



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

PUBLIC NOTICE

Comment Period Begins: March 28, 2017

Comment Period Ends: April 27, 2017

File Number: NAE-2015-02118

In Reply Refer To: Alan R. Anacheka-Nasemann, PWS

Phone: (978) 318-8214

E-mail: alan.r.anacheka-nasemann@usace.army.mil

The District Engineer has received a permit application to conduct work in waters of the United States from the Massachusetts Bay Transportation Authority (MBTA), 10 Park Plaza, Boston, MA 02116. This work is proposed in the Mystic River at 80 Alford Street, Boston and Somerville, MA. The site coordinates are: Latitude 42.38909; Longitude -71.07313.

The work involves the dredging of approximately 2150 cubic yards of material to establish stable grades, and the discharge of fill material into approximately 77,300 square feet (1.8 acres) of tidal navigable waters of the United States in order to repair an existing, deteriorated sheet pile bulkhead that comprises the Mystic River Shoreline and protects an existing MBTA bus garage and maintenance facility, and to stabilize the existing shoreline, and provide long-term protection from a 100-year flood and coastal resiliency in anticipation of future sea level rise. In the Bus Garage and Storage area, a raised embankment will be installed. The lower portion (below elevation 10.84' mean lower low water (MLLW) datum) of the embankment will be protected by stone rip rap; the upper portion will consist of a bioengineering slope planted with native vegetation. All dredged material will be properly stabilized and disposed of and/or reused at a suitable, upland location.

The work is shown on the attached plans entitled "CHARLESTOWN BUS FACILITY – SHORELINE STABILIZATION AND YARD IMPROVEMENTS," on 14 sheets, and dated "03/13/17."

As mitigation for the unavoidable impacts to 77,300 square feet (s.f.; 51, 600 s.f. subtidal; 25,700 s.f. intertidal) of waters of the United States the applicant has proposed to create a new intertidal area near the northern site boundary. Existing fill and rubble will be removed and an 11,800 s.f. area planted with stable intertidal herbaceous and shrub vegetation.

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 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 approximately 77,300 square feet of Essential Fish Habitat (EFH) for winter flounder (*Pseudopleuronectes americanus*; all life stages), pollock (*Pollachius virens*; juveniles) and surf clams (*Spisula solidissima*; adults). Habitat at this site can be described as mixed sand, gravel and cobble, as reported by the applicant. Loss of this habitat through partial dredging, and subsequent placement of the proposed stone revetment, may adversely affect winter flounder spawning, nursery and foraging activity. In addition, the site is a known migratory corridor for anadromous fish, including alewife (*Alosa pseudoharengus*), blueback herring (*A. aestivalis*), American shad (*A. sapidissima*), American eel (*Anguilla rostrata*), white perch (*Morone americana*), and Atlantic tomcod (*Microgadus tomcod*). These species are known forage species and as such are a component of EFH. 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 time-of-year restriction and/or other 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)

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:

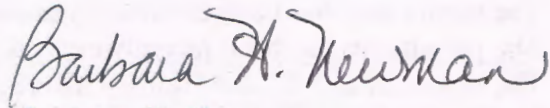
- Permit, License or Assent from State.
- Permit from Local Wetland Agency or Conservation Commission.
- Water Quality Certification in accordance with Section 401 of the Clean Water Act.

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 Alan R. Anacheka-Nasemann, PWS at (978) 318-8214, or via e-mail at: alan.r.anacheka-nasemann@usace.army.mil

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.



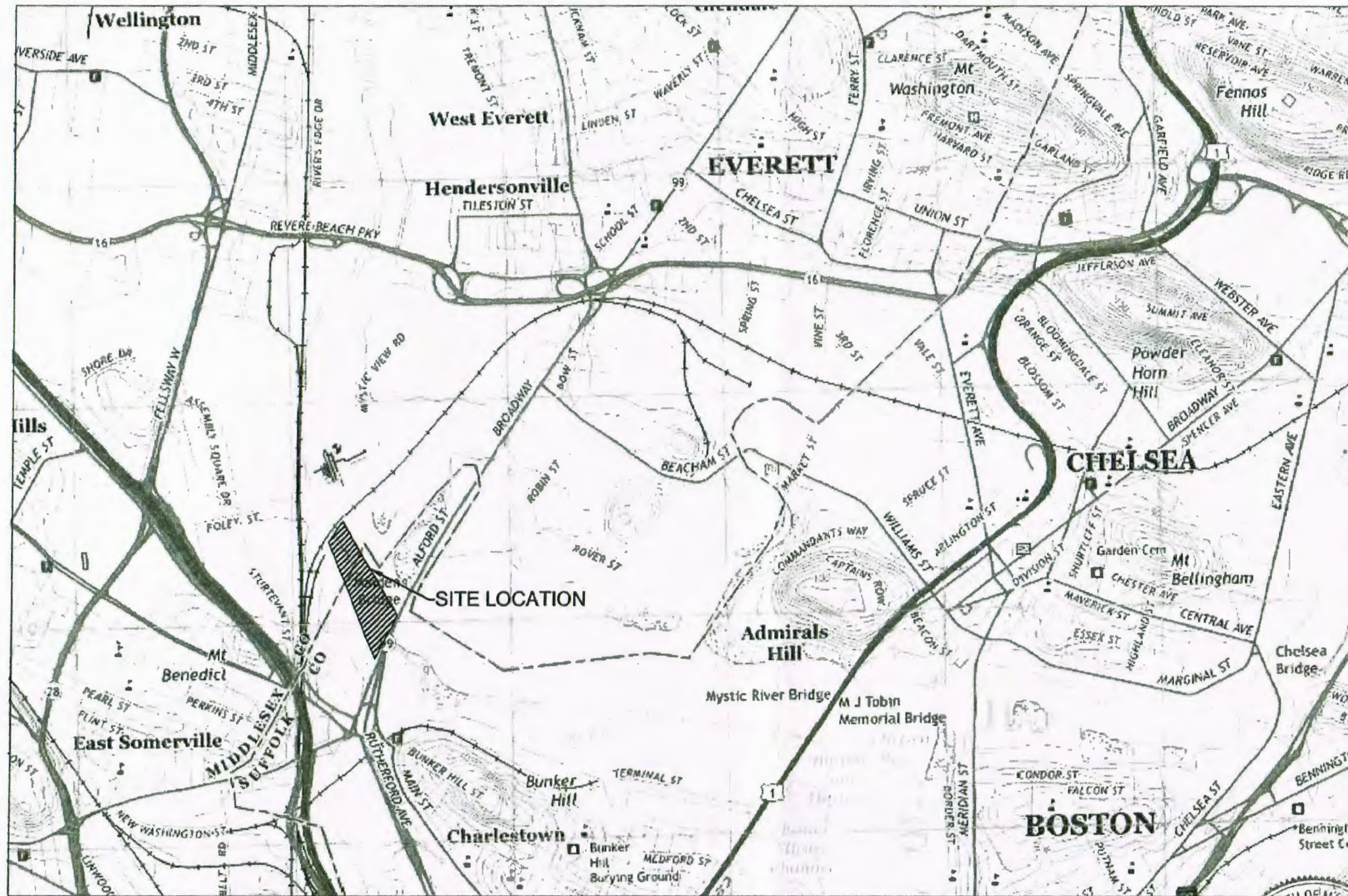
Barbara H. Newman
Chief, Permits and Enforcement Branch
Regulatory Division

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: _____



SOURCE: USGS QUADRANGLE, 2015



SOURCE: USGS QUADRANGLE, 2015

SITE LOCATION

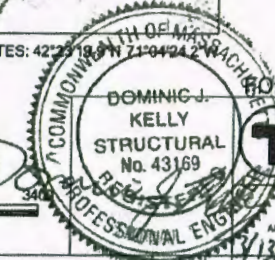
SITE COORDINATES: 42°25'18.9" N 71°04'24.2" W

TIDAL AND FLOOD ELEVATIONS
 MLLW: 0.00'
 MHW: 9.84'
 HTL: 12.40'
 100 YR FLOOD: 16.51'

VICINITY MAP



SCALE: 1" = 1700'



FOR PERMIT USE - NOT FOR CONSTRUCTION

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
 CHARLESTOWN BUS FACILITY -
 SHORELINE STABILIZATION AND YARD IMPROVEMENTS
 BOSTON, MA, 02129

