



North Carolina Department of Environment and Natural Resources

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Governor

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MEMORANDUM

TO: ENVIRONMENTAL REVIEW COMMISSION
The Honorable Mike Hager, Co-Chair
The Honorable Ruth Samuelson, Co-Chair
The Honorable Brent Jackson, Co-Chair

FROM: Neal Robbins
Director of Legislative and Intergovernmental Affairs

SUBJECT: Coastal Resources Commission Report On the Implementation of SL 2011-387 –
An Act To Authorize the Permitting And Construction Of Up To Four Terminal
Groins At Inlets Under Certain Conditions

DATE: Sept. 2, 2014

Pursuant to SL 2011-387, the N.C. Coastal Resources Commission is directed by the General Assembly to permit the construction of a terminal groin under a pilot program. The legislation also requires that the CRC report to the Environmental Review Commission on the implementation of the act including a detailed description of each proposed and permitted terminal groin and its accompanying beach fill project by September 1 of each year. Please consider the Coastal Resources Commission report attached as the formal submission.

If you have any questions or need additional information, please contact me by phone at (919) 707-8618 or via e-mail at neal.robbs@ncdenr.gov.

cc:

Mitch Gillespie – Assistant Secretary, Dept. of Environment & Natural Resources
Braxton Davis – Director, Division of Coastal Management
Fiscal Research Division

**N.C. COASTAL RESOURCES COMMISSION
REPORT ON IMPLEMENTATION OF TERMINAL GROIN LEGISLATION
SEPT. 1, 2014**

Session Law 2011-387 (SB110) authorizes the N.C. Coastal Resources Commission (CRC) to permit the construction of a terminal groin under a pilot program if the commission finds that (i) structures or infrastructure are imminently threatened by erosion, and that nonstructural approaches to erosion control are impractical; (ii) the terminal groin will be accompanied by a concurrent beach fill project; (iii) construction and maintenance of the terminal groin will not result in significant adverse impacts to private property or to the public recreational beach; (iv) the terminal groin will be managed pursuant to an inlet management plan; and (v) there are sufficient financial resources to cover the costs associated with the terminal groin.

The legislation also requires that the CRC report to the Environmental Review Commission on the implementation of the act, including a detailed description of each proposed and permitted terminal groin and its accompanying beach fill project.

Since September 2011, the CRC has:

- Researched certain provisions of the law, including guidelines for the determination of adverse impacts of a terminal groin, monitoring and impact thresholds, and acceptable financial assurances as described in SL 2011-387 (G.S. 113A-115.1).
- Developed concepts and strategies on how to implement the monitoring and impact threshold requirements.
- Provided the N.C. Division of Coastal Management with additional direction related to satisfying the financial assurance portions of the legislation.

Based upon comments received in November 2012, then-CRC Chairman Bob Emory directed the Division of Coastal Management to re-examine the financial assurance component of SL 2011-387 and re-assess whether formal rulemaking should be undertaken to allow for implementation of this requirement. The division subsequently discussed this issue with legal counsel in the N.C. Department of Environment and Natural Resources, other agencies with similar financial assurance requirements, and the North Carolina Treasurer's Office. The results of this assessment were presented to the CRC at their February 2013 meeting, at which time DCM staff reiterated their position that the current language in SL 2011-387 gives the division the necessary guidance and flexibility to allow for the implementation of the financial assurance requirement. The CRC concurred with the Division of Coastal Management's assessment.

The Coastal Policy Reform Act of 2013 (Senate Bill 151) modified G.S. 113A-115.1(a)(3) to allow for construction of other design features, such as "L-heads," in association with a terminal groin, and clarified other sections of the terminal groin legislation pertaining to project funding, financial assurances, and monitoring and mitigation requirements. Senate Bill 151 was ratified by the legislature on July 22, 2013, and signed into law on August 23, 2013. Senate Bill 151 required that the financial assurance plan for a project must be certified by either the secretary of DENR or the CRC. Following coordination with DENR senior management on this matter, it has been decided that the choice of approval pathway (DENR vs. CRC) would be left to the desire of each individual permit applicant.

