



westonandsampson.com

55 Walkers Brook Drive, Suite 100
Reading, MA 01867
tel: 978.532.1900

Notice of Intent



March 2020

HOLLISTON AND BRENTWOOD WATER MAIN IMPROVEMENTS, CONTRACT 1

PREPARED FOR:
TOWN OF MEDWAY

SUBMITTED TO:
MEDWAY CONSERVATION COMMISSION



Medway – Holliston & Brentwood Water Main Improvements, Contract 1
WSE Project No. 2180868.A

March 26, 2020

Medford Conservation Commission
155 Village Street
Medway, MA 02053

Re:*NOI Filing
 Holliston & Brentwood Water Main Improvements, Contract 1*

Dear Members of the Commission:

On behalf of the Town of Medway, Weston & Sampson Engineers, Inc. is hereby enclosing three (3) copies (including original) of the Notice of Intent submittal (including plans) to fulfill the requirements of the Massachusetts Wetlands Protection Act, M.G.L. Chapter 131, Section 40 submittal requirements and the Town of Medway submittal requirements. This submittal is a formal Notice of Intent for the water main replacement occurring in the vicinity of Holliston and Wellington Street.

As part of the filing, we have attached the following:

Appendix A: Project Description
Appendix B: Stormwater Report
Appendix C: Project Maps
Appendix D: Applicable Technical Specifications
Appendix E: Abutters Information
Appendix F: Wetlands Memorandum
Appendix G: Wetlands Replication Plan
Appendix H: Photos

If you have any questions regarding this submittal, please contact me at (978) 532-1900.

Very truly yours,

WESTON & SAMPSON



Alexandra Gaspar
Environmental Scientist



Enter your transmittal number

X285893

Transmittal Number

Your unique Transmittal Number can be accessed online:

<http://www.mass.gov/eea/agencies/massdep/service/approvals/transmittal-form-for-payment.html>

Massachusetts Department of Environmental Protection

Transmittal Form for Permit Application and Payment

1. Please type or print. A separate Transmittal Form must be completed for each permit application.

2. Make your check payable to the Commonwealth of Massachusetts and mail it with a copy of this form to: MassDEP, P.O. Box 4062, Boston, MA 02211.

3. Three copies of this form will be needed.

Copy 1 - the original must accompany your permit application. **Copy 2** must accompany your fee payment. **Copy 3** should be retained for your records

4. Both fee-paying and exempt applicants must mail a copy of this transmittal form to:

MassDEP
P.O. Box 4062
Boston, MA
02211

*** Note:**
For BWSC Permits, enter the LSP.

A. Permit Information

WPA3

NOI

1. Permit Code: 4 to 7 character code from permit instructions

2. Name of Permit Category

water main installation

3. Type of Project or Activity

B. Applicant Information – Firm or Individual

Medway Public Works (director)

1. Name of Firm - Or, if party needing this approval is an individual enter name below:

2. Last Name of Individual

3. First Name of Individual

4. MI

45B Holliston Street

5. Street Address

Medway

MA

02053

508-533-3275

6. City/Town

7. State

8. Zip Code

9. Telephone #

10. Ext. #

David D'Amico

ddamico@townofmedway.org

11. Contact Person

12. e-mail address

C. Facility, Site or Individual Requiring Approval

Holliston & Brentwood Water Mains

1. Name of Facility, Site Or Individual

multiple streets

2. Street Address

Medway

MA

02053

3. City/Town

4. State

5. Zip Code

6. Telephone #

7. Ext. #

8. DEP Facility Number (if Known)

9. Federal I.D. Number (if Known)

10. BWSC Tracking # (if Known)

D. Application Prepared by (if different from Section B)*

Weston & Sampson Engineers

1. Name of Firm Or Individual

55 Walkers Brook Drive, Suite 100

2. Address

Reading

MA

01867

978-532-1900

3. City/Town

4. State

5. Zip Code

6. Telephone #

7. Ext. #

Alex Gaspar

8. Contact Person

9. LSP Number (BWSC Permits only)

E. Permit - Project Coordination

1. Is this project subject to MEPA review? ☐ yes ☒ no
If yes, enter the project's EOE file number - assigned when an Environmental Notification Form is submitted to the MEPA unit:

EOEA File Number

F. Amount Due

Special Provisions:

- ☒ **Fee Exempt** (city, town or municipal housing authority)(state agency if fee is \$100 or less).
There are no fee exemptions for BWSC permits, regardless of applicant status.
- ☐ **Hardship Request** - payment extensions according to 310 CMR 4.04(3)(c).
- ☐ **Alternative Schedule Project** (according to 310 CMR 4.05 and 4.10).
- ☐ **Homeowner** (according to 310 CMR 4.02).

DEP Use Only

Permit No:

Rec'd Date:

Reviewer:

Check Number

Dollar Amount

Date



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

Medway

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):

Holliston, Brentwood & Associated Streets

a. Street Address

Medway

b. City/Town

02053

c. Zip Code

Latitude and Longitude:

n/a, within roadway

f. Assessors Map/Plat Number

d. Latitude

e. Longitude

g. Parcel /Lot Number

2. Applicant:

David

a. First Name

D'Amico

b. Last Name

Director of Public Works

c. Organization

45B Holliston Street

d. Street Address

Medway

e. City/Town

MA

f. State

02053

g. Zip Code

508-533-3275

h. Phone Number

i. Fax Number

ddamico@townofmedway.org

j. Email Address

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

a. First Name

b. Last Name

c. Organization

d. Street Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email address

4. Representative (if any):

Alexandra

a. First Name

Gaspar

b. Last Name

Weston & Sampsn Engineers

c. Company

55 Walkers Brook Drive, Suite 100

d. Street Address

Reading

e. City/Town

MA

f. State

01867

g. Zip Code

978-532-1900

h. Phone Number

i. Fax Number

gaspara@wseinc.com

j. Email address

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

exempt

a. Total Fee Paid

b. State Fee Paid

c. City/Town Fee Paid



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Medway

City/Town

A. General Information (continued)

6. General Project Description:

Water main replacement

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

- | | |
|---|---|
| 1. <input type="checkbox"/> Single Family Home | 2. <input type="checkbox"/> Residential Subdivision |
| 3. <input type="checkbox"/> Commercial/Industrial | 4. <input type="checkbox"/> Dock/Pier |
| 5. <input checked="" type="checkbox"/> Utilities | 6. <input type="checkbox"/> Coastal engineering Structure |
| 7. <input type="checkbox"/> Agriculture (e.g., cranberries, forestry) | 8. <input type="checkbox"/> Transportation |
| 9. <input type="checkbox"/> 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)
310 CMR 10.53(3)(d) construction, reconstruction, maintenance of underground utilities

2. Limited Project Type

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR 10.24(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:

norfolk

a. County

b. Certificate # (if registered land)

c. Book

d. Page Number

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

- ☒ 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.
- ☐ Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas).

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



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Medway

City/Town

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

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

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

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

Medway

City/Town

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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Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

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MassDEP File Number

Document Transaction Number

Medway

City/Town

C. Other Applicable Standards and Requirements

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

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

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

a. ☐ Yes ☒ No

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

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

2020

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*

1. ☐ Percentage/acreage of property to be altered:

(a) within wetland Resource Area

percentage/acreage

(b) outside Resource Area

percentage/acreage

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

2. ☐ Project plans for entire project site, including wetland resource areas and areas outside of wetlands jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work **

(a) ☐ Project description (including description of impacts outside of wetland resource area & buffer zone)

(b) ☐ 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.



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

Medway

City/Town

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/meda/meda_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/meda/meda_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.



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

Medway

City/Town

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

Online Users:

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

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

D. Additional Information

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

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

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

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



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

Medway

City/Town

D. Additional Information (cont'd)

3. ☒ Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.

4. ☒ List the titles and dates for all plans and other materials submitted with this NOI.

Holliston and Brentwood Water Main Improvements, Contract 1

a. Plan Title

Weston & Sampson Engineers

Bruce Adams, PE

b. Prepared By

c. Signed and Stamped by

3/26/2020

1"=40'

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

3. Check date

4. State Check Number

5. Check date

6. Payor name on check: First Name

7. Payor name on check: Last Name



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Medway

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.

[Signature]

1. Signature of Applicant

3/23/2020

2. Date

3. Signature of Property Owner (if different)

[Signature]

4. Date

3/23/202

5. Signature of Representative (if any)

6. Date

For Conservation Commission:

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

For MassDEP:

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

Other:

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

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



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

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



A. Applicant Information

1. Location of Project:

Holliston & Brentwood and associated streets

a. Street Address

exempt

c. Check number

Medway

b. City/Town

d. Fee amount

2. Applicant Mailing Address:

David

a. First Name

D'Amico

b. Last Name

Director of Public Works - Town of Medway

c. Organization

45B Holliston Street

d. Mailing Address

Medway

e. City/Town

MA

f. State

02053

g. Zip Code

508-533-3275

h. Phone Number

i. Fax Number

ddamico@townofmedway.org

j. Email Address

3. Property Owner (if different):

a. First Name

b. Last Name

c. Organization

d. Mailing Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email Address

B. Fees

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

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

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

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

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

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

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

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



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

B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee

Step 5/Total Project Fee: _____

Step 6/Fee Payments:

Total Project Fee:	<u>exempt</u>
	a. Total Fee from Step 5
State share of filing Fee:	<u>exempt</u>
	b. 1/2 Total Fee less \$12.50
City/Town share of filing Fee:	<u>exempt</u>
	c. 1/2 Total Fee plus \$12.50

C. Submittal Requirements

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

Department of Environmental Protection
Box 4062
Boston, MA 02211

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

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

Appendix A

PROJECT DESCRIPTION

Background

In an effort to upgrade the Town of Medway's water infrastructure, the Town is proposing to replace the existing 6-inch, 8-inch, and 12-inch unlined cast iron water mains with 8,820 feet of new 12 and 8-inch ductile iron water main.

Site Description

The overall project will involve work in Wellington Street, Maple Street, Lovering Street, Coffee Street, Holliston Street, Ellis Street, and Virginia Road. Only work within Wellington Street is within the wetlands protection act jurisdiction since it is within 200' of a perennial stream bank and is the focus of this NOI. All other work is considered exempt from the NOI process because it involves underground utility work in the right of way (310 CMR 10.53(3)(d)).

The work area on Coffee Street is comprised of paved road bordered by forested area. The project will occur only in the paved roadway area.

The work area in Wellington Street is located at the bridge crossing over Chicken Brook. The project will occur in the paved roadway and the wood plank walkway along the bridge.

Scope of Work

The overall project will involve work in Wellington Street, Maple Street, Lovering Street, Coffee Street, Holliston Street, Ellis Street, and Virginia Road. The water main replacement work will include the average excavation of approximately 5-feet wide by 6-feet deep trenching. The old water main in Coffee Street will be removed and replaced with new 12-inch ductile iron water main. Soil excavated from the trench that is suitable for backfill will be stockpiled adjacent to the trench until the new pipe has been put in place. Immediately after installation of the new water main, the trench will be backfilled with suitable backfill material. At the end of each week, the trench will be paved with temporary pavement or plated with steel trench plates (if required). At the end of the project, the impacted road will be paved with permanent pavement.

The project will also include transferring water services from the old main to the new 12-inch main to the existing curb stop, installation of new hydrants and valves on the new water main, and trench and final pavement within the project area.

As mentioned above, jurisdictional work that is the focus of this NOI includes water main work in Wellington Street that crosses Chicken Brook. The water main replacement work in Wellington Street involves a bridge crossing consisting of approximately 75 feet of new 8-inch pipe and approximately 30 feet of 20-inch steel casing pipe. The pipe will be relocated and mounted to the concrete and stone footing of the wood plank walkway of the bridge. The water main will be insulated and is protected within a 20-inch steel casing pile with stainless steel spacers. The existing 8-inch water main within the paved roadway of the bridge will be abandoned in place. There will be no dewatering involved as there is minimal groundwater at the bridge.

The water replacement work in Coffee Street involves an intermittent stream crossing. The stream crosses under the street via a large culvert, which will be crossed over, ensuring no

impacts to the stream. This work is exempt because it is work in the buffer zone within roadway with no bank disturbance.

Environmental Control and Protection

As part of the water main replacement work, catch basin protection will be used to prevent sediment from entering the stormwater system. This protection will include filter fabric bags. Filter fabric bags shall be securely installed under the catch basin grate. Care shall be taken to keep the filtration fabric from breaking apart or clogging. All deposited sediment shall be removed periodically and at times prior to predicted precipitation to allow free drainage flow. Prior to working in areas where catch basins are to be protected, each catch basin sump shall be cleaned of all debris and protected.

Where available, road curb will act to prevent sedimentation from migrating off the road. The work will remain within previously altered/disturbed areas (the road) and proper construction practices will be undertaken. Along the work area in Coffee Street, straw wattle filter tubes will be placed along the roadway adjacent to resource areas to prevent the potential migration of sediment-laden runoff into the resource areas. Straw wattles will be inspected periodically and at times prior to predicted precipitation to assure their effectiveness. Accumulated sediment shall be periodically removed from the face of the straw wattle filter tubes as needed during construction.

For work on the Wellington Street bridge over Chicken Brook, silt fence will be installed along both sides of the stream bank for a minimum of 20 linear feet along the stream. The silt fence shall consist of a 3-foot wide continuous length sediment control fabric, stitched to a mesh backing, and stapled to preweathered oak posts which will be buried to ensure they do not move. The silt fences will be inspected periodically to assure they are working properly and secured.

Environmental Considerations

Neither short term nor long term impacts to resources protected under M.G.L. c. 131, ss 40 are anticipated. Work will occur within the 100-foot buffer zone of wetland and intermittent stream (Coffee Street) in certain locations. Technically, some of the trenching will occur within the 200-foot riverfront area associated with a perennial stream flowing beneath Wellington Street. However, per 310 CMR 10.58 (6), work within a roadway created prior to August 7, 1996 is grandfathered or exempt from requirements of the riverfront area. Work will only occur within roadway which was created prior to August 7, 1996. As such, impacts to riverfront within the roadway are not reported in the WPA Form 3 (NOI form) and an alternatives analysis has not been created for this project. To the pipe will be installed above the perennial stream crossing using insulation and a steel casing pipe.

This project has been designed to limit adverse impacts to the resource areas as much as practicable. Work will take place in previously altered area (in the roadways and bridge walkways). No new impervious area will be created as part of this project. It is anticipated that there will be no impacts to resources protected under M.G.L. c. 131, ss 40. Post-construction conditions will be the same as pre-construction conditions.

Appendix B



Checklist for Stormwater Report

A. Introduction

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



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the [Massachusetts Stormwater Handbook](#). The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.¹ This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8²
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

¹ The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

² For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.



Checklist for Stormwater Report

B. Stormwater Checklist and Certification

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

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

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

Registered Professional Engineer's Certification

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

Registered Professional Engineer Block and Signature



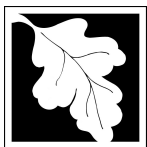

Signature and Date

3/24/2020

Checklist

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

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



Checklist for Stormwater Report

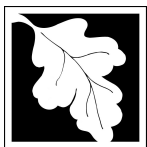
Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- ☐ No disturbance to any Wetland Resource Areas
- ☐ Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- ☐ Reduced Impervious Area (Redevelopment Only)
- ☐ Minimizing disturbance to existing trees and shrubs
- ☐ LID Site Design Credit Requested:
 - ☐ Credit 1
 - ☐ Credit 2
 - ☐ Credit 3
- ☐ Use of “country drainage” versus curb and gutter conveyance and pipe
- ☐ Bioretention Cells (includes Rain Gardens)
- ☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- ☐ Treebox Filter
- ☐ Water Quality Swale
- ☐ Grass Channel
- ☐ Green Roof
- ☐ Other (describe): _____

Standard 1: No New Untreated Discharges

- ☒ No new untreated discharges
- ☐ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- ☐ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.



Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

- ☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.
- ☐ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.
- ☐ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

- ☐ Soil Analysis provided.
- ☐ Required Recharge Volume calculation provided.
- ☐ Required Recharge volume reduced through use of the LID site Design Credits.
- ☐ Sizing the infiltration, BMPs is based on the following method: Check the method used.
 - ☐ Static
 - ☐ Simple Dynamic
 - ☐ Dynamic Field¹
- ☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.
- ☐ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.
- ☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.
- ☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:
 - ☐ Site is comprised solely of C and D soils and/or bedrock at the land surface
 - ☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
 - ☐ Solid Waste Landfill pursuant to 310 CMR 19.000
 - ☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.
- ☐ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.
- ☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

¹ 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.



Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

- ☐ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.
- ☐ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
 - Provisions for storing materials and waste products inside or under cover;
 - Vehicle washing controls;
 - Requirements for routine inspections and maintenance of stormwater BMPs;
 - Spill prevention and response plans;
 - Provisions for maintenance of lawns, gardens, and other landscaped areas;
 - Requirements for storage and use of fertilizers, herbicides, and pesticides;
 - Pet waste management provisions;
 - Provisions for operation and management of septic systems;
 - Provisions for solid waste management;
 - Snow disposal and plowing plans relative to Wetland Resource Areas;
 - Winter Road Salt and/or Sand Use and Storage restrictions;
 - Street sweeping schedules;
 - Provisions for prevention of illicit discharges to the stormwater management system;
 - Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
 - Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
 - List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.
- ☐ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.
 - ☐ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:
 - ☐ is within the Zone II or Interim Wellhead Protection Area
 - ☐ is near or to other critical areas
 - ☐ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
 - ☐ involves runoff from land uses with higher potential pollutant loads.
 - ☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.
 - ☐ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.



Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

- ☐ The BMP is sized (and calculations provided) based on:
 - ☐ The ½" or 1" Water Quality Volume or
 - ☐ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.
- ☐ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.
- ☐ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

- ☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.
- ☐ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted **prior to** the discharge of stormwater to the post-construction stormwater BMPs.
- ☐ The NPDES Multi-Sector General Permit does **not** cover the land use.
- ☐ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.
- ☐ All exposure has been eliminated.
- ☐ All exposure has **not** been eliminated and all BMPs selected are on MassDEP LUHPPL list.
- ☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

- ☐ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.
- ☐ Critical areas and BMPs are identified in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

- ☒ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:
 - ☐ Limited Project
 - ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
 - ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
 - ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
 - ☐ Bike Path and/or Foot Path
- ☒ Redevelopment Project
- ☐ Redevelopment portion of mix of new and redevelopment.
- ☐ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.
- ☐ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

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

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
 - Construction Period Operation and Maintenance Plan;
 - Names of Persons or Entity Responsible for Plan Compliance;
 - Construction Period Pollution Prevention Measures;
 - Erosion and Sedimentation Control Plan Drawings;
 - Detail drawings and specifications for erosion control BMPs, including sizing calculations;
 - Vegetation Planning;
 - Site Development Plan;
 - Construction Sequencing Plan;
 - Sequencing of Erosion and Sedimentation Controls;
 - Operation and Maintenance of Erosion and Sedimentation Controls;
 - Inspection Schedule;
 - Maintenance Schedule;
 - Inspection and Maintenance Log Form.
- ☒ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

- ☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has **not** been included in the Stormwater Report but will be submitted **before** land disturbance begins.
- ☐ The project is **not** covered by a NPDES Construction General Permit.
- ☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.
- ☐ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

- ☐ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:
 - ☐ Name of the stormwater management system owners;
 - ☐ Party responsible for operation and maintenance;
 - ☐ Schedule for implementation of routine and non-routine maintenance tasks;
 - ☐ Plan showing the location of all stormwater BMPs maintenance access areas;
 - ☐ Description and delineation of public safety features;
 - ☐ Estimated operation and maintenance budget; and
 - ☐ Operation and Maintenance Log Form.
- ☐ The responsible party is **not** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:
 - ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
 - ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

- ☐ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;
- ☐ An Illicit Discharge Compliance Statement is attached;
- ☐ NO Illicit Discharge Compliance Statement is attached but will be submitted **prior to** the discharge of any stormwater to post-construction BMPs.

Stormwater Report

To Be Submitted with the Notice of Intent

pApplicant/Project Name: Town of Medway – Holliston and Brentwood Water Main

Project Address: Multiple Streets (Holliston & Brentwood area) Medway, MA

Application Prepared by:

Firm: Weston & Sampson, Inc.

Registered PE James Pearson, P.E.

Below is an explanation concerning Standards 1-10 as they apply to the Town of Medway - Holliston and Brentwood Water Main project.

General:

In an effort to upgrade the Town of Medway's water infrastructure, the Town is proposing to replace the existing 6-inch, 8-inch, and 12-inch unlined cast iron water mains with 8,820 feet of new 12 and 8-inch ductile iron water main.

The water main replacement work will include the average excavation of approximately 5-feet wide by 6-feet deep trenching. The old water main in Coffee Street will be removed and replaced with new 12-inch ductile iron water main. Soil excavated from the trench that is suitable for backfill will be stockpiled adjacent to the trench until the new pipe has been put in place. Immediately after installation of the new water main, the trench will be backfilled with suitable backfill material. At the end of each week, the trench will be paved with temporary pavement or plated with steel trench plates (if required). At the end of the project, the impacted road will be paved with permanent pavement.

The project will also include transferring water services from the old main to the new 12-inch main to the existing curb stop, installation of new hydrants and valves on the new water main, and trench and final pavement within the project area.

The water main replacement work in Wellington Street involves a bridge crossing consisting of approximately 75 feet of new 8-inch pipe and approximately 30 feet of 20-inch steel casing pipe. The existing 8-inch water main within the paved roadway of the bridge will be abandoned in place.

Standard 1: No New Untreated Discharges

The proposed project will create no new untreated discharges. No new impervious area will be created during this project.

Standard 2: Peak Rate Attenuation

Since there will be no increase in impervious area, post-development (post-improvement) peak discharge rates will not exceed pre-development (pre-improvement) peak discharge rates.

To ensure that the work incorporates the performance standards recommended in the DEP's Stormwater Management Policy, necessary erosion and sedimentation control

measures will be utilized during construction. These measures will include compost filter tubes, catch basin protection, and both compost filter tubes and silt fence are to be used on both stream banks (20' each side).

Standard 3: Recharge

As noted in the **Standard 2** explanation, the impervious area in the work area will not be increased at the completion of the project. Therefore, recharge rates will not change in the work area at the end of the project.

Standard 4: Water Quality

The proposed work will not change water quality at the site. There will be no increase in stormwater flow, and the design for dam improvements will not increase soil erosion. During the project, appropriate BMPs will be used to minimize sedimentation and soil erosion.

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

Not Applicable. There are no LUHPPLs in the work area.

Standard 6: Critical Areas

There will be no new discharge to critical areas.

Standard 7: Redevelopments and Other Projects Subject to the Standards Only to the Maximum Extent Practicable

This is a re-development and limited project which will minimize disturbance to existing trees and shrubs.

Standard 8: Construction Period Pollution Prevention and Erosion and Sediment Control

A detailed Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan is included. To ensure that the work incorporates the performance standards recommended in the DEP's Stormwater Management Policy, necessary erosion and sedimentation control measures will be utilized during construction. These measures will include compost filter tubes, catch basin protection, and both compost filter tubes and silt fence are to be used on both stream banks (20' each side).

Standard 9: Operation and Maintenance Plan

An operations and maintenance plan is not needed since there will not be any new stormwater management systems put in place in the project work area.

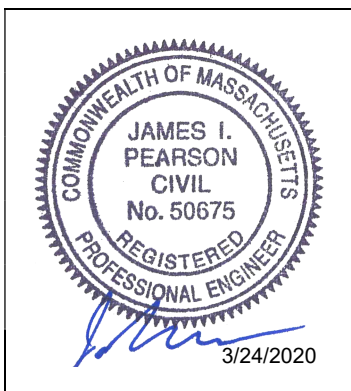
Standard 10: Prohibition of Illicit Discharges

By the nature of the proposed work, there will be no illicit discharges. There will be no opportunity for illicit discharges into the system.

Registered Professional Engineer's Certification

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

Registered Professional Engineer Block and Signature




Signature and Date

3/24/2020

Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan

SECTION 1: Introduction

In an effort to upgrade the Town of Medway's water infrastructure, the Town is proposing to replace the existing 6-inch, 8-inch, and 12-inch unlined cast iron water mains with 8,820 feet of new 12 and 8-inch ductile iron water main.

The water main replacement work will include the average excavation of approximately 5-feet wide by 6-feet deep trenching. The old water main in Coffee Street will be removed and replaced with new 12-inch ductile iron water main. Soil excavated from the trench that is suitable for backfill will be stockpiled adjacent to the trench until the new pipe has been put in place. Immediately after installation of the new water main, the trench will be backfilled with suitable backfill material. At the end of each week, the trench will be paved with temporary pavement or plated with steel trench plates (if required). At the end of the project, the impacted road will be paved with permanent pavement.

The project will also include transferring water services from the old main to the new 12-inch main to the existing curb stop, installation of new hydrants and valves on the new water main, and trench and final pavement within the project area.

The water main replacement work in Wellington Street involves a bridge crossing consisting of approximately 75 feet of new 8-inch pipe and approximately 30 feet of 20-inch steel casing pipe. The existing 8-inch water main within the paved roadway of the bridge will be abandoned in place.

As part of this project, this "Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan" has been created to ensure that no further disturbance to the wetland resource is created during the project.

SECTION 2: Construction Period Pollution Prevention Measures

Best Management Practices (BMPs) will be utilized as Construction Period Pollution Prevention Measures to reduce potential pollutants and prevent any off-site discharge. The objectives of the BMPs for construction activity are to minimize the disturbed areas, stabilize any disturbed areas, control the site perimeter and retain sediment. Both erosion and sedimentation controls and non-stormwater best management measures will be used to minimize site disturbance and ensure compliance with the performance standards of the WPA and Stormwater Standards. Measures will be taken to minimize the area disturbed by construction activities to reduce the potential for soil erosion and stormwater pollution problems. In addition, good housekeeping measures will be followed for the day-to-day operation of the construction site under the control of the contractor to minimize the impact of construction. This section describes the control practices that will be in place during construction activities. Recommended control practices will comply with the standards set in the MA DEP Stormwater Policy Handbook.

2.1 Minimize Disturbed Area and Protect Natural Features and Soil

In order to minimize disturbed areas, work will be completed within well-defined work limits. These work limits are shown on the construction plans. The Contractor shall not disturb native vegetation

in the undisturbed wetland area without prior approval from the Engineer. The Contractor will be responsible to make sure that all of their workers and any subcontractors know the proper work limits and do not extend their work into the undisturbed areas. The protective measures are described in more detail in the following sections.

2.2 Control Stormwater Flowing onto and through the project

Construction areas adjacent to wetland resources will be lined with appropriate sediment and erosion control measures. Compost filter tubes will be used in front of 25 Coffee St, catch basin protection is used throughout the project, and both compost filter tubes and silt fence are to be used on both stream banks (20' each side).

2.3 Stabilize Soils

The Contractor shall limit the area of land which is exposed and free from vegetation during construction. In areas where the period of exposure will be greater than two (2) months, mulching, the use of erosion control mats, or other protective measures shall be provided as specified.

The Contractor shall take account of the conditions of the soil where erosion control seeding will take place to insure that materials used for re-vegetation are adaptive to the sediment control.

2.4 Proper Storage and Cover of Any Stockpiles

The location of the Contractor's storage areas for equipment and/or materials shall require written approval of the Engineer.

Adequate measures for erosion and sediment control such as the placement of compost filter tubes around the downstream perimeter of stockpiles shall be employed to protect any downstream areas from siltation.

There shall be no storage of equipment or materials in areas designated as wetlands.

The Engineer may designate a particular area or areas where the Contractor may store materials used in his operations.

2.5 Perimeter Controls and Sediment Barriers

Erosion control lines as described in Section 5 will be utilized to ensure that sedimentation does not occur outside the perimeter of the work area.

2.6 Storm Drain Inlet Protection

Inlet protection will be used on any storm drains in the work area.

2.7 Retain Sediment On-Site

The Contractor will be responsible to monitor erosion control measures. Whenever necessary the Contractor will clear sediment from the compost filter tube and silt fence that have been silted up during construction. Daily monitoring should be conducted using the attached Monitoring Form.

The following good housekeeping practices will be followed on-site during the construction project:

2.8 Material Handling and Waste Management

Materials stored on-site will be stored in a neat, orderly manner in appropriate containers. Materials will be kept in their original containers with the original manufacturer's label. Substances will not be mixed with one another unless recommended by the manufacturer.

Waste materials will be collected and stored in a securely lidded metal container from a licensed management company. The waste and any construction debris from the site will be hauled off-site daily and disposed of properly. The contractor will be responsible for waste removal. Manufacturer's recommendations for proper use and disposal will be followed for materials. Sanitary waste will be collected from the portable units a minimum of once a week, by a licensed sanitary waste management contractor.

2.9 Designated Washout Areas

The Contractor shall use washout facilities at their own facilities, unless otherwise directed by the Engineer.

2.10 Proper Equipment/Vehicle Fueling and Maintenance Practices

On-site vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the risk of leakage. To ensure that leaks on stored equipment do not contaminate the site, oil-absorbing mats will be placed under oil-containing equipment during storage. Regular fueling and service of the equipment may be performed using approved methods and with care taken to minimize chance of spills. Repair of equipment or machinery within the 100' water resources area shall not be allowed without the prior approval of the Engineer. Any petroleum products will be stored in tightly sealed containers that are clearly labeled with spill control pads/socks placed under/around their perimeters.

2.11 Equipment/Vehicle Washing

The Contractor will be responsible to ensure that no equipment is washed on-site.

SECTION 3: Spill Prevention and Control Plan

The Contractor will be responsible for preventing spills in accordance with the project specifications and applicable federal, state and local regulations. The Contractor will identify a properly trained site employee, involved with the day-to-day site operations to be the spill prevention and cleanup coordinator. The name(s) of the responsible spill personnel will be posted on-site. Each employee will be instructed that all spills are to be reported to the spill prevention and cleanup coordinator.

