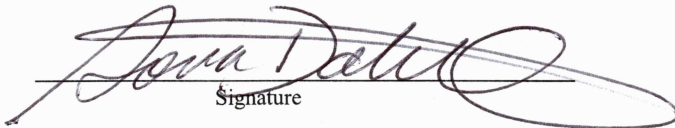


**NOTICE OF INTENT  
UNDER THE TOWN OF WEYMOUTH  
WETLANDS PROTECTION ORDINANCE, CHAPTER 7, SECTION 301**

1. Project Location 1183 Main Street
2. Town of Weymouth Atlas Reference (Parcel #) 53 554-19
3. Project Description Construction of parking areas and creation of storm water facility
4. County, Norfolk: Book 4113 Page 267
5. \*Applicant S. Barzolla Construction Corp \*Telephone# \_\_\_\_\_
6. \*Applicant Address 1183 Main Street Weymouth, MA 02190
7. Property Owner Sonia Dahlquist
8. Representative Hardy-Man Design Group Telephone# 7871 929 1203  
Kenneth Thomson
9. Representative's Address 1285 Washington St. Weymouth, MA 02189
10. Billing Party for Legal Notice (All info is required):  
Name: Sonia Dahlquist  
Address: 1183 Main St Weymouth MA 02190  
Home Phone: \_\_\_\_\_ Cell: 781 964 4288  
Email address info@sbarzollaconstruction.com
11. Has the Conservation Commission received the **original** material **plus six (6) copies** of the Notice of Intent form, 8.5"x11", U.S.G.S. locus and 8.5"x11" sheet clearly showing the proposed site and work in addition to labeled resource areas? YES \_\_\_\_\_ NO \_\_\_\_\_
12. Are the following additional interests relevant to the proposed project? If so, Notice of Intent must include a discussion of these interests. Aesthetics \_\_\_\_\_ Wildlife \_\_\_\_\_ Recreation \_\_\_\_\_  
Erosion Control X
13. Have you filed your Local Wetland Fees? State Fees? YES X NO \_\_\_\_\_
14. Have you filed the Abutters' Notification and Affidavit of Service? YES X NO \_\_\_\_\_

I, THE UNDERSIGNED, HEREBY APPLY FOR A PERMIT PURSUANT TO THE CODE OF ORDINANCES, TOWN OF WEYMOUTH, CHAPTER 7, SECTION 301

  
Signature

3/31/2021  
Date

\*THE WEYMOUTH CONSERVATION OFFICE WILL SUBMIT THE NECESSARY LEGAL AD, AND THE APPLICANT WILL BE BILLED DIRECTLY BY THE PATRIOT LEDGER. FOR BILLING PURPOSES, THE PATRIOT LEDGER REQUIRES THAT THE TELEPHONE NUMBER SUBMITTED MUST BE THE DIRECT CONTACT NUMBER THAT MATCHES THE NAME AND ADDRESS OF THE APPLICANT, OTHERWISE THE LEGAL AD WILL NOT BE PUBLISHED AND THE HEARING WILL BE DELAYED.



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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Weymouth

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. General Information**

1. Project Location (**Note:** electronic filers will click on button to locate project site):

<u>1183 Main Street</u>	<u>Weymouth</u>	<u>02190</u>
a. Street Address	b. City/Town	c. Zip Code
Latitude and Longitude:	<u>42.163762</u>	<u>70.955606</u>
	d. Latitude	e. Longitude
<u>53</u>	<u>554-19</u>	
f. Assessors Map/Plat Number	g. Parcel /Lot Number	

2. Applicant:

<u>Sonia</u>	<u>Dahlquist</u>	
a. First Name	b. Last Name	
<u>S Barzola Construction Corp.</u>		
c. Organization		
<u>1183 Main St</u>		
d. Street Address		
<u>Weymouth</u>	<u>MA</u>	<u>02370</u>
e. City/Town	f. State	g. Zip Code
<u>(781) 817 02190</u>	<u>info@sbarzolaconstruction.com</u>	
h. Phone Number	i. Fax Number	j. Email Address

3. Property owner (required if different from applicant):  Check if more than one owner

<u>Same</u>		
a. First Name	b. Last Name	
c. Organization		
d. Street Address		
e. City/Town	f. State	g. Zip Code
h. Phone Number	i. Fax Number	j. Email address

4. Representative (if any):

<u>Kenneth</u>	<u>Thomson</u>	
a. First Name	b. Last Name	
<u>5 Wetlands</u>		
c. Company		
<u>134 Spring Street</u>		
d. Street Address		
<u>Rockland</u>	<u>MA</u>	<u>02370</u>
e. City/Town	f. State	g. Zip Code
<u>(781) 929-1203</u>	<u>5wetlands@gmail.com</u>	
h. Phone Number	i. Fax Number	j. Email address

5. Total WPA Fee Paid (from NOI Wetland Fee Transmittal Form):

<u>\$1000.00</u>	<u>\$487.50</u>	<u>\$512.50</u>
a. Total Fee Paid	b. State Fee Paid	c. City/Town Fee Paid



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

Provided by MassDEP:
MassDEP File Number
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Weymouth
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## A. General Information (continued)

6. General Project Description:

Pave 7,982 sqft of access and parking area and construct 1180 sq ft of rain garden/2 forebays to control the stormwater runoff. Install 6 Cultec rechargers to infiltrate roof runoff.

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

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)?

1.  Yes  No 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 Checklistand Signed Certification.

8. Property recorded at the Registry of Deeds for:

Norfolk

a. County

4113

c. Book

b. Certificate # (if registered land)

267

d. Page Number

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

- 1.  Buffer 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.



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

Provided by MassDEP:

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Document Transaction Number

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City/Town

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

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. <input type="checkbox"/> Bank	1. linear feet	2. linear feet
b. <input type="checkbox"/> Bordering Vegetated Wetland	1. square feet	2. square feet
c. <input type="checkbox"/> Land Under Waterbodies and Waterways	1. square feet	2. square feet
	3. cubic yards dredged	

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. <input type="checkbox"/> Bordering Land Subject to Flooding	1. square feet	2. square feet
	3. cubic feet of flood storage lost	4. cubic feet replaced
e. <input type="checkbox"/> Isolated Land Subject to Flooding	1. square feet	
	2. cubic feet of flood storage lost	3. cubic feet replaced
f. <input type="checkbox"/> Riverfront Area	1. Name of Waterway (if available) - <b>specify coastal or inland</b>	

2. Width of Riverfront Area (check one):

25 ft. - Designated Densely Developed Areas only

100 ft. - New agricultural projects only

200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project: \_\_\_\_\_ square feet

4. Proposed alteration of the 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 been done and is it attached to this NOI?  Yes  No

6. Was the lot where the activity is proposed created prior to August 1, 1996?  Yes  No

3.  Coastal Resource Areas: (See 310 CMR 10.25-10.35)

**Note:** for coastal riverfront areas, please complete **Section B.2.f.** above.



Massachusetts Department of Environmental Protection  
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**WPA Form 3 – Notice of Intent**

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

Provided by MassDEP:

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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.

Online Users:  
Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

<u>Resource Area</u>	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
a. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. <input type="checkbox"/> Land Under the Ocean	_____	
	1. square feet	
	_____	
	2. cubic yards dredged	
c. <input type="checkbox"/> Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. <input type="checkbox"/> Coastal Beaches	_____	_____
	1. square feet	2. cubic yards beach nourishment
e. <input type="checkbox"/> Coastal Dunes	_____	_____
	1. square feet	2. cubic yards dune nourishment

	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
f. <input type="checkbox"/> Coastal Banks	_____	
	1. linear feet	
g. <input type="checkbox"/> Rocky Intertidal Shores	_____	
	1. square feet	
h. <input type="checkbox"/> Salt Marshes	_____	_____
	1. square feet	2. sq ft restoration, rehab., creation
i. <input type="checkbox"/> Land Under Salt Ponds	_____	
	1. square feet	
	_____	
	2. cubic yards dredged	
j. <input type="checkbox"/> Land Containing Shellfish	_____	
	1. square feet	
k. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above	
	_____	
	1. cubic yards dredged	
l. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	_____	
	1. square feet	

4.  Restoration/Enhancement  
If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please enter the additional amount here.

\_\_\_\_\_ a. square feet of BVW \_\_\_\_\_ b. square feet of Salt Marsh

5.  Project Involves Stream Crossings

\_\_\_\_\_ a. number of new stream crossings \_\_\_\_\_ b. number of replacement stream crossings



Massachusetts Department of Environmental Protection  
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# WPA Form 3 – Notice of Intent

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

Provided by MassDEP:
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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

- 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](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\*

- Percentage/acreage of property to be altered:
  - (a) within wetland Resource Area \_\_\_\_\_ percentage/acreage
  - (b) outside Resource Area \_\_\_\_\_ percentage/acreage

2.  Assessor's Map or right-of-way plan of site

- 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)  Photographs representative of the site

\*Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review(see <https://www.mass.gov/ma-endangered-species-act-mesa-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.



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

Provided by MassDEP:
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## C. Other Applicable Standards and Requirements (cont'd)

(c)  MESA filing fee (fee information available at <https://www.mass.gov/how-to/how-to-file-for-a-mesa-project-review>).

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

1.  Project is exempt from MESA review.  
Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, <https://www.mass.gov/service-details/exemptions-from-review-for-projectsactivities-in-priority-habitat>; 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:

North Shore - Hull to New Hampshire border:

Division of Marine Fisheries -  
Southeast Marine Fisheries Station  
Attn: Environmental Reviewer  
836 South Rodney French Blvd.  
New Bedford, MA 02744  
Email: [dmf.envreview-south@mass.gov](mailto:dmf.envreview-south@mass.gov)

Division of Marine Fisheries -  
North Shore Office  
Attn: Environmental Reviewer  
30 Emerson Avenue  
Gloucester, MA 01930  
Email: [dmf.envreview-north@mass.gov](mailto:dmf.envreview-north@mass.gov)

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.

c.  Is this an aquaculture project?      d.  Yes     No

If yes, include a copy of the Division of Marine Fisheries Certification Letter (M.G.L. c. 130, § 57).



**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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Weymouth

City/Town

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

4. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?  
a.  Yes  No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.  
b. ACEC
5. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?  
a.  Yes  No
6. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?  
a.  Yes  No
7. Is this project subject to provisions of the MassDEP Stormwater Management Standards?  
a.  Yes. Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:  
1.  Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol. 2, Chapter 3)  
2.  A portion of the site constitutes redevelopment  
3.  Proprietary BMPs are included in the Stormwater Management 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 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

**D. Additional Information**

- This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).

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.

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

**Online Users:**  
Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.





Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands

**WPA Form 3 – Notice of Intent**

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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.

Site Plan Layout, 1183 Main Street, Weymouth, Massachusetts	
a. Plan Title	
Hardy-Man Design Group	Shawn Hardy
b. Prepared By	c. Signed and Stamped by
3-26-2021	1"=30'
d. Final Revision Date	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

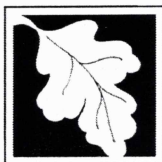
9.  Attach Stormwater Report, if needed.

**E. Fees**

1.  Fee 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:

1488	4/8/2021
2. Municipal Check Number	3. Check date
e-File	
4. State Check Number	5. Check date
Hardy-Man Design Group	
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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

*Weymouth*  
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.

1. Signature of Applicant	2. Date
3. Signature of Property Owner (if different)	4. Date
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.



**A. Applicant Information**

1. Location of Project:

1183 Main Street  
 a. Street Address  
 Weymouth  
 b. City/Town  
 \$487.50  
 d. Fee amount

2. Applicant Mailing Address:

Sonia  
 a. First Name  
 Dahlquist  
 b. Last Name  
 S Barzola Construction Corp.  
 c. Organization  
 1183 Main Street  
 d. Mailing Address  
 Weymouth MA 02190  
 e. City/Town f. State g. Zip Code  
 (781) 817-6485 (781) 817-6547 info@sbarzolaconstruction.com  
 h. Phone Number i. Fax Number j. Email Address

3. Property Owner (if different):

Same  
 a. First Name  
 b. Last Name  
 c. Organization  
 d. Mailing Address  
 e. City/Town f. State g. Zip Code  
 h. Phone Number i. Fax Number j. Email Address

**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.


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



HOLD TO LIGHT TO VIEW TRUE WATERMARK IN PAPER HEAT SENSITIVE RED LOCK DISAPPEARS WHEN HEATED

1488

**HARDY MAN DESIGN GROUP P C**  
1285 WASHINGTON ST  
WEYMOUTH, MA 02189

  
53-179/113

DATE 4/8/2021

PAY TO THE ORDER OF Town of Weymouth

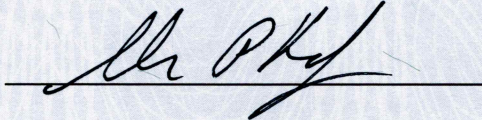
\$ 1,487.14

one thousand four hundred Eighty - Seven

<sup>14</sup>/<sub>100</sub> DOLLARS

 Eastern Bank  
Boston, MA 02110  
easternbank.com  
1-800-EASTERN

FOR 1183 Main st - WPA & Local NOI Fees





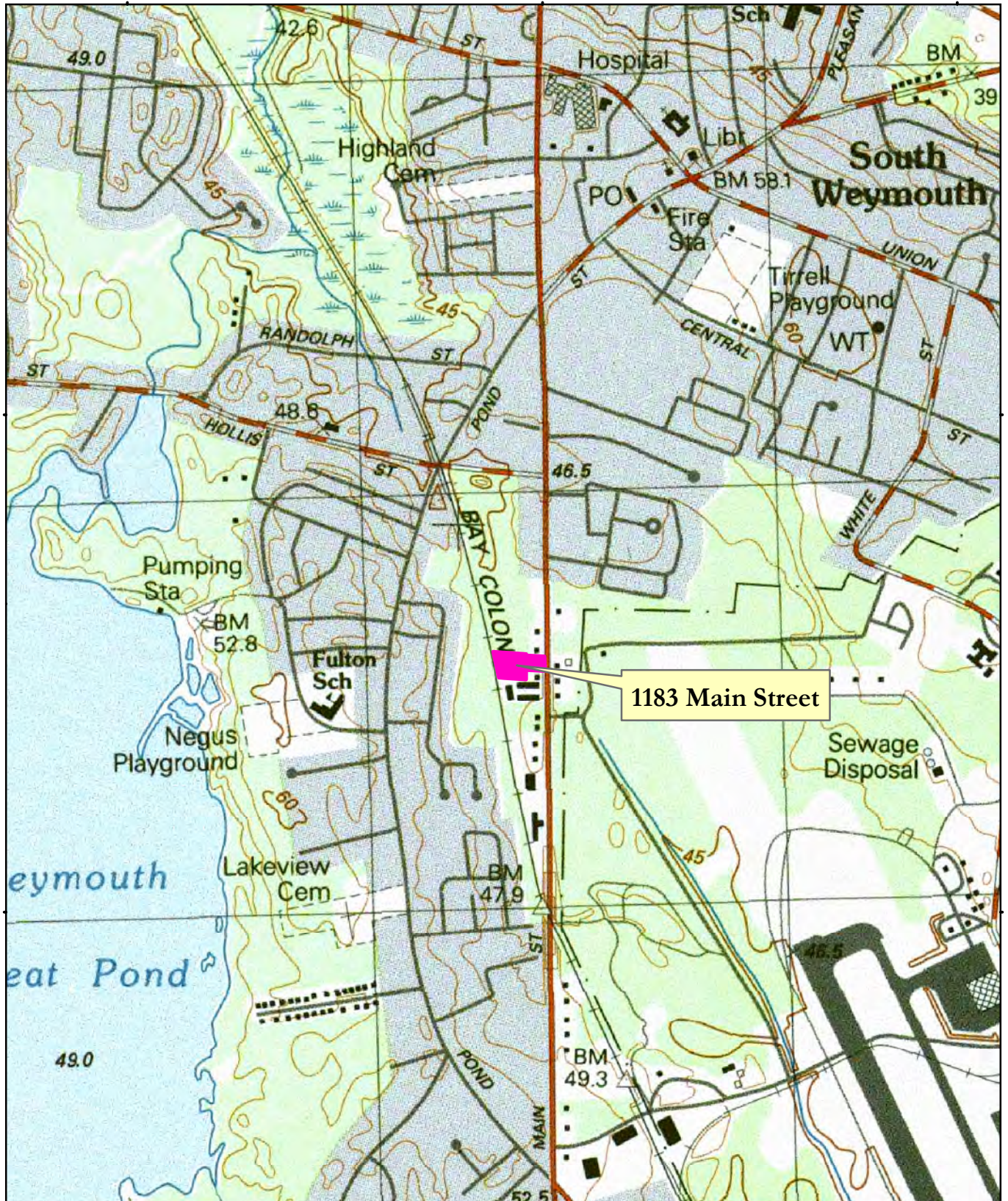
Details on back

Security Features

244000

245000

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880000

880000


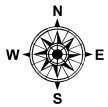
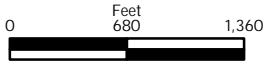
878800

878800

244000

245000

246000

 <p>5 Wetlands</p>	<p>LOCUS 1183 Main Street WEymouth, MA</p> <p>NOTES:</p>	 	<p>LOCUS</p>
---	--	--	--------------

**Notice of Intent**  
**1183 Main Street, Weymouth, MA**



***Introduction***

The project proposes to up-grade paving and storm water management at 1183 Main Street, Weymouth. Stormwater improvements include a Cultec infiltration system for roof run-off and two forebays /rain garden to mitigate for the paving stormwater.

