US Army Corps
Of Engineers
Wilmington District

PUBLIC NOTICE

Issue Date: April 14, 2017
Comment Deadline: May 30, 2017
Corps Action ID Number: SAW-2009-00293

All interested parties are hereby advised that the Wilmington District, Corps of Engineers (Corps) is releasing the Draft Environmental Impact Statement (DEIS) for the project, known as Bogue Banks Master Beach Nourishment Project (BBMBNP), with plans to implement a long-term management plan to provide shoreline protection along the approximately 25-mile Bogue Banks barrier island, Carteret County, North Carolina. Management components include the use of an offshore borrow area for periodic nourishment along approximately 18 miles of Pine Knoll Shores, Salter Path, Indian Beach, and Emerald Isle, with potential supplemental nourishment along approximately 5 miles of Atlantic Beach if needed. The plan also consist of the maintenance of Bogue Inlet ebb tide channel within a "safe box" zone to protect the inlet shoreline of Emerald Isle. Specific details and location information are described below and shown on the attached plan. The Draft EIS can be found on our webpage at: http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram/MajorProjects, click on "Bogue Banks Master Beach Nourishment Project": Corps ID# SAW-2009-00293. This same Public Notice is also available on the Wilmington District Web Site at *http://www.saw.usace.army.mil/Wetlands/Notices/Current_notices.html*.

Applicant:
Carteret County Shore Protection Office
Attn: Mr. Greg Rudolph c. 241 3264
Post Office Box 4297
Emerald Isle, North Carolina 28594

Engineer Consultant:
Moffatt & Nichol
Attn: Mr. Johnny Martin
4700 Falls of Neuse Road, Suite 300
Raleigh, North Carolina 27609

Authority

The Corps evaluates this application and decides whether to issue, conditionally issue, or deny the proposed work pursuant to applicable procedures of the following Statutory Authorities:

☒ Section 404 of the Clean Water Act (33 U.S.C. 1344)

☒ Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403)

☐ Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413)

Location

The project site comprises all of the municipalities on Bogue Banks, along with the Bogue Inlet Complex, and encompasses approximately 23 miles of the island, including the potential supplemental nourishment area of Atlantic Beach, in Carteret County, North Carolina.

Nearest Towns: Pine Knoll Shores, Indian Beach, Salter Path, Emerald Isle, and Atlantic Beach

Nearest Waterway: Atlantic Ocean, Bogue Inlet, and the Intracoastal Waterway
Latitude and Longitude: 34.68854 N, -76.86854 W

Existing Site Conditions

The barrier island of Bogue Banks is located entirely within the boundary of Carteret County and is a south-facing island flanked by the undeveloped Bear Island (Hammocks Beach State Park) to the west, separated by Bogue Inlet, and the undeveloped Shackleford Banks Island (part of Cape Lookout National Seashore) to the east, separated by Beaufort Inlet. This approximately 25-mile island contains the four incorporated municipalities of Atlantic Beach, Pine Knoll Shores, Indian Beach, and Emerald; the unincorporated town of Salter Path under the County jurisdiction; and the approximately 2.0 mile stretch of North Carolina lands of Fort Macon. It is bordered to the west by Bogue Inlet, which is the mouth of the White Oak River; to the east by Beaufort Inlet, which is the mouth of the Newport River; to the north by Bogue Sound, which includes the Intracoastal Waterway; and to the south by the Atlantic Ocean. Both Bogue and Beaufort Inlets are federally authorized navigational channels and are periodically maintained with all beach compatible material being placed along the oceanfront shoreline and all incompatible material placed on designated disposal island(s). The island is a typical barrier island that has undergone a variety of natural and anthropogenic changes. The majority of the residential and commercial land has been developed, with the exception of Fort Macon State Part to the east and the Roosevelt Preserve in Pine Knoll Shores. The island's has undergone several decades of receiving beach fill along the oceanfront by both federal and non-federal projects.

Applicant's Stated Purpose

Basic Purpose: The stated purpose for this proposal is to establish and implement a comprehensive, long-term, non-federal beach and inlet management program that would

preserve Bogue Banks' tax base, protect its infrastructure, and maintain its tourism-based economy. The proposed action is to address the ongoing trend of declining federal shore protection funding by establishing a non-federal management program under the autonomous control of the County and the island municipalities.

Overall Purpose: The overall stated needs and objectives of an island wide regional strategy was developed to do the following: 1) Establish a regional approach by consolidating local community resources, both financially and logistically, to manage Bogue Inlet and the beaches on Bogue Banks in an effective manner, 2) Provide long-term shoreline protection stabilization and an equivalent level of protection along Bogue Banks' 25-mile oceanfront/inlet shorelines addressing long-term erosion, 3) Provide long-term protection to Bogue Banks' tourism industry, 4) Provide short and long-term protection to residential and commercial structures and island infrastructure, 5) Provide long-term protection to the local tax base by the protection of existing and future tax bases and public access/use, 6) Maintain and improve natural resources along Bogue Banks' oceanfront and inlet shoreline by using compatible beach material in compliance with the North Carolina State Sediment Criteria for shore protection, 7) Maintain and improve recreational uses of Bogue Banks' oceanfront/inlet shorelines, 8) Maintain navigation conditions within Bogue Inlet, and 9) Balance the needs of the human environment with the protection of existing natural resources.

Project Description

Within the County's preferred alternative, known as Alternative 4 (or the BBMBNP), the County, through an interlocal agreement, would manage all of the approximately 18 miles of beaches along Pine Knoll Shores, Indian Beach/Salter Path, and Emerald Isle, along with the eastern shoreline of Bogue Inlet, through the implementation of the comprehensive 50-year beach nourishment plan. Atlantic Beach is also a party to the agreement; however, it is the on-going recipient of regular Corps placements of navigation dredged material from the Morehead City Harbor channels and has been for nearly two decades. The County is not anticipating any maintenance sand placement on Atlantic Beach under its management plan, but the plan would provide interim maintenance nourishment events along Atlantic Beach should the federal MCH placement cease or if storm-related needs arise.