3.1 Spill Control Equipment

Spill control/containment equipment will be kept in the Work Area. Materials and equipment necessary for spill cleanup will be kept either in the Work Area or in an otherwise accessible on-site

location. Equipment and materials will include, but not be limited to, absorbent booms/mats, brooms, dust pans, mops, rags, gloves, goggles, sand, plastic and metal containers specifically for this purpose. It is the responsibility of the Contractor to ensure the inventory will be readily accessible and maintained.

3.2 Notification

Workers will be directed to inform the on-site supervisor of a spill event. The supervisor will assess the incident and initiate proper containment and response procedures immediately upon notification. Workers should avoid direct contact with spilled materials during the containment procedures. Primary notification of a spill should be made to the local Fire Department and Police Departments. Secondary Notification will be to the certified cleanup contractor if deemed necessary by Fire and/or Police personnel. The third level of notification (within 1 hour) is to the DEP or municipality's Licensed Site Professional (LSP). The specific cleanup contractor to be used will be identified by the Contractor prior to commencement of construction activities.

3.3 Spill Containment and Clean-Up Measures

Spills will be contained with granular sorbent material, sand, sorbent pads, booms or all of the above to prevent spreading. Certified cleanup contractors should complete spill cleanup. The material manufacturer's recommended methods for spill cleanup will be clearly posted and on-site personnel will be made aware of the procedures and the location of the information and cleanup supplies.

3.4 Hazardous Materials Spill Report

The Contractor will report and record any spill. The spill report will present a description of the release, including the quantity and type of material, date of the spill, circumstances leading to the release, location of spill, response actions and personnel, documentation of notifications and corrective measures implemented to prevent reoccurrence.

This document does not relieve the Contractor of the Federal reporting requirements of 40 CFR Part 110, 40 CFR Part 117, 40 CFR Part 302 and the State requirements specified under the Massachusetts Contingency Plan (M.C.P) relating to spills or other releases of oils or hazardous substances. Where a release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302, occurs during a twenty-four (24) hour period, the Contractor is required to comply with the response requirements of the above mentioned regulations. Spills of oil or hazardous material in excess of the reportable quantity will be reported to the National Response Center (NRC).

SECTION 4: Contact Information/Responsible Parties

Owner/Operator:

Town of Medway
Director of Public Works
David D'Amico
45B Holliston Street
Medway, MA 02053

ddamico@townofmedway.org
508-533-3275

Engineer:

Bruce Adams, PE
Weston & Sampson Engineers, Inc.
55 Walkers Brook Dr, Suite 100
Reading, MA 01867
978-532-1900 ex. 2346

Site Inspector:

TBD

Contractor:

TBD

SECTION 5: Erosion and Sedimentation Control

Erosion and Sedimentation Control Drawings can be found in the attached project plans. In addition a technical specification (***Section 01570 Environmental Protection***) has been included as part of Appendix D, which details all Erosion and Sedimentation controls.

SECTION 6: Site Development Plan

The Site Development Plan is included in the attached plans.

SECTION 7: Operation and Maintenance of Erosion Control

The erosion control measures will be installed as detailed in the technical specification ***01570 Environmental Protection***. If there is a failure to the controls the Contractor, under the supervision of the Engineer, will be required to stop work until the failure is repaired.

Periodically throughout the work, whenever the Engineer deems it necessary, the sediment that has been deposited against the controls will be removed to ensure that the controls are working properly.

SECTION 8: Inspection Schedule

During construction, the erosion and sedimentation controls will be inspected daily. Once the Contractor is selected, an onsite inspector will be selected to work closely with the Engineer to ensure that erosion and sedimentation controls are in place and working properly. An Inspection Form is included.

Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan

Medway – Holliston & Brentwood Water Mains

Inspection Form

Inspected By: _____ Date: _____ Time: _____

YES	NO	DOES NOT APPLY	ITEM
			Do any erosion/siltation control measures require repair or clean out to maintain adequate function?
			Is there any evidence that sediment is leaving the site and entering the wetlands?
			Are any temporary soil stockpiles or construction materials located in non-approved areas?
			Are on-site construction traffic routes, parking, and storage of equipment and supplies located in areas not specifically designed for them?

Specific location, current weather conditions, and action to be taken:

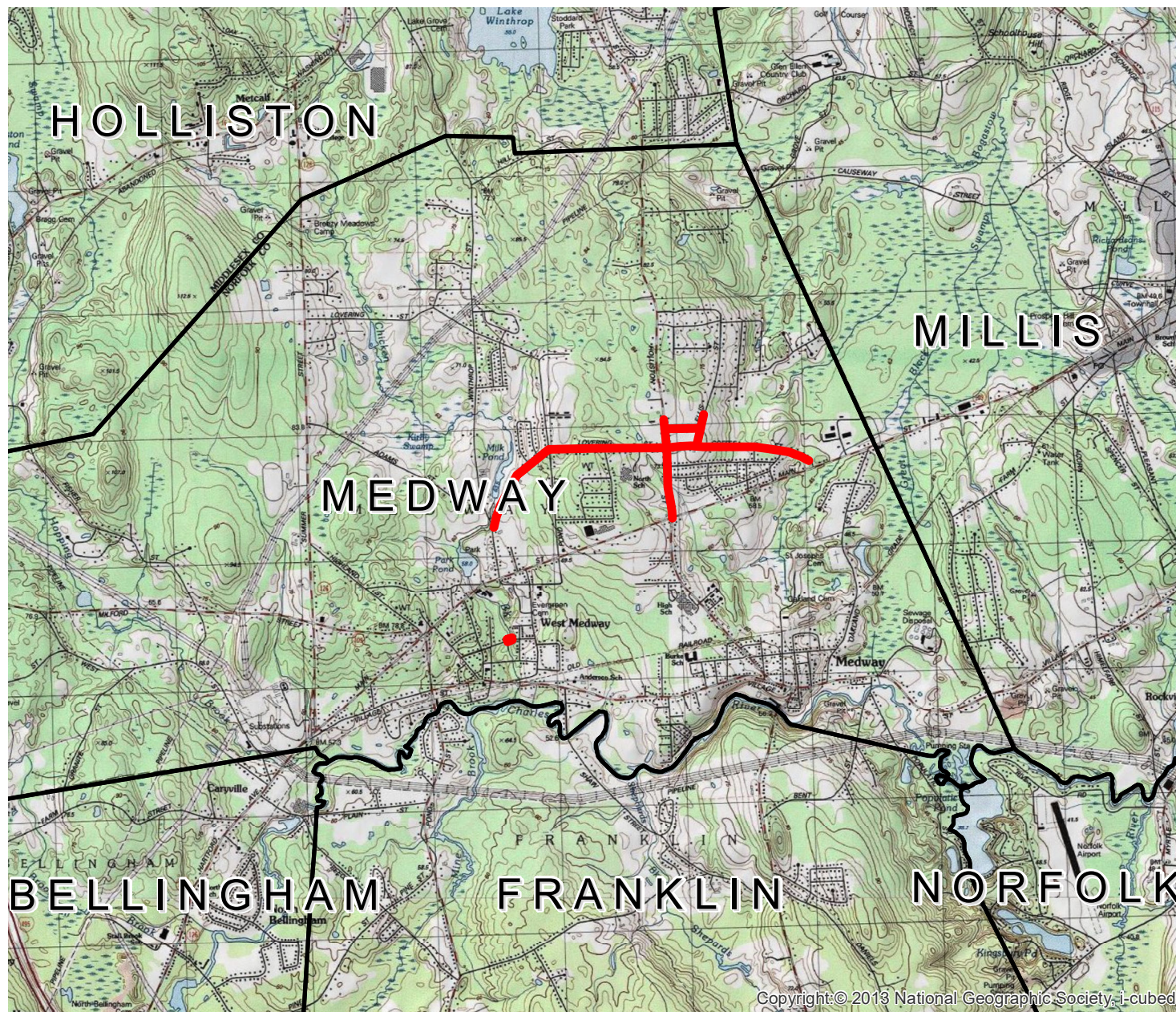
Other Comments:

Pending the actions noted above I certify that the site is in compliance with the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan.

Signature: _____ Date: _____

Weston & Sampson

Appendix C



Legend

— WorkArea

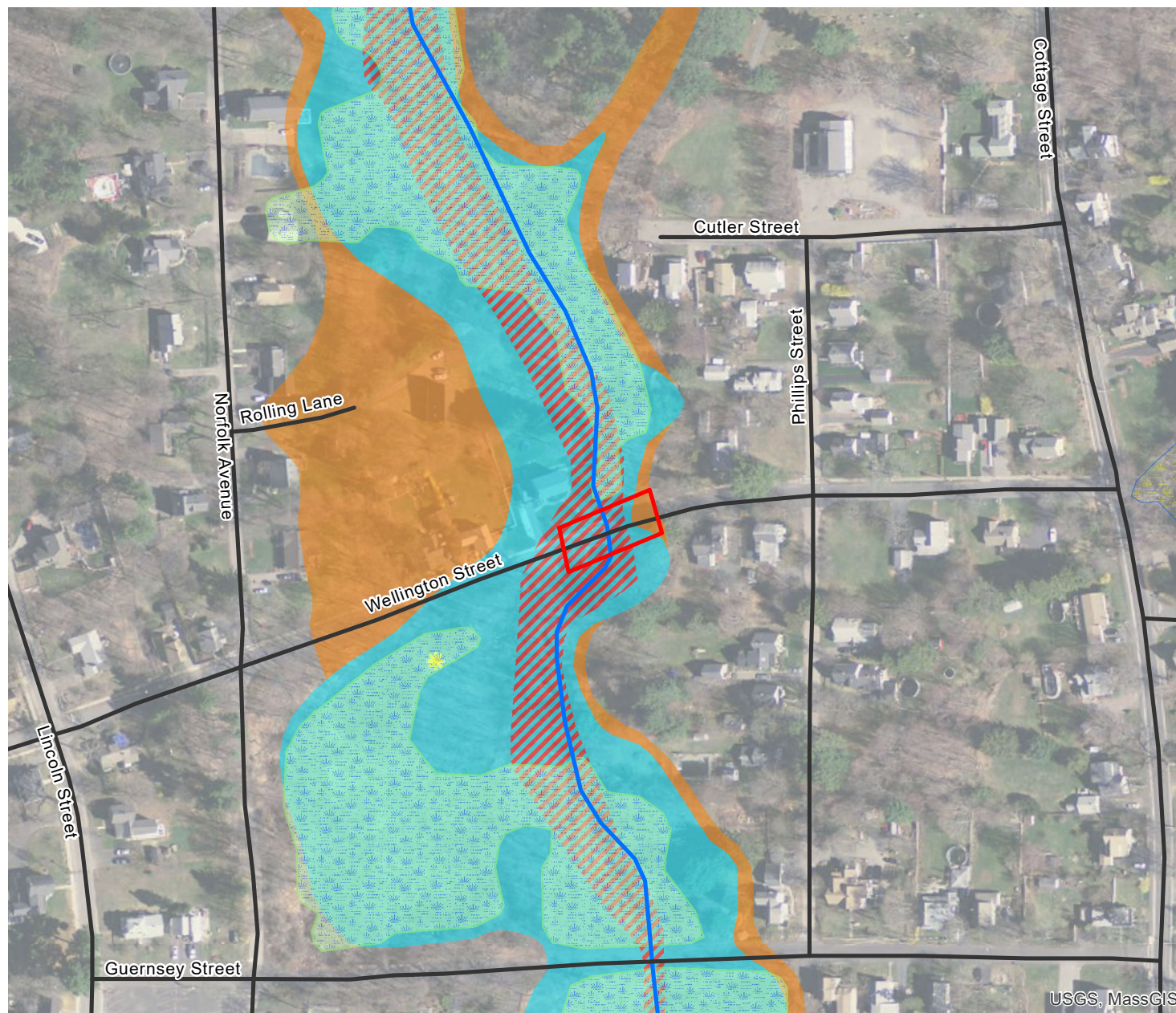
FIGURE 1

Holliston & Brentwood
Water Main, Contract 1
Medway, MA

Locus Map

Data Source: Office of Geographic and Environmental Information (MassGIS),
Commonwealth of Massachusetts Executive Office of Environmental Affairs

Weston & SampsonSM



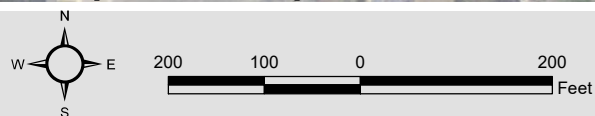
Legend

- Work Area
- Perennial Stream
- Intermittent Stream
- Marsh/Bog
- Wooded marsh
- Cranberry Bog
- Salt Marsh
- Open Water
- Reservoir (with PWSID)
- Tidal Flats
- Beach/Dune
- ACECs
- ACECs
- NHESP Estimated Habitats of Rare Wildlife
- NHESP Priority Habitats of Rare Species
- NHESP Certified Vernal Pools
- NHESP Potential Vernal Pools
- Cold Water Fisheries
- FEMA National Flood Hazard Layer**
- Flood Zone Designations**
- A: 1% Annual Chance of Flooding, no BFE
- AE: 1% Annual Chance of Flooding, with BFE
- AE: Regulatory Floodway
- AH: 1% Annual Chance of 1-3ft Ponding, with BFE
- AO: 1% Annual Chance of 1-3ft Sheet Flow Flooding, with Depth
- VE: High Risk Coastal Area
- D: Possible But Undetermined Hazard
- X: 0.2% Annual Chance of Flooding
- X: Reduced Flood Risk due to Levee
- Area Not Included
- Area with no DFIRM - Paper FIRMs in Effect
- Outstanding Resource Waters**
- Public Water Supply Contributor
- ORW for ACEC
- ORW for both Water Supply and Other

FIGURE 2A

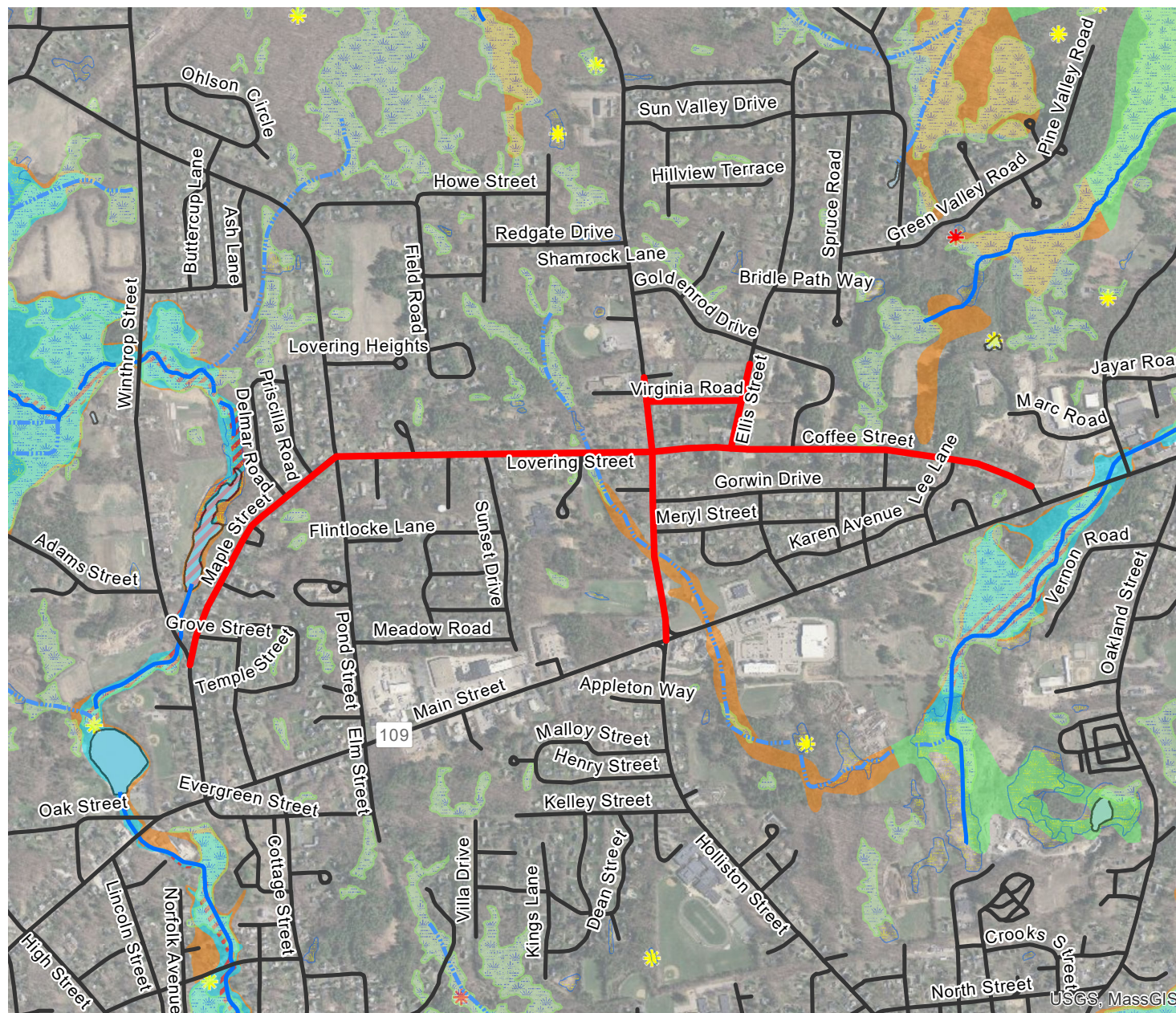
Wellington Street
Medway, MA

Environmental
Resource Map



Data Source: Office of Geographic and Environmental Information (MassGIS),
Commonwealth of Massachusetts Executive Office of Environmental Affairs

Weston & SampsonSM

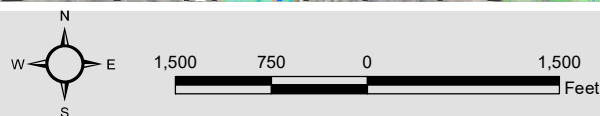


Legend

- WorkArea
- Perennial Stream
- Intermittent Stream
- Marsh/Bog
- Wooded marsh
- Cranberry Bog
- Salt Marsh
- Open Water
- Reservoir (with PWSID)
- Tidal Flats
- Beach/Dune
- ACECs
- ACECs
- NHEP Habitats
- NHEP Estimated Habitats of Rare Wildlife
- NHEP Priority Habitats of Rare Species
- * NHEP Certified Vernal Pools
- * NHEP Potential Vernal Pools
- FEMA National Flood Hazard Layer**
- Flood Zone Designations**
- A: 1% Annual Chance of Flooding, no BFE
- AE: 1% Annual Chance of Flooding, with BFE
- AE: Regulatory Floodway
- AH: 1% Annual Chance of 1-3ft Ponding, with BFE
- AO: 1% Annual Chance of 1-3ft Sheet Flow Flooding, with Depth
- VE: High Risk Coastal Area
- D: Possible But Undetermined Hazard
- X: 0.2% Annual Chance of Flooding
- X: Reduced Flood Risk due to Levee
- Area Not Included
- Area with no DFIRM - Paper FIRMs in Effect
- Outstanding Resource Waters**
- Public Water Supply Contributor
- ORW for ACEC
- ORW for both Water Supply and Other

FIGURE 2B
Lovering Street, Coffee Street,
and Associated Streets
Medway, MA

Environmental
Resource Map



Data Source: Office of Geographic and Environmental Information (MassGIS),
Commonwealth of Massachusetts Executive Office of Environmental Affairs

Weston & SampsonSM

Appendix D

SECTION 01562

DUST CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION:

This section of the specification covers the control of dust via water, complete.

PART 2 - PRODUCTS

2.01 WATER:

- A. Water shall not be brackish and shall be free from oil, acid, and injurious alkali or vegetable matter.

PART 3 - EXECUTION

3.01 APPLICATION:

- A. Water may be sprinkler applied with equipment including a tank with gauge-equipped pressure pump and a nozzle-equipped spray bar.
- B. Water shall be dispersed through the nozzle under a minimum pressure of 20 pounds per square inch, gauge pressure.

END OF SECTION

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SECTION 01570

ENVIRONMENTAL PROTECTION

PART 1 – GENERAL

1.01 DESCRIPTION:

- A. The work covered by this section of the specifications consists of furnishing all labor, materials, tools and equipment and performing all work required for the prevention of environmental pollution during and as a result of construction operations under this contract.
- B. The requirements set forth in this section of the specifications apply to construction in and adjacent to wetlands, unless otherwise specifically stated.
- C. All work under this Contract shall be in accordance with the Conservation Commissions' Orders of Conditions as well as any conditional requirements applied, all of which are attached to Section 00890, PERMITS.
- D. Prior to commencement of work, the Contractor shall meet with representatives of the Engineer to develop mutual understandings relative to compliance of the environmental protection program.

1.02 SUBMITTALS:

- A. The Contractor shall submit for approval six sets of details and literature fully describing environmental protection methods to be employed in carrying out construction activities within 100 feet of wetlands or across areas designated as wetlands.

PART 2 - PRODUCTS

2.01 SILT FENCE:

- A. The silt fence shall consist of a 3-foot wide continuous length sediment control fabric, stitched to a mesh backing, and stapled to preweathered oak posts installed as shown on the drawings. The oak posts shall be 1-1/4-inches by 1-1/4-inches (Minimum Dimension) by 48-inches and shall be tapered. The bottom edge of the silt fence shall be buried as shown on the drawings.
- B. The silt fence shall be DOT Silt Fence PPDM3611, as manufactured by U.S. Silt & Site Supply/Getsco, Concord, NH, or approved equal.
- C. Silt fence properties:

<u>Physical Properties</u>	<u>Test Method</u>	<u>Minimum Value</u>
Grab Strength, lbs.	ASTM-D-4632	124
Grab Elongation, %	ASTM-D-4632	15

Mullen burst, psi	ASTM-D-3786	300
Puncture, lbs.	ASTM-D-4833	65
Trapezoidal Tear, lbs.	ASTM-D-4833	65
UV Resistance ² , %3	ASTM-D-4355	80@500 hrs.
AOS, US Sieve No.	ASTM-D-4751	30
Flow Rate, gal/min/sq ft	ASTM-D-4491	10
Permittivity, (1/sec) gal/min/sq ft	ASTM-D-4491	0.05 sec ⁻¹

2.02 CATCH BASIN PROTECTION:

- A. To trap sediment and to prevent sediment from clogging drainage systems, catch basin protection in the form of a siltation sack (Siltsack as manufactured by ACF Environmental, Inc. or approved equal) shall be provided as approved by the Engineer.

2.03 COMPOST FILTER TUBES:

- A. Silt socks shall be a tubular filter sock of mesh fabric. The fabric will have openings of between 1/8" to 1/4" diameter. The mesh material will either photo degrade within one year or be made of nylon with a life expectancy of 24 months. The sock shall be filled with a mix of composted leaf mulch, bark mulch and wood chips that have been composted for at least one year. The sock will have a minimum diameter of 12-inches.

PART 3- EXECUTION

3.01 NOTIFICATION AND STOPPAGE OF WORK:

- A. The Engineer will notify the Contractor in writing of any non-compliance with the provisions of the Order of Conditions. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or his authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails to act promptly, the Owner may order stoppage of all or part of the work through the Engineer until satisfactory corrective action has been taken. No claim for an extension of time or for excess costs or damage incurred by the Contractor as a result of time lost due to any stop work orders shall be made unless it was later determined that the Contractor was in compliance.

3.02 AREA OF CONSTRUCTION ACTIVITY:

- A. Insofar as possible, the Contractor shall confine his construction activities to those areas defined by the plans and specifications. All land resources within the project boundaries and outside the limits of permanent work performed under this contract shall be preserved in their present condition or be restored to a condition after completion of construction at least equal to that which existed prior to work under this contract.

3.03 PROTECTION OF WATER RESOURCES:

- A. The Contractor shall not pollute streams, lakes or reservoirs with fuels, oils, bitumens, calcium chloride, acids or other harmful materials. It is the Contractor's responsibility to

comply with all applicable Federal, State, County and Municipal laws regarding pollution of rivers and streams.

- B. Special measures should be taken to insure against spillage of any pollutants into public waters.

3.04 LOCATION OF STORAGE AREAS:

- A. The location of the Contractor's storage areas for equipment and/or materials shall be upon cleared portions of the job site or areas to be cleared as a part of this project, and shall require written approval of the Engineer. Plans showing storage facilities for equipment and materials shall be submitted for approval of the Engineer.
- B. No excavated materials or materials used in backfill operations shall be deposited within a minimum distance of one hundred (100) feet of any watercourse or any drainage facility. Adequate measures for erosion and sediment control such as the placement of baled straw or line of straw wattles or compost filter tubes around the downstream perimeter of stockpiles shall be employed to protect any downstream areas from siltation.
- C. There shall be no storage of equipment or materials in areas designated as wetlands.
- D. The Engineer may designate a particular area or areas where the Contractor may store materials used in his operations.

3.05 DISCHARGE OF DEWATERING OPERATIONS:

- A. Any water that is pumped and discharged from the trench and/or excavation as part of the Contractor's water handling shall be filtered by an approved method prior to its discharge into a receiving water or drainage system.
- B. Under no circumstances shall the Contractor discharge water to the areas designated as wetlands. When constructing in a wetlands area, the Contractor shall discharge water from dewatering operations directly to the nearest drainage system, stream, or waterway after filtering by an approved method.
- C. The pumped water shall be filtered through filter fabric and baled straw, a vegetative filter strip or a vegetated channel to trap sediment occurring as a result of the construction operations. The vegetated channel shall be constructed such that the discharge flow rate shall not exceed a velocity of more than 1 foot per second. Accumulated sediment shall be cleared from the channel periodically.

3.06 DUST CONTROL:

- A. During the progress of the work, the Contractor shall conduct his operations and maintain the area of his activities, including sweeping and sprinkling of streets as necessary, to minimize creation and dispersion of dust. If the Engineer decides it is

necessary to use calcium chloride for more effective dust control, the Contractor shall furnish and spread the material, as directed. Calcium chloride shall be as specified under Section 01562, DUST CONTROL.

- B. Calcium Chloride shall not be used for dust control within a drainage basin or in the vicinity of any source of potable water.

3.07 ERECTION AND MAINTENANCE OF SILT FENCE:

- A. Where indicated on the drawings or where required by the Engineer, the Contractor shall erect and maintain a temporary silt fence. In areas designated as wetlands, the Contractor shall line the limits of the construction easement with a silt fence. The silt fence shall be used specifically to contain sediment from runoff water and to minimize environmental damage caused by construction.

3.08 CATCH BASIN PROTECTION:

- A. Catch basin protection shall be used for every catch basin, shown on the plans or as required by the Engineer, to trap sediment and prevent it from clogging drainage systems and entering wetlands. Siltation sacks shall be securely installed under the catch basin grate. Care shall be taken to keep the siltation sacks from breaking apart or clogging. All deposited sediment shall be removed periodically and at times prior to predicted precipitation to allow free drainage flow. Prior to working in areas where catch basins are to be protected, each catch basin sump shall be cleaned of all debris and protected. The Contractor shall properly dispose of all debris at no additional cost to the Owner.

3.09 COMPOST FILTER TUBES:

- A. The filter tubes will be staked in the ground using wooden stakes driven at 4-foot intervals. The wooden stakes will be placed at a minimum depth of 24-inches into the ground.

END OF SECTION

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SECTION 01740

CLEANING UP

PART 1 - GENERAL

1.01 DESCRIPTION:

The Contractor must employ at all times during the progress of its work adequate cleanup measures and safety precautions to prevent injuries to persons or damage to property. The Contractor shall immediately, upon request by the Engineer provide adequate material, equipment and labor to cleanup and make safe any and all areas deemed necessary by the Engineer.

PART 2 - PRODUCTS

Not applicable

PART 3 - EXECUTION

3.01 DAILY CLEANUP:

- A. The Contractor shall clean up, at least daily, all refuse, rubbish, scrap and surplus material, debris and unneeded construction equipment resulting from the construction operations and sweep the area. The site of the work and the adjacent areas affected thereby shall at all times present a neat, orderly and workmanlike appearance.
- B. Upon written notification by the Engineer, the Contractor shall within 24 hours clean up those areas, which in the Engineer's opinion are in violation of this section and the above referenced sections of the specifications.
- C. If in the opinion of the Engineer, the referenced areas are not satisfactorily cleaned up, all other work on the project shall stop until the cleanup is satisfactory.

3.02 MATERIAL OR DEBRIS IN DRAINAGE FACILITIES:

- A. Where material or debris has washed or flowed into or has been placed in existing watercourses, ditches, gutters, drains, pipes, structures, such material or debris shall be entirely removed and satisfactorily disposed of during progress of the work, and the ditches, channels, drains, pipes, structures, and work shall, upon completion of the work, be left in a clean and neat condition.

3.03 REMOVAL OF TEMPORARY BUILDINGS, STRUCTURES AND EQUIPMENT:

- A. On or before completion of the work, the Contractor shall, unless otherwise specifically required or permitted in writing, tear down and remove all temporary buildings and structures it built; shall remove all temporary works, tools and machinery or other construction equipment it furnished; shall remove all rubbish from any grounds which it has occupied;

shall remove silt fences and hay bales used for trapping sediment; and shall leave the roads and all parts of the property and adjacent property affected by its operations in a neat and satisfactory condition.

3.04 RESTORATION OF DAMAGED PROPERTY:

- A. The Contractor shall restore or replace, when and as required, any property damaged by its work, equipment or employees, to a condition at least equal to that existing immediately prior to the beginning of operations. To this end the Contractor shall do as required all necessary highway or driveway, walk and landscaping work. Materials, equipment, and methods for such restoration shall be as approved by the Engineer.

3.05 FINAL CLEANUP:

- A. Before acceptance by the Owner, the Contractor shall perform a final cleanup to bring the construction site to its original or specified condition. This cleanup shall include removing all trash and debris off of the premises. Before acceptance, the Engineer shall approve the condition of the site.

