

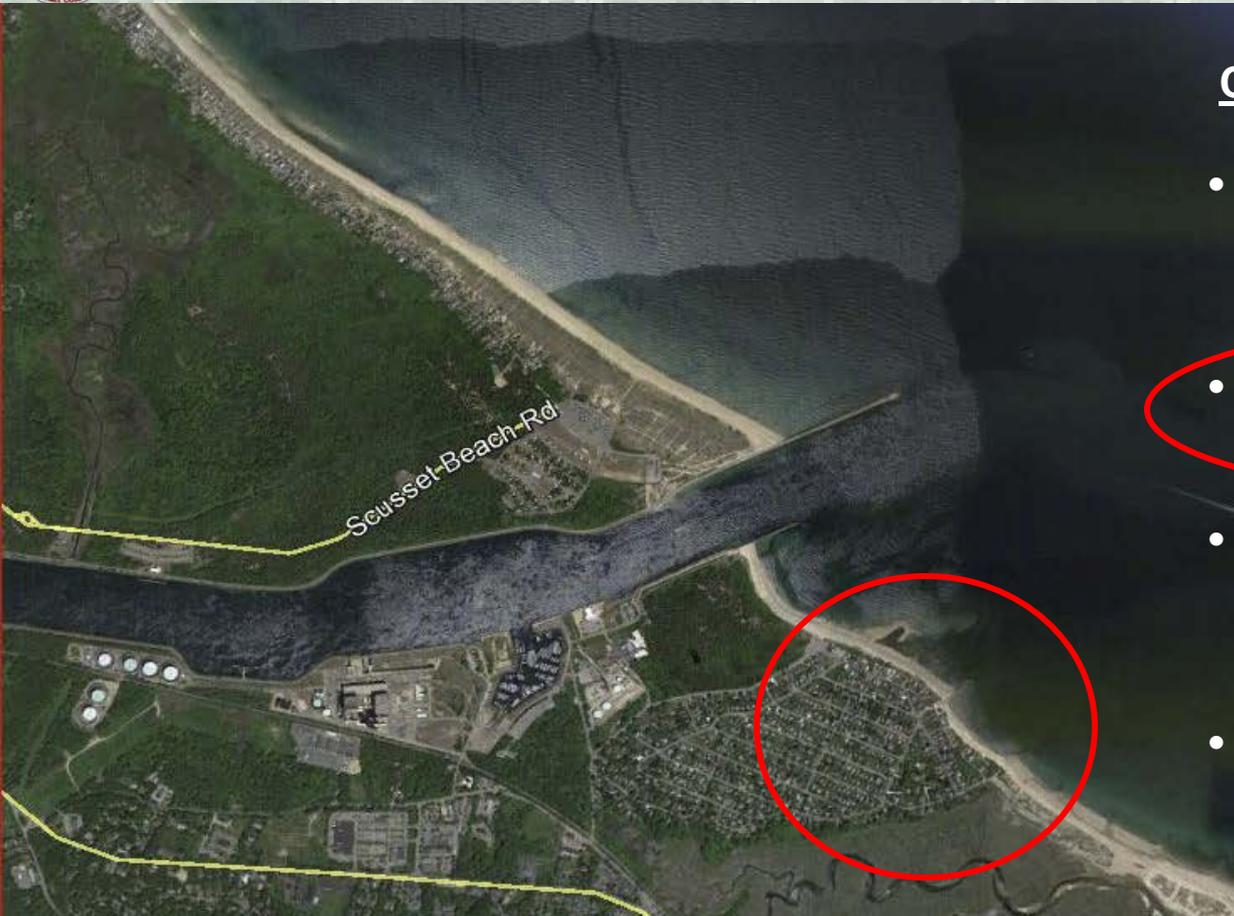


Beneficial Use – Sandwich, MA



Cape Cod Canal Beneficial Use

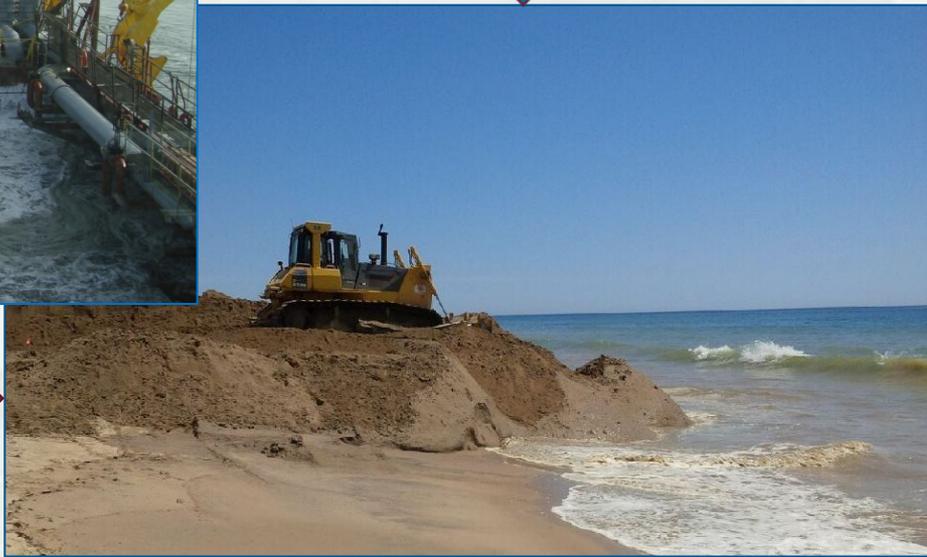
- Severe Erosion along Town Neck Beach - 2,500 Linear Foot Project Area
- Approximately 150,000 CY available from CCC dredging
- Estimated Cost: - \$5.2M (\$1.65 million associated with beneficial use)
- 65/35 Percent cost share (\$575,000 Town of Sandwich)