The 50-year management plan would employ a regular and recurring cycle of nourishment events, in combination with periodic realignments of the Bogue Inlet ebb tide channel, to continuously maintain beach profile sand volumes at a 25-year Level of Protection (LOP). This LOP equates to protection for upland structures against a 25-year storm event, and nourishment events would be implemented according to 25-year LOP beach profile volumetric triggers. Volumetric triggers were developed by analyzing and adjusting design beach profiles in a series of iterative SBEACH numerical modeling runs. The final modeling results indicated appropriate volumetric triggers ranging from 211-266 cubic yards/foot along Bogue Banks, averaging 238 cubic yards/foot. Based on variability in the volumetric triggers, the project shoreline was divided into management

reaches ranging in length from 2.4 to 4.5 miles. Reaches include Pine Knoll Shores, Indian Beach/Salter Path, Emerald Isle (EI) East, EI Central, EI West, and Bogue Inlet. Based on the SBEACH modeling results and observed background erosional loss rates, EI Central, EI West, and Bogue Inlet management reaches are expected to require recurring nourishment of approximately 0.06 to 0.23 million cubic yards of material at intervals of six or nine years to offset background erosion. For Pine Knoll Shores, Indian Beach/Salter Path, and EI East, recurring maintenance events would place approximately 0.2 to 0.5 million cubic yards of material at intervals of three or six years to offset background erosion. Actual maintenance nourishment intervals would be expected to vary in response to background erosion rate variability over the course of the 50-year project.

For Bogue Inlet management, the proposal has designated a "safe box" within the inlet throat where the ebb channel would be allowed to migrate freely so long as it remains within the boundaries of the safe box. If the channel migrates beyond the eastern boundary of the safe box (or toward Emerald Isle), this would trigger a preemptive event to realign the ebb channel mid-center within the established boundary. The limits of the safe box were developed and evaluated through empirical analysis of historical inlet changes and supplemental numerical modeling. Historical ebb channel alignments and corresponding inlet shoreline positions were analyzed through GIS analysis of historical aerial photography, National Ocean Service (NOS) T-sheet maps, and LIDAR topographic maps. Past migration rates and corresponding shoreline changes indicate that once eastward migration accelerates toward Emerald Isle, the migrating channel has the potential to threaten structures along the shoreline within two to three years. Based on the historical patterns, a safe box was established with boundaries corresponding to the location where acceleration of the ebb channel towards the west end of Emerald Isle has occurred in the past. The validity of the boundaries were then evaluated by modeling a series of six idealized inlet configurations encompassing the range of most relevant historical ebb channel alignments. Modeling results did not show any additional geomorphological indicators of an impending shift to accelerated migration that warranted modifications to the initial safe box. Once the boundary threshold is triggered, the relocation event would entail the construction of a channel approximately 6,000-feet long with variable bottom widths ranging from 150 to 500 feet. The dimensions of the channel would be similar to the footprint of the ebb tide channel realignment construction completed in 2005. Maintenance events of Bogue Inlet are expected approximately every ten to fifteen years, with corresponding placement of dredged material on the beaches of Emerald Isle.

Beach fill for all the proposed nourishment activities on Bogue Banks would be acquired from a combination of sources including offshore borrow sites, Atlantic Intracoastal Waterway disposal areas, upland sand mines, and the management of the Bogue Inlet. The offshore borrow sites consist of the Old Offshore Dredge Material Disposal Site (ODMDS) and the current ODMDS, which are located approximately 3 nautical miles offshore from Beaufort Inlet, and Area Y, which is located over 1.0 mile offshore from EI West reach. It is expected that hopper dredge plants will be used to extract beach fill material from the offshore borrow sites. Material would be transported from the hopper

dredges to offshore booster pumps and carried to the appropriate nourishment reaches via pipeline. A hydraulic cutterhead dredge will likely be used during the management of the inlet bar channel event, which would transport the dredge material directly from the dredge plant onto the beach via pipelines.

Avoidance and Minimization

The County's proposed BBMBNP encompasses several initial avoidance and minimization measures to help minimize potential impacts, and these measures are outlined in Chapter 6 of the DEIS. Some of these measures include the use of compatible beach sediment that meets the North Carolina Technical Standards for Beach Projects (15A NCAC 07H .0312) and limiting construction activity to the period from November 16 to April 31 when biological activity is at its lowest and sea turtle nesting season can be avoided.

Other Required Authorizations

Bureau of Ocean Energy and Management (BOEM) is acting in the capacity of a cooperating agency in the evaluation of the County's proposal to ensure the process complies with the requirements of the Outer Continental Shelf Lands Act (OCSLA) and with the National Environmental Policy Act (NEPA). Their office has assisted in the development and review of the DEIS.

The Corps forwards this notice and all applicable application materials to the appropriate State agencies for review.

Commenting Information

The Corps of Engineers is soliciting comments from the public; Federal, State and local agencies and officials, including any consolidated State Viewpoint or written position of the Governor; Indian Tribes and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers in the evaluation of project impacts, the development of the Final EIS, the preparation of the Essential Fish Habitat Assessment pursuant to the Magnuson-Stevens Act and the Biological Assessment pursuant to Section 7 of the Endangered Species Act, and the future submittal of the County's permit application. Comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects and the other public interest factors, such as navigation, socioeconomics, shoreline protection, and recreation. Comments will also be used to determine the overall public interest of the proposed activity.

