

NOTICE OF INTENT

Northern Strand Community Trail Extension

Everett, Massachusetts



Prepared for City of Everett 484 Broadway Everett, MA 02149

Prepared by Howard Stein Hudson 11 Beacon Street, Suite 1010 Boston, MA 02108 617-482-7080

June 26, 2020



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Massachusetts Department of Environmental Protection Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

A. General Information

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

MassDEP	File Number
Document	Transaction Number
Everett	
City/Town	

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Note: Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

a. La <u>N</u>	Street Address	Everen	02149
La <u>N</u>		b. City/Town	c. Zip Code
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N f.	atitude and Longitude:	d. Latitude	e. Longitude
f.	I/A	H6-8	
	Assessors Map/Plat Number	g. Parcel /Lot Number	
. A	pplicant:		
Ja	ay	Monty	
a.	First Name	b. Last Name	
С	ity of Everett		
C.	Organization		
48	84 Broadway, Room 25		
d.	Street Address		
E	verett	МА	02419
e.	City/Town	f. State	g. Zip Code
6	17-544-6033	jav.montv@ci.everett.ma	JS
<u>h</u> .	Phone Number i. Fax Number	j. Email Address	
<u>c.</u>	Organization		
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Massachusetts Department of Environmental Protection Pro

Bureau of Resource Protection - Wetlands

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Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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A. General Information (continued)

6. General Project Description:

The Applicant is proposing to construct a three-quarter mile bicycle path to extend the existing Northern Strand Community Trail (Figure 1 & 2 of Attachment B). The Applicant is proposing to extend the existing Northern Strand Community Trail in Everett from its existing terminus at West & Wellington to the recently-constructed Encore Riverwalk along the Mystic River.

7a. Project Type Checklist: (Limited Project Types see Section A. 7b.)

1. 🔲 Single Family Home	2. 🔲 Residential Subdivision
3. Commercial/Industrial	4. 🔲 Dock/Pier
5. 🔲 Utilities	6. 🔲 Coastal engineering Structure
7. Agriculture (e.g., cranberries, forestry)	8. 🛛 Transportation
9. 🗌 Other	
Is any portion of the proposed activity eligible to	be treated as a limited project (including Ecologi

7b. Is any portion of the proposed activity eligible to be treated as a limited project (including Ecological Restoration Limited Project) subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)?

	If yes, describe which limited project applies to this project. (See 310 CMR
	10.24 and 10.53 for a complete list and description of limited project types)

2. Limited Project Type

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

a. County

b. Certificate # (if registered land)

c. Book

d. Page Number

B. Buffer Zone & Resource Area Impacts (temporary & permanent)

- 1. Duffer Zone Only Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.
- 2. Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas).

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.



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B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

	<u>Resou</u>	Irce Area	Size of Proposed Alteration	Proposed Replacement (if any)
For all projects affecting other Resource Areas,	a. 🗌 b. 🔀	Bank Bordering Vegetated Wetland	1. linear feet 4,229 perm (3,917 temp) 1. square feet	2. linear feet 5,045 2. square feet
please attach a narrative explaining how the resource area was	c. 🗌	Land Under Waterbodies and Waterways	1. square feet 3. cubic yards dredged	2. square feet
dennealed.	Resource Area		Size of Proposed Alteration	Proposed Replacement (if any)
	d. 🗌	Bordering Land Subject to Flooding	1. square feet	2. square feet
	e. 🗌	Isolated Land	3. cubic feet of flood storage lost	4. cubic feet replaced
		Subject to Flooding	 square feet cubic feet of flood storage lost 	3. cubic feet replaced
	f. 🗌	Riverfront Area	1. Name of Waterway (if available) - spec	ify coastal or inland
	2.	Width of Riverfront Area ((check one):	
		25 ft Designated De	ensely Developed Areas only	
		🔲 100 ft New agricultu	ural projects only	
		🔲 200 ft All other proje	ects	
	3.	Total area of Riverfront Are	a on the site of the proposed projec	t: square feet
	4.	Proposed alteration of the F	Riverfront Area:	
	a.	total square feet	b. square feet within 100 ft.	c. square feet between 100 ft. and 200 ft.
	5.	Has an alternatives analysis	s been done and is it attached to thi	s NOI?
	6.	Was the lot where the activ	ity is proposed created prior to Augu	ust 1, 1996? 🗌 Yes 🗌 No
:	3. 🛛 Co	oastal Resource Areas: (See	310 CMR 10.25-10.35)	
	Note:	for coastal riverfront areas,	please complete Section B.2.f. abo	ove.



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Ev	erett
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B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

	Resou	rce Area	Size of Proposed Alteration	Proposed Replacement (if any)
	a. 🗌	Designated Port Areas	Indicate size under Land Unde	er the Ocean, below
	b. 🗌	Land Under the Ocean	1. square feet	
			2. cubic yards dredged	
	c. 🗌	Barrier Beach	Indicate size under Coastal Bea	ches and/or Coastal Dunes below
	d. 🗌	Coastal Beaches	1. square feet	2. cubic yards beach nourishment
	e. 🗌	Coastal Dunes	1. square feet	2. cubic yards dune nourishment
			Size of Proposed Alteration	Proposed Replacement (if any)
	f. 🗌	Coastal Banks	3,177 - buffer zone only 1. linear feet	
	g. 🗌	Rocky Intertidal Shores	1. square feet	
	h. 🗌	Salt Marshes	2,210 - buffer zone only 1. square feet	2. sq ft restoration, rehab., creation
	i. 🗌	Land Under Salt Ponds	1. square feet	
			2. cubic yards dredged	
	j. 🗌	Land Containing Shellfish	1. square feet	
	k. 🗌	Fish Runs	Indicate size under Coastal Ban Ocean, and/or inland Land Unde above	ks, inland Bank, Land Under the er Waterbodies and Waterways,
			1. cubic vards dredged	
	I. 🛛	Land Subject to	4,377	
4.	☐ Re If the p square amoun	estoration/Enhancement project is for the purpose of footage that has been ent it here.	restoring or enhancing a wetland ered in Section B.2.b or B.3.h abo	resource area in addition to the we, please enter the additional
	a. squar	e feet of BVW	b. square feet of s	Salt Marsh
5.	🗌 Pro	oject Involves Stream Cros	sings	

a. number of new stream crossings

Department.



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C. Other Applicable Standards and Requirements

This is a proposal for an Ecological Restoration Limited Project. Skip Section C and complete Appendix A: Ecological Restoration Limited Project Checklists – Required Actions (310 CMR 10.11).

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

1. Is any portion of the proposed project located in **Estimated Habitat of Rare Wildlife** as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program (NHESP)? To view habitat maps, see the *Massachusetts Natural Heritage Atlas* or go to http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm.

a. 🗌 Yes 🛛 No

If yes, include proof of mailing or hand delivery of NOI to:

Natural Heritage and Endangered Species Program Division of Fisheries and Wildlife 1 Rabbit Hill Road Westborough, MA 01581

b. Date of map

If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.c, and include requested materials with this Notice of Intent (NOI); *OR* complete Section C.2.f, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

c. Submit Supplemental Information for Endangered Species Review*

(a) within wetland Resource Area

percentage/acreage

(b) outside Resource Area

percentage/acreage

- 2. Assessor's Map or right-of-way plan of site
- 2. Project plans for entire project site, including wetland resource areas and areas outside of wetlands jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work **
 - (a) Project description (including description of impacts outside of wetland resource area & buffer zone)
 - (b) Dhotographs representative of the site

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^{*} Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/). Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

^{**} MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.



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Everett	
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C. Other Applicable Standards and Requirements (cont'd)

(c) MESA filing fee (fee information available at <u>http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/mesa/mesa_fee_schedule.htm</u>). Make check payable to "Commonwealth of Massachusetts - NHESP" and *mail to NHESP* at above address

Projects altering 10 or more acres of land, also submit:

- (d) Vegetation cover type map of site
- (e) Project plans showing Priority & Estimated Habitat boundaries
- (f) OR Check One of the Following
- Project is exempt from MESA review. Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, <u>http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/mesa/mesa_exemptions.htm</u>; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)
- 2.
 Separate MESA review ongoing.
 a. NHESP Tracking #
 b. Date submitted to NHESP
- 3. Separate MESA review completed. Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.
- 3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

a. 🗌 Not applicable – project is in inland resource area only 👘 b. 🗌 Yes 🛛 No

If yes, include proof of mailing, hand delivery, or electronic delivery of NOI to either:

South Shore - Cohasset to Rhode Island border, and the Cape & Islands:

Division of Marine Fisheries -Southeast Marine Fisheries Station Attn: Environmental Reviewer 836 South Rodney French Blvd. New Bedford, MA 02744 Email: <u>DMF.EnvReview-South@state.ma.us</u> North Shore - Hull to New Hampshire border:

Division of Marine Fisheries -North Shore Office Attn: Environmental Reviewer 30 Emerson Avenue Gloucester, MA 01930 Email: DMF.EnvReview-North@state.ma.us

Also if yes, the project may require a Chapter 91 license. For coastal towns in the Northeast Region, please contact MassDEP's Boston Office. For coastal towns in the Southeast Region, please contact MassDEP's Southeast Regional Office.



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	Ма Ви	assachusetts Department of Environmental Protection Ireau of Resource Protection - Wetlands	Provided by MassDEP:
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		assachusetts Wetlands Protection Act M G L c 131 840	Document Transaction Number
	IVIC		Everett City/Town
	$\overline{\mathbf{C}}$	Other Applicable Standards and Requirements	(cont'd)
	0.		
	4.	Is any portion of the proposed project within an Area of Critical Environ	nmental Concern (ACEC)?
Online Users: Include your document		a. Yes No If yes, provide name of ACEC (see instruction Website for ACEC locations). Note: electronic	s to WPA Form 3 or MassDEP c filers click on Website.
transaction		b. ACEC	
(provided on your receipt page) with all	5.	Is any portion of the proposed project within an area designated as an (ORW) as designated in the Massachusetts Surface Water Quality Sta	Outstanding Resource Water andards, 314 CMR 4.00?
supplementary		a. 🗌 Yes 🛛 No	
submit to the Department.	6.	Is any portion of the site subject to a Wetlands Restriction Order unde Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restric	r the Inland Wetlands tion Act (M.G.L. c. 130, § 105)?
		a. 🗌 Yes 🖾 No	
	7.	Is this project subject to provisions of the MassDEP Stormwater Mana	gement Standards?
		a. Yes. Attach a copy of the Stormwater Report as required by the	ne Stormwater Management
		 Standards per 310 CMR 10.05(6)(k)-(q) and check if: 1. Applying for Low Impact Development (LID) site design cr Stormwater Management Handbook Vol. 2, Chapter 3 	edits (as described in
		2. A portion of the site constitutes redevelopment	
		3. Proprietary BMPs are included in the Stormwater Manage	ment System.
		b. No. Check why the project is exempt:	
		1. Single-family house	
		2. Emergency road repair	
		3. Small Residential Subdivision (less than or equal to 4 sing or equal to 4 units in multi-family housing project) with no dis	le-family houses or less than charge to Critical Areas.
	D.	Additional Information	
		This is a proposal for an Ecological Restoration Limited Project. Skip S Appendix A: Ecological Restoration Notice of Intent – Minimum Requir 10.12).	Section D and complete red Documents (310 CMR

Applicants must include the following with this Notice of Intent (NOI). See instructions for details.

Online Users: Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.

- USGS or other map of the area (along with a narrative description, if necessary) containing 1. 🖂 sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)
- Plans identifying the location of proposed activities (including activities proposed to serve as 2. 🖂 a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.



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	City/Town

D. Additional Information (cont'd)

- 3. Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.
- 4. List the titles and dates for all plans and other materials submitted with this NOI.

ATTACHMENT F: NOI PERMIT DRAWINGS	
HOWARD STEIN HUDSON	RICHARD LATINI, P.E.
JUNE 2020 d. Final Revision Date	VARIES e. Scale

f. Additional Plan or Document Title

g. Date

- 5. If there is more than one property owner, please attach a list of these property owners not listed on this form.
- 6. Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.
- 7. Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.
- 8. Attach NOI Wetland Fee Transmittal Form
- 9. X Attach Stormwater Report, if needed.

E. Fees

1. Kee Exempt: No filing fee shall be assessed for projects of any city, town, county, or district of the Commonwealth, federally recognized Indian tribe housing authority, municipal housing authority, or the Massachusetts Bay Transportation Authority.

Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland Fee Transmittal Form) to confirm fee payment:

2. Municipal Check Number	3. Check date
4. State Check Number	5. Check date

6. Payor name on check: First Name

7. Payor name on check: Last Name



Massachusetts Department of Environmental Protection Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

/i	ided by MassDEP:
A CONTRACTOR	MassDEP File Number
Contraction of the local division of the loc	Document Transaction Number
	Everett
	City/Town

F. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made by Certificate of Mailing or in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

Mothe	(Joseph D Monty-Gity	of Evenett) 7/1/2020
A Sai la 1		2. Date
up have Mintusky	Diane Mikovsky, Site Centers	7.02.2020
3. Signature of Property Owner (if diffe	rent)	4. Date
Kauta Jaren	Kayla Sousa, HSH	7/2/2020
5. Signature of Representative (if any)		6. Date

For Conservation Commission:

Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

For MassDEP:

One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a **copy** of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

Other:

If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.



Massachusetts Department of Environmental Protection Bureau of Resource Protection - Wetlands NOI Wetland Fee Transmittal Form Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

1.

2.

3.



Α.	Applicant	Information
----	-----------	-------------

16 Mystic View Road	Everett			
a. Street Address	b. City/Town			
	\$0			
c. Check number	d. Fee amount	d. Fee amount		
Applicant Mailing Address:				
Jay	Monty			
a. First Name	b. Last Name			
City of Everett	s			
c. Organization				
484 Broadway, Room 25				
d. Mailing Address				
Everett	MA	02149		
e. City/Town	f. State	g. Zip Code		
617-544-6033	jay.monty@ci.everett.ma.us			
h Phone Number i, Fax Number	j. Email Address			

a. First Name		b. Last Name		
SITE Centers				42
c. Organization				
3300 Enterprise Parkwa	ay			
d. Mailing Address				
Beachwood			OH	44122
e. City/Town			f. State	g. Zip Code
(216)-755-5870		DMikovsky	@sitecenters.com	
h. Phone Number	i. Fax Number	j. Email Addre	SS	

To calculate filing fees, refer to the category fee list and examples in the instructions for filling out WPA Form 3 (Notice of Intent).

B. Fees

Fee should be calculated using the following process & worksheet. *Please see Instructions before filling out worksheet.*

Step 1/Type of Activity: Describe each type of activity that will occur in wetland resource area and buffer zone.

Step 2/Number of Activities: Identify the number of each type of activity.

Step 3/Individual Activity Fee: Identify each activity fee from the six project categories listed in the instructions.

Step 4/Subtotal Activity Fee: Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

Step 5/Total Project Fee: Determine the total project fee by adding the subtotal amounts from Step 4.

Step 6/Fee Payments: To calculate the state share of the fee, divide the total fee in half and subtract \$12.50. To calculate the city/town share of the fee, divide the total fee in half and add \$12.50.



Massachusetts Department of Environmental Protection Bureau of Resource Protection - Wetlands NOI Wetland Fee Transmittal Form Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Other: Bike Path Construction	1	N/A	N/A
	Step 5/Tot	tal Project Fee:	 N/A
	Step 6/F	ee Payments:	
	Total F	Project Fee:	N/A - exempt a. Total Fee from Step 5
	State share	of filing Fee:	b. 1/2 Total Fee less \$12.50
	City/Town share	of filling Fee:	c. 1/2 Total Fee plus \$12.50

C. Submittal Requirements

a.) Complete pages 1 and 2 and send with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts.

Department of Environmental Protection Box 4062 Boston, MA 02211

b.) To the Conservation Commission: Send the Notice of Intent or Abbreviated Notice of Intent; a copy of this form; and the city/town fee payment.

To MassDEP Regional Office (see Instructions): Send a copy of the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)

WPA Form Question A.3.

General Information – Additional Property Owners

<u>Owner #2:</u>

Name: Priscilla Geigis

Organization: Department of Conservation and Recreation (DCR)

Street Address: 251 Causeway Street, 9th Floor, Boston, Massachusetts 02114

Phone Number: (617) 626-1250

Email Address: priscilla.geigis@state.ma.us

WPA Form Question F

Signatures and Submittal Requirements

6/30/20

7. Signature of Second Property Owner



Attachment A: Project Narrative

1.0 Project Overview

This Notice of Intent (NOI) has been prepared by *Howard Stein Hudson (HSH)* on behalf of the City of Everett (the "Applicant") for the proposed extension of the Northern Strand Community Trail. The NOI has been prepared in accordance with the Massachusetts Wetland Protection Act (MGL c.131 s.40) and implementing Regulations (310 CMR 10.00) (the "WPA").

The Applicant proposes a three-quarter mile shared use path to extend the existing Northern Strand Community Trail (**Figure 1 & 2 of Attachment B**). The Applicant is proposing to extend the existing Northern Strand Community Trail in Everett from its existing terminus at West & Wellington to the recently constructed Encore Riverwalk along the Mystic River. SITE Centers, owners of the Gateway Shopping Center are also funding the design and construction for the parts of the path on their property.

2.0 Existing Conditions

The Project Site is located to the northwest of the Massachusetts Bay Transportation Authority (MBTA) Commuter Rail Newburyport/Rockport Line and adjacent to the Gateway Shopping Center located at 16 Mystic View Road in Everett, Massachusetts.

Wetlands on-site include Bordering Vegetated Wetlands (BVW). The wetlands are not considered an Area of Critical Environmental Concern (ACEC) or Outstanding Resource Water. The wetlands were delineated by Green International Affiliates. MassDEP Bordering Vegetated Wetland Delineation Field Data Forms are provided in **Attachment E**.

The current Massachusetts Natural Heritage and Endangered Species Program (NHESP) Atlas (MassGIS, 2017) does not identify any areas of estimated habitat (310 CMR 10.59) in or near the Project area. The Project Site is also not within a flood hazard zone per the Federal Emergency Management Agency (FEMA) National Flood Hazard Map available from MassGIS.

The existing trees in the study area were surveyed by Tighe & Bond, Inc. as described in the memorandum in **Attachment H**.

| 1 |



The southern half of the proposed shared use path runs along the back of the existing Gateway Shopping Center parking lot. Existing conditions are such that parking lot runoff drains to catch basins along the curbline, which discharge into the wetlands. The northern half of the project runs along the MBTA right-of-way on undeveloped land. Refer to the Stormwater Memorandum in **Attachment I** for additional discussion on existing and proposed drainage.

3.0 Proposed Work

The Applicant is proposing to construct a three-quarter mile bicycle path to extend the existing Northern Strand Community Trail from its existing terminus at West & Wellington to the recently constructed Encore Riverwalk along the Mystic River. The hot mix asphalt path will be constructed with stone dust shoulders, and grading slopes will be planting with meadow mix.

There are a few distinct segments of the path. The northernmost part travels through and then adjacent to MBTA property as it extends south from the terminus of the existing path. The path must travel underneath two bridges that carry Revere Beach Parkway. The first bridge will require realignment of the ballast yard tracks to allow the path to pass through the second span. The path must ascend as it travels south in order to travel through the first span of the next bridge. Since the area between bridges includes wetlands, retaining walls will be used to minimize impacts. Retaining walls must also be constructed on the MBTA side to avoid operational impacts to the ballast yard.

The next part of the Project will include some tree clearing in the wooded areas, and excavation and fill in and near the wetlands to create a level, accessible path. A boardwalk is proposed to allow the path to cross wetlands in the part of the path that ascends from along the MBTA railroad to the shopping center. This boardwalk will minimize impacts by preventing excessive fill. Other construction in this area includes the installation of lighting and fencing.

The last part of the Project runs along the Gateway Shopping Center parking lot. This requires some drainage updates and curb reconstruction to maintain existing conditions. The path will mostly be constructed along the grassy shelf at the back of the parking lot, which sometimes requires fill to maintain a level path. The path meanders to avoid utilities in some areas, as well.

