



Attachment A – Project Summary

STRUCTURES, DREDGING, AND FILL AND 401 WATER QUALITY CERTIFICATE APPLICATION WALNUT/WILDEMER BEACH NOURISHMENT AND DUNE CREATION PROJECT

April 6, 2018
MMI #5600-07-02

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Project Summary

The City of Milford seeks authorization to implement a beach nourishment project along an approximately 5,000-linear-foot beach face on Long Island Sound. The project will take place between Eighth Avenue and Viscount Drive and is intended to provide coastal resiliency and an increased measure of shoreline protection for approximately 400 primarily single-family dwellings. Clean sand of the appropriate grain size will be added to the beach to create a dune system and associated beach shelf. The proposed dune will be underlain with a rock core. In addition, dune areas will be vegetated with America beach grass (*Ammophila brevigulata*) to enhance retention of deposited sediment and foster sediment deposition over time. The creation of dune areas will serve to enhance sediment trapping and increase opportunities for wildlife habitat use.

The impetus for this large-scale beach nourishment and dune creation project originated with the development of a Coastal Resilience Plan (CRP) for the City of Milford in spring 2016. This document was funded through the United States Department of Housing and Urban Development's (HUD) Community Development Block Grant Disaster Recovery Program (CDBG-DR), which designated aid for communities affected by Hurricane Sandy. The purpose of the plan was to identify existing coastal risks, assess coastal vulnerabilities and opportunities, identify options for risk remediation, and develop and implement a plan to pursue certain identified projects. For the purposes of the document, risk was defined as the product of vulnerability and frequency. Given this equation, the concept behind the resilience plan was to address vulnerabilities because, due to global trends with climate and sea-level rise, the risk due to the frequency of coastal flooding events is modeled to increase. If vulnerabilities are reduced, then risk levels can either remain static or attempt to be lowered in the face of rising sea level and increased coastal storms, which is a form of resilience. Resilience is defined as the ability to resist, absorb, recover from, and adapt to disasters, and coastal resilience refers specifically to coastal hazards such as sea level rise, increased flood inundation, and increased frequency and intensity of storm surge.

The Walnut and Wildemere Beach area was identified as an at-risk community in the CRP given the density of the residential community, the damage the area sustained during Hurricane Sandy, and the geology and sediment dynamics of the land-contact beach face. In particular, the Wildemere Beach area presents challenges relative to coastal resource enhancement due to the vertical seawalls along the majority of the beach and the proximity of inhabited coastal structures to the beach. Nonetheless, the concept of a dune creation and subsequent beach nourishment was considered for this area and Walnut Beach to the east. The design was fleshed out through modeling by the Woods Hole Group, which identified that a soft feature approximately 12.5 feet in elevation (NAVD88) is viable up to storms with 10 percent annual frequency. A rock core constructed of 5- to 8-ton stones on a 2-foot-thick base of 8- to 12-inch stones supports the flood-mitigation capability of the feature and is viable in storms with a smaller percent-annual-chance frequency. The dune creation and beach nourishment design was presented to neighborhood groups during listening sessions and was favorably received.

The proposed dune creation and beach nourishment will measure approximately 5,000 feet in length. In general, the dune feature will extend to an elevation of 12.5 feet NAVD88 and span approximately 70 feet in width. At least 2 feet of sand material will lie atop a rock core. The rock core will be constructed with a subbase of 8- to 12-inch stones that will support 5- to 8-ton boulders that will support the base of the dune. At its peak, the rock will exist at 10.5 feet NAVD88 and measure 8 feet wide. The rock feature will be constructed with a 2:1 slope, with the overlying sand graded to a 3:1 slope. The landward edge of the dune will lie at the toe of the existing seawalls that bound the seaward face of the majority of the shoreline properties. At the seaward edge of the dune, the beach face will be augmented with sand of compatible grain size and extend for approximately 120 feet to tie into the existing bathymetry. Following installation, plant material will be added to the dune to encourage sediment retention and deposition. Upon completion, the new shoreline feature will occupy 880,000 feet², of which 665,000 feet² are below the City of Milford coastal jurisdiction line (CJL) of 4.7 feet. Approximately 108,600 cubic yards (CY) of sand will be utilized and distributed between the dune and beach features below the CJL (Table ES-1). Approximately 35,450 CY of stone will be utilized to construct the rock core below the current CJL. Standard sedimentation and erosion controls, e.g., turbidity curtain and siltation fencing, will be in place throughout construction to minimize the potential for secondary impacts.

A number of stormwater outlets exist along the shoreline. With the proposed project, no new outfalls are proposed, but modifications of the 11 existing outlet pipes are necessary to prevent stormwater

from discharging on the landward side of the dune. Stormwater discharge on the landward side of the proposed feature could result in pools of stagnant standing water, which is not a desirable condition for recreation or human health. Each of the stormwater pipes will be armored with stone and extend to the terminus of the nourished beach face.

The proposed project has been evaluated relative to coastal resources impacts. A letter from the Natural Diversity Database (NDDDB) dated March 9, 2017, determined that the proposed project, with the implementation of best management practices, will not impact state-listed flora and/or fauna and also may demonstrate the potential to create habitat for the state and federally threatened piping plover (*Charadrius melodus*). The proposed project also presents no adverse impact on off-shore or near-shore shellfisheries. Other coastal resources on or adjacent to the project site include a coastal flood hazard zone. The project has been designed to avoid impacts to each of these areas and to benefit the overall shoreline through the realization of coastal resiliency within a designed landscape.

Public access was a primary consideration during the design phase. A series of walkways are incorporated into the site plan that will allow for pedestrian access from each of the roadways that terminate at the beach. Two types of accessways are proposed: handicap-accessible as well as lower profile access walkways to encourage public access over the dune feature to and from the beach face.

The main funding source for this project is the State of Connecticut Department of Emergency Services & Public Protection (CT ESPP). As the project is state funded, a Flood Management Certification (FMC) must be submitted to the Connecticut Department of Energy & Environmental Protection (CTDEEP) Bureau of Water Protection and Land Reuse – Inland Water Resources Division. This FMC ensures that the proposed activity is consistent with state standards and criteria for preventing flood hazards to human life, health, or property and with the provisions of the National Flood Insurance Program (NFIP) and municipal floodplain regulations that it does not adversely affect fish populations or fish passage and does not promote intensive use and development of floodprone areas.

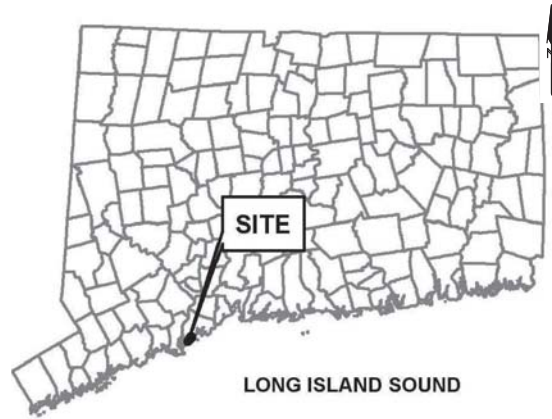
This project has been reviewed by city and state regulators from design inception to permit submission. The city has had preapplication meetings with CTDEEP Coastal Permits staff. The coastal resiliency design plans that are being submitted as part of this application follow the recommendations that were made by CTDEEP at those meetings.

Table ES-1 provides a summary of the proposed impacts and mitigation to the coastal resources within the project site.

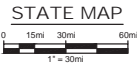
TABLE ES-1
Summary of Regulated Resource Activities

Total		Above Existing Coastal Jurisdiction Line			Below Existing Coastal Jurisdiction Line		
		Beach	Dune	Total	Beach	Dune	Total
Area (Square Feet)	880,000	19,000	196,000	215,000	445,000	220,000	665,000
Rock Core (Cubic Yards)	36,710	0	1,260	1,260	400	35,050	35,450
Fill (Cubic Yards)	123,915	800	14,515	15,315	78,550	30,050	108,600

WALNUT & WILDEMERE BEACH STABILIZATION PROJECT MILFORD, CONNECTICUT



LONG ISLAND SOUND



PREPARED BY:



PREPARED FOR:

CITY OF MILFORD
MILFORD, CONNECTICUT

SCHEDULE OF DRAWINGS











1. DUNE AND BEACH NOURISHMENT PLAN
2. DUNE AND BEACH NOURISHMENT PLAN
3. DUNE AND BEACH NOURISHMENT PLAN
4. DUNE AND BEACH NOURISHMENT PLAN
5. DUNE AND BEACH NOURISHMENT PLAN
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11. DUNE AND BEACH NOURISHMENT PLAN
12. DUNE AND BEACH NOURISHMENT PLAN
13. WILDEMERE BEACH DUNE & BEACH NOURISHMENT TYPICAL SECTIONS
14. WILDEMERE BEACH DUNE & BEACH NOURISHMENT TYPICAL SECTIONS
15. WILDEMERE BEACH DUNE & BEACH NOURISHMENT TYPICAL SECTIONS
16. STORM DRAIN OUTFALL DETAILS
17. DUNE PLANTING DETAILS
18. DUNE WALKOVER AND PLANTING DETAILS
19. SOIL EROSION AND SEDIMENT CONTROL PLAN
20. PROJECT NOTES AND STORM DRAIN DATA TABLE

NOTE: THESE PLANS HAVE BEEN DEVELOPED SOLELY FOR THE PURPOSE OF PERMIT REVIEW AND CONTAIN A LEVEL OF DETAIL COMMENSURATE WITH PERMIT REVIEW REQUIREMENTS.

Attention:	2	03/23/2018	REVISIONS PER MILFORD FECB	JM	Designed: JM	Walnut & Wildermere Beach Stabilization Project Milford, Connecticut		COVER/INDEX SHEET
	1	03/09/2018	REVISIONS PER MILFORD FECB	JM				
	0	12/12/2017	PERMIT REVIEW	JM	Drawn: DE	City of Milford Milford, Connecticut	Project 1700458	December 2017
	NO.	DATE	ISSUE/REVISION	APP	Approved By: JM			

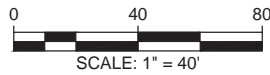
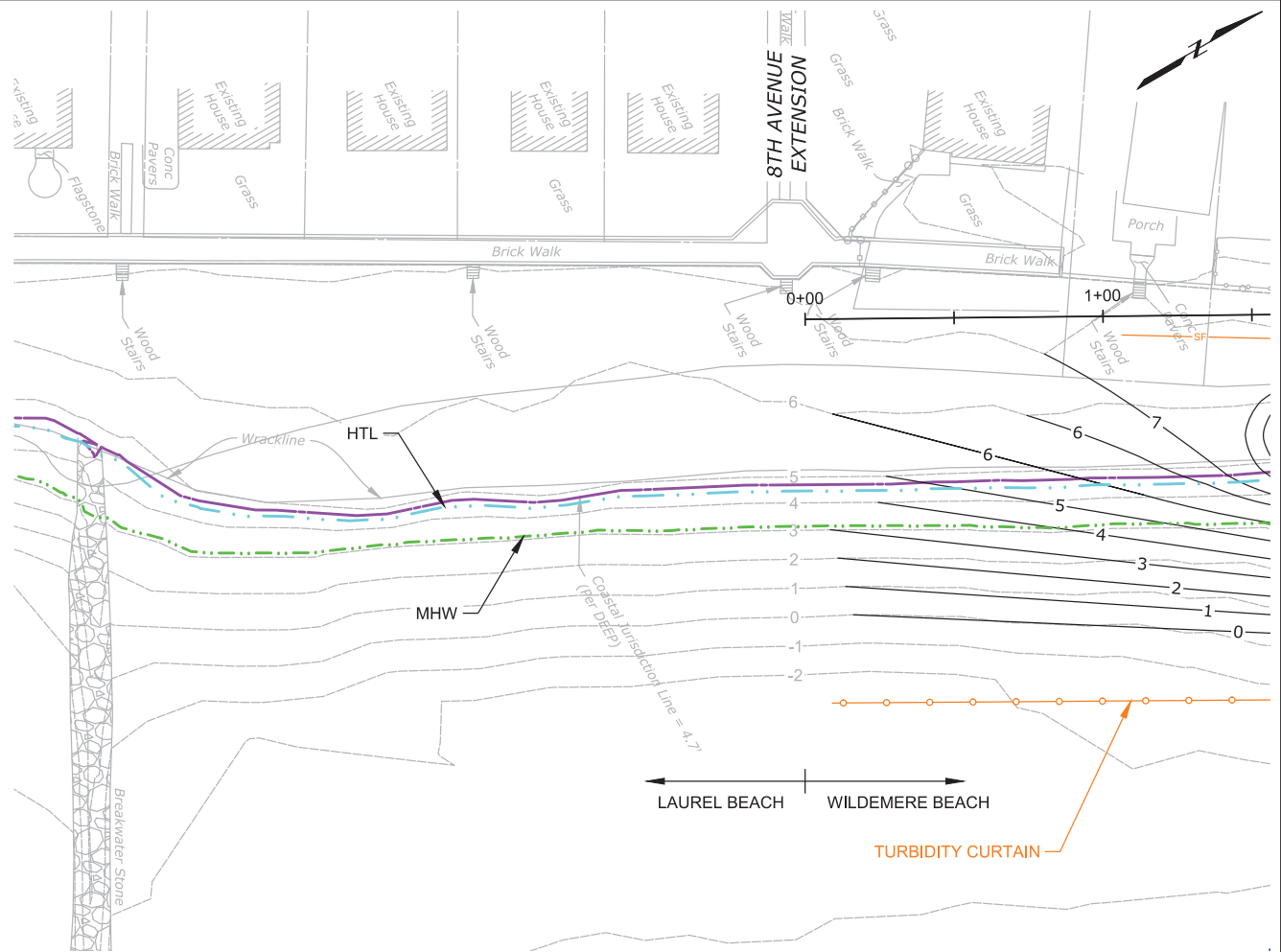


