EMERGENCY BEACH FILL PLACEMENT ON LONGBOAT KEY USING LONGBOAT PASS FLOOD SHOAL SAND TRAP

MANATEE COUNTY, FLORIDA

WEST COAST INLAND NAVIGATION DISTRICT

WORK PLAN

PREPARED BY:

CAVACHE INC.
280 NW 12TH AVENUE
POMPANO BEACH, FLORIDA 33069

CAVACHE Inc.

PROJECT NO. 13-024 LP

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INTRODUCTION

Cavache Inc. has the expertise, equipment, personnel and experience to assure that the dredging emergency beach fill placement and dredging of the sand trap will occur as quickly and efficiently as possible.

We are fully aware of the owner's needs and requirements as well as the environmental permit conditions associated with this work and will perform the dredging in such a manner as to satisfy all the contract needs. Cavache has completed several similar projects over the years and will provide references and contact names for verification.

This plan will outline Cavache's proposed dredging operations. The project itself involves the dredging of approximately 99,000 CY of beach sand material from the Longboat Pass Shoal Sand Traps onto Longboat Key's northern beach area. There are two designated fill sources for this project, Cut 2A, 2B and Cut 1. Up to 8,000 LF of discharge pipeline will be necessary to perform the work..

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CAVACHE Inc.

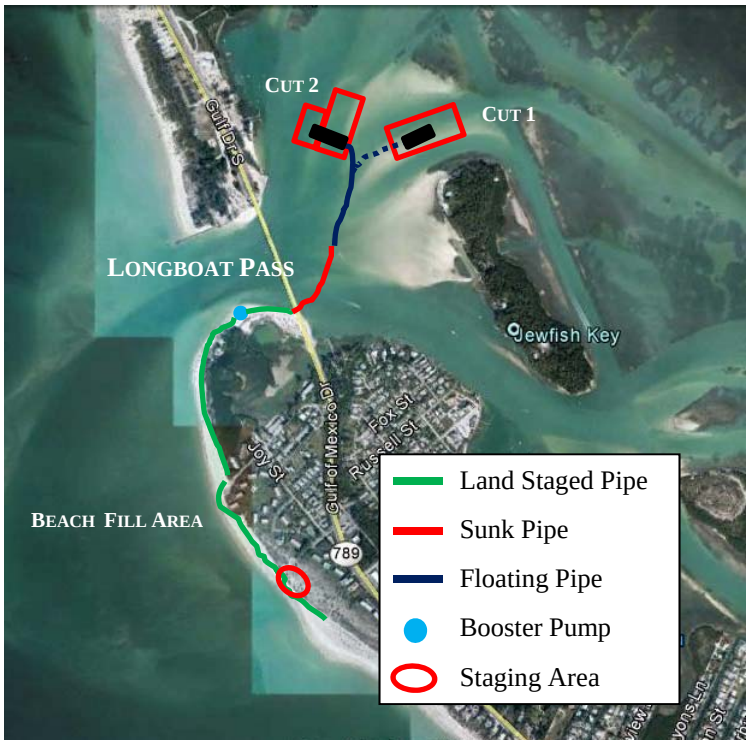
PROJECT NAME:

Emergency Beach Fill Placement on Longboat Key using Longboat Pass Flood Shoal Sand Trap

PROJECT NO. 13-024 LP

DESCRIPTION OF WORK ACTIVITIES AND SEQUENCING

This project will implement Option 2 of the original Bid. This involves the dredging of approximately 99,000 CY from the designated borrow areas identified as Cut #1 and Cut #2. Material will be placed along an approximately 2,500 linear foot stretch of beach to the design template elevation of +5.0 feet NAVD88. Cut #2 consists of two areas, Cut 2A and Cut 2B, totaling around 72,000 CY. Cut 2A has dimensions of 275' x 950' with a maximum dredge depth of -10.8 feet NAVD88. Cut 2B is 250' x 550' located partially in the navigation channel with a maximum dredge depth of -11.6 feet NAVD88. Cut #1 will provide an additional 27,000 CY of material. Cut #1 is 300' x 800' and has a maximum design depth of -7.4 feet NAVD88.



PROJECT LOCATION

Work will be conducted in accordance with Cavache Inc.'s Environmental Protection Policies, Health and Safety Plan (APP), the Contract Documents, and in accordance with the conditions of the applicable permits. This is a heavily visited recreational area and Cavache expects large numbers of boaters both passing the dredge in the channels, anchoring on the sandbars near Jewfish Key and running ashore at the northern beach area on Longboat Key. The pipeline will be sunk across the Channel just west of Longboat Key. The channel will be marked with buoys to notify boaters of the safe passage area. Once outside the channel, in the extremely shallow waters, the pipeline will be floated and marked with large orange rotonics buoys and signage. Cavache will not sink the pipeline where, during low tide, the potential exists for a boater to run into the submerged pipe. The pipeline will be marked with flashing lights at night to help prevent incidents with the general public. A watchman will be patrolling the dredge and beach area during off-work hours.

The material will be dredged from the sand trap borrow areas via hydraulic pipeline to the beach. In areas where the pipeline crosses a navigational channel, it will be sunk to avoid impeding boating traffic. Once it can be brought onshore at the beach, it will be run along the eastern edge of the beach with sand crossing provided to allow pedestrian traffic to cross the pipeline. A booster pump will be placed on the beach at the northern end of Longboat Key to facilitate movement of the material to the beach.

The proposed staging area at the beach will be from Broadway Street. This area has a vehicular access gate and a wide transit path that can be utilized for the delivery of the pipe and equipment. The North Beach Access has an existing seawall. To prevent damage to the seawall, Cavache will utilize this access for personnel only. The excavator will be routed along the beach, around the seawall during low tide, to access the northern fill area. In addition, inquiries are being made with regard to using the dock area at Coquina Park on Bradenton for mobilizing barges and equipment. Coordination will be with the Town of Longboat Key regarding access and potential temporary closures of the access points to the public for safety reasons.

The project has a total duration of 90 calendar days once dredging operations have started. It is anticipated that dredging operations will begin on or around May 14, 2014. As such, the project falls within the nesting seasons of various types of shorebirds and starting in May the marine turtles as well. The borrow areas are located within Florida Outstanding Waters which have stringent conditions with regards to water quality. Wildlife observers and turbidity monitors are being provided by the Town of Longboat Key.

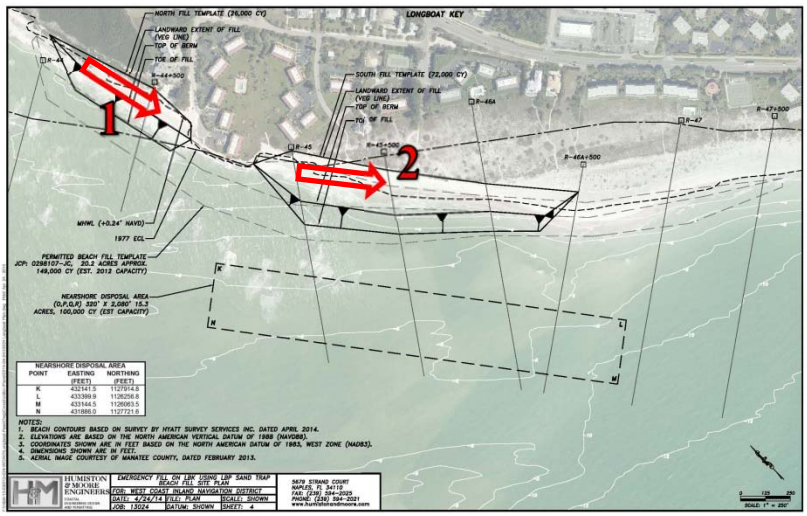
PROPOSED WORK SEQUENCING

Cavache has given careful consideration to the proposed work sequencing with regard to both the dredge cuts and the beach placement. Adjustments can be made in the field depending upon the field conditions encountered. Based on experience, Cavache has found that sand typically removed from close to a channel is slightly lesser quality that sand dug from other areas. As such, Cavache intends to excavate the Cut 2B (which is in the channel) and the "southern" half of Cut 2A first. The cut will be taken moving perpendicular towards the navigational channel. This will minimize interaction with the boating public and at the same time will get the dredging operations away from the major boating traffic as quickly as possible. As the material being removed from here may be potentially lesser quality, Cavache is proposing to utilize it to fill the 27,000 CY of fill designated for the beach area north of the seawall first. While we understand the concern of filling the southern portion first, Cavache feels that this sequence will provide the better quality material for the main beach while at the same time getting the dredging operations out of the channel quickly. It will enable the remaining pipeline for the southern portion of the beach fill template to be fused while dredging operations have already begun.

The excavator will have to traverse the site and move around the existing seawall and riprap to string out the pipeline to the north. It will then remain and direct the discharge, building up the beach on the north. The excavator will also grade and sweep smooth the newly placed material. At this time, we anticipate the northern beach to be accessible by the excavator only. The dozer is not configured to pass safely waterside without potentially damaging the equipment due to saltwater. The engine for the excavator sits high up and as such runs less risk of being damaged by saltwater intrusion than the dozer. Accessing the site from the northern access point will be limited to personnel. Cavache has revisited the area and will not attempt to bring any heavy equipment over the seawall, thus avoiding any potential damage to the seawall.

Upon completion of the northern section of beach, additional pipeline will be added to route the discharge to the south. By this time, a third of volume of material from Cut 2A and 2B will have been added to the beach. The excavator will be used to connect the remaining pipeline and will then return to the south beach by passing seaward of the seawall. The remaining material will be from outside of the existing channel, from Cut 2A, and from Cut 1 which will likely be the more attractive looking beach sand. The other advantage to this sequence is that any surplus material that may be dredged, due to sloughing in and sand transport from wave action and currents, will be placed on the more critical southern beach area. It will also minimize the amount of completed beach area being disturbed while demobilizing and will allow the longest reaches of beach to remain open to the public.

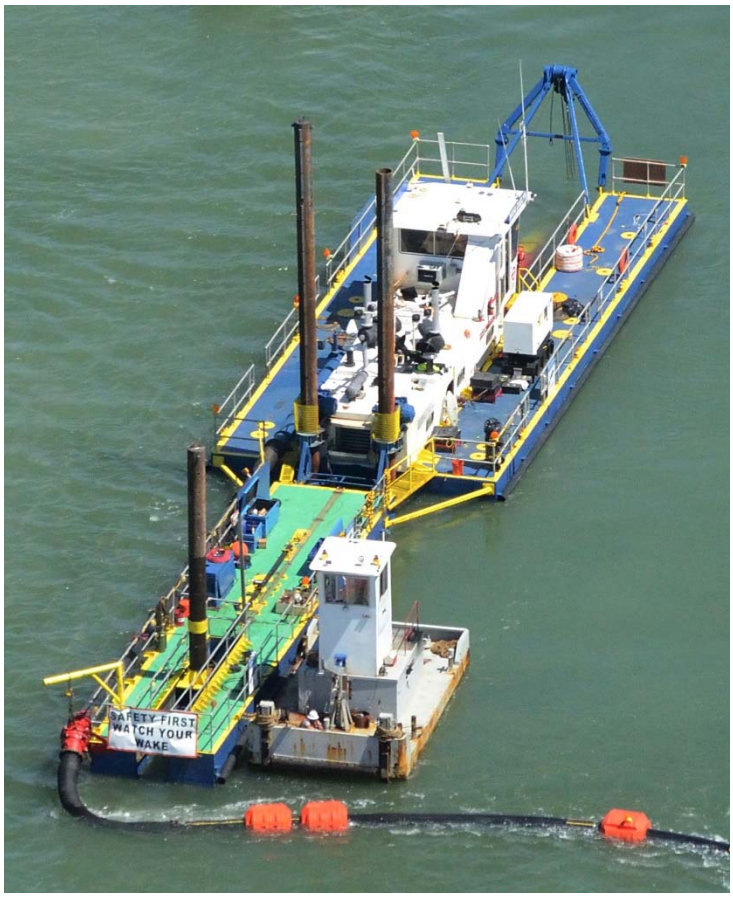
This sequencing can be adjusted as needed to accommodate the Owner and field conditions.