Although the Project will increase impervious area by 40,190 sf, Best Management Practices (BMPs) will be so that the existing parking lot drainage and natural drainage will mitigate any runoff. Please see the Stormwater Memorandum in **Attachment I**. Additionally, the overall impact to the environment may be considered positive if the path contributes to a mode shift by allowing for trips to be taken without vehicles.

An operation and maintenance plan will be employed to ensure the continued functioning of the stormwater management system. Construction period controls will be used to prevent erosion and transport of sediment and other pollutants off-site or into the wetlands.

A Storm Water Pollution Prevention Plan will be developed as part of the Project's General Permit for Construction Activity under the EPA's NPDES permit program (see the Stormwater Management Memorandum for additional information).

4.0 Wetland Resource Area Impacts

The project has been designed to minimize alterations to wetland resource areas to the maximum extent practicable and the majority of Project activities are located outside of all wetland resource areas and associated buffer zones. A description of resource areas and project impacts are discussed in the following sections.

Bordering Vegetated Wetlands (BVWs) are located within the project limits as shown in the Permit Drawings in **Attachment F**. The Project will result in permanent and temporary impacts to BVW.

- Permanent impacts from the project are a result of the construction of a new boardwalk to carry the shared use path, as well as fill to maintain an accessible path at the back of the parking lot in areas with steep drop-offs. The path must also travel adjacent to an MBTA railroad track in an area where fill will be required to construct the path in a safe location.
- **Temporary impacts** from the Project are as a result of grading and construction of retaining walls.

Land Subject to Coastal Storm Flowage (LSCSF) are located within the project limits as shown in the Permit Drawings in Attachment F. The Project will result in permanent impacts to the LSCSF. Less than 1,100 SF of impacts include construction of an impermeable surface. Most of the impacts are related to landscaping in the area of the trail terminus, where Northern Strand meets the existing Encore Riverwalk path.

The project is also within the 100-foot buffer zone for a coastal bank, salt marsh, and riverfront area but proposes no impacts within the actual resource areas. Due to an existing path in between proposed construction and the resource area, it is not anticipated that any sediment or erosion control barriers are required. There is also sufficient distance between construction activities and the coastal bank, salt marsh, and riverfront. These are identified in the Permit Drawings in **Attachment F**.



The impacts are presented in **Table 1** below in square feet (SF) and are detailed in the following sections.

Resource Area Impact Table					
Basauraa Araa		Impacts			
Resource Area	Temporary	Permanent	Total		
BVW	3,917 SF	4,547 SF	8,464 SF		
LSCF	0 SF	4,377 SF	4,377 SF		

5.0 Compliance with Performance Standards

The environmental resources in the Project area are shown on the Plans in **Attachment F** and a Wetlands Delineation Report is provided in **Attachment D**. The Project includes construction of a path built on a previously developed site and is designed to comply with the Massachusetts Wetlands Protection Act (M.G.L. Chapter 131, Section 40) and it's implementing Regulations (310 CMR 10.00).

5.1 BORDERING VEGETATED WETLANDS

Bordering Vegetated Wetlands (BVWs) are defined in 310 CMR 10.55(2) as freshwater wetlands which border on creeks, rivers, streams, ponds and lakes. The types of freshwater wetlands are wet meadows, marshes, swamps and bogs. BVWs are areas where the soils are saturated and/or inundated such that they support a predominance of wetland indicator plants.

The Project will result in 4,547 sf of permanent alteration to the BVW but will replace 5,366 sf so we do not anticipate that the Project will have a significant effect on wildlife habitat. Loam and native plants and seeds will be placed to provide suitable vegetation and more attractive wildlife habitat functions. The split timber rail fence proposed provides openings that facilitate wildlife movement. Adjacent to the project is the MBTA Railroad ROW with an existing chain-link fence to remain.

(c) Notwithstanding the provisions of 310 CMR 10.57(4)(a) ... no project may be permitted which will have any adverse effect on specified wildlife habitat sites for rare vertebrate or invertebrate species, as identified by procedures established under 310 CMR 10.59.

According to mapped habitat identified by the NHESP, no Priority or Estimated habitats exist within the Project area.

5.2 LAND SUBJECT TO COASTAL STORM FLOWAGE

Land Subject to Coastal Storm Flowage (LSCSF) is defined in 310 CMR 10.04 means land subject to any inundation caused by coastal storms up to and including that caused by the 100-year storm, surge of record or storm of record, whichever is greater.

Massachusetts Department of Environmental Protection (MassDEP) does not currently have performance standards for Land Subject to Coastal Storm Flowage (LSCF) defined under Section 310 CMR 10.00 of the Wetlands Protection Act.

Impacts to the LSCSF could not be avoided in order to connect the trail to the existing Encore Riverwalk path. If the project stopped at the flood plain, a 75-foot gap would be present between the two shared use paths, which each connect to an impressive network of walking and bicycling paths.

Since most of the work proposed in this area is landscaping with minimal fill, it is not anticipated that the Project will have adverse effects on the LSCSF.

6.0 Mitigation Measures

6.1 SEDIMENT BARRIERS

Stormwater discharges during construction will be managed in accordance with a Stormwater Pollution Prevention Plan ("SWPPP") prepared in accordance with the U.S. Environmental Protection Agency NPDES Stormwater Construction General Permit for Massachusetts. A copy of the SWPPP will be provided to the Commission prior to the start of construction. Implementation of the SWPPP will incorporate sedimentation and erosion control measures and other BMPs. Siltation barriers composed of silt fencing will be installed as shown on the Plans prior to the initiation of proposed work. These siltation barriers will demarcate the limit of work, form a work envelope and provide additional assurance that construction equipment will stay within the proposed limit of work. All barriers will remain in place until disturbed areas are stabilized. An adequate stockpile of erosion control materials will be onsite at all times for emergency or routine replacement. Orange construction fencing will also be utilized to demarcate the limit of work in select locations.

6.2 LANDSCAPE MITIGATION

Impacts to the existing landscaped areas will occur as a result of the construction of the shared use path, including fill and retaining walls. Landscape mitigation will include the planting of new native deciduous shade trees, control and the removal of invasive species, and aeration of soil compacted during construction.

The planting plans on Sheets 20 and 21 in Attachment G propose to plant trees in replication areas. Given wetlands conditions, the approach is to mimic the existing vegetation communities which are



emergent marsh and shrubs, so tree mitigation will be at less than a 1:1 ratio, given the design intent to create wetland that mimics the existing wetland. That being said, the trees being removed are non-native and invasive.

6.3 WETLAND REPLICATION

The project proposes mitigating wetland alterations by providing wetland replication areas exceeded a 1:1 replacement to impact ratio. As shown in **Table 2** in Section 4.0, the permanent impacts to the wetlands total 4,547 square feet. Wetland replication will total 5,547 square feet.

These replication areas can be seen on the Wetland Impact Area plans found in **Attachment F** and a detailed wetland replication plan can be found in **Attachment G**. This plan was completed by a

Table 2.Wetland Replication Areas

Wetland Replication Areas					
Area # 1 2 TOTAL					
Square Footage	1,415 SF	4,132 SF	5,547 SF		

6.4 BOARDWALK CONSTRUCTION

The shared use path must cross over a large wetland in order to connect path users from the existing trail terminus to the Gateway Shopping Center. Building the path in the traditional manner would have required a depth of 4 to 5 feet be filled for approximately 4,000 square feet. This would have resulted in a tremendous volumetric loss to the wetlands in this area.

In order to mitigate these effects, a boardwalk is being constructed to prevent filling in the wetlands. The length of the boardwalk was determined by a structural engineer based on the distance required to bridge the "gap" created by the lower wetlands, as well as suitable abutment locations. Boardwalk details are included in the plan set found in **Attachment F**, as well as an access plan to ensure that construction equipment will not damage the wetlands. Contractors will follow the Stormwater Pollution Prevention Plan ("SWPPP"). Temporary impacts to construct the boardwalk are shown in the permit drawings.



7.0 Conclusions

The information contained in this NOI describes the site, proposed work and the effect of said work on the interests identified in the WPA and further demonstrates that the project can be constructed in accordance with the applicable performance standards for the affected wetland resource areas. A clear limit of work line has been provided on the included Plans and appropriate sedimentation and erosion control measures and other BMPs will be employed by the site contractor to avoid impacts to wetland resource areas during construction. The Applicant therefore respectfully requests that the commission issue an Order of Conditions approving the Project with appropriate conditions to protect the interests identified in M.G.L. c. 131 §40.



Attachment B: Figures and Environmental Maps



Figure 1. **Project Locus**





NOTICE OF INTENT Northern Strand Community Trail Extension June 2020

Figure 2. USGS Map





Figure 3. **NHESP Map**





NOTICE OF INTENT Northern Strand Community Trail Extension June 2020

Figure 4. **FEMA Map**





Attachment C: Site Photos





Photo 1 – Future tie-in point to the existing Encore Riverwalk at the southern end of the trail extension.



Photo 2 – Wetland resource area adjacent to the future trail, to be built along the back of the parking lot.





Photo 3 – Wetland resource areas seen at the bottom of the slope behind the parking lot.



Photo 4 – The future path will be built in front of this wall into the parking lot to avoid wetlands impacts.





Photos 5 and 6 – South approach to the boardwalk where the trail will be built between a detention basin to the left and a wetland to the right. Fall and early Spring are shown in the photos, respectively.



 $Photo \ 7-A \ boardwalk \ will \ be \ built \ over \ the \ wetland \ resource \ area \ that \ is \ shown.$



Attachment D: Wetland Delineation Data Forms

MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Prepared by: Green Intl. Affiliates Project Location: Everett DEP File #:

Check all that apply:

□ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only

☑ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II

□ Method other than dominance test used (attach additional information)

Section I.

Applicant:

		Observation Plot Number:	U	Transect #:	A9	Date:	11/1/2017
	Common Name	Scientific Name	Percent Cover	Percent Dominance	Dominant Plant?	Wetland Indicator Plant?	Wetland Indicator Category
Ground	REED,COMMON*	Phragmites australis	20.5	100	YES	YES	FACW
	OAK,NORTHERN RED	Quercus rubra	20.5	21	YES	NO	FACU-
Shrub	SUMAC, STAGHORN	Rhus typhina	38	39	YES	NO	NI
	ASPEN, QUAKING	Populus tremula	38	39	YES	NO	FACU

FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk

Vegetation conclusion:

Number of dominant wetland indicator plants:	1	Number of dominant non-wetland indicator plants:	3
Is the number of dominant wetland plants equal to or greater th	an the number of	dominant non-wetland plants?	NO

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent

Upland @ A9

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soli Survey		
Is there a published soil	I survey for this site?	yes
Title/date:	Norfolk and Suffolk Counties (MA616), 2	2013-2016
Map number:	Access	ed via GIS
Soil type mapped:	655-Udorthents, wet	subtratum
Hydric soil inclusions:	Freetown	, Swansea

Are field observations consistent with soil survey? Yes

Remarks:

2. Soil Description

Horizon	Depth	Color	Redox
HTM			-

Remarks:

3. Other:

Conclusion: Is soil hydric? No

Other Indicators of Hydrology: (check all that apply & describe)

□ Site Inundated:

- Depth to free water in observation hole:
- Depth to soil saturation in observation hole:
- □ Water marks:
- □ Drift lines:
- □ Sediment Deposits:
- □ Drainage patterns in BVW:
- □ Oxidized rhizospheres:
- □ Water-stained leaves:
- □ Recorded Data (streams, lake, or tidal gauge; aerial photo):
- \Box Other:

Vegetation & Hydrology Conclusion				
	YES	NO		
Number of wetland indicator plants ≥ # of non-wetland indicator plants				
Wetland hydrology present Hydric soil Other indicators of hydrology		N		
Sample location is in a BVW	NC)		

MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Prepared by: Green Intl. Affiliates Project Location: Everett DEP File #:

Check all that apply:

□ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only

☑ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II

□ Method other than dominance test used (attach additional information)

Section I.

Applicant:

		Observation Plot Number:	U	Transect #:	A9	Date:	11/1/2017
	Common Name	Scientific Name	Percent Cover	Percent Dominance	Dominant Plant?	Wetland Indicator Plant?	Wetland Indicator Category
Ground	REED,COMMON*	Phragmites australis	20.5	100	YES	YES	FACW
	OAK,NORTHERN RED	Quercus rubra	20.5	21	YES	NO	FACU-
Shrub	SUMAC, STAGHORN	Rhus typhina	38	39	YES	NO	NI
	ASPEN, QUAKING	Populus tremula	38	39	YES	NO	FACU

FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk

Vegetation conclusion:

Number of dominant wetland indicator plants:	1	Number of dominant non-wetland indicator plants:	3
Is the number of dominant wetland plants equal to or greater than	n the number of	dominant non-wetland plants?	NO

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent

Upland @ A9

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soll Survey	
Is there a published soi	I survey for this site? yes
Title/date:	Norfolk and Suffolk Counties (MA616), 2013-2016
Map number:	Accessed via GIS
Soil type mapped:	655-Udorthents, wet subtratum
Hydric soil inclusions:	Freetown, Swansea

Are field observations consistent with soil survey? Yes

Remarks:

2. Soil Description

Horizon	Depth	Color	Redox
HTM	0-20	Mixed	-

Remarks:

3. Other:

Conclusion: Is soil hydric? No

Other Indicators of Hydrology: (check all that apply & describe)

□ Site Inundated:

- Depth to free water in observation hole:
- □ Depth to soil saturation in observation hole:
- □ Water marks:
- □ Drift lines:
- □ Sediment Deposits:
- □ Drainage patterns in BVW:
- □ Oxidized rhizospheres:
- □ Water-stained leaves:
- □ Recorded Data (streams, lake, or tidal gauge; aerial photo):
- □ Other:

Vegetation & Hydrology Conclusion				
	YES	NO		
Number of wetland indicator plants ≥ # of non-wetland indicator plants				
Wetland hydrology present Hydric soil Other indicators of hydrology		N N		
Sample location is in a BVW	NC)		

MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant:

Prepared by: Ecosystem Solutions Project Location: MBTA Everett DEP File #:

Check all that apply:

□ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only

☑ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II

□ Method other than dominance test used (attach additional information)

Section I.

		Observation Plot Number:	U	Transect #:	B8	Date:	12/17/2018
	Common Name	Scientific Name	Percent Cover	Percent Dominance	Dominant Plant?	Wetland Indicator Plant?	Wetland Indicator Category
pun	KNOTWEED, JAPANESE	Polygonum cuspidatum	10.5	50	YES	NO	FACU-
Gro	REED,COMMON*	Phragmites australis	10.5	50	YES	YES	FACW
Shrub	BUCKTHORN,GLOSSY*	Rhamnus frangula	10.5	100	YES	YES	FAC
Tree	ASH,WHITE	Fraxinus americana	20.5	66	YES	NO	FACU
	TREE-OF-HEAVEN	Ailanthus altissima	10.5	34	YES	NO	NI

FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk

Vegetation conclusion:			
Number of dominant wetland indicator plants:	2	Number of dominant non-wetland indicator plants:	3
Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants?			NO

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent
Upland @ B8

Section II. Indicators of Hydrology

Hydric Soil Interpretation	
1. Soil Survey	
Is there a published soil survey for this site?	yes
Title/date:	Middlesex County (MA017), 2016
Map number:	Accessed via GIS
Soil type mapped:	655 - Udorthents, wet subtratum
Hydric soil inclusions:	Freetown, Swansea

Are field observations consistent with soil survey?Yes

Remarks:

2. Soil Description

Horizon	Depth	Color	Redox
HTM	0-20	mixed	none

Remarks:

3. Other:

Conclusion: Is soil hydric? No

- □ Site Inundated:
- Depth to free water in observation hole:
- Depth to soil saturation in observation hole:
- □ Water marks:
- □ Drift lines:
- □ Sediment Deposits:
- □ Drainage patterns in BVW:
- □ Oxidized rhizospheres:
- □ Water-stained leaves:
- □ Recorded Data (streams, lake, or tidal gauge; aerial photo):
- □ Other:

Vegetation & Hydrology Conclusion				
	YES	NO		
Number of wetland indicator plants ≥ # of non-wetland indicator plants				
Wetland hydrology present Hydric soil Other indicators of hydrology		<u>ସ</u>		
Sample location is in a BVW	NC)		

Applicant:

Prepared by: Ecosystem Solutions Project Location: MBTA Everett DEP File #:

Check all that apply:

□ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only

☑ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II

□ Method other than dominance test used (attach additional information)

Section I.

			Observation Plot Number:	w	Transect #:	B8	Date:	12/17/2018
		Common Name	Scientific Name	Percent Cover	Percent Dominance	Dominant Plant?	Wetland Indicator Plant?	Wetland Indicator Category
Cround		REED,COMMON*	Phragmites australis	98	100	YES	YES	FACW

FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk

Vegetation conclusion:			
Number of dominant wetland indicator plants:	1	Number of dominant non-wetland indicator plants:	0
Is the number of dominant wetland plants equal to or greater than t	the number o	f dominant non-wetland plants?	YES

Wetland @ B8

Section II. Indicators of Hydrology

Hydric Soil Interpretation	
1. Soil Survey	
Is there a published soil survey for this site?	yes
Title/date:	Middlesex County (MA017), 2016
Map number:	Accessed via GIS
Soil type mapped:	655 - Udorthents, wet subtratum
Hydric soil inclusions:	Freetown, Swansea

Are field observations consistent with soil survey? Yes

Remarks:

2. Soil Description

Horizon	Depth	Color	Redox
Α	0-20	10YR3/2	-
Bg	20+	10YR5/1	-

Remarks:

3. Other:

Conclusion: Is soil hydric? Yes

- □ Site Inundated:
- Depth to free water in observation hole:
- Depth to soil saturation in observation hole:
- □ Water marks:
- □ Drift lines:
- □ Sediment Deposits:
- □ Drainage patterns in BVW:
- ☑ Oxidized rhizospheres:
- □ Water-stained leaves:
- □ Recorded Data (streams, lake, or tidal gauge; aerial photo):
- □ Other:

Vegetation & Hydrology Conclusion			
	YES	NO	
Number of wetland indicator plants ≥ # of non-wetland indicator plants			
Wetland hydrology present Hydric soil Other indicators of hydrology	N N		
Sample location is in a BVW	YE	S	

Applicant:

DEP File #: Prepared by: Ecosystem Solutions Project Location: MBTA Everett

Check all that apply:

□ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only

☑ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II

□ Method other than dominance test used (attach additional information)

Section I.

		Observation Plot Number:	U	Transect #:	C16	Date:	12/17/2018
	Common Name	Scientific Name	Percent Cover	Percent Dominance	Dominant Plant?	Wetland Indicator Plant?	Wetland Indicator Category
pun	GOLDEN-ROD,WRINKLED*	Solidago rugosa	20.5	66	YES	YES	FAC
Gro	REED,COMMON*	Phragmites australis	10.5	34	YES	YES	FACW
	SUMAC, STAGHORN	Rhus typhina	20.5	23	YES	NO	NI
qŋ	TREE-OF-HEAVEN	Ailanthus altissima	38	42	YES	NO	NI
Shi	CHERRY,BLACK	Prunus serotina	20.5	23	YES	NO	FACU
	BUCKTHORN,GLOSSY*	Rhamnus frangula	10.5	12	NO	YES	FAC
ee	TREE-OF-HEAVEN	Ailanthus altissima	38	65	YES	NO	NI
Ĕ	CHERRY,BLACK	Prunus serotina	20.5	35	YES	NO	FACU

FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk

Vegetation conclusion:			
Number of dominant wetland indicator plants:	2	Number of dominant non-wetland indicator plants:	5
Is the number of dominant wetland plants equal to or greater than t	he number o	f dominant non-wetland plants?	NO

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants?