Please be aware that a public scoping meeting was held on September 15, 2010 at the Carteret County Community College in Morehead City. Comments received during the meeting and commenting period were incorporated in the development of the DEIS.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the County's proposal. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing. Requests for a public hearing shall be granted, unless the District Engineer determines that the issues raised are insubstantial or there is otherwise no valid interest to be served by a hearing.

Written comments pertinent to the proposed management plan and/or DEIS, as outlined above, will be received by the U.S. Corps of Engineers, Wilmington District, Regulatory Division, until 5pm, May 30, 2017. Comments should be submitted to Mr. Mickey Sugg (RG-L), 69 Darlington Avenue, Wilmington, North Carolina 28403 or sent by e-mail at mickey.t.sugg@usace.army.mil. If you have questions, please contact Mr. Sugg at (910) 251-4811.

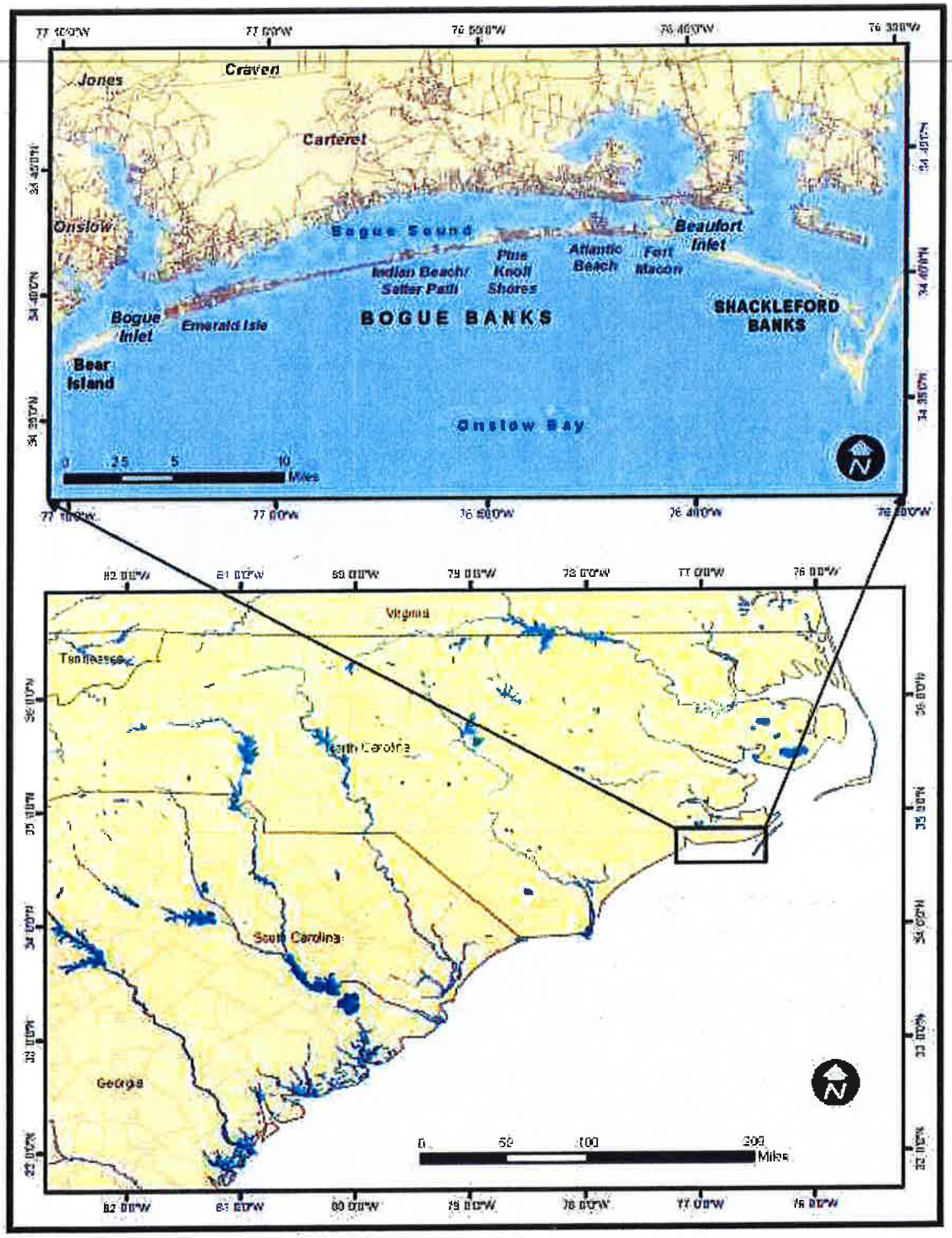
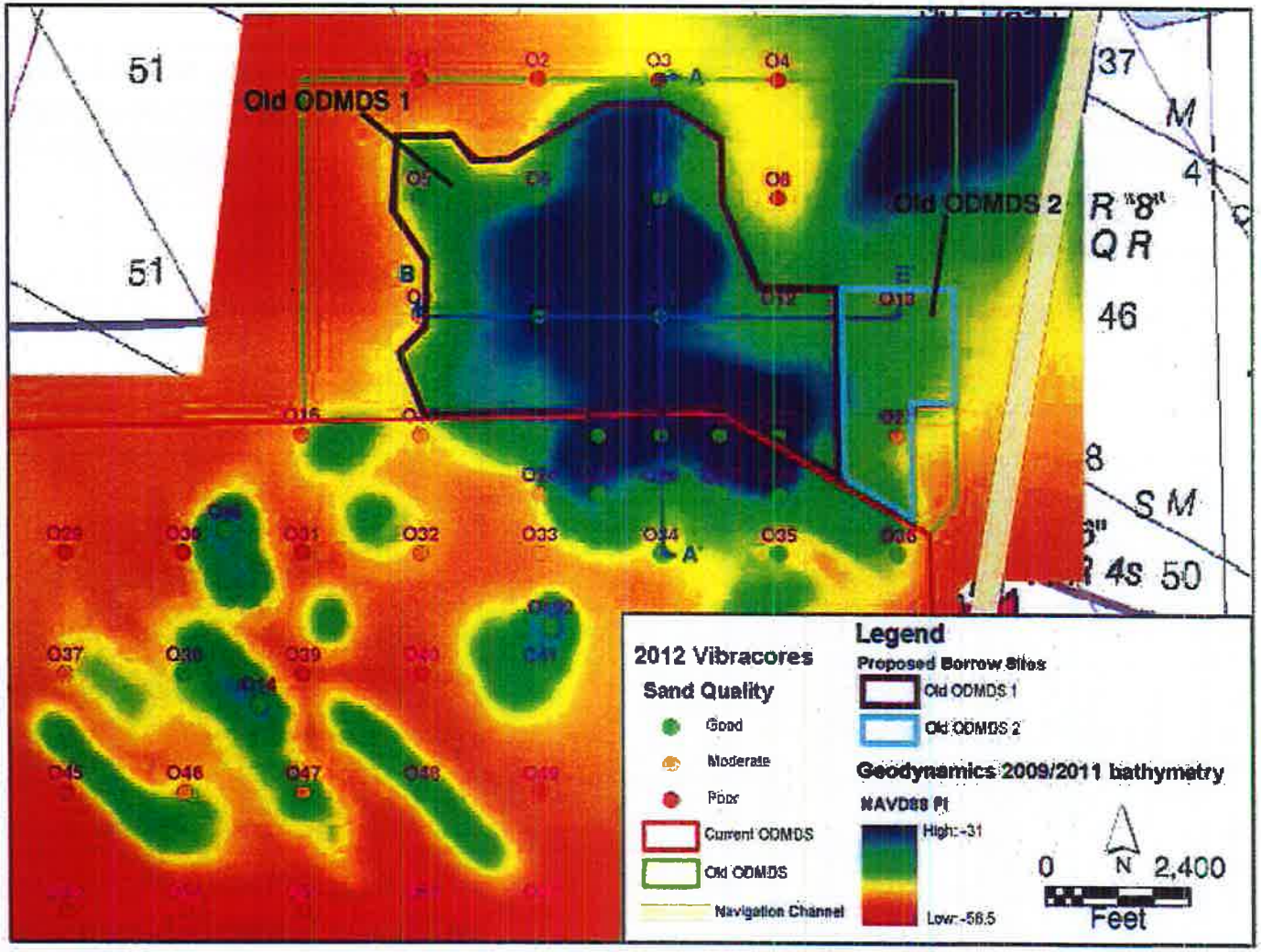


