



**US Army Corps
of Engineers**®
New England District
696 Virginia Road
Concord, MA 01742-2751

PUBLIC NOTICE

Comment Period Begins: July 28, 2015
Comment Period Ends: August 27, 2015
File Number: NAE-2014-259
In Reply Refer To: Phillip W. Nimeskern
Phone: (978) 318-8660
E-mail: phillip.w.nimeskern@usace.army.mil

The District Engineer has received a permit application to conduct work in waters of the United States from the Town of Sandwich, Massachusetts. This work is proposed in the Atlantic Ocean at Town Neck Beach, Sandwich, Massachusetts. The site coordinates are: Latitude 41°46'4.56", Longitude 70°29'3.54".

The project involves work and the placement of dredged and fill material below the high tide line of waters of the United States in order to perform beach and dune nourishment of Town Neck Beach. Approximately 388,000 cubic yards of material will be placed along 5000 linear feet of the beach covering 41 acres in area. The Town is seeking the flexibility to construct the project using a mixture of trucking and hydraulic pumping of dredged material, potentially in phases over multiple years. This flexibility will allow beneficial reuse of dredged sediment when it becomes available from nearby dredging projects, with additional sand trucked to the site from local sources as funding allows. Some of the dredged material may come from the Cape Cod Canal. The Corps is preparing a suitability determination to determine if the nourishment material is compatible with the existing beach sediments. The project purpose is to restore the eroding beach and dunes in order to manage coastal erosion and upland flooding. The project will also help protect existing salt marsh and improve recreational benefits of the beach. The work is shown on the attached plans entitled "Sandwich Town Beach and Dune Restoration," on 12 sheets, and dated September 10, 2014.

AUTHORITY

Permits are required pursuant to:

- Section 10 of the Rivers and Harbors Act of 1899
- Section 404 of the Clean Water Act
- Section 103 of the Marine Protection, Research and Sanctuaries Act.

The decision whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which may reasonably accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are: conservation, economics, aesthetics, general environmental concerns, wetlands, cultural value, fish and wildlife values, flood hazards, flood plain value, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; 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 to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess

CENAE-R
FILE NO. NAE-2014-259

impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Where the activity involves the discharge of dredged or fill material into waters of the United States or the transportation of dredged material for the purpose of disposing it in ocean waters, the evaluation of the impact of the activity in the public interest will also include application of the guidelines promulgated by the Administrator, U.S Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act, and/or Section 103 of the Marine Protection Research and Sanctuaries Act of 1972, as amended.

ESSENTIAL FISH HABITAT

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires all federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH).

This project will impact 41 acres of Essential Fish Habitat (EFH) for various life stages of Atlantic cod (*Gadus morhua*), haddock (*Melanogrammus aeglefinus*), pollock (*Pollachius virens*), whiting (*Merluccius bilinearis*), red hake (*Urophycis chuss*), white hake (*Urophycis tenuis*), winter flounder (*Pseudopleuronectes americanus*), yellowtail flounder (*Limanda ferruginea*), windowpane flounder (*Scophthalmus aquosus*), American plaice (*Hippoglossoides platessoides*), ocean pout (*Macrozoarces americanus*), Atlantic halibut (*Hippoglossus hippoglossus*), Atlantic sea scallop (*Placopecten magellanicus*), Atlantic sea herring (*Clupea harengus*), monkfish (*Lophius americanus*), bluefish (*Pomatomus saltatrix*), long finned squid (*Loligo pealeii*), short finned squid (*Illex illecebrosus*), Atlantic butterfish (*Peprilus triacanthus*), Atlantic mackerel (*Scomber scombrus*), summer flounder (*Paralichthys dentatus*), scup (*Stenotomus chrysops*), black sea bass (*Centropristis striata*), spiny dogfish (*Squalus acanthias*), and bluefin tuna (*Thunnus thynnus*). This habitat consists of intertidal sand. Loss of this habitat may adversely affect the species listed above. However, the District Engineer has made a preliminary determination that the site-specific adverse effect will not be substantial. Further consultation with the National Marine Fisheries Service regarding EFH conservation recommendations is being conducted and will be concluded prior to the final decision.

NATIONAL HISTORIC PRESERVATION ACT

Based on his initial review, the District Engineer has determined that little likelihood exists for the proposed work to impinge upon properties with cultural or Native American significance, or listed in, or eligible for listing in, the National Register of Historic Places. Therefore, no further consideration of the requirements of Section 106 of the National Historic Preservation Act of 1966, as amended, is necessary. This determination is based upon one or more of the following:

- a. The permit area has been extensively modified by previous work.
- b. The permit area has been recently created.
- c. The proposed activity is of limited nature and scope.
- d. Review of the latest published version of the National Register shows that no presence of registered properties listed as being eligible for inclusion therein are in the permit area or general vicinity.
- e. Coordination with the State Historic Preservation Officer and/or Tribal Historic Preservation Officer(s)

ENDANGERED SPECIES CONSULTATION

The New England District, Army Corps of Engineers has reviewed the list of species protected under the Endangered Species Act of 1973, as amended, which might occur at the project site. It is our preliminary determination that the proposed activity for which authorization is being sought is designed, situated or will be operated/used in such a manner that it is not likely to adversely affect any Federally listed endangered or threatened species or their designated critical habitat. By this Public Notice, we are requesting that the appropriate Federal Agency concur with our determination.

COASTAL ZONE MANAGEMENT

The States of Connecticut, Maine, Massachusetts, New Hampshire and Rhode Island have approved **Coastal Zone Management Programs**. Where applicable, the applicant states that any proposed activity will comply with and will be conducted in a manner that is consistent with the approved Coastal Zone Management Program. By this Public Notice, we are requesting the State concurrence or objection to the applicant's consistency statement.

The following authorizations have been applied for, or have been, or will be, obtained:


- (X) Permit, License or Assent from State.
- (X) Permit from Local Wetland Agency or Conservation Commission.
- (X) Water Quality Certification in accordance with Section 401 of the Clean Water Act.

In order to properly evaluate the proposal, we are seeking public comment. Anyone wishing to comment is encouraged to do so. Comments should be submitted in writing by the above date. If you have any questions, please contact Phillip Nimeskern at (978) 318-8660, (800) 343-4789 or (800) 362-4367, if calling from within Massachusetts.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for a public hearing shall specifically state the reasons for holding a public hearing. The Corps holds public hearings for the purpose of obtaining public comments when that is the best means for understanding a wide variety of concerns from a diverse segment of the public.

The initial determinations made herein will be reviewed in light of facts submitted in response to this notice. All comments will be considered a matter of public record. Copies of letters of objection will be forwarded to the applicant who will normally be requested to contact objectors directly in an effort to reach an understanding.

THIS NOTICE IS NOT AN AUTHORIZATION TO DO ANY WORK.


Kevin R. Kotelly, P. E.
Chief, Permits and Enforcement Branch
Regulatory Division

CENAE-R
FILE NO. NAE-2014-259

If you would prefer not to continue receiving Public Notices by email, please contact Ms. Tina Chaisson at (978) 318-8058 or e-mail her at bettina.m.chaisson@usace.army.mil. You may also check here () and return this portion of the Public Notice to: Bettina Chaisson, Regulatory Division, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751.

