

Winthrop Beach Nourishment Project Update & Winthrop Shore Drive Improvements Project



DCR Public Meeting

Monday, September 28, 2015 - 6:30 p.m. – 8:30 p.m.
Winthrop Senior Center – Winthrop, MA



Commonwealth of Massachusetts

Governor

Charles D. Baker

Lieutenant Governor

Karyn E. Polito

Energy and Environmental Secretary

Matthew A. Beaton

Department of Conservation and Recreation Commissioner

Carol I. Sanchez



DCR Mission Statement

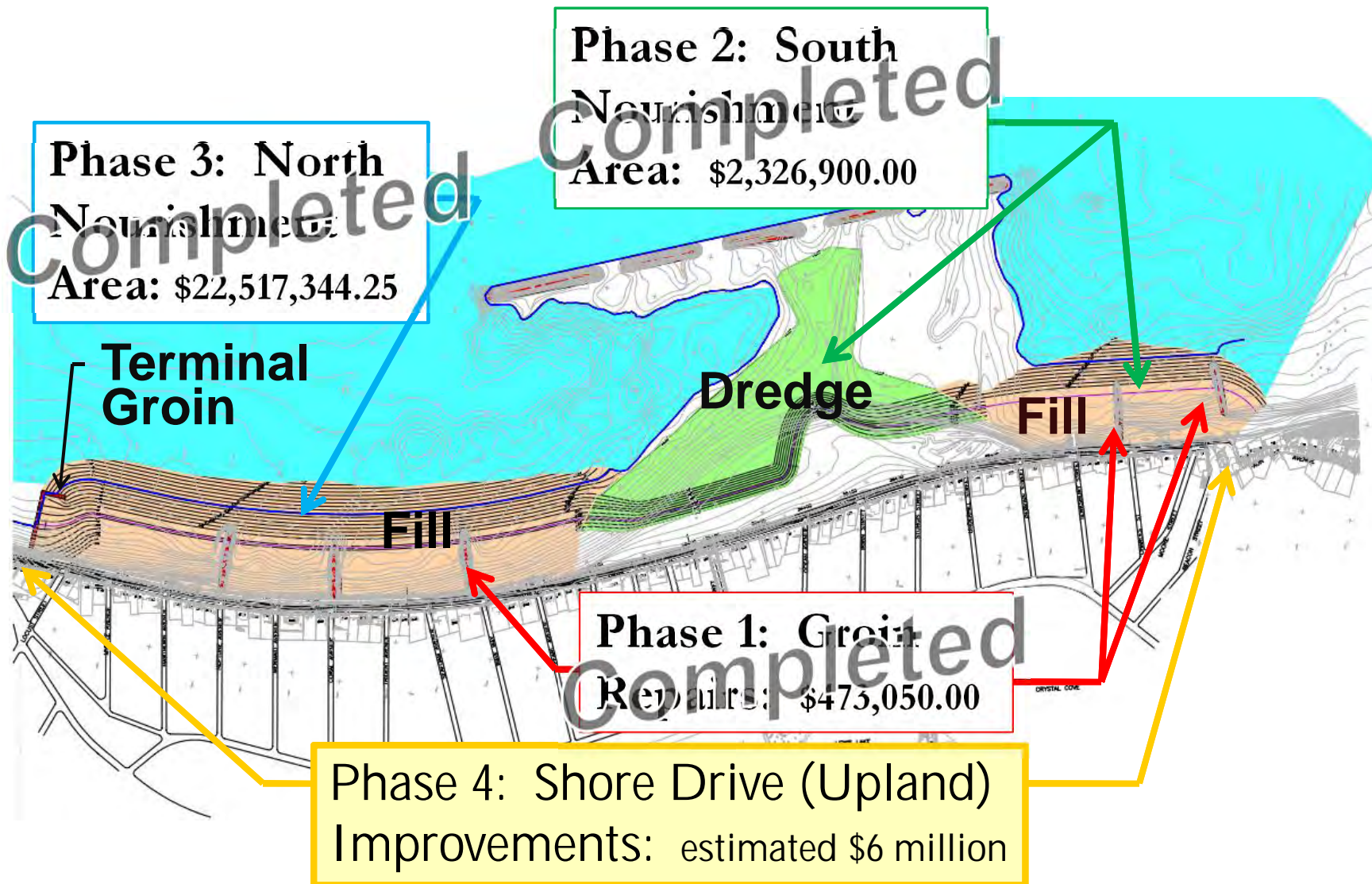
To protect, promote and enhance our common wealth of natural, cultural and recreational resources for the well-being of all.



MASSACHUSETTS DEPARTMENT OF
CONSERVATION AND RECREATION

Project Phasing

Total State
Investment: \$31M



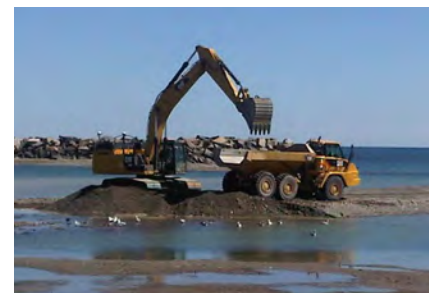
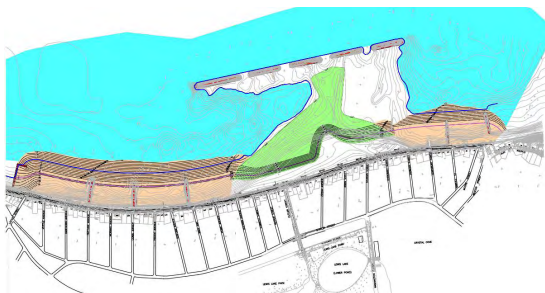
Project Consultant Team

- **Parsons Brinckerhoff, Inc.** – *Lead Engineering Consultant*
- **Applied Coastal Research
& Engineering Inc.** – *Coastal Engineers*
- **Pressley Associates, Inc.** - *Landscape Architects*



Project Timeline to Date

- 1999 – 2000 Project Startup, Initial Public Meetings
- 2001 – 2012 Project Permitting
- 2006 Emergency Seawall Repair by Pearl Ave.
- 2012 Phase 1: Groin Repairs
- 2012 – 2013 Phase 2: Southern Nourishment
- 2014- 2015 Phase 3: North Nourishment



Agenda

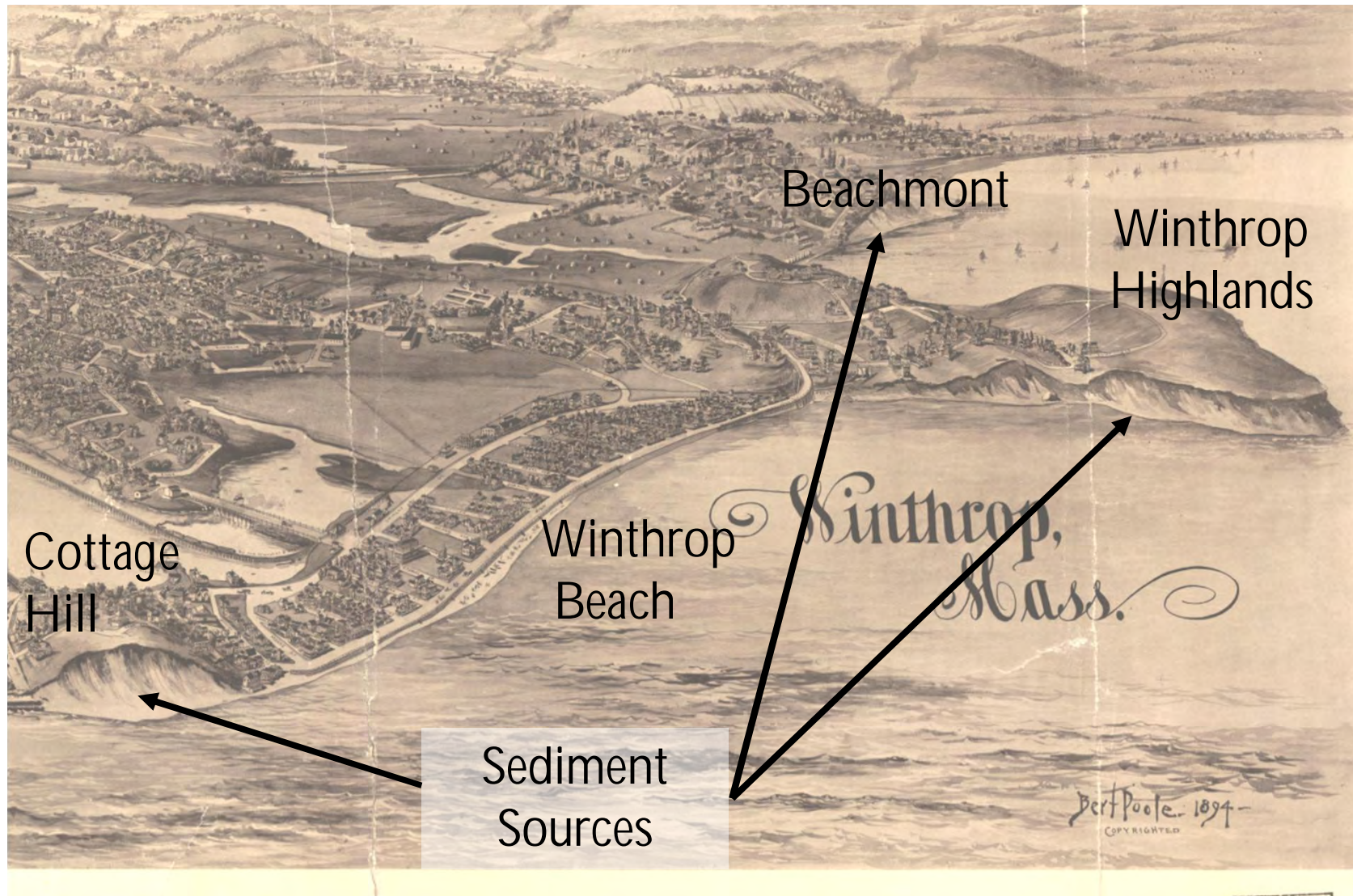
- Winthrop Beach Nourishment Project Update