LEGEND:

-  TURBIDITY CURTAIN
-  SEDIMENT FENCE
-  MANHOLE
-  COASTAL JURISDICTION LINE +4.7 (CJL)
-  HIGH TIDE LINE +4.46 (HTL)
-  MEAN HIGH WATER +3.15 (MHW)
-  MEAN LOW WATER -3.60 (MLW)
-  SAND FENCE
-  WETLAND DELINEATION
-  PROPERTY LINE

GENERAL NOTES:

1. THESE PLANS ARE INTENDED FOR PERMIT REVIEW AND APPROVAL PURPOSES ONLY. THEY ARE NOT TO BE USED FOR CONSTRUCTION UNTIL ALL FINAL DETAILS AND CONDITIONS OF PERMIT APPROVAL HAVE BEEN INCORPORATED, AND UNTIL THE PLANS ARE ACCOMPANIED BY A SUITABLE SET OF CONTRACT SPECIFICATIONS THAT FURTHER DEFINE THE WORK.
2. ALL UTILITY INFORMATION SHOWN ON THESE PLANS IS APPROXIMATE IN NATURE. UNDERGROUND UTILITIES MAY EXIST WHICH ARE NOT DEPICTED ON THESE PLANS, OR WHICH ARE NOT IN THE LOCATIONS SHOWN. THE CONTRACTOR ULTIMATELY SELECTED FOR THIS WORK SHALL PERFORM UTILITY IDENTIFICATION AND LOCATION PRIOR TO CONSTRUCTION USING CALL-BEFORE-U-DIG (CBUD) AND OTHER PRIVATE UTILITY IDENTIFICATION SERVICES TO ENSURE THAT ALL UTILITIES ARE LOCATED.
3. PROPERTY LINE INFORMATION SHOWN HAS BEEN OBTAINED FROM CITY OF MILFORD ASSESSOR RECORDS AND IS CONSIDERED RELEVANT FOR THESE PERMIT LEVEL DRAWINGS.
4. BASE SURVEY PREPARED BY MILONE & MACBROOM, INC. TO T-2 TOPOGRAPHIC STANDARDS, AND A-2 STANDARDS FOR HORIZONTAL LOCATIONS.
5. VERTICAL DATUM ON THESE PLANS IS NAVD88.



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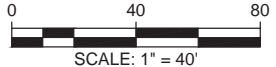
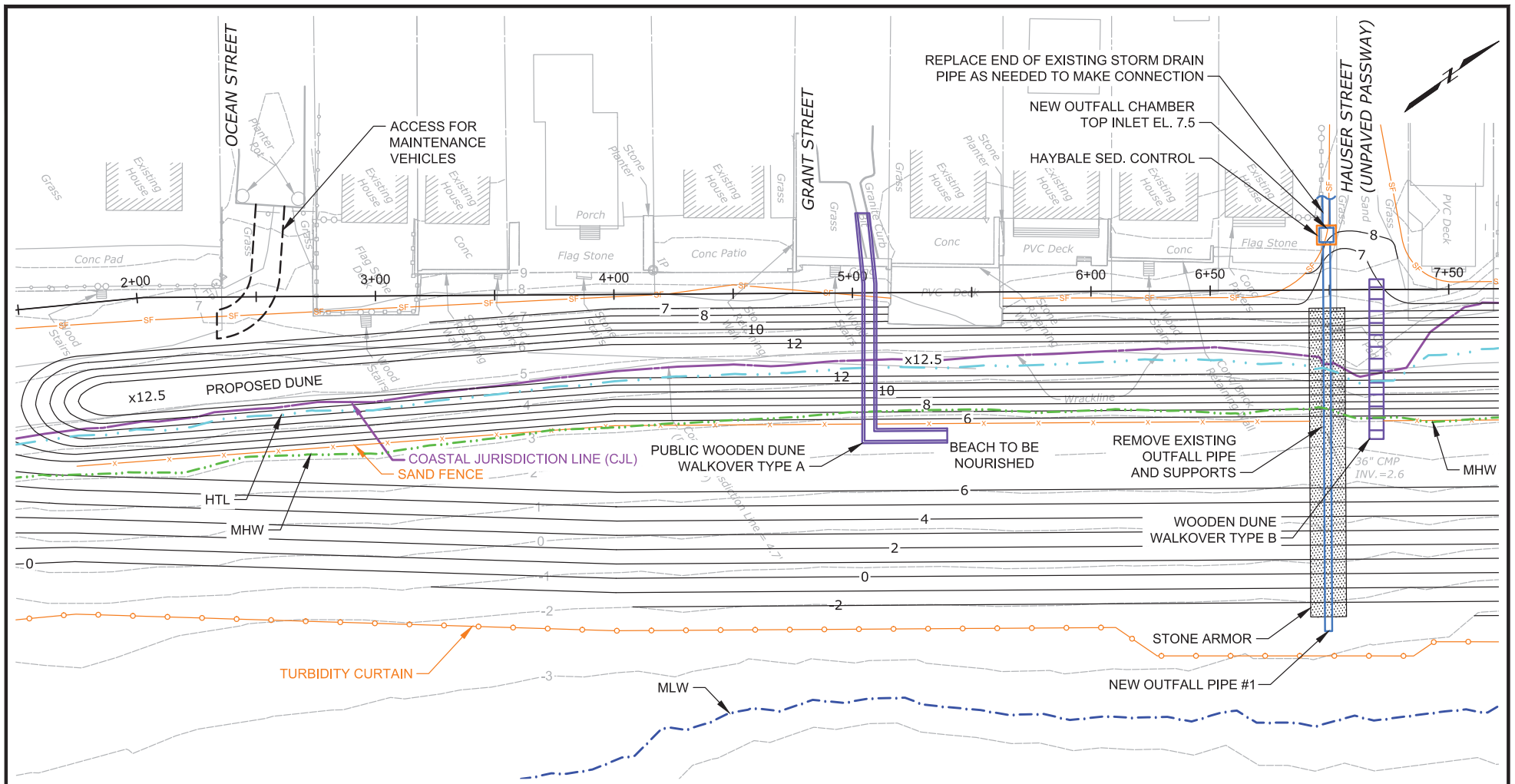
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 Approved By: JM

Walnut & Wildemere Beach Stabilization Project
 Milford, Connecticut
 City of Milford
 Milford, Connecticut

GEI Consultants
 Project 1700458

DUNE AND BEACH
 NOURISHMENT PLAN

December 2017 Fig. 1



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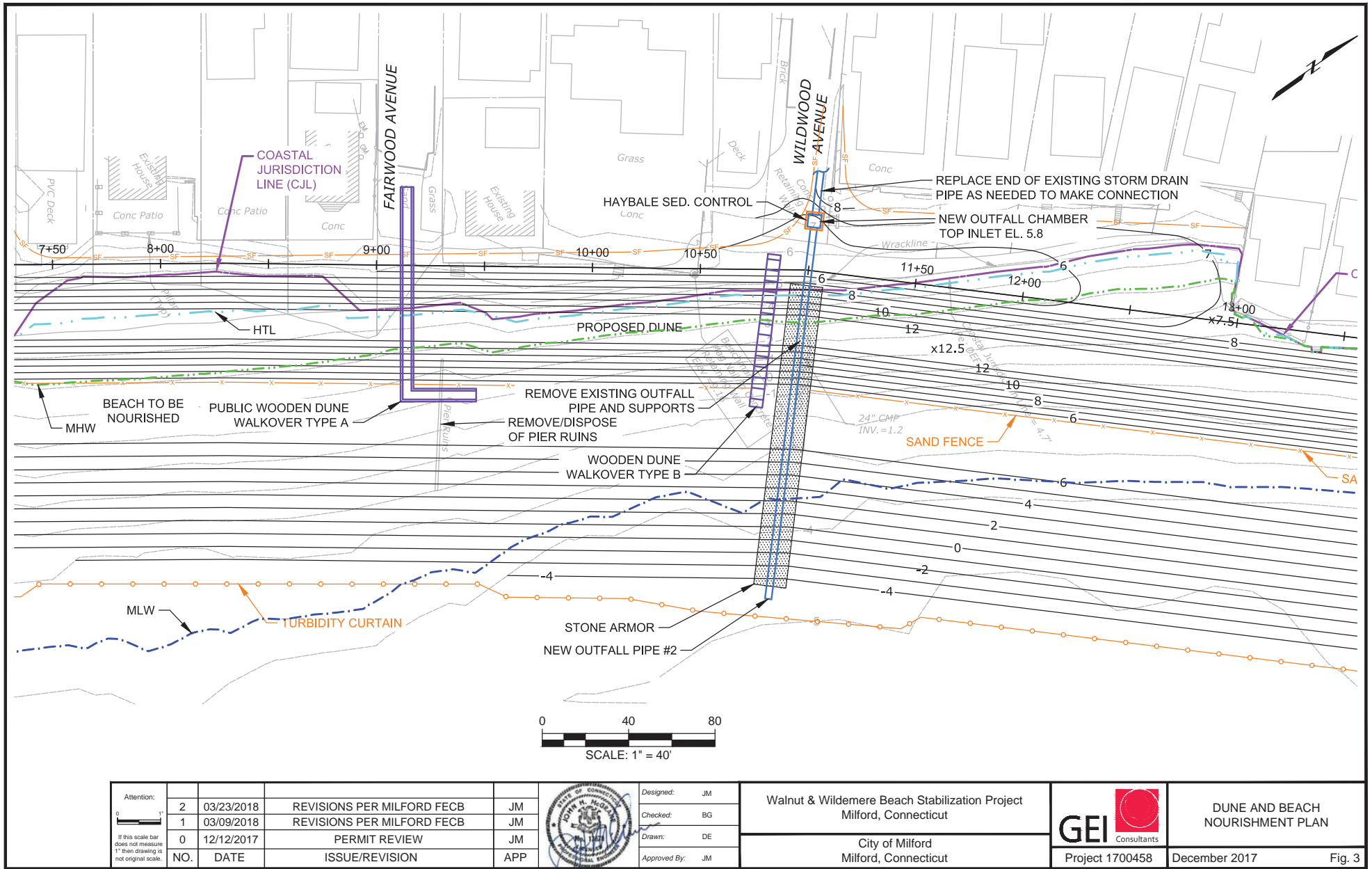
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DUNE AND BEACH
 NOURISHMENT PLAN
 December 2017
 Fig. 2