Project Purpose

1. Cape Cod Canal - Federal Navigation Project
2. Section 204 – Beneficial Use Project





Cape Cod Canal Federal Navigation Project





Cape Cod Canal



- **Federal Navigation Project (FNP)**
 - Cape Cod Canal FNP saves mariners 135 miles of open ocean navigation around Cape Cod and The Islands
 - Approximately 14,000 commercial and recreational vessels (annually)
 - FNP is part of the Intra-Coastal Waterway and a key component of petroleum shipping in the Northeast Region
 - Shoaling significantly increases safety risks for deep draft vessels traveling through the FNP
 - Maintenance dredging of the Canal is required about every 5-6 years (170,000 cubic yards were dredged in 2010)



Federal Navigation Project



■ Schedule

- Issue Solicitation (30 Days) August 10
 - Open Bids September 10
 - Award Contract September 30
 - Issue Notice to Proceed October 30
 - Begin Work By Thanksgiving November 20
 - Complete Project March 31
 - 3-5 Months to Complete the Work
 - Environmental Dredging Window November 1 – March 31
- Primary Purpose of the project is Navigational Operation and Safety



Section 204 - Beneficial Use Project





Section 204 - Authority



- Section 204 – Continuing Authorities Program
 - Allows for the beneficial use of dredged material for the purpose of shoreline erosion protection
 - Requires a 65/35 percent cost share with non-federal sponsor for the incremental cost of beach placement versus open water disposal
 - \$5.2 million project, of which only \$1.65 million is for the beach placement
 - 35% of 1.65 million ≈ **\$575,000**
 - Requires positive Cost Benefit Ratio
 - **THERE MUST BE A PUBLIC INTEREST**
(WRDA 1986), (WRDA 2007), (ER 1165-2-130), (ER 1105-2-100)



Section 204 – Beneficial Use



▪ OPPORTUNITY

- Damages to shorefront properties are imminent
- Open Ocean Disposal is 'Least Cost' Plan not the 'Preferred' Plan
- Address erosion at Town Neck Beach **NOW**

▪ Response to Public Concern

- Town of Sandwich has requested Federal Assistance (Decades)
- Congressional support
 - Congressman Bill Keating
 - Senator Ed Markey
- Residents/Local organizations (e.g. Trustees of Sandwich Beaches)





Project Benefits





Section 204 – Beneficial Use



- Erosion Control
 - Protects shorefront properties
 - 2,500 linear feet
 - 350' wide buffer (Dune and Beach)
 - Repurposes sediment that would otherwise be disposed of in open water
 - Feeds the littoral system with new sand

- Recreation
 - Will restore \approx 10 acres of Public Beach
 - 200' wide beach (On **Existing** Public Property)

- Value
 - 150,000 cubic yards at \approx \$4 per cy (based on cost estimate)
 - Significant contribution towards Town of Sandwich's 400,000 cubic yard effort to restore Town Beach

Town Neck Beach

Section 204 Project Area

2,500 Linear Feet
150,000 Cubic Yards
350' Wide Dune/Beach

Legend

-  Beach Fill
-  Beach Fill (50' High Tide Berm)
-  25' Dune Crest
-  Project Fill (Dune Grass)





Cost Comparison

■ Prospect Beach, West Haven, CT (2014)

- 90,000 cy
- \$4.2 million
- \$48 per cy

■ Woodmont Shores,

- 40,000 cy
- \$2.3 million
- \$57 per cy

■ Misquamicut Beach

- 84,000 cy
- \$3.4 million
- \$40 per cy

Section 204 Beach Fill Cost

150,000 cy

\$575,000 (Town's Share)

\$4 Per Cubic Yard

Vs.

\$ 48 Per Cubic Yard
(Average price per Cubic Yard)



Real Estate Concerns



- Permanent Easements
 - Why do we need easements?
 - Why do they need to be permanent?

- Public Use
 - What does Public Use mean?

- Real Estate Plans
 - Can they be revised?





