

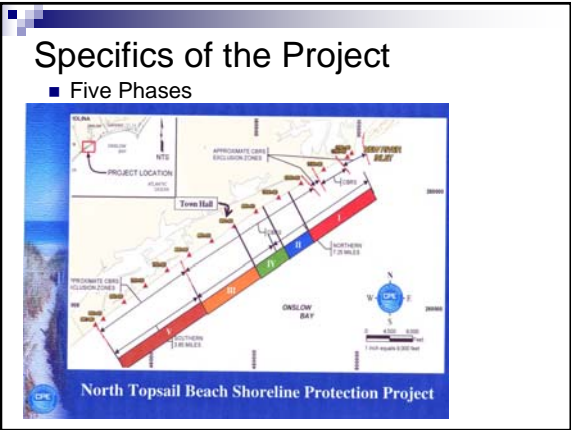


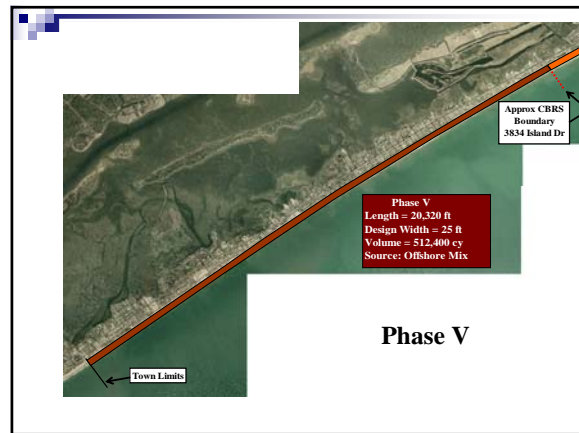
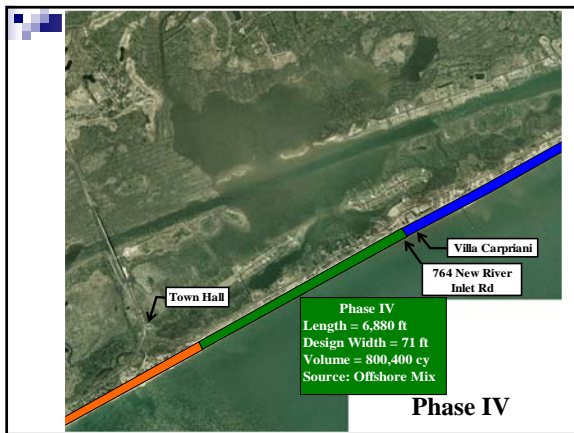
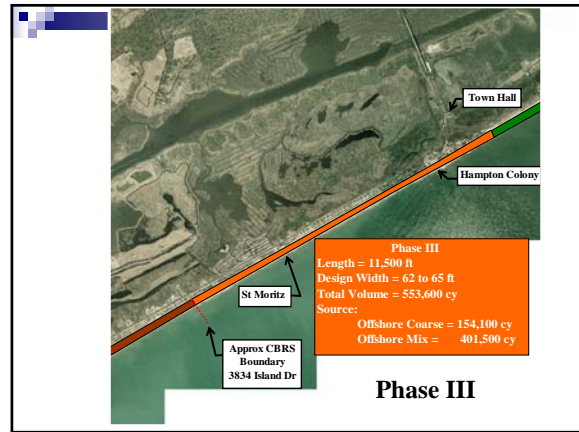
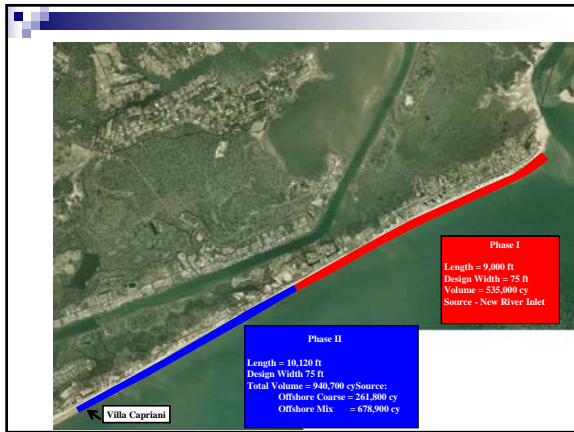
- ### Reasons to Perform a Beach Nourishment Project
- Wide sandy beach for citizens and visitors to enjoy
 - Increase in occupancy taxes
 - Protection and investment preservation/enhancement of property
 - Hurricane protection
 - Possible FEMA beach reconstruction after hurricanes
 - Recreational benefits
 - Preservation of tax base
 - Improved turtle nesting habitat
 - Job creation/preservation
 - Improved image for North Topsail Beach
 - Protection of town infrastructure

- ### Feasibility Study (Jan '04 – July '04)
- Focused on Northern 7.25 miles (CBRA Area)
 - Preliminary Analysis of Southern 3.85 miles
 - 3 Major Shoreline Management Issues
 - Coastal Storms
 - Long-Term Shoreline Erosion
 - Changes in New River Inlet

- ### Conclusions of Feasibility Study:
- Inlet Management Plan
 - Beach Fill Project to Reduce Damage to North And Central Sections
 - Sufficient Material Available (Inlet & Offshore)
 - Potential Impacts to Onslow Beach

- ### Conclusions of Geomorphic Analysis:
- Ideal Channel Orientation Perpendicular to Shoreline (Azimuth of 150°)
 - Provide “Disproportionate Positive Benefits to Adjacent Shorelines”
 - Return North End to Accretionary Trend (1962 – 1984)
 - Extent and Duration of Accretion is Difficult to Predict

