Permit

for

X Major Development in an Area of Environmental Concern pursuant to NCGS 113A-118

X Excavation and/or filling pursuant to NCGS 113-229

Issued to N.C. Department of Transportation, 113 Airport Drive, Suite 100, Edenton, NC 27932

Authorizing development in Hyde County at adj. Atlantic Ocean, NC Highway 12, Ocracoke Island, including attached workplan drawings as referenced in Condition #2 of this permit & AEC Hazard Notice dated 9/20/19.

This permit, issued on April 3, 2020, is subject to compliance with the application (where consistent with the permit), all applicable regulations, special conditions and notes set forth below. Any violation of these terms may be subject to fines, imprisonment or civil action; or may cause the permit to be null and void.

1) Unless specifically altered herein, this Minor Modification authorizes updated drawings for the installation of 5,223 linear feet of temporary erosion control structures (sandbags) along NC Highway 12 on Ocracoke Island, including a shift of the 1,005-foot section of sandbags on Sheet 9 southward by approximately 200 linear feet, and the use of upland sources of sand to fill the sandbags, including the Southdock dredge spoil site, sand removed from the dune during sandbag installation, or sand on the roadway or roadway shoulders deposited by wind or overwash events, all as depicted on the attached workplan drawings.

2) Unless specifically altered herein, all work authorized by this permit shall be carried out in accordance with the following attached workplan drawings (13), except as modified herein: 9 dated 3/17/20, 2 dated 3/19/20, 1 dated 3/18/20, and 1 dated as received as 3/5/20.

(See attached sheets for Additional Conditions)

This permit action may be appealed by the permittee or other qualified persons within twenty (20) days of the issuing date.

This permit must be accessible on-site to Department personnel when the project is inspected for compliance.

Any maintenance work or project modification not covered hereunder requires further Division approval.

All work must cease when the permit expires on December 31, 2020

Signed by the authority of the Secretary of DEQ and the Chair of the Coastal Resources Commission.

Braxton C. Davis, Director
Division of Coastal Management

This permit and its conditions are hereby accepted.

DocuSigned by:

Paul Williams

Signature of Permittee
ADDITIONAL CONDITIONS

3) Nothing in this permit authorizes any activity that has not received approval from the National Park Service (NPS) for work within the Cape Hatteras National Seashore.

NOTE: NPS issued Permit #USA20-5700-001 Revision 1 on March 27, 2020.

4) Based upon coordination with appropriate agencies, and in accordance with the following permit conditions, the activities authorized by this Minor Modification are allowed to take place during the sea turtle and piping plover moratorium of April 1 to November 15 as required by Condition No. 3 of the Permit Renewal issued on 12/18/15. Any work that is proposed during the sea turtle and piping plover moratorium in subsequent years shall adhere to the full moratorium, or shall require additional authorization from DCM, in coordination with NPS, the N.C. Wildlife Resources Commission (WRC) and the U.S. Fish and Wildlife Service (USFWS).

5) In accordance with commitments made by the permittee, and due to the potential for sea turtle nests in the project area, if the work continues into the sea turtle nesting season (May 1 to November 15), all work shall be conducted during daylight hours, the permittee and/or the NPS shall conduct a sea turtle survey within the project vicinity each morning prior to any work taking place, and a log shall be generated. If any sea turtle crawl is observed, the permittee shall stop work and consult with DCM, WRC, NPS, and USFWS to identify and implement any required response prior to any further work taking place. In addition, if eggs and/or hatchlings are uncovered during project work, all construction activity in that area shall stop and the WRC Sea Turtle Hotline (252-241-7367) shall be called to make arrangements for the eggs/hatchlings, in consultation with NPS (and viable eggs might be left in place, meaning no work can occur within 300 feet until the incubation ends or the nest is determined to be no longer viable).

6) In keeping with 15A NCAC 07H.0308(a)(2)(L) of the rules of the Coastal Resources Commission, the sandbags shall be tan in color and 3 to 5 feet wide and 7 to 15 feet long when measured flat with a base width that does not exceed 20 feet and a total height not exceeding 6 feet, as measured from the bottom of the lowest bag.

7) Should the operations encounter sand that could be considered non-compatible with the characteristics of the native beach, the permittee shall immediately cease operations and contact the DCM Field Representative for Transportation Projects. Permitted activities shall resume only after resolution of the issue of sand compatibility.

8) All fill material shall be clean and free of any pollutants, except in trace quantities.

9) The authorized temporary erosion control structures (sandbags) shall conform to the use standards found in 15A NCAC 07H .0308(a)(2), including but not limited to, the timelines and requirements for removal found in 15A NCAC 07H .0308(a)(2)(F) through 15A NCAC 07H .0308(a)(2)(J).

10) Soldier pilings and other types of devices to anchor the sandbags shall not be allowed.

11) Any temporary erosion control structures within the project area that are no longer necessary shall be removed in their entirety, including the removal of remnants of all portions of any damaged temporary erosion control structures.
ADDITIONAL CONDITIONS

12) All work shall be accomplished in such a manner that damage to existing vegetation is minimized.

13) Construction staging areas shall be located only in upland areas, and not in wetlands or waters of the State.

14) No vegetated wetlands or waters of the State shall be excavated or filled, without permit modification.

15) The temporary placement and/or double handling of any excavated or fill material within waters or vegetated wetlands is not authorized.

16) This project shall conform to all requirements of the N.C. Sedimentation Pollution Control Act and the N.C. Department of Transportation’s (NCDOT’s) Memorandum of Agreement with the N.C. Division of Energy, Mineral and Land Resources.

17) Appropriate sedimentation and erosion control devices, measures or structures shall be implemented to ensure that eroded materials do not enter adjacent wetlands, watercourses and properties (e.g. silt fence, diversion swales or berms, etc.).

18) In order to protect water quality, runoff from construction shall not visibly increase the amount of suspended sediments in adjacent waters.

19) If it is determined that additional permanent and/or temporary impacts (such as but not limited to temporary access roads and detours) are necessary that are not shown on the attached workplan drawings or described in the authorized permit application, a permit modification and/or additional authorization from DCM shall be required. In addition, any changes in the approved plan may also require a permit modification and/or additional authorization from DCM. The permittee shall contact the DCM Transportation Field Representative in Elizabeth City prior to commencement of any such activity for this determination and any permit modification.

20) Development authorized by this permit shall only be conducted on lands owned by the N.C. Department of Transportation (NCDOT), and/or their Right-of-Ways and/or easements and/or on NPS lands with NPS authorization.

21) The permittee shall exercise all available precautions in the day-to-day operation of the facility to prevent waste from entering the adjacent waters and wetlands.

22) The permittee and/or its contractor shall contact the DCM Transportation Project Field Representative in Elizabeth City at (252) 264-3901 to request a preconstruction conference prior to project initiation.

NOTE: This permit does not eliminate the need to obtain any additional permits, approvals or authorizations that may be required.
ADDITIONAL CONDITIONS

23) This Minor Modification shall be attached to the original of Permit No. 24-03, which was issued on 2/19/03, and all subsequent modifications, renewals and letters of refinement, including but not limited to the Emergency Major Modification issued on 9/26/19, the Emergency Minor Modification issued on 10/22/19, and the Minor Modification issued on 1/31/20, and copies of all documents shall be readily available on site when a Division representative inspects the project for compliance.

24) All conditions and stipulations of the active permit remain in force under this Minor Modification unless altered herein.

NOTE: A minor modification application processing fee of $100 was received by DCM for this project.
HURRICANE DORIAN
EROSION PROTECTION
NC 12 OCRACOKE ISLAND
(VEGETATED DUNE REPAIR AREAS)

TYPICAL SECTION NO. 1

- StA. 10 + 00.00 TO StA. 25 + 00.00
- StA. 99 + 00.00 TO StA. 116 + 80.00

PVAMEENT SCHEDULE

U EXISTING PAVEMENT

T EARTH MATERIAL

* MATERIAL USED FOR DUNE CONSTRUCTION SHALL HAVE BEACH QUALITY CHARACTERISTICS AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT.

