

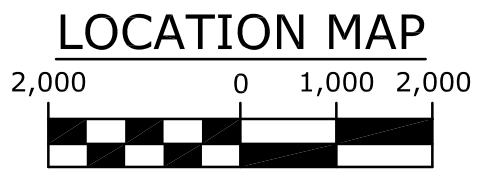
TOWN OF WEYMOUTH

FORT POINT COASTAL INFRASTRUCTURE IMPROVEMENTS

WEYMOUTH, MASSACHUSETTS

MAY 30, 2019

LIST OF DRAWINGS	
SHEET NO.	SHEET TITLE
	COVER SHEET
G.001	NOTES & LEGEND SHEET
V.101-V.106	EXISTING CONDITIONS & DEMOLITION PLANS
C.101-C.106	SITE PLANS
C.501-C.502	DETAILS



PREPARED BY:
Tighe & Bond
Engineers | Environmental Specialists

PREPARED FOR:
TOWN OF WEYMOUTH
75 MIDDLE STREET
WEYMOUTH, MA 02189

DEPARTMENT OF PUBLIC WORKS
120 WINTER STREET
WEYMOUTH, MA 02188

TOWN ENGINEER
ANDREW FONTAINE, PE



DRAFT

PERMIT SET

NOT FOR CONSTRUCTION

1. "EXISTING CONDITIONS SURVEY" BY ALPHA SURVEY GROUP, LLC, DATED JANUARY 8, 2019.

1. EXISTING CONDITIONS BASED ON ON-THE-GROUND SURVEY BY ALPHA SURVEY GROUP, LLC ON NOVEMBER 29, 2018 AND JANUARY 7, 2019.
2. VERTICAL DATUM BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. HORIZONTAL DATUM BASED ON MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, REFERENCED TO NORTH AMERICAN DATUM OF 1983 (NAD83).
4. TIDAL DATUM ELEVATIONS SHOWN ARE BASED ON THE NATIONAL OCEANOGRAPHIC AND ATMOSPHERIC ADMINISTRATION (NOAA) TIDE STATION "WEYMOUTH FORE RIVER MA" #8444788 FOR THE 1983-2001 TIDAL EPOCH.
5. FLOOD ZONES SHOWN ARE APPROXIMATE FROM THE FEDERAL EMERGENCY MANAGEMENT ADMINISTRATION (FEMA) FLOOD INSURANCE RATE MAP (FIRM) #25021C0093E BASED ON FEMA SHAPE FILE DATA.
6. PARCEL LINES SHOWN ARE FROM MASSGIS AND ARE APPROXIMATE.
7. SEE REFERENCE PLANS FOR BENCHMARK INFORMATION.
8. ELEVATIONS GIVEN ARE IN FEET.
9. BASELINE STATIONING SHOWN ON PLANS BASED ON SEAWARD FACE OF THE WALL.
10. UTILITY LOCATIONS PROVIDED BY SURVEYOR AND ARE APPROXIMATE BASED ON FIELD SURVEY AND RECORD DRAWINGS/GIS DATA PROVIDED BY TOWN OF WEYMOUTH.
11. SALT MARSH AND RESOURCE AREAS DELINEATED BY TIGHE & BOND, INC. DURING FIELD SURVEY ON NOVEMBER 29, 2018 AND JANUARY 7, 2019.

NOTE: SEE EXISTING
CONDITIONS NOTE #4, SHEET
G.001.

CB	CATCHBASIN
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CPP	CORRUGATED PLASTIC PIPE
DMH	DRAIN MANHOLE
FW	FACE OF WALL
G	GROUND
HAT	HIGHEST ANNUAL TIDE
HSE	HOUSE
INV	INVERT
MHHW	MEAN HIGHER HIGH WATER
MHW	MEAN HIGH WATER
MLLW	MEAN LOWER LOW WATER
MLW	MEAN LOW WATER
PVC	POLYVINYL CHLORIDE
SMH	SEWER MANHOLE
STRY	STORY
TR	TOP OF REVETMENT
TS	TOP OF SLAB
TW	TOP OF WALL
TBR	TO BE REMOVED
OF-#	OUTFALL
STA	STATION
PCB	PROPOSED CATCHBASIN
CPP	CORRUGATED POLYPROPYLENE PIPE
PDMH	PROPOSED DRAIN MANHOLE

	APPROXIMATE PARCEL LINE
	TOP OF COASTAL BEACH
	TOP OF COASTAL BANK
	MEAN LOWER LOW WATER
	MEAN LOW WATER
	MEAN HIGH WATER
	HIGHEST ANNUAL TIDE
	RESOURCE AREA BUFFER
	EXISTING EDGE OF GRAVEL ROAD
	EXISTING OVERHEAD ELECTRIC LINE
	EXISTING GAS LINE
	EXISTING WATER LINE
	EXISTING SANITARY SEWER LINE
	EXISTING DRAIN LINE
	1' CONTOUR LINE
	5' CONTOUR LINE
	EXISTING WALL ALIGNMENT
	SALT MARSH
	EXISTING REVETMENT
	EXISTING UTILITY POLE
	EXISTING GAS GATE
	EXISTING GAS SHUT OFF
	EXISTING WATER SHUT OFF
	EXISTING HYDRANT
	EXISTING SEWER MANHOLE
	EXISTING CATCHBASIN
	EXISTING DRAIN MANHOLE
	PROPOSED SEA WALL
	UTILITIES TO BE REMOVED
	UTILITIES TO BE ABANDONED
	PROPOSED STORM LINE
	PROPOSED CATCH BASIN
	PROPOSED 60" DOUBLE CATCH BASIN
	PROPOSED 48" DRAIN MANHOLE
	PROPOSED 60" DRAIN MANHOLE



Weymouth,
Massachusetts

PROJECT NO:	W-2176-005
DATE:	May 30, 2019
FILE:	W-2176-005_WF-DSGn.dwg
DRAWN BY:	JAK
CHECKED:	DCM
APPROVED:	DAM

SCALE: AS SHOWN

G.001



Tighe&Bond
Engineers | Environmental Specialists

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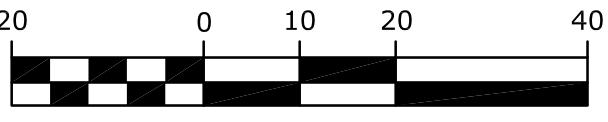
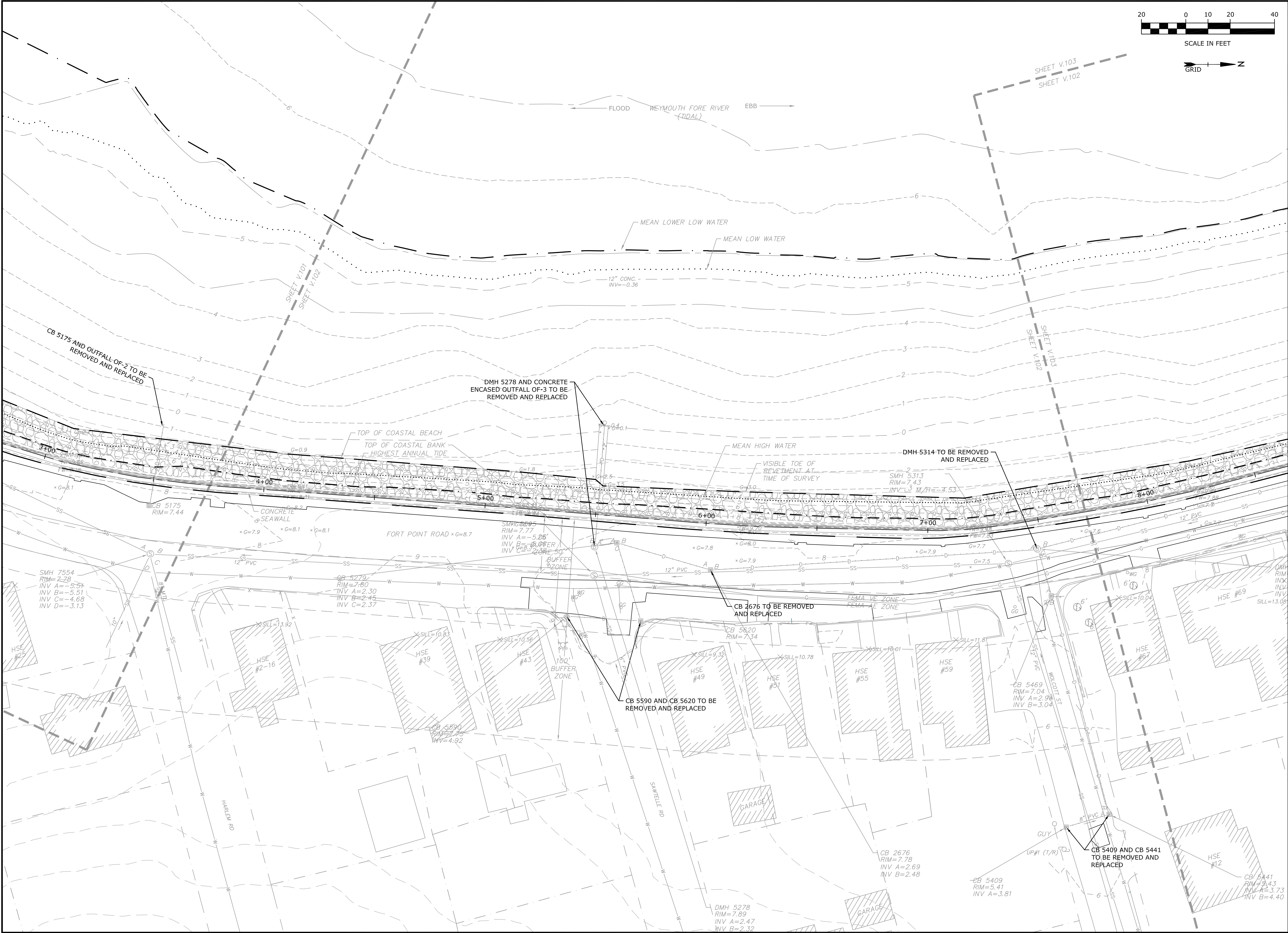
**Fort Point
Coastal
Infrastructure
Improvements**