END OF SECTION

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Appendix E

AFFIDAVIT OF SERVICE

Under the Massachusetts Wetlands Protection Act

I, Alex Gaspar, hereby certify under the Pains and Penalties of Perjury that on March 26, 2020 I gave notification to abutters in compliance with the second paragraph of Massachusetts General Laws, Chapter 131, Section 40, and the DEP Guide to Abutter Notification dated, April 8, 1994, in connection with the following matter:

A Notice of Intent has been filed under the Massachusetts Wetlands Protection Act by Town of Medway with the Medway Conservation Commission on March 26, 2020 for property located on multiple streets in the Holliston & Brentwood area in Medway

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



Name: Alex Gaspar
Title: Environmental Scientist
Organization: Weston & Sampson Engineers, Inc

March 26, 2020
DATE

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: Town of Medway
David D'Amico, Director of Public Works
- B. The name of the owner is: same as above
- C. The applicant has filed a Notice of Intent with the Medway Conservation Commission seeking permission to alter an Area Subject to Protection under the Wetlands Protection Act (General Laws Chapter 131, Section 40). **The Work includes the installation of water main on Wellington Street, Lovering Street, Coffee Street, Maple Street, Holliston Street, Virginia Road, and Ellis Street**
- D. The address of the lot(s) where the activity is proposed: **see above roads**
- E. Copies of the Notice of Intent may be examined at **155 Village Street** between the hours of **8:00 AM** and **5:00 PM** on **Monday – Friday**. For more information call the Medway Conservation Commission at **(508) 533-3292**
- F. Information regarding the project, date, time and place of the public hearing may be obtained from Weston & Sampson Engineers, by contacting Alex Gaspar at **978-532-1900 ext. 2422** between the hours of **8:00 – 5:00** on the following days of the week: **Monday – Friday** or the Medway Conservation Commission at **(508) 533-3292** between the hours of **8:00 AM** and **5:00 PM** on **Monday – Friday**.

NOTE: This meeting will be held virtually through Zoom. The information for the Zoom Meeting will be posted on the Agenda on the Town website. You may also contact Bridget Graziano at bgraziano@townofmedway.org for information regarding the meeting.

NOTE: Notice of the meeting of the Conservation Commission, including its date, time and place will be posted in the Town Hall not less than forty-eight (48) hours in advance of the meeting.

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

Appendix F



westonandsampson.com

55 Walkers Brook Drive, Suite 100
Reading, MA 01867
tel: 978.532.1900

Wetland Delineation Report



March 2020

TOWNS OF
Medway
MASSACHUSETTS

Coffee Street and Wellington Street
Medway, MA



TABLE OF CONTENTS

	Page
1.0 SITE DESCRIPTION	1-1
2.0 DELINEATION OF WETLAND RESOURCES	2-1
2.1 Site Observations	2-1
2.2 Wetland Delineation Methodology	2-1
2.3 Bordering Vegetated Wetlands (BVW)	2-2
2.4 Bank	2-4
2.5 Other Protected Areas	2-5
3.0 SUMMARY	3-1
4.0 REFERENCES	4-1

FIGURES

Figure 1	Wetlands Field Map
Figure 2	USGS Topographic Map
Figure 3	FEMA FIRM Map
Figure 4	Environmental Resources Map

APPENDICES

Appendix A	ACOE Data Forms
Appendix B	Site Photographs

1.0 SITE DESCRIPTION

On March 11, 2020, the presence of wetland resources was investigated at the vicinity of 12 Wellington Street and 25 Coffee Street in Medway, MA. These investigation areas are located within residential neighborhoods. 12 Wellington Street is located adjacent to a perennial stream crossing, Chicken Brook. 25 Coffee Street is located adjacent to an intermittent street crossing. Please see Figure 1 (Wetlands Field Map) and Figure 2 (USGS Topographic Map) of this report for the investigation area.

Wetland resource areas, including bordering vegetated wetlands, perennial stream banks and intermittent stream banks, were identified and flagged in the field using pink flagging by a Weston & Sampson employee who is trained in the wetland delineation process using the Massachusetts Department of Environmental Protection (MassDEP) and the US Army Corps of Engineers methodology. A further description of these wetland resource areas is presented in the following sections.

2.0 DELINEATION OF WETLAND RESOURCES

2.1 Site Observations

The Weston & Sampson wetland scientist, trained in the ACOE Wetland Delineation Manual and Massachusetts Department of Environmental Protection (MassDEP) Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetland Protection Act guidance document, observed the following protected wetland resources at the site:

- Bordering Vegetated Wetlands (BVW)
- Perennial Stream – Bank
- Intermittent Stream – Bank

Field data were recorded on United States Army Corps of Engineers (ACOE) Wetland Delineation Data Forms. See Appendix A for completed ACOE data forms and Appendix B for site photographs.

2.2 Wetland Delineation Methodology

Wetland delineation assessment was conducted in accordance to the Massachusetts Wetland Protection Act Regulations (310 CMR 10.55(2)(c)), Massachusetts Department of Environmental Protection (MassDEP) Delineating Bordering Vegetated Wetlands Under the Massachusetts Protection Act (March 1995), and ACOE Wetland Manual (Technical Report Y-87-1).

The bordering vegetated wetlands (BVW) delineation methodology included the characterization of vegetation, soil any hydrologic conditions in both wetland and upland areas to identify the transitional area, which was used as the BVW limit. Pink flags with distinct flag numbers are left in the field to show wetland resource area limits.

Vegetation, hydrology and soils are assessed in both wetland and upland areas to accurately place the wetland limits at each site. The percentage of vegetative species was estimated by creating sample plots. Sample plot radius for trees, shrubs, herb and woody vine strata was 30', 15', 5' and 30', respectively. After creating the sample plot areas, the percent basal area coverage of each species within the monitoring plot was recorded. Using these field observations, the percent dominance of each species within its stratum was calculated. The 50/20 Rule was then used to determine dominance.

.....

Dominant species were considered the most abundant plant species (when ranked in descending order of abundance and cumulatively totaled) that immediately exceeds 50% of the total dominance measure (basal area) for the stratum, plus any additional species comprising 20% or more of the total dominance measure for the stratum. Once the dominant species were determined, they were treated equally to determine the presence of hydrophytic vegetation. If the number of dominant species with a Wetland Indicator Status of FAC (excluding FAC-), FACW or OBL is greater than, or equal to, the number of remaining dominant species, the area was considered a jurisdictional wetland resource area based on vegetation.

A soil sample from each wetland sample plot is also taken. Each soil sample goes to a depth of at least 12 inches. The soil is characterized to determine if the soil sample is considered a hydric (wetland) soil. Soil samples, including mottles, are characterized based on color using Munsell Soil-Color charts as a color reference.

The general area is then assessed for hydrologic conditions, including, but not limited to, site inundation, depth to free water, depth of soil saturation, water marks, drift lines, sediment deposits, water stained leaves.

2.3 Bordering Vegetated Wetlands (BVW)

A total of five BVW series were delineated at the site, four BVW series located off Wellington Street and One BVW Series located off Coffee Street. The limit of the BVW resource area was determined by locating the transitional area between wetland and upland vegetation, soils and hydrologic conditions.

Wellington Street

The BVW areas located off Wellington Street are associated with the perennial stream Chicken Brook. Wetland flags left in the field included:

- BVW-A1 through BVW-A3 (BVW "A" series)
- BVW-B1 through BVW-B6 (BVW "B" series)
- BVW-C1 through BVW-C10 (BVW "C" series)
- BVW-D1 through BVW-D3 (BVW "D" series)

BWV C and BWV D series are part of the same wetland system separated by Wellington Street and connected via a culvert.

Dominant vegetation within Wellington Street bordering vegetated wetlands included red maple (*Acer rubrum*), speckled alder (*Alnus incana*), morrows honeysuckle (*Lonicera morrowii*), redosier dogwood (*Cornus sericea*), pussy willow (*Salix discolor*), skunk cabbage (*Symplocarpus foetidus*), Japanese knotweed (*Polygonum cuspidatum*), and tussock sedge (*Carex stricta*). Soils within the BWVs were composed of thick organic layers and fine sandy loam with redoximorphic features. Other indicators of wetland hydrology included surface water, high water table and saturation.

The upland vegetation within the investigation area was dominated by included red maple (*Acer rubrum*), white oak (*Quercus alba*), red oak (*Quercus rubra*), American beech (*Fagus grandifolia*), Japanese barberry (*Berberis thunbergii*), multiflora rose (*Rosa multiflora*), morrows honeysuckle (*Lonicera morrowii*), perennial ryegrass (*Lolium perenne*), Moss spp., and poison ivy (*Toxicodendron radicans*). Soils within the uplands were composed of fine sandy loam. No indicators of wetland hydrology were observed.

A 100-foot buffer zone is associated with the BWV resource area based on 310 CMR 10.02 ((2)(b) of the Massachusetts Wetlands Protection Act.

Coffee Street

A single BWV resource area was located off Coffee Street. This resource area was originally flagged as an Isolated Wetland (IW) because the intermittent stream was not found until further into the delineation. As a result flagging in the field is labeled as "IW" Isolated Wetland however, this is in fact a Bordering Vegetated Wetland (BWV) due to the presence of the intermittent stream. Wetland flags left in the field included:

- IW-A1 through IW-A6 (BWV "A" series)

Dominant vegetation within the bordering vegetated wetlands included red maple (*Acer rubrum*), multiflora rose (*Rosa multiflora*), glossy buckthorn (*Frangula alnus*), highbush blueberry (*Vaccinium corymbosum*), cinnamon fern (*Osmunda cinnamomea*), and skunk cabbage (*Symplocarpus foetidus*). Soils within the BVWs were composed of very fine sandy loam with redoximorphic features. Other indicators of wetland hydrology included high water table and saturation.

The upland within the investigation area was composed of Coffee Street and the associated shoulders. No vegetation soils or hydrology were observed.

A 100-foot buffer zone is associated with the BVW resource area based on 310 CMR 10.02 ((2)(b) of the Massachusetts Wetlands Protection Act.

2.4 Bank

Water bodies, including intermittent and perennial streams, have banks which are protected by the Massachusetts Wetland Protection Act. Bank is a wetland resource area defined by 310 CMR 10.54(2)(a) as “the portion of land surface which normally abuts and confines a water body. It occurs between a waterbody and a vegetated bordering wetland and adjacent floodplain, or, in absence of these, it occurs between a waterbody and an upland.” Vegetated banks provide valuable functions such as flood control, stormwater prevention, fisheries protection, and water quality protection. The limit of this resource area is identified by Top of Bank (TOB) which is located at the first observable break in slope or the Mean Annual Flood Level (MAFL), whichever is lower. TOB is easily identified in the field so that indicator was utilized for this wetland delineation.

Perennial Stream Bank

One perennial stream, Chicken Brook, was identified on site adjacent to 12 Wellington Street. This stream is shown as perennial on USGS stream stats and as a result is considered perennial according to the Massachusetts Wetlands Protection Act (310 CMR 10.58 (2)(a)(1)(a)).

Since the banks were near vertical, the transition from stream to upland was almost immediate. The top of bank was determined using the first break in slope. Flags left in the field included:

.....

- TOB-A1 through A15 stop (TOB "A" series)
- TOB-B1 through B11 stop (TOB "B" series)

A 100-foot buffer zone is associated with the Bank resource area per 301 CMR 10.02(2)(b).

Intermittent Stream Bank

One intermittent stream was identified on site. This stream originates at a culvert beneath Coffee Street and is not present on the current United States Geographical Survey (USGS) map. The stream is also has a watershed size of less than 0.5 square miles in size according to USGS Stream Stats which also classifies the stream as intermittent per 310 CMR 10.58 (2)(a)(1)(b-c). The boundary of the intermittent stream is was determined by locating the first observable break in slope (TOB). Wetland flags left in the field included:

- TOB-A1 through TOB-A3
- TOB-B1 through TOB-B3

Banks are subject to a 100ft buffer under the Massachusetts Wetland Protection Act per 301 CMR 10.02(2)(b).

2.5 Other Protected Areas

Weston & Sampson created environmental resources maps (see Figure 4A & B) of the site to determine the presence of other protected areas. The data source of these map layers was the Massachusetts Geographic Information System (MassGIS). These areas included:

- NHESP Priority Habitats of Rare Species
- NHESP Estimated Habitats of Rare Wildlife
- NHESP Certified and Potential Vernal Pools
- Areas of Critical Environmental Concern (ACEC)
- Outstanding Resource Waters (ORW)

Wetland resources identified in the field were also added to these maps. Based on the MassGIS information there is one potential vernal pool located adjacent to Wellington Street.

FEMA Flood Insurance Rate Maps (FIRM) were created online from the FEMA website to determine if there is a 100-year flood zone at the site. See Figure 3A & B for FIRM maps. Based on FEMA flood maps the investigation area on Coffee Street is not within the 100-year flood zone however, portions of the investigation area on Wellington Street are located within both a regulatory floodway and the 100-year flood zone.

3.0 SUMMARY

On March 11, 2020, the presence of wetland resources was investigated at the vicinity of 12 Wellington Street and 25 Coffee Street in Medway, MA. Five bordering vegetated wetlands, a perennial stream and an intermittent stream were identified and flagged at the site.

Additional environmental mapping was conducted using MassGIS data layers and FEMA FIRM mapping. This additional mapping indicates that there is a potential vernal pool located adjacent to Wellington Street. Based on FEMA flood maps the investigation area on Coffee Street is not within the 100-year flood zone however, portions of the investigation area on Wellington Street are located within both a regulatory floodway and the 100-year flood zone.

4.0 REFERENCES

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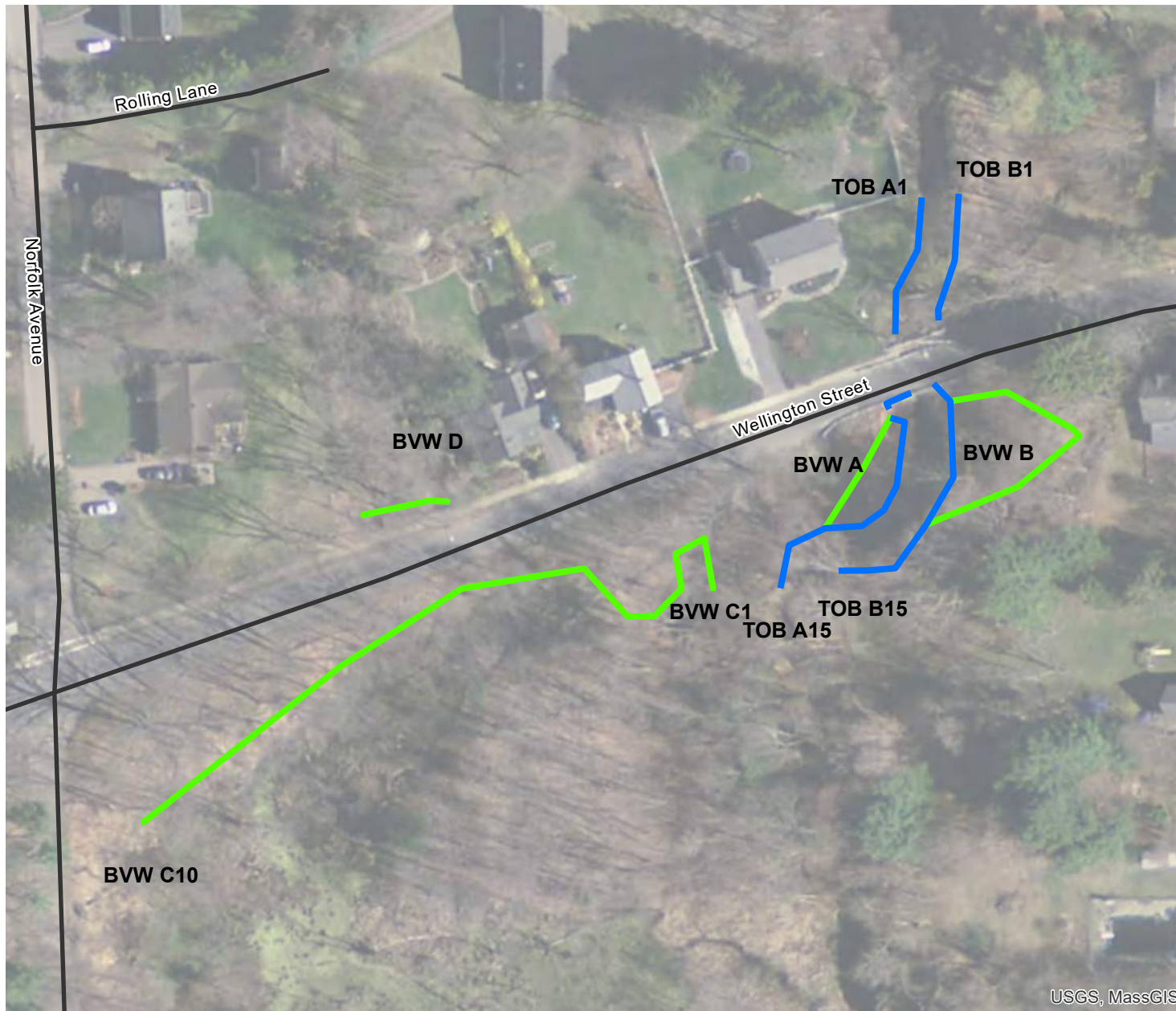
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.



Legend

- Perennial Stream Banks
- Bordering Vegetated Wetland

FIGURE 1A

Wellington Street
Medway, MA

Wetland Field Map

Weston & SampsonSM

Data Source: Office of Geographic and Environmental Information (MassGIS),
Commonwealth of Massachusetts Executive Office of Environmental Affairs



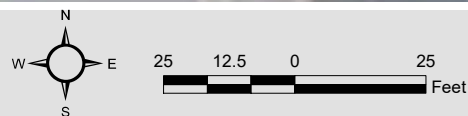
Legend

- Bordering Vegetated Wetland
- Intermittent Stream Banks

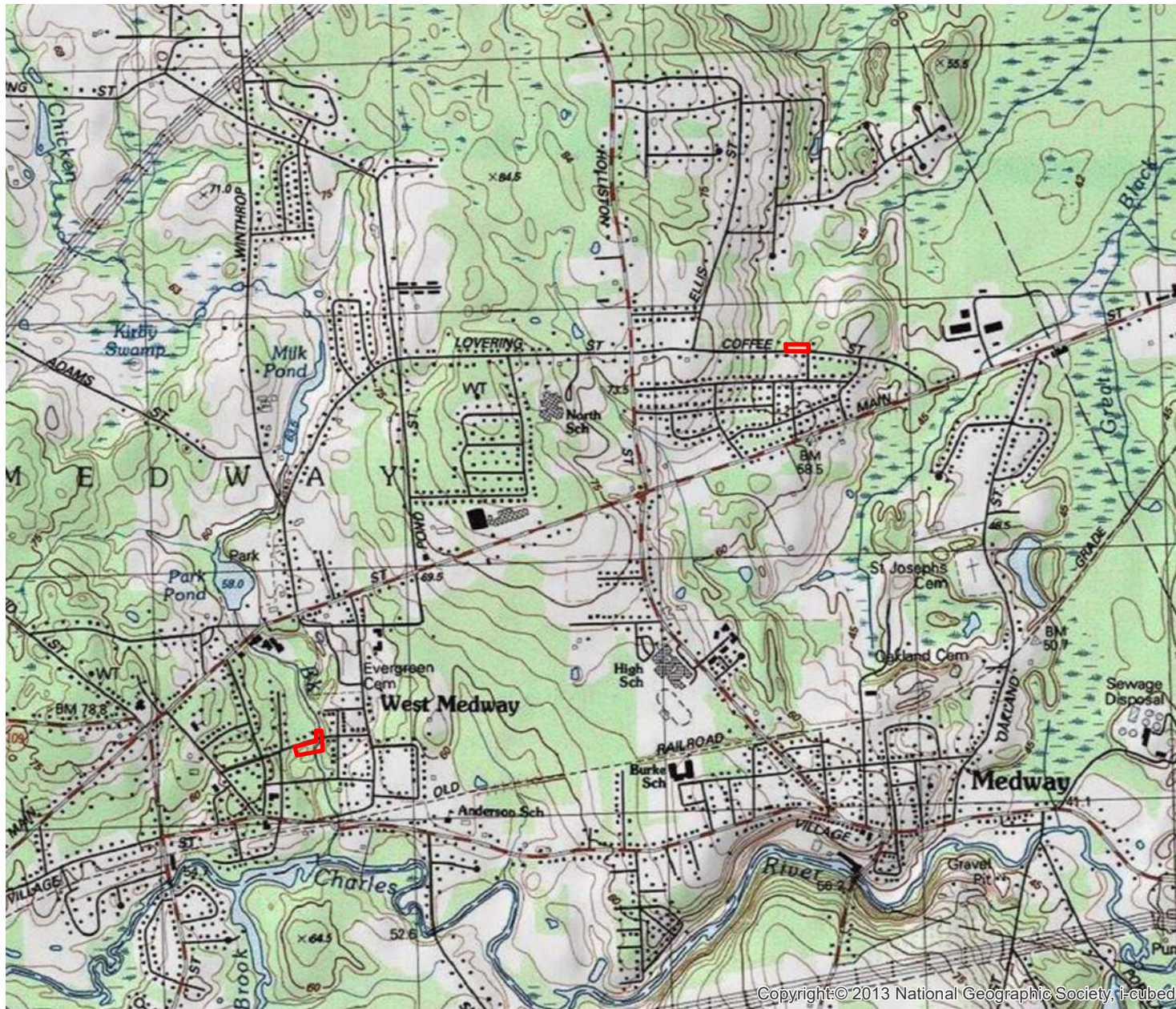
FIGURE 1B

Coffee Street
Medway, MA

Wetland Field Map



Data Source: Office of Geographic and Environmental Information (MassGIS),
Commonwealth of Massachusetts Executive Office of Environmental Affairs



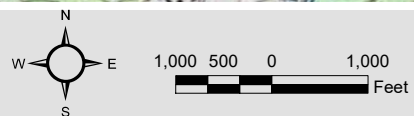
Legend

Investigation Areas

FIGURE 2

Wellington Street &
Coffee Street
Medway, MA

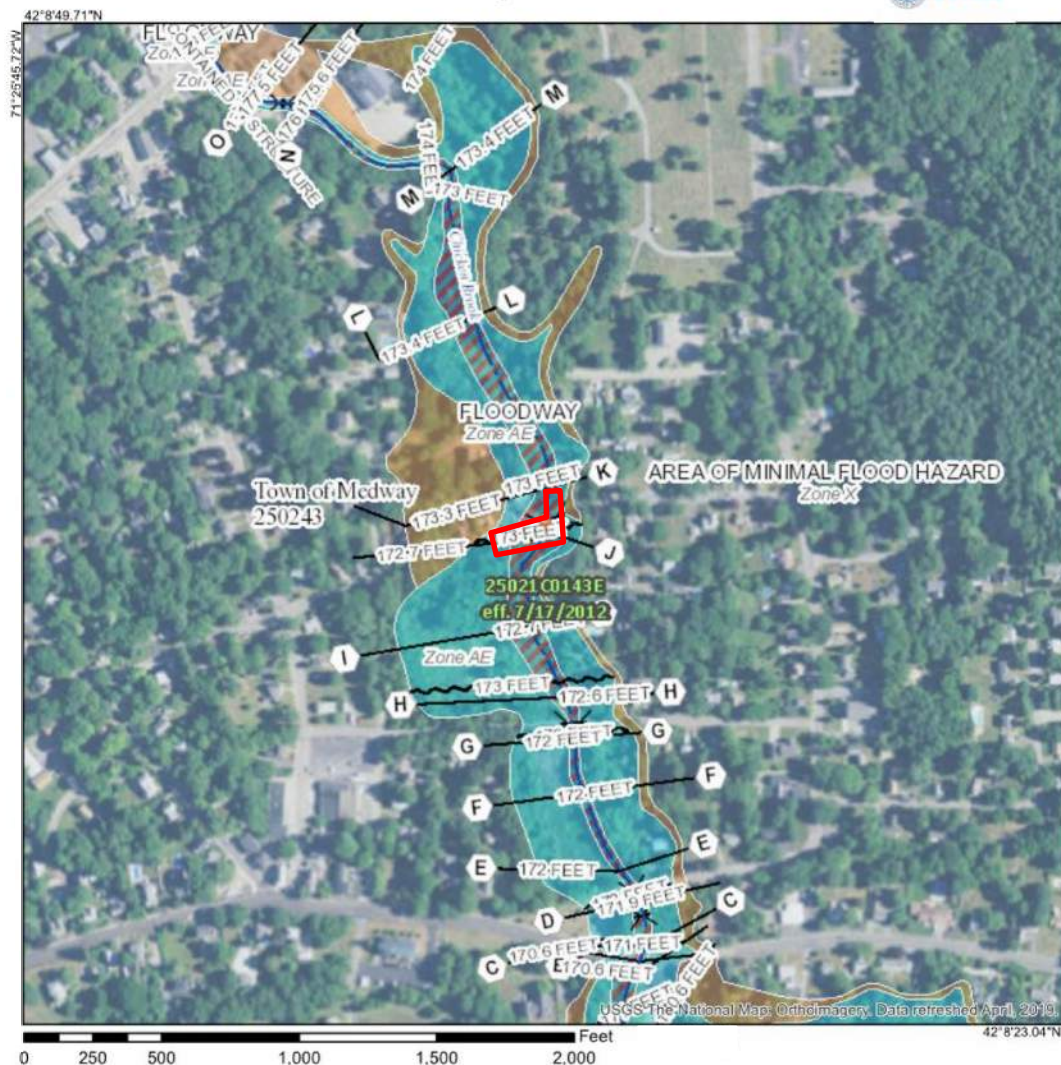
USGS Topographic Map



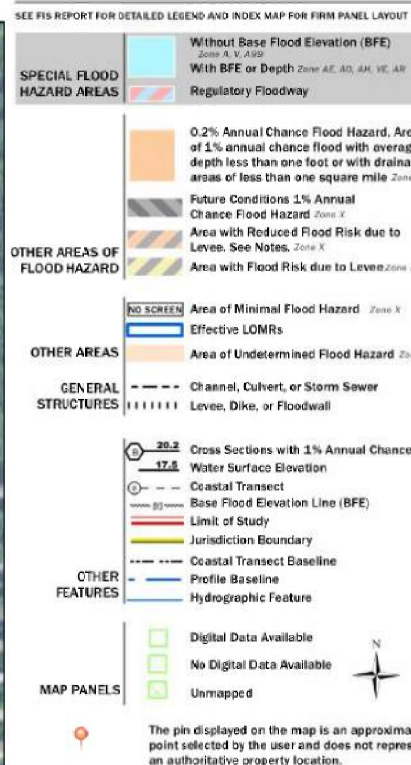
Data Source: Office of Geographic and Environmental Information (MassGIS),
Commonwealth of Massachusetts Executive Office of Environmental Affairs

Weston & Sampson

National Flood Hazard Layer FIRMette



Legend



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 3/23/2020 at 8:16:56 AM 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.

Legend

Investigation Areas

FIGURE 3A

Wellington Street
Medway, MA

FEMA Map

National Flood Hazard Layer FIRMette



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, AE, AH, VE, AR
With BFE or Depth Zone AE, AG, AH, VE, AR	
Regulatory Floodway	

0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X	
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 OF FLOOD HAZARD

NO SCREEN	Area of Minimal Flood Hazard Zone X
Effective LOMRs	
Area of Undetermined Flood Hazard Zone D	

GENERAL STRUCTURES

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

Cross Sections with 1% Annual Chance Water Surface Elevation

20.2	
17.5	

OTHER FEATURES

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 3/23/2020 at 8:14:36 AM 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 unmoderized areas cannot be used for regulatory purposes.

