

NOTICE OF INTENT

0 & 4 Lakeside Avenue
Boston, MA 01949

February 4, 2020

Owner:

Joan E. Nelson
74 Prescott Street
Boston, MA 02136

Applicant:

Garnet Brown
142 Almont Street
Mattapan, MA 02126

Prepared By:

Williams & Sparages LLC
189 North Main Street, Suite 101
Middleton, MA 01949
Ph: 978-539-8088
Fax: 978-539-8200
www.wsengineers.com

W&S Project No:

BOST-0047





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

Boston

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>0 & 4 Lakeside Avenue</u>	<u>Boston</u>	<u>02136</u>
a. Street Address	b. City/Town	c. Zip Code
<u>Latitude and Longitude:</u>	<u>42.233541</u>	<u>-71.138421</u>
	d. Latitude	e. Longitude
<u>18</u>	<u>12998 & 12999</u>	
f. Assessors Map/Plat Number	g. Parcel /Lot Number	

2. Applicant:

<u>Garnet</u>	<u>Brown</u>	
a. First Name	b. Last Name	
<u>c. Organization</u>		
<u>142 Almont Street</u>		
d. Street Address		
<u>Mattapan</u>	<u>MA</u>	<u>02126</u>
e. City/Town	f. State	g. Zip Code
<u>(617) 905-0984</u>	<u>garnetb189@hotmail.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>Joan</u>	<u>Nelson</u>	
a. First Name	b. Last Name	
<u>c. Organization</u>		
<u>74 Prescott Street</u>		
d. Street Address		
<u>Boston</u>	<u>MA</u>	<u>02136</u>
e. City/Town	f. State	g. Zip Code
<u>(603) 233-1995</u>	<u>Ljc1224@gmail.com</u>	
h. Phone Number	i. Fax Number	j. Email address

4. Representative (if any):

<u>Richard</u>	<u>Williams</u>	
a. First Name	b. Last Name	
<u>Williams & Sparages LLC</u>		
c. Company		
<u>189 North Main Street</u>		
d. Street Address		
<u>Middleton</u>	<u>MA</u>	<u>01949</u>
e. City/Town	f. State	g. Zip Code
<u>(978) 539-8088</u>	<u>(978) 539-8200</u>	<u>rwilliams@wsengineers.com</u>
h. Phone Number	i. Fax Number	j. Email address

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

<u>\$1050.00</u>	<u>\$512.50</u>	<u>\$0</u>
a. Total Fee Paid	b. State Fee Paid	c. City/Town Fee Paid



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A. General Information (continued)

6. General Project Description:

Proposed construction of a 3-unit condominium building within 100' of Sprague Pond, within 100' of Bordering Vegetated Wetlands, and within the Ponkapoag and Fowl Meadow Area of Critical Environmental Concern.

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 Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

<u>Suffolk</u>	_____
a. County	b. Certificate # (if registered land)
<u>7193</u>	<u>111</u>
c. Book	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.

Deed Reference:

The prior legal owner of the subject properties, John Homer, passed away many years ago. Because there was no will in place, the lot went to probate. Therefore, no deed reference currently exists. Joan Nelson, the signatory on the Notice of Intent application, is however the legal owner, and was granted rights via probate.





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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. Riverfront Area

1. Name of Waterway (if available) - specify coastal or inland _____

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.



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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. <input type="checkbox"/> 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. <input type="checkbox"/> Project Involves Stream Crossings		
	a. number of new stream crossings _____	b. number of replacement stream crossings _____



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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.

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

8/2017
 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
 - 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 <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/>). Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

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



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

(c) MESA filing fee (fee information available at http://www.mass.gov/dfwele/dfw/nhosp/regulatory_review/ mesa/ mesa_fee_schedule.htm). 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, http://www.mass.gov/dfwele/dfw/nhosp/regulatory_review/ mesa/ mesa_exemptions.htm; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)

2. Separate MESA review ongoing. a. NHESP Tracking # b. Date submitted to NHESP

3. Separate MESA review completed.
Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.

3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

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

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

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

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
836 South Rodney French Blvd.
New Bedford, MA 02744
Email: DMF.EnvReview-South@state.ma.us

North Shore - Hull to New Hampshire border:

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

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



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

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.
Fowl Meadow and Ponkapoag Bog
- 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.



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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.

Permit Site Plan (Sheets 1-3)

a. Plan Title

Williams & Sparages LLC

Ricahrd L. Williams, P.E.

b. Prepared By

c. Signed and Stamped by

January 15, 2020

1" = 20'

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:

2. Municipal Check Number

5680166

3. Check date

February 4, 2020

4. State Check Number

N/A

5. Check date

N/A

6. Payor name on check: First Name

7. Payor name on check: Last Name



CITY OF BOSTON CREDIT UNION Official Check

5680166

1010 Morrissey Blvd.
Dorchester MA 02122

49-55
1031

February 4, 2020

Pay to the
Order of:

Commonwealth of Massachusetts

\$512.50

Five Hundred Twelve and 50/100*****

DRAWER: CITY OF BOSTON CREDIT UNION

Timothy J. Smyth
James Rollinscall

Memo Lakeside Avenue Notice of Intent Fees

ISSUED BY: MONEYGRAM PAYMENT SYSTEMS, INC.
P.O. BOX 9476 MINNEAPOLIS MN 55480
DRAWEE: BOKF, NA EUFAULA, OK

⑈ 5680 166 ⑈ ⑆ 103 10055 1⑆0 1600 1 2 293 78 2⑈

THIS DOCUMENT HAS A TRUE WATERMARK. ABSENCE OF THIS FEATURE WILL INDICATE A COPY.



CITY OF BOSTON CREDIT UNION Official Check

5680167

1010 Morrissey Blvd.
Dorchester MA 02122

49-55
1031

February 4, 2020

Pay to the
Order of:

City of Boston

\$750.00

Seven Hundred Fifty and 00/100*****

DRAWER: CITY OF BOSTON CREDIT UNION

Timothy J. Smyth
James Rollinscall

Memo Lakeside Avenue Notice of Intent Fees

ISSUED BY: MONEYGRAM PAYMENT SYSTEMS, INC.
P.O. BOX 9476 MINNEAPOLIS MN 55480
DRAWEE: BOKF, NA EUFAULA, OK

⑈ 5680 167 ⑈ ⑆ 103 10055 1⑆0 1600 1 2 293 78 2⑈



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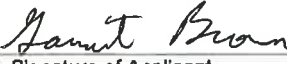
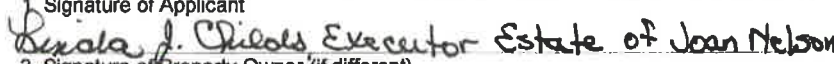

Boston

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.

	<u>2/4/2020</u>
1. Signature of Applicant	2. Date
 <i>Dixie J. Cheels Executor Estate of Joan Nelson</i>	<u>2/4/2020</u>
3. Signature of Property Owner (if different)	4. Date
	<u>2/4/2020</u>
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:

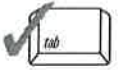
If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

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.



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NOI Wetland Fee Transmittal Form
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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:

0 & 4 Lakeside Avenue Boston
 a. Street Address b. City/Town
5680166 \$512.50
 c. Check number d. Fee amount

2. Applicant Mailing Address:

Garnet Brown
 a. First Name b. Last Name
 c. Organization
142 Almont Street
 d. Mailing Address
Mattapan MA 02126
 e. City/Town f. State g. Zip Code
(617) 905-0984 garnetb189@hotmail.com
 h. Phone Number i. Fax Number j. Email Address

3. Property Owner (if different):

Joan Nelson
 a. First Name b. Last Name
 c. Organization
74 Prescott Street
 d. Mailing Address
Boston MA 02136
 e. City/Town f. State g. Zip Code
(603) 233-1995 Ljc1224@gmail.com
 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).



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B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
3, b	1	\$1050.00	\$1050.00

Step 5/Total Project Fee: \$1050.00

Step 6/Fee Payments:

Total Project Fee:	<u>\$1050.00</u>
State share of filing Fee:	<u>\$512.50</u>
City/Town share of filling Fee:	<u>c. 1/2 Total Fee plus \$12.50</u>

C. Submittal Requirements

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

Department of Environmental Protection
 Box 4062
 Boston, MA 02211

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

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



A. GENERAL INFORMATION

1. Project Location

<u>0 & 4 Lakeside Avenue</u>	<u>Boston</u>	<u>02136</u>
a. Street Address	b. City/Town	c. Zip Code
<u>Ward 18</u>	<u>12998 & 12999</u>	
f. Assessors Map/Plat Number	g. Parcel /Lot Number	

2. Applicant

<u>Garnet</u>	<u>Brown</u>	
a. First Name	b. Last Name	c. Company
<u>142 Almont Street</u>		
d. Mailing Address		
<u>Mattapan</u>	<u>MA</u>	<u>02126</u>
e. City/Town	f. State	g. Zip Code
<u>(617) 905-0984</u>	<u>garnetb189@hotmail.com</u>	
h. Phone Number	i. Fax Number	j. Email address

3. Property Owner

<u>Joan</u>	<u>Nelson</u>	
a. First Name	b. Last Name	c. Company
<u>74 Prescott Street</u>		
d. Mailing Address		
<u>Boston</u>	<u>MA</u>	<u>02136</u>
e. City/Town	f. State	g. Zip Code
<u>603-233-1995</u>	<u>Ljc1224@gmail.com</u>	
h. Phone Number	i. Fax Number	j. Email address

Check if more than one owner

(If there is more than one property owner, please attach a list of these property owners to this form.)

4. Representative (if any)

<u>Richard</u>	<u>Williams</u>	<u>Williams & Sparages LLC</u>
a. First Name	b. Last Name	c. Company
<u>189 North Main Street</u>		
d. Mailing Address		
<u>Middleton</u>	<u>MA</u>	<u>01949</u>
e. City/Town	f. State	g. Zip Code
<u>978-539-8088</u>	<u>rwilliams@wsengineers.com</u>	
h. Phone Number	i. Fax Number	j. Email address



5. Is any portion of the proposed project jurisdictional under the Massachusetts Wetlands Protection Act M.G.L. c. 131 §40?

- Yes No

If yes, please file the WPA Form 3 - Notice of Intent with this form

6. General Information

Proposed construction of a 3-unit condominium building within 100' of Sprague Pond, within 100' of Bordering Vegetated Wetlands, and within the Ponkapoag and Fowl Meadow Area of Critical Environmental Concern.

7. Project Type Checklist

- a. Single Family Home
- b. Residential Subdivision
- c. Limited Project Driveway Crossing
- d. Commercial/Industrial
- e. Dock/Pier
- f. Utilities
- g. Coastal Engineering Structure
- h. Agriculture – cranberries, forestry
- i. Transportation
- j. Other

8. Property recorded at the Registry of Deeds

<u>Suffolk</u>	<u>111</u>
a. County	b. Page Number
<u>7193</u>	
c. Book	d. Certificate # (if registered land)

B. BUFFER ZONE & RESOURCE AREA IMPACTS

Buffer Zone Only - Is the project located only in the Buffer Zone of a resource area protected by the Boston Wetlands Ordinance?

- Yes No

1. Coastal Resource Areas

<u>Resource Area</u>	<u>Resource Area Size</u>	<u>Proposed Alteration*</u>	<u>Proposed Mitigation</u>
<input type="checkbox"/> Coastal Flood Resilience Zone	_____ Square feet	_____ Square feet	_____ Square feet



- 25-foot Waterfront Area

Square feet Square feet Square feet

2. Inland Resource Areas

Resource Area

Resource Area Size

Proposed Alteration*

Proposed Mitigation

- Inland Flood Resilience Zone

Square feet Square feet Square feet

- Isolated Wetlands

Square feet Square feet Square feet

- Vernal Pool

Square feet Square feet Square feet

- Vernal Pool Habitat (vernal pool + 100 ft. upland area)

Square feet Square feet Square feet

- 25-foot Waterfront Area

9,867 650 0

Square feet Square feet Square feet

C. OTHER APPLICABLE STANDARDS & REQUIREMENTS

- 1. Is any portion of the proposed project located in Estimated Habitat of Rare Wildlife as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program (NHESP)? To view habitat maps, see the Massachusetts Natural Heritage Atlas or go to <http://www.mass.gov/dfwele/dfw/nhsp/nhregmap.htm>.

- Yes No

If yes, the project is subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18).

A. Submit Supplemental Information for Endangered Species Review

- Percentage/acreage of property to be altered:

(1) within wetland Resource Area _____
percentage/acreage

(2) outside Resource Area _____
percentage/acreage

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

- 2. Is the proposed project subject to provisions of the Massachusetts Stormwater Management

- 3. Is any portion of the proposed project within an Area of Critical Environmental Concern?

- Yes No



- 4. Is the proposed project subject to provisions of the Massachusetts Stormwater Management Standards?
- Yes. Attach a copy of the Stormwater Checklist & Stormwater Report as required.
- No. Check below & include a narrative as to why the project is exempt.
5. Is the proposed project subject to Boston Water and Sewer Commission Review?
- Yes
- No

D. 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...

Signature of Applicant Date
Signature of Property Owner (if different) Date
Signature of Representative (if any) Date

Checklist for Filing a Notice of Intent with Boston Conservation Commission

In order for the Boston Conservation Commission to effectively process your Notice of Intent, BCC requests that you complete the checklist below and include it with your submission. If you should need assistance please contact Commission Staff: 617-635-3850 (cc@boston.gov).

Please Submit the Following to the Conservation Commission:

- Two copies (a signed original and 1 copy) of a completed Notice of Intent (WPA Form 3)
- Two copies (a signed original and 1 copy) of a completed Boston Notice of Intent (Local Form)
- Two copies of plans (reduced to 11" X 17") in their final form with engineer's stamp affixed supporting calculations and other documentation necessary to completely describe the proposed work and mitigating measures. Plans must include existing conditions, the proposed project, erosion controls and mitigation measures, grading and spot elevations and all wetland resource areas and associated buffer zones. Some projects may require both an aerial view of the plans along with a profile view of plans depending on the scope of work.
- Two copies of an 8 ½" x 11" section of the USGS quadrangle map of the area, containing sufficient information for the Conservation Commission and the Department to locate the site of the work.
- (If applicable) Two copies the Federal Emergency Management Agency Flood Insurance Rate Map for the project site. FEMA Flood Maps: <https://msc.fema.gov/portal>.
- Two copies of the determination regarding the Natural Heritage and Endangered Species Program: Review Section C. Other Applicable Standards and Requirements of the Notice of Intent, page 4 of 8, pertaining to wildlife habitat. The Conservation Commission and the Natural Heritage & Endangered Species Program have the maps necessary to make this determination.
- (If applicable) Two hard copies of a Stormwater Report to document compliance with the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q), including associated drainage calculations for rooftops, parking lots, driveways, etc., for the required design storm events.
- (If applicable) A narrative detailing best management practices for stormwater management as set forth in the Stormwater Management Standards of the Massachusetts Department of Environmental Protection and any separate standards and guidelines prepared by the City and the Boston Water and Sewer Commission.
- (If applicable) Two hard copies of the Checklist for Stormwater Report
- Details of the stormwater management system, including: catch basins, oil separating tanks, detention basins, outfalls, sewer connections, etc.
- Any photographs related to the project representing the wetland resource areas.
- Two copies of a detailed project narrative describing the following: an overview of the entire project, the work proposed within wetland resource areas and/or buffer zones; how the performance standards specific to the wetland resource areas will be met (listing out each performance standard); a consideration of the effect that project sea level rise, changes in storm intensity and frequency, and other consequences of climate change may have on the resource areas and proposed activities; construction equipment and material involved; and measures to protect wetland resource areas and mitigate impacts. The applicant shall also include narrative on how they plan to integrate climate change and adaptation planning considerations into their project to promote climate resilience to protect and promote Resource Area Values and functions into the future.
- Two copies of an Abutters List, Affidavit of Service and Abutter Notification, filed concurrently with the Notice of Intent. All abutters within 300' of the project property line must be notified including those in a neighboring municipality. In such an instance, a copy of the filing must also be sent to the local Conservation Commission of the neighboring municipality.

Checklist for Filing a Notice of Intent with Boston Conservation Commission

- ☒ Two copies of the BPDA Climate Resiliency Checklist (for new buildings). This can be completed online at <http://www.bostonplans.org/planning/planning-initiatives/article-37-green-building-guidelines>. Please print the pdf that you will receive via email after completion and include it in your submission.
- ☒ **Electronic copies. Documents may be submitted via email, or via an email link to downloadable documents.**



To minimize the use of non-recyclable materials ***please do not include vinyl or plastic binders, bindings, folders or covers with the filing.*** Staples and binder clips are good choices.

Introduction:

The subject property is currently undeveloped and is located adjacent to Sprague Pond in Hyde Park. It is located within the Hyde Park Neighborhood Zoning District, and within the Conservation Protection Subdistrict. It is bound to the west by Lakeside Avenue; to the north by Lakeside Avenue and associated homes along Lakeside Avenue; to the east by Sprague Pond, and to the south by 16 Lakeside Avenue and the Kunkel Place Road.

The site is largely comprised of a grassed park area, with a fringe of pioneer species along the pond frontage and a border made up of trees and shrubs along the lots frontage on Lakeside Avenue. The site slopes gradually from Lakeside Avenue towards the rear of the lot and Sprague Pond. According to the NRCS Web Soil Survey, soils on the property are mapped as 654, Udorthents, which indicates the presence of excavated and filled coarse-loamy human transported material. According to the most recent Natural Heritage and Endangered Species Program, (NHESP), Atlas the parcel is not mapped as Priority Habitat of Rare Species or Estimated Habitat of Rare Wildlife by the Division of Fisheries and Wildlife NHESP. The area is mapped as an Area of Critical Environmental Concern.

