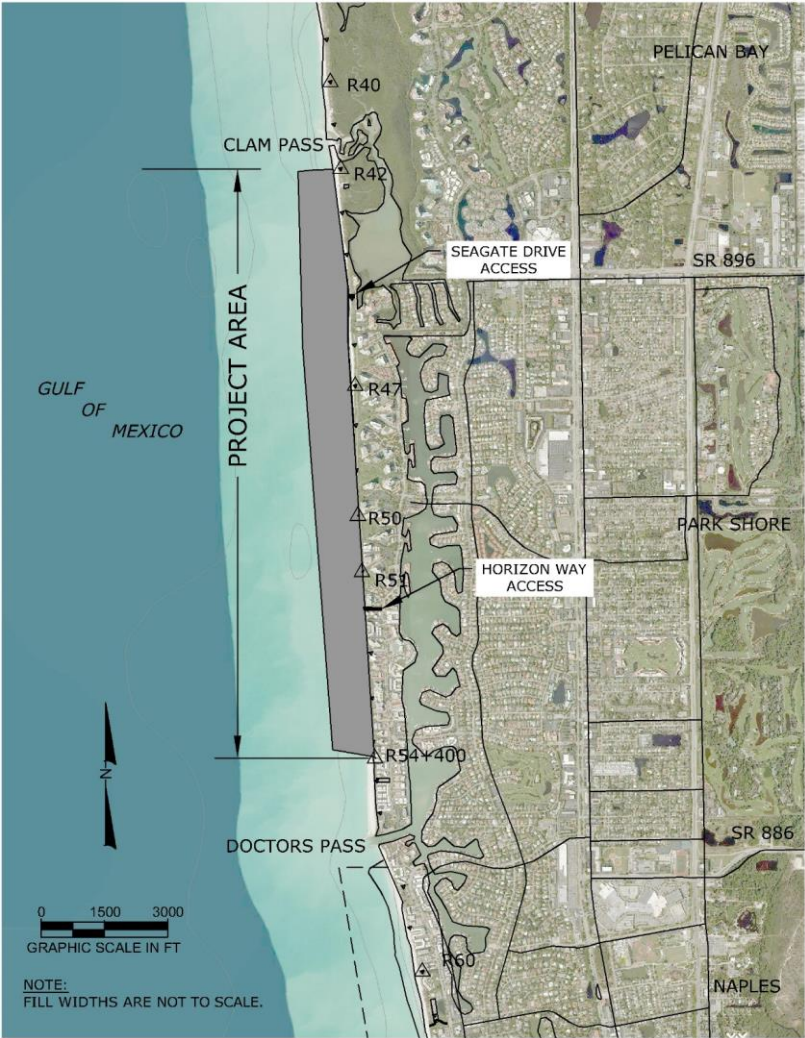


Figure 2: Bid Alternative B Construction Accesses

2. PROJECT DESCRIPTION

The project is located on the southwest coast of Florida bordering the Gulf of Mexico within Collier County, Florida. Collier County is approximately 115 miles south of the entrance to Tampa Bay and about 100 miles west of Miami, Florida. The County is bordered to the west and southwest by the Gulf of Mexico, to the south by Monroe County, to the east by Dade and Broward Counties, and to the north by Lee and Hendry Counties. The project area encompasses approximately 2.4 miles of coastline between R-42 and T-54+400 in the Park Shore reach of Collier's Beach Nourishment project.

Beach quality sand will be loaded from Stewart Material's Immokalee Mine, transported to the beach by truck along approved truck routes, stockpiled and transported along the beach to the fill disposal area, where it will be shaped and graded. There will be two (2) concurrent unloading operations at construction access points marked on the Plans. Beach fill will be placed within three project areas: Clam Pass Park (R-42 to R-43.5), North Park Shore (R-43.5 to R-48.5), and Park Shore (R-48.5 to T-54+400). The total fill quantity to be placed within the beach construction templates is approximately 165,000 tons (110,000 cubic yards) of beach quality sand. At the time of construction, the Engineer will provide a revised placement plan in tons for each 200-foot acceptance section based on the pre-placement survey. The Contractor will not be paid for transport, placement, or grading of any fill in excess of the bid quantity (tons) unless a written change order is prepared and approved by the County.

The contractor shall be expressly aware of the beach location and dynamic nature of this project site. This beach is a major tourist attraction and is highly utilized by tourists and residents throughout the year. Throughout the project, the contractor shall put forth the utmost care and attention to public safety by maintaining a clean and organized site free from the accumulation of debris, and utilizing safety procedures for each and every truck load that traverses along the beach.

- 2.1. **Permits.** The County has obtained the Florida Department of Environmental Protection (FDEP) and United States Army Corps of Engineers (USACE) permits for this project. The contractor shall comply with all conditions of the permits, which are included in the bid package. Any modifications to said permits will be addressed through an addendum by the County.
- 2.2. **Other Permits.** The contractor is solely responsible for obtaining, at their cost, all other approvals required for the prosecution of the Work. This includes, but is not limited to, any and all roadway permits, customs clearances, and business licenses required to bring material to the site. The erosion control line (ECL) marks the landward limit of State lands along the project shoreline.
- 2.3. **Construction Window.** The County's preferred construction window in which the Work shall be completed is the period between issuance of the contractor's Notice to Proceed and December 31, 2019. Permits for the project require additional sea turtle monitoring tasks for Work conducted on the beach during the period from November 15 through April 15. Sea turtle relocation and monitoring tasks will be performed by

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the County. Final completion of the Work shall occur before April 15 to avoid Work in the 2020 peak sea turtle nesting season.

3. DEFINITIONS

The 2019 Park Shore Renourishments project will be administered and managed by Collier County Coastal Zone Management Department (CZM), with Aptim Environmental & Infrastructure LLC (APTIM) serving as the engineer of record. The project team will be described in the contract pre-construction meeting. For the purposes of these specifications the following terms are defined.

- 3.1. **Contractor.** The term CONTRACTOR is used in lieu of successful bidder throughout these technical specifications and applies to the prime contractor and all of the prime's sub-contractors.
- 3.2. **County.** The term COUNTY is used to represent Collier County's CZM department throughout these technical specifications. Collier County is the permittee and owner for this beach renourishment project.
- 3.3. **Engineer.** The term ENGINEER is used to represent APTIM's engineer of record and their engineering representatives throughout these technical specifications.
- 3.4. **County Observers.** COUNTY OBSERVERS will be on site at the truck unloading sites to perform inspections to include: visual inspection, verification of unloading location and weight tickets, collection of sand samples, and chain of custody logging. Logging of weight tickets and trucks will be performed by COUNTY OBSERVERS along with CONTRACTOR personnel at beach unloading locations.
- 3.5. **Sand Supplier.** For this project, sand will be purchased by the County directly from Stewart Materials' Immokalee Sand Mine through separate contract.
- 3.6. **Acceptance Sections.** Acceptance sections are defined as the segment of beach lying between two immediately adjacent acceptance stations, which are located a perpendicular distance approximately 200 feet apart along the project baseline as indicated in the Plans and Appendix D.

4. COMMENCEMENT, SUBSTANTIAL COMPLETION, AND COMPLETION OF WORK

The CONTRACTOR shall commence Work under the contract within fourteen (14) days after the Notice to Proceed has been issued by the COUNTY, be substantially complete as defined below, within sixty (60) days, and shall complete all Work within ninety (90) days of the issuance from the Notice to Proceed. Substantial completion shall be defined for this project as completion of all truck hauling, placement, and rough grading activities. At substantial completion, the construction access points shall be opened for joint construction and public use. The time stated for final completion shall include all aspects of the Work including final grading, leveling of escarpments in the beach, tilling the beach, post-placement surveys, final clean-up of the premises, and all

repairs or restorations of facilities, structures, work areas, staging areas, vegetation, submerged marine resources, or any other items damaged by the CONTRACTOR or their subcontractors as a result of the project construction activities, and complete demobilization from the project site.

5. TECHNICAL DISPUTE RESOLUTION

The CONTRACTOR shall perform the Work as specified by the contract documents. The ENGINEER will interpret the requirements of the technical portion of the Work, as specified in the Plans and Specifications of the contract documents. If the CONTRACTOR objects to the ENGINEER's decision, the CONTRACTOR shall, within 48 hours of receiving the ENGINEER's decision, notify the ENGINEER in writing of the CONTRACTOR's objection thereto. The CONTRACTOR and ENGINEER will mutually attempt to resolve the issue; nevertheless, the ENGINEER's decision will be binding upon the CONTRACTOR.

6. MEETINGS

- 6.1. **Pre-Bid Meeting.** See Invitation for Bid.
- 6.2. **Contract Pre-Construction Conference.** A contract pre-construction meeting will be held at the COUNTY'S offices with the COUNTY, CONTRACTOR and ENGINEER to review project logistics including CONTRACTOR'S schedule, weight ticket tracking methods, electronic truck tracking methods, pay applications, and other project specific items.
- 6.3. **Permit Pre-Construction Conference.** A mandatory permit pre-construction meeting will be held at the COUNTY's offices with the ENGINEER, COUNTY, CONTRACTOR, turbidity monitor, shorebird monitor, appropriate State and Federal agencies, and any other individuals as required in compliance with project permit requirements, to discuss permit conditions. This meeting is separate from the contract pre-construction conference described above, which will also be held in Collier County. These two meetings may be coordinated to occur at the same location, and/or on the same day, pending participant availability.
- 6.4. **Weekly Progress Meetings.** Mandatory weekly progress meetings will be held during construction at the COUNTY's offices or project site with the ENGINEER, COUNTY, and CONTRACTOR to discuss the progress of the project and CONTRACTOR submittals.

7. SUBMITTALS AND NOTIFICATIONS

The CONTRACTOR shall submit the following items to the ENGINEER at the appropriate times:

- 7.1. **Surveys.** The CONTRACTOR shall provide pre-placement surveys to the ENGINEER at least two (2) weeks prior to the start of truck hauling operations. Post-placement surveys shall be collected and provided for review by the ENGINEER within one (1) week of final sand placement within an acceptance area.

- 7.2. Construction Schedule and Methods.** A minimum of seven (7) days prior to the contract pre-construction conference, the CONTRACTOR shall prepare and submit to the ENGINEER, for approval, a practicable construction schedule and methodology statement for construction of each portion of the Work. No Work on site shall begin until the schedule is approved by the ENGINEER and COUNTY. Approval by the ENGINEER or COUNTY indicates an acknowledgement and not an endorsement of the CONTRACTOR's means and methods.
- 7.3. Material and Equipment Transport, Storage, and Access.** At least seven (7) days prior to the contract pre-construction conference, the CONTRACTOR shall provide to the ENGINEER and COUNTY a description of the routes and areas intended to be used to transport, queue, and store material and equipment during the project. The description shall also describe how the CONTRACTOR intends to access the Work area. All transport routes including truck queuing areas, work areas, storage areas, access areas, and facilities are subject to review by the ENGINEER and COUNTY for compliance with the Plans and Specifications, and local rules.
- 7.4. Contact List.** At least seven (7) days prior to the contract pre-construction conference, the CONTRACTOR shall submit a list of project personnel, including subcontractors, and their telephone, e-mail address, telefax, and other numbers by which key personnel can be reached for purposes of notification and other matters discussed in these Specifications. Nevertheless, the CONTRACTOR remains responsible for all Work and shall be the point of contact and in responsible charge of the subcontractor(s) during the duration of the Work.
- 7.5. Maintenance of Traffic.** The CONTRACTOR shall provide a Maintenance of Traffic (MOT) Plan at least seven (7) days prior to the contract pre-construction conference. The plan shall outline the signage and methods the CONTRACTOR will use to minimize disturbance to normal traffic and pedestrian flows in the project area as part of the plan. The CONTRACTOR shall utilize flagmen when unloading materials and mobilizing or demobilizing equipment from the construction site. All off road trucks (ORTs) shall be escorted between the loading area and fill placement area to assist in avoiding public beach-goers. The CONTRACTOR shall provide two observers during all truck hauling hours to ensure trucks do not deviate from the approved truck haul routes. The ENGINEER or COUNTY may request modifications to the plan.
- 7.6. Grade Stake Recovery Plan & Log.** At least seven (7) days prior to the contract pre-construction conference, the CONTRACTOR shall submit a Grade Stake Recovery Plan acceptable to the ENGINEER and the COUNTY. The plan shall outline the steps that the CONTRACTOR will implement to recover all the stakes used on the project as required. This plan shall include the use of an inventory log that will be made available for review by the ENGINEER or COUNTY. Upon completion of the project, the CONTRACTOR shall furnish a final grade stake log to the COUNTY.

- 7.7. **Environmental Protection Plan.** At least seven (7) days prior to the permit pre-construction conference, the CONTRACTOR shall submit an Environmental Protection Plan acceptable to the ENGINEER and the COUNTY.
- 7.8. **Name and Qualifications of Turbidity Monitor.** The CONTRACTOR shall submit the name and qualifications of all turbidity monitors to be used on the project to the ENGINEER at least seven (7) days prior to the permit pre-construction conference. These qualifications will be sent by the ENGINEER to FDEP for approval, and as a prerequisite for a FDEP Notice to Proceed. The turbidity meter calibration shall also be submitted.
- 7.9. **Name and Qualifications of Safety Officer.** The CONTRACTOR shall submit the name and qualifications of the proposed safety officer to be used on the project to the COUNTY at least seven (7) days prior to the permit pre-construction conference.
- 7.10. **Proposed Mat Material.** At least seven (7) days prior to commencement of truck hauling operations, the CONTRACTOR must provide the COUNTY and ENGINEER a description of the mats proposed for placement in the delivery pad areas.
- 7.11. **General Plans and Information.** The CONTRACTOR shall provide the following additional submittals at least seven (7) days prior to commencement of truck hauling operations:
- (a) Quality Control Plan
 - (b) Accident Prevention Plan
 - (c) Hazard Communication Plan
 - (d) Hurricane and Severe Storm Plan
- 7.12. **Pre-/Post-Construction Condition.** The CONTRACTOR shall provide copies of the pre-construction video at least one (1) day prior to the start of construction documenting the condition of the project site including, but not limited to, construction accesses, staging areas, infrastructure, and vegetation. The post-construction video shall cover the same extents as the pre-construction video and be furnished prior to final demobilization.
- 7.13. **Daily Quality Control Reports.** The CONTRACTOR shall submit daily reports that summarize the Work completed at the end of each work day. Daily Quality Control Reports shall be submitted every contract day during the construction period (even when no Work is done) between the time at which the Notice to Proceed is issued and the time of final acceptance. Reports shall be submitted by 2:00 p.m. to the ENGINEER on a daily basis via e-mail. The reports shall include all work activity including, but not limited to, the location (coordinates or stationing) of Work, daily and cumulative quantities of sand placed, placement surveys, weather conditions, turbidity reports, personnel, materials, and on-site equipment. A copy of the required daily report form is included in Appendix A of the Specifications.

7.14. Unsuitable Material. The COUNTY and CONTRACTOR will provide daily inspections and take samples from trucks at the mine and/or at the beach delivery site. The CONTRACTOR shall notify the ENGINEER and the COUNTY of the discovery of any unsuitable material delivered to or within the fill area.

7.15. General Notifications. The CONTRACTOR shall provide the following notifications at the appropriate times, if applicable:

- (a) Notification of Plans/Specifications Discrepancy
- (b) Notification of Cultural Resource Discovery
- (c) Notification of Misplaced Material
- (d) Notification of Survey Discrepancy
- (e) Notification of Occurrence of Delays in Work
- (f) Project Milestones
- (g) Claims and Disputes
- (h) Reports of All Inspections, Surveys, and Tests and Remedial Actions

Further details on submittals and notifications, are provided in the contract and herein.