* CONTRACTOR SHALL NOT DISTURB ANY EXISTING DUNE VEGETATION DURING DUNE CONSTRUCTION.
HU R RICANE DORIAN
EROSION PROTECTION
NC 12 OCRACOKE ISLAND
(PROPOSED SANDBAG Sections)

PAVEMENT SCHEDULE

* MATERIAL USED FOR DUNE CONSTRUCTION
AND SAND BAG FILLING SHALL HAVE BEACH
QUALITY CHARACTERISTICS AND SHALL BE
APPROVED BY THE ENGINEER PRIOR TO PLACEMENT

TYPICAL SECTION NO. 2

- L STA. 25 +00.00 TO STA. 43 +15.00
- L STA. 49 +00.00 TO STA. 60 +76.00
- L STA. 64 +06.00 TO STA. 67 +16.00
- L STA. 88 +95.00 TO STA. 99 +00.00

U EXISTING ASPHALT PAVEMENT
T EARTH MATERIAL

NTS
HURRICANE DORIAN
EROSION PROTECTION
NC 12 OCRACOKE ISLAND
(EXISTING SANDBAG SECTIONS)

PAVEMENT SCHEDULE

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<td>EARTH MATERIAL</td>
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TYPICAL SECTION NO. 3

- L STA. 43 + 15.00 TO STA. 49 + 60.00
- L STA. 60 + 76.00 TO STA. 64 + 06.00

NTS
HURRICANE DORIAN
EROSION PROTECTION
NC 12 OCRACOKE ISLAND
(DUNE REPAIR AREAS, NO VEGETATION PRESENT)

TYPICAL SECTION NO. 4

L- STA. 67 +16.00 TO STA. 88 +95.00

* MATERIAL USED FOR DUNE CONSTRUCTION
SHALL HAVE BEACH QUALITY CHARACTERISTICS
AND SHALL BE APPROVED BY THE ENGINEER
PRIOR TO PLACEMENT

PAVEMENT SCHEDULE

U  EXISTING PAVEMENT
T  EARTH MATERIAL

NTS
DUNE RECONSTRUCTION

DUNE RECONSTRUCTION: 1,500 L.F.
DUNE AREA: 75,000 SQ FT
DUNE VOLUME: 6,500 C.Y.
SAND BAG LENGTH: 855 L.F.

BEGIN
ASPHALT OVERLAY
EXTA 42 + 00.00

PROPOSED
SANDBags

DUNE REPAIR

DUNE AREA:
75,000 SQ FT

DUNE VOLUME:
6,500 C.Y.

SAND BAG LENGTH:
855 L.F.

NC DEPT OF TRANSPORTATION

COUNTY: HYDE
QUAD: GREEN ISLAND
BASIN: TAR-PAMLICO
PROJECT: DUNE RECONSTRUCTION
WBS ELEMENT: 15901.1048011
SCALE: 1/IN. = 100' FT.
DATE: 05/17/2020
DRAWN BY: B.K. BROWN

LAT: 35.165157°
LONG: -75.8265534°
*NOTE: NO EQUIPMENT, INCLUDING OFF ROAD TRUCKS WILL BE ALLOWED ON THE OCEAN SIDE OF DUNES IN ENVIRONMENTALLY SENSITIVE AREAS*
**NOTE:** NO EQUIPMENT, INCLUDING OFF ROAD TRUCKS WILL BE ALLOWED ON THE OCEAN SIDE OF DUNES IN ENVIRONMENTALLY SENSITIVE AREAS.

**ATLANTIC OCEAN**

- DUNE RECONSTRUCTION: 1,556 L.F.
- DUNE AREA: 77,750 SQ FT
- DUNE VOLUME: 6,500 C.Y.
- SAND BAG LENGTH: 1,405 L.F.
TYPICAL SECTION NO. 1

* MATERIAL USED FOR DUNE CONSTRUCTION SHALL HAVE BEACH QUALITY CHARACTERISTICS AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT.

* CONTRACTOR SHALL NOT DISTURB ANY EXISTING DUNE VEGETATION DURING DUNE CONSTRUCTION.

EXISTING VEGETATION (TO REMAIN)

50' MAX.

EXISTING GROUND

PROPOSED DUNE

12'

12'

5'

10'

VAR.

VAR.

VAR.

VAR.

VAR.

24'

EXISTING NHW (VAR.)

ATLANTIC OCEAN

EXIST NHW (VAR.)

PAVEMENT SCHEDULE

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TYPICAL SECTION NO. 1

- STA. 10 + 00.00 TO STA. 25 + 00.00
- STA. 99 + 00.00 TO STA. 116 + 80.00

DHS
REV 03/19/20
HURRICANE DORIAN
EROSION PROTECTION
NC 12 OCRACOKE ISLAND
(PROPOSED SANDBAG SECTIONS)

* MATERIAL USED FOR DUNE CONSTRUCTION AND SAND BAG FILLING SHALL HAVE BEACH QUALITY CHARACTERISTICS AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT

PAVEMENT SCHEDULE

<table>
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<th>EXISTING ASPHALT PAVEMENT</th>
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<td>T</td>
<td>EARTH MATERIAL</td>
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TYPICAL SECTION NO. 2

- L  STA. 25 + 00.00 TO STA. 43 + 15.00
- L  STA. 49 + 60.00 TO STA. 60 + 76.00
- L  STA. 64 + 06.00 TO STA. 67 + 16.00
- L  STA. 88 + 95.00 TO STA. 99 + 00.00
HURRICANE DORIAN
EROSION PROTECTION
NC 12 OCRACOKE ISLAND
(EXISTING SANDBAG SECTIONS)

PAVEMENT SCHEDULE

* MATERIAL USED FOR DUNE CONSTRUCTION
AND SANDBAG FILLING SHALL HAVE BEACH
QUALITY CHARACTERISTICS AND SHALL BE
APPROVED BY THE ENGINEER PRIOR TO PLACEMENT

TYPICAL SECTION NO. 3
- L STA. 43+15.00 TO STA. 49+60.00
- L STA. 60+76.00 TO STA. 64+06.00

NTS
**Typical Section No. 4**

- L: STA. 67+16.00 TO STA. 88+95.00

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**Material Used for Dune Construction**
- Shall have beach quality characteristics
- Shall be approved by the Engineer prior to placement

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**Erosion Protection**
- NC 12 Ocracoke Island
- (Dune Repair Areas, No Vegetation Present)

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**Existing Pavement Schedule**

<table>
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<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>U</td>
<td>Existing Pavement</td>
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<td>T</td>
<td>Earth Material</td>
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**TKE**

**Rev:** 03/17/2020
DUNE RECONSTRUCTION

National Park Service
Cape Hatteras National Seashore
1401 National Park Drive
Manteo, NC 27954
64 / 233

SECTION 2

BEGIN
ASPHALT OVERLAY
EXT 42 + 00.00

EXIST RW

PROPOSED
SANDBAGS

PROPOSED
SANDBAGS

ORIGINALLY
PERMITTED
SANDBAGS

DUNE REPAIR

EXIST RW

ATLANTIC OCEAN

DUNE RECONSTRUCTION: 1,500 L.F.
DUNE AREA: 75,000 SQ FT
DUNE VOLUME: 6,500 C.Y.
SANDBAG LENGTH: 855 L.F.

COUNTY: HYDE
QUAD: GREEN ISLAND
BASIN: TAR-PAMLICO
PROJECT: DUNE RECONSTRUCTION
WBS ELEMENT: 15901.1048011
SCALE: 1" = 100' FT.
DATE: 03/17/2020
DRAWN BY: B.K. BROWN
NOTE: NO EQUIPMENT, INCLUDING OFF ROAD TRUCKS WILL BE ALLOWED ON THE OCEAN SIDE OF DUNES IN ENVIRONMENTALLY SENSITIVE AREAS

ATLANTIC OCEAN

DUNE RECONSTRUCTION: 1,525 L.F.
DUNE AREA: 76,250 SQ FT
DUNE VOLUME: 6,500 C.Y.

