

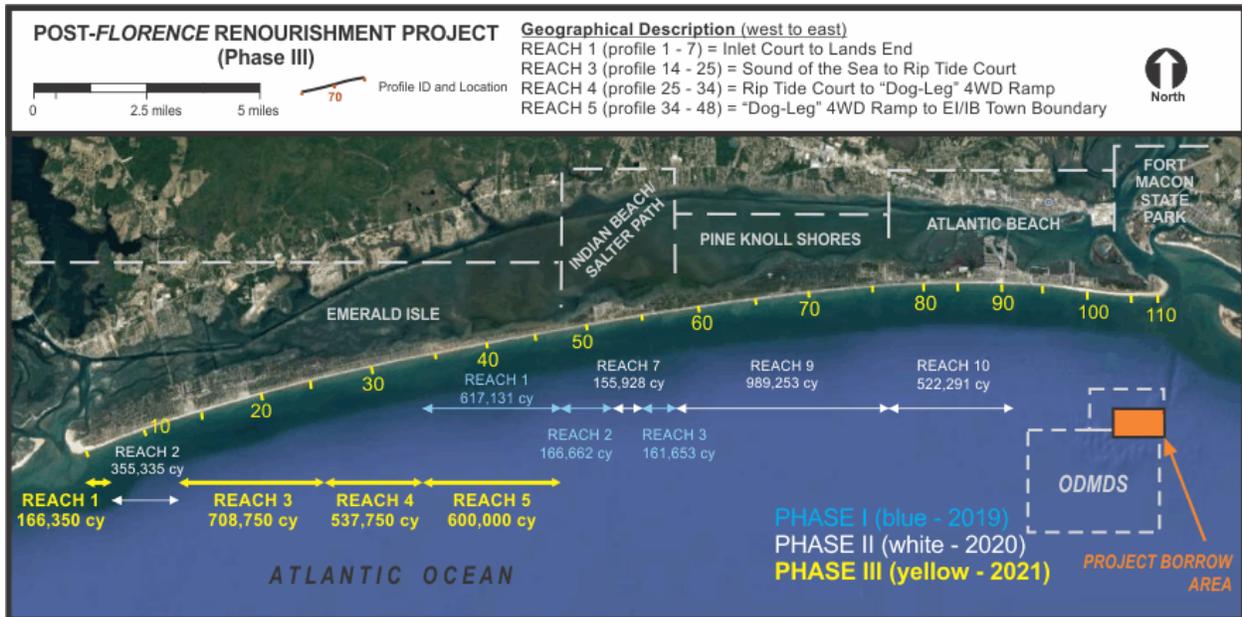
## SHORELINES – December 2020

As presented to the *Island Review* magazine

### Post-Florence Phase III Project to Begin in January 2021.

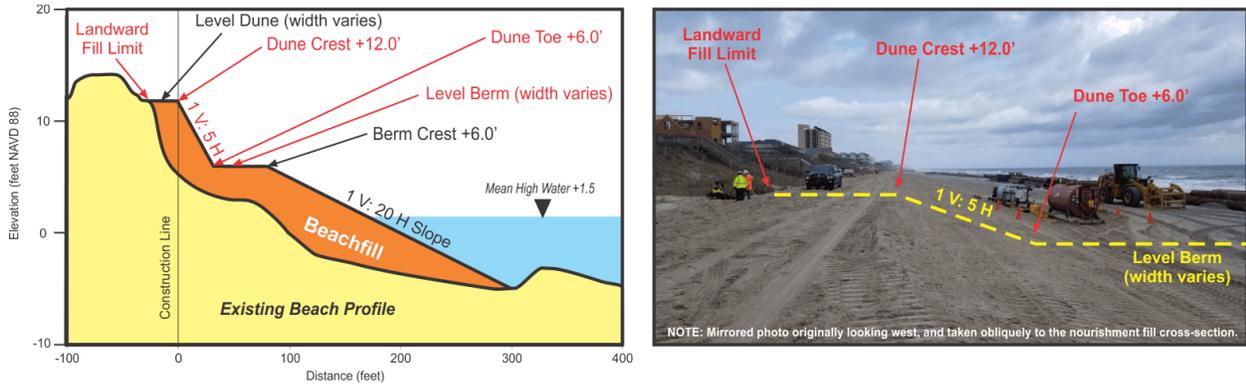
[Great Lakes Dredge & Dock](#) is scheduled to begin constructing our third and final phase (PHASE III) of the Post-Florence Beach Renourishment Project beginning in late January 2021. The [Phase I](#) effort was completed in late April 2019 dredging/pumping wise, and the dune planting stage was finished in August of that same year. 975,141 cubic yards (cy) of sand was placed along 5.2 miles of beach between the Indian Beach/Pine Knoll Shores Town boundary and the “dog-leg” 4-Wheel Access Ramp in Emerald Isle – roughly the equivalent of ~81,300 dump trucks worth. [Phase II](#) encompassed a cumulative 9.5 mile total shoreline distance in West Emerald Isle, Salter Path, Pine Knoll Shores, and West Atlantic Beach during the February to April 2020 timeframe including 355,335 cy, 155,928 cy, 989,253 cy, and 522,291 cy, respectively (2,022,807 cy total). Dune Planting was completed in July 2020.