Town of
Weymouth

Weymouth,
Massachusetts

MARK	DATE	DESCRIPTION
PROJECT NO: W-2176-005		
DATE: May 30, 2019		
FILE: W-2176-005_WF-DSGN.dwg		
DRAWN BY: JAK		
CHECKED: DCM		
APPROVED: DAM		
EXISTING CONDITIONS & DEMOLITION PLAN		
SCALE: AS SHOWN		
V.101		

Last Saved: 6/4/2019 3:07pm By: JAKallimerten
Plotted On: Jun 07, 2019 3:07pm
File & Bond: 31W WE2176 Weymouth 1002 Fort Point Road Seawall MWP Drawings_Figures AutoCAD Xref W-2176-005_WF-DSGN.dwg



GRID → Z

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Fort Point Coastal Infrastructure Improvements

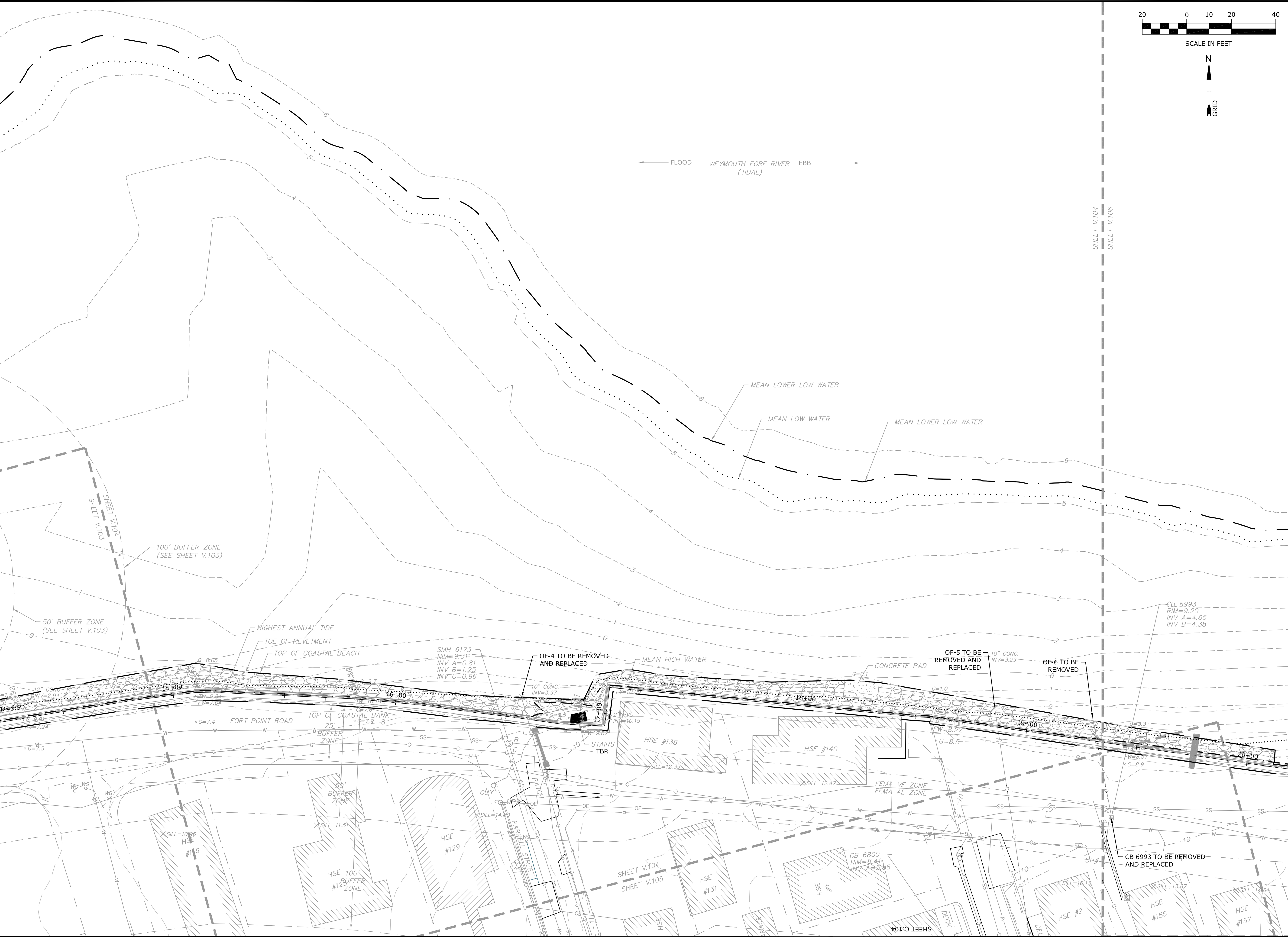
Town of Weymouth

Weymouth, Massachusetts

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DRAWN BY:	JAK	
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APPROVED:	DAM	

EXISTING CONDITIONS & DEMOLITION PLAN

SCALE: AS SHOWN

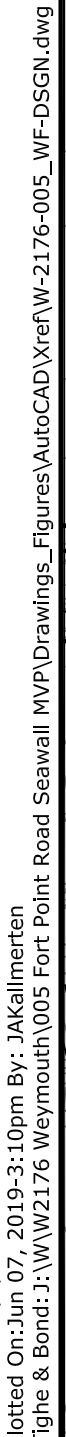


Fort Point Coastal Infrastructure Improvements

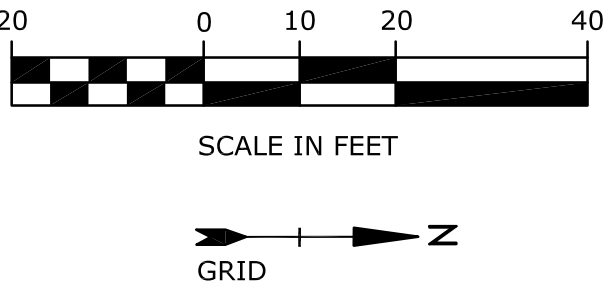
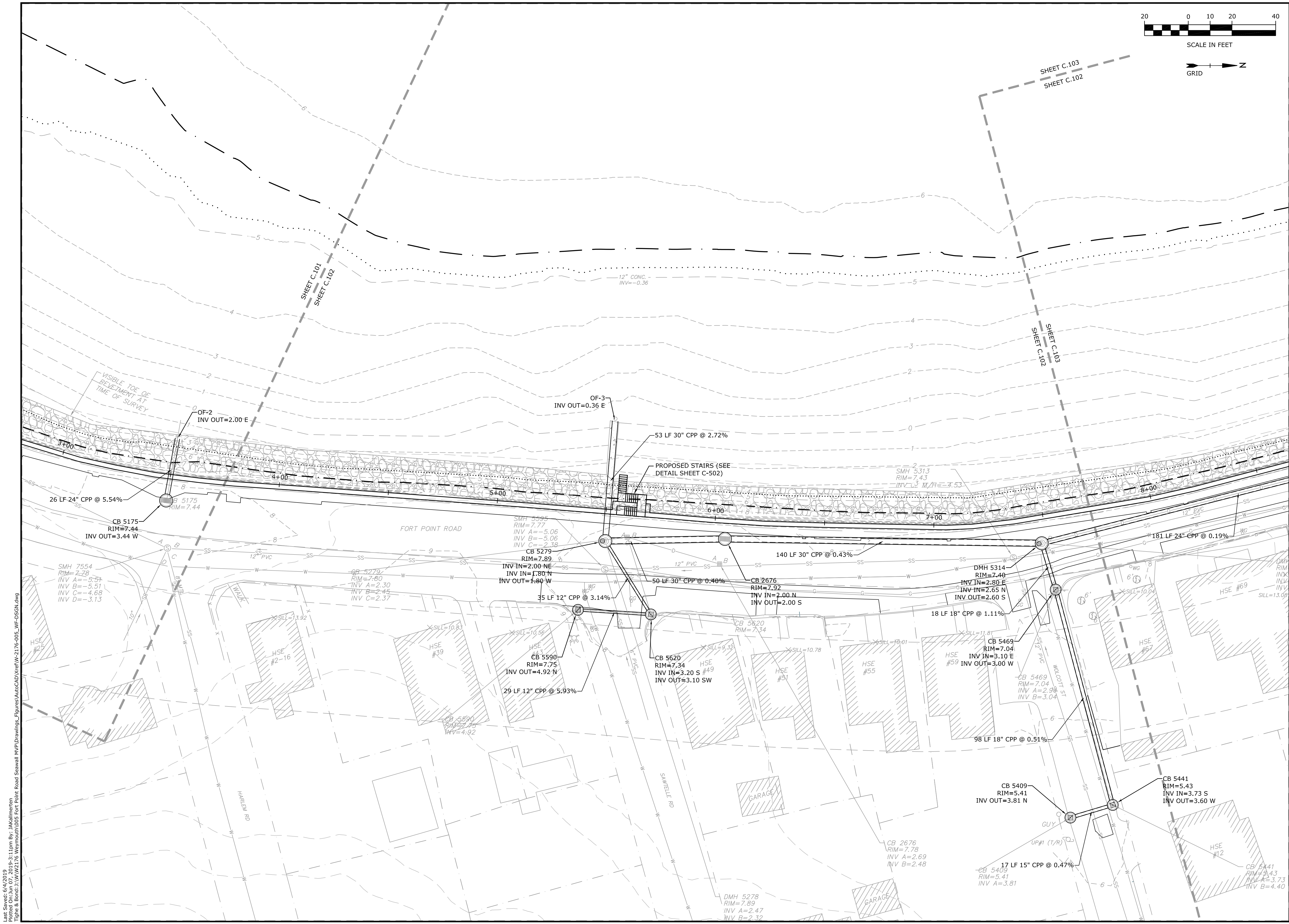
Town of
Weymouth

