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TO: The Coastal Resources Commission

FROM: Christine A. Goebel, DEQ Assistant General Counsel

DATE: June 1, 2020 (for the June 10-11, 2020 CRC Meeting)

RE: **Variance Request by N.C. Department of Transportation (CRC-VR-20-06)**

Petitioner N.C. Department of Transportation (“NCDOT” or Petitioner) maintains North Carolina Highway 12, and specifically along the north end of Ocracoke Island in Hyde County. On or about March 2, 2020, NCDOT submitted a request to DCM for a modification of CAMA Major Permit No. 24-03 in order to use sandbags in a previously authorized alignment that were nonconforming as to their size and color. NCDOT contends that the new type of sandbags, which are in 50’ sections and separated every 2’ by an internal sewn baffle and are white instead of tan in color. The proposed bags would consist of an oceanward row 6’ high x 8’ base and a landward row 4’ high x 6’ base. Both rows would be placed 2’ below grade and would have a combined base width of 14’. On April 3, 2020, DCM issued a Minor Modification to CAMA Major Permit No. 24-03 (the “Permit”) authorizing other modifications to the previously authorized sandbag structure, but conditioned out the use of the nonconforming sandbags as they are contrary to 15A NCAC 7H .0308(a)(2)(L). NCDOT now seeks a variance to allow the proposed sandbags to be authorized, in part because of the faster pace of installation they allow, compared to traditional sandbags.

The following additional information is attached to this memorandum:

Attachment A: Relevant Rules
 Attachment B: Stipulated Facts
 Attachment C: Petitioner’s Positions and Staff’s Responses to Variance Criteria
 Attachment D: Petitioner’s Variance Request Materials
 Attachment E: Stipulated Exhibits including powerpoint

cc(w/enc.): NCDOT’s Asst. AG Colin Justice, NCDOJ-Transportation, electronically
 Mary Lucasse, Special Deputy AG and CRC Counsel, electronically
 Kris Noble, Director, Hyde Co. Office of Planning, electronically



RELEVANT STATUTES OR RULES**APPENDIX A****SECTION .0300 - OCEAN HAZARD AREAS****15A NCAC 07H .0301 OCEAN HAZARD CATEGORIES**

The next broad grouping is composed of those AECs that are considered natural hazard areas along the Atlantic Ocean shoreline where, because of their special vulnerability to erosion or other adverse effects of sand, wind, and water, uncontrolled or incompatible development could unreasonably endanger life or property. Ocean hazard areas include beaches, frontal dunes, inlet lands, and other areas in which geologic, vegetative and soil conditions indicate a substantial possibility of excessive erosion or flood damage.

History Note: Authority G.S. 113A-107(a); 113A-107(b); 113A-113(b)(6a); 113A-113(b)(6b); 113A-113(b)(6d); 113A-124;
Eff. September 9, 1977.

15A NCAC 07H .0302 SIGNIFICANCE OF THE OCEAN HAZARD CATEGORY

(a) The primary causes of the hazards peculiar to the Atlantic shoreline are the constant forces exerted by waves, winds, and currents upon the unstable sands that form the shore. During storms, these forces are intensified and can cause significant changes in the bordering landforms and to structures located on them. Ocean hazard area property is in the ownership of a large number of private individuals as well as several public agencies and is used by a vast number of visitors to the coast. Ocean hazard areas are critical, therefore, because of both the severity of the hazards and the intensity of interest in the areas.

(b) The location and form of the various hazard area landforms, in particular the beaches, dunes, and inlets, are in a permanent state of flux, responding to meteorologically induced changes in the wave climate. For this reason, the appropriate location of structures on and near these landforms must be reviewed carefully in order to avoid their loss or damage. As a whole, the same flexible nature of these landforms which presents hazards to development situated immediately on them offers protection to the land, water, and structures located landward of them. The value of each landform lies in the particular role it plays in affording protection to life and property. (The role of each landform is described in detail in Technical Appendix 2 in terms of the physical processes most important to each.) Overall, however, the energy dissipation and sand storage capacities of the landforms are most essential for the maintenance of the landforms' protective function.

History Note: Authority G.S. 113A-107(a); 113A-107(b); 113A-113(b)(6a); 113A-113(b)(6b); 113A-113(b)(6d); 113A-124;
Eff. September 9, 1977;
Amended Eff. October 1, 1992.

15A NCAC 07H .0303 MANAGEMENT OBJECTIVE OF OCEAN HAZARD AREAS

(a) The CRC recognizes that absolute safety from the destructive forces indigenous to the Atlantic shoreline is an impossibility for development located adjacent to the coast. The loss of life and property to these forces, however, can be greatly reduced by the proper location and design of structures and by care taken in prevention of damage to natural protective features particularly primary and frontal dunes. Therefore, it is the CRC's objective to provide management policies and standards for ocean hazard areas that serve to eliminate unreasonable danger to life and property and achieve a balance between the financial, safety, and social factors that are involved in hazard area development.

(b) The purpose of these Rules shall be to further the goals set out in G.S. 113A-102(b), with particular attention to minimizing losses to life and property resulting from storms and long-term erosion, preventing encroachment of permanent structures on public beach areas, preserving the natural ecological conditions of the barrier dune and beach systems, and reducing the public costs of inappropriately sited development. Furthermore, it is the objective of the

Coastal Resources Commission to protect present common-law and statutory public rights of access to and use of the lands and waters of the coastal area.

History Note: Authority G.S. 113A-107(b); 113A-113(b)(6) a.; 113A-113(b)(6) b.; 113A-113(b)(6)d.; 113A-124; Eff. September 9, 1977; Amended Eff. October 1, 1992; December 1, 1991; September 1, 1985; February 2, 1981.

15A NCAC 07H .0304 AECS WITHIN OCEAN HAZARD AREAS

The ocean hazard AECs contain all of the following areas:

- (2) Inlet Hazard Area. The inlet hazard areas are natural-hazard areas that are especially vulnerable to erosion, flooding, and other adverse effects of sand, wind, and water because of their proximity to dynamic ocean inlets. This area extends landward from the mean low water line a distance sufficient to encompass that area within which the inlet migrates, based on statistical analysis, and shall consider such factors as previous inlet territory, structurally weak areas near the inlet, and external influences such as jetties and channelization. The areas on the maps identified as suggested Inlet Hazard Areas included in the report entitled INLET HAZARD AREAS, The Final Report and Recommendations to the Coastal Resources Commission, 1978, as amended in 1981, by Loie J. Priddy and Rick Carraway are incorporated by reference and are hereby designated as Inlet Hazard Areas, except for:

- (a) the Cape Fear Inlet Hazard Area as shown on the map does not extend northeast of the Bald Head Island marina entrance channel; and
- (b) the former location of Mad Inlet, which closed in 1997.

In all cases, the Inlet Hazard Area shall be an extension of the adjacent ocean erodible areas and in no case shall the width of the inlet hazard area be less than the width of the adjacent ocean erodible area. This report is available for inspection at the Department of Environmental Quality, Division of Coastal Management, 400 Commerce Avenue, Morehead City, North Carolina or at the website referenced in Item (1) of this Rule. Photocopies are available at no charge.

15A NCAC 07H .0308 SPECIFIC USE STANDARDS FOR OCEAN HAZARD AREAS

- (a) Ocean Shoreline Erosion Control Activities:

- (1) Use Standards Applicable to all Erosion Control Activities:
 - (A) All oceanfront erosion response activities shall be consistent with the general policy statements in 15A NCAC 07M .0200.
 - (B) Permanent erosion control structures may cause significant adverse impacts on the value and enjoyment of adjacent properties or public access to and use of the ocean beach, and, therefore, unless specifically authorized under the Coastal Area Management Act, are prohibited. Such structures include bulkheads, seawalls, revetments, jetties, groins and breakwaters.
 - (C) Rules concerning the use of oceanfront erosion response measures apply to all oceanfront properties without regard to the size of the structure on the property or the date of its construction.
 - (D) Shoreline erosion response projects shall not be constructed in beach or estuarine areas that sustain substantial habitat for fish and wildlife species, as identified by natural resource agencies during project review, unless mitigation measures are incorporated into project design, as set forth in Rule .0306(h) of this Section.
 - (E) Project construction shall be timed to minimize adverse effects on biological activity.
 - (F) Prior to completing any erosion response project, all exposed remnants of or debris from failed erosion control structures must be removed by the permittee.