Project Proposal:

The proposal is to construct a 3-unit condominium building within 100 feet of Bordering Vegetated Wetlands (BVW). Each unit is proposed to have its own paved driveway and deck off the rear of the building facing Sprague Pond. All activities associated with the construction of the building are proposed in areas that are currently maintained as lawn. The project proposes to preserve the vegetative buffer that exists along the BVW to the maximum extent practicable, with only a small portion of vegetation proposed to be removed in the south corner of the lot. This variable width no-disturb zone should help the buffer zone continue to protect the interests detailed in M.G.L. c. 131 § 40 and 310 CMR 10.00.

The units are proposed to be served by municipal water and sewer. In an attempt to provide infiltration for the increase in impervious surfaces the driveways on either end of the condominium building were designed to drain into stone infiltration trenches and the roof runoff is proposed to be directed to subsurface infiltration chambers.

The location of the jurisdictional wetland resource areas as well as the required dimensional setbacks limit the available alternatives for siting the building. The front and rear setback requirement in this zoning district requires the building to be at least 50 feet from the front and rear property boundaries.



Jurisdictional Wetland Resource Areas:

The jurisdictional wetland resource areas depicted on the accompanying plan were delineated by Gregory Hochmuth, PWS, CWS from Williams & Sparages LLC on January 23rd, 2019.

Bordering Vegetated Wetlands (BVW), 310 CMR 10.55: - Wetland flags A1 – A17 shown on the accompanying site plan delineate the BVW on the eastern portion of the subject parcel.

A thin vegetated buffer strip exists along the wetland edge that is dominated by gray birch and red maple in the overstory, and staghorn sumac, glossy buckthorn and speckled alder in the understory. The area appears to have been maintained close to the pond edge for many years. With the exception of a small 700 s.f. +/- area of vegetation in the south corner of the lot, the buffer strip is being preserved.

No alteration of BVW is proposed.

General Performance Standards 310 CMR 10.55(4).

(a) Where the presumption set forth in 310 CMR 10.55(3) is not overcome, any proposed work in a Bordering Vegetated Wetland shall not destroy or otherwise impair any portion of said area.

No attempt is being made to overcome this presumption.

(b) Notwithstanding the provisions of 310 CMR 10.55(4)(a), the issuing authority may issue an Order of Conditions permitting work which results in the loss of up to 5000 square feet of Bordering Vegetated Wetland when said area is replaced in accordance with the following general conditions and any additional, specific conditions the issuing authority deems necessary to ensure that the replacement area will function in a manner similar to the area that will be lost:

1. the surface of the replacement area to be created ("the replacement area") shall be equal to that of the area that will be lost ("the lost area");
2. the ground water and surface elevation of the replacement area shall be approximately equal to that of the lost area;
3. The overall horizontal configuration and location of the replacement area with respect to the bank shall be similar to that of the lost area;
4. the replacement area shall have an unrestricted hydraulic connection to the same water body or waterway associated with the lost area;



5. the replacement area shall be located within the same general area of the water body or reach of the waterway as the lost area;
6. at least 75% of the surface of the replacement area shall be reestablished with indigenous wetland plant species within two growing seasons, and prior to said vegetative reestablishment any exposed soil in the replacement area shall be temporarily stabilized to prevent erosion in accordance with standard U.S. Soil Conservation Service methods; and
7. the replacement area shall be provided in a manner which is consistent with all other General Performance Standards for each resource area in Part III of 310 CMR 10.00. In the exercise of this discretion, the issuing authority shall consider the magnitude of the alteration and the significance of the project site to the interests identified in M.G.L. c. 131, § 40, the extent to which adverse impacts can be avoided, the extent to which adverse impacts are minimized, and the extent to which mitigation measures, including replication or restoration, are provided to contribute to the protection of the interests identified in M.G.L. c. 131, § 40.

No alteration of BVW is proposed.

(c) Notwithstanding the provisions of 310 CMR 10.55(4)(a), the issuing authority may issue an Order of Conditions permitting work which results in the loss of a portion of Bordering Vegetated Wetland when;

1. said portion has a surface area less than 500 square feet;
2. said portion extends in a distinct linear configuration ("finger-like") into adjacent uplands; and
3. in the judgment of the issuing authority it is not reasonable to scale down, redesign or otherwise change the proposed work so that it could be completed without loss of said wetland.

No alteration of BVW is proposed.

(d) Notwithstanding the provisions of 310 CMR 10.55(4)(a),(b) and (c), no project may be permitted which will have any adverse effect on specified habitat sites of rare vertebrate or invertebrate species, as identified by procedures established under 310 CMR 10.59.

The area is not mapped as Estimated or Priority Habitat by the Division of Fisheries and Wildlife, Natural Heritage and Endangered Species Program.

(e) Any proposed work shall not destroy or otherwise impair any portion of a Bordering Vegetated Wetland that is within an Area of Critical Environmental Concern designated by the Secretary of Energy and Environmental Affairs under M.G.L. c. 21A,



§ 2(7) and 301 CMR 12.00: Areas of Critical Environmental Concern. 310 CMR 10.55(4)(e):

1. supersedes the provisions of 310 CMR 10.55(4)(b) and (c);
2. shall not apply if the presumption set forth at 310 CMR 10.55(3) is overcome;
3. shall not apply to work proposed under 310 CMR 10.53(3)(l); and
4. shall not apply to maintenance of stormwater detention, retention, or sedimentation ponds, or to maintenance of stormwater energy dissipating structures, that have been constructed in accordance with a valid order of conditions.

No alteration of BVW is proposed.

Inland Bank, 310 CMR 10.54: - The Inland Bank associated with Sprague Pond is coincident with the edge of pond located 1/23/2019 shown on the Permit Site Plan dated revised February 6, 2020 prepared by Williams & Sparages LLC.

No alteration of Bank is proposed as a result of this application.

General Performance Standard, 310 CMR 10.54 (4):

(a) Where the presumption set forth in 310 CMR 10.54(3) is not overcome, any proposed work on a Bank shall not impair the following:

1. the physical stability of the Bank;
2. the water carrying capacity of the existing channel within the Bank;
3. ground water and surface water quality;
4. the capacity of the Bank to provide breeding habitat, escape cover and food for fisheries;
5. the capacity of the Bank to provide important wildlife habitat functions. A project or projects on a single lot, for which Notice(s) of Intent is filed on or after November 1, that (cumulatively) alter(s) up to 10% or 50 feet (whichever is less) of the length of the bank found to be significant to the protection of wildlife habitat, shall not be deemed to impair its capacity to provide important wildlife habitat functions. In the case of a bank of a river or an intermittent stream, the impact shall be measured on each side of the stream or river. Additional alterations beyond the above threshold may be permitted if they will have no adverse effects on wildlife habitat, as determined by procedures contained in 310 CMR 10.60.
6. Work on a stream crossing shall be presumed to meet the performance standard set forth in 310 CMR 10.54(4)(a) provided the work is performed in compliance with the Massachusetts Stream Crossing Standards by consisting of a span or embedded culvert in which, at a minimum, the bottom of a span



structure or the upper surface of an embedded culvert is above the elevation of the top of the bank, and the structure spans the channel width by a minimum of 1.2 times the bankfull width. This presumption is rebuttable and may be overcome by the submittal of credible evidence from a competent source. Notwithstanding the requirement of 310 CMR 10.54(4)(a)5., the impact on bank caused by the installation of a stream crossing is exempt from the requirement to perform a habitat evaluation in accordance with the procedures contained in 310 CMR 10.60.

No alteration of Bank is proposed.

(b) Notwithstanding the provisions of 310 CMR 10.54(4)(a), structures may be permitted in or on a Bank when required to prevent flood damage to facilities, buildings and roads constructed prior to the effective date of 310 CMR 10.51 through 10.60 or constructed pursuant to a Notice of Intent filed prior to the effective date of 310 CMR 10.51 through 10.60 (April 1, 1983), including the renovation or reconstruction (but not substantial enlargement) of such facilities, buildings and roads, provided that the following requirements are met:

1. The proposed protective structure, renovation or reconstruction is designed and constructed using best practical measures so as to minimize adverse effects on the characteristics and functions of the resource area;
2. The applicant demonstrates that there is no reasonable method of protecting, renovating or rebuilding the facility in question other than the one proposed.

No structures are proposed in or on Bank.

(c) Notwithstanding the provisions of 310 CMR 10.54(4)(a) or (b), no project may be permitted which will have any adverse effect on specified habitat sites of Rare Species, as identified by procedures established under 310 CMR 10.59.

The area is not mapped as Estimated or Priority Habitat by the Division of Fisheries and Wildlife, Natural Heritage and Endangered Species Program (NHESP).

No activities are proposed on or below the Inland Bank and activities within the buffer zone have been designed to ensure that the Bank is not impacted during or following construction.

100-Foot Buffer Zone



The City of Boston Ordinance Protecting Local Wetlands and Promoting Climate Change Adaptation in the City of Boston presumes that the Buffer Zone is important to the protection of the resource areas because activities undertaken in close proximity to resource areas have a reasonable probability of adverse impact upon the wetland or other resource, either immediately, as a consequence of construction, or over time, as a consequence of daily operation or existence of the activities. These adverse impacts from construction and use can include, without limitation, erosion, siltation, loss of groundwater recharge, degraded water quality, loss of wildlife habitat, degradation of wetland plant habitat, alteration of hydrology, soil contamination, and proliferation of invasive plants. The Commission therefore may require that any person filing an application (hereinafter, the Applicant) restore or maintain a strip of continuous, undisturbed or restored vegetative cover or waterfront public access throughout the Waterfront Area, unless the Commission determines, based on adequate evidence, that the area or part of it may be altered without harm to the values of the resource areas protected by the Ordinance. Such disturbed areas must be minimized to the greatest extent possible.

Erosion & Siltation: Erosion controls are proposed to be installed during construction and remain in place until all areas upgradient are stabilized and until permission is granted for their removal by the City of Boston Conservation Agent or the Commission.

Loss of Groundwater Recharge: Subsurface infiltration chambers for the roof area and an infiltration trenches for the paved driveways are proposed to help maintain groundwater recharge in the areas where impervious surfaces are proposed.

Degraded Water Quality: The project is proposed upgradient from Sprague Pond in an area that has been maintained for many years. To insure that water quality in the pond is not degraded following completion of the project, a variable width vegetative buffer is proposed to remain between the project and the BVW bordering on the pond, and all areas that are not part of the building or driveway are proposed to be stabilized with vegetative cover.

Loss of Wildlife Habitat & Degradation of Wetland Plant Habitat: No unique habitat components were noted during our site assessment and as mentioned above the area is not mapped as estimated or priority habitat by the Division of Fisheries and Wildlife NHESP. In addition, only a small amount of the Waterfront Area is proposed to be altered and the majority of the vegetative cover along the waterfront is proposed to remain as a variable width no disturb zone. Most of the project is proposed within existing maintained areas.



Alteration of Hydrology: As mentioned above, the project proposes subsurface infiltration chambers for the roof area and two infiltration trenches for the driveways to help infiltrate stormwater. The project should have no impact on the hydrology of the BVW or Sprague Pond.

Soil Contamination: The area is not mapped with an Area Use Limitation (AUL) or as a 21E site and no stockpiles were observed during our site assessment.

Proliferation of Invasive Plants: The proposed activities should not encourage the rapid increase of invasive species. Almost all of the work is proposed within existing maintained areas and no invasive species are proposed as part of the project.

Climate Change Resiliency

Future sea level rise, and flood associated with the Neponset River is unlikely to impact the proposed development. The existing flood elevation associated with the Neponset River, which is over .5 miles away, is at elevation 44. Transferring that elevation to the Boston City Base, an elevation of 50.46 should be used. The lowest point on the subject property is above elevation 56, and there is no current flood elevation associated with Sprague Pond, nor does it have a mapped FEMA 100 Year Floodplain; therefore, there is no Bordering or Isolated land Subject to Flooding on the subject property. Additionally, if Sprague Pond were to flood, it would flow southeast away from the proposed development towards the Neponset River.

At this time, additional energy efficiency and climate resiliency measures have not been incorporated into the design of the building as the applicant has not yet engaged an architect for the final design of the building. This is also why additional detail on some of the categories within the Climate Change Resiliency Checklist have not yet been provided.

Area of Critical Environmental Concern (ACEC):

As mentioned above, the project is proposed within an area identified as an ACEC by the Secretary of Energy and Environmental Affairs. More specifically, this area is known as The Fowl Meadow and Ponkapoag Bog ACEC, which is approximately 8,350 acres in size and is located in the metropolitan Boston region. The fundamental resource features of the Fowl Meadow and Ponkapoag Bog ACEC are the Neponset River and the Ponkapoag Pond and Bog. An eight-mile stretch of the Neponset River and its tributaries, the adjacent wetlands and floodplains, the associated aquifers and public water supplies, and the diverse habitats form the core resources of the Fowl Meadow area.



The Boston Wetlands Protection Ordinance specifies that:

Any areas within the City of Boston which have been designated as Areas of Critical Environmental Concern by the Secretary of Energy and Environmental Affairs, Commonwealth of Massachusetts, are so designated due to the particularly unique environmental factors that affect such areas and that highlight the unique importance of each area so designated. As a result of such designation, it is incumbent upon the Commission to be even more diligent in its review of projects proposed within or bordering such areas. The highest standards of scrutiny as to the impact of any proposal are required and shall be exercised by the Commission. Close scrutiny shall be given by the Commission to any proposals involving an application of new pavement or newly installed other impervious materials within any area less than one hundred (100) feet from bordering vegetated wetland, bank, beach, and meadow.

The proposed project is located on the outskirts of the aforementioned ACEC, and is approximately 0.4 miles from the borders of the Neponset River Reservation, which is the primary location of the features that create the ACEC. In between the Neponset River Reservation and project proposal there has been extensive development, which includes multiple commercial buildings along Meadow Road, as well as residential dwellings to the south and east. As mentioned above, the jurisdictional wetland resource areas, BVW and Inland Bank, are not proposed to be altered as a result of this project and only a small portion of vegetation within the 100-foot buffer zone is proposed to be removed in the south corner of the parcel. This will result in the preservation and creation of a variable width no disturb zone along the BVW boundary that should continue to protect the interests detailed in M.G.L. c. 131 § 40 and 310 CMR 10.00.

The natural drainage pattern will still flow towards Sprague Pond, and subsurface infiltration chambers for the roof runoff and infiltration trenches along the driveways are proposed to help manage runoff and provide infiltration during storm events.

Up to 1" of roof runoff is proposed to be captured and infiltrated into the ground via subsurface infiltration chambers and crushed stone infiltration trenches.

ACEC Performance Standards:

310 CMR 10.55 (4)(e) states that any proposed work shall not destroy or otherwise impair any portion of a Bordering Vegetated Wetland that is within an Area of Critical Environmental Concern designated by the Secretary of Energy and Environmental Affairs under M.G.L. c. 21A, § 2(7) and 301 CMR 12.00: Areas of Critical Environmental Concern.



No activities are proposed within BVW's, and the work within the Buffer Zone has been designed to protect the interests in M.G.L. c. 131 § 40 and 310 CMR 10.00. Vegetation within the Buffer Zone is being proposed to the maximum extent practicable and erosion controls are proposed during construction that are to remain in place until all areas above them are stable and permission is granted for their removal from the Boston Conservation Commission and/or their Agent.

Erosion Controls:

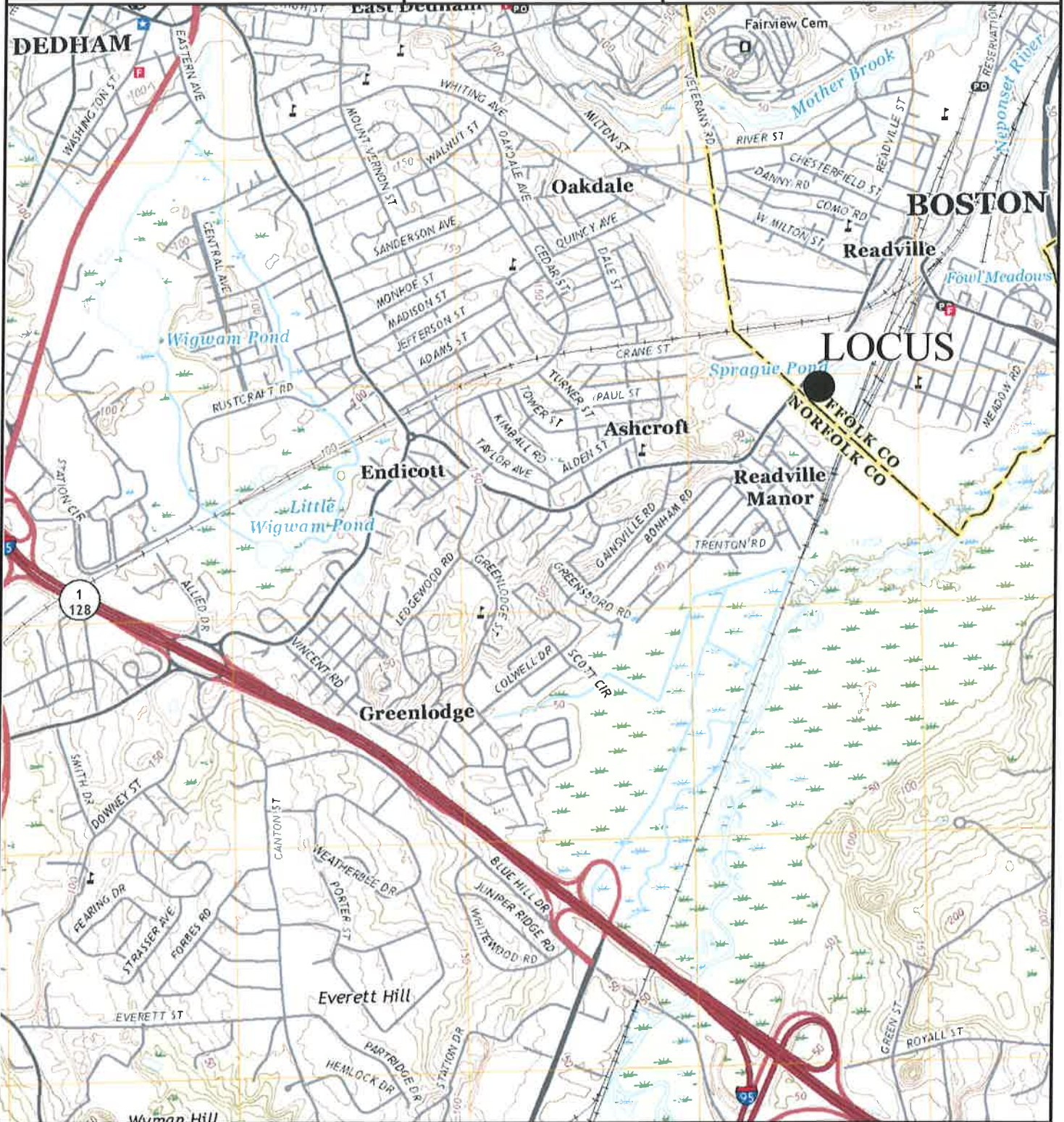
Erosion Controls (staked silt fence and 12" mulch sock as shown on detail on plan) will be installed prior to construction and will remain in place until all work on site is stable. The location of the proposed erosion controls are shown on the accompanying site plan.



