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CRC-26-49

February 5, 2025

## MEMORANDUM

**TO:** Coastal Resources Commission  
**FROM:** Gregg Bodnar  
**SUBJECT:** Consideration of revised draft rule language designated as 07H .0308(b)(2)(O) for the use of alternative sandbags to protect public roadways

Within the Ocean Hazard Area of Environmental Concern (OHA AEC) a number of public roadways and associated buildings and infrastructure have been impacted by chronic erosion and impacts from coastal storms. Existing rules for temporary erosion control structures are located within 15A NCAC 07H .308(b)(2) and are limited to sandbags placed landward of mean high water and parallel to shore for imminently threatened roads, right of ways, and buildings and their associated septic systems. The sandbag rules further detail the single bag dimensions, color and base width and height. Public roads, which can span 1,000s of linear feet or more within the OHA AEC are a unique challenge to the current sandbag rules. The individual sandbag rule in 07H .0308(b)(2)(L) limits the dimensions to 3-5 feet wide and 7-15 feet when measured flat. When applied to linear roadways, such as NC 12 on Ocracoke Island, these individual bag dimensions and color requirement have become problematic for the NC DOT to effectively respond to erosion events impacting roadways within the OHA AEC.

The NC DOT has requested multiple variances to use alternative sandbags that do not meet CRC current rules 07H .0308(b)(2)(L) for color and bag dimensions to deal with chronic erosion along NC 12 in Ocracoke (granted 6/11/20), Mirlo Beach (granted 2/10/22) and near the Pea Island Visitors Center (granted 12/16/24). These requests were to use sandbags that are tetrahedral in shape and white in color. These alternative sandbags are 50 feet long with individual baffled cells and can vary from 2 to 6 feet in height. These alternative sandbags are filled with dry sand or in the traditional way of pumping a sand slurry and use rigid scaffolding to support the bags until filled. The CRC granted a variance on two occasions for these alternative bags. Recent storms in October of 2025 noted the alternative sandbag design held well, with the surrounding dunes receiving noticeable erosion.

Alternative sandbag designs are proprietary, and each design may be unique in dimension and color. NC DOT recently initiated discussions with DCM staff to determine whether amending the rule language would be feasible to allow alternative sandbags to be utilized to protect imminently threatened public roadways. To meet this need, DCM drafted, and the Commission approved, new rule language at 07H .0308(b)(2)(O) excluding DOT from the existing sandbag size and color requirements.

After the August 2025 CRC meeting DOT contacted DCM staff to request further amendments to the rule language request to allow for an increased base width from 20 feet to 30 feet and the total height to increase from 6 feet to 10 feet, as measured from the bottom of the lowest bag. NC DOT has indicated that these revisions would assist with the ability to lower the elevation of the sandbag structure to better protect the alignment from being undermined by wave action. The revised rule language is provided below with edits from the rule language approved at the August 2025 CRC meeting.



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(O) Sandbags used to construct temporary erosion control structures to protect public roads are not subject to the color and size limitations in 7H .0308 (b)(2)(L). Base width of the temporary erosion control structures to protect public roads shall not exceed 20-30 feet, and the total height shall not exceed 610 feet, as measured from the bottom of the lowest bag.



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