SL 2011-387 also requires the commission to provide a detailed description of proposed and permitted terminal groin projects. To date, five communities have expressed an interest in pursuing a terminal groin project and have begun the process of satisfying the requirements of G.S. 113A-115.1. The following summaries outline the status of these projects in the permitting process.

Figure Eight Island Homeowners Association

The Figure Eight Island Homeowners Association has prepared a draft environmental impact statement that addresses shoreline stabilization options for Rich Inlet in New Hanover County. The applicant's preferred alternative is the construction of a terminal groin at Rich Inlet with a concurrent beach fill project. The proposed project would involve additional beach nourishment every five years following completion of the terminal groin. Proposed impact monitoring would be based on a comparison of anticipated beach volumes versus actual beach volumes along multiple transects in the project area. Should the measured post-project sand volumes fall below anticipated volumes, mitigation would be implemented, likely in the form of additional sand placement in the impact areas.

In July 2012, the Division of Coastal Management provided comments on the draft environmental impact statement to the U.S. Army Corps of Engineers (USACE). The applicant and USACE are still in the process of incorporating these comments, as well as those from other commenting agencies and the public, into the final environmental impact statement for the proposed project. Furthermore, the applicant is investigating potential project design modifications which may cause additional revisions to the final environmental impact statement. It is anticipated that the final environmental impact statement will be released in the fall of 2014 by the USACE for public review and comment. A Coastal Area Management Act (CAMA) permit application will likely then be submitted.

Village of Bald Head Island

During the past year, the consultant for the Village of Bald Head Island has been working with state Division of Coastal Management staff and the USACE on the preparation of the draft environmental impact statement, which was submitted for agency and public comment in early 2014. DCM provided comments on the DEIS to the USACE. The Village and the USACE have incorporated these comments into a final environmental impact statement, which was released for agency and public review and comment in early August 2014. A CAMA permit application for Bald Head Island's terminal groin proposal was submitted to DCM on July 25, 2014. State and federal agency review of the application package is ongoing. Unless it is determined during the course of this review that additional information is needed from the applicant, a final permit decision on the application will likely take place by Oct. 8, 2014. It should be noted that Bald Head Island did receive certification from DENR of their financial assurance package prior to the final submittal of the CAMA permit application package.

Project Description

Bald Head Island is part of an island group known as Smith Island, located at the confluence of the Cape Fear River and Atlantic Ocean between Fort Fisher and Oak Island/Caswell Beach. The island is accessed by private boat or a private ferry service from Southport. This project is located at an area between South Beach and West Beach known as "the Point," on Bald Head

Island in Brunswick County. The project site is bordered by the Atlantic Ocean to the south and east, the Cape Fear River to the west and residential properties to the north.

The entire project area is located within the Coastal Resources Commission's Ocean Erodible and Inlet Hazard Areas of Environmental Concern (AECs). The annual erosion rate for the project area is 8 feet/year per the Division of Coastal Management's 2011 Annual Erosion Rate maps. A portion of the adjacent Inlet Hazard Area north of the proposed terminal groin location (along West Beach) has a 2-foot/year erosion rate. The Coastal Resources Commission established this erosion rate in 2009 by declaratory ruling. The 100-year storm recession line in the area is predicted to be 270 feet.

The South Beach portion of the project falls within the USACE's Wilmington Harbor Sand Management Plan project, which authorizes the placement of material excavated from the federal navigation channel on South Beach at Years 2 and 4 of a 6-year cycle.