Upland @ C16

Section II. Indicators of Hydrology

Hydric Soil Interpretation	
1. Soil Survey	
Is there a published soil survey for this site?	yes
Title/date:	Middlesex County (MA017), 2016
Map number:	Accessed via GIS
Soil type mapped:	655 - Udorthents, wet subtratum
Hydric soil inclusions:	Freetown, Swansea

Are field observations consistent with soil survey?Yes

Remarks:

2. Soil Description

Horizon	Depth	Color	Redox
HTM1	0-3	10YR3/1	-
HTM2	3-8	10YR4/2	-
HTM3	8-12	2.5Y5/3	-
Ab1	12-18	10YR3/2	-
Ab2	18-20	10YR3/2	2.5Y6/2 ; 10YR5/6

Remarks:

3. Other:

Conclusion: Is soil hydric? No

- □ Site Inundated:
- Depth to free water in observation hole:
- Depth to soil saturation in observation hole:
- □ Water marks:
- □ Drift lines:
- □ Sediment Deposits:
- □ Drainage patterns in BVW:
- □ Oxidized rhizospheres:
- □ Water-stained leaves:
- □ Recorded Data (streams, lake, or tidal gauge; aerial photo):
- □ Other:

Vegetation & Hydrology Conclusion				
	YES	NO		
Number of wetland indicator plants ≥ # of non-wetland indicator plants		V		
Wetland hydrology present Hydric soil Other indicators of hydrology		<u>ସ</u>		
Sample location is in a BVW	NC			

Applicant:

Prepared by: Ecosystem Solutions Project Location: MBTA Everett DEP File #:

YES

Check all that apply:

□ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only

☑ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II

□ Method other than dominance test used (attach additional information)

Section I.

		Observation Plot Number:	W	Transect #:	C16	Date:	12/17/2018
	Common Name	Scientific Name	Percent Cover	Percent Dominance	Dominant Plant?	Wetland Indicator Plant?	Wetland Indicator Category
Ground	REED,COMMON*	Phragmites australis	98	100	YES	YES	FACW
Shrub	SUMAC, STAGHORN	Rhus typhina	10.5	100	YES	NO	NI

FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk

Vegetation conclusion:

Number of dominant wetland indicator plants:	1	Number of dominant non-wetland indicator plants:	1

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants?

Wetland @ C16

Section II. Indicators of Hydrology

Hydric Soil Interpretation1. Soil SurveyIs there a published soil survey for this site?Title/date:Middlesex County (MA017), 2016Map number:Soil type mapped:Soil type mapped:Hydric soil inclusions:Freetown, Swansea

Are field observations consistent with soil survey? Yes

Remarks:

2. Soil Description

Horizon	Depth	Color	Redox
Oe	2-0	10YR2/1	-
A1	0-8	2.5Y3/1	2.5Y6/1
A2	8-18	2.5Y4/1	2.5Y6/1 ; 7.5YR4/6
Bg	18-20	2.5Y6/1	7.5YR4/6

Remarks:

3. Other:

Conclusion: Is soil hydric? Yes

- ☑ Site Inundated: standing water within 20'
- Depth to free water in observation hole:
- Depth to soil saturation in observation hole:
- □ Water marks:
- □ Drift lines:
- □ Sediment Deposits:
- □ Drainage patterns in BVW:
- ☑ Oxidized rhizospheres:
- ☑ Water-stained leaves:
- □ Recorded Data (streams, lake, or tidal gauge; aerial photo):
- □ Other:

Vegetation & Hydrology Conclusion				
	YES	NO		
Number of wetland indicator plants ≥ # of non-wetland indicator plants				
Wetland hydrology present Hydric soil Other indicators of hydrology	<u>N</u>			
Sample location is in a BVW	YE	S		

Applicant:

DEP File #: Prepared by: Ecosystem Solutions Project Location: MBTA Everett

Check all that apply:

□ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only

☑ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II

□ Method other than dominance test used (attach additional information)

Section I.

		Observation Plot Number:	U	Transect #:	D14	Date:	12/17/2018
	Common Name	Scientific Name	Percent Cover	Percent Dominance	Dominant Plant?	Wetland Indicator Plant?	Wetland Indicator Category
q	KNOTWEED, JAPANESE	Polygonum cuspidatum	20.5	49	YES	NO	FACU-
Groune	MUSTARD,GARLIC	Alliaria petiolata	10.5	25	YES	NO	FACU-
	HORSETAIL,FIELD*	Equisetum arvense	10.5	25	YES	YES	FAC
Shrub	BUCKTHORN,GLOSSY*	Rhamnus frangula	20.5	40	YES	YES	FAC
	BIRCH,SWEET	Betula lenta	10.5	20	YES	NO	FACU
	TREE-OF-HEAVEN	Ailanthus altissima	20.5	40	YES	NO	NI
ee	TREE-OF-HEAVEN	Ailanthus altissima	63	75	YES	NO	NI
Ĕ	BIRCH,SWEET	Betula lenta	20.5	25	YES	NO	FACU

FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk

Vegetation conclusion:			
Number of dominant wetland indicator plants:	2	Number of dominant non-wetland indicator plants:	6
Is the number of dominant wetland plants equal to or greater than t	the number o [,]	f dominant non-wetland plants?	NO

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants?

Upland @ D14

Section II. Indicators of Hydrology

Hydric Soil Interpretation	
1. Soil Survey	
Is there a published soil survey for this site?	yes
Title/date:	Middlesex County (MA017), 2016
Map number:	Accessed via GIS
Soil type mapped:	655 - Udorthents, wet subtratum
Hydric soil inclusions:	Freetown, Swansea

Are field observations consistent with soil survey?Yes

Remarks:

2. Soil Description

Horizon	Depth	Color	Redox
A1	0-9	10YR3/1	-
A2	9-18	2.5Y4/2	10YR4/4
Cr	18	refusal	

Remarks:

3. Other:

Conclusion: Is soil hydric? No

- □ Site Inundated:
- Depth to free water in observation hole:
- Depth to soil saturation in observation hole:
- □ Water marks:
- □ Drift lines:
- □ Sediment Deposits:
- □ Drainage patterns in BVW:
- □ Oxidized rhizospheres:
- □ Water-stained leaves:
- □ Recorded Data (streams, lake, or tidal gauge; aerial photo):
- □ Other:

Vegetation & Hydrology Conclusion				
	YES	NO		
Number of wetland indicator plants ≥ # of non-wetland indicator plants				
Wetland hydrology present Hydric soil Other indicators of hydrology		ম		
Sample location is in a BVW	NC			

Applicant:

Prepared by: Ecosystem Solutions Project Location: MBTA Everett DEP File #:

Check all that apply:

□ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only

☑ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II

□ Method other than dominance test used (attach additional information)

Section I.

		Observation Plot Number:	W	Transect #:	D14	Date:	12/17/2018
	Common Name	Scientific Name	Percent Cover	Percent Dominance	Dominant Plant?	Wetland Indicator Plant?	Wetland Indicator Category
Ground	REED,COMMON*	Phragmites australis	98	100	YES	YES	FACW
Shrub	SUMAC, STAGHORN	Rhus typhina	10.5	100	YES	NO	NI

FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk

Vegetation conclusion:

Number of dominant wetland indicator plants: 1

Number of dominant non-wetland indicator plants:

1

YES

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants?

Wetland @ D14

Section II. Indicators of Hydrology

Hydric Soil Interpretation	
1. Soil Survey	
Is there a published soil survey for this site?	yes
Title/date:	Middlesex County (MA017), 2016
Map number:	Accessed via GIS
Soil type mapped:	655 - Udorthents, wet subtratum
Hydric soil inclusions:	Freetown, Swansea

Are field observations consistent with soil survey? Yes

Remarks:

2. Soil Description

Horizon	Depth	Color	Redox
A1	0-9	10YR3/1	-
A2	9-20	10YR3/1	2.5Y6/1;10YR4/4

Remarks:

3. Other:

Conclusion: Is soil hydric? Yes

- ☑ Site Inundated: standing water within 15'
- ☑ Depth to free water in observation hole: 12"
- Depth to soil saturation in observation hole: 10"
- □ Water marks:
- □ Drift lines:
- □ Sediment Deposits:
- □ Drainage patterns in BVW:
- ☑ Oxidized rhizospheres:
- □ Water-stained leaves:
- □ Recorded Data (streams, lake, or tidal gauge; aerial photo):
- □ Other:

Vegetation & Hydrology Conclusion					
	YES	NO			
Number of wetland indicator plants ≥ # of non-wetland indicator plants					
Wetland hydrology present Hydric soil Other indicators of hydrology	<u>N</u>				
Sample location is in a BVW	YE	S			

Applicant:

Prepared by: Ecosystem Solutions Project Location: MBTA Everett DEP File #:

Check all that apply:

□ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only

☑ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II

□ Method other than dominance test used (attach additional information)

Section I.

		Observation Plot Number:	U	Transect #:	E6	Date:	12/17/2018
	Common Name	Scientific Name	Percent Cover	Percent Dominance	Dominant Plant?	Wetland Indicator Plant?	Wetland Indicator Category
pun	GOLDEN-ROD,WRINKLED*	Solidago rugosa	10.5	50	YES	YES	FAC
Gro	KNOTWEED, JAPANESE	Polygonum cuspidatum	10.5	50	YES	NO	FACU-
Shrub	BUCKTHORN,GLOSSY*	Rhamnus frangula	10.5	33	YES	YES	FAC
	SUMAC, STAGHORN	Rhus typhina	10.5	33	YES	NO	NI
	TREE-OF-HEAVEN	Ailanthus altissima	10.5	33	YES	NO	NI
Tree	TREE-OF-HEAVEN	Ailanthus altissima	20.5	100	YES	NO	NI

FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk

Vegetation conclusion:

Number of dominant wetland indicator plants:2Number of dominant non-wetland indicator plants:4

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants?

NO

Upland @ E6

Section II. Indicators of Hydrology

Hydric Soil Interpretation	
1. Soil Survey	
Is there a published soil survey for this site?	yes
Title/date:	Middlesex County (MA017), 2016
Map number:	Accessed via GIS
Soil type mapped:	655 - Udorthents, wet subtratum
Hydric soil inclusions:	Freetown, Swansea

Are field observations consistent with soil survey?Yes

Remarks:

2. Soil Description

Horizon	Depth	Color	Redox
A1	0-8	10YR3/1	-
A2	8-12	2.5Y4/2	-
A2	12-15	2.5Y4/2	10YR4/4
Cr	15	refusal	

Remarks:

3. Other:

Conclusion: Is soil hydric? No

- □ Site Inundated:
- Depth to free water in observation hole:
- Depth to soil saturation in observation hole:
- □ Water marks:
- □ Drift lines:
- □ Sediment Deposits:
- □ Drainage patterns in BVW:
- □ Oxidized rhizospheres:
- □ Water-stained leaves:
- □ Recorded Data (streams, lake, or tidal gauge; aerial photo):
- □ Other:

Vegetation & Hydrology Conclusion					
	YES	NO			
Number of wetland indicator plants ≥ # of non-wetland indicator plants					
Wetland hydrology present Hydric soil Other indicators of hydrology		<u>ସ</u>			
Sample location is in a BVW	NC)			

Applicant:

DEP File #: Prepared by: Ecosystem Solutions Project Location: MBTA Everett

Check all that apply:

□ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only

☑ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II

□ Method other than dominance test used (attach additional information)

Section I.

		Observation Plot Number:	W	Transect #:	E6	Date:	12/17/2018
	Common Name	Scientific Name	Percent Cover	Percent Dominance	Dominant Plant?	Wetland Indicator Plant?	Wetland Indicator Category
Ground	REED,COMMON*	Phragmites australis	85.5	100	YES	YES	FACW
Tree	COTTON-WOOD, EASTERN*	Populus deltoides	20.5	100	YES	YES	FAC

FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk

Vegetation conclusion:

Number of dominant wetland indicator plants:	2	Number of dominant non-wetland indicator plants:	0
Is the number of dominant wetland plants equal to or greater that	an the number c	of dominant non-wetland plants?	YES

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants?

Wetland @ E6

Section II. Indicators of Hydrology

Hydric Soil Interpretation	
1. Soil Survey	
Is there a published soil survey for this site?	yes
Title/date:	Middlesex County (MA017), 2016
Map number:	Accessed via GIS
Soil type mapped:	655 - Udorthents, wet subtratum
Hydric soil inclusions:	Freetown, Swansea

Are field observations consistent with soil survey? Yes

Remarks:

2. Soil Description

Horizon	Depth	Color	Redox
A1	0-12	10YR3/1	-
A2	12-20	10YR3/1	2.5Y6/1;10YR4/4

Remarks:

3. Other:

Conclusion: Is soil hydric? Yes

- □ Site Inundated:
- Depth to free water in observation hole:
- Depth to soil saturation in observation hole:
- □ Water marks:
- □ Drift lines:
- □ Sediment Deposits:
- □ Drainage patterns in BVW:
- □ Oxidized rhizospheres:
- □ Water-stained leaves:
- □ Recorded Data (streams, lake, or tidal gauge; aerial photo):
- □ Other:

Vegetation & Hydrology Conclusion					
	YES	NO			
Number of wetland indicator plants ≥ # of non-wetland indicator plants	Ø				
Wetland hydrology present Hydric soil Other indicators of hydrology					
Sample location is in a BVW	YE	S			



Attachment E: Abutter Notification Information



June 10, 2020

Abutter Everett, MA

Re: Abutter Notification for Notice of Intent (NOI) Northern Strand Community Trail Extension Project

Dear Abutter:

On behalf of the proponent (the City of Everett), for the above referenced projects, Howard Stein Hudson (HSH) is informing you of a public hearing occurring on June 18, 2020 at 7:00p.m. held as a virtual meeting on <u>www.zoom.us/join</u>. The Meeting ID will be posted on the City of Everett's website in the Conservation Commission agenda at the following URL: <u>http://www.cityofeverett.com/AgendaCenter</u>

At this meeting, the Everett Conservation Commission will hear a presentation from HSH regarding the City's proposed construction of a shared use path from the existing terminus at West and Wellington Street to the Encore Riverwalk at the Gateway Shopping Center. The proposed trail extension will be built on a combination of Massachusetts Bay Transportation Authority (MBTA), Department of Conservation (DCR), and SITE Centers' Gateway Shopping Center property. HSH will discuss impacts to adjacent wetlands and mitigation measured proposed in the NOI. The Conservation Committee anticipates voting to approve or deny construction of the trail extension.

The application is on file and is available for public inspection in the Everett Conservation Commission Office. Should you have any questions or require any additional information, I can be reached by phone at (617) 348-3347 or via email at <u>ksousa@hshassoc.com</u>.

Sincerely,

Kayla Sousa Project Manager





Appendix E. Northern Strand Trail Project Abutters Map



CCE: ESRI, DIGITALGLOBE, GEOEYE,EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNIT

AFFIDAVIT OF SERVICE FOR ABUTTER NOTIFICATION

Under the Massachusetts Wetlands Protection Act

(To be submitted to the Massachusetts Department of Environmental Protection)

I, <u>Kayla Sousa, E.I.T.</u>, on behalf of <u>the City of Everett and SITE Centers</u>, hereby certify under the pains and penalties of perjury that on <u>June 10, 2020</u>, I gave Notification to abutters in compliance with second paragraph of Massachusetts General Laws Chapter 131, Section 40 and the DEP Guide to Abutter Notification dated April 8, 1994 in connection with the following matter:

A Notice of Intent filed under the Massachusetts Wetlands Protection Act and City of Everett Code or Ordinances, Title 16-Environment, Chapter 16.04 Wetlands Protection by <u>the City of</u> <u>Everett</u> with the Everett Conservation Commission on <u>June 10, 2020</u> for the property located at <u>16 Mystic View Road in Everett, MA</u>.

The Abutter Notification Letter and the list of abutters to whom it was given and their addresses are attached to this Affidavit of Service.

Maspan

Kayla Sousa, E.I.T.

6/12/2020

Date

NORTHERN STRAND ABUTTER INFORMATION - 100' RADIUS

PARCEL ID	PROPERTY LOCATION	OWNER	MAILING ADDRESS	TOWN	STATE	ZIP
F_773438_2970482	84 BROADWAY	MASS BAY TRANSIT AUTHORITY	84 BROADWAY	EVERETT	MA	2149
F_773708_2971020	3 CHARLTON ST	EVERETT PROPERTY LLC	101 STATION LANDING SUITE 2200	MEDFORD	MA	2155
F_772304_2969270	1 HORIZON WAY	WYNN MA LLC	101 STATION LANDING SUITE 2200	MEDFORD	ma	2155
F_772310_2970667	16 MYSTIC VIEW RD	DDRC GATEWAY LLC	3300 ENTERPRISE PKWY	BEACHWOOD	ОН	44122
F_774245_2972191	31 SPAULDING ST	SIGNORINO SANTO-TR OF	11 NILES LANE	WINCHESTER	MA	1890
F_774191_2972202	35 SPAULDING ST	DEVINCENZO DANTE	35 SPAULDING ST	EVERETT	MA	2149
F_774234_2972255	12 PARK TR	DEVINCENZO DANTE, ROSEMARY TRS	12 PARK TR	EVERETT	MA	2149
F_774225_2972301	16 PARK TR	DEGRAFFENREID OLIVER	16 PARK TR	EVERETT	MA	2149
F_774216_2972370	22 PARK TR	EVANGELICAL CHURCH EMMANUEL	22 PARK TR	EVERETT	MA	2149
F_774195_2972452	0 WEST ST	EVERETT CITY OF	WEST ST	EVERETT	MA	2149
F_774167_2972696	38 CARTER ST	YEZAVIT HENADZ	911 LANGDON ST	Everett	MA	2149
F_773951_2972236	9 PLYMOUTH ST	COSENTINO ANNA, RONALD H TRS	111 LINCOLN ST	NEEDHAM	MA	2192
F_774027_2972409	8 WELLINGTON AV	LAMBERTI P.O.A. GIULIA	8 WELLINGTON AVE	EVERETT	MA	2149
F_774067_2972415	4 WELLINGTON AV	GOIN MICHELANGE A	4 WELLINGTON AV	EVERETT	MA	2149
F_774069_2972519	5 WELLINGTON AV	CHIAMPI FRANK F, JR	5 WELLINGTON AVE	EVERETT	MA	2149
F_774020_2972522	7 WELLINGTON AV	SKIFFINGTON STEVEN S	11 SPRUCE RD	NORTH READING	MA	1864

This list must be verified by the City of Everett. Everett City Hall is closed due to coronavirus at the time of submission, so the GIS data could not be pulled.



Attachment F: NOI Permit Drawings

THE CITY OF EVERETT AND SITE CENTERS CORP. NORTHERN STRAND COMMUNITY TRAIL EXTENSION NOTICE OF INTENT PERMIT SET MIDDLESEX COUNTY

SHEET NO.