COUNTY: HYDE
QUAD: GREEN ISLAND
BASIN: TAR-PAMLICO
PROJECT: DUNE RECONSTRUCTION
WBS ELEMENT: 1500:1048311
SCALE: 1IN. = 100' FT.
DATE: 03/17/2020
DRAWN BY: B.K. BROWN
NOTE: NO EQUIPMENT, INCLUDING OFF ROAD TRUCKS WILL BE ALLOWED ON THE OCEAN SIDE OF DUNES IN ENVIRONMENTALLY SENSITIVE AREAS.
NC 12 OCRACOKE ISLAND
DUNE RECONSTRUCTION

National Park Service
Cape Hatteras National Seashore
1401 National Park Drive
Manteo, NC 27954
64 / 233

NC DEPT OF TRANSPORTATION

COUNTY: HYDE
QUAD: GREEN ISLAND
BASIN: TAR-PAMUCO
PROJECT: DUNE RECONSTRUCTION
WBS ELEMENT: 15801104011
SCALE: 1"N. = 100' FT.
DATE: 03/17/2020
DRAWN BY: R.K. BROWN

DUNE RECONSTRUCTION: 1,550 LF.
DUNE AREA: 77,500 SQ FT
DUNE VOLUME: 6,500 C.Y.

DUNE VOLUME: 6,500 C.Y.
DUNE AREA: 77,500 SQ FT
DUNE RECONSTRUCTION: 1,550 LF.

EXIST R/W
EXISTING ASPHALT
TIE TO EXISTING DUNE
DUNE REPAIR

ATLANTIC OCEAN

END:.Std.116+800.00

LONG: -75.826534°
LAT: 35.15337°

105 + 00
110 + 00
115 + 00
March 2, 2020

Greg Daisy
NC Division of Coastal Management
401 S. Griffin St., Ste. 300
Elizabeth City, NC 27909

Subject: CAMA Major Permit No. 24-03 Modification Request for Alternative Sandbags

Dear Mr. Daisy,

The NC Department of Transportation is currently working on a dune reconstruction project along NC 12 on Ocracoke Island, as authorized by an Emergency Major Modification (issued 9/26/2019) and a Minor Modification (issued 1/31/2020) to CAMA Major Permit No. 24-03. The project is authorized to place a total of 5,223 linear feet of temporary erosion control structures (sandbags) within the adjacent primary dune along NC 12 to protect the roadway and reinforce the dune. The roadway and primary dune were severely damaged by ocean overwash from Hurricane Dorian. Although the sandbags do not totally prevent ocean overwash, they provide protection to the roadway to allow traffic to be maintained after overwash sand can be removed. The sandbags are a temporary measure until a long-term solution can be selected and funded to maintain access to Ocracoke Island by NC 12. When a long-term solution is constructed, the sandbags shall be removed in their entirety.

Placement of sandbags, as specified by the standards found in 15A NCAC 07H .0308(a)(2)(K), takes an extensive amount of time. Sand is hydraulically pumped from the “swash” zone of the adjacent beach into the sandbags in place. Currently, the rate of production is less than 50 linear feet a day and very weather dependent. Sandbag installation, authorized by the Emergency Major Modification issued 9/26/2019, took over 2 months for approximately 975 linear feet of sandbags. Construction was interrupted by ocean overwash produced by Nor’easters in October (Subtropical Storm Melissa) and November 2019, but the long timeframe of installation exposes the project to such events. This delayed the roadway opening to traffic, also resulting in a delay in storm disaster response from Hatteras Island.

To minimize the time of sandbag installation, NCDOT has investigated new temporary erosion control products on the market to protect the roadway. The non-standard sandbag products would minimize installation time to expedite roadway repairs and re-opening of NC 12 to traffic. The products available are woven multi-cellular materials, white in color, and can be dry filled with sand for rapid installation. One vendor indicated 1000 linear feet of their product could be installed within a week. Using sand available on the roadway and shoulders during an ocean overwash event, the products could be filled quickly with overwash sand and avoid impacting the open waters of the “swash” zone. This would avoid habitat impacts to sea turtles, Piping Plovers, and Red Knots and avoid potential impacts in the Environmentally Sensitive Areas identified by the National Park Service (historic shipwrecks) on Ocracoke Island. Again, these alternative sandbags would be a temporary measure until a long-term solution can be selected and funded to maintain access to Ocracoke Island by NC 12.
To minimize the construction timeline of the temporary sandbag structure and to avoid impacts to open waters, endangered species habitat, and environmentally sensitive areas, NCDOT requests CAMA Major Permit No. 24-03 be modified to remove the constraints of the standards of 15A NCAC 07H .0308(a)(2)(K) to authorize the use of non-standard sandbag products for the current project and any future projects covered by CAMA Major Permit No. 24-03. These standards are listed below.

15A NCAC 07H .0308(a)(2)(K)
Sandbags used to construct temporary erosion control structures shall be tan in color and three to five feet wide and seven to 15 feet long when measured flat. Base width of the structure shall not exceed 20 feet, and the height shall not exceed six feet.

This request is only for relief from 15A NCAC 07H .0308(a)(2)(K). All other standards would be adhered to for projects authorized under CAMA Major Permit No. 24-03. Maintaining traffic on NC 12 is essential for the residents and emergency response personnel to access Ocracoke Island. Expediting repairs after storm events to accelerate restoration of traffic and disaster response is crucial to NCDOT.

Attached to this letter is product information of a non-standard sandbag being considered for use if permitted. If you have any questions, please contact me at pcwilliams2@ncdot.gov or (252) 482-1861.

Sincerely,

Jerry Jennings, P.E.
Division One Engineer

[Signature]

Paul Williams
Division One Environmental Officer
From: Daisey, Greg
Sent: Thursday, March 5, 2020 2:51 PM
To: Williams, Paul C
Cc: Brittingham, Cathy; Howell, Jonathan; Trowell, Steve J
Subject: RE: Request to Modify CAMA Permit No. 24-03 - Alternative Sandbags for Ocracoke Dune Project

Paul –

Paul

After initial review and internal DCM coordination related to the modification request of CAMA Major Permit No. 24-03 for the construction of a sandbag structure to protect Hwy. 12 on Ocracoke Island submitted on March 2, 2020, DCM requests additional information in order to accept the application as complete:

- Within the project narrative describing the proposed project, please give the methodology for filling the proposed sandbags and reestablishing the dunes. This includes the location of the material to be used for each activity. Please confirm that information contained within the project narrative correlates with information provided on all submitted drawings.
- Updated workplan drawings and associated typical cross section/profiles, including dimensions of the proposed sandbags and any resulting changes to the dune dimensions. Please date the drawings.
- Please provide information about any correspondence with the National Park Service regarding the proposal, and if it is known whether a modification of the NPS Special Use Permit will be required.
- Please provide an update on any project related Section 7 coordination/consultation requirements with USFWS.

Thanks for your time and please contact me with any questions.

Greg Daisey
Transportation Projects Field Representative
Division of Coastal Management
North Carolina Department of Environmental Quality

252.264.3901, EXT.249 (office)
Greg.Daisey@ncdenr.gov

401 South Griffin Street, Suite 300
Elizabeth City, NC 27909

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: Williams, Paul C <pcwilliams2@ncdot.gov>
Sent: Monday, March 2, 2020 3:52 PM
To: Daisey, Greg <Greg.Daisey@ncdenr.gov>
Cc: Brittingham, Cathy <cathy.brittingham@ncdenr.gov>; Howell, Jonathan <jonathan.howell@ncdenr.gov>; Trowell, Steve J <sjtrowell@ncdot.gov>
Subject: Request to Modify CAMA Permit No. 24-03 - Alternative Sandbags for Ocracoke Dune Project
Greg,

Please see the attached letter and reference information for a modification of CAMA Permit No. 24-03 for the Ocracoke Dune Project. I will have a hard copy delivered to your office in Elizabeth City tomorrow.

Thanks, and let me know if you have any questions.