PURPOSE: SHORELINE STABILIZATION & COASTAL RESILIENCY
 AT CRITICAL PUBLIC TRANSPORT FACILITY
 APPLICATION BY: MASSACHUSETTS BAY TRANSPORTATION AUTHORITY (MBTA)

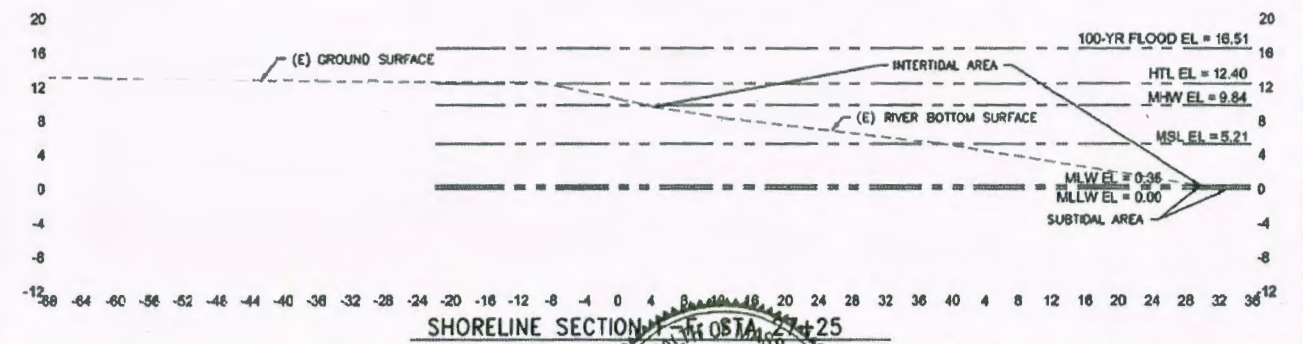
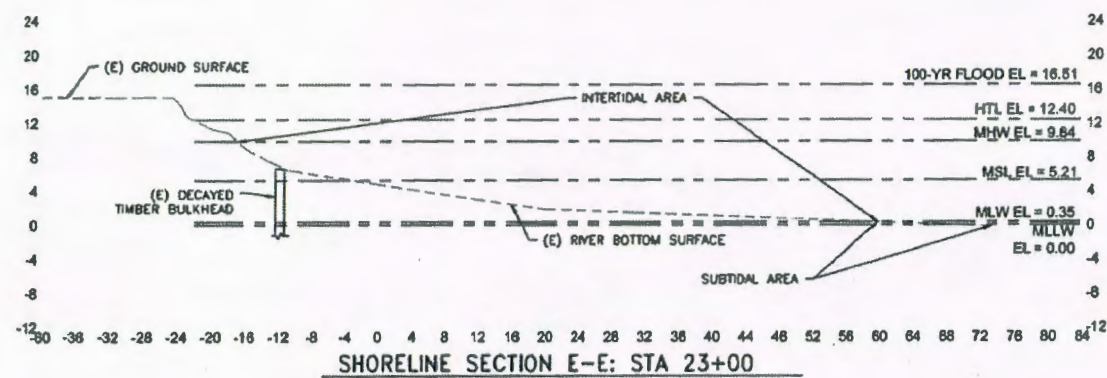
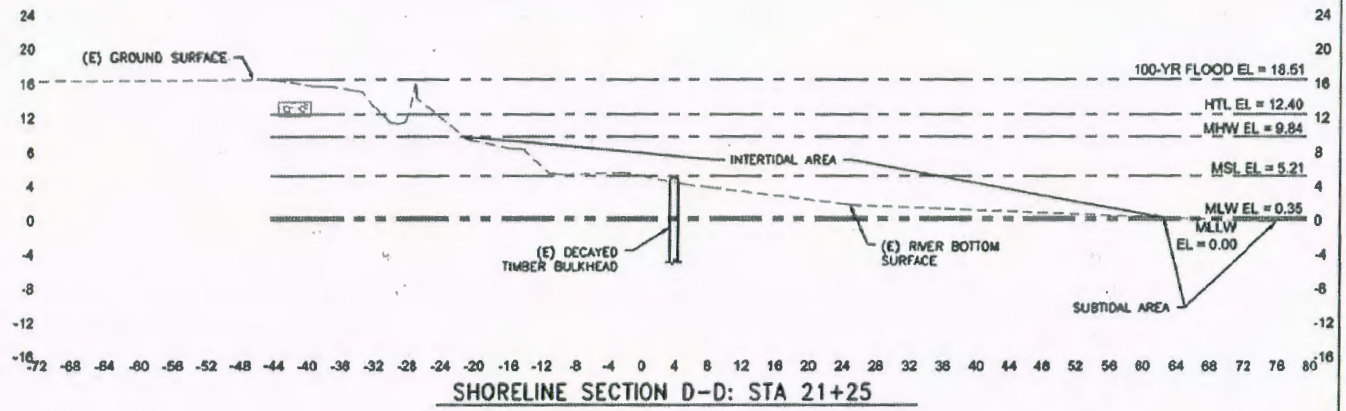
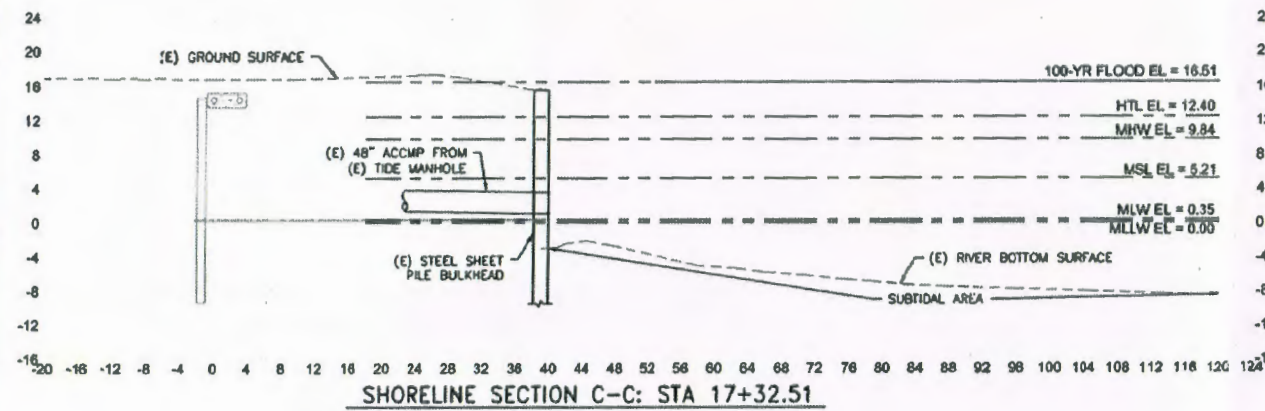
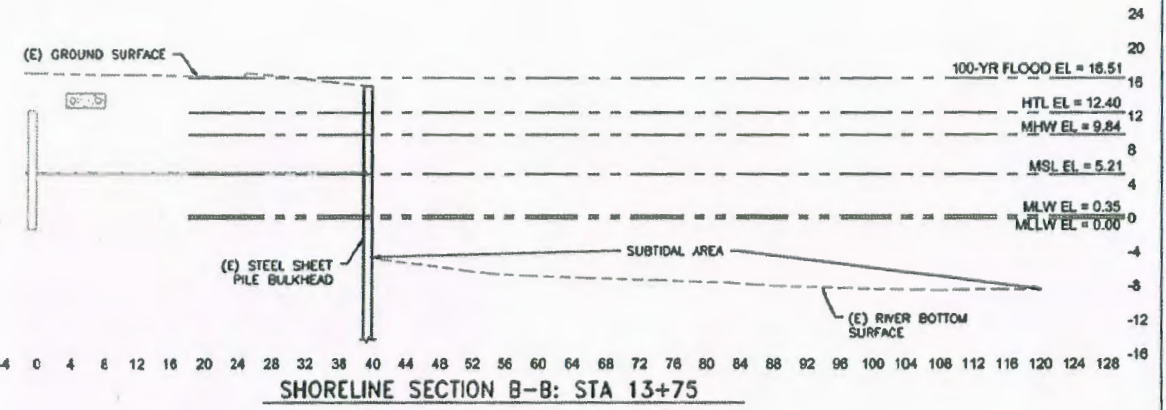
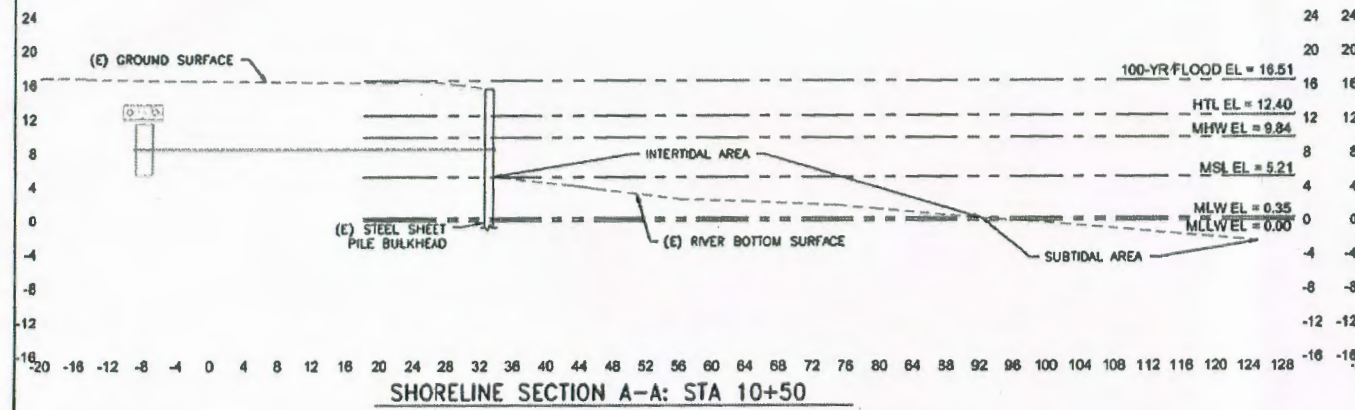
NOTE:
 ALL ELEVATIONS ARE REFERENCED TO MLLW DATUM
 FOR NOAA STATION 8443970 (BOSTON, MA).