PROJECT LOCATION

MOBILIZATION

Cavache will begin mobilization of equipment and pipelines almost immediately. The pipeline will be brought to the beach staging area on trucks and fused on site. For safety purposes, the primary beach access will be closed for approximately two days to allow for the movement of majority of equipment and materials. As sections of pipeline are fused together, they will be pulled up the beach using a chain come-a-long and the excavator. At the existing seawall, Cavache will wait for a low tide to allow the excavator to move past the structure. The sections will continue to be pulled into position along the beach and ultimately floated out to the dredge to be connected. At the channel the pipeline will be sunk utilizing concrete collars and clump weights. Due to access limitations, the booster pump will be brought to the site on barges and pushed on the beach at high tide at the north tip of Longboat Key. It will be anchored to ensure it will not move with the tidal cycles. In the water, the pipeline will be partially floating and partially submerged. Signage, marker buoys and lights will be conspicuously located to prevent run ins with the boating public. The pipe line will be floating behind the dredge, in the shallower waters and outside of the primary boating channel.



MAYA CAELYN AND LIL HILLARY

The dredge to be used for this project, the 2010 Maya Caelyn, is a 16-inch Ellicott 1170 conventional dredge, configured with the dredging ladder attached to the forward end of the center hull section. The cutterdrive system is mounted on the toe of the dredging ladder and a ladder A-frame is pin connected to the forward end of the two side flotation pontoons.

The dredge will be supported by the work boats “Lil Hillary” and the “Miss Candice”.

The pipeline is 18” black HDPE SDR 17 dredge pipe. HDPE pipe is fused using a McElroy fusing machine. This creates watertight seams and a contiguous and extremely strong and flexible pipeline. The pipeline will be sunk at the channel crossing and afloat directly behind the dredge. It will be brought onto the beach at the first possible location. The floating pipeline will

be affixed with large orange rotonic buoys to keep it afloat and also signifying their location and acting as warning markers.

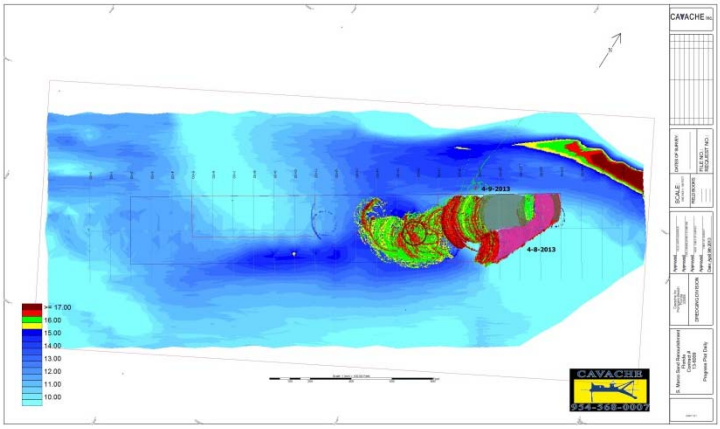
Pipeline signage shall be posted in conspicuous locations along the floating pipeline segments of the dredge pipeline with the wording "DANGER - HIGH PRESSURE DISCHARGE FROM DREDGE". The pipeline shall also be marked with buoys and flashing lights for non-daylight hours. The spacing of the lights shall not exceed 200 ft. Lateral movement of the pipe shall be restricted through the use of the concrete collars and weights and/or anchors.

SURVEY

Prior to begin of dredging operations, a bathymetric survey will be conducted by a Florida licensed surveyor, Terraquatics. The pre-construction survey will be performed while the pipe is being fused, environmental control measures are being installed and the dredge and equipment are being mobilized. This will allow sufficient time for the engineer of record to review and approve the survey. A current survey was conducted by the Engineer of Record and will be compared to the Pre-construction Survey to ensure the accuracy. A pre-construction survey of the beach area will also be performed prior to mobilizing any construction equipment on the beach.

Upon completion, the surveyor will perform a post-construction bathymetric survey for determination of dredge volumes and adequacy of the dredge template. The dredge will remain on site should any corrective measures need to be completed based on the survey. The beach fill template will also be surveyed to ensure that the fill placement meets the required lines and grades.

It should be noted that to ensure the dredge depth and cut, Cavache's dredges are equipped with the Hy-Pack and Dredge-Pack dredging software. In this way, the dregde operator is receiving real time information of the dredge head location relative to depth and horizontal components. The software is programmed based on the survey information and provides an accurate visual to track the progress. The software also logs this information on any desired interval up to every six seconds. This ensures that the dredge cut is always within the template. A dredge plot similar to the illustration will be provided with the daily reports.

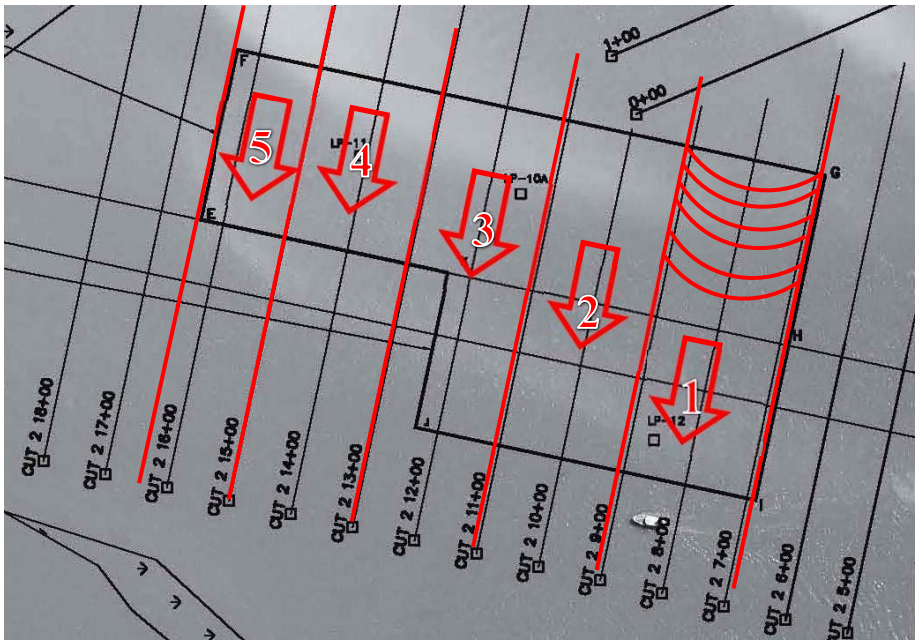


TYPICAL HY-PACK DREDGE PROGRESS PLOT

DREDGE AREA

Dredging operations will be a single shift (6) days a week, with the option of seven (7) days/24-hours per day for the dredging operations. Mobilization and peripheral activities and shown in the schedule as five (5) day work weeks, but may be extended up to a seven (7) day work week to expedite progress. The intent is to potentially shut down the dredging operations on Saturdays which are typically the busiest day with regard to the boating public and beachgoers. The dredge can complete an approximately 250 foot wide cut width in a single sweep. Dredging will occur in multiple passes in each area.

Cut 2A and 2B will be completed generally from North to South progressing east to west from Station 7+00 to 16+00. The dredge will cover an approximately 200 foot swing radius. It will complete the entire width of the cut before resetting and proceeding with the next cut. The procedure outlined here will be adjusted as necessary to account for field conditions, weather, boating traffic, etc.



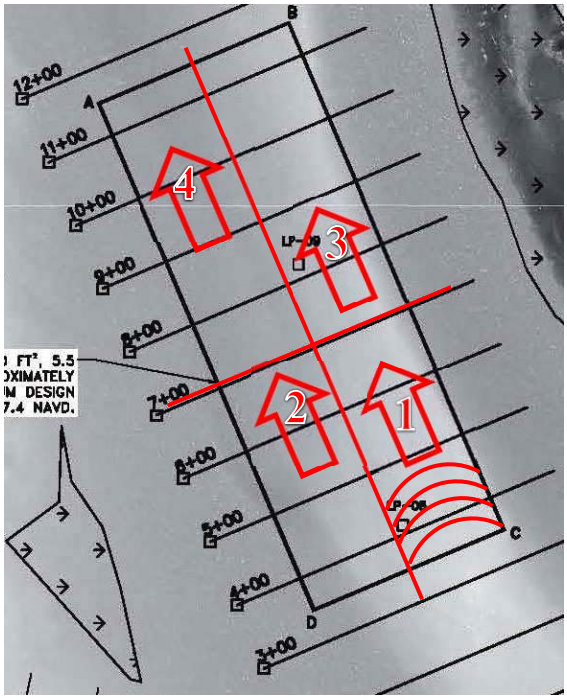
CUT 2A & 2B – PROPOSED DREDGE PATTERN

Cut 1 will be completed in two passes as well starting from the southeast and moving generally north about halfway before resetting to complete the southwest area headed north. The area is too wide to complete in a single pass and as such two passes will be used to dredge to the design template. Daily dredge plots from the dredge's Hy-Pack system will be provided as part of the Daily Production Report. These dredge patterns will also keep the floating pipeline out of the major travel channels.

The dredge operates with a spud carriage barge. This barge enables the dredge to be moved forward and walk without continual resetting of the spuds. This is an efficient means for moving the barge especially for this type of dredging where the material is in environmetally sensitive area. The use of the spud carriage barge limits the number of times the spuds must be reset, thus reducing the amount of sediments stirred up. The dredge is brought into postion and the spud carriage barge lowers the spud to hold the dredge in position. The support boat then positions the forward anchors so the dredge can swing between them. The rear spud acts as the pivot point. As the dredge completes a sweep, the hydraulic piston pushes the dredge forward the

desired distance. Once the limits of the track have been reached, 18 feet of stroke, the dredge's anchor spud is lowered, the carriage barge spud is raised, and the piston pulls the spud back into position to start the push cycle over.

Crew assigned to the dredge will consist of the Dredge Operator, a deckhand and an Engineer. Any maintenance and/or addition or movement of pipe will be completed after the ten-hour dredge shift. In this manner there will be little interference to the dredging operation. Shut-downs during dredging are typically the result of encountering debris which requires the cutter head from being cleared. Any garbage or debris that is encountered will be brought up onto the deck and placed in a container for removal offsite.