8. PROJECT SCHEDULE, ORDER OF WORK, CONSTRUCTION SECTIONS AND ACCEPTANCE SECTIONS

8.1. Project Schedule. The CONTRACTOR shall provide a project schedule and methodology statement for construction of each portion of the Work to the ENGINEER and COUNTY a minimum of seven (7) days prior to the contract pre-construction meeting. The project schedule shall indicate, at a minimum, pre-placement survey date, start of work, construction period, fill placement completion date, beach tilling, and completion of all Work. The project schedule shall be updated weekly during construction and submitted at each progress meeting so that local property owners can plan for the CONTRACTOR's activity, if needed. The methodology statement shall include a description of the CONTRACTOR's weight ticket tracking system, electronic truck tracking system, direction of the work, and utilization plan of the construction accesses

8.2. Order of Work. The preferred order of work for this project is for fill placement to occur at the northern and southern project limits first, and then progress from both directions towards the center of the project area. It is anticipated that two unloading operations will commence simultaneously at the approved construction access locations. The order of work may be discussed and modified at the contract pre-construction meeting to accommodate local stakeholders' priorities.

8.3. Construction Sections. The Plans define the project's construction baseline and 100-ft stationing throughout the project area. These 100-ft station profiles define the alongshore limits of each construction section and are to be surveyed pre-placement, staked, and used as intermediate profiles during construction of the project.

8.4. Acceptance Sections. Acceptance sections are defined as the portion of the restored beach lying between two immediately adjacent acceptance station lines as defined in Appendix D. Acceptance sections are typically between every other station, resulting in approximately 200 ft. wide acceptance sections for this project, except for areas around coastal structures or the construction access areas. Once fill placement begins in an acceptance section, it must be completed before moving to the adjacent acceptance section, unless otherwise authorized by the ENGINEER. Acceptance profiles will be established by the CONTRACTOR according to the Plans. Acceptance stations are to be surveyed both pre- and post-placement.

9. PERFORMANCE OF WORK BY CONTRACTOR

9.1. Contractor Participation in the Work. There is no minimum amount of CONTRACTOR participation in the project.

9.2. Continuous Construction. The CONTRACTOR shall maintain at the project site and on the job, the materials, equipment, and personnel required to continuously construct all elements of the project. Under no circumstances will the CONTRACTOR remove their equipment, materials, subcontractors, and personnel from the project site without the written consent of the COUNTY, unless one or more of the following occurs: the project is complete; weather or sea state conditions require movement from the project site; a condition exists which threatens the safety and welfare of personnel or threatens equipment; repair or fueling of equipment is required; or the time frame provided for project construction in the FDEP or USACE permits has expired.

9.3. Capacity. The CONTRACTOR shall meet the standards for capacity, productivity, and ability to maintain it throughout the time allotted for construction.

10. SUPERINTENDENT

The CONTRACTOR shall propose, in writing to the ENGINEER and COUNTY, the name and qualifications of the superintendent to receive the ENGINEER's and COUNTY's instructions. There will only be one superintendent. The ENGINEER and/or COUNTY may reject the superintendent proposed by the CONTRACTOR. If the proposed superintendent is rejected, the CONTRACTOR will propose an alternate superintendent. Said instructions, once received by the CONTRACTOR's superintendent, will be legally binding on the CONTRACTOR pursuant of this contract. A superintendent of the CONTRACTOR must be at the beach project area at all times during project construction or otherwise make themselves available to the ENGINEER. Under no circumstances will any element of project construction occur without the presence of a superintendent at the project site. An assistant superintendent can be proposed by the CONTRACTOR to cover for the superintendent during their short absences, but the assistant superintendent cannot change plans and agreements made by the superintendent with the ENGINEER and COUNTY.

Superintendent approval and approval to leave/transfer.

11. ENGINEER

- 11.1. Technical Issues.** The ENGINEER, in consultation with the COUNTY, shall decide all technical issues of whatever nature may arise relative to the interpretation of the technical portions of the contract documents, Plans, surveys, beach fill volume measurement, and prosecution and fulfillment of this contract, and as to the character, quality, amount, and value of any Work done and materials furnished under this contract.
- 11.2. Work Site Access.** The ENGINEER and COUNTY shall have unlimited access to the project site, offsite staging area, and stockpile areas for laying out, measuring, and observing or administering the contract documents, and the CONTRACTOR shall provide requested assistance for doing so. The presence or absence of the ENGINEER or COUNTY will not relieve the CONTRACTOR of responsibility for the proper execution of the Work in accordance with the Plans and Specifications.

12. PHYSICAL DATA

- 12.1. Information and Data.** Information and data furnished or referred to in the contract documents are furnished for informational purposes only and may not be representative of conditions at the time of construction and shall not be solely relied upon for estimating and/or prosecution of the Work. It is expressly understood that the ENGINEER or COUNTY will not be responsible for any interpretation or conclusion drawn therefrom by the CONTRACTOR. Likewise, the ENGINEER or COUNTY will not be responsible for any information provided to the CONTRACTOR by any information agency or other party.
- 12.2. Weather Conditions.** The project area may be affected by tropical storms and hurricanes primarily from June through November, and by stormy and/or rainy weather, including severe thunderstorms, during any time of the year. Wave and tidal activity can occur at any time. The CONTRACTOR shall be responsible for obtaining information concerning seasonal climate, rain, wind, and wave conditions that could influence safety and construction operations prior to making a bid and monitor these conditions daily.
- 12.3. Survey Data Files.** All survey data shall be provided to the ENGINEER in X,Y,Z format with metadata indicating date of collection, extents of the survey, horizontal and vertical datums of the provided data.

13. SURVEY STANDARDS AND SURVEYOR QUALIFICATIONS

The CONTRACTOR'S surveying personnel shall be duly qualified and experienced to perform all required surveys in a manner satisfactory to the COUNTY and ENGINEER. A surveyor registered in the State of Florida shall be responsible for, and certify all, survey work under their direction. The registered surveyor is not obligated to perform the surveys. All surveys shall be in accordance

with professional standards and practices. Hydrographic surveys shall be performed in accordance with EM 1110-2-1003 dated November 30, 2013 entitled "HYDROGRAPHIC SURVEYING" and the Florida Standards of Practice as presented in 5J-17 FAC. Survey notes shall be reduced to elevations, be neat, legible, and in accordance with accepted practices and shall include the date performed, weather conditions, bench marks or monument used, name and title of each member of the survey party, and the name of COUNTY's representative present, if applicable. Survey notes lacking information, illegible, or in error, will be returned to the CONTRACTOR for correction. Surveying instruments shall be checked for adjustment at least once per week and such checks shall be recorded in survey notes and on the quality control sheet.

The commencement point for each profile shall follow the control listed within the Plans. Topographic and bathymetric surveys shall use FDEP Division of Water Resource Management "A" monuments or other National Geodetic Survey (NGS) published 2nd order or higher marks as a basis for survey control. Tabular listings of all horizontal and vertical control on all existing "A" monuments shall be obtained through either the FDEP website or directly from the FDEP office.

All GPS base station control or range/azimuth system control shall be established or recovered from FDEP control monuments (typically "A" stations) and shall meet or exceed Geospatial Positioning Accuracy Standards, Range VIII. Designation, stamping, description, horizontal position, horizontal RMSE, elevation (in NAVD) and elevation RMSE shall be provided to the ENGINEER for all established base station control. Even if the FDEP R-monuments have been recently verified using "A" monuments, they should be re-verified by the CONTRACTOR. New or replaced FDEP and intermediate monuments shall be based on "A" monuments.

14. ACCESS, WORK AREAS, AND STORAGE AREAS

14.1. General. The general location and extent of the construction access areas, staging areas, and work areas are indicated in the Plans. Access points should be minimized as much as practicable. The CONTRACTOR's equipment shall be cushioned against damage to pavers, grass, bushes, fencing and the streets to the beach access points. Unless otherwise directed in writing by the COUNTY, the CONTRACTOR is responsible for removing existing vegetation, fencing, and other impediments, as necessary, to allow equipment access and material deliveries to the work area. The CONTRACTOR shall landscape and restore those areas where access routes and staging areas are developed. The cost of preparing, maintaining and restoring the project area shall be included in the unit price cost for Transport, Fill Placement, Grading and Sand Analysis.

14.2. Construction Access. The CONTRACTOR shall limit construction access to the beach at the locations shown in the Plans or as approved by the COUNTY. The CONTRACTOR shall exercise caution when accessing and driving on the beach with vehicles or equipment, particularly with regard to beachgoers and private property. In the event that damage is caused by the CONTRACTOR, the CONTRACTOR shall restore all damage to sidewalks, roads, parking lots, coastal structures, dune vegetation, or any other structure or natural feature to pre-construction conditions or better. The CONTRACTOR will not receive final payment until all damage is restored to the

satisfaction of the COUNTY, as stated in these Specifications. All damage will be repaired at the CONTRACTOR's expense.

- 14.3. Staging Area.** Upland staging areas are limited to the construction access and staging areas shown in the Plans. **Select additional public parking spots at North Gulf Shore Beach Access may be made available to the CONTRACTOR and shall be negotiated at the contract pre-construction conference.** Beach staging areas are limited to the project fill template and alongshore limits shown in the Plans. The CONTRACTOR shall cordon off and/or fence the staging areas to keep the public away from equipment. The staging areas must be restored to the pre-construction condition upon project completion at the cost of the CONTRACTOR. If additional staging or queuing areas are needed, they shall be procured by, and at the expense of, the CONTRACTOR, and with the approval of the COUNTY.
- 14.4. Work Area.** The work area limits available to the CONTRACTOR for accomplishing the Work are shown in the Plans. Construction access to the beach is shown in the Plans, and as stated in these Specifications. The CONTRACTOR shall cordon off and/or fence the active fill placement areas to keep public away from equipment. An active fill placement area shall not exceed 500 ft. alongshore without coordination with, and approval by, the COUNTY.
- 14.5. Pads, Ramps, and On Beach Accessways.** Fill may be required to build out staging area pads, ramps or roadways to establish access to the construction area. Based upon the pre-placement survey conditions, the COUNTY and ENGINEER may allocate material for these purposes. The CONTRACTOR shall endeavor to maintain this fill within the project limits and all fill must be graded into the construction templates prior to substantial completion of the project.
- 14.6. Exclusion of Public.** The CONTRACTOR shall accomplish the Work in such a manner so as to minimize disruption to road traffic and the use of the beach. It is the CONTRACTOR's responsibility to exclude the public for safety purposes from the construction access, staging area, and work areas in the immediate vicinity of the active work, transport operations, or any other area that may be dangerous to the public using a temporary fence and/or appropriate signage. The CONTRACTOR shall minimize the areas closed to the public to what is required to safely conduct the Work.
- 14.7. Substantial Completion.** At substantial completion, ORTs would be removed from the beach and the CONTRACTOR'S staging areas are to be condensed to allow for the construction access points to be opened for joint construction and public use.
- 14.8. Final Completion.** At final completion, work areas, staging area, and construction accesses shall be completely demobilized of CONTRACTOR's equipment and vehicles.

15. USE OF COMPLETED PORTIONS

The COUNTY shall have the right to take possession of, and use, any completed or partially completed portions of the Work, prior to the completion of the entire Work. Such taking possession and use shall not be deemed an acceptance of any Work not completed in accordance with the contract documents.

16. CHANGES AND EXTRAS

16.1. Changes in the Work. The COUNTY shall have the right, within the general scope of the work and without notice to any surety or sureties of the CONTRACTOR, to make changes in the Work, including, but not limited to, changes in the Plans and Specifications pertaining to beach width, beach elevation, fill volume, beach length, environmental protection, contract time, contract price, in or to the method or manner of performance of the work, in or to equipment, materials, service or site, in or to the mode or manner of payment for the work, or directing a change in the rate of performance of the work. All changes shall, except in the case of emergencies endangering the safety of personnel or property, be made by modification of the contract documents or by written change order duly executed by the COUNTY, ENGINEER, and CONTRACTOR. Work necessary in connection with emergency changes in the Work shall be strictly limited to the minimum necessary to alleviate the immediate emergency; Work beyond such minimum shall be undertaken only pursuant to a properly issued change order received from the COUNTY. The CONTRACTOR shall promptly comply with any and all written change orders issued by the COUNTY, notwithstanding any disputes. No such change order shall be deemed to invalidate the contract.

16.2. No Adjustment of Unit Price. The quantity of material to be placed on the beach is based on beach surveys conducted prior to the construction of the project. It is almost a certainty that the forces of wind and waves have altered the beach since development of the estimated fill quantity for the project. No adjustment shall be made in any unit price of the contract for changes ordered by the COUNTY that cause an increase or decrease less than or equal to twenty-five percent (25%) in the amount of the work, or by the estimated quantities provided in the contract documents of fill material that is to be placed within fill templates. It is further provided, however, that no adjustments shall be made in the contract price or time of performance for either lump sum or unit price work if the change is expressly or reasonably implied by the Plans and Specifications or is incidental thereto, or if the Work becomes more difficult than the bid price and contract documents would reflect, or if CONTRACTOR failed to protest, negotiate, comment, or otherwise call to the COUNTY's attention, in writing, any omissions, ambiguities, or conflicts in the contract documents that the CONTRACTOR could have discovered prior to the submission of their bid or execution of the contract. An equitable adjustment may be made in the Contract Price for Unit Price Contracts if changes ordered by the COUNTY cause the applicable quantity set forth in the Contract Documents to be decreased by more than twenty-five percent (25%). Such adjustments

may be made only for that portion of work that is less than seventy-five percent (75%) of the estimated quantity and shall be supported by data provided by the CONTRACTOR to the COUNTY, which demonstrate justification for the adjustment in Unit Price.

17. SAFETY

The following plans will be submitted to the ENGINEER and COUNTY for information purposes only. Submission of the plans does not constitute an endorsement on the part of the COUNTY or ENGINEER that the CONTRACTOR's procedures are safe or meet applicable standards. Safety is the CONTRACTOR's sole responsibility. All costs associated with complying with these safety conditions shall be included in the CONTRACTOR's bid.

17.1. CONTRACTOR Responsibility for Safety. The CONTRACTOR shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. The CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:

COUNTY personnel, the ENGINEER and their representatives, State and Federal personnel, the public, all employees and subcontractors involved in the Work and all other persons who may be affected thereby;

All the Work and all materials or equipment to be incorporated therein, where in storage on or off the site; and,

Other property at the site or adjacent thereto, including trees, shrubs, lawns, natural vegetation, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

17.2. Safety Person Requirement. The CONTRACTOR shall employ at the project site a permanent Safety and Occupational Health person (Safety Officer) to manage the CONTRACTOR's accident prevention program. The Safety Officer shall be on duty during any work of a complex nature including, but not limited to, the relocation of utilities; Work on or around structures; Work on or around existing disposal area dikes; spoil placement on the beach; or when blasting or other potential hazardous activities are occurring. The principal Safety Officer shall report to, and work directly for, the CONTRACTOR's superintendent or the corporate safety office. The Safety Officer shall have the authority to take immediate steps to correct unsafe or unhealthful conditions. The presence of the Safety Office will not abrogate safety responsibilities of other personnel.

17.3. Qualifications for Safety Officer. Seven (7) days prior to the contract pre-construction conference, the CONTRACTOR shall submit to the COUNTY, for approval, the name and qualifications of the proposed Safety Officer(s) and functional description of duties. At a minimum, the proposed Safety Officer shall have a degree in a technical or

scientific field or safety in a four-year, or longer, program from an accredited school, or shall have at least one (1) year of experience in safety and occupational health work.

- 17.4. ORT Escorts.** All ORTs shall be escorted **between the loading area and fill placement area to assure safety compliance.** Escorts and ORTs shall operate at speeds slow enough to safely react and avoid beach-goers and project personnel.
- 17.5. Vehicle Inspections.** All trucks must be inspected by Collier or Lee County's Sheriff's office and approved by FDOT prior to performing work on this project.
- 17.6. Off-Duty Police Officers.** The CONTRACTOR shall station an off-duty police officer at each unloading site during active construction, to direct pedestrian and vehicular traffic.
- 17.7. Compliance with Safety Laws.** The CONTRACTOR shall comply with all applicable laws, ordinances, rules, regulations, and orders of any public body having jurisdiction over the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection, and have at the work site at all times a dedicated safety and flag person. The CONTRACTOR shall notify owners of the adjacent property and utilities when prosecution of the Work may affect them. All damage, injury, or loss to any property caused, directly or indirectly, in whole or in part, by the CONTRACTOR, any subcontractor or anyone directly or indirectly employed by any of them, shall be remedied by the CONTRACTOR. The CONTRACTOR's duties and responsibilities for the safety and protection of the Work shall continue until such time as all the Work is completed and the ENGINEER has issued a notice to the COUNTY and CONTRACTOR that the Work is acceptable.
- 17.8. Familiarity with Safety Standards.** The CONTRACTOR shall review the accident prevention clause of the Contract, the Corps of Engineers Manual, General Safety Requirements, EM 385-1-1, dated September 2008 (or most recent version), and all changes and amendments thereto, and the latest Occupational Safety and Hazard Agency (OSHA) standards, for assurance of full knowledge of the personal protective equipment that must be provided to workers and familiarity with the safety standards applicable to the prevention of accidents during the construction of this project and shall comply with all applicable provisions.
- 17.9. Accident Prevention Plan.** The CONTRACTOR is required to submit to the ENGINEER an accident prevention plan seven (7) days prior to commencement of construction. The accident prevention plan must be in accordance with all USACE safety standards as specified in EM 385-1-1. Submission of the plan does not constitute an endorsement on the part of the COUNTY or ENGINEER of the CONTRACTOR's accident prevention plan. The plan is intended to provide a method by which the CONTRACTOR demonstrates an awareness of Federal safety standards.