NAME: _____
ADDRESS: _____
PHONE: _____

2.0 USGS MAP



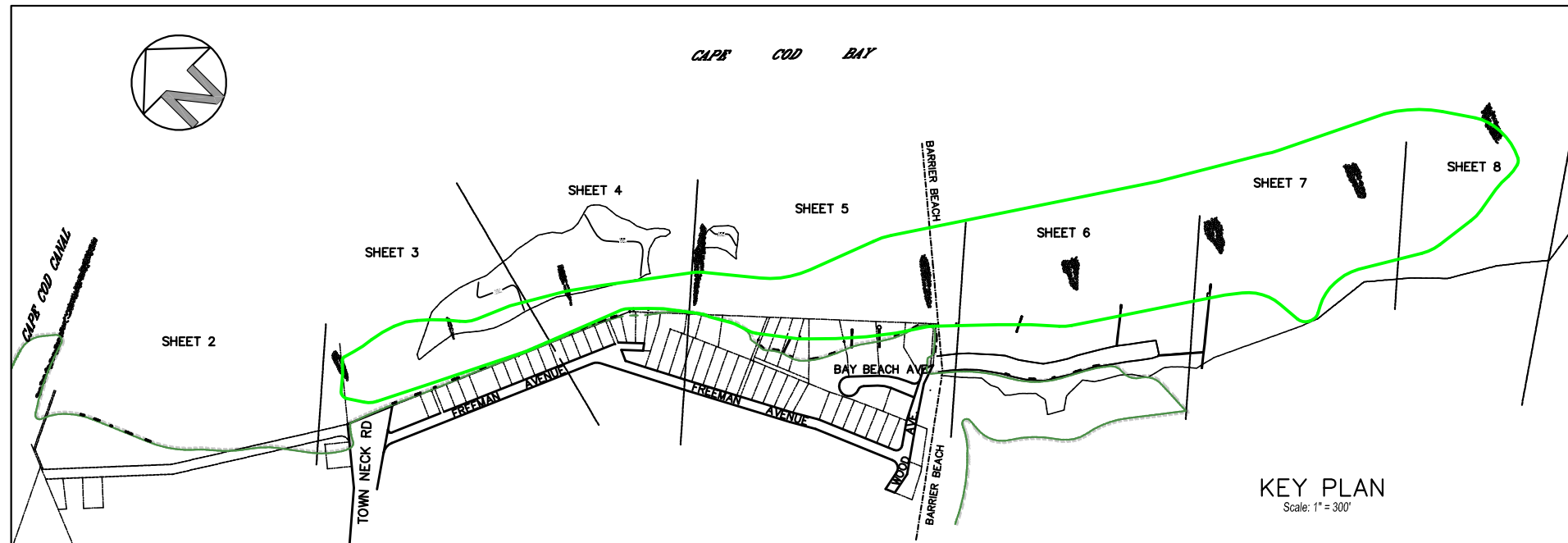
The Woods Hole Group
81 Technology Park Drive
E. Falmouth, MA 02536

Town of Sandwich Dune & Beach Reconstruction
Town Neck Beach & Vicinity
Sandwich, Massachusetts

USGS Sandwich Quadrangle



Location Map Not to Scale



Revisions	Date
1.	
2.	
3.	
4.	
5.	
6.	
7.	

Title: Sandwich Town Beach Beach and Dune Restoration
PREPARED FOR: Town of Sandwich
 Sandwich, MA

Project Number: 1998-114A
Drawing File: 1998-114A Sandwich
Scale:
Date: September 10, 2014
Approved:
Drawn: L.T.M.

Page 1 of 11

PERMIT PLAN:

THIS PLAN IS FOR PERMITTING PURPOSES ONLY. THE PLAN DESCRIBES THE FULL SCOPE OF THE PROJECT. CONTRACTOR SHALL COORDINATE WITH THE ENGINEER FOR DETAILING PRIOR TO PROVIDING A BID ON THIS PROJECT.

DATUM NOTES:

1. ELEVATIONS ARE REFERENCED TO NAVD 1988 VERTICAL DATUM (IN FEET).
2. MEAN LOW WATER ELEVATION IS APPROXIMATELY -4.88 FEET NAVD88.
3. MEAN HIGH WATER ELEVATION IS APPROXIMATELY 3.88 FEET NAVD88.

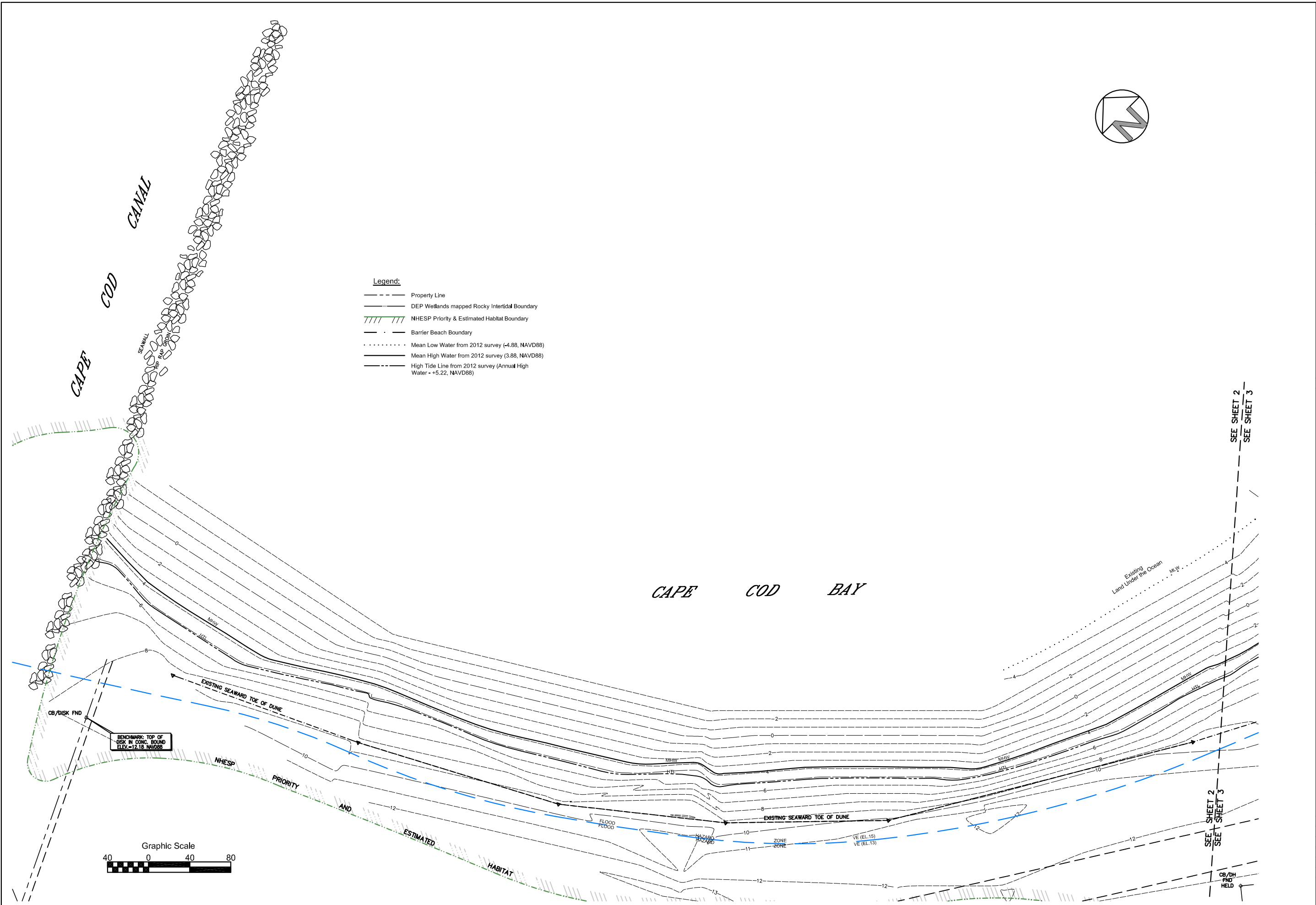
GENERAL NOTES:

1. PERFORMANCE OF WORK SHALL BE IN COMPLIANCE WITH THE PLANS AND DETAILS, AND ORDER OF CONDITIONS ISSUED BY THE TOWN OF SANDWICH CONSERVATION COMMISSION OR OTHER REGULATORY AGENCY FOR THE REFERENCED PROJECT PRESENTED ON THESE PLANS.
2. THE PURPOSE OF THIS PROJECT IS TO RESTORE DUNE AND BEACH RESOURCES ON TOWN NECK BEACH IN SANDWICH, MASSACHUSETTS. THE PROJECT CONSISTS OF DUNE AND BEACH RESTORATION AS SHOWN ON THE PLAN AND DETAILS. THE PROPOSED WORK INCLUDES THE CONSTRUCTION OF A COASTAL DUNE THAT REPLICATES CONDITIONS SIMILAR TO THE NATURAL HISTORIC DUNE ELEVATIONS CIRCA 1990 TIMEFRAME AND AN EXPANDED BEACH BERM AND BEACH SLOPE THAT PROVIDES ADDED WIDTH TO THE BEACH FOR RECREATION, HABITAT IMPROVEMENTS, AND EROSION PROTECTION.
3. THE DUNE AND BEACH RESTORATION PROJECT PRESENTED HEREIN IS INTENDED TO INCREASE OVERALL BEACH WIDTH, IMPROVE HABITAT AREAS, AND PROVIDE ENHANCED STORM DAMAGE PROTECTION.
4. CONSTRUCTION ACCESS AS INDICATED ON PLAN. UPON COMPLETION ALL DISTURBED AREAS TO BE RE-GRADED AND RE-VEGETATED TO MATCH PRE-CONSTRUCTION CONDITIONS.
5. NOURISHMENT MATERIAL SHOULD BE CLEAN, BEACH-COMPATIBLE, SAND BROUGHT TO THE SITE BY THE CONTRACTOR. IT IS REQUIRED THAT THE SEDIMENT SOURCE WILL BE TESTED TO ENSURE ADEQUATE BEACH COMPATIBILITY PRIOR TO ANY PLACEMENT OF THE NOURISHMENT MATERIAL. DEPENDING ON THE SOURCE OF THE SEDIMENT, ADDITIONAL PERMITS MAY BE REQUIRED. DEPENDING ON THE ULTIMATE SAND SOURCE, STILLING BASINS AND BERMS MAY BE REQUIRED IF DREDGED MATERIAL IS A COMPONENT OF THE OVERALL RESTORATION PROJECT. STILLING BASIN AND BERM APPROACHES FOR DEWATERING SEDIMENT NEED TO BE APPROVED BY THE ENGINEER AND THE REPRESENTATIVE OF THE CONSERVATION COMMISSION.