<u>EET NO.</u>	DESCRIPTION
1	TITLE SHEET & INDEX
2	GENERAL NOTES & LEGEND
3	TYPICAL SECTIONS
4-7	CONSTRUCTION PLANS
8-14	PROFILE AND GRADING PLANS
15-19	ENVIRONMENTAL IMPACT PLANS
20-21	WETLAND REPLICATION PLANS
22	LANDSCAPING DETAILS
23	CONSTRUCTION DETAILS
24-27	BOARDWALK DETAILS
28	RETAINING WALL DETAILS
29	CRITICAL CROSS SECTIONS

INDEX

6/26/2020 L:\16012\CURRENT\CUTSHEETS\NOI SET\16012[TITLE]NOI.dw





EVERETT NORTHERN STRAND COMMUNITY TRAIL EXTENSION

DATE	HSH PROJECT NO.	SHEET NO.	TOTAL SHEETS
6/11/20	2016012.01	1	29

TITLE SHEET & INDEX

JUNE 2020 PERMIT SET - NOT FOR CONSTRUCTION



SITE Centers 3300 Enterprise Pkwy Beachwood, OH 44122 216-755-5870





City of Everett 484 Broadway Everett, MA 02149 617-394-2270

GENERAL NOTES SURVEY

- THIS PLAN IS BASED ON AN ON-THE-GROUND SURVEY PERFORMED BY GREEN INTERNATIONAL AFFILIATES. INC BETWEEN AUGUST 2017 AND APRIL 2018.
- 2. THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION.
- BENCHMARK INFORMATION: 3 SEE CONSTRUCTION BASELINE TIES SHEETS 7-13 FOR BENCHMARK INFORMATION AND LOCATIONS.
- EXISTING UTILITIES, WHERE SHOWN HEREON, ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY LOCATING AND COORDINATING ANY ON-SITE ACTIVITY WITH DIG-SAFE AND THE APPROPRIATE UTILITY COMPANY AND MAINTAINING EXISTING UTILITY SYSTEM SERVICE. DIG-SAFE SHALL BE NOTIFIED PER THE COMMONWEALTH OF MASSACHUSETTS STATUTE CHAPTER 82, SECTION 40, AT 1-888-344-7233. NO GUARANTEE IS IMPLIED OR INTENDED AS TO THE ACCURACY, LOCATION OR THAT ALL UTILITIES AND/OR SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION AND INVERTS OR UTILITIES AND STRUCTURES AS REQUIRED PRIOR TO THE START OF CONSTRUCTION

UTILITIES

- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
- THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION 2. AND ADJUSTMENT OF ELECTRIC, TELEPHONE, AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES AT NO ADDITIONAL COST TO THE OWNER. IF THE CONTRACTOR ADJUSTS UTILITY COVERS IT SHALL BE DEEMED PART OF THE WORK AND THERE WILL BE NO ADDITIONAL COMPENSATION.
- THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE NECESSITY OF MAKING 3 HIS OWN INVESTIGATION IN ORDER TO ASSURE THAT NO DAMAGE TO EXISTING STRUCTURES, DRAINAGE LINES, TRAFFIC SIGNAL CONDUITS, ETCETERA, WILL OCCUR.
- THE CONTRACTOR SHALL NOTIFY MASSACHUSETTS DIG SAFE AND PROCURE A DIG SAFE NUMBER FOR EACH LOCATION PRIOR TO DISTURBING EXISTING GROUND IN ANY WAY.
- NO EXISTING PUBLIC UTILITY STRUCTURES SHALL BE ABANDONED AND/OR DISMANTLED WITHOUT AUTHORIZATION FROM THE ENGINEER.
- DRAINAGE ELEVATIONS ARE PROVIDED FOR DESIGN PURPOSE ONLY. THE 6. CONTRACTOR SHALL VERIFY BY TEST PIT, THE LOCATIONS OF EXISTING UTILITIES WHICH MAY CONFLICT WITH THE PROPOSED DRAINAGE DESIGN. ANY FIELD ADJUSTMENTS REQUIRED WILL BE MADE AS APPROVED OR DIRECTED BY THE ENGINEER. ONLY AFTER THE CONTRACTOR VERIFIES ELEVATIONS FOR THE CONSTRUCTABILITY OF THE DRAINAGE SYSTEM SHALL ANY STRUCTURES BE ORDERED. ANY FIELD ADJUSTMENT TO LINE AND GRADE UP TO A DEPTH OF 5 FEET SHALL BE INCLUDED IN THE COST OF THE PIPE. PIPE EXCAVATION GREATER THAN 5 FEET WILL BE PAID UNDER CLASS B TRENCH EXCAVATION.

CONSTRUCTION

- AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DAMAGED BY THE CONTRACTOR'S OPERATIONS, INCLUDING STAGING AREAS, SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR IS HEREBY NOTIFIED THAT ADDITIONAL WORK WITHIN THE 2. PROJECT LIMITS MAY BE PERFORMED BY OTHERS.
- JOINTS BETWEEN NEW HOT MIX ASPHALT, ROADWAY PAVEMENT, AND THE 3. LOCATIONS OF SAW CUT FOR EXISTING PAVEMENT SHALL BE SEALED WITH HMA JOINT SEALANT AND BACKSANDED.
- ALL GRADING SHALL COMPLY WITH THE RULES AND REGULATIONS OF THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (MAAB) AND THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES (ADAAG), LATEST EDITION. IN CASE OF CONFLICT BETWEEN REGULATIONS, THE GUIDELINE PROVIDING GREATER ACCESS SHALL APPLY. WHEELCHAIR RAMP INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE MASSDOT WHEELCHAIR RAMP STANDARDS-LATEST EDITION AND THE PLANS.
- WHERE THE NEW CONSTRUCTION IS WITHIN THE EXISTING TRAVELED WAY, THE CONTRACTOR SHALL PERFORM WORK SO THAT INTERFERENCE TO BUSINESS CONCERNS AND ABUTTERS, ON ACCOUNT OF THE CONSTRUCTION WORK, IS KEPT TO A MINIMUM. THE CONTRACTOR WILL NOT BE ALLOWED TO PARK EQUIPMENT. OR STOCKPILE MATERIAL ON THE TRAVELED WAYS OVERNIGHT OR WHEN NOT IN USE. THE CONTRACTOR SHALL MAINTAIN SAFE AND REASONABLE ACCESS TO AND FROM ABUTTING PROPERTIES AT ALL TIMES AT NO ADDITIONAL COST.
- THE CONTRACTOR SHALL DISPOSE OF ALL WASTE MATERIAL IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS AT THEIR OWN EXPENSE. OUTSIDE OF THE PROJECT LIMITS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR INVESTIGATING AND CONFIRMING THAT ALL ITEMS TO BE REUSED ARE IN SERVICEABLE CONDITION. IF IT IS DEEMED THAT ANY ITEM IS NOT ABLE TO BE REUSED. THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING AND INCLUDE ESTIMATED COSTS TO INSTALL NEW.

CONSTRUCTION (CON'T)

AREA.

SOIL CONDITIONS ARE ASSUMED BASED ON REVIEW OF AVAILABLE DOCUMENTS OBTAINED THROUGH THE MASSDEP BUREAU OF WASTE SITE CLEANUP AND CONCEPTUAL PLANS FOR SITE REDEVELOPMENT. ANTICIPATED THICKNESS OF FILL OVERLYING THE INSTALLED GEOTEXTILE MARKER LAYER IS ASSUMED TO BE A MINIMUM OF 3' AS PER THE AUL FILINGS AND ASSOCIATED REPORTS. SURFICIAL FILL THICKNESS IN TRANSITION ZONES AT THE BOUNDARIES OF THE AUL AREAS MAY VARY. ACTUAL THICKNESS WILL BE CONFIRMED PRIOR TO COMPLETION OF FINAL DESIGN.

FOR WORK ON THE GATEWAY CENTERS PROPERTY, THE CONTRACTOR MUST ADHERE TO THE PROPERTY RESTRICTION SUMMARY INCLUDED IN THE SPECIAL PROVISIONS RELATED TO THE THREE AULS ON THE PROPERTY. THERE IS A HORIZONTAL MARKER LAYER ON THE GATEWAY CENTER PROPERTY, WHICH IS A COMBINATION OF GEOTEXTILE FABRIC, ASPHALT AND/OR CONCRETE SEPARATING REMEDIATED SOIL FROM CLEAN FILL. THE APPROXIMATE LOCATION OF THIS BOUNDARY IS MARKED ON THE PLANS USING RECORD SITE PLANS. THE CONTRACTOR MUST CONFIRM WITH THE LSP BEFORE PERFORMING ANY EXCAVATION ACTIVITIES IN THIS

ABBREVIATIONS

<u>GENERAL</u>	
ADJ	ADJUST
APPROX.	APPROXIMATE
AUL	ACTIVITY USE LIMITATION
BL	BASELINE
BLDG	BUILDING
BO	BY OTHERS
СВ	CATCH BASIN
CEM	CEMENT
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CONC	CONCRETE
CONST	CONSTRUCTION
DIA	DIAMETER
ELEV (or EL.)	ELEVATION
EOP	EDGE OF PAVEMENT
EXIST (or EX)	EXISTING
FDN.	FOUNDATION
GD	GROUND
GG	GAS GATE
GRD	GUARD
HMA	
חזט ו	
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
NO.	NUMBER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PED	PEDESTRIAN
P.G.L.	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
POC	POINT ON CURVE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE
PROP	PROPOSED
R	
R&D	REMOVE AND DISPOSE
RCP	REINFORCED CONCRETE PIPE
REM	REMOVE
RET	RETAIN
RET WALL	RETAINING WALL
ROW	RIGHT OF WAY
RR	RAILROAD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RT	RIGHT
SHLD	SHOULDER
SMH	SEWER MANHOLE
STA	
SHLU	
Зvv Т	
TC	TOP OF CURB
TYP	TYPICAL
UP	UTILITY POLE
VAR	VARIES
VERT	VERTICAL
WCR	WHEEL CHAIR RAMP
WG	WATER GATE
X-SECT	CROSS SECTION

GENERAL SYMBOLS

-		
EXISTING	PROPOSED	
JB	JB	JERSEY BARRIER
Ш 🕀 🏛 СВ	СВ СВ	CATCH BASIN
		CATCH BASIN CURB
□ MB	D MB	MAIL BOX
		POST SQUARE
⊕ WELL		
O GG	0 66	GAS GATE
• BHL #	BHL #	BORING HOLE
↔ MW <i>#</i>	- ⊕ MW #	MONITORING WELL
TP #	. TP #	TEST PIT
\sim		HYDRANT
\star	*	LIGHT POLE
□ CO.BD.		COUNTY BOUND
	0	GPS POINT
	6	DRAINAGE MANHOL
	(E) (A)	GAS MANHOLE
(M)	e M	MISC MANHOLE
S	S	SEWER MANHOLE
	Ō	TELEPHONE MANH
W	W	WATER MANHOLE
MHB	■ MHB	MASSACHUSETTS H
D MON		MONUMENT
□ SB		STONE BOUND
■ IB		
-o TPL or GUY		
• HTP		TRANSMISSION POL
-6- UFB	- d - UFB	UTILITY POLE W/ FIF
-{- UPDL		UTILITY POLE WITH
δ ULT	- 6 - ULT	UTILITY POLE W / 1 I
UPL	-•- UPL	UTILITY POLE
0		BUSH
•SIZE & TYPE		TREE
\bigcirc		STUMP
- WC		
• PM	• PM	PARKING METER
		· OVERHEAD CABLE/
		CURBING
<u> </u>		· CONTOURS (ON-THI
<u> </u>		CONTOURS (PHOTC
		UNDERGROUND SE
		UNDERGROUND TEI
		UNDERGROUND WA
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	PREFABRICATED RE
<u> </u>	<del></del>	GUARD RAIL - STEE
	<u> </u>	- GUARD RAIL - WOOI
X	x	- CHAIN LINK OR MET
	. [	· HAY BALES/SILT FE
		TREE LINE
		- SAWCUT LINE
		- TOP OR BOTTOM OF
		LIMIT OF EDGE OF F
		BANK OF RIVER OR
		BORDER OF WEILA
		APPROX. AUL MARK
		- STATE HIGHWAY LA
		- TOWN OR CITY LAY
		- COUNTY LAYOUT
		-RAILROAD SIDELINE
		TOWN OR CITY BOU
P		PROPERTY LINE OR
		PROPOSED WHEEL
	/#\	PROPOSED DRIVEW
	$\overline{\langle \# \rangle}$	PROPOSED CATCH

### PAVEMENT MARKINGS SYMBOLS

EXISTING	PROPOSED	
	SYL	6" SOLID Y

_	EVERETT NORTHERN STRAND COMMUNITY TRAIL EXTENSION			
	DATE	HSH PROJECT NO.	SHEET NO.	TOTA SHEET
	6/11/20	2016012.01	2	29

FOTAL HEETS

**GENERAL NOTES & LEGEND** 

CURB INLET

DESCRIPTION

IDHOLE OST

NHOLE NHOLE

OLE **IANHOLE** OLE

TTS HIGHWAY BOUND

BOUND TRIANGULATION STATION E OR GUY POLE I POLE N/ FIREBOX **WITH DOUBLE LIGHT** N / 1 LIGHT

BLE/WIRE

N-THE-GROUND SURVEY DATA) HOTOGRAMMETRIC DATA) D DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER) D ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER) D GAS MAIN (DOUBLE LINE 24 INCH AND OVER) D SEWER MAIN (DOUBLE LINE 24 INCH AND OVER) D TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER) D WATER MAIN (DOUBLE LINE 24 INCH AND OVER) ED RETAINING WALL STEEL POSTS WOOD POSTS R METAL FENCE

T FENCE

DM OF SLOPE OF PAVEMENT OR COLD PLANE AND OVERLAY R OR STREAM ETLAND ND BUFFER RONT BUFFER MARKER BOUNDARY (SEE CONSTRUCTION NOTE #9) AY LAYOUT LAYOUT UT ELINE BOUNDARY LINE IE OR APPROXIMATE PROPERTY LINE

HEELCHAIR RAMP NUMBER

RIVEWAY NUMBER

TCH BASIN NUMBER

DESCRIPTION

YELLOW LINE



			EVERETT NORTHERN STRAND COMMUNITY TRAIL EXTENSION			
		ſ	DATE	HSH PROJECT NO.	SHEET NO.	TOTAL SHEETS
R (TYP.)		-	6/11/20	2016012.01	3	29
		L			ONS	
	PAVEMENT NOTES	<u> </u>				
	HMA SHARED USE PATH					
	SURFACE COURSE:	1.5" SUF	PERPAVE	SURFACE COURS	SE 9.5 (	SSC-9.5)
	INTERMEDIATE COURSE:	2.5" SUF	PERPAVE	INTERMEDIATE C	OURSI	E 19.0 (SIC-19.0)
ING TH	SUB-BASE:	8" GRAVEL BORROW TYPE B 24" SPECIAL BORROW (SEE NOTE BELOW)				
	NOTES: SUB-BASE SHALL BE 8" GRAVEL BORROW OVER 24" MINIMUM SPECIAL BORROW AT FILL SECTIONS IN AREAS OF WETLANDS AND OTHER UNSUITABLE MATERIAL IN ACCORDANCE WITH SECTION 150 AND 170 OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.					
	STONE DUST SHOULDER					
	SURFACE :	4" ST		ST OVER WEED C	ONTRO	OL FABRIC
	SUB-BASE:	6" GRAVEL BORROW TYPE B (SEE NOTE UNDER HOT MIX ASPHALT SHARE FOR FILL SECTIONS IN AREAS OF WETL				
	PATH			F WETLANDS).		
	HMA PARKING LOTS & DRIVEWAYS					
	SURFACE COURSE:	1.5" SUF	PERPAVE	SURFACE COURS	SE 9.5 (	SSC-9.5)
	INTERMEDIATE COURSE:	2.5" SUF	PERPAVE	E INTERMEDIATE C	OURSI	E 12.5 (SIC-12.5)
EDGE	SUB-BASE:	8" GRA\ (OR EXI	/EL BORI STING G	ROW TYPE B RAVEL BORROW T	O REM	IAIN)
	FULL DEPTH CONSTRUCTION LESS THAN 4' WIDE					
R R	SURFACE COURSE:	1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5)		SSC-9.5)		
	INTERMEDIATE COURSE:	2.5" SUF	2.5" SUPERPAVE INTERMEDIATE COURSE 19.5 (SIC		E 19.5 (SIC-19.5)	
	SUB-BASE:	6" HES ( 8" GRA\ (OR EXI	CEMENT /EL BORI STING GI	CONCRETE BASE ROW TYPE B RAVEL BORROW T	OVER	IAIN)
	CEMENT CONCRETE WHEELCHAIR RAMPS					
;)	SURFACE COURSE:	4" CEME	ENT CON	CRETE SURFACE	COURS	SE OVER
	SUB-BASE:	8" GRA\	/EL BORI	ROW TYPE B		

NOTI

1. FOR BOARDWALK BETWEEN STA. 25+12 AND STA. 26+44, SEE DETAILS ON SHEETS 24 - 27.

2. FOR PATH WITH PROPOSED RETAINING WALLS BETWEEN STA. 31+15 AND STA. 35+71. SEE DETAILS ON SHEET 28.







(26/2020 L:\16012\CURRENT\CUTSHEETS\NOI SET\16012[CONSTPLAN]NOI.dwg



6/26/2020 L:\16012\CURRENT\CUTSHEETS\NOI SET\16012[CONSTPLAN]NOI


















(26/2020 L:\(16012)CURRENT\CUTSHEETS\NOI SET\(16012)WETLAND]NOI.





EVERETT				
NORTHERN STRAND				
OMMUNITY TRAIL EXTENSION				

DATE	HSH PROJECT NO.	SHEET NO.	TOTAL SHEETS
6/11/20	2016012.01	18	29

ENVIRONMENTAL IMPACT PLANS

/ / / / / / / / / / / / / / / / / / / / / / / /	WETLAND REPLICATION AREA
	TEMPORARY IMPACT TO BORDERING VEGETATED WETLANDS
	PERMANENT IMPACT TO BORDERING VEGETATED WETLANDS



WETLAND REPLICATION AREA
TEMPORARY IMPACT TO BORDERING VEGETATED WETLANDS
PERMANENT IMPACT TO BORDERING VEGETATED WETLANDS

![](_page_76_Figure_0.jpeg)

E	SPACING	TOTAL
Gal 2-3' ht	5' O.C.	12
Plugs	12" O.C.	124
Plugs	12" O.C.	124
Plugs	12" O.C.	124
Plugs	12" O.C.	136
Plugs	12" O.C.	136
Plugs	12" O.C.	136

APPLICATION RATE 1 LB	PER 2500 SQFT	
COMMON NAME	SCIENTIFIC NAME	INDICATOF STATUS
Mud plantain	Alisma subcordatum	OBL
Swamp Milkweed	Asclepias incarnata	OBL
Purple Stemmed Aster	Aster puniceus	OBL
Nodding Bur Marigold	Bidens cernua	OBL
Bristly/Vosmos Sedge	Carex comosa	OBL
Fringed Sedge (Nodding)	Carex crinita	OBL
Hop Sedge	Carex lupulina	OBL
Lurid Sedge	Carex lurida	OBL
Blunt Broom Sedge	Carex scoparia	FACW
Fox Sedge	Carex vulpinoidea	OBL
Boneset	Eupatorium perfoliatum	FACW
Spotted Joe Pyeweed	Eutrochium maculatum	OBL
Rattlesnake Grass	Glyceria canadensis	OBL
American Manna Grass	Glyceria grandis	OBL
Soft Rush	Juncus effusus	OBL
Monkey Flower	Mimulus ringens	OBL
Green Bulrush	Scirpus atrovirens	OBL
Wool Grass	Scirpus cyperinus	OBL
Soft-Stem Bulrush	Schoenoplectus tabernaemontani	OBL
Blue Vervain	Verbena hastata	FACW

8.A DETAILED MONITORING PLAN IS PROVIDED IN THE INLAND WETLAND REPLICATION PLAN NARRATIVE.

![](_page_77_Figure_0.jpeg)

NTS

SPACING	TOTAL
See Plan	6
5' O.C.	6
12" O.C.	132
12" O.C.	132
12" O.C.	132
12" O.C.	189
12" O.C.	189
12" O C	180

## **REPLICATION SEED MIX** NTS

RECOMMENDED TO BE CLEANED PRIOR TO LEAVING THE SITE TO PREVENT THE INTRODUCTION OR OFF-SITE TRANSPORT OF INVASIVE PLANT FRAGMENTS OR SEED.

8.A DETAILED MONITORING PLAN IS PROVIDED IN THE INLAND WETLAND REPLICATION PLAN NARRATIVE.