REV	DATE	DESCRIPTION	BY	CHK	APP
1	03/13/17	ISSUE FOR PERMIT	DK	MB	LS
2	03/13/17	REVISED FOR PERMIT	DK	MB	LS
3	03/13/17	REVISED FOR PERMIT	DK	MB	LS
4	03/13/17	REVISED FOR PERMIT	DK	MB	LS
5	03/13/17	REVISED FOR PERMIT	DK	MB	LS

DESIGNED BY	DK	DATE	03/13/17
CHECKED BY	MB	DATE	03/13/17
APPROVED BY	LS	DATE	03/13/17

MANAGER OF DESIGN	NAME	DATE
HORIZ:	AS NOTED	
VERT:	AS NOTED	
DATE:	03/13/17	

PROJECT NO.	43169
PLAN NO.	VICINITY MAP
SHEET	1 OF 14



EXISTING CONDITIONS SECTIONS

NOTE:
ALL ELEVATIONS ARE REFERENCED TO MLLW DATUM
FOR NOAA STATION 8443970 (BOSTON, MA).

SCALE: 1" = 20'

FOR PERMIT USE - NOT FOR CONSTRUCTION

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
CHARLESTOWN BUS FACILITY -
SHORELINE STABILIZATION AND YARD IMPROVEMENTS
BOSTON, MA, 02129

PURPOSE: SHORELINE STABILIZATION & COASTAL RESILIENCY
AT CRITICAL PUBLIC TRANSPORT FACILITY
APPLICATION BY: MASSACHUSETTS BAY TRANSPORTATION AUTHORITY (MBTA)

APPROVED BY: _____ Date: _____
Project Manager: "MBT"

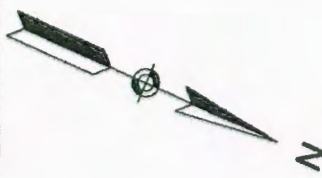
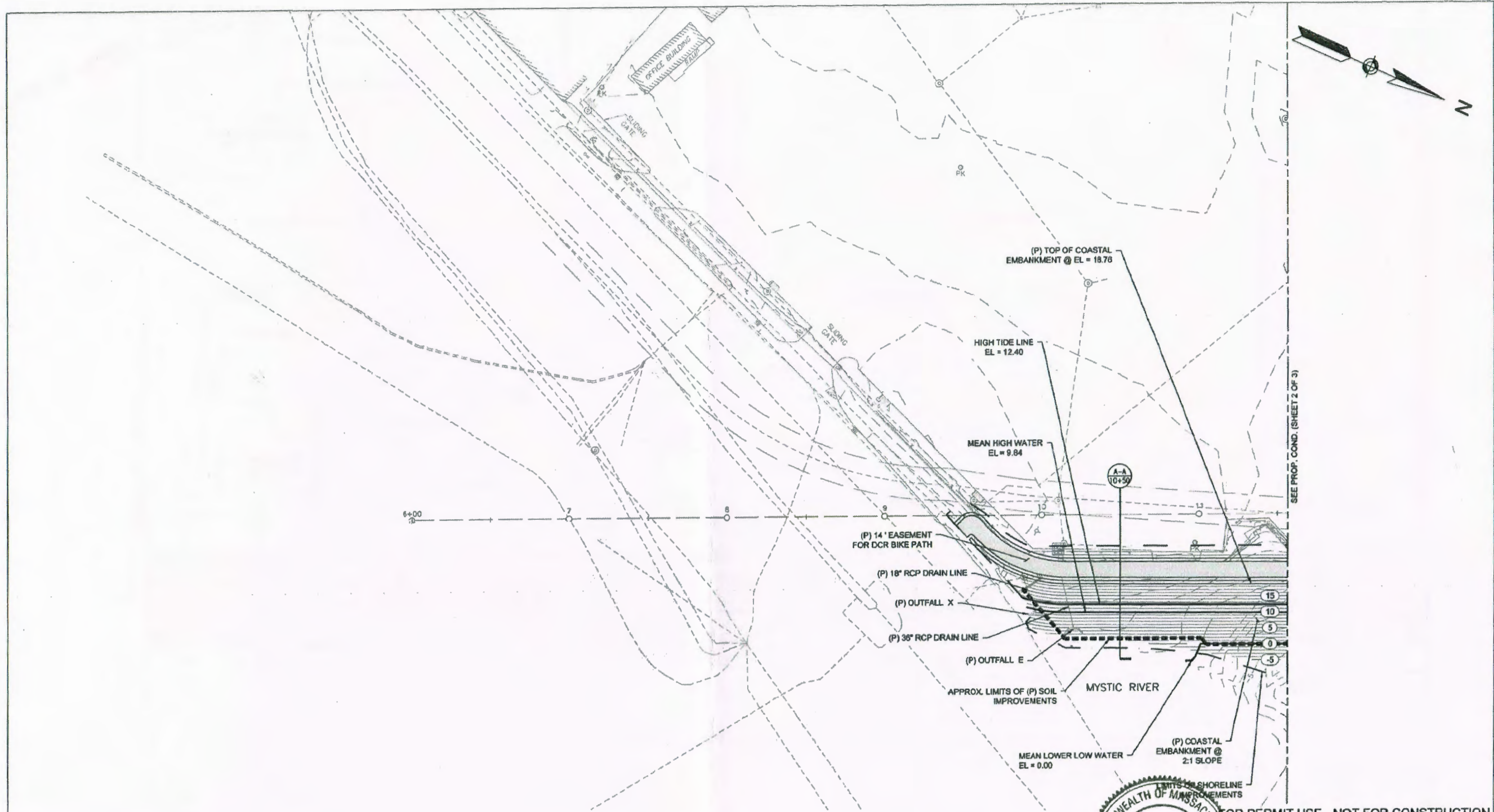
REGISTERED PROFESSIONAL ENGINEER
DOMINIC J. KELLY
STRUCTURAL
No. 43168

MANAGER OF DESIGN: _____ Name: _____ Date: _____

HORIZ: AS NOTED
VERT: AS NOTED
DATE: 03/13/17

NO.	DATE	DESCRIPTION	BY	CHK	APP
1	03/13/17	ISSUE FOR PERMIT	DK	DK	DK

PLAN NO. EXISTING SECTIONS
SHEET 3 OF 14



SEE PROP. COND. (SHEET 2 OF 3)

PROPOSED CONDITIONS PLAN 1

SCALE: 1" = 60'



FOR PERMIT USE - NOT FOR CONSTRUCTION

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
 CHARLESTOWN BUS FACILITY - SHORELINE STABILIZATION AND YARD IMPROVEMENTS
 BOSTON, MA, 02129