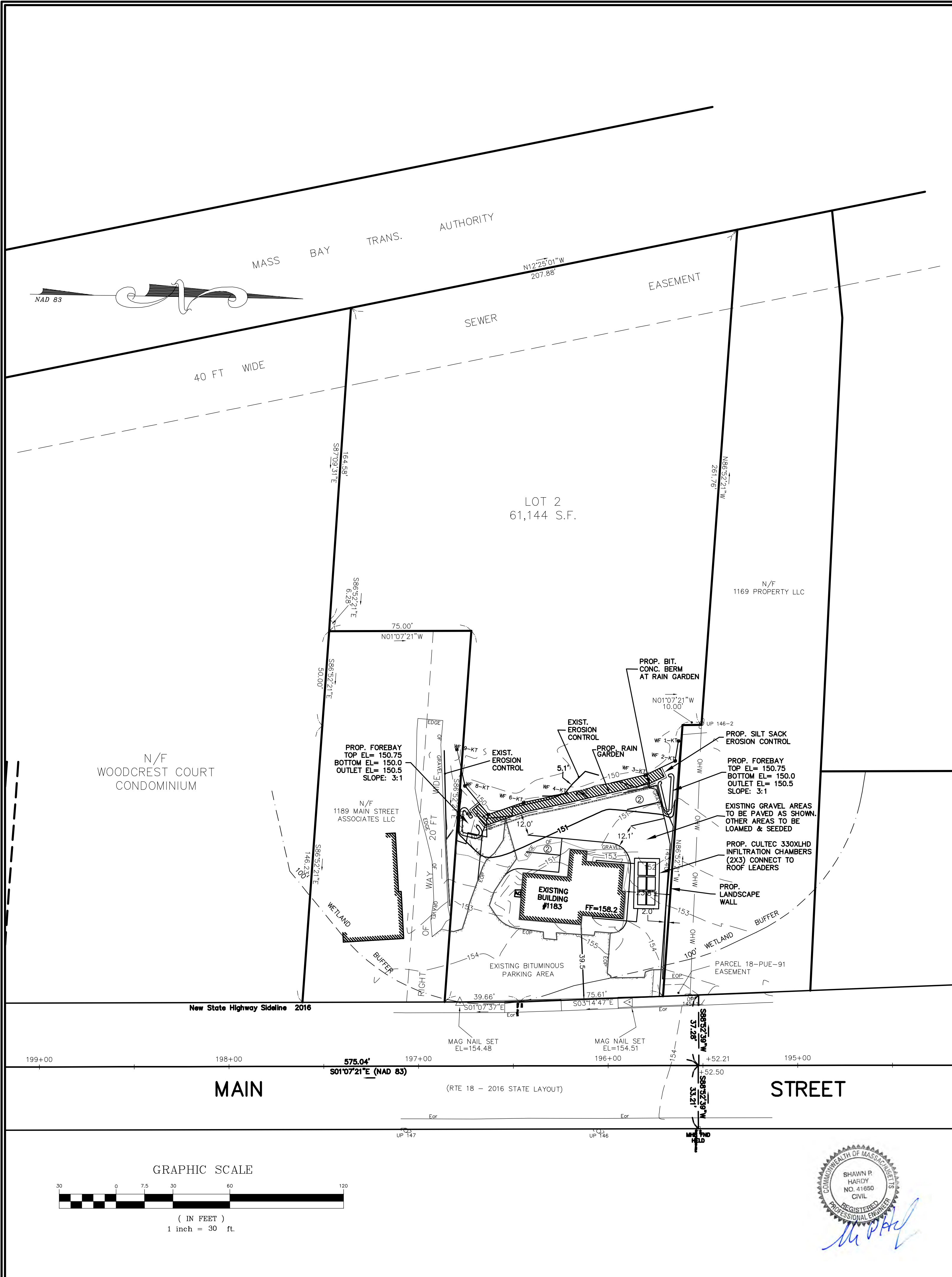
***Existing Conditions***  
**Existing Conditions**

Recently the site was regraded and a gravel drive around the building was installed. The purpose of this was to create an employee parking area to compensate for lost access due to the ongoing Route 18 reconstruction. As part of that construction, a land taking for the roadway widening rendered the front parking area impractical for use other than by small vehicles. Without stormwater controls, this would lead to an increase in stormwater runoff to the wetland area.

Wetlands dominate the rear portion of the property and characterized as red maple swamp. Red maple, poison sumac, winterberry, nannyberry, glossy false buckthorn and sensitive fern dominated vegetation. Soils are mapped as Swansea muck a very poorly drained organic soil. These soils are in depressions or on flat level areas on uplands and outwash plains.

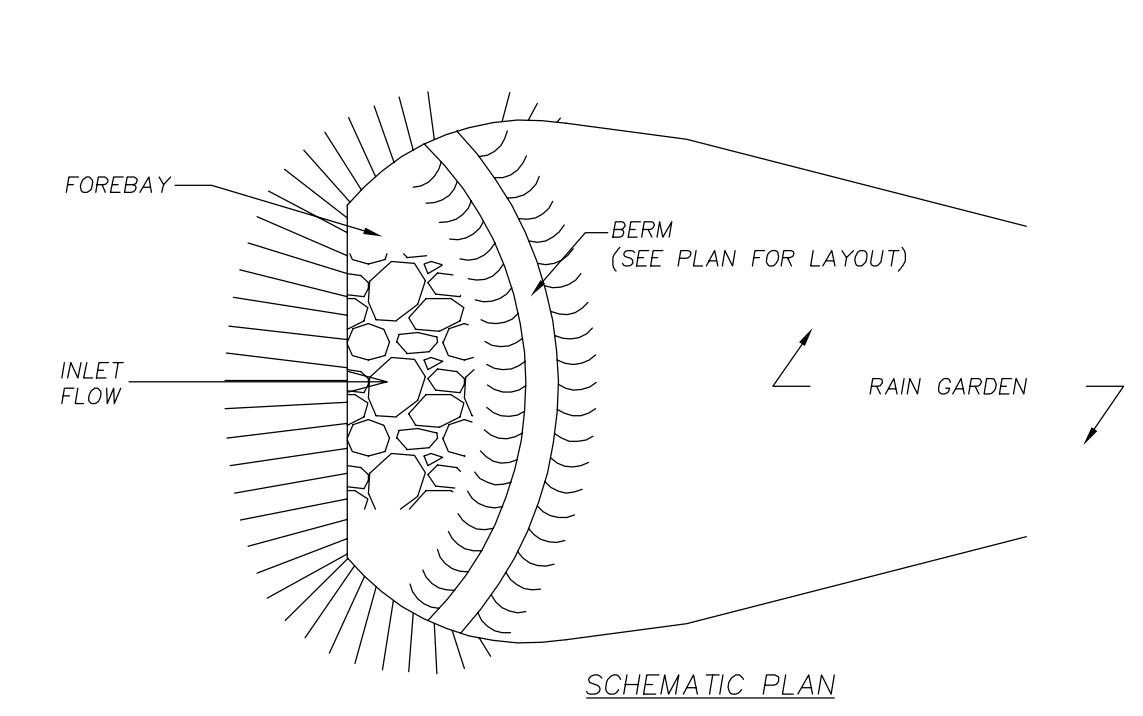
**Proposed Conditions**

In order to provided adequate parking on the site and mitigate the resulting stormwater impacts, the applicant proposes the improvements depicted on the accompanying Site Plan. The proposal involves additional grading and the installation of a paved parking surface and access drive. Stomwater improvements include a rain garden with sediment forebays to treat runoff from the pavement. Additionally, a six-unit subsurface Cultec infiltration system is proposed to collect and infiltrate flows from the roof of the existing structure.

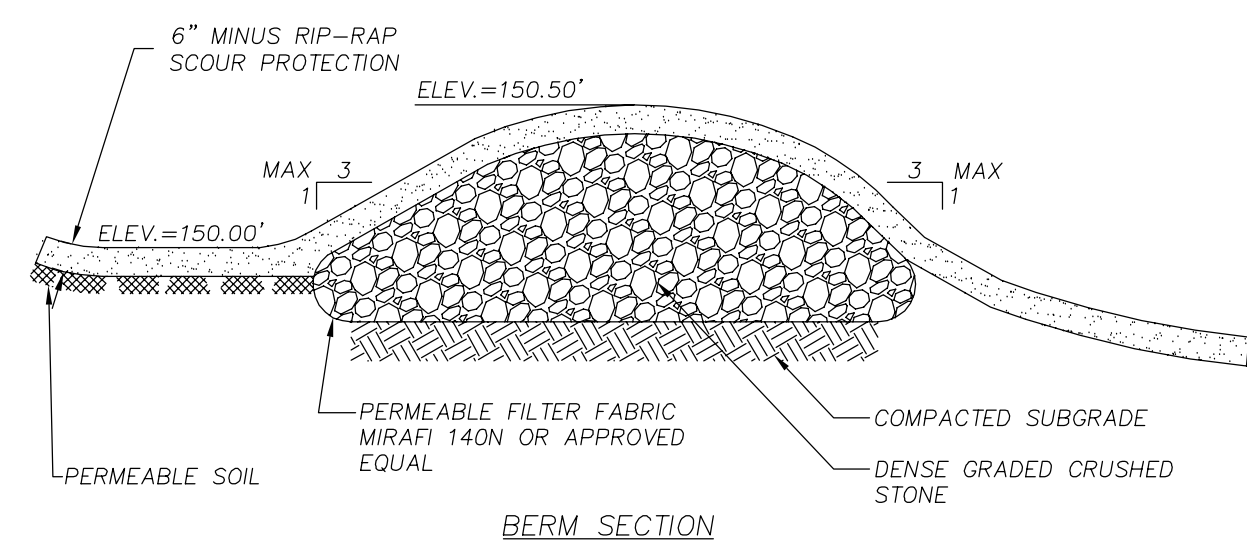


**GENERAL NOTES:**

- TOPOGRAPHIC DATA, PROPERTY LINE INFORMATION, AND EXISTING SITE FEATURES DEPICTED WERE OBTAINED FROM "PLAN SHOWING EXISTING CONDITIONS IN WEYMOUTH, MA" PREPARED BY MILLER SURVEYING SERVICE DATED 1/13/2021. PLAN REFERENCES INCLUDE PLK 4113 PG 267, L.C. PLAN 24237, AND STATE HIGHWAY LAYOUT #8326 OF 2016.
- THIS PLAN SET IS INTENDED AND PREPARED FOR PERMITTING, IN WHICH THE SITE OWNER IS S BARZOLA CONSTRUCTION CORP. TITLE REFERENCE IS BK 37499 PG 23. ASSESSORS REFERENCE IS 53/54/19. THE ZONING OF THIS SITE IS H7, OR HIGHWAY TRANSITION.
- WETLANDS FLAGS WAS DELINEATED BY KEN THOMSON. FLOODPLAIN INFORMATION WAS OBTAINED FROM THE FLOOD INSURANCE RATE MAPS (FIRM) NOS. 25021C0237E, DATED MARCH 19, 2021. THE FEMA SPECIAL FLOOD HAZARD AREAS REFLECT THE CURRENT INFORMATION AVAILABLE ON THE FEMA WEBSITE. THE MAPS ARE EFFECTIVE AS OF JULY 17, 2012. THE SITE IS LOCATED IN ZONES X (AREAS DETERMINED TO BE OUTSIDE THE 0.2 % ANNUAL CHANCE FLOODPLAIN), AND AE (BASE FLOODPLAIN ELEVATIONS DETERMINED).
- THE CONTRACTOR SHALL COMPLY WITH MASSACHUSETTS GENERAL LAWS CHAPTER 82, SECTION 40, AS AMENDED, WHICH STATES THAT NO ONE MAY EXCAVATE IN THE COMMONWEALTH OF MASSACHUSETTS EXCEPT IN AN EMERGENCY WITHOUT 72 HOURS NOTICE, EXCLUSIVE OF SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS, TO NATURAL GAS PIPELINE COMPANIES, AND MUNICIPAL UTILITY DEPARTMENTS THAT SUPPLY GAS, ELECTRICITY, TELEPHONE, OR CABLE TELEVISION SERVICE IN OR TO THE CITY OR TOWN WHERE THE EXCAVATION IS TO BE MADE. THE CONTRACTOR SHALL CALL "DIG SAFE" AT 1-888-DIG-SAFE.
- THE CONTRACTOR SHALL COMPLY WITH MASSACHUSETTS GENERAL LAWS CHAPTER 82A, ALSO REFERRED TO AS JACKIE'S LAW, AS DETAILED IN SECTION 520 CMR 14.00 OF THE CODE OF MASSACHUSETTS REGULATIONS.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, RULES, REGULATIONS AND SAFETY CODES IN THE CONSTRUCTION OF ALL IMPROVEMENTS.
- THE LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES ARE APPROXIMATE, AND ALL UTILITIES MAY NOT BE SHOWN. PRESENCE AND LOCATIONS OF ALL UTILITIES WITHIN THE LIMIT OF WORK MUST BE DETERMINED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND CONTACTING THE CONTROLLING AUTHORITIES AND/OR UTILITY COMPANIES RELATIVE TO THE LOCATIONS AND ELEVATIONS OF THEIR LINES. THE CONTRACTOR SHALL KEEP A RECORD OF ANY DISCREPANCIES OR CHANGES IN THE LOCATIONS OF ANY UTILITIES SHOWN OR ENCOUNTERED DURING CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER AND NITSCHE ENGINEERING. ANY DAMAGE RESULTING FROM THE FAILURE OF THE CONTRACTOR TO MAKE THESE DETERMINATIONS AND CONTACTS SHALL BE BORNE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL, THROUGHOUT CONSTRUCTION, TAKE ADEQUATE PRECAUTIONS TO PROTECT ALL WALKS, GRADING, SIDEWALKS AND SITE DETAILS OUTSIDE OF THE LIMIT OF WORK AS DEFINED ON THE DRAWINGS AND SHALL REPAIR AND REPLACE OR OTHERWISE MAKE GOOD AS DIRECTED BY THE ENGINEER OR OWNER'S DESIGNATED REPRESENTATIVE ANY SUCH OR OTHER DAMAGE SO CAUSED.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY AND ALL CONSTRUCTION MEANS AND METHODS.
- PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE SITE AND CONSTRUCTION DOCUMENT TO DEVELOP A THOROUGH UNDERSTANDING OF THE PROJECT, INCLUDING ANY SPECIAL CONDITIONS AND CONSTRAINTS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH THE PROJECT SITE AND TO VERIFY ALL CONDITIONS IN THE FIELD AND REPORT DISCREPANCIES BETWEEN PLANS AND ACTUAL CONDITIONS TO THE OWNER OR OWNER'S REPRESENTATION IMMEDIATELY.
- THE CONTRACTOR SHALL CONDUCT ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY CONSTRUCTION PERMITS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE ESTABLISHMENT AND USE OF ALL VERTICAL AND HORIZONTAL CONSTRUCTION CONTROLS.
- ELEVATIONS REFER TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).

