

Seaview Avenue Existing Condition Survey North Bluff to Farm Pond

Existing Condition Report
For the Town of Oak Bluffs, MA

CLE Engineering, Inc.
October 28, 2008



Project Locus



Project Intent

- To Evaluate the Existing Conditions
 - Protect Sea View Avenue & Public Infrastructure
 - Safety, Aesthetics & Tourism
 - Improve Drainage System
 - Inkwell & Pay Beaches
 - Improve Public Beach Areas & Access
 - Soft vs. Hard Solutions
 - Predicted Sea Level Rise
- Prepare an Outline of Project Objectives & Requirements for Preliminary Engineering & Permitting

Project Site History

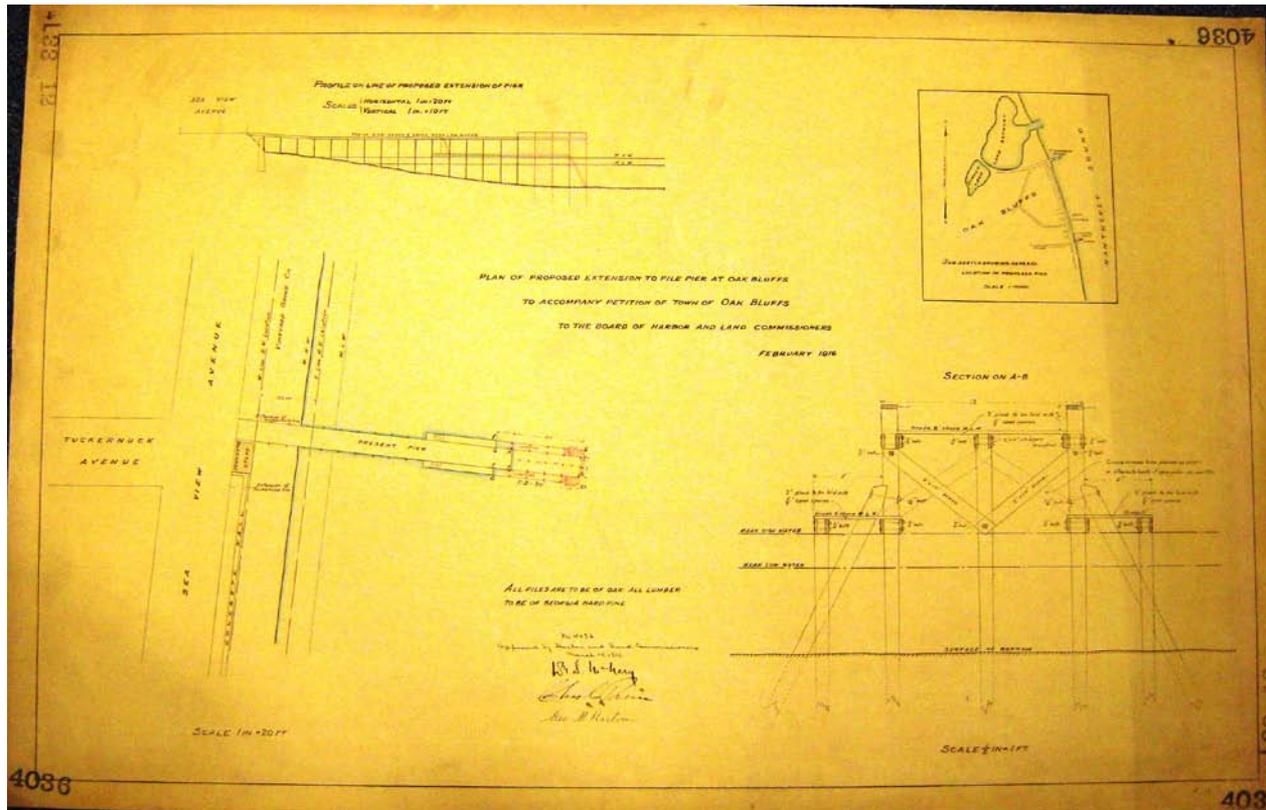


- Settled in 1642
- Incorporated as Cottage City in 1880
- Re-Incorporated in 1907 as Oak Bluffs
- Historic Year-Round and Beach Community
- Ferry Terminal
- Oak Bluffs Gingerbread Cottages