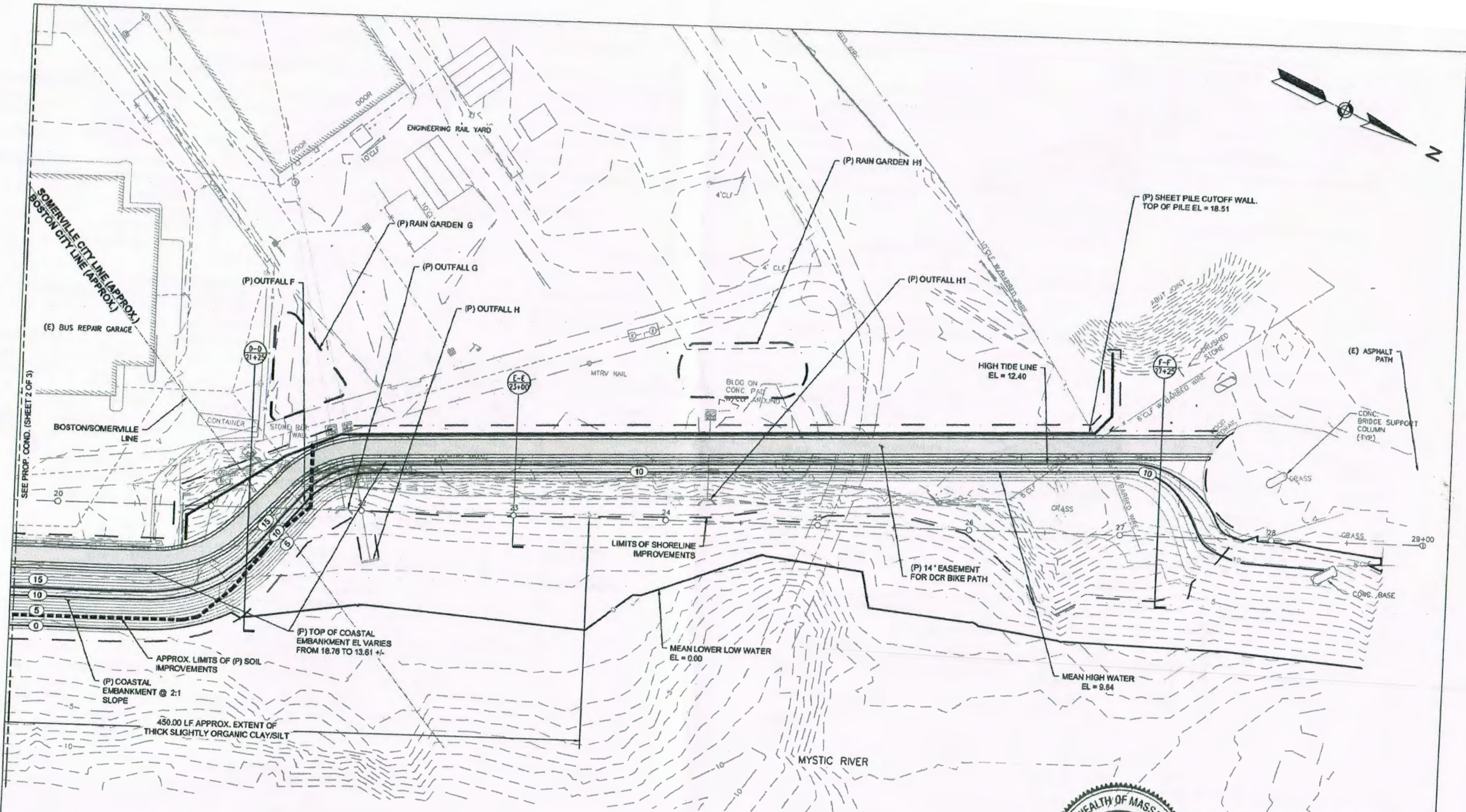
PURPOSE: SHORELINE STABILIZATION & COASTAL RESILIENCY AT CRITICAL PUBLIC TRANSPORT FACILITY
 APPLICATION BY: MASSACHUSETTS BAY TRANSPORTATION AUTHORITY (MBTA)

NOTES:

- SEE OVERALL PROPOSED CONDITIONS PLAN (SHEET 4 OF 14) FOR KEY PLAN.
- SEE PROPOSED PLANTING PLANS AND DETAILS (SHEETS 11 AND 12) FOR COASTAL EMBANKMENT PLANTINGS.
- ALL ELEVATIONS ARE REFERENCED TO MLLW DATUM FOR NOAA STATION 8443970 (BOSTON, MA).

NO.	DATE	DESCRIPTION	BY	CHK	APP	REVISIONS
1	03/13/17	DESIGN	DJK	MBH	MBH	
2	03/13/17	DESIGN	DJK	MBH	MBH	
3	03/13/17	DESIGN	DJK	MBH	MBH	
4	03/13/17	DESIGN	DJK	MBH	MBH	

MANAGER OF DESIGN:	DATE:	PROJECT MANAGER:	DATE:
HORIZ: AS NOTED	DATE:	PROJECT NO.:	PROPOSED CONDITIONS (SHEET 1 OF 3)
VERT: AS NOTED	DATE:	SHEET:	5 OF 14
DATE: 03/13/17			



PROPOSED CONDITIONS PLAN 3

- NOTES:**
- SEE OVERALL PROPOSED CONDITIONS PLAN (SHEET 4 OF 14) FOR KEY PLAN.
 - SEE PROPOSED PLANTING PLANS AND DETAILS (SHEETS 11 AND 12) FOR COASTAL EMBANKMENT PLANTINGS.
 - ALL ELEVATIONS ARE REFERENCED TO MLLW DATUM FOR NOAA STATION 8443970 (BOSTON, MA).

SCALE: 1" = 60'

COMMONWEALTH OF MASSACHUSETTS
DOMINIC J. KELLY
 STRUCTURAL
 No. 43160
 REGISTERED PROFESSIONAL ENGINEER

FOR PERMIT-USE / NOT FOR CONSTRUCTION

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

CHARLESTOWN BUS FACILITY -
 SHORELINE STABILIZATION AND YARD IMPROVEMENTS
 BOSTON, MA, 02129

PURPOSE: SHORELINE STABILIZATION & COASTAL RESILIENCY
 AT CRITICAL PUBLIC TRANSPORT FACILITY
 APPLICATION BY: MASSACHUSETTS BAY TRANSPORTATION AUTHORITY (MBTA)