Permanent Easements





Permanent Easements



- Water Resources Development Act (WRDA) of 1986 prohibits Federal Participation in costs assigned to privately owned Shore Protection if the use of those shores is limited to private interests.
 - Federal Tax dollars cannot be spent on private shore protection
 - Public Use means “Use by all on equal terms”
 - WRDA 2007 modified Section 204 to include Shore Protection

- Why Not Temporary?
 - All Corps projects are authorized by Congress
 - Each project requires a Project Partnership Agreement (PPA)
 - Easements need to be in effect for the term of the PPA
 - PPA has no termination date
 - There is no specific authority that allows for temporary easements
 - Project Schedule prohibits the Corps from revising Corps-wide statutes/policy/guidance



Public Use





Use By All On Equal Terms



- The easement encumbers a large portion of my property. Does the public have the right to use that entire area?
 - **The public has access to the area covered by the easement on equal terms**
However...
 - **The dune will be grassed and managed by the town as a protected resource (with restricted access)**
 - **When first completed, the dune will provide a 150' between the buildings and the usable beach area**

- Is building on an easement allowed?
 - **Proposed improvements cannot impact on the integrity, performance or Operations & Maintenance of the beach project.**

- What happens if the project isn't built?
 - **Easements would not be recorded**

- If we go to the expense of building a boardwalk and or stairs, does the public have the right to use it on our private property?
 - **No. Private structures would remain private.**



Public Access: Illustrations





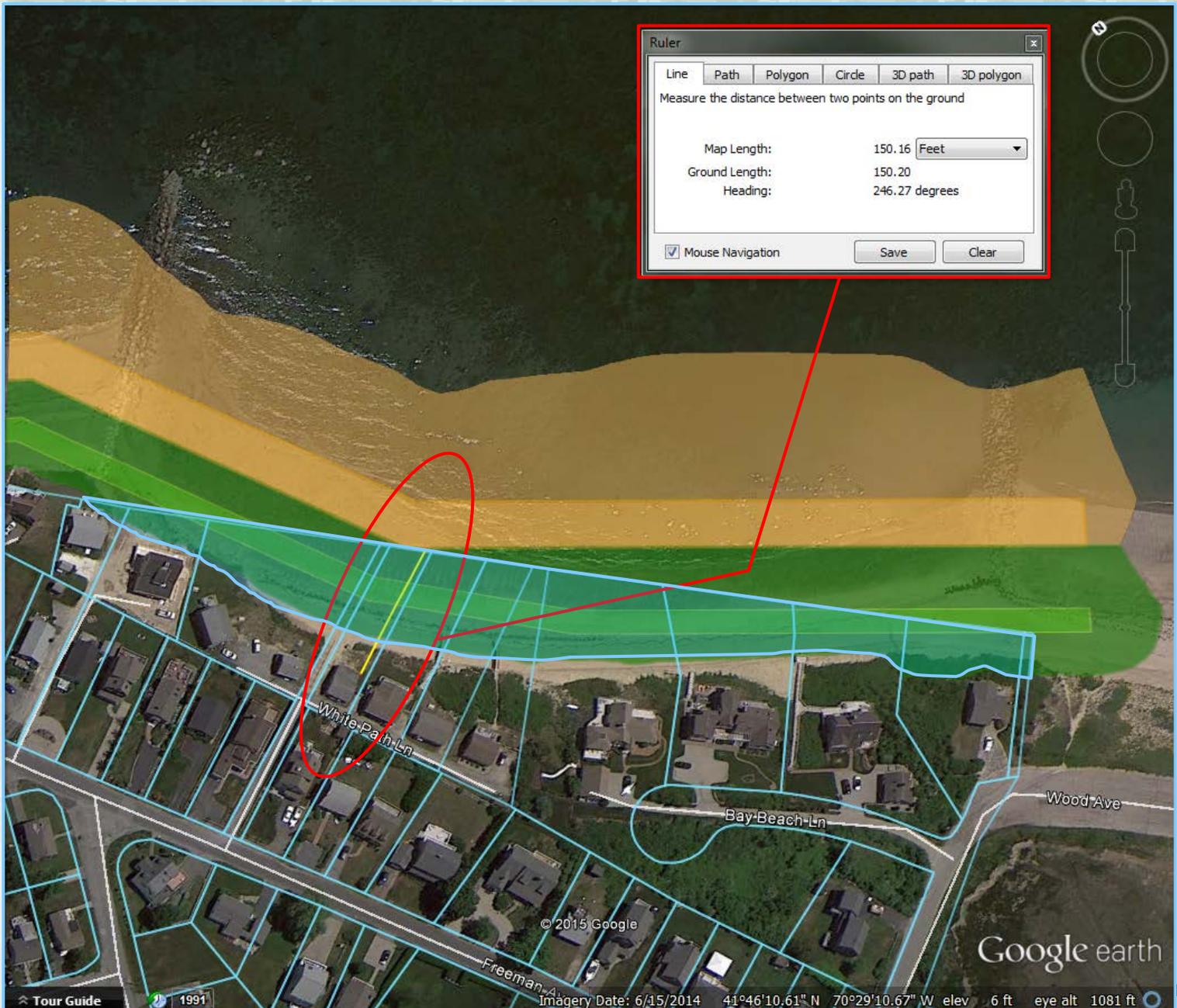
Public Access



BUILDING STRONG®



Transect 6



Ruler

Line Path Polygon Circle 3D path 3D polygon

Measure the distance between two points on the ground

| | | |
|----------------|--------|---------|
| Map Length: | 150.16 | Feet |
| Ground Length: | 150.20 | |
| Heading: | 246.27 | degrees |