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17.10. Hazard Communication. The CONTRACTOR shall comply with the requirements of OSHA 1910.1200, the Hazard Communication Standard. General Requirements are as follows:

- 17.10.1.** Provide a written program describing implementation method of the previously referenced standard. This shall be provided to the ENGINEER within seven (7) days prior to the pre-construction conference.
- 17.10.2.** Ensure that the CONTRACTOR's personnel are informed about health and physical hazards associated with materials to be used.
- 17.10.3.** Ensure that a hazardous material inventory is available to the COUNTY upon request.
- 17.10.4.** Ensure proper labeling of hazardous material containers.
- 17.10.5.** Ensure availability of a Material Safety Data Sheet on site.

17.11. Oil and Hazardous Material Spills and Containment. The CONTRACTOR shall ensure that all hazardous material spills are immediately reported to the proper authorities and to the COUNTY. All hazardous material spills shall be immediately cleaned up in accordance with the U.S. Army Corps of Engineers' Safety and Health Requirements Manual, EM 385-1-1. In accordance with EM 385-1-1, the CONTRACTOR shall use suitable methods such as dikes or curbs to prevent the spread of hazardous materials from above ground storage tanks and piping in case of leakage.

17.12. Confined Space Entry.

- 17.12.1.** The CONTRACTOR shall submit a confined space entry plan as part of the written proposal for accident prevention. This plan shall satisfy the OSHA requirements specified in 29 CFR 1910.146, or its most recent version.
- 17.12.2.** Confined space is any space having limited openings for entry and exit, not intended for continuous occupancy, and unfavorable natural ventilation which could contain or have produced dangerous concentrations of airborne contaminants or asphyxiates. Confined spaces may include, but are not limited to, storage tanks, holds of vessels, manholes, process vessels, bins, boilers, ventilation or exhaust ducts, sewers, underground utility vaults, tunnels, pipelines, trenches, vats, and open top spaces more than four (4) feet in depth such as pits, tubs, vaults and vessels, or any place with limited ventilation.
- 17.12.3.** Prior to entering a confined space, the Work environment shall be tested by a competent person using properly calibrated approved equipment to determine the extent of potential hazards. If the atmosphere cannot be determined by testing, an immediately Dangerous to Life and Health

situation shall be assumed (See 29 CFR 1910.146). The evaluation shall consider the potential for evolution of toxic substances as well as oxygen content. Testing for toxic substances shall be performed prior to each entry and on a continuous frequent (as stipulated in the Confined Space Entry Procedure) basis while personnel are working in confined spaces.

17.13. Activity Hazard Analysis. The CONTRACTOR is required to submit to the ENGINEER as part of the written plan for quality control an Activity Hazard Analysis. The Activity Hazard Analysis is outlined in EM 385-1-1, Section 01.A, Figure 1-1.

17.14. Hurricane and Severe Storm Plan. The CONTRACTOR shall submit a Hurricane and Severe Storm Plan within seven (7) days prior to commencing truck hauling operations. This plan shall include, but not be limited to, the following:

- a) Time intervals before storms strike the project area when action will be taken and details of the actions to be taken. The plan should be specific as to what weather/wave conditions will require Work shutdown, removal of equipment, etc.
- b) List of the equipment to be used on the job and its ability to handle adverse weather and wave conditions.
- c) Methods of securing equipment not moved.
- d) Plan of evacuation to include interim measures; i.e. immediate reaction plans to be taken for all storm occurrences, particularly sudden/flash storms.
- e) The CONTRACTOR shall continually monitor the NOAA marine weather broadcasts, and avail themselves of such other local commercial weather forecasting services as may be available. Submission of a Hurricane and Severe Storm Plan does not constitute an endorsement on the part of the COUNTY or ENGINEER as to the adequacy of the plan.

18. PERMISSIBLE WORK DAYS AND HOURS

No truck hauling or beach activities will be permitted on the Thursday, Friday, Saturday, and Sunday of Thanksgiving or the week of Christmas Sunday through Saturday. The hours of operation are from sunrise to sunset. No trucks shall be on-site, including the staging areas, outside of daylight hours. The CONTRACTOR shall design the project schedule to avoid all night time work including beach dressing, grading, and tilling. **Transport in the Florida panther focus area may carry additional restrictions.** Lighting of the work site is prohibited except as may be specifically authorized in writing by the ENGINEER.

19. PROJECT NOTIFICATION & OBSERVATION

19.1. Notification. The CONTRACTOR shall specifically notify the COUNTY and ENGINEER of the CONTRACTOR's intended date of commencement of the following work milestones at least seven (7) days prior or as noted:

- (a) Mobilization and material delivery;
- (b) Commencement of the site work;
- (c) Establishment of horizontal and vertical control work;
- (d) Pre-/Post-Placement Surveys (at least one (1) day prior);
- (e) Expected substantial completion of the entire work;
- (f) Expected completion of the entire work.

19.2. Project Uncovering. The presence or absence of the ENGINEER shall not relieve the CONTRACTOR of their responsibility to properly execute the Work in close accordance with these Plans and Specifications. The ENGINEER may order any element of the Work uncovered, at no additional expense to the COUNTY, in the event the Work was not observed by the ENGINEER or surveyed prior to covering. This condition applies to any source of sand coverage, including from natural processes such as wind, waves, and tides.

19.3. Noncompliance Notification. The ENGINEER shall notify the CONTRACTOR of any observed non-compliance with the Plans and Specifications and/or applicable Federal, State, or local laws & regulations, promptly upon discovery. The CONTRACTOR shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the CONTRACTOR or their authorized representative, shall be deemed sufficient for the purpose. If the CONTRACTOR fails or refuses to comply promptly, the COUNTY may issue an order stopping all or part of the Work until satisfactory corrective action has been taken.

20. PROTECTION OF PROPERTY FROM WORK

20.1. Protection of Property. The CONTRACTOR shall collect and provide pre- and post-construction video to include (1) staging and access areas to be used for the Work and (2) the upland dunes, vegetation, and infrastructure along the beach within the project limits as documentation of the pre- and post-construction conditions. The pre-construction video shall be provided to the ENGINEER prior to the commencement of equipment arrival in the staging areas and before any site work occurs on the beach. The post-construction video shall be provided and reviewed by the ENGINEER prior to the CONTRACTOR's final demobilization from the project site. All damages to natural areas, and private or public property resulting from the CONTRACTOR's operations shall be repaired by the CONTRACTOR at the CONTRACTOR's expense. The COUNTY shall determine if repairs are required and the COUNTY or owner of the damaged property will determine if the property has been repaired to its previous condition before the CONTRACTOR receives approval of repairs. If the CONTRACTOR fails to repair damages, the COUNTY may conduct the repair and deduct from payment due to the CONTRACTOR the amount of money required for the repair, including all administrative and engineering costs.

20.2. Contractor Responsibility. The CONTRACTOR shall at all times guard the work site or sites and adjacent properties from any damage whatsoever in connection with this

contract whether arising from direct operations under this contract, theft, vandalism, or any cause whatsoever. The CONTRACTOR shall at all times protect their own work from damage; nevertheless, the CONTRACTOR is not responsible for natural erosion of beach sections previously accepted by the ENGINEER for payment. The CONTRACTOR shall make good any and all loss, damage, or injury to the work, whether arising from direct operations under this contract, weather or sea conditions, theft, vandalism, or any cause whatsoever. The CONTRACTOR will not be responsible for maintenance of beach sections previously accepted by the ENGINEER beyond leveling of scarps, unless the beach is eroded or damaged due to the activities of the CONTRACTOR.

20.3. Risk of Weather Events. All loss or damage arising out of the nature of the Work, or from the action of the elements, or from weather events, hurricanes, tropical storms, adverse sea state, or from any unusual obstruction or difficulty, or any other natural or existing circumstances either known or unforeseen, that may be encountered in the prosecution of the Work, shall be sustained and borne by the CONTRACTOR at their own cost and expense, including all fill placement that has not been accepted by the ENGINEER for payment.

20.4. Beach Erosion. The CONTRACTOR shall be aware of the dynamic nature of the project site and account for the likelihood of changing site conditions including, but not limited to, beach erosion and accretion, sediment migration and shoaling, and changes required by the project fill template. Based on the CONTRACTOR's pre-placement surveys, the ENGINEER will evaluate the conditions and make a determination regarding adjustments to the Work as prescribed in these contract documents. The CONTRACTOR is not responsible for naturally-occurring erosion of any section of the beach fill after it has been accepted for payment by the ENGINEER; however, the CONTRACTOR is responsible for maintaining the beach fill until it is accepted by the ENGINEER and to avoid preventable damage to sections that have been accepted by the ENGINEER. The CONTRACTOR is also responsible to grade and eliminate all beach scarps or cliffs in the project fill areas regardless of ENGINEER acceptance, prior to being considered complete and eligible for final payment.

21. SITE CLEAN-UP

21.1. General. It is the intent of the COUNTY that the Work be accomplished with minimum disturbance to the natural resources adjacent to the work area (specifically, the adjacent upland, lawns, landscaping, trees, dunes, hardbottom habitats, and nearshore areas), and that the immediate and general vicinity of the work area remain in its pre-project state subsequent to completion of the Work. All materials utilized by the CONTRACTOR during construction shall be removed from the site; including survey stakes, flagging, and other temporary survey controls. All rock fragments greater than 0.75 inches in any dimension shall be removed from the beach and construction access areas. All accesses to the beach shall be restored to the topographic and vegetative conditions that existed prior to construction. All costs associated with these activities

shall be included in the lump sum price for Transport, Fill Placement, Grading and Sand Analysis.

- 21.2. Misplaced Material.** Should the CONTRACTOR during the progress of the work, lose, dump, sink, or misplace any material, machinery, equipment, or appliance, the CONTRACTOR shall recover and remove same within twenty-four (24) hours of receipt of said notice at no additional cost to the COUNTY. The CONTRACTOR shall also give immediate notice to the ENGINEER, with description and location of such material, plant, machinery, equipment, or appliance. Should the CONTRACTOR refuse, neglect, or delay compliance with the above requirements, such material, plant, machinery, equipment, or appliance may be removed by the COUNTY, and the cost of such removal may be deducted from any money due or to become due to the CONTRACTOR or may be recovered under their bond.
- 21.3. Road Debris.** The CONTRACTOR shall immediately have those streets or access roadways used for transport of construction materials cleaned or swept of spilled materials (e.g. sand, vegetation, fuel, oil) which resulted from the carriage of material for this work. Collected material shall be disposed of in a legal manner and at the CONTRACTOR's own expense.
- 21.4. Work Area Debris.** The CONTRACTOR shall continually inspect the work areas to ensure that all debris left by the CONTRACTOR's and subcontractor's workers has been removed from the work areas and properly disposed of. This includes, for example, lunch bags, soda cans, drink cups, etc. Any construction debris generated during mobilization, site preparation, excavation, material placement, and/or demobilization shall be removed on a daily basis, such that no debris is left on the beach at the end of the day.
- 21.5. Delivery Pad Areas.** No debris from mats may be left behind on the restored beach, as this would not meet state requirements for beach fill quality. At least seven (7) days prior to commencement of truck hauling operations, the CONTRACTOR must provide the COUNTY and ENGINEER a description of the mats proposed for placement in the delivery pad areas. Truck hauling operations shall not begin until the COUNTY has provided acceptance of the proposed mats. The COUNTY or ENGINEER may request to visually inspect the mats prior to approval. COUNTY acceptance of the proposed mats does not relieve the CONTRACTOR from the responsibility of removing all debris left behind by the mats.

22. ELECTRICITY AND OTHER UTILITIES

All electricity, water, and other utilities required by the CONTRACTOR to complete the Work shall be furnished at the CONTRACTOR's own expense.

PART 2 – TECHNICAL PROVISIONS

23. CHARACTER OF BEACH FILL MATERIAL

The beach fill material will come from the Stewart Materials' Immokalee mine. The quality of the material stockpiled will be the responsibility of the SAND SUPPLIER while the quality of the material placed at the beach site will be the responsibility of the CONTRACTOR. The sand quality standards are specified in this section and Appendix E. The sand quality shall not vary from these standards, and the CONTRACTOR shall report deviations to the ENGINEER and COUNTY. If the ENGINEER or COUNTY determines the sand does not meet this standard based on visual observation or physical sampling, the truck load may be rejected.

23.1. State of Florida Sand Specifications FAC 62B-41.007. To protect the environmental functions of Florida's beaches, only beach compatible fill shall be placed on the beach or in any associated dune system. 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. Such material shall be predominately of carbonate, quartz or similar material with a particle size distribution ranging between (0.062 mm (4 phi) and 4.76 mm (-2.25 phi) (classified as sand by either the Unified Soils or Wentworth classification), shall be similar in color and grain size distribution (sand grain frequency, mean and median grain size and sorting coefficient) to the material in the existing coastal system at the disposal site and shall not contain:

- (a) Greater than 5 percent, by weight, silt clay or colloids passing the #230 sieve (4.0 phi).
- (b) Greater than 5 percent, by weight, fine gravel retained on the #4 sieve (-2.25 phi).
- (c) Coarse gravel, cobbles or material retained on the ¾ inch sieve in a percentage or size greater than found on the native beach.
- (d) Construction debris, toxic material or other foreign matter; and
- (e) Not result in cementation of the beach.

If rocks or other non-specified materials appear on the surface of the filled beach in excess of 50% of background in any 10,000 square foot area, then surface rock should be removed from those areas. These areas shall also be tested for subsurface rock percentage and remediated as required. If the natural beach exceeds any of the limiting parameters listed above, then the fill material shall not exceed the naturally occurring level for that parameter.

23.2. Potential Differing Upland Sand Source Characteristics. The CONTRACTOR should be aware that it is possible for material of differing characteristics to be present in the stockpile, including material differing from that contained in the production samples.

23.3. Quality Characteristics of Fill Material. All fill material must meet the quality requirements of these Plans and Specifications, State of Florida’s Sand Specification in FAC 62B-41.007, and the Sediment QA/QC Plan (Appendix E). To qualify for payment, the composite fill material must satisfy the criteria in **Table 1**. To be permit compliant, no singular sample may exceed any parameter of the sediment compliance specifications listed in **Table 2**. The CONTRACTOR shall coordinate sand quality checks and sand analysis with on-site COUNTY OBSERVERS who will be performing visual inspection, verification of unloading location, verification of truck tickets, collection of sand samples, and chain of custody logging on behalf of the COUNTY.

Table 1 – Project Sand Criteria

Sediment Parameter	Parameter Definition	Compliance Value
Source & Product		Stewart Immokalee Beach Quality Sand
Max. Silt Content	Passing #230 sieve	0.8%
Max. Shell Content	Retained on #4 sieve	1%
Munsell Color Value	moist Value (chroma=1)	7 or lighter
Mean Grain Size Range	Mean calculated by moment method	0.32 mm – 0.38 mm
Sorting		< 1.0 phi
Moisture Content	At the time of shipment	< 8%
The beach fill material shall not contain construction debris, toxic material, or other foreign matter, and be very well drained or dry on delivery		

Table 2 – Sediment Compliance Specifications

Sediment Parameter	Parameter Definition	Compliance Value
Max. Silt Content	Passing #230 sieve	3%
Max. Shell Content*	Retained on #4 sieve	1%
Munsell Color Value	moist Value (chroma=1)	7 or lighter
Mean Grain Size Range**	Mean calculated by moment method	0.30 mm – 0.50 mm
The beach fill material shall not contain construction debris, toxic material, or other foreign matter.		