CUT 1 – PROPOSED DREDGE PATTERN

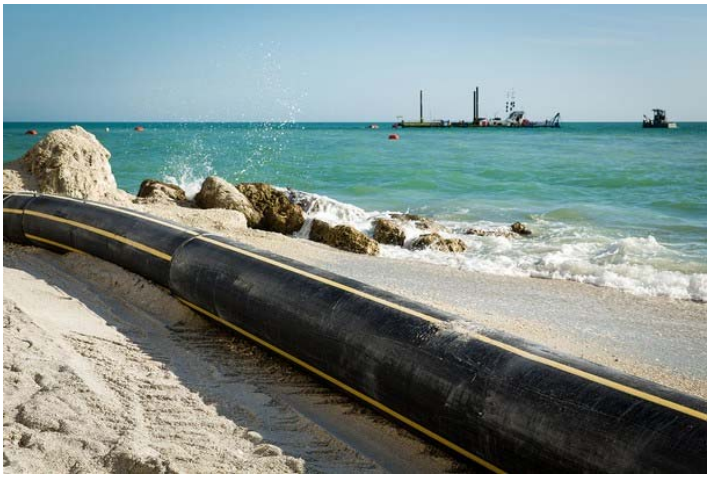
The least amount of pipeline for safe operations will be floating behind the dredge. This will prevent interference with the boating public in the area. In the shallow waters, it is safer to float the pipeline as a visual to boaters than to submerge it and risk a collision. The dredge itself can be maneuvered out of the way of any boat traffic as needed. Maritime traffic will be routed around the dredge operation typically to the north of the floating plant. To sink the pipeline, concrete clump weights will be affixed to the pipe which will bring the segments to the bottom and to anchor them in position to prevent lateral movement of the pipe during tidal cycles. The land based pipe will be placed near the dunes, away from the waterline, in such a way as to prevent interference with existing vegetation and to prevent movement of the pipeline due to tidal events and weather.

Cavache's dredges are equipped with the Hy-Pack and Dredge-Pack dredging software. This software provides provides the operator with a visual real-time image of the dredge's progress within the limits of construction. The dredge operator is receiving real time information of the dredge head location relative to depth and horizontal components. These components are corrected with GPS and a tidal gage set in a secure location. The software is programmed based on the original survey information and provides an accurate visual to track the progress. The software also logs this information, including GPS coordinates and depth of cut, on any desired interval up to every six seconds. This ensures that the dredge cut is always within the design template.

BEACH AREA

The beach area will be surveyed prior to bringing in any construction equipment. In addition, all environmental protection measures and safety controls will be installed prior to starting the work.

The work will begin at the north end of the beach. As the timing of the operations may potentially occur during turtle nesting season, barricades and caution tape, in lieu of the typically used orange safety fencing, will be used to close off the construction limits. This will prevent potential entanglement by sea turtles. Monitoring of sea turtle activities is being performed by a third party authorized and provided by the owner, Additional barricades will be placed running perpendicular to the shoreline to discourage the general public from traversing the work site. A sufficient corridor for pedestrian traffic will be allowed to remain along the eastern limits near the existing dunes and adjacent to the dredge pipeline. Cavache will make every effort to minimize the area of beach being closed off, but will not compromise safety. The barricades and warning tape will extend into the water at the high water mark. It is not feasible to close of the water's edge due to tidal cycles, but there will be clearly marked construction limits. Beach closure signs will be posted advising the public of the construction activities and that access is strictly prohibited. If it appears that controlling the public on the site is becoming an issue, additional barriers will be installed to deter pedestrians from the site.



Once the pipe is delivered to the work area, it will be fused on site and strung into position. The pipe will be fused on the beach and floated out into Longboat Pass to connect to the dredge. Once the pipe is in position, the pipe segments within the channel will be sunk through use of a concrete collar and clump weights or anchors. Only a small portion of the pipe will remain afloat to allow the dredge to move up and down along the sand trap limits. The pipe, where it comes ashore, will be anchored to prevent lateral movement and potential damage to the pipeline.

An advisory sign shall be posted at the beach to make the public aware of the dredging operations and progress.

Once the safety barriers are installed, and prior to any dredging operations beginning, the heavy equipment will be brought to the site. The excavator will be used to throw up a containment berm for the dredge spoil material parallel to the beach. The berm will be created on the west side near the limits of construction within the tidal zone. It will be created from existing material on the beach and is designed to be slowly sloughed away by wave action. Typically at this stage the only remaining material in this tidal zone is fairly dense and it does not stay suspended long. As such, the berm will act as a barrier to turbidity as well as containment for the dredged material. The excavator will also continuously work the discharge material as it exits the pipeline. In this manner it continually creates a depression for the discharge waters to dissipate in and removes sand, building the berm and nourishing the beach.

The pipeline will run along the east limits of the work area and generally be out of the way of the major portion of the dredging operation. The fused pipe is fairly flexible and can be moved out of the way to allow for grading underneath and around it. The pipe will discharge the dredge material near the higher elevations to allow for the excavator and/or dozer to push it down the slope and grade it out. As the material is pushed towards the containment berm on the seaward side, wave action will begin eroding it and bringing the material into position.

On the beach, the pipeline will have sand ramps to create a crossing for the general public. The crossings will be located at all public and private access points to the beach as well as at 500 foot intervals. The access ramps shall be marked with survey stakes and flagging.

The area where the material is being pumped to is at a higher elevation than the existing grade. As such, water from the dredge spoil will naturally flow from the newly dredged material north along the existing beach and the constructed berm and be removed by the wave action. Turbidity control will be later in this plan.

SUPPORT EQUIPMENT

Various pieces of support equipment will be required for proper dredge operation. This includes, but is not limited to a dredge tender boat, survey boat, booster pumps, excavator, dozer and loader. Equipment may be replaced, changed, or added throughout the course of the project.

HEAVY EQUIPMENT BEACH SITE

Work at the beach will be supported by a CAT 345B track excavator or equivalent. The excavator will be used to load and unload equipment and pipe. It will also be used during construction to clear the end of the pipe and move the pipe around for material dispersal. The equipment is owned by Cavache Inc.

EXCAVATOR AND BULLDOZER WORKING ON BEACH NOURISHMENT

D6H LGP Bull Dozer
CAT 345B Track Excavator
JD 744E Wheel Loader

McElroy 618 Fusing Machine

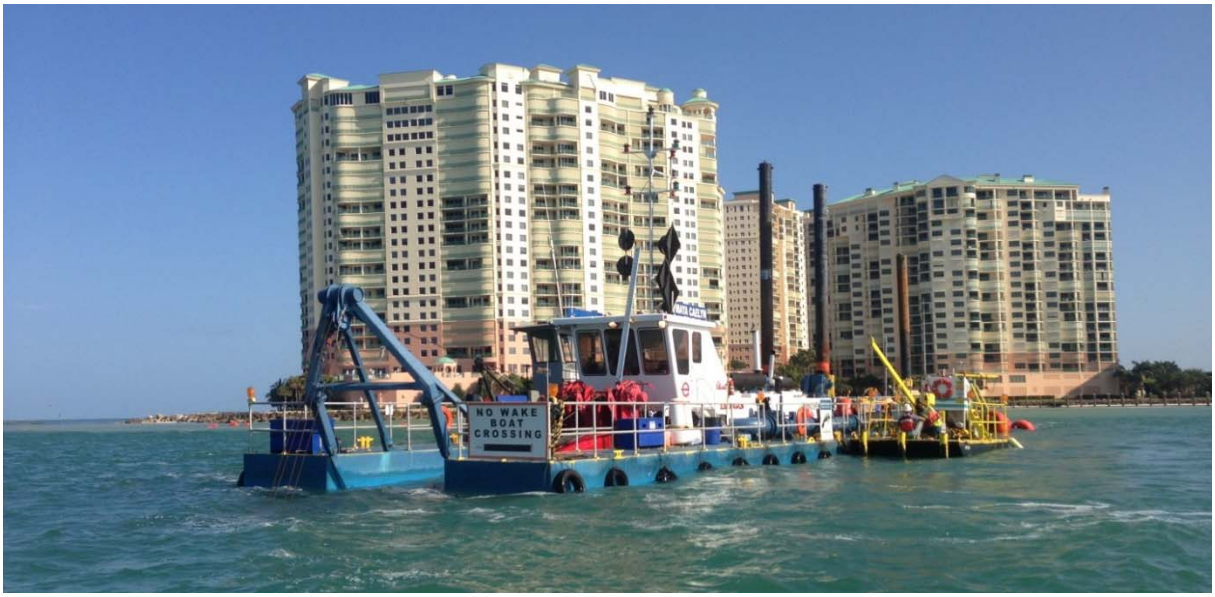
11,000LF – 18" HDPE SDR 17 Pipeline

MCELROY 618 FUSING MACHINE

SDR PIPE

DREDGE

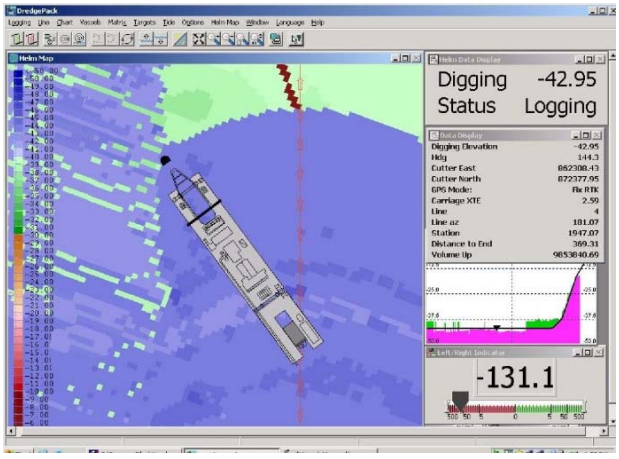
2010 Maya Caelyn, is a 165'x28' 16-inch Ellicott 1170 "Dragon" conventional dredge, Hull 400890, Model # 011D1616050, with 1,000 HP CAT C32 Engines. The dredge is configured with the dredging ladder attached to the forward end of the center hull section. The cutter drive system is mounted on the toe of the dredging ladder and a ladder A-frame is pin connected to the forward end of the two side flotation pontoons.



16" ELLICOTT 1170 DREDGE "MAYA CAELYN" 2010

POSITIONING SYSTEM

The dredge is equipped with real-time electronic positioning equipment that continuously measures the vertical and horizontal location of the dredge. Includes ***Dredgepack*** hydrographic surveying software package, Crescent VS100 Series GPS Compass.



HYPACK/DREDGEPACK SOFTWARE - DREDGE DISPLAY

SPUD CARRIAGE BARGE

The dredge operates with a spud carriage barge which enables the dredge to be moved forward and walk without continual resetting of the spuds. This is an efficient means for moving the barge especially for this type of dredging where the material is in a canal or channel with a limited swing. The dredge is brought into postion and the spud carriage barge lowers the spud to hold the dredge in position. The support boat then positions the forward anchors so the dredge can swing between them. The rear spud acts as the pivot point. As the dredge completes a sweep, the hydraulic piston pushes the dredge forward the desired distance. Once the limits of the track have been reached, 18 feet of stroke, the dredge's anchor spud is lowered, the carriage barge spud is raised, and the piston pulls the spud back into position to start the push cycle over.

