

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL
CONTROL
OFFICE OF OCEAN AND COASTAL RESOURCE MANAGEMENT

CRITICAL AREA PERMIT & COASTAL ZONE CONSISTENCY CERTIFICATION

Permittee(s): Town of Edisto Beach

Permit Number(s): 2015-00528

Date of Issuance: May 26, 2016

Expiration Date: May 26, 2021

Location: **On and adjacent to the Atlantic Ocean from the North end of the Edisto Beach State Park Campground, to Edisto Street near the South Edisto River Inlet, Edisto Beach, Colleton County, South Carolina**

**SEE SPECIAL
CONDITION(S)**

This permit is issued under the provisions of S. C. Code Ann. Section 48-39-10, *et seq.*, and 23A S.C. Code Ann. Regs. 30-1 through 30-18 (Supp. 2005). **Please carefully read the project description and special conditions that appear on this permit/certification as they will affect the work that is allowed and may modify the work from that shown on the submitted plans. All special conditions attached to the permit will take precedent over submitted plans.** The general conditions are also a part of this permit/certification and should be read in their entirety. The S. C. Contractor's Licensing Act of 1999, enacted as S.C. Code Ann. Section 40-11-5 through 430, requires that all construction with a total cost of \$5,000 or more be performed by a licensed contractor with a valid contractor's license for marine class construction, except for construction performed by a private landowner for strictly private purposes. Your signature on and acceptance of this permit denotes your understanding of the stated law regarding use of licensed contractors. **All listed special and general conditions will remain in effect for the life of the permit. This applies to permittee, future property owners, or permit assignees.**

DESCRIPTION OF THE PROJECT, AS PERMITTED

This permit has been issued for the structures as requested. Specifically, the permittee will place 835,000 cubic yards of beach quality sediment, via hydraulic dredge, along the ocean facing shoreline and will lengthen up to 26 groins to a cumulative total of 1,765'. The length of each groin extension varies but is a maximum of 100'. The overall project length is 19,000'. The exact volume of nourishment sand will depend on the final groin lengthening plan available within the Town's budget at the time of construction. The applicant will borrow sand

from the northern shoal of the South Edisto River Inlet. The work as described is for beach and dune restoration and preservation.

**SEE SPECIAL
CONDITION(S)**

SPECIAL CONDITIONS

1. No work may be done during turtle nesting season, from May 1 through October 31.
2. The groin restoration work must be performed in conjunction with beach re-nourishment of the same area, as authorized by OCRM permit P/N 2015-00528.
3. Access along the beach from one groin compartment to another must be maintained or improved.
4. The shoreline must be monitored for erosion, beginning immediately before construction starts and continuing for five years after construction ends. Monitoring will consist of beach profiles, to extend to a depth of -5 ft. NGVD. Monitoring will be done twice per year, during neap tides. Monitoring stations will be located near the center of each groin cell, with two additional stations at either end of the project. High resolution aerial photographs will also be taken annually covering the entire project area. Monitoring reports that summarize the data must be provided to OCRM annually. If monitoring indicates any adverse impacts from the groin construction, remedial steps to include the redesign and reconfiguration of the groins must be taken.
5. Construction logs must be maintained which document all groin repair and re-nourishment work. These logs must be made available to OCRM within three months of project completion.
6. If construction is started, then all work authorized by this permit must be completed. A permit amendment is required for any deviation from these plans. A reduction in scope is permitted but only if it is applied uniformly to the whole project (i.e. any reduction in grouting of the groins must be applied equally to each groin and any reduction in re-nourishment must be applied equally to each groin cell.)
7. The Reasonable and Prudent Measures and Terms and Conditions in the U.S. Fish and Wildlife Service's Biological Opinion dated January 21, 2016 must be followed. See Attachment A.
8. Only clean sand, free from all potential sources of pollution must be used for beach re-nourishment.
9. Sand used must consist of appropriate grain sizes to be compatible for beach re-nourishment.

SEE SPECIAL CONDITION(S)

10. The re-nourished beach should be monitored for compaction following re-nourishment and when necessary, appropriate measures such as tilling should be implemented.
11. All necessary measures must be taken to prevent oil, tar, trash, debris, and other pollutants from entering the adjacent waters or wetlands during construction.
12. Sufficient nourishment volume must be placed in each upcoast groin cell to exceed the trapping capacity of any lengthened groin.
13. The groins may only be lengthened to the maximum distance specified in either the USACE National Economic Development lengthening plan, or the Coastal Science and Engineering Scenario 1 lengthening plan.
14. In the event that any historic or cultural resources and/or archaeological materials are found during the course of work; the applicant must notify the State Historic Preservation Office and the South Carolina Institute of Archaeology and Anthropology. Historic or cultural resources consist of those sites listed in the National Register of Historic Places and those sites that are eligible for the National Register. Archaeological materials consist of any items, fifty years old or older, which were made or used by man. These items include, but are not limited to, stone projectile points (arrowheads), ceramic sherds, bricks, worked wood, bone and stone, metal and glass objects, and human skeletal materials.

PERMITTEE'S ATTENTION IS DIRECTED TO GENERAL CONDITIONS NUMBERS FOUR (4) AND FIVE (5). BY ACCEPTANCE OF THIS PERMIT, PERMITTEE IS PLACED ON NOTICE THAT THE STATE OF SOUTH CAROLINA, BY ISSUING THIS PERMIT, DOES NOT WAIVE ITS RIGHTS TO REQUIRE PAYMENT OF A REASONABLE FEE FOR USE OF STATE LANDS AT A FUTURE DATE IF SO DIRECTED BY STATUTE.

THE PERMITTEE, BY ACCEPTANCE OF THIS PERMIT AGREES TO ABIDE BY THE TERMS AND CONDITIONS CONTAINED HEREIN AND TO PERFORM THE WORK IN STRICT ACCORDANCE WITH THE PLANS AND SPECIFICATIONS ATTACHED HERETO AND MADE A PART HEREOF. ANY DEVIATION FROM THESE CONDITIONS, TERMS, PLANS AND SPECIFICATIONS SHALL BE GROUNDS FOR REVOCATION, SUSPENSION OR MODIFICATION OF THIS PERMIT AND THE INSTITUTION OF SUCH LEGAL PROCEEDINGS AS THE DEPARTMENT MAY CONSIDER APPROPRIATE.

**SEE SPECIAL
CONDITION(S)**

Permit Number: 2015-00528

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

Iris Hill

6/2/16

(PERMITTEE(S))

(DATE)

Town of Edisto Beach
C/O Iris Hill

This permit becomes effective when the State official, designated to act for the Office of Ocean and Coastal Resource Management, has signed below.

Fred Mallett

Mar 26, 2016

(WETLAND SECTION PROJECT MANAGER) (DATE)

Fred Mallett
Or Other Authorized State Official

SEE SPECIAL GENERAL CONDITIONS CONDITION(S)

This construction and use permit is expressly contingent upon the following conditions which are binding on the permittee:

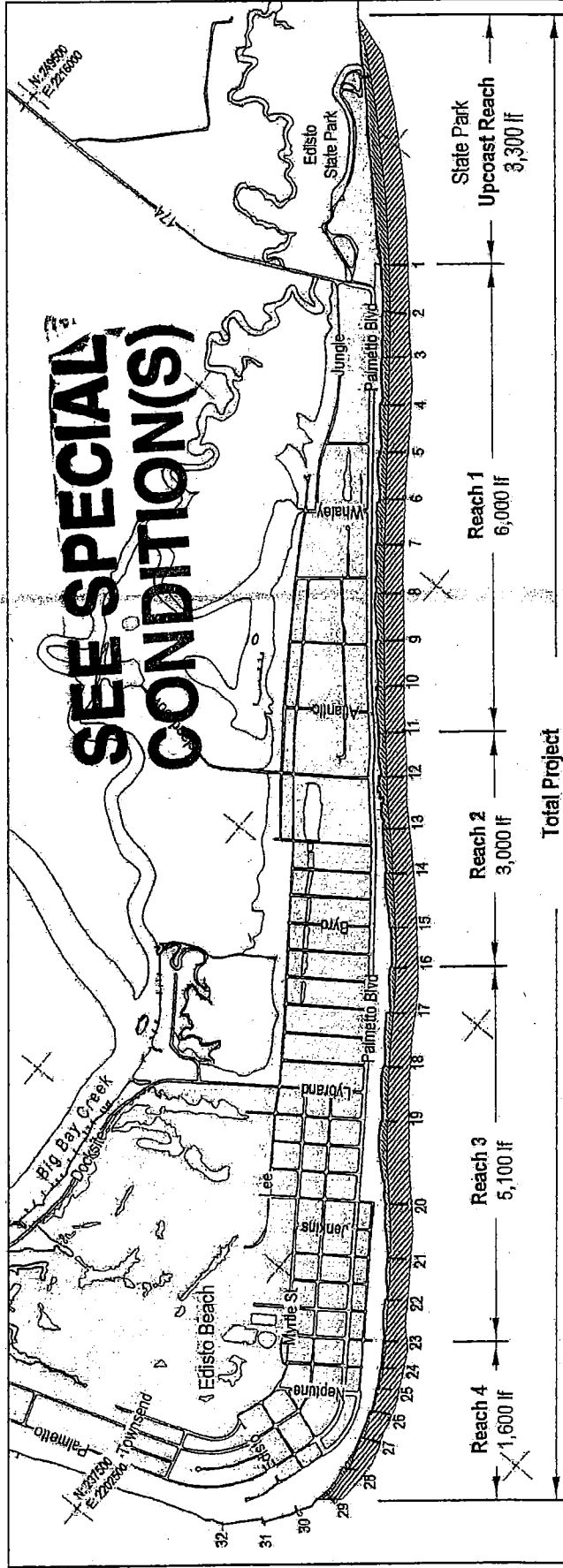
1. The permittee, in accepting this permit, covenants and agrees to comply with and abide by the provisions and conditions herein and assumes all responsibility and liability and agrees to save OCRM and the State of South Carolina, its employees or representatives, harmless from all claims of damage arising out of operations conducted pursuant to this permit.
2. If the activity authorized herein is not constructed or completed within five years of the date of issuance, this permit shall automatically expire. A request, in writing, for an extension of time shall be made not less than thirty days prior to the expiration date.
3. All authorized work shall be conducted in a manner that minimizes any adverse impact on fish, wildlife and water quality.
4. This permit does not relieve the permittee from the requirements of obtaining a permit from the U. S. Army Corps of Engineers or any other applicable federal agency, nor from the necessity of complying with all applicable local laws, ordinances, and zoning regulations. This permit is granted subject to the rights of the State of South Carolina in the navigable waters and shall be subject, further, to all rights held by the State of South Carolina under the public trust doctrine as well as any other right the State may have in the waters and submerged lands of the coast.
5. This permit does not convey, expressly or impliedly, any property rights in real estate or material nor any exclusive privileges; nor does it authorize the permittee to alienate, diminish, infringe upon or otherwise restrict the property rights of any other person or the public; nor shall this permit be interpreted as appropriating public properties for private use.
6. The permittee shall permit OCRM or its authorized agents or representatives to make periodic inspections at any time deemed necessary in order to ensure that the activity being performed is in accordance with the terms and conditions of this permit.
7. Any abandonment of the permitted activity will require restoration of the area to a satisfactory condition as determined by OCRM.
8. This permit may not be transferred to a third party without prior written notice to OCRM, either by the transferee's written agreement to comply with all terms and conditions of this permit or by the transferee subscribing to this permit and thereby agreeing to comply.
9. If the display of lights and signals on any structure or work authorized herein is not otherwise provided for by law, such lights and special signals as may be prescribed by the United States Coast Guard shall be installed and maintained by and at the expense of the permittee.
10. The permit construction placard or a copy of the placard shall be posted in a conspicuous place at the project site during the entire period of work.
11. The structure or work authorized herein shall be in accordance with the permit, as issued, and shall be maintained in good condition. Failure to build in accordance with the permit, as issued, or failure to maintain the structure in good condition, shall result in the revocation of this permit.
12. The authorization for activities or structures herein constitutes a revocable license. OCRM may require the permittee to modify activities or remove structures authorized herein if it is determined by OCRM that such activity or structures violates the public's health, safety, or

SEE SPECIAL CONDITION(S)

welfare, or if any activity is inconsistent with the public trust doctrine. Modification or removal under this condition shall be ordered only after reasonable notice stating the reasons therefore and provision to the permittee of the opportunity to respond in writing. When the Permittee is notified that OCRM intends to revoke the permit, Permittee agrees to immediately stop work pending resolution of the revocation.

13. OCRM shall have the right to revoke, suspend, or modify this permit in the event it is determined the permitted structure (1) significantly impacts the public health, safety and welfare, and/or is violation of Section 48-39-150, (2) adversely impacts public rights, (3) that the information and data which the permittee or any other agencies have provided in connection with the permit application is either false, incomplete or inaccurate, or (4) that the activity is in violation of the terms and/or conditions, including any special conditions of the permit. That the permittee, upon receipt of OCRM's written intent to revoke, suspend, or modify the permit has the right to a hearing. Prior to revocation, suspension, or modification of this permit, OCRM shall provide written notification of intent to revoke to the permittee, and permittee can respond with a written explanation to OCRM. (South Carolina Code Section 1-23-370 shall govern the procedure for revocation, suspension or modification herein described).
14. Any modification, suspension or revocation of this permit shall not be the basis of any claim for damages against OCRM or the State of South Carolina or any employee, agent, or representative of OCRM or the State of South Carolina.
15. All activities authorized herein shall, if they involve a discharge or deposit into navigable waters or ocean waters, be at all times consistent with all applicable water quality standards, effluent limitations and standards of performance, prohibitions, and pretreatment standards established pursuant to applicable federal, state and local laws.
16. Extreme care shall be exercised to prevent any adverse or undesirable effects from this work on the property of others. This permit authorizes no invasion of adjacent private property, and OCRM assumes no responsibility or liability from any claims of damage arising out of any operations conducted by the permittee pursuant to this permit.

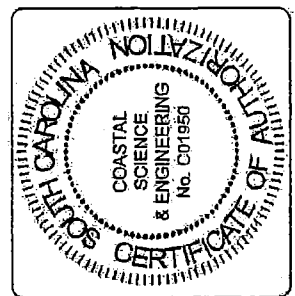
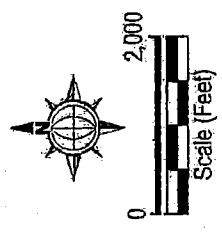
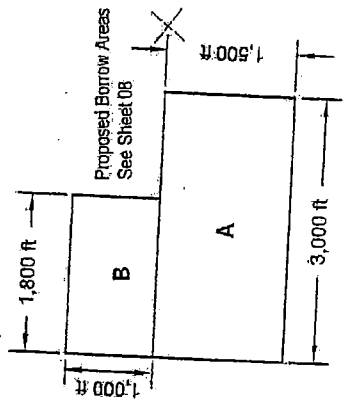
**SEE SPECIAL
CONDITION(S)**



Total Project

Minimum 420,000 cubic yards
Maximum 835,000 cubic yards
Project Length ~ 19,000 ft

Atlantic Ocean



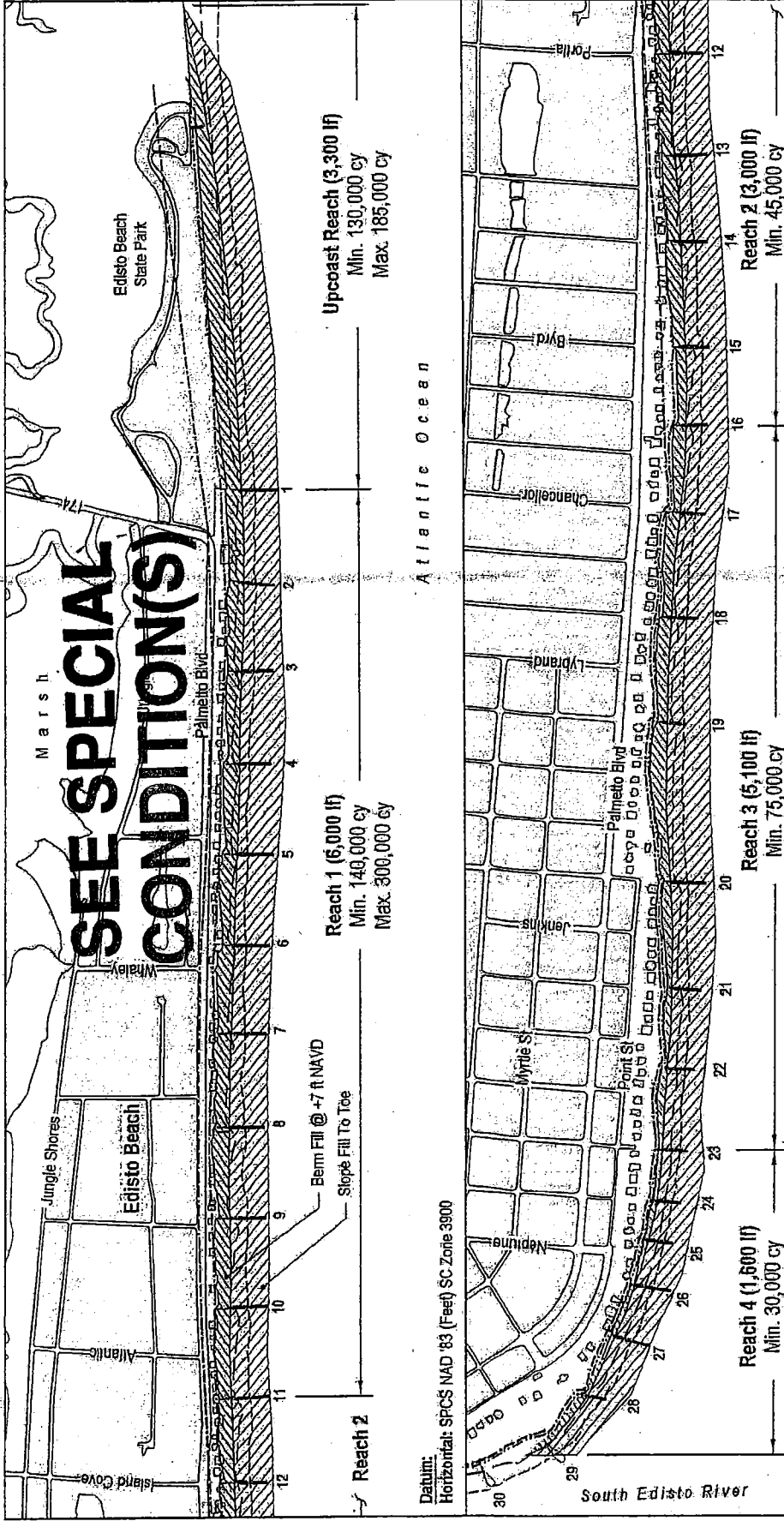
Datum: Horizontal: SPCS NAD 83 (Feet) SG Zone 3900