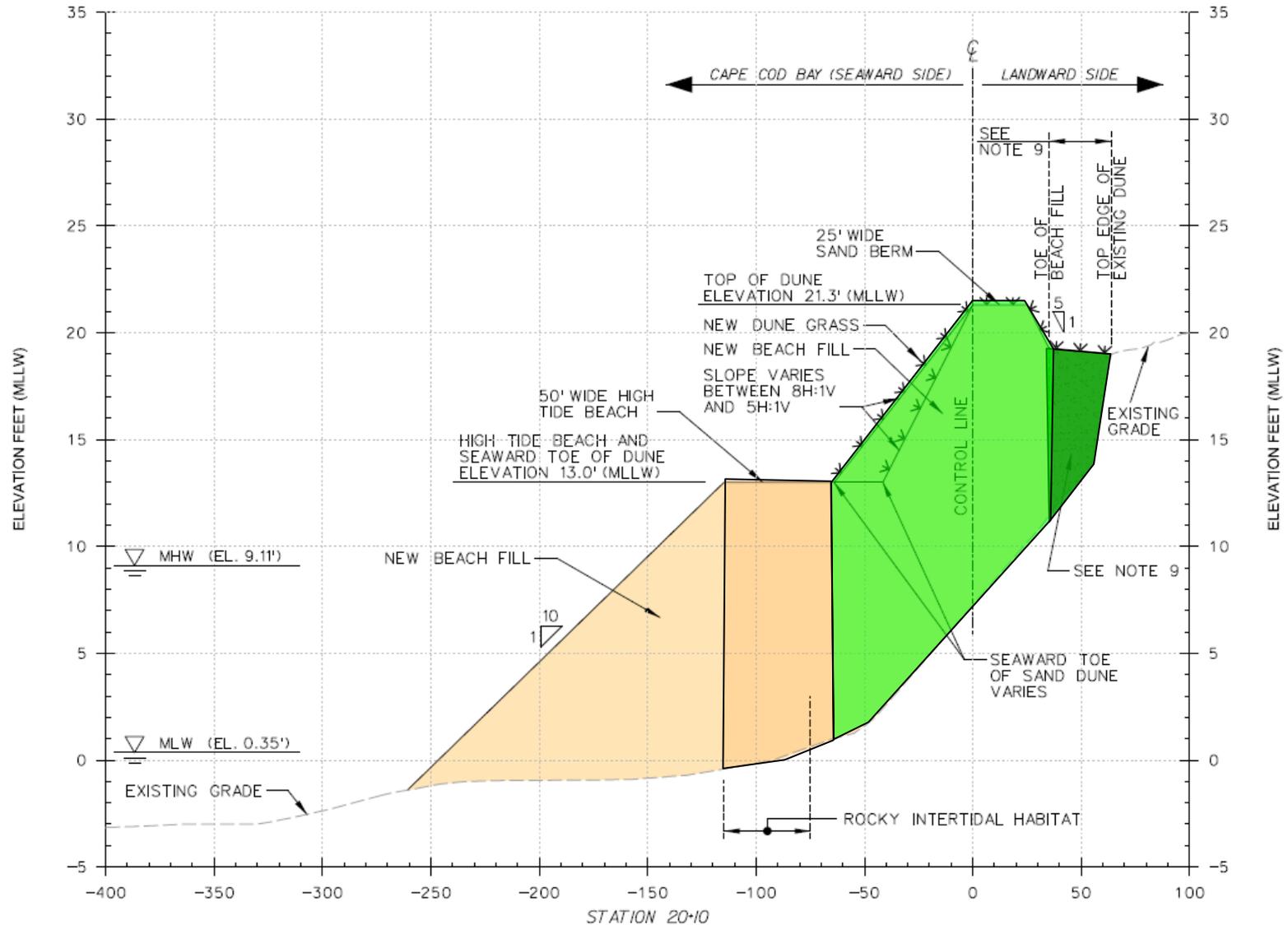
Mouse Navigation

Save Clear





Transect 6



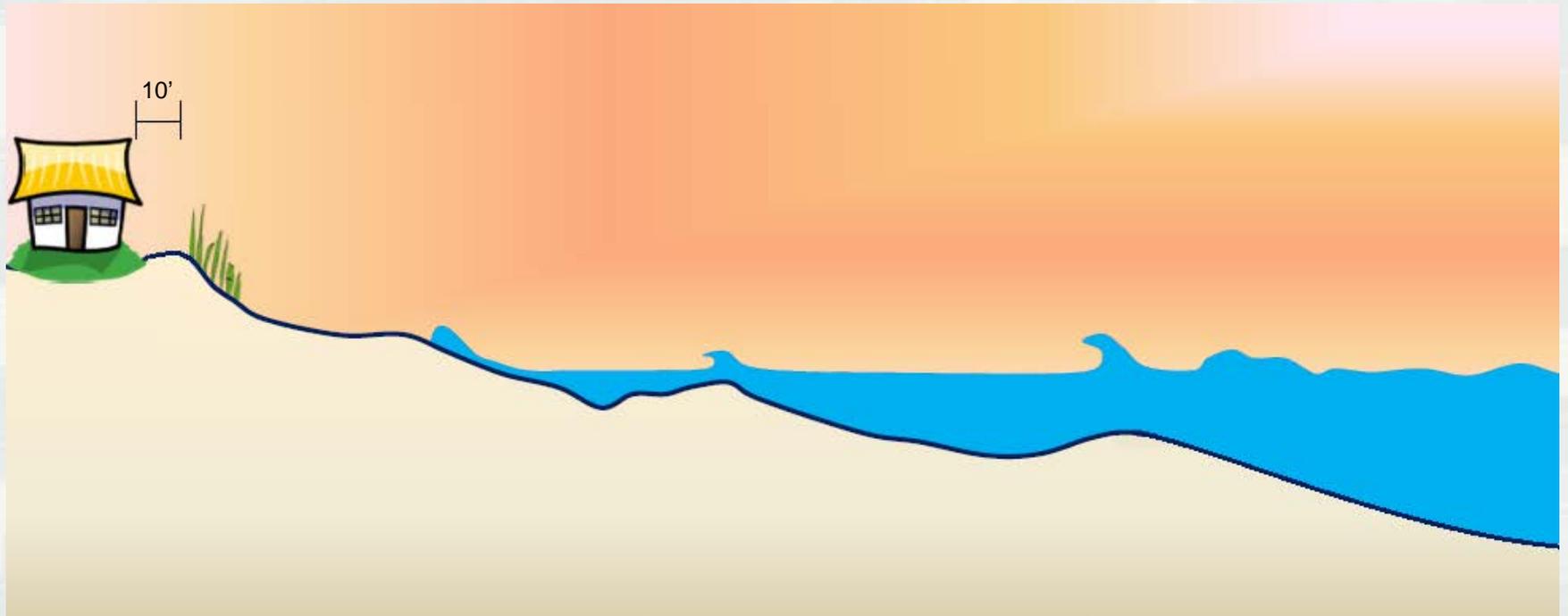
BEACH TRANSECT 6

HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'