- Winthrop Shore Drive Improvements Project



Winthrop Beach 1894



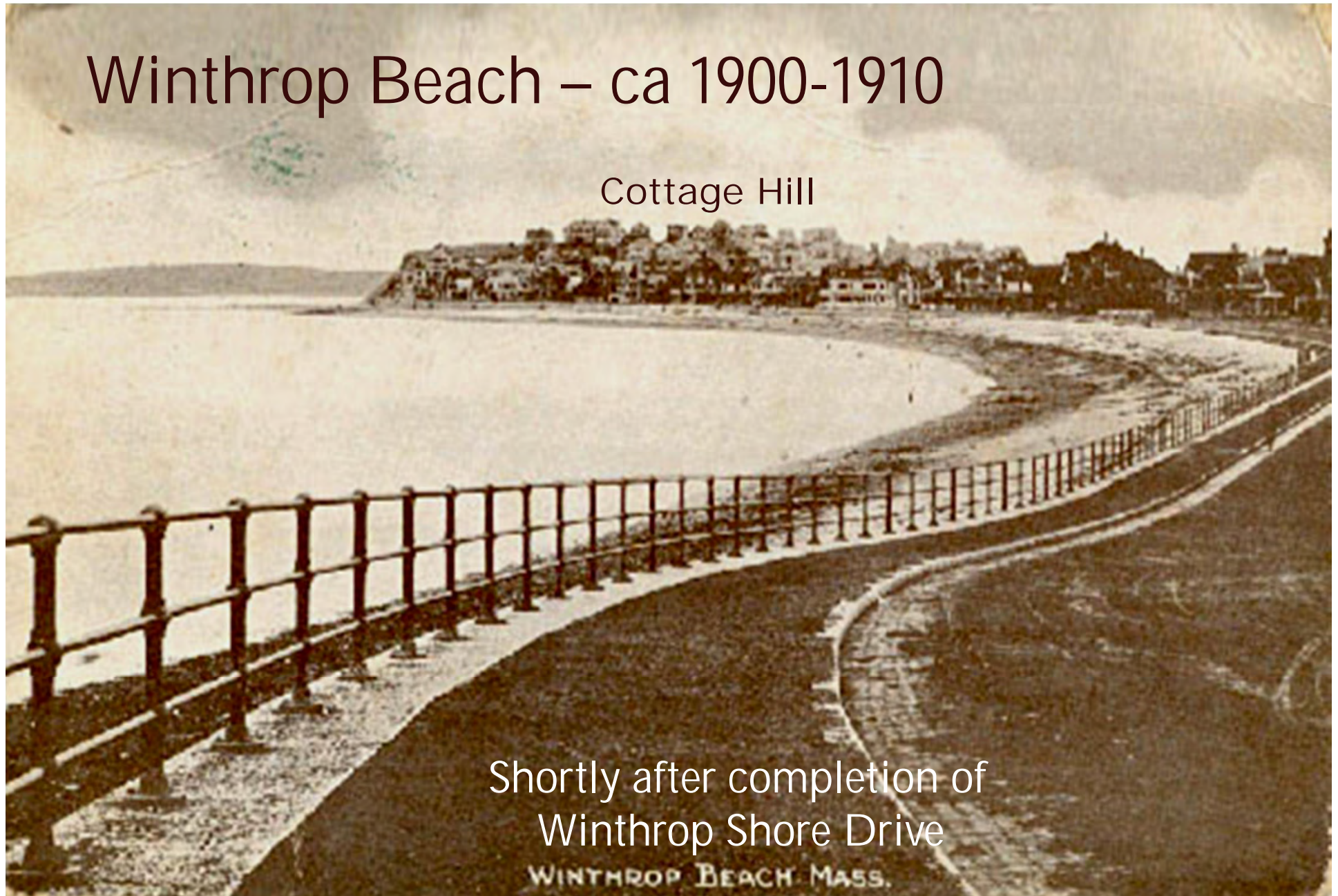
Seawall Construction 1899



After the Portland Gale
of 1898

Winthrop Beach – ca 1900-1910

Cottage Hill



Shortly after completion of
Winthrop Shore Drive

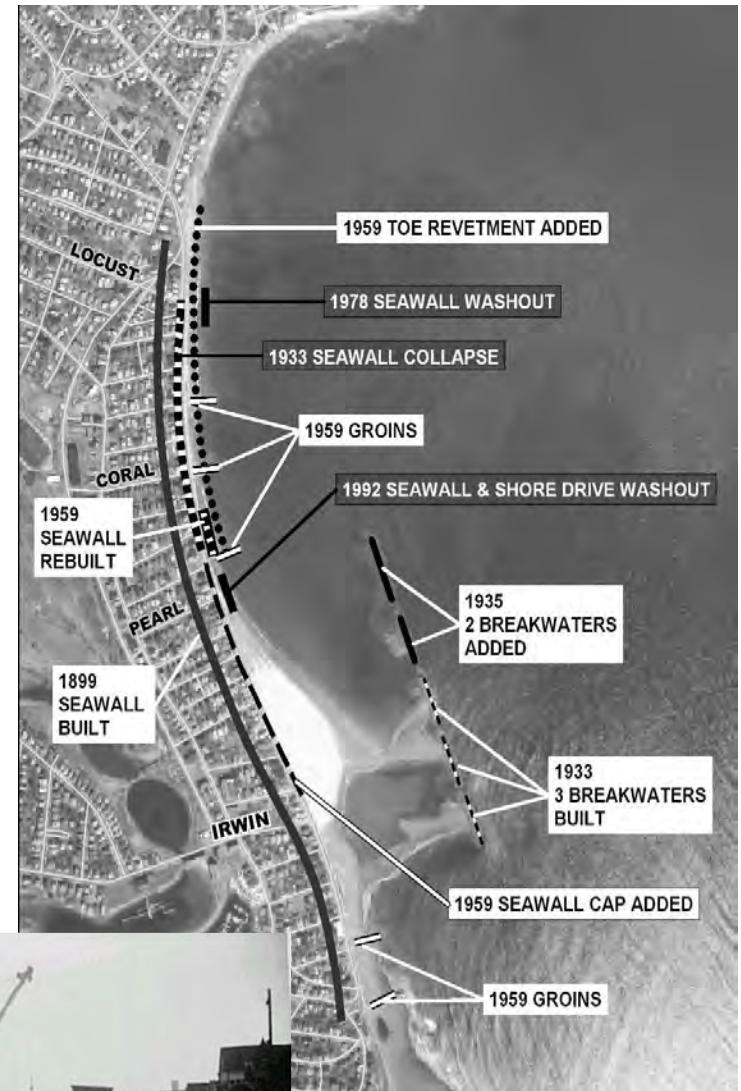
Winthrop Beach – 1933

First 3 of the “Five Sisters”



Storms, Damage & Shore Protection

- 1898: Portland Gale
- 1899: Seawall Constructed
- 1933: Seawall Collapse
- 1933 & 1935:
The Five Sisters
- 1959:
Groyne, Toe Revetment
& Seawall Cap
- 1978: Seawall Washout
- 1992: Shore Drive
Sinkhole