SPUD CARRIAGE BARGE

SUPPORT BOATS

"*Miss Candice*" 26 foot Pushboat, Twin Screw, 250 HP each
2011 "*Hillary*" Cavache Dredge Tender with 5,000lb Hoist 25 Foot, Single Screw, 175 HP

"MISS CANDICE" DREDGE TENDER

"HILLARY" DREDGE TENDER

BOOSTER PUMP

Godwin Dewatering Pump

GODWIN DEWATERING PUMP

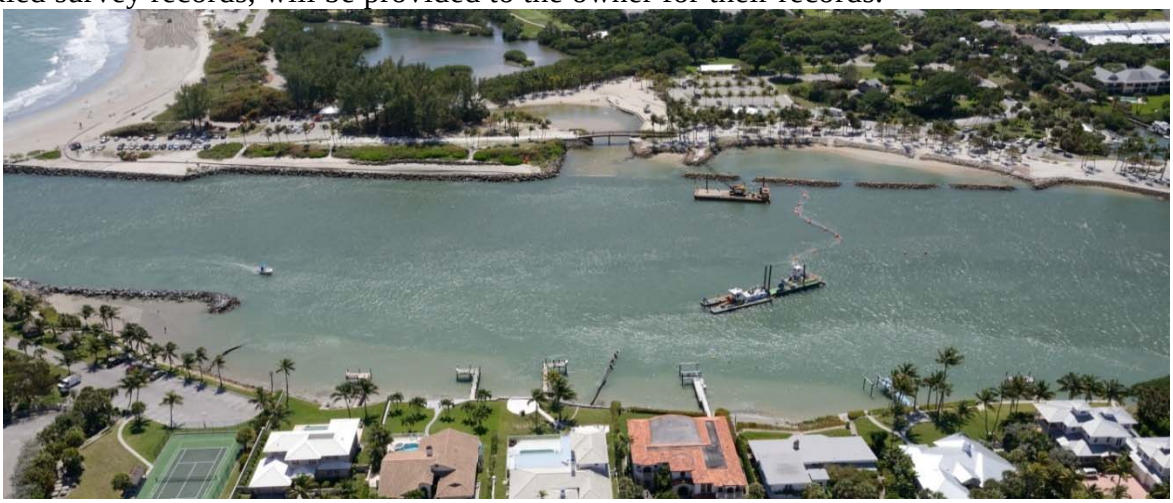
PRODUCTION VALUES

99,000 cubic yards of material are expected to be dredged. We have created a more conservative estimate for dredging production for purposes of the schedule. The estimate for production is around 2,750 CY of material per ten hour shift. For scheduling purposes we are estimating approximately 45 working days of actual dredging. This will allow for the necessary movements and a slow enough progress to prevent turbidity becoming an issue due to the Florida Outstanding Waters. Cavache has also investigated the site to gain a better understanding of the tidal cycles and potential currents in the area. Cavache will complete the project within the allowable 90 days, or less, after commencement of dredging as described in the Contract. The greatest impediment to progress is typically weather, tidal conditions, and environmental impacts. The fact that there are identified seagrass in the area, based on a 2009 survey, Cavache anticipates that the sweep of the dredge will be somewhat slower and more methodical than in other areas to prevent stirring up sediments that may potentially damage the seagrass.

CONSTRUCTION CLOSE-OUT

As sections of the dredge and beach areas are completed, the surveyor will perform interim acceptance surveys and provide volume calculations based on the pre-construction information. Once everything is complete and accepted, the dredge will be sailed back to the offsite staging area and the pipe will start to be removed. Anchors will be brought up and the pipe will be dragged in long segments on the shore where it can be cut with a chain saw and loaded onto trucks. Some segments will be floated off the site and disassembled at an offsite location. A clean box will be constructed at the dredge spoil site to ensure that all HDPE shavings from the cutting process are captured and disposed of offsite.

The staging area will be cleaned up and any debris removed. Any punch list and clean up items will be completed for final inspection. As-built documentation, including signed and sealed survey records, will be provided to the owner for their records.



TURBIDITY MONITORING/WATER QUALITY

Minimizing turbidity is a critical component of a successful project. Several measures will be in place to minimize the turbidity generated at both the beach area and the borrow area.

Turbidity readings will be taken by a third party authorized and supported by the Owner. Cavache will only be taking readings if nighttime operations are planned to supplement the readings from the independent monitor. The turbidity monitor will have the authority to stop work should turbidity levels exceed the allowable 29 NTU limit in the Gulf of Mexico and 0 NTU within the Florida Outstanding Waters Boundaries. Samples will be taken for both background and compliance at depths. Turbidity compliance samples will be taken in accordance with the requirements of the permit.

The Contractor's Daily Production Report will record the turbidity readings as they are made available from the third party monitor.

Dredge Site: Turbidity readings are to be taken approximately every four (4) hours during times of dredging and discharge activity. Background samples will be taken at surface and mid depth, at least 300 meters up-current from the dredge, clearly outside the limits of any visible plume or influence from the dredge operations. The Compliance Sample will be taken at surface and mid-depth, no more than 150 meters down current from the dredge location or at the edge of any seagrass bed, whichever is closest to the turbidity source, in the direction of flow, where the densest portion of the turbidity plume crosses the edge of the mixing zone.

Beach and Nearshore Fill Sites: Turbidity readings will be taken approximately every four (4) hours during times of dredging and discharge activity. Background samples will be taken at surface and mid depth, at least 300 meters up-current from any portion of the beach or nearshore area that has been, or is being, filled at the same distance offshore as the compliance sample, clearly outside the limits of any visible plume or influence from the dredge operations.

The *Nearshore* Compliance Sample will be taken at surface and mid-depth, no more than 500 meters down current from the point of discharge in the Gulf of Mexico, in the direction of flow, where the densest portion of the turbidity plume crosses the edge of the mixing zone.

At the *Beach* the Compliance Sample will be taken at surface and mid-depth where the densest portion of the turbidity plume crosses the edge of the mixing zone polygon measuring 250 meters offshore and up to 500 meters alongshore from the point where the return water from the dredged discharge reenters the Gulf of Mexico.

The *Intermediate* sample will be taken within the approved mixing zone, along the densest portion of the turbidity plume (or in the direction of flow if no plume is visible), 150 meters and 250 meters from the point of discharge into the Gulf of Mexico. This data will be used to adjust the size of the mixing and is not for compliance reasons.

Turbidity levels are not to exceed 29 Nephelometric Turbidity Units (NTUs) in the Gulf of Mexico and zero (0) in Outstanding Florida Waters (OFW). Typical background turbidity levels may vary throughout the course of a tidal cycle. For this reason, several measurements may be made throughout the tidal cycle to determine the range of background turbidity based upon conditions. Turbidity measurements will be recorded on the contractor's daily report if available from the independent monitor. A map will be included showing the location and GPS coordinates where the sample readings were taken.

To minimize turbidity, the cutter head will sweep will be slow and deliberate. Movement of the dredge will be minimized to prevent stirring up the loose sediment. Effort will be made to schedule operations around the tidal changes. If necessary, operations will be temporarily halted during times of extreme tidal change when the outgoing tide will capture and rapidly transport any suspended sediments. Effort will be made that safety inspections, maintenance and modification to the dredge pipe length be made during cycles of maximum flow.

If turbidity levels exceed the allowable 29 NTU (or 0 NTU in OFW) within a visible plume, dredging operations will be stopped until the turbidity levels return to normal and corrections have been made. Current conditions will be noted to see if the tidal cycle caused the increased turbidity or if an area of extremely fine silty material has been encountered. It will be verified that the screen is intact with no damage and repaired or replaced if it is. The Florida Department of Environmental Protection (FDEP) will be notified within 24 hours of first detecting a violation and the event will be recorded on the monitoring log. In addition, the pipeline will be checked to ensure there are no leaks away from the suction of the cutter head which are causing potential turbidity.

All turbidity and erosion control measures will be inspected after severe rainfall events to ensure that no damage has occurred. Every effort will be made to control turbidity and prevent impacts to any environmetal resources that may be in the area. Any violation in the turbidity levels will be recorded on the daily log and reported to the county and engineer of record immediately on the following morning if the occurrence was after normal working hours.

QUALITY CONTROL

Cavache Inc. has a Quality Control (QC) program in place that will ensure that the project is completed to the highest standards. This will provide the owner with a precise description of the qualifications of the personnel responsible for the project, the procedures in place to ensure a quality project, the documentation to be used to track the work progress and provide a record of the project progress.

Cavache has utilized the same key staff on its projects. Most have spent their entire careers in dredging. The staff for this project has just recently completed two beach re-nourishment projects on Marco Island, the Intracoastal Waterway Dredging near Ponce deLeon Inlet for FIND and the Jupiter Inlet Sand Trap Dredging for the Jupiter Inlet District. Management personnel are also closely involved in ensuring smooth day to day operations. The software installed on the dredge allow for remote access to the dredge computer. This allows staff in the office to perform period checks and to collect data from the dredge and provide additional production reports as needed.

ENVIRONMENTAL PROTECTION

Cavache Inc. follows site specific environmental protection plans which clearly demonstrate our understanding of the applicable permits and necessary environmental protection measures. The following permits have been reviewed by Cavache and are applicable for this Project:

1. Florida Department of Environmental Protection – File No. 0298107-002-JC and 0298107-003-BV
2. U.S. Army Corps of Engineers Permit No. SAJ-2011-02907(SP-MEP)
3. NOAA NMFS, " Sea Turtle and Smalltooth Sawfish Construction Conditions"
4. FWC, "Standard Manatee Conditions for In-Water Work 2011"
5. FWS, "Statewide Programmatic Biological Opinion, August 22, 2011"
6. FWS Concurrence Letter-Log No. 41910-2012-F-0125

Cavache understand the conditions of the Permits and adheres to the following standards with regard to Environmental Impacts.

VESSELS

Vessels shall access the site through deep water channels. While in the immediate area, all vessels associated with the project shall operate at "Idle Speed/No Wake". Vessels will operate at idle speeds in any areas where the draft of the vessel provides less than four feet of clearance from the bottom.

All vessels shall be operated in strict accordance with all applicable Federal and State regulations as set forth and enforced by the Fish and Wildlife Conservation Committee, the Florida Marine Patrol and/or the US Coast Guard. Navigation lights are required to be displayed sunset to sunrise.

The position of the dredge and the dredge depth will be continuously monitored by electronic equipment. The dredge's position will be calculated and plotted by electronic positioning equipment.

PHYSICAL MONITORING PLAN

This portion of the Environmental Protection Plan will deal with the Physical Monitoring Requirements for this project that are the responsibility of Cavache Inc. This section will outline the monitoring, training and reporting requirements for Survey, Water Quality, Wildlife monitoring, etc. as required per the Permits.

SURVEY

Surveying will be performed by a licensed Florida Surveyor. The Surveyor selected for this Project is:

Terraquatic, Inc.
Attn.: Stan D. Copeland, PLM
17 SE 24th Ave.
Pompano Beach, Florida 33062
Mobile: 954-850-2008
E-mail: stan@terraquatic.net

TERRAQUATIC
SURVEYING AND MAPPING

Survey being provided by the subcontractor includes the following:

Hydrographic Survey of Sand Trap (Pre- and Post- Dredge)
Topographic Survey of Beach Fill Area (Pre- and Post-Placement)

Volume calculations will be performed based on the pre-dredge and post-dredge survey of the sand trap.

HISTORICAL OR ARCHAEOLOGICAL ARTIFACTS

There is no record if the Sand Trap area has been previously dredged. As such it is possible that historical or archaeological artifacts may be located. Cavache will take care in the work and will be observant for any potential artifacts.

In the unlikely event that historic or archaeological artifacts are discovered at the site, such as, but not limited to, Indian canoes, arrow heads, pottery or physical remains, Cavache shall

immediately stop all activities that disturb the soil in the immediate area and notify the Owner's Representative. Notification will then be given by the Owner to the State Historic Preservation Officer and the Bureau of Beaches and Coastal Systems (JCP Compliance Officer). Should unmarked human remains be encountered during permitted activities, all work shall stop in the immediate area and the proper authorities notified in accordance with Section 872.02 F.S. The site will be protected until such time as a decision on how to proceed has been provided by the Owner.