6. ALL WORK WILL BE COMPLETED FROM THE BEACH FOR THE DUNE AND BEACH RECONSTRUCTION.
7. DURING PERIODS OF HIGH WATER LEVELS, ALL EQUIPMENT WILL BE MOVED TO THE CONSTRUCTION ACCESS AREA AT PREDETERMINED STAGING AREAS.
8. THE RESTORATION PROJECT SPECIFIES DUNE CREST ELEVATIONS VARY BETWEEN 15 AND 21 FEET NAVD88 TO MATCH THE ELEVATION OF THE SURROUNDING DUNES, EXCEPT IN THE VICINITY OF EXISTING OVERWASH AREAS ON THE EASTERN PORTION OF TOWN NECK BEACH, WHERE DUNES WILL BE MINIMAL INCREASED TO AN ELEVATION OF APPROXIMATELY 10 FEET NAVD88.
9. THE RESTORATION PROJECT WILL INCREASE THE EXISTING HIGH TIDE BEACH BERM WIDTHS BETWEEN 50 TO 100 FEET, EXCEPT IN THE VICINITY OF THE EXISTING ROCKY INTERTIDAL AREAS, WHERE THERE WILL BE LIMITED BEACH BERM INCREASES TO AVOID DIRECT IMPACTS TO THE ROCKY INTERTIDAL RESOURCE AREAS.
10. AFTER PLACEMENT, THE DUNE AND BEACH MATERIAL SHALL BE GRADED TO THE DUNE AND BERM WIDTHS, SLOPES AND ELEVATIONS INDICATED ON THE PLANS.
11. ALL BEACH SLOPES SHOULD BE NO STEEPER THAN 10:1, AS INDICATED ON THE PLAN. SPECIFIC BEACH SLOPES ARE PROVIDED ON THE PLANS.
12. AREAS BETWEEN THE PROVIDED CROSS-SECTIONS SHOULD BE TAPERED AS SHOWN IN THE PLAN VIEW. ALL DUNE AND BEACH ELEVATIONS, SLOPES, HEIGHTS, ETC. SHALL BE SMOOTHLY TAPERED BETWEEN THE VARIOUS CROSS SECTIONS.
13. FOLLOWING FINAL GRADING OF THE DUNE ENHANCEMENT, THE DUNE SHALL BE STABILIZED WITH JUTE MATTING, AND PLANTED WITH VEGETATION INDIGENOUS TO THE ENVIRONMENT, SUCH AS AMERICAN BEACH GRASS. THE PLANTINGS SPACING SHALL FOLLOW THE DETAILS PRESENTED ON THE PLAN AND ONLY EXTEND ON THE AREAS INDICATED ON THE PLAN.
14. DISTURBED AREAS THROUGH CONSTRUCTION ACCESS WAYS OR IN STAGING AREAS SHALL BE RETURNED TO PRE-PROJECT CONDITIONS. THIS IS EXPECTED TO INCLUDE RE-GRADED, STABILIZATION, AND PLANTING WITH VEGETATION INDIGENOUS TO THE ENVIRONMENT, SUCH AS BEACH GRASS, UPON COMPLETION OF THE WORK.
15. THE DUNE AND BEACH SYSTEM SHALL BE INSPECTED BY THE ENGINEER FOLLOWING THE COMPLETION OF THE WORK, AS WELL AS APPROXIMATELY 28 DAYS (ONE FULL LUNAR TIDAL CYCLE) AFTER CONSTRUCTION.

SURVEY NOTES:

- 1.) THE INTENT OF THIS PLAN IS TO DETAIL EXISTING SITE CONDITIONS AT TOWN-OWNED AND PRIVATE WATERFRONT BEACH PROPERTIES IN THE VICINITY OF TOWN NECK BEACH.
 - 2.) SUBJECT PROPERTIES ARE SHOWN ON SANDWICH ASSESSORS MAPS 93, 94, 89, 90, 84 - PARCELS 1, 2, 3, 4 AND 5 AND SANDWICH ASSESSORS MAP 85.
- OWNER: TOWN OF SANDWICH**
 130 MAIN STREET
 SANDWICH, MA., 02563-2208
- 3.) PROJECT BENCHMARKS AS SHOWN ON THIS PLAN ~ VERTICAL DATUM: NAVD88 ~ BENCHMARK ESTABLISHED BY LEICA RX 1250 TC GPS RTK.
 - 4.) A TITLE SEARCH HAS NOT BEEN PERFORMED FOR THIS SITE. IF DETERMINED TO BE NECESSARY, A TITLE SEARCH SHALL BE PERFORMED BY OTHERS.
 - 5.) THE PROPERTY LINE INFORMATION SHOWN IS BASED ON CURRENT AVAILABLE RECORD INFORMATION CONSISTING OF PLANS AND DEEDS WHICH WERE COMPILED AND ROTATED TO NAD83 HORIZONTAL DATUM.
- PLANS USED IN THIS COMPILATION:**
- | | |
|-----------------------|--|
| LAND COURT CASE 14716 | PLAN BOOK 13 PAGE 143 |
| LAND COURT CASE 16967 | PLAN BOOK 34 PAGE 53 |
| LAND COURT CASE 22318 | PLAN BOOK 88 PAGE 47 (MULTIPLE FRAMES) |
| LAND COURT CASE 26823 | PLAN BOOK 110 PAGE 21 |
| LAND COURT CASE 33312 | PLAN BOOK 120 PAGE 49 |
| LAND COURT CASE 37568 | PLAN BOOK 128 PAGE 155 |
| | PLAN BOOK 222 PAGE 25 |
| | PLAN BOOK 236 PAGE 91 |
| | PLAN BOOK 238 PAGE 153 |
| | PLAN BOOK 249 PAGE 89 |
| | PLAN BOOK 262 PAGE 86 |
| | PLAN BOOK 407 PAGE 73 |
| | PLAN BOOK 437 PAGE 14 |
- 6.) THE EXISTING FEATURES AND CONTOURS SHOWN HEREON WERE OBTAINED FROM AN ON THE GROUND FIELD SURVEY PERFORMED BY BAXTER NYE ENGINEERING & SURVEYING BETWEEN THE DATES OF JULY 23 AND OCTOBER 24, 2012.
- WETLAND DELINEATION BY WOODS HOLE GROUP.
- 7.) COMMUNITY PANEL NUMBER 250012 0001 F
 THE FLOOD INSURANCE RATE MAP DEFINES BEACH AREA AS ZONES VE (EL 13), VE (EL 14) AND VE (EL 15).
- COMMUNITY PANEL NUMBER 250012 0002 F DEFINES BEACH AREA AS ZONES AE (EL 11), VE (EL 14), VE (EL 15) AND VE (EL 16).

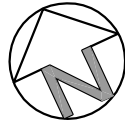


- Legend:**
- Property Line
 - DEP Wetlands mapped Rocky Intertidal Boundary
 - //// NHESP Priority & Estimated Habitat Boundary
 - Barrier Beach Boundary
 - Mean Low Water from 2012 survey (-4.88, NAVD88)
 - Mean High Water from 2012 survey (3.88, NAVD88)
 - High Tide Line from 2012 survey (Annual High Water +5.22, NAVD88)

Revisions	Date
1.	
2.	
3.	
4.	
5.	
6.	
7.	

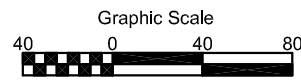
Title:
 Sandwich Town Beach
 Beach and Dune Restoration
 PREPARED FOR:
 Town of Sandwich
 Sandwich, MA

Project Number: 1998-114A
 Drawing File: 1998-114A Sandwich
 Scale:
 Date: September 10, 2014
 Approved:
 Drawn: L.T.M.