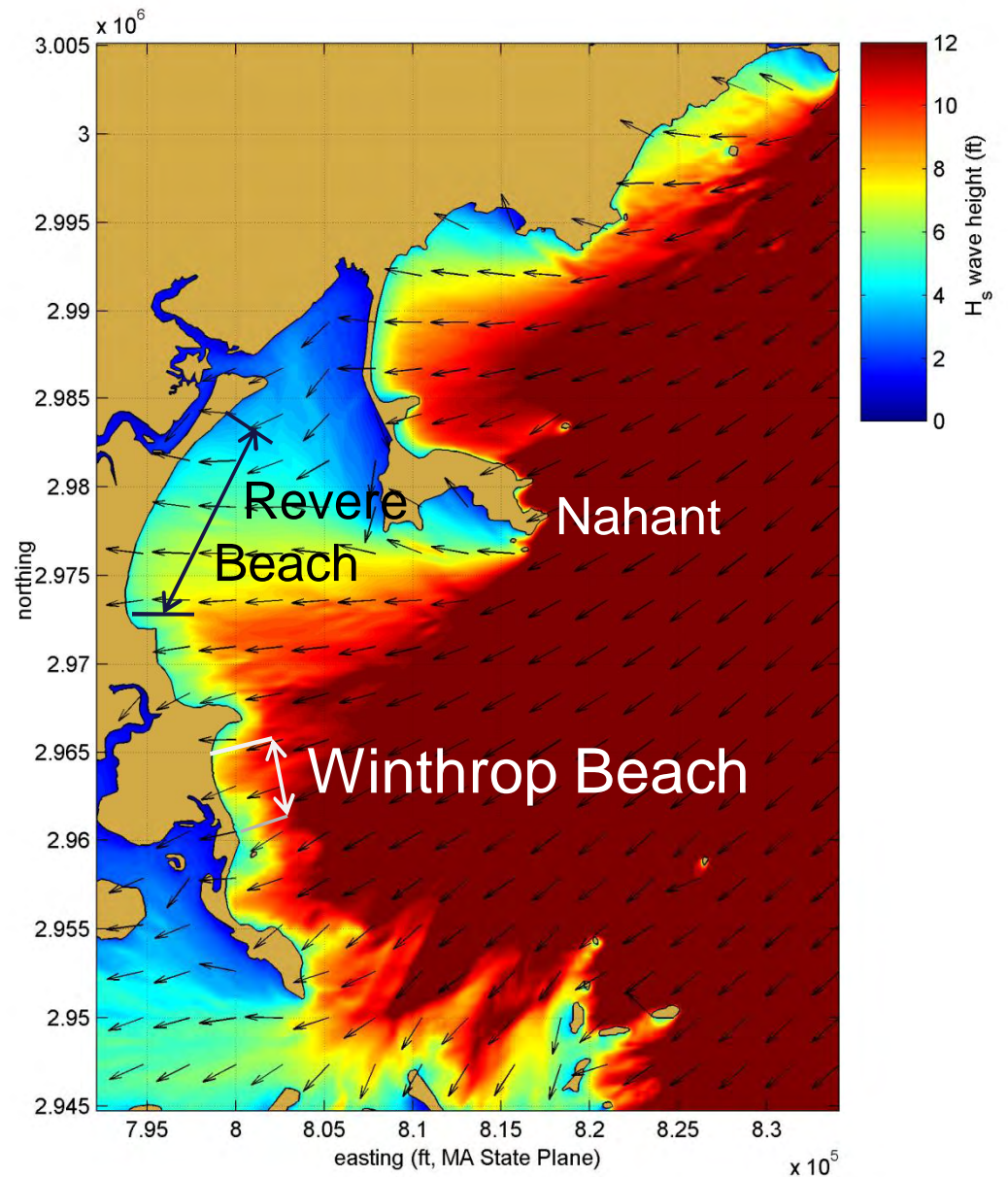
Coastal Processes at Winthrop Beach

- North-to-south drift
- Limited sediment supply
- Lowering of beach
 - Scour at seawalls
 - Failure of groins
- Past nourishment -1959
- Tombolo/salient



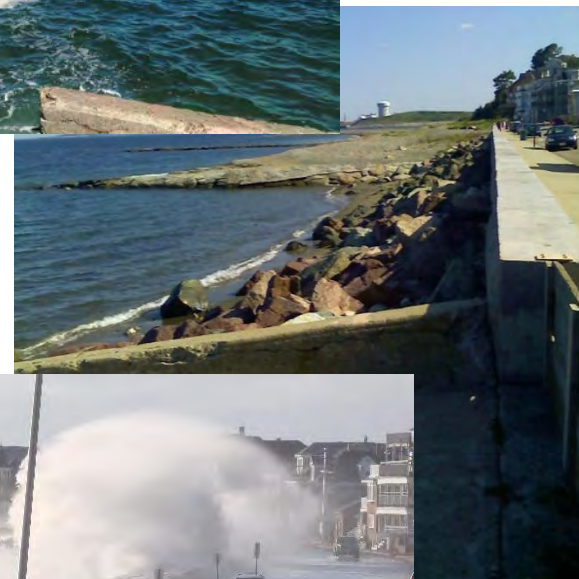
Coastal Processes at Winthrop Beach

Northeast Storm Waves



Winthrop Beach: Need for Beach Nourishment

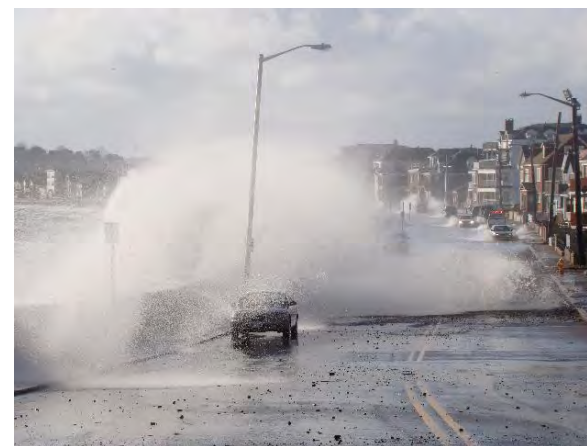
- Natural sediment supply lost:
 - Seawalls and revetments
- Eroded Beach:
 - No high tide beach
 - Beach lowering
 - Seawall overtopping
- Seawall compromised
- Need for shore protection



Winthrop Beach: Need for Beach Nourishment



Winthrop Beach: Need for Beach Nourishment



Winthrop Beach: Need for Beach Nourishment



Above: Beachfront Houses Vulnerable to Storm Surge



Right: 1907 Storm: Heavy Surf Batters Seawall

Winthrop Beach: Need for Beach Nourishment



Above: Storm Damage to Seawall

Right: Storm Damage to
Structures along Shoreline



Winthrop Beach: Conditions Prior to Nourishment

- Natural sediment supply lost:
 - Seawalls and revetments north and south of the beach
- Sand/gravel/cobble beach
- Seawall compromised



Winthrop Beach: Conditions Prior to Nourishment

- Eroded Beach:
 - No high tide beach
 - Beach lowering
 - Seawall overtopping
 - Seawall compromised