The Village of Bald Head Island is proposing the construction of a 1,900-foot terminal groin at the area known as "the Point" between West Beach and South Beach. The terminal groin would likely be constructed in two phases. As proposed, the first phase would entail construction of the landward 1300 feet (approximate length) of the structure. Construction would commence at the completion of the next federal beach disposal project, or in May 2015 if no supplementary sand is required for the associated sand fillet. If additional sand is required to achieve the full profile of the fillet, the Village has stated that sand would likely be excavated from Jay Bird Shoals and work could be delayed until after November 1, 2015. Turtle monitoring within the project area during the moratorium would be performed by the Bald Head Island Conservancy. Construction may additionally require the construction of sand work pads on the structure's updrift side. Sand would be pulled from the federal disposal berm within 2,500 feet of the groin to construct the sand pads. Alternatively, the applicant has stated that a steel-pile trestle may be needed instead to construct the nearshore portion of the groin. The trestle piles would be jetted into place and subsequently removed upon completion of each phase of the project.

The terminal groin would be constructed of large armor rock with a rock-filled marine mattress or composite filter fabric/geogrid base. Armor stone would be limited to a uniform size (1.4 to 7 tons each with a 4-6-foot diameter) and the structure would be constructed at a maximum elevation of +7' NGVD 29 to enhance permeability and allow for controlled downdrift sediment transport. The structure is designed with a maximum crest width of 15 feet along the head section, and a crest width of between 6 feet and 10 feet 6-10-foot crest width along the stem section. The head and stem sections would be constructed at a 2:1 slope. The upland tie-back section of the terminal groin would measure 6 feet in width at its crest. The tie-back section location would be excavated to an elevation of 0' NGVD 29, then the groin section constructed at a 3:2 slope and backfilled after construction.

Phase 2, the construction of the remaining 600 feet of terminal groin, would be initiated at a future date if Bald Head Island determines conditions warrant the need to extend the structure to the full 1900-foot length. Phase 2 would be coordinated with the permitting agencies and likely timed with a federal beach disposal project.

Bald Head Island officials have stated that the preferred sand source for fillet creation is the remaining portion of the Jay Bird Shoals borrow site authorized by State Permit 67-09. The preferred sand source Bald Head Island has identified for any needed mitigation on West Beach is the remainder of the Bald Head Creek mouth borrow site, as authorized under State Permit 139-10. The three segments of the federal inner-ocean entrance channel near Bald Head Island have also been identified as a potential sand source; however, plans and supporting data for use of this site have not been submitted at this time. The beach fill project limits could extend up to 12,600 linear feet in length, from Stations 8+00 to 134+00, with an excavated volume of up to 1.4 million cubic yards of material to be placed on South and West Beaches. Bald Head Island officials have stated they intend to leave a previously authorized 300 linear foot sandbag revetment in place during project construction.

Bald Head Island officials acknowledge some “tuning” or modification of the terminal groin may be needed in order to comply with the requirements of Senate Bill 110 (as amended by Senate Bill 151) and to offset potential increased erosion on West Beach, which may result from the terminal groin. Bald Head Island officials state that models have shown there will be “no quantifiable impact” on the Caswell Beach/Oak Island side of the inlet. Surveying commitments and mitigation thresholds have been described in the inlet management plan submitted as part of the application package.

Holden Beach

There have been no additional meetings between the N.C. Division of Coastal Management and the Town of Holden Beach during the last year. The consultant for Holden Beach continues to work with the USACE on the preparation of the draft environmental impact statement for their proposed project.

Ocean Isle Beach

There have been no additional meetings between the N.C. Division of Coastal Management and the Town of Ocean Isle Beach during the last year. The consultant for Ocean Isle Beach continues to work with the USACE on the preparation of the draft environmental impact statement for their proposed project.

Carteret County

As part of its efforts to develop a long-term programmatic approach to address erosion along Bogue Banks, Carteret County has added the use of a terminal groin at Bogue Inlet as one of several options that could be used to respond to shoreline erosion during the next 30 years. The proposed addition of a terminal groin option was raised at a past Project Review Team meeting. At this time, it is unclear if Carteret County will be formally pursuing a terminal groin project.