Scale:	As Shown	Sheet #:	02
Date:	Revised 17 Apr 2015	Project #:	2416
Permit #:			

DRAWING TITLE:
OVERALL PROJECT PLAN

AGENT:
Coastal Science & Engineering
PO Box 8056
Columbia, SC 29202

APPLICANT:
Town of Edisto Beach
2414 Murray St
Edisto Island, SC 29438



SEE SPECIAL CONDITION(S)

Upcoast Reach (3,300 lf)
Min. 130,000 cy
Max. 185,000 cy

Reach 1 (6,000 lf)
Min. 140,000 cy
Max. 300,000 cy

Reach 4 (1,600 lf)
Min. 30,000 cy
Max. 75,000 cy

Reach 3 (5,100 lf)
Min. 75,000 cy
Max. 150,000 cy

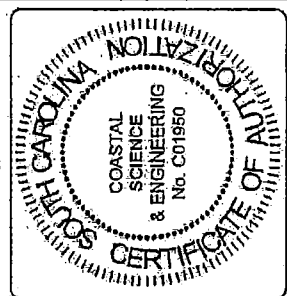
Reach 2 (3,000 lf)
Min. 45,000 cy
Max. 125,000 cy

- Legend**
- Mean High Water 2.41 ft NAVD
 - Mean Low Water -3.33 ft NAVD
 - OCRM Setback Line (2009)
 - OCRM Baseline (2009)

- Nourishment Impact Area
- Existing Groin / Extension (See Table On Sheet 04)

Scale: As Shown
Date: Recheck 17Apr2015
Permit #
Project # 2416

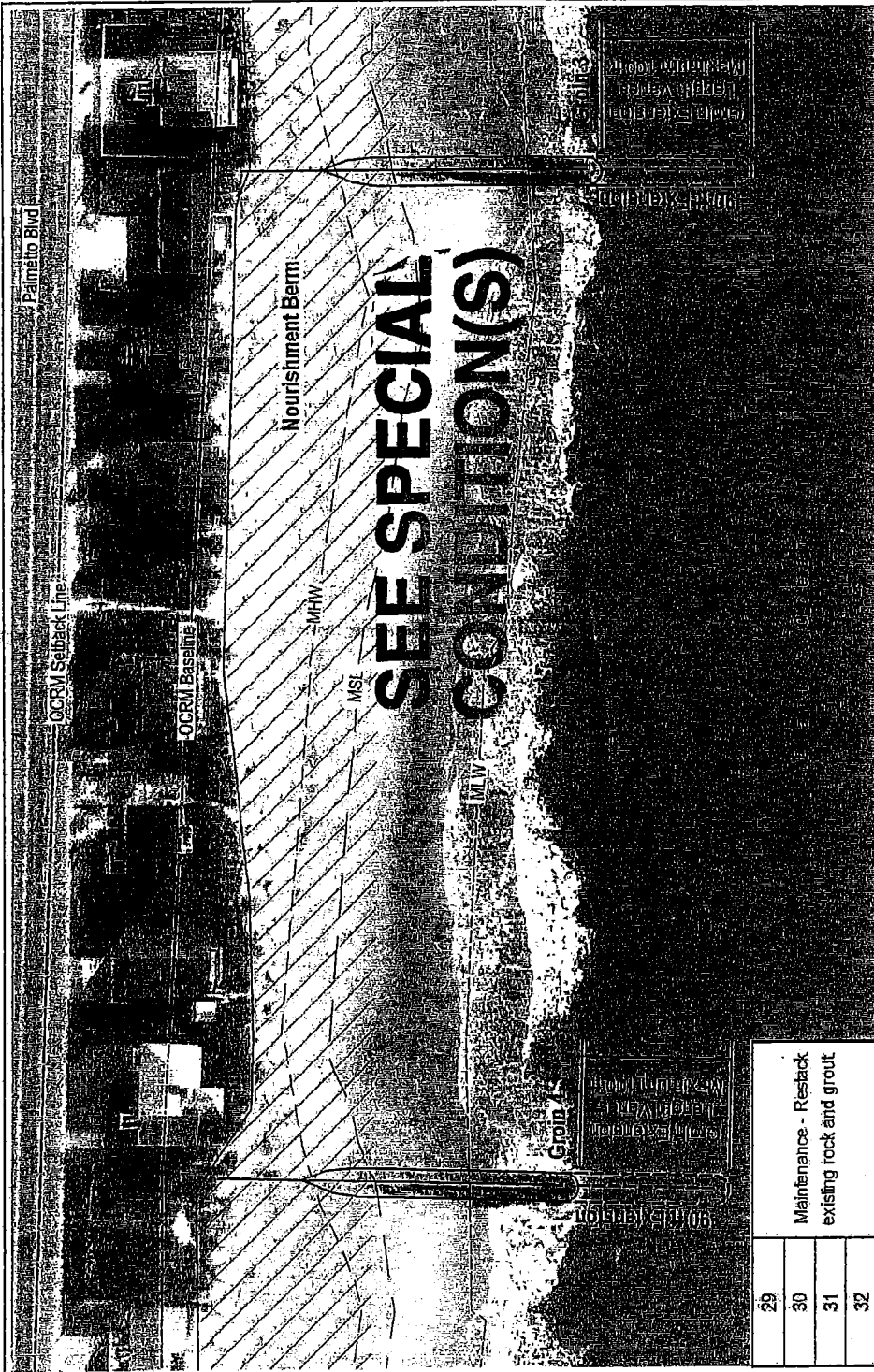
03



DRAWING TITLE
PROJECT FILL PLAN

AGENT:
Coastal Science & Engineering
PO Box 8056
Columbia, SC 29202

APPLICANT:
Town of Edisto Beach
2414 Murray St
Edisto Island, SC 29438



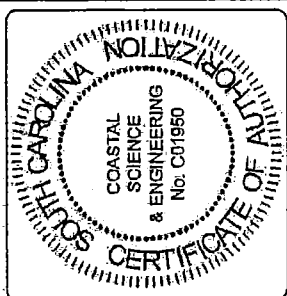
Groin No.	Estimated Maximum Extension (ft)
1	90
2	85
3	90
4	90
5	100
6	100
7	90
8	90
9	95
10	95
11	95
12	45
13	80
14	65
15	40
16	20
17	20
18	40
19	0
20	80
21	30
22	30
23	30
24	30
25	40
26	95
27	100
28	0

29	Maintenance - Restack existing rock and grout
30	
31	
32	

Datum Notes:
 Horizontal: SPCS NAD 83 (Feet) SG Zone 3990
 Vertical: NAVD 88 (Feet)
 Image: IMC 25 May 2011
 Contour positions based on measurements collected in July 2014.

Legend
 --- Mean High Water 2.41 ft NAVD
 --- Mean Low Water -3.33 ft NAVD
 --- OCRM Seaback Line (2009)
 --- OCRM Baseline (2009)

See Sheets 05- 06 For Typical Fill Profiles
 Scale (Feet)
 0 100



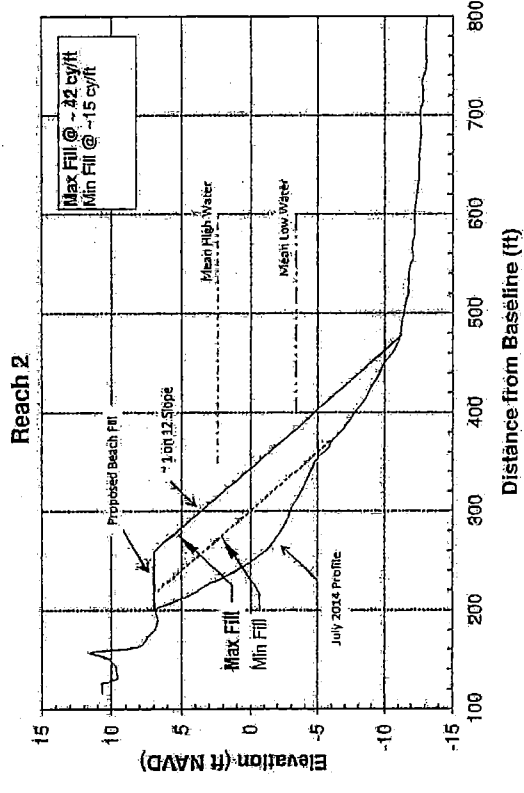
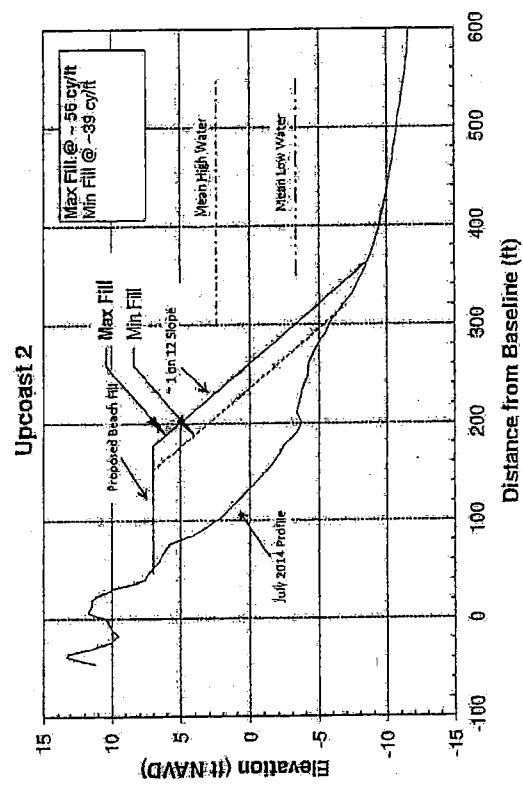
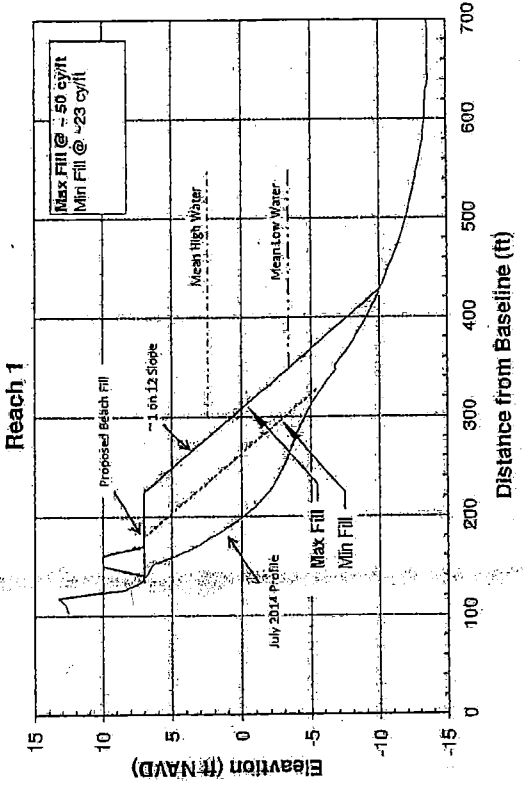
Scale: As Shown
 Date: Revised 17Apr2015
 Permit #
 Project # 2416
 Sheet # **04**