Boston Globe:
2011 and 2007



Conditions Prior to Nourishment



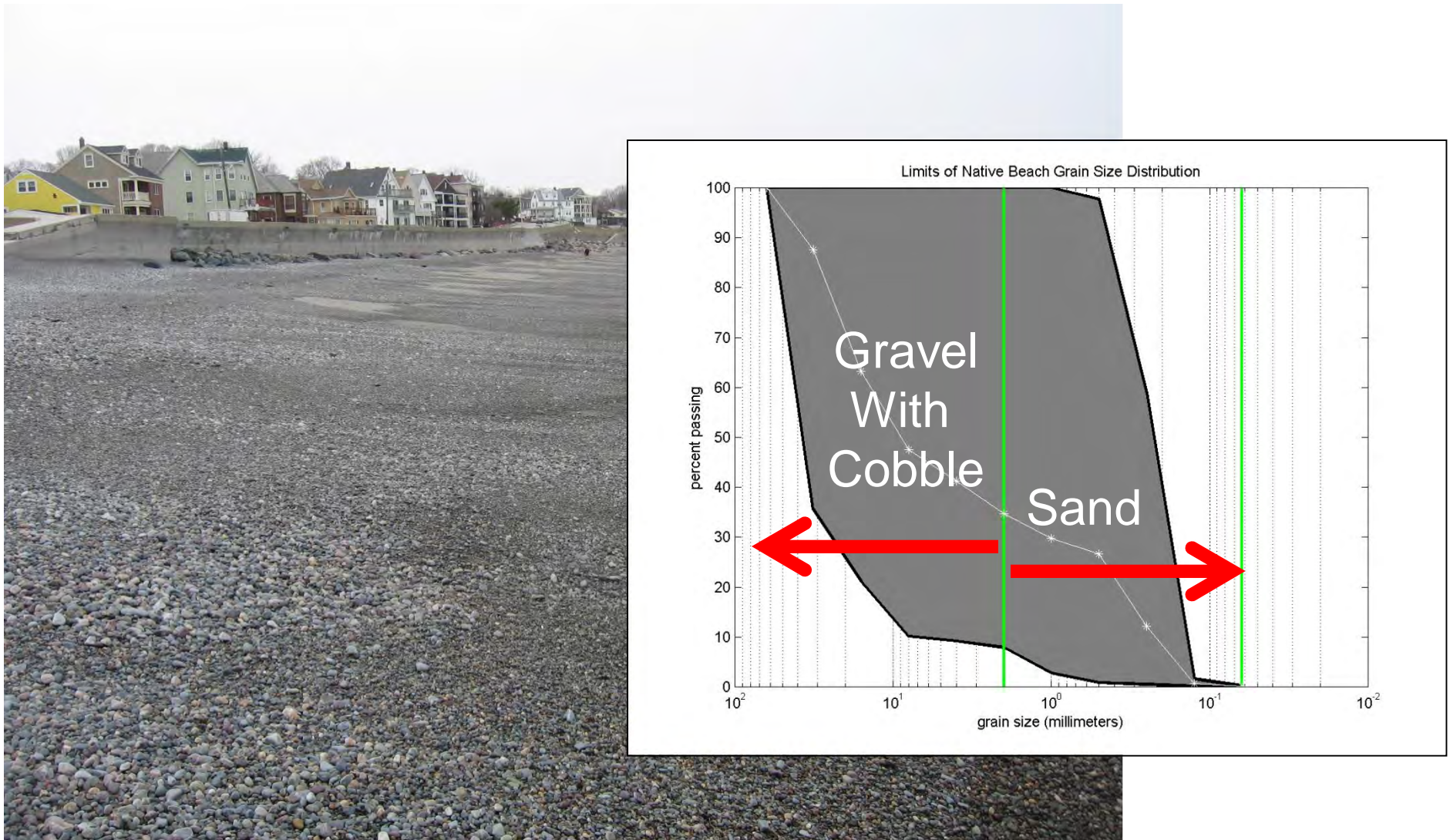
Winthrop Beach: Mixed Sediment Beach



Winthrop Beach: Mixed Sediment Beach



Compatible Sediments – Sand and Gravel, with Cobble



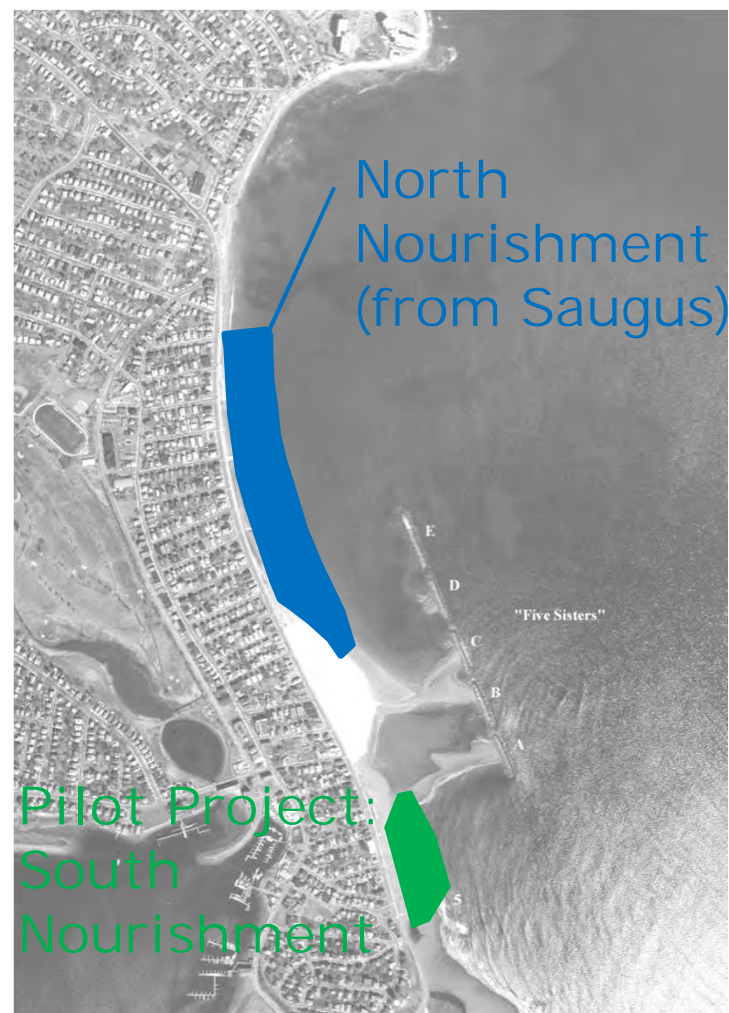
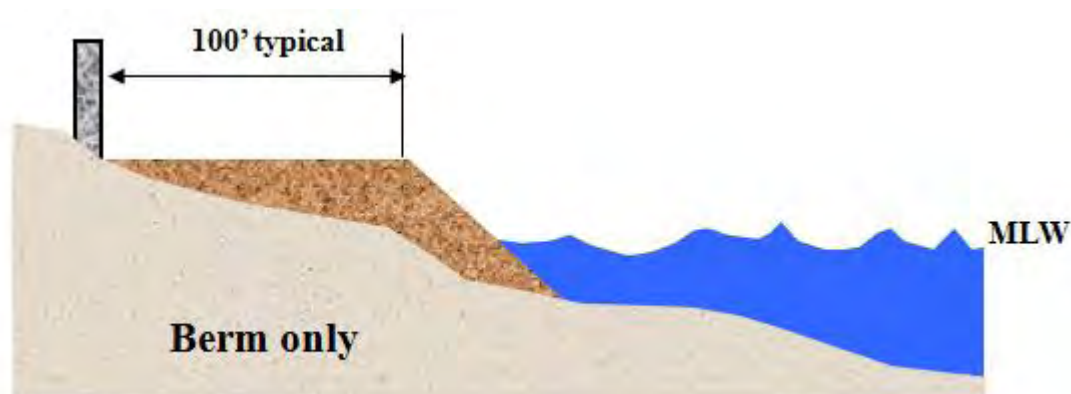
Winthrop Beach Nourishment: Beach Fill Specifications

- Mix of sand, gravel and cobbles, to match existing beach gradation

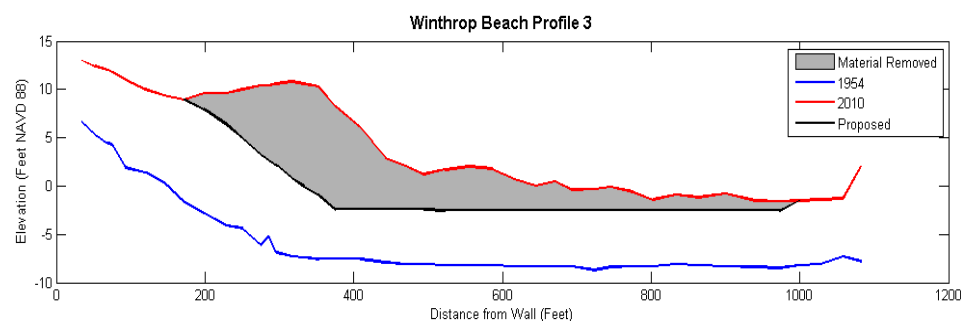
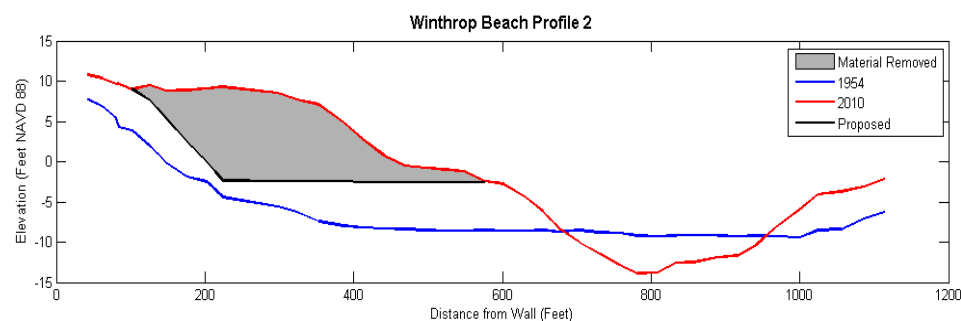


Winthrop Beach - The Solution: Beach Nourishment from a Compatible Source

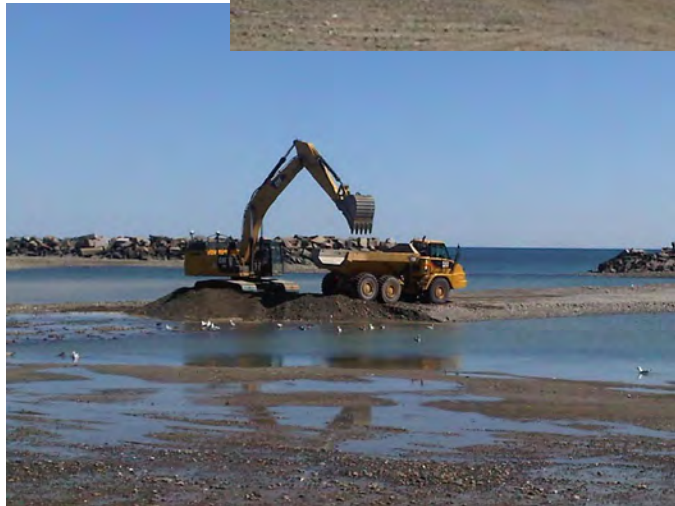
Purpose: **Shore Protection**



The "Pilot Project": Dredging Tombolo for Southern Nourishment



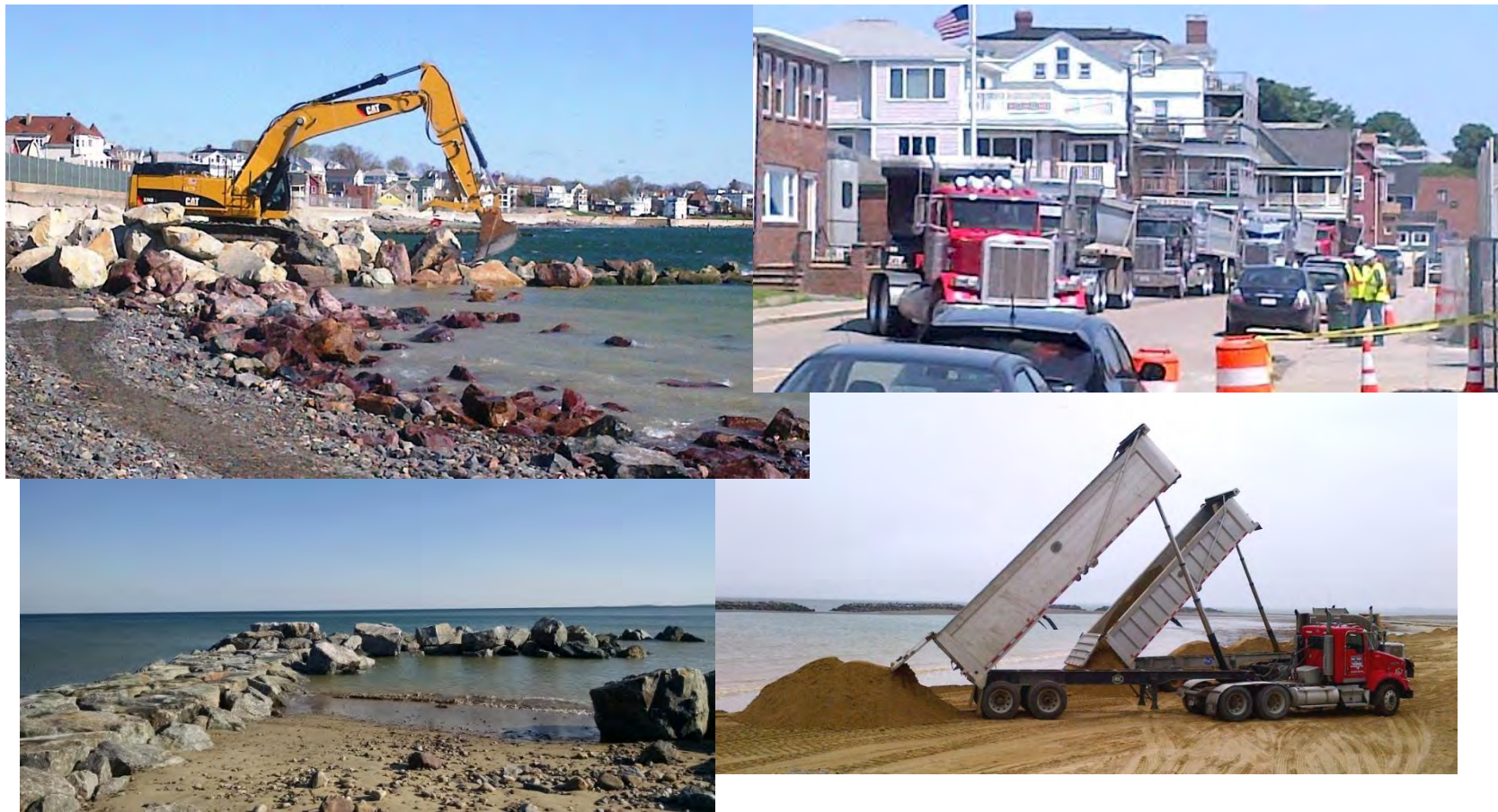
Winthrop Beach Nourishment: Southern Portion Construction