Weymouth,
Massachusetts

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FILE:		W-2176-00S_WF-DSGN.dwg	
DRAWN BY:		JA	
CHECKED:		DC	
APPROVED:		DA	
EXISTING CONDITIONS & DEMOLITION PLAN			
SCALE:		AS SHOWN	
V.104			



V.106



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Fort Point Coastal Infrastructure Improvements

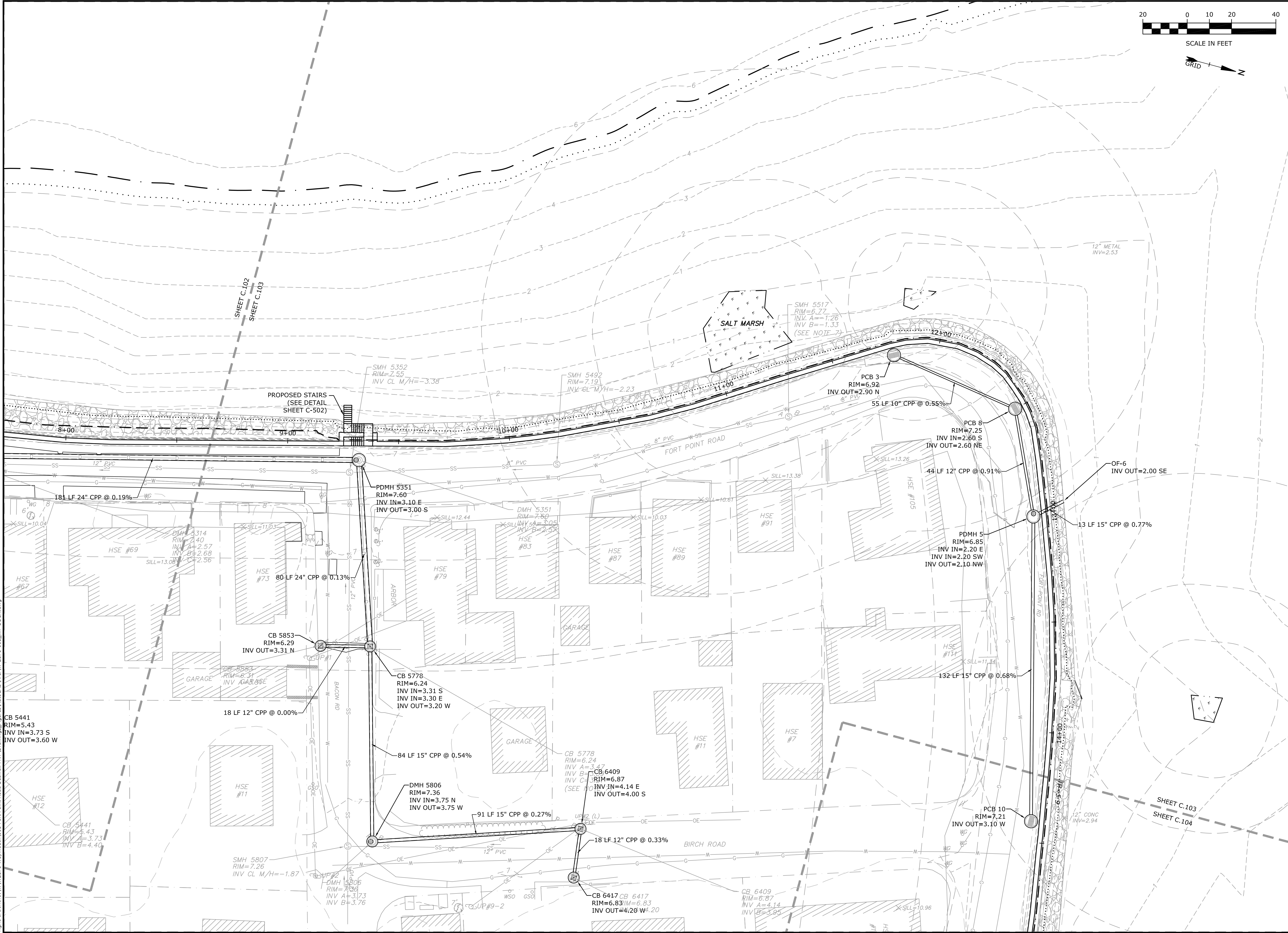
Town of
Weymouth

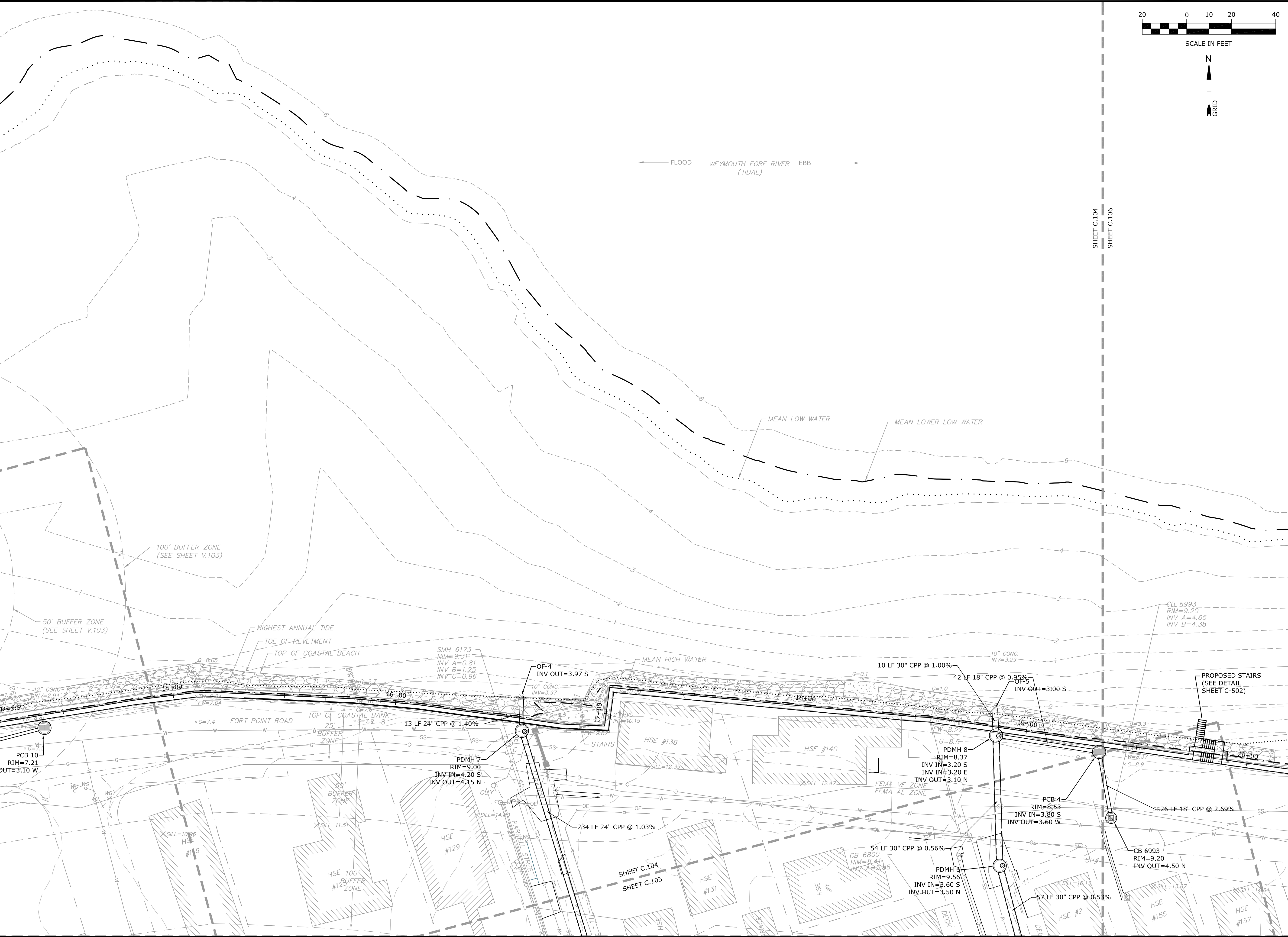
Weymouth,
Massachusetts

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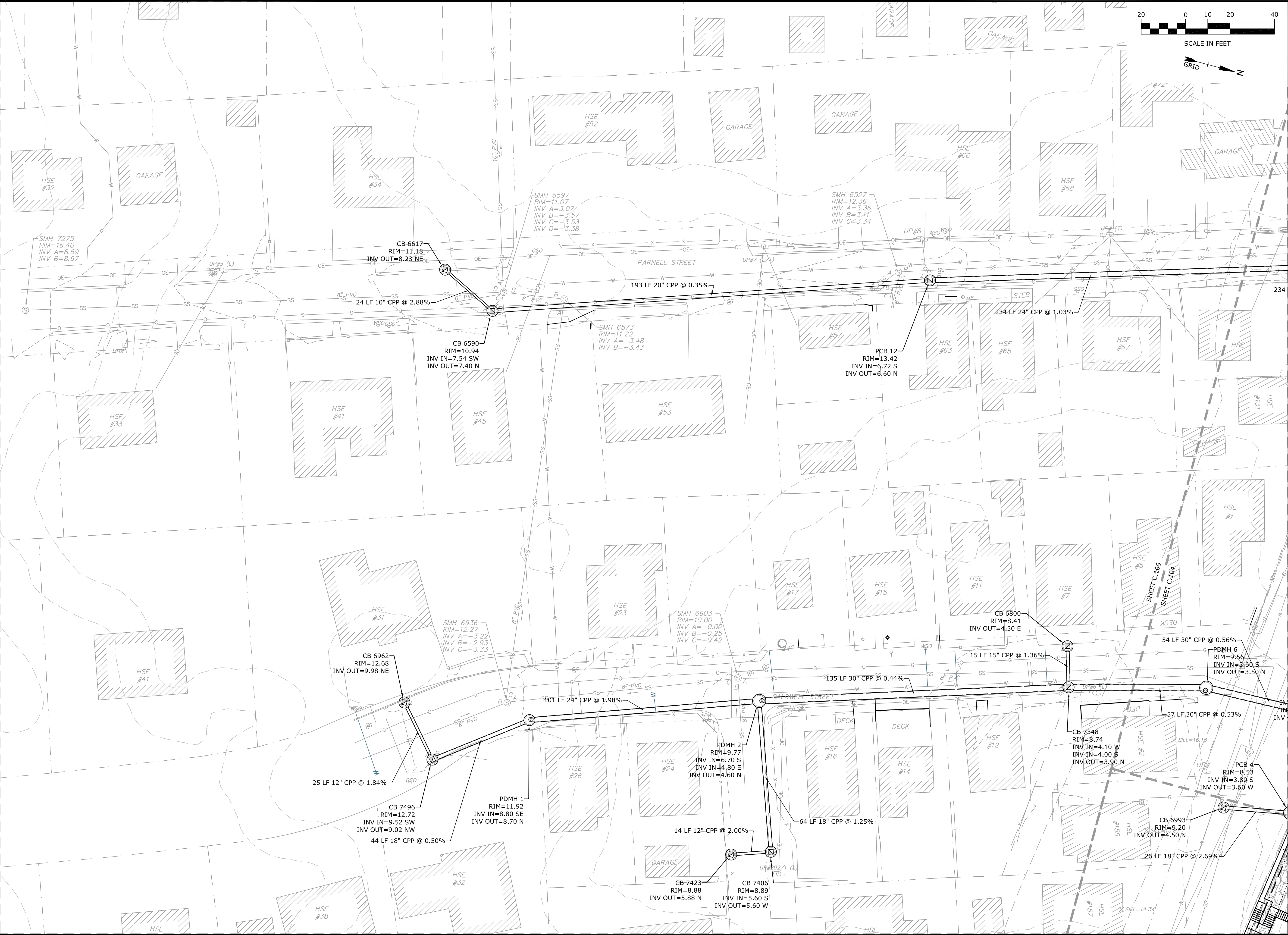
SITE PLAN	
SCALE:	AS SHOWN
C.102	

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Plotted On: Jun 07, 2019 10:31:11pm By: JAKallimerten
Figure & Bond: 3:1 W-2176-005_WF-DSGN.dwg





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File & Print: W-2176-005_WF-DSGN.dwg
Project: Fort Point Road Sewer WPD Drawings - Figures AutoCAD Xref W-2176-005_WF-DSGN.dwg



Tighe&Bond
Engineers | Environmental Specialists

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**Fort Point
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Town of
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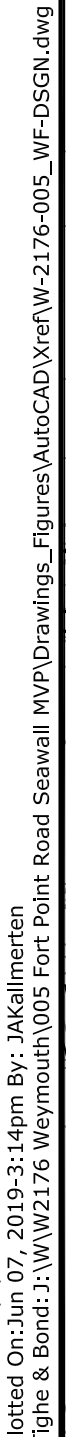
Weymouth,
Massachusetts

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DRAWN BY:	JAK	
CHECKED:	DCM	
APPROVED:	DAM	