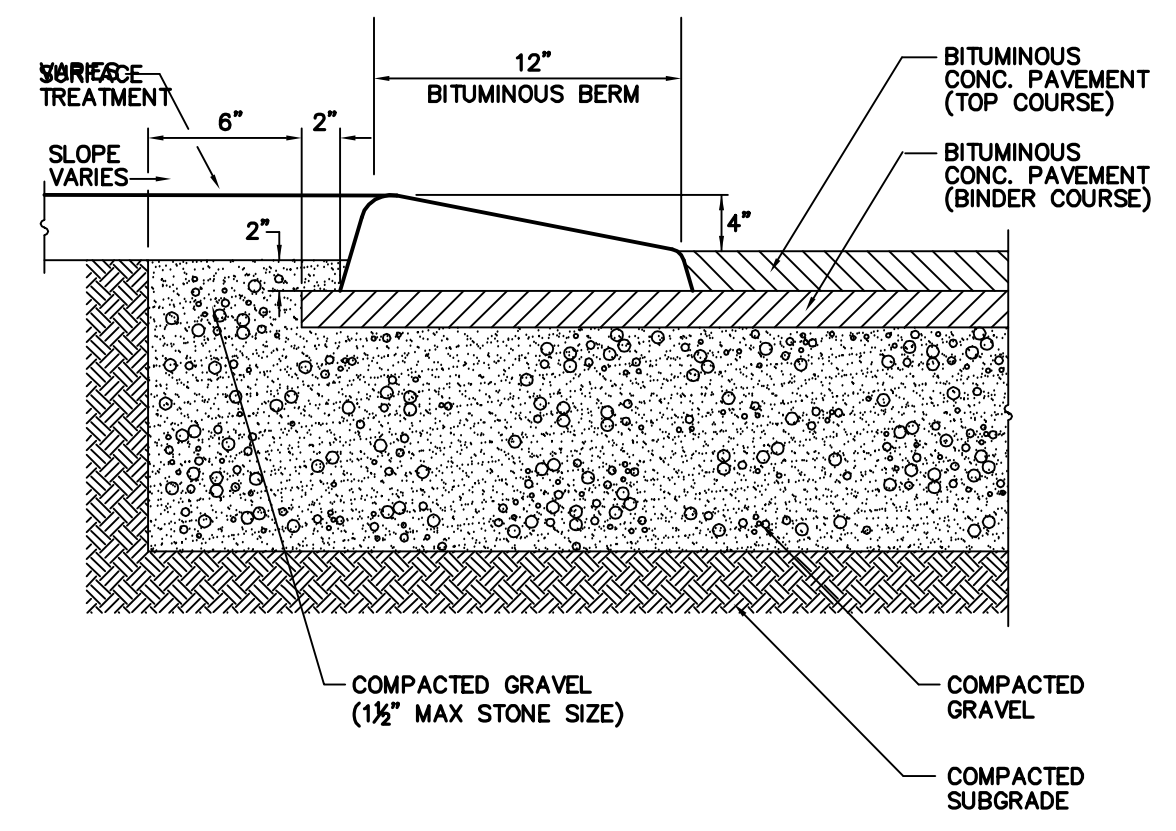


NOTES:  
1. FOREBAY DESIGNED TO CAPTURE 0.1 INCHES OF RUNOFF FROM IMPERVIOUS SURFACES.



**Sediment Forebay Berm**

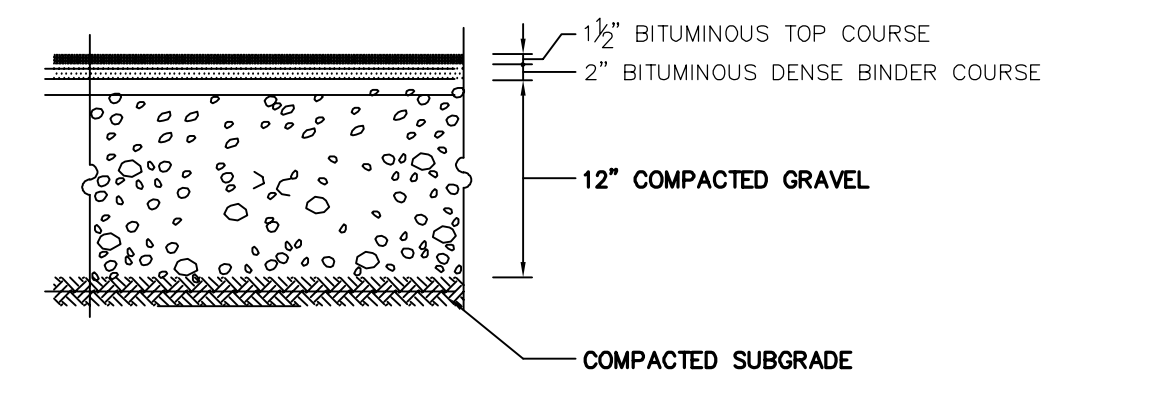
N.T.S.



Note:  
ALL CURBING TO BE MACHINE EXTRUDED

**Bituminous Berm (BB)**

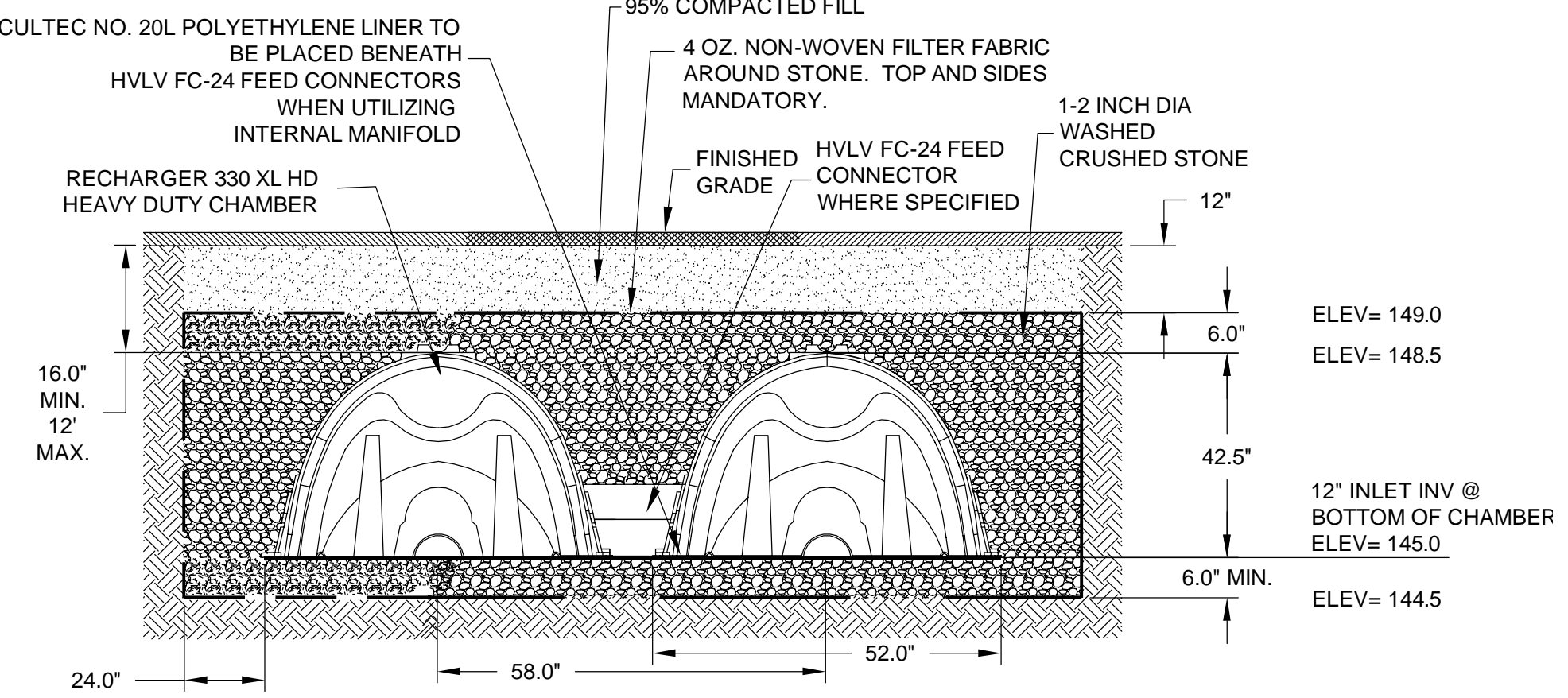
N.T.S. Source: WMB REV LD\_407



Note:  
PAVEMENT SECTIONS ARE SUBJECT TO CHANGE AND WILL BE BASED ON THE RESULTS OF FURTHER GEOTECHNICAL INVESTIGATIONS.

**Bituminous Concrete Pavement Section**

N.T.S.

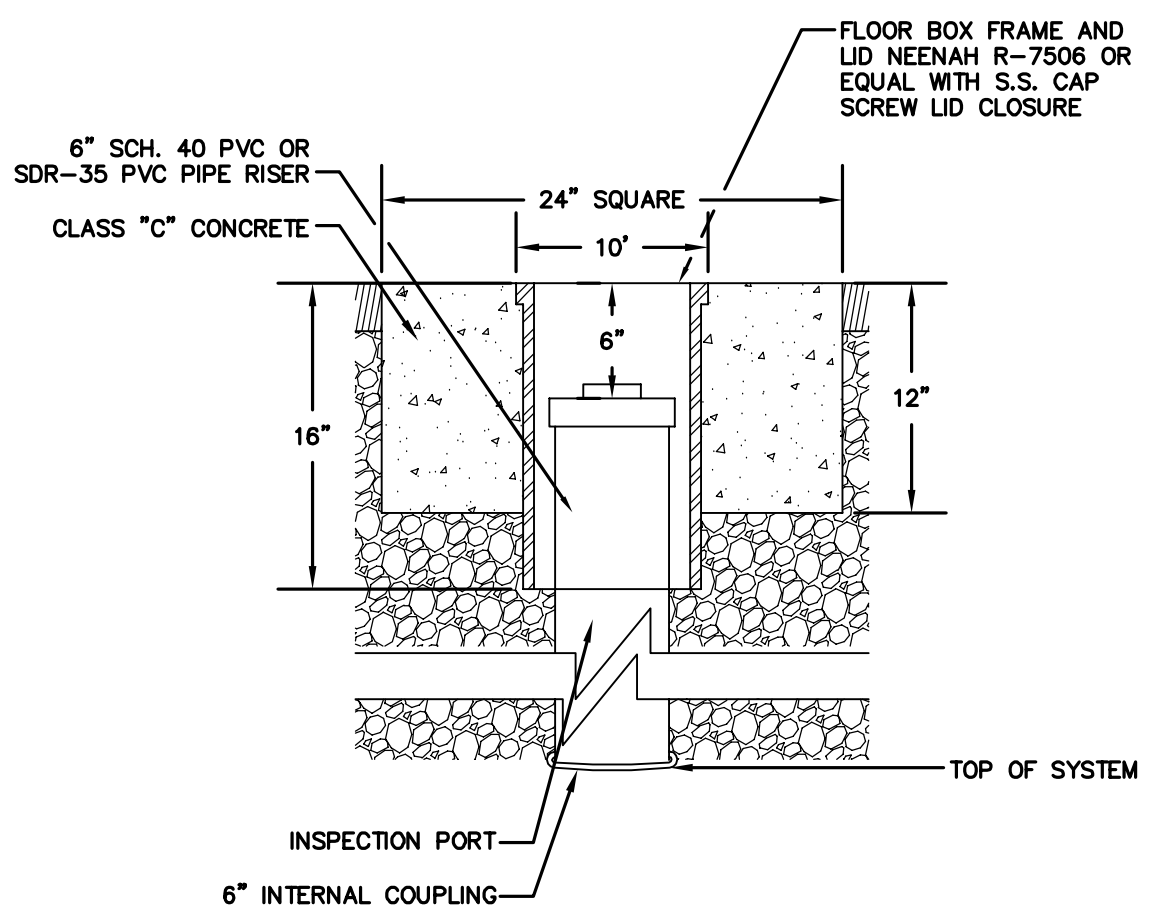


**GENERAL NOTES**  
RECHARGER 330XL HD BY CULTEC, INC. OF BROOKFIELD, CT. STORAGE PROVIDED = 11.32 CF/FT PER DESIGN UNIT. REFER TO CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES.  
USE RECHARGER 330XL HD HEAVY DUTY FOR TRAFFIC AND/OR H-25 APPLICATIONS.

ALL RECHARGER 330XL HD HEAVY DUTY UNITS ARE MARKED WITH A COLOR STRIPE FORMED INTO THE PART ALONG THE LENGTH OF THE CHAMBER.  
ALL RECHARGER 330XL HD CHAMBERS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

**Cultec Recharger 330XLHD Chamber**

N.T.S.



**Observation Port**

N.T.S.