Paul C. Williams, Jr.
Division Environmental Officer
Division One
NC Department of Transportation

(252) 482-1861 office
(252) 333-9812 mobile
(252) 482-8722 fax
pcwilliams2@ncdot.gov

113 Airport Dr.
Suite 100
Edenton, NC 27932

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.
March 19, 2020

Greg Daisy  
NC Division of Coastal Management  
401 S. Griffin St., Ste. 300  
Elizabeth City, NC 27909

Subject: CAMA Major Permit No. 24-03 Modification Request for Alternative Sandbags  
Additional Information Response

Dear Mr. Daisy,

In response to your email dated March 5, 2020, the NC Department of Transportation is providing additional information to the CAMA Permit No. 24-03 Modification request dated March 2, 2020. NCDOT is currently installing sandbags along NC 12 on Ocracoke Island as authorized by the Minor Modification (issued 1/31/2020) and will continue to install the authorized traditional sandbags until the requested permit modification is issued or the project is completed. Currently, the rate of production is approximately 30 linear feet a day.

The proposed alternative sandbags would not be hydraulically filled from the swash zone as authorized for the current project. The proposed alternative sandbags would be filled from onsite sources or the South Dock dredge spoil site using a front-end loader or similar equipment. Onsite sources would be sand removed from the dune during sandbag installation or sand on the roadway or roadway shoulders deposited by wind or overwash events. Sand for dune reconstruction would be sourced from the South Dock Dredge spoil site or Avon borrow pit, all as previously authorized by the Emergency Major Modification (issued 9/26/2019) and the Minor Modification (issued 10/22/2019). Sand for the sandbags and dune reconstruction shall be of the same general characteristics as the sand in the existing dune, per existing permit conditions. A steel installation platform would be used to support the alternative sandbags during the filling operation. Water may be used to pack the sand as the bags area filled to maximize capacity.

The alternative sandbags are made of white polypropylene and have a trapezoidal cross section. The sandbag sections are 50 feet in length, and each 50’ section is separated every 2’ by a sewn baffle. The 50’ sections can be connected together at the ends with nylon strapping and be cut to shorter sections. NCDOT proposes to use two rows of sandbags within the same footprint of the previously authorized sandbags. The oceanward row would be 6’ high and have an 8’ wide base. The landward row would be 4’ high and have a 6’ wide base. Both rows would be placed 2’ below the grade of the roadway and directly adjacent to each other with a combined base of 14’ wide. The alternative sandbags would be placed 10’ from the edge of pavement and would be entirely covered by the reconstructed dune. The reconstructed dune dimensions would be 10’ high and 50’ wide, as previously authorized. The rate of installation for this sandbag configuration would be approximately 200 feet per day. The proposed project is depicted on the attached revised permit drawings.
National Park Service coordination is currently underway. Their written response to the project will be sent to you when received by NCDOT, but conversations with NPS indicate their existing Special Use Permit would be amended to authorize the alternative sandbags upon approval of the project by DCM. Correspondence with the US Fish and Wildlife Service and the North Carolina Wildlife Resource Commission is complete. An updated Concurrence Letter from USFWS will not be needed.

In addition to the question responses above, the location of the sandbags on Sheet 9 of the permit drawings dated 12/4/2019 authorized by the Minor Modification (issued 1/31/2020) were incorrectly depicted. The location of the 1,005 ft. section of sandbags on Sheet 9 needs to shift southward approximately 200 linear feet on the drawing to better protect the roadway and avoid damaging the established vegetative slope of the existing dune. Revised permit drawings have been attached depicting this alignment shift.

These alternative sandbags would be a temporary measure until a long-term solution can be selected and funded to maintain access to Ocracoke Island by NC 12. To minimize the construction timeline of the temporary sandbag structure and to avoid impacts to open waters, endangered species habitat, and environmentally sensitive areas, NCDOT requests CAMA Major Permit No. 24-03 be modified to authorize the use of this alternative sandbag. Agency correspondence, revised permit drawings, and additional product information are attached to this letter. If you have any questions, please contact me at pcwilliams2@ncdot.gov or (252) 482-1861.

Sincerely,
Jerry Jennings, P.E.
Division One Engineer

DocuSigned by:

Paul Williams
Division One Environmental Officer
PermaShield™ Core Protected Dune
Ideal for dune reconstruction and vehicle access points.

Why does PermaShield work better than other products?

The patented trapezoid shape allows our system to redirect lateral pressures into downward pressure to stabilize the system.

Benefits
• Resists sliding
• Withstands rotational forces
• Redirects active lateral Earth or Water pressures downward
• Uses gravity and system weight to self-stabilize
• Improves the system’s Factor of Safety ratio
• It is not considered an impervious surface when it is filled with sand
• Not a hardened structure nor is it a permanent structure when filled with sand
PermaShield Multi-Cellular Design

Patented System

- Sold in 50' L sections; vary in height from 2' to 6'
- Can be cut to size to fit in confined spaces
- Baffles sewn together forming 25 trapezoidal shaped compartments
PermaShield Design – Connectivity

Female to Male Connection

Straps with D-rings
PermaShield Design

Material:

- 8 oz woven Polypropylene with standard UV protection.
- Mounting knobs sewn on top to mount on installation platform to aid in the speed of installation.
The full testing report is available upon request.

PermaShield
Tested by USACE (Sand Filled)

Evaluation of Rapid Installation Barrier System (RIBS) Flood Fighting Barrier

Donald L. Ward
March 2011
The ability to mount a 50’ section of PermaShield on the Sand-fill Installation Platform enables rapid deployment for emergency situations when time is of the essence.

**PermaShield™ is a Rapidly Deployable Containment System**
PermaShield Key Advantages

- Trapezoid shaped design enhances structural integrity.
- Resists rolling.
- Speed of deployment.
- Stackable to virtually any height.
- Can be filled with local sand.
- Multi-cellular product design isolates damage to the impacted cell.
- Tested by the USACE and a proven stand-alone flood fighting barrier.
- Guardian is currently contracted by DOTs in NC, SC, KY, and OH for bank-reinforcement and erosion repairs.
Vehicle Access Points are a key storm surge flood vulnerability for just about every beach community along the east coast since most are at grade.

19th Street Emergency Vehicle Access Point
Tybee Island, GA (Before Irma)
This is the 8’ high dune design that we built for Tybee Island. There are many ways to deploy PermaShield for core protection since it can be installed sub-grade and is stackable.

Core Protected Dune at 19th Street at Tybee Island
6’ High PermaShield Row Continued
Sand on top of PermaShield being Spread to designed grade specifications
Vehicle Access Point Materials Being Installed

10mm non-woven geo-fabric is laid down first

Bod-Pave 85
This dune blends naturally into the beach environment and connects to their dune system on both sides.

**Rebuilt Dune for Emergency Vehicle Access, Tybee Island, GA**

January 2019  
November 2019
Key Advantages:

- Mitigate storm surge
- Drive over top of the dune for emergency vehicle access
- Strong enough for heavy equipment to drive over
- Blends into the environment
- Sea Grass takes root into dune
- Does not impact sea turtle nesting
- 165’ L with 6’ H PermaShield at the core to build an 8’ Dune.
- Built in 5 days
Unique Opportunity to see a Dune Installation

- Two Engineered Dunes will be installed at 3rd Street and Gulick Street vehicle access points in Tybee Island.
- Installations are scheduled to begin the week of February 17th.
- This is being coordinated with the USACE beach nourishment project.
- Great Lakes Dredge and Dock Company, LLC won the bid for this project.
- Presents a unique opportunity to observe an installation and see the completed dune at 19th Street.
- Alan Robertson (Head of the Beach Task Force) from Tybee Island can share the town’s overall resilience plan that could be a model for NC and SC beach communities. He can cover how the task force worked with the GA DNR to make this happen.
PermaShield™ Product Specifications

Patented Design Characteristics:

- Shape: Isosceles Trapezoid Prism – Turns lateral earth pressure or lateral water pressure into a downward force due to the angular wall design. (See illustration A below)
- Heights available: 2’, 3’, 4’, and 6’ (See illustration B below)
- Section Length: 50’
- Stackable to any height. (See illustration C below)
- Multi-cellular design: Isolates damage to a cell to keep the section from failing. Each 50’ section is separated every 2’ by a sewn baffle that acts as a natural expansion joint. Each 50’ L section includes 25 cells. (See illustrations D and E)
- Can accept a variety of fill materials. Sand or other earthen materials, or concrete for permanent applications. (See approximate weights of sand filled and concrete filled section heights in illustration F)
- Mounting knobs to mount entire 50’ L section on installation platform for quick installation. (See illustration G)
- Installation Platforms for sand and concrete materials. (See illustrations H and I)