SITE PLAN

SCALE: AS SHOWN

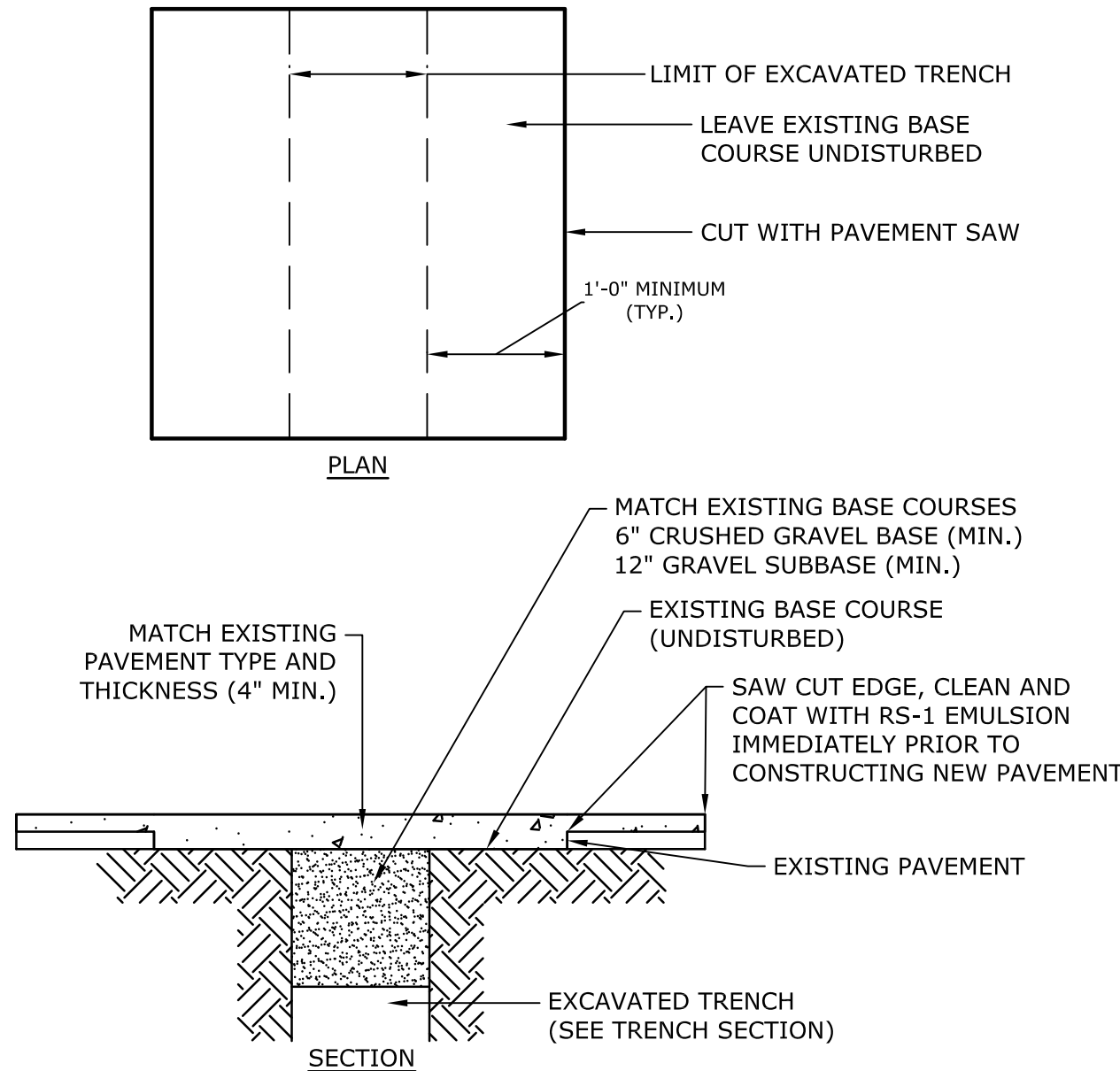
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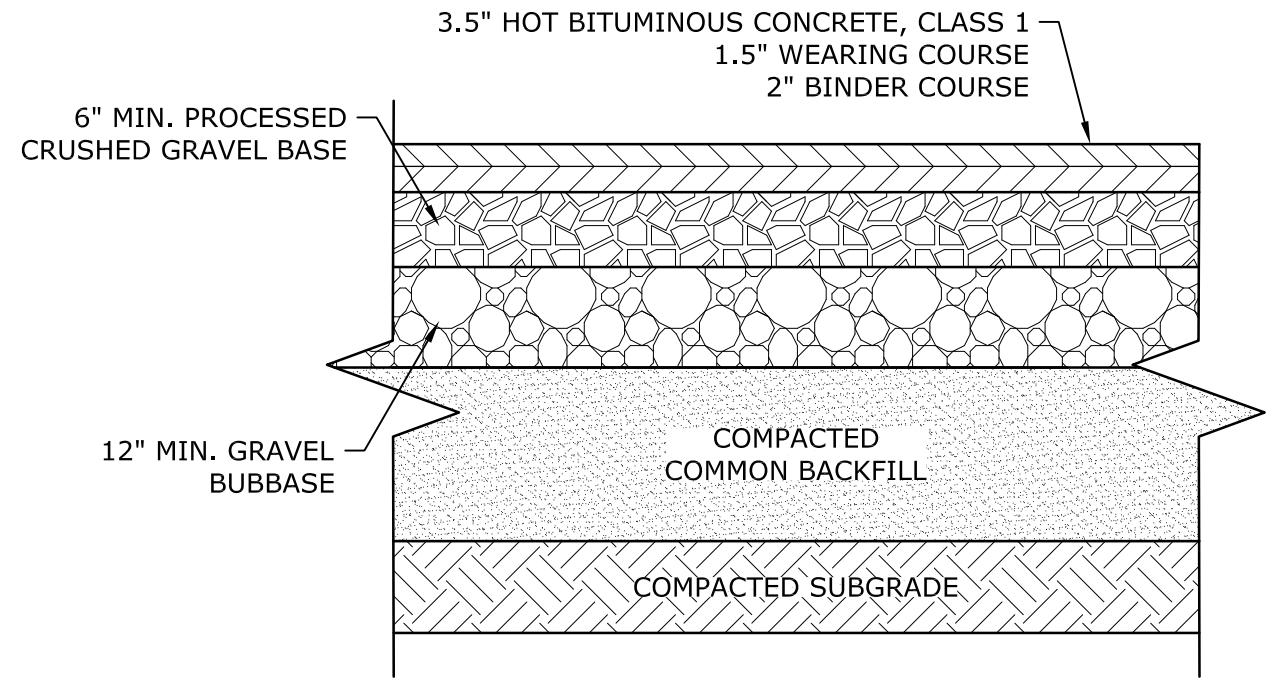
Weymouth,
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DRAWN BY:		JAK	
CHECKED:		DCM	
APPROVED:		DAM	
SITE PLAN			
SCALE:		AS SHOWN	
C.106			

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Plotted On: Jun 07, 2019 10:33 AM
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Fort Point Road Seawall W-2176-005-WF-DTLS.dwg