REVISIONS:		
NO.:	COMMENTS:	DATE:

**SITE PLAN LAYOUT**  
1183 MAIN STREET  
WEYMOUTH, MASSACHUSETTS

DRAWN BY: TYG  
DESIGNED BY: SPH  
CHECKED BY: SPH

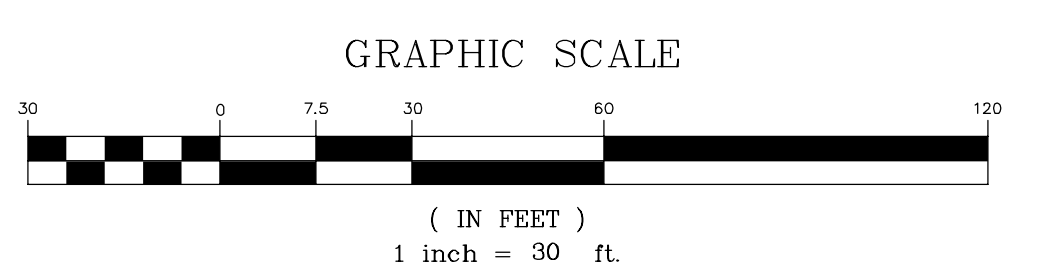
DATE: 4-5-2021  
LATEST REVISION:

**HARDY + MAN DESIGN GROUP, PC**  
CIVIL ENGINEERING & LAND DEVELOPMENT CONSULTING

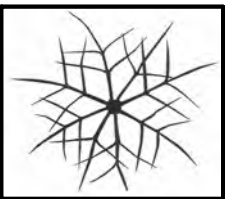
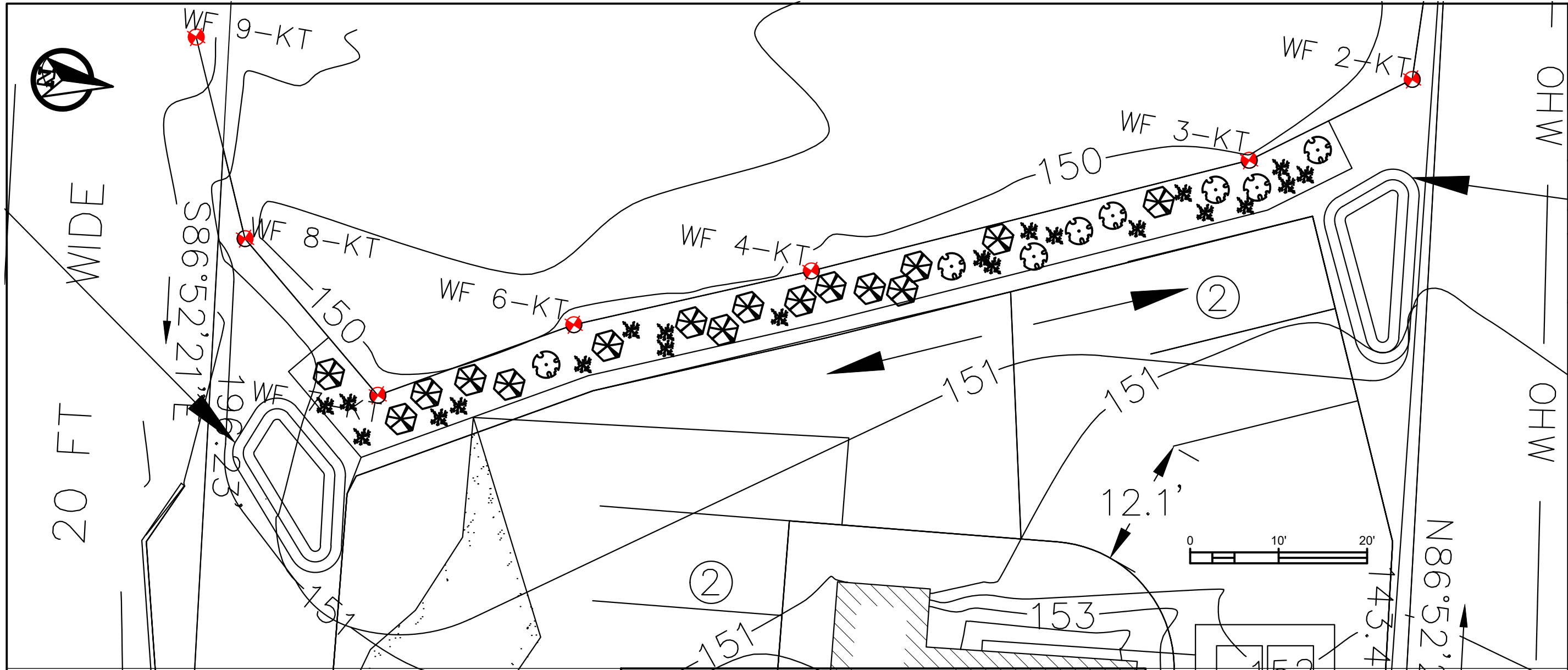
1285 WASHINGTON STREET  
WEYMOUTH, MA  
(781) 335-1464

**PREPARED FOR:**  
PERMITTING

**SHEET**  
C-1







5 Wetlands  
5Wetlands@gmail.com

1183 Main Street  
Weymouth, MA

Rev	Description	Date
1		4/5/21

Notes:

### Engineered Soil Mix

The soil mix for bioretention areas should be a mixture of sand compost and soil.  
40 % sand,  
20-30% topsoil, and  
30-40% compost.

The sand component should be gravelly sand that meets ASTM D 422.  
Sieve Size Percent Passing  
2-inch 100  
¾-inch 70-100  
¼-inch 50-80  
U.S. No. 40 15-40  
U.S. No. 200 0-3

The topsoil component shall be a sandy loam, loamy sand or loam texture.

The compost component must be processed from yard waste in accordance with MassDEP Guidelines (see <http://www.mass.gov/dep/recycle/reduce/leafguid.doc>). The compost shall not contain biosolids.

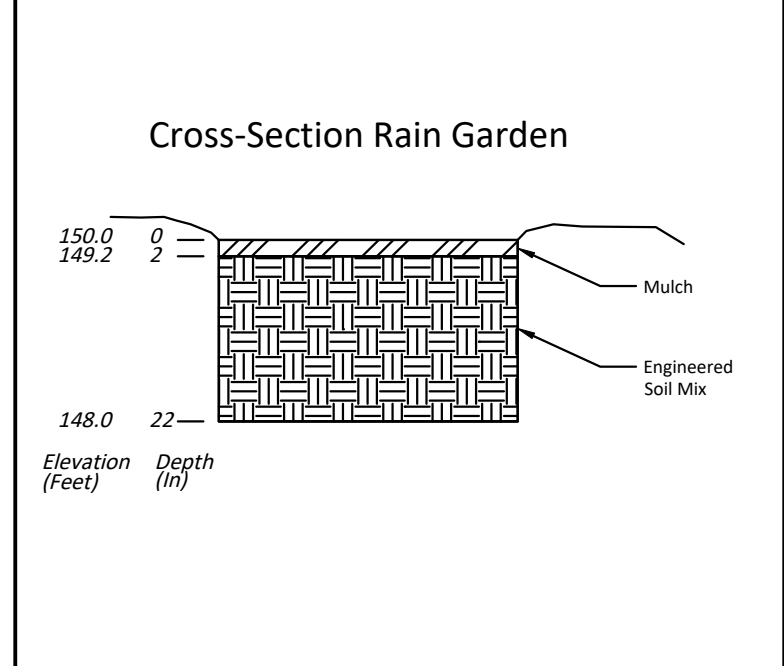
Vegetation  
Swamp Dogwood *Cornus amomum* 2-3 ft  
Arrow-wood  
Swich Grass *Panicum virgatum* 1 Gallon

Bioretention Maintenance Schedule

Activity	Time of Year	Frequency
Inspect & remove trash	Monthly	Monthly
Mulch Spring	Annually	Annually
Remove dead vegetation	Fall or Spring	Annually
Replace dead vegetation	Spring	Annually
Prune Spring or Fall	Annually	Annually

### Plant Schedule

Symbol	Common Name	Latin Name	Size	Quantity
	Silky Dogwood	<i>Cornus amomum</i>	18-24 In	16
	Arrow-wood	<i>Viburnum dentatum</i>	18-24 In	8
	Switch Grass	<i>Panicum vergatum</i>	18-24 In	21



# Rain Garden

Rain Garden

**SITE ACCESS AUTHORIZATION**

DATE: 3/29/21

PROJECT: 1183 Main Street

TO: **Weymouth Conservation Commission and Conservation Administrator**

FROM: Sonia Dahlquist  
S. Barzolla Construction Corp.

LOCATION: 1183 Main Street  
(Hereafter referred to as the property)

*I (We) hereby authorize the individual members of the Conservation Commission and its agents to enter upon the property for the purpose of gathering information prior to issuing a Determination of Applicability or an Order of Conditions and for the purpose of enforcing the Order of Conditions prior to the issuance of a Certificate of Compliance.*

TIME: FROM THE PRESENT TO DATE OF ISSUANCE OF CERTIFICATE OF COMPLIANCE

PROPERTY OWNER:  DATE: 3/31/2021

TOWN OF WEYMOUTH

NOTIFICATION TO ABUTTERS UNDER THE MASSACHUSETTS WETLANDS PROTECTION ACT AND LOCAL WETLANDS PROTECTION ORDINANCE, CHAPTER 7, SECTION 301

*Revision for Remote Meetings during COVID-19 State of Emergency*

In accordance with the second paragraph of Massachusetts General Laws Chapter 131, Section 40, you are hereby notified of the following:

- A. The name of the applicant is S Barzola Construction Company
- B. The applicant has filed:  Notice of Intent, *or*  OOC Amendment Request, *or*  Request for Determination with the Conservation Commission for the municipality of Weymouth seeking permission to remove, fill, dredge or alter an Area Subject to Protection under the Wetlands Protection Act (General Laws Chapter 131, Section 40).
- C. The address of the lot where the activity is proposed and a brief description including square footage and/or dimensions of proposed project:
- 1183 Main Street, Weymouth - The project proposes to up grade 7,982 sq ft of paving and forebays/  
846 sq ft rain garden to control and mitigate stormwater from the paved areas. Clean water  
from the roof will be infiltrated with the use of 6 Cultec rechargers.
- D. Copies of the Notice of Intent or OOC Amendment Request or Request for Determination may be examined at Town Hall, 75 Middle Street, Conservation Office, 3<sup>rd</sup> floor (it is recommended to call for an appointment first at 781-340-5007). Copies may also be viewed on the Town of Weymouth website, on the Conservation Commission webpage, in the Current and Past Cases tab at:  
<https://www.weymouth.ma.us/conservation-commission/pages/project-documents>
- E. Copies of the Notice of Intent or OOC Amendment Request or Request for Determination may be obtained from (check one):
- the Applicant **or**  the Applicant's Representative
- by calling this telephone number (781) 929-1203 contact person Ken Thomson
- between the hours of: 8am to 5 pm on the following days of the week: M-F
- F. Information regarding the date, time, and instructions for joining the REMOTE public hearing, to be held via the WebEx platform, may be obtained from:

**Weymouth Conservation Commission**

By calling this telephone number: 781-340-5007  
Between the hours of: 8:30 – 4:30 Mon. though Friday

Instructions for joining the remote public hearing, via the WebEx website or via telephone, will be included on the meeting agenda, which will be posted on the Conservation Commission webpage at least 48 hours prior to the meeting, at: <https://www.weymouth.ma.us/conservation-commission>

*NOTE: Notice of the public hearing/meeting, including its date, time and remote venue, will be published at least five days in advance in the Patriot Ledger, and will also be posted on the Town website at [www.weymouth.ma.us](http://www.weymouth.ma.us) not less than forty-eight hours in advance. You may also contact the Weymouth Conservation Commission or the Department of Environment Protection Regional office for more information about this application or the Wetland Protection Act. To contact DEP, call 508-946-2700.*

# Town of Weymouth



## ABUTTERS LIST ORDER FORM for CONSERVATION COMMISSION

Date:

3/30/21

1) Subject Identification  
(Address and Parcel #)

1183 Main Street 554 -19

2) Type of filing (check one)

- Conservation Commission (all filings)  
 Planning Board - Subdivision (Definitive or Preliminary)  
 Board of Appeals (all applications)  
 Licensing     Will establishment sell or serve alcohol?  
 Town Council

3) Contact Person

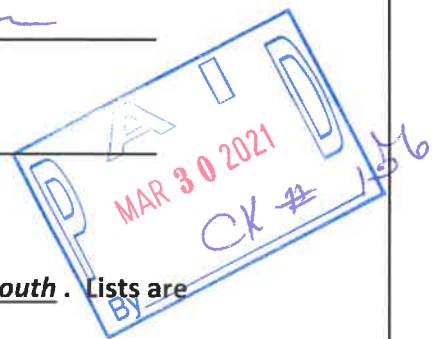
Kenneth Thomson

4) Telephone Number

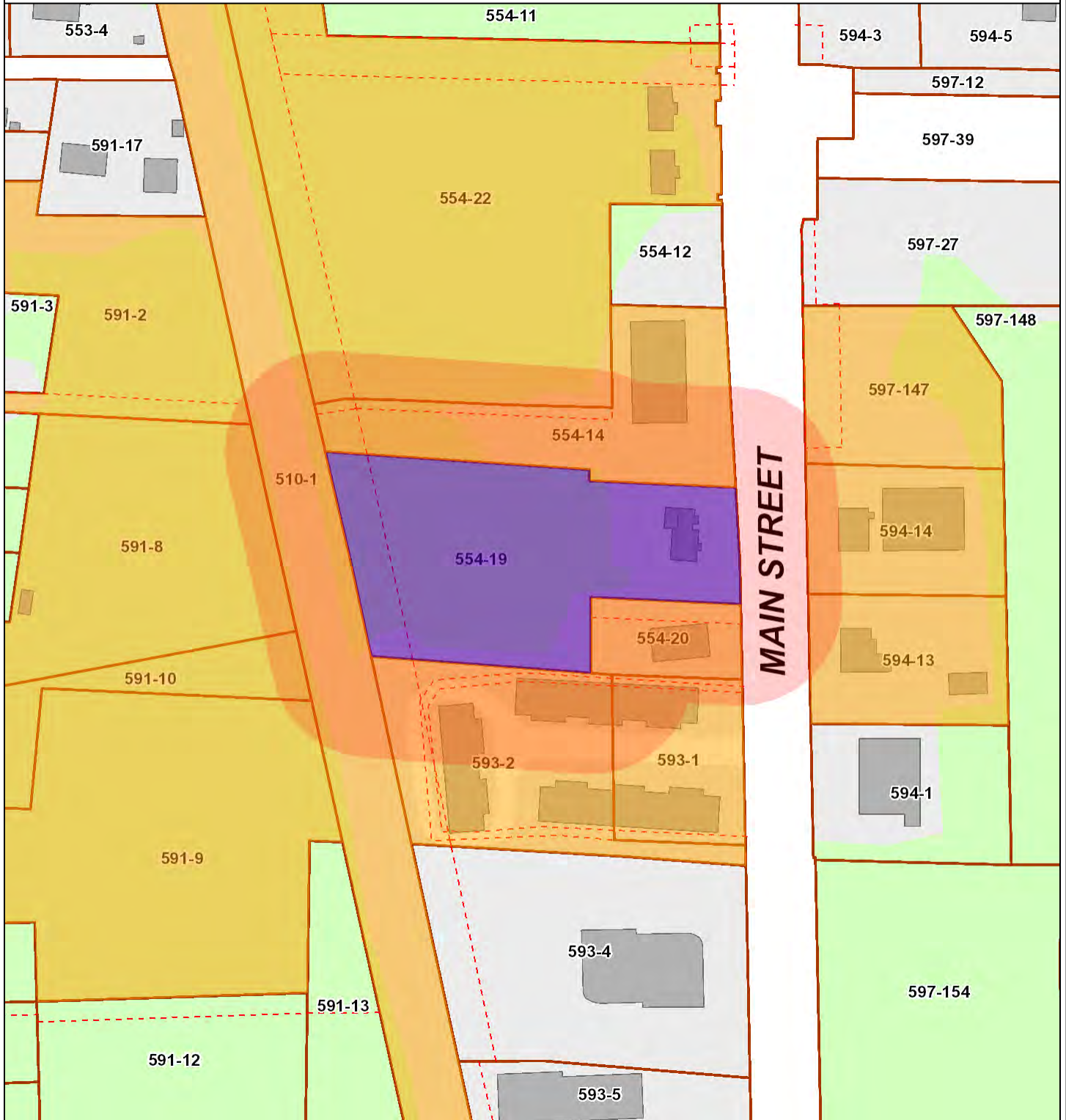
781 929 1203

### NOTE:

- Abutters List fee is \$15.00; checks are payable to Town of Weymouth . Lists are requested in the Collector's Office , 1st Floor\*
- You will be notified when list is ready (usually within a week)
- Completed requests must be picked up in the Conservation Office, 3rd Floor\*  
\*75 Middle Street (Mon-Fri 8:30-4:30)