- (G) Permanent erosion control structures that would otherwise be prohibited by these standards may be permitted on finding by the Division that:
- (i) the erosion control structure is necessary to protect a bridge that provides the only existing road access on a barrier island, that is vital to public safety, and is imminently threatened by erosion as defined in Part (a)(2)(B) of this Rule;
 - (ii) the erosion response measures of relocation, beach nourishment or temporary stabilization are not adequate to protect public health and safety; and
 - (iii) the proposed erosion control structure will have no adverse impacts on adjacent properties in private ownership or on public use of the beach.
- (H) Structures that would otherwise be prohibited by these standards may also be permitted on finding by the Division that:
- (i) the structure is necessary to protect a state or federally registered historic site that is imminently threatened by shoreline erosion as defined in Part (a)(2)(B) of this Rule;
 - (ii) the erosion response measures of relocation, beach nourishment or temporary stabilization are not adequate and practicable to protect the site;
 - (iii) the structure is limited in extent and scope to that necessary to protect the site; and
 - (iv) a permit for a structure under this Part may be issued only to a sponsoring public agency for projects where the public benefits outweigh the significant adverse impacts. Additionally, the permit shall include conditions providing for mitigation or minimization by that agency of significant adverse impacts on adjoining properties and on public access to and use of the beach.
- (I) Structures that would otherwise be prohibited by these standards may also be permitted on finding by the Division that:
- (i) the structure is necessary to maintain an existing commercial navigation channel of regional significance within federally authorized limits;
 - (ii) dredging alone is not practicable to maintain safe access to the affected channel;
 - (iii) the structure is limited in extent and scope to that necessary to maintain the channel;
 - (iv) the structure shall not have significant adverse impacts on fisheries or other public trust resources; and
 - (v) a permit for a structure under this Part may be issued only to a sponsoring public agency for projects where the public benefits outweigh the significant adverse impacts. Additionally, the permit shall include conditions providing for mitigation or minimization by that agency of any significant adverse impacts on adjoining properties and on public access to and use of the beach.
- (J) The Commission may renew a permit for an erosion control structure issued pursuant to a variance granted by the Commission prior to 1 July 1995. The Commission may authorize the replacement of a permanent erosion control structure that was permitted by the Commission pursuant to a variance granted by the Commission prior to 1 July 1995 if the Commission finds that:
- (i) the structure will not be enlarged beyond the dimensions set out in the permit;
 - (ii) there is no practical alternative to replacing the structure that will provide the same or similar benefits; and
 - (iii) the replacement structure will comply with all applicable laws and with all rules, other than the rule or rules with respect to which the Commission granted the variance, that are in effect at the time the structure is replaced.
- (K) **Proposed erosion response measures using innovative technology or design shall be considered as experimental and shall be evaluated on a case-by-case basis to determine consistency with 15A NCAC 07M .0200 and general and specific use standards within this Section.**

(2) Temporary Erosion Control Structures:

- (A) Permittable temporary erosion control structures shall be limited to sandbags placed landward of mean high water and parallel to the shore.
- (B) Temporary erosion control structures as defined in Part (A) of this Subparagraph may be used to protect only imminently threatened roads and associated right of ways, and buildings and their associated septic systems. A structure is considered imminently threatened if its foundation, septic system, or right-of-way in the case of roads, is less than 20 feet away from the erosion scarp. Buildings and roads located more than 20 feet from the erosion scarp or in areas where there is no obvious erosion scarp may also be found to be imminently threatened when site conditions, such as a flat beach profile or accelerated erosion, increase the risk of imminent damage to the structure.
- (C) Temporary erosion control structures shall be used to protect only the principal structure and its associated septic system, but not appurtenances such as pools, gazebos, decks or any amenity that is allowed under Rule .0309 of this Section as an exception to the erosion setback requirement.
- (D) Temporary erosion control structures may be placed waterward of a septic system when there is no alternative to relocate it on the same or adjoining lot so that it is landward of or in line with the structure being protected.
- (E) Temporary erosion control structures shall not extend more than 20 feet past the sides of the structure to be protected except to align with temporary erosion control structures on adjacent properties, where the Division has determined that gaps between adjacent erosion control structures may result in an increased risk of damage to the structure to be protected. The landward side of such temporary erosion control structures shall not be located more than 20 feet waterward of the structure to be protected, or the right-of-way in the case of roads. If a building or road is found to be imminently threatened and at an increased risk of imminent damage due to site conditions such as a flat beach profile or accelerated erosion, temporary erosion control structures may be located more than 20 feet waterward of the structure being protected. In cases of increased risk of imminent damage, the location of the temporary erosion control structures shall be determined by the Director of the Division of Coastal Management or the Director's designee in accordance with Part (A) of this Subparagraph.
- (F) Temporary erosion control structures may remain in place for up to eight years for a building and its associated system, a bridge or a road. The property owner shall be responsible for removal of any portion of the temporary erosion control structure exposed above grade within 30 days of the end of the allowable time period.
- (G) An imminently threatened structure or property may be protected only once, regardless of ownership, unless the threatened structure or property is located in a community that is actively pursuing a beach nourishment project, or an inlet relocation or stabilization project in accordance with Part (H) of this Subparagraph. Existing temporary erosion control structures may be permitted for additional eight-year periods provided that the structure or property being protected is still imminently threatened, the temporary erosion control structure is in compliance with requirements of this Subchapter, and the community in which it is located is actively pursuing a beach nourishment or an inlet relocation or stabilization project in accordance with Part (H) of this Subparagraph. In the case of a building, a temporary erosion control structure may be extended, or new segments constructed, if additional areas of the building become imminently threatened. Where temporary structures are installed or extended incrementally, the time period for removal under Part (F) or (H) of this Subparagraph shall begin at the time the initial erosion control structure was installed. For the purpose of this Rule:
 - (i) a building and its septic system shall be considered separate structures,
 - (ii) a road or highway may be incrementally protected as sections become imminently threatened. The time period for removal of each contiguous section of temporary erosion control structure shall begin at the time that the initial section was installed, in accordance with Part (F) of this Subparagraph.

- (H) For purposes of this Rule, a community is considered to be actively pursuing a beach nourishment or an inlet relocation or stabilization project in accordance with G.S. 113A-115.1 if it:
- (i) has been issued an active CAMA permit, where necessary, approving such project; or
 - (ii) has been identified by a U.S. Army Corps of Engineers' Beach Nourishment Reconnaissance Study, General Reevaluation Report, Coastal Storm Damage Reduction Study, or an ongoing feasibility study by the U.S. Army Corps of Engineers and a commitment of local or federal money, when necessary; or
 - (iii) has received a favorable economic evaluation report on a federal project; or
 - (iv) is in the planning stages of a project designed by the U.S. Army Corps of Engineers or persons meeting applicable State occupational licensing requirements and initiated by a local government or community with a commitment of local or state funds to construct the project or the identification of the financial resources or funding bases necessary to fund the beach nourishment, inlet relocation or stabilization project.
- If beach nourishment, inlet relocation or stabilization is rejected by the sponsoring agency or community, or ceases to be actively planned for a section of shoreline, the time extension is void for that section of beach or community and existing sandbags are subject to all applicable time limits set forth in Part (F) of this Subparagraph.
- (I) Once a temporary erosion control structure is determined by the Division of Coastal Management to be unnecessary due to relocation or removal of the threatened structure, it shall be removed to the maximum extent practicable by the property owner within 30 days of official notification from the Division of Coastal Management regardless of the time limit placed on the temporary erosion control structure. If the temporary erosion control structure is determined by the Division of Coastal Management to be unnecessary due to the completion of a storm protection project constructed by the U.S. Army Corps of Engineers, a large-scale beach nourishment project, or an inlet relocation or stabilization project, any portion of the temporary erosion control structure exposed above grade shall be removed by the property owner within 30 days of official notification from the Division of Coastal Management regardless of the time limit placed on the temporary erosion control structure.
- (J) Removal of temporary erosion control structures is not required if they are covered by sand. Any portion of the temporary erosion control structure that becomes exposed above grade after the expiration of the permitted time period shall be removed by the property owner within 30 days of official notification from the Division of Coastal Management.
- (K) The property owner shall be responsible for the removal of remnants of all portions of any damaged temporary erosion control structure.
- (L) **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 temporary erosion control structure shall not exceed 20 feet, and the total height shall not exceed six feet, as measured from the bottom of the lowest bag.**
- (M) Soldier pilings and other types of devices to anchor sandbags shall not be allowed.
- (N) Existing sandbag structures may be repaired or replaced within their originally permitted dimensions during the time period allowed under Part (F) or (G) of this Subparagraph.
- (3) Beach Nourishment. Sand used for beach nourishment shall be compatible with existing grain size and in accordance with Rule .0312 of this Section

SECTION .0200 - SHORELINE EROSION POLICIES

15A NCAC 07M .0201 DECLARATION OF GENERAL POLICY

It is hereby declared that the general welfare and public interest require that development along the ocean and estuarine shorelines be conducted in a manner that avoids loss of life, property and amenities. It is also declared that protection of the recreational use of the shorelines of the state is in the public interest. In order to accomplish these public purposes, the planning of future land uses, reasonable rules and public expenditures should be created or accomplished in a coordinated manner so as to minimize the likelihood of damage to private and public resources resulting from recognized coastal hazards.

