

## **SHORELINES – November 2004** **As presented to the Island Review Magazine.**

### **The Bogue Inlet Project**

Friends of Emerald Isle (EI), Bogue Banks, and possibly most important, Bogue Inlet received some very good news last month in the form of State and Federal permits that paves the way for the Bogue Inlet Realignment Project to be constructed this winter. The dredging/pumping bids should be received by EI just about the time this edition of the *Island Review* makes its way to homes and vendors. Assuming that the bids received are within the project construction budget, the dredging contractor will be provided 100 days from when the "notice-to-proceed" is given to complete the work.

The project, entailing the realignment of the primary Bogue Inlet channel ~3,500 west of its present-day position with concurrent beach nourishment along 4.5 miles of beach along EI, must be completed by April 1, 2005 in order to meet the environmental moratorium schedule established by the resource agencies. A graphic depiction of the channel parameters for the realigned inlet is included in this edition of *Shorelines*.

Interestingly, this project is actually the last of a three-phased shore protection effort known as the Bogue Banks Beach Restoration Project that has been 100% financed through voter-approved bond referendums encompassing the communities of Pine Knoll Shores (PKS), Indian Beach/Salter Path (IB/SP), and EI including the eastern shoulder of Bogue Inlet. The total price tag for all three phases will be close to \$30 million including permitting, construction, and monitoring costs.

While the first two phases in PKS and IB/SP (2001-02) and eastern EI (2003) concentrated solely upon beach nourishment, the third phase of the project included plans to reposition the Bogue Inlet channel to a more central position within the inlet floodway in an effort to relieve scouring pressures along the very western edge of EI, affectionately known as the Pointe. After EI's 2002 bond referendum passed, EI quickly got to work and retained Coastal Planning & Engineering to prepare the Environment Impact Statement and guide EI through the permitting process. These efforts culminated in the issuance of State and Federal permits received by EI last month.

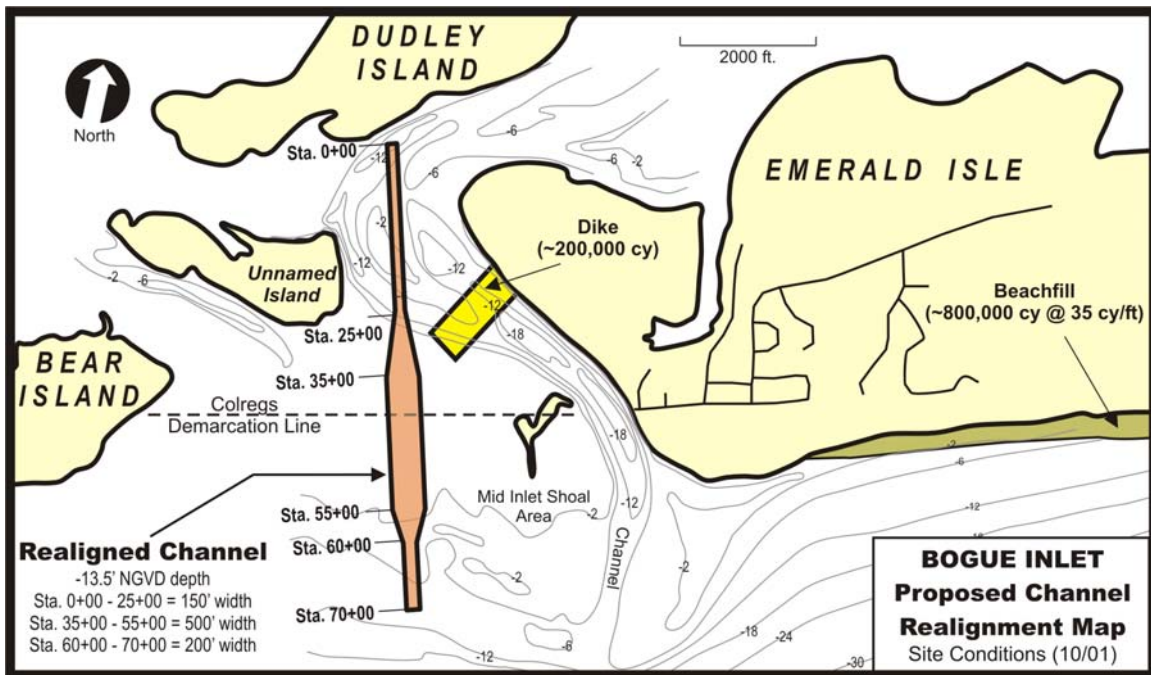
In terms of the construction parameters for the "Bogue Inlet Project", a pipeline dredge will work from the Sea towards the Sound to carve a new channel located approximately in the middle of the floodway separating Bear Island from Bogue Banks. A majority of the sand encountered during this new "cut" (800,000 cubic yards) will be transferred to the beaches of western EI progressing eastward from the vicinity of Lands End clubhouse to Pinta Drive, which will conveniently dovetail into the terminus of the 2003 project. The sand encountered during the latter phases of the cut (200,000 cubic yards) will be utilized to create a sand dike (or wall) that will close the present-day inlet as the cut is completed representing a new inlet channel corridor. The installation of the dike will enhance shoaling (infilling) of the present-day inlet channel thereby promoting the new inlet as the major tidal pathway and protecting homes and infrastructure at the Pointe.

There are many unique aspects of this project, but here are a few to consider before the dredge arrives; (1) The realigned channel has been carefully engineered to capture the exact tidal prism (volume of water flowing in and out of the inlet) that

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the present day inlet drains. In this manner, the hydrodynamics should remain relatively stable throughout the waterways connecting the Sound to Bogue Inlet. (2) The beach nourishment template is approximately 32 cubic yards per linear foot (cy/ft). This is considered as a relatively “small” template, which fortunately coincides with the fact that western EI comprises one of the island’s more stable areas of shoreline. As a frame of reference, EI’s 2003 project included a beach fill of over 80 cy/ft towards the numbered streets that staggered to approximately 35 cy/ft between Gregg St. and Santa Maria Drive. (3) The channel realignment project is a one time event – maintenance of the inlet will remain under the auspices of the U.S. Army Corps of Engineers utilizing a side-cast dredge. And while the depth and width of the cut for the realigned inlet will likely eliminate the need for maintenance dredging for potentially a year or two, long-range maintenance will remain as a “pending situation” based on the availability of Federal funds. (4) It is expected that the project will provide at least 15 years worth of protection for the Pointe based on an analyses of historical inlet migration rates.

With all of this mind, let’s hope for competitive dredging bids this fall and calm seas this upcoming winter!!!



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