DATE: 3/13/17

NO.	DATE	DESCRIPTION	BY	CHECKED BY	DATE
1					
2					
3					
4					

Manager of Design: _____ Name: _____ Date: _____

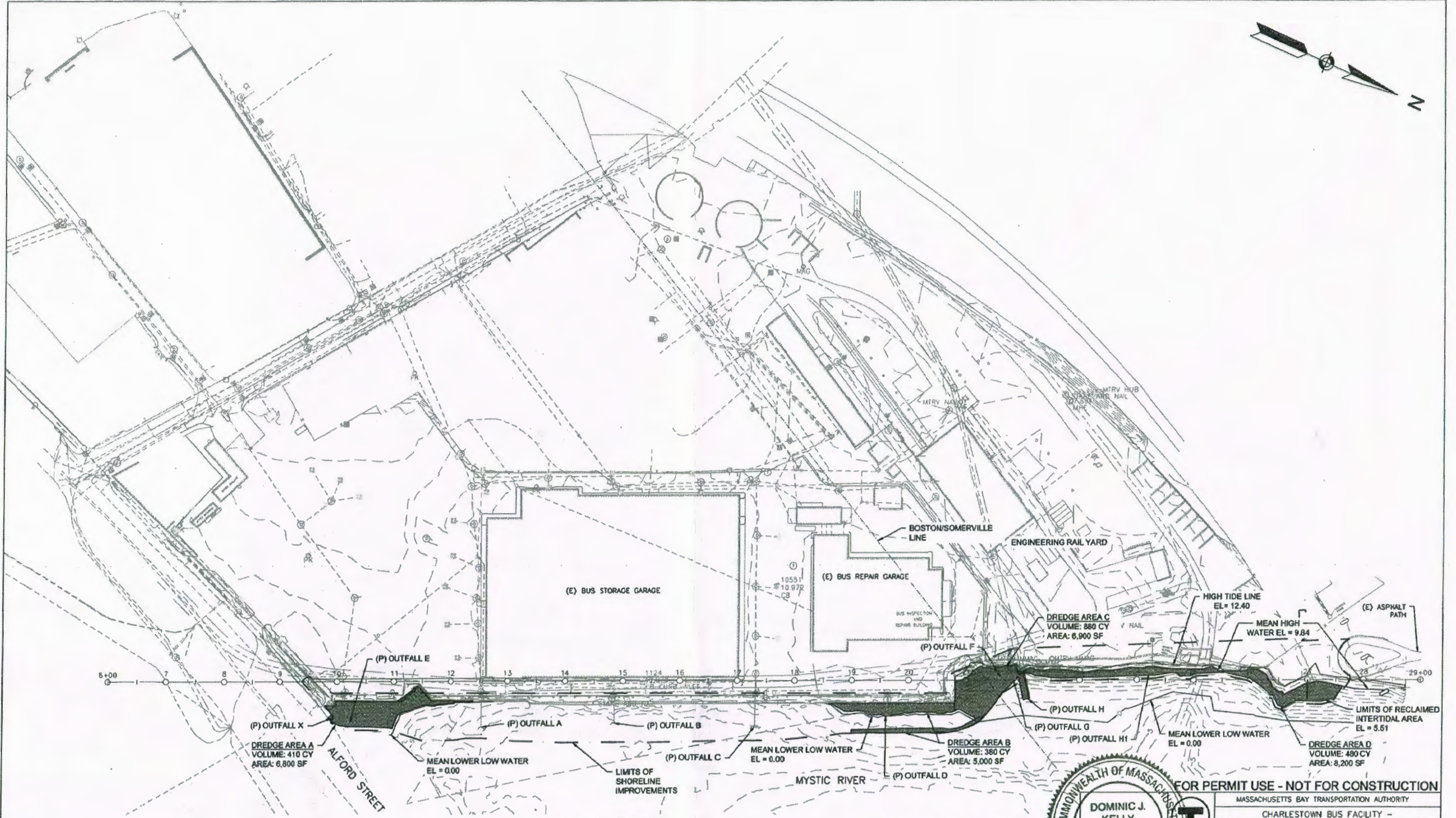
HORIZ: AS NOTED
 VERT: AS NOTED
 DATE: 03/13/17

APPROVED BY: _____

Project Manager: "MBTA" _____ Date: _____

PLAN NO. PROPOSED CONDITIONS (SHEET 3 OF 3) ISSUE _____

SHEET 7 of 14



DREDGE AREA SUMMARY:
AREA A: VOLUME = 410 CY, AREA = 6,800 SF
AREA B: VOLUME = 380 CY, AREA = 5,000 SF
AREA C: VOLUME = 880 CY, AREA = 6,900 SF
AREA D: VOLUME = 480 CY, AREA = 8,200 SF
TOTAL DREDGE VOLUME = 2,150 CY
TOTAL DREDGE AREA = 26,900 SF

DREDGE AREAS PLAN

0 80 160 240 320
 SCALE: 1" = 160'

NOTE:
 ALL ELEVATIONS ARE REFERENCED TO MLLW DATUM
 FOR NOAA STATION 8443970 (BOSTON, MA).

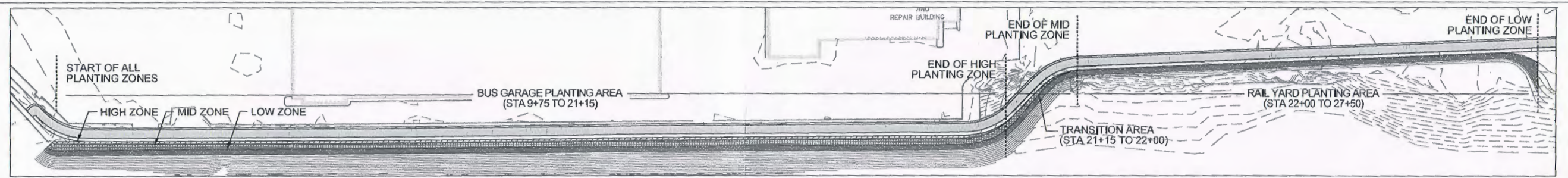


FOR PERMIT USE - NOT FOR CONSTRUCTION
 MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

CHARLESTOWN BUS FACILITY -
 SHORELINE STABILIZATION AND YARD IMPROVEMENTS
 BOSTON, MA, 02129

PURPOSE: SHORELINE STABILIZATION & COASTAL RESILIENCY
 AT CRITICAL PUBLIC TRANSPORT FACILITY
 APPLICATION BY: MASSACHUSETTS BAY TRANSPORTATION AUTHORITY (MBTA)

<table border="1"> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>CHK</th> <th>APP</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	NO.	DATE	DESCRIPTION	BY	CHK	APP							<table border="1"> <tr> <td> IMPROVEMENTS & DESIGN [Signature] Project Manager Date: 03/13/17 </td> <td> <table border="1"> <tr> <td> MANAGER OF DESIGN Name: [Signature] Date: 03/13/17 </td> <td> <table border="1"> <tr> <td> APPROVED BY: [Signature] Date: 03/13/17 </td> <td> <table border="1"> <tr> <td> PROJECT MANAGER: Name: [Signature] Date: 03/13/17 </td> <td> <table border="1"> <tr> <td> PLANS NO.: DREDGE </td> <td> ISSUE: SHEET 9 OF 14 </td> </tr> </table> </td> </tr> </table> </td> </tr> </table> </td> </tr> </table> </td></tr></table>	IMPROVEMENTS & DESIGN [Signature] Project Manager Date: 03/13/17	<table border="1"> <tr> <td> MANAGER OF DESIGN Name: [Signature] Date: 03/13/17 </td> <td> <table border="1"> <tr> <td> APPROVED BY: [Signature] Date: 03/13/17 </td> <td> <table border="1"> <tr> <td> PROJECT MANAGER: Name: [Signature] Date: 03/13/17 </td> <td> <table border="1"> <tr> <td> PLANS NO.: DREDGE </td> <td> ISSUE: SHEET 9 OF 14 </td> </tr> </table> </td> </tr> </table> </td> </tr> </table> </td> </tr> </table>	MANAGER OF DESIGN Name: [Signature] Date: 03/13/17	<table border="1"> <tr> <td> APPROVED BY: [Signature] Date: 03/13/17 </td> <td> <table border="1"> <tr> <td> PROJECT MANAGER: Name: [Signature] Date: 03/13/17 </td> <td> <table border="1"> <tr> <td> PLANS NO.: DREDGE </td> <td> ISSUE: SHEET 9 OF 14 </td> </tr> </table> </td> </tr> </table> </td> </tr> </table>	APPROVED BY: [Signature] Date: 03/13/17	<table border="1"> <tr> <td> PROJECT MANAGER: Name: [Signature] Date: 03/13/17 </td> <td> <table border="1"> <tr> <td> PLANS NO.: DREDGE </td> <td> ISSUE: SHEET 9 OF 14 </td> </tr> </table> </td> </tr> </table>	PROJECT MANAGER: Name: [Signature] Date: 03/13/17	<table border="1"> <tr> <td> PLANS NO.: DREDGE </td> <td> ISSUE: SHEET 9 OF 14 </td> </tr> </table>	PLANS NO.: DREDGE	ISSUE: SHEET 9 OF 14
NO.	DATE	DESCRIPTION	BY	CHK	APP																		
IMPROVEMENTS & DESIGN [Signature] Project Manager Date: 03/13/17	<table border="1"> <tr> <td> MANAGER OF DESIGN Name: [Signature] Date: 03/13/17 </td> <td> <table border="1"> <tr> <td> APPROVED BY: [Signature] Date: 03/13/17 </td> <td> <table border="1"> <tr> <td> PROJECT MANAGER: Name: [Signature] Date: 03/13/17 </td> <td> <table border="1"> <tr> <td> PLANS NO.: DREDGE </td> <td> ISSUE: SHEET 9 OF 14 </td> </tr> </table> </td> </tr> </table> </td> </tr> </table> </td> </tr> </table>	MANAGER OF DESIGN Name: [Signature] Date: 03/13/17	<table border="1"> <tr> <td> APPROVED BY: [Signature] Date: 03/13/17 </td> <td> <table border="1"> <tr> <td> PROJECT MANAGER: Name: [Signature] Date: 03/13/17 </td> <td> <table border="1"> <tr> <td> PLANS NO.: DREDGE </td> <td> ISSUE: SHEET 9 OF 14 </td> </tr> </table> </td> </tr> </table> </td> </tr> </table>	APPROVED BY: [Signature] Date: 03/13/17	<table border="1"> <tr> <td> PROJECT MANAGER: Name: [Signature] Date: 03/13/17 </td> <td> <table border="1"> <tr> <td> PLANS NO.: DREDGE </td> <td> ISSUE: SHEET 9 OF 14 </td> </tr> </table> </td> </tr> </table>	PROJECT MANAGER: Name: [Signature] Date: 03/13/17	<table border="1"> <tr> <td> PLANS NO.: DREDGE </td> <td> ISSUE: SHEET 9 OF 14 </td> </tr> </table>	PLANS NO.: DREDGE	ISSUE: SHEET 9 OF 14														
MANAGER OF DESIGN Name: [Signature] Date: 03/13/17	<table border="1"> <tr> <td> APPROVED BY: [Signature] Date: 03/13/17 </td> <td> <table border="1"> <tr> <td> PROJECT MANAGER: Name: [Signature] Date: 03/13/17 </td> <td> <table border="1"> <tr> <td> PLANS NO.: DREDGE </td> <td> ISSUE: SHEET 9 OF 14 </td> </tr> </table> </td> </tr> </table> </td> </tr> </table>	APPROVED BY: [Signature] Date: 03/13/17	<table border="1"> <tr> <td> PROJECT MANAGER: Name: [Signature] Date: 03/13/17 </td> <td> <table border="1"> <tr> <td> PLANS NO.: DREDGE </td> <td> ISSUE: SHEET 9 OF 14 </td> </tr> </table> </td> </tr> </table>	PROJECT MANAGER: Name: [Signature] Date: 03/13/17	<table border="1"> <tr> <td> PLANS NO.: DREDGE </td> <td> ISSUE: SHEET 9 OF 14 </td> </tr> </table>	PLANS NO.: DREDGE	ISSUE: SHEET 9 OF 14																
APPROVED BY: [Signature] Date: 03/13/17	<table border="1"> <tr> <td> PROJECT MANAGER: Name: [Signature] Date: 03/13/17 </td> <td> <table border="1"> <tr> <td> PLANS NO.: DREDGE </td> <td> ISSUE: SHEET 9 OF 14 </td> </tr> </table> </td> </tr> </table>	PROJECT MANAGER: Name: [Signature] Date: 03/13/17	<table border="1"> <tr> <td> PLANS NO.: DREDGE </td> <td> ISSUE: SHEET 9 OF 14 </td> </tr> </table>	PLANS NO.: DREDGE	ISSUE: SHEET 9 OF 14																		
PROJECT MANAGER: Name: [Signature] Date: 03/13/17	<table border="1"> <tr> <td> PLANS NO.: DREDGE </td> <td> ISSUE: SHEET 9 OF 14 </td> </tr> </table>	PLANS NO.: DREDGE	ISSUE: SHEET 9 OF 14																				
PLANS NO.: DREDGE	ISSUE: SHEET 9 OF 14																						