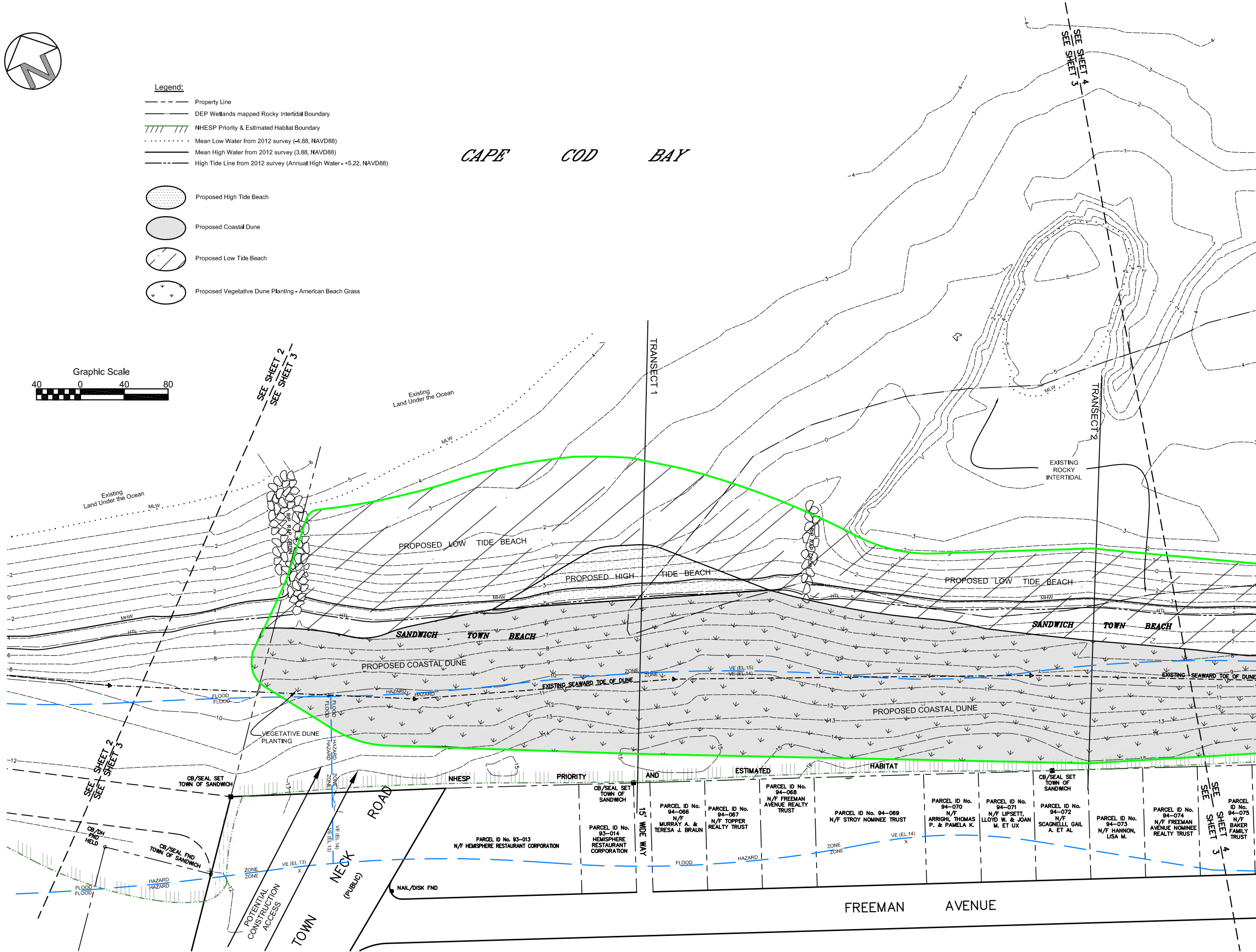


- Legend:**
- Property Line
 - DEP Wetlands mapped Rocky Intertidal Boundary
 - NHESP Priority & Estimated Habitat Boundary
 - Mean Low Water from 2012 survey (-4.88, NAVD88)
 - Mean High Water from 2012 survey (3.88, NAVD88)
 - High Tide Line from 2012 survey (Annual High Water - +5.22, NAVD88)

- Proposed High Tide Beach
- Proposed Coastal Dune
- Proposed Low Tide Beach
- Proposed Vegetative Dune Planting - American Beach Grass



CAPE COD BAY







Revisions	
Date	
1.	
2.	
3.	
4.	
5.	
6.	
7.	

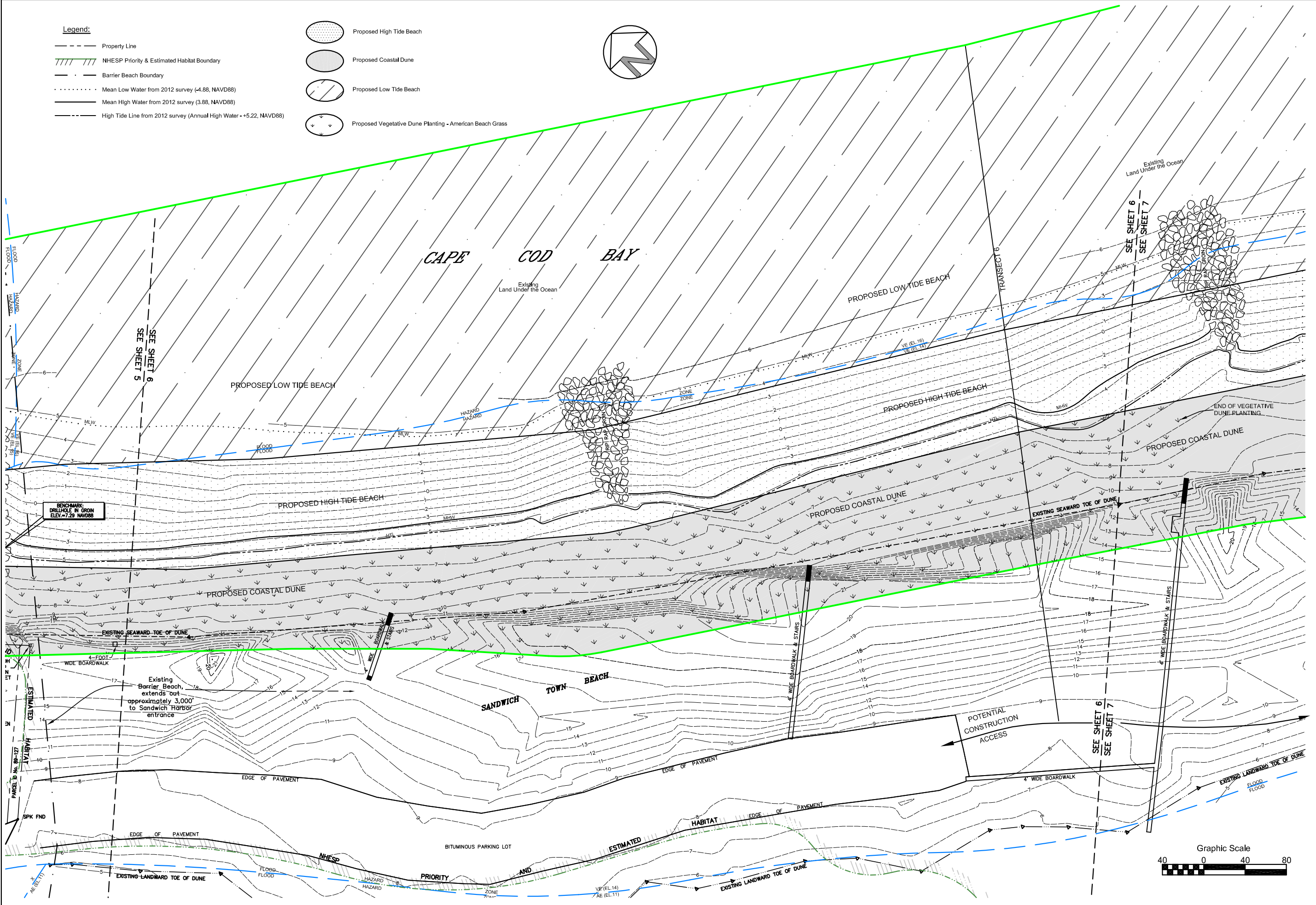
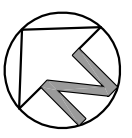
Title: Sandwich Town Beach and Dune Restoration
PREPARED FOR: Town of Sandwich
 Sandwich, MA

Project Number: 1998-114A
 Drawing File: 1998-114A Sandwich
 Scale:
 Date: September 10, 2014
 Approved:
 Drawn: L.T.M.