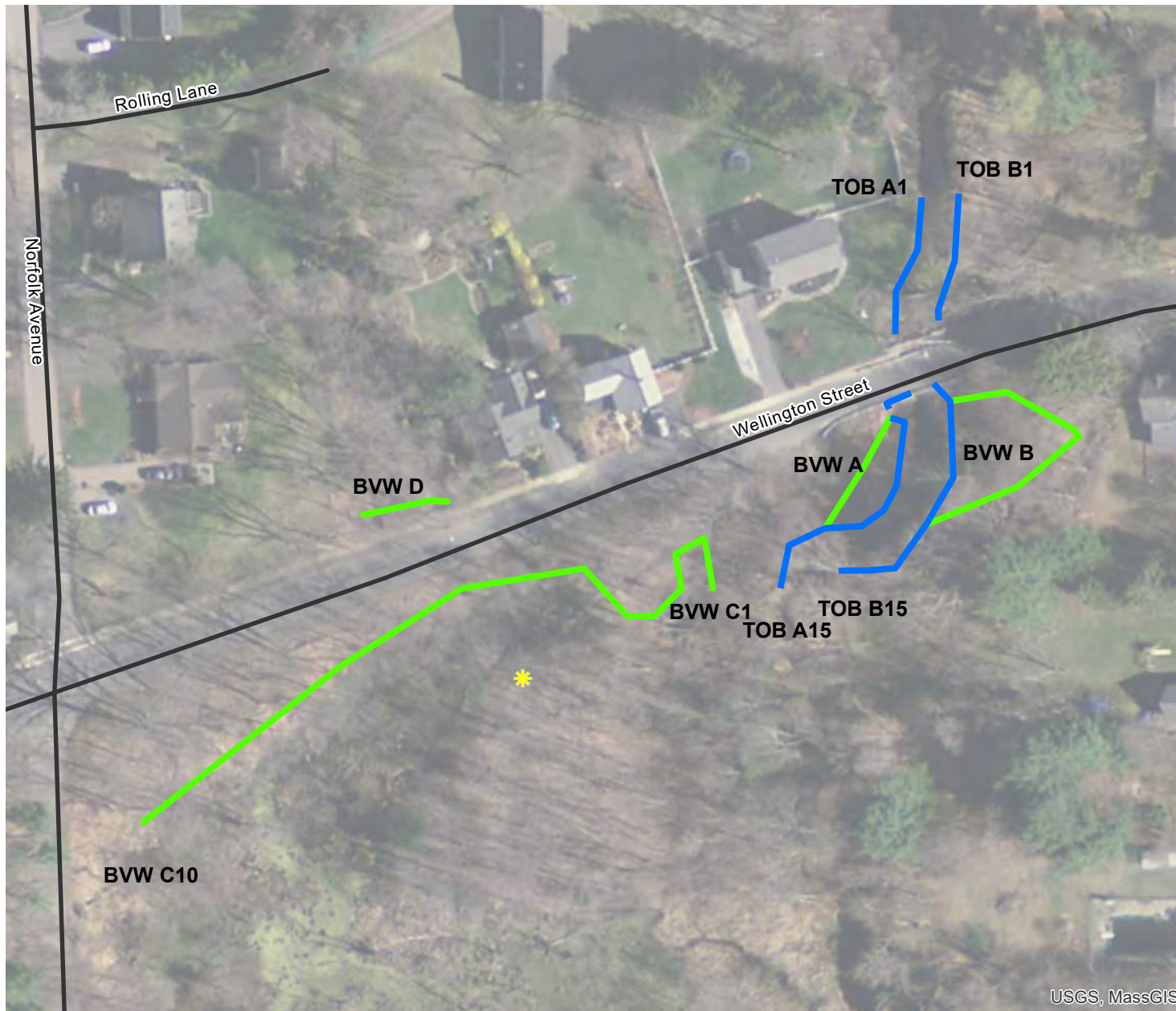
Legend

Investigation Areas

FIGURE 3B

Coffee Street
Medway, MA

FEMA Map



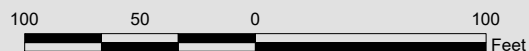
Legend

- Perennial Stream Banks
- Bordering Vegetated Wetland
- ACECs**
 - ACECs
- NHESP Habitats**
 - NHESP Estimated Habitats of Rare Wildlife
 - NHESP Priority Habitats of Rare Species
- * NHESP Certified Vernal Pools
- * NHESP Potential Vernal Pools
- Outstanding Resource Waters**
 - Public Water Supply Contributor
 - ORW for ACEC
 - ORW for both Water Supply and Other

FIGURE 4A

Wellington Street
Medway, MA

Environmental Resources Map



Data Source: Office of Geographic and Environmental Information (MassGIS),
Commonwealth of Massachusetts Executive Office of Environmental Affairs



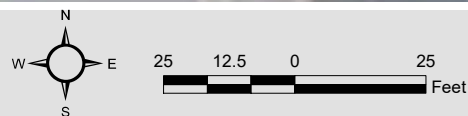
Legend

- Bordering Vegetated Wetland
- Intermittent Stream Banks
- ACECs**
 - ACECs
- NHESP Habitats**
 - NHESP Estimated Habitats of Rare Wildlife
 - NHESP Priority Habitats of Rare Species
 - * NHESP Certified Vernal Pools
 - * NHESP Potential Vernal Pools
- Outstanding Resource Waters**
 - Public Water Supply Contributor
 - ORW for ACEC
 - ORW for both Water Supply and Other

FIGURE 4B

Coffee Street
Medway, MA

Environmental Resources Map



Data Source: Office of Geographic and Environmental Information (MassGIS),
Commonwealth of Massachusetts Executive Office of Environmental Affairs

APPENDIX A

US ACOE Data Forms

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Wellington Street City/County: Medway Sampling Date: 3/11/2020
 Applicant/Owner: _____ State: MA Sampling Point: BVW Up
 Investigator(s): DKB Section, Township, Range: _____ Near A2
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): None
 Slope (%): 0-1% Lat: 42° 8' 35.88"N Long: 71° 25' 27.09"W Datum: _____
 Soil Map Unit Name: Swansea muck NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.) Partially grassy gravel area that appears to be used for parking.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION – Use scientific names of plants.

 BVW Up
 Sampling Point: Near A2

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>red maple (Acer rubrum)</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
2. <u>American beech (Fagus grandifolia)</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>15</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>11</u> x 3 = <u>33</u> FACU species <u>35</u> x 4 = <u>140</u> UPL species _____ x 5 = _____ Column Totals: <u>46</u> (A) <u>173</u> (B) Prevalence Index = B/A = <u>3.76</u>
1. <u>Japanese barberry (Berberis thunbergii)</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>morrows honeysuckle (Lonicera morrowii)</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>10</u> = Total Cover				
Herb Stratum (Plot size: <u>5ft</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>perennial ryegrass (Lolium perenne)</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>25</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30ft</u>)				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.
1. <u>poison ivy (Toxicodendron radicans)</u>	<u>1</u>	<u>Yes</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>1</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
Japanese knotweed is invasive and is capable of adapting to wetland areas. According to the USDA knotweed frequently poses a problem to areas adjacent to streams. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1081649.pdf				

[illegible]

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

Restrictive Layer (if observed):

Hydric Soil Present? Yes No ☒

Northcentral and Northeast Region – Interim Version

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Wellington Street City/County: Medway Sampling Date: 3/11/2020
 Applicant/Owner: _____ State: MA Sampling Point: BVW Wet
 Investigator(s): DKB Section, Township, Range: _____ Near A2
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): None
 Slope (%): 0-1% Lat: 42° 8' 35.88"N Long: 71° 25' 27.09"W Datum: _____
 Soil Map Unit Name: Swansea muck NWI classification: PEM1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: (Explain alternative procedures here or in a separate report.) Japanese knotweed is invasive and is capable of adapting to wetland areas. According to the USDA knotweed frequently poses a problem to areas adjacent to streams. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1081649.pdf	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>6"</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>4"</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Adjacent to perennial stream.		

VEGETATION – Use scientific names of plants.

BVW Wet

 Sampling Point: Near A2

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>N/A</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
		<u>0</u>	= Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species <u>95</u></td> <td>x 4 = <u>380</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>95</u> (A)</td> <td><u>380</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4</u>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species <u>95</u>	x 4 = <u>380</u>	UPL species _____	x 5 = _____	Column Totals: <u>95</u> (A)	<u>380</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = _____																	
FACW species _____	x 2 = _____																	
FAC species _____	x 3 = _____																	
FACU species <u>95</u>	x 4 = <u>380</u>																	
UPL species _____	x 5 = _____																	
Column Totals: <u>95</u> (A)	<u>380</u> (B)																	
		<u>0</u>	= Total Cover															
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)																		
1. <u>N/A</u>																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
		<u>0</u>	= Total Cover															
Herb Stratum (Plot size: <u>5ft</u>)																		
1. <u>Japanese knotweed (Polygonum cuspidatum)</u>	<u>90</u>	<u>Yes</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input checked="" type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>garlic mustard (Alliaria petiolata)</u>	<u>5</u>	<u>No</u>	<u>FACU</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
12. _____																		
		<u>95</u>	= Total Cover															
Woody Vine Stratum (Plot size: <u>30ft</u>)																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
		<u>0</u>	= Total Cover															
Hydrophytic Vegetation Present? Yes <u>X</u> No _____																		
Remarks: (Include photo numbers here or on a separate sheet.) Japanese knotweed is invasive and is capable of adapting to wetland areas. According to the USDA knotweed frequently poses a problem to areas adjacent to streams. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1081649.pdf																		

[illegible]

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Wellington Street City/County: Medway Sampling Date: 3/11/2020
 Applicant/Owner: _____ State: MA Sampling Point: BVW Up
 Investigator(s): DKB Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): None
 Slope (%): 0-1% Lat: 42° 8' 36.00"N Long: 71° 25' 26.16"W Datum: _____
 Soil Map Unit Name: Swansea muck NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION – Use scientific names of plants.

BVW Up
Sampling Point: Near B1

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>white oak (Quercus alba)</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25</u> (A/B)														
2. <u>red maple (Acer rubrum)</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>35</u>	= Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>75</u></td> <td>x 4 = <u>300</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>85</u> (A)</td> <td><u>330</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.88</u>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>75</u>	x 4 = <u>300</u>	UPL species _____	x 5 = _____	Column Totals: <u>85</u> (A)	<u>330</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = _____																	
FACW species _____	x 2 = _____																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>75</u>	x 4 = <u>300</u>																	
UPL species _____	x 5 = _____																	
Column Totals: <u>85</u> (A)	<u>330</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)																		
1. <u>N/A</u>	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u>	= Total Cover															
Herb Stratum (Plot size: <u>5ft</u>)																		
1. <u>perennial ryegrass (Lolium perenne)</u>	<u>50</u>	<u>Yes</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>moss spp.</u>	<u>50</u>	<u>Yes</u>	<u>N/A</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>100</u>	= Total Cover															
Woody Vine Stratum (Plot size: <u>30ft</u>)																		
1. <u>N/A</u>	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u>	= Total Cover															
Remarks: (Include photo numbers here or on a separate sheet.)																		

[illegible]

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

Restrictive Layer (if observed):

Hydric Soil Present? Yes No ☒

Northcentral and Northeast Region – Interim Version

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Wellington Street City/County: Medway Sampling Date: 3/11/2020
 Applicant/Owner: _____ State: MA Sampling Point: BVW Wet
 Investigator(s): DKB Section, Township, Range: _____ Near B5
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): None
 Slope (%): 0-1% Lat: 42° 8' 36.11"N Long: 71° 25' 26.45"W Datum: _____
 Soil Map Unit Name: Swansea muck NWI classification: PEM1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>0 "</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>0 "</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0 "</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Adjacent to perennial stream.		

Dominance Test worksheet:

Percent of Dominant Species That Are OBL, FACW, or FAC:	75	(A/B)
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$$\text{Prevalence Index} = B/A = 2.86$$

☐ Rapid Test for Hydrophytic Vegetation
☒ Dominance Test is >50%
☐ Prevalence Index is $\leq 3.0^1$
☐ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Yes X No

Ready, Fire, Steady! (1st size: _____, _____)

1. _____

2. _____

3. _____

4. _____

0

Remarks: (Include photo numbers here or on a separate sheet.)

[illegible]

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Wellington Street City/County: Medway Sampling Date: 3/11/2020
 Applicant/Owner: _____ State: MA Sampling Point: BVW Up
 Investigator(s): DKB Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): None
 Slope (%): 0-1% Lat: 42° 8' 35.78"N Long: 71° 25' 30.64"W Datum: _____
 Soil Map Unit Name: Swansea muck NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION – Use scientific names of plants.

BVW Up
Sampling Point: Near B1

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>red maple (Acer rubrum)</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>17</u> (A/B)
2. <u>red oak (Quercas rubra)</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>25</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>multiflora rose (Rosa multiflora)</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>55</u> x 4 = <u>220</u> UPL species _____ x 5 = _____ Column Totals: <u>70</u> (A) <u>265</u> (B) Prevalence Index = B/A = <u>3.79</u>
2. <u>morrows honeysuckle (Lonicera morrowii)</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>20</u> = Total Cover				
Herb Stratum (Plot size: <u>5ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>perennial ryegrass (Lolium perenne)</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>moss spp.</u>	<u>25</u>	<u>Yes</u>	<u>N/A</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>50</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>N/A</u>	_____	_____	_____	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

[illegible]

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

Restrictive Layer (if observed):

Hydric Soil Present? Yes _____ No X

Northcentral and Northeast Region – Interim Version

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Wellington Street City/County: Medway Sampling Date: 3/11/2020
 Applicant/Owner: _____ State: MA Sampling Point: BVW Wet
 Investigator(s): DKB Section, Township, Range: _____ Near C7
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): None
 Slope (%): 0-1% Lat: 42° 8' 36.11"N Long: 71° 25' 26.45"W Datum: _____
 Soil Map Unit Name: Swansea muck NWI classification: PEM1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>0 "</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>0 "</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0 "</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION – Use scientific names of plants.

BVW Wet
Sampling Point: Near C7

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>speckled alder (Alnus incana)</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>10</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)				
1. <u>pussy willow (Salix discolor)</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>redosier dogwood (Cornus sericea)</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>20</u> = Total Cover				
Herb Stratum (Plot size: <u>5ft</u>)				
1. <u>tussock sedge (Carex stricta)</u>	<u>5</u>	<u>Yes</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>5</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30ft</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Histic Epipedon (A2)	<input type="checkbox"/>
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>
<input type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>
<input type="checkbox"/>	Stratified Layers (A5)	<input type="checkbox"/>
<input type="checkbox"/>	Depleted Below Dark Surface (A11)	<input type="checkbox"/>
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>
<input type="checkbox"/>	Sandy Gleyed Matrix (S4)	<input type="checkbox"/>
<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>
<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>
<input type="checkbox"/>	Dark Surface (S7) (LRR R, MLRA 149B)	<input type="checkbox"/>

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric Soil Present? Yes X No

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Coffee Street City/County: Medway Sampling Date: 3/11/2020
 Applicant/Owner: _____ State: MA Sampling Point: BVW Up
 Investigator(s): DKB Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): None
 Slope (%): 2-8% Lat: 42° 9' 26.03"N Long: 71° 24' 3.69"W Datum: _____
 Soil Map Unit Name: Sudbury fine sandy loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.) Upland adjacent to BVW A within investigation area is a roadway and associated gravel shoulder. No vegetation, soils or hydrology present.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Upland adjacent to BVW A within investigation area is a roadway and associated gravel shoulder. No vegetation, soils or hydrology present.		

VEGETATION – Use scientific names of plants.

BVW Up
Sampling Point: Near A2

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>N/A</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
		<u>0</u> = Total Cover		Prevalence Index worksheet: <div style="display: flex; justify-content: space-between;"> Total % Cover of: Multiply by: </div> OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)				
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
		<u>0</u> = Total Cover		Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5ft</u>)				
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
		<u>0</u> = Total Cover		Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>30ft</u>)				
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
		<u>0</u> = Total Cover		Hydrophytic Vegetation Present? Yes _____ No <u>X</u>

Remarks: (Include photo numbers here or on a separate sheet.)

 Upland adjacent to BVW A within investigation area is a roadway and associated gravel shoulder. No vegetation, soils or hydrology present.

[illegible]

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils³:

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Hydric Soil Present? Yes _____ No X

Upland adjacent to BVW A within investigation area is a roadway and associated gravel shoulder. No vegetation, soils or hydrology present.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Coffee Street City/County: Medway Sampling Date: 3/11/2020
 Applicant/Owner: _____ State: MA Sampling Point: BVW Wet
 Investigator(s): DKB Section, Township, Range: _____ Near A2
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): None
 Slope (%): 3-8% Lat: 42° 9' 26.48"N Long: 71° 24' 4.47"W Datum: _____
 Soil Map Unit Name: Ridgebury fine sandy loam NWI classification: PEM1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>4"</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0"</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Adjacent to intermittent stream.		

VEGETATION – Use scientific names of plants.Sampling Point: Near A2

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>red maple (Acer rubrum)</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>83</u> (A/B)
2. <u>white oak (Quercas alba)</u>	<u>1</u>	<u>No</u>	<u>FACU</u>	
3. <u>white pine (Pinus strobus)</u>	<u>1</u>	<u>No</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>27</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)				
1. <u>multiflora rose (Rosa multiflora)</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>glossy buckthorn (Frangula alnus)</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>highbush blueberry (Vaccinium corymbosum)</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>20</u> = Total Cover				
Herb Stratum (Plot size: <u>5ft</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>cinnamon fern (Osmunda cinnamomea)</u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>skunk cabbage (Symplocarpus foetidus)</u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>35</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30ft</u>)				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) 				

[illegible]

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

Restrictive Layer (if observed):

Hydric Soil Present? Yes ☒ No ☐

Northcentral and Northeast Region – Interim Version

APPENDIX B

Site Photographs



Photo 1: Perennial stream on site, Chicken Brook



Photo 2: Intermittent Stream off Coffee Street



Photo 3: BVW A Wellington Street



Photo 4: BVW B Wellington Street



Photo 5: BVW C Wellington Street



Photo 6: BVW D Wellington Street



Photo 7: BVW A Coffee Street

Appendix G



Photo 1: Perennial stream on site, Chicken Brook



Photo 2: Intermittent Stream off Coffee Street

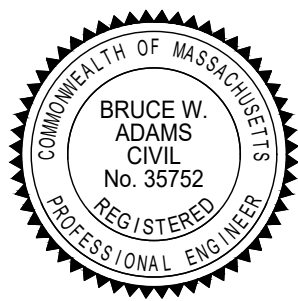
PLANS

TOWN OF MEDWAY, MASSACHUSETTS

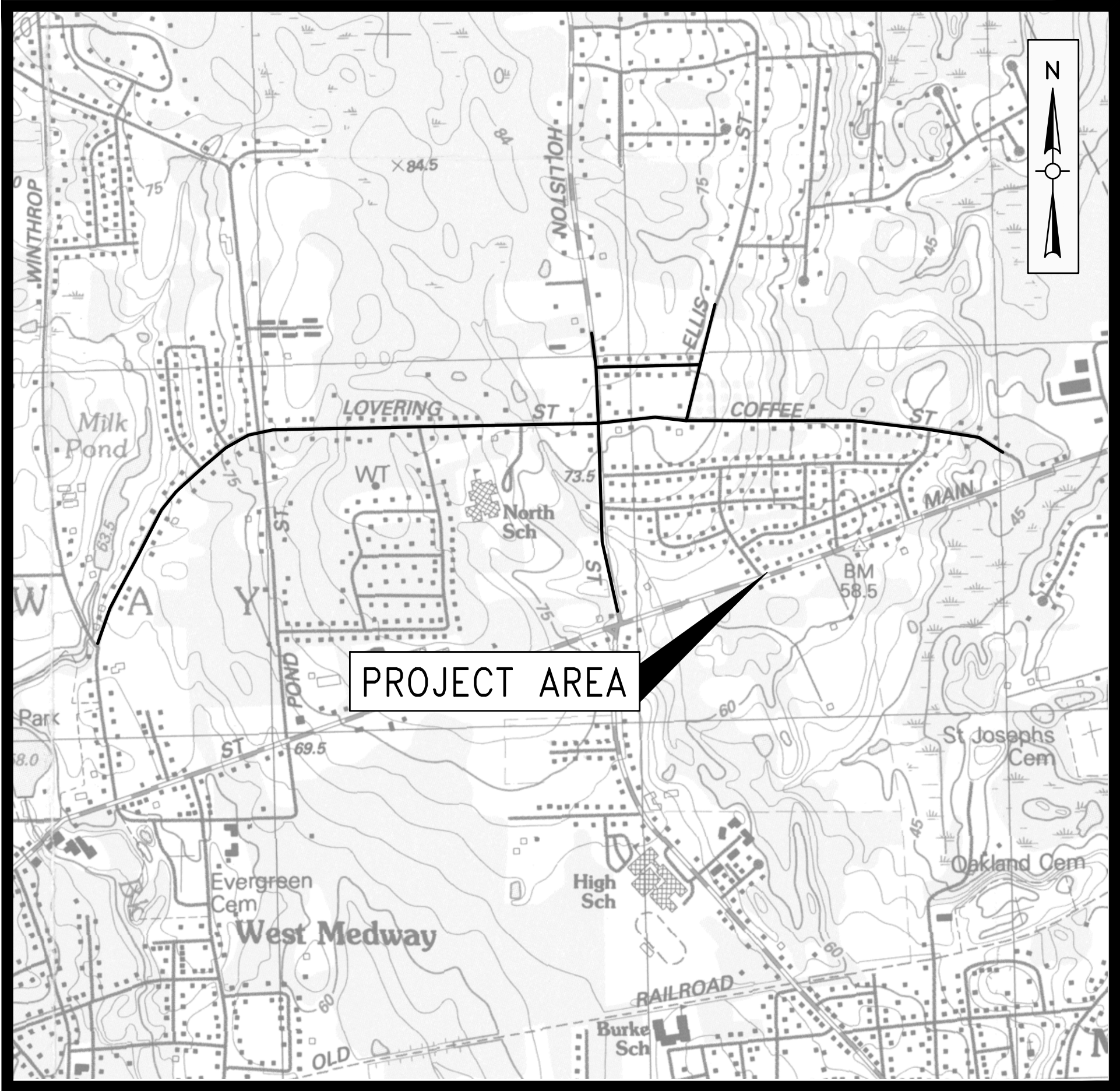
DEPARTMENT OF PUBLIC WORKS

HOLLISTON AND BRENTWOOD WATER MAIN IMPROVEMENTS, CONTRACT 1

MARCH 2020



Weston & SampsonSM
Weston & Sampson Engineers, Inc.
55 Walkers Brook Drive, Reading, MA 01867

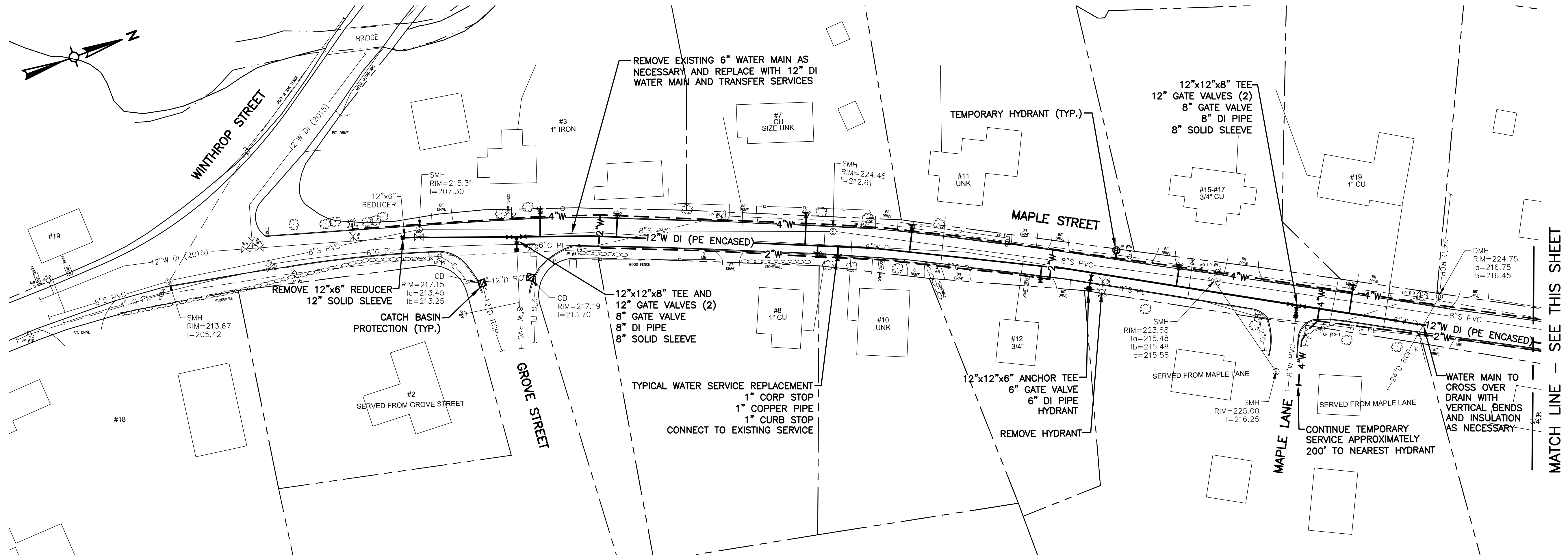


LOCUS MAP
SCALE: 1"=1000'

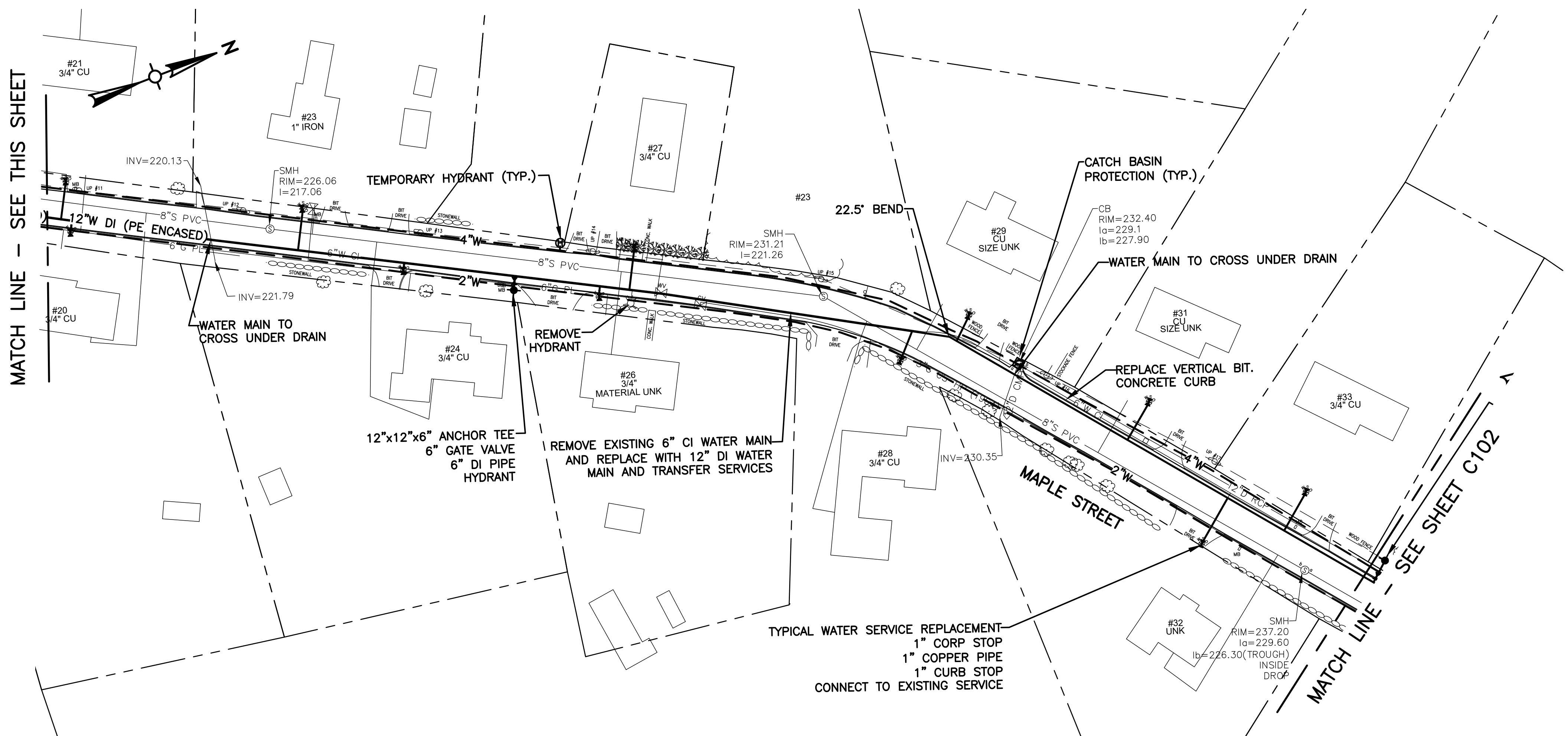
DRAWING INDEX

SHEET	TITLE
C001	ABBREVIATIONS, NOTES AND LEGEND
C101	MAPLE STREET
C102	MAPLE STREET AND LOVERING STREET
C103	LOVERING STREET, HOLLISTON STREET, AND COFFEE STREET
C104	COFFEE STREET
C105	COFFEE STREET AT MAIN STREET
C106	HOLLISTON STREET
C107	HOLLISTON STREET, VIRGINIA ROAD, AND ELLIS STREET
C501	WATER MAIN DETAILS
C502	PAVING DETAILS
C503	CONSTRUCTION ZONE SAFETY PLAN
C504	ENVIRONMENTAL PROTECTION DETAILS
C505	WELLINGTON BRIDGE CROSSING
C506	WELLINGTON BRIDGE DETAILS

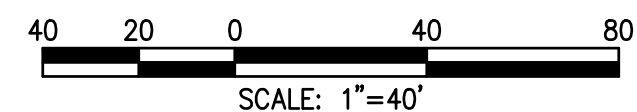
\\west03.local\WSES\Projects\MA Medway - MA Holliston & Brentwood Water Main\CAD\Contract 1\CPN001_Replace Corfae.dwg



PLAN
SCALE: 1" = 40'



PLAN
SCALE: 1" = 40'



COPYRIGHT 2020 WESTON & SAMPSON

C101

FILE NO. 243 13

HOLLISTON AND BRENTWOOD WATER MAIN IMPROVEMENTS, CONTRACT 1

MAPLE STREET

SCALE: AS NOTED

CONTRACT: 1

JOB NO. 2180868

DR BY: NLL

DSN BY: NLL

CHK BY: DVM

APP BY: BWA

Weston & Sampson

Weston & Sampson Engineers, Inc.
55 Walkers Brook Drive, Reading, MA 01867
978.532.1900
www.westonandsampson.com