* Shell Content is used as the indicator of fine gravel content for the implementation of quality assurance/quality control procedures

**Determined using the sieves listed in the QA/QC Plan

23.4. Sediment QA/QC Plan. FDEP has developed a Sediment QA/QC Plan for the upland sand source that applies to this project. This plan must be applied to maintain the quality of the beach nourishment project and extensive testing is an integral part of the plan. All sampling and testing required by the Sediment QA/QC plan during production of the material will be the responsibility of the SAND SUPPLIER. The material shall be observed by the CONTRACTOR at the mine while the material is being loaded into the trucks for transport to the project site. The CONTRACTOR shall collect and test

samples at the delivery site in accordance with the Sediment QA/QC plan. The COUNTY or ENGINEER, at their discretion, may request up to 12 additional sand samples be tested by the CONTRACTOR at no additional expense to the COUNTY. The CONTRACTOR shall continuously visually monitor the sediment being placed on the beach to assess grain size, silt content, gravel content, and Munsell color. Additional details relative to observations, sampling, and testing are presented in the Sediment QA/QC Plan. Post-construction sediment sampling and testing will be completed by the COUNTY.

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24. TRANSPORTATION OF MATERIALS

- 24.1. Method of Transport.** The method of transporting construction equipment and placement of fill shall be at the discretion of the CONTRACTOR; however, methods and equipment shall comply with all permit, production, and environmental requirements. All dump trucks and associated transport equipment shall be kept in good condition. Equipment may be rejected by the ENGINEER or COUNTY based on safety or environmental issues.
- 24.2. Same Day Delivery.** Truck loads shall be delivered to the project site the same day as they were loaded at the sand mine. Drivers that do not adhere to this guideline may be disqualified from continuing to work on this project. If there are extenuating circumstances that prevent a load from being delivered, the CONTRACTOR shall notify the COUNTY that day so that daily quantities may still be rectified.
- 24.3. Traffic Regulations.** The CONTRACTOR is responsible for complying with all Department of Transportation, County, and other local regulations regarding weight limits for bridges, roads, and railways utilized for transport. The CONTRACTOR is likewise responsible for complying with all applicable traffic, safety, and speed laws. Repeated failure of the CONTRACTOR to comply with applicable load and traffic regulations will result in suspension of transport operations until the CONTRACTOR demonstrates to the satisfaction of the COUNTY that the CONTRACTOR has taken sufficient steps to ensure compliance with these regulations. The CONTRACTOR shall notify, and coordinate with, local law enforcement and highway agencies regarding transport activities that shall be undertaken for the Work.
- 24.4. Flagmen.** The CONTRACTOR shall provide and maintain barricades, warning signals, and flagmen as required by Federal, State, or local regulations and the CONTRACTOR'S MOT Plan. Any costs associated with this requirement shall be included in the CONTRACTOR's bid.
- 24.5. Routes.** There are pre-approved truck routes for this project (Appendix B) that must be followed when transiting between the project site and the sand mine. When leaving or arriving to, the project sites at the end of the day, alternative routes may be taken with the exception of the western ~4.8 mile segment of Corkscrew Rd. (closest to I-75); trucks are never to be on this segment of Corkscrew Rd. Drivers that do not adhere to the truck routes may be disqualified from continuing to work on this project.

- 24.6. Observers.** The CONTRACTOR shall employ observers to be stationed at two (2) locations along the truck route during all hours of truck transport to assist in truck tracking. Observer locations: 1. Intersection of Alico Rd. and Corkscrew Rd. 2. Intersection of I-75 and Corkscrew Rd. All costs associated with ensuring truck routes are followed shall be included in the lump sum price for Electronic Truck Tracking.
- 24.7. Electronic Truck Tracking.** CONTRACTOR shall propose an electronic truck tracking system for approval by the COUNTY, which will show real time locations of all road trucks associated with this construction. The COUNTY shall be supplied with access for a minimum of five (5) concurrent users to this system.
- 24.8. Stoppage of Haul Operations.** If either Observers and/or electronic tracking systems are not in place or operational, the CONTRACTOR shall be required to stop hauling operations immediately and inform both the COUNTY and ENGINEER. The CONTRACTOR may restart hauling operations once a method of truck tracking is operational and has been approved by the COUNTY.

25. SURVEY LAYOUT AND CONTROL

- 25.1. Layout of Work.** The CONTRACTOR shall provide at their own expense all stakes, templates, platforms, equipment, tools, materials, and labor as may be required in laying out any part of the Work. The CONTRACTOR shall utilize FDEP "A" monuments and control data shown in the Plans to establish a construction baseline and construction profile locations at the intervals shown in the Plans. The CONTRACTOR shall utilize cross-sections provided by the ENGINEER to establish the lines and grades at the construction profiles. If the CONTRACTOR elects to establish temporary bench marks (TBMs) through the work site, they shall be established by a closed loop of levels from a permanent bench mark, a line of levels between two permanent bench marks, or using GPS-RTK. Work layout may be subject to modifications by the COUNTY to meet changed conditions or as a result of other required modifications to the Work. The layout of the work shall be made from the updated cross-sections provided by the ENGINEER and not the plan views in the contract drawings. The CONTRACTOR may use any other control and establish any profile cross-sections deemed necessary for the layout of work. All bench surveys will be referenced to NAVD.
- 25.2. Contractor Acceptance of Survey Control.** The FDEP "A" monument location coordinates and elevations for the work site are indicated in the Plans and shall be independently verified by the CONTRACTOR and their surveyor. The CONTRACTOR shall immediately notify the ENGINEER if any discrepancies are discovered in any of the information presented concerning all bench monumentation, including FDEP monuments. If the CONTRACTOR does not notify the ENGINEER, it is understood that the CONTRACTOR agrees with all information presented in the Plans related to bench monumentation elevation and control information.

25.3. Disturbing Monuments. The CONTRACTOR shall not disturb permanent markers or monuments and shall be responsible for maintaining and preserving all monuments, stakes, and other markers established by the COUNTY unless and until authorized to remove them. If such markers are disturbed and/or destroyed by the CONTRACTOR, or through CONTRACTOR negligence, prior to their authorized removal, they may be replaced at the discretion of the COUNTY, and the expense of replacement will be deducted from any amounts due or to become due the CONTRACTOR.

25.4. Grade Stakes. Construction and grade stakes, and any other stakes for any purpose, shall be made of steel pipe that can, and will be, removed intact after filling to cross sections accepted by or as directed by the ENGINEER. Stakes consisting of wood, may be used along the Landward Limit of Fill (LLOF) if requested by the CONTRACTOR and approved by the ENGINEER prior to installation. All stakes shall be of sufficient length above grade so they may not be accidentally covered by the fill. The CONTRACTOR shall consecutively number each piece of pipe used for grade stakes, shall clearly mark that number upon the pipe, and shall record the location of each numbered pipe in a grade stake log. The removal of each numbered pipe shall be recorded in the grade stake log at the time of the pipe/stake removal. At the request of the ENGINEER, all of the grade stake pipes shall be displayed after their removal to demonstrate those pipes that have been removed. It is the CONTRACTOR's responsibility to track, locate, and completely remove all grade stakes in their entirety to the satisfaction of the ENGINEER. The CONTRACTOR shall also remove all temporary marking stakes used for the work layout upon completion of the project.

Upon completion of construction in an area, the CONTRACTOR shall conduct a search using a suitably sensitive metal detector to find each and every stake placed by the CONTRACTOR in the area. The search and removal of all stakes shall be certified by the CONTRACTOR. The CONTRACTOR will not be eligible for payment until the CONTRACTOR certifies that all grade stakes in completed sections have been removed. Sections of beach upon which the search for, and removal of, stakes is complete shall be documented in the Daily Quality Control Reports. Any grade stakes left in the beach will be the sole responsibility and liability of the CONTRACTOR. Any injuries to the public which may occur because grade stakes were left in the beach by the CONTRACTOR will be the responsibility and the liability of the CONTRACTOR. If the CONTRACTOR fails to remove grade stakes in a timely manner, the COUNTY may have the stakes removed and deduct the cost from the CONTRACTOR's final payment.

25.4.1. Minimum Staking. Within the active construction area, the CONTRACTOR shall place grade stakes at each 100-ft station along the project baseline as defined within the Plans. At a minimum, visible grade stakes shall be placed at the LLOF and the lower berm crest. Grade stakes shall be marked at a minimum, with the stake ID, station ID (ex: R-44+200), and the range relative to the project baseline. The CONTRACTOR's use of GPS/RTK equipped grading equipment does not relieve the CONTRACTOR of the requirement to install grade stakes.

25.4.2. Grade Stake Log. The CONTRACTOR shall prepare and maintain a log to inventory the grade stakes used on the project. The log shall include information concerning the location, installation, and recovery of all grade stakes. The CONTRACTOR shall make this log available for review by the ENGINEER upon request. Upon completion of the project, the CONTRACTOR shall furnish the log to the ENGINEER.

25.4.3. Grade Stake Recovery. After completion of the project, the CONTRACTOR shall provide a letter to the ENGINEER certifying that all grade stakes have been recovered in accordance with the CONTRACTOR's approved Grade Stake Recovery Plan.

26. ACCEPTANCE PROFILES

26.1. General. The surveys required to supplement truck weight tickets for payment shall be taken at profile locations indicated in the Plans. The CONTRACTOR shall establish intermediate profiles in addition to those shown in the Plans to construct the project in accordance with plan view layout. The CONTRACTOR may submit the intermediate profiles for payment subject to review and approval by the ENGINEER. Pre-placement & post-placement surveys will be used as the basis for verification of proper placement and grading of the beach fill project within the lines and grades of the construction template and for permit required as-built submittals. The pre- and post-placement profiles will extend 150 feet past the construction toe of fill shown in the plans and landward to the +6' NAVD contour or the edge of vegetation, whichever is more landward. The profiles shall be labeled as their distance along the project baseline.

Payment for beach fill placement will be based on the tonnage of sand placed within the fill template and allowable tolerances as computed from truck weight tickets and verified by comparison of the pre- and post-placement surveys conducted on the dressed beach and certified by the CONTRACTOR's surveyor, as described in Section 33. The ENGINEER will verify the pay quantities provided by the CONTRACTOR, based on the submitted truck tickets and comparison of pre- and post-placement surveys conducted by the CONTRACTOR's surveyor and accepted by the ENGINEER. Surveys will be performed by a surveyor employed by, or a subcontractor of, the CONTRACTOR. The CONTRACTOR shall notify the ENGINEER a minimum of one (1) day prior to when the surveys will be conducted so that the ENGINEER may observe the survey as it is conducted. The CONTRACTOR's surveyor shall certify all surveys and the ENGINEER must agree, based on submissions provided by the CONTRACTOR's surveyor, that the survey may be used for payment purposes. All survey work conducted by the CONTRACTOR for payment is subject to acceptance by the ENGINEER. The ENGINEER, at their discretion, may conduct surveys to verify surveys performed by the CONTRACTOR for payment purposes.

26.1.1. Pre-Construction Survey. The most-recent annual beach survey conducted by the COUNTY as part of the county-wide monitoring program,

completed in March 2019, will be used as the pre-construction survey for this project and to satisfy environmental permit requirements.

26.2. Pre-Placement Survey. Pre-placement surveys will be conducted by the CONTRACTOR at the spacing and location of station profile lines as identified in the Plans, which are generally 100 feet apart. The pre-placement survey for the entire project area shall be completed and provided to the ENGINEER at least two (2) weeks prior to fill placement beginning. The pre-placement survey will be used by the ENGINEER and COUNTY to refine the design of fill placement prior to construction. The CONTRACTOR shall not commence construction until the ENGINEER has received the certified (signed and sealed) pre-placement survey and has reviewed the survey for use as the pre-placement survey. The fill template and volume may be revised at the ENGINEER's discretion using the pre-placement survey results, as the beach conditions may vary from the pre-construction survey.

26.2.1. Post-Placement Survey. Post-placement surveys will be conducted by the CONTRACTOR within one (1) week of completing sand placement in an acceptance section, at approximately 200-ft spacing at the stations indicated in Appendix D. Post-placement surveys shall not be conducted until the beach has been dressed to provide a level and uniform beach surface, removing all depressions, gullies, or other features in the beach which may affect the accuracy of the survey and the volume computation. The post-placement survey shall be conducted prior to tilling the beach.

26.2.2. Post-Construction Survey. The COUNTY's surveyor will conduct the post-construction survey under separate contract, as part of the county-wide monitoring program to satisfy environmental permit requirements.

26.3. Survey Field Notes Submittal. The CONTRACTOR shall submit survey field notes to the ENGINEER upon completion of each pre-placement or post-placement survey to expedite review of each survey. All field notes, survey and volume computations, and the records used by the CONTRACTOR to compute the payment fill quantity shall be furnished to the ENGINEER with the application for progress or final payment. Failure to provide the specified information will delay recommendation and payment.

26.4. Survey Error or Volume Computation Discrepancy. If there is an error or discrepancy in the survey conducted by the CONTRACTOR which affects the payment volume, the CONTRACTOR and the ENGINEER's surveyors will attempt to resolve the survey discrepancy or error. If the discrepancy or error cannot be resolved, the ENGINEER will compute the fill volume for payment purposes. Likewise, if there is an error or discrepancy concerning the payment volume computation, the ENGINEER and CONTRACTOR will attempt to resolve the issue. Nevertheless, the volume determined to be correct by the ENGINEER shall be the volume used to supplement the quantities determined from truck weight tickets.

- 26.5. Fill Section Rejection.** The notification of rejection of a fill section will come from the ENGINEER. After the survey data has been received by the ENGINEER, the ENGINEER will have seven (7) days to review the data and prepare a written response if a section has been rejected, and the reason for rejection.
- 26.6. Beach Fill Acceptance Profile Lines.** The pre- and post-placement surveys will be used to verify that delivered fill was distributed and graded to the specified templates. The surveys shall be conducted at the intervals and locations as indicated in the Plans and Appendix D and shall extend offshore a minimum distance of 150 feet seaward of the termination of the construction toe of fill. Profiles to be used for payment purposes are limited to profiles specifically defined by the project baseline in the Plans. For example, FDEP R-monument profile line R-42 will be the first acceptance station, with acceptance profile lines spaced generally at 200 foot intervals to the south except at the location of coastal structures, construction access areas, and the FDEP monuments where the spacing varies to include the FDEP profile location. Pay quantity verification calculations will utilize the distance between adjacent pay profile lines as shown in the Plans.
- 26.7. Survey Requirements.** All beach profile surveys shall be conducted by either differential leveling techniques or with RTK-GPS technology to a minimum distance of 150 feet seaward of the termination of the construction toe of fill.
- 26.8. Profile Line Azimuth and Measurements.** Profile line surveys shall be conducted along the azimuth indicated in the Plans. A sufficient number of points will be taken along each line to ensure adequate measurements of the entire profile line including topographic features, major breaks in slope, beach berms, foreshore, and intersection of the fill with the bottom, with a maximum elevation difference of approximately one (1) foot between adjacent points. Data points shall be taken at a spacing of not more than twenty five (25) feet. The product shall be a continuous line representing the entire beach fill profile plus a minimum of 150 feet seaward of the construction toe of fill.
- 26.9. Beach Survey Deliverables to the Engineer.** Deliverables to the ENGINEER shall include processed and tide corrected survey data of easting, northing, and elevation (XYZ) from each of the pay stations in ASCII format provided digitally (via email, FTP, flash drive, or on a compact disk (CD)) and illustrated in cross-sections on digital or hard copy plots. Cross-section plots shall show the survey, the construction template, the upper and lower tolerance, and the mean high water line. Additional information to be provided to the ENGINEER shall include any corrections and field notes.
- 26.10. Survey Documentation.** All survey work shall be documented, and copies supplied to the ENGINEER. The surveys may be conducted in the presence of the ENGINEER or their representative, at the option of the ENGINEER. The CONTRACTOR shall provide one (1) day advance notice to the ENGINEER prior to conducting surveys for payment.