Figure 1.1. Bogue Banks Vicinity Map

Figure 3.12. Alternative 4 - Nourishment with Non-Structural Inlet Management (Preferred Alternative)

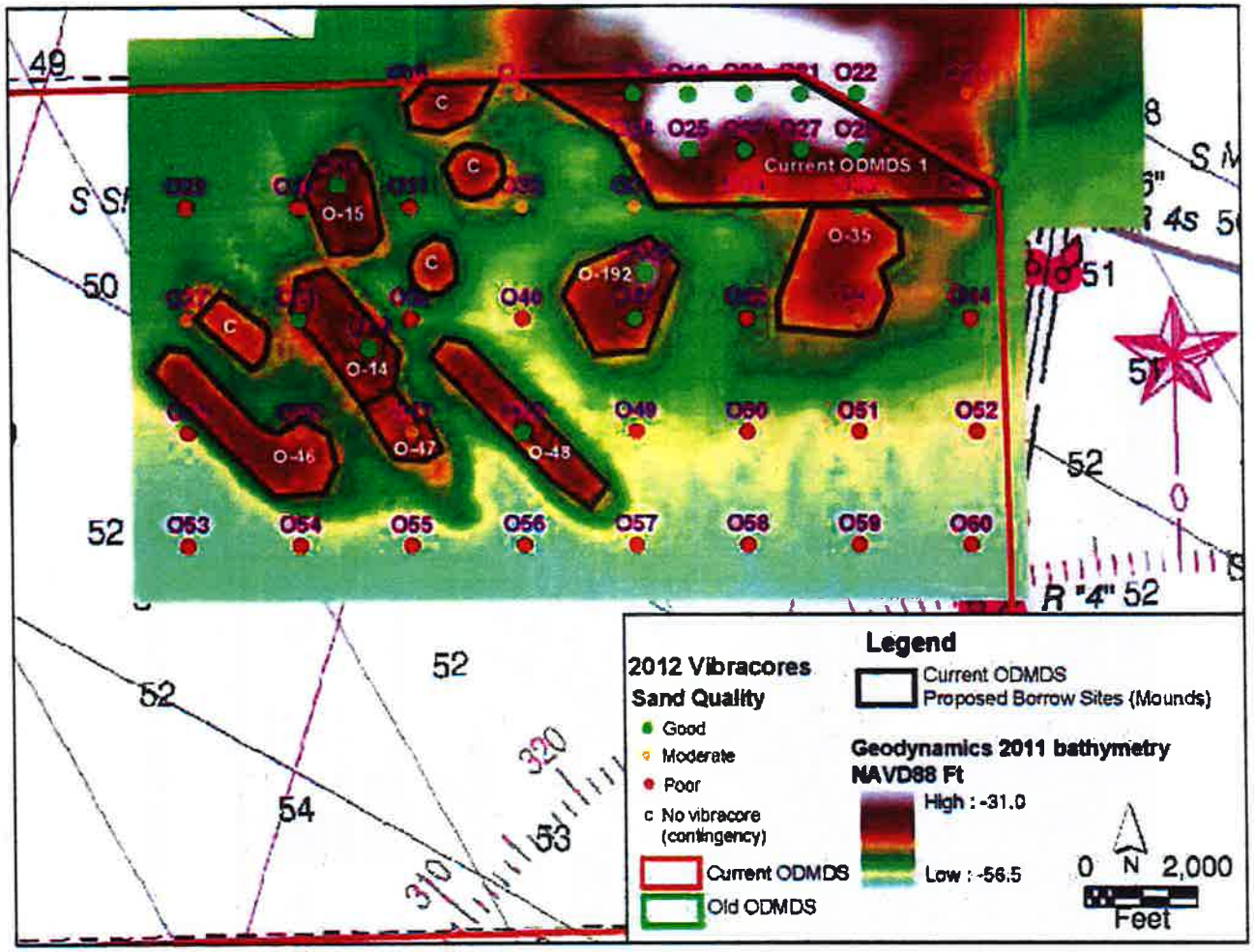
Table 3.8. Alternative 4 proposed sand placement activities.