Product Material:

- 8 oz Woven Polypropylene (100% virgin material)
  - UV resistance: depending on direct sunlight exposure: 70% after 2000 hours (For dune applications, PermaShield will be buried under sand that forms the dune.)
  - Chain Stitching

Connectivity: Ability to connect one 50’ section to another:

- Male connection on one end; Female connection on the other end (See illustration J)
- Secured together with strapping with “D” rings as seen in the picture below. (See illustration K)

Dimensions by Sections Heights Available:

<table>
<thead>
<tr>
<th>Height</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2’</td>
<td>50’ L x 4’ W x 2’ H</td>
</tr>
<tr>
<td>3’</td>
<td>50’ L x 5’ W x 3’ H</td>
</tr>
<tr>
<td>4’</td>
<td>50’ L x 6’ W x 4’ H</td>
</tr>
<tr>
<td>6’</td>
<td>50’ L x 8’ W x 6’ H</td>
</tr>
</tbody>
</table>

Testing:

- USACE tested in 2011 at the Vicksburg, MS test lab. Full report available upon request.
- Report Title: Evaluation of Rapid Installation Barrier System (RIBS) Flood Fighting Barrier.
- Material is physically tested according to a wide range of ASTM standards. (Full list available.)
Illustration A: Isosceles Trapezoid Prism design turns lateral pressure into a downward force.

Illustration B: Heights available.
Illustration C: Stacking Examples that combine different height products.

Illustration D: Multi-cellular Design
Illustration E: Example cell dimensions

Illustration F: Approximate section weights with sand fill and concrete fill.

Sand Fill:

- 2’ H Section: 11 yards / 14 tons
- 3’ H Section: 20 yards / 25.45 tons
- 4’ H Section: 30 yards / 38 tons
- 6’ H Section: 55 yards / 70 tons
Concrete Fill:

- 2’ H Section: 11 yards / 22.45 tons
- 3’ H Section: 20 yards / 40.8 tons
- 4’ H Section: 30 yards / 61.2 tons
- 6’ H Section: 55 yards / 112.2 tons

Illustration G: Mounting Knobs
Illustration H: Installation Platform for sand for quick and efficient fill.

Illustration I: Installation Platform for concrete for quick and efficient fill.
Illustration J: Female End with strapping

Illustration K: “D” Ring Strapping
PROTECTION FROM NATURE™

Call us today to find out what Guardian Retention Systems’ products can do for you.

BEAU ADAMS
OWNER
502.655.6036
beau@erosionmaster.com

JOHN GARFIELD
OPERATIONS MGR
john@erosionmaster.com
302.526.0712

DONNIE BISCHOFF
SALES MGR
302.262.8082
donnie@erosionmaster.com

Guardian Retention Systems, LLC
116 Cabin Creek Dr.
Brooks, KY 40109
502-379-4517
www.guardianretentionsystems.com
**PERMASHIELD™**

**RETAILING WALLS**

Permashield™ system is a proven, effective solution to the toughest erosion situations. This multipurpose barrier system can be used to stabilize slides, reinforce banks/levees, provide road shoulders in areas at high erosion risk, and much more. The ONLY solution of its kind that can be filled with concrete: ANY LENGTH, ANY HEIGHT.

**VERSATILE**
- Retaining Walls
- Permanent Barriers
- Custom Cofferdams
- Levee Reconstruction
- Shoreline Management
- Bank Stabilization
- Flood Protection
- Foundation Protection
- Pier Scour Protection

- Biodegradable Cells
- 3x Industry Avg. Safety Factor

Performance Studies By:
- Precision Engineering, LLC
- ACES, Inc
- Army Corps of Engineers

100° Poured Concrete in JUST ONE HOUR

**FLOOD FIGHTING**

Permashield™ system is a quick and efficient solution to rising flood waters. The shape of the system allows for impenetrable protection and is specifically designed to resist overturning, and washing out.

- 6’ Height x 100° Length erected in just 20 minutes
- Army Corps of Engineers tested and approved
- Steel delivery system designed for any terrain

**PROTECTION FROM NATURE™**

**STRONG:** Each cell is made from Heavy-Duty 8’ ounce woven polypropylene coated fabric secures the material

**WATERTIGHT:** Trapezoid creates downward “sealing” pressure

**CONTINUOUS CHAIN:** Permashield™ systems come in 50’ sections and are joined together via 3,000 LB tensile strength nylon strapping with metal D-Rings

**RAPID INSTALLATION:** Permashield™ system produces the quickest custom concrete wall on the market

The Permashield™ system is the only of its kind shaped as an “Isosceles Trapezoid.” This provides symmetry about the center axis
- Stable base resists sliding
- Stable base resists rotational forces

The non-wire frame of the Permashield system allows it to take the shape of the ground, which increases the actual footprint

Permashield™ comes in a versatile range of systems. Each system is compatible with the next, allowing for aomination to reach your desired height.

- Flexible to match unlevel surfaces
- Ability to match any radius

[Guardianretentionsystems.com](https://guardianretentionsystems.com)
SPECIAL USE PERMIT

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Cape Hatteras NS, Fort Raleigh NHS, & Wright Brothers NMEM
1401 National Park Drive
Manteo, NC 27954
(252) 475-9034 caha_special_use_permits@nps.gov

Name
Paul Williams, Environmental Specialist

Company/Organization
North Carolina Department of Transportation (NCDOT)

Street Address
113 Airport Dr.

City          State Zip Code Country
Edenton          NC 27932 USA

Telephone Number          Cell Phone Number
252-482-1861          252-333-9812

Fax Number

Email Address
Pcwilliams2@ncdot.gov

is hereby authorized to use the following described land or facilities in Cape Hatteras National Seashore: Reconstruct dunes by placing additional sandbags along the approximately 2 miles of roadway on the North end of Ocracoke Island – as depicted in the maps Condition #21:

The area must be restored to its original condition at the end of the permit.

The permit begins at 12:01 ☐ am / ☐ pm on 01/27/2020. The permit expires at 11:59 ☐ am / ☐ pm on 06/01/2020.

SUMMARY OF PERMITTED ACTIVITY: (see attached sheets for additional information and conditions)

NCDOT is permitted to restore / repair approximately a 2-mile section of dune on Ocracoke Island that was severely eroded by Hurricane Dorian and two Nor’easter storms to include:

- The installation of an additional total of approximately 4,248 linear feet of sandbags in four eroded areas (2,555 sand bags). Roadway shoulders would be restored within NCDOT Right-of Way. The sandbags will be hydraulically filled from the swash zone of the adjacent beach.
- The sandbags (2’x5’x15’) will be installed in three layers. See attached drawings Condition #21.
- Create a 50-foot dune (in line with existing dune system) that would withstand normal high tide conditions and allow the road to remain open. See attached drawings Condition #21.
- As with the previously authorized sandbags, these are a temporary measure until a long-term solution can be selected and funded to maintain access to Ocracoke Island via NC-12.
- All work will be conducted during daylight hours.

Person on site responsible for adherence to the terms and conditions of the permit (include contact information)
Paul Williams See Above

Authorizing legislation or other authority
- Curative Deed for Cape Hatteras National Seashore authorizing the state of North Carolina to operate and maintain roadways within the Seashore – Highway 12.
- PEPC92710 Additional Repair of Hurricane Damaged Dunes and NC Hwy12 in Ocracoke

APPLICATION FEE
☐ Received ☐ Not Required Amount
☐ Not Required $ 0

PERFORMANCE BOND
☐ Required Amount
☐ Not Required $ 0
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LIABILITY INSURANCE

☐ Required Amount
☐ Not Required $ 0
☐ Required Amount
☐ Not Required $ 0
☐ Required Amount
☐ Not Required $ 0

COST RECOVERY

LOCATION FEE

ISSUANCE of this permit is subject to the attached conditions. The undersigned hereby accepts this permit subject to the terms, covenants, obligations, and reservations, expressed or implied herein:

Doc/Sign by: ____________________________

Title: Environmental Officer Date: 1/28/2020

PERMITtee Signature ____________________________

Title: Deputy Superintendent Date: 1/29/2020

Authorizing NPS Official ____________________________

CONDITIONS OF THIS PERMIT

Failure to comply with any of the terms and conditions of this permit may result in the immediate suspension or revocation of the permit. [36 CFR 1.6(h)]

1. The permittee is prohibited from giving false information; to do so will be considered a breach of conditions and be grounds for revocation: [36 CFR 2.32(a)(3)].