1 KEY PLAN - PLANTING AREAS
SCALE: NTS

HIGH ZONE (EL. 17.01' - 18.76')											
QTY.	SYM.	SCIENTIFIC NAME	COMMON NAME	PLANT SIZE (MIN.)	CONTAINER TYPE	WETLAND INDICATOR	SALINITY RANGE (PPT)	MATURE HEIGHT	TYPICAL SPACING	MINIMUM GROUPING	ZONE LOCATION
50	AT	<i>Asclepias tuberosa</i>	Butterfly Weed	12"	QT.	UPL	FW	1'	2' O.C.	10	--
200	AU	<i>Arctostaphylos uva-ursi</i>	Bearberry	12"	CONT.	UPL	FW	1'	2' O.C.	15	--
150	CA	<i>Ceanothus americanus</i>	New Jersey Tea	2' HT	CONT.	UPL	FW	3'	3' O.C.	7	--
100	JC	<i>Juniperus communis</i>	Common Juniper	12"	CONT.	FACU	FW	2'	2' O.C.	15	--
100	LJ	<i>Lathyrus japonicus</i>	Beach Pea	6"	PLUG	FACU	FW	2'	18" O.C.	15	--
100	RV	<i>Rosa virginiana</i>	Virginia Rose	2' HT	CONT.	FAC	FW	4'	3' O.C.	5	--
200	SS	<i>Schizachyrium scoparium</i>	Little Bluestem	12"	QT.	FACU	FW	3'	18" O.C.	20	--
900	TOTAL										
MID ZONE (EL. 13.51' - 17.01')											
QTY.	SYM.	SCIENTIFIC NAME	COMMON NAME	PLANT SIZE (MIN.)	CONTAINER TYPE	WETLAND INDICATOR	SALINITY RANGE (PPT)	MATURE HEIGHT	TYPICAL SPACING	MINIMUM GROUPING	ZONE LOCATION
100	CL	<i>Clethra alnifolia</i>	Sweet Pepperbush	2' HT	CONT.	FAC+	IF	5'	3' O.C.	5	--
240	MP	<i>Morella pensylvanica</i>	Northern Bayberry	3' HT	CONT.	FAC	0-30	7'	4' O.C.	7	--
185	PM	<i>Prunus maritima</i>	Beach Plum	3' HT	CONT.	UPL	5-30	5'	4' O.C.	5	--
1100	PV	<i>Panicum virgatum var. spissum</i>	Switch Grass	6"	PLUG	FAC	0-10	4'	2' O.C.	25	--
50	RC	<i>Rhus copallinum</i>	Winged Sumac	3' HT	CONT.	UPL	FW	10'	5' O.C.	3	--
1675	TOTAL										
LOW ZONE (EL. 11.31' - 13.51')											
QTY.	SYM.	SCIENTIFIC NAME	COMMON NAME	PLANT SIZE (MIN.)	CONTAINER TYPE	WETLAND INDICATOR	SALINITY RANGE (PPT)	MATURE HEIGHT	TYPICAL SPACING	MINIMUM GROUPING	ZONE LOCATION
210	BH	<i>Baccharis halimifolia</i>	Groundsel Tree	2' HT	CONT.	FACW	0-30	6'	4' O.C.	5	--
150	IF	<i>Iva frutescens</i>	High-Tide Bush	2' HT	CONT.	FACW+	5-30	6'	4' O.C.	10	--
1450	SO	<i>Solidago sempervirens</i>	Seaside Goldenrod	6"	PLUG	FACW	5-30	3'	2' O.C.	25	BOTTOM
1810	TOTAL										

1. PPT=PARTS PER THOUSAND; IF=TOOLERATES INFREQUENT FLOODING BY SALT WATER; FW=FRESHWATER ONLY; TOLERATES SALT SPRAY

6 PLANT SCHEDULE - BUS GARAGE AREA

MID ZONE (EL. 13.51' - 17.01')											
QTY.	SYM.	SCIENTIFIC NAME	COMMON NAME	PLANT SIZE (MIN.)	CONTAINER TYPE	WETLAND INDICATOR	SALINITY RANGE (PPT)	MATURE HEIGHT	TYPICAL SPACING	MINIMUM GROUPING	ZONE LOCATION
25	AU	<i>Arctostaphylos uva-ursi</i>	Bearberry	12"	CONT.	UPL	FW	1'	2' O.C.	15	TOP
30	MP	<i>Morella pensylvanica</i>	Northern Bayberry	3' HT	CONT.	FAC	0-30	7'	4' O.C.	7	--
25	PM	<i>Prunus maritima</i>	Beach Plum	3' HT	CONT.	UPL	5-30	5'	4' O.C.	5	--
200	PV	<i>Panicum virgatum var. spissum</i>	Switch Grass	6"	PLUG	FAC	0-10	4'	2' O.C.	25	--
25	RV	<i>Rosa virginiana</i>	Virginia Rose	2' HT	CONT.	FAC	FW	4'	3' O.C.	5	--
25	SS	<i>Schizachyrium scoparium</i>	Little Bluestem	12"	QT.	FACU	FW	3'	18" O.C.	20	TOP
330	TOTAL										
LOW ZONE (EL. 11.31' - 13.51')											
QTY.	SYM.	SCIENTIFIC NAME	COMMON NAME	PLANT SIZE (MIN.)	CONTAINER TYPE	WETLAND INDICATOR	SALINITY RANGE (PPT)	MATURE HEIGHT	TYPICAL SPACING	MINIMUM GROUPING	ZONE LOCATION
20	BH	<i>Baccharis halimifolia</i>	Groundsel Tree	2' HT	CONT.	FACW	0-30	6'	4' O.C.	5	--
15	IF	<i>Iva frutescens</i>	High-Tide Bush	2' HT	CONT.	FACW+	5-30	6'	4' O.C.	10	--
150	SO	<i>Solidago sempervirens</i>	Seaside Goldenrod	6"	PLUG	FACW	5-30	3'	2' O.C.	25	BOTTOM
185	TOTAL										