WILLIAMS & SPARGES
CIVIL ENGINEERING &
LAND SURVEYORS



189 NORTH MAIN STREET
SUITE 101
MIDDLETON, MA 01949
PHONE: (978) 539-8088
FAX: (978) 539-8200



USGS LOCUS MAP
#0 & 4 LAKESIDE AVENUE
BOSTON, MA

NORWOOD QUADRANGLE
SCALE: 1"=2000' (1:24,000)
(10' CONTOURS NAVD88)



National Flood Hazard Layer FIRMette



42°14'15.38"N



USGS The National Map: Orthoimagery. Data refreshed October, 2017.

42°13'48.75"N

1:6,000

Feet

0 250 500 1,000 1,500 2,000

71°7'57.95"W

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) Zone A, V, X99
- With BFE or Depth Zone AE, AO, AH, VE, AR
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard. Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile (Zone J)
- Future Conditions 1% Annual Chance Flood Hazard (Zone X)
- Area with Reduced Flood Risk due to Levee. See Notes. (Zone X)
- Area with Flood Risk due to Levee (Zone D)

OTHER AREAS

- Area of Minimal Flood Hazard (Zone X)
- Effective LOMRS
- Area of Undetermined Flood Hazard

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS

- Digital Data Available
- No Digital Data Available
- Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/14/2019 at 3:39:06 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

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

Applicant: Garnet Brown Prepared by: Greg Hochmuth Project location: 0 & 4 Lakeside Avenue, Boston, 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: WFA-11 Wet		Transect Number: WFA-11 Wetland	Date of Delineation: 1/23/2019
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*
<u>Trees</u>				
Gray Birch – <i>Betula populifolia</i>	30%	75%	YES	FAC*
Red Maple – <i>Acer rubrum</i>	10%	25%	YES	FAC*
<u>Shrubs</u>				
Gray Birch – <i>Betula populifolia</i>	25%	42%	YES	FAC*
Staghorn Sumac – <i>Rhus Typhina</i>	5%	8%	NO	FACU
Glossy Buckthorn – <i>Rhamnus frangula</i>	15%	25%	YES	FAC*
Speckled Alder – <i>Alnus rugosa</i>	15%	25%	YES	FACW+*
<u>Ground Cover</u>				
Sensitive Fern – <i>Onoclea sensibilis</i>	15%	50%	YES	FACW*
Common Mullein – <i>Verbascum thapsus</i>	15%	50%	YES	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: 6

Number of dominant non-wetland indicator plants: 1

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

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
 title/date: NRCS Web Soil Survey
 map number:
 soil type mapped: 654, Udorthents
 hydric soil inclusions: No, 0%

Are field observations consistent with soil survey?

Remarks: Yes, edge of pond appears to have possibly been a beach at one time. No B-layer.

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-6	2.5Y2.5/1	-
C	6-18	5Y 5/2	10YR 6/8 7.5YR 5/8

Remarks:

3. Other:

Conclusion: Is soil hydric? Yes

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

- Site Inundated: _____
- Depth to free water in observation hole: _____ 7" _____
- Depth to soil saturation in observation hole: _____ 4" _____
- 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):

- Other: _____

Vegetation and Hydrology Conclusion

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

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: Garnet Brown Prepared by: Greg Hochmuth Project location: 0 & 4 Lakeside Avenue, Boston, 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: WFA-11 Upl		Transect Number: WFA-11 Upland	Date of Delineation: 1/23/2019
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*
<u>Trees</u>				
Gray Birch – <i>Betula populifolia</i>	20%	66%	YES	FAC*
Red Maple – <i>Acer rubrum</i>	10%	33%	YES	FAC*
<u>Shrubs</u>				
Gray Birch – <i>Betula populifolia</i>	15%	30%	YES	FAC*
Staghorn Sumac – <i>Rhus Typhina</i>	15%	30%	YES	FACU
Glossy Buckthorn – <i>Rhamnus frangula</i>	10%	20%	YES	FAC*
Speckled Alder – <i>Alnus rugosa</i>	10%	20%	YES	FACW+*
<u>Ground Cover</u>				
Common Mullein – <i>Verbascum thapsus</i>	20%	100%	YES	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: 5

Number of dominant non-wetland indicator plants: 2

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

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

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? Yes
 title/date: NRCS Web Soil Survey
 map number:
 soil type mapped: 654, Udorthents
 hydric soil inclusions: No, 0%

Are field observations consistent with soil survey?

Remarks: Yes, edge of pond appears to have possibly been a beach at one time. No B-layer.

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-5	10YR3/2	-
C	5-15+	7.5YR5/6	-

Remarks:

3. Other:

Conclusion: Is soil hydric? No

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

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

- Other: _____

Vegetation and Hydrology Conclusion

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

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

Boston Planning & Development Agency Climate Resiliency Report Summary



Submitted: 02/05/2020 08:05:19

A.1 - Project Information

Project Name:	0 & 4 Lakeside Avenue		
Project Address:	0 & 4 Lakeside Avenue		
Filing Type:	Initial (PNF, EPNF, NPC or other substantial filing)		
Filing Contact:	Thorsen Akerley	Williams & Sparages LLC	takerley@wsengineers.com 978-539-8088
Is MEPA approval required?	No	MEPA date:	

A.2 - Project Team

Owner / Developer:	Joan Nelson & Garnet Brown
Architect:	None yet
Engineer:	Williams & Sparages LLC
Sustainability / LEED:	None yet
Permitting:	Williams & Sparages LLC
Construction Management:	

A.3 - Project Description and Design Conditions

List the principal Building Uses:	Residential
List the First Floor Uses:	Residential
List any Critical Site Infrastructure and or Building Uses:	Residential use

Site and Building:

Site Area (SF):	49971	Building Area (SF):	6680
Building Height (Ft):		Building Height (Stories):	
Existing Site Elevation – Low (Ft BCB):	56.01	Existing Site Elevation – High (Ft BCB):	68.96
Proposed Site Elevation – Low (Ft BCB):	56.01	Proposed Site Elevation – High (Ft BCB):	68.96
Proposed First Floor Elevation (Ft BCB):	64.5	Below grade spaces/levels (#):	0

Article 37 Green Building:

LEED Version - Rating System:	None	LEED Certification:	No
Proposed LEED rating:		Proposed LEED point score (Pts.):	0

Boston Planning & Development Agency Climate Resiliency Report Summary



Building Envelope:

When reporting R values, differentiate between R discontinuous and R continuous. For example, use “R13” to show R13 discontinuous and use R10c.i. to show R10 continuous. When reporting U value, report total assembly U value including supports and structural elements.

Roof:	<input type="text"/>	Exposed Floor:	<input type="text"/>
Foundation Wall:	<input type="text"/>	Slab Edge (at or below grade):	<input type="text"/>
Vertical Above-grade Assemblies (%'s are of total vertical area and together should total 100%):			
Area of Opaque Curtain Wall & Spandrel Assembly:	<input type="text"/>	Wall & Spandrel Assembly Value:	<input type="text"/>
Area of Framed & Insulated / Standard Wall:	<input type="text"/>	Wall Value:	<input type="text"/>
Area of Vision Window:	<input type="text"/>	Window Glazing Assembly Value:	<input type="text"/>
		Window Glazing SHGC:	<input type="text"/>
Area of Doors:	<input type="text"/>	Door Assembly Value:	<input type="text"/>

Energy Loads and Performance

For this filing – describe how energy loads & performance were determined

Annual Electric (kWh):	<input type="text"/>	Peak Electric (kW):	<input type="text"/>
Annual Heating (MMbtu/hr):	<input type="text"/>	Peak Heating (MMbtu):	<input type="text"/>
Annual Cooling (Tons/hr):	<input type="text"/>	Peak Cooling (Tons):	<input type="text"/>
Energy Use - Below ASHRAE 90.1 - 2013 (%):	<input type="text"/>	Have the local utilities reviewed the building energy performance?:	No <input type="text"/>
Energy Use - Below Mass. Code (%):	<input type="text"/>	Energy Use Intensity (kBtu/SF):	<input type="text"/>

Back-up / Emergency Power System

Electrical Generation Output (kW):	<input type="text"/>	Number of Power Units:	<input type="text"/>
System Type (kW):	<input type="text"/>	Fuel Source:	<input type="text"/>

Emergency and Critical System Loads (in the event of a service interruption)

Electric (kW):	<input type="text"/>	Heating (MMbtu/hr):	<input type="text"/>
		Cooling (Tons/hr):	<input type="text"/>

B – Greenhouse Gas Reduction and Net Zero / Net Positive Carbon Building Performance

Reducing greenhouse gas emissions is critical to avoiding more extreme climate change conditions. To achieve the City's goal of carbon-neutrality by 2050 the performance of new buildings will need to progressively improve to carbon net zero and net positive.

B.1 – GHG Emissions - Design Conditions

For this filing - Annual Building GHG Emissions (Tons): 

For this filing - describe how building energy performance has been integrated into project planning, design, and engineering and any supporting analysis or modeling:



Describe building specific passive energy efficiency measures including orientation, massing, building envelop, and systems:



Describe building specific active energy efficiency measures including high performance equipment, controls, fixtures, and systems:



Describe building specific load reduction strategies including on-site renewable energy, clean energy, and storage systems:



Describe any area or district scale emission reduction strategies including renewable energy, central energy plants, distributed energy systems, and smart grid infrastructure:



Describe any energy efficiency assistance or support provided or to be provided to the project:



B.2 - GHG Reduction - Adaptation Strategies



Describe how the building and its systems will evolve to further reduce GHG emissions and achieve annual carbon net zero and net positive performance (e.g. added efficiency measures, renewable energy, energy storage, etc.) and the timeline for meeting that goal (by 2050):



C - Extreme Heat Events

Annual average temperature in Boston increased by about 2 ° F in the past hundred years and will continue to rise due to climate change. By the end of the century, the average annual temperature could be 56° (compared to 46° now) and the number of days above 90° (currently about 10 a year) could rise to 90.


C.1 – Extreme Heat - Design Conditions


Temperature Range - Low (Deg.): 
Annual Heating Degree Days: 


Temperature Range - High (Deg.): 
Annual Cooling Degree Days: 

What Extreme Heat Event characteristics will be / have been used for project planning

Days - Above 90° (#): 

Days - Above 100° (#): 

Number of Heatwaves / Year (#): 

Average Duration of Heatwave (Days): 

Describe all building and site measures to reduce heat-island effect at the site and in the surrounding area:



C.2 - Extreme Heat – Adaptation Strategies

Describe how the building and its systems will be adapted to efficiently manage future higher average temperatures, higher extreme temperatures, additional annual heatwaves, and longer heatwaves:



Describe all mechanical and non-mechanical strategies that will support building functionality and use during extended interruptions of utility services and infrastructure including proposed and future adaptations:



D - Extreme Precipitation Events

From 1958 to 2010, there was a 70 percent increase in the amount of precipitation that fell on the days with the heaviest precipitation. Currently, the 10-Year, 24-Hour Design Storm precipitation level is 5.25". There is a significant probability that this will increase to at least 6" by the end of the century. Additionally, fewer, larger storms are likely to be accompanied by more frequent droughts.

D.1 – Extreme Precipitation - Design Conditions

What is the project design precipitation level? (In. / 24 Hours)

Describe all building and site measures for reducing storm water run-off:

Stone filled trenches are proposed to border the proposed driveway, and roof runoff is proposed to be captured and infiltrated into subsurface Cultec Chambers for treatment and groundwater recharge.

D.2 - Extreme Precipitation - Adaptation Strategies

Describe how site and building systems will be adapted to efficiently accommodate future more significant rain events (e.g. rainwater harvesting, on-site storm water retention, bio swales, green roofs):

E – Sea Level Rise and Storms

Under any plausible greenhouse gas emissions scenario, the sea level in Boston will continue to rise throughout the century. This will increase the number of buildings in Boston susceptible to coastal flooding and the likely frequency of flooding for those already in the floodplain.

Is any portion of the site in a FEMA Special Flood Hazard Area?

What Zone:

What is the current FEMA SFHA Zone Base Flood Elevation for the site (Ft BCB)?

Is any portion of the site in the BPDA Sea Level Rise Flood Hazard Area (see [SLR-FHA online map](#))?

If you answered YES to either of the above questions, please complete the following questions. Otherwise you have completed the questionnaire; thank you!

E.1 – Sea Level Rise and Storms – Design Conditions

Proposed projects should identify immediate and future adaptation strategies for managing the flooding scenario represented by the Sea Level Rise Flood Hazard Area (SLR-FHA), which includes 3.2' of sea level rise above 2013 tide levels, an additional 2.5" to account for subsidence, and the 1% Annual Chance Flood. After using the SLR-FHA to identify a project's Sea Level Rise Base Flood Elevation, proponents should calculate the Sea Level Rise Design Flood Elevation by adding 12" of freeboard for buildings, and 24" of freeboard for critical facilities and infrastructure and any ground floor residential units.

Boston Planning & Development Agency Climate Resiliency Report Summary



What is the Sea Level Rise - Base Flood Elevation for the site (Ft BCB)?

[Redacted]

What is the Sea Level Rise - Design Flood Elevation for the site (Ft BCB)?

What are the Site Elevations at Building (Ft BCB)?

First Floor Elevation (Ft BCB):

[Redacted]

What is the Accessible Route Elevation (Ft BCB)?

[Redacted]

Describe site design strategies for adapting to sea level rise including building access during flood events, elevated site areas, hard and soft barriers, wave / velocity breaks, storm water systems, utility services, etc.:

[Redacted]

Describe how the proposed Building Design Flood Elevation will be achieved including dry / wet flood proofing, critical systems protection, utility service protection, temporary flood barriers, waste and drain water back flow prevention, etc.:

[Redacted]

Describe how occupants might shelter in place during a flooding event including any emergency power, water, and waste water provisions and the expected availability of any such measures:

[Redacted]

Describe any strategies that would support rapid recovery after a weather event:

[Redacted]

E.2 – Sea Level Rise and Storms – Adaptation Strategies

Describe future site design and or infrastructure adaptation strategies for responding to sea level rise including future elevating of site areas and access routes, barriers, wave / velocity breaks, storm water systems, utility services, etc.:

[Redacted]

Describe future building adaptation strategies for raising the Sea Level Rise Design Flood Elevation and further protecting critical systems, including permanent and temporary measures:

[Redacted]

Thank you for completing the Boston Climate Change Checklist!

For questions or comments about this checklist or Climate Change best practices, please contact:

John.Dalzell@boston.gov

AFFIDAVIT OF SERVICE

Under the Massachusetts Wetlands Protection Act & Boston Wetlands Protection Ordinance

(To be submitted to the Massachusetts Department of Environmental Protection and the Conservation Commission when filing a Notice of Intent)

I, Thorsen Akerley, hereby certify under the pains and penalties of perjury that on February 5, 2020 I gave notification to abutters in compliance with the second paragraph of Massachusetts General Law Chapter 131, Section 40, and the DEP Guide to Abutter Notification dated April 8, 1994, in connection with the following matter:

A Notice of Intent was filed under Massachusetts Wetlands Protection Act by Garnet Brown with the City of Boston Conservation Commission on February 5, 2020 for property located at 0 & 4 Lakeside Avenue.

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


Name _____

2/5/2020
Date



Erosion & Sediment Control Plan

**0 & 4 Lakeside Avenue
Hyde Park, Boston, MA**

Erosion & Sediment Control Plan
(February 4, 2020)

Summary

In order to limit the amount of erosion and sediment that takes place during and after construction, it is important to implement a management plan, which will protect and limit the amount of land area that is devoid of vegetation at any given time.

Prior to Construction

Prior to start of construction activities, the owner, builder, and site contractor should clearly identify all wetland resource areas that may be affected by the proposed clearing and earth moving activities by reviewing the approved grading plan as part of an initial site visit. During the site visit, the Order of Conditions should be reviewed to confirm the type of erosion control measure to be used to protect downstream wetland resources and abutting property. Limits of clearing should be verified during the initial site visit with emphasis on identifying "save areas" for existing trees and vegetation where practicable. Although trees and vegetation aren't present on site, key areas where erosion may be an issue should be noted.