27. BEACH FILL PLACEMENT

- 27.1. Refined Fill Distribution.** The ENGINEER will provide a fill distribution table to the CONTRACTOR prior to commencement of truck hauling operations. Based upon the results of the pre-placement survey, the ENGINEER will compute quantities required for placement within each acceptance section. The fill distribution table shall guide the CONTRACTOR's fill placement operations, supplemented by in-progress construction surveys.
- 27.2. Debris Removal.** Prior to placement of fill, the CONTRACTOR shall remove from the site of the work all snags, driftwood, and similar debris lying within the foundation limits of the beach fill section. All materials removed shall be taken from the beach area and disposed of in an appropriate and legal manner and at the expense of the CONTRACTOR. Grading and construction equipment will not be permitted outside the project limits as shown in the Plans except for ingress or egress to and from the site.
- 27.3. Fill Placement Requirements.** The material shall be placed and brought to rest on the beach to the lines, grades, and cross-sections indicated in the Plans, unless otherwise provided for herein or directed by the ENGINEER. Refined templates may be provided by the ENGINEER prior to construction based upon pre-placement surveys, that will be amended to the Plans and supersede the cross-sections within the Plans. The CONTRACTOR shall maintain and protect the fill in a satisfactory condition at all times until final completion and acceptance of the Work. The beach is subject to changes and the elevations on the beach at the time the Work is done may vary from the elevations shown in the Plans. The pay volumes may vary dependent upon the availability of capacity within the permitted fill template at the time of construction. The CONTRACTOR is to place the fill on the beach in such a manner as to establish a uniform beach between adjacent pay profile lines. Sections of beach located between pay profiles will not be underfilled, as defined in the contract documents.
- 27.4. Fill Placement Restrictions.** The fill shall extend landward to the existing elevation contour that matches the berm crest elevation shown in the Plans unless features (e.g. dunes, vegetation, or structures) prohibit fill placement. If a feature extends to the design berm elevation or above, the fill shall terminate at the seaward face of the feature. If the top of the structure is below the dune/berm crest elevation, then the fill shall taper landward using a one (1) foot vertical to five (5) feet horizontal slope to one (1) foot below the crest of the structure to prevent burial or overtopping with sediment. If a dune vegetation line is below the dune/berm crest elevation, then the fill shall taper landward using a one (1) foot vertical to five (5) feet horizontal slope to the edge of the vegetation.
- 27.5. Control of Fill.** The CONTRACTOR shall make every attempt to retain placed fill within the beach fill template. The CONTRACTOR shall protect existing drainage structures and operations. Any material permitted to flow into or restrict the flow of an existing ditch, canal, or drain pipe, shall be promptly removed. Structures within the

fill section shall be protected by the CONTRACTOR to prevent damage thereof by the CONTRACTOR's operations.

- 27.6. Uniform Beach.** The filled beach between the construction profiles shall be graded, dressed, and uniform in dimension. Beach sections between construction profiles shall be filled to a minimum of ninety-five (95%) percent of the volume based on the fill templates shown in the fill template cross-sections in the Plans, and to the minimum tolerance everywhere. The constructed beach contour lines between construction profiles, including the beach berm break, will be approximately parallel and straight, indicating that the CONTRACTOR constructed a uniform (non-cusped) beach between the profile lines to the appropriate elevation and width.
- 27.7. Underfilling Between Pay Profile Lines.** If the ENGINEER or COUNTY observe or believe they have observed underfilling of the beach between pay profile lines, the ENGINEER or COUNTY may request an additional survey be conducted by the CONTRACTOR at the CONTRACTOR's expense. If found to be deficient, the CONTRACTOR shall place additional fill until the beach is uniform in appearance and dimensions between pay profile lines, provides a straight beach berm break between pay profile lines, provides a minimum of ninety-five (95%) percent of the design fill volume, and meets the minimum tolerance at all locations in the acceptance section in order to qualify for payment of that section. Fill will not be obtained from adjacent areas of the beach to remedy underfilling.
- 27.8. Dressing the Restored Beach.** Upon completion of all filling operations within an acceptance section, and prior to surveying for payment, the fill shall be graded and dressed with a dragged pipe so as to eliminate any undrained pockets, ridges, and depressions in the beach fill surfaces. The CONTRACTOR is to grade and dress the fill on the beach in such a manner as to establish a uniform berm width and slope between adjacent pay profile lines with a positive seaward slope between the seaward toe of dune and seaward berm crest within the vertical tolerance specified in Section 27.10. The bank or scarp caused by wave erosion shall be graded down to a slope not steeper than one (1) foot vertical to ten (10) feet horizontal to the water's edge. The CONTRACTOR shall grade down any and all beach scarps or sand cliffs in the entire restored beach until the CONTRACTOR has demobilized from the project site. The project site will not be considered complete, nor the CONTRACTOR eligible for final payment, until all beach scarps in the entire project area are graded.
- 27.9. Right to Vary Beach Design Dimensions.** The ENGINEER reserves the right to vary the width or grade of the berm from the lines and grades shown in the Plans due to changes in beach conditions. The beach fill cross-sections shown in the Plans are for the purpose of estimating the amount of fill needed and will be used by the ENGINEER in making any change in the lines and grades.
- 27.10. Tolerances.** The maximum vertical tolerance above and below the template is 0.5 feet. Progress payments will be for fill placed within the construction template of accepted sections only, as shown in the Plans and updated by the ENGINEER using the pre-

placement survey, if applicable. Overfilling the templates may indirectly increase impacts to nearshore hardbottom, therefore, the CONTRACTOR shall not overfill the templates by volume. The ENGINEER may require excess fill to be removed from overfilled sections at no cost to the COUNTY. Payment requests for material placed outside of the construction template, including the upper 0.5 feet tolerance area, will not be considered if they exceed the construction template volume. Fill placement must at least meet the 0.5 feet tolerance below the template everywhere within areas filled and for which payment has been requested. The CONTRACTOR shall refill any deficient section of beach to at least meet the below template tolerance, and to ninety-five (95%) percent of the fill volume for the acceptance segment. The COUNTY will withhold payment for those sections of beach that do not meet the minimum fill requirements until the appropriate fill placement and grading has been completed by the CONTRACTOR.

27.11. Grading of Seaward Slope. The CONTRACTOR shall grade the seaward slope of the constructed beach to the waterline, at a minimum. If the CONTRACTOR is not able to practically grade the material to the construction toe of fill, compensating beach fill may be placed at the waterline to allow for natural adjustment of the material by wave action.

27.12. Existing Infrastructure. Bulkheads, revetments, upland structures, cables, ducts, anchor points, outfalls, piers, groins, and other structures within the fill sections and all work areas shall be protected by the CONTRACTOR to prevent damage thereto by construction operations. The CONTRACTOR shall coordinate with the ENGINEER and COUNTY prior to placement of sand at locations including Clam Pass Park Pier and existing outfalls. Placement of sand at these locations shall not be under, over, or inside the structure. The COUNTY may request the CONTRACTOR to place an equivalent quantity of sand adjacent to the structure or using manual methods. Field adjustment of the construction template may be required.

28. BEACH TILLING AND SCARP LEVELING

28.1. Beach Tilling. Following the completion of beach filling, dressing, and payment survey, the CONTRACTOR will till the constructed portion of the beach in accordance with the permits, to loosen the compaction of the placed material. Tilling will be to a minimum depth of 24 inches throughout the newly placed beach seaward to the visible high water mark to the landward extent of fill placement. Each pass of the tilling equipment shall be overlapped to allow thorough and even tilling. The tilling shall be by use of a tracked vehicle (bulldozer, loader, or equivalent) by pulling (rear mount) or pushing (front mount) a rake with the tines of a length appropriate to achieve a tilling depth of 24 inches. Tines will be spaced 15 to 18 inches apart, or as needed to achieve the 24 inch depth throughout the required area. The CONTRACTOR shall conduct additional tilling as necessary to ensure all of the beach fill above the mean high water line has been loosened sufficiently, as determined by the ENGINEER. Following tilling, the beach shall again be dressed by dragging a pipe (or similar) lengthwise over the beach. The pipe may be positioned immediately behind the tilling tines to allow for

a single operation of tilling and dressing. All tilling and dressing will be conducted during daylight hours only.

28.2. Scarp Leveling. The CONTRACTOR shall inspect the entire beach project area for the formation of sand escarpments. Any escarpments exceeding 12 inches in height (on average), independent of the length, shall be leveled or smoothed to eliminate the escarpment. The ENGINEER will observe the beach after leveling of escarpments to ensure that the ENGINEER agrees that all escarpments have been leveled in compliance with permits. The CONTRACTOR shall level any escarpments found by the ENGINEER or COUNTY, at their request throughout construction.

29. CONSTRUCTION PLANS AND CONTRACT DOCUMENTS

A minimum of one (1) complete set of Plans and contract documents (with permits) shall be kept in the construction site field office. In addition, the surveyor shall have at least one set. Permit notices shall be predominantly displayed at the active work site in accordance with regulatory requirements.

30. NIGHTTIME OPERATIONS

Nighttime is defined as the period of time from sunset to sunrise. Truck haul operations can only occur from sunrise to sunset. No construction activities are permitted during nighttime hours or on select holidays. The CONTRACTOR shall minimize noise, so as not to disturb residents living along the beach in the project area. Beach dressing, final grading, tilling, and re-dressing will be limited to daylight hours only. The CONTRACTOR shall design their schedule to avoid nighttime work.

31. RETAINAGE

Payments are subject to a 10% retainage per the COUNTY's Standard Terms and Conditions. Upon final acceptance and satisfaction of all requirements of the contract documents, the withheld retainage shall be included in the final payment.

32. PAYMENT FOR MOBILIZATION AND DEMOBILIZATION

32.1. General. The Work specified in this section consists of the preparatory work and operations in mobilizing for beginning work on the project, including, but not limited to, those operations necessary for the movement of personnel, equipment, supplies, and incidentals to the project site, and for the establishment of temporary offices, buildings, utilities, traffic control, safety equipment, first aid supplies, sanitary, and other facilities, as required by these Specifications, the special provisions, and applicable laws and regulations. The costs of bonds and any required insurance, and any other pre-construction expense necessary for the start of the Work, excluding the cost of construction materials, shall also be included in this section.

32.2. Mobilization. All costs connected with the mobilization and demobilization of all CONTRACTOR's equipment and personnel will be paid for at the contract lump sum price for this item. Sixty percent (60%) of the lump sum price will be paid to the CONTRACTOR after the placement of a quantity of, at minimum at each approved construction unloading point, one thousand (1,000) tons of material on the beach and placed within the beach fill template for a minimum of four (4) days. The remaining forty percent (40%) will be included in the final payment for work under this contract. Payments for mobilization and all payment except for the final payment will be subject to a retainage until final acceptance of the project by the COUNTY per the COUNTY's Standard Terms and Conditions.

32.3. Cost Review. In the event that the cost for the mobilization and demobilization does not bear a reasonable relation to the cost of the entire work in this contract, then the ENGINEER may require the CONTRACTOR to produce cost data to justify this portion of the bid. The ENGINEER will utilize previously bid projects of a similar nature as a guideline to evaluate the mobilization and demobilization costs. Failure to justify such price to the satisfaction of the ENGINEER will result in payment of mobilization costs, as estimated by the ENGINEER at the completion of mobilization, and payment of the remainder of this item in the final payment under this contract.

33. PAYMENT FOR TRANSPORT, FILL PLACEMENT, GRADING, AND SAND ANALYSIS

33.1. General. Other than costs for mobilization, demobilization, turbidity monitoring, pre-placement and post-placement/as-built surveying, maintenance of traffic, weight ticket tracking, and electronic truck tracking, all other costs associated with the beach nourishment project including, but not limited to, debris removal, site cleanup and preparation, laboratory testing, site repairs, environmental compliance, sand transport, staging, and placement shall be included in the contract unit price per ton on the bid form by construction access point. The unit price shall also include all other items of overhead, profit, labor, material, and any other costs incidental to performing the Work.

33.2. Basis of Payment. The basis of the payment will be the weight of sand delivered determined by weight tickets and placed on the beach within the design template per construction access point. The location and volume of placement will be verified by the pre- and post-placement surveys. Reconciliation of truck tickets created at the mine and collected at the beach stockpile is essential for accurate payments. The CONTRACTOR shall collect, log, and furnish copies of all truck tickets at the project site prior to placement on the beach in accordance with the approved methodology statement. COUNTY OBSERVERS will collect a copy of truck weight tickets at the beach delivery site. Sand removed from the beach and placed in the construction template will not count towards the pay quantity (tonnage). The CONTRACTOR shall not place or manipulate the sand to change its unit weight or volume prior to placement surveys.

- 33.3. Requests for Payment.** The CONTRACTOR may request payment for fill placement on a monthly basis, and at completion of the project, upon final acceptance by the ENGINEER of the completed beach nourishment sections. The CONTRACTOR will be eligible for progress payments when fill sections have been filled to a minimum of 95% of the total beach fill section volume. The beach fill volume for a section is the volume to completely fill the approximate 200-foot section along the project baseline to the construction template requirements shown in the Plans or the superseding refined design provided by the ENGINEER based upon the pre-placement survey. The CONTRACTOR may conduct surveys for payment purposes after completion and dressing of four (4) adjacent fill sections; however, after the initial payment, future payment will be based on the filled and dressed acceptance sections completed during the previous pay period, which have been approved for payment by the ENGINEER. The CONTRACTOR shall submit to the ENGINEER and COUNTY for review on a monthly basis, an application for progress payment filled out and signed by CONTRACTOR covering the work completed as is required by the contract documents and accompanied by such supporting documentation as is required by the contract documents and also as the ENGINEER may reasonably require. All payments will be subject to retainage per the COUNTY's Standard Terms and Conditions until final acceptance of the project.
- 33.4. Minimum Fill Requirements.** Payment shall be for fill placed within the construction template only, as shown in the Plans and updated by the ENGINEER using the pre-placement survey. The minimum vertical tolerance below the template is 0.5 feet and shall be achieved everywhere within areas filled and for which payment has been requested. Notwithstanding these fill placement tolerances, fill placement must at least meet the 0.5 foot tolerance below the construction template everywhere on the constructed beach berm within the project limit shown in the Plans, and the minimum requirement of 95% of the fill volume for each acceptance section must be met. The CONTRACTOR shall fill any deficient section of beach to, at minimum, meet the template tolerance everywhere on the constructed beach berm, and to a minimum of 95% of the fill volume for the acceptance section. The COUNTY will withhold payment for acceptance sections that do not meet the minimum required fill requirements until the required fill placement and dressing has been completed by the CONTRACTOR.
- 33.5. Computation of Payment Quantities.** Computation of pay tonnage will be based on truck weight tickets collected for sand placed within the acceptance sections. Computations of volumes shall be made by the CONTRACTOR and ENGINEER using survey data provided by the CONTRACTOR to verify tonnage placed and to support regulatory requirements. Quantities of beach fill satisfactorily placed, and meeting beach fill design template requirements and volumes will be computed for payment by use of the average end-area method and an assumed 1 cubic yard to 1.5 ton conversion factor. The distance between each profile line to be used for fill computation is the perpendicular distance between each profile line along the project baseline shown in the Plans. The CONTRACTOR shall account for this method of fill volume calculation when estimating the bid prices. Payment will be provided for fill contained

within the payment profile construction templates. No payment will be provided for fill placed above the tolerance, or outside of the template, except as indicated below. The CONTRACTOR's bid shall account for any costs associated with the payment profile requirements, the azimuth of profile lines, the profile measurement technique, survey requirements, potential loss of sand before section survey and acceptance, and the payment volume calculation methodology.

33.6. Compensatory Slope Adjustment. During placement of fill, wave conditions may adjust the slope of the placed fill beyond the fill template, or a lack of waves may not equilibrate the placed material to the toe of fill as shown on the construction templates. In recognition of this natural phenomena, fill located seaward of the fill template slope may qualify for payment where such placed fill is (a) within the alongshore limits of the fill project area shown in the Plans, (b) below the mean high water line, (c) contiguous to the fill template, (d) above the pre-placement profile survey, and (e) measured within the post-placement profile survey. Compensatory slope volumes will be applied only to compensate for lost volume from the template slope below the mean high water line. This volume will not be used to compensate for volume deficiencies within the fill template on the beach berm located landward of the mean high water elevation on the template slope, or along other fill profiles identified in the Plans. This clause does not relieve the CONTRACTOR from grading the beach berm and slope as shown in the Plans, especially above the waterline. Compensatory fill volume shall not qualify for payment other than that portion of the volume which was relocated by natural forces seaward beyond the template slope shown in the Plans.