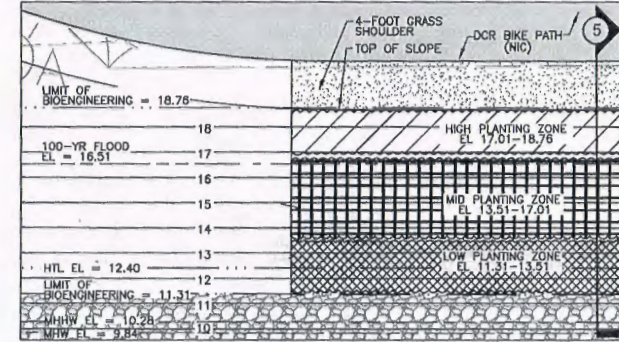
1. PPT=PARTS PER THOUSAND; IF=TOOLERATES INFREQUENT FLOODING BY SALT WATER; FW=FRESHWATER ONLY; TOLERATES SALT SPRAY

7 PLANT SCHEDULE - TRANSITION AREA

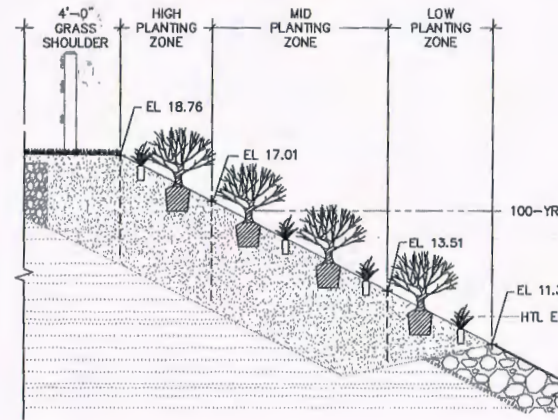
LOW ZONE (EL. 11.31' - 13.51')											
QTY.	SYM.	SCIENTIFIC NAME	COMMON NAME	PLANT SIZE (MIN.)	CONTAINER TYPE	WETLAND INDICATOR	SALINITY RANGE (PPT)	MATURE HEIGHT	TYPICAL SPACING	MINIMUM GROUPING	ZONE LOCATION
30	AT	<i>Asclepias tuberosa</i>	Butterfly Weed	12"	QT.	UPL	FW	1'	2' O.C.	10	--
90	BH	<i>Baccharis halimifolia</i>	Groundsel Tree	2' HT	CONT.	FACW	0-30	6'	4' O.C.	5	--
80	IF	<i>Iva frutescens</i>	High-Tide Bush	2' HT	CONT.	FACW+	5-30	6'	4' O.C.	10	--
60	RV	<i>Rosa virginiana</i>	Virginia Rose	2' HT	CONT.	FAC	FW	4'	3' O.C.	5	--
700	SO	<i>Solidago sempervirens</i>	Seaside Goldenrod	6"	PLUG	FACW	5-30	3'	2' O.C.	25	BOTTOM
185	SS	<i>Schizachyrium scoparium</i>	Little Bluestem	12"	QT.	FACU	FW	3'	18" O.C.	20	TOP
1145	TOTAL										

1. PPT=PARTS PER THOUSAND; IF=TOOLERATES INFREQUENT FLOODING BY SALT WATER; FW=FRESHWATER ONLY; TOLERATES SALT SPRAY

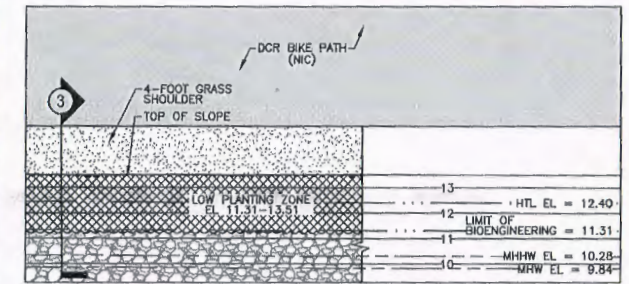
8 PLANT SCHEDULE - RAIL YARD AREA



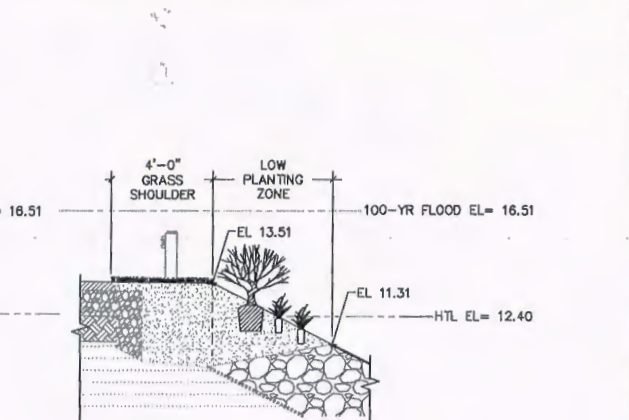
4 PLAN - BUS GARAGE PLANTING AREA, TYP.
(STA 9+75 TO 21+15)
SCALE: NTS



5 SECTION - BUS GARAGE PLANTING AREA, TYP.
(STA 9+75 TO 21+15)
SCALE: NTS



2 PLAN - RAIL YARD PLANTING AREA, TYP.
(STA 22+00 TO 27+50)
SCALE: NTS



3 SECTION - RAIL YARD PLANTING AREA, TYP.
(STA 22+00 TO 27+50)
SCALE: NTS

PLANTING NOTES:

- AFTER INSTALLING GEOGRID FABRIC, CONTRACTOR SHALL PAINT THREE HORIZONTAL LINES ON THE FABRIC MARKING THE BOUNDARY BETWEEN THE HIGH (ELEVATION 18.76' TO 17.01'), MID (ELEVATION 17.01' TO 13.51'), AND LOW (ELEVATION 13.51' TO 11.31') PLANTING ZONES. THESE LINES WILL BE USED TO LAYOUT THE PROPOSED PLANTINGS IN THEIR APPROPRIATE PLANTING ZONES (SEE PLANT SCHEDULES, THIS SHEET). LANDSCAPE ARCHITECT SHALL PLACE FLAGS IDENTIFYING GROUPS OF PLANTINGS PRIOR TO INSTALLATION BY CONTRACTOR.
- THE GOOSE PROTECTION FENCE SYSTEM, INCLUDING ALL INTERNAL STAKING, STRINGS AND RIBBONS, SHALL BE INSTALLED TO PROTECT ALL NEW PLANTINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY NEW PLANTINGS DAMAGED OR DESTROYED BY WATERFOWL OR OTHER NUISANCE ANIMALS.

FOR PERMIT USE - NOT FOR CONSTRUCTION

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
CHARLESTOWN BUS FACILITY - SHORELINE STABILIZATION AND YARD IMPROVEMENTS
BOSTON, MA, 02129

PURPOSE: SHORELINE STABILIZATION & COASTAL RESILIENCY AT CRITICAL PUBLIC TRANSPORT FACILITY
APPLICATION BY: MASSACHUSETTS BAY TRANSPORTATION AUTHORITY (MBTA)