Permit History

- November 4, 1875 Saban Pratt of Boston extends wharf on piles.
- April 26, 1893 the New Bedford, Martha's Vineyard & Nantucket Steamboat Company builds a pile wharf in Vineyard Sound.
- April 8, 1895 the Town of Cottage City Board of Health constructs a dam or dike at the opening to Lake Anthony.
- June 8, 1896 the Vineyard Grove Company constructs buildings and other structures.
- April 18, 1906 the Town of Cottage City builds a pier.
- March 15, 1916 the Board of Selectmen extend the town pier.
- April 4, 1916 the Vineyard Grove Company builds a pile pier and platform in Nantucket Sound.
- April 29, 1925 the Wm. H. Hart Realty Company builds jetties, groins, bulkheads & dam in Farm Pond & Nantucket Sound.
- May 7, 1929 the New England Steamship Company builds buildings, piers, walkways & pile platform in Nantucket Sound.
- June 22, 1966 the Woods Hole, Martha's Vineyard and Nantucket Steamship Authority reconstructs wharf and ferry slip in Nantucket Sound.
- December 7, 1966 the Woods Hole, Martha's Vineyard and Nantucket Steamship Authority maintains dolphins and walkway in Nantucket Sound.
- August 20, 1987 the Department of Environmental Management repairs seawalls and revetments and groins in Nantucket Sound
- May 12, 1992 the Oak Bluffs Board of Health constructs corrugated aluminum culvert, dredges drainage channel and places riprap at Farm Pond.

License Plan No. 4036

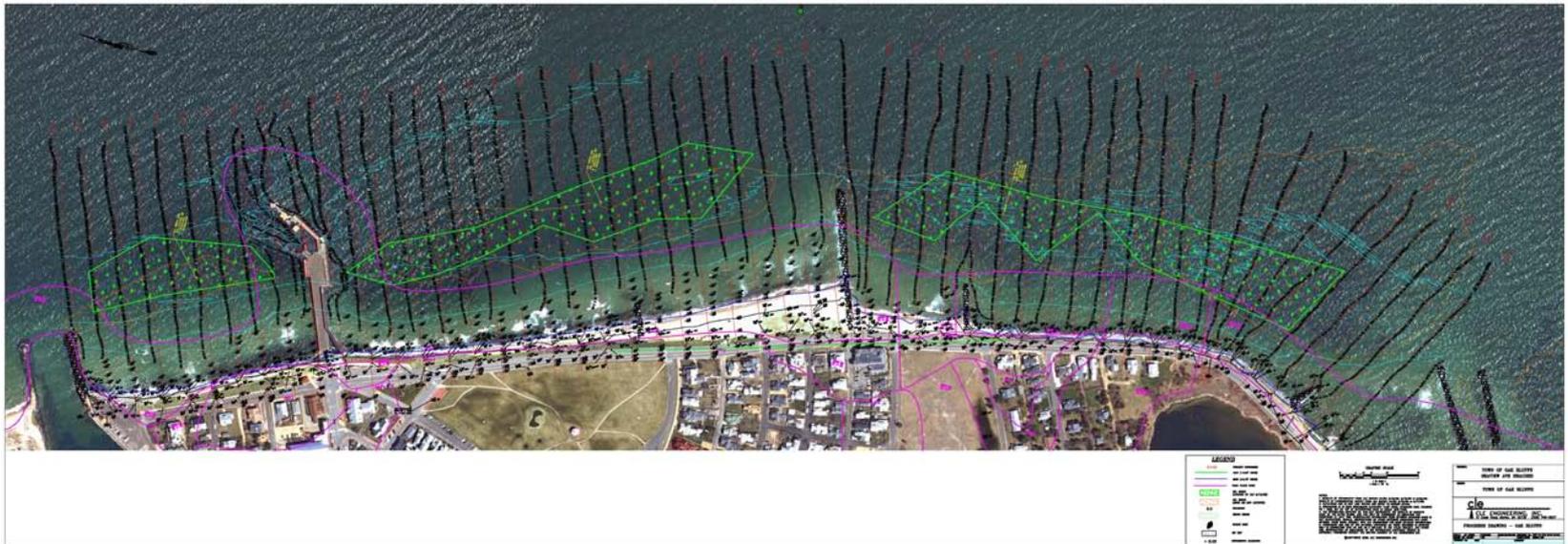


Existing Conditions



- Compilation of Permits & Plans-of-Record
- Wetland Habitat Assessments
- Beach Sediment Grain Size Analysis & Standard Penetration Tests (SPT)
- Topographic Survey
- Hydrographic Survey
- Preliminary Condition Inspections

Existing Conditions Plan



STA 0+00 to STA 2+50

- New Section of Sidewalk, Seawall & Revetment
 - Constructed in 2007.