33.7. Fill Used for Construction Access. It is understood that fill material may be required by the CONTRACTOR to establish a pad for fill delivery, stockpiling and loading, and to construct an access road for ORTs throughout the beach fill area. To the greatest extent practical, this material should be placed within the limits of the construction template or regraded into the construction template once construction use of this material is complete. This material will not be paid for in a progress payment until the material is recovered. A small allowance may be provided by the ENGINEER within the refined design for unrecoverable material for these purposes. If provided, the allowance quantity would be paid for within the final pay application once all quantities were rectified to the satisfaction of the COUNTY and ENGINEER.

34. PAYMENT FOR TURBIDITY MONITORING

Payment for mobilization, demobilization, labor, materials, equipment, fuel, oil, and all other appropriate costs in connection with turbidity monitoring, shall be included in the lump sum price for Turbidity Monitoring. The lump sum cost submitted on the bid sheet shall correspond with the bid quantity for Transport, Fill Placement, Grading and Sand Analysis. If the sand quantity is adjusted, this item will be paid for at a prorated amount within +/-25%. Progress payments will be made based upon the percent of beach fill work completed and accepted during each month. Acceptance of the Work shall be determined by receipt of agency compliant turbidity monitoring reports and review performed by the ENGINEER or COUNTY.

35. PAYMENT FOR SURVEYS

Payment for mobilization, demobilization, labor, materials, equipment, fuel, oil, and all other appropriate costs in connection with the pre- and post-placement surveys shall be included in the lump sum price for Surveys. Progress payments will be made based upon the percent of work completed and accepted during each month. Of the lump sum price for Surveys, 50% shall be eligible for payment once the pre-placement survey is accepted by the ENGINEER, then the remaining 50% for post-placement surveys will be paid based on the percentage of stations surveyed and accepted by the ENGINEER per month. Acceptance of the work will be determined from review by the ENGINEER of monthly activities and CONTRACTOR reporting.

36. PAYMENT FOR MAINTENANCE OF TRAFFIC (MOT) AND WEIGHT TICKET TRACKING

Payment for mobilization, demobilization, labor, materials, equipment, software, signage, fuel, oil, and all other appropriate costs in connection with MOT, public safety, and weight ticket tracking, shall be included in the lump sum price for MOT and Weight Ticket Tracking. The lump sum cost submitted on the bid sheet shall correspond with the bid quantity for Transport, Fill Placement, Grading and Sand Analysis. If the sand quantity is adjusted, this item will be paid for at a prorated amount within +/-25%. Progress payments will be made based upon the percent of beach fill work completed and accepted during each month.

37. PAYMENT FOR ELECTRONIC TRUCK TRACKING

Payment for mobilization, demobilization, labor, materials, equipment, fuel, oil, and all other appropriate costs in connection with electronic truck tracking, shall be included in the lump sum price for Electronic Truck Tracking. The lump sum cost submitted on the bid sheet shall correspond with the bid quantity for Transport, Fill Placement, Grading and Sand Analysis. If the sand quantity is adjusted, this item will be paid for at a prorated amount within +/-25%. Progress payments will be made based upon the percent of beach fill work completed and accepted during each month. Acceptance of the work shall be determined by successful access and use by the COUNTY to the electronic tracking system.

38. RIGHT TO REFUSE RECOMMENDATION FOR PAYMENT

The ENGINEER may refuse to recommend the whole or any part of any payment if, in their opinion, such representations to the COUNTY would be inaccurate. The ENGINEER may also refuse to recommend any payment because of subsequently discovered evidence or the results of subsequent observations, measurements, or tests, nullify any such payment previously recommended to such extent as may be necessary in the ENGINEER's opinion to protect the COUNTY from loss because:

- (a) The Work is defective, inconsistent with the Plans and Specifications, or completed Work not accepted by the ENGINEER has been damaged requiring correction or replacement;

- (b) Written claims have been made against the COUNTY or liens have been filed in connection with the work;
- (c) The contract price has been reduced because of modifications;
- (d) The COUNTY has been required to correct defective work or complete the Work;
- (e) The CONTRACTOR has not performed the Work in accordance with the contract documents;
- (f) The CONTRACTOR has failed to make payment to subcontractors, for labor, materials, or equipment;
- (g) The CONTRACTOR is claiming additional placement of fill volume for payment beyond that measured and calculated using the procedure established in the contract documents for computation of fill quantities for payment purposes;
- (h) The CONTRACTOR is claiming additional payment for any reason not previously agreed to by the COUNTY; or
- (i) The CONTRACTOR has not repaired damages caused by the CONTRACTOR's operation to the satisfaction of the COUNTY and/or affected private property owner.

39. FINAL ACCEPTANCE AND PAYMENT

- 39.1. Beach Escarpment Elimination before Final Payment.** At the completion of the entire fill placement and beach tilling, and prior to final payment, the CONTRACTOR will inspect the entire beach project area for the formation of sand escarpments. Any escarpments in the project area, independent of the escarpment height or the length, will be leveled or smoothed to eliminate the escarpment by the CONTRACTOR. The ENGINEER, upon request by the CONTRACTOR, will observe the beach after leveling of escarpments.
- 39.2. Road and Infrastructure Repair before Final Payment.** Roads, beach access, and infrastructure impacted by the CONTRACTOR's operation shall be repaired to a level acceptable to the COUNTY prior to final payment. Truck haul sand operations will cause impacts needing repairs, unless infrastructure and natural resources are protected during construction.
- 39.3. Engineer's Recommendation for Final Payment.** The ENGINEER's recommendation of final payment for the project will constitute a representation by the ENGINEER to the COUNTY that, in the ENGINEER's opinion, the conditions precedent to the CONTRACTOR's being entitled to final payment as set forth in the contract documents have been fulfilled.

- 39.4. Completion of Work.** Upon written notice from the CONTRACTOR that the Work is substantially complete, the ENGINEER or COUNTY will observe the Work within seven (7) days of the receipt of the written notice from the CONTRACTOR and, if required, will notify the CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. The CONTRACTOR shall immediately take such measures as are necessary to remedy such deficiencies.
- 39.5. Application for Final Payment.** After the CONTRACTOR has completed all such corrections to the satisfaction of the ENGINEER and COUNTY, and delivered any required quality control reports, water quality reports, data requested by the ENGINEER, guarantees, bonds, certificates of inspection, marked-up record documents, and all other documents as required by the contract documents or ENGINEER, and after the ENGINEER has indicated that the Work is acceptable to the ENGINEER and COUNTY, the CONTRACTOR may make application for final payment. The final application for payment shall be accompanied by all documentation called for in the contract documents and such other data and schedules as the ENGINEER may reasonably require, together with complete and legally effective releases or waivers (satisfactory to COUNTY) of all liens arising out of, or filed in connection with the Work. In lieu thereof and as approved by the COUNTY, the CONTRACTOR may furnish the following set of documents: 1) receipts or releases in full; 2) an affidavit of the CONTRACTOR providing warranties, covenants, and representations that the releases and receipts include all labor, services, material and equipment bills, and other indebtedness connected with the Work for which the COUNTY or the COUNTY's property might in any way be responsible; 3) proof that all charges have been paid or otherwise satisfied. If any subcontractor, manufacturer, fabricator, supplier, or distributor fails to furnish a release or receipt in full, the CONTRACTOR may furnish a bond or other collateral satisfactory to the COUNTY to indemnify the COUNTY against any lien.
- 39.6. Recommendation for Final Payment.** If, on the basis of the ENGINEER's observation of the Work during construction and post-construction, and the ENGINEER's review of the final application for payment and accompanying documentation the ENGINEER is satisfied that the Work has been completed and the CONTRACTOR has fulfilled all of their obligations under the contract documents, the ENGINEER will, within seven (7) days after receipt of the final application for payment, indicate in writing their recommendation of payment and present the application to the COUNTY. If the application and accompanying documentation are acceptable as to form and substance, the COUNTY shall, within thirty (30) days after receipt of the ENGINEER's recommendation for final payment, pay the CONTRACTOR the amount recommended by the ENGINEER or other such amounts deemed appropriate by the COUNTY in consultation with the ENGINEER. If the ENGINEER is not satisfied that the Work is completed, the ENGINEER will return the application to the CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case the CONTRACTOR shall make the necessary corrections and resubmit the application.

39.7. Access to the Work. The COUNTY shall have the right to exclude the CONTRACTOR from the Work after the date of completion, but the COUNTY shall allow the CONTRACTOR reasonable access to complete or correct items as allowed by project permits.

39.8. Contractor's Obligation to Complete Work. The CONTRACTOR's obligation to perform and complete the Work in accordance with the contract documents shall be absolute. Neither recommendation of any payment by the ENGINEER, nor the issuance of any statement of certificate of completion or substantial completion, nor any payment by the COUNTY to the CONTRACTOR under the contract documents, nor any use of or occupancy of the Work of any part thereof by the COUNTY, nor any act of acceptance by the ENGINEER nor any failure to do so, nor the issuance of a notice of acceptability by the ENGINEER, nor any correction of defective work by the COUNTY shall constitute an acceptance of Work not in accordance with the contract documents or a release of the CONTRACTOR's obligation to perform the Work in accordance with the contract documents.

39.9. Making and Acceptance of Final Payment. The making and acceptance of final payment shall constitute:

- (a) A waiver of all claims by the COUNTY against the CONTRACTOR, except claims arising from unsettled liens, from defective work appearing after project completion, or from failure to comply with the contract documents or the terms of any guarantees specified therein; however, final payment shall not constitute a waiver by the COUNTY of any rights in respect to the CONTRACTOR's continuing obligations under the contract documents.
- (b) A waiver of all claims by the CONTRACTOR against the COUNTY other than those previously made in writing and still unsettled.

39.10. Defective Work

39.10.1. One Year Correction Period. If within one (1) year after the date of completion or such longer period of time as may be prescribed by law or by the terms of any applicable guarantee required by the contract documents or by any specific provision of the contract documents, any Work is found to be defective, the CONTRACTOR shall promptly, without cost to the COUNTY and in accordance with the COUNTY's written instructions, either correct such defective work or, if it has been rejected by the COUNTY, remove it from the site and replace it with non-defective work. If the CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk or loss or damage, the COUNTY may have the defective work corrected or the rejected work removed and replaced. All costs associated with correction of defective work including compensation for additional professional services, shall be paid by the CONTRACTOR. The CONTRACTOR will not be held

responsible for erosion of the beach fill after acceptance of completed fill segments by the ENGINEER. However, if unsuitable material including but not limited to rocks, debris, or construction materials placed as a result of the CONTRACTOR's operations are found within one (1) year of the project completion, the CONTRACTOR will be held responsible to correct this at no further cost to the COUNTY.

39.10.2. Beach Erosion. The CONTRACTOR will not be responsible for erosion of the accepted beach fill sections after final acceptance of fill sections by the ENGINEER. The CONTRACTOR shall remain responsible for beach fill sections until they are accepted for payment by the ENGINEER. The CONTRACTOR shall be responsible for the placement of material that is not beach compatible or does not meet State of Florida standards for beach material.

39.10.3. Reconciliation of truck ticket will be completed on a daily basis. The site will receive no truck sand placement in the morning until the previous day tickets and quantities have been reconciled.

39.10.4. No ORT will be allowed to move on the beach with out an escort.

PART 3 - ENVIRONMENTAL PROVISIONS

40. SCOPE

The Environmental Provisions section of the contract documents addresses CONTRACTOR responsibilities for the prevention of pollution and other environmental damage as the result of construction operations under the contract documents, including those measures set forth in the specifications. For the purpose of this specification, pollution and other environmental damage are defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to man; or degrade the utility of the environment for aesthetic, cultural, and/or historical purposes, or damage/destroy hardbottom habitats. The control of pollution and damage requires consideration of air, water, land, and the marine environment, and includes management of construction activities, visual aesthetics, noise, solid waste, radiant energy, and radioactive materials, as well as other pollutants. The CONTRACTOR shall fulfill these Specifications at the CONTRACTOR's expense. All costs associated with these sections shall be included in the unit cost for Transport, Fill Placement, Grading and Sand Analysis, or Turbidity Monitoring.

41. QUALITY CONTROL

The CONTRACTOR shall establish and maintain quality control for environmental protection for all items set forth herein. The CONTRACTOR shall record on the Daily Quality Control Reports any problems in complying with laws, regulations, and ordinances, as well as project permits, and corrective action taken.

42. PERMITS

While select portions of the project permits are provided in Appendices F and G, the CONTRACTOR shall comply with all requirements under the Terms and Conditions set out in all permits applicable to the Work. Specifically, the CONTRACTOR will familiarize themselves with general and specific conditions contained in the FDEP permit (Permit No. 0331817-001-JC, superseded by major Modification No. 0331817-004-JM and minor Mod. No. 0331817-005-JN), USACE permit (Permit No. SAJ-2003-12405 (SP-MMB) and Mod. No. 6 SAJ-2003-12405 (SP/MOD-RMT)), and other State and Federal approvals for the project, including Biological Opinions. Any other licenses or approvals required, including, but not limited to those that may be required by the COUNTY or local municipalities, shall be secured and paid for by the CONTRACTOR.

The CONTRACTOR shall follow the applicable Terms and Conditions in the following programmatic and regional Biological Opinions (BO) that are incorporated by reference in the USACE Permit: Statewide Programmatic Biological Opinion (SPBO) (USFWS, 2015); Programmatic Piping Plover Biological Opinion (P³BO) (USFWS, 2013); and the Gulf Regional

Biological Opinion (GRBO) (NMFS, 2007). The CONTRACTOR shall also follow the applicable Terms and Conditions in the project specific Biological Opinions issued by USFWS (2015, modified 2017) and NMFS (2013). The Terms and Conditions from each BO are provided as appendices to the specifications of the contract documents. Complete copies of BOs are available upon request.

The CONTRACTOR shall follow the applicable Terms and Conditions of the FWC Standard Manatee Conditions for In-Water Work (2011), NMFS Sea Turtle and Smalltooth Sawfish Construction Conditions (2006), and the USFWS Standard Protection Measures for the Eastern Indigo Snake (2013), which are incorporated by reference in the USACE permit and provided as an appendix to the Specification of the contract documents.

Any other licenses, easements, or approvals required, including, but not limited to those which may be required by the COUNTY, City of Naples, or Lee County shall be secured and paid for by the CONTRACTOR.

43. SUBCONTRACTORS

Assurance of compliance with all sections of the contract by subcontractors shall be the responsibility of the CONTRACTOR, including compliance with all environmental permit requirements.

44. NOTIFICATION

The ENGINEER will notify the CONTRACTOR and the COUNTY of any known noncompliance with the aforementioned Federal, State, or local laws or regulations, permits, and other elements of the CONTRACTOR's Environmental Protection Plan. Nevertheless, it remains the sole responsibility of the CONTRACTOR to comply with all applicable Federal, State, or local laws or regulations, permits, and all elements of the Environmental Protection Plan. If there is known non-compliance, the COUNTY will determine what action will be taken and such response will be transmitted to the CONTRACTOR by the ENGINEER, which may include stopping construction of the project until the CONTRACTOR complies with the Environmental Protection Plan. It will also be the CONTRACTOR's responsibility that all subcontractors shall comply with all applicable laws, regulations, permit requirements, and all elements of the Environmental Protection Plan.

45. TURBIDITY CONTROL AND WATER QUALITY MONITORING

- 45.1. Water Quality Monitoring by the Contractor.** The CONTRACTOR shall be bound and obligated to maintain the quality of the State's waters as stipulated in project permits and in the Florida Administrative Code Rules 62-312 and 62-302 as they pertain to Class III waters and this Contract. The CONTRACTOR will be required to make inspections, measurements, and observations required by those regulations and the FDEP permit at the spoil site (beach). This includes, but is not limited to, turbidity sampling with reports to the ENGINEER, following procedures stated in FDEP Permit No. 0331817-004-JM. If it is determined that the quality of the State's waters is not

being maintained, the CONTRACTOR will, without delay, follow the procedures provided in the FDEP permit. The water quality monitoring and reporting costs will be incorporated into the Lump Sum cost for Turbidity Monitoring in the contract documents.