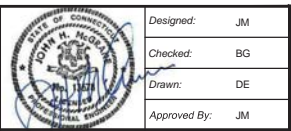


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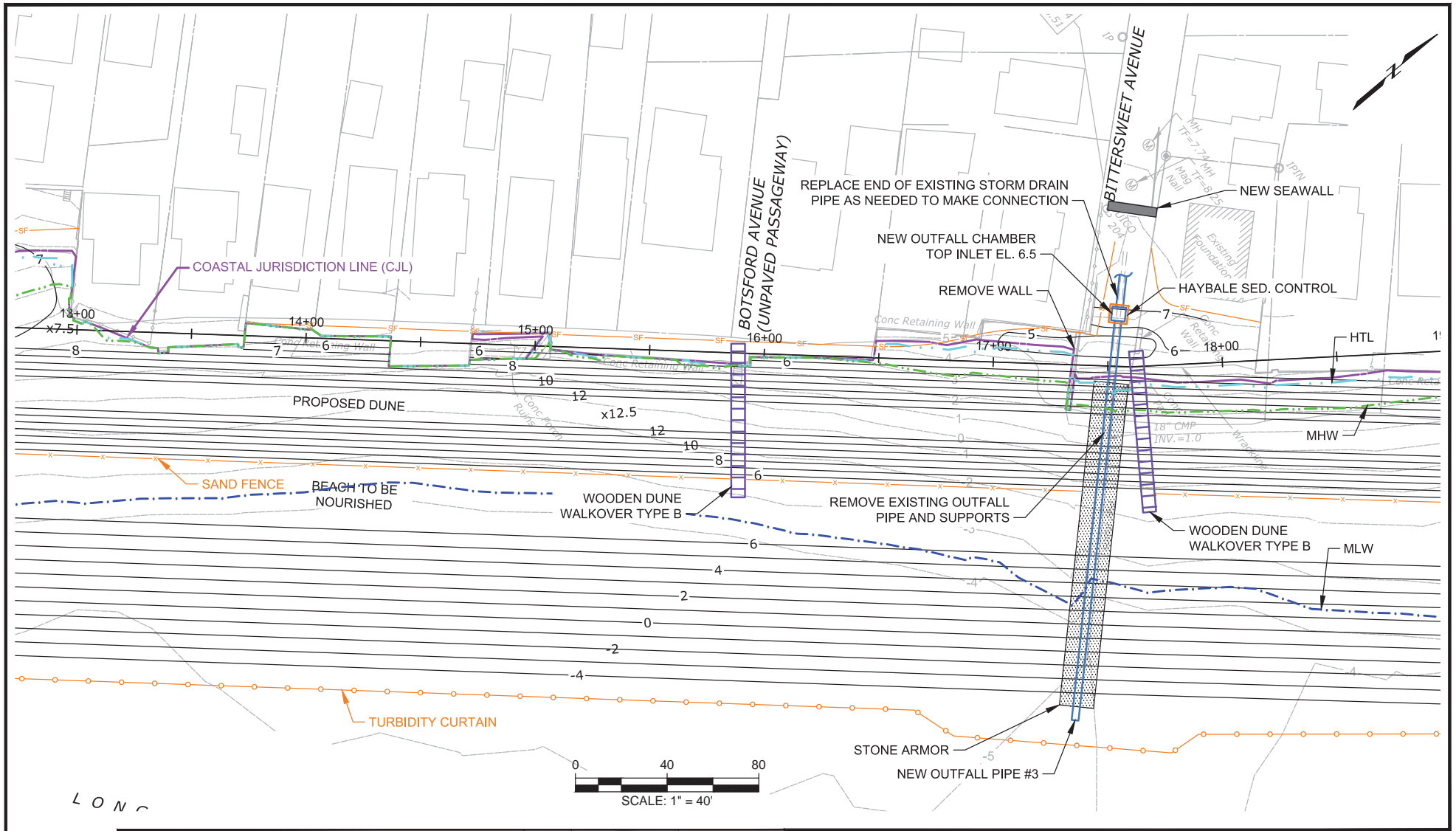


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DUNE AND BEACH
 NOURISHMENT PLAN

Project 1700458 December 2017 Fig. 3



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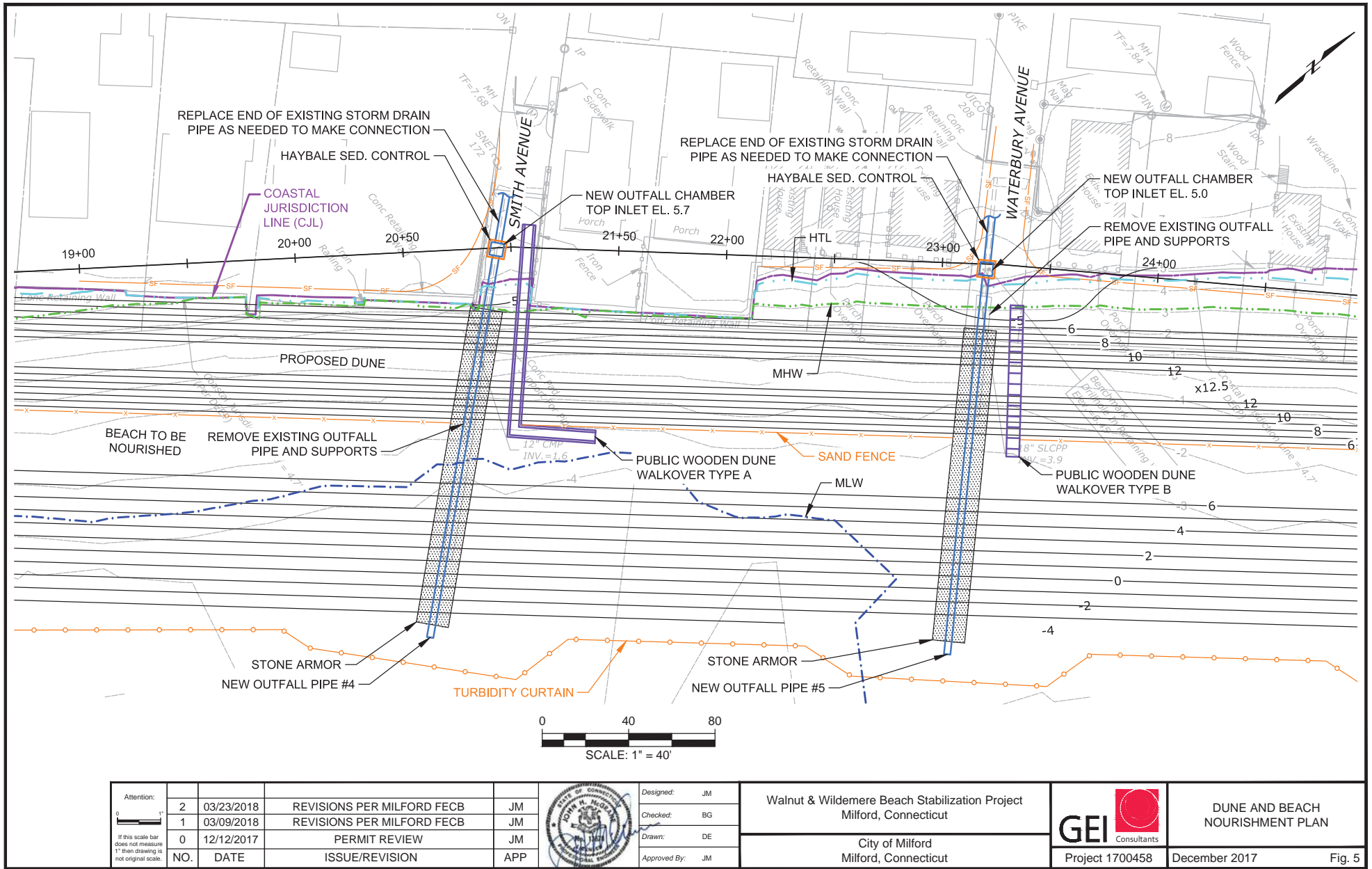


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DUNE AND BEACH NOURISHMENT PLAN
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 Fig. 4



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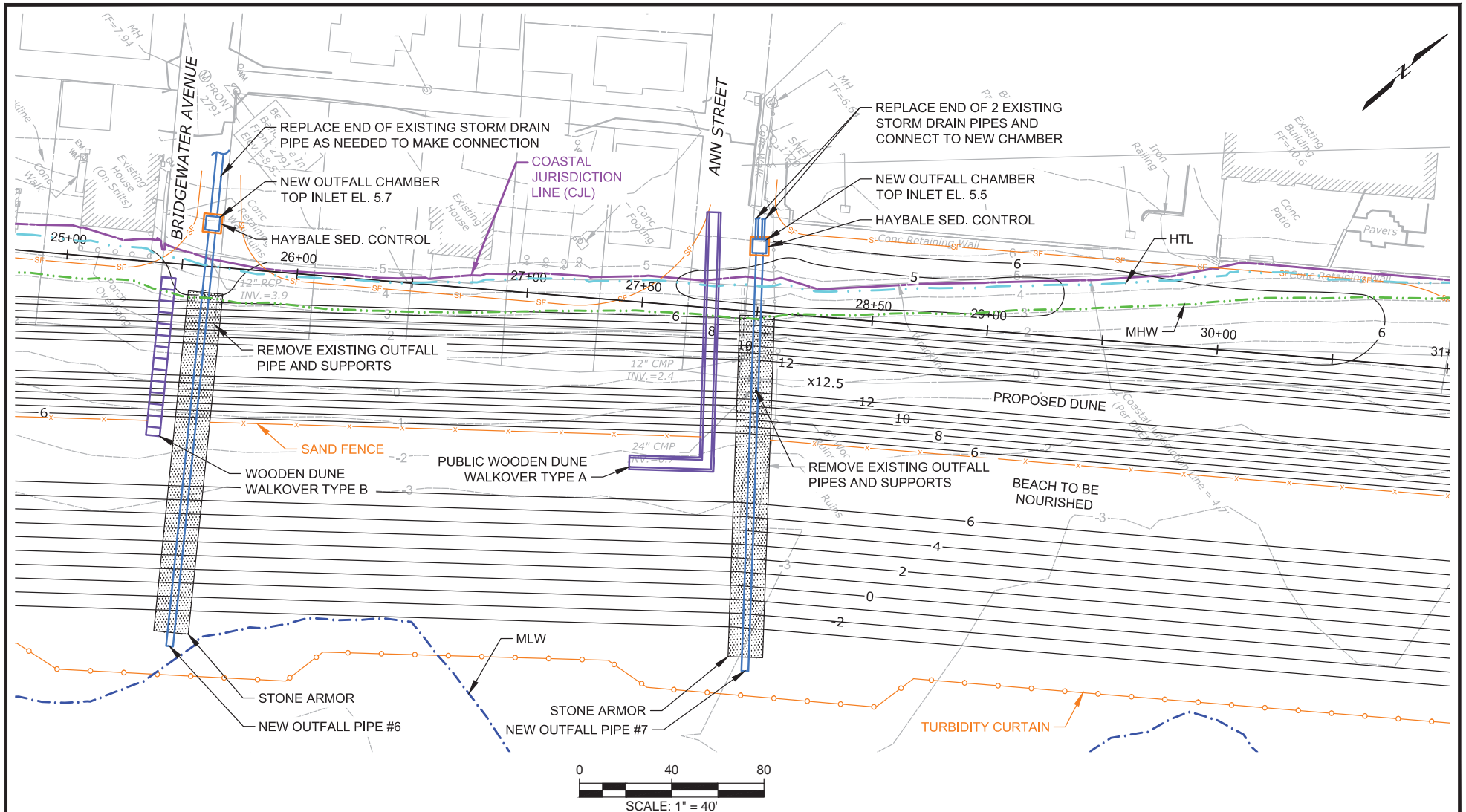
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DUNE AND BEACH
 NOURISHMENT PLAN
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 Fig. 5