History Note: Authority G.S. 113A-102(b); 113A-107; 113A-124; 16 U.S.C. Sec. 1453 (12); Eff. March 1, 1979; RRC Objection due to lack of necessity Eff. October 17, 1991; Amended Eff. March 1, 1992.

15A NCAC 07M .0202 POLICY STATEMENTS

(a) Pursuant to Section 5, Article 14 of the North Carolina Constitution, proposals for shoreline erosion response projects shall avoid losses to North Carolina's natural heritage. All means should be taken to identify and develop response measures that will not adversely affect estuarine and marine productivity. The public right to use and enjoy the ocean beaches must be protected. The protected uses include traditional recreational uses (such as walking, swimming, surf-fishing, and sunbathing) as well as commercial fishing and emergency access for beach rescue services. Private property rights to oceanfront properties including the right to protect that property in ways that are consistent with public rights should be protected.

(b) Erosion response measures designed to minimize the loss of private and public resources to erosion should be economically, socially, and environmentally justified. Preferred response measures for shoreline erosion shall include but not be limited to AEC rules, land use planning and land classification, establishment of building setback lines, building relocation, subdivision regulations and management of vegetation.

(c) The replenishment of sand on ocean beaches can provide storm protection and a viable alternative to allowing the ocean shoreline to migrate landward threatening to degrade public beaches and cause the loss of public facilities and private property. Experience in North Carolina and other states has shown that beach restoration projects can present a feasible alternative to the loss or massive relocation of oceanfront development. In light of this experience, beach restoration and sand renourishment and disposal projects may be allowed when:

- (1) Erosion threatens to degrade public beaches and to damage public and private properties;
- (2) Beach restoration, renourishment or sand disposal projects are determined to be socially and economically feasible and cause no significant adverse environmental impacts;
- (3) The project is determined to be consistent with state policies for shoreline erosion response and state use standards for Ocean hazard and Public Trust Waters Areas of Environmental Concern and the relevant rules and guidelines of state and federal review agencies.

When the conditions set forth in this Paragraph can be met, the Coastal Resources Commission supports, within overall budgetary constraints, state financial participation in Beach Erosion Control and Hurricane Wave Protection projects that are cost-shared with the federal government and affected local governments pursuant to the federal Water Resources Development Act of 1986 and the North Carolina Water Resources Development Program (G.S. 143-215.70-73).

(d) The following are required with state involvement (funding or sponsorship) in beach restoration and sand renourishment projects:

- (1) The entire restored portion of the beach shall be in permanent public ownership;
- (2) It shall be a local government responsibility to provide adequate parking, public access, and services for public recreational use of the restored beach.

(e) Temporary measures to counteract erosion, such as the use of sandbags and beach pushing, should be allowed, but only to the extent necessary to protect property for a short period of time until threatened structures may be relocated or until the effects of a short-term erosion event are reversed. In all cases, temporary stabilization measures must be compatible with public use and enjoyment of the beach.

(f) Efforts to permanently stabilize the location of the ocean shoreline with seawalls, groins, shoreline hardening, sand trapping or similar protection devices shall not be allowed except when the project meets one of the specific exceptions set out in 15A NCAC 7H .0308.

(g) The State of North Carolina will consider innovative institutional programs and scientific research that will provide for effective management of coastal shorelines. The development of innovative measures that will lessen or slow the effects of erosion while minimizing the adverse impacts on the public beach and on nearby properties is encouraged.

(h) The planning, development, and implementation of erosion control projects will be coordinated with appropriate planning agencies, affected governments and the interested public. Maximum efforts will be made by the state to accommodate the interest of each interested party consistent with the project's objectives. Local, state, and federal government activity in the coastal area should reflect an awareness of the natural dynamics of the ocean front. Government policies should not only address existing erosion problems but should aim toward minimizing future erosion problems. Actions required to deal with erosion problems are very expensive. In addition to the direct costs of erosion abatement measures, many other costs, such as maintenance of projects, disaster relief, and infrastructure repair will be borne by the public sector. Responses to the erosion should be designed to limit these public costs.

(i) The state will promote education of the public on the dynamic nature of the coastal zone and on effective measure to cope with our ever changing shorelines.

History Note: Authority G.S. 113A-102(b); 113A-107; 113A-124; 16 U.S.C. Sec. 1453 (12); Eff. March 1, 1979; Amended Eff. March 1, 1985; RRC Objection due to lack of necessity and unclear language Eff. October 17, 1991; Amended Eff. March 1, 1992; RRC Objection due to ambiguity and lack of necessity Eff. March 16, 1995; Amended Eff. May 4, 1995.

STIPULATED FACTS**ATTACHMENT B**

1. Petitioner, the North Carolina Department of Transportation (NCDOT), is an agency of the State of North Carolina.
2. “The general purpose of the Department of Transportation is to provide for the necessary planning, construction, maintenance, and operation of an integrated statewide transportation system for the economical and safe transportation of people and goods as provided for by law.” § 143B-346
3. The hot spot/project site is entirely within the Cape Hatteras National Seashore (the “Seashore”) which is a federally designated National Seashore (since 1937) stretching over 70 miles of the Outer Banks of North Carolina from Bodie Island to Ocracoke Island and is managed by the National Park Service (NPS).
4. NCDOT controls, and maintains a public right-of-way easement through the Seashore on Ocracoke Island in Hyde County, North Carolina. The public highway is known as NC Highway 12 (“NC 12”).
5. NC Highway 12 (NC 12) is North Carolina’s eastern-most primary route which runs throughout the entire Outer Banks from Corolla, Dare County in the northeastern part of the state, to the community of Sea Level in southeastern Carteret County. On Ocracoke Island, NC 12 connects the Village of Ocracoke to South Dock Ferry Basin.
6. The NC 12 hot spot/project site consisting of the most northern 2 miles of Hwy. on Ocracoke Island has high beach front erosion caused by storm events including nor’easters and hurricanes.
7. Based on DCM’s most recent oceanfront erosion rate study (effective April 1, 2020), Ocracoke’s oceanfront is undeveloped, and its shoreline is approximately 16.3 miles in length. Approximately 11.5 miles (70.9%) of its shoreline resulted in measured erosion, while 4.2 miles (26.1%) resulted in measured accretion. The long-term average annual shoreline erosion rate for the entire Ocracoke oceanfront is -3.2 feet per year, with a measured maximum rate of -19.8 feet per year. Along the Outer Banks, erosion rates can change significantly (increase or decrease) within a small geographic area. The area adjacent to Hatteras Inlet (see attached map) is one of those areas where the most recent erosion rate study measured the average erosion rate to be -6.6 feet per year with a maximum rate of -19.8 feet per year. These results are very consistent with those from the 2013 and 2004 studies that measured average annual erosion rates to be -6.7 ft/yr and -5.6 ft/yr respectively. These rates were generated using the same methodology used in previous studies since 1979. Since the first study in 1979, North Carolina’s oceanfront shoreline change rates have been calculated using the end-point method. This method uses the earliest and most current shorelines and shore-perpendicular transects, where the distance between the two shorelines is measured at each transect. Raw shoreline position change rates are then calculated by dividing distance between the two shorelines (shore-transect intersect) by time, or number of years between the two shorelines. To calculate Setback Factors, these data are then “smoothed”

using a 17-point running average, and “blocked” to identify shoreline segments, or “blocked areas” that have similar rates.