REV. 01/2018



MAIN STREET

- Easemen
- Assessors Parcels
- Buildings
  - BUILDING
  - DECK
  - OTHER
  - SHED

Base Map

- Roads - Layout
  - PUB/PRIV TRAVELWAYS
  - PAPER
- Hydrography
  - Streams
  - Ponds / Major Streams
- Towns
  - Built-Up Areas

1" = 139 ft



DISCLAIMER: ALL DATA IS PROVIDED "AS IS" WITH ALL FEATURES, IF ANY. THE TOWN OF WEYMOUTH EXPRESSLY DISCLAIMS ALL WARRANTIES OF ANY TYPE, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY AS TO THE ACCURACY OF THE DATA, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

3/30/2021

PARCEL #	LOCATION	OWNER NAME/ADDRESS	CERTIFIED	
			YES	NO
MAP: 53 BLOCK: 591 LOT: 2 EXT: 0	6 IVY RD	MCGRATH TERRENCE M & DEBRA J P TBE  6 IVY RD  S WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 591 LOT: 8 EXT: 0	34 IVY RD	NORTON PAMELA  34 IVY RD  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 591 LOT: 10 EXT: 0	42 IVY RD	DECARLI JEAN & DECARLI JOAN JT  42 IVY RD  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 591 LOT: 9 EXT: 0	54 IVY RD	SMITH MARY W  54 IVY RD  S WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 58 BLOCK: 597 LOT: 147 EXT: 0	0 MAIN ST	MOSIAC LENDING TRUST TRAINI ROSEMARY TRUSTEE  404 SOUTH HUNTINGTON AVE  BOSTON, MA, 02130	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 554 LOT: 22 EXT: 0	1147--1153 MAIN ST	COMMONWEALTH OF MASS DOT HIGHWAY DIVISION  10 PARK PLAZA SUITE 4160 BOSTON, MA, 02116	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 554 LOT: 14 EXT: 0	1169 MAIN ST	1169 PROPERTY LLC  12 VANE ST  QUINCY, MA, 02171	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 594 LOT: 14 EXT: 0	1182 MAIN ST	MARCEL THOMAS J & MARY F TRS AMERICAN ELM REALTY TRUST  120 AMERICAN ELM AVENUE  HANOVER, MA, 02339	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 554 LOT: 19 EXT: 0	1183 MAIN ST	MAIN STREET WEYMOUTH REALTY TR BARZOLA SONIA TRUSTEE  1183 MAIN ST  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 554 LOT: 20 EXT: 0	1189 MAIN ST	1189 MAIN STREET ASSOCIATES LLC  20 ROWES WHARF SUITE 305 BOSTON, MA, 02110	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3/30/2021

PARCEL #	LOCATION	OWNER NAME/ADDRESS	CERTIFIED	
			YES	NO
MAP: 53 BLOCK: 594 LOT: 13 EXT: 0	1192 MAIN ST	PUOPOLO JAMES R  1186 MAIN ST  S WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 49 BLOCK: 510 LOT: 1 EXT: 0	0 POND ST	MASS BAY TRANSPORTATION AUTHORITY  10 PARK AVE RM 6720  BOSTON, MA, 02116	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 1 EXT: 4001	4-01 WOODCREST CT	KENNEY ALEX R  4 WOODCREST CT U-4-1  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 1 EXT: 4002	4-02 WOODCREST CT	BUSCONI CHRISTOPHER P  P O BOX 225  MILTON, MA, 02186	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 1 EXT: 4003	4-03 WOODCREST CT	SPARKS JANICE E  4 WOODCREST CT #3  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 1 EXT: 4004	4-04 WOODCREST CT	HUANG MELODY  18 EVELYN PLACE APT 2 MALDEN, MA, 02148	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 1 EXT: 4005	4-05 WOODCREST CT	CONNELLY NICHOLAS J  4-05 WOODCREST CT  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 1 EXT: 4006	4-06 WOODCREST CT	REZENDE CLELIA  4 WOODCREST CT UNIT 4-6 WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 1 EXT: 5001	5-01 WOODCREST CT	STANISH JENNIFER C  5 WOODCREST CT #5-1  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 1 EXT: 5002	5-02 WOODCREST CT	JUMAN TEVIN  5-02 WOODCREST CT  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3/30/2021

PARCEL #	LOCATION	OWNER NAME/ADDRESS	CERTIFIED	
			YES	NO
MAP: 53 BLOCK: 593 LOT: 1 EXT: 5003	5-03 WOODCREST CT	MCCABE ANDREW T  5 WOODCREST CT #3  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 1 EXT: 5004	5-04 WOODCREST CT	MARSDEN ERIKA A  5 WOODCREST CT #4  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 1 EXT: 5005	5-05 WOODCREST CT	NJOROGE BERNADETI  5 WOODCREST CT #5  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 1 EXT: 5006	5-06 WOODCREST CT	BOYER NELSON WILLIAM III & O'REGAN WILLIAM COLIN  5 WOODCREST CT UNIT 6  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 1 EXT: 6001	6-01 WOODCREST CT	WOOD BRUCE R & CHRISTINE C TRUSTEES  121 NANTASKET AVE #604  HULL, MA, 02045	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 1 EXT: 6002	6-02 WOODCREST CT	NGUYEN HIEN MINH  326 SEA ST  QUINCY, MA, 02169	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 1 EXT: 6003	6-03 WOODCREST CT	TOSCANO COSIMO S & LEONARDO S & THERESA JT  99 WEST ST  BRAintree, MA, 02184	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 1 EXT: 6004	6-04 WOODCREST CT	DELAPLAIN LAURA  8 WALNUT CT  ROCKLAND, MA, 02370	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 1 EXT: 6005	6-05 WOODCREST CT	EDWARDS CLIFFORD C  49 THE STRAND  QUINCY, MA, 02170	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 1 EXT: 6006	6-06 WOODCREST CT	TRUAX FERN & ANN P JT  6 WOODCREST CT U 6  S WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>



3/30/2021

PARCEL #	LOCATION	OWNER NAME/ADDRESS	CERTIFIED	
			YES	NO
MAP: 53 BLOCK: 593 LOT: 2 EXT: 7001	7-01 WOODCREST CT	LIPKA BRIAN  7 WOODCREST CT UNIT 1 WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 7002	7-02 WOODCREST CT	KANINU DAVID N  7 WOODCREST CT U-2  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 7003	7-03 WOODCREST CT	VICKERY PHILLIP B  808 NORTH 82ND ST F-201  SCOTTSDALE, AZ, 85257	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 7004	7-04 WOODCREST CT	GARDIS MARYELLEN E  7 WOODCREST CT #7004  S WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 7005	7-05 WOODCREST CT	JOYCE GARRETT M  7 WOODCREST CT U-5  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 7006	7-06 WOODCREST CT	WEBSTER ROBERT D  7 WOODCREST CT # 7-6  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 8001	8-01 WOODCREST CT	O'ROURKE PAUL  8 WOODCREST CT UNIT F1  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 8002	8-02 WOODCREST CT	CURLEY MICHAEL J  8 WOODCREST CT U 8-2  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 8003	8-03 WOODCREST CT	ZHOU WENLIE & XU DONG TBE  38 GEORGE AGGOTT RD  NEEDHAM, MA, 02492	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 8004	8-04 WOODCREST CT	GRODECKI PIOTR  8 WOODCREST CT U-4  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3/30/2021

PARCEL #	LOCATION	OWNER NAME/ADDRESS	CERTIFIED	
			YES	NO
MAP: 53 BLOCK: 593 LOT: 2 EXT: 8005	8-05 WOODCREST CT	LY HIEP & NGUYEN LESUONG  760 NORTH ST  RANDOLPH, MA, 02368	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 8006	8-06 WOODCREST CT	BEIDER RINA  8 WOODCREST CT U-6  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 9001	9-01 WOODCREST CT	SCHRALL LAWRENCE J & MARY E  9 WOODCREST CT UNIT 1  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 9002	9-02 WOODCREST CT	KISTNER DEAN L & QUEENIE HUE TBE  25 SPARROW GREEN  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 9003	9-03 WOODCREST CT	TRAVERS JASON M  9 WOODCREST CT # 3  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 9004	9-04 WOODCREST CT	CHAN CHRISTY  9-04 WOODCREST CT  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 9005	9-05 WOODCREST CT	RIORDAN MARY ELLEN  9 WOODCREST CT #5  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 9006	9-06 WOODCREST CT	CLARK DANIEL J  9 WOODCREST CT # 6  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 1001	10-01 WOODCREST CT	WARD CHERYL A  10 WOODCREST CT UNIT #1  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 1002	10-02 WOODCREST CT	LAM JENNIFER FENG  10 WOODCREST CT UNIT 2  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3/30/2021

PARCEL #	LOCATION	OWNER NAME/ADDRESS	CERTIFIED	
			YES	NO
MAP: 53 BLOCK: 593 LOT: 2 EXT: 1003	10-03 WOODCREST CT	DUNN KIMBERLY J  10 WOODCREST CT UNIT #3  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 1004	10-04 WOODCREST CT	MCKIERNAN SEAN & KELLY A TBE  10 WOODCREST CT U-4  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 1005	10-05 WOODCREST CT	SPRINGER ILENE M & STONE JUDITH R JT  10 WOODCREST CT UNIT 5  S WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 1006	10-06 WOODCREST CT	GEORGE CICELY  10 WOODCREST CT #6  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 1101	11-01 WOODCREST CT	KING LEEANN  630 SUMMER ST  ROCKLAND, MA, 02370	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 1102	11-02 WOODCREST CT	PIERCE RICHARD  11 WOODCREST CT #2  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 1103	11-03 WOODCREST CT	HUANG BI YAN & WONG SU WEI JT  11 WOODCREST CT UNIT 3 WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 1104	11-04 WOODCREST CT	LESPASIO MARK A  11 WOODCREST CT #4  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 1105	11-05 WOODCREST CT	CRONIN TIMOTHY J & SIMON FAITH E  11 WOODCREST CT UNIT 5  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAP: 53 BLOCK: 593 LOT: 2 EXT: 1106	11-06 WOODCREST CT	WILBUR NANCY  11 WOODCREST CT #6  WEYMOUTH, MA, 02190	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3/30/2021

PARCEL #	LOCATION	OWNER NAME/ADDRESS	CERTIFIED	
			YES	NO

**This list of abutters is a certified copy of the Town of Weymouth's tax records for fiscal year 2021.  
The record of ownership is accurate through October 2020.**

**Prepared by:**

**Reviewed by:**

|

AFFIDAVIT OF SERVICE

Under the Massachusetts Wetlands Protection Act and Code of Ordinances, Town of Weymouth, Chapter 7, Section 301

(To be submitted to the Massachusetts Department of Environmental Protection and the **Weymouth Conservation Commission** when filing a Notice of Intent or Request for Determination)

I Kenneth Thomson hereby certify under the pains and penalties of perjury that on 4/9/2021 (date)

I gave notification to abutters in compliance with the second paragraph of Massachusetts General Laws Chapter 131, Section 40, and the DEP Guide to Abutter Notification dated April 8, 1994, and **Town of Weymouth**, in connection with the following matter:

A Notice of Intent or Request for Determination filed under the Massachusetts Wetlands Protection Act by

Kenneth Thomson representing S Barzola Construction Corp.

With the **Town of Weymouth Conservation Commission** on 4/9/2021  
(Date)

For property located at 1183 Main Street

Shown on Assessors Map# 53 Block # 554 Lot# 19

The forms of the notification, and a list of the abutters and town departments to whom it was given and their addresses, are attached to this Affidavit of Service.

  
Name

4/9/21  
Date

# **Project Narrative**

**For:**

**1183 Main Street  
Weymouth, MA**

**Prepared By:**



**Hardy + Man Design Group, PC  
1285 Washington Street  
Weymouth, MA 02189**

**April 2, 2021**

The purpose of this narrative is to support permitting efforts relative to recent site grading as well as a Notice of Intent application for the subject locus. This narrative will describe the “pre-existing” site conditions prior to the recent grading, the current “existing” conditions and the proposed site improvements intended to treat and mitigate stormwater runoff.

The subject locus is a Highway Transition Zoned, approximately 61,100 SF parcel of land located at 1183 Main Street (State Route 18) in South Weymouth. The site is generally bounded to the North and South by commercial uses with a few residential condominium complexes in the area.

### **Pre-Existing Site Conditions**

We have reviewed assessors’ records, site plans dated 1996, aerial and “street view” photos and site photos dated 2018 obtained from Town staff. Based on this information, we have determined that the site was improved with a commercial structure, constructed in approximately 1955, with a deteriorated bituminous concrete driveway to the rear garage of the structure and a bituminous concrete parking area in front. The remaining portion of this developed part of the lot was determined to be a grass/weeds combination with few trees. The majority (rear) of the lot is generally considered to be wetland.

The topography of the site generally sloped from the front of the lot towards the rear wetland area. No stormwater controls exist and stormwater flowed unchecked and untreated to the wetland. For purposes of comparing “pre” and “post” condition runoff, we have modelled the front of the site as one subcatchment to be compared with proposed conditions.

The pre-existing impervious area was estimated to be 5,621 SF consisting of the buildings and paved areas.

The NRCS Web Soil Survey shows Urban Land (fill) adjacent to the roadway and Swansea Muck for the majority of the site. The presence of the wetland and a sump pump indicate the presence of a high seasonal groundwater table. Based on soil mapping, the site is considered Hydrologic Soil Group B/D. For purposes of this analysis we have modelled the site as HSG C and an infiltration rate of 2.41 in/hr has been assigned for all drainage calculations. For reference, supporting documentation regarding site soils has been attached to this narrative.

### **Existing Conditions**

Recently the site was regraded and a gravel drive around the building was installed. The purpose of this was to create an employee parking area to compensate for lost access due to the ongoing Route 18 reconstruction. As part of that construction, a land taking for the roadway widening rendered the front parking area impractical for use other than by small vehicles. Without stormwater controls, this would lead to an increase in stormwater runoff to the wetland area.