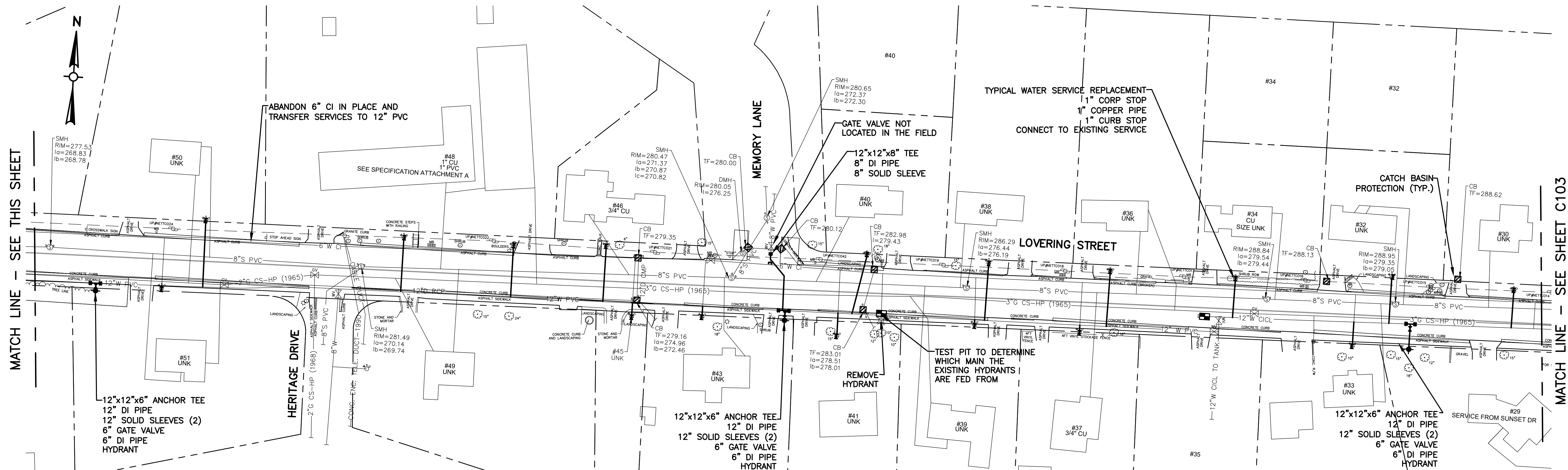
3/12/2020

DATE

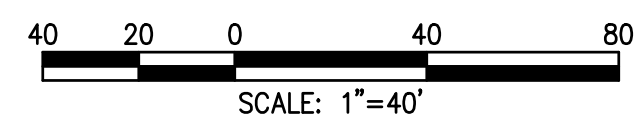
REGISTERED PROFESSIONAL ENGINEER

BRUCE W. ADAMS
NO. 35752
MASSACHUSETTS

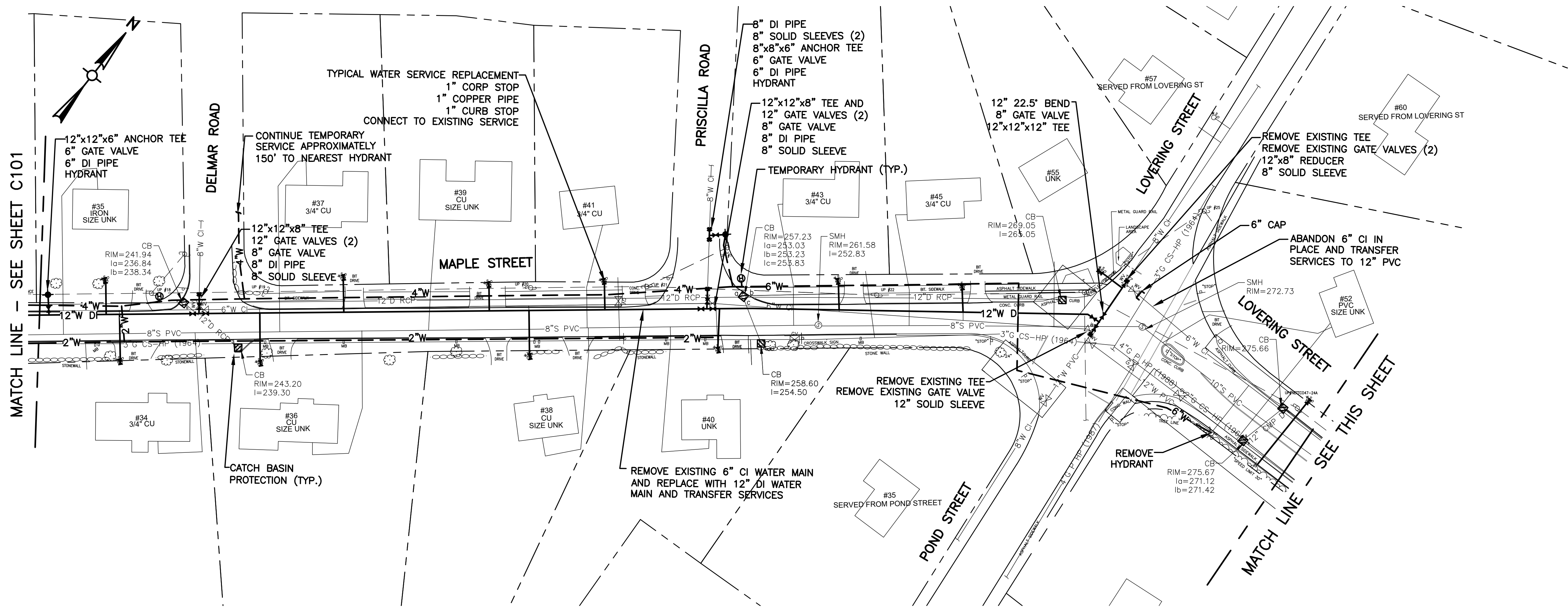
\\west03.local\WSES\Projects\MA\Medway - MA\Holliston & Brentwood Water Main\CAD\Contract - C1001 - Replace Corroding



PLAN
SCALE: 1" = 40'



COPYRIGHT 2020 WESTON & SAMPSON



PLAN
SCALE: 1" = 40'

TOWN OF MEDWAY, MASSACHUSETTS
MEDWAY PUBLIC WORKS

HOLLISTON AND BRENTWOOD WATER MAIN IMPROVEMENTS, CONTRACT 1

MAPLE STREET AND LOVERING STREET

FILE NO.	243 12	CAD NO.	CPN001	SCALE:	AS NOTED	CONTRACT:	1	JOB NO.	2180868	DR BY	NULL	DSN BY	NULL	CHK BY	DVM	APP BY	BWA
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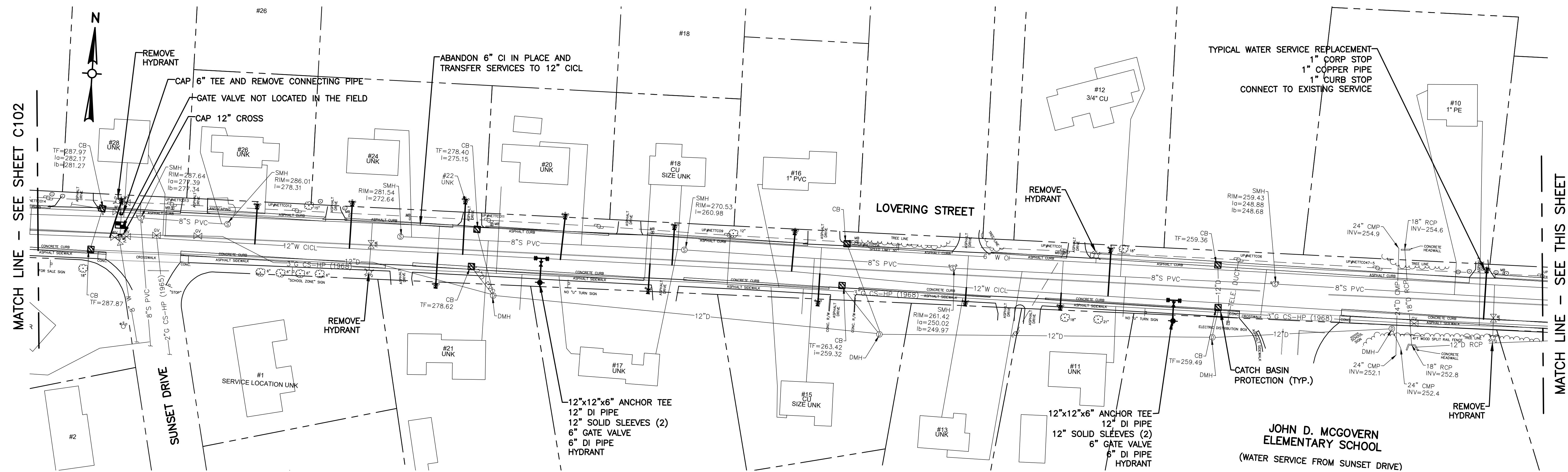
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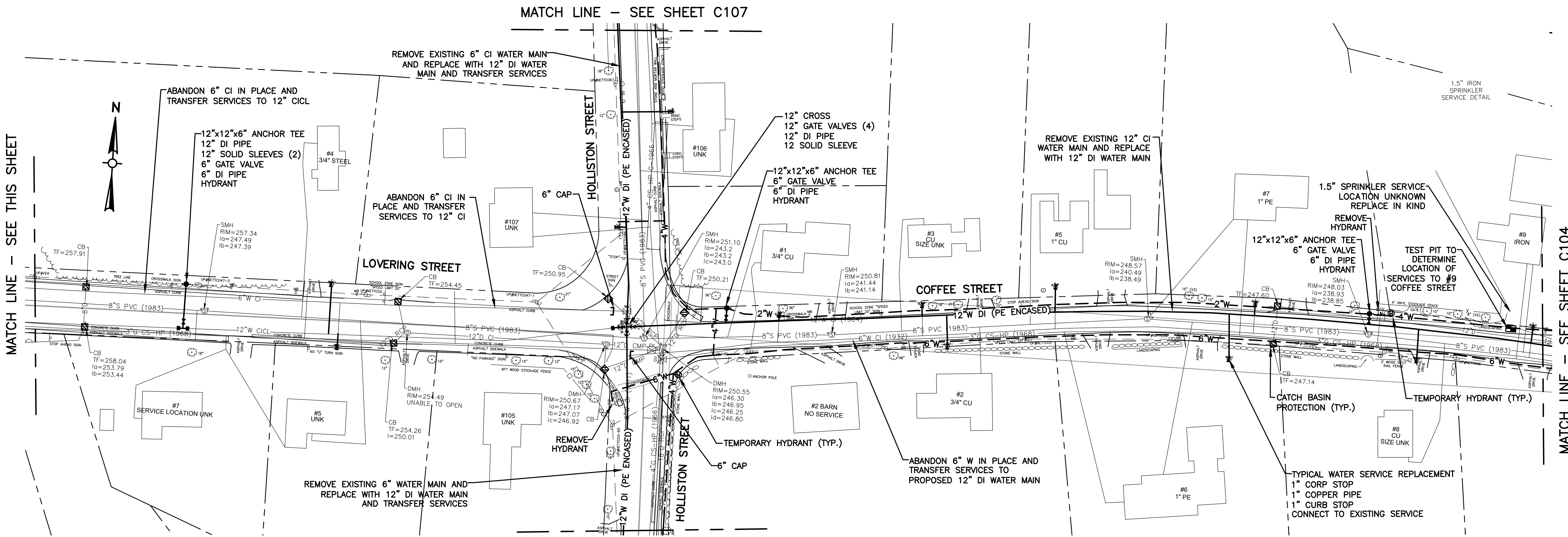
REGISTERED PROFESSIONAL ENGINEER

Weston & Sampson
Weston & Sampson Engineers, Inc.
55 Walkers Brook Drive, Reading, MA 01867
978.532.1900
800.SAMPSON
www.westonandsampson.com

\\west03.local\WSES\Projects\MA\Medway MA\Holliston & Brentwood Water Main CADD\Contract 1\CPO001_Replace Corroding



PLAN
SCALE: 1" = 40'



PLAN
SCALE: 1" = 40'

Weston & Sampson
Weston & Sampson Engineers, Inc.
55 Walker Brook Drive, Reading, MA 01867
978.532.1900
800.SAMPSON
www.westonandsampson.com

3/12/2020
DATE

REGISTERED PROFESSIONAL ENGINEER

NO. DATE APP. BY CHK. BY DES. BY

APPROVED

COMMITTEE ON PROFESSIONAL ENGINEERING

BRUCE W. ADAMS
NO. 35752
EXPIRATION DATE 12/31/2024

TOWN OF MEDWAY, MASSACHUSETTS
MEDWAY PUBLIC WORKS
HOLLISTON AND BRENTWOOD WATER MAIN IMPROVEMENTS, CONTRACT 1
LOVERING STREET, HOLLISTON STREET,
AND COFFEE STREET

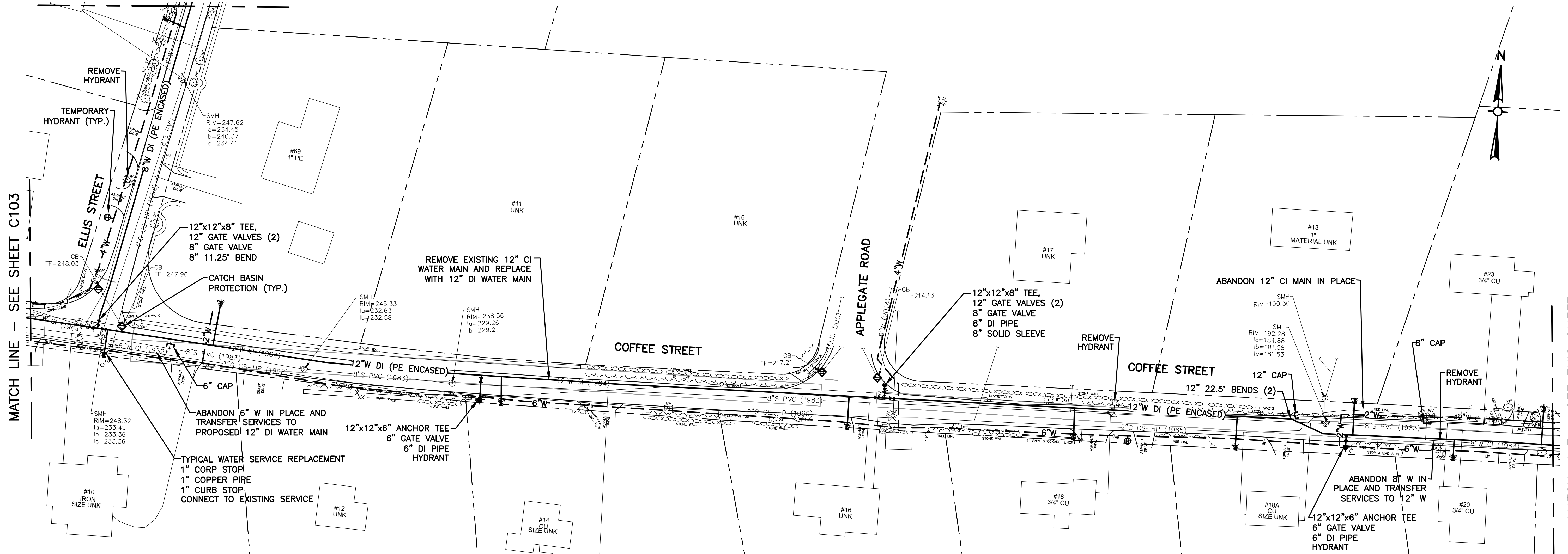
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CONTRACT: 1
JOB NO. 2180868
DR BY: NLL
DSN BY: NLL
CHK BY: DVM
APP BY: BWA

C103

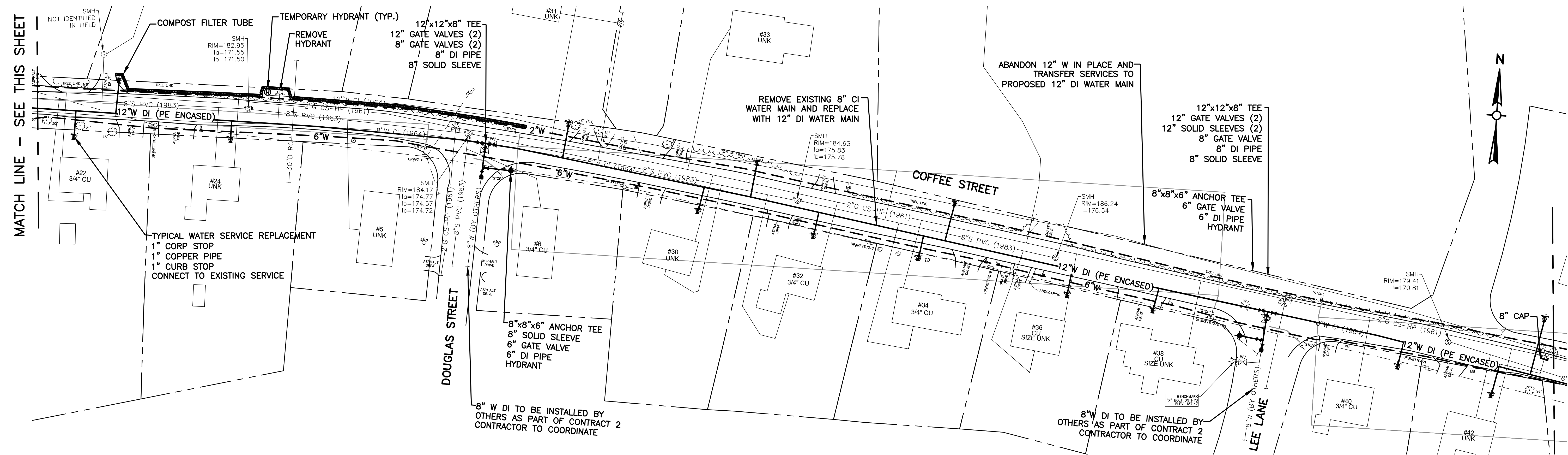
FILE NO. 243 11

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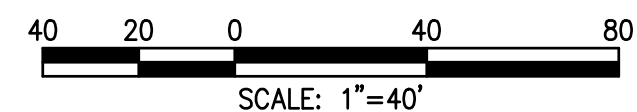
MATCH LINE - SEE SHEET C107



PLAN
SCALE: 1" = 40'



PLAN
SCALE: 1" = 40'

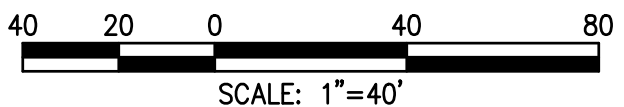


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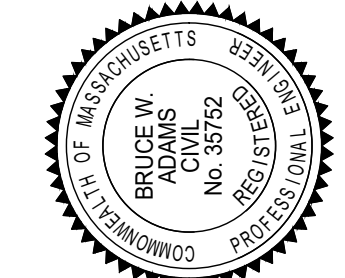
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<p>HOLLISTON AND BRENTWOOD WATER MAIN IMPROVEMENTS, CONTRACT 1</p> <p>COFFEE STREET</p>						

C104



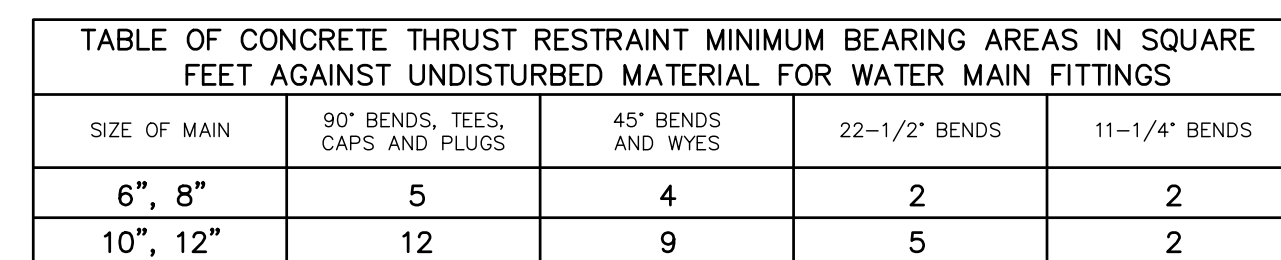
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HOLLISTON AND BRENTWOOD WATER MAIN IMPROVEMENTS, CONTRACT 1																		
COFFEE STREET AT MAIN STREET																		

[illegible]



WATER MAIN TRENCH DETAIL
N.T.S.



NOTES:

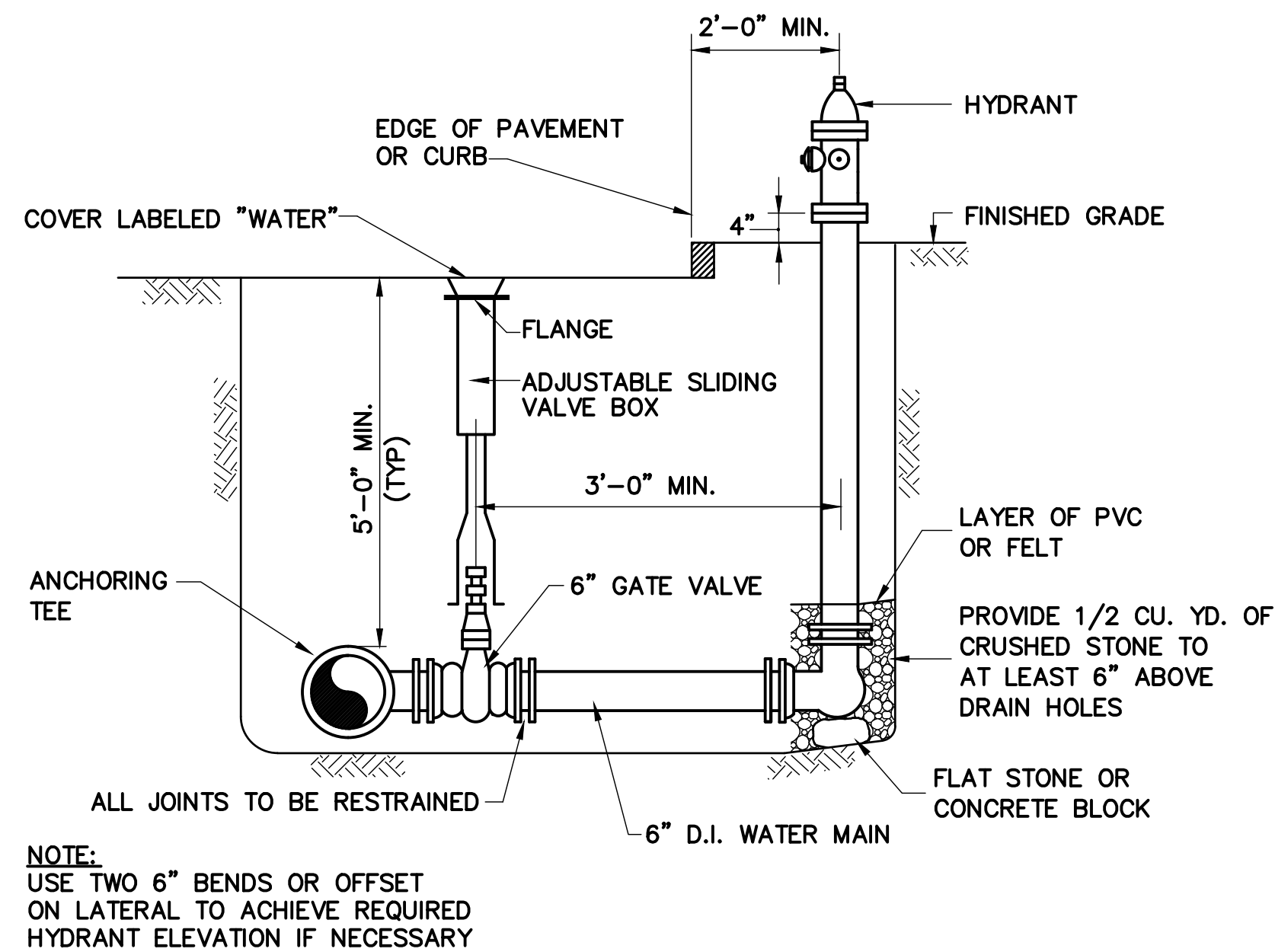
1. CONCRETE THRUST RESTRAINT SHALL ONLY BE USED WHERE OTHER MEANS OF RESTRAINT ARE NOT FEASIBLE.
2. CONTRACTOR SHALL USE CARE TO AVOID PLACEMENT OF CONCRETE ON THE FITTING JOINTS

CONCRETE THRUST RESTRAINT FOR FITTINGS
N.T.S.

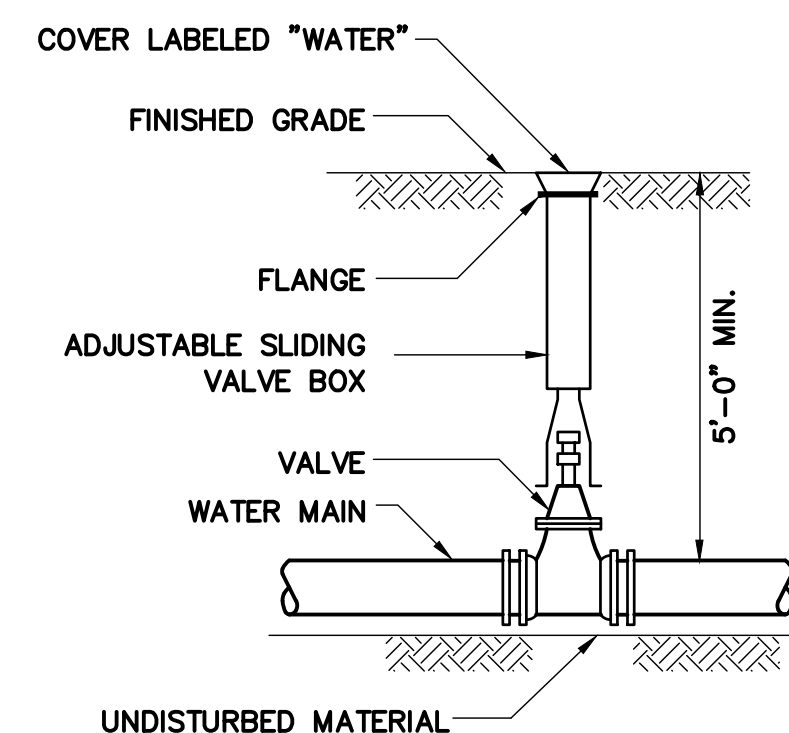
PIPE SIZE	90° BEND	45° BEND OR WYE BRANCH	22 1/2" BEND	11 1/4" BEND	PLUG, CAP OR IN-LINE VALVE	TEE (BRANCH)
6"	25 (30.5)	10.5 (12.5)	5 (6)	2.5 (3)	43 (64)	34 (51)
8"	33 (40)	13.5 (16.5)	6.5 (8)	3 (4)	55 (82)	47 (70)
10"	40 (48.5)	16.5 (20)	8 (9.5)	4 (5)	67 (100)	58 (87)
12"	47 (56.5)	19.5 (23.5)	9.5 (11.5)	4.5 (5.5)	79 (118)	70 (105)
16"	59.5 (72)	24.5 (30)	12 (14.5)	6 (7)	101 (152)	92 (139)
20"	72 (86.5)	30 (36)	14.5 (17)	7 (8.5)	123 (184)	114 (171)
24"	84 (100)	35 (41)	16.5 (20)	8 (10)	144 (216)	134 (202)
30"	100 (120)	41 (50)	20 (24)	10 (12)	174 (261)	165 (247)

NOTES:

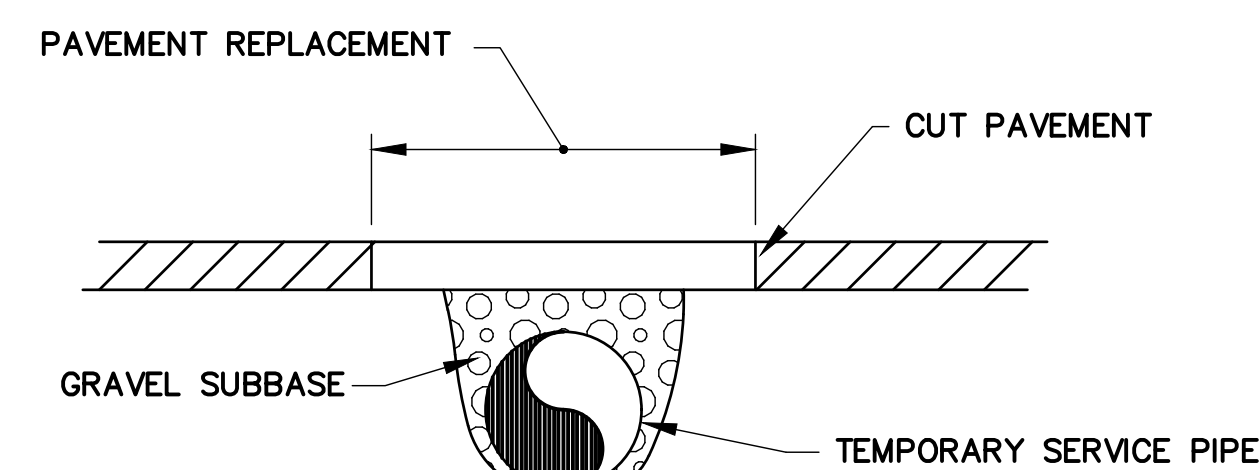
1. RESTRAINED LENGTHS LISTED IN PARENTHESES ARE FOR PIPE WRAPPED IN POLYETHYLENE. THE OTHER ASSOCIATED LENGTHS ARE FOR PLAIN UNWRAPPED DUCTILE IRON PIPE.
2. THE CONTRACTOR SHALL USE THIS TABLE IN CONJUNCTION WITH THE APPROPRIATE PIPE SPECIFICATION SECTION.