8. On 4 September 2019, Hurricane Dorian caused extensive damage and erosion to approximately 2 miles of sand dunes and beach along NC 12 Ocracoke Island, including damage to the pavement on NC 12 Ocracoke Island in two approximately 500-foot-long sections.

9. Following Hurricane Dorian, the Outer Banks and Ocracoke beaches were subjected to two very strong and prolonged nor’easters, one in October 2019 named Subtropical Storm Melissa and one in November 2019. Both nor’easter storm events developed wind speeds that equaled a strong tropical system and both caused significant storm surge, beach erosion, and overwash flooding.

10. NCDOT completed a Feasibility Study in 2016 to evaluate potential alternatives to maintain vehicular access from Hatteras to Ocracoke Village, in both the short and long term. An addendum to this feasibility study was completed in March 2020 to include an additional alternative to the six alternatives identified in the previous study. The Feasibility Study and Addendum are attached as stipulated exhibits.

11. The hot spot/project site is adjacent to and runs parallel to the Atlantic Ocean and Pamlico Sound. The beach profile in this area is flat with a man-made protective dune that is regularly reconstructed after hurricanes or severe nor’easter storm events. An aerial view of the hot spot can be seen in the attached PowerPoint presentation.

12. Ocracoke Island is a coastal barrier island and is part of the outer banks barrier islands system. Vehicular access to Ocracoke Island is provided by three different ferry routes. Of the three routes accessing Ocracoke, the Hatteras/South Dock Ferry carries by far the greatest volume of vehicles. NC 12 and ferry operations are subject to heavy seasonal variations in traffic and use related to summer tourism, as can be seen in Table 1-1 of the 2016 Feasibility Study, attached as a stipulated exhibit.

13. On February 19, 2003, DCM issued CAMA Major Permit No. 24-03 authorizing dune maintenance along NC Highway 12 on Ocracoke Island.

14. On November 6, 2003, DCM issued a Minor Modification of CAMA Major Permit No. 24-03 authorizing the reconstruction of primary dunes that were destroyed by Hurricane Isabel along NC Highway 12 on Ocracoke Island. This Minor Modification included a maintenance clause allowing NCDOT the ability to do future maintenance of dunes in areas where permit plans have been approved by this or prior permit actions.

15. On 4 December 2007, DCM issued a 5-year maintenance renewal of CAMA Major Permit No. 24-03. The intent of this permit renewal is to allow coverage under one active CAMA permit of all the areas on Ocracoke Island where the need for future dune maintenance and repair by the permittee is anticipated. This will facilitate expedited responses to future NC Highway 12 dune maintenance needs, particularly in emergency situations.

16. Subsequent to the original issuance of CAMA Major Permit No. 24-03, there have been numerous approvals of modifications to CAMA Major Permit No. 24-03 by DCM to allow for dune maintenance and reconstruction.
17. On 26 September 2019, DCM issued an Emergency Major Modification of Major CAMA Permit No. 24-03 authorizing the construction of a 975-foot-long temporary erosion control (sandbag) structure and two miles of dune reconstruction within the hot spot to protect NC 12. This Emergency Major Modification was in response to NCDOT's request for permit modification dated 20 September 2019. A copy of this modification request and modified permit is attached.
18. On 22 October 2019, DCM issued an Emergency Minor Modification of Major CAMA Permit no. 24-03 authorizing the use of the specified borrow pit in Avon at X, Y coordinate location 35.333846, -75.509554 as an alternate source of compatible fill material for the dune reconstruction and beach fill that was authorized on 9/26/19 by an Emergency Major Modification of CAMA Permit no. 24-03. This Emergency Major Modification was in response to NCDOT's request for permit modification dated 20 September 2019. A copy of this modification request and modified permit is attached.
19. On 31 January 2020, DCM issued a Minor Modification of CAMA Permit 24-03 authorizing the construction of an additional 4,248 linear feet of temporary erosion control structure for a total 5,223 linear feet. This Minor Modification was requested by NCDOT due to severe dune and beach erosion following the nor'easters in October and November referenced in stipulated fact No. 9. NCDOT requested the permit modification on 19 December 2019. A copy of this modification request and modified permit is attached.
20. On 2 March 2020, NCDOT requested modification of Major CAMA Permit no. 24-03 in part to allow the use of a nonconforming sandbag to the standards listed under North Carolina Administrative Code (NCAC) 7H.0308(a)(2)(L) in a configuration within the previously authorized alignment and footprint. After further coordination with DCM, USFWS and WRC, NCDOT submitted an addendum to the modification request on 19 March 2020. The addendum addressed DCM questions, and provided revised permit drawings, agency correspondence, and additional product information.
21. Requests to modify a major CAMA permit are subject to the same processing procedure applicable to the original permit application or to a limited review if circulation would serve no purpose as determined by DCM per 15A NCAC 7J.0405(a). A reduced number of state and federal agencies were asked for comment on the 2 March 2020 modification request. NCDOT's 2 March 2020 modification request package is attached including the 19 March addendum.
22. The North Carolina Division of Water Resources (DWR) reviewed the proposed use of the nonconforming sandbag and had no objections to the project as proposed. A copy of their comments is attached as a stipulated exhibit.
23. The North Carolina Wildlife Resources Commission (WRC) reviewed the proposed use of a nonconforming sandbag and had no objection to the project as proposed. A copy of their comments is attached as a stipulated exhibit.

24. DCM staff reviewed the proposed use of a nonconforming sandbag and objected to their proposed use because of the nonconforming sandbags' inconsistencies with NCAC 7H.0308(a)(2)(L) due it's larger size and color. The comments made by DCM Transportation Project Field Representative Greg Daisey are attached as a stipulated exhibit.
25. The US Army Corps of Engineers (USACE) reviewed the proposed use of a nonconforming sandbag and had no objection to the project as proposed. A copy of their comments is attached as a stipulated exhibit.
26. The US Fish and Wildlife Service (USFWS) reviewed the proposed use of a nonconforming sandbag and had no objection to the project as proposed. A copy of their comments is attached as a stipulated exhibit.
27. The National Park Service (NPS) reviewed the proposed use of a nonconforming sandbag and had no objection to the project as proposed. A copy of their comments is attached as a stipulated exhibit. NPS issued a revised Special Use Permit (SUP) USA20-5700-001 Revision 1 on 27 March 2020 authorizing the use of the nonconforming sandbag, a copy of which is attached.
28. NPS issued a revised Special Use Permit (SUP) USA20-5700-001 Revision 2 on 1 May 2020 authorizing the use of the nonconforming sandbag, a copy of which is attached. This SUP supersedes permit dated 27 March 2020. The permit expires on 30 September 2020.
29. On 3 April 2020, DCM issued the Minor Modification of Major CAMA permit 24-03 per NCDOT's 2 March and 19 March 2020 request but denied by permit condition No. 6 the use of a nonconforming sandbag as they were inconsistent with the use standards for sandbags found in NCAC 7H.0308(a)(2)(L). The inconsistencies of the proposed nonconforming sandbag were their length (up to 50-foot-long sections instead of 3'-5' wide by 7'-15' long when measured flat) and color (white instead of tan). The 3 April 2020 Minor Modification 24-03 is attached.
30. As part of the preparation of the variance package, NCDOT provided notice to the adjacent property owner, NPS. If NPS submits written comments to this variance petition before the date of the Commission meeting, those will be shared with the Commission.
31. On 6 May 2020 NCDOT filed a Variance Petition and requested it be heard at the Commission's 10-11 June 2020 meeting. A copy of the Petition is attached.
32. NCDOT stipulates that the proposed construction of a temporary erosion control structure utilizing the proposed nonconforming sandbag is development and the proposed sandbag is inconsistent with the use standards for sandbag size and color found under 15A NCAC 7H.0308(a)(2)(L).
33. On 1 May 2020, the North Carolina Division of Coastal Management (DCM) issued a Letter of Refinement authorizing NCDOT to shift the 1,005-foot section of sandbags on Sheet 9 southward for an additional 300 linear feet from the alignment that was approved by the Minor Modification that was issued on April 3, 2020. The total linear footage of sandbags on Sheet 9 will remain the same.