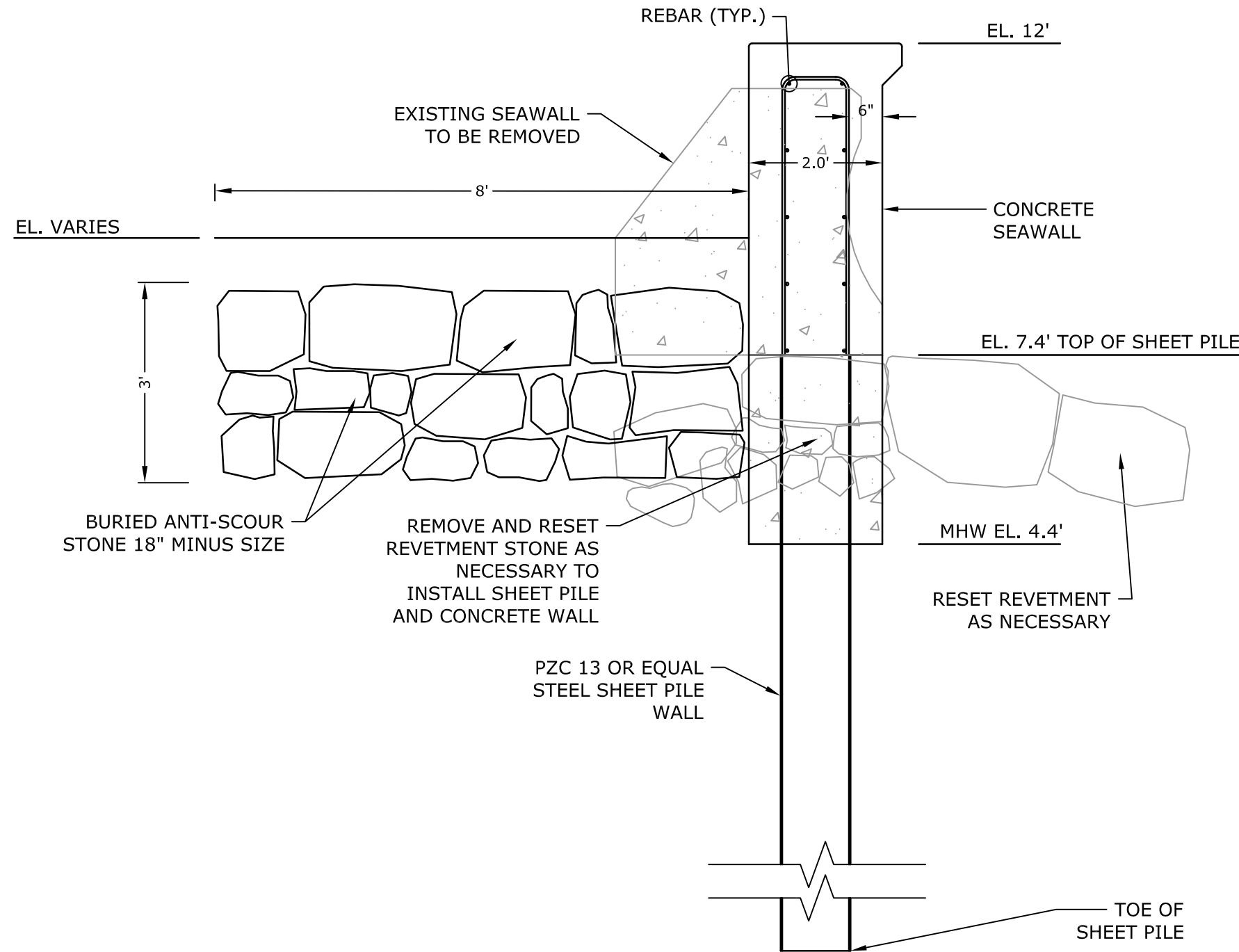
PAVEMENT TRENCH SECTION
NO SCALE



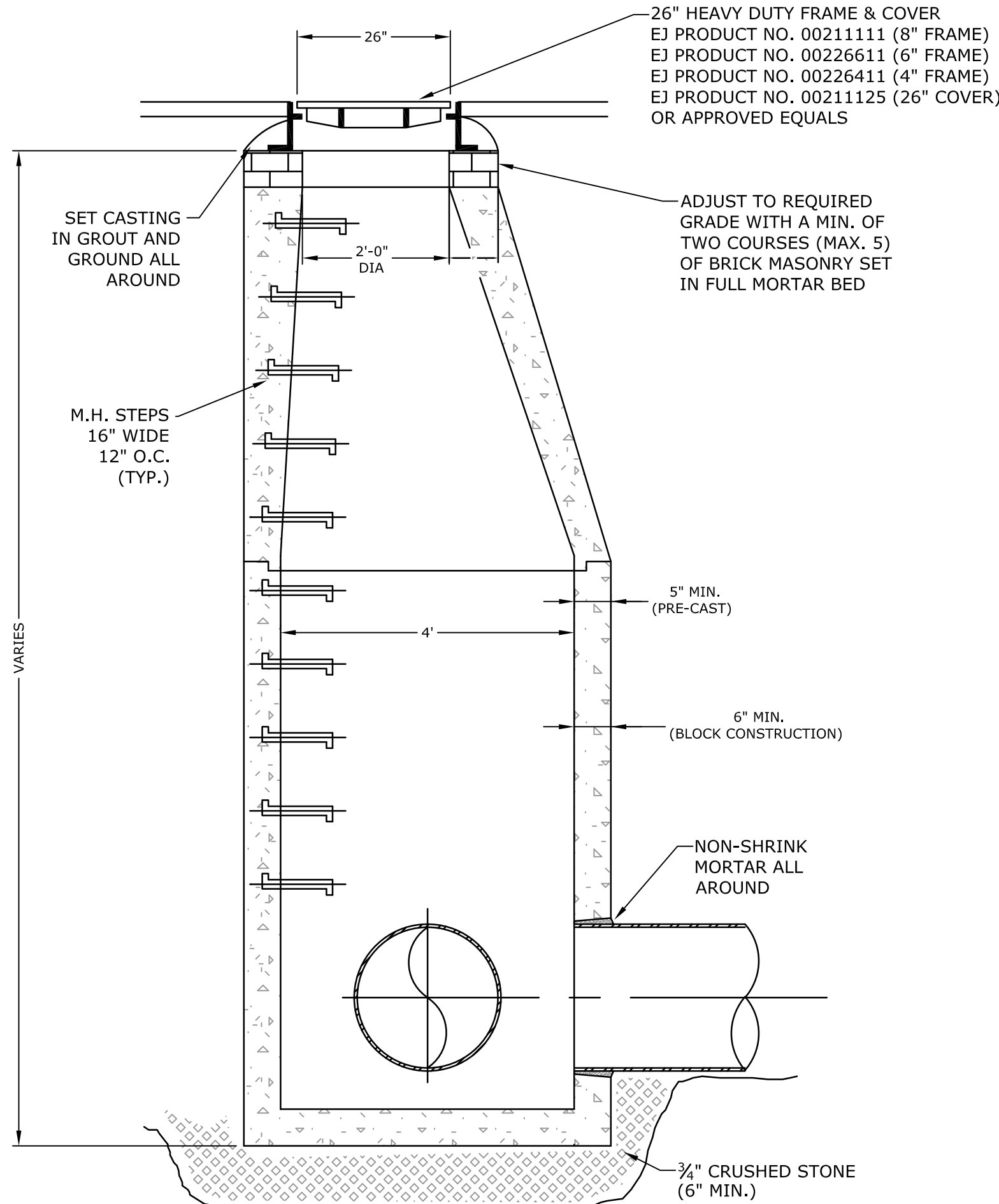
NOTES:

1. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.
2. CONTRACTOR SHALL HAVE THE OPTION OF RECLAIMING THE EXISTING PAVEMENT AND REMOVING THE MATERIAL, THEN REUSING THE RECLAIMED MATERIAL AS A PAVEMENT SUBBASE.

PAVEMENT SECTION
NO SCALE



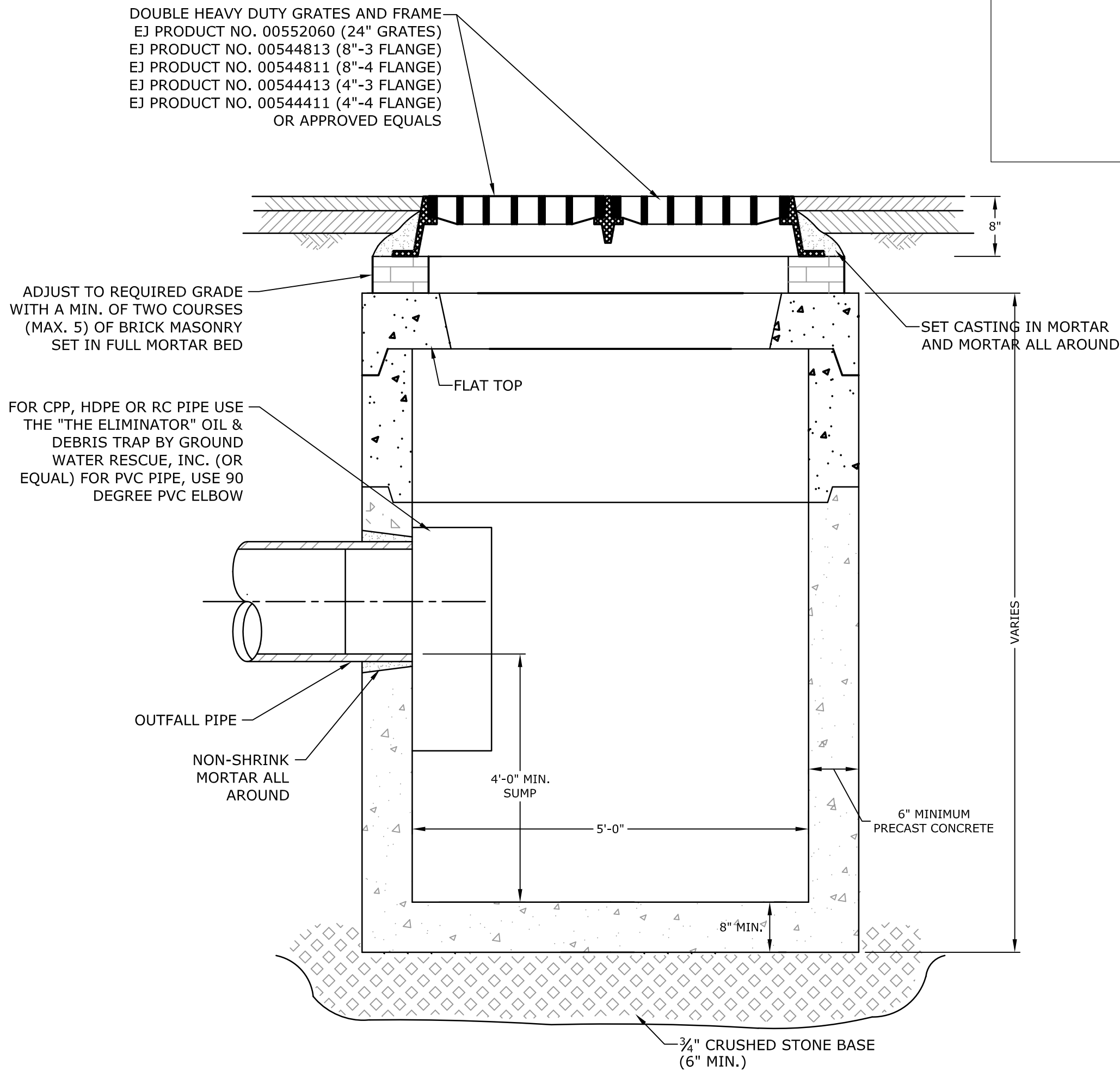
TYPICAL PROPOSED SEAWALL DETAIL
NO SCALE



NOTES:

1. SEAL ALL HOLES AND INTERIOR/EXTERIOR JOINTS WITH HYDRAULIC CEMENT.
2. MANUFACTURED TO MEET OR EXCEED LATEST ASTM C-478 & AASHTO M 199 SPECS. CONCRETE=4000 PSI MIN., CEMENT PER ASTM C-478 (6.1).
3. REINFORCED TO MEET OR EXCEED H-20 LOADING. REINFORCED STEEL TO MEET OR EXCEED LATEST ASTM A 185 SPECS.
5. BUTYL RUBBER JOINT SEALANT PER ASTM C-990 & AASHTO M-198.