2. This permit may not be transferred or assigned without the prior written consent of the Superintendent.

3. The permittee shall exercise this privilege subject to the supervision of the Superintendent or designee, and shall comply with all applicable Federal, State, county and municipal laws, ordinances, regulations, codes, and the terms and conditions of this permit. Failure to do so may result in the immediate suspension of the permitted activity or the revocation of the permit. All costs associated with clean up or damage repairs in conjunction with a revoked permit will be the responsibility of the permittee.

4. The permittee is responsible for making all necessary contacts and arrangements with other Federal, State, and local agencies to secure required inspections, permits, licenses, etc.

5. The park area associated with this permit will remain open and available to the public during park visiting hours. This permit does not guarantee exclusive use of an area. Permit activities will not unduly interfere with other park visitors' use and enjoyment of the area.

6. This permit may be revoked at the discretion of the Superintendent upon 24 hours notice.

7. This permit may be revoked without notice if damage to resources or facilities occurs or is threatened, notwithstanding any other term or condition of the permit to the contrary.

8. This permit is made upon the express condition that the United States, its agents and employees shall be free from all liabilities and claims for damages and/or suits for or by reason of any injury, injuries, or death to any person or persons or property of any kind whatsoever, whether to the person or property of the Permittee, its agents or
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employees, or third parties, from any cause or causes whatsoever while in or upon said premises or any part thereof during the term of this permit or occasioned by any occupancy or use of said premises or any activity carried on by the Permittee in connection herewith, and the Permittee hereby covenants and agrees to indemnify, defend, save and hold harmless the United States, its agents, and employees from all liabilities, charges, expenses and costs on account of or by reason of any such injuries, deaths, liabilities, claims, suits or losses however occurring or damages growing out of the same.

9. Permittee agrees to carry general liability insurance against claims occasioned by the action or omissions of the permittee, its agents and employees in carrying out the activities and operations authorized by this permit. The policy shall be in the amount of $N/A per Occurrence, $ N/A Aggregate and underwritten by a United States company naming the United States of America as additional insured. The permittee agrees to provide the Superintendent with a Certificate of Insurance with the proper endorsements prior to the effective date of the permit.

10. Permittee agrees to deposit with the park a bond in the amount of $____N/A_______ from an authorized bonding company or in the form of cash or cash equivalent, to guarantee that all financial obligations to the park will be met.

11. Costs incurred by the park as a result of accepting and processing the application and managing and monitoring the permitted activity will be reimbursed by the permittee. Administrative costs and estimated costs for activities on site must be paid when the permit is approved. If any additional costs are incurred by the park, the permittee will be billed at the conclusion of the permit. Should the estimated costs paid exceed the actual costs incurred; the difference will be returned to the permittee.

12. The person(s) named on the permit as in charge of the permitted activity on-site must have full authority to make any decisions about the activity and must remain available at all times. He/she shall be responsible for all individuals, groups, vendors, etc. involved with the permit

13. Nothing herein contained shall be construed as binding the Service to expend in any one fiscal year any sum in excess of appropriations made by Congress or administratively allocated for the purpose of this permit for the fiscal year, or to involve the Service in any contract or other obligation for the further expenditure of money in excess of such appropriations or allocations.

14. If any provision of this permit shall be found to be invalid or unenforceable, the remainder of this permit shall not be affected and the other provisions of this permit shall be valid and be enforced to the fullest extent permitted by law.

Cape Hatteras National Seashore
Special Park Conditions
Ocracoke Island NC-12 Dune Restoration/Repair

15. In the event of an emergency, dial 911. In the event of an incident that does not require emergency assistance, dial 252-473-3444.

16. Fees will be waived in Accordance With 36 CFR Part 14.22 Reimbursement of costs.
   (a)(1) An applicant for a right-of-way or a permit incident to a right-of-way shall reimburse the United States for administrative and other costs incurred by the United States in processing the application, including the preparation of reports and statements pursuant to the National Environmental Policy Act (42 U.S.C. 4321-4347), before the right-of-way or permit will be issued under the regulations of this part.
   (2) The regulations contained in this section do not apply to: (i) State or local governments or agencies or instrumentalities thereof where the lands will be used for governmental purposes and the lands and resources will continue to serve the general public; (ii) road use agreements or reciprocal road agreements; or (iii) Federal
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government agencies.

17. The National Park Service points of contact for the permit are as follows:
   a. On-site on Ocracoke Island: District Ranger Ed Fuller - work cell (252) 475-8313; ed_fuller@nps.gov
   b. Permit Coordinator: Carmen Pantaleo – 252-475-9033, carmen_pantaleo@nps.gov
   c. Environmental Protection Specialist: Sabrina Henry – 252-475-9019, sabrina_henry@nps.gov

18. NCDOT and its contractors/agents are permitted to use the following equipment and additional equipment as needed and in keeping with all of the provisions of this permit: multiple excavators, multiple off-road dump trucks, multiple loaders; multiple bulldozers, and vans/light trucks.

19. NCDOT and its contractors/agents are permitted to utilize 10+ personnel for the activities undertaken in accordance with this permit.

20. National Park Service permit conditions as required by environmental compliance review - PEPC 92710:

   a. Dune Maintenance and Sandbags
      - The dunes and road shoulders shall be restored using appropriate best management practices, which may include sprigging or seeding with native vegetation such as American beach grass, or, along the sound side areas, allowing native vegetation to reclaim the area naturally. Broadcasting a slow release fertilizer is authorized but no fertilizer is to be applied to the beach front or on ocean facing side of the dunes.
      - Silt fencing shall be installed in appropriate areas around the work site to insure minimal run-off and siltation of the waterways in the areas adjacent to the project work site. This fencing shall be removed from the site after the ground cover is established or at the discretion of the National Park Service.
      - Permittee and contractor is responsible to ensure soil erosion mitigations (silt fencing, coir logs, etc) is appropriately installed prior to project implementation to reduce impacts to adjacent wetlands.
      - Sandbags and other temporary oceanfront erosion controls must meet CAMA's general rules for the ocean hazard AEC {15A NCAC 7H Section .0308(a)}.
      - Sandbags must be placed above the normal high water mark and parallel to the shore.
      - Placement of sand must be spread and contoured within the existing dune or beach area.

   b. Equipment
      - Equipment on beach would be moved to a safe location within the vicinity of the project area upon a weather forecast of high wave and water conditions.
      - All construction generated debris will be removed from the park to an approved landfill.
      - Equipment used at the site shall be pressure cleaned and free of weeds, seed, debris, and mud to prevent the introduction and/or spread of exotic, invasive plants.
      - All machinery containing fuels and oils shall have a spill kit available immediately in the event of a spill. All oil and hazardous material spills within NPS boundaries must be reported to the Emergency Incident Coordination Center (EICC) 1800-732-0911.
      - No heavy equipment use, including Off Road Trucks, and the sandbag hydraulic dredging operation, are authorized in the three identified environmentally sensitive areas. Dune fill to be placed within these areas is allowed.

   c. Mitigations – If any of these situations occur, contact one of the NPS points of contact who will work with appropriate National Park Service staff.
      - The permittee is responsible to provide a pre-construction meeting with the contractor, park management team, Safety Officer, Environmental Protection Specialist, Cultural Program Manager and district leads.
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Permittee must coordinate with Special Use Coordinator Carmen Pantaleo (Carmen_pantaleo@nps.gov) to set up a meeting.

- Permittee must present all final site plans including staging areas to Special Use Coordinator, Carmen Pantaleo, Carmen_pantaleo@nps.gov, at least 2 weeks prior to the start of the project and approved by the NPS prior to project implementation.