Legend:

- Property Line
- //// NHESP Priority & Estimated Habitat Boundary
- - - Barrier Beach Boundary
- Mean Low Water from 2012 survey (-4.88, NAVD88)
- Mean High Water from 2012 survey (3.88, NAVD88)
- High Tide Line from 2012 survey (Annual High Water +5.22, NAVD88)

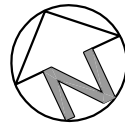
-  Proposed High Tide Beach
-  Proposed Coastal Dune
-  Proposed Low Tide Beach
-  Proposed Vegetative Dune Planting - American Beach Grass



Revisions		Date
1		
2		
3		
4		
5		
6		
7		

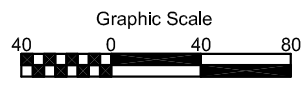
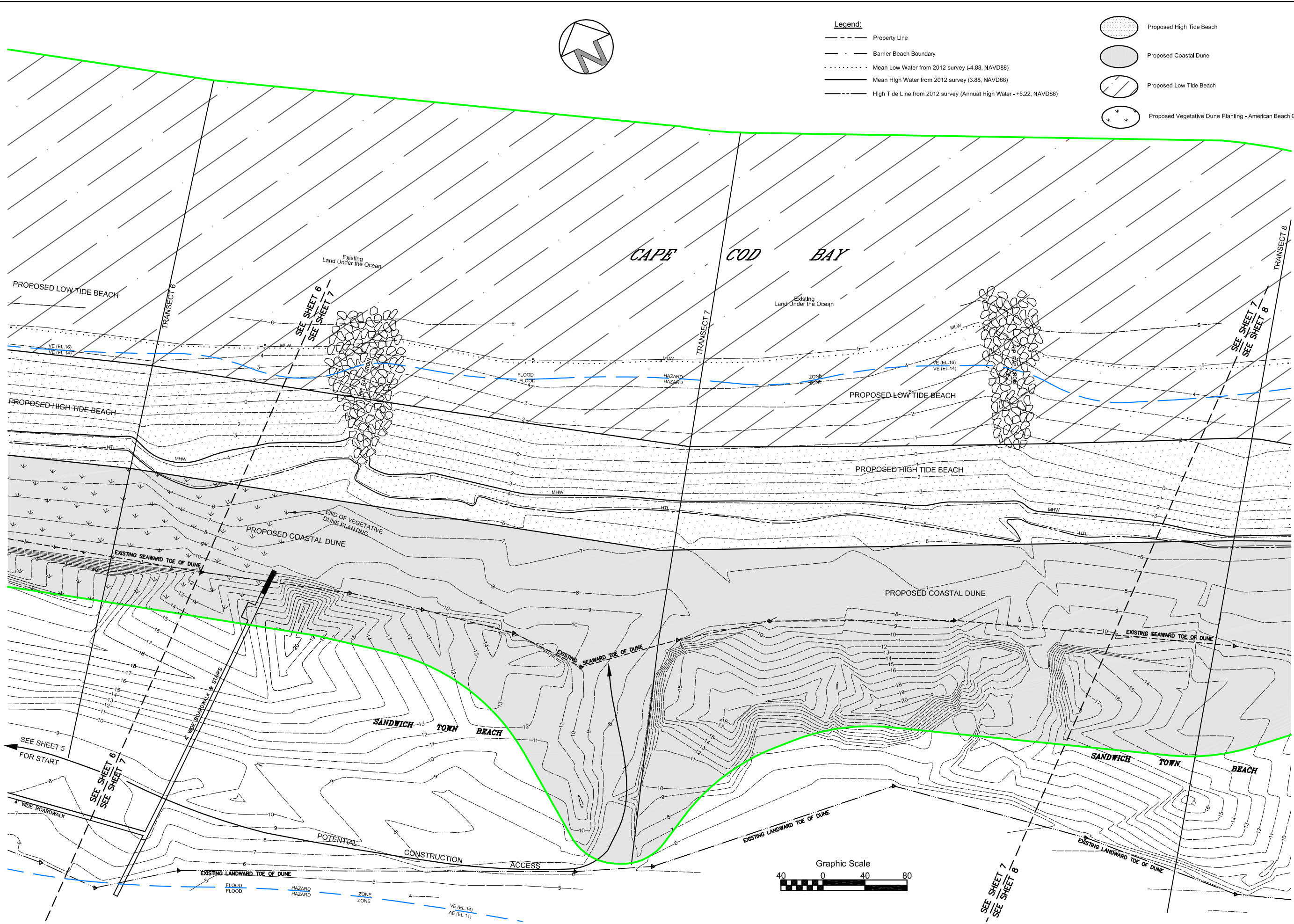
Title:
 Sandwich Town Beach
 Beach and Dune Restoration
 PREPARED FOR:
 Town of Sandwich
 Sandwich, MA

Title:
 Project Number: 1998-114A
 Drawing File: 1998-114A Sandwich
 Scale:
 Date: September 10, 2014
 Approved:
 Drawn: L.T.M.



- Legend:**
- - - - - Property Line
 - · - · - Barrier Beach Boundary
 - · · · · Mean Low Water from 2012 survey (-4.88, NAVD88)
 - · · · · Mean High Water from 2012 survey (3.88, NAVD88)
 - - - - - High Tide Line from 2012 survey (Annual High Water - +5.22, NAVD88)

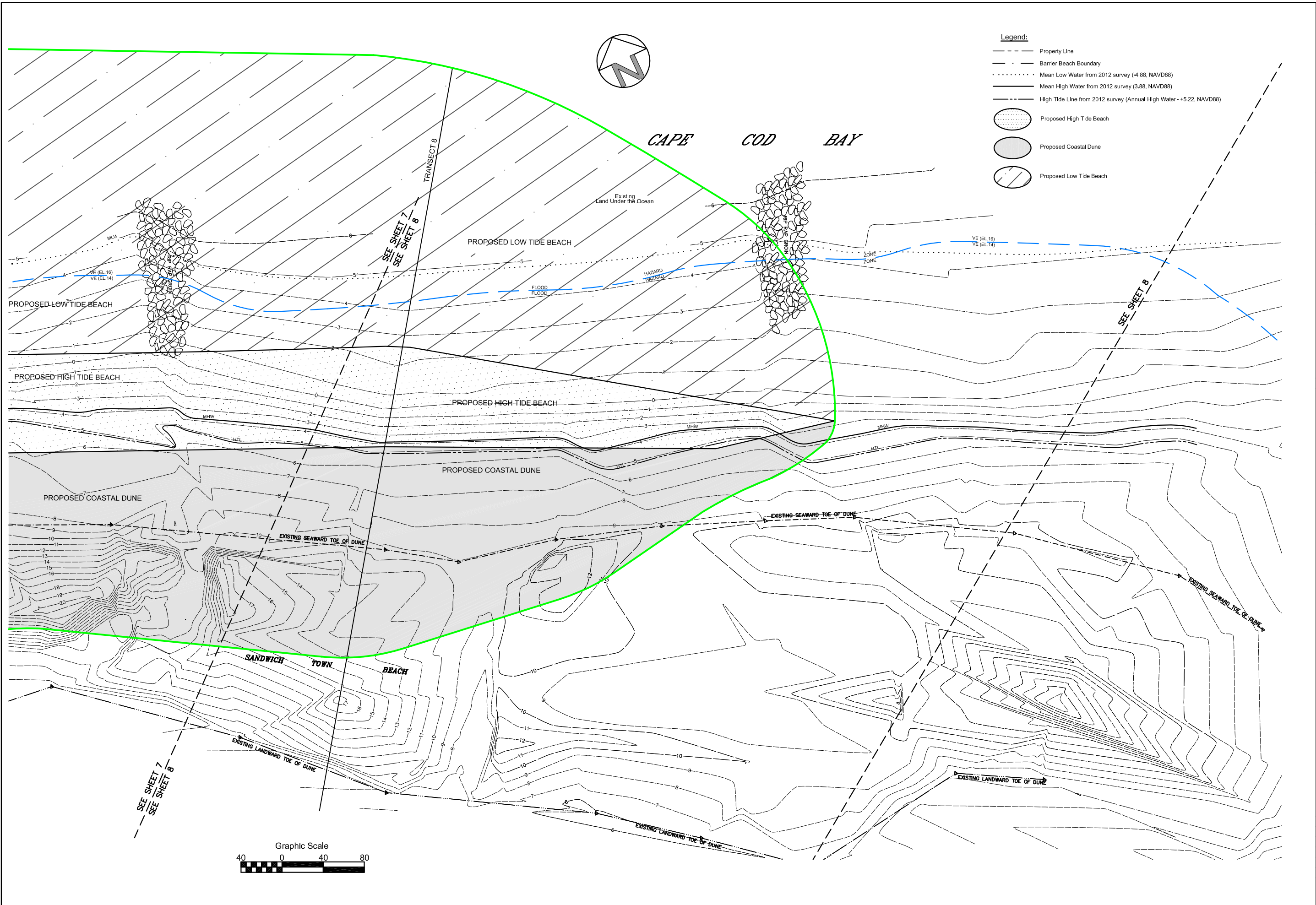
- Proposed High Tide Beach
- Proposed Coastal Dune
- Proposed Low Tide Beach
- Proposed Vegetative Dune Planting - American Beach Grass