DRAWING TITLE
 GROIN EXTENSION PLAN
 GROINS 1-28

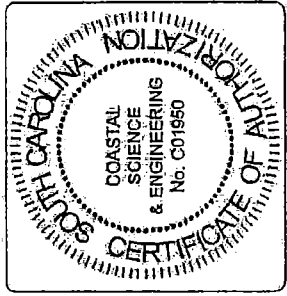
AGENT:
 Coastal Science & Engineering
 PO Box 8056
 Columbia, SC 29202

APPLICANT:
 Town of Edisto Beach
 2414 Murray St
 Edisto Island, SC 29438

9/26



**SEE SPECIAL
CONDITION(S)**



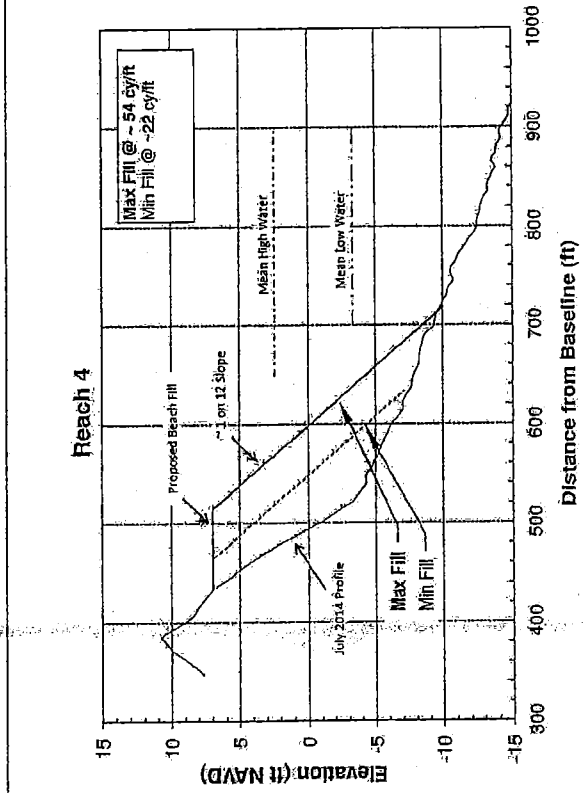
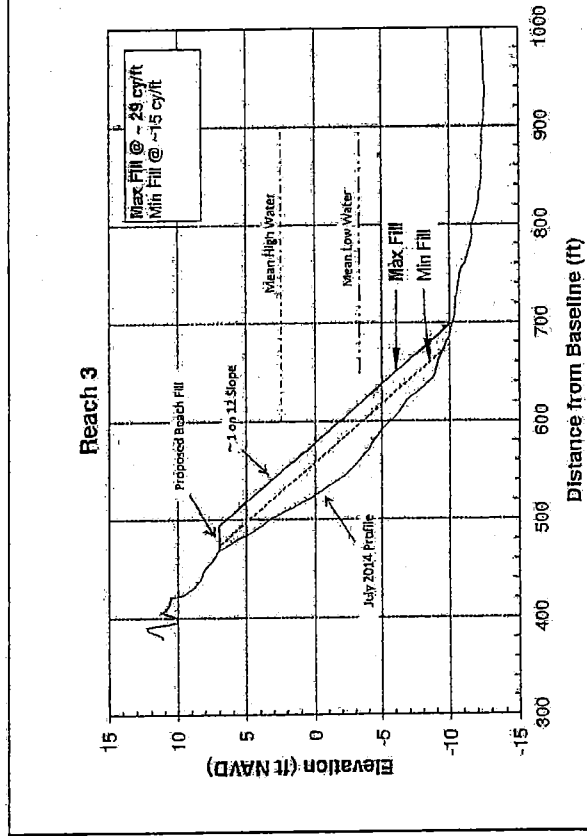
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Date:	23 April 2015	Project #:		2415
Permit #:				

DRAWING TITLE:
TYPICAL FILL PROFILES
UPCOAST & REACH 1 - 2

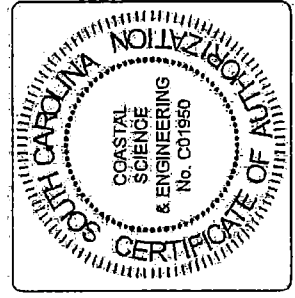
AGENT:
Coastal Science & Engineering
PO Box 8056
Columbia, SC 29202

APPLICANT:
Town of Edisto Beach
2414 Murray St
Edisto Island, SC 29438

10/26



**SEE SPECIAL
CONDITION(S)**



Scale:	As Shown	Sheet #:	06
Date:	23 April 2015		
Plan #:			
Project #:	2416		

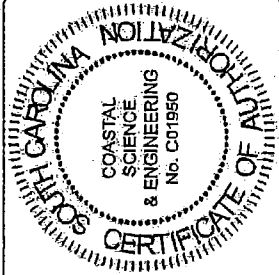
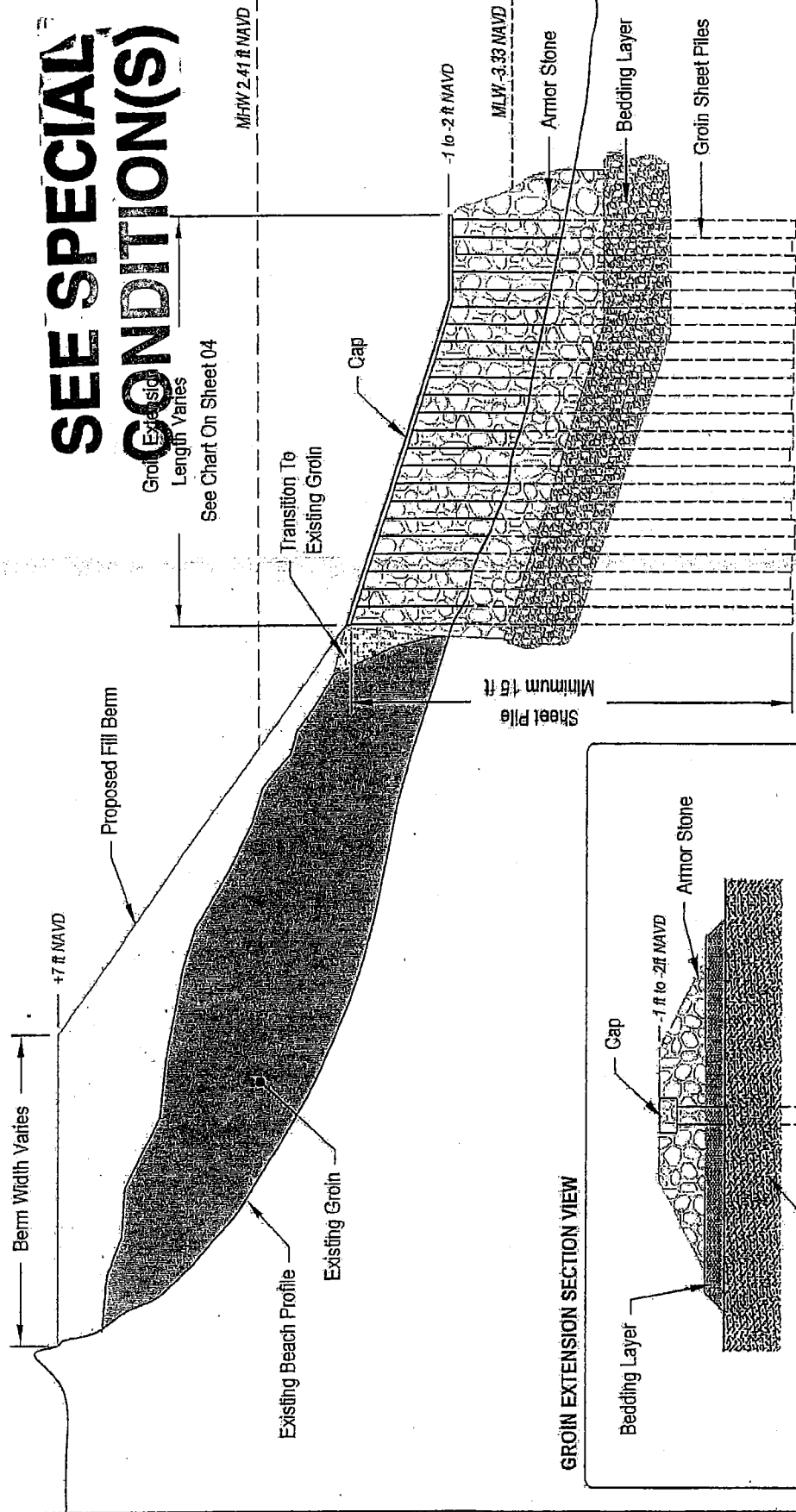
DRAWING TITLE:
TYPICAL FILL PROFILES
REACH 3 - 4