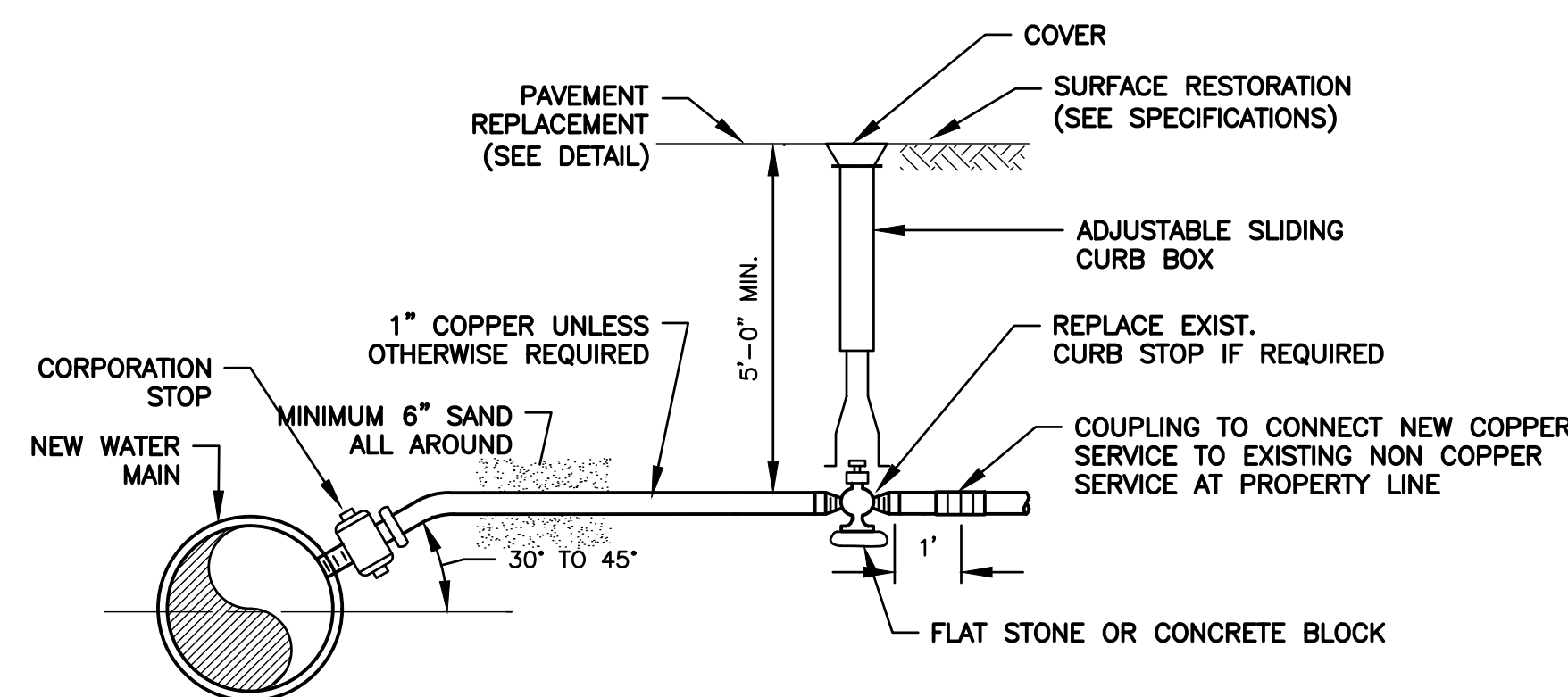
HYDRANT AND VALVE DETAIL
N.T.S.



VALVE AND BOX DETAIL
N.T.S.



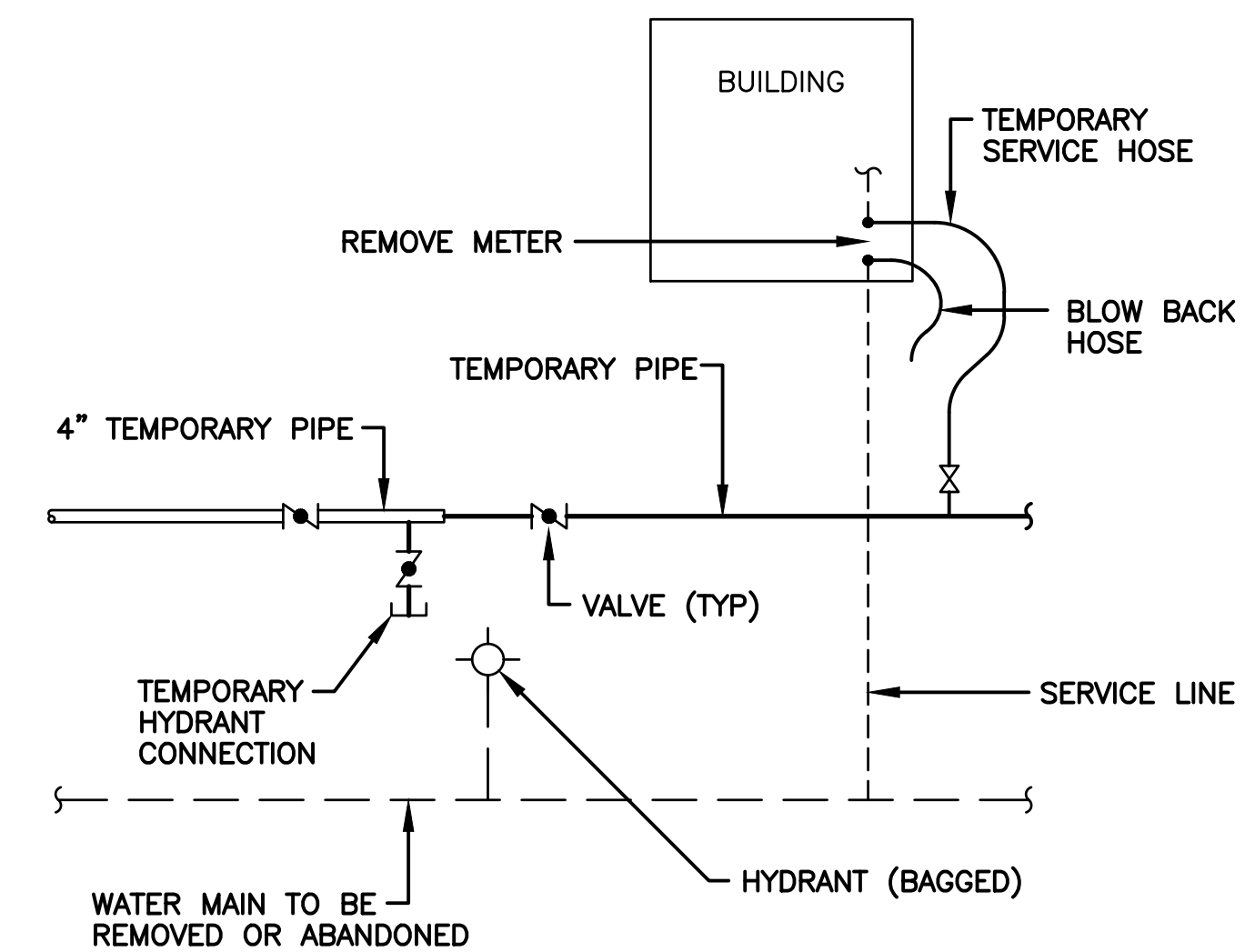
TEMPORARY SERVICE PIPE
ROADWAY CROSSING DETAIL
N.T.S.



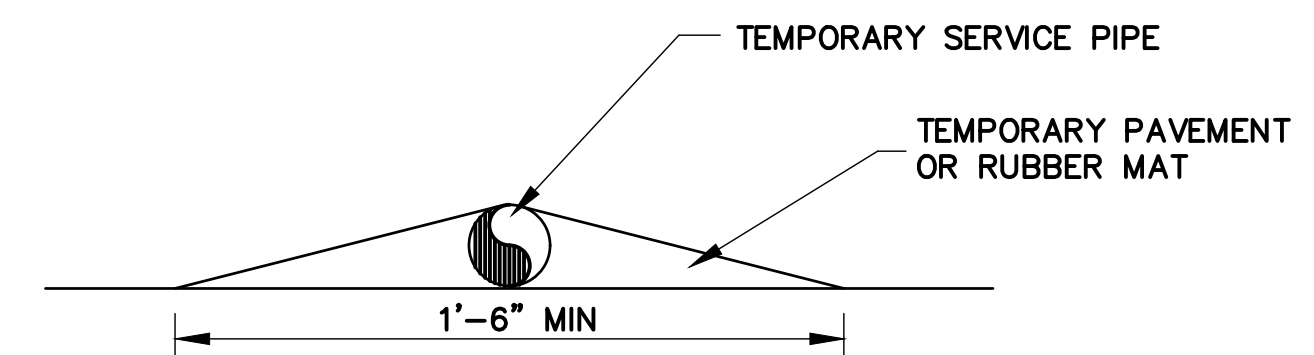
NOTE:

1. PROVIDE SADDLE FOR ALL AC AND PVC MAINS AND ALL 2" STOPS.
2. FOR 3/4" SERVICES, A 1"x3/4" CURB STOP SHALL BE USED IN PLACE OF AN INCREASER.
3. AN ADAPTOR SHALL BE USED AS NECESSARY FOR IRON SERVICES.

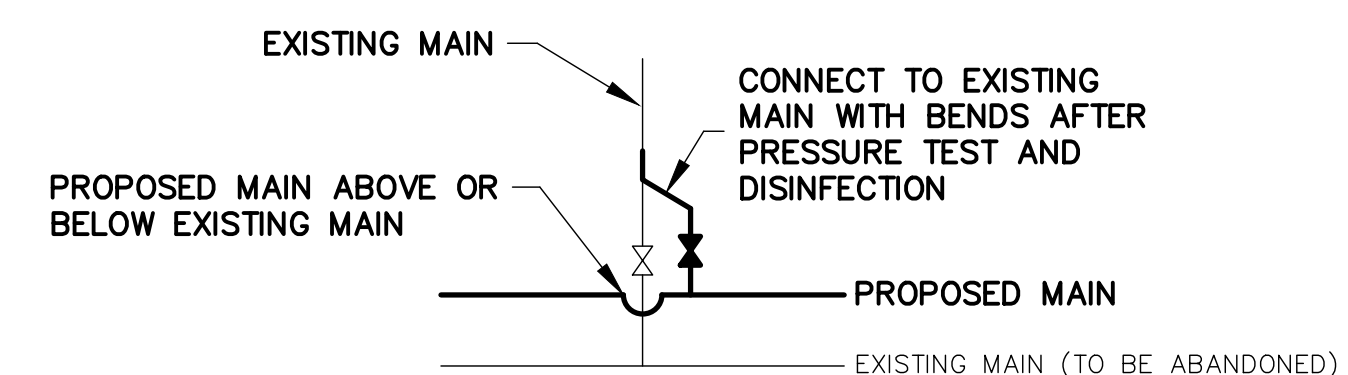
WATER SERVICE TRANSFER DETAIL
N.T.S.



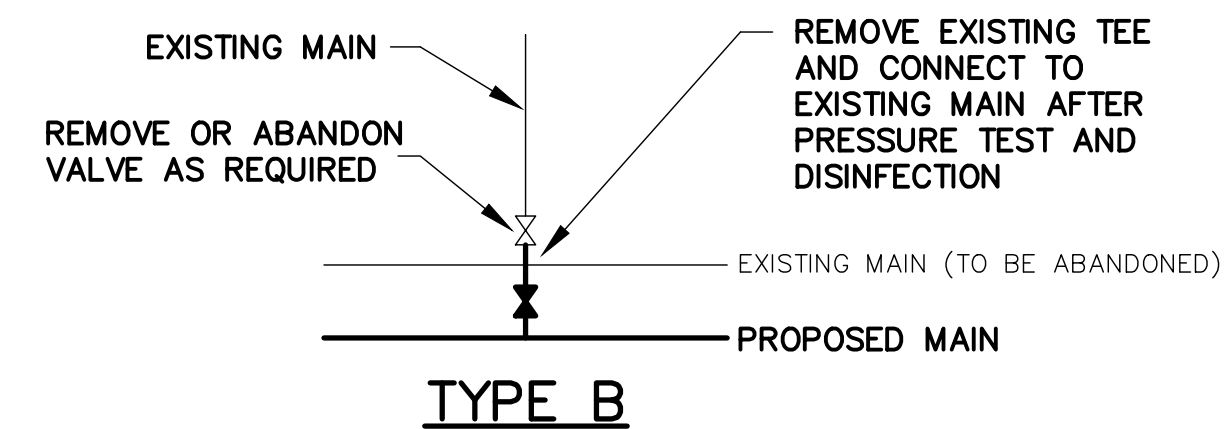
TEMPORARY WATER SERVICE DETAIL
N.T.S.



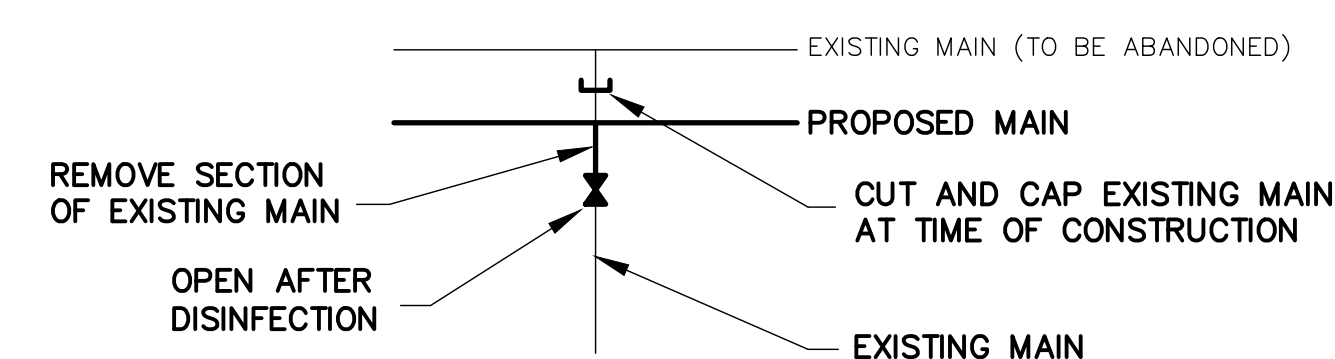
TEMPORARY SERVICE PIPE
DRIVEWAY CROSSING DETAIL



TYPE A

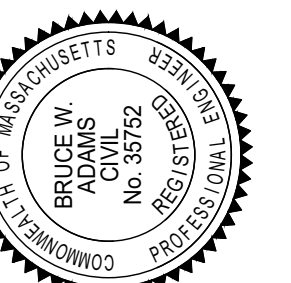


TYPE B

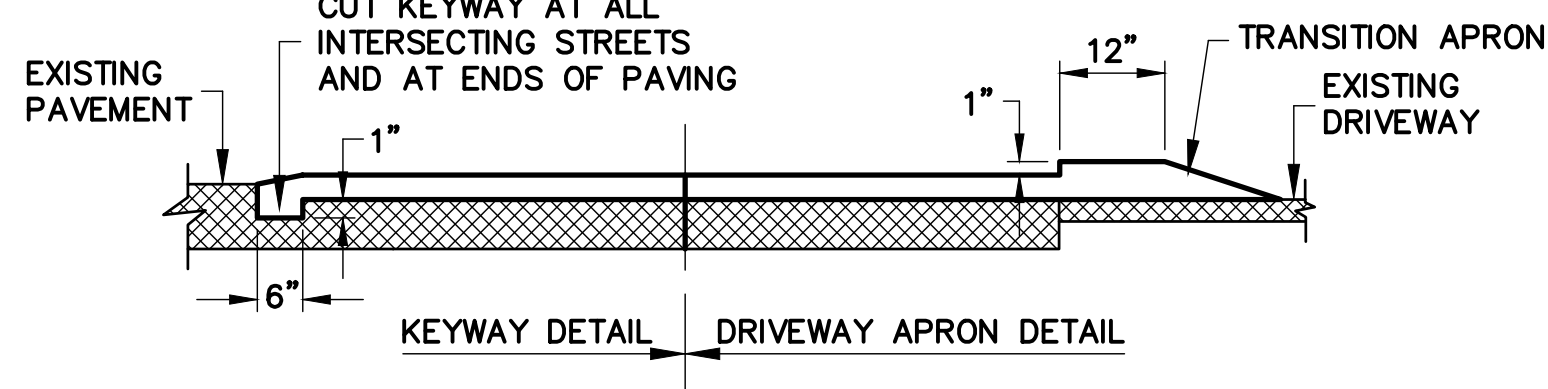


TYPE C

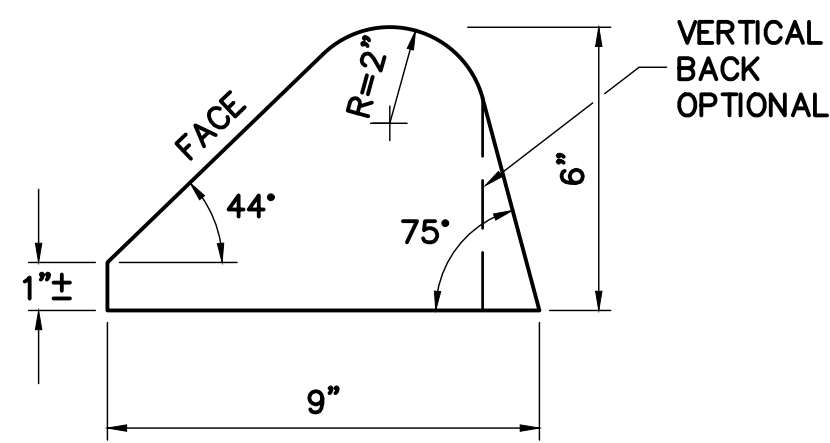
WATER MAIN CONNECTION DETAILS
N.T.S.

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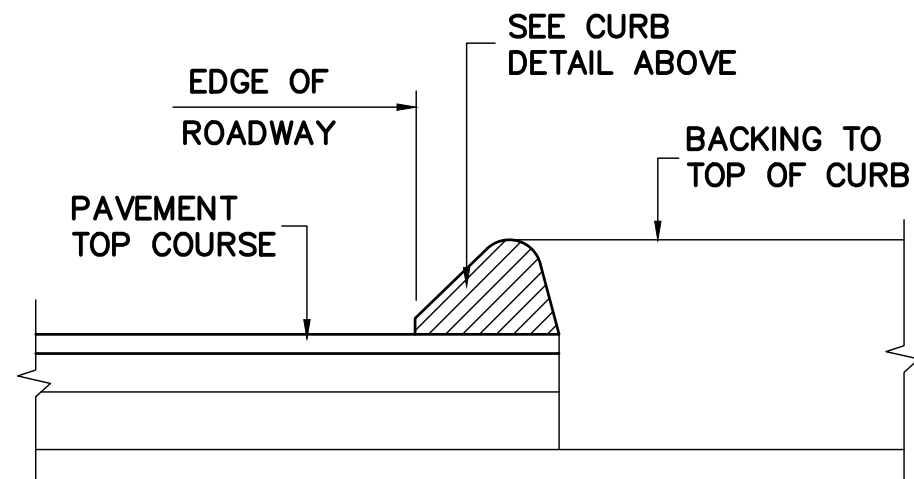
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FILE NO.	243 6								
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COT001	AS NOTED	1	2180868	NLL	NLL	DVM	BWA		
WATER MAIN DETAILS									
HOLLISTON AND BRENTWOOD WATER MAIN IMPROVEMENTS, CONTRACT 1									
MEDWAY PUBLIC WORKS									



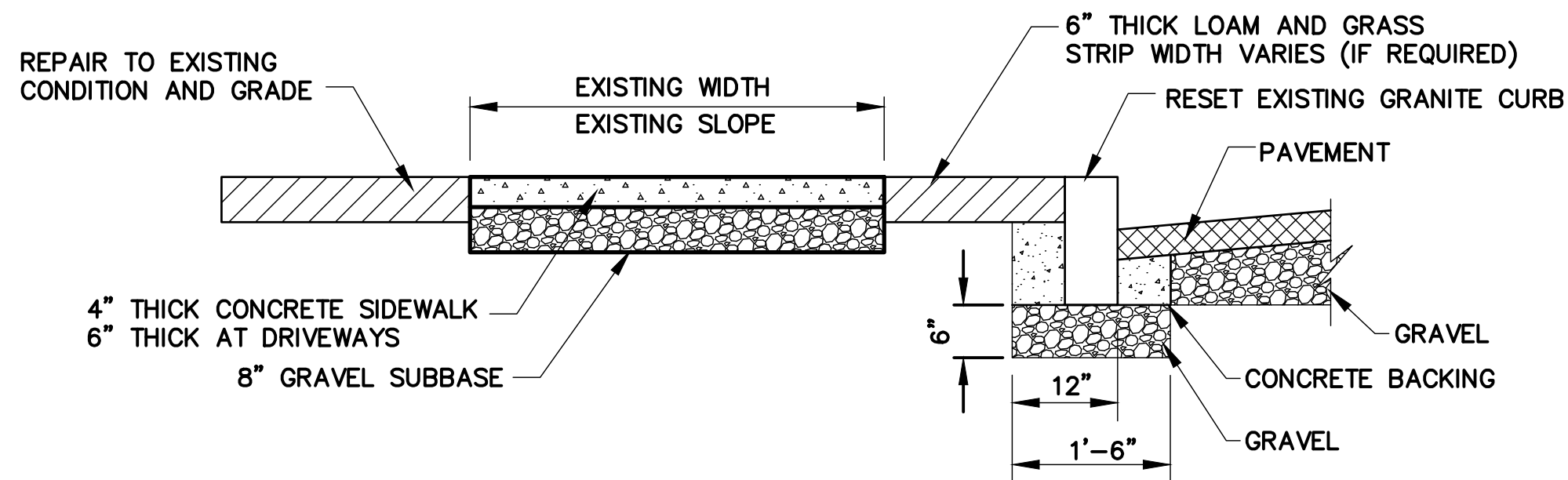
PAVEMENT REPLACEMENT DETAIL
N.T.S.



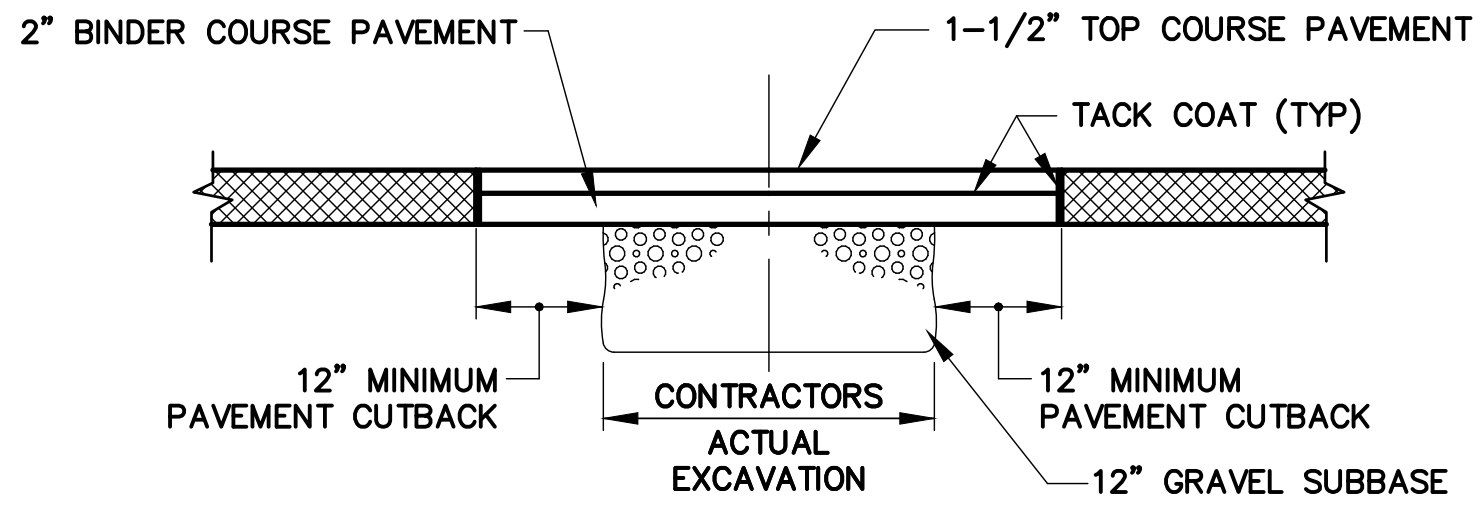
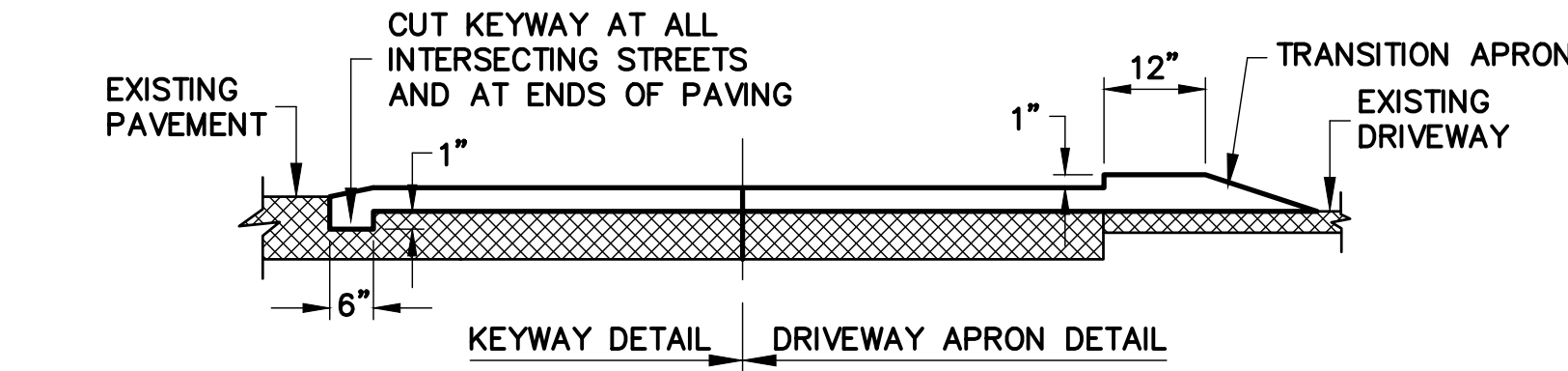
CURB DETAIL
CURB IS TYPE-2 PER MASS.
DPW CONSTRUCTION STANDARDS



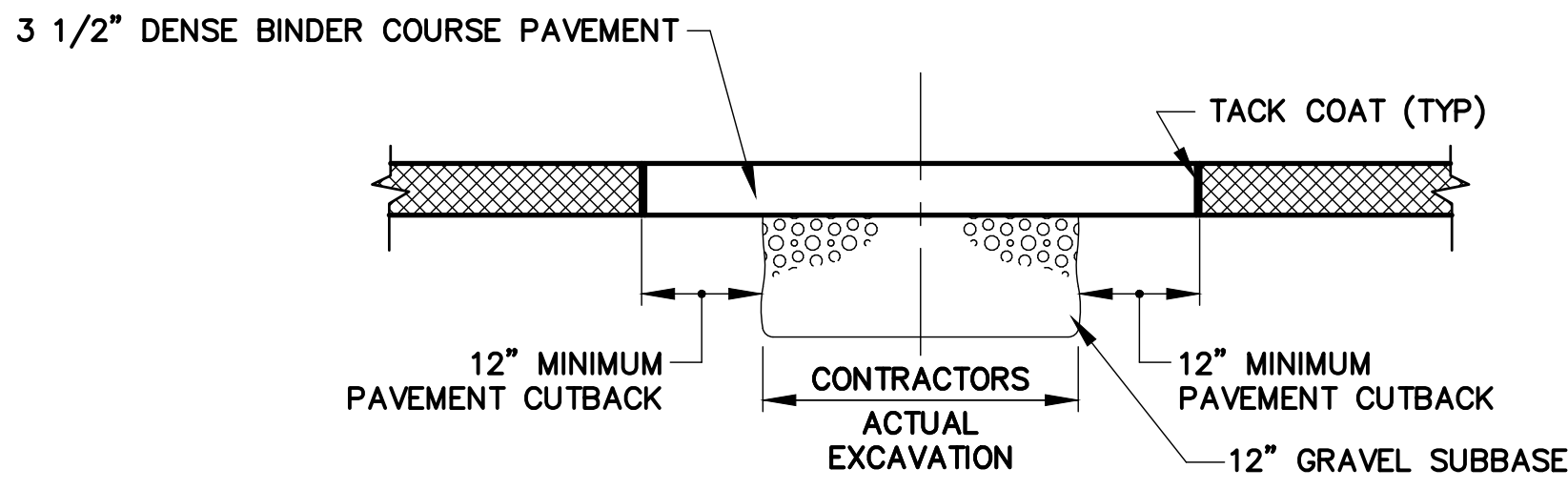
BITUMINOUS CONCRETE CURB
N.T.S.



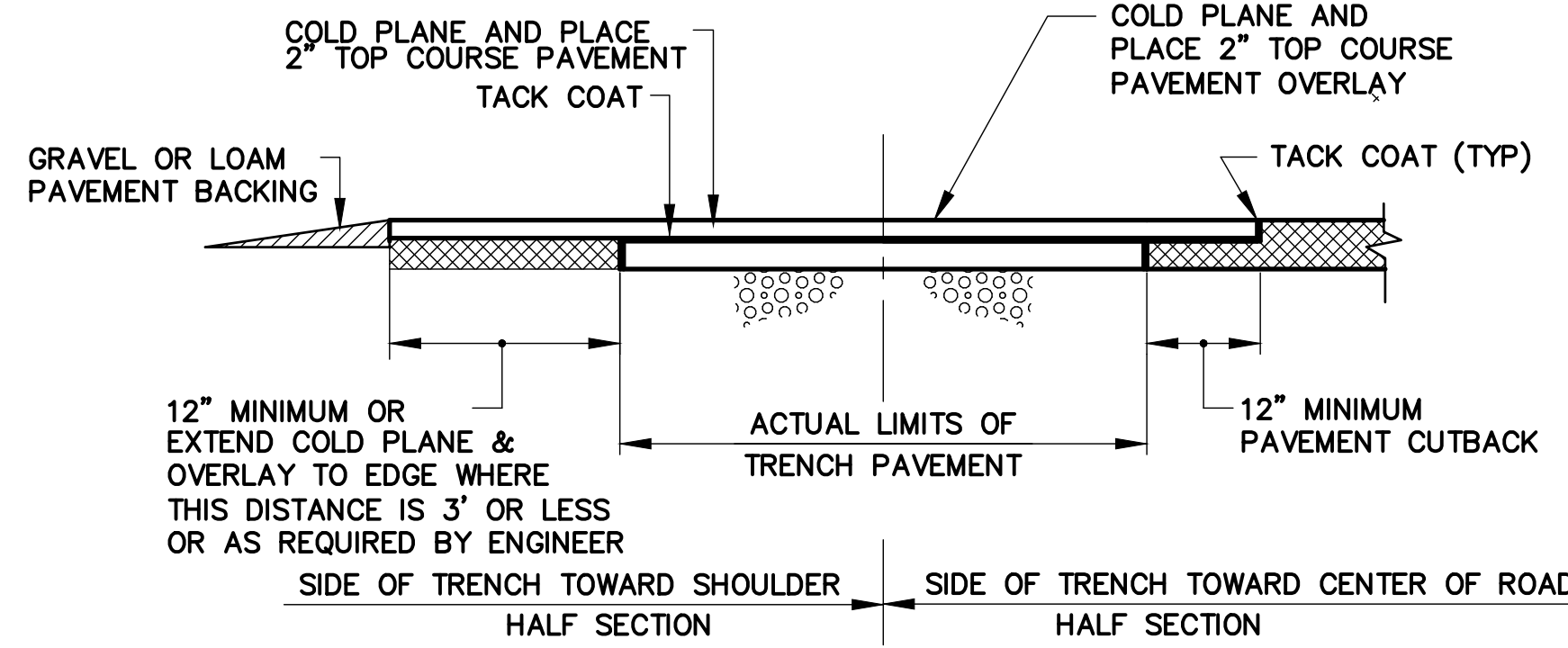
TYPICAL SECTION THROUGH
CONCRETE SIDEWALK AND CURB
N.T.S.