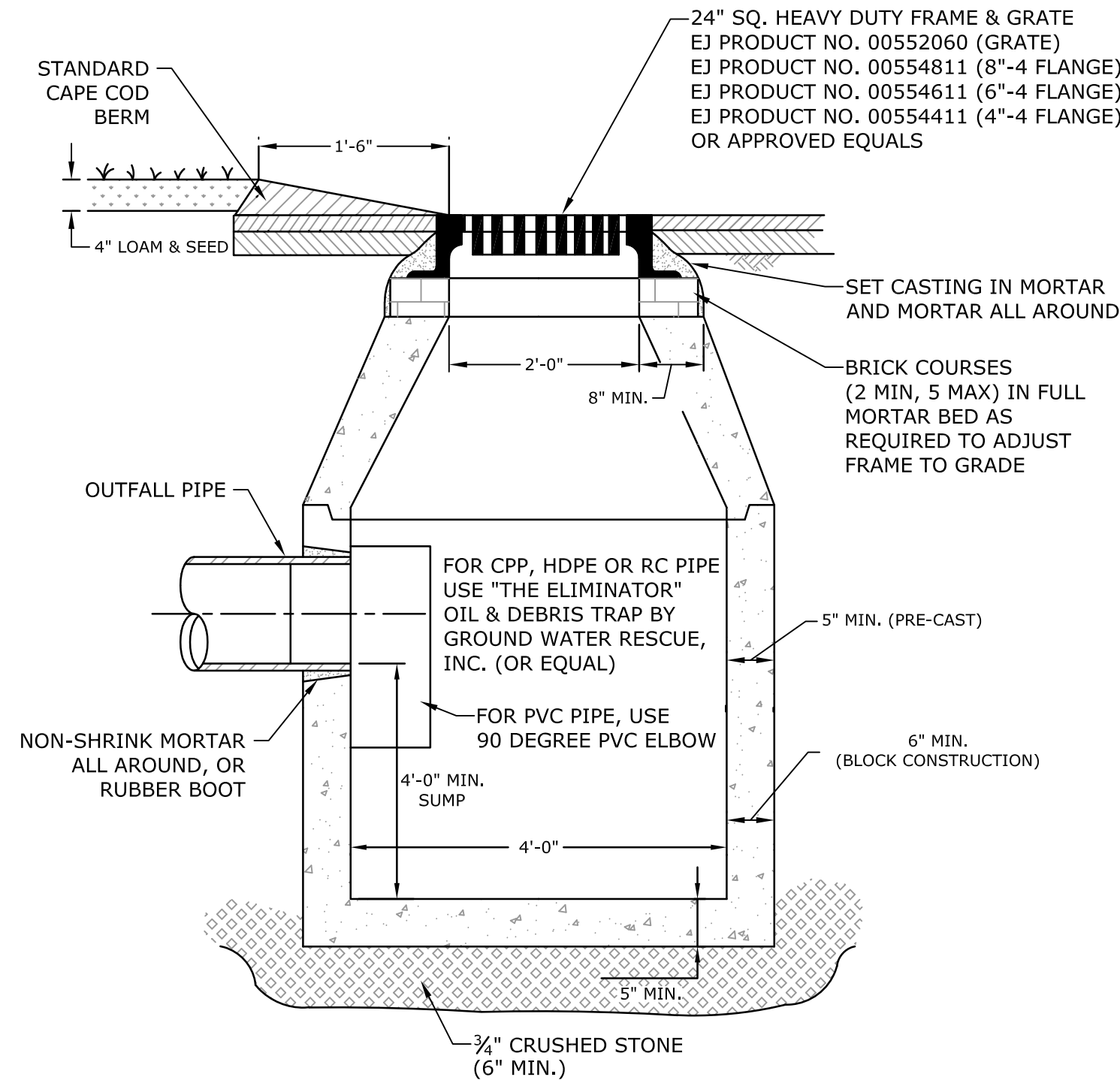
DRAIN MANHOLE
NO SCALE



NOTES:

1. SEAL ALL HOLES AND INTERIOR/EXTERIOR JOINTS WITH HYDRAULIC CEMENT.
2. THREE FLANGE HEAVY DUTY FRAME WHERE CATCH BASIN IS PLACED AGAINST CURBING (NO THROATSTONES).
3. CATCH BASIN DESIGN TO CONFORM TO LATEST ASTM C-478 SPECS. FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS".
4. CONCRETE=4000 PSI MIN., CEMENT PER ASTM C-478 (6.1).
5. REINFORCED TO MEET OR EXCEED H-20 LOADING. REINFORCED STEEL CONFORMS TO LATEST ASTM A 185 SPECS. AND BE PLACED AS PER ASTM C-478 (8.1, 8.3).
6. BUTYL RUBBER JOINT SEALANT PER ASTM C-990 & AASHTO M-198.
7. GRATES TO MEET OR EXCEED H-20 LOADING.

DOUBLE GRATE CATCH BASIN
NO SCALE



NOTES:

1. SEAL ALL HOLES AND INTERIOR/EXTERIOR JOINTS WITH HYDRAULIC CEMENT.
2. CATCH BASIN DESIGN TO CONFORM TO LATEST ASTM C-478 SPECS. FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS".
3. CONCRETE=4000 PSI MIN., CEMENT PER ASTM C-478 (6.1).
4. REINFORCED TO MEET OR EXCEED H-20 LOADING. REINFORCED STEEL CONFORMS TO LATEST ASTM A 185 SPECS. AND BE PLACED AS PER ASTM C-478 (8.1, 8.3).
5. BUTYL RUBBER JOINT SEALANT PER ASTM C-990 & AASHTO M-198.

CATCH BASIN WITH CAPE COD BERM
NO SCALE

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Fort Point Coastal Infrastructure Improvements

Town of Weymouth

Weymouth, Massachusetts

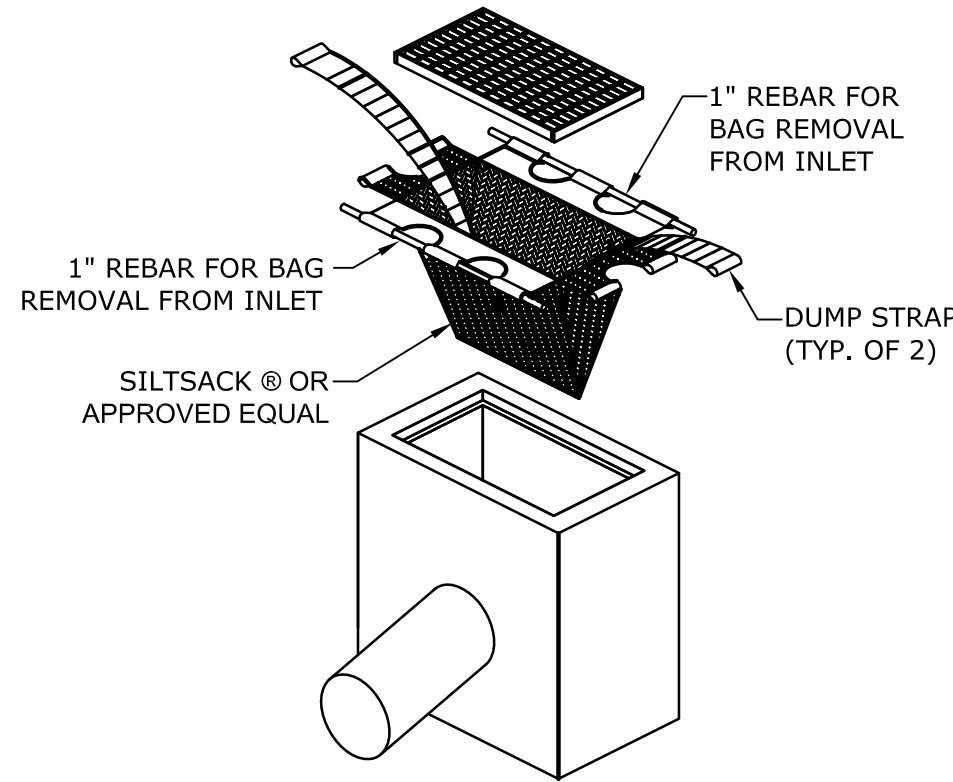
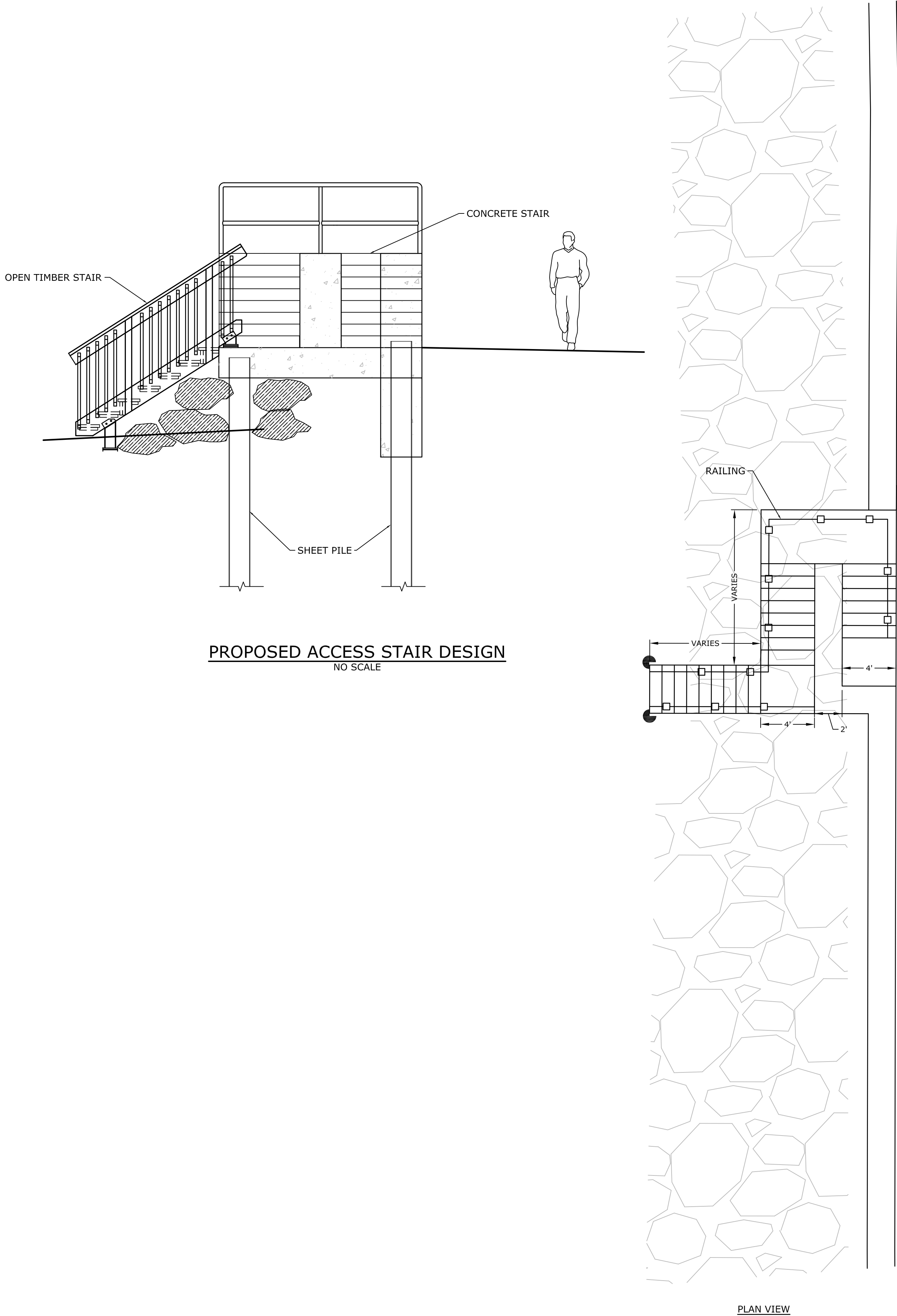
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APPROVED:	DAM	