Placement Reach	Project Type	Beach Fill Source	Interval (years)	No. of Events	Per Event Volume	50-Year Volume (cy)
County Maintenance Sand Placement						
Bogue Inlet (Stations 1-11)	County	ODMDS/Area Y/AIWW Islands/Upland Sources Bogue Inlet	6	8	147,912	1,183,296
Emerald Isle West (Stations 12-25)	County	ODMDS/Area Y/AIWW Islands/Upland Sources Bogue Inlet	9	5	57,006	285,030
Emerald Isle Central (Stations 26-36)	County	ODMDS/Area Y/AIWW Islands/Upland Sources Bogue Inlet	9	5	224,827	1,124,135
Emerald Isle East (Stations 37-48)	County	ODMDS/Area Y/AIWW Islands/Upland Sources Bogue Inlet	3	16	191,232	3,059,712
Indian Bch/Salter Path (Stations 49-58)	County	ODMDS/Area Y/AIWW Islands/Upland Sources	6	8	375,402	3,003,216
Pine Knoll Shores (Stations 59-76)	County	ODMDS/Area Y/AIWW Islands/Upland Sources	6	8	508,770	4,070,160
Atlantic Beach (Stations 77-102)	County	ODMDS/Area Y/AIWW Islands/Upland Sources	If needed	0	0	0
County Maintenance Total						**12,725,549**
USACE Maintenance Sand Placement						
Bogue Inlet (Stations 1-11)	USACE Nav	AIWW Bogue Inlet Crossing	3	16	60,600	969,600
Pine Knoll Shores (Stations 59-76)	USACE Nav	MCH Channels	If available	0	0	0
Atlantic Beach (Stations 77-102)	USACE Nav	MCH Channels	3	16	494,835	7,917,360
USACE Maintenance Total						**8,886,960**
County/USACE Storm Response Sand Placement						
Emerald Isle, Indian Bch/Salter Path, Pine Knoll Shores, Atlantic Beach	County/FEMA USACE Nav/Delta	ODMDS/Area Y/AIWW Islands/Upland Sources MCH Channels	3	16	1,700,000	**27,200,000**
Total Sand Placement (County Maintenance + USACE Maintenance + County/USACE Storm Response)						**48,812,509**



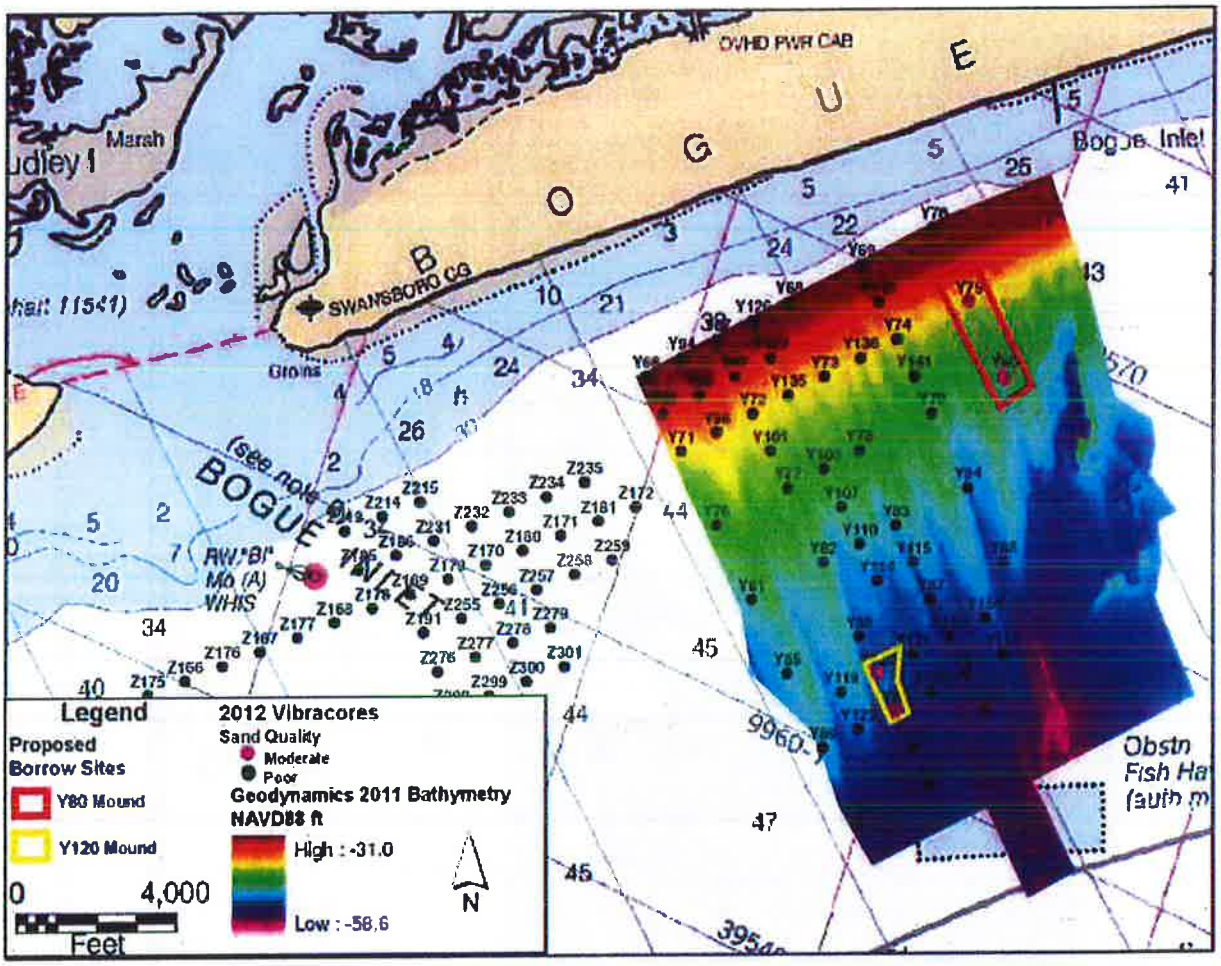
Source: Coastal Tech 2013)