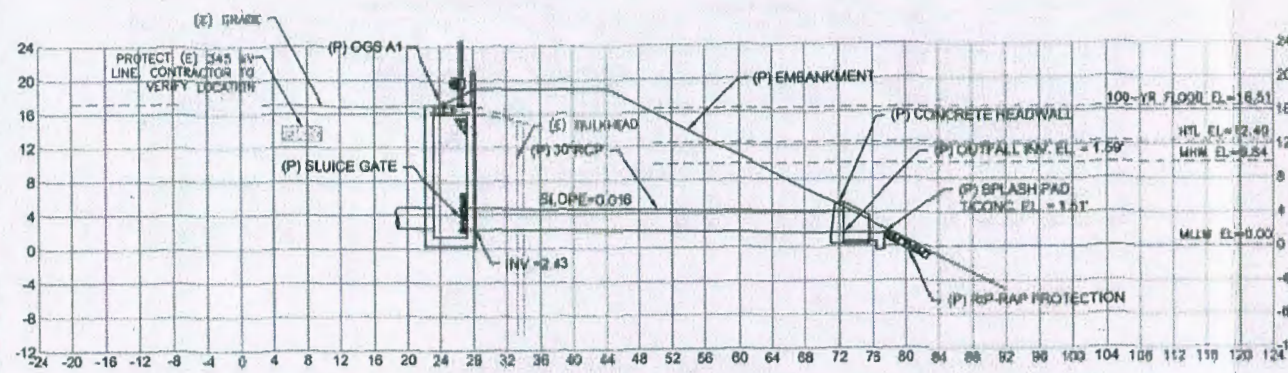
APPROVED BY: [Signature]

MANAGER OF DESIGN: [Signature] DATE: [Date]

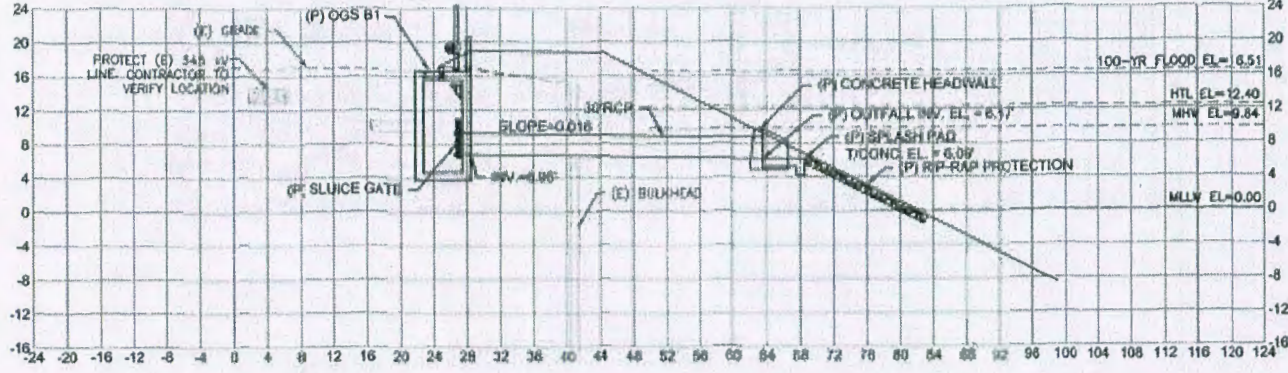
PROJECT MANAGER: [Signature] DATE: [Date]

DATE: 03/13/17

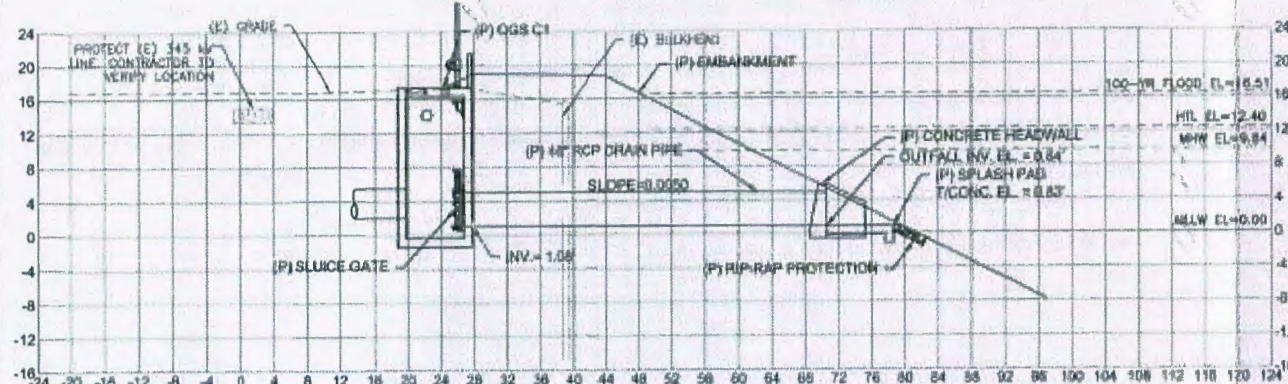
PLAN NO. PLANTING PLAN & DETAILS 1
SHEET 11 OF 14



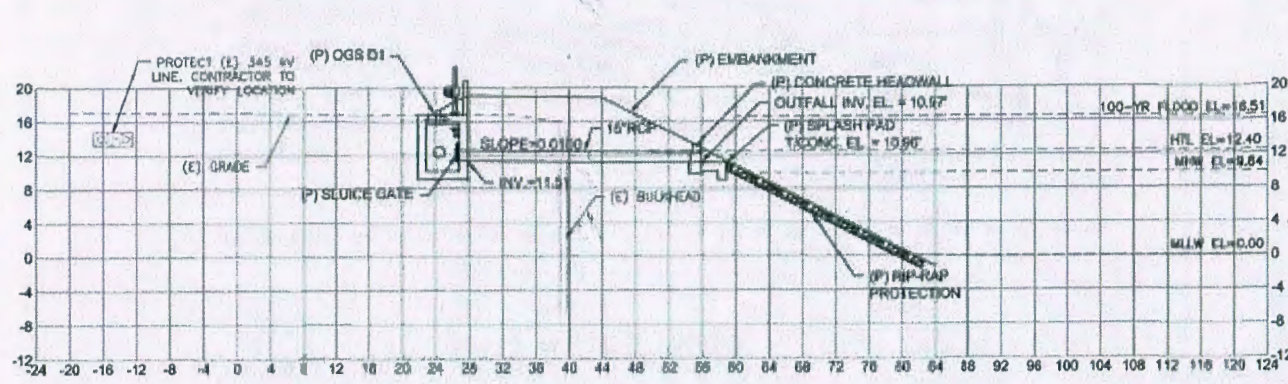
OUTFALL A AT STA 12+50
1"=30'



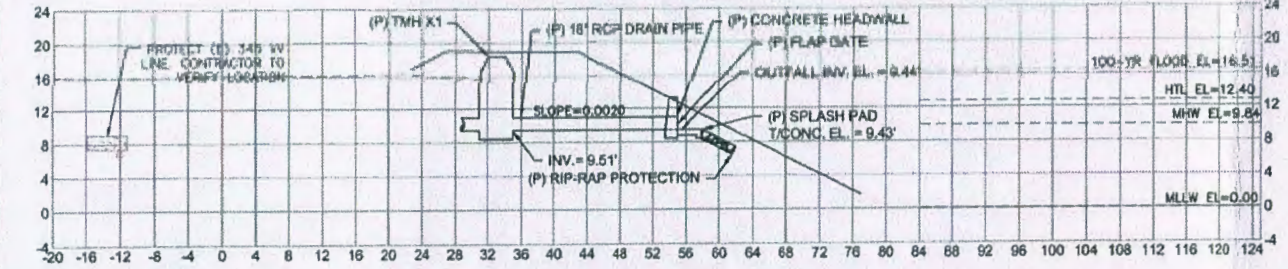
OUTFALL B AT STA 14+85
1"=20'



OUTFALL C AT STA 17+33
1"=20'



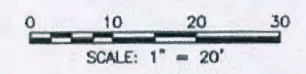
OUTFALL D AT STA 19+63
1"=20'



OUTFALL X AT STA 10+09
1"=20'

TIDAL AND FLOOD ELEVATIONS
 MLLW: 0.00'
 MHW: 9.84'
 HTL: 12.40'
 100 YR FLOOD: 18.51'

NOTE:
 ALL ELEVATIONS ARE REFERENCED TO MLLW DATUM
 FOR NOAA STATION 8443970 (BOSTON, MA).



FOR PERMIT USE - NOT FOR CONSTRUCTION

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
 CHARLESTOWN BUS FACILITY -
 SHORELINE STABILIZATION AND YARD IMPROVEMENTS
 BOSTON, MA, 02129

PURPOSE: SHORELINE STABILIZATION & COASTAL RESILIENCY
 AT CRITICAL PUBLIC TRANSPORT FACILITY
 APPLICATION BY: MASSACHUSETTS BAY TRANSPORTATION AUTHORITY (MBTA)

APPROVED BY: _____
 Project Manager: "NAME"

DATE: 03/13/17
 SHEET 13 OF 14

DATE	REVISION	BY	CHK.	APP.