STA 2+50 to STA 9+20

- Deteriorating Coastal Bank, Seawalls & Revetment
 - Restore Coastal Banks.
 - Rehabilitate Concrete Seawall
 - Rehabilitate & Extend Revetment
 - Consider Beach Nourishment



STA 9+20 to STA 12+50

- Deteriorating Coastal Bank & Revetment with Limited Beach
 - Restore Coastal Bank Protection
 - Rehabilitate Revetment
 - Beach Nourishment



STA 12+50 to STA 14+70

- Deteriorating Coastal Bank, Seawalls & Revetment
 - Restore Coastal Bank
 - Rehabilitate Revetment
 - Beach Nourishment



STA 14+70 to STA 19+20

- Deteriorating Coastal Bank & Seawalls
 - Restore Coastal Banks
 - Rehabilitate Seawalls
 - Extend Revetment
 - Beach Nourishment



STA 19+20 to STA 20+00

- Deteriorating Coastal Bank, Seawalls & Revetment
 - Restore Coastal Banks
 - Rehabilitate Seawalls
 - Beach Nourishment



STA 20+00 to STA 21+00

- Deteriorating Coastal Bank & Failing Seawalls
 - Restore Coastal Banks
 - Rehabilitate Seawalls
 - Beach Nourishment



STA 21+00 to STA 22+00

- Stabilize Coastal Bank & Buried Seawall
 - Restore Coastal Banks
 - Rehabilitate Seawall
 - Beach Nourishment



STA 22+00 to STA 24+50

- Temporary Coastal Bank Repairs to Support Seawall
 - Restore Coastal Bank
 - Maintain Public Beach
 - Provide ADA/MAAB Public Beach Access
 - Provide Seasonal Public Amenities



STA 24+50 to STA 26+00

- Temporary Coastal Bank Repairs to Support Failed Seawall
 - Restore Coastal Bank
 - Maintain Public Beach
 - Provide ADA/MAAB Public Beach Access
 - Provide Seasonal Public Amenities



STA 26+00 to STA 29+30

- Stable Beach, Dune & Coastal Area
 - Restore Coastal Bank
 - Maintain Public Beach
 - Provide ADA/MAAB Public Beach Access
 - Relocate Drainage Outfall
 - Provide Seasonal Public Amenities



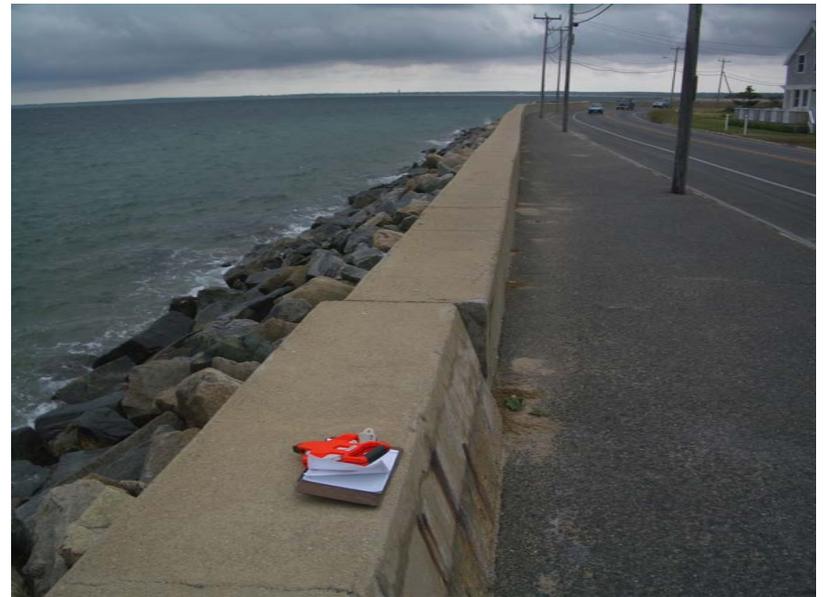
STA 29+30 to STA 34+00

- Inkwell Beach
 - Maintain Public Beach
 - Provide ADA/MAAB Public Beach Access
 - Provide Seasonal Public Amenities
 - Extend Groin
 - Beach Nourishment
 - Relocate Drainage Outfall