AGENT:
Coastal Science & Engineering
PO Box 8056
Columbia, SC 29202

APPLICANT:
Town of Edisto Beach
2414 Murray St
Edisto Island, SC 29438

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**SEE SPECIAL
CONDITION(S)**



Scale:	As Shown	Sheet #:	07
Date:	24 April 2015	Project #:	2416
Permit #:			

DRAWING TITLE:
**GROIN EXTENSION
 PROFILE & SECTION VIEW**

AGENT:
 Coastal Science & Engineering
 PO Box 8056
 Columbia, SC 29202

APPLICANT:
 Town of Edisto Beach
 2414 Murray St
 Edisto Island, SC 29438

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**SEE SPECIAL
CONDITION(S)**

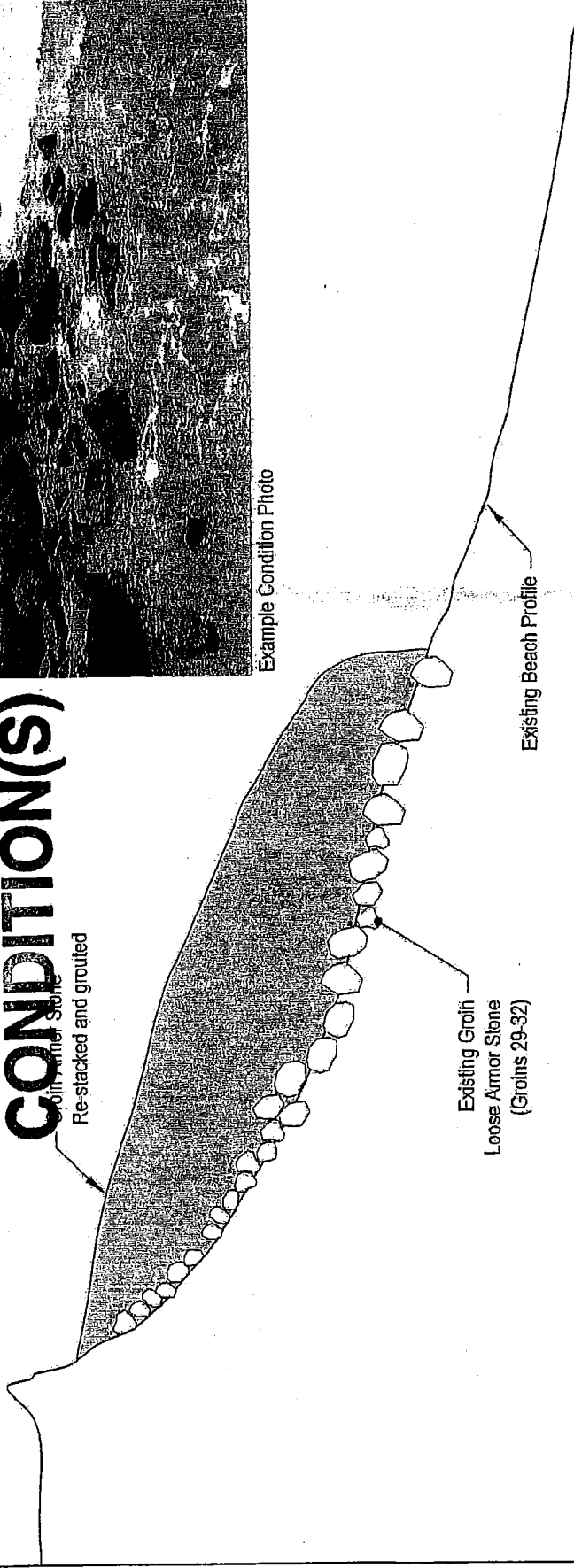
Re-stacked and grouted
Armor Stone

Existing Groin
Loose Armor Stone
(Groins 29-32)

Existing Beach Profile



Example Condition Photo



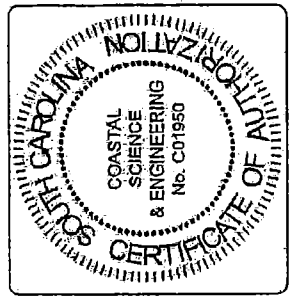
APPLICANT:
Town of Edisto Beach
2414 Murray St
Edisto Island, SC 29438

AGENT:
Coastal Science & Engineering
PO Box 8056
Columbia, SC 29202

DRAWING TITLE:
GROIN MAINTENANCE
Groins 29-32

Typical Condition - Not To Scale

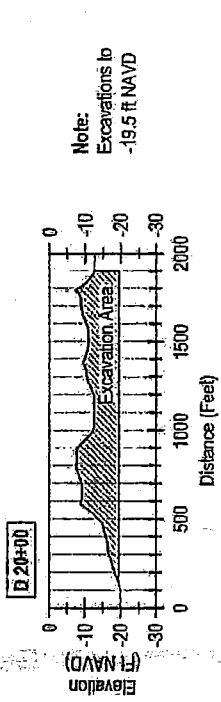
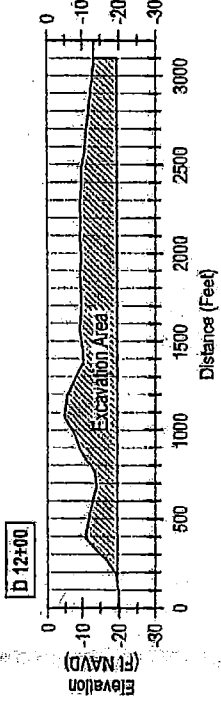
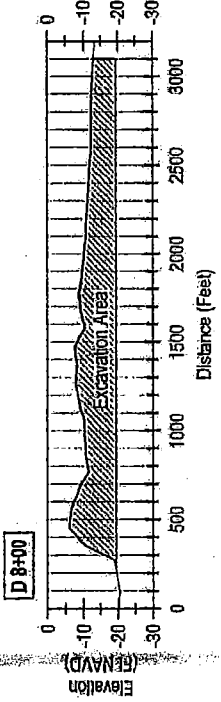
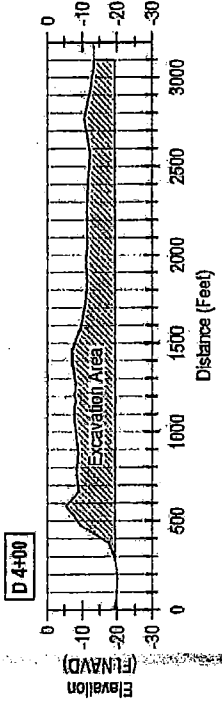
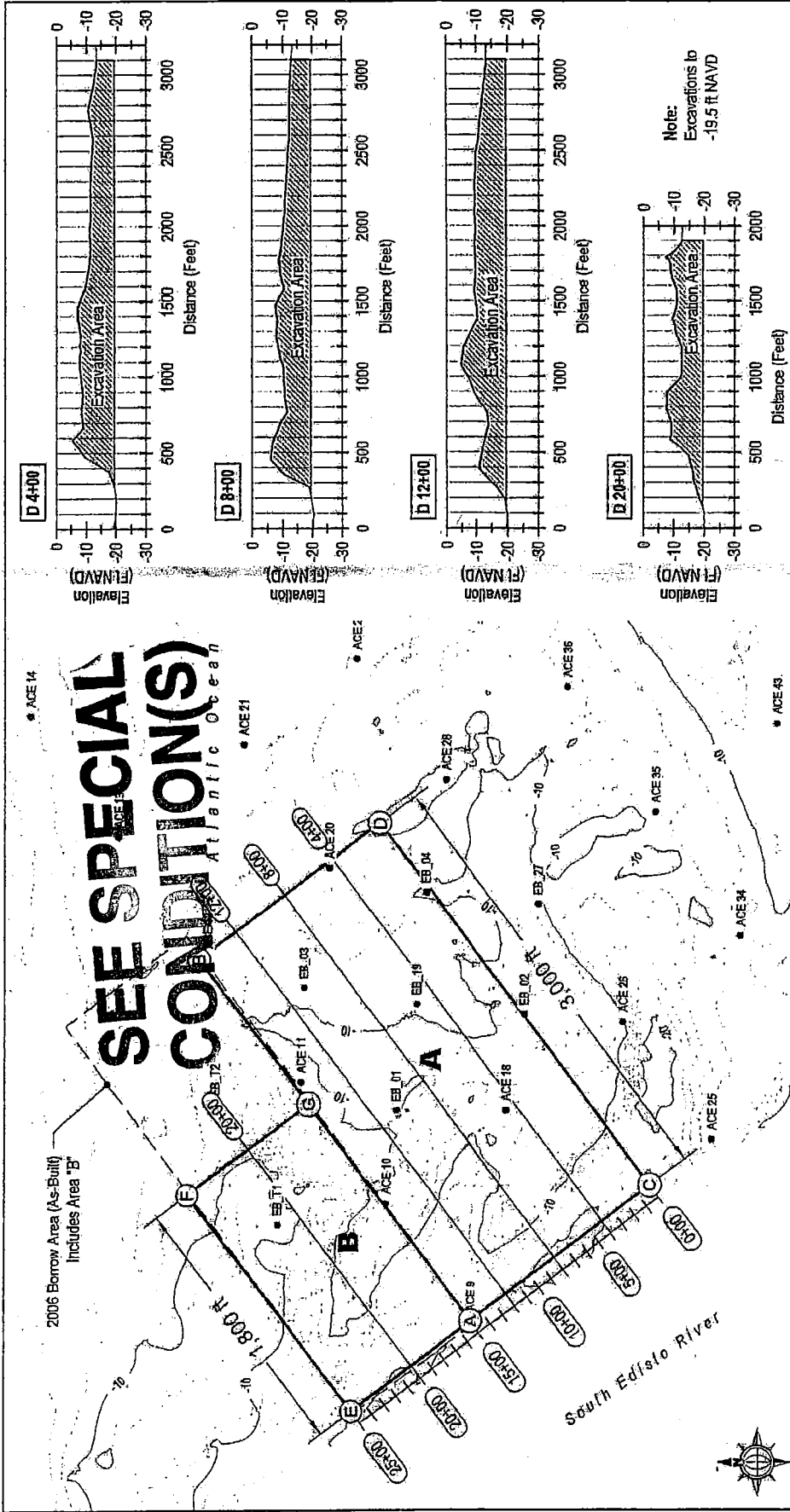
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Date	Revised 17Apr2015		
Permit #			
Project #	2416		