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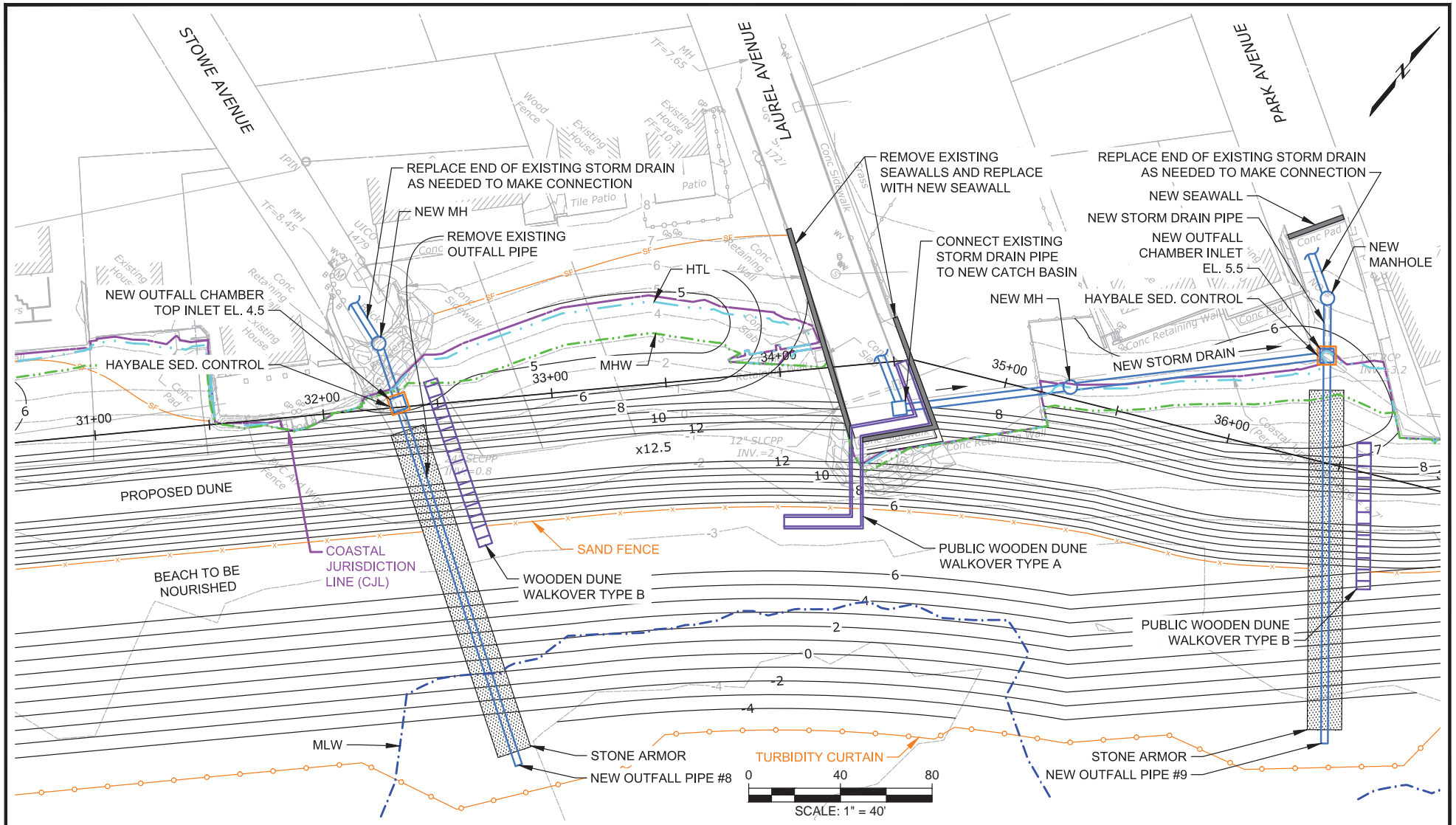
Walnut & Widemere Beach Stabilization Project
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DUNE AND BEACH
NOURISHMENT PLAN

Project 1700458
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Fig. 6



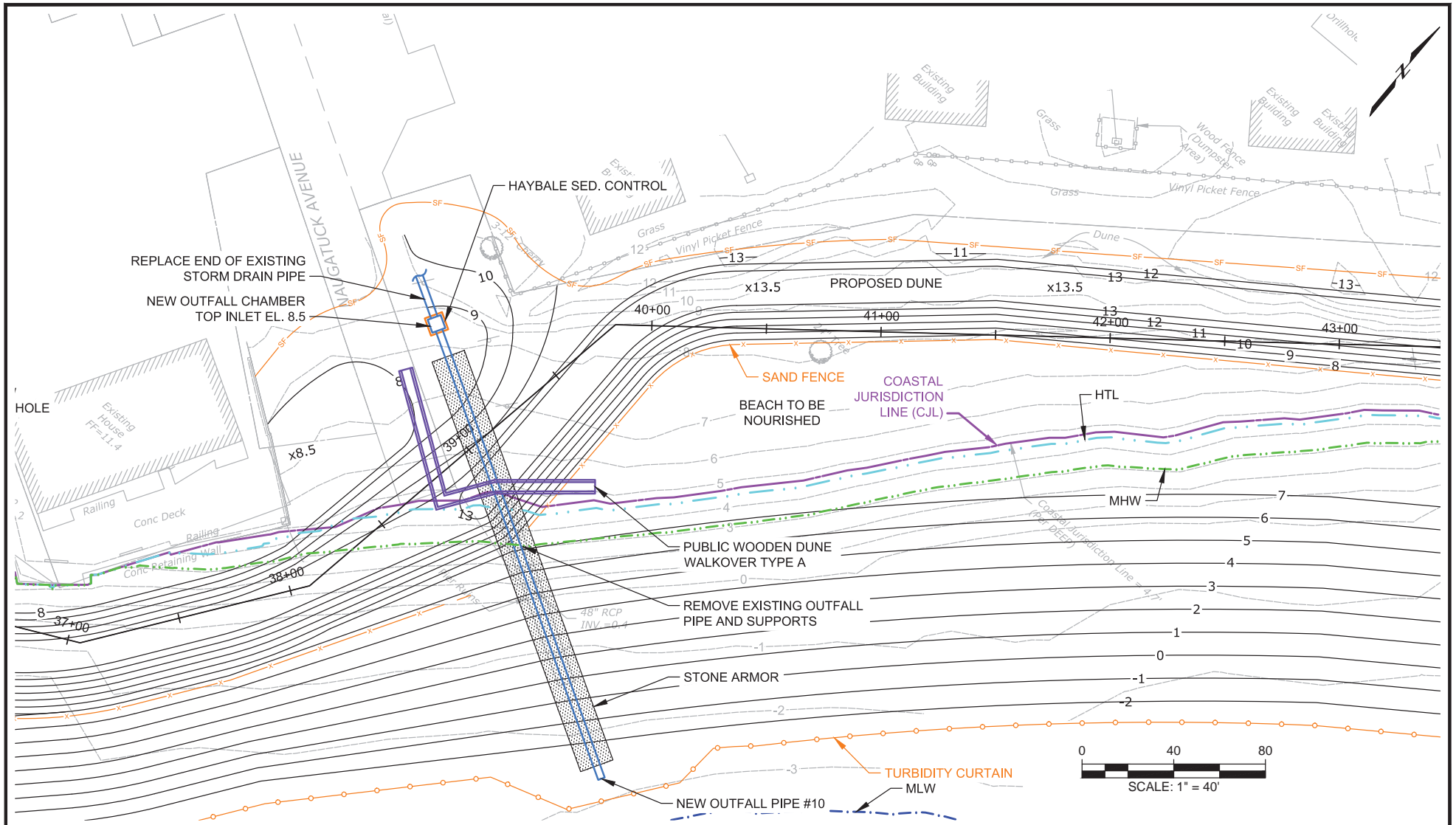
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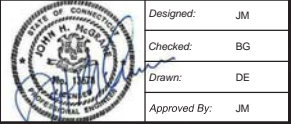
DUNE AND BEACH
NOURISHMENT PLAN
December 2017
Fig. 7



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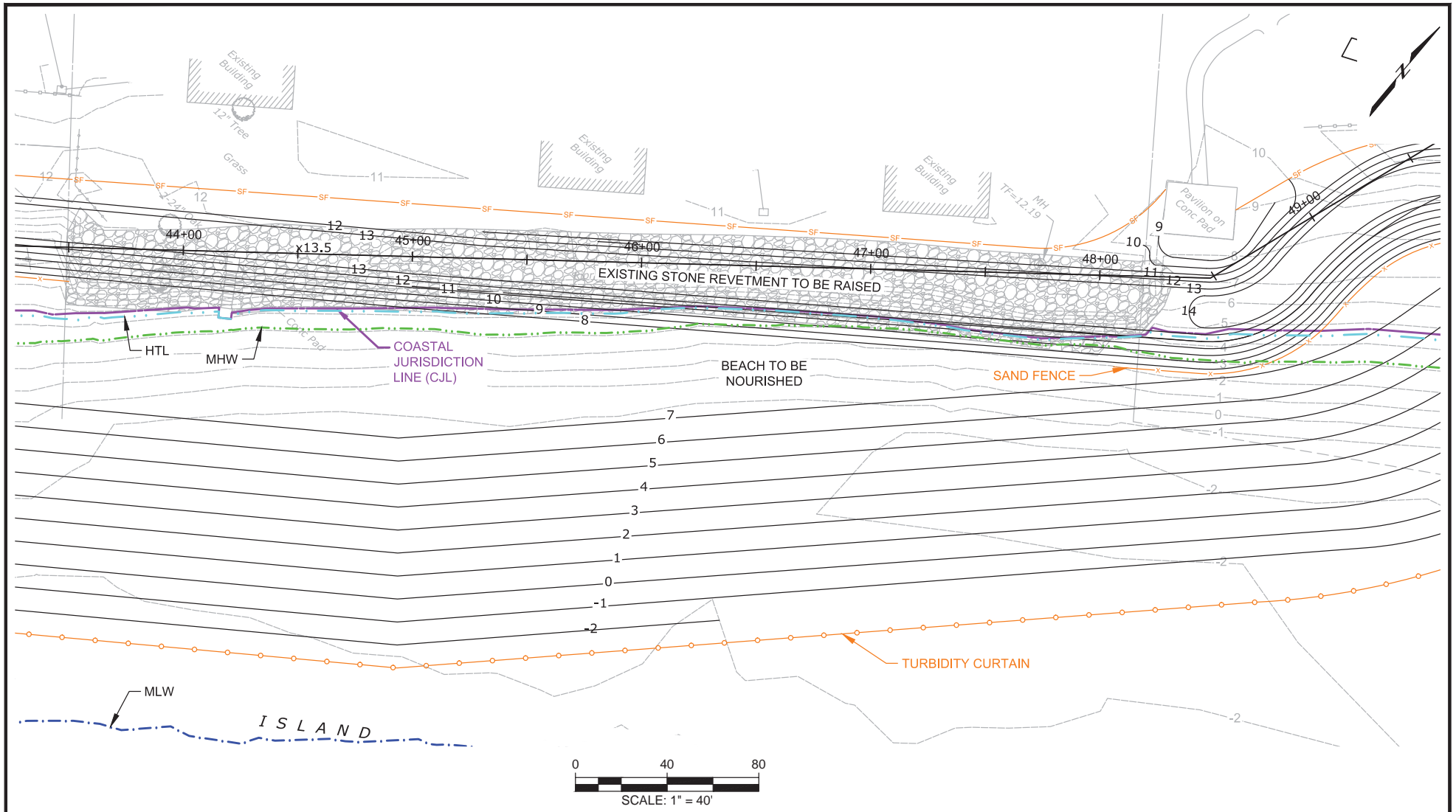
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DUNE AND BEACH
 NOURISHMENT PLAN
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 Fig. 8

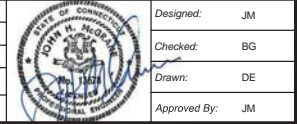


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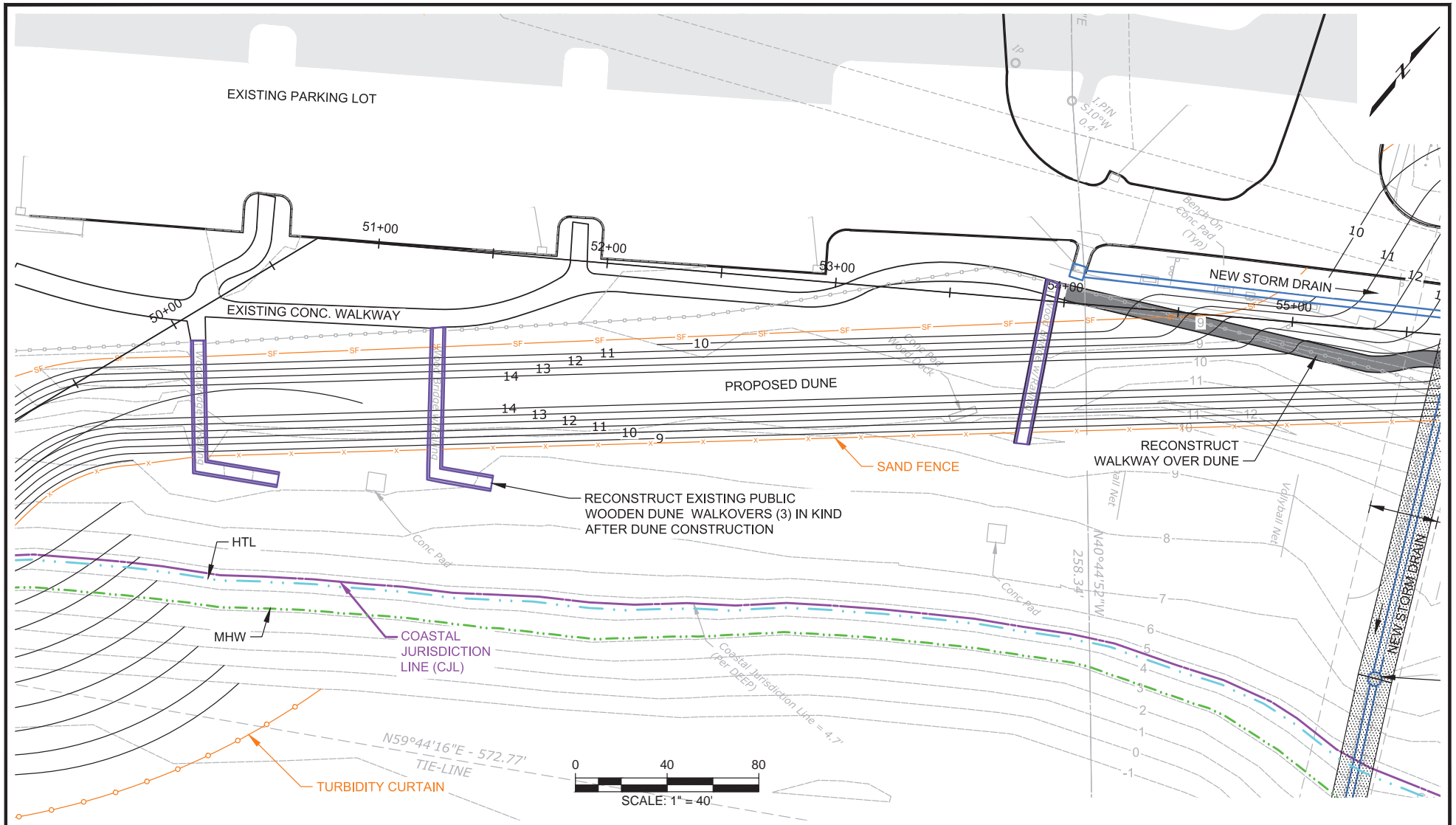
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DUNE AND BEACH
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 Fig. 9