45.2. Approved Water Quality Monitors. The CONTRACTOR will provide the names and qualifications of their monitoring team seven (7) days before the permit pre-construction meeting to the ENGINEER. This notification is a pre-requisite for receiving a permit Notice to Proceed from FDEP. Monitors shall meet qualifications described in the State permits including prior experience with similar Work

45.3. Water Quality Monitoring Procedures. The FDEP permit for the project requires water quality monitoring to occur during project construction using an independent contractor, hired by the CONTRACTOR. Water quality samples are to be analyzed soon after collection by the CONTRACTOR. Under no circumstances will more than two (2) hours lapse between collection and analysis of the samples. Water samples shall be tested using a calibrated turbidity meter. The turbidity meter shall be calibrated by the manufacturer within one year prior to the beginning of the project, and written documentation of such shall be submitted to the ENGINEER. The meter shall be calibrated with standards prior to each use. Reports, including all information required by the FDEP permit, shall be provided to the ENGINEER on a daily basis. If a water quality violation is recorded, the CONTRACTOR is required to immediately cease construction activities and contact the ENGINEER and COUNTY with the results of the water quality analysis.

45.4. Water Quality Violations. The CONTRACTOR is to follow all requirements concerning water quality as provided by the permits for the project. In the event of a turbidity violation, the CONTRACTOR will take immediate corrective action indicated in project permits which could include stopping work, changing construction or environmental protection methods, or other action. Construction activities may not resume until water quality has returned to within standards (as provided by the FDEP permit).

45.5. Reporting. The CONTRACTOR's water quality monitoring data will be provided to the ENGINEER daily and the ENGINEER will submit to FDEP on a weekly basis. A turbidity monitoring report shall be submitted for each day throughout construction, even if no testing was performed that day. The reports shall indicate why no testing was performed and provide supporting documentation such as small craft advisories as support if sea conditions prevented testing.

46. PROTECTION OF ENVIRONMENTAL RESOURCES

The environmental resources within the project boundaries and those affected outside the limits of permanent work under this contract shall be protected during the entire period of this contract. The CONTRACTOR shall confine their activities to areas defined by the Plans and Specifications. Environmental protection shall be as stated in the following subparagraphs.

46.1. Protection of Land Resources

- 46.1.1. General.** Prior to the beginning of any construction, and at the request of the CONTRACTOR, the ENGINEER shall identify land resources to be preserved within the CONTRACTOR's work area, which is defined as the beach seaward of the vegetation line, and construction access areas as marked on the Plans. The CONTRACTOR shall not remove, cut, deface, injure, or destroy land resources including sand dune or berm vegetation, trees, shrubs, vines, grasses, top soil, and land forms without direct written permission from COUNTY. No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized. Where such special emergency use is allowed, the CONTRACTOR shall provide effective protection for land and vegetation resources at all times as defined in the following paragraphs. The CONTRACTOR will be responsible for the replacement of any damaged or destroyed vegetation, to the satisfaction of the ENGINEER or COUNTY. Failure to replace damaged or destroyed vegetation by the CONTRACTOR will result in replacement by the COUNTY; cost of replacement will be deducted from monies due to the CONTRACTOR, or from monies which will be due to the CONTRACTOR by the COUNTY.
- 46.1.2. Work Area Limits.** In addition to features listed under Section 46.1.1, isolated areas (if any) within the work area, which are to be saved and protected, shall also be identified by the ENGINEER or COUNTY and marked or fenced by the CONTRACTOR. All monuments and markers shall be protected before construction operations commence. The CONTRACTOR shall convey to all subcontractors and personnel the purpose of the marking and/or protection for all necessary objects.
- 46.1.3. Protection of Landscape.** Trees, shrubs, vines, grasses, land forms, and other landscape features within the work area are to be preserved. Unless otherwise approved by the ENGINEER or COUNTY, no trees, shrubs, vines, grasses or other vegetation will be harmed or destroyed by the CONTRACTOR for any purpose.
- 46.1.4. Retardation and Control of Runoff.** Runoff from the construction site shall be controlled by the CONTRACTOR by the construction of diversion ditches, benches, and berms to retard and divert runoff to protected drainage courses, and any measures required by area wide plans approved under paragraph 208 of the Clean Water Act.
- 46.1.5. Temporary Excavation.** Embankments for plant and/or work areas shall be controlled to protect adjacent areas from negative project impact.

- 46.1.6. Disposal of Solid Waste.** Solid wastes (including clearing debris) shall be placed in containers, which are removed from the beach area and emptied on a regular schedule. The CONTRACTOR will empty containers when three-quarters full and will avoid overflow conditions. All handling and disposal shall be conducted to prevent contamination. No steel, cables, wire, pipe, drums, or any other debris will be permitted to be disposed into the waters of the Gulf of Mexico or any other water body. Disposal of solid wastes or debris in the Gulf of Mexico is a violation of State and Federal laws. If such debris is found, the debris shall be removed by the CONTRACTOR at their own cost, or the cost of removal deducted from the CONTRACTOR's final payment.
- 46.1.7. Disposal of Chemical Waste.** Chemical waste shall be stored in corrosion resistant containers, removed from the work area, and disposed of in accordance with Federal, State, and local regulations. The CONTRACTOR shall perform all maintenance of equipment, including, but not limited to refueling, filter changes, and replacement of hydraulic lines in a manner so as not to contaminate soils, ground or surface waters, or any other natural resources.
- 46.1.8. Disposal of Discarded Materials.** Discarded materials other than those which can be included in the solid waste category, will be handled by the CONTRACTOR as directed by the ENGINEER or COUNTY.
- 46.2. Protection of Fish and Wildlife Resources.** The CONTRACTOR shall keep construction activities under continued surveillance, management, and control to minimize interference with, disturbance to, and damage of fish and wildlife. Species that require specific consideration, as well as measures for their protection, will be addressed in the CONTRACTOR's Environmental Protection Plan prior to the beginning of project construction.
- 46.2.1. Sea Turtles.** In order to ensure that sea turtles are not adversely affected by construction activities, the CONTRACTOR shall comply with all sea turtle protection measures outlined in the permits, BOs, BAs, and "Sea Turtle and Smalltooth Sawfish Construction Conditions." These documents are provided in the appendices of the Specifications. All temporary storage of equipment shall be off the beach whenever possible, or as far landward as possible without impacting the dune system, structures, or access points.
- 46.2.2. Florida Panther.** In order to be compliant with U.S. Fish & Wildlife concurrences for the Florida Panther, the CONTRACTOR shall restrict all truck traffic (loaded or unloaded) to daylight hours for all sections of roads within Florida Panther focus areas.
- 46.2.3. Manatee Protection.** In order to ensure that manatees are not adversely affected by construction activities, the CONTRACTOR shall comply with

all manatee protection measures outlined in the permits, BOs, BAs, and “Standard Manatee Conditions for In-Water Work.” These documents are provided in the appendices of the Specifications.

- 46.2.4. Smalltooth Sawfish.** In order to ensure that smalltooth sawfish are not adversely affected by construction activities, the CONTRACTOR shall comply with all smalltooth sawfish protection measures outlined in the permits, BOs, BAs, and “Sea Turtle and Smalltooth Sawfish Construction Conditions.” These documents are provided in the appendices of the Specifications.
- 46.2.5. Shorebirds.** Shorebirds are protected by State and Federal laws; required protection measures are provided in the State permit and USFWS BOs, which are provided as appendices of the Specifications. Breeding season varies by species. Most species have completed the breeding cycle by September 1, but flightless young may be present through September. Shorebird nesting/breeding season for this site is February 15 – September 1, based on the best available information regarding ranges and habitat use by species for this site. Shorebird monitoring will be conducted by the COUNTY or its representative; the CONTRACTOR shall be responsible for any other protection measures listed in the permits or BOs.
- 46.3. Hardbottom Resource Protection.** The CONTRACTOR shall protect all hardbottom resources (nearshore) during all phases of the project except as noted in the Plans and as allowed by the State and Federal Permits. The approximate location of nearshore hardbottom resources are shown in the Plans.
- 46.3.1. Hardbottom Locations.** Hardbottom communities exist offshore of the beach fill area in Collier County. The CONTRACTOR shall avoid contact with any and all hardbottom communities both during mobilization and demobilization as well as project construction.
- 46.3.2. Hardbottom Investigations.** The hardbottom regions have been investigated within approximately 1,000 feet from the shoreline. These investigations have identified the landward edge of the hardbottom, but not the offshore extent. The offshore edge of the nearshore hardbottom may extend more than 3,000 to 4,000 feet offshore.
- 46.3.3. Hardbottom Impacts.** The location of nearshore hardbottom areas fronting the beach fill areas is provided in the Plans for the convenience of the CONTRACTOR, however, the CONTRACTOR shall not depend solely on the hardbottom mapping provided. It will be solely the responsibility of the CONTRACTOR to avoid all hardbottom formations and hardbottom biological communities other than those that may be located within the beach fill construction template. The CONTRACTOR shall take note that the State of Florida has levied significant fines to contractors who have

damaged protected hardbottom communities. The CONTRACTOR will be responsible for any and all costs, legal expenses, hardbottom repairs or mitigation requirements, or any other related expenses including fines, levied by the Federal, State, or local governments with jurisdictional or regulatory authority for damage to hardbottom communities, other than those hardbottom communities which are, by permit, acknowledged to be covered with fill as part of project construction.

- 46.3.4. Monitoring by Others.** The CONTRACTOR should be aware that all mobilization, demobilization, and construction activities may be monitored by Federal, State, and local agencies for the duration of the project.
- 46.4. Protection of Air Resources.** The CONTRACTOR shall keep construction activities under surveillance, management, and control to minimize pollution of air resources. All activities, equipment, processes, and work operated or performed by the CONTRACTOR in accomplishing the specified construction shall be in strict accordance with the applicable air pollution standards of the State of Florida (Florida Statute, Chapter 403 and others) and all Federal emission and performance laws and standards.
- 46.5. Protection of Sound Intrusions.** The CONTRACTOR shall keep construction activities under surveillance, and control to minimize damage to the environment by noise. If booster pumps or generators are used on the beach, the CONTRACTOR shall provide adequate muffler systems and erect a sound barrier to deflect noise in the waterward direction and away from buildings. The location of the booster pumps and generators shall be selected to avoid placement adjacent to residences, and shall be approved by the ENGINEER.
- 46.6. Dispensing of Fuel.** For each fuel storage tank, the CONTRACTOR will provide secondary containment, which is capable of holding at minimum 110% of the tank contents. Fuel dispensers shall have a 4-foot square, 16-gauge metal pan with borders banded up and welded at corners right below the bib. Edges of the pans shall be 8-inch minimum in depth to ascertain that no contamination of the ground takes place. Pans shall be cleaned by an approved method immediately after every dispensing of fuel and wastes disposed of offsite in an approved area. Should any spilling of fuel occur, the CONTRACTOR shall immediately contain the spill and contact the appropriate local authorities. The CONTRACTOR will be solely responsible for any fines, penalties, or other legal activities related to fuel spills.
- 46.7. Temporary Sanitary Facility.** The CONTRACTOR shall supply and maintain, at minimum, one (1) temporary sanitary facility for the use of land based employees and subcontractors at each unloading site. The facility shall be conveniently located in the vicinity of the beach disposal operation, but away from residential buildings along the coastline. The facility shall be removed at the end of the project. Location and aesthetic of the temporary facility shall be in accordance with any COUNTY or local requirements and/or ordinances.

46.8. Storage of Lubricants. All lubricants and other potential liquid pollutants shall be stored in sealed, non-corrosive containers. Individual containers shall be stored in metal pans with borders banded up and welded at the corners right below the bib. Pans shall be deep enough to prevent contamination of the ground. Pans shall be kept clean of all spillage or leakage.

47. ENVIRONMENTAL PROTECTION TRAINING

The CONTRACTOR shall train all subcontractors and personnel in all phases of environmental protection. All personnel and subcontractors will be familiar with permit requirements, and with the necessity of protection of all habitats. The training shall include methods of detecting and avoiding pollution, familiarization with pollution standards, both statutory and contractual, and installation and care of facilities to ensure adequate and continuous environmental pollution control. Quality control and supervisory personnel shall be thoroughly trained in the proper use of monitoring devices and abatement equipment, and shall be thoroughly knowledgeable of Federal, State, and local laws, regulations, and permits as listed in the Environmental Protection Plan submitted by the CONTRACTOR. Quality Control personnel will be identified in the plan.

48. OIL AND HAZARDOUS MATERIAL SPILLS AND CONTAINMENT

The CONTRACTOR shall ensure that all hazardous material spills are immediately reported to the proper authorities and the COUNTY. All hazardous material spills shall be immediately cleaned up in accordance with the most recent version of the USACE's Safety and Health Requirements Manual, EM 385-1-1, or latest version, and any other applicable laws or regulations, and the plan developed for spill containment.

49. MAINTENANCE OF POLLUTION CONTROL FACILITIES

The CONTRACTOR shall maintain constructed facilities and portable pollution control devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

50. POST CONSTRUCTION CLEAN-UP

The CONTRACTOR shall clean-up any areas used for construction as stated in Section 21.

51. RESTORATION OF LANDSCAPE DAMAGE

The CONTRACTOR shall restore all landscape features damaged or destroyed during construction operations outside the limits of the approved work areas. Such restoration shall be in accordance with a plan submitted for approval by the ENGINEER. This Work will be accomplished at the CONTRACTOR's expense. Final payment to the CONTRACTOR shall not occur until the ENGINEER and COUNTY are satisfied with the CONTRACTOR's effort to restore landscape or any other damage caused by the CONTRACTOR or their subcontractors.

52. MAINTENANCE OF POLLUTION CONTROL FACILITIES

The CONTRACTOR shall maintain constructed facilities and portable pollution control devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

53. PERMIT TIME EXTENSIONS

Construction activities are to be completed before the start of peak sea turtle nesting season, including time for demobilization and tilling. If construction is not completed within the time frame allotted, the COUNTY has no plans to grant or seek an extension of the construction deadline, since it is not the COUNTY's policy to work on the beach during peak sea turtle nesting season. If the CONTRACTOR cannot complete construction in the time specified, then the COUNTY will take one of the following actions:

- (a) Require the CONTRACTOR to remobilize, at the CONTRACTOR's own expense, to complete the project as permit conditions and time frames allow if it is determined by the ENGINEER and COUNTY that the CONTRACTOR failed to complete the project by the end of the construction period as identified in the contract or the permits, due to the negligence of the CONTRACTOR in avoiding delay or lack of competence or capability of the CONTRACTOR in completing the project in a timely manner. The CONTRACTOR will be charged liquidated damages for all delays after the completion date, even if they are caused by permit condition and/or local policy to avoid sea turtle nesting season.
- (b) Terminate the contract and compensate the CONTRACTOR for fill placed within the construction template(s) and for demobilization from the project site in accordance with contract documents, if the delay is determined not to be the CONTRACTOR's fault.
- (c) Negotiate with the CONTRACTOR to seek an acceptable agreement allowing for project completion when (if) permits and regulatory agencies allow for the resumption of project construction activities.

54. NOISE CONTROL

The CONTRACTOR, at times, will be working in close proximity to private residences. As a result, noise control is of paramount importance. The CONTRACTOR shall minimize noise so as not to disturb residents living along or near the beach. All hauling and excavating equipment used on this Work shall be equipped with satisfactory mufflers or other noise abatement devices. The CONTRACTOR shall conduct their operations so as to comply with all Federal, State, and local laws pertaining to noise. The use of horns, whistles, and signals shall be held to the minimum necessary in order to ensure as quiet an operation as possible on the job site, while maintaining safety on the job site. Operations at or near the beach will be restricted to daylight hours. Queuing of trucks near the construction access/unloading sites will not be allowed without prior approval from the COUNTY. If offsite queuing areas are needed, they shall be procured by and at the expense of the CONTRACTOR, and with the approval of the COUNTY.