- In the event of the discovery of unanticipated cultural resources, work will halt and the Cultural Program Manager (CPM) Jami Lanier, 252-475-0463 will be contacted. Work will not resume until the Cultural Program Manager gives approval to resume.

- NCDOT must provide an archeologist onsite to monitor the project to ensure environmentally sensitive areas are avoided. If an archeologist cannot be provided, then contact Cultural Program Manager Jami Lanier at 252-423-0463 to make appropriate arrangements for resource monitoring.

- All work will be done in accordance with the approved guidelines and permits established by the National Park Service (NPS), Army Corp of Engineers (ACOE), the Division of Coastal Management (DCM) and any other regulatory agencies notified of the project. To prevent detrimental effects on protected shoreline resources this work will be done in a timely manner and scheduled in coordination with all appropriate regulatory agencies.

- The permittee must coordinate with the NPS and resource agencies, USFWS and North Carolina Water Resource Commission if active nests from T&E species or state species of concerns are found within the project area. If sea turtle eggs and/or hatchlings are uncovered during project work, all construction activity in that area must stop immediately and the NC WRC Sea Turtle Hotline (252-241-7367) must be called to make arrangements for the eggs/hatchlings, in consultation with NPS staff. Viable eggs may be left in place and no work can occur within 300 feet of nest until the incubation ends or if the nest is determined to be no longer viable.

- Daily patrols are required within project area when shorebird (March 15) and sea turtle nesting season (May) begins. NPS resource staff will conduct patrols as feasible but NCDOT project managers must ensure the project site is surveyed each day for sea turtle tracks prior to work beginning on the beach. If tracks are found, no work is to occur within site and project manager must notify NPS resource biological science technician Brice Sweeney at 252-423-1545. Work in area will not resume until NPS staff gives approval.

- Care will be taken not to disturb any wildlife species (reptiles, migratory birds, raptors, or bats) found nesting, hibernating, estivating, or otherwise living in, or immediately nearby, worksites.

- Permittee must forward all other agency permits related for the undertaking of the project to the NPS. Copies will be forwarded to the park’s compliance office for inclusion to the project’s administrative record.

- Known populations of special-status species will be monitored to ensure long-term impacts are avoided during project activities.

- Shipwrecks will be buffered to avoid disturbance from sandbagging activities.
21. Maps of area and project drawings:
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HURRICANE DORIAN
EROSION PROTECTION
NC 12 OCRACOKE ISLAND
(VEGETATED DUNE REPAIR AREAS)

PAVEMENT SCHEDULE

TYPICAL SECTION NO. 1

NTS
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HURRICANE DORIAN
EROSION PROTECTION
NC 12 OCRACOKE ISLAND
(PROPOSED SANDBAG SECTIONS)

* MATERIAL USED FOR DUNE CONSTRUCTION AND BEACH RESTORATION IS REAL TIME BEACH QUALITY MATERIALS AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT.

* SANDBAGS ARE TO BE PLACED IN 3 LAYERS WITH TWO LAYERS ABOVE ROADWAY ELEVATION IN A PYRAMID STYLE FORMATION.

TYPICAL SECTION NO. 2

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<th>STA.</th>
<th>Description</th>
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<tr>
<td>50+00</td>
<td>ETA. 50+00.00 TO ETA. 60+75.00</td>
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<tr>
<td>60+00</td>
<td>ETA. 60+00.00 TO ETA. 67+16.00</td>
</tr>
<tr>
<td>70+00</td>
<td>ETA. 70+00.00 TO ETA. 109+83.00</td>
</tr>
</tbody>
</table>

NTS
SPECIAL USE PERMIT

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HURRICANE DORIAN
EROSION PROTECTION
NC 12 OCRA COKE ISLAND
(DUNE REPAIR AREAS)

TYPICAL SECTION NO. 3
L - STA. 41+25.00 TO STA. 60+20.00

PAVEMENT SCHEDULE

NOTES:
- Materials used for dune construction
  must meet performance by contractor of top bank to the
  north.
- Use typical section 3 for pavement schedule only,
  no dune construction in this area.
- Construction of dune on embankment shall
  be performed in accordance unless otherwise
  directed by the engineer.
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HURRICANE DORIAN
EROSION PROTECTION
NC 12 OCRACOKE ISLAND
(DUNE REPAIR AREAS, NO VEGETATION PRESENT)

PAVEMENT SCHEDULE

TYPICAL SECTION NO. 4
- L STA 67 + 16.00 TO STA 99 + 78.00
- L STA 100 + 03.00 TO STA 101 + 30.00
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NC 12 OCRACOKE ISLAND
DUNE RECONSTRUCTION

ATLANTIC OCEAN

<table>
<thead>
<tr>
<th>NC DEPT OF TRANSPORTATION</th>
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</thead>
<tbody>
<tr>
<td>DUNE RECONSTRUCTION:</td>
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<tr>
<td>LINE LENGTH:</td>
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<tr>
<td>1,250 FT.</td>
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<tr>
<td>DUNE VOLUME:</td>
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<tr>
<td>75,220 Cu Ft.</td>
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<tr>
<td>DUNE BASE:</td>
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<tr>
<td>6,000 Cu yd.</td>
</tr>
<tr>
<td>SAND BASE:</td>
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<tr>
<td>5,600 Cu yd.</td>
</tr>
</tbody>
</table>

SHEET 4  LAND:
35.6667E 34.6166N
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NC 12 OCRACOKE ISLAND
DUNE RECONSTRUCTION

ATLANTIC OCEAN

*NOTE: NO EQUIPMENT, INCLUDING OFF ROAD TRUCKS
WILL BE ALLOWED ON THIS OCEAN SIDE OF DUNES IN
ENVIRONMENTALLY SENSITIVE AREAS
SPECIAL USE PERMIT

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NC 12 OCRACOE ISLAND
DUNE RECONSTRUCTION

NOTE: NO EQUIPMENT, INCLUDING OFF ROAD TRUCKS
WILL BE ALLOWED ON THE OCEAN SIDE OF DUNES IN
ENVIRONMENTALLY SENSITIVE AREAS.

HYDRAULIC DREDGING IN SWASH ZONE IS NOT
ALLOWED IN ENVIRONMENTALLY SENSITIVE AREAS.

ATLANTIC OCEAN

DUNE RECONSTRUCTION: 1,200 C.F.
CARE AREA: 7,739 SQ. FT.
DUNE VOLUME: 7,739 C.F.
SAND SLOPE VOLUME: 525 C.F.
WIND SLOPE: 822 SQ. FT.
WIND SLOPE LENGTH: 1,090 LIN.

LAT: 34° 21' 44.6" N
LON: 76° 0' 14.8" W

NC DEPT. OF TRANSPORTATION

<table>
<thead>
<tr>
<th>COUNTY</th>
<th>MILES</th>
<th>ROADWAY</th>
<th>LANEWAY</th>
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<tbody>
<tr>
<td>Beaufort</td>
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<td></td>
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<tr>
<td>Dare</td>
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<td></td>
<td></td>
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<tr>
<td>Hatteras</td>
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<tr>
<td>Hyde</td>
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<td></td>
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</tbody>
</table>

NDST (Nautical Dredging Status Table)
SPECIAL USE PERMIT

Outer Banks Group:
Cape Hatteras NS, Fort Raleigh NHS, & Wright Brothers NMEM
1401 National Park Drive
Manteo, NC 27954

(252) 475-9034 caha_special_use_permits@nps.gov

SOUTH DOCK DREDGE SPOIL SITE
EXCAVATION LIMITS
GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION

Permittee: Paul Williams  
NCDOT Division 1  
Address: 113 Airport Drive  
Edenton NC, 27932  
Telephone Number: (252) 482-1861

Size (acres) 4.8
Nearest Waterway Pamlico Sound
USGS HUC 03020105
Nearest Town Ocracoke
River Basin Pamlico
Coordinates Latitude: 35.165157  
Longitude: -75.826534

Location description: The project area is located approximately two miles south of the Southdock Ferry Terminal adjacent to NC12 on Ocracoke Island in Hyde County, North Carolina.