Southern Nourishment



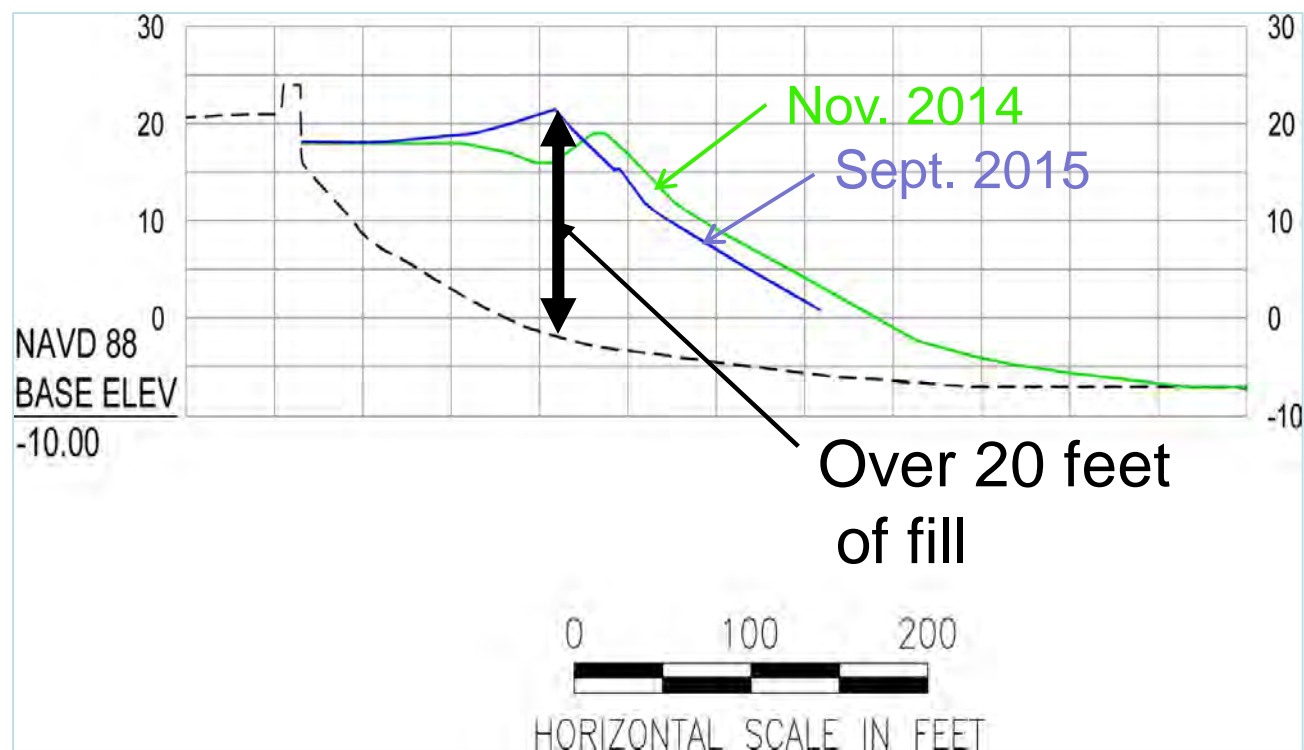
Winthrop Beach Nourishment: Northern Portion Construction



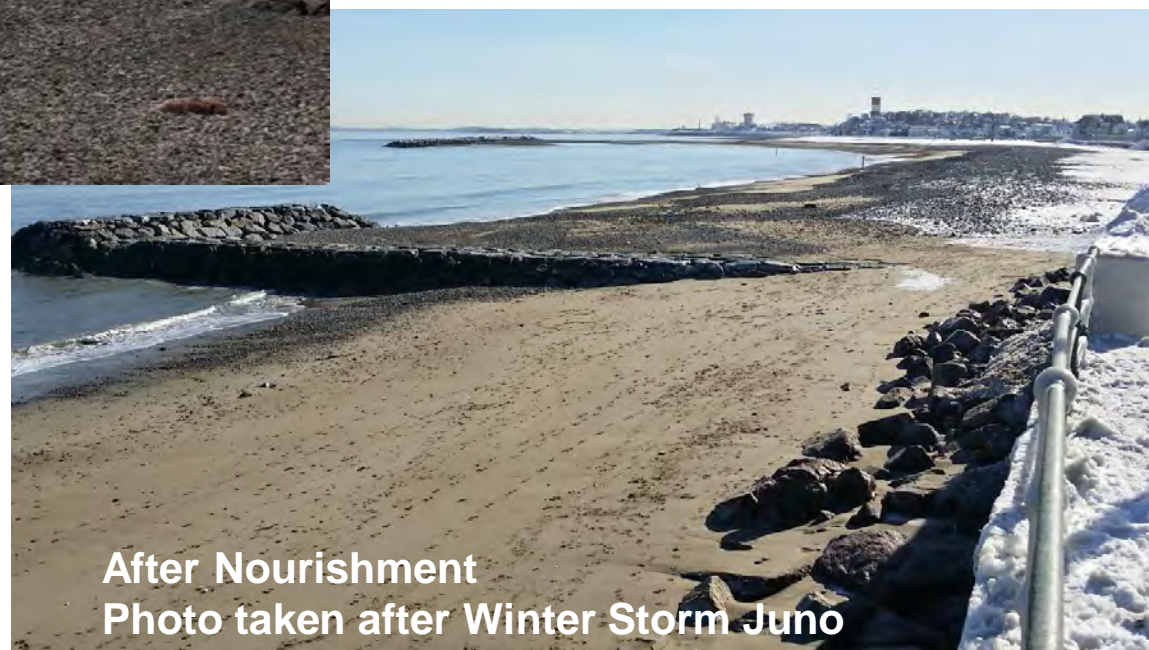
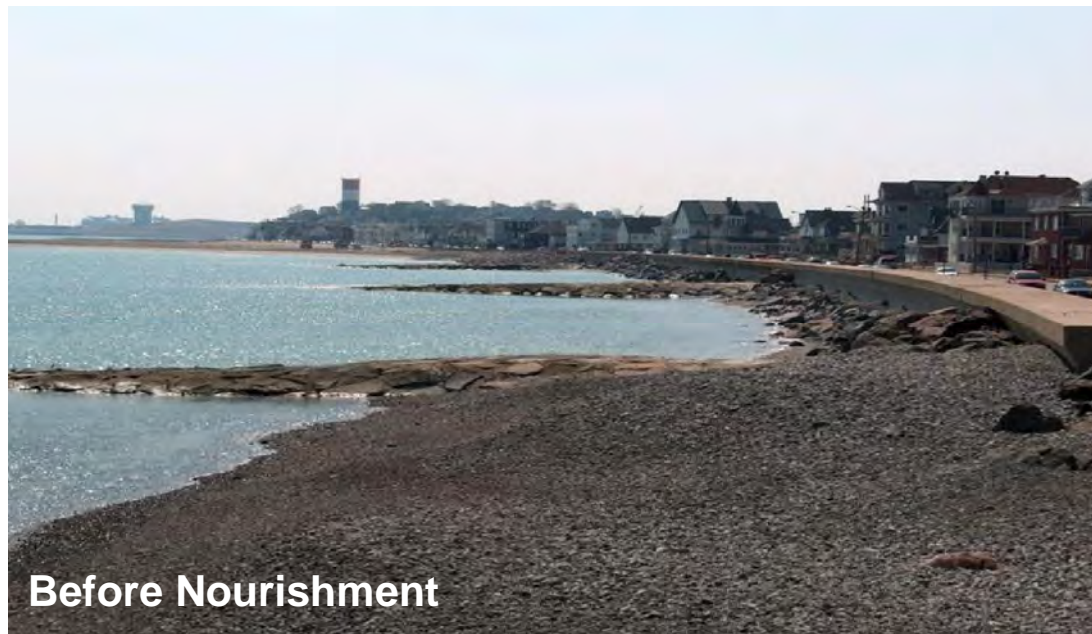
Northern Nourishment