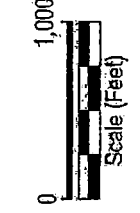
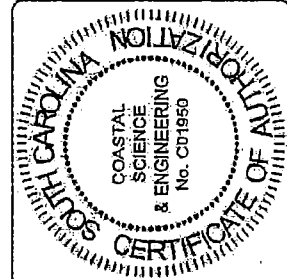
13/26

**SEE SPECIAL
CONDITION(S)**

2006 Borrow Area (As-Built)
Includes Area "B"



Note:
Excavations to
-19.5 ft NAVD



BORROW AREA COORDINATES			
POINT	NORTHING	EASTING	POINT
A	231,170,759	2,207,550,143	E
B	232,587,670	2,209,917,365	F
C	228,783,536	2,209,347,054	G
D	230,600,447	2,211,734,277	

Scale: As Shown
Date: 23 April 2015
Permit #: 2416
Project #: 2416

DRAWING TITLE:
**BORROW AREA DETAILS
& SECTIONS**

APPLICANT:
Town of Edisto Beach
2414 Murray St
Edisto Island, SC 29438

AGENT:
Coastal Science & Engineering
PO Box 8056
Columbia, SC 29202

Datum Notes:
Horizontal: SP-CS MAD '83 (Feet) SC Zone 3900
Vertical: NAVD 88 (Feet)
Bathymetry Shown Collected July 2014

14/26

ATTACHMENT A

terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited under the ESA provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary, and must be implemented by the Corps and/or their contractors completing the project for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps and/or their contractors completing the project: (1) fail to assume and implement the terms and conditions; or (2) fail to require their contractors to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Corps must report the progress of the action and its impacts on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

AMOUNT OR EXTENT OF TAKE

The Service anticipates nesting habitat along 19,000 feet of shoreline could be taken as a result of this proposed action. The take is expected to be in the form of destruction of all nests that may be constructed and eggs that may be deposited and missed by a nest survey and nest relocation program (May 1 – October 31) within the boundaries of the proposed project. Incidental take is anticipated for only the 19,000 linear feet of beach that have been identified. The Service anticipates incidental take of sea turtles will be difficult to detect for the following reasons: (1) The turtles nest primarily at night and all nests are not found because [a] natural factors, such as rainfall, wind, and tides may obscure crawls and [b] human-caused factors, such as pedestrian and vehicular traffic, may obscure crawls, and result in nests being destroyed because they were missed during a nesting survey and nest mark and avoidance program (2) The total number of hatchlings per undiscovered nest is unknown.

EFFECT OF THE TAKE

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the loggerhead sea turtle. Critical habitat has not been designated in the project area; therefore, the project will not result in destruction or adverse modification of critical habitat. Incidental take of nesting and hatchling sea turtles is anticipated to occur during project construction and during the life of the project. Take will occur on nesting habitat on 19,000 feet of shoreline.

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measures (RPMs) are necessary and appropriate to minimize take of loggerhead sea turtles in the proposed Town of Edisto Beach renourishment project within the Action Area.

1. Conservation Measures included in the permit application/project plans must be implemented (unless revised below in the Terms and Conditions) in the proposed project.

ATTACHMENT A

2. Beach quality sand suitable for sea turtle nesting, successful incubation, and hatchling emergence must be used for sand placement.
3. All derelict concrete, metal, coastal armoring material or other debris must be removed from the beach prior to any construction.
4. During the sea turtle nesting season (May 1 – October 31), surveys for nesting sea turtles must be conducted. If nests are constructed in the area of material placement the eggs must be relocated to minimize sea turtle nest burial, crushing of eggs, or nest excavation.
5. Beach compaction must be monitored and tilling (non-vegetated areas) must be conducted if needed immediately after completion of the sand placement work and prior to the next three nesting seasons to reduce the likelihood of impacting sea turtle nesting and hatching activities.
6. Escarpment formation must be monitored and leveling will be conducted if needed immediately after completion of the sand placement project and prior to the next three nesting seasons to reduce the likelihood of impacting nesting and hatchling sea turtles.
7. Construction equipment and materials for sand placement must be stored in a manner that will minimize impacts to nesting and hatchling sea turtles to the maximum extent practicable. During the portion of the nesting season that overlaps with the construction window, all excavations and temporary alteration of beach topography will be filled or leveled to the natural beach profile prior to 9 p.m. each day.
8. Lighting associated with sand placement must be reduced to the minimum standard required by Occupational Safety and Health Administration for General Construction areas to minimize to the possibility of disrupting and disorienting nesting sea turtles. No permanent exterior lighting will be installed in association with this construction project. Temporary lighting will be allowed if safety lighting is required at any excavated trenches that must remain on the beach at night.
9. During the sea turtle nesting season, the contractor will not extend the beach fill more than 500 feet along the shoreline between dusk and the following day until the daily nesting survey has been completed and the beach cleared for fill advancement.
10. If any nesting turtles are sighted on the beach, construction activities must cease immediately until the turtle has returned to the water.
11. During the portion of the nesting season that overlaps with the construction window, on-beach access to the construction site will be restricted to the wet sand below MHW.
12. The placement and design of the dune must emulate the natural dune system to the maximum extent possible, including the dune configuration and shape.

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13. Predator-proof trash receptacles must be installed and maintained at all beach access points used for the project construction to minimize the potential for attracting predators of sea turtles.
14. The SCFO and SCDNR must be notified if a sea turtle adult, hatchling, or egg is harmed or destroyed as a direct or indirect result of the project.
15. The Town of Edisto Beach must take actions to minimize sea turtle misorientations/disorientations on the beach due to artificial beachfront lighting and construction lighting during the nesting season from May 1 through October 31.
16. A post construction survey(s) of all artificial lighting visible from the project beach must be completed by the Town of Edisto Beach.
17. A meeting between representatives of the contractor, the SCFO, SCDNR, and the permitted sea turtle and shorebird surveyor(s) must be held prior to the commencement of work on this project.
18. A report describing the actions taken to implement the terms and conditions of this incidental take statement must be submitted to the SCFO following completion of the proposed work.
19. The Town of Edisto Beach will hire monitors with sea turtle experience to patrol the beach at night in the project area if nighttime construction activities and equipment occur during the nesting season.
20. If vegetation planting is included in the project, all planting must be designed and conducted to minimize impacts to sea turtles.
21. Existing vegetated habitat at each of the beach access points must be protected to the maximum extent practicable and must be delineated by post and rope or other suitable material to ensure vehicles and equipment transport stay within the access corridor. Any vegetated areas impacted must be restored to pre-construction conditions. New beach access locations created for the project work must be approved by the SCFO and SCDNR.
22. Expanded or newly created beach access points must be restored to dune habitat within three months following project completion. The habitat restoration must consist of restoring the dune topography and planting with appropriate native dune vegetation (i.e., native to coastal dunes in South Carolina).

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the ESA, the Corps will include the following terms and conditions, which implement the reasonable and prudent measures, (RPM) described above and outline required reporting/monitoring requirements. These terms and conditions (T&Cs) are non-discretionary.