DETAILS

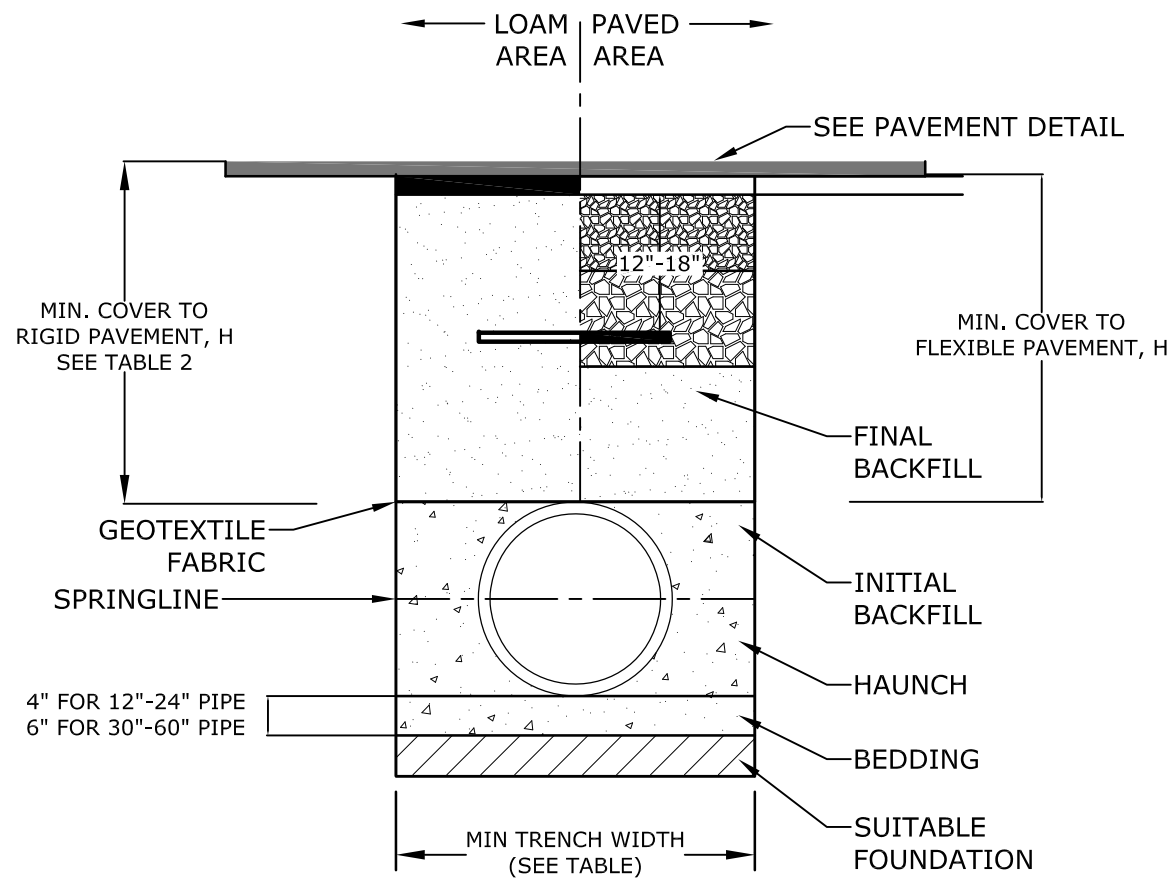
SCALE: AS SHOWN

C-501

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Tighe & Bond 31 W WE2176 Weymouth 005 Fort Point Road Seawall WFP Drawings_Figures AutoCAD Xref W-2176-005_WF-DTLS.dwg



INLET PROTECTION BARRIER
NO SCALE



PIPE DIAM.	MIN. TRENCH WIDTH
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
60"	96"

TABLE 1, RECOMMENDED MINIMUM TRENCH WIDTHS

SURFACE LIVE LOADING CONDITION		
PIPE DIAM.	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48"	18"**	48"
60"	24"	60"

** AT STRUCTURES

TABLE 2, MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITION
* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

PIPE DIA.	CLASS I		CLASS II			CLASS III		CLASS IV	
	COMPACTED	95%	90%	85%	95%	90%	95%	95%	
12"	41'	28'	21'	16'	20'	16'	16'		
15"	42'	29'	21'	16'	21'	16'	16'		
18"	44'	30'	21'	16'	22'	17'	16'		
24"	37'	26'	18'	14'	19'	14'	14'		

TABLE 3, MAXIMUM COVER FOR ADS HP STORM PIPE
FILL HEIGHT TABLE GENERATED USING AASHTO SECTION 12, LOAD RESISTANCE FACTOR DESIGN (LRFD) PROCEDURE WITH THE FOLLOWING ASSUMPTIONS:
NO HYDROSTATIC PRESSURE
UNIT WEIGHT OF SOIL (γ_s) = 120 PCF

NOTES:

- ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION, WITH THE EXCEPTION THAT THE INITIAL BACKFILL MAY EXTEND TO THE CROWN OF THE PIPE. SOIL CLASSIFICATIONS ARE PER THE LATEST VERSION OF ASTM D2321. CLASS IV MATERIALS (MH, CH) AS DEFINED IN PREVIOUS VERSIONS OF ASTM D2321 ARE NOT APPROPRIATE BACKFILL MATERIALS.
- MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
- FOUNDATION:** WHERE THE TRENCH BOTTOM IS UNSTABLE AS JUDGED BY THE ENGINEER, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
- BEDDING:** SUITABLE MATERIAL SHALL BE CLASS I, II, III, OR IV. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. COMPACTION SHALL BE SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH TABLE 3 FOR THE APPLICABLE FILL HEIGHTS LISTED. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 12"-24" (300mm-600mm) DIAMETER PIPE; 6" (150mm) FOR 30"-60" (750mm-1500mm) DIAMETER PIPE. THE MIDDLE 1/3 BENEATH THE PIPE INVERT SHALL BE LOOSELY PLACED. PLEASE NOTE, CLASS IV MATERIAL HAS LIMITED APPLICATION AND CAN BE DIFFICULT TO PLACE AND COMPACT; USE ONLY WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER.
- INITIAL BACKFILL:** SUITABLE MATERIAL SHALL BE CLASS I, II, III, OR IV IN THE PIPE ZONE EXTENDING TO THE CROWN OF THE PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION. COMPACTION SHALL BE SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH TABLE 3 FOR THE APPLICABLE FILL HEIGHTS LISTED. PLEASE NOTE, CLASS IV MATERIAL HAS LIMITED APPLICATION AND CAN BE DIFFICULT TO PLACE AND COMPACT; USE ONLY WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER.
- MINIMUM COVER:** FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" (300mm) UP TO 48" (1200mm) DIAMETER PIPE AND 24" (600mm) OF COVER FOR 60" (1500mm) DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

HP STORM TRENCH INSTALLATION DETAIL
NO SCALE

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DETAILS

SCALE: AS SHOWN

C-502