HARDBOTTOM AND SEAGRASS RESOURCES

The documentation provided for the bid did not identify any hardbottom colonies. Seagrass beds are identified to the north, east and west of the borrow areas, well outside of the travel path of the dredge and cutterhead, but within 200 feet of Cut #1. Should seagrass be identified in the dredge template during the course of the project, the engineer of record will be immediately notified. Dredging operations will be moved until the engineer can perform a proper survey and identify any changes that may have to be made to the dredge template. A 100 foot buffer will be maintained around any identified seagrass or hardbottom formations.

WILDLIFE MONITORING

The most important factor for ensuring the protection of potentially impacted species is education. As such, Cavache will conduct employee training addressing the project requirements regarding the protection of the listed wildlife. Training will be conducted by a qualified wildlife observer and will include the following:

- Methods for identifying each listed species that could potentially occur in the project area
- Civil and criminal penalties for harming, harassing or killing listed species
- Measures to be taken if listed species are observed within or immediately adjacent to construction areas
- Reporting and communication procedures for any listed wildlife observations or incident

These requirements will be regularly re-enforced during construction personnel meetings. There will be zero tolerance for not adhering to the protocols set forth during the training program. All employees will be aware and responsible for protecting the local wildlife.

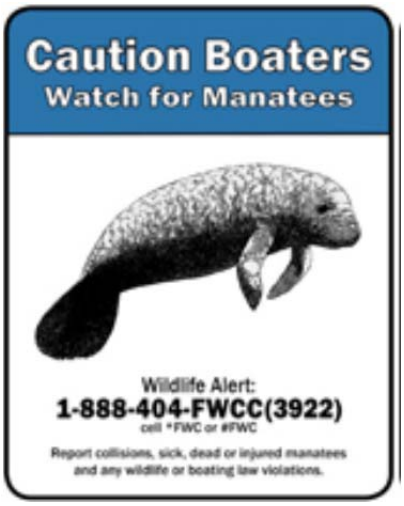
At a minimum, the following best management practices for all wildlife will be in effect:

- No person will feed, chase, harass, capture or kill any animal or bird on the project site.
- Feeding of any animals is strictly prohibited.
- All vehicles on the beach will operate in accordance with the FWC's Best Management Practices (http://myfwc.com/conservation/you-conserve/wildlife/beach-driving).
- All vessels will be aware of the possibility of encountering sea turtles, smalltooth sawfish or manatees. Activities will cease if any of these species are observed within fifty (50) feet of the operations.

- The job site will be kept free of trash. All waste will be disposed of in predator proof trash receptacles.
- Construction personnel will immediately notify the Project Manager and the wildlife monitor of any observations of injured or dead wildlife.

MANATEE

All personnel will be instructed as to the potential presence of manatees within the project site. They will be instructed as to the locations of manatee speed zones and that collisions with (and injury to) these marine species are to be avoided. There are civil and criminal penalties associated with harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.



Appropriate signage will be displayed regarding manatees and operation at "Idle Speed/No Wake" with the boundaries of the project. Equipment will operate at "Idle Speed/No Wake" in all areas where the vessel draft results in less than four feet of clearance. Deep water routes shall be followed. The dredge pipeline will be sunk and anchored wherever possible. In areas where the pipeline is floating, it will be kept far enough from shore to prevent it becoming an impediment to marine creatures.

All in-water operations, including vessels, shall be shut down if a manatee comes within 50 feet of the operation. Activities shall not resume until the animal(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the animal(s) has not reappeared within 50 feet of the operation. Animals shall not be herded away or harassed into leaving.

Any collision with or injury to a marine turtle or manatee shall be reported immediately to the Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 1-888-404-3922, and to FWC at ImperiledSpecies@myFWC.com. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service (USFWS) in Jacksonville at 1-904-731-3336.

SMALLTOOTH SAWFISH

All personnel will be instructed as to the potential presence of smalltooth sawfish within the project site and to avoid potential collisions with this species. Personnel involved in water related activities shall exercise caution and be aware of the civil and criminal penalties for harming, harassing, or killing smalltooth sawfish, which are protected under the Endangered Species Act of 1973.

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

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

SEA TURTLES

All personnel will be instructed as to the potential presence of sea turtles within the project site and to avoid potential collisions with this species. Personnel involved in water related activities shall exercise caution and be aware of the civil and criminal penalties for harming, harassing, or killing sea turtles, which are protected under the Endangered Species Act of 1973.

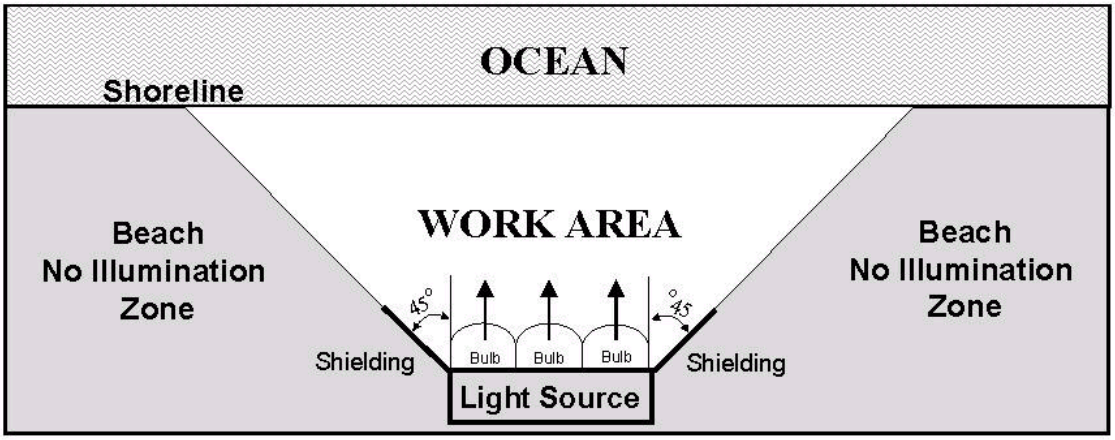
If a sea turtle is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle.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

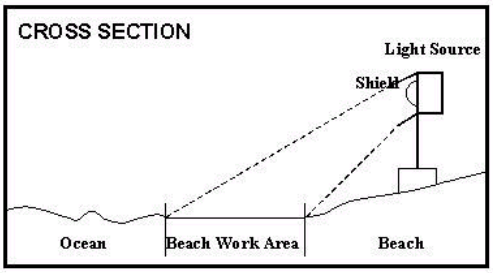
Any collision with and/or injury to a sea turtle shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.

Marine Turtle or Nest Encounters. The contractor personnel will use care when working on the beach to minimize encounters with sea turtles and sea turtle nests. A certified observer, contracted by the Owner, will walk the beach project limits early every morning and observe any new turtle nests. If a new nest has been located within the limits of construction, the contractor will notify the Owner's representative and the FWC Wildlife Alert at 1-888-404-FWCC (3922). Equipment will not be allowed to operate where a new nest is encountered. The appropriate organization will relocate the turtle nest to an area unaffected by the construction operations.

Predator proof trash cans will be used so as not to attract predators that may also prey on sea turtles.

Nighttime operations are not anticipated for this project, however, should they become necessary, care will be taken when equipment or vehicles are operating on the beach to avoid encounters with sea turtles and potential sea turtle hatchlings. Equipment will move slowly, avoiding areas of wrack, or dense seaweed patches, in the event that hatchlings may be in these areas. Equipment, when parked, will have the lights turned off to prevent interference with the wildlife's natural habits. Lighting of the project site will be limited to the immediate area where the dredge pipe is discharging material. A single light plant with minimal lighting will be utilized for illuminating the immediate work area only. The lighting will be pointed seaward and is necessary for safe operations. Equipment activity will be minimized and will only be limited to moving the dredge spoils down the slope and away from the discharge point so pumping operations can continue effectively.





BEACH LIGHTING SCHEMATIC

Lighting on all equipment shall be minimized through reduction, shielding, lowering, and appropriate placement to avoid excessive illumination of the water's surface and nesting beach while meeting all Coast Guard, Corps EM 385-1-1, and OSHA requirements. Light intensity of lighting equipment shall be reduced to the minimum standard required by OSHA for General Construction areas, in order not to misdirect sea turtles. Shields shall be affixed to the light housing and be large enough to block light from all lamps from being transmitted outside the construction area or to the adjacent sea turtle nesting beach in line-of-sight of the dredge.

SHOREBIRDS

All personnel associated with the project shall be instructed about the potential presence of nesting shorebirds and the need to avoid disturbing or harming these protected species. The Owner will be providing an independent shorebird monitor for this project.

This project has identified the potential presence of piping plovers. As a part of Cavache's training program, personnel have been trained to identify shorebirds and their behaviors. Should birds be observed, a disturbance free buffer zone will be established. While a 300 foot wide buffer is considered adequate, a smaller buffer may be necessary to facilitate construction activities. This buffer will be determined based on coordination with the FWC Regional Species Conservation Biologist as needed. No disturbance will be permitted with the established buffer zone. Designated buffer zones will be marked with posts, twine, and signs stating "Do Not Enter, Important Nesting Area" or similar language around the perimeter which includes the name and a phone number of the entity responsible for posting. Posts should not exceed 3'in height once installed. Symbolic fencing (twine, string, or rope) should be placed between all posts at least 2.5' above the ground and rendered clearly visible to pedestrians. The posting shall be maintained in good repair until breeding is completed or terminated. Breeding is not considered to be completed until all chicks have fledged.

Travel corridors shall be designated and marked outside the buffer areas so as not to cause disturbance to breeding birds. Heavy equipment, other vehicles, or pedestrians may transit past breeding areas in these corridors. However, other activities such as stopping or turning shall be prohibited within the designated travel corridors adjacent to the breeding site. When flightless chicks are present within or adjacent to travel corridors, movement of vehicles shall be accompanied by a supervisor so no chicks are in the path of the moving vehicle and no tracks capable of trapping flightless chicks result.

To discourage nesting within the travel corridor, it is recommended that some activity within these corridors should be maintained on a daily basis, without disturbing any nesting shorebirds documented on site or interfering with sea turtle nesting, especially when those corridors are established prior to commencement of construction.

Notification. If shorebird breeding occurs within the project area, a bulletin board will be placed and maintained in the construction staging area with the location map of the construction site showing the bird breeding areas and a warning, clearly visible, stating that "NESTING BIRDS ARE PROTECTED BY LAW INCLUDING THE FLORIDA ENDANGERED AND THREATENED SPECIES ACT AND THE STATE and protection conditions are met except where such work is prohibited by the managing agency or under applicable local land use codes.

PROTECTIVE ENVIRONMENTAL MEASURES

The following measures are applicable for protecting the environment and preventing additional impacts from construction activities. Turbidity and erosion at the site will be minimized by maintaining an adequate construction berm near the tidal zone. The potential for spills of fuels, oils or other hazardous substances as well as the handling of construction debris and waste materials is of concern.

CONSTRUCTION DEBRIS AND WASTE

The contractor staging area is designated as the location for the collection of recycling, wastes, and miscellaneous regulated materials produced during the construction process. Construction debris, waste materials, packaging material and the like will be collected and contained in appropriate waste storage containers, which will be removed as. Any dirt or mud which is tracked onto paved or surfaced roadways will be cleaned away.