1. Conservation Measures included in the permit application/project plans must be implemented in the proposed project. This includes the timing of the proposed project to avoid the period of peak sea turtle egg laying and egg hatching, to reduce the possibility of sea turtle nest burial, crushing of eggs, or nest excavation.
2. Beach compatible fill must 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 must be predominately of carbonate, quartz or similar material with a particle size distribution ranging between 0.062mm and 4.76mm (classified as sand by either the Unified Soils or the Wentworth classification), must be similar in color and grain size distribution (sand grain frequency, mean and median grain size and sorting coefficient) to the material in the historic beach sediment at the disposal site, and must not contain:
 - a. Greater than five percent, by weight, silt, clay or colloids passing the #230 sieve;
 - b. Greater than five percent, by weight, fine gravel retained on the #4 sieve (- 2.25φ);
 - c. Coarse gravel, cobbles or material retained on the 3/4 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. Material that will 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 must 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 must not exceed the naturally occurring level for that parameter on nearby native beaches.

These standards must not be exceeded in any 10,000 square foot section extending through the depth of the nourished beach. If the native beach exceeds any of the limiting parameters listed above, then the fill material must not exceed the naturally occurring level for that parameter on nearby native beaches.

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3. All derelict concrete, metal, and coastal armoring material and other debris must be removed from the beach prior to any dredged material placement to the maximum extent practicable. If debris removal activities will take place during the sea turtle nesting season, the work must be conducted during daylight hours only and must not commence until completion of the sea turtle survey each day.
4. Daily early morning surveys for sea turtle nests will be required if construction coincides with the beginning of sea turtle nesting season (May 1 – June 30). No construction activity can begin until completion of the sea turtle nesting survey each day. Nesting surveys must continue through the end of the project or through October 31, whichever is earlier. If nests are constructed in areas where they may be affected by construction activities, the nests must be relocated per the following requirements.
 - a. Nesting surveys and nest relocation will only be conducted by personnel with prior experience and training in nesting survey and nest marking procedures. Surveyors must have a valid SCDNR permit. Nesting surveys must be conducted daily between sunrise and 9 a.m.
 - b. Only those nests that may be affected by sand placement activities will be relocated. Nests requiring relocation will be moved no later than 9 a.m. the morning following deposition to a nearby self-release beach site in a secure setting where artificial lighting will not interfere with hatchling orientation. Relocated nests will not be placed in organized groupings. Relocated nests will be randomly staggered along the length and width of the beach in settings that are not expected to experience daily inundation by high tides or known to routinely experience severe erosion and egg loss, or subject to artificial lighting. Nest relocations in association with construction activities must cease when construction activities no longer threaten nests.
 - c. Nests deposited within areas where construction activities have ceased or will not occur for 70 days or nests laid in the nourished berm prior to tilling must be marked and left in situ unless other factors threaten the success of the nest. The turtle permit holder will install an on-beach marker at the nest site or a secondary marker at a point as far landward as possible to assure that future location of the nest will be possible should the on-beach marker be lost. No activity will occur within this area nor will any activities occur which could result in impacts to the nest. Nest sites will be inspected daily to assure nest markers remain in place and the nest has not been disturbed by the project activity.
5. Sand compaction must be monitored in the area of sand placement immediately after completion of the project and prior to May 1 for three subsequent years. Sand compaction monitoring results must be provided to the SCFO. If tilling is needed, the area will be tilled to a depth of 24 inches. Each pass of the tilling equipment will be overlapped to allow more thorough and even tilling. All tilling activity will be completed at least once prior to nesting season. An electronic copy of the results of the compaction monitoring will be submitted to the SCFO prior to any tilling actions being taken or if a

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request not to till is made based on compaction results. The requirement for compaction monitoring can be eliminated if the decision is made to till regardless of post construction compaction levels. Additionally, out-year compaction monitoring and remediation are not required if placed material no longer remains on the dry beach. If tilling occurs during shorebird nesting season (February 15 – August 31), shorebird surveys prior to tilling are required per the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §§ 703-712).

- a. Compaction sampling stations must be located at 500-foot intervals along the sand placement template. One station will be at the seaward edge of the dune/bulkhead line (when material is placed in this area), and one station will be midway between the dune line and the high water line (normal wrack line).
 - b. At each station, the cone penetrometer will be pushed to a depth of 6, and 12 inches three times (three replicates). Material may be removed from the hole if necessary to ensure accurate readings of successive levels of sediment. The penetrometer may need to be reset between pushes, especially if sediment layering exists. Layers of highly compact material may lie over less compact layers. Replicates will be located as close to each other as possible, without interacting with the previous hole or disturbed sediments. The three replicate compaction values for each depth will be averaged to produce final values for each depth at each station. Reports will include all 18 values for each transect line, and the final six averaged compaction values.
 - c. If the average value for any depth exceeds 500 pounds per square inch (psi) for any two or more adjacent stations, then that area must be tilled immediately prior to the dates listed above.
 - d. If values exceeding 500 psi are distributed throughout the project area but in no case do those values exist at two adjacent stations at the same depth, then consultation with the Service will be required to determine if tilling is required. If a few values exceeding 500 psi are present randomly within the project area, tilling will not be required.
 - e. Tilling will occur landward of the wrack line and avoid all vegetated areas three square feet or greater with a three square foot buffer around the vegetated areas.
6. Visual surveys for escarpments along the project area must be made immediately after completion of the sand placement and within 30 days prior to May 1 for three subsequent years if sand in the project area still remains on the dry beach. Escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet must be leveled and the beach profile must be reconfigured to minimize scarp formation by the dates listed above. Any escarpment removal must be reported by location. If the project is completed during the early part of the sea turtle nesting and hatching season, escarpments may be required to be leveled immediately, while protecting nests that have been relocated or

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left in place. The SCFO must be contacted immediately if subsequent reformation of escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet occurs during the nesting and hatching season to determine the appropriate action to be taken. If it is determined that escarpment leveling is required during the nesting or hatching season, the Service will provide a brief written authorization within 30 days that describes methods to be used to reduce the likelihood of impacting existing nests. An annual summary of escarpment surveys and actions taken will be submitted to the SCFO.

7. During the sea turtle nesting season, nighttime storage of construction equipment not in use must be off the beach to minimize disturbance to sea turtle nesting and hatching activities. In addition, all construction pipes placed on the beach must be located as far landward as possible without compromising the integrity of the dune system. Temporary storage of pipes must be off the beach to the maximum extent possible. If the pipes are stored on the beach, they must be placed in a manner that will minimize the impact to nesting habitat and must not compromise the integrity of the dune systems. All excavations and temporary alteration of beach topography will be filled or leveled to the natural beach profile prior to 9 p.m. each day. During any periods when excavated trenches must remain on the beach at night, nighttime sea turtle monitoring by the sea turtle permit holder will be required in the project area in order to further reduce possible impacts to nesting sea turtles. Nighttime monitors will record data on false crawls, successful nesting, and any additional activities of nesting or hatching sea turtles in the project area.

8. Direct lighting of the beach and nearshore waters must be limited to the immediate construction area during nesting season and must comply with safety requirements. Lighting on all equipment must 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 must be reduced to the minimum standard required by OSHA for General Construction areas, in order not to misdirect sea turtles. Shields must be affixed to the light housing and be large enough to block light from all lamps from being transmitted outside the construction area (Figure 7). **The Town must monitor compliance with the lighting schematic on a weekly basis by making unscheduled night site visits from July 1 through September 30 to minimize hatchling disorientations. Noncompliance documented twice during this window will result in no construction from 9 p.m. until 6 a.m. through September 30.**

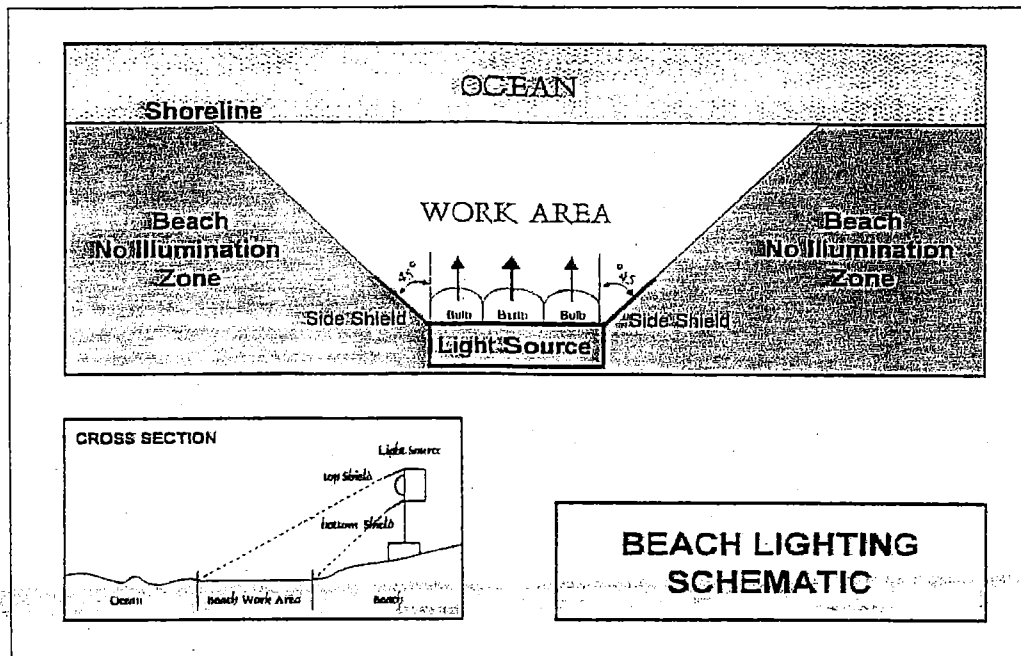


Figure 7. Beach lighting schematic.