Erosion and Sediment Control Device

Silt fence and mulch sock is proposed as the primary erosion control device for this project. It is important for the owner, builder, and/or site contractor to have access to a supply of haybales should the need arise for additional erosion and sediment control measures. Haybales can be used along a slope and/or together with siltfence or straw waddle to protect against concentrated stormwater runoff over exposed surfaces. The erosion and sediment control devices should be inspected every 7 days or within 24-hours of a 1-inch (or greater) rainfall event to ensure that they are operating properly. If sediment levels begin to build up on the erosion control devices, it may be necessary to remove the accumulated sediment to ensure that the erosion control devices continue to operate as designed. Sediment should be removed if it builds up more than 12-inches above the ground surface at the erosion control device.

Earth-moving Activities

After pavement removal, earth-moving (or grading) activities can begin. The approved grading plan should be used to help guide the site contractor during regrading activities. Often times it is helpful to have a land surveyor establish benchmark elevations and/or lines of grade to aid the site contractor during regrading activities. This is the time during which the site is most vulnerable to erosion. Therefore, it is important for the site contractor to finalize grading activities as soon as practicable following land clearing and pavement removal. Areas that remain exposed longer than 30 working days in an interim condition should be stabilized in a temporary fashion. Once final grades have been established, binder pavement can be laid.

Temporary Seeding

During construction it may be necessary to temporarily stabilize areas that will not be brought to final grade for a period longer than 30 working days. Temporary seeding is accomplished using fast-growing grass seed species such as ryegrass. Seeding should be performed in accordance with the guidelines set forth in Attachment A to this narrative, which is an excerpt from a publication entitled, "Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas, May 2003, prepared by Franklin, Hampden, and Hampshire Conservation Districts."

Permanent Seeding & Plantings

Once final grades have been established and the weather permits, every effort should be made to establish permanent vegetation on disturbed and exposed areas. In addition to grass seed, tree and shrub plantings should be an integral part of the permanent stabilization plan. Care should be taken by the owner, builder, and/or site contractor to select trees, shrubs, and seed mixes that are best suited to the soil conditions on the site. Soil moisture, depth to seasonal groundwater, and exposure to sunlight should be carefully considered when selecting species. In recent years, the emphasis on using plant species native to Massachusetts has grown. Information on the use of non-native and native species can be found on the web and in many local nursery catalogs.

Permanent seeding should be performed in accordance with the guidelines set forth in Attachment B to this narrative, which is an excerpt from a publication entitled, "Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas, May 2003, prepared by Franklin, Hampden, and Hampshire Conservation Districts."

Attachment A

“Temporary Seeding Guidance Document”

Maintenance

Inspect seeded areas for failure and make necessary repairs and reseed immediately. Conduct or follow-up survey after one year and replace failed plants where necessary.

If vegetative cover is inadequate to prevent rill erosion, overseed and fertilize in accordance with soil test results.

If a stand has less than 40% cover, reevaluate choice of plant materials and quantities of lime and fertilizer. Re-establish the stand following seedbed preparation and seeding recommendations, omitting lime and fertilizer in the absence of soil test results. If the season prevents reseeding, mulch or jute netting is an effective temporary cover.

Seeded areas should be fertilized during the second growing season. Lime and fertilize thereafter at periodic intervals, as needed.

References

North Carolina Department of Environment, Health, and Natural Resources, *Erosion and Sediment Control Field Manual*, Raleigh, NC, February 1991.

Personal communication, Richard J. DeVergilio, USDA, Natural Resources Conservation Service, Amherst, MA.

U.S. Environmental Protection Agency, *Storm Water Management For Construction Activities*, EPA-832-R-92-005, Washington, DC, September, 1992.

Washington State Department of Ecology, *Stormwater Management Manual for the Puget Sound Basin*, Olympia, WA, February, 1992.

Seeding, Temporary

Planting rapid-growing annual grasses, small grains, or legumes to provide initial, temporary cover for erosion control on disturbed areas.

Purpose

To temporarily stabilize areas that will not be brought to final grade for a period of more than 30 working days.

To stabilize disturbed areas before final grading or in a season not suitable for permanent seeding.

Temporary seeding controls runoff and erosion until permanent vegetation or other erosion control measures can be established.

Root systems hold down the soils so that they are less apt to be carried offsite by storm water runoff or wind.

Temporary seeding also reduces the problems associated with mud and dust from bare soil surfaces during construction.

Where Practice Applies

On any cleared, unvegetated, or sparsely vegetated soil surface where vegetative cover is needed for less than one year. Applications of this practice include diversions, dams, temporary sediment basins, temporary road banks, and topsoil stockpiles.

Where permanent structures are to be installed or extensive re-grading of the area will occur prior to the establishment of permanent vegetation.

Areas which will not be subjected to heavy wear by construction traffic.

Areas sloping up to 10% for 100 feet or less, where temporary seeding is the only practice used.

Advantages

This is a relatively inexpensive form of erosion control but should only be used on sites awaiting permanent planting or grading. Those sites should have permanent measures used.

Vegetation will not only prevent erosion from occurring, but will also trap sediment in runoff from other parts of the site.

Temporary seeding offers fairly rapid protection to exposed areas.

Disadvantages/Problems

Temporary seeding is only viable when there is a sufficient window in time for plants to grow and establish cover. It depends heavily on the season and rainfall rate for success.

If sown on subsoil, growth will be poor unless heavily fertilized and limed. Because overfertilization can cause pollution of stormwater runoff, other practices such as mulching alone may be more appropriate. The potential for over-fertilization is an even worse problem in or near aquatic systems.

Once seeded, areas should not be travelled over.

Irrigation may be needed for successful growth. Regular irrigation is not encouraged because of the expense and the potential for erosion in areas that are not regularly inspected.

Planning Considerations

Temporary seedings provide protective cover for less than one year. Areas must be reseeded annual or planted with perennial vegetation.

Temporary seeding is used to protect earthen sediment control practices and to stabilize denuded areas that will not be brought into final grade for several weeks or months. Temporary seeding can provide a nurse crop for permanent vegetation, provide residue for soil protection and seedbed preparation, and help prevent dust production during construction.

Use low-maintenance native species wherever possible.

Planting should be timed to minimize the need for irrigation.

Sheet erosion, caused by the impact of rain on bare soil, is the source of most fine particles in sediment. To reduce this sediment load in runoff, the soil surface itself should be protected. The most efficient and economical means of controlling sheet and rill erosion is to establish vegetative cover. Annual plants which sprout rapidly and survive for only one growing season are suitable for establishing temporary vegetative cover. Temporary seeding is effective when combined with construction phasing so bare areas of the site are minimized at all times.

Temporary seeding may prevent costly maintenance operations on other erosion control systems. For example, sediment basin clean-outs will be reduced if the drainage area of the basin is seeded where grading and construction are not taking place. Perimeter dikes will be more effective if not choked with sediment.

Proper seedbed preparation and the use of quality seed are important in this practice just as in permanent seeding. Failure to carefully follow sound agronomic recommendations will often result in an inadequate stand of vegetation that provides little or no erosion control.

Soil that has been compacted by heavy traffic or machinery may need to be loosened. Successful growth usually requires that the soil be tilled before the seed is applied. Topsoiling is not necessary for temporary seeding; however, it may improve the chances of establishing temporary vegetation in an area.

Planting Procedures

Time of Planting

Planting should preferably be done between April 1 and June 30, and September 1 through September 30. If planting is done in the months of July and August, irrigation may be required. If planting is done between October 1 and March 31, mulching should be applied immediately after planting. If seeding is done during the summer months, irrigation of some sort will probably be necessary.

Site Preparation

Before seeding, install needed surface runoff control measures such as gradient terraces, interceptor dike/swales, level spreaders, and sediment basins.

Seedbed Preparation

The seedbed should be firm with a fairly fine surface.

Perform all cultural operations across or at right angles to the slope. See **Topsoiling** and **Surface Roughening** for more information on seedbed preparation. A minimum of 2 to 4 inches of tilled topsoil is required.

Liming and Fertilization

Apply uniformly 2 tons of ground limestone per acre (100 lbs. per 1,000 Sq. Ft.) or according to soil test.

Apply uniformly 10-10-10 analysis fertilizer at the rate of 400 lbs. per acre (14 lbs. per 1,000 Sq. Ft.) or as indicated by soil test. Forty percent of the nitrogen should be in organic form.

Work in lime and fertilizer to a depth of 4 inches using any suitable equipment.

Species	Seedings for Temporary Cover		Recommended Seeding Dates
	Seeding Rates lbs/sq.ft. 1,000 Sq.Ft.	Acre	
Annual Ryegrass	1	40	April 1 to June 1 Aug. 15 to Sept. 15
Foxtail Millet	0.7	30	May 1 to June 30
Oats	2	80	April 1 to July 1 August 15 to Sept. 15
Winter Rye	3	120	Aug. 15 to Oct. 15

"Hydro-seeding" applications with appropriate seed-mulch-fertilizer mixtures may also be used.

Seeding

Select adapted species from the accompanying table.

Apply seed uniformly according to the rate indicated in the table by broadcasting, drilling or hydraulic application.

Cover seeds with suitable equipment as follows:

- ☞ Rye grass ¼ inch
- ☞ Millet ½ to ¾ inch
- ☞ Oats 1 to 1-1/2 inches
- ☞ Winter rye 1 to 1-1/2 inches.

Mulch

Use an effective mulch, such as clean grain straw; tacked and/or tied down with netting to protect seedbed and encourage plant growth.

Common Trouble Points

Lime and fertilizer not incorporated to at least 4 inches

May be lost to runoff or remain concentrated near the surface where they may inhibit germination.

Mulch rate inadequate or straw mulch not tacked down

Results in poor germination or failure, and erosion damage. Repair damaged areas, reseed and mulch.

Annual ryegrass used for temporary seeding

Ryegrass reseeds itself and makes it difficult to establish a good cover of permanent vegetation.

Seed not broadcast evenly or rate too low

Results in patchy growth and erosion.

Maintenance

Inspect within 6 weeks of planting to see if stands are adequate. Check for damage after heavy rains. Stands should be uniform and dense. Fertilize, reseed, and mulch damaged and sparse areas immediately. Tack or tie down mulch as necessary.

Seeds should be supplied with adequate moisture. Furnish water as needed, especially in abnormally hot or dry weather or on adverse sites. Water application rates should be controlled to prevent runoff.

References

Massachusetts Department of Environmental Protection, Office of Watershed Management, Nonpoint Source Program, Massachusetts ***Nonpoint Source Management Manual***, Boston, Massachusetts, June, 1993.

North Carolina Department of Environment, Health, and Natural Resources, ***Erosion and Sediment Control Field Manual***, Raleigh, NC, February 1991.

U.S. Environmental Protection Agency, ***Storm Water Management For Construction Activities***, EPA-832-R-92-005, Washington, DC, September, 1992.

Washington State Department of Ecology, ***Stormwater Management Manual for the Puget Sound Basin***, Olympia, WA, February, 1992.

Silt Curtain

A temporary sediment barrier installed parallel to the bank of a stream or lake. Used to contain the sediment produced by construction operations on the bank of a stream or lake and allow for its removal.

Where Practice Applies

The silt curtain is used along the banks of streams or lakes where sediment could pollute or degrade the stream or lake.

Attachment B

“Permanent Seeding Guidance Document”

Maintenance

The effective life of a sediment trap depends upon adequate maintenance. The trap should be readily accessible for periodic maintenance and sediment removal.

Set a stake at one-half the design depth. This will be the "cleanout level." Remove sediment when it has accumulated to one-half the design depth.

Inspect sediment traps after each significant rainfall event. Repair any erosion and piping holes immediately.

Clean or replace spillway gravel facing if clogged.

Promptly replace any displaced riprap, being careful that no stones in the spillway are above design grade.

Inspect vegetation; reseed and mulch if necessary.

Check spillway depth periodically to ensure minimum of 1.5 ft depth from lowest point of the settled embankment to highest point of spillway crest. Fill any low areas of the embankment to maintain design elevation.

After all sediment-producing areas have been stabilized, inspected, and approved, remove the structure and all unstable sediment. Smooth site to blend with adjoining areas and stabilize in accordance with vegetation plan.

References

Minnick, E. L., and H. T. Marshall, *Stormwater Management and Erosion Control for Urban and Developing Areas in New Hampshire*, Rockingham County Conservation District, August 1992.

North Carolina Department of Environment, Health, and Natural Resources, *Erosion and Sediment Control Field Manual*, Raleigh, NC, February 1991.

U.S. Environmental Protection Agency, *Storm Water Management For Construction Activities*, EPA-832-R-92-005, Washington, DC, September, 1992.

Washington State Department of Ecology, *Stormwater Management Manual for the Puget Sound Basin*, Olympia, WA, February, 1992.

Seeding, Permanent

The establishment of perennial vegetative cover on disturbed areas.

Purpose

Permanent seeding of grass and planting trees and shrubs provides stabilization to the soil by holding soil particles in place.

Vegetation reduces sediments and runoff to downstream areas by slowing the velocity of runoff and permitting greater infiltration of the runoff.

Vegetation also filters sediments, helps the soil absorb water, improves wildlife habitats, and enhances the aesthetics of a site.

Where Practice Applies

- ∞ Permanent seeding and planting is appropriate for any graded or cleared area where long-lived plant cover is needed to stabilize the soil.
- ∞ Areas which will not be brought to final grade for a year or more.
- ∞ Some areas where permanent seeding is especially important are filter strips, buffer areas, vegetated swales, steep slopes, and stream banks.
- ∞ This practice is effective on areas where soils are unstable because of their texture or structure, high water table, winds, or steep slope.

Advantages

Advantages of seeding over other means of establishing plants include the small initial establishment cost, the wide variety of grasses and legumes available, low labor requirement, and ease of establishment in difficult areas.

Seeding is usually the most economical way to stabilize large areas.

Well established grass and ground covers can give an aesthetically pleasing, finished look to a development.

Once established, the vegetation will serve to prevent erosion and retard the velocity of runoff.

Disadvantages/Problems

Disadvantages which must be dealt with are the potential for erosion during the establishment stage, a need to reseed areas that fail to establish, limited periods during the year suitable for seeding, and a need for water and appropriate climatic conditions during germination. Vegetation and mulch cannot prevent soil slippage and erosion if soil is not inherently stable.

Coarse, high grasses that are not mowed can create a fire hazard in some locales. Very short mowed grass, however, provides less stability and sediment filtering capacity.

Grass planted to the edge of a watercourse may encourage fertilizing and mowing near the water's edge and increase nutrient and pesticide contamination.

Depends initially on climate and weather for success.

May require regular irrigation to establish and maintain.

Planning considerations

Selection of the right plant materials for the site, good seedbed preparation, timing, and conscientious maintenance are important. Whenever possible, native species of plants should be used for landscaping. These plants are already adapted to the locale and

survivability should be higher than with “introduced” species.

Native species are also less likely to require irrigation, which can be a large maintenance burden and is neither cost-effective nor ecologically sound.

If non-native plant species are used, they should be tolerant of a large range of growing conditions, as low-maintenance as possible, and not invasive.

Consider the microclimate within the development area. Low areas may be frost pockets and require hardier vegetation since cold air tends to sink and flow towards low spots. South-facing slopes may be more difficult to re-vegetate because they tend to be sunnier and drier.

Divert as much surface water as possible from the area to be planted.

Remove seepage water that would continue to have adverse effects on soil stability or the protecting vegetation. Subsurface drainage or other engineering practices may be needed. In this situation, a permit may be needed from the local Conservation Commission: check ahead of time to avoid construction delays.

Provide protection from equipment, trampling and other destructive agents.

Vegetation cannot be expected to supply an erosion control cover and prevent slippage on a soil that is not stable due to its texture, structure, water movement, or excessive slope.

Seeding Grasses and Legumes

Install needed surface runoff control measures such as gradient terraces, berms, dikes, level spreaders, waterways, and sediment basins prior to seeding or planting.

Seedbed Preparation

If infertile or coarse-textured subsoil will be exposed during land shaping, it is best to stockpile topsoil and respread it over the finished slope at a minimum 2- to 6-inch depth and roll it to provide a firm seedbed. If construction fill operations have left soil exposed with a loose, rough, or irregular surface, smooth with blade and roll.

Loosen the soil to a depth of 3-5 inches with suitable agricultural or construction equipment.

Areas not to receive top soil shall be treated to firm the seedbed after incorporation of the lime and fertilizer so that it is depressed no more than $\frac{1}{2}$ - 1 inch when stepped on with a shoe. Areas to receive topsoil shall not be firmed until after topsoiling and lime and fertilizer is applied and incorporated, at which time it shall be treated to firm the seedbed as described above. This can be done by rolling or cultipacking.

Cool Season Grasses

Cool Season Grasses grow rapidly in the cool weather of spring and fall,

and set seed in June and July. Cool season grasses become dormant when summer temperatures persist above 85 degrees and moisture is scarce.

Lime and Fertilizer

Apply lime and fertilizer according to soil test and current Extension Service recommendations. In absence of a soil test, apply lime (a pH of 5.5 - 6.0 is desired) at a rate of 2.5 tons per acre and 10-20-20 analysis fertilizer at a rate of 500 pounds per acre (40 % of N to be in an organic or slow release form). Incorporate lime and fertilizer into the top 2-3 inches of soil.

Seeding Dates

Seeding operations should be performed within one of the following periods:

- ∞ April 1 - May 31,
- ∞ August 1 - September 10,
- ∞ November 1 - December 15 as a dormant seeding (seeding rates shall be increased by 50% for dormant seedings).

Seeding Methods

Seeding should be performed by one of the following methods. Seed should be planted to a depth of ¼ to ½ inches.