Predator proof trash receptacles will be used for all waste materials. These will have closing lids and be anchored so they cannot be easily tipped over.

Temporary chemical toilets will be provided as needed. These will be supplied and maintained by a local vendor.

The Contractor will implement spill prevention measures to reduce the potential of petroleum or hazardous substances spills. These measures include training of personnel, following operating procedures, following good housekeeping practices, and maintaining the components of the storage systems (i.e., caps, piping, etc. of AST's and other containers).

Personnel will inspect all storage containers and areas. They will be trained in proper handling and remediation in the event of a spill. Only trained personnel will handle any fuels or hazardous substances. Training will include the following:

- Review proper spill response procedures
- Review the inspection form
- Review Health and Safety Plan issues
- Drill for alarm and response procedures
- Description of known spill events or failures with discussion of future prevention measures
- Describe and review any recently developed precautionary measures
- Weekly tool box safety meeting addressing and emphasizing the importance of proper maintenance, fuel dispensing, spill prevention and corrective measures.

Different types of spills may occur at the project site ranging from minor spills on impervious surfaces that will be contained by the Contractor to spills that could require emergency spill response by a licensed spill response service provider. Spills of small amounts of petroleum or

potentially hazardous substances such as solvents that occur on impervious surfaces will be removed using sorbent material (sorbent sheets, clay granules, sand, etc.) and placed into proper receptacles for disposal. More severe spills such as spills to any water body will require the use of sorbent booms and may require emergency spill response by a licensed spill response provider.

Spill contingency measures will be implemented to contain spills, should they inadvertently occur. These measures will prevent the potential discharge of petroleum from the project site into the soil and waters near and adjacent to the project. Construction equipment including loaders, dozers and other earth moving equipment will be used to seal off ditches within the project boundary before petroleum leaves the project site. Personal protective equipment will be maintained on site for personnel performing containment activities. Every effort will be made to prevent any hazardous substances from entering the environment.

An emergency response company, such as American Compliance Technologies, Inc. (ACT) will be secured to provide emergency spill response and containment, as requested by the Contractor. ACT will be available to assist in spill mitigation 24-hours a day, 7-days a week, and 365-days a year. In the event of a major spill that cannot be contained by onsite personnel, ACT will be contacted through their toll free number (800-226-0911) to provide the necessary labor, equipment, materials, and expertise to contain the spill. If an incident occurs that requires a response from ACT, the Contractor will notify the Owner's Representative and contact ACT's hotline manager who will record spill details, answer questions, evaluate the incident, and immediately dispatch the correct Emergency Response Team (ERT). Throughout all work in progress, expect a single point of contact. The ACT Project Manager will remain fully accountable for spill containment, clean up, assessment and closure, documentation, and report preparation.

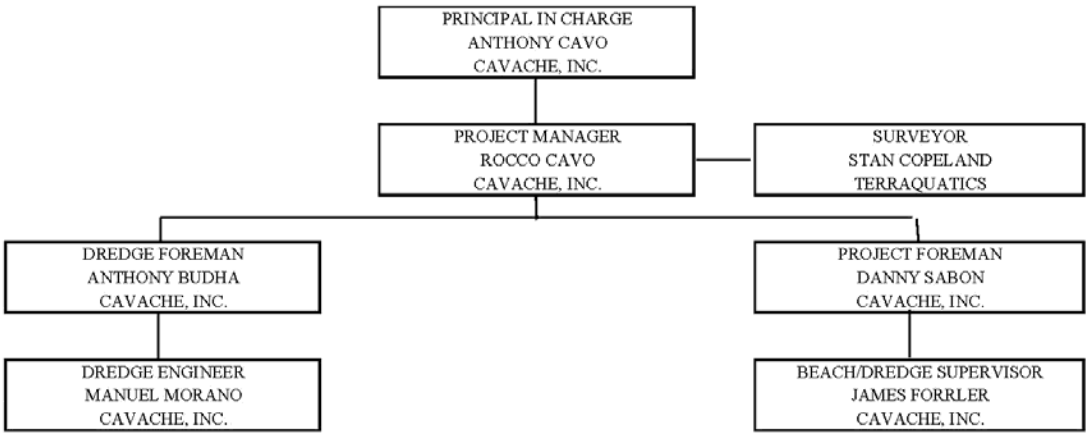
ACT can provide the following services pertaining to emergency incidents:

- Emergency Response (on both land and water)
- Preliminary Site Assessment
- Containment Assessment
- Product containment, recovery, and product transfer
- Initial Remedial Action
- Implement cost effective innovative technologies, such as in-situ and ex-situ bioremediation, and special site-specific treatment technologies
- Management of hazardous and non-hazardous waste including characterization and profiling, manifesting, transportation, and disposal.

At all times, fuel spill containment kits will be onsite with sufficient quantities of absorbent materials to contain any spills. Materials capable of absorbing spills may include clay granules (kitty litter), sand, rags, floating sorbent booms, and sorbent pads. Proper personal protective equipment will be worn during all spill responses.

Spills to contained areas that do not represent a threat to the soil and groundwater environment are considered minor spills. Spills to soil that impact groundwater and spills to a surface water body are considered major spills that require notification and potentially emergency spill response. The FDEP Bureau of Emergency Response requires notification of petroleum-based spills that are over 25 gallons, of State or Federal spill response assistance, or of any spills to a State water body (State Warning Point 800-320-0519).

PERSONNEL



This project will be staffed by Cavache, Inc. employees. The resumes for the above mentioned staff are being provided as Appendix A. For ease of reference, phone numbers are provided below to ensure timely response for all owner requests and/or emergencies.

- Anthony Cavo – Principal in Charge/Project Manager – 954.347.8788
- Rocco Cavo – Project Manager/Quality Control – 954.415.6588
- Danny Sabon – Project Foreman – 954.662.1059
- James Forrler – Beach/Dredge Supervisor – 954.553.5067
- Anthony Budha – Dredge Superintendent – 954.918.3024
- Manuel Morano – Dredge Engineer – 954.774.5661

EMPLOYEE SAFETY TRAINING

All Cavache supervisory personnel are OSHA certified. In addition, Cavache employees have been trained in First Aid and CPR. The Project Manager acts as the primary Site Safety Officer (SSO). He is responsible for ensuring that a qualified team member is trained and tasked with site safety during times of his absence. As the primary SSO, the PM will lead the weekly toolbox safety meetings. He will note any safety concerns and require immediate correction of the situation by the responsible employee. Personnel tasked as acting site safety have the authority to address any employee and demand correction of an unsafe condition. If unsafe conditions are not immediately corrected, the acting SSO shall inform the supervising foreman and Project Manager of any violations.

STORM EMERGENCY PLAN

Florida and its weather patterns are unpredictable and as such Cavache Inc. is providing a plan for severe storms in addition to a hurricane plan.

CONTINGENCY PLAN FOR SEVERE WEATHER

Severe weather can occur at any time while operating on and near the coastal waters of Florida. Seas can build quickly as the result of wind and weather. Lighting and water spouts are a frequent occurrence and proper planning is essential in ensuring that no harm comes to personnel, equipment, natural resources and the work site. As such, personnel continually monitor NOAA weather advisories and observe the radar. The following procedures are being put in place for severe weather events.

In the event of severe weather all personnel must follow the following procedures once notified of an impending severe weather condition:

Disposal Site:

- Secure any loose materials.
- Anchor any equipment that may potentially be damaged.
- Move any heavy equipment well outside of potential wave run-up elevations.
- Remove any debris that may become a potential hazard.
- All personnel shall shut down field operations and take shelter.
- If lightning is occurring, stop outdoor work and move indoors, or stay inside a moving vehicle (do not continue to linger outdoors). Shut down and move away from heavy equipment.
- In case of tornado conditions, seek out low ground (i.e. ditch or basement), shield yourself from falling objects, and stay away from windows.
- The SSO will take a head count.
- Any visitors should remain with the group, if applicable.

Dredge Site:

- If the condition of the sea worsens to the point that the dredge can no longer safely operate, the dredging operation shall be shut down and the dredge pipe shall be disconnected.
- Mark the end of the pipe with a buoy and allow it to remain floating in the channel to be retrieved when conditions improve. The end of the pipe will be properly lighted as per applicable regulations.
- Demobilize the dredge from the site and sail it to a protected bay or other location where the seas are easily managed by the vessel.

- For typical short-term weather squalls, the dredge will not be allowed to remain unmanned. If weather conditions are expected to worsen to the point where it is unsafe for personnel to remain on the vessel, the dredge shall be moved to an available dock at a nearby marina where it can be secured to the seawall and be allowed to ride out the storm securely. This location will be determined based on availability of dock space. Cavache Inc. will locate several sites for emergency purposes. These marinas have staff on hand to observe if any vessels have issues with listing or bilge pump failure. They will have emergency contact names and phone numbers to ensure an immediate response should one of Cavache's vessels be in distress.
- Once the storm has passed and conditions allow, the dredge will return to the dredge area, reconnect to the pipe and resume work.

HURRICANE PLAN

The hurricane season extends from June to November. As such, this project falls outside the timeframe typically associated with hurricanes. Nevertheless, this plan is being provided for the unusual event of a very early season hurricane. Hurricanes can cause extensive damage and loss of human life. To minimize these dangers the following hurricane plan was developed and will be adhered to.

The civilian hurricane warning service for the North Atlantic is provided by the National Hurricane Center, Miami, Florida. They collate ship, aircraft, radar and satellite data to produce and issue warnings and forecasts for the South Florida area. The Tropical Cyclone message is issued every six hours, with intermediate bulletins provided as needed.

For tropical storms and hurricanes threatening to cross the coast of the U.S., coastal advisories are issued to the public so that precautionary actions, including evacuation, can be initiated to minimize damage to property and personnel. Two levels of warnings are issued:

1. HURRICANE WATCH – a preliminary alert that a hurricane MAY threaten a specified portion of the coast. It is issued 36 hour before landfall may occur.

2. HURRICANE WARNING – indicates that hurricane conditions are expected along a specified portion of the coast. It is issued 24 hours before landfall will occur. To provide additional information for maritime interests, a Marine Advisory is also issued which provides storm position forecasts for up to 72 hours in advance of a storm and probabilities of hurricane strikes for coastal locations and offshore coordinates. A hurricane is a severe storm originating over the tropical waters typically during the months from June to October. Wind speeds near the center of a hurricane will be in excess of 74 miles per hour. A distinctive characteristic of a hurricane is its center eye and counterclockwise rotation with a diameter of ranging from 50 to 1000 miles.

When a hurricane watch/warnings are issued by the U.S. Weather Bureau, the following actions must be taken depending on the type of alert. Lower level protective actions are made inclusive to any and all higher level procedures:

HURRICANE ALERT I - CONDITION YELLOW

This alert is issued when a hurricane is in the western Atlantic, Caribbean or east of the Gulf of Mexico. Construction materials & equipment need not be relocated during this period. However, the following actions must be taken:

1. Clean-up site. Pick up all loose trash and excess material.
2. Review the schedule for possible critical activities that might be affected.
3. Coordinate & review preparedness with the Owner's Representative.
4. Check for supply of protective material like plywood, lumber, visqueen & sandbags.
5. All non-essential gear and equipment shall be moved to the designated laydown area.
6. All support vessels with accompanying equipment shall be moved to their safe harbor.
7. Dredge operation shall be shut down and pipe shall be disconnected and allowed to sink to the bottom of the channel. Marker buoys shall be attached to the end of the pipe to facilitate retrieval.
8. Dredge will be sailed to safe harbor location.