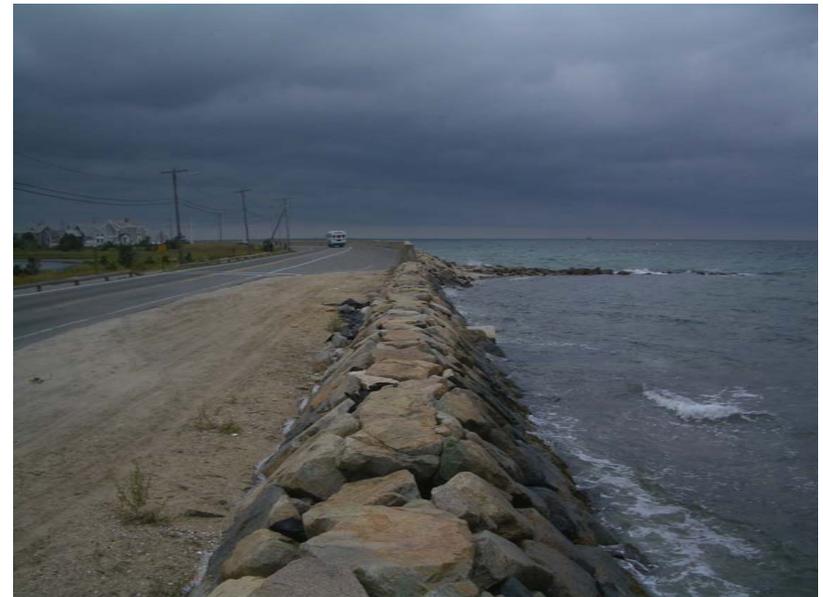
STA 34+00 to STA 47+60

- Revetment & Seawall
 - Seal Cracks in Roadway & Sidewalks
 - Repair Seawall Expansion Joints



STA 47+60 at Farm Pond Outlet

- Revetment & Outfall
 - Maintain Revetment & Roadway Apron
 - Incorporate Into Ongoing Rehabilitation of Farm Pond Outlet



Project Objectives

- Protect Sea View Avenue & Public Infrastructure
- Improve Drainage System
- Improve Public Beach Areas & Access



Preliminary Engineering & Permitting Requirements

- Perform Sediment Transport Study
 - Beach Nourishment
 - Existing Groin Modifications
 - Project Equilibrium Conditions
- Evaluate Existing Structures & Proposed Conditions
- Perform Essential Fish Habitat & Shellfish Study
- Define Project Phases
 - Beach Nourishment Above AHTL
 - Coastal Bank & Beach Restoration
- Determine Permit Thresholds
- Coordinate Engineering Objectives, Mitigation Measures & Permit Requirements



Estimated Project Costs



- Rehabilitate Seawalls (930') = \$2,137,000
- Rehabilitate Revetments (710') = \$132,500
- Rehabilitate Coastal Banks (820') = \$123,000
- Beach Nourishment (28,920 CY) = \$1,205,000
- Drainage Improvements (Pay & Inkwell) = \$100,000
- Extend Inkwell Beach Groin (160') = \$200,000
- Repair Fence & Sidewalks (4,250') = \$80,000
- Repair Roadway & Sidewalk Cracks & Seawall Joints (South of Inkwell) = \$52,850
- Engineering, Permits & Construction Management (15%) = \$600,000
- Contingency (15%) = \$600,000
- Project Total = \$5,230,350.00

Recommendations for Preliminary Engineering & Permitting (Phase II)

- Schedule & Attend Pre-Application Meeting w/ Local, State & Federal Permitting Agencies
- Define Project Scope Based on Recommended Critical Repairs, Public Input & Available Funding
- Perform Preliminary Engineering Evaluations & Designs
- Prepare Local, State & Federal Permit Submittals
- Procure Permits for Final Design & Construction (Phase III)