![](_page_78_Figure_0.jpeg)

![](_page_78_Figure_1.jpeg)

![](_page_78_Figure_2.jpeg)

![](_page_79_Figure_0.jpeg)

TOP COURSE -INTERMEDIATE COURSE · **GRAVEL BASE** (M1.03.0 TYPE 'B')

![](_page_79_Figure_14.jpeg)

![](_page_80_Figure_0.jpeg)

	07.1-7				BOTTOM OF	GROUND	ESTIMATED LENGTH PER	ESTIMATED LENGTH PER	PILE LOCA
LOCATION	STATION	NORTHING	EASTING	PATH EL.	FLOORBEAM EL.	EL.	PILE TYPE A & B (FT)	PILE TYPE C (FT)	
WP1	25+11.66	2971166.77	773374.29	12.86		12.21	-	_	
WP2	25+24.92	2971166.72	773387.55	12.29	-	5.99	_	_	TYPE A -
WP3	25+75.70	2971163.13	773438.21	10.12	_	4.98	_		
FB1	26+43.55	2971166.77	773499.05	12.86	- 11.06	12.21	- 16	_	
FB2	25+18.29	2971166.97	773380.92	12.57	10.78	7.24	21	_	TYPE C - PIER LC
FB3	25+24.92	2971166.72	773387.55	12.29	10.50	5.99	22	23	
FB4 FB5	25+35.08	2971165.28	773407.82	11.86	9.63	5.54	22	_	GENERAL AND MATE
FB6	25+55.39	2971164.57	773417.95	10.99	9.20	5.31	21	23	1. DESIGN IN ACCO
FB7	25+65.54	2971163.85	773428.08	10.55	8.76	5.14	21	_	SPECIFICATION
FB8	25+75.70	2971163.13	773438.21	10.12 0.71	8.33	4.98	20	- 21	2. DESIGN LIVE LO
FB10	25+95.09	2971164.26	773457.50	9.29	7.50	6.06	18		3. ALL CONSTRUC
FB11	26+04.78	2971166.68	773466.88	8.88	7.09	6.94	17	_	
FB12	26+14.47	2971170.29	773475.87	8.46	6.67	9.22	14	16	5. ALL DECKING, R
FB13 FB14	26+24.17	2971175.02	773492.09	8.00	6.43	8.07	15	17	6. ALL SCREWS, W
FB15	26+43.55	2971187.55	773499.05	7.77	5.97	8.24	15	_	7. CONNECT JOIST
									8. ALL STRUCTUR
									9. ALL BOARDWAL
			$\backslash$		/				10. ALL DOUBLE JO
									1 HELICAL PILE NOTES
				> /			$\langle \langle \rangle \rangle$	<	SADDLE TYPE B
	1		/	/ /	///				CONNECTED TO
					/ / /	$\frown$			AND A MINIMUM 2 PROVIDE INSTA
						$\langle \uparrow \rangle$	$\langle \rangle$	$\langle \rangle \langle \rangle$	DRAWINGS OF 1
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	Δ=51°50	0'05"				·         			
	Δ=51°50 R=75.00	0'05"							
	Δ=51°50 R=75.00 L=67.85' T=36.45	p'05"				  			
	Δ=51°50 R=75.00 L=67.85' T=36.45	0'05"	WP4						
H	Δ=51°50 R=75.00 L=67.85' T=36.45	9'05" STA 26	WP4 +43.55						
H	Δ=51°50 R=75.00 L=67.85' T=36.45	0'05" STA 26	WP4 +43.55						
H	Δ=51°50 R=75.00 L=67.85' T=36.45	9'05" STA 26	WP4 +43.55						27
	Δ=51°50 R=75.00 L=67.85' T=36.45'	905" STA 26	WP4 +43.55	T+43.55					
	Δ=51°50 R=75.00 L=67.85' T=36.45'	905" STA 26	WP4 +43.55	T+43.55					
	Δ=51°50 R=75.00 L=67.85' T=36.45'	905" STA 26	WP4 +43.55	T +43.55					
B12	Δ=51°50 R=75.00 L=67.85' T=36.45'	905" STA 26	WP4 +43.55	T+43.55					
B12	Δ=51°50 R=75.00 L=67.85' T=36.45'	905" STA 26	WP4 +43.55	T+43.55					27 0 x - x
B12	Δ=51°50 R=75.00 L=67.85' T=36.45' FB13	5TA 26	WP4 +43.55 FB15 -	T+43.55					27 0 x x x
B12	Δ=51°50 R=75.00 L=67.85' T=36.45'	5TA 26	WP4 +43.55 FB15 -	T+43.55 PR( ABI					
B12	Δ=51°50 R=75.00 L=67.85' T=36.45' FB13	57A 26	WP4 +43.55 FB15	T+43.55 PRC ABU (TY	DPOSED JTMENT P.)				
B12	Δ=51°50 R=75.00 L=67.85' T=36.45'	5TA 26	WP4 +43.55 FB15 -	T+43.55 PR( ABU (TY	DPOSED JTMENT P.)				
В12	Δ=51°50 R=75.00 L=67.85' T=36.45' FB13	5TA 26	WP4 +43.55 FB15 -	T +43.55 PR( ABI (TY	DPOSED JTMENT P.)				
B12	Δ=51°50 R=75.00 L=67.85' T=36.45' FB13	574 26 FB14	WP4 +43.55 FB15 -	T +43.55 PR( ABU (TY	OPOSED JTMENT P.)				27 0 x x
B12	Δ=51°50 R=75.00 L=67.85' T=36.45' FB13	574 26 FB14	WP4 +43.55 FB15 -	T+43.55 PR( ABU (TY	DPOSED JTMENT P.)				
B12	Δ=51°50 R=75.00 L=67.85' T=36.45' FB13	5TA 26	WP4 +43.55 FB15 -	PR( ABU (TY	DPOSED JTMENT P.)				
B12	Δ=51°50 R=75.00 L=67.85' T=36.45'	5TA 26	WP4 +43.55 FB15 -	T+43.55 PR( ABL (TY	DPOSED JTMENT P.)				
B12	Δ=51°50 R=75.00 L=67.85' T=36.45' FB13	5TA 26	WP4 +43.55 FB15 -	T +43.55 PR( ABI (TY	DPOSED JTMENT P.)				
B12	Δ=51°50 R=75.00 L=67.85' T=36.45' FB13	5TA 26	WP4 +43.55 FB15 -	T +43.55 PR( ABU (TY	OPOSED JTMENT P.)				
B12	Δ=51°50 R=75.00 L=67.85' T=36.45' FB13	5TA 26	WP4 +43.55 FB15 -	T+43.55 PRC ABU (TY	OPOSED JTMENT P.)				
B12	Δ=51°50 R=75.00 L=67.85' T=36.45'	5TA 26	WP4 +43.55 FB15 -	PR( ABU (TY	DPOSED JTMENT P.)				
B12	Δ=51°50 R=75.00 L=67.85' T=36.45'	5TA 26	WP4 +43.55 FB15 -	PR( ABU (TY	DPOSED JTMENT P.)				
B12	Δ=51°50 R=75.00 L=67.85' T=36.45' FB13	5TA 26	WP4 +43.55 FB15 -	PR( ABL (TY	DPOSED JTMENT P.)				
B12	Δ=51°50 R=75.00 L=67.85' T=36.45' FB13	5TA 26	WP4 +43.55 FB15 -	T +43.55 PR( ABU (TY	DPOSED JTMENT P.)				
B12	Δ=51°50 R=75.00 L=67.85' T=36.45' FB13	5TA 26	WP4 +43.55 FB15 -	PR( ABI (TY	DPOSED JTMENT P.)				
B12	Δ=51°50 R=75.00 L=67.85' T=36.45' FB13 -	5TA 26	WP4 +43.55 FB15 -	T+43.55 PRC ABU (TY	OPOSED JTMENT P.)				
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Soil	40°	0 PSF	130 PCF	CRUSHED STONE
ATION	0°	1500 PSF	120 PCF	UNDRAINED CLAY
)	26°	500 PSF	120 PCF	DRAINED CLAY

![](_page_85_Figure_0.jpeg)

![](_page_85_Figure_1.jpeg)

![](_page_85_Figure_2.jpeg)

![](_page_85_Figure_3.jpeg)

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![](_page_85_Figure_4.jpeg)

![](_page_85_Figure_5.jpeg)

![](_page_85_Figure_6.jpeg)

![](_page_85_Figure_7.jpeg)

![](_page_85_Figure_8.jpeg)

![](_page_85_Figure_9.jpeg)

![](_page_86_Picture_0.jpeg)

Attachment G: Wetland Replication Plan

![](_page_87_Picture_0.jpeg)

Northern Strand Community Trail Extension Everett, Massachusetts

# WETLAND REPLICATION PLAN

City of Everett 484 Broadway Everett, MA 02149

June 2020

# Tighe&Bond

100% Recyclable

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- A MassDEP Inland Wetland Replication Checklist
- B Sample Monitoring Form

# Section 1 Introduction

This *Inland Wetland Replication Plan* design has been developed by Tighe & Bond and Howard Stein Hudson (HSH) on behalf of the City of Everett for the proposed extension of the Northern Strand Community Trail and associated permanent Bordering Vegetated Wetland (BVW) impacts. This design has been prepared in accordance with the *Massachusetts Inland Wetland Replication Guidelines* (MADEP, 2002) and 310 CMR 10.55(4)(b)1 through 7 to support environmental permitting applications.

# Section 2 Evaluation of Existing Conditions

## 2.1 General

The project area consists of approximately a 0.75-mile corridor located to the northwest of the Massachusetts Bay Transportation Authority (MBTA) Commuter Rail Newburyport/Rockport Line and adjacent to the Gateway Shopping Center located at 16 Mystic View Road in Everett, Massachusetts. This narrow corridor of land between the Gateway Shopping Center and the rail line consists of mostly undeveloped, disturbed urban land. The area also contains several wetlands, an electrical tower, and stormwater management facilities.

## 2.2 Wetland Resource Areas with Permanent Impacts

Existing conditions of wetland resource areas were evaluated through a review of publicly available mapping sources (i.e., USGS topographic quadrangles, USDA NRCS soil survey, National Wetlands Inventory, MassGIS MassDEP wetlands mapping, aerial photographs) and through information presented in the Notice of Intent submitted to the Everett Conservation Commission for this project. Wetlands were delineated by Green International Affiliates (GIA) on November 1, 2017. Tighe & Bond wetland scientists also completed a site visit on May 29, 2020 to view and document vegetative communities within the wetland impact and replication areas in preparation of this plan.

#### TABLE 2-1

Summary of Estimated Alterations to Jurisdictional Resource Areas

BVW ID	Impact ¹
Wetland C (Wetland Area #2)	2,119 sf
Wetland D (Wetland Area #4)	2,330 sf

#### 2.2.1 Wetland C – Permanent Impact Area

Wetland C is characterized as an open freshwater marsh by MassDEP, and would be categorized as a palustrine emergent wetland that consists primarily of persistent vegetation and that is seasonally flooded or saturated (PEM1E) per the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin, et al., 1979) or "Cowardin" system. This wetland is bordered by the railroad to the east, the Gateway Shopping Center to the west, a stormwater basin to the south, and Route 16 to the

north. Approximately 2,119 square feet (sf) of permanent impacts will occur along the margins of this wetland, between flag stations WF #C44 and WF #C39, and is identified as "Wetland Area #2" on the project plans.

Field data collected by GIA in Wetland C indicates that this wetland contained standing water within the wetland center, but free water or saturated soils were not observed within the data plot along the wetland boundary. The presence of oxidized rhizospheres and water stained leaves suggest groundwater levels fluctuate within this wetland and standing water is likely present at points throughout the year. This wetland is dominated by common reed (*Phragmites australis*) (98% cover) with occasional staghorn sumac (*Rhus typhina*) along the wetland perimeter.

#### 2.2.2 Wetland D – Permanent Impact Area

Wetland D is not mapped by MassDEP or the NWI, but field observations confirm this wetland would also be characterized as an open freshwater marsh in accordance with MassDEP's classification, and would be categorized as a PEM1E by the Cowardin classification system. This wetland is bordered by roads on all sides (i.e., Route 16 and associated entry and exit ramps). This wetland is presumed to receive significant amounts of stormwater input from the adjacent roadways. Approximately 2,330 sf of permanent impacts will occur along the margins of this wetland, between flag stations WF #D4 and WF #D11, and this impact area is identified as "Wetland Area #4" on the project plans.

Field data from GIA indicates that this wetland contained standing water, and depth to groundwater encountered during soil investigations was at 12 inches and saturated soils were found as shallow as 10 inches from the surface. The presence of oxidized rhizospheres also suggests groundwater levels fluctuate within this wetland. This wetland is also dominated by Phragmites (98% cover) with occasional staghorn sumac along the wetland perimeter.

## 2.3 Hydrology

Hydrology at the BVW alteration areas presented in Table 2-2 is generally based on the United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI), MassDEP wetland layers available through MassGIS, the Cowardin system, and wetland delineation data provided by GIA.

TABLE 2-2

<i>1</i>		, ,,
Impact Area (IA) ID	Habitat/Cover Type ¹	Source(s) of Hydrology
Wetland C (Wetland Area #2)	PEM1E	periodic inundation; seasonal high groundwater table
Wetland D (Wetland Area #4)	PEM1E	periodic inundation; seasonal high groundwater table

Summary of Altered Wetland Resource Areas' Hydrology

## 2.4 Hydric Soil Structure

According to the USDA NRCS [online] Soil Survey of Middlesex County (MA017), Massachusetts, the project area mapped as Udorthents, wet substratums (655) and Urban Land (603). Brief descriptions of these soil units follow.

**Udorthents (655)** This map unit consists of nearly level to hilly areas of poorly drained and very poorly drained soils that have been filled in with various types of soil material, rubble and refuse. Depth of the fill material ranges from two to 20 feet or more. Areas of this unit are irregular in shape and range in size from six to 150 acres. The areas were typically flood plains, meadows, and swamps that were filled for various urban land use purposes. This unit is most extensively mapped in the urbanized areas of the eastern part of the county and adjacent to the Charles and Mystic Rivers. Scattered small areas of this unit are mapped throughout the survey area. Included with this soil in mapping are areas generally smaller than six acres each of Urban land, Swansea, and Freetown soils. Minor soils comprise about 15 percent of this unit. Runoff varies and water tends to pond on the surface in some areas after heavy rainfall.

**Urban Land (603)** consists of areas where 85 percent of the land surface is covered by structures or impervious surfaces such as buildings, pavement, industrial sites, and railroad yards, and where the underlying soil is dominated by fill material overlying wet soils. The underlying wet soils may include Freetown, Saco, Scarboro, and Swansea. The most extensive areas of this map unit are found along the Charles and Mystic Rivers in the cities of Cambridge, Somerville, and Everett. Smaller areas are mapped throughout the county. The areas are irregular in shape range from 6 to 2,100 acres in size. Because this map unit is covered by structures or impervious surfaces, almost all rainfall becomes runoff. A water table may be present in the lower substratum. Included with this unit in mapping are areas of Udorthents, loamy soils and Udorthents, wet substratum soils where the soil is exposed. These inclusions often reflect the nature of the soil underlying the impervious surfaces. Rock outcrops are present in some units. Minor soils and included areas comprise about 15 percent of the unit.

## 2.5 Functions and Values

Relative to the statutory interests outlined at M.G.L. Chapter 131 § 40 and 310 CMR 10.00, the BVW areas that will be impacted likely provide a number of functions and values, including:

- Flood control
- Protection of groundwater supply
- Prevention of pollution
- Storm damage prevention
- Protection of wildlife habitat

# Section 3 Replication Area Design

The proposed project will result in permanent impacts to approximately 4,547 sf of BVW. Wetland replication is proposed on-site to mitigate for these impacts. An estimated 5,547 sf of BVW is proposed to be created and will result in a net gain of 1,000 sf of BVW as a result of the proposed project, for a mitigation ratio of 1.2:1 (wetlands replicated to wetlands lost). Wetland replication is proposed in two separate areas adjacent to existing BVWs and are hereafter referred to Wetland Replication Area #1 and Wetland Replication Area #2.

The replication areas will tie into the existing wetlands and have been designed in accordance with the Massachusetts Inland Wetland Replication Guidelines (Guidance No. BRP/DWM/WetG02-2, March 2002). A MassDEP Inland Wetland Replication Checklist has also been completed and is provided in Appendix A. The following sections describe existing conditions within the designated replication areas and the proposed replication design.

## 3.1 Wetland Replication Area #1

#### **3.1.1 Location and Existing Conditions**

Wetland Replication Area #1 is a section of upland located adjacent to an existing BVW, between flag stations WF #B41 and WF #B42. This replication area will be 1,415 sf in area and is to the west of the proposed community trail. An existing electrical tower is located to the east. Existing vegetation within this replication area includes glossy buckthorn (*Rhamnus frangula*), black swallowwort (*Cynanchum louiseae*), grey birch (*Betula populifolia*), pussy willow (*Salix discolor*), grapevine (*Vitis* spp.), and Phragmites. Vegetation coverage in this area was limited by the stone fill associated with the MBTA railroad tracks. A tree survey was performed in this area which included documentation of any tree species over four inches in diameter at breast height (DBH). No trees were observed within this area that met or exceeded the survey threshold criteria.

#### 3.1.2 Replication Area #1 Design

The hydrology of the proposed replication area has been designed to mimic that of the adjacent wetland resource area (Wetland B) located immediately to the east/southeast. The hydrology is driven by a seasonal high groundwater table and by periodic hydrological inputs from snowmelt and precipitation events. The replication area will be located adjacent to and will be physically contiguous with Wetland B. The replacement area will be graded to a similar elevation to that of the adjacent wetland (at or below 10 feet) to create a smooth transition into the existing BVW, allowing the replication area to achieve an unrestricted hydraulic connection to adjacent wetland system. Grading the wetland to an elevation similar to that of the lost wetland area will help to ensure a similar connection with the groundwater table results. The graded area will be top-dressed with a high organic content soil for plantings.

The replication area is proposed to be revegetated as a Palustrine Emergent Marsh (PEM) wetland, and plantings will consist of herbaceous plantings and shrubs and no trees are proposed. As there is no existing wetland vegetation of value, stockpiling and transplanting is not proposed. The replication area will be seeded with New England Wetmix and mulched with straw. A list of species found in this seed mix is provided in Table 3-2 below. Live plantings of herbaceous material are also proposed in this area to augment the vegetation and expedite grow-in while the seed mix establishes. A list of live plantings species proposed is provided in the herbaceous species section in Table 3-1 below.

## **3.2 Wetland Replication Area #2**

#### 3.2.1 Location and Existing Conditions

Wetland Replication Area #2 is located on a peninsula of existing upland in the middle of Wetland C, and will directly tie into the existing wetland boundary between WF #C27 and WF #C30. Replication Area #2 will total approximately 4,132 sf in size and will be

located just to the north of the proposed trail. Route 16 is located to the northeast. Existing vegetation within this replication area includes tree-of-heaven (*Ailanthus altissima*), jewelweed (*Impatiens capensis*), pokeweed (*Phytolacca americana*), sensitive fern (*Onoclea sensibilis*), and various goldenrods (*Solidago* spp.). A tree survey was also performed in this area to document any tree species over four inches in diameter at breast height (DBH). A total of 33 trees were identified and were predominantly tree-of-heaven.

#### 3.2.2 Replication Area #2 Design

The hydrology of Replication Area #2 has also been designed to mimic that of the adjacent wetland resource area (Wetland C) located immediately to the north/northeast. The hydrology in Wetland C, as with other wetlands on-site, is driven by a seasonal high groundwater table and by periodic hydrological inputs from snowmelt and precipitation events. The replication area will be located adjacent to and will be physically contiguous with Wetland C, and will connect along the segment of wetland boundary between flag stations WF #C27 and WF #C30. The replacement area will be graded to a similar elevation to that of the adjacent wetland to create a smooth transition into the existing BVW (at or below 5 feet), allowing the replication area to achieve an unrestricted hydraulic connection to the adjacent wetland to an elevation similar to that of the lost wetland area will help to ensure a similar connection with the groundwater table results. The graded area will be top-dressed with a high organic content soil for plantings.

The replication area is proposed to be revegetated as a Palustrine Scrub Shrub (PSS) wetland and plantings will consist of herbaceous plantings and shrubs, along with six trees. As there is no existing wetland vegetation of value, stockpiling and transplanting is not proposed. Live plantings of woody and herbaceous material are proposed and a list of species is provided in Table 3-1 below. The replication area will also be overseeded with New England Wetmix and mulched with straw. A list of species found in this seed mix is provided in Table 3-2 below.

## 3.3 Hydric Soil Structure

Both wetland replication areas will be graded and finished as shown on the plan. The existing soils within the footprint of the replacement area consist of silty sand and gravel with frequent cobbles and some boulders. Due to the absence of organic matter, the soils will be over-excavated by a depth of approximately one (1) foot and amended with highly organic compost mixed with native silty sands. The final elevations will vary, as shown on the project plans.

## 3.4 Proposed Wetland Plant Community

The proposed plantings for the replication areas consist of a mix of woody and herbaceous plant species so that the species composition of the proposed plant communities are consistent with the surrounding wetland resource areas. Live plantings are summarized in Table 3-1, while the proposed seed mix is summarized in Table 3-2.