HURRICANE ALERT II - CONDITION ORANGE

A hurricane watch is issued when the storm makes a steady movement towards the project site and its vicinity. The following action must be taken:

1. Fill and secure all fuel storage tanks.
2. Secure equipment and material which is not practical to be relocated. All ancillary equipment shall be similarly anchored and secured. Pipe segments shall be strapped and anchored with ground anchors.
3. Locate and retain portable generators & utility pumps.
4. Vessels must be at their designated safe harbor. All equipment will be shut off, except for the bilge pump systems which will remove any water from the hull. Everything shall be locked down and secured to prevent any movement on the vessel.
5. All non-essential personnel evacuated to land based installations, unless deemed otherwise by the Captain or Supervisor. ALL PERSONNEL SHALL HAVE ON LIFE VESTS. Hatches, watertight doors, portals, etc., will be secured. All personnel will be instructed to keep movement to a minimum, in order to prevent accidents as a result of slips or falls. No person shall be permitted on deck without the expressed consent of the Captain or Supervisor.

HURRICANE ALERT III - CONDITION RED

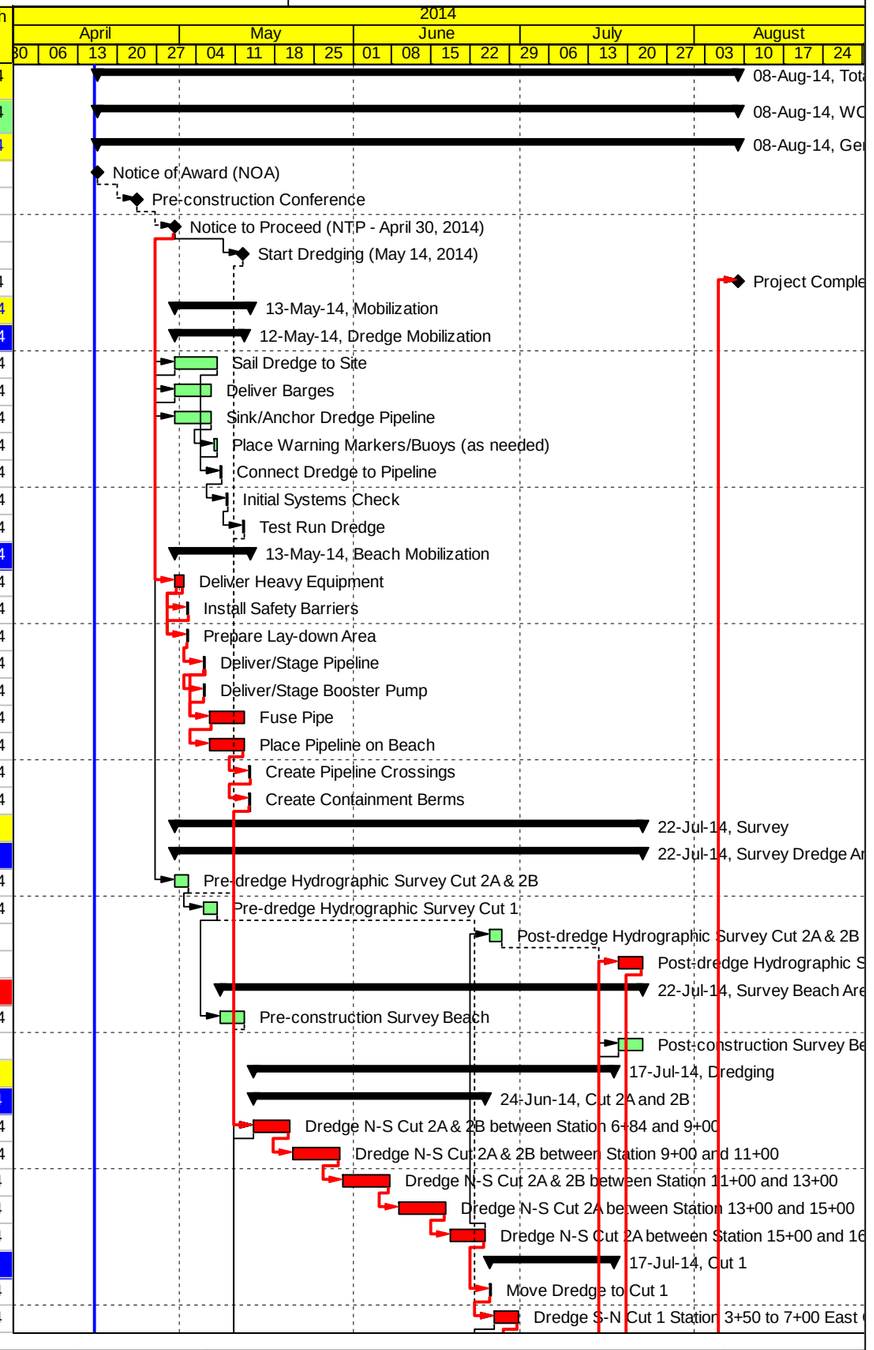
This is a hurricane warning where hurricane force winds are expected to occur within 24 hours at the project site and its vicinity. The following actions must be taken:

1. Final cleanup of the entire construction site.
2. Trash barrels shall be emptied and secured.
3. Trash dumpsters must be emptied and removed from the jobsite.
4. Secure all temporary toilets to stable objects.
5. Welding machines, compressors, gang boxes and gas bottles to be grouped together and, if possible, secured to stabilize objects.
6. Earthmoving equipment and other onsite vehicles must be left on high ground with brake set.
7. Relocate all onsite electronic equipment, drawings, plans, specifications, files and records to a safe place.
8. Turn off electrical power at main switches.
9. Notify the Owner's Representative and Project Manager when final preparations are done.
10. Evacuate the project site.
11. Document pre-hurricane conditions utilizing a still and/or video camera.
12. Onsite vehicles are to be left with brakes set on high ground in the laydown area.
13. Ice chests are to be secured with a full supply of ice on hand.
14. Security coverage will be as directed by the Site/Project Manager.
15. Notify Company/Operations Management when final stages are complete.

After the hurricane has passed through the area, winds and heavy rains have ended, damage assessment, clean up and remobilization of the project shall begin. Activities include:

1. Damage assessment. Review all areas of the project for water & wind damage.
2. Document damage on still and/or video camera.
3. Notify the insurance carrier for a potential claim.
4. Remove standing water.
5. Review the project with the electrician and turn on the power when safe.
6. Remove all temporary protective measures.
7. Clean-up and dispose of all damaged materials and debris.
8. Vessel to be made ship shape as rapidly as possible.
9. Meet with the Owner's Representative to review damage and schedule impact.

Activity ID	Activity Name	Original Duration	Total Float	Start	Late Start	Finish	Late Finish
Total		81	0	16-Apr-14	30-Apr-14	08-Aug-14	09-Aug-14
WCIND - Longboat Key Emergency Beach Fill		81	0	16-Apr-14	30-Apr-14	08-Aug-14	09-Aug-14
General Conditions		81	0	16-Apr-14	30-Apr-14	08-Aug-14	09-Aug-14
GEN-1000	Notice of Award (NOA)	0	14	16-Apr-14*	30-Apr-14		
GEN-1010	Pre-construction Conference	0	7	23-Apr-14*	30-Apr-14		
GEN-1020	Notice to Proceed (NTP - April 30, 2014)	0	0	30-Apr-14*	30-Apr-14		
GEN-1030	Start Dredging (May 14, 2014)	0	2	12-May-14	14-May-14		
GEN-1050	Project Completion (90 days after commencement of dredging - August 10, 2014)	0	1			08-Aug-14*	09-Aug-14
Mobilization		10	0	30-Apr-14	30-Apr-14	13-May-14	13-May-14
Dredge Mobilization		9	1	30-Apr-14	01-May-14	12-May-14	13-May-14
MOB-1000	Sail Dredge to Site	6	1	30-Apr-14	01-May-14	07-May-14	08-May-14
MOB-1010	Deliver Barges	5	1	30-Apr-14	01-May-14	06-May-14	07-May-14
MOB-1020	Sink/Anchor Dredge Pipeline	5	1	30-Apr-14	01-May-14	06-May-14	07-May-14
MOB-1030	Place Warning Markers/Buoys (as needed)	1	1	07-May-14	08-May-14	07-May-14	08-May-14
MOB-1040	Connect Dredge to Pipeline	1	1	08-May-14	09-May-14	08-May-14	09-May-14
MOB-1050	Initial Systems Check	1	1	09-May-14	12-May-14	09-May-14	12-May-14
MOB-1060	Test Run Dredge	1	1	12-May-14	13-May-14	12-May-14	13-May-14
Beach Mobilization		10	0	30-Apr-14	30-Apr-14	13-May-14	13-May-14
MOB-2000	Deliver Heavy Equipment	2	0	30-Apr-14	30-Apr-14	01-May-14	01-May-14
MOB-2010	Install Safety Barriers	1	0	02-May-14	02-May-14	02-May-14	02-May-14
MOB-2020	Prepare Lay-down Area	1	0	02-May-14	02-May-14	02-May-14	02-May-14
MOB-2030	Deliver/Stage Pipeline	1	0	05-May-14	05-May-14	05-May-14	05-May-14
MOB-2040	Deliver/Stage Booster Pump	1	0	05-May-14	05-May-14	05-May-14	05-May-14
MOB-2050	Fuse Pipe	5	0	06-May-14	06-May-14	12-May-14	12-May-14
MOB-2060	Place Pipeline on Beach	5	0	06-May-14	06-May-14	12-May-14	12-May-14
MOB-2070	Create Pipeline Crossings	1	0	13-May-14	13-May-14	13-May-14	13-May-14
MOB-2080	Create Containment Berms	1	0	13-May-14	13-May-14	13-May-14	13-May-14
Survey		58	1	30-Apr-14	01-May-14	22-Jul-14	23-Jul-14
Survey Dredge Areas		58	1	30-Apr-14	01-May-14	22-Jul-14	23-Jul-14
SURV-1000	Pre-dredge Hydrographic Survey Cut 2A & 2B	3	1	30-Apr-14	01-May-14	02-May-14	05-May-14
SURV-1010	Pre-dredge Hydrographic Survey Cut 1	3	1	05-May-14	06-May-14	07-May-14	08-May-14
SURV-1020	Post-dredge Hydrographic Survey Cut 2A & 2B	3	13	25-Jun-14	15-Jul-14	27-Jun-14	17-Jul-14
SURV-1030	Post-dredge Hydrographic Survey Cut 1	3	0	18-Jul-14	18-Jul-14	22-Jul-14	22-Jul-14
Survey Beach Area		52	1	08-May-14	09-May-14	22-Jul-14	23-Jul-14
SURV-2000	Pre-construction Survey Beach	3	1	08-May-14	09-May-14	12-May-14	13-May-14
SURV-2010	Post-construction Survey Beach	3	1	18-Jul-14	21-Jul-14	22-Jul-14	23-Jul-14
Dredging		45	0	14-May-14	14-May-14	17-Jul-14	17-Jul-14
Cut 2A and 2B		29	0	14-May-14	14-May-14	24-Jun-14	24-Jun-14
DREDGE-2-1000	Dredge N-S Cut 2A & 2B between Station 6+84 and 9+00	6	0	14-May-14	14-May-14	20-May-14	20-May-14
DREDGE-2-1010	Dredge N-S Cut 2A & 2B between Station 9+00 and 11+00	7	0	21-May-14	21-May-14	29-May-14	29-May-14
DREDGE-2-1020	Dredge N-S Cut 2A & 2B between Station 11+00 and 13+00	8	0	30-May-14	30-May-14	07-Jun-14	07-Jun-14
DREDGE-2-1030	Dredge N-S Cut 2A between Station 13+00 and 15+00	8	0	09-Jun-14	09-Jun-14	17-Jun-14	17-Jun-14
DREDGE-2-1040	Dredge N-S Cut 2A between Station 15+00 and 16+36	6	0	18-Jun-14	18-Jun-14	24-Jun-14	24-Jun-14
Cut 1		16	0	25-Jun-14	25-Jun-14	17-Jul-14	17-Jul-14
DREDGE-1-0000	Move Dredge to Cut 1	1	0	25-Jun-14	25-Jun-14	25-Jun-14	25-Jun-14
DREDGE-1-1000	Dredge S-N Cut 1 Station 3+50 to 7+00 East Cut	4	0	26-Jun-14	26-Jun-14	30-Jun-14	30-Jun-14