- ∞ Drill seedings,
- ∞ Broadcast and rolled, cultipacked or tracked with a small track piece of construction equipment,
- ∞ Hydroseeding, with subsequent tracking.

Mulch

Mulch the seedings with straw applied at the rate of ½ tons per acre. Anchor the mulch with erosion control netting or fabric on sloping areas.

Warm Season Grasses

Warm Season Grasses begin growth slowly in the spring, grow rapidly in the hot summer months and set seed in the fall. Many warm season grasses are sensitive to frost in the fall, and the top growth may die back. Growth begins from the plant base the following spring.

Lime and Fertilizer

Lime to attain a pH of at least 5.5. Apply a 0-10-10 analysis fertilizer at the rate of 600 lbs./acre.

Incorporate both into the top 2-3 inches of soil. (30 lbs. of slow release nitrogen should be applied after emergence of grass in the late spring.)

Seeding Dates

Seeding operations should be performed as an early spring seeding (April 1-May 15) with the use of cold treated seed. A late fall early winter dormant seeding (November 1 - December 15) can also be made, however the seeding rate will need to be increased by 50%.

Seeding Methods

Seeding should be performed by one of the following methods:

- ∞ Drill seedings (de-awned or de-bearded seed should be used unless the drill is equipped with special features to accept awned seed).
- ∞ Broadcast seeding with subsequent rolling, cultipacking or tracking the seeding with small track construction equipment. Tracking should be oriented up and down the slope.
- ∞ Hydroseeding with subsequent tracking. If wood fiber mulch is used, it should be applied as a separate operation after seeding and tracking to assure good seed to soil contact.

Mulch

Mulch the seedings with straw applied at the rate of ½ tons per acre. Anchor the mulch with erosion control netting or fabric on sloping areas.

Seed Mixtures for Permanent Cover

Recommended mixtures for permanent seeding are provided on the following pages. Select plant species which are suited to the site conditions and planned use. Soil moisture conditions, often the major limiting site factor, are usually classified as follows:

Dry - Sands and gravels to sandy loams. No effective moisture supply from seepage or a high water table.

Moist - Well drained to moderately well drained sandy loams, loams, and finer; or coarser textured material with moderate influence on root zone from seepage or a high water table.

Wet - All textures with a water table at or very near the soil surface, or with enduring seepage.

When other factors strongly influence site conditions, the plants selected must also be tolerant of these conditions.

Permanent Seeding Mixtures

Mix	Site	Seed Mixture	Seed, Pounds per:		Remarks
			Acre	1,000 sf	
1	Dry	Little Bluestem	10	0.25	<ul style="list-style-type: none"> * Use Warm Season planting procedure. * Roadsides * Sand and Gravel Stabilization * Clover requires inoculation with nitrogen-fixing bacteria * Rates for this mix are for PLS.
		or Broomsedge	1	0.10	
		Tumble Lovegrass*	10	0.25	
		Switchgrass	2	0.10	
		Bush Clover*	1	0.10	
2	Dry	Deertongue	15	0.35	<ul style="list-style-type: none"> * Use Warm Season planting procedures. * Acid sites/Mine spoil * Clover requires inoculation with nitrogen-fixing bacteria. * Rates for this mix are for PLS.
		Broomsedge	10	0.25	
		Bush Clover*	2	0.10	
		Red Top	1	0.10	
3	Dry	Big Bluestem	10	0.25	<ul style="list-style-type: none"> * Use Warm Season planting procedures. * Eastern Prairie appearance * Sand and Gravel pits. * Golf Course Wild Areas * Sanitary Landfill Cover seeding * Wildlife Areas * OK to substitute Poverty Dropseed in place of Red Top/Ryegrass. * Rates for this mix are for PLS.
		Indian Grass	10	0.25	
		Switchgrass	10	0.25	
		Little Bluestem	10	0.25	
		Red Top or	1	0.10	
		Perennial Ryegrass	10	0.25	
4	Dry	Flat Pea	25	0.60	<ul style="list-style-type: none"> * Use Cool Season planting procedures * Utility Rights-of-Ways (tends to suppress woody growth)
		Red Top or	2	0.10	
		Perennial Ryegrass	15	0.35	
5	Dry	Little Bluestem	5	0.10	<ul style="list-style-type: none"> * Use Warm Season planting procedures. * Coastal sites * Rates for Bluestein and Switchgrass are for PLS.
		Switchgrass	10	0.25	
		Beach Pea*	20	0.45	
		Perennial Ryegrass	10	0.25	
6	Dry - Moist	Red Fescue	10	0.25	<ul style="list-style-type: none"> * Use Cool Season planting procedure. * Provides quick cover but is non-aggressive; will tend to allow indigenous plant colonization. * General erosion control on variety of sites, including forest roads, skid trails and landings.
		Canada Bluegrass	10	0.25	
		Perennial Ryegrass	10	0.25	
		Red Top	1	0.10	
7	Moist-Wet	Switchgrass	10	0.25	<ul style="list-style-type: none"> * Use Warm Season planting procedure. * Coastal plain/flood plain * Rates for Bluestem and Switchgrass are for PLS.
		Virginia Wild Rye	5	0.10	
		Big Bluestem	15	0.35	
		Red Top	1	0.10	

Permanent Seeding Mixtures

Seed, Pounds per:

Mix	Site	Seed Mixture	Acre	1,000 sf	Remarks
8	Moist	Creeping Bentgrass	5	0.10	* Use Cool Season planting procedures.
	Wet	Fringed Bromegrass	5	0.10	* Pond Banks
		Fowl Meadowgrass	5	0.10	* Waterways/ditch banks
		Bluejoint Reedgrass or Rice Cutgrass	2	0.10	
		Perennial Ryegrass	10	0.25	
9	Moist	Red Fescue	5	0.10	*Salt Tolerant
	Wet	Creeping Bentgrass	2	0.10	* Fescue and Bentgrass provide low growing appearance, while Switchgrass provides tall cover for wildlife.
		Switchgrass	8	0.20	
		Perennial Ryegrass	10	0.25	
10	Moist	Red Fescue	5	0.10	* Use Cool Season planting procedure.
	Wet	Creeping Bentgrass	5	0.10	* Trefoil requires inoculation with nitrogen fixing bacteria.
		Virginia Wild Rye	8	0.20	
		Wood Reed Grass*	1	0.10	* Suitable for forest access roads, skid trails and other partial shade situations.
		Showy Tick Trefoil*	1	0.10	
11	Moist	Creeping Bentgrass	5	0.10	* Use Cool Season planting procedure.
	Wet	Bluejoint Reed Grass	1	0.10	* Suitable for waterways, pond or ditch banks.
		Virginia Wild Rye	3	0.10	* Trefoil requires inoculation with nitrogen fixing bacteria.
		Fowl Meadow Grass	10	0.25	
		Showy Tick Trefoil*	1	0.10	
		Red Top	1	0.10	
12	Wet	Blue Joint Reed Grass	1	0.10	* Use Cool Season planting procedure.
		Canada Manna Grass	1	0.10	* OK to seed in saturated soil conditions, but not in standing water.
		Rice Cut Grass	1	0.10	
		Creeping Bent Grass	5	0.10	* Suitable as stabilization seeding for created wetland.
		Fowl Meadow Grass	5	0.10	* All species in this mix are native to Massachusetts.
13	Dry -	American Beachgrass 18"		18'	*Vegetative planting with dormant culms, 3-5 culms per planting centers
	Moist			centers	
14	Inter-	Smooth Cordgrass 12-18"		12-18"	* Vegetative planting with transplants.
	Tidal	Saltmeadow Cordgrass		centers	centers

Notes:

* Species such as Tumble Lovegrass, Fringed Bromegrass, Wood Reedgrass, Bush Clover and Beach Pea, while known to be commercially available from specific seed suppliers, may not always be available from your particular seed suppliers. The local Natural Resources Conservation Service office may be able to help with a source of supply. In the event a particular species listed in a mix can not be obtained, however, it may be possible to substitute another species.

Seed mixtures by courtesy of Natural Resources Conservation Service, Amherst, MA.

(PLS) Pure Live Seed

Warm Season grass seed is sold and planted on the basis of pure live seed. An adjustment is made to the bulk rate of the seed to compensate for inert material and non-viable seed. Percent of pure live seed is calculated by multiplying the percent purity by the percent germination; (% purity) x (% germination) = percent PLS.

For example, if the seeding rate calls for 10 lbs./acre PLS and the seed lot has a purity of 70% and germination of 75%, the PLS factor is:

$$(.70 \times .75) = .53$$

$$10 \text{ lbs. divided by } .53 = \text{approx. } 19 \text{ lbs.}$$

Therefore, 19 lbs of seed from the particular lot will need to be applied to obtain 10 lbs. of pure live seed.

Special Note

Tall Fescue, Reed Canary Grass, Crownvetch and Birdsfoot Trefoil are no longer recommended for general erosion control use in Massachusetts due to the invasive characteristics of each. If these species are used, it is recommended that the ecosystem of the site be analyzed for the effects species invasiveness may impose. The mixes listed in the above mixtures include either species native to Massachusetts or non-native species that are not perceived to be invasive, as per the Massachusetts Native Plant Advisory Committee.

Wetlands Seed Mixtures

For newly created wetlands, a wetlands specialist should design plantings to provide the best chance of success. Do not use introduced, invasive plants like reed canarygrass (*Phalaris arundinacea*) or purple loosestrife (*Lythrum salicaria*). Using plants such as these will cause many more problems than they will solve.

The following grasses all thrive in wetland situations:

- ☞ Fresh Water Cordgrass (*Spartina pectinata*)
- ☞ Marsh/Creeping Bentgrass (*Agrostis stolonifera*, var. *Palustris*)
- ☞ Broomsedge (*Andropogon virginicus*)
- ☞ Fringed Bromegrass (*Bromus ciliatus*)
- ☞ Blue Joint Reed Grass (*Calamagrostis canadensis*)
- ☞ Fowl Meadow Grass (*Glyceria striata*)
- ☞ Riverbank Wild Rye (*Elymus riparius*)
- ☞ Rice Cutgrass (*Leersia oryzoides*)
- ☞ Stout Wood Reed (*Cinna arundinacea*)
- ☞ Canada Manna Grass (*Glyceria canadensis*)

A sample wetlands seed mix developed by The New England Environmental Wetland Plant Nursery is shown on the following page.

Wetland Seed Mixture

The New England Environmental Wetland Plant Nursery has developed a seed mixture which is specifically designed to be used in wetland replication projects and stormwater detention basins. It is composed of seeds from a variety of indigenous wetland species. Establishing a native wetland plant understory in these areas provides quick erosion control, wildlife food and cover, and helps to reduce the establishment of undesirable invasive species such as Phragmites and purple loosestrife (*Lythrum salicaria*). The species have been selected to represent varying degrees of drought tolerance, and will establish themselves based upon microtopography and the resulting variation in soil moisture.

Common Name (<i>Scientific Name</i>)	% in Mix	Comments
Lurid Sedge (<i>Carex lurida</i>)	30	A low ground cover that tolerates mesic sites in addition to saturated areas; prolific seeder in second growing season.
Fowl Meadow Grass (<i>Glyceria Canadensis</i>)	25	Prolific seed producer that is a valuable wildlife food source.
Fringed Sedge (<i>Carex crinita</i>)	10	A medium to large sedge that tolerates saturated areas; good seed producer.
Joe-Pye Weed (<i>Eupatoriadelphus maculatus</i>)	10	Flowering plant that is valuable for wildlife cover. Grows to 4 feet.
Brook Sedge (<i>Carex spp., Ovales group</i>)	10	Tolerates a wide range of hydrologic conditions.
Woolgrass (<i>Scirpus cyperinus</i>)	5	Tolerates fluctuating hydrology.
Boneset (<i>Eupatorium perfoliatum</i>)	5	Flowering Plant that is valuable for wildlife cover. Grows to 3 feet.
Tussock Sedge (<i>Carex stricta</i>)	<5	Grows in elevated hummocks on wet sites, may grow rhizomonously on drier sites.
Blue Vervain (<i>Verbena hastata</i>)	<5	A native plant that bears attractive, blue flowers.

The recommended application rate is one pound per 5,000 square feet when used as an understory cover. This rate should be increased to one pound per 2,500 square feet for detention basins and other sites which require a very dense cover. For best results, a late fall application is recommended. This mix is not recommended for standing water.

Seakunk Family Trust
78 Sprague Street
Hyde Park, MA 02136

Seakunk Family Trust
78 Sprague Street
Hyde Park, MA 02136

Seakunk Family Trust
78 Sprague Street
Hyde Park, MA 02136

John W. Petreyko
102 Sprague Street
Hyde Park, MA 02136

John W. Petreyko
102 Sprague Street
Hyde Park, MA 02136

John W. Petreyko
102 Sprague Street
Hyde Park, MA 02136

Cashen Family Trust
125A Main Street
Dennisport, MA 02639

Cashen Family Trust
125A Main Street
Dennisport, MA 02639

Cashen Family Trust
125A Main Street
Dennisport, MA 02639

Peter G. Sebo
96 Sprague Street
Hyde Park, MA 02136

Peter G. Sebo
96 Sprague Street
Hyde Park, MA 02136

Peter G. Sebo
96 Sprague Street
Hyde Park, MA 02136

Patricia Ann Hubbard
94 Sprague Street
Hyde Park, MA 02136

Patricia Ann Hubbard
94 Sprague Street
Hyde Park, MA 02136

Patricia Ann Hubbard
94 Sprague Street
Hyde Park, MA 02136

Daisy De La Rosa
P.O. Box 284
Readville, MA 02137

Daisy De La Rosa
P.O. Box 284
Readville, MA 02137

Daisy De La Rosa
P.O. Box 284
Readville, MA 02137

Martine Victor-Pierre
86 Sprague Street
Hyde Park, MA 02136

Martine Victor-Pierre
86 Sprague Street
Hyde Park, MA 02136

Martine Victor-Pierre
86 Sprague Street
Hyde Park, MA 02136

Roy D. Crossley
3 Lakeside Avenue
Hyde Park, MA 02136

Roy D. Crossley
3 Lakeside Avenue
Hyde Park, MA 02136

Roy D. Crossley
3 Lakeside Avenue
Hyde Park, MA 02136

Mef Family Trust
18 Lakeside Avenue
Dedham, MA 02026

Mef Family Trust
18 Lakeside Avenue
Dedham, MA 02026

Mef Family Trust
18 Lakeside Avenue
Dedham, MA 02026

June M. Harvey
P.O. Box 45
Readville, MA 02137

June M. Harvey
P.O. Box 45
Readville, MA 02137

June M. Harvey
P.O. Box 45
Readville, MA 02137

John E. Homer
74 Prescott Street
Hyde Park, MA 02136

John E. Homer
74 Prescott Street
Hyde Park, MA 02136

John E. Homer
74 Prescott Street
Hyde Park, MA 02136

Fatmata Kamara-Mynott
82 Sprague Street
Hyde Park, MA 02136

Fatmata Kamara-Mynott
82 Sprague Street
Hyde Park, MA 02136

Fatmata Kamara-Mynott
82 Sprague Street
Hyde Park, MA 02136

James F. Clinton
80 Sprague Street
Hyde Park, MA 02136

James F. Clinton
80 Sprague Street
Hyde Park, MA 02136

James F. Clinton
80 Sprague Street
Hyde Park, MA 02136

The Lee Ed Davey Trust
965 High Street
Westwood, MA 02090

The Lee Ed Davey Trust
965 High Street
Westwood, MA 02090

The Lee Ed Davey Trust
965 High Street
Westwood, MA 02090

Highland Sprague Associates
65 Sprague Street
Hyde Park, MA 02136

Highland Sprague Associates
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Hyde Park, MA 02136

Highland Sprague Associates
65 Sprague Street
Hyde Park, MA 02136

Henry Dare
74 Sprague Street
Hyde Park, MA 02136

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Henry Dare
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Ferrante S. Gioioso
74 Sprague Street
Hyde Park, MA 02136