Figure 3.7. Proposed Old ODMDS Offshore Borrow Area



Source: Coastal Tech 2013

Figure 3.8. Proposed Current ODMDS Offshore Borrow Area



Source: Coastal Tech 2013

Figure 3.9. Proposed Area Y Offshore Borrow Site

Figure 3.10. AIWW Disposal Area Locations

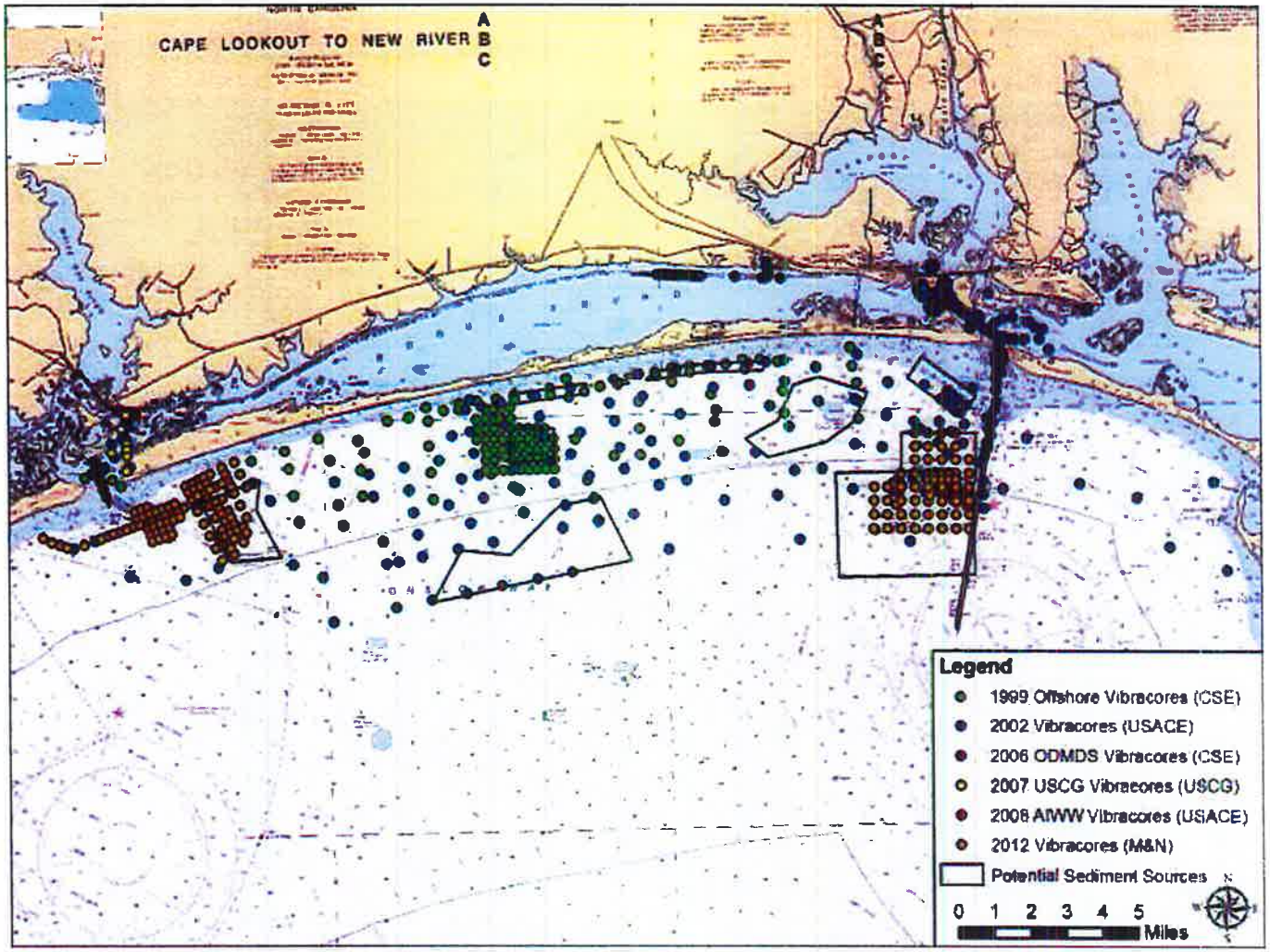


Figure 3.6. Bogue Banks Sand Resource Investigation Vibracore Locations

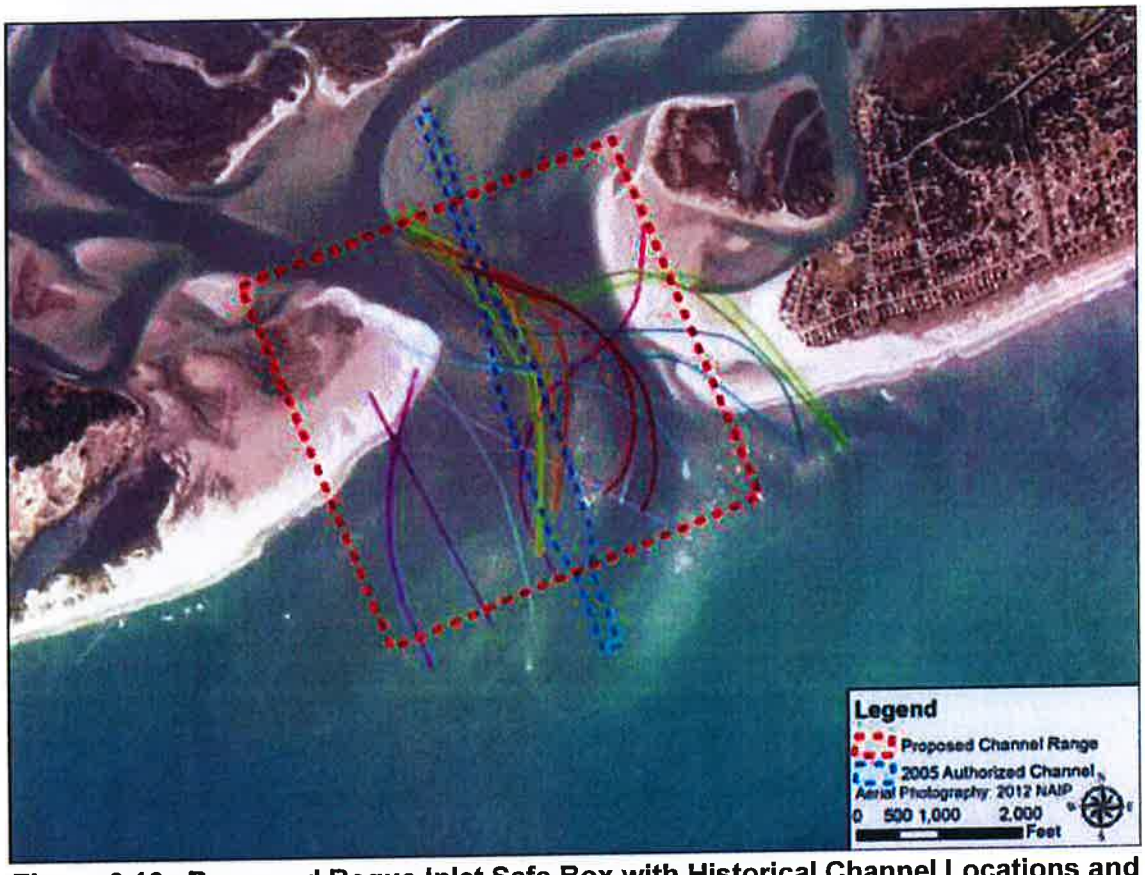


Figure 3.13. Proposed Bogue Inlet Safe Box with Historical Channel Locations and 2005 Ebb Channel Realignment Footprint

