

**INDIAN RIVER COUNTY, FLORIDA
MEMORANDUM**

TO: Jason E. Brown, County Administrator

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

FROM: Eric Charest, Natural Resources Manager

SUBJECT: Sector 3 - Phase 1 Beach and Dune Restoration Project (IRC-1925) Additional Erosion Observed Since Summer 2020 Survey

DATE: January 25, 2021

DESCRIPTION AND CONDITIONS

On December 1, 2020, the Indian River County Board of County Commissioners approved staff's recommended Award of Bid No. 2021012 for constructing Phase 1 of the Sector 3 Beach and Dune Restoration Project. Phase 1 of Sector 3 consists of restoring the beach and dune on the northern 3.7 mile stretch of Sector 3 (Wabasso Beach Park north to the Seaway sub-division). Engineer's estimated at the time of bidding and award that the project would entail the placement of approximately 307,000 cubic yards (cy) of beach compatible sand and approximately 200,710 native dune plantings.

Indian River County has semi-annual beach surveys performed as recommended in the County's Beach Preservation Plan. These county-wide surveys are used to monitor the seasonal (summer and winter) fluctuations of the beach. Bid No. 2012012 incorporated the most recent surveys available (Summer 2020) when determining the estimated volumes of sand needed for the restoration project (307,000 cubic yards).

In accordance with the awarded contract for Phase 1 of the Sector 3 Beach and Dune Restoration project, the contractor (Guettler Brothers Construction, LLC.) is required to perform pre and post-construction surveys. These surveys are used in the determination of sand volumes placed within the permitted fill templates as the conditions exist in the field at the time of construction. The pre-construction surveys performed (late December/early January) have been evaluated by the contractor, the Engineer of Record for the project (APTIM, LLC), and County staff. The pre-construction surveys identified additional erosion being observed over the past 6 months, since the routine Summer 2020 surveys were performed, which in turn increased the quantity of sand required to fill the designed beach templates.

County staff perform visual observations of the beach and dune conditions throughout the County's 22.4 mile stretch of coastline, with a focus on documenting conditions during periods of significant erosion, such as the passing of tropical and nor'easterly storms. Since the Summer 2020 surveys, the County has experienced erosional events from Tropical Storm Isaias (August 2020), Hurricane

Teddy (September 2020), Tropical Storm Eta (November 2020) and several un-named nor'easters. Observations in the field noted some areas of moderate beach and dune erosion from these events.

EXTENT OF ADDITIONAL EROSION OBSERVED

At the time of project bidding and award, an estimated 307,000 cy of beach compatible sand was identified as the amount that would be necessary for filling permitted fill template for Phase 1 of Sector 3. Based on the current conditions identified by the recent pre-construction surveys, the amount of sand needed to fill to the permitted fill template would need to be increased to approximately 384,000 cy, an increase of approximately 25%, or 77,000 cy of material.

An increase of sand by 25% would fall within the contracted requirement for no adjustment for unit price (Technical Specifications 19.2) in which the contractor would be required to hold the per cy price (\$32.30/cy). Increasing the amount of sand necessary to fill to the permitted template with no modifications is estimated to cost an additional \$2,487,100.

Reductions to the permitted fill template are allowable under our permit. Staff has reviewed this potential cost saving measure that would reduce the scope of the project by reducing the amount of dune and berm being created which would reduce the amount of sand required, while still providing much of the storm protection afforded by the project as it had been permitted. It is anticipated that the amount of additional sand could be reduced by as much as 50% (38,500) cy.

A representative comparison of the Summer 2020 survey, pre-construction survey and permitted fill template is included with this agenda item as Attachment 1. This figure graphically shows the amount of additional erosion that has taken place over the past 6 months of storm and wave activity.

FUNDING

The originally budgeted estimate for Phase 1 of the Sector 3 Beach and Dune Restoration Project was \$14,800,000. The contract was awarded to Guettler Brothers Construction LLC in the amount of \$11,987,010. Full funding for Phase 1 of the Sector 3 Beach and Dune Restoration Project was available which included portions of the Federal and State grant amounts shown below for Sector 3, as well as local funding, originally estimated to be \$7,572,823 from the Beach Restoration Fund.

The additional \$2,487,100 needed to fund the extra 77,000 cy of material will be funded from the Beach Restoration fund. The contract awarded to Guettler Brothers Construction LLC will be revised to reflect this change, bringing the total contract for Phase 1 to \$14,474,110 and the total revised project cost to \$15,475,000. Given the increased project cost, a budget amendment in the amount of \$675,000 will have to be processed to add additional funding to the Sector 3 project account. Because these additional cubic yards are attributed to background erosion and not a specific storm event (IRC was not declared for the storms mentioned above), no additional FEMA funding will be available for this increase in costs. This will increase the County's local match to \$8,247,823. Staff

does have concerns regarding the ability of the Beach Restoration Fund being able to financially sustain the costs of the ever-increasing beach projects moving forward. As presented in the FY 20/21 approved budget, a temporary inter-fund loan will likely be necessary to provide adequate funding to the Beach Restoration Fund due to the lag time in receiving FEMA and grant reimbursement.

Account Name	Account Number	Budgeted Amount
Sector 3 Beach and Dune Restoration Fund	12814472-066514-17001	\$14,800,000

FUNDING SOURCES AVAILABLE FOR SECTOR 3*

Funding Source	Total Award Amount	Less Insurance Proceeds	Less Local Match	Net Proceeds
FEMA Hurricane Matthew	\$5,320,233	\$1,469,357	\$481,360	\$3,369,516
FEMA Hurricane Irma	\$2,904,746	\$1,772,419	\$56,616	\$1,075,711
FEMA Hurricane Dorian	\$2,669,027	\$0	\$333,628	\$2,335,399
FDEP Grant 17IR2**	\$446,551	\$0	N/A	\$446,551
Total Funding	\$11,340,557	\$3,241,776	\$871,604	\$7,227,177

*Funding identified in the above grant and FEMA tables is for the entire 6.6 mile stretch of Sector 3 and is not available in its entirety for the Phase 1 portion of the project. Staff is working with the funding agencies in order to determine percentage of funding above that is allocated to Phase 1 and the anticipated Phase 2 of the Sector 3 Beach and Dune Restoration Projects. These award amounts were based on estimates determined by FEMA, and may be able to be revised once the actual final costs are paid, if necessary.

**The local match for FDEP Grant 17IR2 is an additional \$446,551 which is not deducted from the grant amount.

RECOMMENDATION

Staff recommends the Board approve continuation of construction for Phase 1 of the Sector 3 Beach and Dune Restoration Project utilizing the amount of sand necessary to meet the permitted fill template. This is an increase of approximately 25% above the current contracted amount (approximately 77,000 cy) and is anticipated to increase the amount of the contract by approximately \$2,487,100, resulting in a total project price for Phase 1 of the Sector 3 Beach and Dune project in the amount of \$14,474.110.

ATTACHMENTS

1. Representative Surveys

APPROVED AGENDA ITEM FOR FEBRUARY 2, 2021