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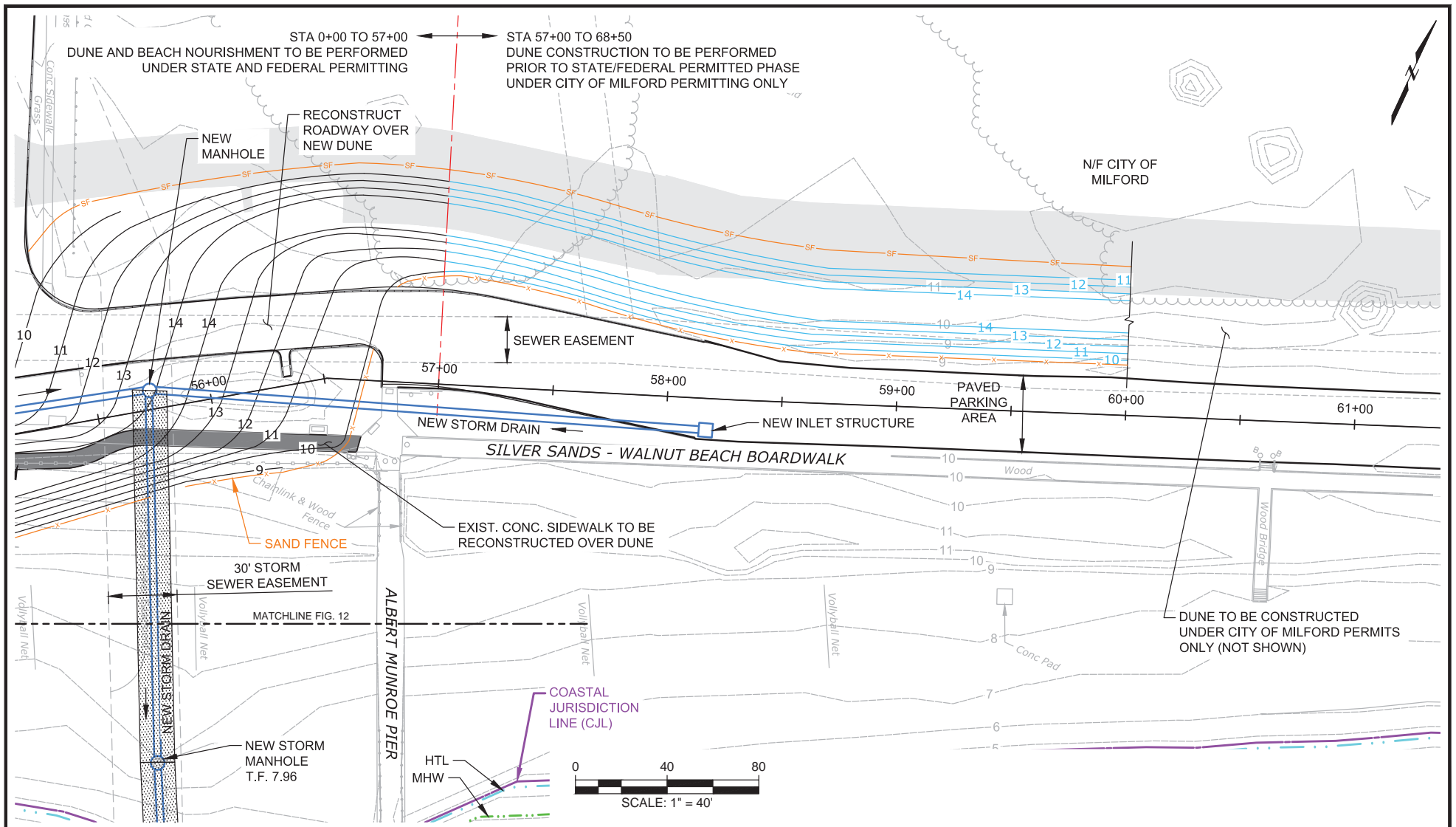


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DUNE AND BEACH
 NOURISHMENT PLAN
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 Fig. 10



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Milford, Connecticut

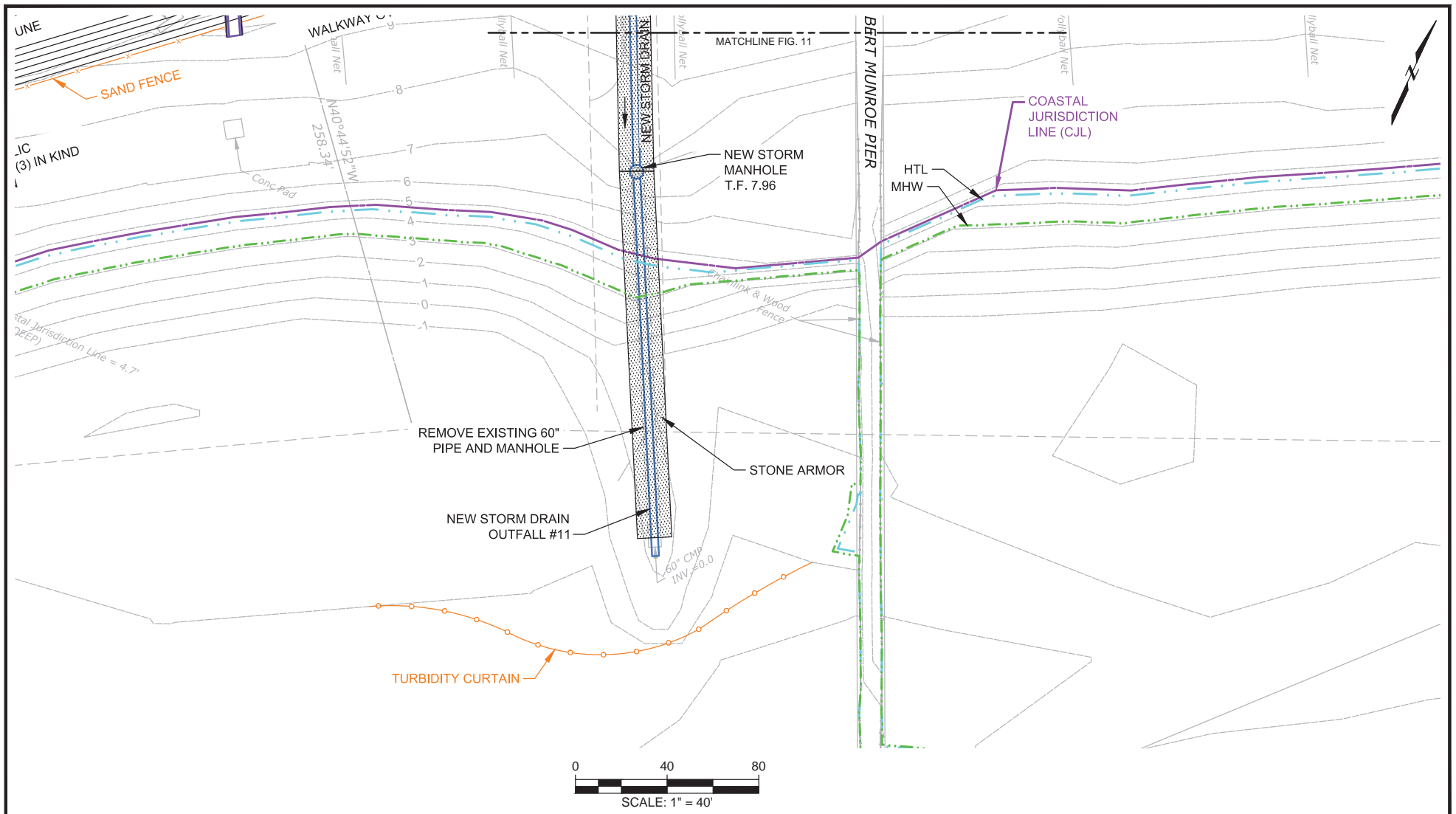
City of Milford
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Project 1700458

DUNE AND BEACH NOURISHMENT PLAN

December 2017

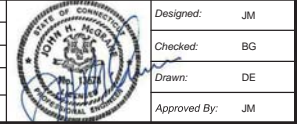
Fig. 11



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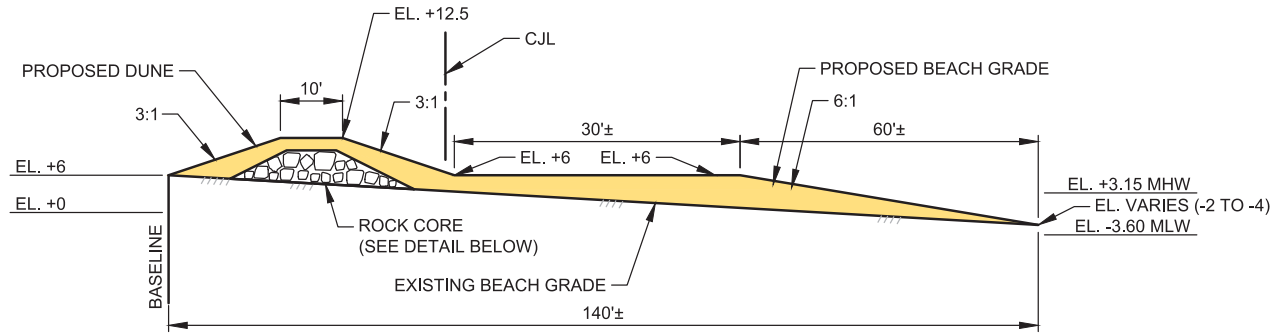
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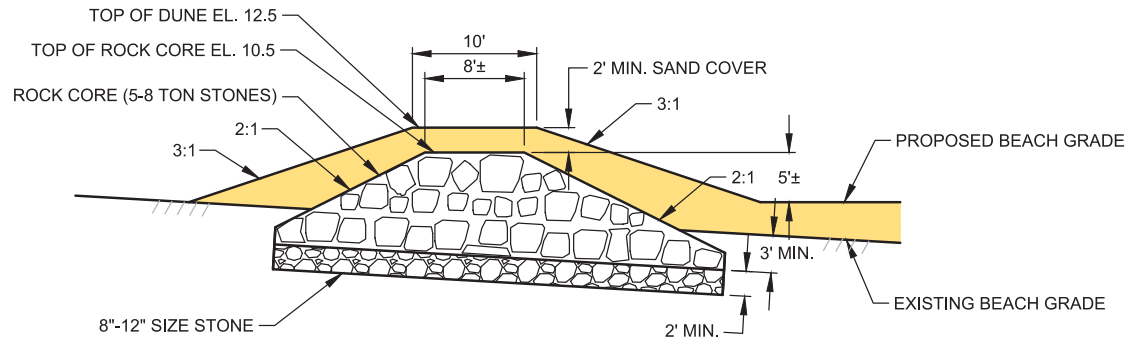
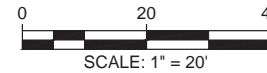


DUNE AND BEACH
 NOURISHMENT PLAN
 Project 1700458
 December 2017
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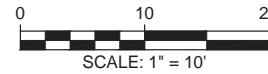
DUNE & BEACH NOURISHMENT SECTION