Revisions		Date
1		
2		
3		
4		
5		
6		
7		

Title:
Sandwich Town Beach
Beach and Dune Restoration
PREPARED FOR:
Town of Sandwich
Sandwich, MA

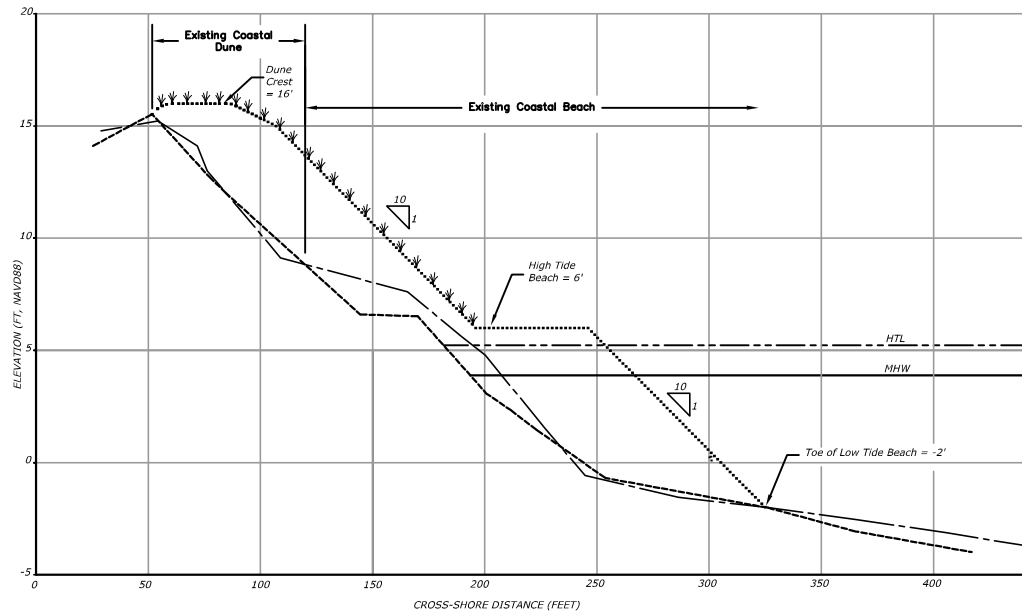
Project Number: 1998-114A
Drawing File: 1998-114A Sandwich
Scale:
Date: September 10, 2014
Approved:
Drawn: L.T.M.



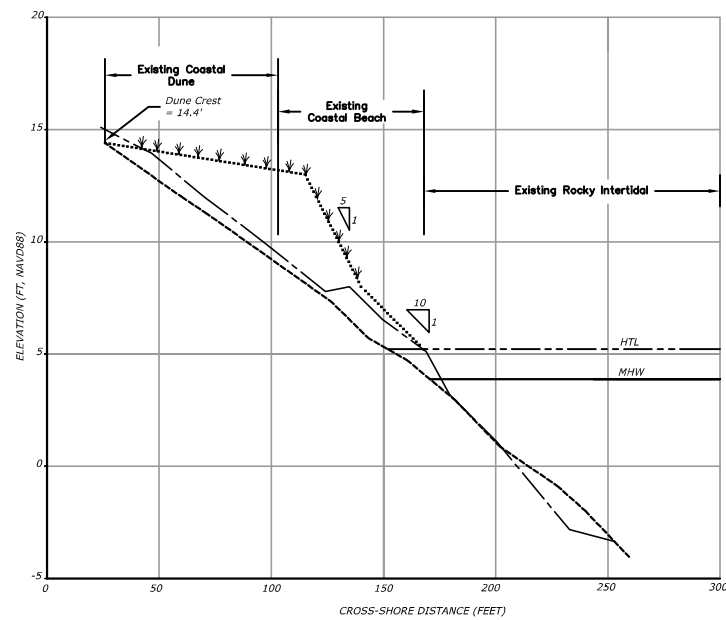
Revisions		Date
1		
2		
3		
4		
5		
6		
7		

Title:
 Sandwich Town Beach
 Beach and Dune Restoration
 PREPARED FOR:
 Town of Sandwich
 Sandwich, MA

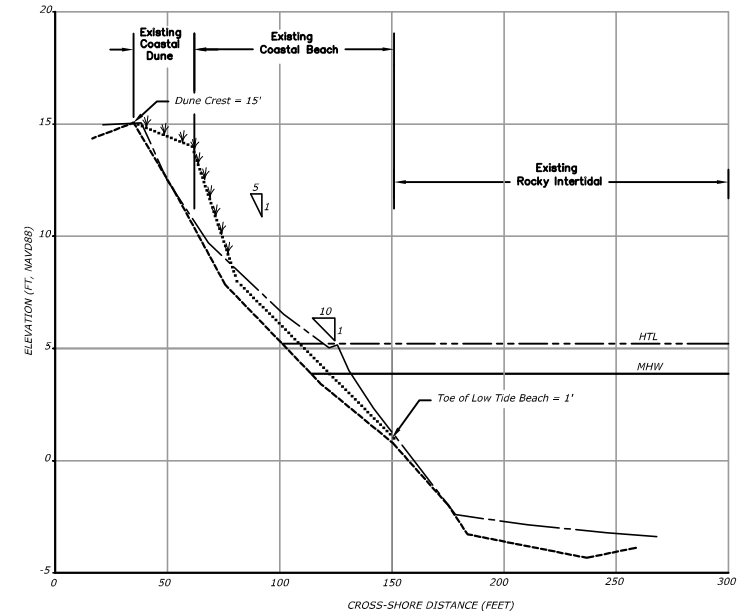
Title:
 Project Number: 1998-114A
 Drawing File: 1998-114A Sandwich
 Scale:
 Date: September 10, 2014
 Approved:
 Drawn: L.T.M.