### **Proposed Conditions**

In order to provide adequate parking on the site and mitigate the resulting stormwater impacts, the applicant proposes the improvements depicted on the accompanying Site Plan. The proposal involves additional grading and the installation of a paved parking surface and access drive. Stormwater improvements include a raingarden with sediment forebay to treat runoff from the pavement. Additionally, a six-unit subsurface Cultec infiltration system is proposed to collect and infiltrate flows from the roof of the existing structure. The proposed systems were sized to provide

1,300 cubic feet of storage and capture and treat stormwater. Additionally, flow rates and volumes for the 2-year, 10-year, 25-year, and 100-year rainfall events will be reduced.

**Methodology**

The drainage analysis utilized TR-55 drainage guidelines which is an industry standard for urban hydrology small watersheds. The accompanying calculations analyze the effect on runoff from the proposed site development. The following tables depict the peak runoff rates and volumes for the front portion of the site for the pre-existing and proposed conditions for each storm event. The attached HydroCAD report includes this data for confirmation of the infiltration sizing.

Peak Discharge Rates (cfs)

	2-year	10-year	25-year	100-year
Pre-existing Conditions	0.74	1.15	1.43	1.81
Proposed Conditions	0.72	1.06	1.30	1.62

Runoff Volume (af)

	2-year	10-year	25-year	100-year
Pre-existing Conditions	0.051	0.080	0.101	0.129
Proposed Conditions	0.048	0.74	0.008	0.119

**Erosion and Sedimentation Control Measures**

Erosion control measures to be employed include a staked “Filter Sock” erosion control barrier as depicted in the site plan. The erosion control measures shall be inspected daily and be kept in place until such time that disturbed areas are re-vegetated or paved and are no longer a potential source of siltation.

The proposed stormwater management and erosion control design of the proposed development will meet the Massachusetts Department of Environmental Protection Stormwater Management Standards as follows.

**Standard 1: No New Untreated Discharges**

The proposed improvements will not create any new untreated conveyances. Runoff from impervious areas is to be collected for infiltration and treatment prior to discharge. The proposal provides treatment of runoff where none exists today.

**Standard 2: Peak Rate Attenuation**

As depicted in the tables, the proposed development results in a decrease in stormwater flows and volumes to the wetland.



### **Standard 3: Recharge**

Infiltration systems have been provided to infiltrate required volumes.

### **Standard 4: Water Quality**

Runoff from proposed paved impervious areas is to be treated by a chain consisting of a sediment forebay prior to discharge to a raingarden. Clean roof flows do not require pre-treatment and are to be directly discharge to a subsurface infiltration system. An operation and maintenance plan has been included with this submission to serve as a Long-Term Pollution Prevention Plan. The plan is intended to maximize treatment of runoff from impervious areas where none exists today.

### **Standard 5: Land Uses with Higher Pollutant Loads (LUHPPLs)**

The site is not a LUHPPL.

### **Standard 6: Critical Areas**

The project is not located within a critical area.

### **Standard 7: Redevelopment**

The project does not qualify as a redevelopment and stormwater controls have been designed to meet the required Stormwater Management Standards.

### **Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control**

The proposed site plan depicts erosion controls to be maintained during construction activities.

### **Standard 9: Operation and Maintenance Plan**

An Operation and Maintenance Plan intended to ensure the continued proper functioning of the existing stormwater controls has been included with this submittal.

### **Standard 10: Prohibition of Illicit Discharges**

An Illicit Discharge Statement will be provided prior to discharge to post-construction BMP's as required.

### **Conclusion**

The stormwater management systems will reduce the stormwater runoff flowrate and volume by capturing, treating, and infiltrating stormwater flows from impervious areas.

During construction, the proposed erosion control measures protect sedimentation from construction activities from migrating to the wetland area.

The proposed stormwater management and erosion control design of the proposed development will meet the Massachusetts Department of Environmental Protection Stormwater Management Standards.



# Checklist for Stormwater Report

## B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

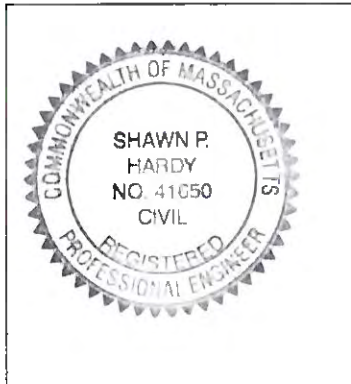
*Note:* Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

### Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



Signature and Date

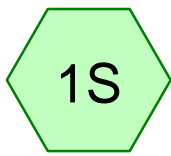
*Shawn P. Hardy* 4/21/2021

## Checklist

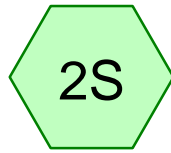
**Project Type:** Is the application for new development, redevelopment, or a mix of new and redevelopment?

- New development
- Redevelopment
- Mix of New Development and Redevelopment

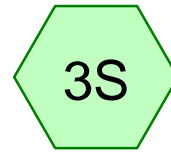
# HydroCAD Documentation



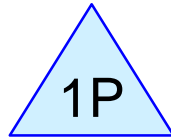
Existing



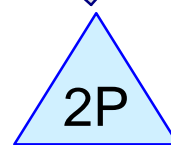
proposed site



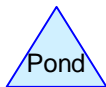
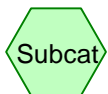
Roof



raingarden



cultec



**Routing Diagram for design**

Prepared by Hardy + Man Group, P.C., Printed 4/2/2021  
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**design**

Type III 24-hr 2 year Rainfall=3.40"

Prepared by Hardy + Man Group, P.C.

Printed 4/2/2021

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Time span=0.00-72.00 hrs, dt=0.02 hrs, 3601 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 1S: Existing**

Runoff Area=12,770 sf 44.02% Impervious Runoff Depth=2.09"  
Tc=5.0 min CN=87 Runoff=0.74 cfs 0.051 af

**Subcatchment 2S: proposed site**

Runoff Area=11,249 sf 72.18% Impervious Runoff Depth=2.45"  
Tc=6.0 min CN=91 Runoff=0.73 cfs 0.053 af

**Subcatchment 3S: Roof**

Runoff Area=1,521 sf 100.00% Impervious Runoff Depth=3.17"  
Tc=6.0 min CN=98 Runoff=0.12 cfs 0.009 af

**Pond 1P: raingarden**

Peak Elev=149.89' Storage=574 cf Inflow=0.73 cfs 0.053 af  
Discarded=0.01 cfs 0.020 af Primary=0.71 cfs 0.033 af Outflow=0.72 cfs 0.053 af

**Pond 2P: cultec**

Peak Elev=146.02' Storage=252 cf Inflow=0.12 cfs 0.009 af  
Outflow=0.00 cfs 0.009 af

**Total Runoff Area = 0.586 ac Runoff Volume = 0.113 af Average Runoff Depth = 2.31"**  
**40.25% Pervious = 0.236 ac 59.75% Impervious = 0.350 ac**

**design**

Type III 24-hr 2 year Rainfall=3.40"

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**Summary for Subcatchment 1S: Existing**

Runoff = 0.74 cfs @ 12.07 hrs, Volume= 0.051 af, Depth= 2.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs  
Type III 24-hr 2 year Rainfall=3.40"

Area (sf)	CN	Description
4,100	98	Paved parking, HSG A
7,149	79	50-75% Grass cover, Fair, HSG C
1,521	98	Roofs, HSG A
12,770	87	Weighted Average
7,149		55.98% Pervious Area
5,621		44.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Min allowed

**Summary for Subcatchment 2S: proposed site**

Runoff = 0.73 cfs @ 12.09 hrs, Volume= 0.053 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs  
Type III 24-hr 2 year Rainfall=3.40"

Area (sf)	CN	Description
8,119	98	Paved parking, HSG A
0	98	Roofs, HSG A
1,130	74	>75% Grass cover, Good, HSG C
2,000	74	>75% Grass cover, Good, HSG C
11,249	91	Weighted Average
3,130		27.82% Pervious Area
8,119		72.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Summary for Subcatchment 3S: Roof**

Runoff = 0.12 cfs @ 12.08 hrs, Volume= 0.009 af, Depth= 3.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs  
Type III 24-hr 2 year Rainfall=3.40"

**design**

Type III 24-hr 2 year Rainfall=3.40"

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Area (sf)	CN	Description
0	98	Paved parking, HSG A
1,521	98	Roofs, HSG A
0	74	>75% Grass cover, Good, HSG C
0	74	>75% Grass cover, Good, HSG C
1,521	98	Weighted Average
1,521		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry,</b>

**Summary for Pond 1P: raingarden**

Inflow Area = 0.258 ac, 72.18% Impervious, Inflow Depth = 2.45" for 2 year event  
 Inflow = 0.73 cfs @ 12.09 hrs, Volume= 0.053 af  
 Outflow = 0.72 cfs @ 12.10 hrs, Volume= 0.053 af, Atten= 1%, Lag= 0.7 min  
 Discarded = 0.01 cfs @ 12.10 hrs, Volume= 0.020 af  
 Primary = 0.71 cfs @ 12.10 hrs, Volume= 0.033 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs  
 Peak Elev= 149.89' @ 12.10 hrs Surf.Area= 760 sf Storage= 574 cf

Plug-Flow detention time= 370.4 min calculated for 0.053 af (100% of inflow)  
 Center-of-Mass det. time= 370.7 min ( 1,171.0 - 800.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	148.00'	608 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc) 1,520 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
148.00	760	0	0
150.00	760	1,520	1,520

Device	Routing	Invert	Outlet Devices
#1	Discarded	148.00'	<b>0.270 in/hr Exfiltration over Surface area</b> Conductivity to Groundwater Elevation = 140.00'
#2	Primary	149.75'	<b>5.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

**Discarded OutFlow** Max=0.01 cfs @ 12.10 hrs HW=149.89' (Free Discharge)  
 ↑**1=Exfiltration** ( Controls 0.01 cfs)

**Primary OutFlow** Max=0.71 cfs @ 12.10 hrs HW=149.89' (Free Discharge)  
 ↑**2=Broad-Crested Rectangular Weir** (Weir Controls 0.71 cfs @ 1.04 fps)

**design**

Type III 24-hr 2 year Rainfall=3.40"

Prepared by Hardy + Man Group, P.C.

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**Summary for Pond 2P: cultec**

Inflow Area = 0.035 ac, 100.00% Impervious, Inflow Depth = 3.17" for 2 year event  
 Inflow = 0.12 cfs @ 12.08 hrs, Volume= 0.009 af  
 Outflow = 0.00 cfs @ 16.32 hrs, Volume= 0.009 af, Atten= 97%, Lag= 254.3 min  
 Discarded = 0.00 cfs @ 16.32 hrs, Volume= 0.009 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs  
 Peak Elev= 146.02' @ 16.32 hrs Surf.Area= 441 sf Storage= 252 cf

Plug-Flow detention time= 789.9 min calculated for 0.009 af (100% of inflow)  
 Center-of-Mass det. time= 790.1 min ( 1,545.2 - 755.1 )

Volume	Invert	Avail.Storage	Storage Description
#1A	145.00'	449 cf	<b>13.17'W x 33.50'L x 3.54'H Field A</b> 1,562 cf Overall - 440 cf Embedded = 1,123 cf x 40.0% Voids
#2A	145.50'	440 cf	<b>Cultec R-330XLHD x 8 Inside #1</b> Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 2 rows
		889 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	145.00'	<b>0.241 in/hr Exfiltration over Surface area</b> Conductivity to Groundwater Elevation = 140.00'

**Discarded OutFlow** Max=0.00 cfs @ 16.32 hrs HW=146.02' (Free Discharge)

↑**1=Exfiltration** ( Controls 0.00 cfs)



**design**

Type III 24-hr 10 year Rainfall=4.70"

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Time span=0.00-72.00 hrs, dt=0.02 hrs, 3601 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 1S: Existing**

Runoff Area=12,770 sf 44.02% Impervious Runoff Depth=3.29"  
Tc=5.0 min CN=87 Runoff=1.15 cfs 0.080 af

**Subcatchment 2S: proposed site**

Runoff Area=11,249 sf 72.18% Impervious Runoff Depth=3.69"  
Tc=6.0 min CN=91 Runoff=1.07 cfs 0.079 af

**Subcatchment 3S: Roof**

Runoff Area=1,521 sf 100.00% Impervious Runoff Depth=4.46"  
Tc=6.0 min CN=98 Runoff=0.16 cfs 0.013 af

**Pond 1P: raingarden**

Peak Elev=149.93' Storage=586 cf Inflow=1.07 cfs 0.079 af  
Discarded=0.01 cfs 0.021 af Primary=1.06 cfs 0.059 af Outflow=1.06 cfs 0.079 af

**Pond 2P: cultec**

Peak Elev=146.45' Storage=384 cf Inflow=0.16 cfs 0.013 af  
Outflow=0.00 cfs 0.013 af

**Total Runoff Area = 0.586 ac Runoff Volume = 0.173 af Average Runoff Depth = 3.53"**  
**40.25% Pervious = 0.236 ac 59.75% Impervious = 0.350 ac**

**design**

Type III 24-hr 10 year Rainfall=4.70"

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**Summary for Subcatchment 1S: Existing**

Runoff = 1.15 cfs @ 12.07 hrs, Volume= 0.080 af, Depth= 3.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs  
Type III 24-hr 10 year Rainfall=4.70"

Area (sf)	CN	Description
4,100	98	Paved parking, HSG A
7,149	79	50-75% Grass cover, Fair, HSG C
1,521	98	Roofs, HSG A
12,770	87	Weighted Average
7,149		55.98% Pervious Area
5,621		44.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Min allowed

**Summary for Subcatchment 2S: proposed site**

Runoff = 1.07 cfs @ 12.08 hrs, Volume= 0.079 af, Depth= 3.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs  
Type III 24-hr 10 year Rainfall=4.70"

Area (sf)	CN	Description
8,119	98	Paved parking, HSG A
0	98	Roofs, HSG A
1,130	74	>75% Grass cover, Good, HSG C
2,000	74	>75% Grass cover, Good, HSG C
11,249	91	Weighted Average
3,130		27.82% Pervious Area
8,119		72.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Summary for Subcatchment 3S: Roof**

Runoff = 0.16 cfs @ 12.08 hrs, Volume= 0.013 af, Depth= 4.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs  
Type III 24-hr 10 year Rainfall=4.70"

**design**

Type III 24-hr 10 year Rainfall=4.70"

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Area (sf)	CN	Description
0	98	Paved parking, HSG A
1,521	98	Roofs, HSG A
0	74	>75% Grass cover, Good, HSG C
0	74	>75% Grass cover, Good, HSG C
1,521	98	Weighted Average
1,521		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry,</b>

**Summary for Pond 1P: raingarden**

Inflow Area = 0.258 ac, 72.18% Impervious, Inflow Depth = 3.69" for 10 year event  
 Inflow = 1.07 cfs @ 12.08 hrs, Volume= 0.079 af  
 Outflow = 1.06 cfs @ 12.10 hrs, Volume= 0.079 af, Atten= 1%, Lag= 0.6 min  
 Discarded = 0.01 cfs @ 12.10 hrs, Volume= 0.021 af  
 Primary = 1.06 cfs @ 12.10 hrs, Volume= 0.059 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs  
 Peak Elev= 149.93' @ 12.10 hrs Surf.Area= 760 sf Storage= 586 cf