TYPE 1:
PERMANENT TRENCH PAVEMENT DETAILS
(BID ALTERNATE A)

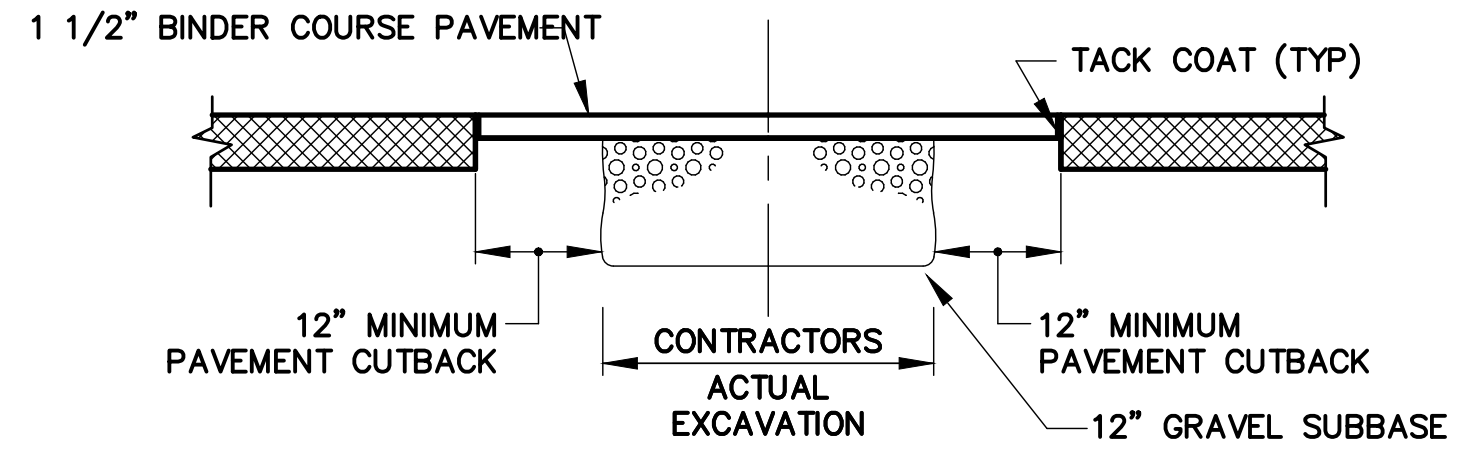


TRENCH PAVING

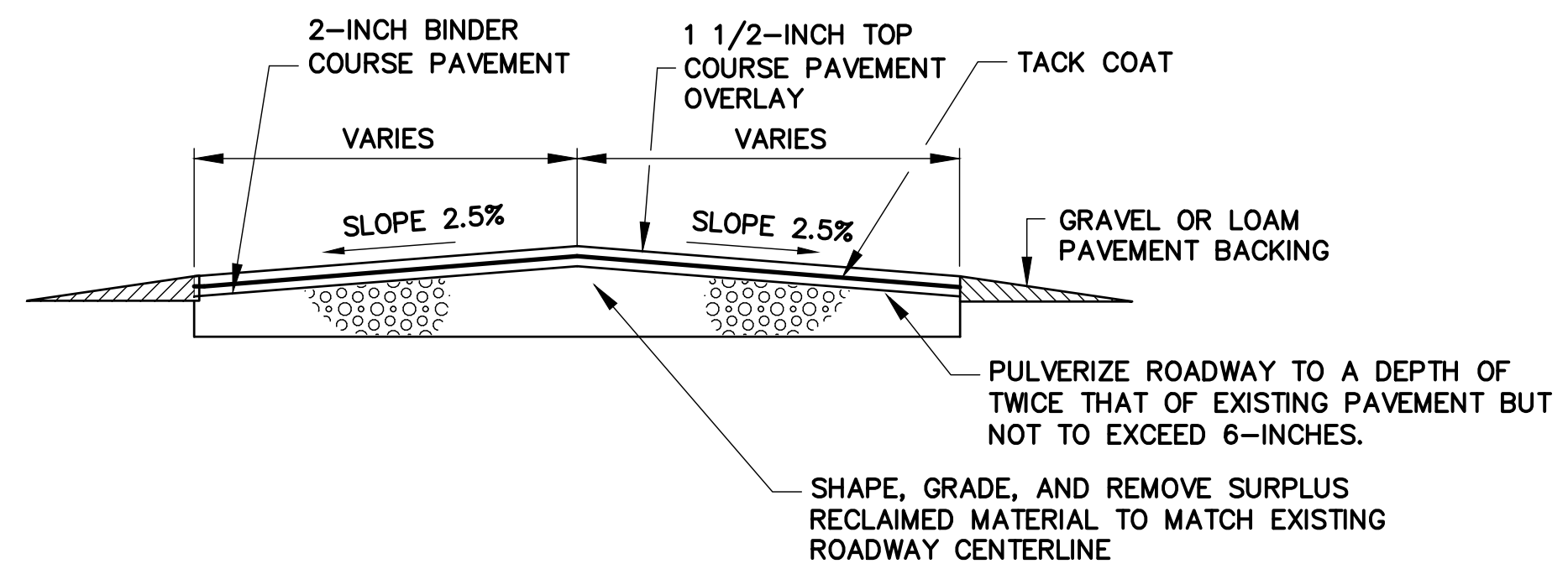


FINAL PAVING

TYPE 2:
COLD PLANING WITH OVERLAY
(BID ALTERNATE B)



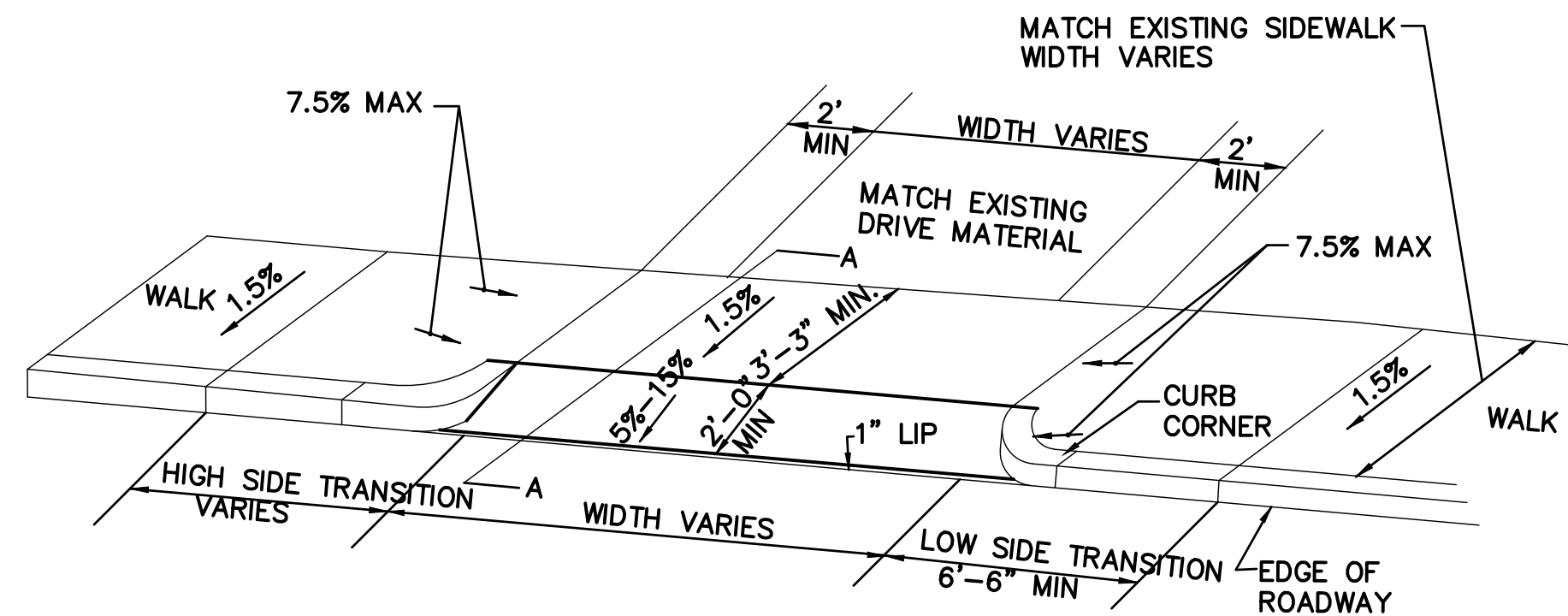
TEMPORARY TRENCH PAVING



FINAL PAVING

TYPE 3:
PULVERIZATION/RECYCLING WITH OVERLAY
(BID ALTERNATE B)

PAVEMENT REPLACEMENT DETAILS
N.T.S.



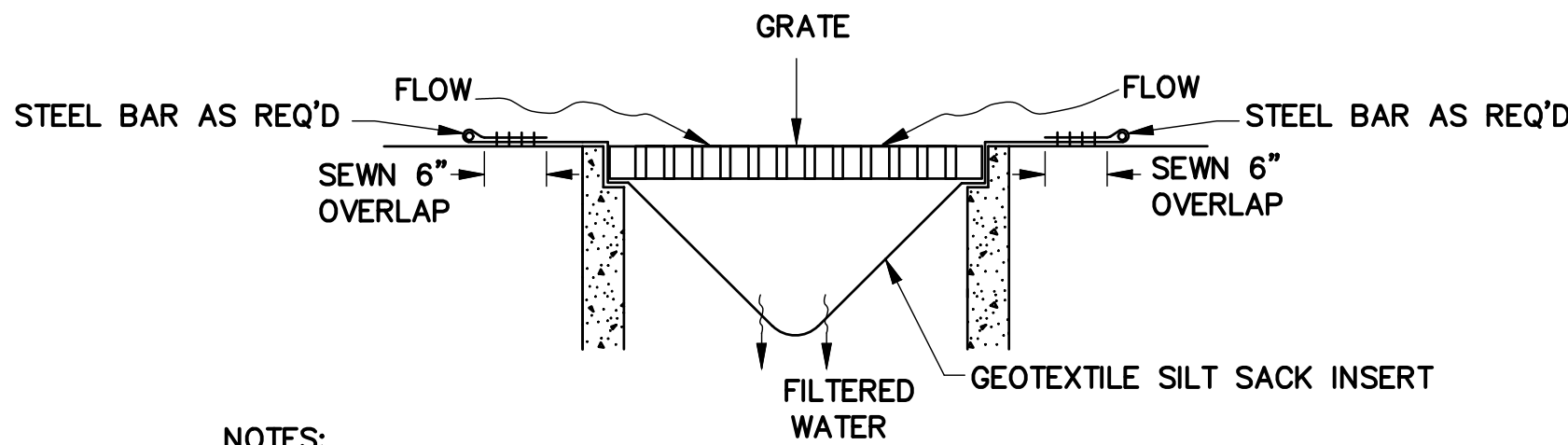
DRIVEWAY APRONS
N.T.S.

No.	Date	Dr. By	Ch. By	App. By	Description	D	V	O	R	P	A



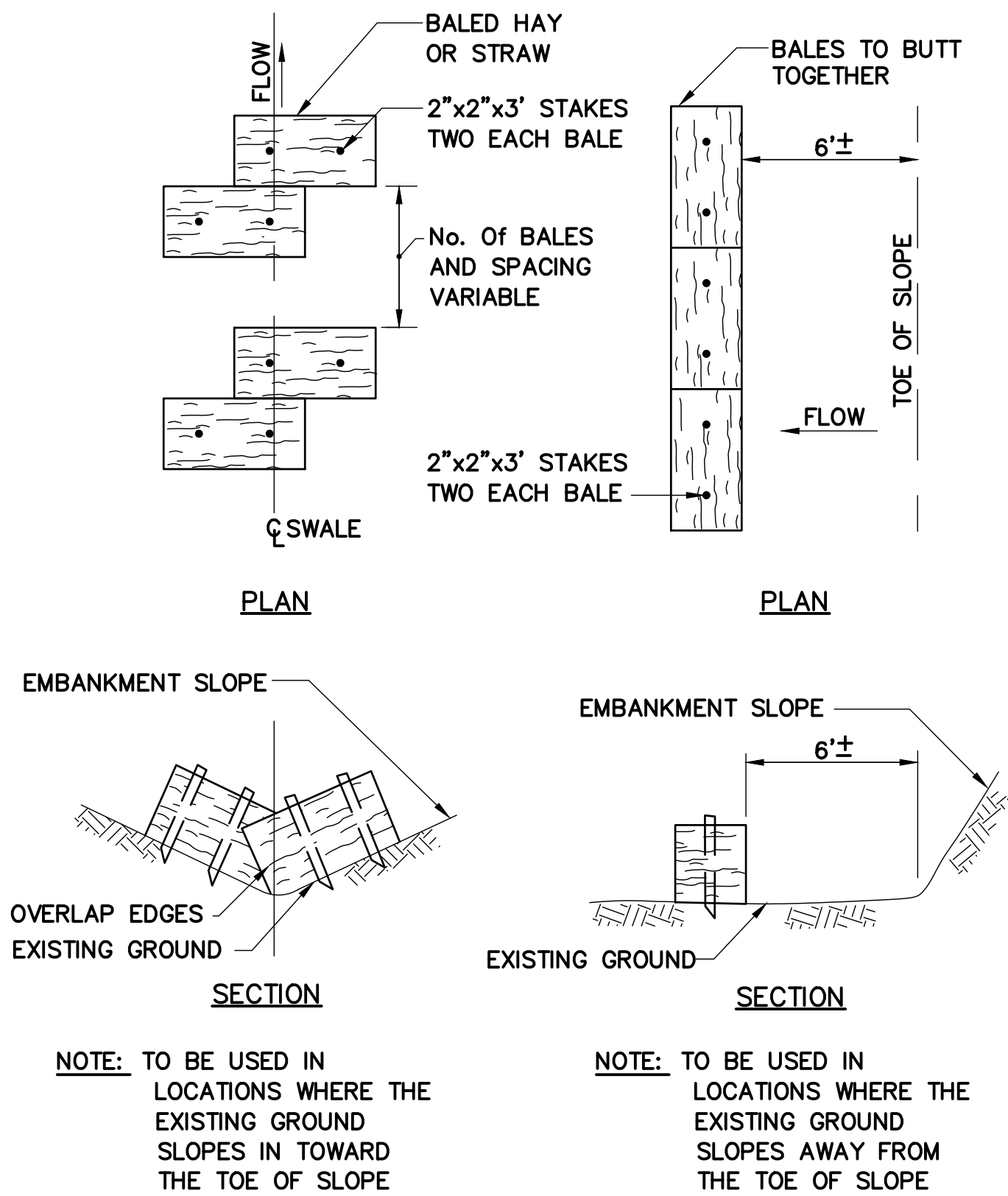
TOWN OF MEDWAY, MASSACHUSETTS MEDWAY PUBLIC WORKS HOLLISTON AND BRENTWOOD WATER MAIN IMPROVEMENTS, CONTRACT 1	CONTRACT: 1	SCALE: AS NOTED	CDT001	243 5	FILE NO.
DR BY: NLL	DSN BY: NLL	CHK BY: DVM	APP BY: BWA		
PAVING DETAILS					
C502					

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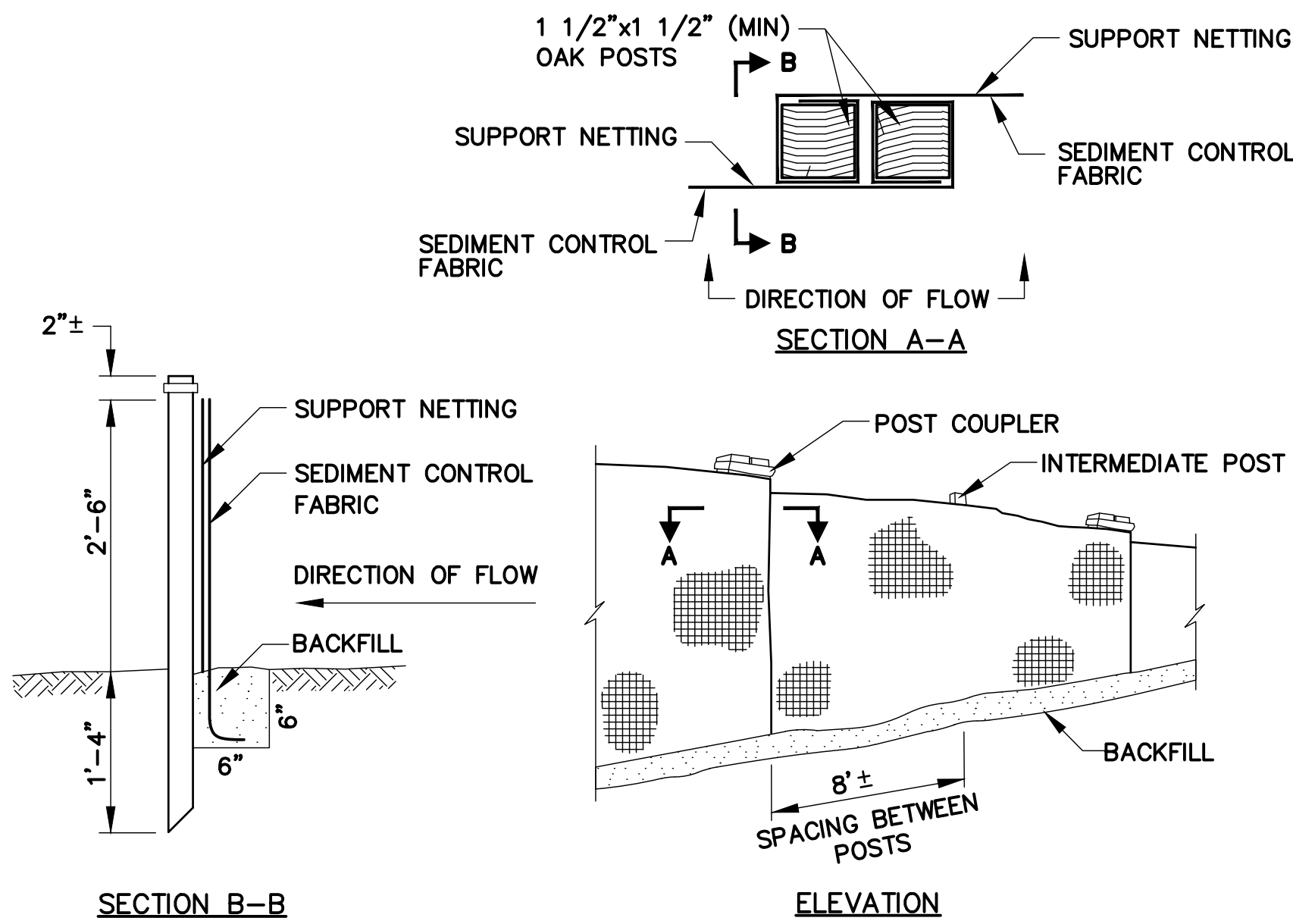


- NOTES:
1. SILT SACK SHALL BE AN APPROVED PROPRIETARY GEOTEXTILE UNIT.
 2. CONTRACTOR TO CLEAN AND INSPECT SILT SACK REGULARLY AND AFTER EVERY MAJOR WEATHER EVENT.
 3. SILT SACK SHALL BE SECURED USING REBAR OR AS DIRECTED BY MANUFACTURER TO PREVENT THE UNIT FROM FALLING INTO THE CATCH BASIN WHEN GRATE IS REMOVED.

CATCH BASIN PROTECTION DETAIL
N.T.S.



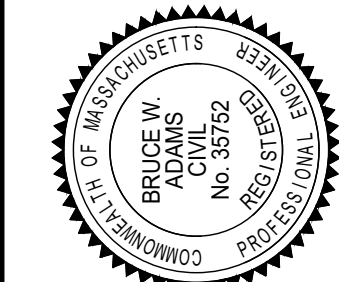
HAY BALES DETAIL
N.T.S.



SILT FENCE DETAIL
N.T.S.

No.	Date	Dr. By	Ch. By	App. By	Description
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					V
					E
					D

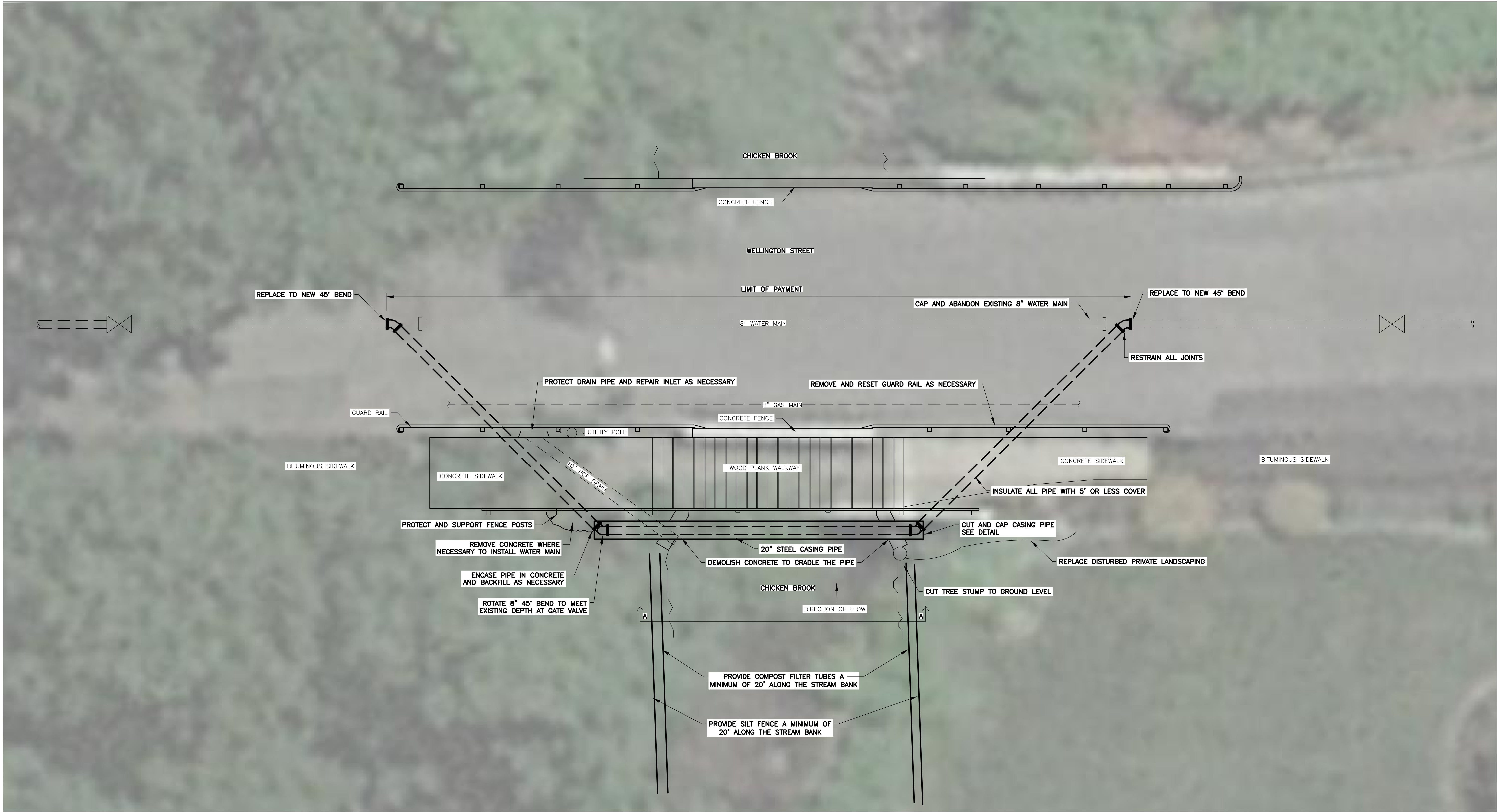
REGISTERED PROFESSIONAL ENGINEER
Bruce W. Adams
DATE: 9/12/2020



TOWN OF MEDWAY, MASSACHUSETTS MEDWAY PUBLIC WORKS HOLLISTON AND BRENTWOOD WATER MAIN IMPROVEMENTS, CONTRACT 1	CDT001	CONTRACT: 1	JOB NO. 2180868	DR BY: NULL	DSN BY: NULL	CHK BY: DVM	APP BY: BWA
ENVIRONMENTAL PROTECTION DETAILS							

C504	FILE NO. 243 3
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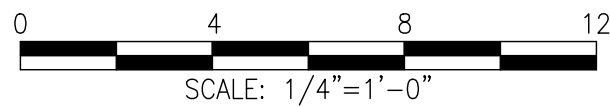
\\ves03.local\WSES\Projects\MA Medway & Brentwood Water Main CADD\Contract 1\CDT001_L BRIDGE CROSSING.dwg



WELLINGTON STREET BRIDGE CROSSING
SCALE: 1/4"=1'-0"

NOTES:

1. CONTRACTOR TO VERIFY MEASUREMENTS IN THE FIELD.
2. GATE VALVE LOCATION IS APPROXIMATE.
3. STEEL CASING PIPE SHALL HAVE A MINIMUM WALL THICKNESS OF 0.5-INCHES.
4. PIPE INSULATION SHALL CONTINUE INSIDE STEEL CASING PIPE.
5. ENVIRONMENTAL PROTECTION SHALL BE INSTALLED IN ACCORDANCE WITH THE TOWN OF MEDWAY CONSERVATION COMMISSION ORDER OF CONDITIONS.