Common Name ¹	Scientific Name ¹	Indicator Status ¹	Mature Growth Habit
Box Elder	Acer negundo	FAC	Tree
Speckled Alder	Alnus incana	FACW	Shrub
Northern Arrowwood	Viburnum dentatum	FACW-	Shrub
Elderberry	Sambucus canadensis	FACW-	Shrub
Silky Dogwood	Swida amomum	FACW	Shrub
Black Chokeberry	Aronia melanocarpa	FAC	Shrub
Sweet Pepperbush	Clethra alnifolia	FAC+	Shrub
Steeplebush	Spirea tomentosa	FACW	Shrub
Big Bluestem	Andropogon gerardii	FAC	Herbaceous
Butterfly Milkweed	Asclepias tuberosa	FACU	Herbaceous
Grass-leaved Goldenrod	Euthamia graminifolia	FAC	Herbaceous
Blue Vervain	Verbena hastata	FACW	Herbaceous
Soft Rush	Juncus effusus	OBL	Herbaceous
Coneflower	Rudbeckia laciniata	FACW	Herbaceous

#### TABLE 3-1

Recommended Species of Live Plantings for Wetland Restoration

¹Lichvar, R.W. 2013. *The National Wetland Plant List:* 2013 wetland ratings. Phytoneuron 2013-49: 1-241. Northcentral and Northeast subregion.

#### TABLE 3-2

Common Name	Scientific Name ²	Indicator Status ²
Mud Plantain	Alisma subcordatum	OBL
Swamp Milkweed	Asclepias incarnata	OBL
Purple Stemmed Aster	Aster puniceus	OBL
Nodding Bur Marigold	Bidens cernua	OBL
Bristly/Cosmos Sedge	Carex comosa	OBL
Fringed Sedge (Nodding)	Carex crinite	OBL
Hop Sedge	Carex lupulina	OBL
Lurid Sedge	Carex lurida	OBL
Blunt Broom Sedge	Carex scoparia	FACW
Fox Sedge	Carex vulpinoidea	OBL
Boneset	Eupatorium perfoliatum	FACW
Spotted Joe Pye weed	Eutrochium maculatum	OBL
Rattlesnake Grass	Glyceria canadensis	OBL
American Manna Grass	Glyceria grandis	OBL

IADLE 3-2			
New England	WetMix ¹	Species	Composition

Soft Rush	Juncus effusus	OBL
Square Stemmed Monkey Flower	Mimulus ringens	OBL
Green Bulrush	Scirpus atrovirens	OBL
Wool Grass	Scirpus cyperinus	OBL
Soft-Stem Bulrush	Schoenoplectus tabernaemontani	OBL
Blue Vervain	Verbena hastata	FACW

¹ As manufactured by New England Wetland Plants, Inc. of Amherst, Massachusetts.

² Based on Lichvar, R.W. 2013. *The National Wetland Plant List*: 2013 wetland ratings. Phytoneuron 2013-49: 1-241. Northcentral and Northeast subregion.

## 3.2 Functions and Values

Successful restoration of the altered areas will protect the statutory interests that are currently provided by these areas and include:

- Flood control
- Protection of groundwater supply
- Prevention of pollution
- Storm damage prevention
- Protection of wildlife habitat

## **3.3 Abiotic and Biotic Features**

The following features are proposed within the replication areas to provide wildlife habitat function and value.

- Habitat logs (Replication Area #2 only)
- Cobbles

#### 3.3.1 Habitat Logs

The habitat logs will be placed at the approximate locations shown on the replication plans. The logs will consist of native hardwoods and softwoods, with a minimum diameter of eight (8) inches and a minimum length of six (6) feet. The logs will provide cover habitat for small mammals, reptiles, and birds. Should native trees be cut during site preparation activities, these may be salvaged and repurposed as habitat logs. If native trees are not available, the contractor will be responsible for sourcing said logs and they will then be approved by the environmental monitor prior to installation.

#### 3.3.2 Cobbles

Small clusters of cobbles will be strategically placed at the approximate locations shown on the replication plans. The cobbles will be placed to provide a basking surface for small amphibians and reptiles. The cobbles may be harvested from materials excavated during preparation of the wetland replacement area and set aside until final grades are achieved or may be sourced from an appropriate facility.

# Section 4 Plan Implementation

## 4.1 Construction-Phase

A designated wetlands specialist will monitor replacement area construction activities in the field. At a minimum, the wetland restoration specialist (i.e., Environmental Monitor) shall have a minimum of five (5) years of experience with wetlands replication and restoration. If scheduling allows, it is recommended this replication plan be implemented during either the early or late growing season, depending on the construction schedule in order to avoid seasonal high temperatures and/or low precipitation rates that might adversely affect the viability of seed germination.

#### 4.1.1 Construction Sequence

The following steps represent the anticipated sequence of actions necessary to construct the wetland replication areas in accordance with this plan. Minor variations may be necessary to adjust to field conditions such as weather.

- 1. Install an erosion control barrier along existing wetland boundary adjacent to replication areas.
- 2. Remove existing woody vegetation from field limits within wetland replication areas.
- 3. Set grade stakes within wetland replication areas.
- 4. Excavate as necessary to achieve proposed grades. Stockpile excess materials and/or remove from site.
- 5. Spread compost-amended soils across entirety of both wetland replication areas.
- 6. Set temporary stakes labeled to demarcate planting zones.
- 7. Broadcast New England WetMix across entire wetland replacement area; work into amended soil as necessary.
- 8. Install trees, shrubs, and herbaceous plantings in accordance with the site plans; water in as necessary.
- 9. Apply straw mulch to wetland replication areas (see Section 4.1.2).
- 10. Place habitat features (habitat logs and/or cobbles) as shown on the site plans.
- 11. Set perimeter stakes to demarcate replication area boundary (see Section 4.1.3).
- 12. Remove erosion controls following stabilization of soil within the wetland area (75% vegetation cover on exposed soils or greater is considered stabilized).

### 4.1.2 Mulching

At the discretion of the Environmental Monitor, the Owner and/or Contractor will lightly mulch seeded areas with straw. Straw mulch will not be more than one (1) inch thick. It is anticipated that mulching will serve to protect the soil surface until vegetation is established, as well as to detract songbirds from foraging for the broadcast seed.

#### 4.1.3 Protection

Upon completion of construction of the wetland replication area, high-visibility pink flagging will be attached to wooden stakes installed at 25-foot intervals around the perimeter of the wetland replication area to clearly demarcate this area to facilitate monitoring. In addition, permanent bounds, such as boulders, wooden posts, or other features will be installed around the wetland perimeter with signage indicating presence of the sensitive restoration area and that mowing is prohibited.

## 4.2 Maintenance

While the vegetation becomes established, maintenance may be required. Typical maintenance activities could include providing irrigation (e.g., watering in) woody and herbaceous species or, over time, the hand-removal of non-native and/or invasive species.

#### 4.2.1 Irrigation

As noted above, annual and seasonal variations in temperature, humidity and precipitation (i.e. weather) may necessitate additional measures to provide irrigation. Irrigation, or additional watering in, will be necessary in the event that no natural precipitation occurs for five (5) or more consecutive days during the first growing season (i.e., between April 6 and October 27).

#### 4.2.2 Invasive Species Control

As with any recently disturbed soil surface, there is the potential for colonization by nonnative and/or invasive [plant] species. Occurrences of Japanese knotweed (*Fallopia japonica*), Phragmites, glossy buckthorn (*Rhamnus frangula*), and tree-of-heaven (*Ailanthus altissima*) were also noted within the project area. General site preparation activities will result in mechanical removal of any existing invasive species within the project area. These areas will be replanted with native species, in accordance with the overall project landscape plans in upland areas and in accordance with the wetland replication planting plans for wetland areas. Monitoring of the replication area will be required following completion of construction, and the environmental monitor will search for and document establishment of any invasive plants and make recommendations for their removal and any other corrective actions, as needed.

In addition, construction period invasive species control measures will be implemented, and will include proper off-site disposal of any vegetation cleared from the site. Construction vehicles and equipment are recommended to be clean and free of any plant or soil debris prior to entering the project site, and are recommended to be cleaned prior to leaving the site to prevent the introduction or off-site transport of invasive plant fragments or seed. In additional, items such as boots or other personal equipment are also recommended to be cleaned prior entering or leaving the site.

# Section 5 Monitoring

Monitoring of the replication areas will be required at the end of the growing season following construction (Year 0) and then for two full growing seasons following completion of construction (Year 1 and Year 2). The timing of the proposed monitoring events will allow for documentation of conditions within these areas at the beginning and

end of the growing season each year. Monitoring will be conducted by a qualified wetland scientist. A report will be prepared following each monitoring event and submitted to the Everett Conservation Commission for their review, and will include a quantitative and qualitative assessment of vegetation cover and species present within these areas. The qualitative vegetation assessment will document if the required 75% cover of native plant species is being achieved.

During or prior to the first monitoring event, permanent photo plots will be established and GPS'ed at several locations within these areas. Photos will be taken at each plot from a consistent direction during each monitoring visit to provide visual documentation of the vegetation establishment over time. These photos will be included as part of the monitoring report.

Should any plants be observed to be dead or dying during monitoring, recommendations for their replacement will be made. Should areas of exposed soil become identified, recommendations for additional applications of seed will be made. The monitor will also survey for and document the presence of any invasive plant species and make recommendations for their removal, to prevent establishment of invasive plants within either area.

## 5.1 Monitoring Schedule – Construction & Post-Construction Phases

The environmental monitor will be present on-site to perform or observe the following tasks.

- Pre-construction wetland flagging inspection. Prior to the installation of erosion and sedimentation controls, wetland flagging within the project area will be inspected and refreshed, as necessary.
- Observe of grading, planting, and seeding of the wetland replacement area.
- Observations will include the proper application rate of prescribed native seed mix and installation of woody plants as outlined in Section 3 of this Plan.
- Post-Construction Monitoring Observe replication areas at the end of the construction year growing season (Year 0) to determine vegetation development and to collect data for annual documentation and reporting (see following sections) relative to regulatory compliance.

Observations and data collected during this site inspection will be documented on the approved monitoring form, as well as in color photographs of each area. These materials will support the second annual monitoring report provided to MassDEP (see Sections 5.2 and 5.3 for details).

• Observe replication areas during the first full growing season following project completion to determine vegetation development and to collect data for annual documentation and reporting (see following sections) relative to regulatory compliance (i.e., Year 1).

These observations will be made two (2) times during the first post-construction growing season. The first will be conducted during the early-to-mid growing season (e.g. June/July) and the second during the mid-to-late growing season

(e.g. September/October). Color photographs will document field conditions and the site observations will be detailed on the monitoring form.

• Observe replication areas during a second growing season to determine vegetation development and to collect data for annual documentation and reporting (see following sections) relative to regulatory compliance (i.e., Year 2).

Observations and data collected during this site inspection will be documented on the approved monitoring form, as well as in color photographs of each area. These materials will support the third annual monitoring report provided to the Everett Conservation Commission (see Sections 5.2 and 5.3 for details). These observations will be made two (2) times during the growing season. The first will be conducted during the early-to-mid growing season (e.g. June/July) and the second during the mid-to-late growing season (e.g. September/October).

## **5.2 Documentation**

Monitoring reports will include, at a minimum, the following information:

- Narrative description of activities performed to date and observations of the replication areas (e.g., rate of vegetation growth, relative cover, presence/absence of non-native and/or invasive species), as well as recommended corrective actions, if necessary.
- Copies of monitoring forms (see Appendix B of this Plan for a sample form).
- Evaluation of vegetation cover, soils and hydrology for two (2) reference plots within the replacement area.
- Digital color photographs of each reference plot as well as the overall replacement area.

## 5.3 Reporting

Annual reports will be submitted to the Everett Conservation Commission no later than November 30th of each calendar year for a period of three (3) years. The first annual report will document the implementation of this Plan. The second and third reports will document the relative success of the replication areas over two full growing seasons.

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**APPENDIX A** 

## **Appendix 3. Replication Checklist**

## A. Sequencing (See Section 1.3 for further guidance)

- 1. The Notice of Intent should include the following information:
  - Narrative on avoidance of wetland Impacts.
  - $\checkmark$  Narrative and plans showing minimization of wetland impacts.
  - ☑ Narrative/drawings of alternative replication designs to ensure success.
  - Carefully designed replication plans with identified goals for unavoidable impacts.

#### B. Elements of a Complete Replication Plan (See Section 2.3 for further guidance)

- 1. The application should include the following general information:
  - $\checkmark$  Narrative description of the existing and proposed wetland;
  - $\checkmark$  A site location map (such as a USGS locus) of existing and proposed wetlands;

 $\checkmark$  A 1"=10' to 1" = 40' plan including easily identifiable landmarks (e.g. surveyed flag locations, benchmarks, or structures), contour lines at 1-foot intervals, and locations of soil test pits and vegetation plots. A Professional Land Surveyor (PLS) and/or a Registered Professional Engineer (PE) should stamp plans.

 $\checkmark$  Grading should demonstrate elevation differences for different vegetation classes (forested, shrub, herbaceous, open water);

Surface area calculations demonstrating a minimum 1:1 replacement to impact ratio (consider greater than 1:1 to ensure the success of at least 1:1). Do not count side slopes as part of the replication area;

 $\checkmark$  Cross-sections of subsurface soil types, depths and locations, 100-year floodplain using both horizontal and vertical scale, existing and predicted high and low groundwater elevation, perched water conditions and other indicators of hydrology. Indicate cross-section locations on plan view;

2. Hydrology – The narrative and plans should include the following:

 $\checkmark$  The expected seasonal depth, duration, and timing of both inundation and saturation must be established for the existing wetland and for each of the proposed vegetation class in the mitigation area.

 $\checkmark$  Evidence of soil including free water in a soil test hole, soil color, saturated soil or oxidized rhizospheres.

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 $\checkmark$  In addition, the inputs and outputs in the water budget should be described. Ideally, replication areas should not depend on precipitation and sheet runoff flow only, but must have a seasonal source of groundwater and should have a surface water source as well. Perched wetlands may be established without these latter inputs, but monitoring wells or piezometers should demonstrate that runoff and precipitation inputs would exceed infiltration rates into the summer.

 $\checkmark$  Demonstration that groundwater and surface water will have unrestricted hydraulic connections to the replication area;

 $\checkmark$  Only the flood storage that the existing BVW provides should be designed in the replication areas;

- 3. Soils- the narratives and plans should include the following information:
- N/A Test pits of translocated soils including horizons, characteristics such as texture, organic matter, Munsell hue, value and chroma, consistence and evidence of hydrologic influence, e.g. mottles (frequency and color), gleying, and root depth; No soil translocation proposed

 $\swarrow$  Replication areas should have a minimum of 6-12" of A- Horizon soil. If used, soil amendments for the A-Horizon consist of equal volumes of organic and mineral materials. No woodchips should be used, and organic material should be well or partially decomposed.

 $\checkmark$  Enough A and B-Horizon material (or A over a suitable composition of the C horizon) should be provided to create a suitable rooting medium, and to approximate the conditions at the nearest undisturbed existing wetland. Consistency should be loose to friable and texture should be loamy sand to silt loam.

N/A Although not required, use of Redox and pH Meters in the replication area and adjacent wetlands may aid in replication success. Seek guidance of a professional experienced in this testing. Not required

 $\checkmark$  A detailed schedule for collection, stockpiling and placement of soils, including a discussion of techniques used to prevent the drying out and contamination of hydric soils.

 $\checkmark$  Confirmation that invasive species listed in Section 2.3.3 are not present in the vicinity of the soil to be translocated.

 $\checkmark$  If soil amendments will be brought from off-site, a description of the source, preparation and placement should be included.

 $\square$  Discussion of a method to ensure appropriate compaction levels and the final consistency and texture of mitigation soils, by horizon.

 $\checkmark$  Survey of finished elevations during construction should be conducted frequently and a proposed schedule included.

Discussion of post-construction soil characteristics such as horizons, depths, texture, organic matter, Munsell hue, value and chroma, consistence and evidence of hydrologic influence, e.g. mottles (frequency and color), gleying, percent gravel and rock, and root depth;

4. Vegetation- narratives and plans should include the following information:

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 $\checkmark$  The dominant plants in each layer of the existing and proposed wetland and the relative cover and wetland indicator status for each vegetative layer proposed (herbaceous, shrub, sapling, tree and climbing woody vine);

N/A Transplantation techniques including maintenance of viability of seeds, rootstock and plants during transplantation. Shrubs should be planted 8-10" on center and trees should be planted 10-15' on center unless otherwise recommended by a nursery or wetland professional.

#### Transplanting not proposed.

 $\checkmark$  Consideration should be given to leaving mature trees on hummocks for shading if they are facultative or wetter.

 $\checkmark$  A detailed description of sources of off-site plant material, species list, and methods to be used for planting.

 $\checkmark$  Schedule for planting (at the beginning or end of the growing season - before the first frost). Check each species for ideal planting times. See Appendix 2 for growing seasons.

Wetland vegetation expected after two growing seasons as well as predicted community after natural succession.

 $\checkmark$  Contingency plan in case of mortality of vegetation, invasive species, complete failure, inadequate size, etc.

 $\checkmark$  For larger projects micro topography should be shown in cross-sections including number of mounds and pools if proposed to replicate existing conditions.

5. Wildlife Habitat

Documentation of the *Estimated Habitat Map of State-Listed Rare Wetlands Wildlife* findings for the site should be included.

 $\checkmark$  For projects impacting the wildlife habitat functions of BVW's, wildlife habitat characteristics of the site, including vernal pools, should be described and replicated. Design should include diversity of vegetation structure and composition, and of hydrological conditions. Credentials of wildlife habitat specialist should be included.

6. Stormwater Management

 $\checkmark$  Created wetlands for stormwater "best management practices" shall not be given credit as replication areas;

7. Erosion Control- narratives and plans should include the following:

 $\checkmark$  An erosion control plan that details stabilization techniques during construction and a contingency plan for construction and post- construction periods.

 $\checkmark$  A commitment to remove erosion control measures once the site is stabilized and following approval by the issuing authority.

Embankment slopes should be no greater than 2H: 1V unless structural stabilization.

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#### C. Considerations During Construction (See Section 3.0 for further guidance)

 $\checkmark$  The erosion and sedimentation control plan must be implemented.

 $\checkmark$  The wetlands and replication area should be reflagged prior to construction start date if the flags placed during permitting are not clearly visible.

 $\checkmark$  A construction schedule listing the sequence of events for replication construction (preferably before work in the existing wetland);

 $\checkmark$  A project monitor with a minimum 5 years experience should be identified;

#### D. Monitoring Plan (See Section 6.0 for further guidance)

 $\checkmark$  A plan to monitor the construction and subsequent growth for at least two years or until the 75% criteria is met following construction should be included (See Appendix 3 for example checklist). Include contingency plan in the event that the replication area does not meet the 75% reestablishment standard.

 $\checkmark$  Colored photographs from established reference points should be included with each monitoring report.

 $\checkmark$  Plan must include inspection of embankments to ensure that they are stable, properly vegetated and constructed as designed.

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**APPENDIX B** 

## MADEP File #: Project Name: Permittee Name: Permittee Address: Person Completing Form: Date of Monitoring Event: Purpose of Monitoring Event: Weather Conditions: **BVW Replication Area ID:** Hydrophytic/Non-Hydrophytic **VEGETATION & COVER1:** % Cover Herbaceous Vegetation % Cover Shrubs % Cover Trees % Cover Vines % Cover Native Vegetation % Cover Non-Native Vegetation^{1,2}

#### HYDROLOGY1:

#### SOILS¹:

#### **OTHER OBSERVATIONS:**

¹ Refer to attached floristic inventory

² Refer to attached Replication Area site sketch (below) for location of vegetation cover types

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![](_page_107_Picture_1.jpeg)


Attachment H: Existing Tree Survey

## **Tree Survey – Northern Strand Community Trail Extension Everett, Massachusetts**

To: Kayla Sousa, Howard Stein Hudson

**FROM:** Amanda Houle, PWS, CERP, Tighe & Bond; Dana Vesty, Tighe & Bond

**COPY:** Richard Houghton, Halvorson

**DATE:** June 12, 2020

This memorandum has been developed in response to comments received by the Massachusetts Department of Conservation and Recreation (DCR) on the Notice of Intent (dated April 15, 2020) prepared by Howard Stein Hudson (HSH) on behalf of the City of Everett. Specifically, DCR issued comments on the number and types of trees proposed to be removed as a result of the proposed trail extension, with particular concern focused on the wetland replication areas. Available survey data was limited to tree line limits and did not include individual tree survey data. In order to address these comments, Tighe & Bond wetland scientists conducted a tree survey of the project corridor to collect field data to inform a response. A summary of the field efforts completed are provided below

# **1** Location Surveyed

This survey was completed within the limits of work as shown on the Notice of Intent drawings (prepared by HSH and dated April 3, 2020) for the Northern Strand Community Trail Extension. In general, the project area consists of approximately a 0.75-mile corridor located to the northwest of the Massachusetts Bay Transportation Authority (MBTA) Commuter Rail Newburyport/Rockport Line and adjacent to the Gateway Shopping Center located at 16 Mystic View Road in Everett, Massachusetts. This narrow corridor of land between the Gateway Shopping Center and the rail line consists of mostly undeveloped, disturbed urban land. The area also contains several wetlands, an electrical tower, and stormwater management facilities.