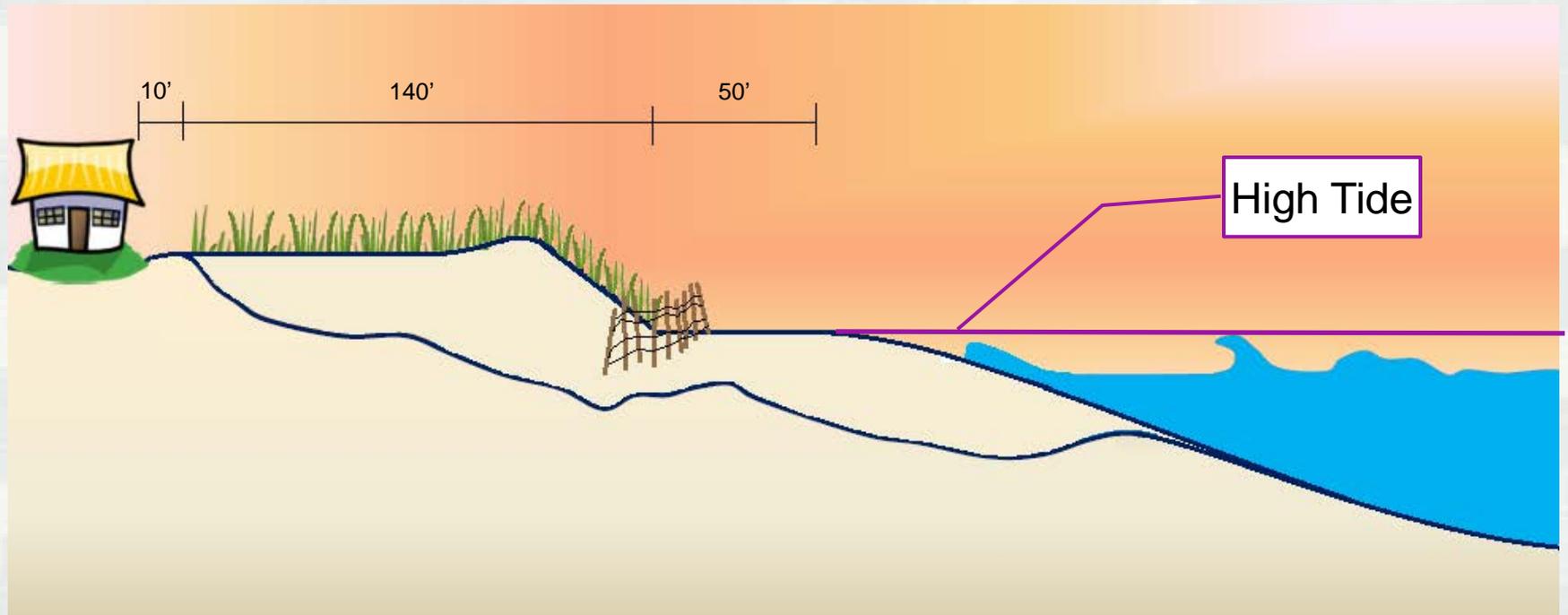


Typical Profile



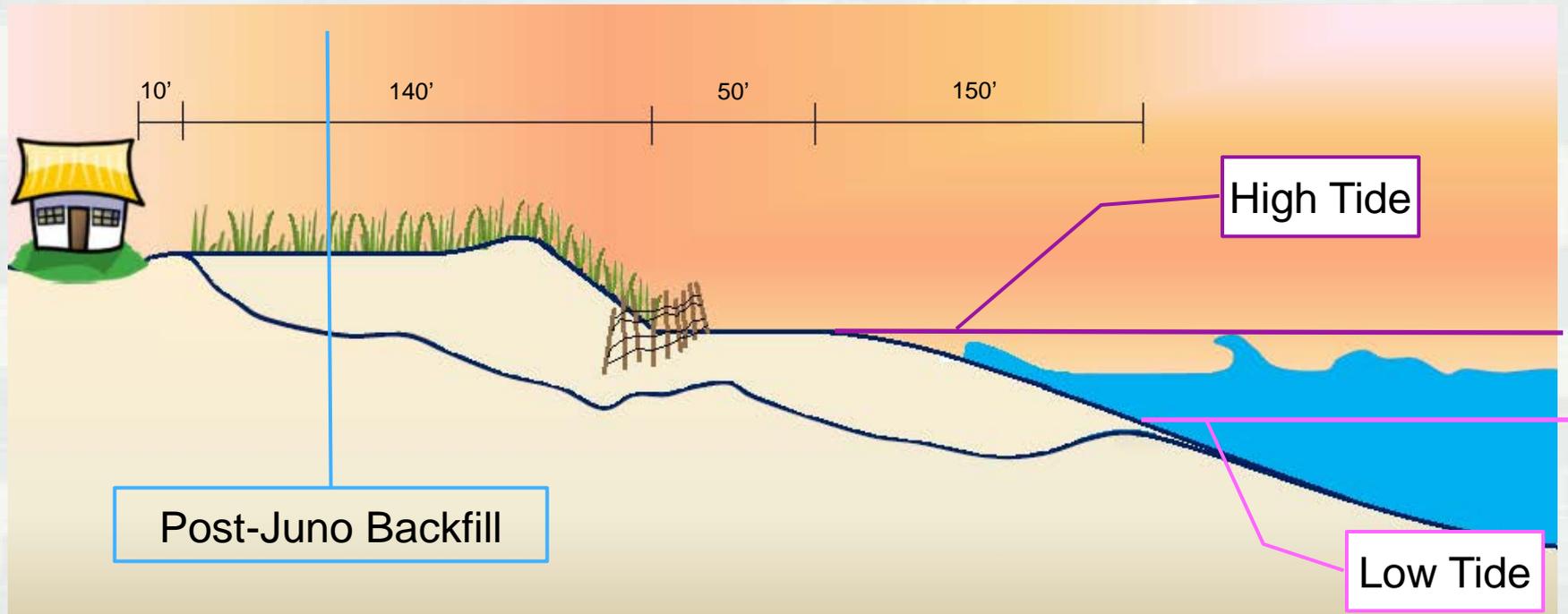


Typical Profile





Typical Profile





Existing Conditions





Proposed Conditions





Real Estate Plans





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Google earth