Plug-Flow detention time= 254.2 min calculated for 0.079 af (100% of inflow)  
 Center-of-Mass det. time= 254.6 min ( 1,043.5 - 788.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	148.00'	608 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc) 1,520 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
148.00	760	0	0
150.00	760	1,520	1,520

Device	Routing	Invert	Outlet Devices
#1	Discarded	148.00'	<b>0.270 in/hr Exfiltration over Surface area</b> Conductivity to Groundwater Elevation = 140.00'
#2	Primary	149.75'	<b>5.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

**Discarded OutFlow** Max=0.01 cfs @ 12.10 hrs HW=149.93' (Free Discharge)  
 ↑**1=Exfiltration** ( Controls 0.01 cfs)

**Primary OutFlow** Max=1.05 cfs @ 12.10 hrs HW=149.93' (Free Discharge)  
 ↑**2=Broad-Crested Rectangular Weir** (Weir Controls 1.05 cfs @ 1.18 fps)

**design**

Type III 24-hr 10 year Rainfall=4.70"

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**Summary for Pond 2P: cultec**

Inflow Area = 0.035 ac, 100.00% Impervious, Inflow Depth = 4.46" for 10 year event  
 Inflow = 0.16 cfs @ 12.08 hrs, Volume= 0.013 af  
 Outflow = 0.00 cfs @ 17.45 hrs, Volume= 0.013 af, Atten= 98%, Lag= 321.9 min  
 Discarded = 0.00 cfs @ 17.45 hrs, Volume= 0.013 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs  
 Peak Elev= 146.45' @ 17.45 hrs Surf.Area= 441 sf Storage= 384 cf

Plug-Flow detention time= 1,132.9 min calculated for 0.013 af (100% of inflow)  
 Center-of-Mass det. time= 1,133.2 min ( 1,882.3 - 749.1 )

Volume	Invert	Avail.Storage	Storage Description
#1A	145.00'	449 cf	<b>13.17'W x 33.50'L x 3.54'H Field A</b> 1,562 cf Overall - 440 cf Embedded = 1,123 cf x 40.0% Voids
#2A	145.50'	440 cf	<b>Cultec R-330XLHD x 8 Inside #1</b> Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 2 rows
		889 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	145.00'	<b>0.241 in/hr Exfiltration over Surface area</b> Conductivity to Groundwater Elevation = 140.00'

**Discarded OutFlow** Max=0.00 cfs @ 17.45 hrs HW=146.45' (Free Discharge)

↑**1=Exfiltration** ( Controls 0.00 cfs)

**design**

Type III 24-hr 25 year Rainfall=5.60"

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Time span=0.00-72.00 hrs, dt=0.02 hrs, 3601 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 1S: Existing** Runoff Area=12,770 sf 44.02% Impervious Runoff Depth=4.14"  
Tc=5.0 min CN=87 Runoff=1.43 cfs 0.101 af

**Subcatchment 2S: proposed site** Runoff Area=11,249 sf 72.18% Impervious Runoff Depth=4.57"  
Tc=6.0 min CN=91 Runoff=1.31 cfs 0.098 af

**Subcatchment 3S: Roof** Runoff Area=1,521 sf 100.00% Impervious Runoff Depth=5.36"  
Tc=6.0 min CN=98 Runoff=0.19 cfs 0.016 af

**Pond 1P: raingarden** Peak Elev=149.95' Storage=594 cf Inflow=1.31 cfs 0.098 af  
Discarded=0.01 cfs 0.021 af Primary=1.30 cfs 0.077 af Outflow=1.30 cfs 0.098 af

**Pond 2P: cultec** Peak Elev=146.76' Storage=479 cf Inflow=0.19 cfs 0.016 af  
Outflow=0.00 cfs 0.016 af

**Total Runoff Area = 0.586 ac Runoff Volume = 0.215 af Average Runoff Depth = 4.40"**  
**40.25% Pervious = 0.236 ac 59.75% Impervious = 0.350 ac**

**design**

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Type III 24-hr 25 year Rainfall=5.60"

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**Summary for Subcatchment 1S: Existing**

Runoff = 1.43 cfs @ 12.07 hrs, Volume= 0.101 af, Depth= 4.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs  
Type III 24-hr 25 year Rainfall=5.60"

Area (sf)	CN	Description
4,100	98	Paved parking, HSG A
7,149	79	50-75% Grass cover, Fair, HSG C
1,521	98	Roofs, HSG A
12,770	87	Weighted Average
7,149		55.98% Pervious Area
5,621		44.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Min allowed

**Summary for Subcatchment 2S: proposed site**

Runoff = 1.31 cfs @ 12.08 hrs, Volume= 0.098 af, Depth= 4.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs  
Type III 24-hr 25 year Rainfall=5.60"

Area (sf)	CN	Description
8,119	98	Paved parking, HSG A
0	98	Roofs, HSG A
1,130	74	>75% Grass cover, Good, HSG C
2,000	74	>75% Grass cover, Good, HSG C
11,249	91	Weighted Average
3,130		27.82% Pervious Area
8,119		72.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Summary for Subcatchment 3S: Roof**

Runoff = 0.19 cfs @ 12.08 hrs, Volume= 0.016 af, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs  
Type III 24-hr 25 year Rainfall=5.60"

**design**

Type III 24-hr 25 year Rainfall=5.60"

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Area (sf)	CN	Description
0	98	Paved parking, HSG A
1,521	98	Roofs, HSG A
0	74	>75% Grass cover, Good, HSG C
0	74	>75% Grass cover, Good, HSG C
1,521	98	Weighted Average
1,521		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry,</b>

**Summary for Pond 1P: raingarden**

Inflow Area = 0.258 ac, 72.18% Impervious, Inflow Depth = 4.57" for 25 year event  
 Inflow = 1.31 cfs @ 12.08 hrs, Volume= 0.098 af  
 Outflow = 1.30 cfs @ 12.09 hrs, Volume= 0.098 af, Atten= 1%, Lag= 0.6 min  
 Discarded = 0.01 cfs @ 12.09 hrs, Volume= 0.021 af  
 Primary = 1.30 cfs @ 12.09 hrs, Volume= 0.077 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs  
 Peak Elev= 149.95' @ 12.09 hrs Surf.Area= 760 sf Storage= 594 cf

Plug-Flow detention time= 210.4 min calculated for 0.098 af (100% of inflow)  
 Center-of-Mass det. time= 210.8 min ( 994.0 - 783.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	148.00'	608 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc) 1,520 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
148.00	760	0	0
150.00	760	1,520	1,520

Device	Routing	Invert	Outlet Devices
#1	Discarded	148.00'	<b>0.270 in/hr Exfiltration over Surface area</b> Conductivity to Groundwater Elevation = 140.00'
#2	Primary	149.75'	<b>5.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

**Discarded OutFlow** Max=0.01 cfs @ 12.09 hrs HW=149.95' (Free Discharge)  
 ↑1=Exfiltration ( Controls 0.01 cfs)

**Primary OutFlow** Max=1.29 cfs @ 12.09 hrs HW=149.95' (Free Discharge)  
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 1.29 cfs @ 1.26 fps)

**design**

Type III 24-hr 25 year Rainfall=5.60"

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**Summary for Pond 2P: cultec**

Inflow Area = 0.035 ac, 100.00% Impervious, Inflow Depth = 5.36" for 25 year event  
 Inflow = 0.19 cfs @ 12.08 hrs, Volume= 0.016 af  
 Outflow = 0.00 cfs @ 17.91 hrs, Volume= 0.016 af, Atten= 98%, Lag= 349.6 min  
 Discarded = 0.00 cfs @ 17.91 hrs, Volume= 0.016 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs  
 Peak Elev= 146.76' @ 17.91 hrs Surf.Area= 441 sf Storage= 479 cf

Plug-Flow detention time= 1,358.8 min calculated for 0.016 af (100% of inflow)  
 Center-of-Mass det. time= 1,359.1 min ( 2,105.3 - 746.2 )

Volume	Invert	Avail.Storage	Storage Description
#1A	145.00'	449 cf	<b>13.17'W x 33.50'L x 3.54'H Field A</b> 1,562 cf Overall - 440 cf Embedded = 1,123 cf x 40.0% Voids
#2A	145.50'	440 cf	<b>Cultec R-330XLHD x 8 Inside #1</b> Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 2 rows
		889 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	145.00'	<b>0.241 in/hr Exfiltration over Surface area</b> Conductivity to Groundwater Elevation = 140.00'

**Discarded OutFlow** Max=0.00 cfs @ 17.91 hrs HW=146.76' (Free Discharge)

↑**1=Exfiltration** ( Controls 0.00 cfs)



**design**

Type III 24-hr 100 year Rainfall=6.80"

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Time span=0.00-72.00 hrs, dt=0.02 hrs, 3601 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 1S: Existing**

Runoff Area=12,770 sf 44.02% Impervious Runoff Depth=5.29"  
Tc=5.0 min CN=87 Runoff=1.81 cfs 0.129 af

**Subcatchment 2S: proposed site**

Runoff Area=11,249 sf 72.18% Impervious Runoff Depth=5.74"  
Tc=6.0 min CN=91 Runoff=1.63 cfs 0.124 af

**Subcatchment 3S: Roof**

Runoff Area=1,521 sf 100.00% Impervious Runoff Depth=6.56"  
Tc=6.0 min CN=98 Runoff=0.23 cfs 0.019 af

**Pond 1P: raingarden**

Peak Elev=149.99' Storage=604 cf Inflow=1.63 cfs 0.124 af  
Discarded=0.01 cfs 0.021 af Primary=1.61 cfs 0.102 af Outflow=1.62 cfs 0.124 af

**Pond 2P: cultec**

Peak Elev=147.22' Storage=609 cf Inflow=0.23 cfs 0.019 af  
Outflow=0.00 cfs 0.018 af

**Total Runoff Area = 0.586 ac Runoff Volume = 0.272 af Average Runoff Depth = 5.56"**  
**40.25% Pervious = 0.236 ac 59.75% Impervious = 0.350 ac**

**design**

**Summary for Subcatchment 1S: Existing**

Runoff = 1.81 cfs @ 12.07 hrs, Volume= 0.129 af, Depth= 5.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs  
Type III 24-hr 100 year Rainfall=6.80"

Area (sf)	CN	Description
4,100	98	Paved parking, HSG A
7,149	79	50-75% Grass cover, Fair, HSG C
1,521	98	Roofs, HSG A
12,770	87	Weighted Average
7,149		55.98% Pervious Area
5,621		44.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Min allowed

**Summary for Subcatchment 2S: proposed site**

Runoff = 1.63 cfs @ 12.08 hrs, Volume= 0.124 af, Depth= 5.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs  
Type III 24-hr 100 year Rainfall=6.80"

Area (sf)	CN	Description
8,119	98	Paved parking, HSG A
0	98	Roofs, HSG A
1,130	74	>75% Grass cover, Good, HSG C
2,000	74	>75% Grass cover, Good, HSG C
11,249	91	Weighted Average
3,130		27.82% Pervious Area
8,119		72.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Summary for Subcatchment 3S: Roof**

Runoff = 0.23 cfs @ 12.08 hrs, Volume= 0.019 af, Depth= 6.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs  
Type III 24-hr 100 year Rainfall=6.80"

**design**

Type III 24-hr 100 year Rainfall=6.80"

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Area (sf)	CN	Description
0	98	Paved parking, HSG A
1,521	98	Roofs, HSG A
0	74	>75% Grass cover, Good, HSG C
0	74	>75% Grass cover, Good, HSG C
1,521	98	Weighted Average
1,521		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry,</b>

**Summary for Pond 1P: raingarden**

Inflow Area = 0.258 ac, 72.18% Impervious, Inflow Depth = 5.74" for 100 year event  
 Inflow = 1.63 cfs @ 12.08 hrs, Volume= 0.124 af  
 Outflow = 1.62 cfs @ 12.09 hrs, Volume= 0.124 af, Atten= 1%, Lag= 0.5 min  
 Discarded = 0.01 cfs @ 12.09 hrs, Volume= 0.021 af  
 Primary = 1.61 cfs @ 12.09 hrs, Volume= 0.102 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs  
 Peak Elev= 149.99' @ 12.09 hrs Surf.Area= 760 sf Storage= 604 cf

Plug-Flow detention time= 172.1 min calculated for 0.124 af (100% of inflow)  
 Center-of-Mass det. time= 172.5 min ( 949.8 - 777.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	148.00'	608 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc) 1,520 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
148.00	760	0	0
150.00	760	1,520	1,520

Device	Routing	Invert	Outlet Devices
#1	Discarded	148.00'	<b>0.270 in/hr Exfiltration over Surface area</b> Conductivity to Groundwater Elevation = 140.00'
#2	Primary	149.75'	<b>5.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

**Discarded OutFlow** Max=0.01 cfs @ 12.09 hrs HW=149.98' (Free Discharge)  
 ↑1=Exfiltration ( Controls 0.01 cfs)

**Primary OutFlow** Max=1.60 cfs @ 12.09 hrs HW=149.98' (Free Discharge)  
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 1.60 cfs @ 1.37 fps)

**design**

Type III 24-hr 100 year Rainfall=6.80"

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**Summary for Pond 2P: cultec**

Inflow Area = 0.035 ac, 100.00% Impervious, Inflow Depth = 6.56" for 100 year event  
 Inflow = 0.23 cfs @ 12.08 hrs, Volume= 0.019 af  
 Outflow = 0.00 cfs @ 18.86 hrs, Volume= 0.018 af, Atten= 98%, Lag= 406.6 min  
 Discarded = 0.00 cfs @ 18.86 hrs, Volume= 0.018 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs  
 Peak Elev= 147.22' @ 18.86 hrs Surf.Area= 441 sf Storage= 609 cf

Plug-Flow detention time= 1,507.3 min calculated for 0.018 af (92% of inflow)  
 Center-of-Mass det. time= 1,465.5 min ( 2,208.9 - 743.3 )

Volume	Invert	Avail.Storage	Storage Description
#1A	145.00'	449 cf	<b>13.17'W x 33.50'L x 3.54'H Field A</b> 1,562 cf Overall - 440 cf Embedded = 1,123 cf x 40.0% Voids
#2A	145.50'	440 cf	<b>Cultec R-330XLHD x 8 Inside #1</b> Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 2 rows
		889 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	145.00'	<b>0.241 in/hr Exfiltration over Surface area</b> Conductivity to Groundwater Elevation = 140.00'

**Discarded OutFlow** Max=0.00 cfs @ 18.86 hrs HW=147.22' (Free Discharge)

↑**1=Exfiltration** ( Controls 0.00 cfs)

## Supporting Calculations

## Stormwater Management Supporting Calcs.

### Standard 3 – Recharge

$Rv = f \times \text{Impervious Area}$

$f = (\text{inch}) 0.25$

Imp. Area = (SF) 9,640

$Rv = (\text{cu ft}) 201$

Raingarden provides 608 cubic feet of recharge volume.

Cultec Chambers provide 695 cubic feet of recharge volume

1,303 cubic feet > 201 cubic feet.

### Standard 4 – Water Quality

$Vwq = Dwq \times \text{Impervious Area}$

$Dwq = (\text{inch}) 0.5$

Imp. Area = (SF) 9,640 (including roof)

$Vwq = (\text{cu ft}) 402$

Raingarden provides 608 cubic feet of recharge volume.

Cultec Chambers provide 695 cubic feet of recharge volume

1,303 cubic feet > 402 cubic feet.