TYPICAL STA. 2+00 THRU 39+00

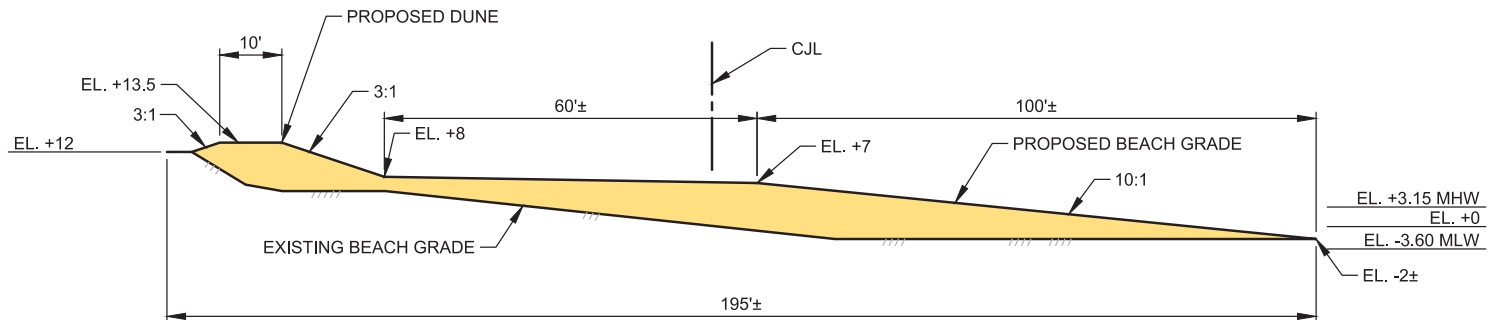


DUNE CORE DETAIL

TYPICAL STA. 2+00 THRU 39+00

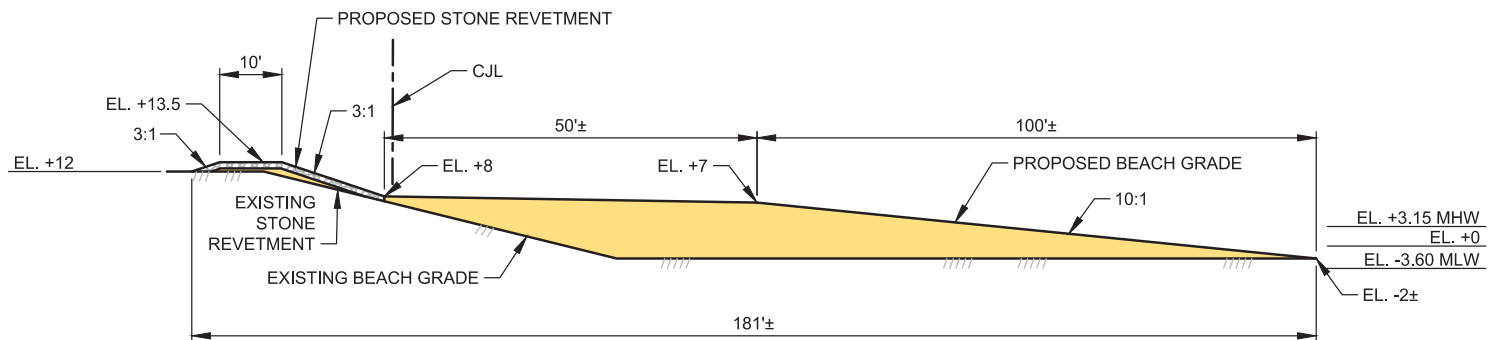


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								Project 1700458	December 2017	Fig. 13



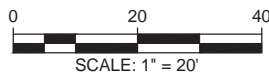
DUNE & BEACH NOURISHMENT SECTION

STA. 41+50



DUNE & BEACH NOURISHMENT SECTION

STA. 45+00



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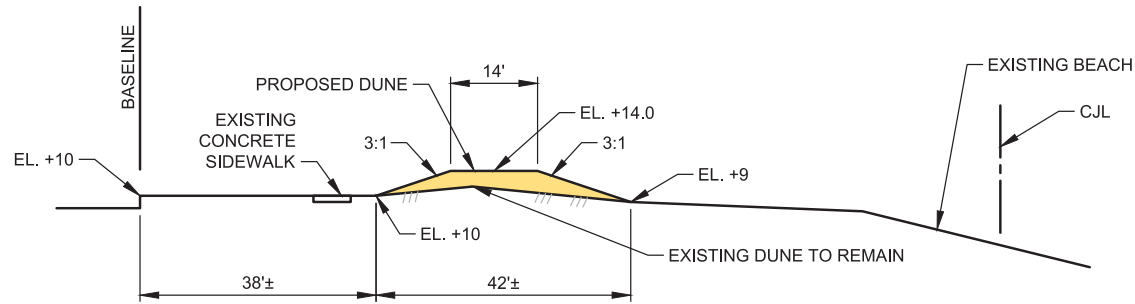


Project 1700458

WILDEMERE BEACH DUNE
 & BEACH NOURISHMENT
 TYPICAL SECTIONS

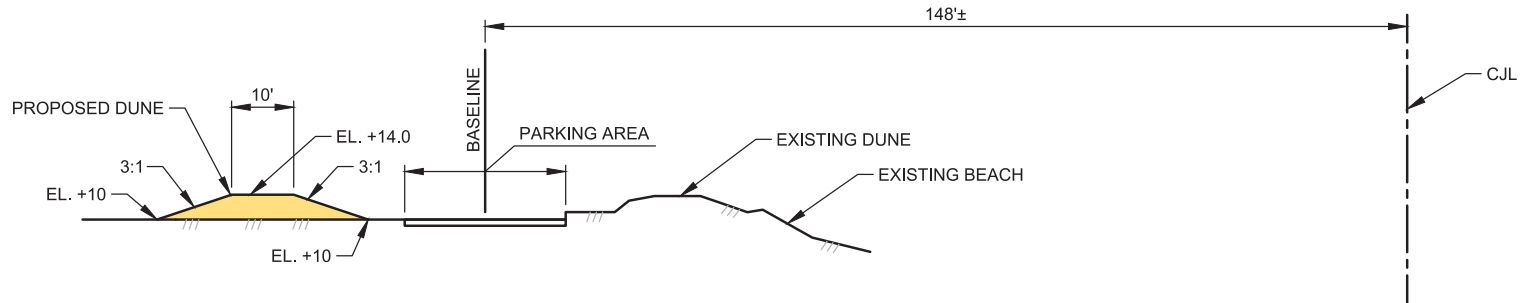
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Fig. 14



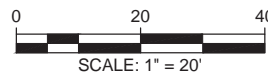
DUNE & BEACH NOURISHMENT SECTION

STA. 51+00

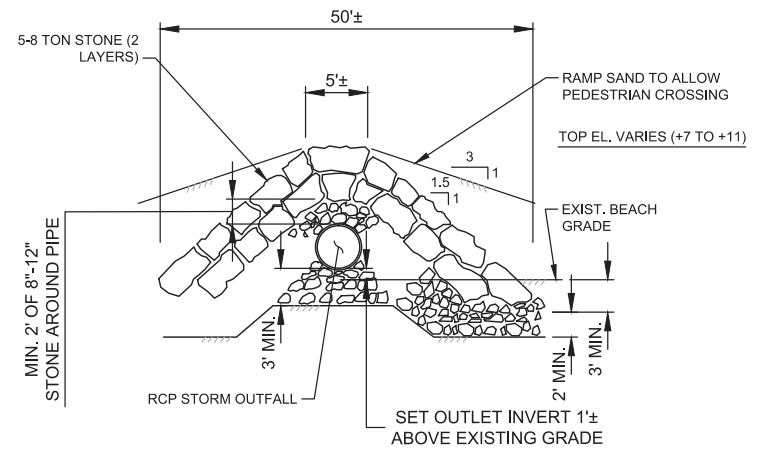
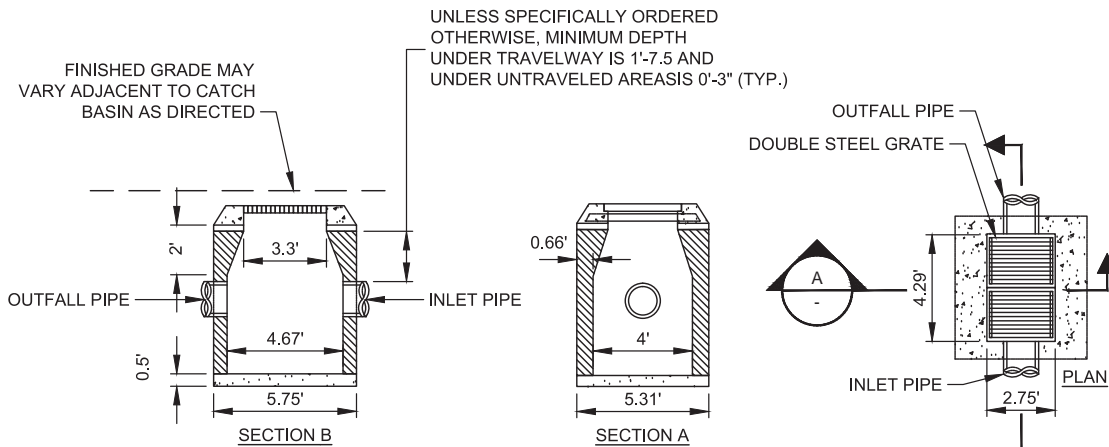
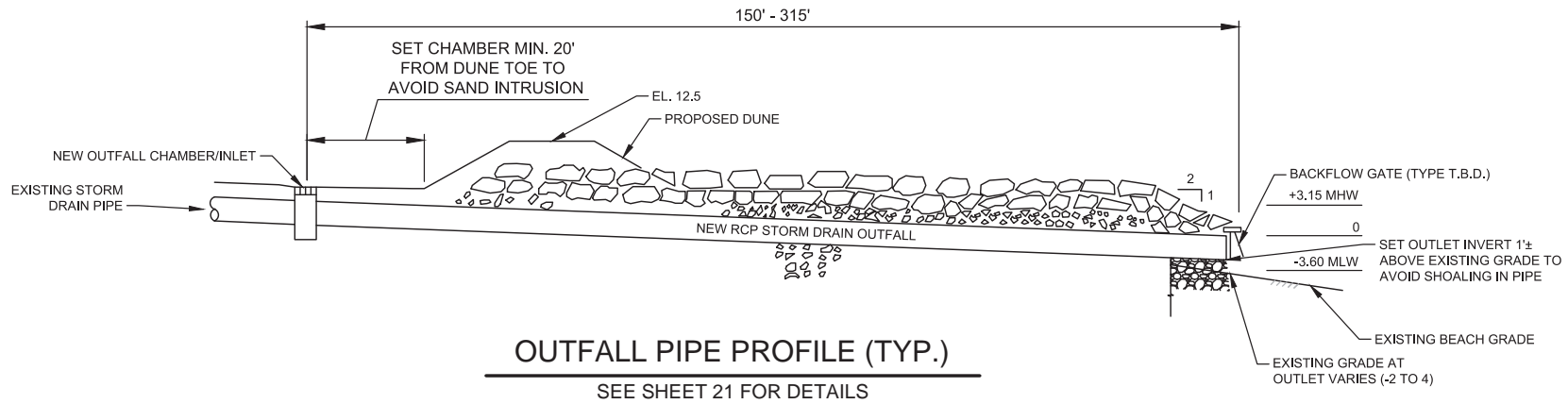


**DUNE & BEACH NOURISHMENT SECTION
(CITY OF MILFORD PERMITTED SECTION - INFORMATION ONLY)**

STA. 59+50

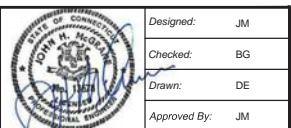


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								Project 1700458	December 2017	Fig. 15



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Walnut & Wildemere Beach Stabilization Project
Milford, Connecticut
City of Milford
Milford, Connecticut



STORM DRAIN
OUTFALL DETAILS
Project 1700458
December 2017
Fig. 16

DUNE PLANTING NOTES:

- DORMANT BEACHGRASS STEMS SHALL BE HELD IN COLD STORAGE PRIOR TO DELIVERY TO SITE.
- DELIVER PLANTS IMMEDIATELY PRIOR TO PLANTING ON SITE. STORE ALL PLANT MATERIALS, NOT INSTALLED IMMEDIATELY AFTER DELIVERY, OUT OF DIRECT EXPOSURE TO SUN AND WIND. MAINTAIN MOISTNESS OF PLANT CONTAINERS OR ROOT BALLS BY PERIODICALLY COVERING WITH WET STRAW OR CLOTH UNTIL TIME OF PLANTING.
- DO NOT STACK PLANTS DURING TRANSPORT OR TEMPORARY STORAGE TO AVOID CRUSHING.
- INSTALL SAND FENCE PRIOR TO PLANTING DUNE. INSTALL TWO (2) ROWS OF SAND FENCE PARALLEL TO THE SHORELINE, AS DEPICTED IN THE PLANS. SPACE POSTS 10 FT. APART AND SET POSTS A MINIMUM OF 3 FOOT DEPTH. WEAVE SAND FENCING IN FRONT OF AND BEHIND ALTERNATING POSTS TO ATTAIN MAXIMUM STRENGTH, AND ATTACH FENCING TO EACH POST WITH FOUR (4) WIRE TIES (≥ 12 GA.).
- STAKE OUT EDGES OF PLANTING ZONE AND CONTACT THE PROJECT ENGINEER OR LANDSCAPE ARCHITECT FOR INSPECTION PRIOR TO PLANT INSTALLATION.
- PLANT HARVESTED DORMANT BEACHGRASS STEMS FROM OCTOBER 15th THROUGH APRIL 15TH; OR NURSERY-GROWN BEACHGRASS PLUGS FROM APRIL 15TH TO May 31st.
- PLANT THE DUNE STARTING FROM THE SEAWARD SIDE (TOE OF THE DUNE) TOWARDS THE LANDWARD SIDE.
- INSTALL TWO (2) DORMANT BEACHGRASS (AMMOPHILA BREVILIGULATA) STEMS/CULMS, OR ONE PLUG PER PLANTING HOLE, APPROXIMATELY 8'-1' O' DEEP, SPACED A MAXIMUM OF 12" ON-CENTER.
- PLANT A MINIMUM OF TEN (10) PARALLEL ROWS, AND STAGGER/OFFSET THE PLANTS IN ALTERNATING ROWS TO MAXIMIZE PROTECTION.