Imagery Date: 6/15/2014 41°46'10.59" N 70°29'10.70" W elev 6 ft eye alt 1081 ft



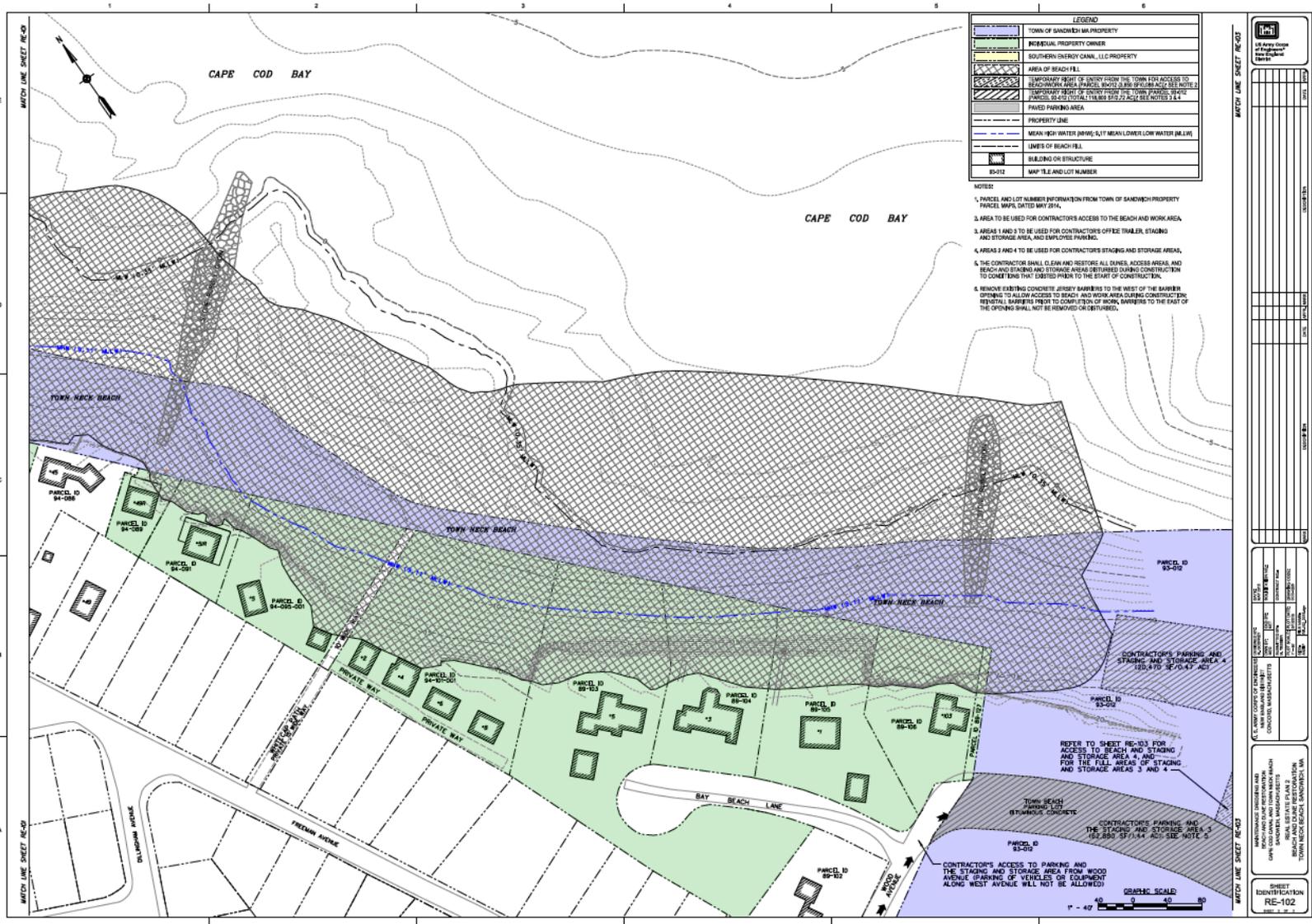
Tour Guide

1991



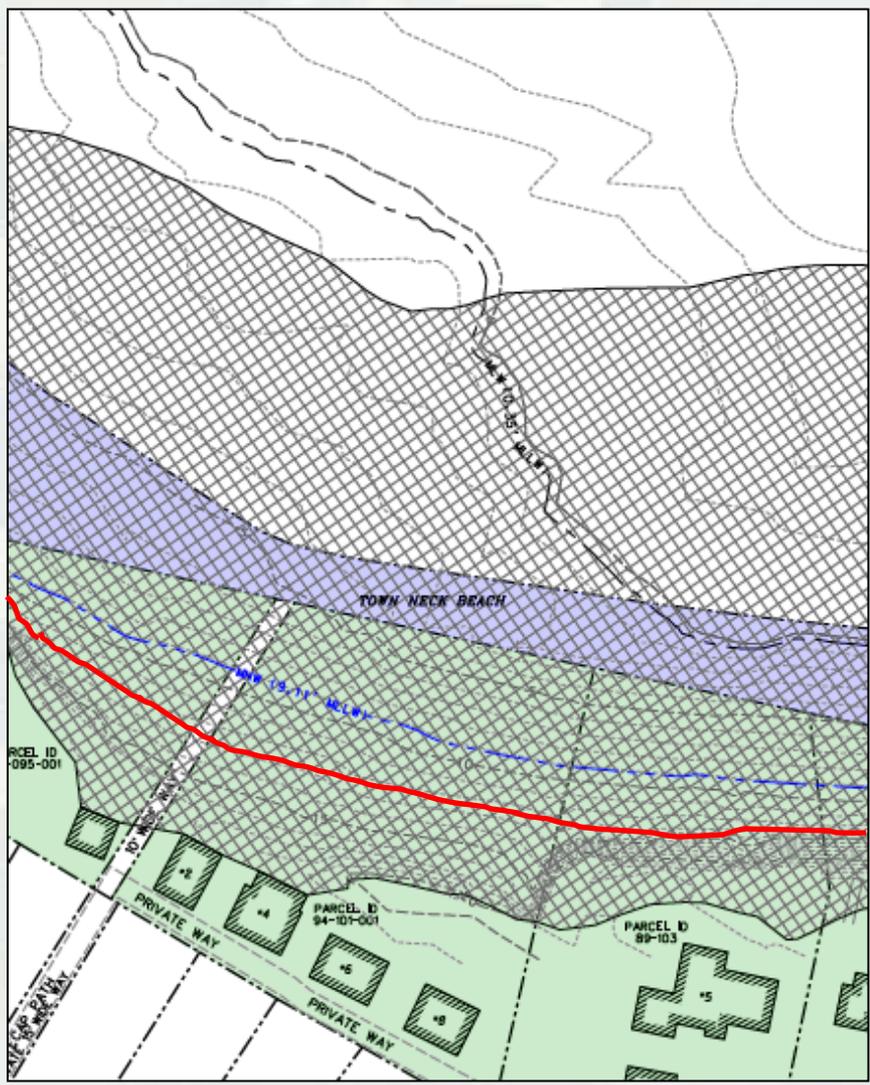


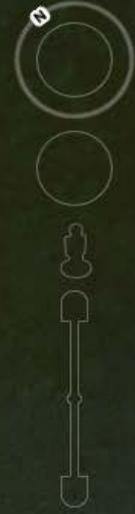
Post-Juno Survey





Pre- and Post- Juno Surveys: Transect 6





Tour Guide 1991

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Google earth

Imagery Date: 6/15/2014 41°46'11.59" N 70°29'10.81" W elev 1 ft eye alt 1188 ft





Newburyport Harbor Section 204 Project (2009)