The survey also included the permanent wetland impact areas as well as the proposed wetland replication areas, which include the following:

- Wetland C Permanent Impact Area This is an approximately 2,119 square feet (sf) area along the margins of Wetland C, between flag stations WF #C44 and WF #C39, and is identified as "Wetland Area #2" on the project plans.
- Wetland D Permanent Impact Area This is an approximately 2,330 sf area along the margins of Wetland D, between flag stations WF #D4 and WF #D11, and this impact area is identified as "Wetland Area #4" on the project plans.
- Wetland Replication Area #1 This is a section of upland located adjacent existing Wetland B, between flag stations WF #B41 and WF #B42. This replication area will be 1,415 sf in area and is to the west of the proposed community trail.
- Wetland Replication Area #2 This area is is located on a peninsula of existing upland in the middle of Wetland C, and will directly tie into the existing wetland boundary between WF #C27 and WF #C30. Replication Area #2 will total approximately 3,951 sf in size and will be located just to the north of the proposed trail.

# 2 Methodology

On May 29, 2020 and June 1, 2020, a Tighe & Bond wetland scientist completed a tree survey for the locations referenced in Section 1 above. The survey consisted of an on-site evaluation of forested areas, with a focus on the location, species, and diameter of all trees greater than 4 inches in diameter within the project area. Tree species less than 4 inches in diameter were not included in this survey. Each tree was surveyed with a hand-held submeter Trimble GPS, and these data points were imported for inclusion on the permit level design drawings to depict trees that overlapped with the project area limits-of-work and are proposed be removed to satisfy DCR's comments on the Notice of Intent.

The diameter at breast height (DBH) of each tree was measured with a diameter tape. For the purposes of this survey, breast height averaged 4.5 feet above the ground surface at the base of the tree. Two methodologies were employed to properly and consistently document forked trees. If a tree forked at or above breast height (4.5 ft.), the diameter of the tree was recorded below the fork point and the tree was recorded as a singular tree. If a tree forked below breast height, the trunks were considered to be separate trees and DBH was measured for each trunk. For multi-stemmed trees, DBH was measured regardless of diameter. therefore, some stems measured are less than four inches.

# **3** Summary of Findings

A total of 314 trees were identified and measured within the survey area and were representative of the overall forest community in this general location. Table 1 in Attachment A displays the tree species identified and the diameter for each tree.

Tree-of-heaven (*Ailanthus altissima*) is the most abundant species observed at the property, followed by aspen (*Populus tremuloides*) and then black locust (*Robinia pseidoacacia*). The largest specimen trees observed were an aspen and a black locust with a DBH of 18.5 inches and 16.5 inches, respectively. The next largest trees were a black locust with a DBH of 16 inches, then an aspen with a DBH of 15.1 inches. Ninety-four trees were multi-stemmed and had a DBH ranging from 1.8 inches to 13.8 inches. A detailed list of each tree documented by plot is available on the Table 1. Bittersweet vines (*Celastrus orbiculatus*) were commonly observed climbing the trees.

Diameter (*i.e.*, DBH) for single-stemmed trees ranged from 3.7 inches to 18.5 inches among the ten species observed. Four-inch trees were the most frequently recorded, followed by five-inch diameter trees. Six-inch and eight-inch diameters were the next most frequently observed, with 21 and 16 trees observed for each diameter, respectively. No trees were surveyed within Wetland Replication Area #1, and no trees are proposed to be planted in this replication area. Thirty-three trees were identified in Wetland Replication Area #2 and the predominant species was tree-of-heaven. Following the implementation of the replication plan, a total of six trees will be planted in the replication area.

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Tree ID	DBH	Height	<b>Common Name Species</b>	Scientific Name	Notes
1	6.5		Aspen	Populus tremuloides	
2	7.5		Aspen	Populus tremuloides	Cut and still sprouting
3	5.9		Aspen	Populus tremuloides	Cut and still sprouting
4	11.6		Aspen	Populus tremuloides	
5	3.7		Gray birch	Betula populifolia	
6	6.3	15	Aspen	Populus tremuloides	
7	5.4	17	Aspen	Populus tremuloides	
8	4.2	14	Box elder	Acer negundo	Dead
9	5.2	12	Aspen	Populus tremuloides	
10	5.9	18	Aspen	Populus tremuloides	
11	4.6	16	Aspen	Populus tremuloides	
12	4.2	18	Aspen	Populus tremuloides	
13	13.8/11.5	34	Aspen	Populus tremuloides	
14	11.9/8.8/6.9	30	Black Locust	Robinia pseidoacacia	
15	5.3	20	Gray birch	Betula populifolia	
16	7.5	37	White Ash	Fraxinus americana	
17	5.2	27	Gray birch	Betula populifolia	
18	10	22	Black Locust	Robinia pseidoacacia	
19	7.6/8	24	Black Locust	Robinia pseidoacacia	
20	11.5/6.5/5.8	40	Aspen	Populus tremuloides	
21	15.1	40	Aspen	Populus tremuloides	
22	8.7	40	Aspen	Populus tremuloides	
23	6.3	35	Black Locust	Robinia pseidoacacia	
24	10.6/11.2	35	Black Locust	Robinia pseidoacacia	
25	4	25	Black Locust	Robinia pseidoacacia	
26	7/7.8/9.1	16	Pussy Willow	Salix discolor	Fallen
27	4.6/7	15	Black Locust	Robinia pseidoacacia	
28	/.1/3.8	30	Black Locust	Robinia pseidoacacia	
29	13.3	38	Aspen	Populus tremuloides	
30	9.4	40	Aspen	Populus tremuloides	
31	5.6	20	Aspen	Populus tremuloides	Dead
32	4.1	17	Aspen	Populus tremuloides	Dead
24	9.5	45	Aspen	Populus tremuloides	
25	/ 0 0/6 1	15	Plack Locust	Robinia pseidoacacia	
35	0.0/0.1 7	25		Populus tremuloides	
30	, 8 1	10	Black Locust	Rohinia nseidoacacia	
38	5 5/7 1	25	Black Locust	Robinia pseidoacacia	
39	8.5/11.8	40	Aspen	Populus tremuloides	
40	4.4	19	Black Locust	Robinia pseidoacacia	Dead
41	4.3	15	Grav birch	Betula populifolia	
42	4.4	25	Black Locust	Robinia pseidoacacia	
43	10/7.3/9	40	Black Locust	Robinia pseidoacacia	
44	4.6	28	Black Locust	, Robinia pseidoacacia	
45	14.3	35	Black Locust	, Robinia pseidoacacia	
46	5.5/4.2	15	Aspen	Populus tremuloides	
47	5.5	20	Black Locust	Robinia pseidoacacia	
48	11.9/9/11.3	40	Gray birch	Betula populifolia	
49	9.3/12.6	45	Tree-of-Heaven	Ailanthus altissima	
50	4.1	30	Tree-of-Heaven	Ailanthus altissima	
51	4.9	20	Tree-of-Heaven	Ailanthus altissima	
52	5.1	20	Tree-of-Heaven	Ailanthus altissima	
53	4.2/4.3	25	Box elder	Acer negundo	
54	4.6	25	Tree-of-Heaven	Ailanthus altissima	
55	12	35	Aspen	Populus tremuloides	
56	5/4.3	27	Aspen	Populus tremuloides	
57	8.1	27	Aspen	Populus tremuloides	
58	4.1	10	Aspen	Populus tremuloides	Dead
59	3.1/9.1/7	35	Tree-of-Heaven	Ailanthus altissima	
60	13.5	30	Aspen	Populus tremuloides	
61	14.1/13/5.2/8.2	40	Aspen	Populus tremuloides	
62	13.3	30	Aspen	Populus tremuloides	
63	8.1/7.9	17	Black Locust	Robinia pseidoacacia	
64	13.5/7.4/13.3/9.5	45	Black Locust	Robinia pseidoacacia	

Tree ID	DBH	Height	Common Name Species	Scientific Name	Notes
65	12.5	35	Aspen	Populus tremuloides	
66	16	40	Black Locust	Robinia pseidoacacia	
67	18.5	40	Aspen	Populus tremuloides	
68	12.6	40	Aspen	Populus tremuloides	
69	6.1	25	Gray birch	Betula populifolia	
70	6.4	27	, Black Locust	Robinia pseidoacacia	
71	8.2/5	15	Black Locust	Robinia pseidoacacia	Fallen, partially dead
72	5.2	18	Gray birch	Betula nonulifolia	
73	47	25	Gray birch	Betula populifolia	
73	5.9/5.6	30	Gray birch	Betula nonulifolia	
75	12 7/8 A/5 A/1A 3	45	Asnen	Populus tremuloides	
75	12.7/0.4/0.4/14.0	4J 45	Aspen	Populus tremuloides	
70	12.5/17.9	45 E0	Aspen	Populus tremuloides	
77	15.5/11	30	Aspen	Populus tremuloides	
78	10.5	35	Black Locust	Robinia pseiabacacia	D'IL CONTRACTOR DE LA CONT
79	10.6/7	25		Robinia pseidoacacia	Bittersweet vines on the tree
80	4.4/5.6/3.1	20	Iree-of-Heaven	Ailanthus altissima	
81	7.9	20	Tree-of-Heaven	Ailanthus altissima	
82	4.3/4	20	Tree-of-Heaven	Ailanthus altissima	Dead, bittersweet vines on the tree
83	5.1	20	Tree-of-Heaven	Ailanthus altissima	
84	6.5	20	Common hackberry	Celtis occidentalis	Bittersweet vines on the tree
85	9.6	20	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on the tree
86	10.5	23	Box elder	Acer negundo	
87	10.6	30	Tree-of-Heaven	Ailanthus altissima	
88	8.9	30	Tree-of-Heaven	Ailanthus altissima	
89	4.2	12	Tree-of-Heaven	Ailanthus altissima	
90	7.2/7.6/6.8/6	25	Box elder	Acer negundo	
91	5.6	28	Tree-of-Heaven	Ailanthus altissima	
92	4	24	Tree-of-Heaven	Ailanthus altissima	
93	4.6/6.9/5.5	33	Tree-of-Heaven	Ailanthus altissima	
94	8.1	33	Tree-of-Heaven	Ailanthus altissima	
95	7	33	Tree-of-Heaven	Ailanthus altissima	
96	73/52	30	Tree-of-Heaven	Ailanthus altissima	
97	0 Q	30	Tree-of-Heaven	Ailanthus altissima	
08	5.5	22		Ailanthus altissima	
98	5.5	20		Ailanthus altissima	
100	5.1/4.0	50 25		Allanthus altissima	
100	5.0	25		Ailanthus altissima	
101	5.3 7 2/6 2	25		Allanthus altissima	
102	7.3/6.3	30	Tree-of-Heaven	Allanthus altissima	
103	6.1	30	Iree-of-Heaven	Allanthus altissima	
104	9/3.3/4.1	25	Iree-of-Heaven	Ailanthus altissima	
105	4.4	26	Iree-of-Heaven	Ailanthus altissima	
106	5.3	25	Tree-of-Heaven	Ailanthus altissima	
107	5.2	30	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
108	10.6/3.9/3.2/6.1	32	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
109	7.6	28	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
110	6.2/3.8/5.4	30	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
111	4.3	25	Tree-of-Heaven	Ailanthus altissima	
112	5.3	23	Tree-of-Heaven	Ailanthus altissima	
113	4.1	25	Tree-of-Heaven	Ailanthus altissima	
114	4	20	Tree-of-Heaven	Ailanthus altissima	
115	6.1	25	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
116	4	20	Tree-of-Heaven	Ailanthus altissima	
117	4.9	15	Tree-of-Heaven	Ailanthus altissima	
118	4 7	20	Tree-of-Heaven	Ailanthus altissima	
119	4,3/5,5	20	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
120	65	20	Tree-of-Heaven	Ailanthus altissima	
120	3 6/4 7/2 7	20	Tree-of-Heaven	Ailanthus altissima	
121	3.014.113.1 1/2 1/7 0/2 6/6 2/10 6	20 15	Acnon	Anununus unissiinu Dopulus tromulaidas	
122	4/0.4//.0/2.0/0.2/10.0	45		Ailanthus altissian	
123	4.8	20	Tree-of-Heaven	Allanthus altissima	
124	4.3	18	Tree-ot-Heaven	Allanthus altissima	BILLERSWEET VINES ON TREE
125	b.4	20	Tree-of-Heaven	Allanthus altissima	
126	4.2	20	Iree-ot-Heaven	Ailanthus altissima	Bittersweet vines on tree
127	3.3/2.3/4.8	25	Tree-of-Heaven	Allanthus altissima	Bittersweet vines on tree
128	5.8/2.5/3.8	20	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree

Tree ID	DBH	Height	Common Name Species	Scientific Name	Notes
129	4	18	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
130	6.3	20	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
131	4.3	20	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
132	4.5	25	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
133	5.1	23	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
134	7.7	30	Aspen	Populus tremuloides	Bittersweet vines on tree
135	4.8	25	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
136	4.1/3.2	25	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
137	4.4	25	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
138	5.9	25	Aspen	Populus tremuloides	
139	12.1	33	Aspen	Populus tremuloides	
140	4.6	33	Aspen	Populus tremuloides	
141	4.6	20	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
142	4	20	Tree-of-Heaven	Ailanthus altissima	
143	4.2	20	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
144	4.4	18	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
145	4.5	25	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
146	4.4	20	Tree-of-Heaven	Allanthus altissima	Bittersweet vines on tree
147	4	25	Tree-of-Heaven	Allanthus altissima	
148	4.9	20	Iree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
149	4.1	20	Iree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
150	4	18	Tree-of-Heaven	Ailanthus altissima	
151	4.4	20	Tree-of-Heaven	Ailanthus altissima	
152	4.3	23	Tree of Heaven	Allanthus altissima	
153	4/2.9	20		Allanthus altissima	Pittersweet vines on tree
154	2.5	20	Risek Chorny	Anuninus unissinu Drupus coroting	Bittersweet villes on tree
155	4.5 1 2 / 2 / 2 / 1 / 1	20		Ailanthus altissima	
150	4.2/4.3/3.4/4.4 <i>N</i>	20		Allanthus altissima	
158	4 5 2/1 5/3 9	25		Allanthus altissima	
159	2 4/8 1	30	Grav hirch	Retula nonulifolia	
160	8/2 5	30	Gray birch	Betula populifolia Betula populifolia	
161	8.6	30	Black Cherry	Prunus serotina	
162	5.1	20	Tree-of-Heaven	Ailanthus altissima	
163	4/2.5	25	Tree-of-Heaven	Ailanthus altissima	
164	5	25	Grav birch	Betula populifolia	
165	4.6	25	, Tree-of-Heaven	Ailanthus altissima	
166	8	25	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
167	8.1	27	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
168	4.6/2.9	18	Tree-of-Heaven	Ailanthus altissima	
169	4	16	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree; dead
170	4.1	15	Tree-of-Heaven	Ailanthus altissima	Dead
171	4	15	Tree-of-Heaven	Ailanthus altissima	
172	8.7	35	Tree-of-Heaven	Ailanthus altissima	
173	7.4	19	Tree-of-Heaven	Ailanthus altissima	
174	4.8/6.9	20	Gray birch	Betula populifolia	
175	5.4	20	Tree-of-Heaven	Ailanthus altissima	
176	4.9	17	Tree-of-Heaven	Ailanthus altissima	
177	4.3	25	Tree-of-Heaven	Ailanthus altissima	
178	7.2/1.9	25	Gray birch	Betula populifolia	
179	1.8/4.1/6.2	30	Gray birch	Betula populifolia	
180	4.9/3.8/2	15	Tree-of-Heaven	Ailanthus altissima	
181	9	25	Gray birch	Betula populifolia	
182	4.7	15	Gray birch	Betula populifolia	
183	8.7	20	Gray birch	Betula populifolia	
184	4/6	20	Tree-of-Heaven	Ailanthus altissima	
185	3.5/4.9	15	Gray birch	Betula populifolia	
186	5	20	Black Cherry	Prunus serotina	
187	4.3	20	Tree-of-Heaven	Ailanthus altissima	
188	4.1	18	Tree-ot-Heaven	Ailanthus altissima	
189	/.2	25	Tree-ot-Heaven	Allanthus altissima	
190	9.9	30	Tree-of-Heaven	Allanthus altissima	
191	6.2	25	Tree-of-Heaven	Allanthus altissima	
192	5.5	30	I ree-ot-Heaven	Aılanthus altissima	

Tree ID	DBH	Height	<b>Common Name Species</b>	Scientific Name	Notes
193	5.5	30	Tree-of-Heaven	Ailanthus altissima	
194	4.6	30	Tree-of-Heaven	Ailanthus altissima	
195	4.3	30	Tree-of-Heaven	Ailanthus altissima	
196	5.7/9.6	30	Tree-of-Heaven	Ailanthus altissima	
197	8.3	30	Tree-of-Heaven	Ailanthus altissima	
198	5.3	30	Tree-of-Heaven	Ailanthus altissima	
199	4.2	30	Tree-of-Heaven	Ailanthus altissima	
200	5.3	30	Tree-of-Heaven	Ailanthus altissima	
201	4	25	Tree-of-Heaven	Ailanthus altissima	
202	4.7/3	25	Tree-of-Heaven	Ailanthus altissima	
203	5.2	25	Tree-of-Heaven	Ailanthus altissima	
204	5.1	25	Tree-of-Heaven	Ailanthus altissima	
205	6.7	30	Tree-of-Heaven	Ailanthus altissima	
206	4.1/4.1	32	Tree-of-Heaven	Ailanthus altissima	
207	5.3	30	Tree-of-Heaven	Ailanthus altissima	
208	4.6	30	Tree-of-Heaven	Ailanthus altissima	
209	4	25	Tree-of-Heaven	Ailanthus altissima	
210	4.4	27	Tree-of-Heaven	Ailanthus altissima	
211	4.8/2.2	27	Tree-of-Heaven	Ailanthus altissima	
212	4.7	30	Tree-of-Heaven	Ailanthus altissima	
213	5.5	25	Tree-of-Heaven	Ailanthus altissima	
214	2.1/5.2/4.3	23	Tree-of-Heaven	Ailanthus altissima	
215	4/2.8	25	Tree-of-Heaven	Ailanthus altissima	
216	4	25	Tree-of-Heaven	Ailanthus altissima	
217	4	20	Tree-of-Heaven	Ailanthus altissima	Dead
218	5.7/3.6	30	Tree-of-Heaven	Ailanthus altissima	
219	4.6	25	Tree-of-Heaven	Ailanthus altissima	
220	4.7	27	Tree-of-Heaven	Ailanthus altissima	
221	5.6	30	Tree-of-Heaven	Ailanthus altissima	
222	7	30	Tree-of-Heaven	Ailanthus altissima	
223	4.1	30	Tree-of-Heaven	Ailanthus altissima	
224	5.9/3.4	35	Tree-of-Heaven	Ailanthus altissima	
225	5.1	30	Tree-of-Heaven	Ailanthus altissima	
226	8.6	18	Tree-of-Heaven	Ailanthus altissima	Dead
227	4.7	25	Tree-of-Heaven	Ailanthus altissima	
228	4.3/3	25	Tree-of-Heaven	Ailanthus altissima	
229	4.5	25	Tree-of-Heaven	Ailanthus altissima	
230	4/2.6	25	Tree-of-Heaven	Ailanthus altissima	
231	6.9/6	20	Tree-of-Heaven	Ailanthus altissima	
232	5	25	Tree-of-Heaven	Ailanthus altissima	
233	6.5	30	Tree-of-Heaven	Ailanthus altissima	
234	4.3	25	Tree-of-Heaven	Ailanthus altissima	Dead
235	4.8	30	Tree-of-Heaven	Ailanthus altissima	
236	6.5/8	30	Tree-of-Heaven	Ailanthus altissima	
237	5.4	30	Tree-of-Heaven	Ailanthus altissima	
238	6	23	Tree-of-Heaven	Ailanthus altissima	
239	10/5.2/5.9	30	Tree-of-Heaven	Ailanthus altissima	
240	2.9/5.1	30	Tree-of-Heaven	Ailanthus altissima	
241	4	27	Tree-of-Heaven	Ailanthus altissima	
242	7	27	Tree-of-Heaven	Ailanthus altissima	
243	4.3	30	Tree-of-Heaven	Ailanthus altissima	
244	5.8	25	Tree-of-Heaven	Ailanthus altissima	
246	4.1	20	Tree-of-Heaven	Ailanthus altissima	
247	7/3.8	27	Tree-of-Heaven	Ailanthus altissima	
248	5.4	27	Tree-of-Heaven	Ailanthus altissima	
249	4.8/4.1	27	Tree-of-Heaven	Ailanthus altissima	
250	5.9/2.4	30	Tree-of-Heaven	Ailanthus altissima	
251	5.3	27	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
252	5.3	30	Tree-of-Heaven	Ailanthus altissima	
253	5.5	30	Tree-of-Heaven	Ailanthus altissima	
254	4.2	20	Tree-of-Heaven	Ailanthus altissima	
255	4.3	25	Tree-of-Heaven	Ailanthus altissima	
256	4/9	30	Tree-of-Heaven	Ailanthus altissima	
257	5.3	30	Tree-of-Heaven	Ailanthus altissima	