34. Due to the impacts of COVID-19, the NCDOT has canceled its 2020 contract for the Ocracoke Express passenger ferry. The passenger ferry was introduced in 2019 as a transportation alternative for people traveling between Hatteras and Ocracoke islands on North Carolina's Outer Banks. More than 28,600 people used the passenger ferry last summer. The Ferry Division will continue its vehicle ferries between Hatteras and Ocracoke in 2020.

35. The proposed sandbags are a temporary measure until a long-term solution can be selected and funded to maintain access to Ocracoke Island via NC-12. The proposed alternative sandbags would not be hydraulically filled from the swash zone. The sandbags would be filled using sand from the Southdock spoil site and/or sand removed from the dune during sandbag installation or sand on the roadway or roadway shoulders deposited by wind or overwash events. Sand for the sandbags and dune reconstruction would be of beach quality characteristics and of the same general characteristics as the sand in the existing dune.

A steel installation platform would be used to support the alternative sandbags during the filling operation. Water could be used to pack the sand as the bags area filled to maximum 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 bags are designed with an open top. 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 rate of installation for this sandbag configuration would be approximately 200 feet per day. Currently, the average rate of production for traditional sandbags at this project is approximately 30 linear feet per day, on days where the weather permits work. As of June 1, 2020, DOT had installed approximately 3,275 linear feet of sandbags out of the 5,223 linear feet authorized. Installation has been completed from Station 31+50 to 49+45, Station 60+00 to 66+55, and Station 86+75 to 95+00.

STIPULATED EXHIBITS

1. December 2016 Feasibility Study.
2. March 2020 Addendum to December 2016 Feasibility Study
3. 26 September 2019 Emergency Major Modification of Major CAMA Permit 24-03 and NCDOT's 20 September 2019 permit modification request package.
4. 22 October 2019 Emergency Minor Modification of Major CAMA Permit 24-03 and NCDOT's 3 October 2019 permit modification request package.
5. 31 January 2020 Minor Modification of Major CAMA Permit 24-03 and NCDOT's 20 December 2019 modification request package.
6. 3 April 2020 Minor Modification of Major CAMA Permit 24-03 and NCDOT's NCDOT's 2 March and 19 March 2020 permit modification request package to modify Major CAMA Permit No. 24-03.
7. 1 May 2020 Refinement of Major CAMA Permit 24-03 and NCDOT's 20 April 2020 request to modify CAMA Permit No. 24-03.
8. Comments of NC Division of Water Resources related to NCDOT's March 2020 minor modification request.
9. Comments of NC Wildlife Resources Commission related to NCDOT's March 2020 minor modification request.
10. Comments of DCM Transportation Project Field Representative related to NCDOT's March 2020 minor modification request.
11. Comments of US Army Corps of Engineers related to NCDOT's March 2020 minor modification request.
12. Comments of National Park Service related to NCDOT's March 2020 minor modification request.
13. NPS Special Use Permit USA20-5700-001 Revision 1 issued on 27 March 2020.
14. NPS revised Special Use Permit (SUP) USA20-5700-001 Revision 2 issued on 1 May 2020
15. Comments of US Fish and Wildlife Service related to NCDOT's March 2020 minor modification request.
16. Notice of the Variance Petition to adjacent property owner NPS.
17. PowerPoint slideshow with relevant map and site photos.
18. Figure. Erosion Rates on Ocracoke at Hatteras Inlet.
19. Drone flyover video showing damage to dune and NC 12 on Ocracoke Island after Hurricane Dorian in September 2019.
20. Drone Flyover video showing reconstruction of dune and NC 12 on Ocracoke Island.

PETITIONER'S and STAFFS' POSITIONS**ATTACHMENT C**

To qualify for a variance, Petitioner must show all of the following:

- I. Will Unnecessary Hardships result from strict application of the rules, standards, or orders? If so, Petitioner must identify the unnecessary hardships.**

Petitioner's Position: Yes.

Strict application of the applicable development rules, standards, or orders issued by the CRC will cause Petitioner North Carolina Department of Transportation (NCDOT) unnecessary hardship. NC 12 connects Ocracoke Village with the South Dock ferry terminal, which is the most used route on and off Ocracoke Island. The challenges faced by NCDOT in maintaining traffic flow on NC Highway 12 on Ocracoke Island have reached a point where temporary erosion control measures are needed within a 2-mile hot spot, located between the pony pens and the ferry basin, until other options for public access (such as those identified in the 2016 feasibility study) can be selected, funded, and implemented. Increased storm intensity, duration and frequency have exacerbated erosion rates in the hot spot. What started as efforts to nourish the protective dune have over time become better characterized as dune reconstruction after major storm events due to the exacerbated loss of beach.

In 2019 alone Ocracoke experienced unprecedented storm surge from Hurricane Dorian in September which damaged two sections of pavement in the hot spot. Hurricane Dorian was followed by two major nor'easters, one in October and November. Each of those nor'easter storm events caused a severe reduction in the size of the protective dune in the hot spot (which originally required 45,500 cubic yards of sand to build) but fortunately the repaired pavement was not damaged. Erosion of the reconstructed dunes has served to nourish the beach in some areas within the hot spot. Immediately after Hurricane Dorian, a 975 linear foot temporary sandbag erosion control structure was authorized through an emergency modification of Major CAMA permit no. 24-03. The US Army Corps of Engineers (USACE) issued Nationwide Permit 48 and the National Park Service (NPS) issued a Special Use Permit (SUP) authorizing the structure. This 975 linear foot temporary erosion control structure took two months to construct. The nor'easters following Hurricane Dorian increased the erosion threat to another 4,248 linear feet in the hot spot. CAMA Major Permit 24-03 was modified again, as well as the other required federal permits, to authorize another 4,248 linear feet of temporary erosion control sandbag structure. Extensive damage from Hurricane Dorian caused Ocracoke Island to be closed to visitors from 4 September 2019 until 2 December 2019.

The current sandbag rule found in CRC's rules under North Carolina Administrative Code (NCAC) 7H.0308(a)(2)(L) states in part "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." Strict application of this rule causes unnecessary hardship for NCDOT by preventing use of a newer and more innovative sandbag structure design which could be installed more quickly and cause less impact to the beach than the currently allowed sandbag structures.

The current permitted sandbag structure is being constructed utilizing a sandbag 5' wide by 15' long by 2' high. Each individual sandbags are filled hydraulically by pumping sand from the swash zone along the beach. It takes 9 bags to construct 15 linear feet. The currently authorized sandbag structure has a width of 20 feet at the base and a height of 6 feet. The currently permitted structure can be constructed at a rate of 30 to 50 linear feet per day. Seasonal weather events have slowed installation by limiting the number of working days which has resulted in an average of approximately 150 linear feet per week. The sandbag structure is buried in a protective dune as the installation progresses down the permitted alignment. The sand for dune maintenance is sourced from the diked dredge disposal area adjacent to South Dock. The current bags and configuration conform to NCAC 7H.0308(a)(2)(L).

NCDOT requests a variance to use a new alternative sandbag design which is expected to be more durable and have a greater chance of remaining in place during storm events thus providing better protection of the pavement. The proposed sandbags are made of white polypropylene and have a trapezoidal shape. The bags are manufactured in four different sizes that progress in size by 2-foot increments. The largest bag has an 8' base that narrows to 2' at the top and is 6' tall. There is a baffle every 2 feet of length and the bags are manufactured in 50-foot sections. The 50-foot sections can be connected to another section end-to-end by nylon straps or can be cut to make a shorter section. These bags can be filled at a more rapid pace by utilizing a steel frame to support the bags and act as a hopper while filling the bags with dry sand deposited by a front-end loader.