This leads us smartly to Phase III, which will utilize 2,012,850 cy of sand obtained from the Offshore Dredged Material Disposal Site (ODMDS) associated with Morehead City Harbor Federal Navigation Project. The project includes four discrete reaches totaling 9.4 linear miles of beach solely in Emerald Isle - Bogue Inlet Ocean (166,350 cy), West Emerald Isle (708,750 cy), Central Emerald Isle (537,750 cy), and East Emerald Isle (600,000 cy) as depicted in the accompanying map (Fig. 1). Phase III is scheduled to be constructed between January and April 30, 2021, and therefore within the construction window established to limit impacts to biological resources. Great Lakes Dredge & Dock was our contractor for Phases I, II, and again for Phase III, and they will employ in what has become two familiar ocean-certified, self-contained hopper dredges you will see ferrying back and forth from the ODMDS and the beach – the [Liberty Island](#) and the [Ellis Island](#).



**Figure 1** – Site map depicting the geographic extents and cubic yardage (volume) involved with Phase III (upcoming), Phase II (2020), and Phase I (2019) of the Post-Florence Beach Renourishment Project.

In terms of cost, Phase III will be a ~\$35 million effort including all dredging, planting, and engineering services (Phase I and II were ~\$21 million and ~\$30 million, respectively). The financial constituents include FEMA fixed-cost resources, State monetary resources emanating out of the Coastal Storm Damage Mitigation Fund, and local dollars – originating from the portion of the County’s occupancy tax legislatively designated for beach nourishment.



**Figure 2** – Plan (left) and constructed (right) cross-sectional views of the Post-Florence Renourishment Project. The spatial position of the “dune toe” represents the location of the Pre-Florence vegetation line. The “new” dune is contoured upwards on a 1 to 5 slope from the dune toe until an elevation of +12 or +13 feet (NAVD 88) is achieved, then leveled into the existing dune and hence, creates variable dune crest widths across the project.

And lastly it’s important to remember that in the big picture, the overall project is basically replacing the dunes *Florence* removed and provides additional recreational (flat) beach – see the accompanying figure (Fig. 2). The dunes of course are an important feature in the oceanfront landscape for protective, ecosystem, and aesthetic reasons, and in order to enhance these functions; the dune planting component (mostly sea oats and some bitter panicum) is included in the larger dredging/nourishment contracts – a more holistic approach if you will (see Fig 3). Stay up to date with Phase III construction updates at <http://www.carteretcountync.gov/827/>.



**Figure 3** – May 2020 photo looking north from the 5th Street Access in Emerald Isle – less than one year after sea oats were planted in the Phase I zone in 2019.

**And Sand to the East...**

Also this winter, an additional 1,143,000 cy of sand will be placed along 4.25 miles of shoreline extending from the Ft. Macon State Park Bathhouse westward to the Circle in Atlantic Beach. This sand is emanating from routine dredging of the Morehead City Harbor shipping channel, which is placed on the beach every third year (see Fig. 4). The sand is dumped offshore in the other two years. All Harbor maintenance dredging efforts are managed by the U.S. Army Corps of Engineers and this year’s contract has been awarded to [Weeks Marine](http://www.weeksmarine.com) for \$18,086,750. Our website for this project is at <http://www.carteretcountync.gov/826/>.