<div>WESTON & SAMPSON Weston & Sampson Engineers, Inc. 55 Walkers Brook Drive, Reading, MA 01867 978.532.1900 800.SAMPSON www.westonandsampson.com</div>		No.		Date	Dr. By	Ch. By	App. By	Description														
					A	P	P	R	O	V	E	D										
<div>C505</div>		FILE NO.		243 2	CADD NO.		CDT001	SCALE:		AS NOTED	CONTRACT:	1	JOB NO.	2180868	DR BY	NULL	DSN BY	NULL	CHK BY	DVM	APP BY	BWA
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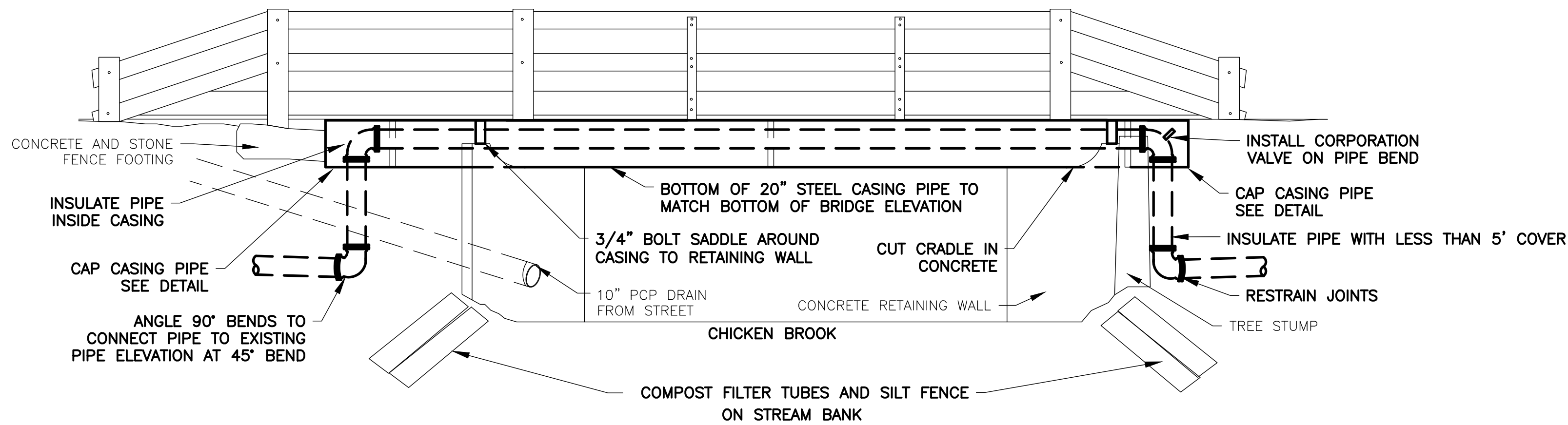
REGISTERED PROFESSIONAL ENGINEER
Barbara W. Adams
3/12/2020
DATE

SEAL

COMMONWEALTH OF MASSACHUSETTS
REGISTERED PROFESSIONAL ENGINEER
BARBARA W. ADAMS
NO. 35752
EXPIRATION DATE 12/31/2024



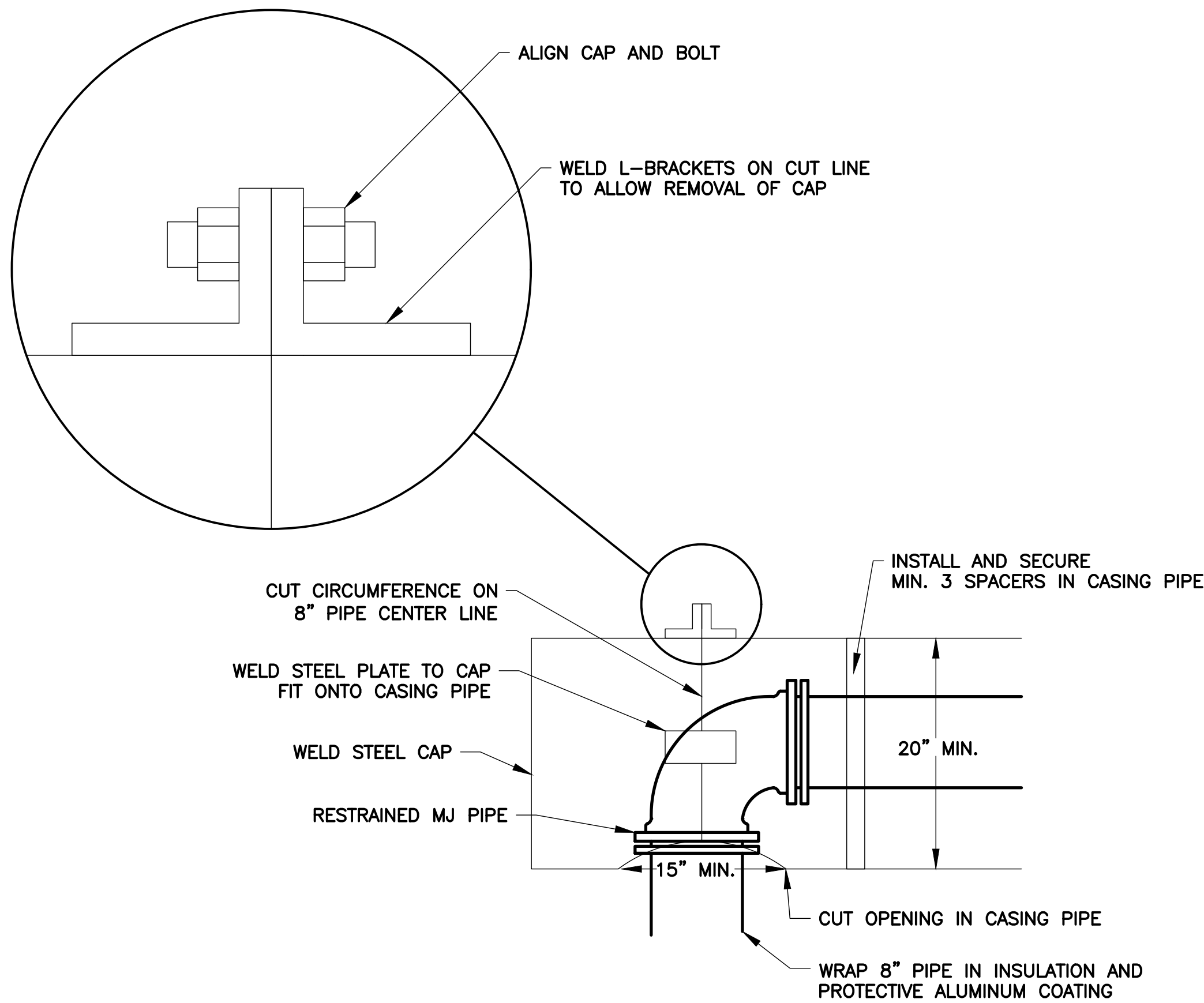
LEFT RETAINING WALL



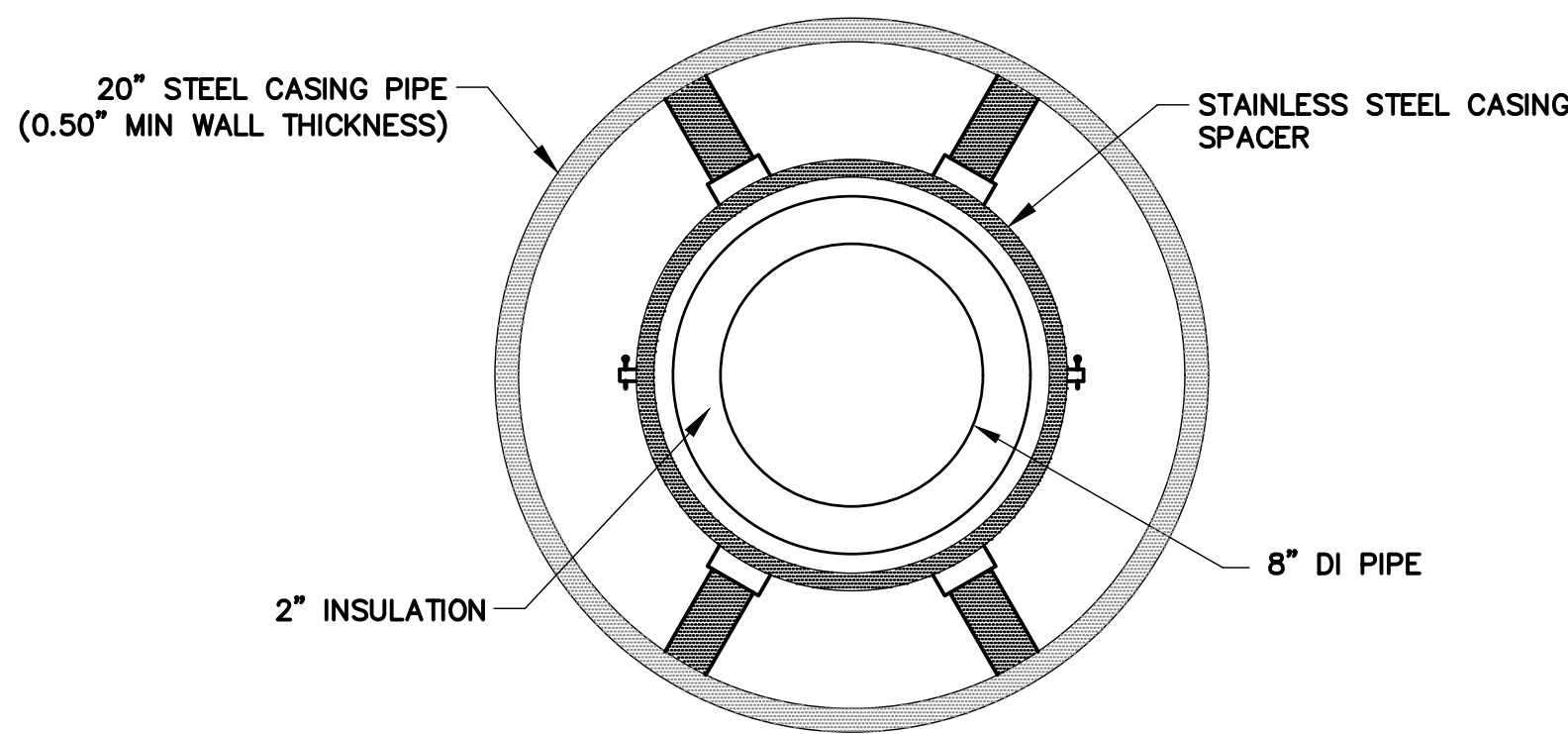
SECTION A



RIGHT RETAINING WALL



CASING PIPE CAP DETAIL
N.T.S.



NOTES:

- STEEL CASING PIPE TO HAVE MINIMUM YIELD CASING STRENGTH OF 35,000 PSI.
- CASING SECTIONS TO BE BUTT WELDED 360°.

WATERMAIN CASING PIPE
N.T.S.



EXISTING CONCRETE LEFT OF BRIDGE



DRAINAGE INLET



WELLINGTON STREET BRIDGE



RETAINING WALLS

\\ves03.local\\VES\\Projects\\MA\\Medway MA\\Holliston & Brentwood Water Main CADD\\Contract 1\\CDDT001_L BRIDGE CROSSING.dwg

WESTON & SAMPSON

Weston & Sampson Engineers, Inc.
55 Walkers Brook Drive, Reading, MA 01867
978.532.1900
www.westonandsampson.com

No.	Date	Dr. By	Ch. By	App. By	Description
		A	P	R	O
					V
					E
					D

3/12/2020

DATE

BRUCE W. ADAMS

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS

BRUCE W. ADAMS

NO. 35752

REGISTERED PROFESSIONAL ENGINEER

TOWN OF MEDWAY, MASSACHUSETTS

MEDWAY PUBLIC WORKS

HOLLISTON AND BRENTWOOD WATER MAIN IMPROVEMENTS, CONTRACT 1

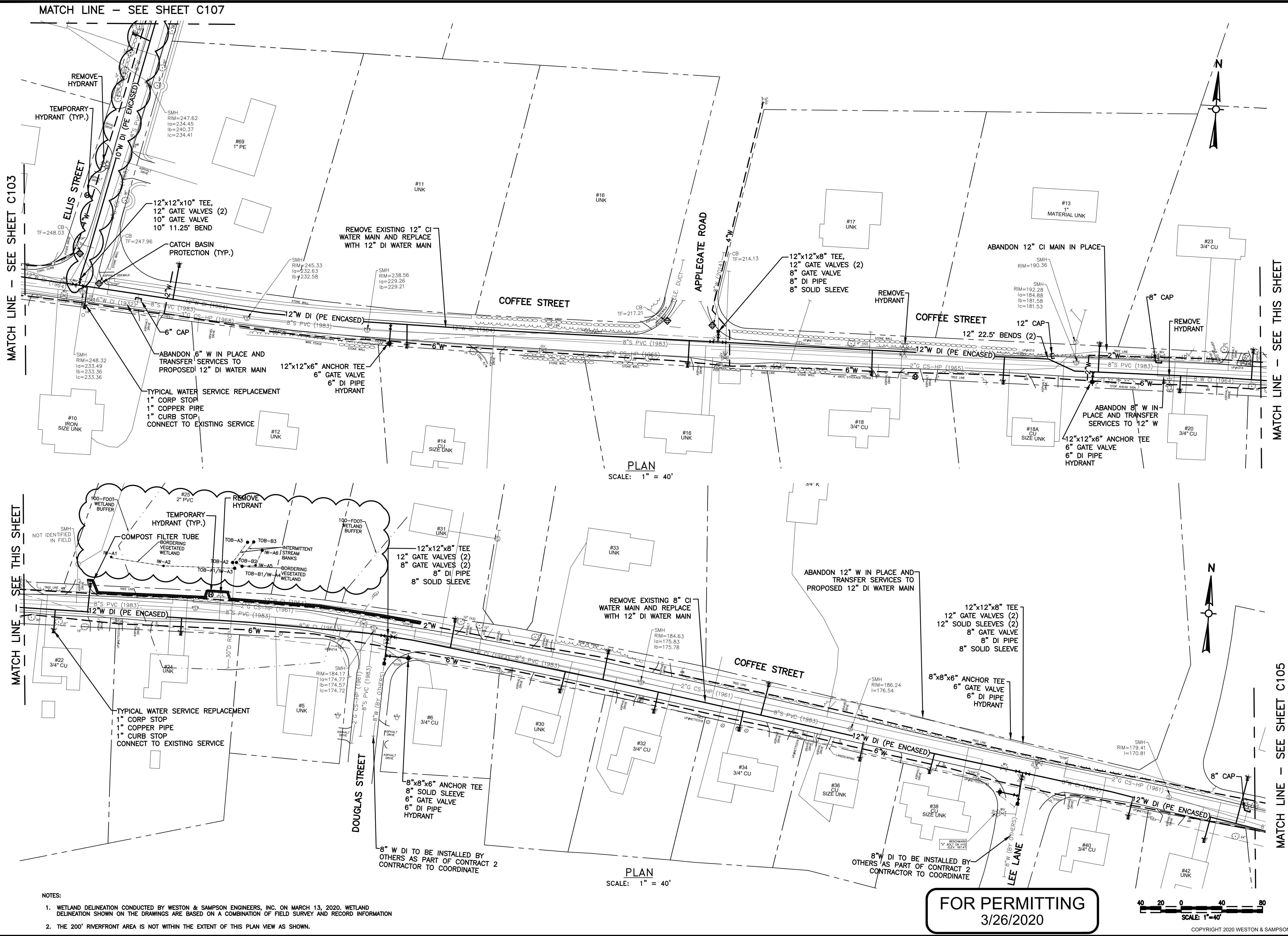
WELLINGTON BRIDGE DETAILS

CADD NO.	CONTRACT	JOB NO.	DR. BY	DSN. BY	CHK. BY	APP. BY
CDT001	AS NOTED	1	2180868	NLL	NLL	DVM
FILE NO.	243 1					BWA

C506

UPDATED PLAN SHEETS

\\west03.local\West\Projects\MA\Medway\MA\Holliston & Brentwood Water Main CADD\Contract 1\CPN001_Replace Coffee_Accession 1.dwg



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1

3/2020

NLL

Dr. By

3/26/2020

DATE

1

3/2020

NLL

Dr. By

3/26/2020

DATE

ADDENDUM NO. 1

Description

APP. BY

CHK. BY

DATE

REGISTERED PROFESSIONAL ENGINEER

BRUCE W. ADAMS
CIVIL
No. 35752
REGISTERED PROFESSIONAL ENGINEER

TOWN OF MEDWAY, MASSACHUSETTS
MEDWAY PUBLIC WORKS
HOLLISTON AND BRENTWOOD WATER MAIN IMPROVEMENTS, CONTRACT 1

COFFEE STREET

CADD NO.

CPN001

SCALE:

AS NOTED

CONTRACT:

1

JOB NO.

2180868

DR. BY

NLL

DSN. BY

NLL

CHK. BY

DVM

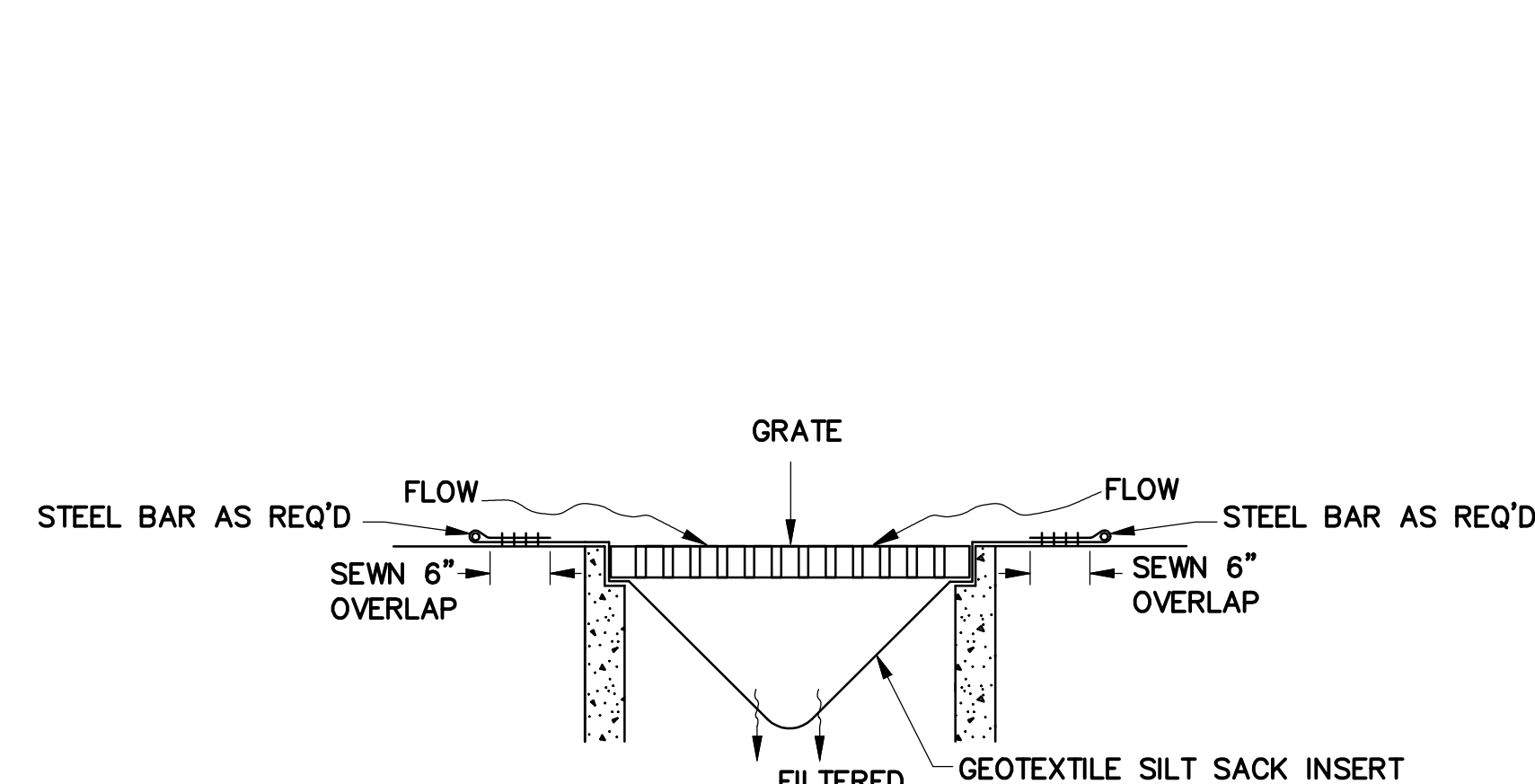
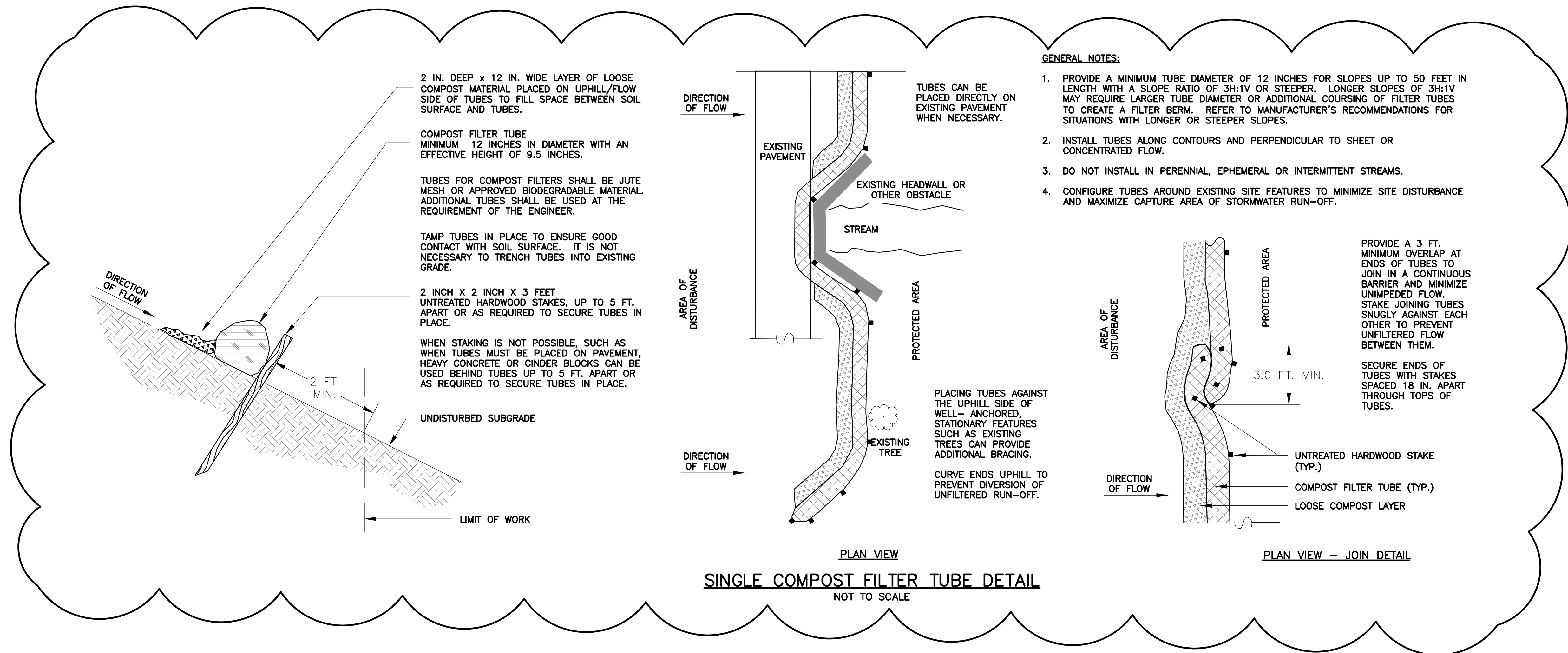
APP. BY

BWA

C104

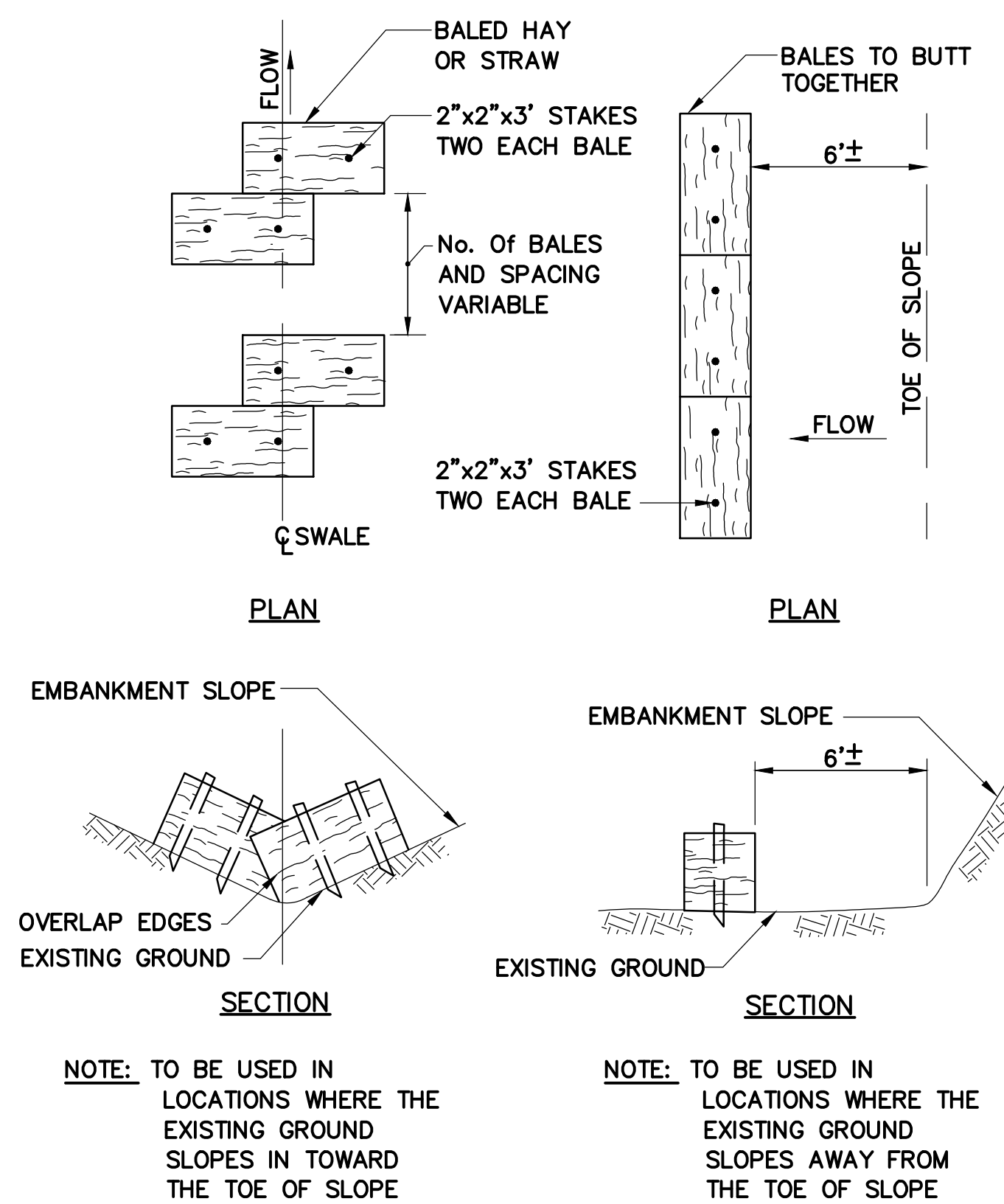
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243 10

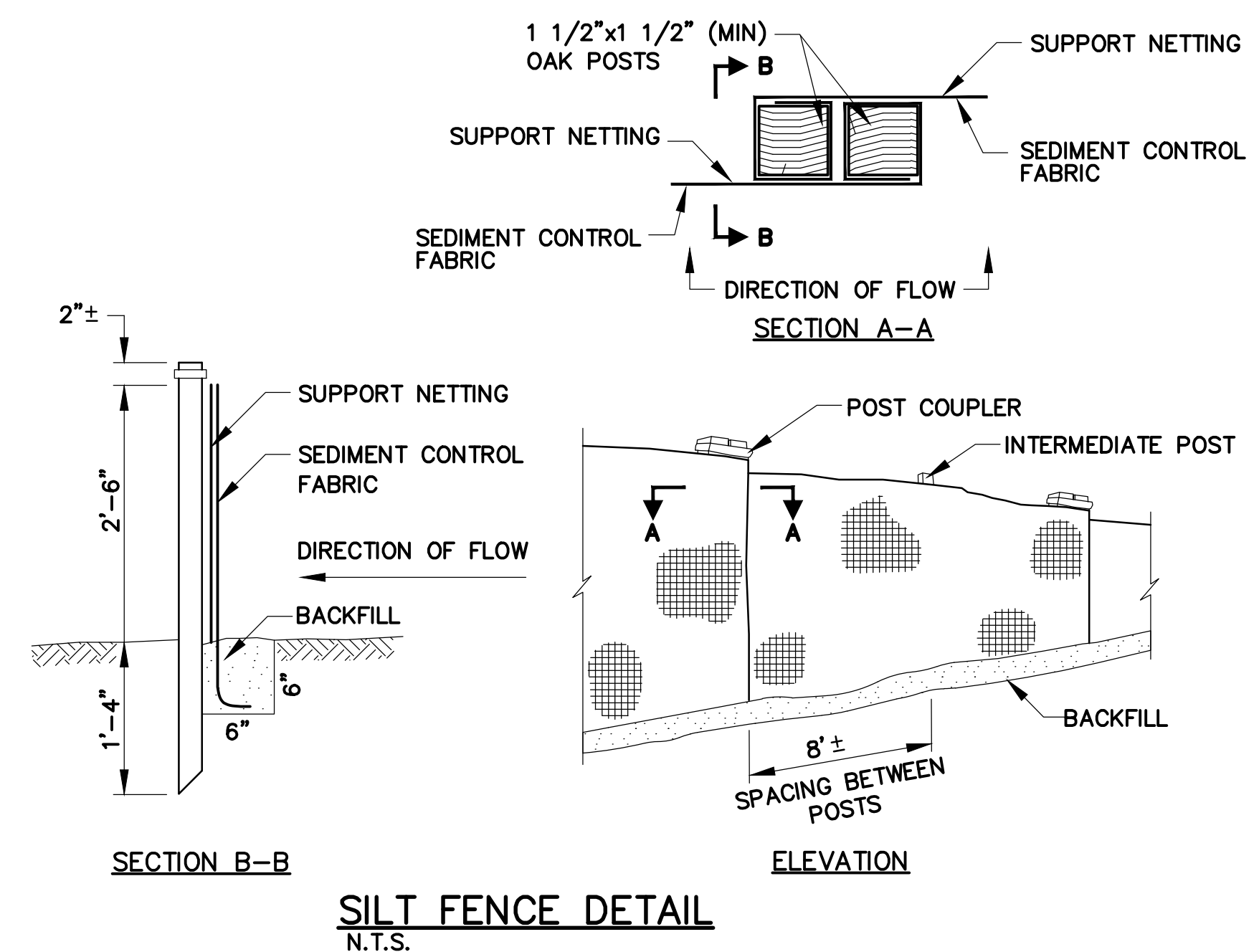


- NOTES:
1. SILT SACK SHALL BE AN APPROVED PROPRIETARY GEOTEXTILE UNIT.
 2. CONTRACTOR TO CLEAN AND INSPECT SILT SACK REGULARLY AND AFTER EVERY MAJOR WEATHER EVENT.
 3. SILT SACK SHALL BE SECURED USING REBAR OR AS DIRECTED BY MANUFACTURER TO PREVENT THE UNIT FROM FALLING INTO THE CATCH BASIN WHEN GRATE IS REMOVED.

CATCH BASIN PROTECTION DETAIL
N.T.S.



HAY BALES DETAIL
N.T.S.

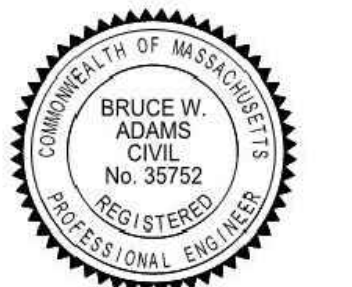


SILT FENCE DETAIL
N.T.S.

FOR PERMITTING
3/26/2020

No.	Date	A	P	P	R	O	V	E	D	Description	ADDENDUM NO. 1
1	3/2020										

REGISTERED PROFESSIONAL ENGINEER
3/26/2020
DATE



TOWN OF MEDWAY, MASSACHUSETTS MEDWAY PUBLIC WORKS HOLLISTON AND BRENTWOOD WATER MAIN IMPROVEMENTS, CONTRACT 1	APP. BY BWA	CHK. BY DVM	DSN. BY NLL	DR. BY NLL	SCALE: AS NOTED	CONTRACT: 1	JOB NO. 2180868	CADD NO. CDT001
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ENVIRONMENTAL PROTECTION DETAILS	FILE NO. 243 3
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C504



- FOR PERMITTING
3/26/2020