On 19 March 2020, NCDOT submitted the information necessary for DCM to process a Minor Modification of Major CAMA 24-03 to allow the use of this alternative sandbag. The proposed sandbag structure would be comprised of two rows of the new sandbags with the bags connected end-to-end in each row. The seaward row would be made from the bags with an 8-foot base and 6-foot height. A second row of bags would be installed on the landward at the same elevation abutting the first row and using a smaller bag with a 6-foot base 4-foot height. Both rows would be installed 2 feet below the existing grade. The estimated rate of installation of this temporary structure would be as much as 200 linear feet per day, which is at least four times faster than the currently permitted bags. This permit modification request to use the alternative sandbag was denied by permit condition on 3 April 2020 by Division of Coastal Management (DCM) regulatory staff due to the inconsistencies with the use standard for sandbags found in NCAC 7H.0308(a)(2)(L). Specifically, those inconsistencies were the bag length (50 feet) and color (white). Strict application of the rules pertaining to sandbag size and color cause NCDOT unnecessary hardship by preventing NCDOT from utilizing an alternative sandbag to configure a temporary erosion control structure which could be deployed at a faster rate (especially for emergency use), prove to be more durable, and provide improved temporary protection for the traveling public until a long-term solution is implemented on Ocracoke Island.

The proposed new sandbags and configuration are expected to significantly reduce installation time, better protect the pavement, and improve emergency storm response and storm recovery efforts on Ocracoke Island. The proposed sandbags could be filled using dry sand which would eliminate potential impacts to Environmental Sensitive Areas (ESA) or shipwrecks of archaeological significance buried in the swash zone. The new sandbag design for NCDOT use

would provide public benefits and be aligned with the spirit and intent of the Coastal Area Management Act (CAMA) and Coastal Resource Commission's (CRC) rules by utilizing a significantly smaller footprint, requiring less maintenance, and be easier to clean up after damage from storm events and removal after use.

Staffs' Position: Yes.

Staff agree that strict application of the Commission's rules for temporary erosion control structures found at 15A NCAC 7H .0208(a)(2), from which NCDOT seeks a variance, cause them unnecessary hardships. As noted in the Stipulated Facts, the specific rule which NCDOT is seeking a variance from is 15A NCAC 7H .0308(a)(2)(L), in order to use non-standard size sandbags and to authorize the use of white sandbags instead of tan. The Commission sets limitations on the size of individual sandbags to ensure that they are well-defined and limited in application. In this case, NCDOT seeks to use these differently designed and installed sandbags in order to be able to install them at a faster rate and in time for the 2020 hurricane season, as well as for increased durability. While NCDOT and NPS are studying long-term erosion responses, strict adherence to the rule creates an unnecessary hardship that would make it more difficult for NCDOT to protect NC 12 for continued public transportation use (and emergency use) in a timely manner in the short-term until a long-term alternative is implemented for NC 12 and the Southdock Ferry Terminal. As of June 1, 2020, the length of the authorized sandbags 5,223 linear feet and approximately 3,275 linear feet of the sandbags have been constructed, leaving 1,948 linear feet remaining. At a rate of 30'/day, it would take approximately 65 working days to complete the installation and at a rate of 200'/day, it would take approximately 9.74 working days to complete the installation.

II. Do the hardships result from conditions that are peculiar to the property, such as the location, size, or topography of the property? Explain.

Petitioner's Position: Yes.

A 2014 study of erosion rates on Ocracoke Island by Moffatt and Nichol identified the area north of the pony pens as a "critical area of erosion" and calculated annual erosion rates between 8 and 9.4 feet per year. The duration and frequency of storms including Hurricane Matthew (2016), Hurricane Florence (2018) and Hurricane Dorian (2019) has accelerated this erosion, eliminating the previously constructed protective dune and further reducing the naturally occurring volume of sand available to form a protective dune. The beach profile in the hot spot is flat, subjecting the reconstructed dunes built after the hurricanes to the maximum wave energy generated by subsequent northeasters and other smaller tropical storm events. The hot spot is the narrowest point in the island and this area is characterized by low topography/elevations transitioning from sound and marsh to a flat beach and ocean within a few hundred feet. This topography subjects this area to erosive wave energy created by storm surge from both the Pamlico Sound and Atlantic Ocean. Ocean wave energy on the outer banks is higher than anywhere else on the North Carolina coast, and east coast of the U.S., due to its close proximity to the continental shelf edge and deeper nearshore waters which create less bottom drag on wind-generated wave energy. These high energy erosive forces coupled with more frequent and intense storms have increased the need for

a better adapted short-term temporary erosion control structure to protect the pavement on NC 12 in the hot spot until a more long-term solution can be selected and implemented to maintain access to the Ocracoke from Hatteras. The short-term maintenance of this travel corridor is essential for the continued recovery of Ocracoke Village from Hurricane Dorian.

Staffs' Position: Yes.

Staff notes that the Project Area of NC 12 is quite large at approximately two miles and is located within NPS property adjacent to the Atlantic Ocean, the Pamlico Sound and Hatteras Inlet. Erosion in the Project Area has accelerated due to recent, more frequent, and somewhat more powerful storms, as seen in the various photographs contained in the stipulated exhibits and in the facts above. There is little elevation in this area, leaving imminently threatened NC 12 particularly vulnerable in this hot spot. For these reasons, Staff agree that this accelerated erosion is quickly altering the low topography of the site and that these are conditions peculiar to the property which contribute to NCDOT's hardships.

III. Do the hardships result from actions taken by the petitioner? Explain.

Petitioner's Position: No.

The hardships facing NCDOT in maintaining safe travel on NC 12 on Ocracoke Island in the short-term are the result of topography- and weather-related factors and are beyond the control of NCDOT. Hurricane events over the last four years include Matthew (2016), Florence (2018), and Dorian (2019) as well as two prolonged nor'easters in the fall of 2019 following Dorian. Each of these hurricanes strengthened to a major hurricane, built a large storm structure and slowed their forward speed when reaching the North Carolina coast. Fortunately, these storms had weakened prior to landfall. Hurricane Matthew established a prolonged wind event blowing from the east due to its interaction with another frontal boundary north of the outer banks. A tight barometric pressure gradient formed resulting in prolonged, strong winds from the east that severely eroded Ocracoke beaches and pushed flood waters inland from the Pamlico Sound. When Hurricane Matthew passed, and the wind switched to the west, sound side flooding in Hatteras and Ocracoke Villages occurred with unprecedented severity. Hurricane Florence's slow speed and meandering direction was another prolonged easterly wind event which severely impacted the ocean-front on Ocracoke. Fortunately, the wind never suddenly switched to the west, sparing Ocracoke Village from sound side flooding. Hurricane Dorian subjected the Ocracoke ocean-front to its strongest winds in the right quadrant of the eyewall as it paralleled the island and had the greatest erosive impact to the beach and NC 12 on Ocracoke. The flooding in Ocracoke Village far exceeded the previously unprecedented flooding which occurred during Hurricane Matthew. NCDOT could not have predicted these back to back storms and their behavior which proved to be compounding in creating extreme beach erosion on the outer banks and especially Ocracoke. These hurricane events have also contributed to the widening of Hatteras Inlet, the shifting of navigation channels in Hatteras Inlet, and erosion problems threatening the South Dock ferry basin and loading loop. NCDOT staff have been in the process of working with design consultants and the NPS in developing options for a long-term solution. These storm events have served to speed up the timeline to scope the identified options with the NPS and the regulatory agencies.

Staffs' Position: No.

Staff agrees that NCDOT has done nothing to accelerate the erosion affecting the Project Area or to cause the back-to-back nature of these events impacting NC 12 on Ocracoke. Staff acknowledges that NCDOT has responded to protect NC12 due to the recent storm erosion events located in the Project Area in an expeditious manner. The NCDOT and NPS have recognized the urgency of the situation in an effort to develop a long-term erosion protection response to protect NC12 and the Hatteras Southdock Ferry Terminal, and Staff agree that temporary measures are needed until the study is completed and any alternative approaches are implemented. While DCM Staff were not asked to participate in NCDOT's 2016 or 2020 long-term feasibility studies, Staff stand ready to do so. Therefore, Staff agrees that Petitioner meets this variance criterion.

IV. Is the requested variance (1) consistent with the spirit, purpose, and intent of the rules, standards, or orders, (2) will secure public safety and welfare; and (3) will preserve substantial justice? Explain.

Petitioner's Position: Yes.

- **Consistent with the spirit, purpose, and intent of the rules, standards, or orders.**

NCDOT's proposed use of an alternative sandbag to temporarily protect vulnerable sections of roadway on Ocracoke Island is consistent with the spirit, purpose, and intent of the rules pertaining to the use of temporary erosion control structures in the Ocean Hazard Area of Environmental Concern (AEC) and its specific use standards found under NCAC 7H.0308(a). Also, and more importantly petitioner feels the experimental use of these alternative sandbags is consistent with the State's policy for temporary erosion control structures found in NCAC 7M.0200.