Tree ID	DBH	Height	Common Name Species	Scientific Name	Notes
258	5.4	30	Tree-of-Heaven	Ailanthus altissima	Grapevine on tree
259	4.8/2.6/6.2	30	Tree-of-Heaven	Ailanthus altissima	
260	5/5.5	30	Tree-of-Heaven	Ailanthus altissima	
261	7	30	Tree-of-Heaven	Ailanthus altissima	
262	4.5	25	Tree-of-Heaven	Ailanthus altissima	
263	5	25	Tree-of-Heaven	Ailanthus altissima	
264	8.2/3.2	30	Tree-of-Heaven	Ailanthus altissima	
265	2/4.5/5.8	30	Tree-of-Heaven	Ailanthus altissima	
266	5	30	Tree-of-Heaven	Ailanthus altissima	
267	85	30	Tree-of-Heaven	Ailanthus altissima	Virginia Creeper on tree
268	5.6/4.9	30	Tree-of-Heaven	Ailanthus altissima	
269	9	32	Tree-of-Heaven	Ailanthus altissima	
205	4	20	Tree-of-Heaven	Ailanthus altissima	Dead
270	т л 8/7 л	20	Gray birch	Betula nonulifolia	Dead
271	4.0/7.4	25		Ailanthus altissima	
272	4.7/0.3/8/3.8 A	30		Allanthus altissima	
275	4	30		Allanthus altissima	
274	4.1	30		Allanthus altissima	
275		25		Allanthus altissima	
276	9.2/8.5/3.1	27	I ree-of-Heaven	Allantnus altissima	
277	9.4/8.7	33	Iree-of-Heaven	Ailanthus altissima	
278	9.3	20	Tree-of-Heaven	Ailanthus altissima	
279	8.6	25	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
280	9.5	40	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
281	6.7	35	Tree-of-Heaven	Ailanthus altissima	
282	7.1	20	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
283	4.2	20	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
284	4.7	13	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
285	4.3	15	Tree-of-Heaven	Ailanthus altissima	
286	4.5	15	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
287	6.1	12	Black Cherry	Prunus serotina	Bittersweet vines on tree
288	3.8/2.4/4.3	12	Black Cherry	Prunus serotina	
289	7.3/5.5	30	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
290	4.7/2.7/3	25	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
291	5.9	25	Tree-of-Heaven	Ailanthus altissima	
292	4.5	25	Tree-of-Heaven	Ailanthus altissima	
293	5.6	27	Tree-of-Heaven	Ailanthus altissima	
294	3.7/7.3	27	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
295	11.4	45	Tree-of-Heaven	Ailanthus altissima	
296	8.9	45	Tree-of-Heaven	Ailanthus altissima	
297	6.6	30	Tree-of-Heaven	Ailanthus altissima	Bittersweet vines on tree
298	8.9	15	Large-leaved Basswood	Tilia platyphyllos	
299	10.4	45	Tree-of-Heaven	Ailanthus altissima	
300	4 1	30	Black Cherry	Prunus serotina	
301	5 9/ <i>1 1</i>	25	Large-leaved Basswood	Tilia platyphyllos	
302	5 5/5 3/6/5 7/5 8	20	Pussy Willow	Salix discolor	
303	5 1	18	Gray birch	Betula nonulifolia	
204	0/11 C	10	Bussy Willow	Salix discolor	
205	5/15/2 C	15		Salix discolor	
303	5/4.0/5.2 7 E	15		Salix discolor	
202	I.J	15	russy Willow	Sullx discolor	
307	0.7/0.4/7.3/0.4 10 7	15	russy willow	SullX UISCUIUI	
200	TO''	CT		Ailanthua altiacia	
309	5.2/3.3	23	Tree-of-Heaven	Allunthus altissima	
310	5.1	15	Tree-ot-Heaven	Allanthus altissima	
311	4.9	20	Tree-ot-Heaven	Allanthus altissima	Bittersweet vines on tree
312	4.5	15	Tree-of-Heaven	Allanthus altissima	Bittersweet vines on tree
313	4.1	15	Iree-ot-Heaven	Ailanthus altissima	Bittersweet vines on tree
314	6.9	15	Iree-of-Heaven	Ailanthus altissima	
315	5.1	20	Tree-of-Heaven	Ailanthus altissima	



# Attachment I: Stormwater Memorandum



TO:	City of Everett Conservation Commission	DATE:	04/03/2020		
FROM:	Richard Latini, P.E.	HSH PROJECT NO .:	201602.01		
SUBJECT:	Northern Strand Trail – Stormwater Memorandum				

# Introduction

The project seeks to construct a three-quarter mile ten to 12-foot shared use path to extend the existing Northern Strand Community Trail from its existing terminus at West & Wellington to the recently constructed Encore Riverwalk along the Mystic River. SITE Centers, owners of the Gateway Shopping Center, are also funding the design and construction for the parts of the path on their property. There are temporary and permanent wetland impacts associated with the construction of the trail, so a Notice of Intent (NOI) is being filed.

The trail is comprised of two fairly different segments:

- SITE Centers Sidepath: The first 2,000-feet of trail extending north from the Encore Riverwalk trail will be constructed along the back of the parking lot of SITE Centers on their property. This will mostly involve a paved ten to 12-foot width path with two to three-foot stone shoulders, constructed adjacent to the back of curb. The shared use path will function like a sidepath along a road in this area,
- 2) **Everett Trail**: The remaining portion of the trail is on publicly owned land and is funded by the City of Everett. The City of Everett is negotiating all necessary right-of-way agreements to build on Department of Conservation and Recreation (DCR) and Massachusetts Bay Transportation Authority (MBTA) property. This part of the path will not be curbed and will be constructed along the MBTA ballast yard tracks, which remain in the location of the former Saugus Branch Railroad.

## **Existing Conditions**

## SITE CENTERS SIDEPATH

The existing drainage pattern consists of a closed system for the parking lot with outfalls into the wetlands and vegetated area to the east of the site. The parking lot is curbed and the area behind the curb is grass. No drainage issues are reported by the current owners.



## **EVERETT TRAIL**

The existing drainage pattern consists of country drainage. There is no closed pipe drainage system along the railroad. The existing condition of this portion of the trail is undeveloped. The drainage pattern for this area flows towards the wetlands.

# **Proposed Drainage Condition**

As mentioned previously, the proposed project will establish a new ten to 12-foot wide shared use path finished with a paved surface. The trail will not be crowned, and the cross slope will be designed to the east so that that the majority of stormwater generated by the new impervious surface flows into green space, rather than overwhelming the existing drainage system. It is not anticipated that significant flow will be added to the parking lot and no new low points are created by the construction of the path. As such, the project does not propose any changes to the parking lot's current drainage system, except to adjust structures affected by the path construction. The cross slope will be reversed to pitch toward the west where the trail runs along the railroad so that stormwater is not directed to the railroad tracks. This flow will eventually reach the wetlands via overland flow. During construction, erosion control measures will be added at the downslope of the trail where it is adjacent to wetlands. The proposed stormwater management system will consist mainly of open-channel type of Best Management Practices (BMPs).

## **Stormwater Management Standards**

The path provides access for walking, jogging, and bicycling, and is not intended for access by motorized vehicles. These types of recreational paths are required to meet the Stormwater Management Standards to the maximum extent practicable. The following summarizes how the Project addresses the Standards or has a limited impact on the intent of the Standards.

## STANDARD 1: NO UNTREATED DISCHARGES OR EROSION TO WETLANDS

The Project will not introduce new point discharges as the path drains overland to existing drainage systems and swales. Runoff from the path will in some cases be directed to adjacent wetlands with varying flow lengths over pervious areas.

The path will generate little to no contaminants obviating the need for a dedicated system providing water quality treatment of the stormwater runoff. The runoff from the path will be relatively clean as it will not be a source of pollutants such as metals, oils, and grease typically associated with urban runoff conditions. The City will limit the use of sand and deicing chemicals on the shared use path.



The Project has been designed to prevent erosion and sedimentation of wetlands and waterways. Pollution of stormwater will be prevented during construction through the use of erosion and sediment controls, including compost filter tubes, and temporary stabilization measures. Stone dust is proposed along the edges of the path to prevent deterioration of the pavement and erosion of adjacent soils. Remaining disturbed areas will be permanently stabilized with loam and seed.

## STANDARD 2: PEAK RATE CONTROL & FLOOD PREVENTION

In general, existing watersheds and flow paths will be maintained. Any increase in impervious area is expected to be negligible given the overall size of the watershed area. The path is spread over a large distance and runoff from the path is not expected to overload any particular area. All runoff from the trail ultimately ends up flowing towards wetlands or other landscaped areas through country drainage.

# STANDARD 3: MINIMIZE OR ELIMINATE LOSS OF ANNUAL RECHARGE TO GROUNDWATER

The Soil Map available from the National Resources Conservation Service indicate that the soils within the Project limits are mostly categorized as urban land with a wet substratum. This soil type generally has limited infiltration potential. Depth to groundwater and slopes limit the ability to introduce meaningful infiltration systems. Due to the size of the project in comparison with the overall watershed and the limiting infiltration capacity of the soils, the path is expected to have a negligible impact on the annual recharge of groundwater.

## STANDARD 4: REMOVE 80% OF TOTAL SUSPENDED SOLIDS

The path is expected to generate minimal sediment and pollutants. The City will limit the use of sand and deicing chemicals on the shared use path. The City will also implement suitable practices for pollution prevention and source control as identified in the Operation and Maintenance Plan.

**STANDARD 5: LAND USES WITH HIGHER POTENTIAL POLLUTANT LOADS** The shared use path is not considered a land use with higher potential pollutant loads

## **STANDARD 6: STORMWATER DOES NOT DISCHARGE TO CRITICAL AREAS** The Project is not near or within a critical area.

## **STANDARD 7: REDEVELOPMENT**

The Project is a bike and foot path project and lies mostly within a previously developed site. The path has a stone dust shoulder and slopes will be loamed and seeded to prevent erosion and provide some infiltration. The narrow Project area and location of nearby wetlands limit the space available



to provide significant stormwater best management practices. However, the path is not expected to have the negative impacts of a typical urban development.

## **STANDARD 8: CONTROL CONSTRUCTION-RELATED IMPACTS**

The project will install erosion and sediment controls prior to any major earthwork activity. Land disturbance will be kept to a minimum. Stabilization, such as temporary vegetation and/or mulch, will be provided on disturbed areas if final grading is to be delayed for more than 21 days. The Contractor will be responsible for controlling erosion and dust throughout construction.

The Project will disturb more than an acre of land. A Notice of Intent will be submitted to the U.S. Environmental Protection Agency for coverage under the General Permit for Construction Activity. A Stormwater Pollution Prevention Plan (SWPPP) will be prepared and implemented by the Proponent.

## **STANDARD 9: LONG-TERM OPERATION AND MAINTENANCE PLAN**

See the attached operation and maintenance requirements of the stormwater management system.

## **STANDARD 10: NO ILLICIT DISCHARGES**

There are no known or proposed illicit connections associated with this project. An illicit discharge compliance statement is attached to this memorandum.



USDA

## Northern Strand Community Trail Extension – Everett, MA Stormwater Management System

## Operation and Maintenance Plan (O&M) and Long Term Pollution Prevention Plan (LTPPP)

## April 2020

This Stormwater Management System Operation and Maintenance Plan provides for the inspection and maintenance of structural Best Management Practices (BMPs) and for measures to prevent pollution associated with the Northern Strand Community Trail Extension in Everett, MA.

This document has been prepared in accordance with the requirements of the Stormwater Regulations included in the Massachusetts Wetlands Protection Act Regulations (310 CMR 10).

#### **Responsible Party**

The City of Everett of Public Works will be responsible for the maintenance of the shared use path facitilies and associated stormwater management features.

Questions or concerns regarding maintenance activities may also be addressed to the Department of Public Works:

DPW Facility: Department of Public Works 19 Norman Street Everett, MA 02149 Tel (617) 394-2286

#### Maintenance Measures

The stormwater management system covered by this Operation and Maintenance Plan consists of the following component:

• Grass Channels

Maintenance of these components will be conducted in accordance with the City of Everett standard maintenance practices, as noted in the attached Operation and Maintenance table summarizing the pertinent inspection and maintenance activities.

If inspection indicates the need for major repairs of structural surfaces, the inspector should contact the DPW Executive Director to initiate procedures to effect repairs in accordance with standard construction practices.

#### **Practices for Long Term Pollution Prevention**

In general, long term pollution prevention and related maintenance activities will be conducted consistent with the City of Everett NPDES Stormwater MS4 Permit, and the measures outlined in the Stormwater By-law.

For the facilities covered by this Operation and Maintenance Plan, long term pollution prevention includes the following measures:

#### Litter Pick-up

The DPW will conduct litter pick-up from the stormwater management facilities in conjunction with routine road maintenance activities.

#### Routine Inspection and Maintenance of Stormwater BMPs

The DPW will conduct inspection and maintenance of the stormwater management practices in accordance with the guidelines discussed above.

#### Spill Prevention and Response

The City of Everett will implement response procedures for releases of significant materials such as fuels, oils, or chemical materials onto the ground or other areas that could reasonably be expected to discharge to surface or groundwater.

- Reportable quantities will immediately be reported to the applicable Federal, State, and local agencies as required by law.
- Applicable containment and cleanup procedures will be performed immediately. Impacted material collected during the response must be removed promptly and disposed of in accordance with Federal, State, and local requirements. A licensed emergency response contractor may be required to assist in cleanup of releases depending on the amount of the release and the ability of the responsible party to perform the required response.
- Reportable quantities of chemical, fuels, or oils are established under the Clean Water Act and enforced through DEP.

#### Maintenance of Landscaped Areas

Routine mowing should be conducted according to standard City of Everett practices. As indicated in the attached O&M table, embankments designed to impound water should be mowed as required to prevent establishment of woody vegetation.

The City of Everett shall minimize use of fertilizers, herbicides, and pesticides for the maintenance of facilities covered by this plan.

#### Prohibition of Illicit Discharges

The DEP Stormwater Management Standards prohibit illicit discharges to the storm water management system. Illicit discharges are discharges that do not entirely consist of stormwater, except for certain specified non-stormwater discharges.

Discharges from the following activities are <u>not</u> considered illicit discharges:

firefighting	foundation drains
water line flushing	footing drains
landscape irrigation	individual resident car washing
uncontaminated groundwater	flows from riparian habitats and wetlands
potable water sources	dechlorinated water from swimming pools
water used to clean residential buildings	water used for street washing
without detergents	air conditioning condensation

There are no known or proposed illicit connections associated with this project. If a potential illicit discharge to the facilities covered by this plan is detected (e.g., dry weather flows at any pipe outlet, evidence of contamination of surface water discharge by non-stormwater sources), the DPW Executive Director shall be notified for assistance in determining the nature and source of the discharge, and for resolution through the City of Everett's IDDE program.

#### **Snow/Ice Management Practices**

The City will limit the use of sand and deicing chemicals on the shared use path to avoid polluting the adjacent environmental areas.

### Illicit Discharge Compliance Statement

#### Project Name: Northern Strand Community Trail, Everett, MA

By signing this statement, I confirm that no illicit discharges (as defined in Section 40 CFR 122.34(b)(3) of the Phase II Stormwater Regulations under the Clean Water Act) are proposed to enter the stormwater system at the Northern Strand Community Trail, Everett, MA. Illicit discharge detection and elimination procedures will be implemented routinely by visual inspections to prevent illicit discharges into the stormwater system. Personnel maintaining the Trail will be informed of the illicit discharge detection and elimination procedures and that no illicit discharges are allowed to enter the stormwater system.

Signature:

Title:		
Date:		
Company:	 	 
Address:		
Telephone Number: _		

	MAP L	EGEND		MAP INFORMATION
Area of Intere	e <b>st (AOI)</b> rea of Interest (AOI)	8	Spoil Area Stony Spot	The soil surveys that comprise your AOI were mapped at 1:25,000.
Soils	oil Map Unit Polygons	Ø V	Very Stony Spot Wet Spot	Warning: Soil Map may not be valid at this scale. Enlargement of maps beyond the scale of mapping can cause
Special Poi	oil Map Unit Lines oil Map Unit Points		Other Special Line Features	line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detail scale.
	lowout orrow Pit	Water Fea	atures Streams and Canals	Please rely on the bar scale on each map sheet for map measurements.
¥ C ⊘ C	lay Spot		Rails Interstate Highways	Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)
S G	Sravel Pit Sravelly Spot andfill	% %	US Routes Major Roads Local Roads	Maps from the Web Soil Survey are based on the Web Merca projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required
 M	larsh or swamp	Backgrou	Ind Aerial Photography	This product is generated from the USDA-NRCS certified dat of the version date(s) listed below.
	liscellaneous Water			Soil Survey Area: Middlesex County, Massachusetts Survey Area Data: Version 19, Sep 12, 2019 Soil Survey Area: Norfolk and Suffolk Counties Massachus
V R	cock Outcrop			Survey Area Data: Version 15, Sep 12, 2019 Your area of interest (AOI) includes more than one soil surve
+ ° ∷ S ⊕ S	andy Spot everely Eroded Spot			area. These survey areas may have been mapped at differen scales, with a different land use in mind, at different times, or different levels of detail. This may result in map unit symbols, properties, and interpretations that do not completely agree
o∳ S }≽ S	inkhole lide or Slip			across soil survey area boundaries. Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.
<i>j</i> ø S	odic Spot			- Date(s) aerial images were photographed: Sep 11, 2019—( 2019

## MAP LEGEND

## **MAP INFORMATION**

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



# Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1	Water	22.3	8.5%
603	Urban land, wet substratum	126.6	48.1%
655	Udorthents, wet substratum	113.3	43.1%
Subtotals for Soil Survey Area	a	262.2	99.7%
Totals for Area of Interest		263.0	100.0%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
603	Urban land, wet substratum, 0 to 3 percent slopes	0.1	0.0%
655	Udorthents, wet substratum	0.7	0.3%
Subtotals for Soil Survey Area	1	0.8	0.3%
Totals for Area of Interest		263.0	100.0%