Ferrante S. Gioioso
74 Sprague Street
Hyde Park, MA 02136

Ferrante S. Gioioso
74 Sprague Street
Hyde Park, MA 02136

R & C Realty Trust
c/o Claire Scott
965 High Street
Westwood, MA 02090

R & C Realty Trust
c/o Claire Scott
965 High Street
Westwood, MA 02090

R & C Realty Trust
c/o Claire Scott
965 High Street
Westwood, MA 02090

Pedro Laredo
519 Sprague Street
Dedham, MA 02026

Pedro Laredo
519 Sprague Street
Dedham, MA 02026

Pedro Laredo
519 Sprague Street
Dedham, MA 02026

Distefano Family Trust
27 Winstead Avenue
Dedham, MA 02026

Distefano Family Trust
27 Winstead Avenue
Dedham, MA 02026

Distefano Family Trust
27 Winstead Avenue
Dedham, MA 02026

John L. Hall Realty LLC
233 POQUANTICUT AVE
NORTH EASTON, MA 02356

John L. Hall Realty LLC
233 POQUANTICUT AVE
NORTH EASTON, MA 02356

John L. Hall Realty LLC
233 POQUANTICUT AVE
NORTH EASTON, MA 02356

EB/GP3 480 SPRAGUE ST LLC
C/O GRIFFITH PROP LLC
260 FRANKLIN ST 5TH FLR
BOSTON MA 02110

EB/GP3 480 SPRAGUE ST LLC
C/O GRIFFITH PROP LLC
260 FRANKLIN ST 5TH FLR
BOSTON, MA 02110

EB/GP3 480 SPRAGUE ST LLC
C/O GRIFFITH PROP LLC
260 FRANKLIN ST 5TH FLR
BOSTON MA 02110

SABB & VO LLC
511 SPRAGUE ST
DEDHAM, MA 02026

SABB & VO LLC
511 SPRAGUE ST
DEDHAM, MA 02026

SABB & VO LLC
511 SPRAGUE ST
DEDHAM, MA 02026

JOSE A OCHOA
13 MCDONALD ST
DEDHAM, MA 02026

JOSE A OCHOA
13 MCDONALD ST
DEDHAM, MA 02026

JOSE A OCHOA
13 MCDONALD ST
DEDHAM, MA 02026

Marilyn C. O'Brien Life Estate
17 MCDONALD ST
DEDHAM, MA 02026

Marilyn C. O'Brien Life Estate
17 MCDONALD ST
DEDHAM, MA 02026

Marilyn C. O'Brien Life Estate
17 MCDONALD ST
DEDHAM, MA 02026

THE BGC IRREV TRUST
MICHAEL LEE CURVIN TRUSTEE
21 MCDONALD ST
DEDHAM, MA 02026

THE BGC IRREV TRUST
MICHAEL LEE CURVIN TRUSTEE
21 MCDONALD ST
DEDHAM, MA 02026

THE BGC IRREV TRUST
MICHAEL LEE CURVIN TRUSTEE
21 MCDONALD ST
DEDHAM, MA 02026

KENNETH PORTANOVA
29 MCDONALD ST
DEDHAM, MA 02026

KENNETH PORTANOVA
29 MCDONALD ST
DEDHAM, MA 02026

KENNETH PORTANOVA
29 MCDONALD ST
DEDHAM, MA 02026

DAVID P NOTARANGELO
22 LAKESIDE AVE
DEDHAM, MA 02026

DAVID P NOTARANGELO
22 LAKESIDE AVE
DEDHAM, MA 02026

DAVID P NOTARANGELO
22 LAKESIDE AVE
DEDHAM, MA 02026

OTIS & PATRICIA DEBNAM
16 MCDONALD ST
DEDHAM, MA 02026

OTIS & PATRICIA DEBNAM
16 MCDONALD ST
DEDHAM, MA 02026

OTIS & PATRICIA DEBNAM
16 MCDONALD ST
DEDHAM, MA 02026

BRYAN J WOOD
31 BENJAMIN STREET
DEDHAM, MA 02026

BRYAN J WOOD
31 BENJAMIN STREET
DEDHAM, MA 02026

BRYAN J WOOD
31 BENJAMIN STREET
DEDHAM, MA 02026

KEITH & SHANNON JAMES
18 MCDONALD ST
DEDHAM, MA 02026

KEITH & SHANNON JAMES
18 MCDONALD ST
DEDHAM, MA 02026

KEITH & SHANNON JAMES
18 MCDONALD ST
DEDHAM, MA 02026

JEAN F KIVLIN
28 MCDONALD ST
DEDHAM, MA 02026

JEAN F KIVLIN
28 MCDONALD ST
DEDHAM, MA 02026

JEAN F KIVLIN
28 MCDONALD ST
DEDHAM, MA 02026

LIN SUE
19 KUNKEL PL #2
DEDHAM, MA 02026

LIN SUE
19 KUNKEL PL #2
DEDHAM, MA 02026

LIN SUE
19 KUNKEL PL #2
DEDHAM, MA 02026

MCDONALD STREET LLC
58 MCDONALD ST
DEDHAM, MA 02026

MCDONALD STREET LLC
58 MCDONALD ST
DEDHAM, MA 02026

MCDONALD STREET LLC
58 MCDONALD ST
DEDHAM, MA 02026

Notification to Abutters under the
Massachusetts Wetlands Protection Act

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 Garnet Brown.
- B. The applicant has filed a Notice of Intent application with the conservation Commission for the municipality of Boston, MA seeking permission to conduct work within jurisdictional areas of the Massachusetts Wetlands Protection Act, more specifically to construct a 3-unit condominium building within 100' of Sprague Pond, within 100' of Bordering Vegetated Wetlands, and within the Ponkapoag and Fowl Meadow Area of Critical Environmental Concern.
- C. The address of the lots is 0 & 4 Lakeside Avenue, Boston, MA.
- D. Copies of the Notice of Intent, (NOI), may be examined at the offices of Williams & Sparages, between the hours of 8:00am and 4:00pm on the following days of the week: Monday through Friday. For more information, call: (978) 539-8088. This is the applicant's representative.
- E. Copies of the NOI may be obtained from the Boston Conservation Commission by calling (617) 635-3850 between the hours of 8:30am and 5:00pm on the following days of the week: Monday - Friday.
- F. Information regarding the date, time and place of the public hearing may be obtained from the Boston Conservation Commission by calling this telephone number (617) 635-3850 between the hours of 8:30am and 5:00pm on the following days of the week: Monday - Friday.

Note: Notice of the Public Hearing, including its date, time and place will be published at least five (5) days in advance in the local newspaper.

Note: Notice of the Public Hearing, including its date, time and place will be posted in the City or Town Hall not less than forty eight (48) hours in advance.

Note: You also may contact your local Conservation Commission or the nearest Department of Environmental Protection Regional Office for more information about this application or the Wetlands Protection Act.

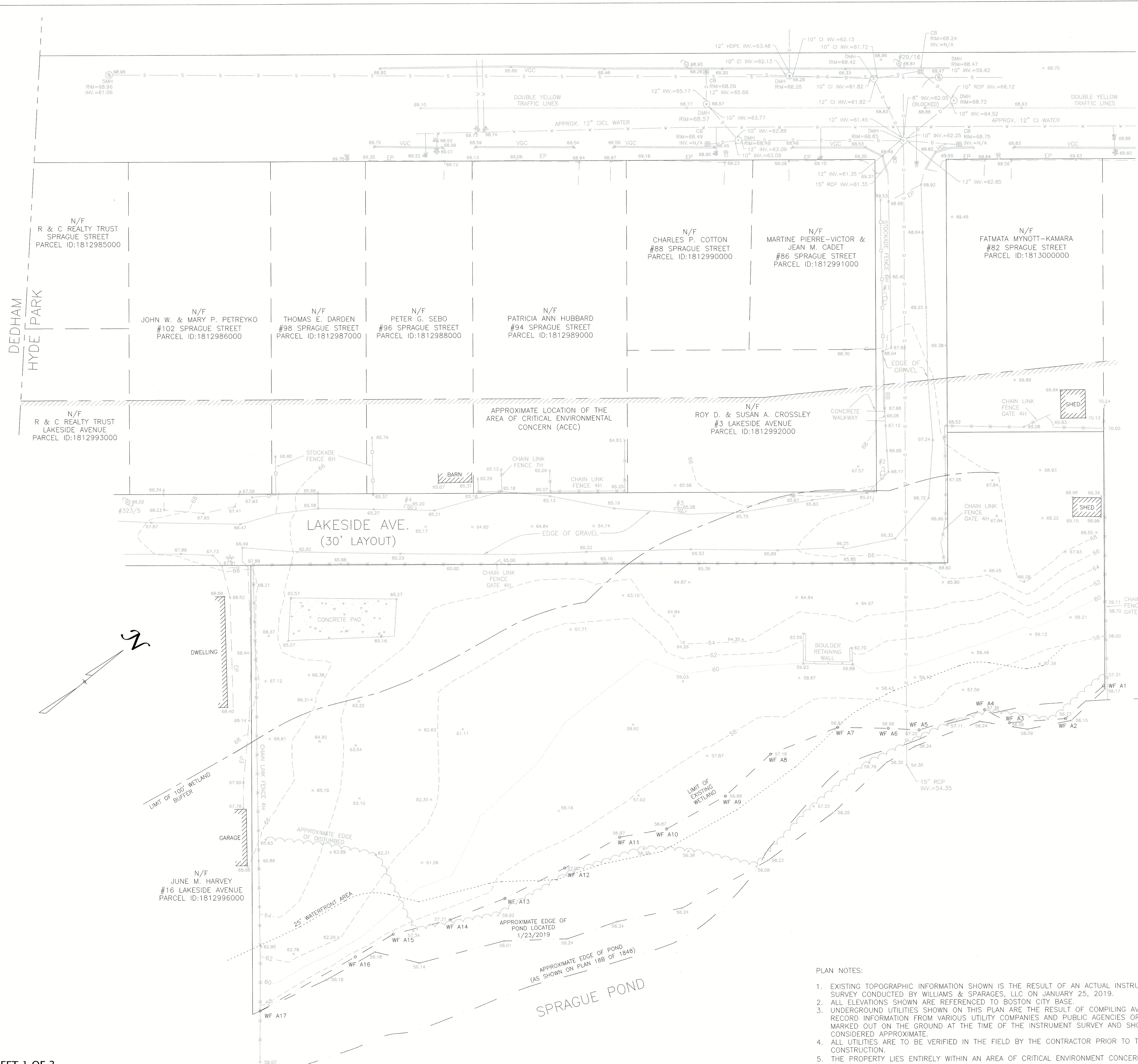
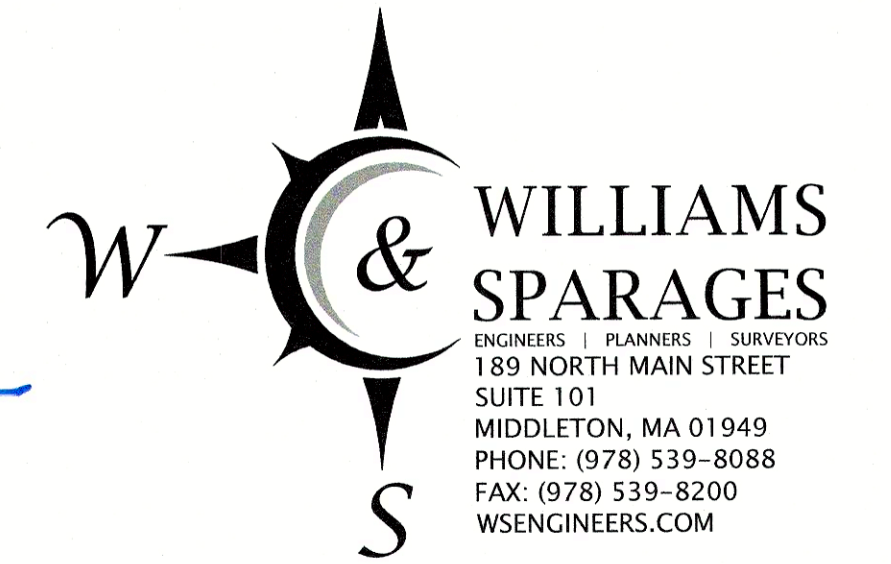
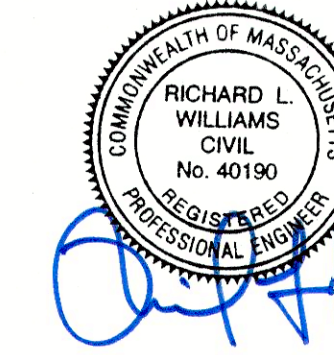
To contact DEP call:
Northeast Region: 978-694-3200



PERMIT SITE PLAN IN BOSTON, MA

SCALE: 1" = 20' DATE: JANUARY 15, 2020
REVISED: FEBRUARY 6, 2020

"SHOWING EXISTING CONDITIONS"
WARD 18 PARCELS 12998 & 12999
BWSC EXTENDED ACCOUNT ADDRESS: #0 & 4 LAKESIDE AVENUE
SITE PLAN NO. _____



SITE PLAN SHEET INDEX
SHEET 1: EXISTING CONDITIONS
SHEET 2: PROPOSED CONDITIONS
SHEET 3: CONSTRUCTION DETAILS

LEGEND OF ABBREVIATIONS & SYMBOLS	
EXISTING 2-FOOT CONTOUR	--- 58 ---
EXISTING 10-FOOT CONTOUR	--- 60 ---
EXISTING SPOT ELEVATION	x 58.97
STORM DRAIN	--- S ---
WATER	--- W ---
SEWER	--- S ---
CHAIN LINK FENCE	--- X --- X ---
STOCKADE FENCE	--- O --- O ---
RETAINING WALL	--- W --- W ---
EDGE OF DISTURBED	--- D --- D ---
EDGE OF PAVEMENT	--- EP ---
VERTICAL GRANITE CURB	--- VGC ---
BITUMINOUS BERM	--- BB ---
SEWER MANHOLE	⊙
DRAIN MANHOLE	⊙
CATCH BASIN	⊙
HYDRANT	⊙
WATER GATE	⊙
WATER SHUTOFF	⊙
GAS GATE	⊙
GAS SHUTOFF	⊙
UTILITY POLE	⊙
LIGHT POLE	⊙
WETLAND FLAG	WF
INVERT	INV.
CAST IRON	CI
REINFORCED CONCRETE PIPE	RCP
HIGH DENSITY POLYETHYLENE	HDPE
NOT ACCESSIBLE	N/A

OWNER:
JOAN E. NELSON
74 PRESCOTT STREET
HYDE PARK, MA 02136

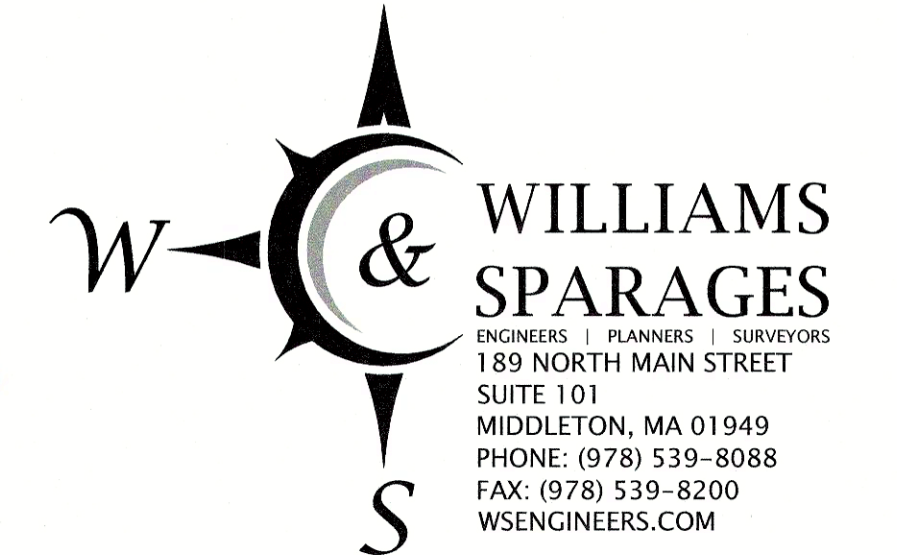
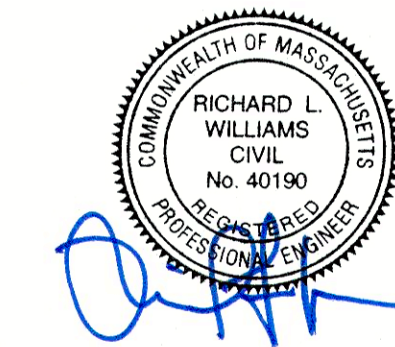
WARD 18
PARCELS 12998 & 12999
#0 & 4 LAKESIDE AVENUE
BOSTON, MA 02136
WATER ACCOUNT NO. _____
METER NO. _____

- PLAN NOTES:
- EXISTING TOPOGRAPHIC INFORMATION SHOWN IS THE RESULT OF AN ACTUAL INSTRUMENT SURVEY CONDUCTED BY WILLIAMS & SPARAGES, LLC ON JANUARY 25, 2019.
 - ALL ELEVATIONS SHOWN ARE REFERENCED TO BOSTON CITY BASE.
 - UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE THE RESULT OF COMPILING AVAILABLE RECORD INFORMATION FROM VARIOUS UTILITY COMPANIES AND PUBLIC AGENCIES OR AS MARKED OUT ON THE GROUND AT THE TIME OF THE INSTRUMENT SURVEY AND SHOULD BE CONSIDERED APPROXIMATE.
 - ALL UTILITIES ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE TIME OF CONSTRUCTION.
 - THE PROPERTY LIES ENTIRELY WITHIN AN AREA OF CRITICAL ENVIRONMENT CONCERN (ACEC).