The sections of threatened roadway meet the standards for an "imminently threatened structure" per 7H.0308(2)(B). This has been confirmed by DCM staff's recent issuances of three requested modifications of Major CAMA Permit no. 24-03 for a conventional sandbag structure. When considering the storm and ocean wave climate and the resultant erosion rates on this area of Ocracoke beach, any style polypropylene bag filled with sand will be only temporary and certainly will not exceed their usefulness beyond the eight-year timeframe allowed per 7H.0308(a)(2)(F). Once the beach seaward of the temporary erosion control structure has eroded away reducing and or eliminating any public use of the beach it is highly likely that the temporary erosion control structure and roadway will sustain significant damage during not only hurricane-strength storms, but also more common seasonal storm events, forcing NCDOT to abandon efforts to maintain the temporary erosion control structure (sandbags) and force its removal by NCDOT maintenance staff. Also, during the serviceable life of this short-term temporary erosion control structure, it will be buried by a protective dune and will not limit public access to the adjacent beach. The proposed alternative structure would be only 4 feet above existing grade when installed.

The currently permitted temporary erosion control structure, which is currently under construction, requires 9 individual bags every 15 feet. The bags are stacked on top of one another forming a pyramid shape and are susceptible to scatter when they fail during a storm event. NCDOT's

opinion is that the proposed alternative temporary erosion control structure would fail less often, when damage does occur the proposed bags would fragment less, and the proposed structure would be easier to remove once its usefulness ends; therefore, it is consistent with the intent of the specific use standard 7H.0308(a)(2)(K). Although the size and color of the alternative sandbag do not comply with 7H.0308(a)(2)(L), the proposed temporary erosion control structure is consistent with the remaining standards in (a)(2). The proposed temporary erosion control structure to be built using the alternative sandbag would have a base width (14 feet) which is significantly less than the currently permitted 20 feet and the proposed height is equal to the maximum allowed 6 feet. NCDOT proposes to cover the proposed structure with a protective dune to the extent practical.

The proposed alternative temporary erosion structure was designed by NCDOT to comply with 7H.0308(a)(H)(iii) by “limiting the extent and scope necessary” to provide some measure of protection to the pavement during storm over wash events. Also, NCDOT feels that the reduced footprint (14 feet wide compared to the currently permitted 20 feet wide) is a mitigating factor consistent with the spirit, purpose, and intent of the rules and the public benefits outweigh any significant short-term impacts of the proposed alternative sandbag structure per 7H.0308(a)(1)(H)(iv). Not only would the proposed structure would have a smaller footprint after construction, it would involve less impact to the beach during construction because the proposed bags could be filled using dry sand, which eliminates the current impacts of extending a hydraulic pump and pipe from the surf zone across the beach. The proposed alternative sandbags would take less time to install than the currently permitted bags, which would reduce the duration of construction impacts.

Requests to modify a major CAMA permit are subject to the same processing procedure applicable to the original permit application or to a limited review if circulation would serve no purpose as determined by DCM per NCAC 7J.0405(a). A reduced number of state and federal agencies were asked for comment on the 2 March 2020 modification request by NCDOT. NCDOT’s 2 March 2020 modification request package is attached including the 19 March addendum. The agencies within the Department of Environmental Quality that review Major CAMA permit applications for the purpose of identifying significant environmental impacts, the Division of Water Resources and the Wildlife Resources Commission, commented with “no objection” to NCDOT’s request to use an alternative sandbag and temporary erosion control structure. Similarly, the NPS staff has considered all the facts concerning the use of temporary erosion control structure constructed using an alternative sandbag on NPS property and have approved NCDOT’s proposal by issuance of a new SUP on 27 March 2020 covering its use on NPS property.

NCDOT feels the specific use standard found under 7H.0308(a)(1)(K) provides the ability for the CRC and DCM regulatory staff to consider “erosion control measures using innovative technology or design” as experimental on a “case by case basis to determine consistency with 15ANCAC 07.M.0200 and general and specific use standards within 7H.0308.” This experimental use of this alternative sandbag structure (if allowed) will provide data for review by DCM regulatory staff and NCDOT regarding their effectiveness in protecting the roadway and their associated environmental impacts.

- **Secure the public safety and welfare.**

This variance request would serve to provide benefits to public safety and welfare for the residents and visitors travelling to and from Ocracoke Island. Under normal conditions, about 70% of vehicular traffic to Ocracoke Island uses the route from the Hatteras Inlet Ferry via NC 12. This can be attributed to many factors such as the other longer ferry routes requiring increased travel time to the island, the larger tourist market on the adjacent outer banks, as well as the adjacent rental/home construction and building supply businesses on the outer banks. These businesses and their operations on Ocracoke rely on vehicular access to the village from South Dock and the Hatteras Inlet Ferry via NC 12. The continued hurricane recovery efforts rely heavily on NC 12 to bring a workforce and materials to the village as well as tourists to help recover the local economy.

Emergency services also rely on this route because of the shorter travel time across Hatteras Inlet versus the Pamlico Sound. The school system uses this route to transport students to field trips and sporting events off the island. NC 12 is also an important emergency evacuation route for residents and visiting tourists.

- **Preserve substantial justice.**

The requested variance will preserve substantial justice by enabling NCDOT to employ a better temporary erosion control structure to protect NC 12 in the hot spot until a more permanent long-term solution is decided upon and implemented. CRC policy per NCAC 7M.0202(b) supports a decision to allow NCDOT to use a nonconforming alternative sandbag to protect the primary transportation route on Ocracoke Island. The social and economic benefits to the public of maintaining short-term vehicular access from Hatteras Village to Ocracoke Village outweigh any significant environmental impact as demonstrated in the State and Federal review of NCDOT's request to modify Major CAMA permit no. 24-03 in which each agency issued a statement of "no objection" for use of the proposed alternative sandbag structure. The residents of Ocracoke Island deserve every tool to allow Hurricane Dorian recovery efforts to continue unabated as much as possible. Hurricane Dorian damaged a total of 307 residences, 77 houses received major damage and of that total 11 were destroyed. Loss of vehicular access from Hatteras would be devastating to the local economy in the short-term, especially during the summer months which are peak public travel for vacationers. Although the high erosion rates in the hot spot on Ocracoke Island are well documented, the intensity and frequency of hurricanes impacting Ocracoke could not have been anticipated by the petitioner. For these reasons the petitioner feels that granting of this variance will preserve substantial justice.

Staffs' Position: Yes.

Staff agrees that the proposed use of larger sandbags, which can be installed more quickly and prior to the peak of the upcoming hurricane season to protect NC 12 in the Project Area as part of a near-term response, while NCDOT and NPS study, select, permit and implement a long-term solution, is consistent with the spirit, purpose, and intent of the Commission's rules. While Staff believe that sandbag dimensions currently allowed by rule are appropriate for traditional uses, for this uniquely long project area protecting public infrastructure, the more rapid installation rate with these longer bag sections will help to ensure NC 12 is better protected from ocean erosion prior to the upcoming hurricane season. In balancing the need to construct the sandbag structure more quickly, DCM Staff agrees that the use of this alternative sandbag design meets the spirit, purpose and intent of the Commission's rules.

Staff agrees that the variance will secure public safety and welfare where these bags are more likely to be installed prior to the upcoming hurricane season, and may provide an opportunity utilize this design for the protection of public infrastructure, from further impacts of erosion in the near-term until a long-term solution can be developed, permitted and implemented. Additionally, the public's access to other parts of Ocracoke Island (including the National Seashore) by residents and visitors depends in large part on being able to access Ocracoke Island through this transportation corridor. Finally, the need to keep a public transportation connection open for access to and from the communities of Ocracoke Island and Hatteras Island, especially for emergency purposes is essential and will further public safety and welfare.

Staff agrees with the Petitioner that the variance will preserve substantial justice as it will allow the Petitioner to protect this portion of the NC 12 corridor and its use by the public, while a long-term solution for the north end of Ocracoke, NC 12 and the Southdock is developed and implemented.