Newburyport Harbor



Construction
Supervised by:



US Army Corps
of Engineers
New England District

Support from:
Merrimack River
Beach Alliance



Newburyport Harbor Maintenance Dredging with Shore Protection

Newburyport, Newbury,
and Salisbury, Massachusetts

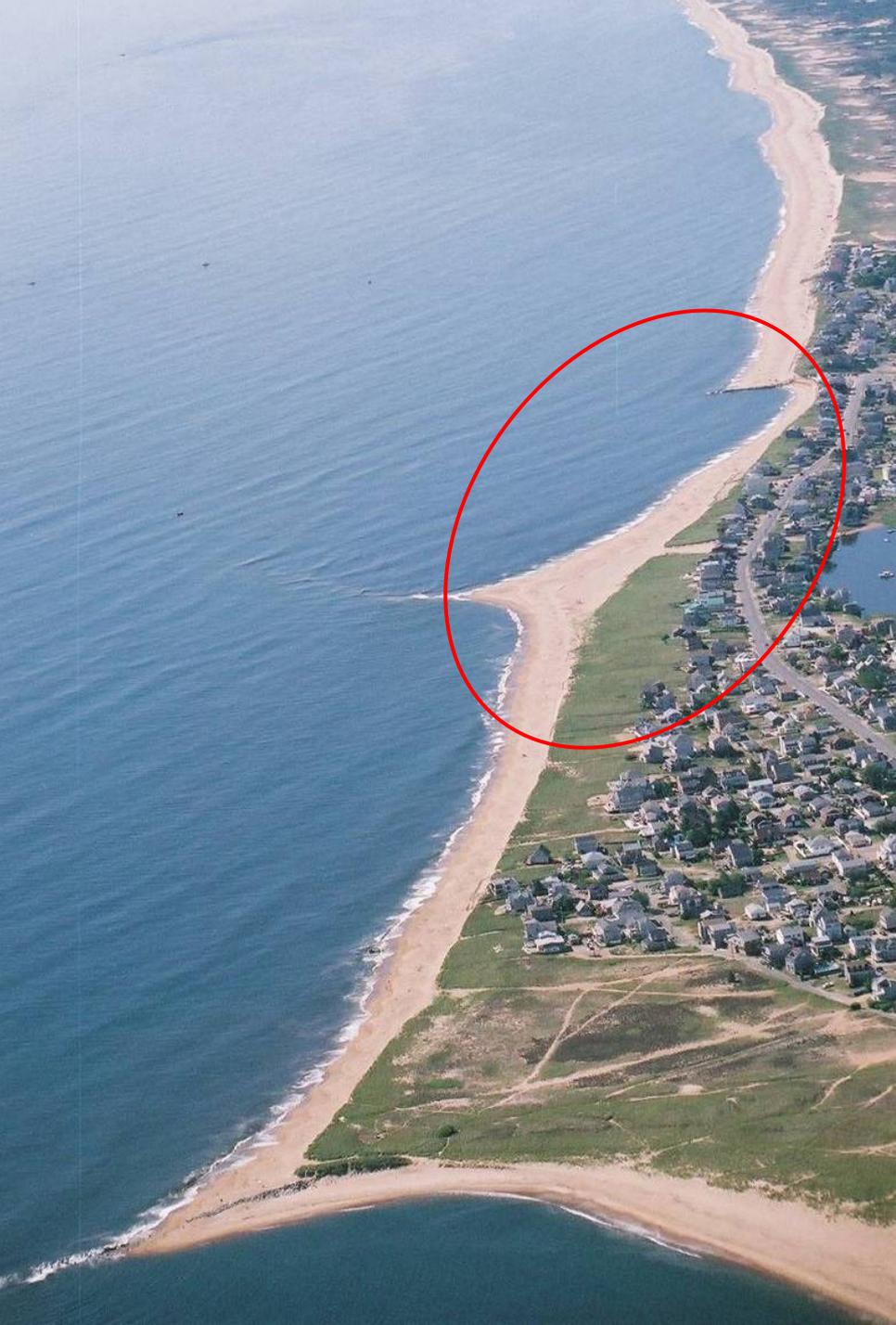
Contractor:
Great Lakes Dredge
& Dock Company, LLC
Oak Brook, Illinois

Partial funding provided by American Recovery and Reinvestment Act of 2009 (ARRA)

MASS-DEP
050-1008



BUILDING STRONG®





Plum Island





Plum Island





Plum Island









07/09/2015



Federal Navigation Project + 204



■ Schedule

- **Signed Easements** **July 31**
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Trustees of Sandwich Beaches

Mission Statement

*“To promote the restoration of Sandwich ocean beaches, dunes, salt marsh, and the protection of them from further erosion in order to preserve the natural beauty of the Sandwich shoreline and historic town, districts and boardwalk; **to promote a balance of public access to the beaches and the conservation of their natural habitat;** to ensure the long-term stabilization of Sandwich beaches so they can be enjoyed for generations to come.”*



Questions?