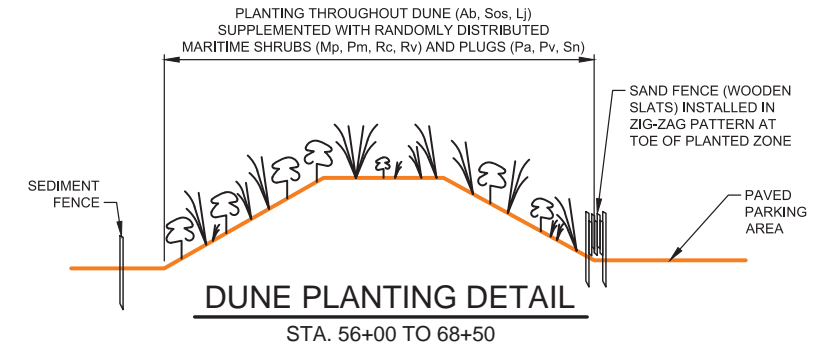
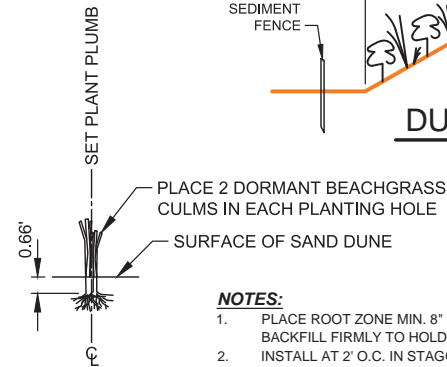
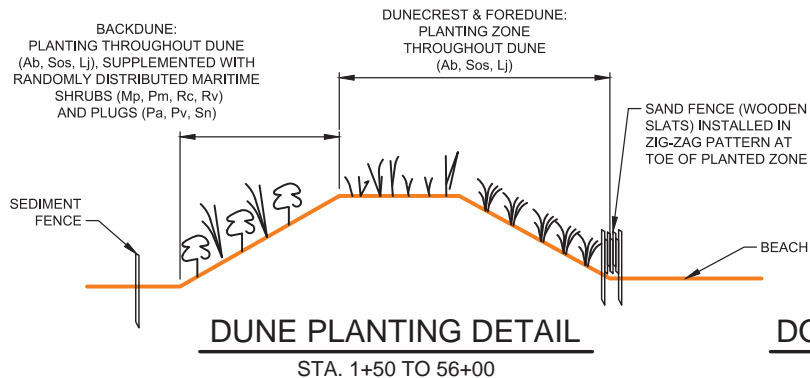
SAND FENCING REQUIREMENTS:

- STANDARD FOUR (4) FOOT SLATTED WOOD SNOW FENCING.
- WOODEN POSTS:
 - POSTS SHALL BE BLACK LOCUST, EASTERN REDCEDAR ATLANTIC WHITE CEDAR OR OTHER SPECIES OF SIMILAR DURABILITY AND STRENGTH. B. WOODEN POSTS MUST BE GREATER THAN 6 1/2 FEET IN LENGTH (7 TO 8 FT. TYP.).
- INSTALL POSTS IN A REPEATING ZIG-ZAG PATTERN SO THAT SAND FENCE SECTIONS ARE PLACED AT A 45 DEGREE ANGLE TO THE SHOREFRONT. THIS PATTERN WILL MAXIMIZE SAND ENTRAPMENT ALONG THE BEACHFRONT.
- SAND WILL TYPICALLY FILL FENCING TO 3/4 OF ITS TOTAL HEIGHT.
- REPLACE DAMAGED SAND FENCING AND POSTS WITHIN ONE MONTH OF STORM DAMAGE TO MAINTAIN A CONTINUOUS DUNE LINE.

DUNE PLANTING SCHEDULE						
Abv.	Botanical Name	Common Name	Location	Size	Spacing	Qty.
Shrubs						
BhT	<i>Baccharis halimifolia</i>	Groundselbush	Vegetated rip-rap, Wildemere	2 yr. tubing	2' O.C.	
lfT	<i>Iva frutescens</i>	Marsh Elder	Vegetated rip-rap, Wildemere	2 yr. tubing	2' O.C.	
Mp	<i>Morella pensylvanica</i>	Northern Bayberry	Backdune & Planting Berm	1 Gal. Cont.	4' O.C.	
Pm	<i>Prunus maritima</i>	Beach Plum	Backdune & Planting Berm	2 Gal. Cont.	4' O.C.	
Rc	<i>Rosa carolina</i>	Carolina Rose	Backdune & Planting Berm	1 Gal. Cont.	2' O.C.	
Rv	<i>Rosa virginiana</i>	Virginia Rose	Backdune & Planting Berm	1 Gal. Cont.	2' O.C.	
Herbaceous Plugs						
Ab	<i>Ammophila breviligulata</i>	American Beachgrass	Foredune & backdune throughout	Dormant culm	1' O.C.	
Pa	<i>Panicum amarulum</i>	"Atlantic" Coastal Panicgrass	Backdune & Planting Berm	2" Plug	2' O.C.	
Pv	<i>Panicum virgatum</i>	Switchgrass	Backdune & Planting Berm	2" Plug	2' O.C.	
Sn	<i>Sorghastrum nutans</i>	Indiangrass	Backdune & Planting Berm	2" Plug	2' O.C.	
Sos	<i>Solidago sempervirens</i>	Seaside Goldenrod	Foredune & backdune throughout	2" Plug	2' O.C.	
Vines						
Lj	<i>Lathyrus japonicus var. maritimus</i>	Beach Pea	Foredune & backdune throughout	2" Plug	2' O.C.	

PLANTING TABLE NOTES:

CONT. = CONTAINER
 GAL. = GALLON
 O.C. = ON CENTER



- NOTES:**
- PLACE ROOT ZONE MIN. 8" BELOW SURFACE AND BACKFILL FIRMLY TO HOLD CULMS IN PLACE.
 - INSTALL AT 2' O.C. IN STAGGERED ROWS.

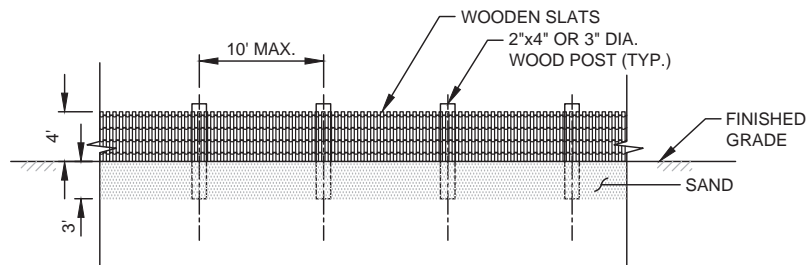
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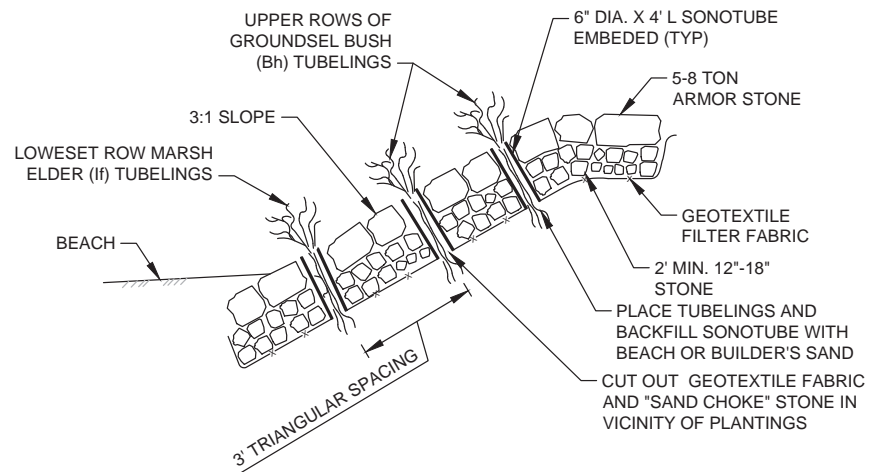
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DUNE PLANTING DETAILS
 December 2017
 Fig. 17

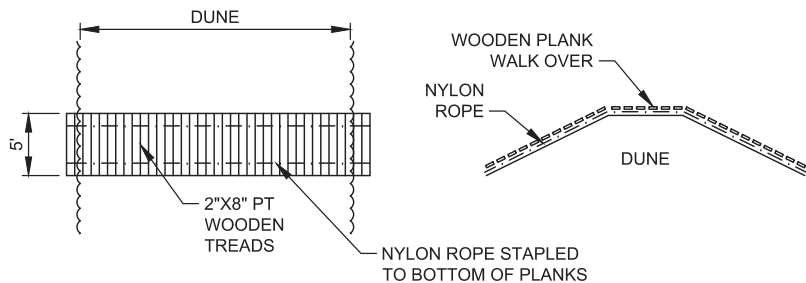


SAND FENCE



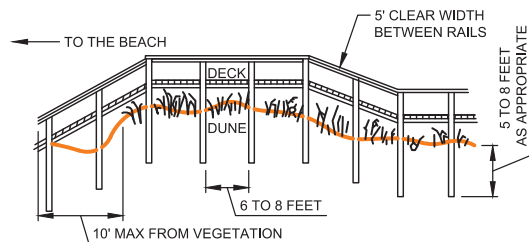
PLANTING DETAIL FOR ARMORED REVETMENT

NOT TO SCALE



WOODEN WALKOVER DETAIL (TYPE B)

FOR MINOR PUBLIC CROSSINGS AND "PRIVATE" WALK-OVERS



WOODEN WALKOVER DETAIL (TYPE A)

FOR MAJOR PUBLIC CROSSINGS - ADA COMPLIANT

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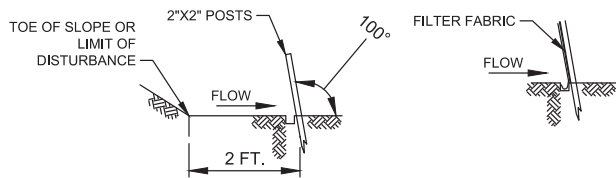
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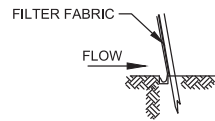
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DUNE WALKOVER AND PLANTING DETAILS

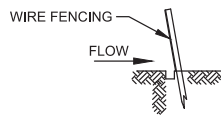
December 2017 Fig. 18



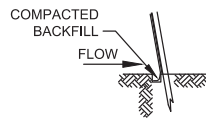
1. SET POSTS AND EXCAVATE A 6"x6" TRENCH. SET POSTS DOWN SLOPE, ANGLE 10° UPSLOPE FOR STABILITY AND SELF CLEANING



3. ATTACH FILTER FABRIC TO THE WIRE FENCING AND EXTEND IT TO THE TRENCH.

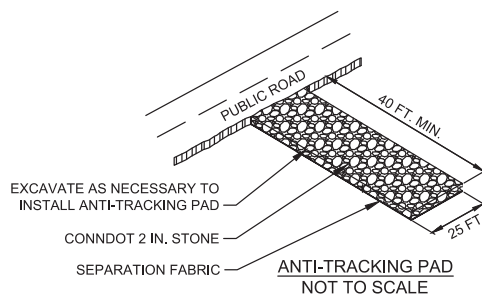


2. ATTACH THE WIRE MESH FENCING TO POST.



4. BACKFILL THE TRENCH AND COMPACT THE EXCAVATED SOIL.

**FILTER FABRIC FENCE SYSTEM
SEDIMENTATION CONTROL SYSTEM INSTALLATION
NOT TO SCALE**



EXCAVATE AS NECESSARY TO INSTALL ANTI-TRACKING PAD

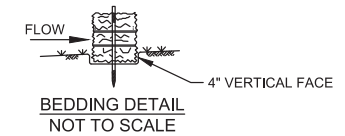
CONNDOT 2 IN. STONE

SEPARATION FABRIC

**ANTI-TRACKING PAD
NOT TO SCALE**

NOTES:

1. TRACKING PAD 4" MIN. THICK.
2. PLACEMENT/LOCATION OF ANTI-TRACKING PADS WILL BE CONTAINED IN A CONTRACTOR SUBMITTED DETAILED EROSION AND SEDIMENT CONTROL PLAN.