ATTACHMENT D:
PETITIONERS' VARIANCE REQUEST MATERIALS
(except Petitioner's initially proposed facts/exhibits)

CAMA VARIANCE REQUEST FORM

DCM FORM 11 CAMA Maj
DCM FILE No.: 24-03

PETITIONER'S NAME NC Department of Transportation

COUNTY WHERE THE DEVELOPMENT IS PROPOSED Hyde

Pursuant to N.C.G.S. § 113A-120.1 and 15A N.C.A.C. 07J .0700 *et seq.*, the above named Petitioner hereby applies to the Coastal Resources Commission (CRC) for a variance.

VARIANCE HEARING PROCEDURES

A variance petition will be considered by the CRC at a regularly scheduled meeting, heard in chronological order based upon the date of receipt of a complete petition. 15A N.C.A.C. 07J .0701(e). A complete variance petition, as described below, must be *received* by the Division of Coastal Management (DCM) a minimum of six (6) weeks in advance of the first day of a regularly scheduled CRC meeting to be eligible for consideration by the CRC at that meeting. 15A N.C.A.C. 07J .0701(e). The final set of stipulated facts must be agreed to at least four (4) weeks prior to the first day of a regularly scheduled meeting. 15A N.C.A.C. 07J .0701(e). The dates of CRC meetings can be found at DCM's website: **www.nccoastalmanagement.net**

If there are controverted facts that are significant in determining the propriety of a variance, or if the Commission determines that more facts are necessary, the facts will be determined in an administrative hearing. 15A N.C.A.C. 07J .0701(b).

VARIANCE CRITERIA

The petitioner has the burden of convincing the CRC that it meets the following criteria:

- (a) Will strict application of the applicable development rules, standards, or orders issued by the Commission cause the petitioner unnecessary hardships? Explain the hardships.
- (b) Do such hardships result from conditions peculiar to the petitioner's property such as the location, size, or topography of the property? Explain.
- (c) Do the hardships result from actions taken by the petitioner? Explain.
- (d) Will the variance requested by the petitioner (1) be consistent with the spirit, purpose, and intent of the rules, standards or orders issued by the Commission; (2) secure the public safety and welfare; and (3) preserve substantial justice? Explain.

Please make your written arguments that Petitioner meets these criteria on a separate piece of paper. The Commission notes that there are some opinions of the State Bar which indicate that non-attorneys may not represent others at quasi-judicial proceedings such as a variance hearing before the

Commission. These opinions note that the practice of professionals, such as engineers, surveyors or contractors, representing others in quasi-judicial proceedings through written or oral argument, may be considered the practice of law. Before you proceed with this variance request, you may wish to seek the advice of counsel before having a non-lawyer represent your interests through preparation of this Petition.

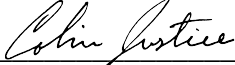
For this variance request to be complete, the petitioner must provide the information listed below. The undersigned petitioner verifies that this variance request is complete and includes:

- X The name and location of the development as identified on the permit application;
- X A copy of the permit decision for the development in question;
- ** A copy of the deed to the property on which the proposed development would be located;
- X A complete description of the proposed development including a site plan;
- X A stipulation that the proposed development is inconsistent with the rule at issue;
- X Proof that notice was sent to adjacent owners and objectors*, as required by 15A N.C.A.C. 07J .0701(c)(7);
- N/A Proof that a variance was sought from the local government per 15A N.C.A.C. 07J .0701(a), if applicable;
- X Petitioner's written reasons and arguments about why the Petitioner meets the four variance criteria, listed above;
- X A draft set of proposed stipulated facts and stipulated exhibits. Please make these verifiable facts free from argument. Arguments or characterizations about the facts should be included in the written responses to the four variance criteria instead of being included in the facts.
- X This form completed, dated, and signed by the Petitioner or Petitioner's Attorney.

**Please contact DCM or the local permit officer for a full list of comments received on your permit application. Please note, for CAMA Major Permits, the complete permit file is kept in the DCM Morehead City Office.*

**** NCDOT owns, controls, and maintains a public right-of-way easement through Cape Hatteras National Seashore on Ocracoke Island in Hyde County, North Carolina. The National Park Service which owns the National Seashore has issued a Special Use Permit to NCDOT, which is included in the proposed stipulated exhibits.**

Due to the above information and pursuant to statute, the undersigned hereby requests a variance.

			April 27, 2020
_____ Signature of Petitioner or Attorney			_____ Date
Colin Justice, Assistant Attorney General			cjustice@ncdoj.gov
_____ Printed Name of Petitioner or Attorney			_____ Email address of Petitioner or Attorney
1505 Mail Service Center			(919) 707-4533
_____ Mailing Address			_____ Telephone Number of Petitioner or Attorney
Raleigh	NC	27699-1505	(919) 733-9329
_____ City	_____ State	_____ Zip	_____ Fax Number of Petitioner or Attorney

DELIVERY OF THIS HEARING REQUEST

This variance petition must be **received** by the Division of Coastal Management at least six (6) weeks before the first day of the regularly scheduled Commission meeting at which it is heard. A copy of this request must also be sent to the Attorney General's Office, Environmental Division, 15A N.C.A.C. 07J .0701(e).

Contact Information for DCM:

By mail, express mail or hand delivery:

Director
Division of Coastal Management
400 Commerce Avenue
Morehead City, NC 28557

By Fax:
(252) 247-3330

By Email:
Check DCM website for the email
address of the current DCM Director
www.nccoastalmanagement.net

Contact Information for Attorney General's Office:

By mail:
Environmental Division
9001 Mail Service Center
Raleigh, NC 27699-9001

By express mail:
Environmental Division
114 W. Edenton Street
Raleigh, NC 27603

By Fax:
(919) 716-6767

CAMA VARIANCE PETITION
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

Petitioner, North Carolina Department of Transportation, through its attorney, Colin Justice, Assistant Attorney General, stipulates that the proposed development that is subject of the Variance Petition is inconsistent with Coastal Resources Commission Rule 15A NCAC 7H.0308(a)(2)(L).



Colin Justice
Assistant Attorney General
NC Bar No. 42965
cjustice@ncdoj.gov
Attorney for NC Dept. of Transportation
NC Dept. of Justice – Transportation Division
1505 Mail Service Center
Raleigh, NC 27699-1505
Phone: (919) 707-4480
Fax: (919) 733-9329

JOSH STEIN
ATTORNEY GENERAL



REPLY TO:
COLIN JUSTICE
ASSISTANT ATTORNEY GENERAL
TRANSPORTATION DIVISION
1505 MAIL SERVICE CENTER
RALEIGH, NC 27699-1505
919.707.4533

April 16, 2020

National Park Service
Cape Hatteras National Seashore
Attn: Sabrina S. Henry
1401 National Park Drive
Manteo, North Carolina 27954

By Certified U.S. Mail – Return Receipt Requested

**Re: CAMA Variance Request by North Carolina Department of Transportation
113 Airport Drive, Suite 100, Edenton, North Carolina, 27932**

Dear Ms. Henry,

The purpose of this letter is to notify you that the North Carolina Department of Transportation (NCDOT) is applying for a variance from the North Carolina Coastal Resources Commission (CRC) rules pertaining to sandbags to allow the use of a nonconforming sandbag to construct a temporary short-term erosion control structure to protect NC HWY 12 in the hot spot north of the pony pens on Ocracoke Island. This is the same project currently authorized by Special Use Permit no. USA20-5700-001 Revision 1. You are receiving this notice as an adjacent property owner Certified Mail Return Receipt Requested as required by CRC rules per North Carolina Administrative Code 7J.0701(c)(7). A copy of this letter and proof of delivery will be submitted as a component of the variance petition.

The variance is expected to be heard at the June 10-11, 2020 meeting of the CRC. If you wish to receive further information concerning the variance, you may contact me. If you wish to make further comments on the variance, you may direct your comments to the North Carolina Division of Coastal Management, 943 Washington Square Mall, Washington, North Carolina 27889. You may also contact a Division of Coastal Management representative at (252) 946-6481. If you have any questions or comments regarding this communication, please do not hesitate to contact me at (919) 707-4533. Thank you for your time and consideration in this matter.

Respectfully,

Colin Justice
Assistant Attorney General
Transportation Division
Attorney for NCDOT

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Delivered

April 20, 2020 at 9:59 am
Delivered, Front Desk/Reception/Mail Room
MANTEO, NC 27954

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