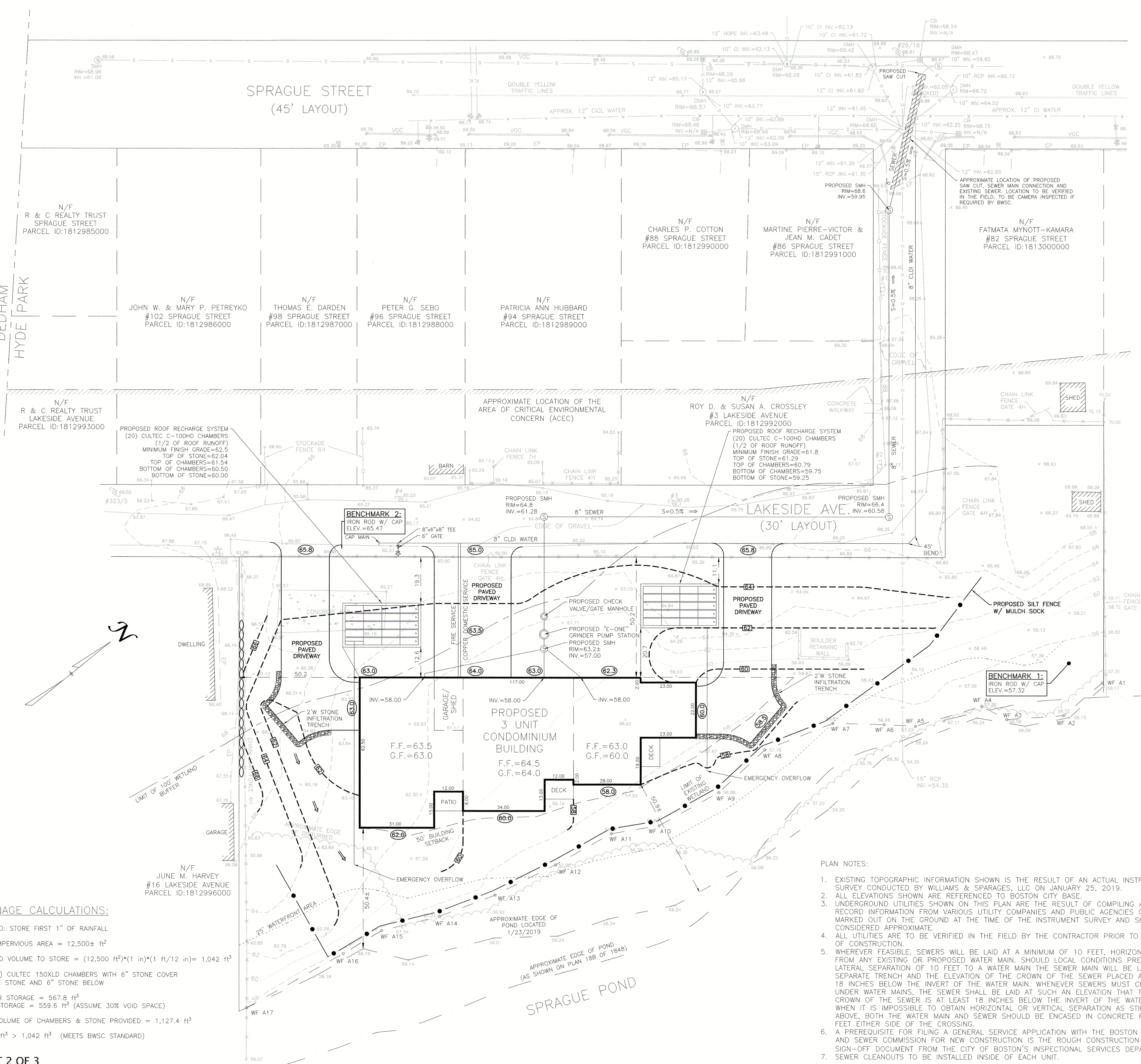
PERMIT SITE PLAN IN BOSTON, MA

SCALE: 1" = 20' DATE: JANUARY 15, 2020
REVISED FEBRUARY 6, 2020

"SHOWING PROPOSED CONDITIONS"
WARD 18 PARCELS 12998 & 12999
BWSC EXTENDED ACCOUNT ADDRESS: #0 & 4 LAKESIDE AVENUE
SITE PLAN NO. _____



DEDHAM
HYDE PARK



N/F
JAMES F. CLINTON
#80 SPRAGUE STREET
PARCEL ID: 1813001000

INSPECTION SIGNOFF

	INSPECTOR	DATE
SEWER MAIN	_____	_____
WATER MAIN	_____	_____
FIRE SERVICE	_____	_____
DOMESTIC SERVICE	_____	_____
HYDRANT	_____	_____
INFILTRATION SYSTEM	_____	_____
SEWER SERVICE/MANHOLE/GRINDER PUMP	_____	_____
DOWNSPOUT OVERFLOW	_____	_____
SEWER DYE TEST	_____	_____
AS BUILT PREPARATION FEE	_____	_____

LEGEND OF ABBREVIATIONS & SYMBOLS

EXISTING 2-FOOT CONTOUR	---	58
EXISTING 10-FOOT CONTOUR	---	60
EXISTING SPOT ELEVATION	x	58.87
STORM DRAIN	— D —	
WATER	— W —	
SEWER	— S —	
CHAIN LINK FENCE	— X —	
STOCKADE FENCE	— □ —	
RETAINING WALL	— ▬ —	
EDGE OF DISTURBED	— EP —	
EDGE OF PAVEMENT	— EP —	
VERTICAL GRANITE CURB	— VGC —	
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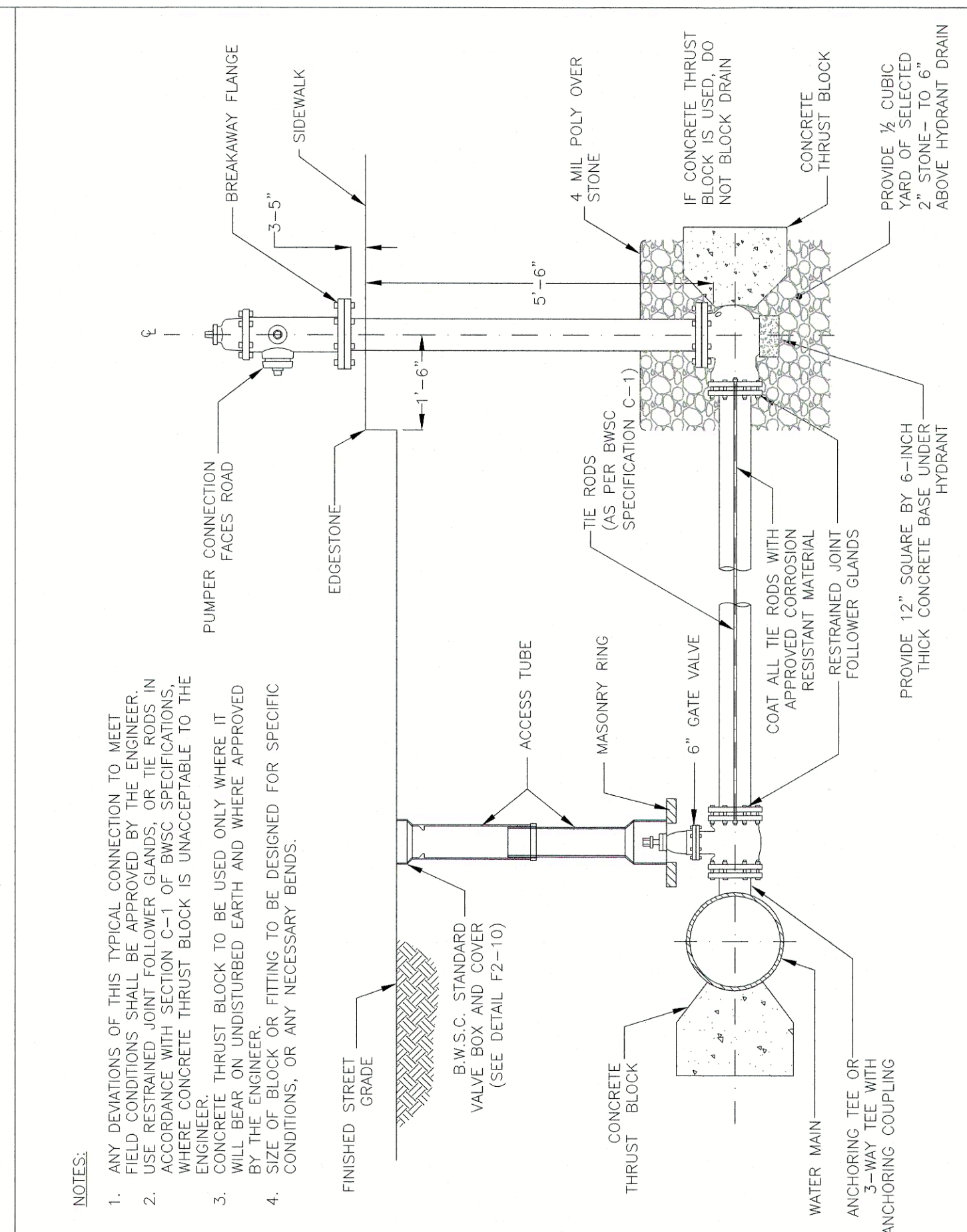
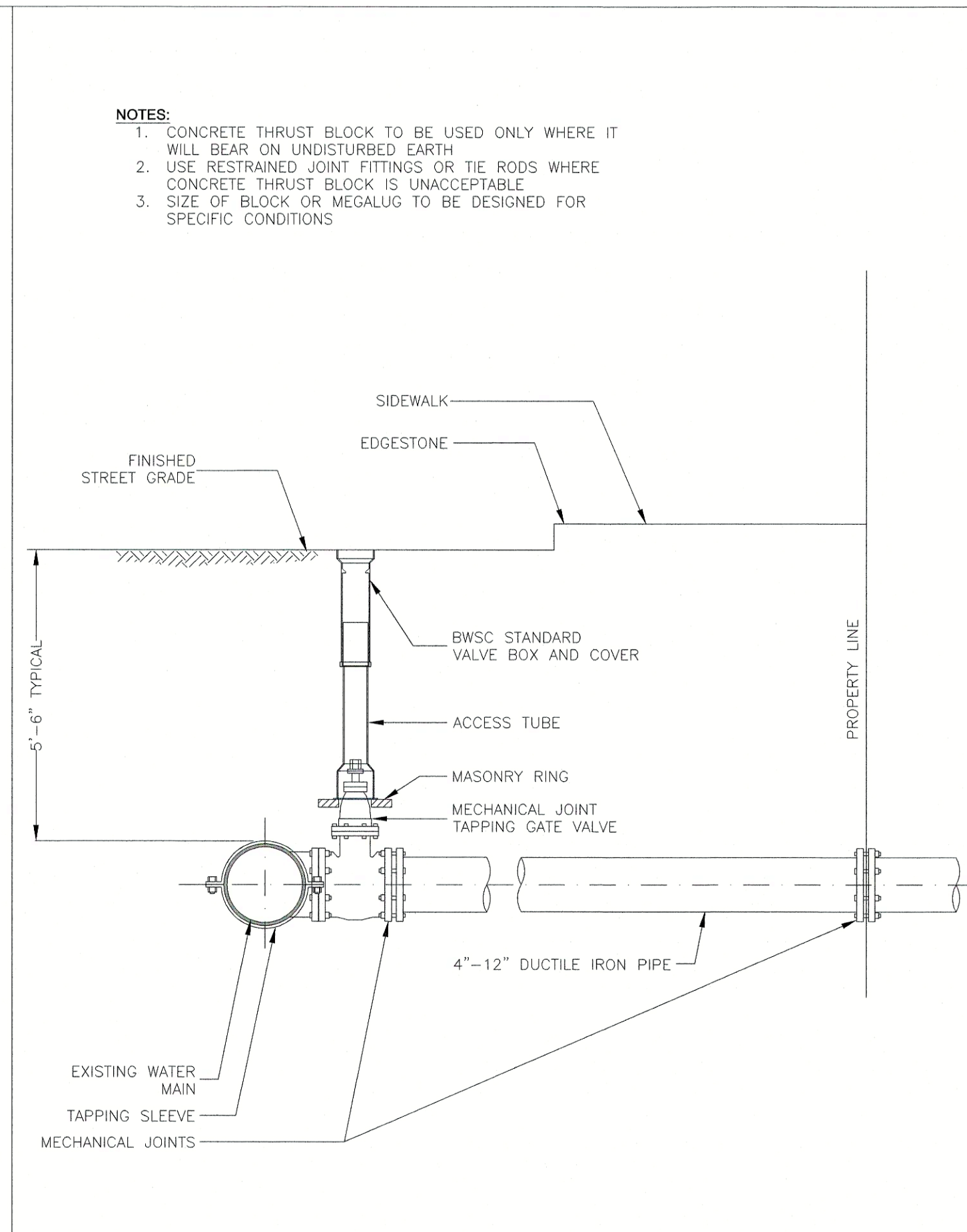
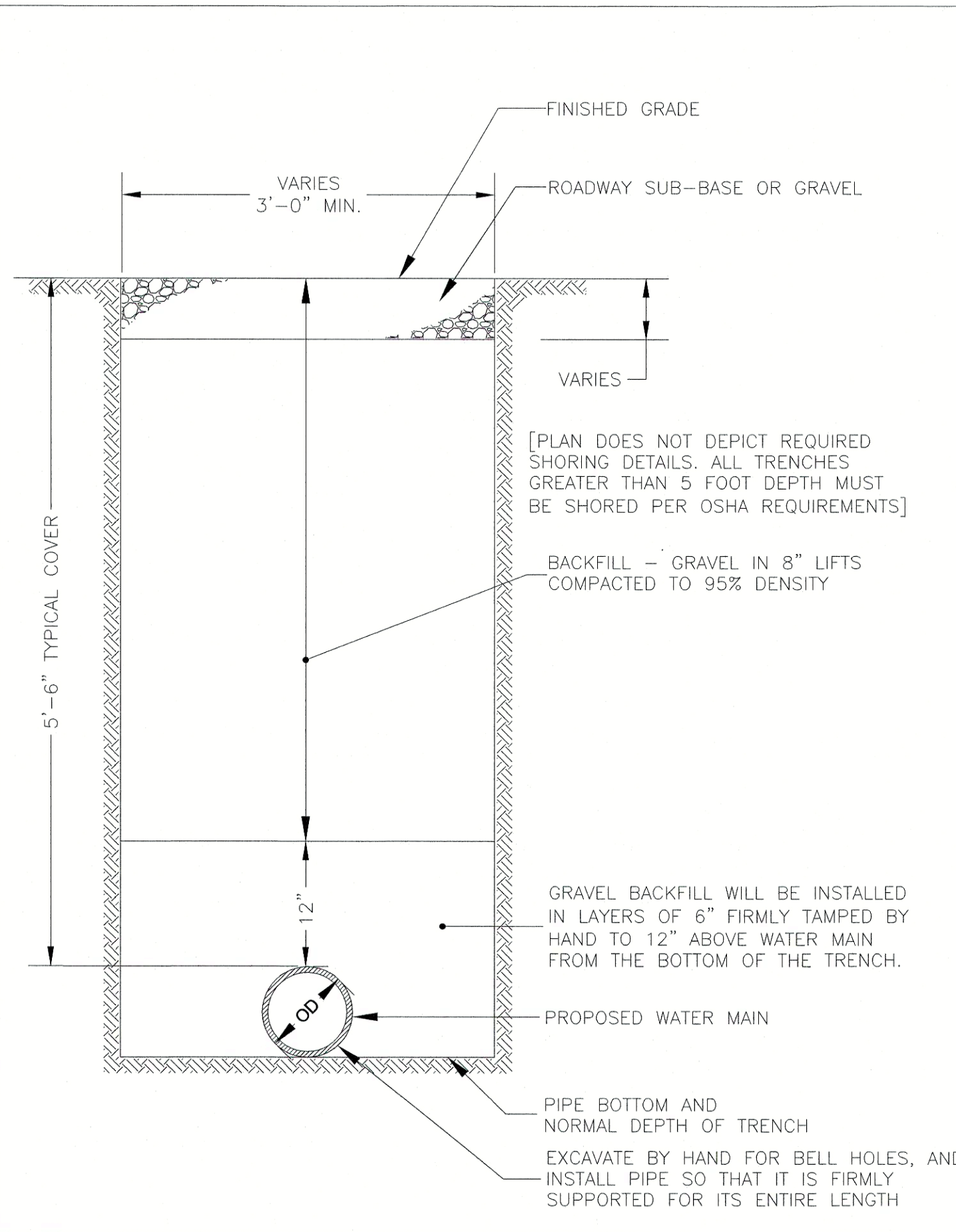
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- ALL UTILITIES ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE TIME OF CONSTRUCTION.
- WHEREVER FEASIBLE, SEWERS WILL BE LAID AT A MINIMUM OF 10 FEET, HORIZONTALLY, FROM ANY EXISTING OR PROPOSED WATER MAIN. SHOULD LOCAL CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET TO A WATER MAIN THE SEWER MAIN WILL BE LAID IN A SEPARATE TRENCH AND THE ELEVATION OF THE CROWN OF THE SEWER PLACED AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER MAIN. WHENEVER SEWERS MUST CROSS UNDER WATER MAINS, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE CROWN OF THE SEWER IS AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER MAIN. WHEN IT IS IMPOSSIBLE TO OBTAIN HORIZONTAL OR VERTICAL SEPARATION AS STIPULATED ABOVE, BOTH THE WATER MAIN AND SEWER SHOULD BE ENCASED IN CONCRETE FOR 10 FEET EITHER SIDE OF THE CROSSING.
- A PREREQUISITE FOR FILING A GENERAL SERVICE APPLICATION WITH THE BOSTON WATER AND SEWER COMMISSION FOR NEW CONSTRUCTION IS THE ROUGH CONSTRUCTION SIGN-OFF DOCUMENT FROM THE CITY OF BOSTON'S INSPECTIONAL SERVICES DEPARTMENT.
- SEWER CLEANOUTS TO BE INSTALLED INSIDE OF EACH UNIT.