**BEDDING DETAIL
NOT TO SCALE**

ANGLE FIRST STAKE TOWARDS PREVIOUSLY LAID BALE

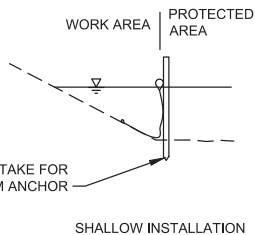


SOURCE: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION.

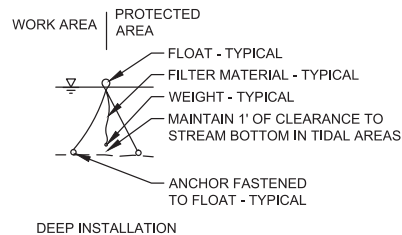
**ANCHORING DETAIL
SINGLE-STACKED STRAW BALE DIKE DETAIL
NOT TO SCALE**

TURBIDITY CURTAIN NOTES:

1. CURTAIN FABRIC SHALL BE A BRIGHTLY COLORED, TIGHTLY WOVEN, GEOSYNTHETIC OR IMPERVIOUS REINFORCED THERMOPLASTIC MATERIAL.
2. CONTRACTOR SHALL SUBMIT SHOP DRAWING OF FLOATING SEDIMENT BARRIER TO ENGINEER FOR REVIEW AND APPROVAL.
3. FLOATING SEDIMENT BARRIER AND ANCHORS SHALL BE CAREFULLY REMOVED FROM WATERCOURSE AND ACCUMULATED SEDIMENT SHALL BE DISPOSED OF IN AN OFF-SITE UPLAND AREA.
4. FLOATING SEDIMENT BARRIER SHALL BE INSPECTED DAILY FOR DAMAGE AND SEDIMENT LOAD. DEPENDING ON THE DURATION OF THE PROJECT, SEDIMENT SHALL BE REMOVED WHEN ITS ACCUMULATION INTERFERES WITH THE FUNCTION OF THE FLOATING SEDIMENT BARRIER.

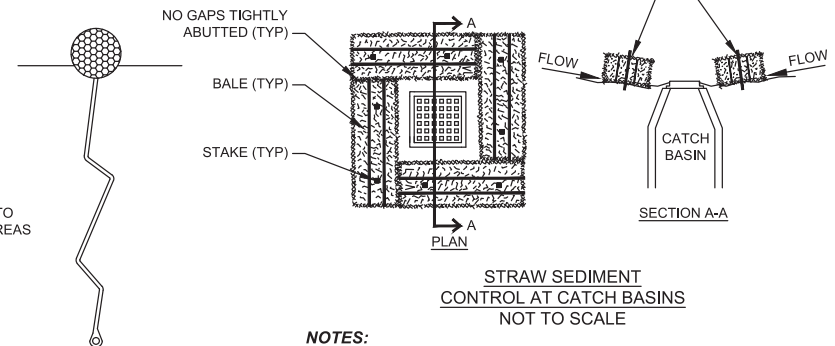


SHALLOW INSTALLATION



DEEP INSTALLATION

**TURBIDITY CURTAIN DETAIL
NOT TO SCALE**



**STRAW SEDIMENT CONTROL AT CATCH BASINS
NOT TO SCALE**

NOTES:

1. BALES ARE TO BE PLACED 4 INCHES IN THE SOIL, TIGHTLY ABUTTING WITH NO GAPS, STAKED AND BACKFILLED AROUND THE ENTIRE OUTSIDE PERIMETER.

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EROSION AND SEDIMENT CONTROL DETAILS

Project 1700458

December 2017

Fig. 19

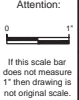


PROJECT NOTES:

1. THE CONTRACTOR ULTIMATELY SELECTED SHALL COMPLY WITH THE DEEP PERMIT FOR THE DISCHARGE OF STORMWATER AND DEWATERING WASTEWATERS ASSOCIATED WITH CONSTRUCTION ACTIVITIES, AND BE RESPONSIBLE FOR OVERSEEING THE INSTALLATION AND MAINTENANCE OF ALL SEDIMENTATION AND EROSION CONTROL MEASURES. CONTRACTOR WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING THIS PERMIT, AND FOR COMPLIANCE DURING CONSTRUCTION.
2. THE CONTRACTOR ULTIMATELY SELECTED WILL BE REQUIRED TO PROVIDE A SUBMITTAL WHICH PROVIDES DETAILS, PROCEDURES, AND WORK METHODS TO PROPERLY EXECUTE THE WORK, PROTECT THE ENVIRONMENT, AND MINIMIZE DISRUPTION TO ADJACENT PROPERTIES AND PUBLIC FACILITIES. THIS PLAN SHALL INCLUDE, BUT IS NOT LIMITED TO:
 - PREPARATION OF VARIOUS PLANS AND OTHER WRITTEN SUBMITTALS REQUIRED FOR PROPER CONTROLS DURING CONSTRUCTION.
 - IDENTIFICATION OF STAGING AND STOCKPILE AREAS.
 - LOCATION AND PLACEMENT OF ANTI TRACKING PADS TO CONTROL SEDIMENTS.
 - SEQUENCING OF PLACEMENT AND REMOVAL OF TURBIDITY CURTAINS THAT WILL BE INSTALLED IN PHASES ALONG DUNE AND BEACH NOURISHMENT SECTIONS IN A "ROLLING" FASHION.
 - TRUCK ROUTES AND ACCESS POINTS FOR PORTIONS OF THE PROJECT REQUIRING OVERLAND DELIVERY OR REMOVAL OF MATERIAL.
 - FOR MATERIAL DELIVERED OR REMOVED FORM SITE USING WATERBORNE MEANS (BARGES, ETC.) A DETAILED SUBMITTAL WILL BE REQUIRED.
3. SEDIMENTATION AND EROSION CONTROL MEASURES ARE PROPOSED TO ADEQUATELY CONTROL THE ACCELERATED EROSION AND SEDIMENTATION AND REDUCE THE DANGER FROM STORMWATER RUNOFF AT THE SITE. THE RUNOFF SHALL BE CONTROLLED BY THE INTERCEPTION, DIVERSION, AND SAFE DISPOSAL OF PRECIPITATION. RUNOFF SHALL ALSO BE CONTROLLED BY STAGING CONSTRUCTION ACTIVITY AND PRESERVING NATURAL VEGETATION WHENEVER POSSIBLE.
4. EXISTING DUNE VEGETATION SHALL BE PROTECTED AND ONLY THAT CLEARING AND GRUBBING THAT IS ABSOLUTELY NECESSARY FOR THE PROPOSED DUNE CONSTRUCTION, DRAINAGE INSTALLATION, AND BEACH NOURISHMENT SHALL BE PERFORMED. ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND CONTOUR, UNLESS OTHERWISE INDICATED ON THE PLANS. THE CONTRACTOR SHALL TAKE SPECIAL CARE WITH HIS DUNE CONSTRUCTION, BEACH NOURISHMENT, AND DREDGING METHODS AND SHALL COMPLY WITH SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROLS.
5. ALL AREAS SHALL BE PROTECTED FROM SEDIMENTATION DURING AND AFTER DREDGING, INCLUDING THE CORRESPONDING STORAGE AND HANDLING AREAS FOR DREDGED SEDIMENT. STOCKPILES MUST BE ADEQUATELY PROTECTED WITH HAY BALES AND/OR FILTER FABRIC FENCE AS INDICATED.
6. FREQUENTLY INSPECT EROSION CONTROLS. REPAIR/REPLACE DEFICIENT EROSIONS CONTROLS PROMPTLY, AS NEEDED.
7. STONE STABILIZED VEHICLE ANTI-TRACKING PADS SHALL BE LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS FROM THE CONSTRUCTION SITE TO REDUCE TRACKING OR FLOWING OF SEDIMENT INTO PUBLIC RIGHTS-OF-WAY. FILTER FABRIC SHALL BE PLACED ON SUBGRADE PRIOR TO PLACEMENT OF STONE. STONE SHALL BE PLACED TO THE DIMENSIONS SHOWN ON THE PLAN. PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH, AS CONDITIONS DEMAND, MAY BE REQUIRED TO ENSURE THAT THE ENTRANCE FUNCTIONS AS INTENDED. PUBLIC ROADWAYS SHALL BE CLEANED OF DIRT AND DEBRIS AS NECESSARY, OR AS DIRECTED BY THE ENGINEER.
8. IN ALL AREAS, REMOVAL OF TREES, BUSHES AND OTHER VEGETATION, AND DISTURBANCE OF THE SOIL, IS TO BE KEPT TO AN ABSOLUTE MINIMUM WHILE ALLOWING PROPER DEVELOPMENT OF THE SITE.
9. DURING DREDGING OPERATIONS REQUIRED FOR INSTALLATION OF DRAINAGE, ROCK CORE BASE, AND OTHER COMPONENTS, THE AREA AND DURATION OF SEDIMENT EXPOSURE SHALL BE MINIMIZED, AND THE SEQUENCE OF DREDGING OPERATION SHALL ACT TO MINIMIZE THE EXPOSURE.
10. ALL SEDIMENTATION AND EROSION CONTROL DEVICES SHALL BE INSPECTED DURING CONSTRUCTION AND THE CONTRACTOR SHALL MAINTAIN AND MAKE REPAIRS AND REMOVE SEDIMENT IF IT HAS ACCUMULATED AND RENDERED THE SEDIMENT CONTROL NON-FUNCTIONAL. THE CONTRACTOR SHALL IN ADDITION MAINTAIN AND MAKE REPAIRS AND REMOVE SEDIMENT AS REQUESTED BY THE ENGINEER. THE CONTRACTOR SHALL CLEAN SEDIMENT AND DEBRIS FROM ALL DRAINAGE STRUCTURES AND PIPES AT THE COMPLETION OF THE DREDGING ACTIVITIES AND AS REQUESTED BY THE ENGINEER TO KEEP THE DRAINAGE SYSTEM PROPERLY FUNCTIONING.

STORM DRAIN DATA TABLE

Outfall Name	Location	Approx. Pipe Size	Approx. Length	Outfall Invert EL*	Pipe Material
Outfall #1	Hauser St.	36" +/-	150'	-1.5	RCP
Outfall #2	Wildwood Ave.	24" +/-	160'	-3.5	RCP
Outfall #3	Bittersweet Ave.	24" +/-	165'	-4.0	RCP
Outfall #4	Smith Ave.	24" +/-	170'	-3.5	RCP
Outfall #5	Waterbury Ave.	24" +/-	165'	-3.0	RCP
Outfall #6	Bridgewater Ave.	24" +/-	170'	-3.0	RCP
Outfall #7	Ann St.	30" +/-	170'	-2.0	RCP
Outfall #8	Stowe Ave.	24" +/-	180'	-3.0	RCP
Outfall #9	Park Ave.	24" +/-	160'	-2.0	RCP
Outfall #10	Naugatuck Ave.	48" +/-	200'	-1.5	RCP
Outfall #11	Viscount Dr.	60" +/-	315'	0.5	CMP

NOTE:
*INVERT ELEVATIONS SET AT 1± ABOVE SEA FLOOR.

<p>Attention:</p> 	2	03/23/2018	REVISIONS PER MILFORD FECB	JM		Designed: JM Checked: BG Drawn: DE Approved By: JM	Walnut & Wildemere Beach Stabilization Project Milford, Connecticut City of Milford Milford, Connecticut		PROJECT NOTES AND STORM DRAIN DATA TABLE Project 1700458 December 2017 Fig. 20
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