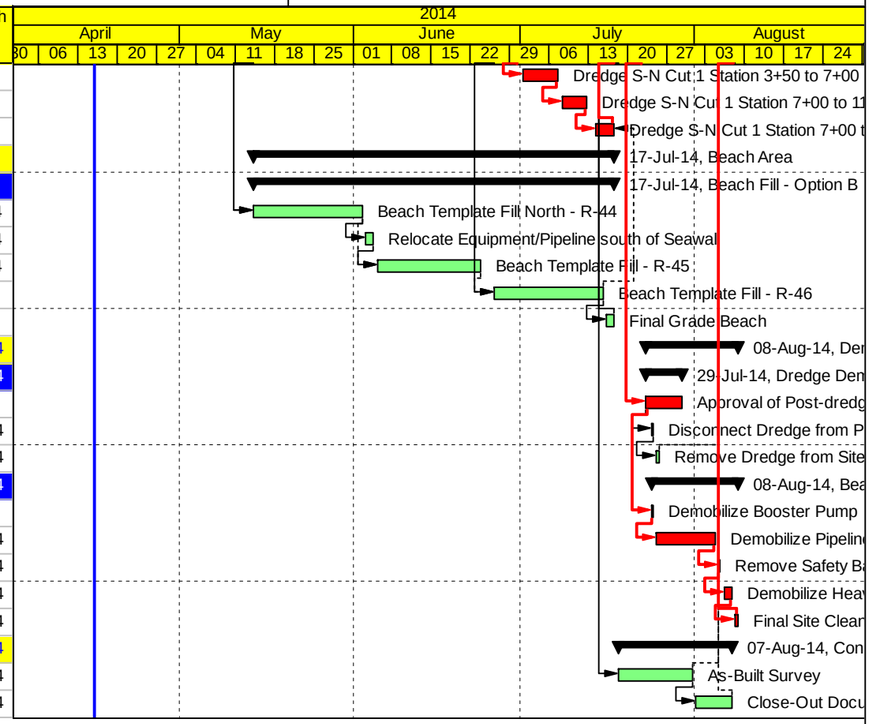


Remaining Level of Effort | Actual Work | Critical Remaining W...
Actual Level of Effort | Remaining Work | Milestone

Baseline Schedule

Date	Revision	Checked	Approved
30-Apr-14	April 30, 2014 estimated NTP		

Activity ID	Activity Name	Original Duration	Total Float	Start	Late Start	Finish	Late Finish
DREDGE-1-1010	Dredge S-N Cut 1 Station 3+50 to 7+00 West Cut	5	0	01-Jul-14	01-Jul-14	07-Jul-14	07-Jul-14
DREDGE-1-1020	Dredge S-N Cut 1 Station 7+00 to 11+50 East Cut	5	0	08-Jul-14	08-Jul-14	12-Jul-14	12-Jul-14
DREDGE-1-1030	Dredge S-N Cut 1 Station 7+00 to 11+50 West Cut	4	0	14-Jul-14	14-Jul-14	17-Jul-14	17-Jul-14
Beach Area		45	1	14-May-14	17-May-14	17-Jul-14	19-Jul-14
Beach Fill - Option B		45	1	14-May-14	17-May-14	17-Jul-14	19-Jul-14
FILL-1000	Beach Template Fill North - R-44	16	3	14-May-14	17-May-14	02-Jun-14	05-Jun-14
FILL-1010	Relocate Equipment/Pipeline south of Seawall	2	3	03-Jun-14	06-Jun-14	04-Jun-14	09-Jun-14
FILL-1020	Beach Template Fill - R-45	16	4	05-Jun-14	10-Jun-14	23-Jun-14	27-Jun-14
FILL-1030	Beach Template Fill - R-46	16	2	26-Jun-14	28-Jun-14	15-Jul-14	17-Jul-14
FILL-1040	Final Grade Beach	2	2	16-Jul-14	18-Jul-14	17-Jul-14	19-Jul-14
Demobilization		13	0	23-Jul-14	23-Jul-14	08-Aug-14	08-Aug-14
Dredge Demobilization		5	8	23-Jul-14	23-Jul-14	29-Jul-14	08-Aug-14
DEMOB-1000	Approval of Post-dredge Survey	5	0	23-Jul-14	23-Jul-14	29-Jul-14	29-Jul-14
DEMOB-1010	Disconnect Dredge from Pipeline	1	10	24-Jul-14	07-Aug-14	24-Jul-14	07-Aug-14
DEMOB-1020	Remove Dredge from Site	1	10	25-Jul-14	08-Aug-14	25-Jul-14	08-Aug-14
Beach Demobilization		12	0	24-Jul-14	24-Jul-14	08-Aug-14	08-Aug-14
DEMOB-2000	Demobilize Booster Pump	1	0	24-Jul-14	24-Jul-14	24-Jul-14	24-Jul-14
DEMOB-2010	Demobilize Pipeline	7	0	25-Jul-14	25-Jul-14	04-Aug-14	04-Aug-14
DEMOB-2020	Remove Safety Barriers	1	0	05-Aug-14	05-Aug-14	05-Aug-14	05-Aug-14
DEMOB-2030	Demobilize Heavy Equipment	2	0	06-Aug-14	06-Aug-14	07-Aug-14	07-Aug-14
DEMOB-2040	Final Site Clean-up	1	0	08-Aug-14	08-Aug-14	08-Aug-14	08-Aug-14
Contract Close-out		15	1	18-Jul-14	21-Jul-14	07-Aug-14	08-Aug-14
CLOSE-1000	As-Built Survey	10	1	18-Jul-14	21-Jul-14	31-Jul-14	01-Aug-14
CLOSE-1010	Close-Out Documentation	5	1	01-Aug-14	04-Aug-14	07-Aug-14	08-Aug-14



CONTRACTOR PRODUCTION REPORT

CAVACHE Inc.

EMERGENCY BEACH FILL PLACEMENT ON LONGBOAT KEY
USING LONGBOAT PASS FLOOD SHOAL SAND TRAP

WEST COAST INLAND NAVIGATION DISTRICT

Page 1 of _____

Date: _____

Day: _____

Report No.: _____

WEATHER SUMMARY

CLASS: _____

TIME	CONDITIONS	TEMPERATURE (MAX/MIN)	HUMIDITY	PRECIPITATION (INCHES)	WIND	CLOUD COVER

Were any weather delays today? ☐ Yes ☐ No Cumulative time lost (to date) due to weather: _____ hours

COMMENTS REGARDING WEATHER/WATER CONDITIONS

(*List any unusual weather conditions, water stages, current, etc.*

CLASS A No Interruptions of any kind from weather conditions occurring this or previous shifts.
CLASS B Weather occurred during this shift that caused a complete stoppage of all work.
CLASS C Weather occurred during this shift that caused a partial stoppage of work.
CLASS D Weather overhead excellent or suitable during shift. Work stopped due to results of previous adverse weather.
CLASS E Weather overhead excellent or suitable during shift but work partially stopped due to previous adverse manner.
OTHER Explain. Record in notes or provide additional sheets as needed.

DREDGE AREA – DREDGING IN PROGRESS

CUT AREA	START STATION	STOP STATION	START TIME	STOP TIME	ENDING GPS COORD.	COMMENTS FOR STOPPAGE (I.E. SHIFT CHANGE, EQUIPMENT, ETC.)

DAILY AVERAGE CUT DEPTH/WIDTH

CUT AREA	START ELEVATION	STOP ELEVATION	AVERAGE CUT WIDTH	AVERAGE CY

(see attached Daily Dredge Plot)

BEACH FILL AREA – DREDGE DISCHARGE

START STATION	STOP STATION	PIPELINE LENGTH LF	DISCHARGE GPS COORD.	SEDIMENT SAMPLES GPS	PASS/FAIL	SURVEY?	COMMENTS
					P / F	**Y / N**	
					P / F	**Y / N**	
					P / F	**Y / N**	
					P / F	**Y / N**	

TURBIDITY READINGS

TIME	GPS COORD.	BACKGROUND READING	GPS COORD.	COMPLIANCE READING	DIFFERENCE	IN COMPLIANCE	COMMENTS
						Y / N	
						Y / N	
						Y / N	
						Y / N	

CONTRACTOR PRODUCTION REPORT

Date: _____

Note approximate locations of the following:

▭ Dredge

◯ Pipe Discharge Point

☒ Turbidity Samples a.m.

⊗ Turbidity Samples p.m.

Sketch Turbidity Plume if Observed.

SUPPORT EQUIPMENT USED TODAY

ITEMS	LOCATION	TOTAL HOURS	DOWN TIME	MILEAGE

DELIVERIES

ON-SITE PERSONNEL HOURS TODAY

EMPLOYEE	COMPANY/SUB	POSITION	HOURS

STATUS SUMMARY

CATEGORY	REPORT TOTAL	TOTAL TO DATE
Total man hours		
Total vehicle miles	NA	NA
Lost workday accidents		
Sections completed		
Man hours lost due to weather		
Man hours lost due to other delays		

CONTRACTOR PRODUCTION REPORT

Date: _____

ENVIRONMENTAL QUALITY CONTROL

Environmental Quality Control Requirements are in place and have been checked? ☐ Yes; ☐ Not Applicable

Wildlife Sightings? ☐ Yes; ☐ No ☐ Manatee ☐ Swimming Sea Turtle ☐ Smalltooth Sawfish ☐ Piping Plover ☐ Other

COMMENTS

(*Cover any issues concerning Environmental Controls.*)

SAFETY OR QC ISSUES/ACCIDENT ☐ Yes ☐ No If yes, attach Report Form

DESCRIPTION	ACTION TAKEN	RESULTS	PERSONNEL	NOTES

VERBAL INSTRUCTIONS RECEIVED

(*List any instructions given by Owner personnel on construction deficiencies, retesting required, etc., with action to be taken.)*

VISITORS:

NAME	ORGANIZATION	PHONE

(*List the name of all official visitors to the site and who they represent i.e. State DEP, OSHA)*

REMARKS

(*Cover any conflicts in plans, specifications or instructions: acceptability of incoming materials; offsite surveillance activities; progress of work, delays, causes and extent thereof; days of no work with reasons for same.*

SIGNATURE AND CERTIFICATION

I certify that this report is complete and correct to the best of my knowledge. All equipment and material used and work performed during this reporting period are in compliance with the contract plans and specifications except as noted.

Signature: _____ Date: _____