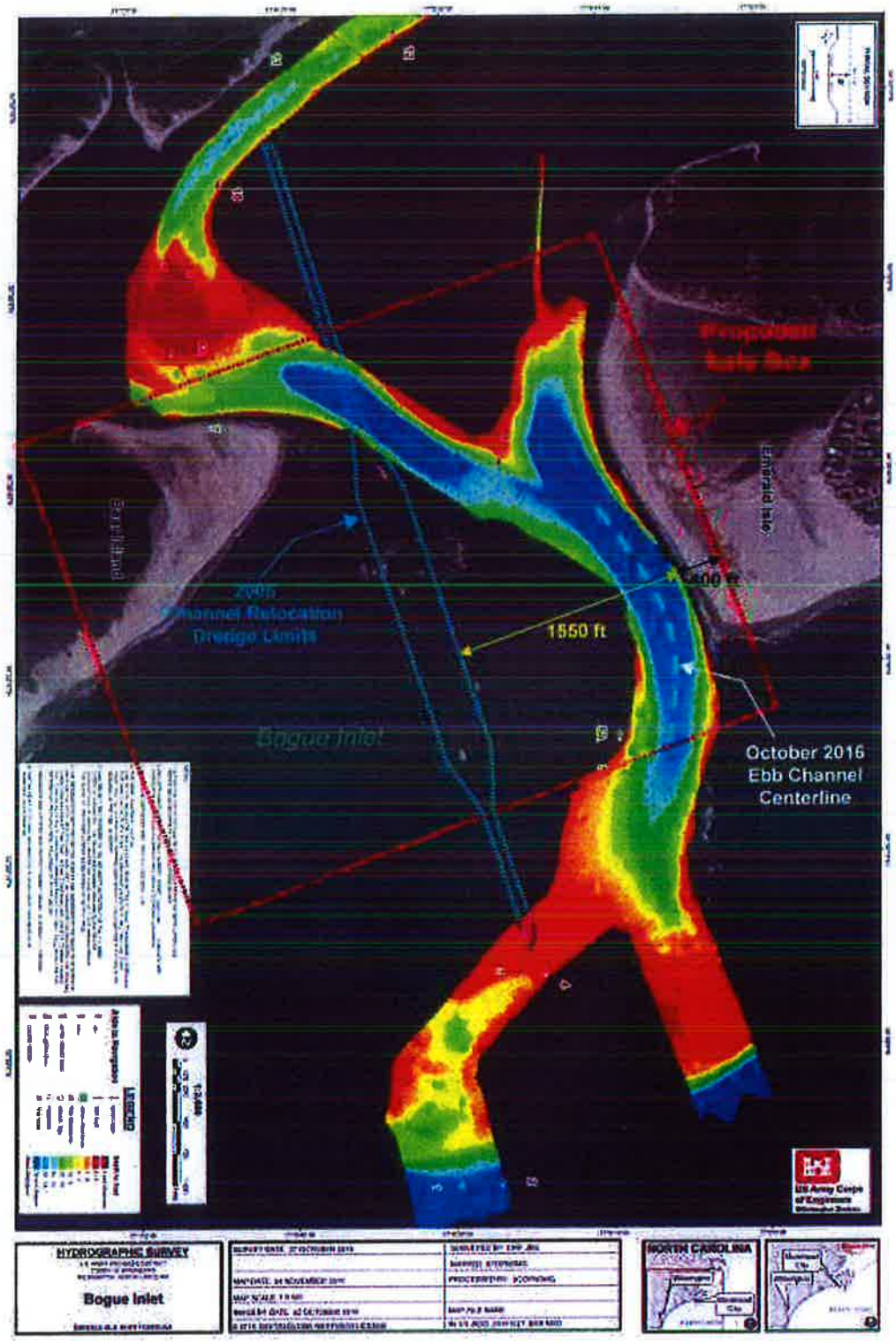
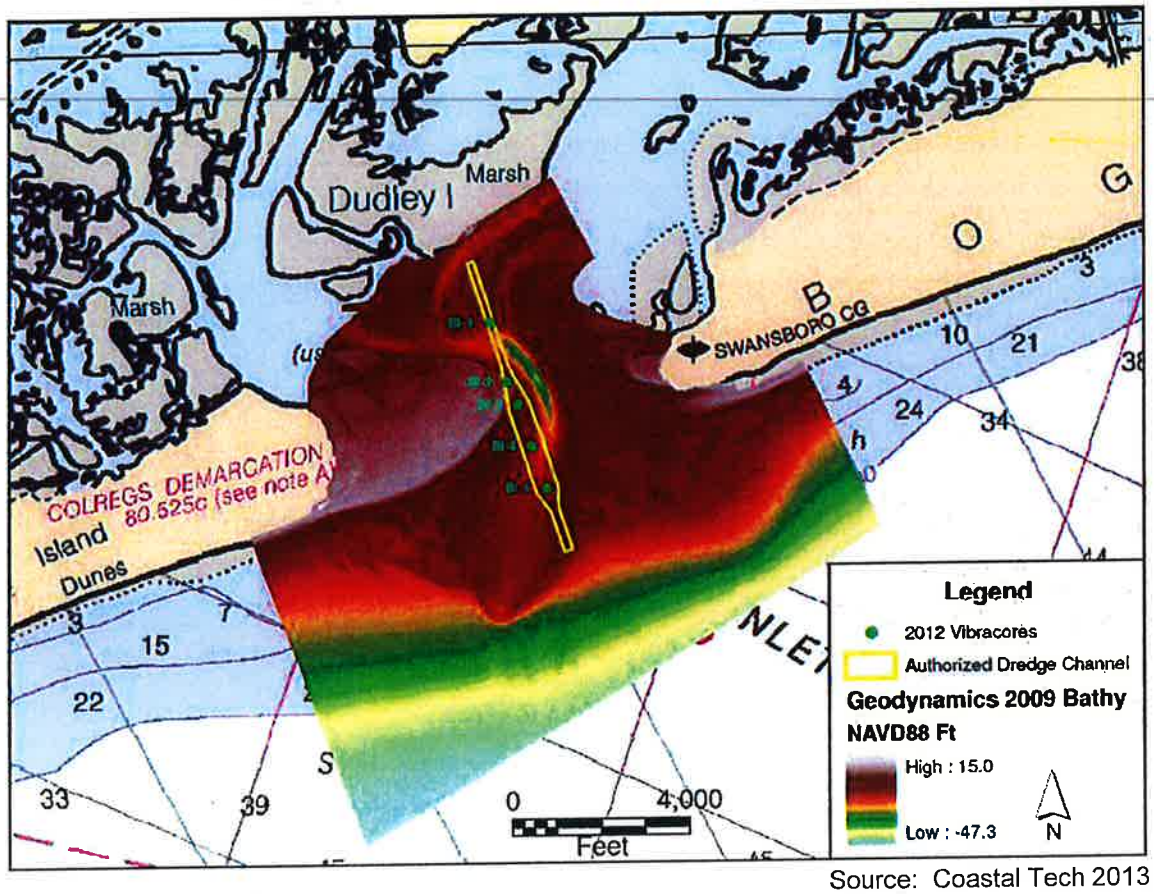


Figure 3.14. Current Bogue Inlet Ebb Channel Alignment in Relation to the Safe Box and the Proposed Realignment Footprint



Source: Coastal Tech 2013

Figure 3.15. Bogue Inlet Proposed Ebb Channel Realignment Footprint with Vibracore Locations

Table 3.10. Alternative 4 proposed Bogue Inlet Channel sediment characteristics

	Sediment Characteristics				
	Fines (<0.0625 mm)	**Sand (0.0625 - 1.99 mm)**	**Granular (2.0 - 4.75 mm)**	**Gravel (4.76 - 75.0 mm)**	**Calcium Carbonate**
NC Tech Stand.	≤6%	-	≤6%	≤6%	≤35%
Bogue Inlet[1]	0.15%	96.61%	2.40%	0.84%	14.96%
[1]Sediment data represent a composite of 5 vibracore samples collected in 2012.					

Source: Coastal Tech 2013