CROSS-SECTION/TRANSECT 1

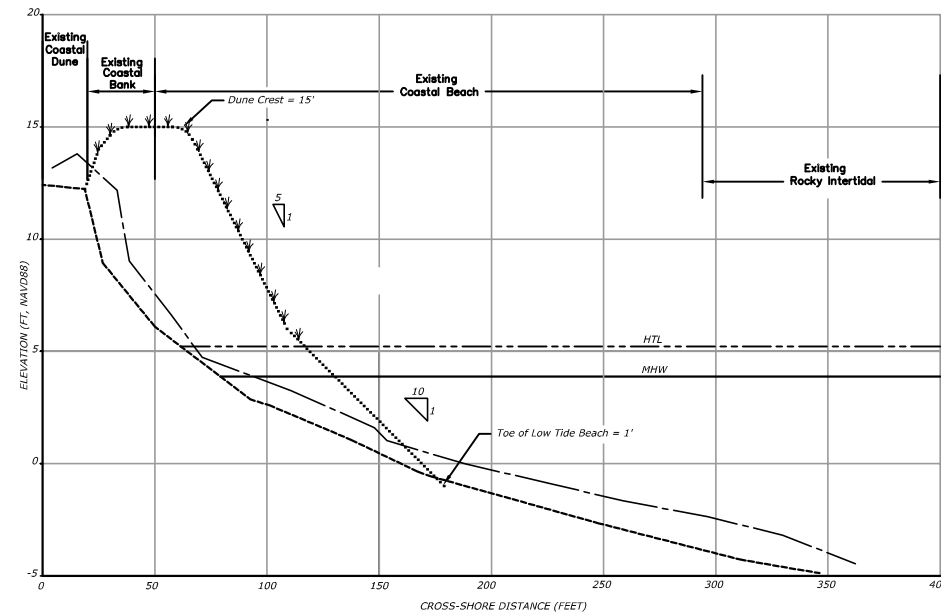


CROSS-SECTION/TRANSECT 2

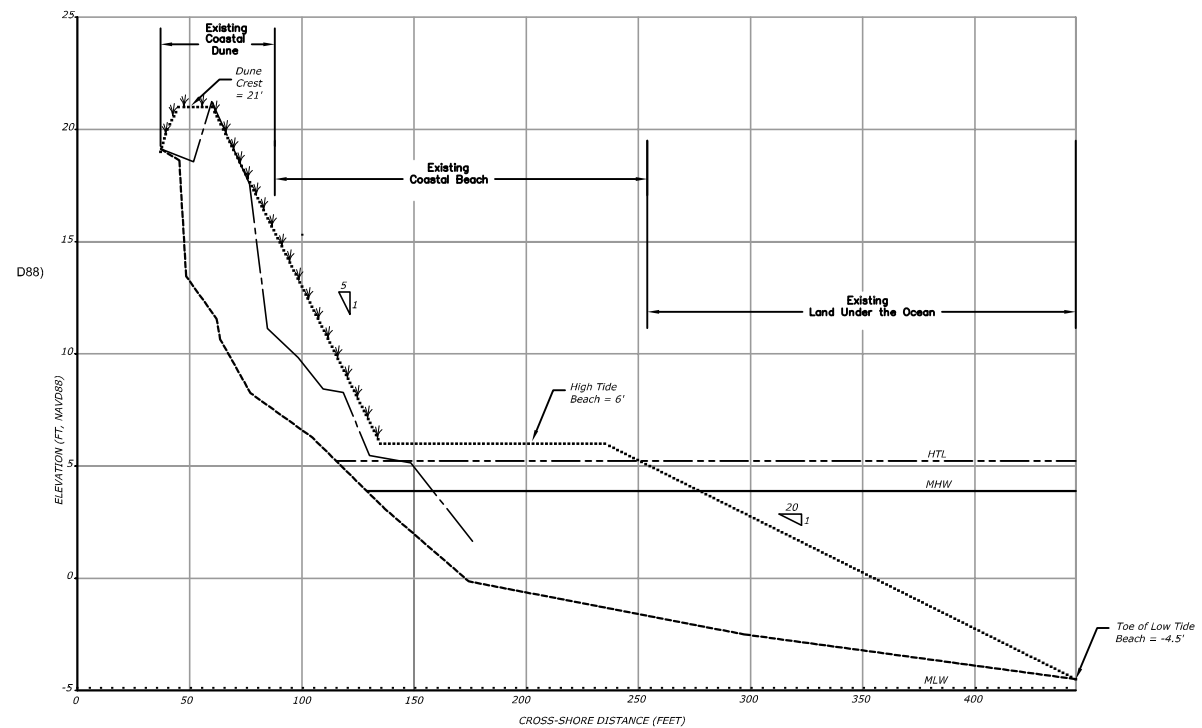


CROSS-SECTION/TRANSECT 3

- Legend:**
- Proposed Fill Profile
 - Pre-Sandy Topography (2012)
 - Post-Nemo Topography (3-15-2013)
 - Mean Low Water from 2012 survey (-4.88, NAVD88)
 - Mean High Water from 2012 survey (3.88, NAVD88)
 - High Tide Line from 2012 survey (Annual High Water - +5.22, NAVD88)
 - ψ ψ ψ ψ ψ American Beach Grass Planting