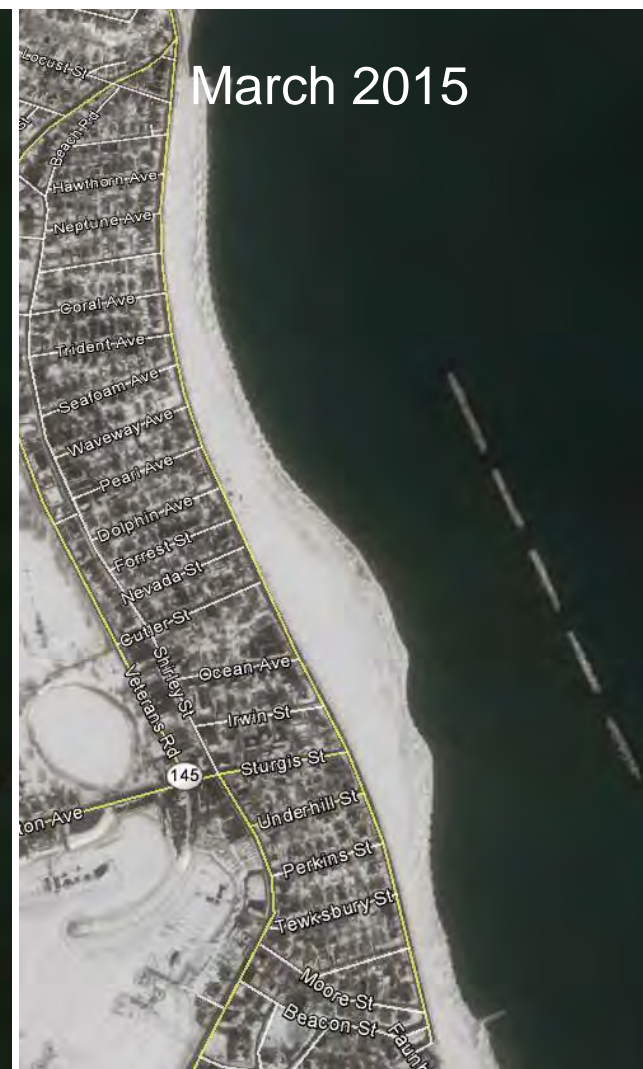
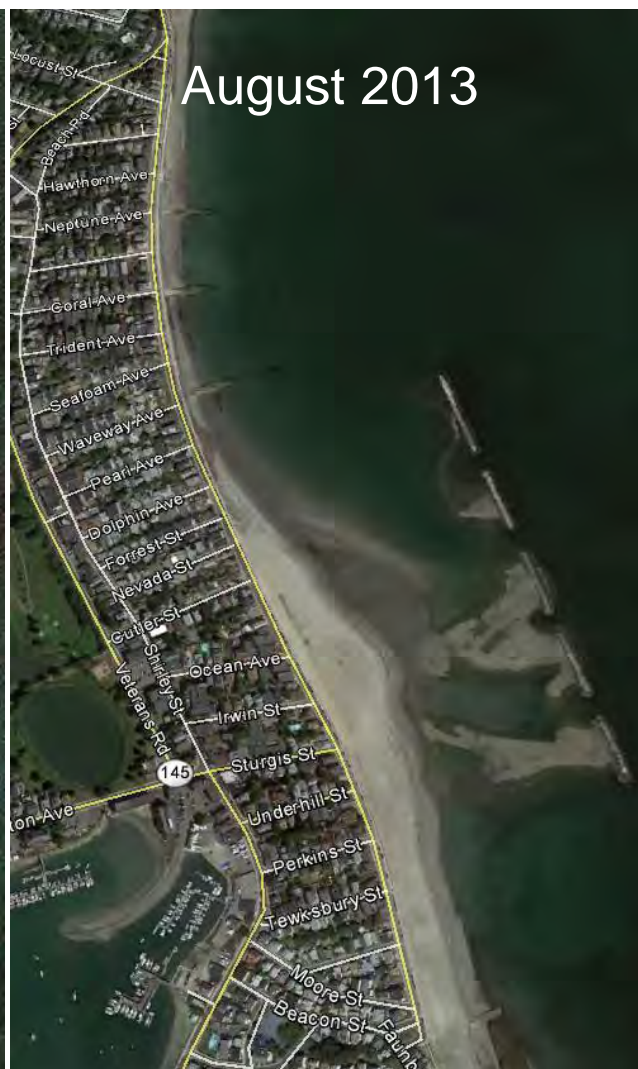
Northern Nourishment



Nourishment Performance



Winthrop Beach – Performance



Winthrop Beach – Performance



Winthrop Beach – Performance



Winthrop Beach – Schedule of Maintenance

Winter:

- Snow removal on Winthrop Shore Drive, sidewalks and crosswalk openings
- Clearing of storm debris as needed

Spring/Fall:

- Street Sweeping monthly
- Barrels emptied daily
- Grass cut around bathhouse as needed
- Clearing of storm debris as needed

Winthrop Beach – Schedule of Maintenance

Summer:

- Street Sweeping monthly
- Barrels emptied daily
- Litter picked from beach, sidewalks and Drive daily
- Bathhouse cleaned daily (more often as needed)
- Beach Sanitizing/Raking as permitted with monitor during plover season
- Clearing of storm debris as needed



Phase 4 – Shore Drive Improvements

- Reconstruction of Shore Drive
- Beach Amenities
- New Stormwater Management System



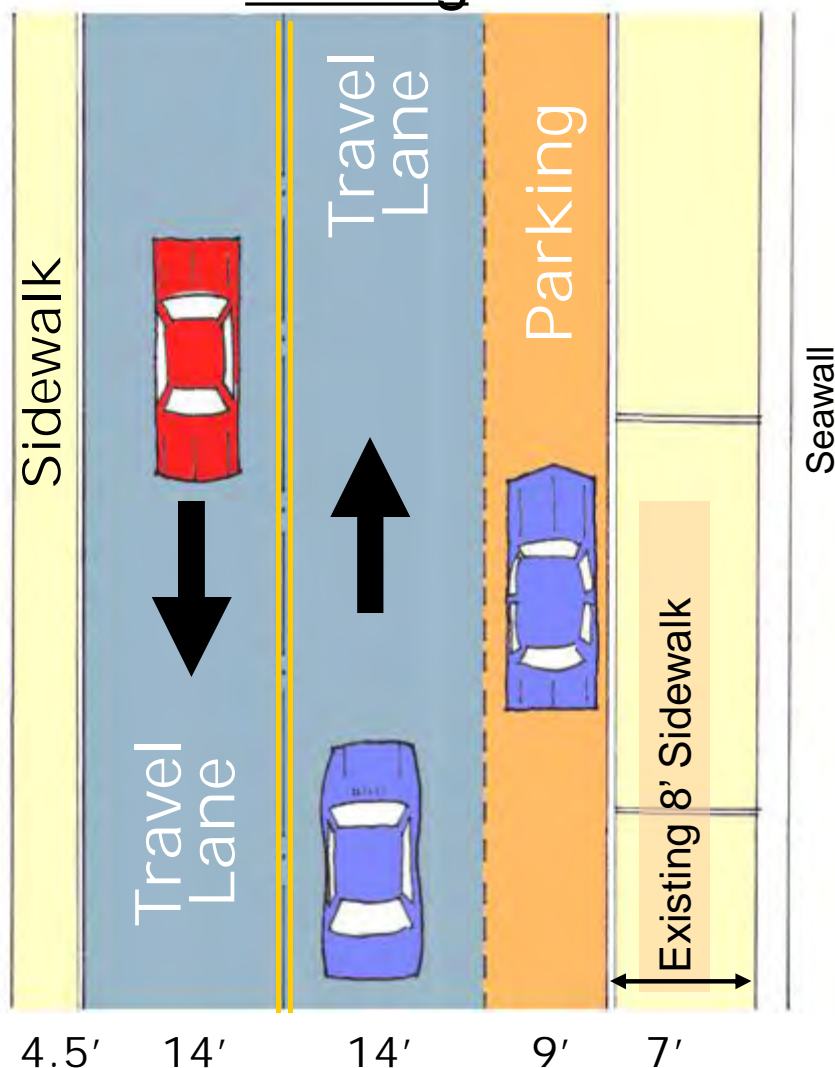
Phase 4 – Shore Drive Improvements

- Reconstruction of Shore Drive
 - New, wider, more accessible sidewalks
 - Traffic calming:
 - Bump-outs at major crosswalks
 - Narrow lanes to 11 ft.
 - New wheelchair ramps
 - Repave roadway
 - New gateway at Beach Road
- Requirements:
 - Maintain 2-way Traffic
 - Maintain parking
 - Adequate width for Fire Dept. & trucks