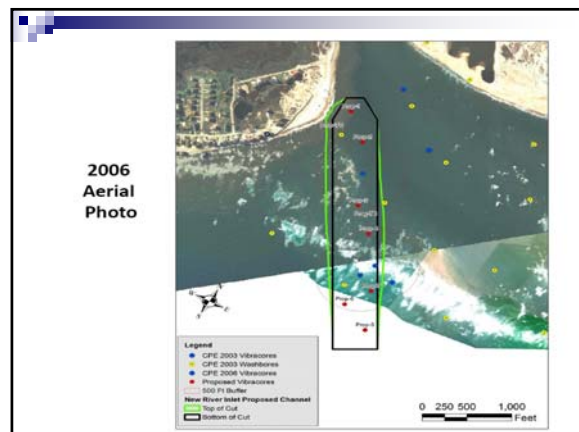




CP&E Cost Estimates

NTB is using the High Estimate + \$500K monitoring costs for phase 1 due to high costs for other projects, and the discovery of clay in our inlet, which reduces the sand amount as well. Dates have changed - phase 1 is now Nov 2011.

Phase	Amount of Sand (Cubic Yards)	Normal Estimate	Mid Estimate	High Estimate
I (Nov 2009 - Apr 2010)	Contract Phase I 435,800 C/Y (Onsite Inlet)	\$1,204,000	\$7,152,000	\$9,516,000
II (Nov 2011 - Apr 2012)	Contract Phase II 760,000 C/Y (Offshore)	\$1,270,000	\$12,490,000	\$16,872,000
III (Nov 2013 - Apr 2014)	Contract Phase III 203,800 C/Y (Onsite Inlet)	\$6,952,000	\$11,882,000	\$15,847,000
IV (Nov 2015 - Apr 2016)	Contract Phase IV 407,500 C/Y (Offshore)	\$6,347,541	\$8,930,000	\$13,276,000
V (Nov 2017 - Apr 2018)	Contract Phase V 112,000 C/Y (Onsite Inlet)	\$4,114,724*	\$16,958,000	\$22,674,000
	Research Phase I & II 427,000 C/Y (Onsite Inlet)	\$8,814,000		
Totals	4,015,300	\$43,598,804	\$58,412,000	\$77,979,000



Maps of Phases



Financials for Phase 1

Estimated cost of phase 1: \$10,000,000
 State Contribution at 25%: 2,500,000 grants applied for
 County Contribution: 500,000 estimated, request in process
 NTB Contribution: 1,300,000
 Balance: \$5,700,000

Scenario: Split 80% Oceanfront, 20% Non-Oceanfront

932 OF properties, total value \$136M, average value \$146K
 OF properties pay an average of \$1318/year for 4 years
 tax rate = 90.2 cents per hundred for 4 years

506 non-OF properties, total value \$95M, average value \$188K
 non-OF properties pay an average of \$607/year for 4 years
 tax rate = 32.2 cents per hundred for 4 years

Maintenance rates after the first 4 years are expected to be less

Risks and Questions to Consider

- Dr. Dean, the expert hired by the town to review CP&E's plans believes "the performance of the inlet component of the project should be regarded as an experiment".
- It is expected that some areas at the northern end adjacent to the inlet, due to construction, will experience even HIGHER localized areas of erosion rates. It may take up to 15 years of project duration before this begins to stabilize.
- There are no guarantees that the project will perform as expected, it could cost considerably more than estimated, it could take longer to implement, and re-nourishment could be required more often.
- Clay has been found in the channel. What are the increased costs of clay mitigation?
- New sand may contain undesirable rock, shell, or clay content.
- Any major storm could wash away much of the nourished sand. It is unclear if FEMA will replace the beach in a CBRA zone.
- The impact of nature (storms, sea level rise) is unpredictable.
- Overlapping phases lead to higher annual costs as we move forward.
- Will the town be liable for structures lost, even if they are lost indirectly by the ocean forces that have been directly changed by digging the channel?
- What is the position of Camp Lejeune and Surf City, especially if our construction adversely affects their beaches?
- Has the Army Corps of Engineers agreed to curtail or alter their regular dredging of the inlet in order to allow the reposition of the channel as we want it? Or, will they help fund our project since they no longer have the responsibility for this part of the channel?
- Funding algorithms/splits could be changed by future Boards of Aldermen.

Questions and Answers



For more information look on the town website

ntbnc.org/BEST.aspx

Look on that page for the Beach Erosion Study Team report and the links to the Environmental Impact Statements for our projects.

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Phase	Amount of Sand (Cubic Yards)	Normal Estimate	Mid Estimate	High Estimate
I (Nov 2009 – Apr 2010)	Construct Phase I 635,800 CY (from Inlet)	\$5,294,000	\$7,152,000	\$9,536,000
II (Nov 2011 – Apr 2012)	Construct Phase II 790,600 CY (from offshore)	\$9,270,000	\$12,490,000	\$16,672,000
III (Nov 2013 – Apr 2014)	Construct Phase III 393,800 CY (from Inlet)	\$6,952,093	\$11,882,000	\$15,847,000
	Renourish Phase I 233,200 CY (from Inlet)	\$1,887,987		
IV (Nov 2015 – Apr 2016)	Construct Phase IV 467,500 CY (from offshore)	\$6,347,541	\$9,930,000	\$13,270,000
	Renourish Phase II 121,800 CY (from offshore)	\$917,459		
V (Nov 2017– Apr 2018)	Construct Phase V 512,400 CY (from offshore)	\$4,114,724*	\$16,958,000	\$22,654,000
	Renourish Phase I & III 627,000 CY (from Inlet)	\$8,815,000		
Totals	4,015,300	\$43,598,804	\$58,412,000	\$77,979,000