DRAINAGE CALCULATIONS:

REQUIRED: STORE FIRST 1" OF RAINFALL
TOTAL IMPERVIOUS AREA = 12,500± ft²
REQUIRED VOLUME TO STORE = (12,500 ft²)(1 in)(1 ft/12 in) = 1,042 ft³
USE (40) CULTEC 150XLD CHAMBERS WITH 6" STONE COVER
12" SIDE STONE AND 6" STONE BELOW
CHAMBER STORAGE = 567.8 ft³
STONE STORAGE = 559.6 ft³ (ASSUME 30% VOID SPACE)
TOTAL VOLUME OF CHAMBERS & STONE PROVIDED = 1,127.4 ft³
1,127.4 ft³ > 1,042 ft³ (MEETS BWSC STANDARD)



PERMIT SITE PLAN IN BOSTON, MA

SCALE: 1" = 20' DATE: JANUARY 15, 2020

"SHOWING CONSTRUCTION DETAILS"
WARD 18 PARCELS 12998 & 12999
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SITE PLAN NO. _____

WILLIAMS SPARGES
ENGINEERS | PLANNERS | SURVEYORS
189 NORTH MAIN STREET
SUITE 101
MIDDLETON, MA 01949
PHONE: (978) 539-8088
FAX: (978) 539-8200
WSENGINEERS.COM

PAVEMENT MATCH DETAIL (NOT TO SCALE)

BITUMINOUS CONC. TOP COURSE AS SPECIFIED
BIT. CONC. BINDER COURSE AS SPECIFIED
GRAVEL BASE AS SPECIFIED
COMPACTED SUBGRADE

SAWCUT EXISTING PAVEMENT, APPLY TACK COAT
EXISTING PAVEMENT
EXISTING BASE

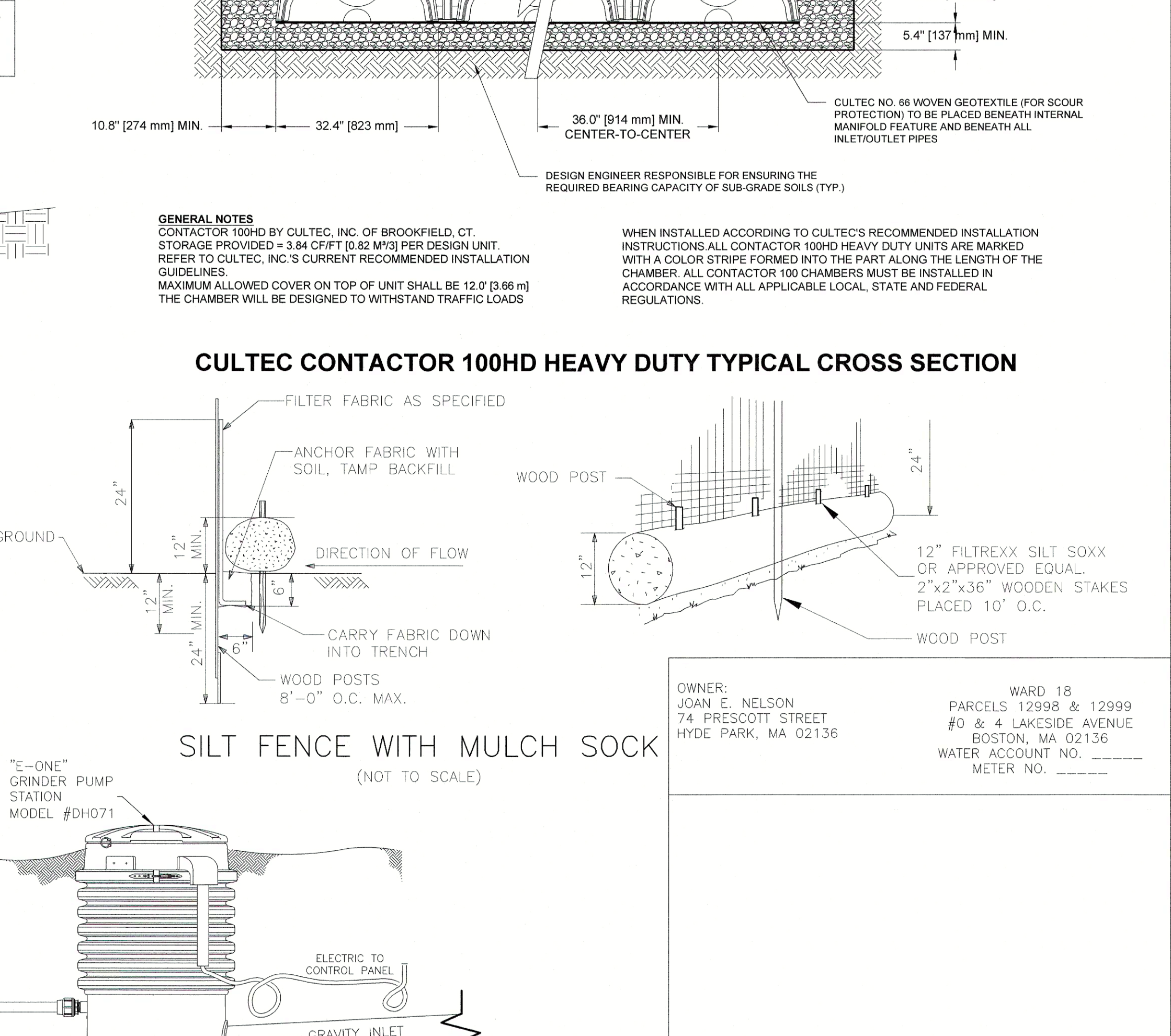
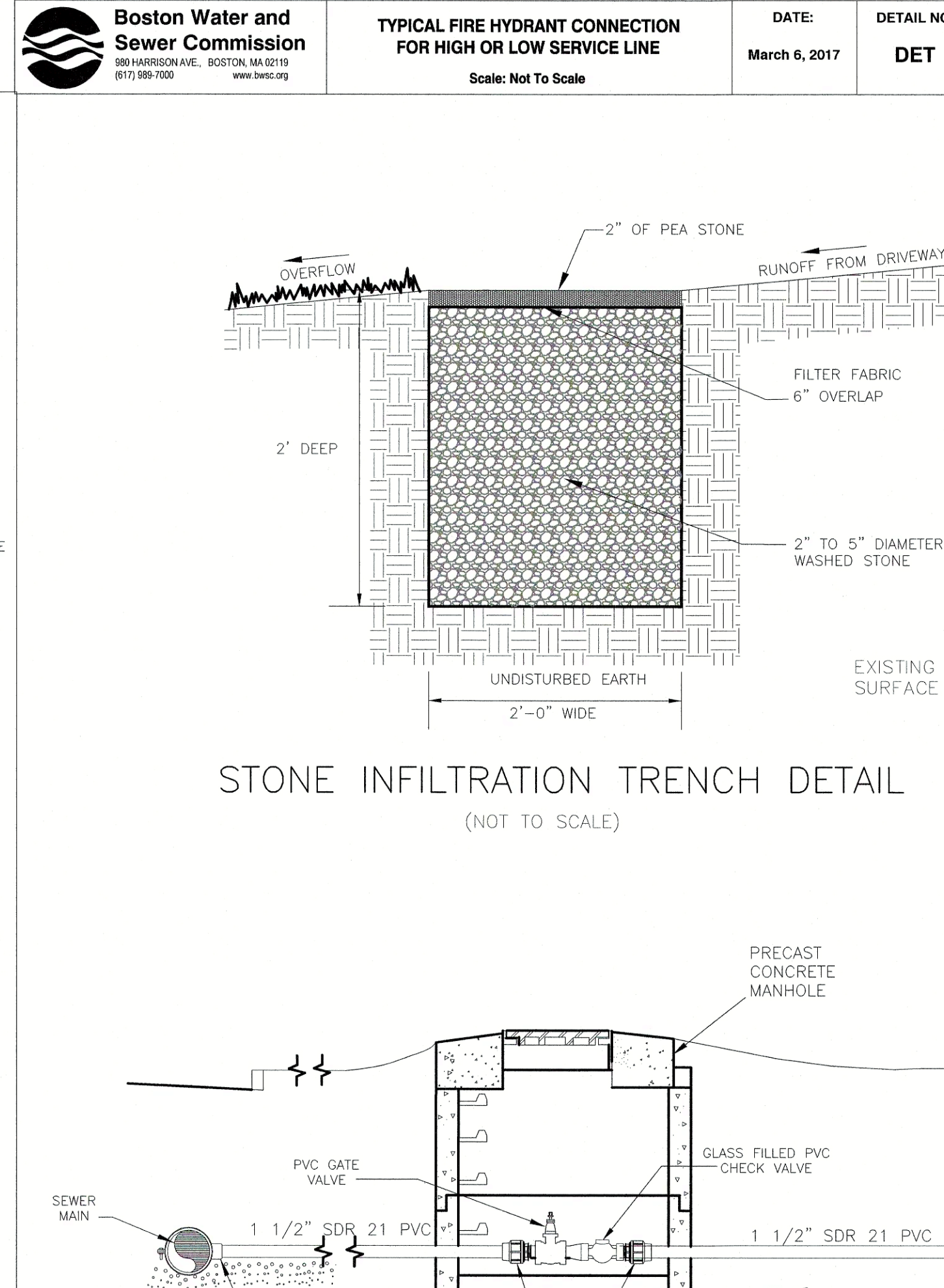
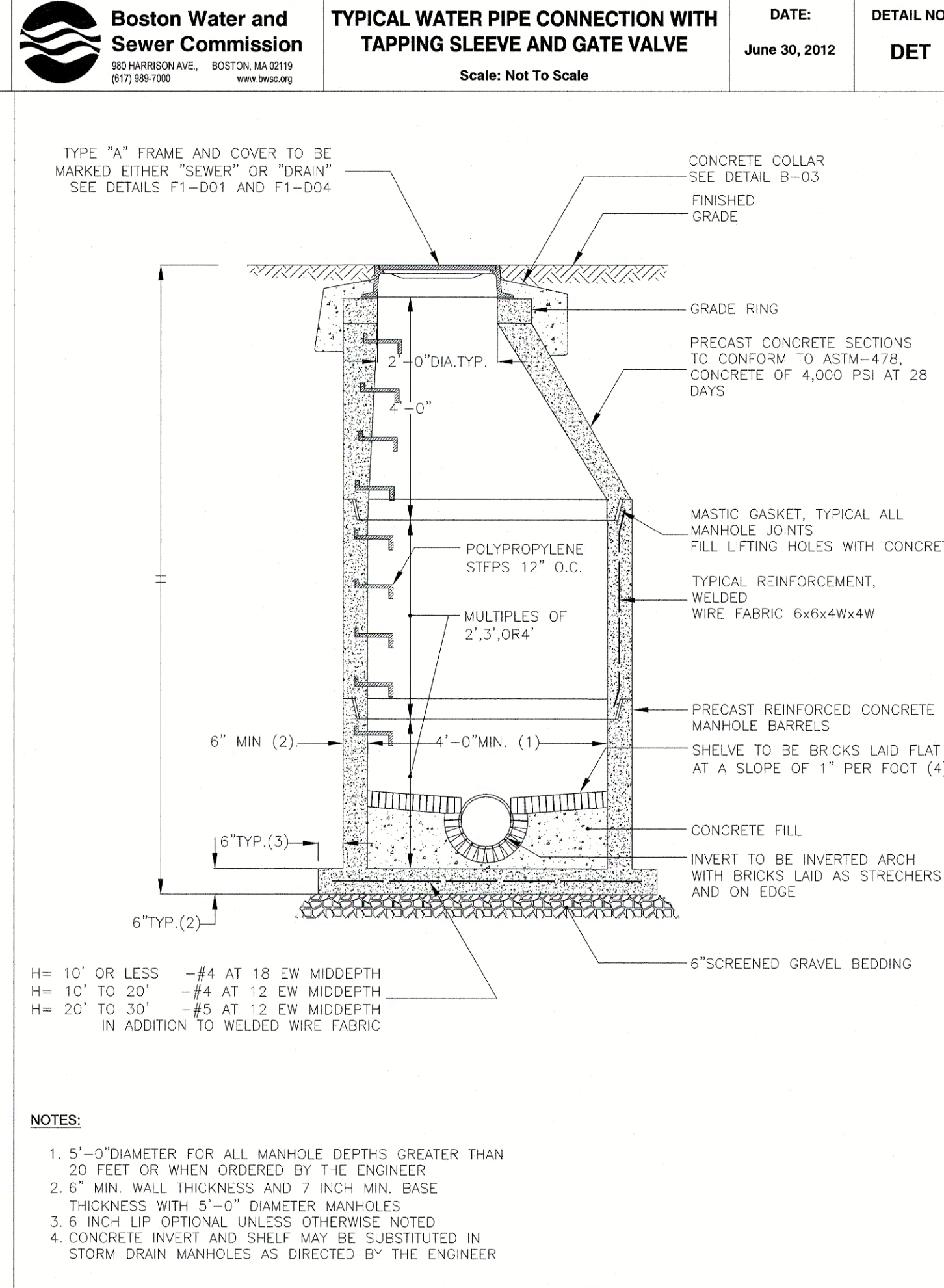
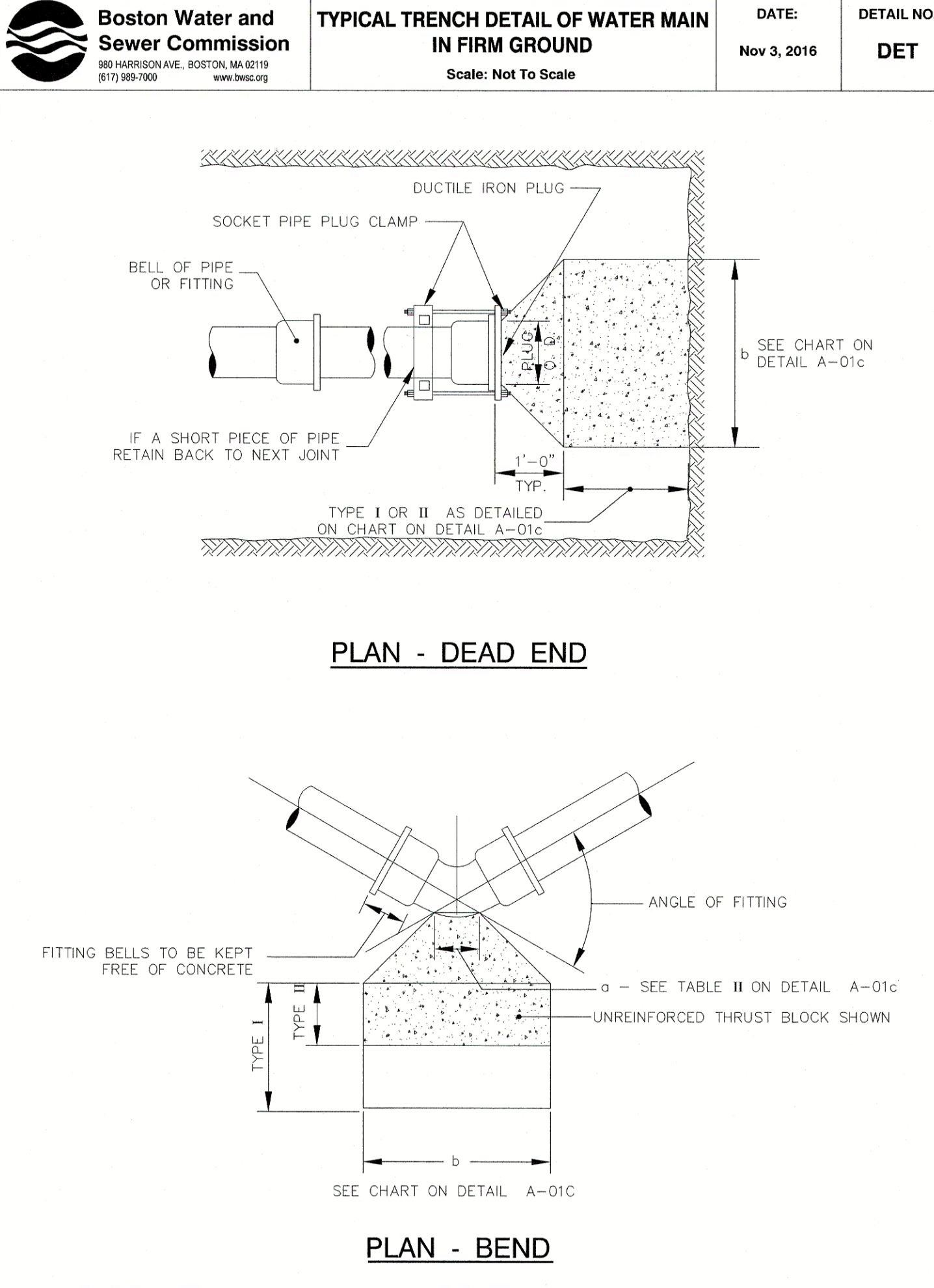
CULTEC HVLV SFC2 FEED CONNECTOR WHERE SPECIFIED
CULTEC CONTACTOR 100HD HEAVY DUTY CHAMBER
12.0' [3.65 m] MAX. BURIAL DEPTH
1.2 INCH [25 mm-51 mm] DIA. WASHED, CRUSHED STONE
MIN. 95% COMPACTED FILL
PAVEMENT OR FINISHED GRADE
7.2" [183 mm] MIN. FOR PAVED
6.0" [152 mm] MIN. FOR UNPAVED
5.4" [137 mm] MIN.
12.5" [318 mm]
5.4" [137 mm] MIN.
10.8' [274 mm] MIN.
32.4' [823 mm]
36.0' [914 mm] MIN. CENTER-TO-CENTER

DESIGN ENGINEER RESPONSIBLE FOR ENSURING THE REQUIRED BEARING CAPACITY OF SUB-GRADE SOILS (TYP.)

GENERAL NOTES
CONTACTOR 100HD BY CULTEC, INC. OF BROOKFIELD, CT. STORAGE PROVIDED = 3.84 CF/FT (0.82 M³) PER DESIGN UNIT. REFER TO CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES.
MAXIMUM ALLOWED COVER ON TOP OF UNIT SHALL BE 12.0' (3.66 m). THE CHAMBER WILL BE DESIGNED TO WITHSTAND TRAFFIC LOADS.

WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS ALL CONTACTOR 100HD HEAVY DUTY UNITS ARE MARKED WITH A COLOR STRIPE FORMED INTO THE PART ALONG THE LENGTH OF THE CHAMBER. ALL CONTACTOR 100 HD CHAMBERS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

12" FILTREXX SILT SOCK OR APPROVED EQUAL.
2"x2"x36" WOODEN STAKES PLACED 10' O.C.
WOOD POST



Boston Water and Sewer Commission
980 HARRISON AVE., BOSTON, MA 02119
(617) 989-7000 www.bwsc.org

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FOR BWSC USE ONLY