

INDIAN RIVER COUNTY, FLORIDA

BOARD MEMORANDUM

DEPARTMENTAL

TO: John Titkanich, Jr. County Administrator

THROUGH: Richard B. Szpyrka, P.E., Public Works Director

THROUGH: Eric Charest, Natural Resources Manager

SUBJECT: Indian River County Beaches – Sectors 3 and 5 Post Hurricanes Ian and Nicole

DATE: April 24, 2023

DESCRIPTION AND CONDITIONS

Indian River County's coastline suffered significant erosional losses to the beach and dune system from the impacts of Hurricane Ian on September 28, 2022, followed closely by Hurricane Nicole on November 10, 2022. The impacts of these storms lasted well beyond the initial day of the storm, with the increased wave activity and high surf created by the Hurricanes in the Atlantic Ocean further contributing to beach and dune erosion throughout the County's beaches for several days. The impacts from these storms resulted in extensive areas where significant dune erosion and beach berm lowering were observed.

County staff immediately met with representatives from the Federal Emergency Management Agency (FEMA), Florida Division of Emergency Management (FDEM), and Florida Department of Environmental Protection (FDEP), and Coastal Engineering consultants to quantify the erosional impacts from these storms. Staff continues to work with the above agencies to best position the County in requesting federal and state funding to support future repair efforts to the beach and dune systems within the County's Engineered and Maintained beaches (Sectors 3 and 5).

Paramount to identifying sand losses to support Federal funding requests are completion of hydrographic surveys that capture sand changes within the near-shore coastal system.

The surveys performed by Morgan and Eklund (under a Board of County Commissioners (BCC) approved contract for Professional Land Surveying and Mapping Services) included both onshore and offshore profile lines at approximately 1,000-foot intervals. Draft Damage Assessment Reports take into account this survey data, along with other observational impacts for the County's Engineered and Maintained beaches have been developed by APTIM Environmental & Infrastructure, LLC (APTIM) under a BCC approved Workorder for that activity. These reports will be used to support the County's requests for funding sources to assist the County in any future Hurricane Ian and Nicole beach and/or dune repairs.

As the review of sand losses and the Damage Assessment reports continue, County staff remain committed to ensuring the needs of the County's coastline are well documented and known throughout the regulatory and funding community. This can be seen in the coordinated effort between the County and the FDEP in the Department's *Hurricane Ian & Hurricane Nicole*

Preliminary Post-Storm Beach Conditions and Coastal Impact Report (December 2022) and subsequent *Hurricanes Ian and Nicole Recovery Plan for Florida's Beach and Dune System* (December 2022) in which the County provided estimated losses and project costs attributed to impacts from the storms. It is important to note that the estimates included in the FDEP documents were based on visual observations from staff immediately after the storm and estimated projected costs.

Through these coordinated efforts, the preliminary dune and beach needs identified by the County and contained in the FDEP's Recovery Plan were identified to receive a portion of a 2022 Special Session Funding from the FDEP. The County was identified as receiving \$4,080,388 in that Special Session Grant Fund. Although a significant amount of money, that represents only portion of the estimated repair costs to the County's beaches.

The County has since provided an update to the FDEP to this preliminary information which the FDEP has indicated will be used in the current session to pursue additional funds to help entities, such as the County, address costs for future repair projects above and beyond any funding that might be made available by FEMA and other agencies.

The County currently maintains Federal and State permits for beach nourishment activities within the Engineered and Maintained beaches of Sectors 3 and 5 that allow for sand placement activities. These permits were issued prior to the recent nourishment activities, and followed the County's nourishment of Sector 5 (completed 2020) and Sector 3 (completed 2022). Permit conditions require extensive pre- and post-construction monitoring, such as (but not limited to) nearshore hardbottom monitoring, physical surveying and sea turtle/shorebird monitoring.

Pre-construction monitoring activities are required in advance of nourishment projects, many of which require extensive planning and months of field work. County staff have had preliminary discussions with the permitting agencies in order to identify any pre-construction needs that would be required in advance of a future nourishment/dune repair project. These conversations are being held in order for staff to inform the BCC of any anticipated pre-construction costs and timelines that would dictate timeframes for any future nourishment/repair projects.

The County's recent nourishment projects in Sectors 3 and 5 require post-construction monitoring take place for several years beyond sand placement. The County currently stands in a good position of utilizing the post-construction monitoring already approved by the BCC to double as some of the require pre-construction monitoring for Sectors 3 and 5 should additional Federal and/or State funding be made available to move forward with a future nourishment/dune repair project this upcoming construction season (November 1, 2023 through March 31, 2024). There would be additional steps needed in order to incorporate the current conditions field identified in on-going post-construction monitoring into permit template updates along with the minor permit modifications, but from a time standpoint, the lengthy and costly post-construction monitoring would not need to be duplicated to cover pre-construction monitoring requirements.

FUNDING

Funding is not needed for this BCC agenda item, but should future nourishment/dune repair activities need to take place to address the erosional losses from Hurricanes Ian and Nicole, the preliminary construction costs of such activities on the Engineered and Maintained beaches the County oversees (Sectors 3 and 5) have been estimated to be:

Managed Sector	Sand volume Dune/Full Template Nourishment	Estimated Cost
Sector 3	92,800 to 399,500 cubic yards	\$ 7,553,948 to \$ 26,610,292
Sector 5	13,036 to 112,100 cubic yards	\$ 2,002,694 to \$ 8,357,887

RECOMMENDATION

Staff recommends the BCC continue to support Staff's on-going discussions with FEMA, FDEM, FDEP and other regulatory permitting agencies in order to continue to pursue funding sources for any potential future nourishment/dune repair projects addressing the impacts from Hurricanes Ian and Nicole.

ATTACHMENTS

1. Draft Sector 3 Storm Damage Report
2. Draft Sector 5 Storm Damage Report

APPROVED AGENDA ITEM FOR: MAY 2, 2023