55. ENVIRONMENTAL PROTECTION PLAN

At least seven (7) days prior to the permit required pre-construction meeting, the CONTRACTOR shall submit in writing an Environmental Protection Plan and qualifications of environmental monitors to the ENGINEER. The Environmental Protection Plan will be sent to FWC for review and comment. A final Environmental Protection Plan must be approved by the COUNTY and FWC before construction may begin. Approval of the CONTRACTOR'S plan will not relieve the CONTRACTOR of their responsibility for adequate and continuing control of pollutants and other environmental protection measures. The Environmental Protection Plan shall include, but not be limited to the following:

- (a) Methods for protection of features and habitats to be preserved within authorized work areas. The CONTRACTOR shall prepare a listing of methods to protect resources needing protection, i.e. all vegetation, trees, shrubs, vines, grasses and ground cover, landscape features, air and water quality, fish and wildlife, soil, historical, archeological and cultural resources, manatees, and the marine hardbottom habitat.
- (b) Procedures to be implemented to provide the required environmental protection and to comply with the applicable permits, laws, and regulations. The CONTRACTOR shall provide written assurance that immediate corrective action will be taken to correct pollution of the environment due to accident, natural causes, or failure to follow the procedures set out in accordance with the Environmental Protection Plan.
- (c) A list of Federal, State, and local laws, regulations, and permits concerning environmental protection, pollution control, and abatement that are applicable to the CONTRACTOR'S proposed operations and the requirements imposed by those laws, regulations, and permits.
- (d) Drawings showing locations of any proposed temporary excavations or embankments for haul roads, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials.
- (e) Environmental monitoring plans for the jobsite, including land, water, air, and noise monitoring.
- (f) Oil spill prevention.
- (g) Oil spill contingency plan.
- (h) A hardbottom protection and avoidance plan.
- (i) A marine (sea) turtle protection plan.
- (j) Shorebird management plan.

- (k) Work area plan showing the proposed activity in each portion of the work area and identifying the areas of limited use or nonuse. The plan shall include measures for marking the limits of use areas.
- (l) The location of the solid waste disposal area.
- (m) A statement as to the person who will be responsible for implementation of the Environmental Protection Plan. The CONTRACTOR personnel responsible shall report directly to the CONTRACTOR'S top management and shall have the authority to act for the CONTRACTOR in all environmental protection matters.
- (n) A statement acknowledging that the CONTRACTOR is responsible for environmental protection, including all of the CONTRACTOR's personnel and subcontractors.
- (o) The Environmental Protection Plan will be dated and endorsed by the individual of top management in charge of the construction.

APPENDIX A

DAILY QUALITY CONTROL REPORT

COLLIER COUNTY
2019 PARK SHORE BEACH RENOURISHMENTS
DAILY QUALITY CONTROL REPORT

Date: _____ Contract Day: _____
(Report is due by 2:00 p.m. of the following day)

Beach Access Utilized: _____

WEATHER: (Clear) (P. Cloudy) (Cloudy) (Rain) TEMP. Min. Max.

Wind Speed: _____ mph Wind Direction: _____
Wave Height: _____ feet Wave Direction: _____

GRADING/DRESSING OPERATIONS – NORTH OPERATIONS:

COMPLETE FROM: _____ feet (north/south) of profile line no. _____
COMPLETE TO: _____ feet (north/south) of profile line no. _____

FILL PLACEMENT OPERATIONS – NORTH OPERATIONS:

COMPLETE FROM: _____ feet (north/south) of profile line no. _____
COMPLETE TO: _____ feet (north/south) of profile line no. _____

GRADING/DRESSING OPERATIONS – SOUTH OPERATIONS:

COMPLETE FROM: _____ feet (north/south) of profile line no. _____
COMPLETE TO: _____ feet (north/south) of profile line no. _____

FILL PLACEMENT OPERATIONS – SOUTH OPERATIONS:

COMPLETE FROM: _____ feet (north/south) of profile line no. _____
COMPLETE TO: _____ feet (north/south) of profile line no. _____

1. Work Performed Today: (Indicate location and description of work performed. Provide beach fill advance over last 24 hours.

2. Results of Surveillance: (Include satisfactory work completed or deficiencies with action to be taken.)

3. Sand Quality Monitoring Did all sand placed today meet the requirements of the contract?
Yes/No? _____.

4. Water Quality Monitoring: Was water quality monitoring conducted today in compliance with project permit requirements of the Florida Department of Environmental Protection Permit and water quality protection laws, and the results provided to the ENGINEER and COUNTY?
(Yes/No)?_____.

Beach sampling occurred at the following times:

5. Verbal Instructions Received: (List any instructions given by the ENGINEER or COUNTY, construction deficiencies, retesting required, etc., with action to be taken.)

6. Remarks: (Cover delays and any conflicts in Plans, Specifications or instructions.)

7. Safety Inspection: (Report violations noted; corrective instructions given; and corrective actions taken.)

8. Equipment Data: (Indicate items of construction equipment other than hand tools at job site and whether or not used and if operable.)

9. Progress Summary:

Description	This Day	To Date
Worked Hours		
Downtime Hours (Explain Below)		
Length of Fill Placement Advance on Beach (ft)		
Number of Truck Deliveries		
Sand Quantity Placed (estimated tons)		
Accepted Quantity (tons in accepted sections only)		
Linear % Completed		

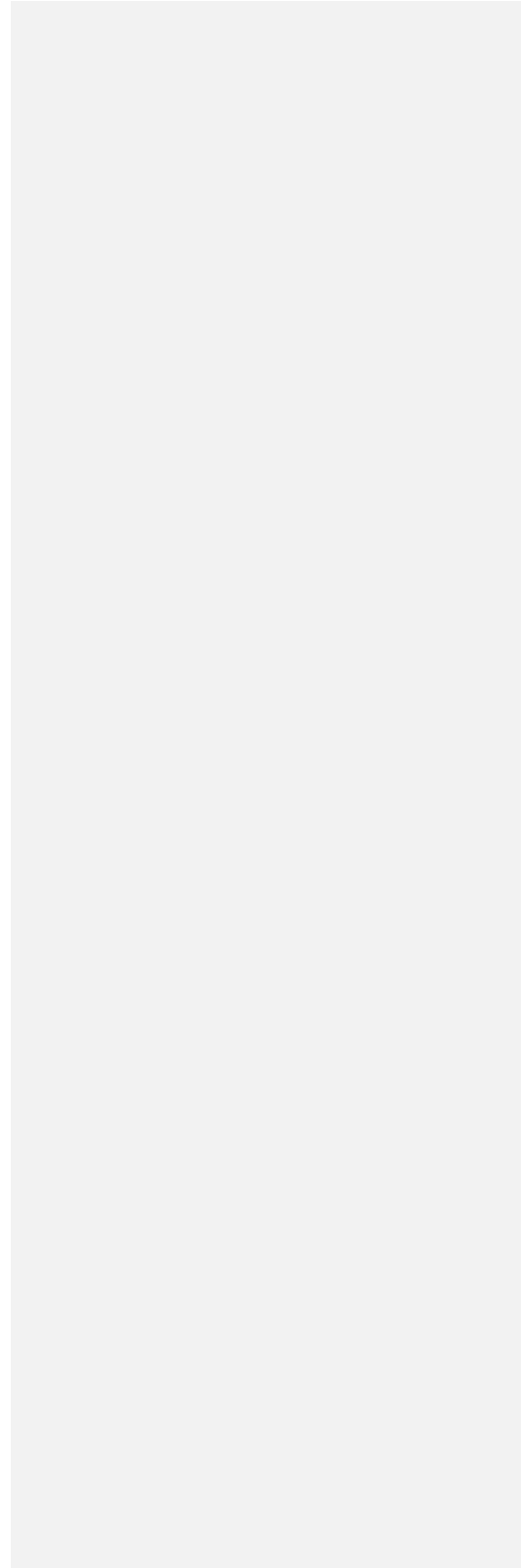
Explanation of Downtime:

CONTRACTOR's Verification: The above report is complete and correct, equipment used, and works performed during this reporting period are in compliance with the contract Plans and Specifications except as noted above.

Contractor's Approved Authorized Representative

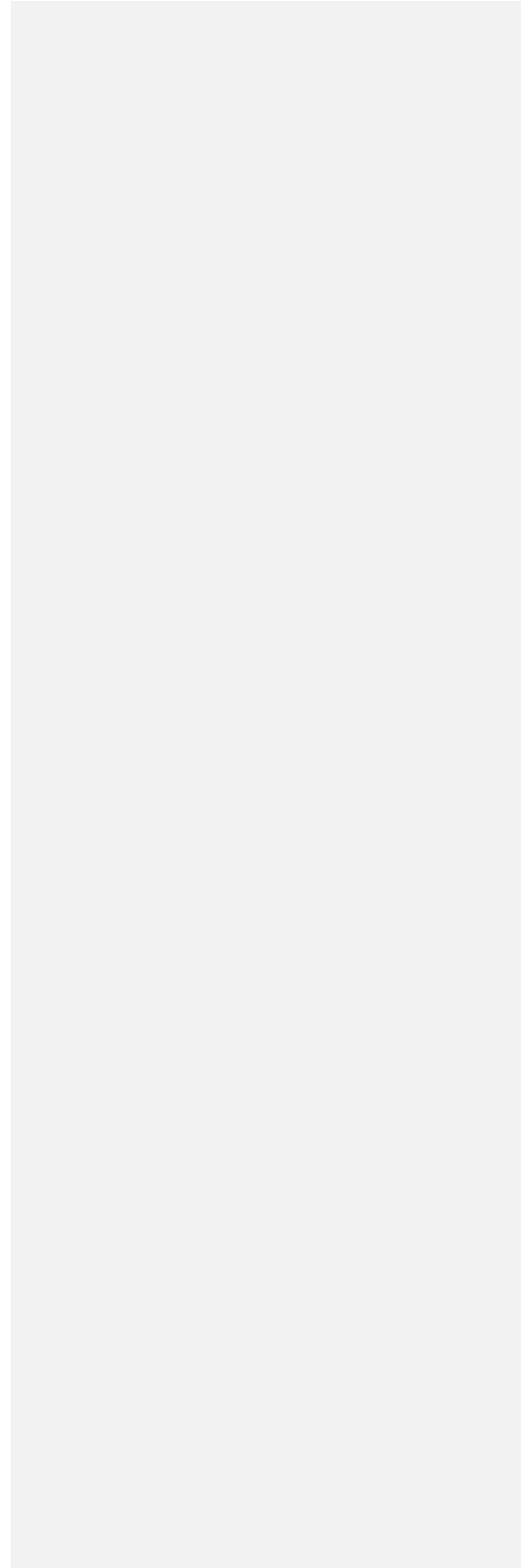
APPENDIX B
TRUCK ROUTES

APPENDIX C
CONSTRUCTION PLANS

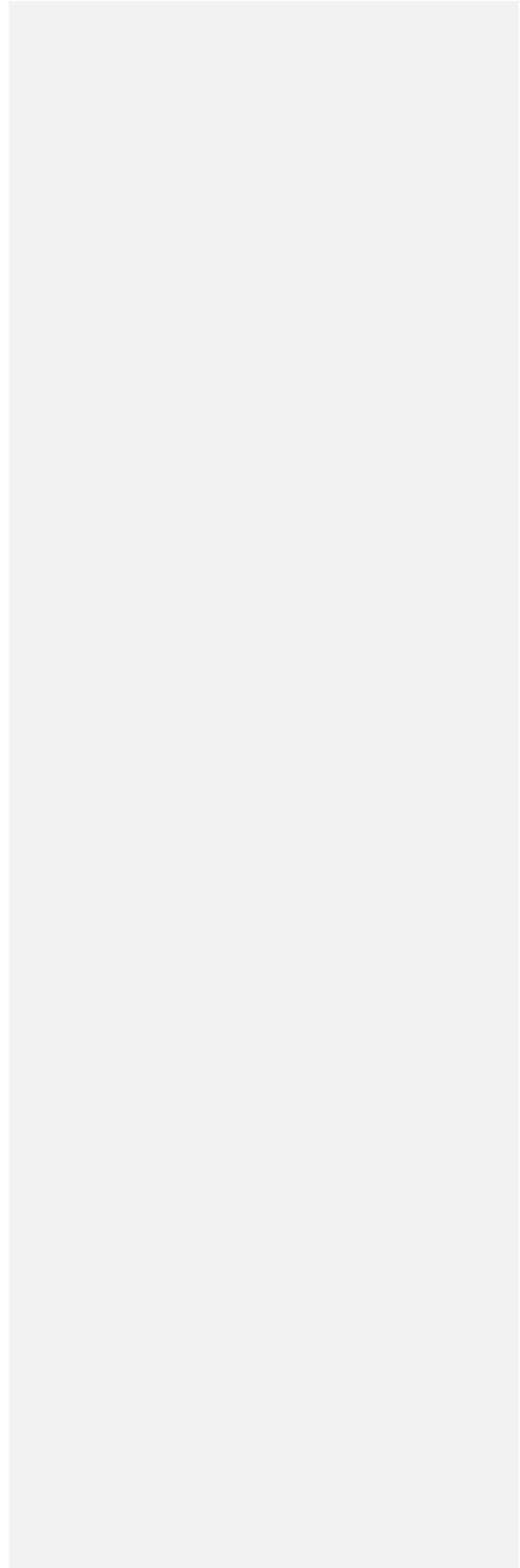


APPENDIX D

PROJECT BASELINE STATIONING INFORMATION

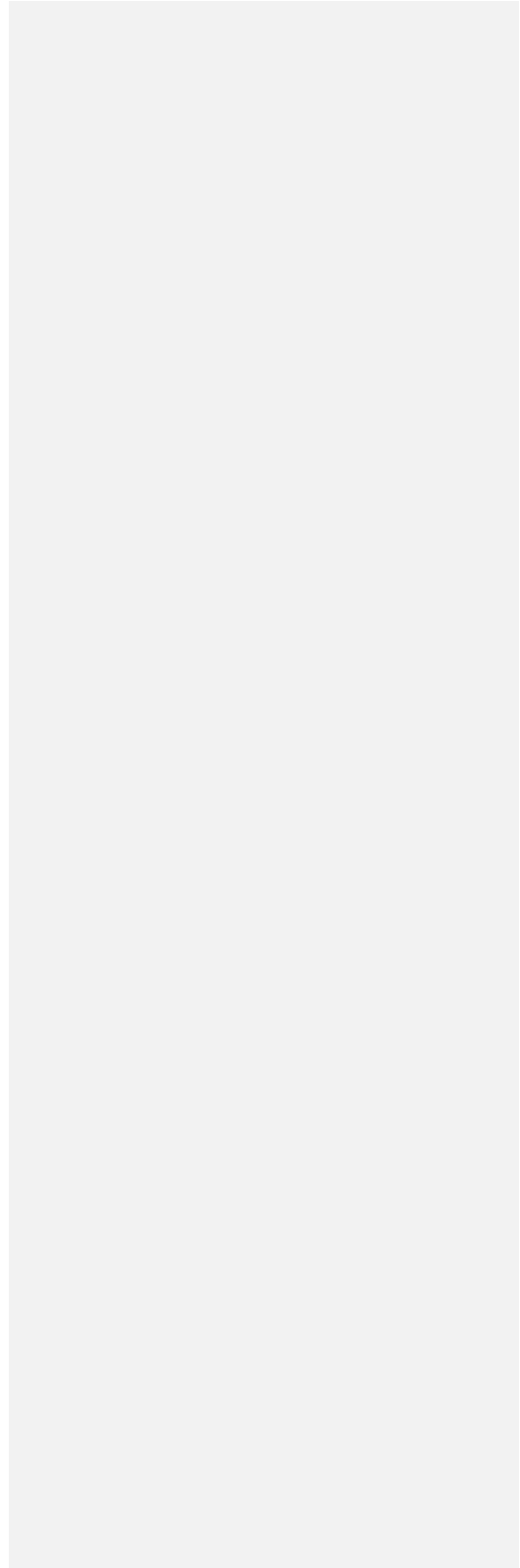


APPENDIX E
SEDIMENT QA/QC PLAN



APPENDIX F

FDEP PERMIT



APPENDIX G

USACE PERMIT