CROSS-SECTION/TRANSECT 4

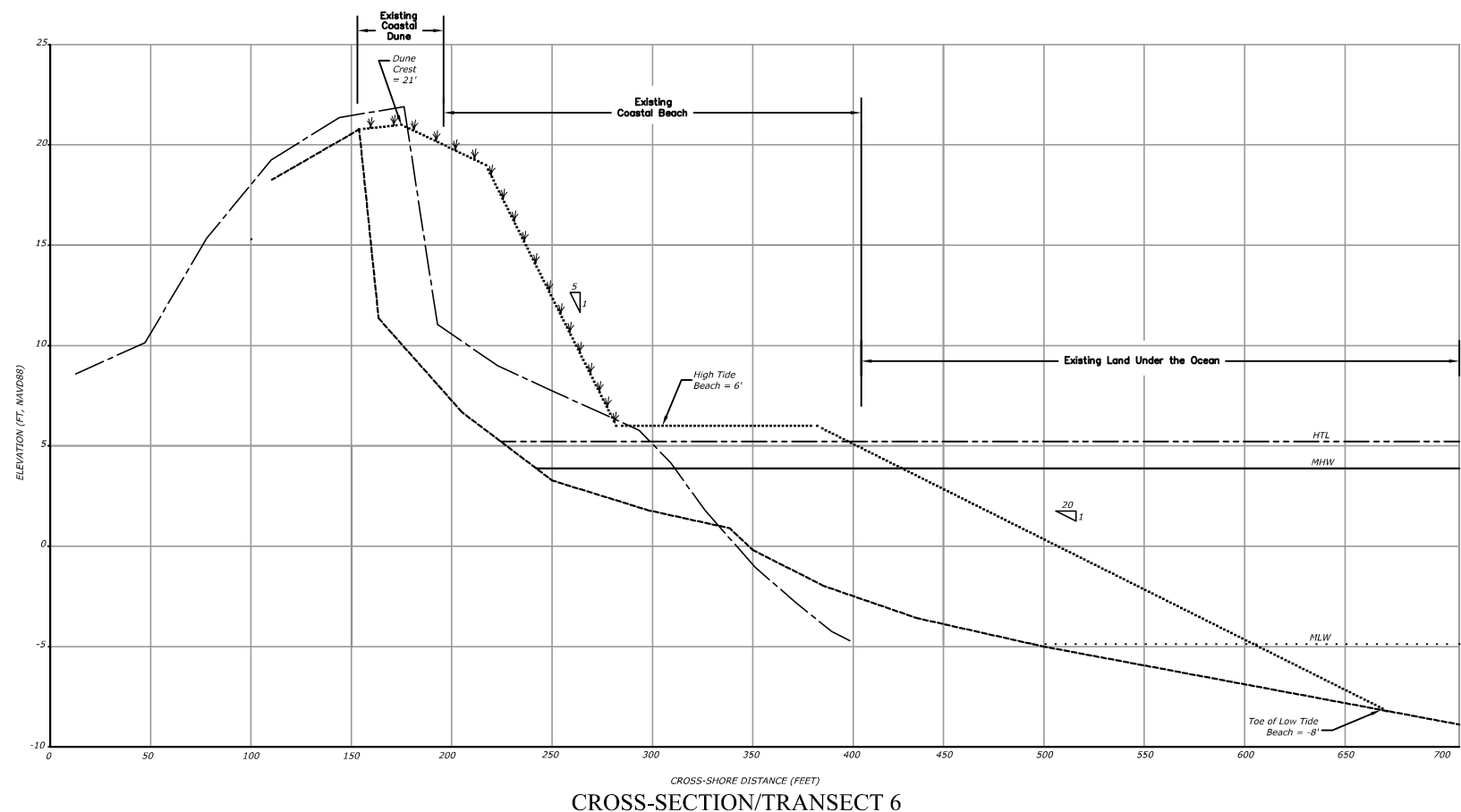


CROSS-SECTION/TRANSECT 5

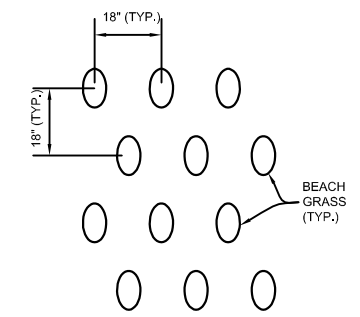
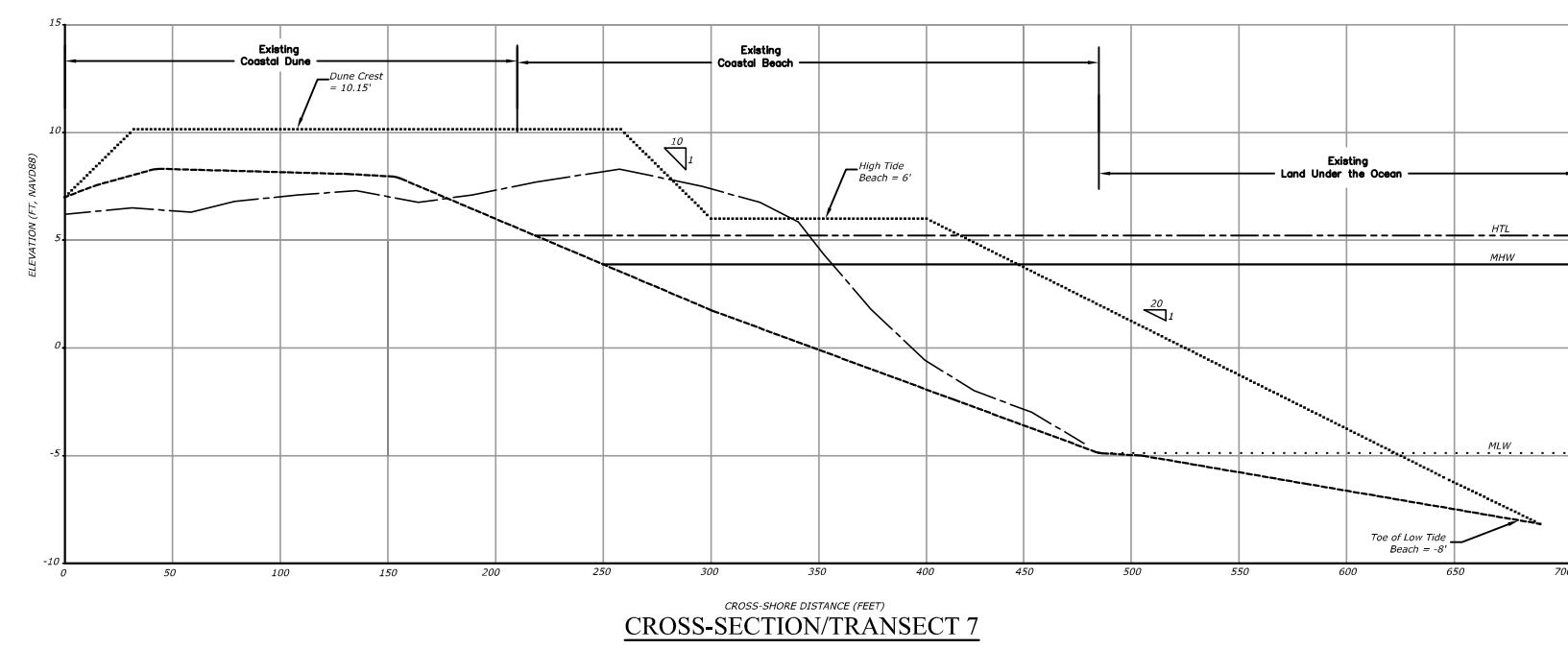
Date	Revisions

Title: Sandwich Town Beach - Cross Sections
 Beach and Dune Restoration
PREPARED FOR: Town of Sandwich
 Sandwich, MA

Project Number: 1998-114A
Drawing File: 1998-114A Sandwich
Scale: As Shown
Date: September 10, 2014
Approved:
Drawn: L.T.M.



- Legend:**
- Proposed Fill Profile
 - Pre-Sandy Topography (2012)
 - Post-Nemo Topography (3-15-2013)
 - Mean Low Water from 2012 survey (-4.88, NAVD88)
 - Mean High Water from 2012 survey (3.88, NAVD88)
 - High Tide Line from 2012 survey (Annual High Water - +5.22, NAVD88)
 - ψ ψ ψ ψ ψ American Beach Grass Planting



- NOTES:**
1. PLANTS & ROOTS MUST BE KEPT MOIST BEFORE AND DURING PLANTING.
 2. PLANT 2 - 18"-24" STEMS IN A HOLE, APPROXIMATELY 7"-9" DEEP.
 3. COMPACT THE SAND FIRMLY AROUND THE PLANTS.

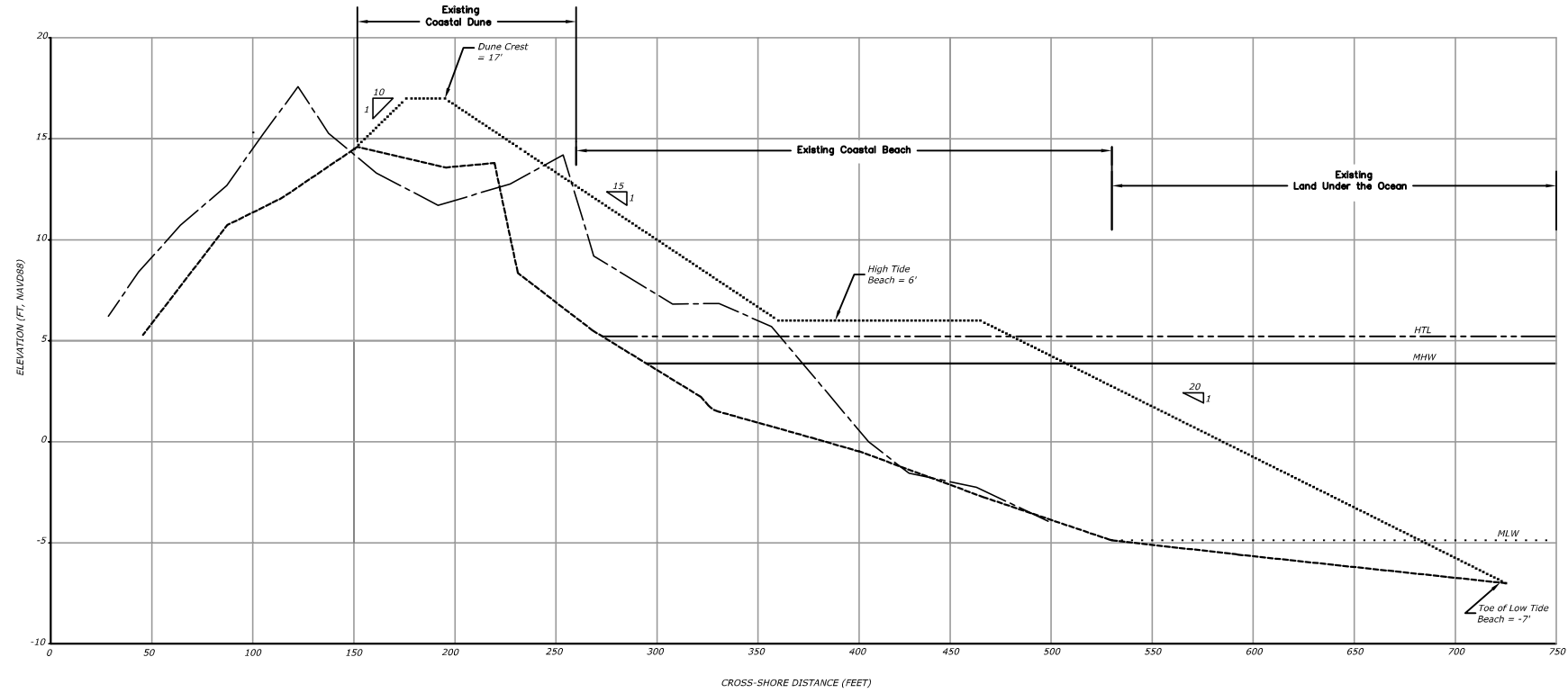
BEACH GRASS PLANTING DETAIL

NOT TO SCALE

Revisions	Date
1.	
2.	
3.	
4.	
5.	
6.	
7.	

Title: Sandwich Town Beach - Cross Sections
 Beach and Dune Restoration
 PREPARED FOR:
 Town of Sandwich
 Sandwich, MA

Project Number: 1998-114A
 Drawing File: 1998-114A Sandwich
 Scale: As Shown
 Date: September 10, 2014
 Approved:
 Drawn: L.T.M.



CROSS-SECTION/TRANSECT 8

- Legend:**
- Proposed Fill Profile
 - Pre-Sandy Topography (2012)
 - Post-Nemo Topography (3-15-2013)
 - Mean Low Water from 2012 survey (-4.88, NAVD88)
 - Mean High Water from 2012 survey (3.88, NAVD88)
 - High Tide Line from 2012 survey (Annual High Water - +5.22, NAVD88)
 - ψ ψ ψ ψ ψ American Beach Grass Planting

Revisions	Date
1.	
2.	
3.	
4.	
5.	
6.	
7.	

Title: Sandwich Town Beach - Cross Sections
 Beach and Dune Restoration
 PREPARED FOR:
 Town of Sandwich
 Sandwich, MA

Project Number: 1998-114A
 Drawing File: 1998-114A Sandwich
 Scale: As Shown
 Date: September 10, 2014
 Approved:
 Drawn: L.T.M.