Description of project area and activity: This verification is in addition to the initial verification issued for this project on September 25, 2019. NCDOT proposes to re-establish an additional 4,248 linear feet of primary dune adjacent to NC12 and the Atlantic Ocean to a width no wider than 50 feet and a height no taller than 10 feet. The project involves the placement of sandbags to create a stable base for dune restoration. The restoration will be accomplished utilizing suitable material from the South Dock dredge spoil site and sandbag fill from the swash zone. Approximately 14,194 cubic yards of fill will be utilized for sandbags.

Applicable Law:  
Section 404 (Clean Water Act, 33 USC 1344)  
Section 10 (Rivers and Harbors Act, 33 USC 403)

Authorization: Regional General Permit Number and/or Nationwide Permit Number: 198000048

SEE ATTACHED RGP or NWP GENERAL, REGIONAL AND/OR SPECIAL CONDITIONS

Your work is authorized by the above referenced permit provided it is accomplished in strict accordance with the attached conditions and your submitted application and attached information dated December 20, 2019. Any violation of the attached conditions or deviation from your submitted plans may subject the permittee to a stop work order, a restoration order, a Class I administrative penalty, and/or appropriate legal action.

This verification will remain valid until the expiration date identified below unless the nationwide and/or regional general permit authorization is modified, suspended or revoked. If, prior to the expiration date identified below, the nationwide and/or regional general permit authorization is reissued and/or modified, this verification will remain valid until the expiration date identified below, provided it complies with all requirements of the modified nationwide permit. If the nationwide and/or regional general permit authorization expires or is suspended, revoked, or is modified, such that the activity would no longer comply with the terms and conditions of the nationwide permit, activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon the nationwide and/or regional general permit, will remain authorized provided the activity is completed within twelve months of the date of the nationwide and/or regional general permit’s expiration, modification or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend or revoke the authorization.

Activities subject to Section 404 (as indicated above) may also require an individual Section 401 Water Quality Certification. You should contact the NC Division of Water Resources (telephone 919-807-6300) to determine Section 401 requirements.

For activities occurring within the twenty coastal counties subject to regulation under the Coastal Area Management Act (CAMA), prior to beginning work you must contact the N.C. Division of Coastal Management in Morehead City, NC, at (252) 808-2808.

This Department of the Army verification does not relieve the permittee of the responsibility to obtain any other required Federal, State or local approvals/permits.

If there are any questions regarding this verification, any of the conditions of the Permit, or the Corps of Engineers regulatory program, please contact Kyle Barnes at (910) 251-4584 or Kyle.W.Barnes@usace.army.mil.

Corps Regulatory Official: Kyle Barnes  
Date: January 28, 2020

Expiration Date of Verification: December 31, 2021
A. Determination of Jurisdiction:

1. There are waters, including wetlands, on the above described project area that may be subject to Section 404 of the Clean Water Act (CWA) (33 USC § 1344) and/or Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403). This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331). However, you may request an approved JD, which is an appealable action, by contacting the Corps district for further instruction. Please note, if work is authorized by either a general or nationwide permit, and you wish to request an appeal of an approved JD, the appeal must be received by the Corps and the appeal process concluded prior to the commencement of any work in waters of the United States and prior to any work that could alter the hydrology of waters of the United States.

2. There are Navigable Waters of the United States within the above described project area subject to the permit requirements of Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403) and Section 404 of the Clean Water Act (CWA) (33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

3. There are waters, including wetlands, within the above described project area that are subject to the permit requirements of Section 404 of the Clean Water Act (CWA) (33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

4. A jurisdiction determination was not completed with this request. Therefore, this is not an appealable action. However, you may request an approved JD, which is an appealable action, by contacting the Corps for further instruction.

5. The aquatic resources within the above described project area have been identified under a previous action. Please reference the approved jurisdictional determination issued . Action ID: SAW- .

B. Basis For Jurisdictional Determination: The Atlantic Ocean is a territorial sea.

C. Remarks:

D. Attention USDA Program Participants

This delineation/determination has been conducted to identify the limits of Corps’ Clean Water Act jurisdiction for the particular site identified in this request. The delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA Program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

E. Appeals Information for Approved Jurisdiction Determinations (as indicated in A2 and A3 above).

If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the following address:

US Army Corps of Engineers
South Atlantic Division
Attn: Philip Shannin, Appeal Review Officer
60 Forsyth Street SW, Room 10M15
Atlanta, Georgia 30303-8801
Phone: (404) 562-5137

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by N/A. It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this correspondence.

Corps Regulatory Official: Kyle Barnes

Date of JD: January 28, 2020 Expiration Date of JD: N/A

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete our Customer Satisfaction Survey, located online at http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0.
SPECIAL CONDITIONS

1. The permit conditions listed in the National Park Services Special Use Permit, USA20-5700-001, are incorporated into the Department of the Army Permit RGP 198000048 for this project. All terms and conditions shall be strictly adhered to.
Action ID Number: SAW-2019-01801   County: Hyde County

Permittee: Paul Williams
            NCDOT Division 1

Project Name: NCDOT Ocracoke NC 12 Dune Repairs_ Dorian

Date Verification Issued: January 28, 2020

Project Manager: Kyle Barnes

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

US ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT
Attn: Kyle Barnes

Please note that your permitted activity is subject to a compliance inspection by a U. S. Army Corps of Engineers representative. Failure to comply with any terms or conditions of this authorization may result in the Corps suspending, modifying or revoking the authorization and/or issuing a Class I administrative penalty, or initiating other appropriate legal action.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and condition of the said permit, and required mitigation was completed in accordance with the permit conditions.

Signature of Permittee                Date
### NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

**Applicant:** Paul Williams NCDOT Division 1  
**File Number:** SAW-2019-01801  
**Date:** January 28, 2020  

**Attached is:**  
- INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)  
- PROFFERED PERMIT (Standard Permit or Letter of permission)  
- PERMIT DENIAL  
- APPROVED JURISDICTIONAL DETERMINATION  
- PRELIMINARY JURISDICTIONAL DETERMINATION

**SECTION I** - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at [http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits.aspx](http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits.aspx) or Corps regulations at 33 CFR Part 331.

#### A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.
- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

#### B: PROFFERED PERMIT: You may accept or appeal the permit
- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

#### C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

#### D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.
- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.
**E: PRELIMINARY JURISDICTIONAL DETERMINATION:** You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

**SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT**

**REASONS FOR APPEAL OR OBJECTIONS:** (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

**ADDITIONAL INFORMATION:** The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

**POINT OF CONTACT FOR QUESTIONS OR INFORMATION:**

<table>
<thead>
<tr>
<th>If you have questions regarding this decision and/or the appeal process you may contact:</th>
<th>If you only have questions regarding the appeal process you may also contact:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>District Engineer, Wilmington Regulatory Division,</strong>  &lt;br&gt;<strong>Attn: Kyle Barnes</strong>  &lt;br&gt;<strong>2407 West 5th Street</strong>  &lt;br&gt;<strong>Washington, North Carolina</strong></td>
<td><strong>Mr. Philip Shannin, Administrative Appeal Review Officer</strong>  &lt;br&gt;<strong>CESAD-PDO</strong>  &lt;br&gt;<strong>U.S. Army Corps of Engineers, South Atlantic Division</strong>  &lt;br&gt;<strong>60 Forsyth Street, Room 10M15</strong>  &lt;br&gt;<strong>Atlanta, Georgia 30303-8801</strong>  &lt;br&gt;<strong>Phone: (404) 562-5137</strong></td>
</tr>
</tbody>
</table>

**RIGHT OF ENTRY:** Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

| Signature of appellant or agent. | Date: | Telephone number: |

For appeals on Initial Proffered Permits send this form to:

**District Engineer, Wilmington Regulatory Division, Attn: Kyle Barnes, 2407 West 5th Street**  <br>**Washington, North Carolina**

For Permit denials, Proffered Permits and approved Jurisdictional Determinations send this form to:

**Division Engineer, Commander, U.S. Army Engineer Division, South Atlantic, Attn: Mr. Philip Shannin, Administrative Appeal Officer, CESAD-PDO, 60 Forsyth Street, Room 10M15, Atlanta, Georgia 30303-8801**  <br>**Phone: (404) 562-5137**