9. During the sea turtle nesting season, the contractor must not extend the beach fill more than 500 feet along the shoreline between dusk and dawn and the following day until the daily nesting survey has been completed and the beach cleared for fill advancement. An exception to this may occur if there is permitted sea turtle surveyor present on-site to ensure no nesting and hatching sea turtles are present within the extended work area. If the 500 feet is not feasible for the project, an agreed upon distance will be decided on during the preconstruction meeting. Once the beach has been cleared and the necessary nest relocations have been completed, the contractor will be allowed to proceed with the placement of fill during daylight hours until dusk at which time the 500-foot length (or other agreed upon length) limitation will apply. If any nesting turtles are sighted on the beach within the immediate construction area, activities will cease immediately until the turtle has returned to the water and the sea turtle permit holder responsible for nest monitoring has relocated the nest.
10. If any nesting turtles are sighted on the beach, construction activities within 500 feet must cease immediately until the turtle has returned to the water, and the sea turtle permit holder responsible for nest monitoring has marked any nest that may have been laid for avoidance.
11. During the nest laying and hatching season, on-beach access to the construction site will be restricted to the wet sand below MHW.
12. Dune restoration or creation included in the project design must have a slope of 1.5:1 followed by a gradual slope of 4:1 for approximately 20 feet seaward on a high erosion

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beach (Figure 8) or a 4:1 slope (Figure 9) on a low erosion beach. If another slope is proposed for use, the Corps must consult the SCFO.

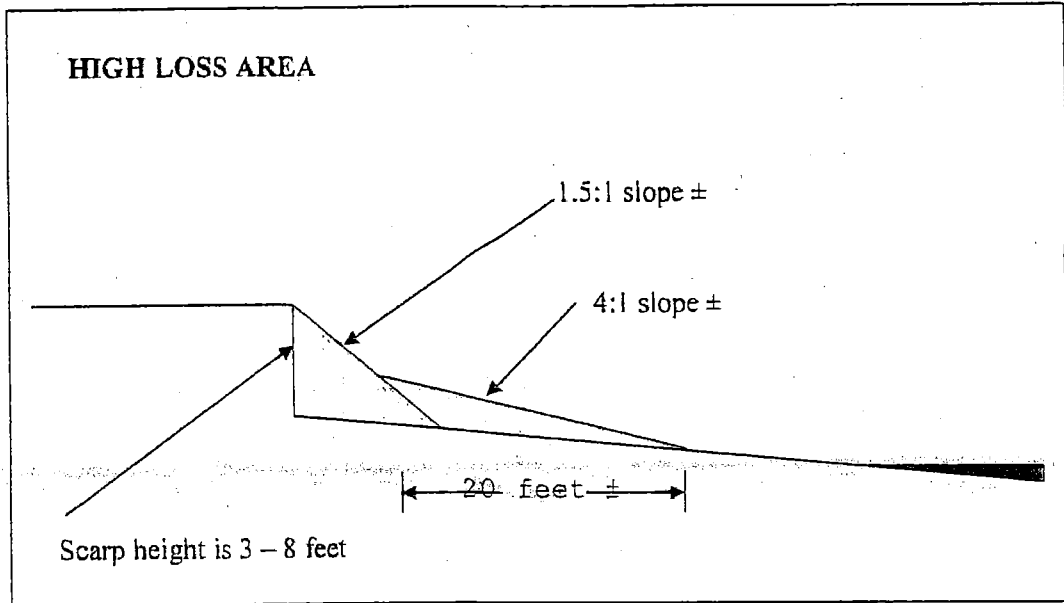


Figure 8. Recommended slope on a high erosion beach for sand placement projects that include the creation of a dune.

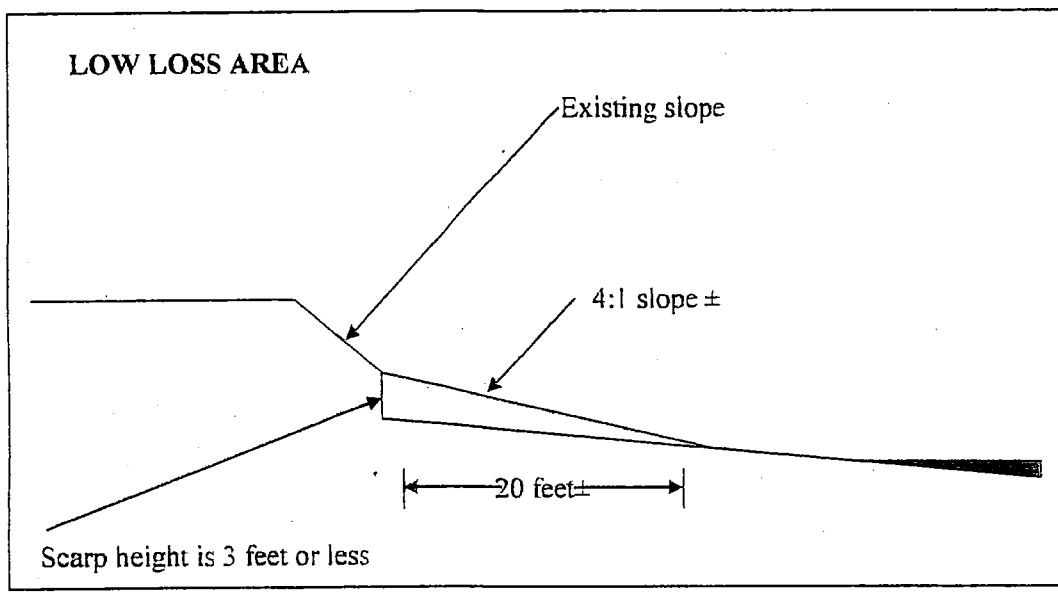


Figure 9. Recommended slope on a low erosion beach for sand placement projects that include the creation of a dune.

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

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attracting predators of sea turtles. The contractors conducting the work must provide predator-proof trash receptacles for the construction workers. All contractors and their employees must be briefed on the importance of not littering and keeping the project area trash and debris free.

14. Upon locating a sea turtle adult, hatchling, or egg harmed or destroyed as a direct or indirect result of the project, notification must be made to the SCDNR Hotline at 1-800-922-5431 and SCFO at 843-727-4707.
15. No permanent exterior lighting will be installed in association with this construction project. Lighting will be allowed if safety lighting is required at any excavated trenches that must remain on the beach at night.
16. Two surveys must be conducted of all lighting visible from the beach placement area by the Town of Edisto Beach, using standard techniques for such a survey (**Appendix B**), in the year following construction. The first survey must be conducted between May 1 and May 15 and a brief summary provided to the SCFO. The second survey must be conducted between July 15 and August 1. A summary report of the surveys, (include the following information: methodology of the survey, a map showing the position of the lights visible from the beach, a description of each light source visible from the beach, recommendations for remediation, and any actions taken), must be submitted to the SCFO within 3 months after the last survey is conducted. After the annual report is completed, a meeting must be set up with the Corps, The Town of Edisto Beach, SCDNR, and the Service to discuss the survey report, as well as any documented sea turtle disorientations in or adjacent to the project area. If the project is completed during the nesting season and prior to May 1, the contractor may conduct the lighting surveys during the year of construction.
17. A meeting between representatives of the contractor, SCFO, SCDNR, and the permitted sea turtle surveyor will be held prior to the commencement of work on this project. At least 10 business days advance notice will be provided prior to conducting this meeting. A conference call may be substituted for a meeting if agreed to by all parties. The meeting will provide an opportunity for explanation and/or clarification of the sea turtle protection measures as well as additional guidelines when construction occurs during the sea turtle nesting season, such as storing equipment, minimizing driving, as well as follow up meetings during construction.

18. A report with the information listed in the following table must be submitted to the SCFO within 3 months of the completion of construction.

All projects	Project location (latitude and longitude coordinates)
	Project description (include linear feet of beach, and access points)
	Dates of actual construction activities
	Names and qualifications of personnel involved in sea turtle nesting surveys and nest relocation
	Escarpment formation
	Remedial action

19. In the event the structure begins to disintegrate, all debris and structural material must be removed from the nesting beach area and deposited off site immediately. If removal of the structure is required during the period from May 1 to October 31, no work will be initiated without prior coordination with the Corps and the SCFO.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. Construction activities for this project and similar future projects should be planned to take place outside of the sea turtle nesting and hatching season.
2. Educational signs should be placed where appropriate at beach access points explaining the importance of the area to sea turtles and/or the life history of sea turtle species that nest in the area.

Migratory Birds

Nesting season surveys should be conducted in all potential beach-nesting bird habitats within the project boundaries that may be impacted by construction or pre-construction activities during the nesting season. Portions of the project in which there is no potential for project-related activity during the nesting season may be excluded.

If shorebird nesting activity is discovered within the project area, the Corps or Applicants should establish a 300-foot wide buffer zone around any location where shorebirds have been engaged in nesting behavior, including territory defense. All construction activities, including movement of vehicles, should be prohibited in the buffer zone.

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