### Forebay sizing

Left:

Impervious area = 5,105 SF

$5,105 \text{ SF} \times 0.1 \text{ in/sf} = 42.54 \text{ CF Required}$

Provided: Top 129 SF

Bot 68 SF

Avg area 98.5 SF x 0.5' depth = 49.25 CF Provided

49.25 CF > 42.54 CF

Right:

Impervious area = 3,014 SF

$3,014 \text{ SF} \times 0.1 \text{ in/sf} = 25.1 \text{ CF Required}$

Provided: Top 123 SF

Bot 55 SF

Avg area 89 SF x 0.5' depth = 44.5 CF Provided

44.5 CF > 25.1 CF

**INSTRUCTIONS:**

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Version 1, Automated: Mar. 4, 2008

Location:

	B	C	D	E	F
	BMP <sup>1</sup>	TSS Removal Rate <sup>1</sup>	Starting TSS Load*	Amount Removed (C*D)	Remaining Load (D-E)
<b>TSS Removal Calculation Worksheet</b>	Rain Garden	0.90	1.00	0.90	0.10
		0.00	0.10	0.00	0.10
		0.00	0.10	0.00	0.10
		0.00	0.10	0.00	0.10
		0.00	0.10	0.00	0.10

**Total TSS Removal =**

**Separate Form Needs to be Completed for Each Outlet or BMP Train**

Project:

Prepared By:

Date:

\*Equals remaining load from previous BMP (E) which enters the BMP

## Soil Data



# Custom Soil Resource Report for Norfolk and Suffolk Counties, Massachusetts



# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

## Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

## Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

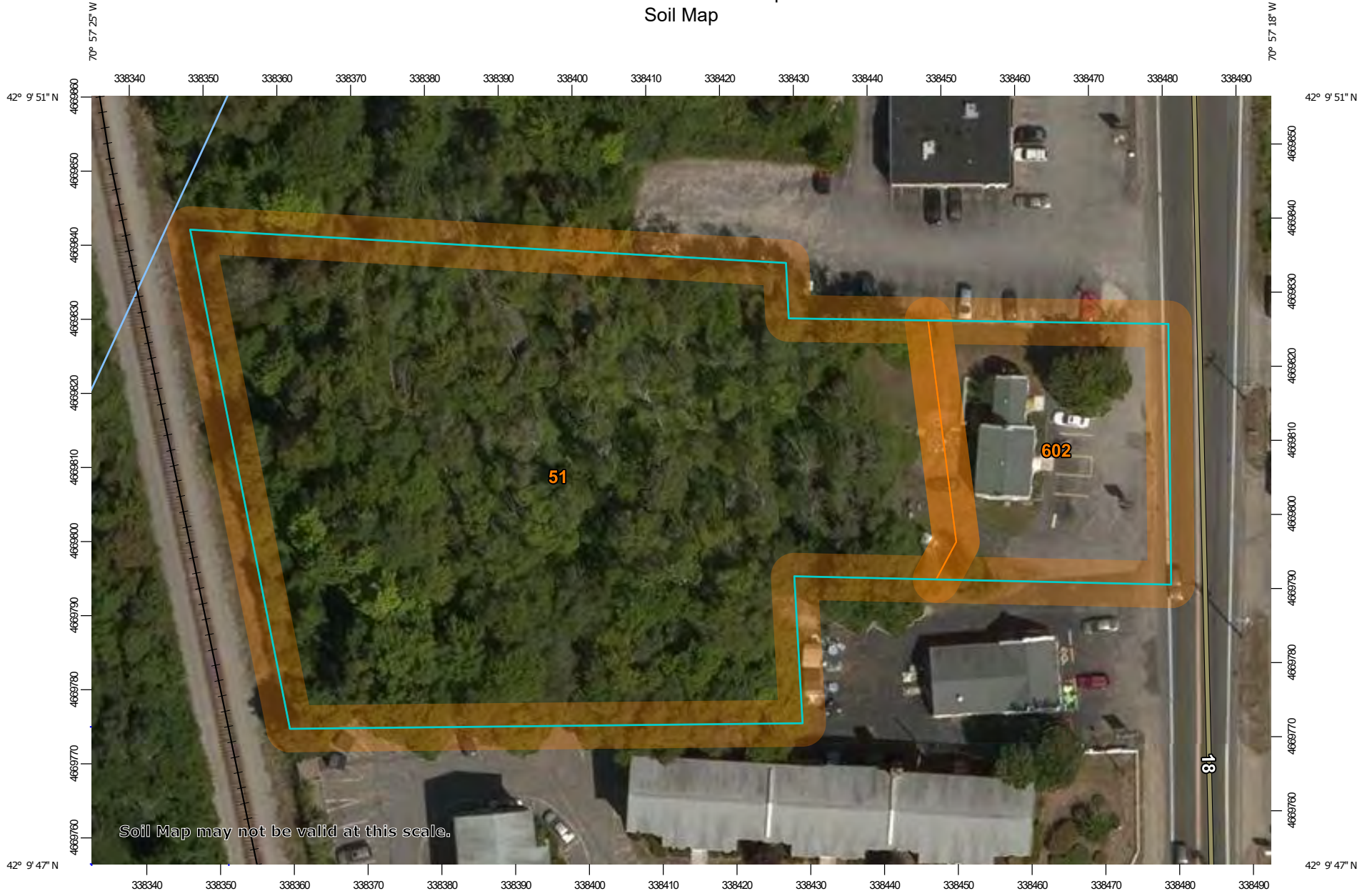
# Soil Map

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The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



# Custom Soil Resource Report Soil Map



Map Scale: 1:731 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84



### MAP LEGEND

**Area of Interest (AOI)**

 Area of Interest (AOI)




















**Soils**

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

**Special Point Features**

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

**Water Features**

 Streams and Canals

**Transportation**

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

**Background**

 Aerial Photography

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Norfolk and Suffolk Counties, Massachusetts  
 Survey Area Data: Version 16, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 26, 2014—Sep 4, 2014

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
51	Swansea muck, 0 to 1 percent slopes	1.4	83.7%
602	Urban land, 0 to 15 percent slopes	0.3	16.3%
<b>Totals for Area of Interest</b>		<b>1.6</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

## Custom Soil Resource Report

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## Norfolk and Suffolk Counties, Massachusetts

### 51—Swansea muck, 0 to 1 percent slopes

#### Map Unit Setting

*National map unit symbol:* 2trl2  
*Elevation:* 0 to 1,140 feet  
*Mean annual precipitation:* 36 to 71 inches  
*Mean annual air temperature:* 39 to 55 degrees F  
*Frost-free period:* 140 to 240 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Swansea and similar soils:* 80 percent  
*Minor components:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Swansea

##### Setting

*Landform:* Bogs, swamps  
*Landform position (three-dimensional):* Dip  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Parent material:* Highly decomposed organic material over loose sandy and gravelly glaciofluvial deposits

##### Typical profile

*Oa1 - 0 to 24 inches:* muck  
*Oa2 - 24 to 34 inches:* muck  
*Cg - 34 to 79 inches:* coarse sand

##### Properties and qualities

*Slope:* 0 to 1 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Very poorly drained  
*Runoff class:* Negligible  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to high  
(0.14 to 14.17 in/hr)  
*Depth to water table:* About 0 to 6 inches  
*Frequency of flooding:* Rare  
*Frequency of ponding:* Frequent  
*Available water capacity:* Very high (about 16.5 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 8w  
*Hydrologic Soil Group:* B/D  
*Ecological site:* F144AY043MA - Acidic Organic Wetlands  
*Hydric soil rating:* Yes

#### Minor Components

##### Freetown

*Percent of map unit:* 10 percent  
*Landform:* Swamps, bogs

## Custom Soil Resource Report

*Landform position (three-dimensional):* Dip  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Hydric soil rating:* Yes

### **Whitman**

*Percent of map unit:* 5 percent  
*Landform:* Depressions, drainageways  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Hydric soil rating:* Yes

### **Scarboro**

*Percent of map unit:* 5 percent  
*Landform:* Depressions, drainageways  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Base slope, tread, dip  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Hydric soil rating:* Yes

## **602—Urban land, 0 to 15 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* vkyj  
*Mean annual precipitation:* 32 to 50 inches  
*Mean annual air temperature:* 45 to 50 degrees F  
*Frost-free period:* 120 to 200 days  
*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Urban land:* 99 percent  
*Minor components:* 1 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Urban Land**

#### **Setting**

*Parent material:* Excavated and filled land

### **Minor Components**

#### **Rock outcrops**

*Percent of map unit:* 1 percent  
*Hydric soil rating:* Unranked

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# Operation and Maintenance Plan

## **Stormwater Operation and Maintenance Plan**

1183 Main Street  
Weymouth, MA  
April 2, 2021

Stormwater Management System Owner:

Property Owner

The following Operation and Maintenance Plan is intended as a guide for maintaining the structural BMP's post-construction. In order to document maintenance activities, the attached maintenance log should be kept on site. A minimum of two years' worth of records should be up to date and available for review and inspection, if requested by Town officials. The transfer of ownership also includes the transfer of the maintenance obligation to the new owners. In order to ensure the proposed stormwater management system continues to function as designed and to prevent any adverse impacts down-gradient, proper maintenance is required.

### **Operation and Maintenance Activities**

General housekeeping: Generally, the site should be maintained and should be kept free of trash and debris, landscaping should be maintained by regular (as needed) mowing of grassed areas and annual weeding and mulching of plant beds. Paved areas shall be swept a minimum of one time late in the fall and one time in the late spring.

Bioretention Area (Rain Garden): The bioretention area is intended to treat stormwater prior to infiltration and proper maintenance is required to avoid premature failure of the system. The rain garden shall be inspected monthly and any trash and debris shall be removed. Annually, the area should be mulched and any dead vegetation shall be replaced in the spring. Pruning and removal of dead vegetation shall occur annually in the Spring or Fall.

Infiltration Basin Inspection and Cleaning: The subsurface infiltration basins do not require regular maintenance because they receive clean roof flows. The system has inspection ports that should be inspected when the other on-site stormwater devices are inspected. If sediment build-up within the retention system is found during inspection, the sediment shall be removed by vacuum method through the inspection ports.

Snow and Ice: During winter snow season, snow shall be mechanically removed. Snow shall be stock piled at the perimeter of the site where it can naturally melt. Snow melt runoff can then be slowly infiltrated into the ground or treated by the stormwater management system. If excessive snow is encountered, the excessive snow shall be removed for off-site disposal. At no time snow shall be pushed into the wetland area.



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

Applicant: **Hardy-Man Design Group** Prepared by: **Ken Thomson / Botanist** Project location: **1183 Main St, Weymouth, MA** 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.

Vegetation	Observation Plot Number: <b>Wetland</b>		Transect Number: <b>WF# 3</b>	Date of Delineation: <b>8/14/2020</b>
A. Sample Layer & Plant Species (by common/scientific name)	B. Percent Cover (or basal Area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
<b>TREES TOTAL = 35 %</b>				
Red Maple, <i>Acer rubrum</i>	35	35 /35*100=100%	Yes	FAC*
<b>SAPLING TOTAL = 5 %</b>				
Grey Birch, <i>Betula populifolia</i>	5	5 /5*100=100%	Yes	FAC*
<b>SHRUB TOTAL = 70 %</b>				
Sweet Pepperbush, <i>Clethra alnifolia</i>	30	30 /70*100=43%	Yes	FAC*
Glossy False Buckthorn, <i>Frangula alnus</i>	20	20 /70*100=29%	Yes	FAC*
Posion Sumac, <i>Toxicodendron vernix</i>	10	10 /70*100=14%	No	
Multiflora Rose, <i>Rosa multiflora</i>	10	10 /70*100=14%	No	
<b>GROUND COVER TOTAL = 75%</b>				
Sensitive Fern, <i>Onoclea sensibilis</i>	45	45 /75*100=60%	Yes	FACW*
Purple Loosestrife, <i>Lythrum salicaria</i>	25	25 /75*100=33%	Yes	OBL*
Joe-Pye-Weed, <i>Eutrochium purpureum</i>	5	5 /75*100=7%	No	

\* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as 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: **6**      Number of dominant non-wetland indicator plants: **0**

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

(YES) 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

## Section II. Indicators of Hydrology

### Hydric Soil Interpretation

#### 1. Soil Survey

Is there a published soil survey for this site? **YES** NO  
 title/date: MassGIS Norfolk County  
 map number:  
 soil type mapped: Swansea Muck  
 hydric soil inclusions:

Are field observations consistent with soil survey? **YES** NO  
 Remarks:

#### 2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
Oa	18-0	10YR2/1 Muck	

FSL=Fine Sandy Loam  
 VFSL=Very Fine Sandy Loam  
 Sil = Silt Loam  
 Remarks:

#### 3. Other:

Conclusion: Is soil hydric? **YES** 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):

\_\_\_ButressTrees\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

### Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ # of non-wetland indicator plants	_X_	___
<b>Wetland hydrology present:</b>		
Hydric soil present	_X_	___
Other indicators of hydrology present	_X_	___
<b>Sample location is in a BVW</b>	_X_	___

Submit this form with the Request for Determination of Applicability or Notice of Intent.

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

Applicant: **Hardy-Man Design Group** Prepared by: **Ken Thomson / Botanist** Project location: **1183 Main St, Weymouth, MA** 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.

Vegetation	Observation Plot Number: <b>Upland</b>		Transect Number: <b>WF# 3</b>	Date of Delineation: <b>8/14/2020</b>
A. Sample Layer & Plant Species (by common/scientific name)	B. Percent Cover (or basal Area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
<b>TREES TOTAL = 20 %</b>				
Black Locust, <i>Robinia pseudoacacia</i>	20	20 /20*100=100%	Yes	FACU
<b>SAPLING TOTAL =15 %</b>				
Black Locust, <i>Robinia pseudoacacia</i>	15	15 /15*100=100%	Yes	FACU
<b>SHRUB TOTAL = N/A</b>				
<b>GROUND COVER TOTAL = 80%</b>				
Sweet Vernal Grass, <i>Anthoxanthum odoratum</i>	30	45 /75*100=60%	Yes	FACU
Upland Lawn	30	25 /75*100=33%	Yes	UPL
Asian Bittersweet, <i>Celastrus orbiculatus</i>	20	5 /75*100=7%	No	UPL

\* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as 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: **0**

Number of dominant non-wetland indicator plants: **5**

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

YES 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

## Section II. Indicators of Hydrology

### Hydric Soil Interpretation

#### 1. Soil Survey

Is there a published soil survey for this site? **YES** NO  
 title/date: MassGIS Norfolk County  
 map number:  
 soil type mapped: Urban Land  
 hydric soil inclusions:

Are field observations consistent with soil survey? **YES** NO  
 Remarks:

#### 2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-8	10YR2/1 FSL	
Bw1	8-19	10YR5/6 FSL	

FSL=Fine Sandy Loam  
 VFSL=Very Fine Sandy Loam  
 Sil = Silt Loam  
 Remarks:

#### 3. Other:

Conclusion: Is soil hydric? YES **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):

\_\_\_\_ButressTrees\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

### Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ # of non-wetland indicator plants	_____	_X_
<b>Wetland hydrology present:</b>		
Hydric soil present	_____	_X_
Other indicators of hydrology present	_____	_X_
<b>Sample location is in a BVW</b>	_____	_X_

Submit this form with the Request for Determination of Applicability or Notice of Intent.