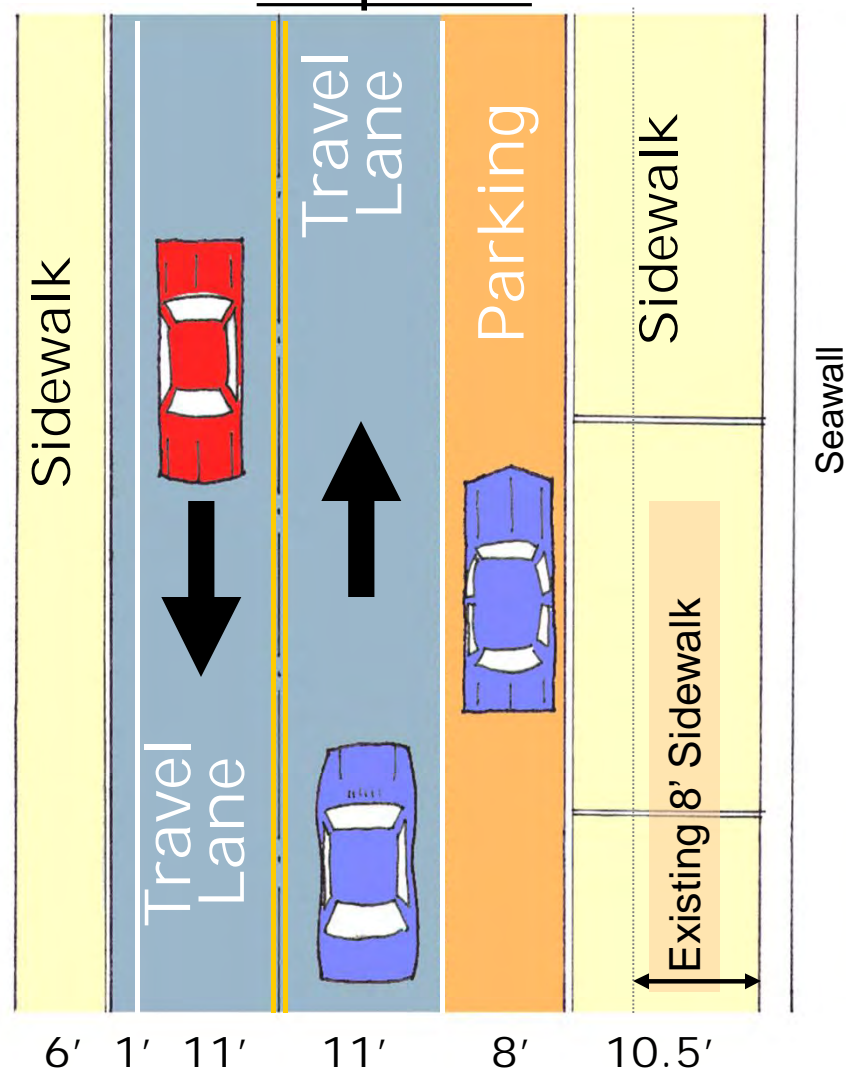


Phase 4 – Shore Drive Improvements

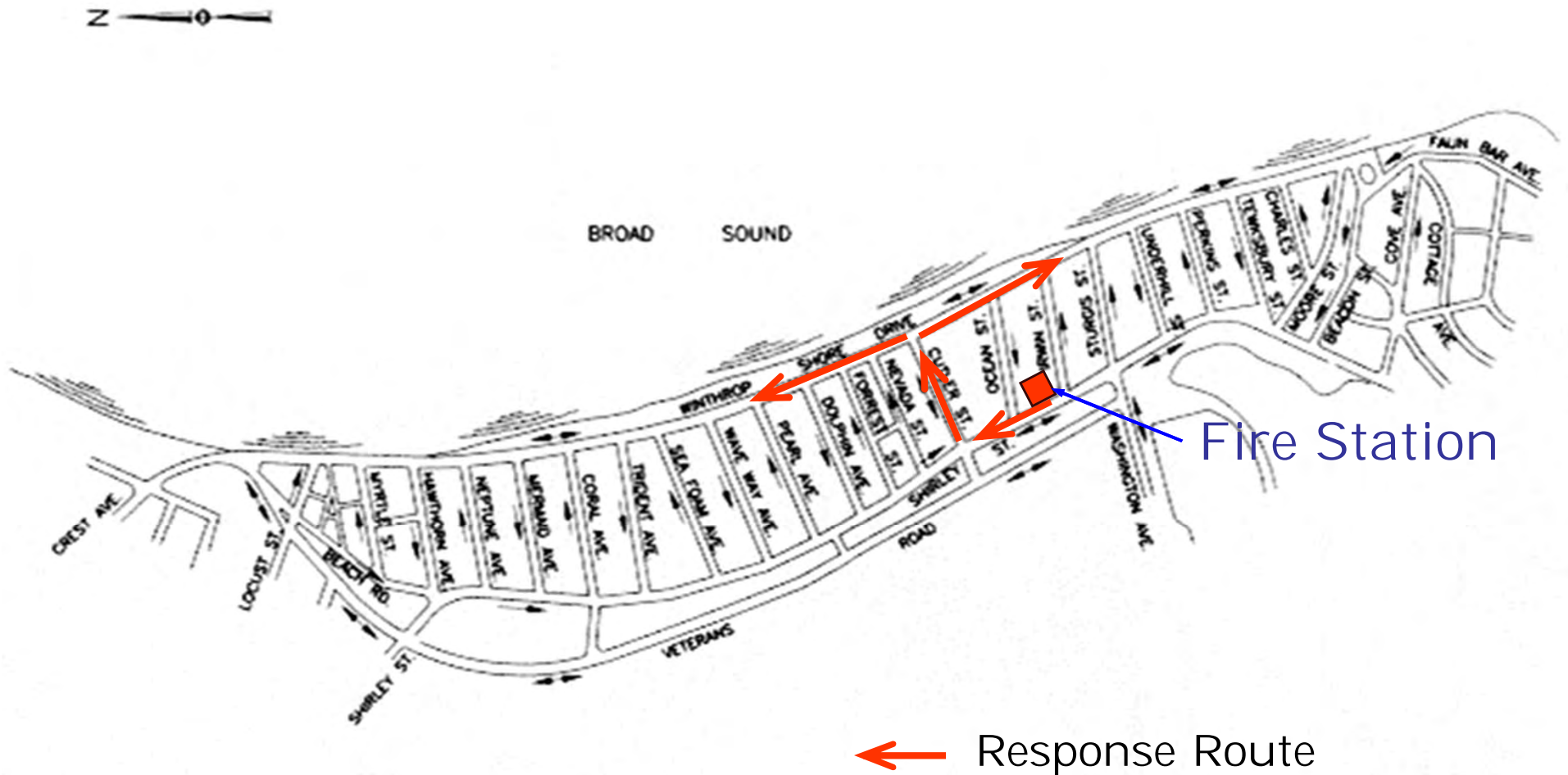
Existing



Proposed



Phase 4 – Shore Drive Improvements Emergency Response Routes



Phase 4 – Shore Drive Improvements

Beach Amenities at 5 Major Entrances:

- Improved accessible beach entrances
- Shower towers
- Drinking fountains
- Bike racks
- Seating
- Mutt Mitt Dispensers

**Pearl Ave. amenities being installed with the beach nourishment contract*



Phase 4 – Shore Drive Improvements

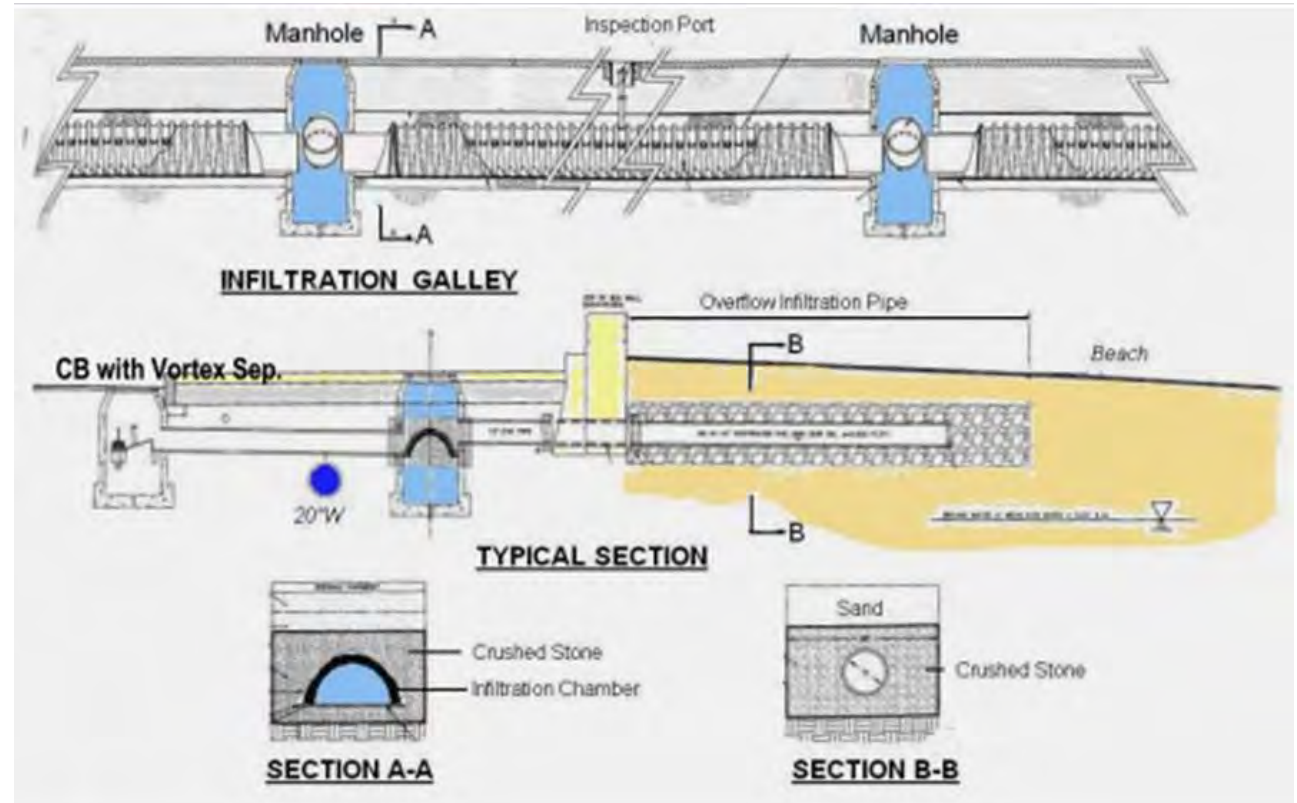
Beach Amenities:

- Improved accessible beach entrances
- Shower towers
- Drinking fountains
- Bike racks
- Seating
- Mutt Mitt Dispensers



Phase 4 – Shore Drive Improvements

- New Stormwater Management System
 - New catch basins
 - New stormwater infiltration system



Phase 4 – Upland Improvements - Schedule

- Complete design: 2015/2016
- Bid & award: 2016
- Pre-construction Public Meeting: 2016
- Construction: 2016/2017



Winthrop Beach – Phase 4 Questions and Answers



Additional Information

For more information:

<http://www.mass.gov/eea/agencies/dcr/public-outreach/public-meetings/>

If you have comments:

Submit Online: <http://www.mass.gov/eea/agencies/dcr/public-outreach/submit-public-comments/>

Write: Department of Conservation and Recreation
Office of Public Outreach
251 Causeway Street, Suite 600
Boston, MA 02114

Deadline: Friday, October 23, 2015

Note: Public comments submitted to DCR may be posted on the DCR website in their entirety.

If you have other questions or concerns, or wish to subscribe to a DCR general information or project-specific listserv: contact DCR's Office of Community Relations at 617-626-4973 or Mass.Parks@state.ma.us.

Emergency Contact

- Call 911
- DCR Construction trailer
(7 am to 3 pm): 617-539-4957
- DCR Office of Community Relations: 617-626-4973

The "Lagoon" and Yirrell Beach



The "Lagoon" and Yirrell Beach



South of Project



2001



2009



2010



2014



2015



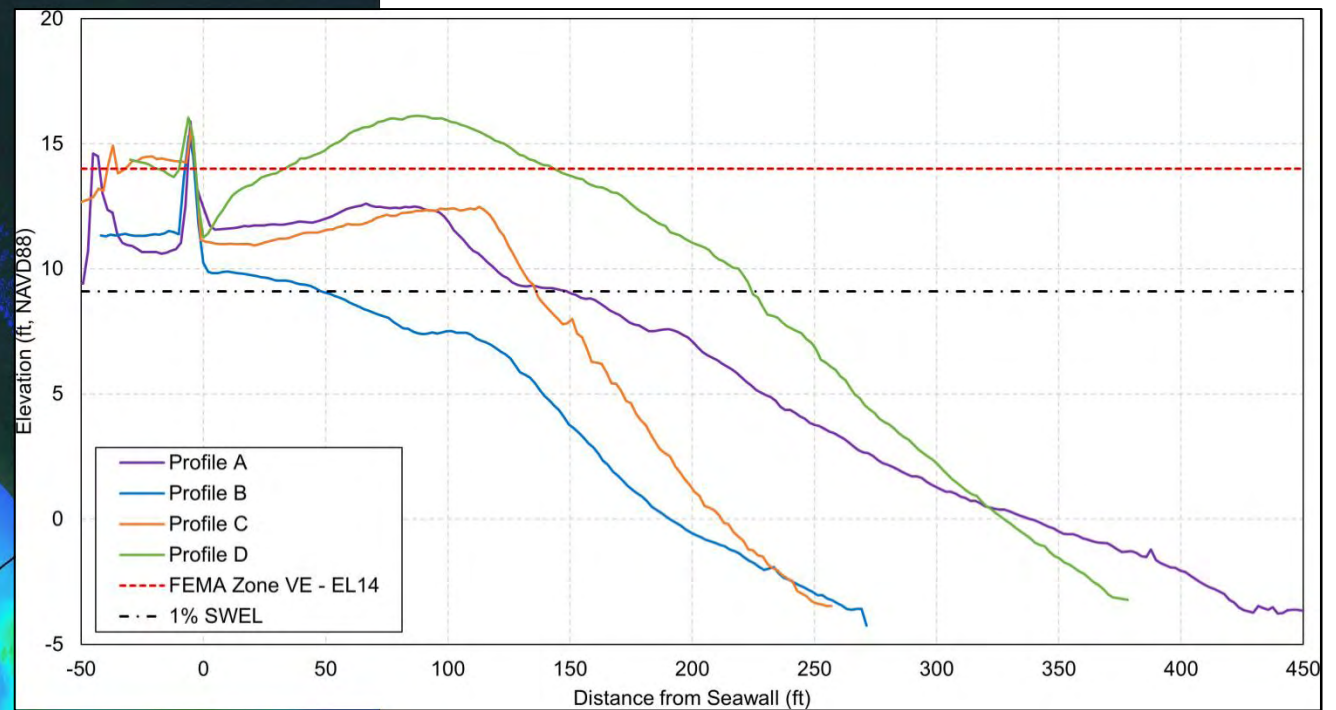
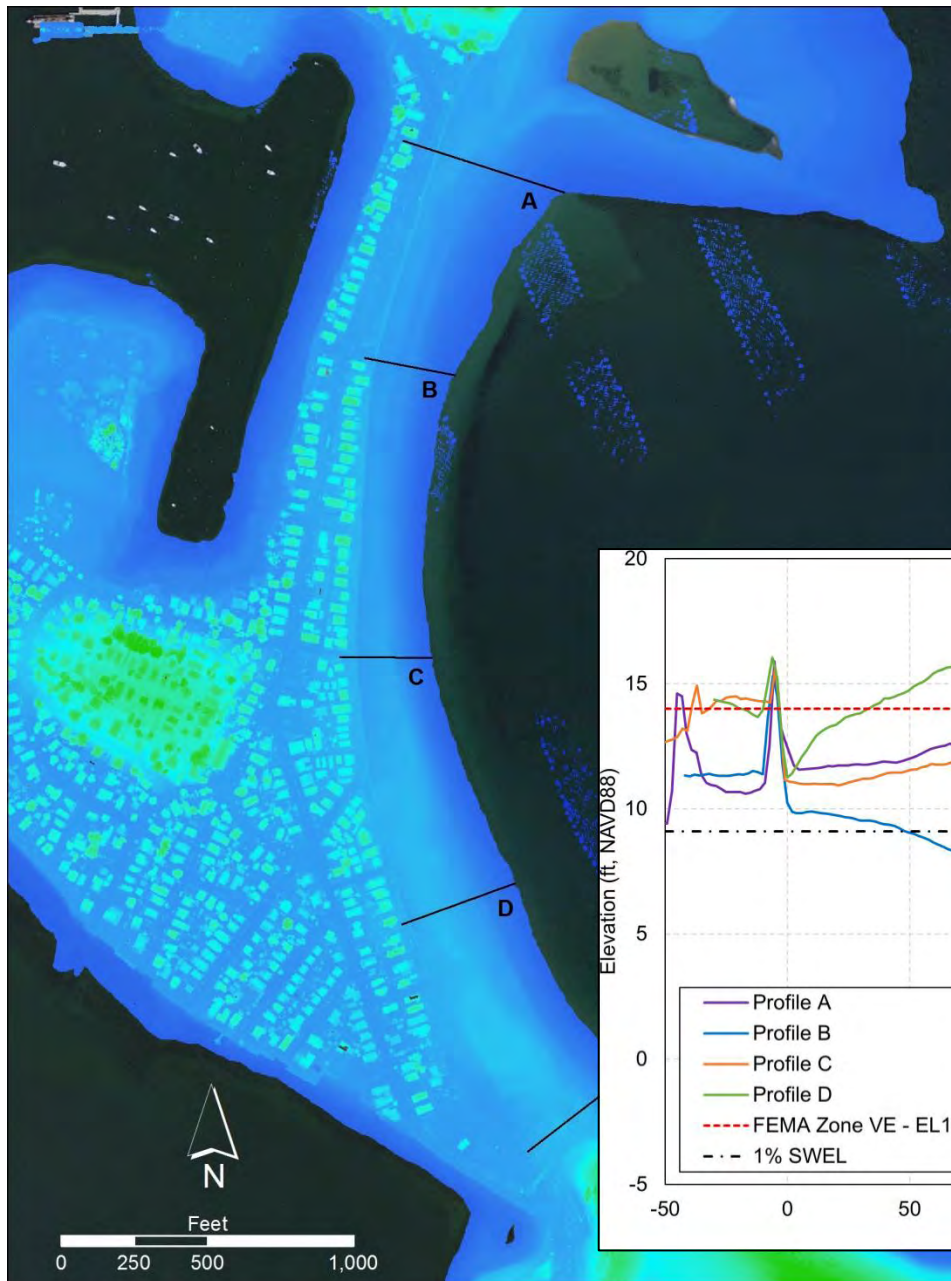


Yirrell Beach

Repetitive Loss Properties

Yirrell Beach

Profiles



Project Phasing

