
NOTICE OF INTENT

Proposed Culvert Replacement and Related Site Work

Property Location:

*West Road over Bear Swamp Brook
Clarksburg, MA 01247*

Applicant/Owners:

*Town of Clarksburg
c/o Kyle Hurlbut, Highway Supt.
111 River Road
Clarksburg, MA 01247*

Civil Engineer:

*Foresight Land Services, Inc.
1496 West Housatonic Street
Pittsfield, MA 01201*

November 2025

FLS Project # E2790

FORESIGHT
LAND SERVICES



ENGINEERING · SURVEYING · PLANNING · ENVIRONMENTAL PERMITTING

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Submitted to the Clarksburg Conservation Commission
for Proposed Culvert Replacement and Related Site Work
West Road over Bear Swamp Brook
Clarksburg, MA 01247

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Massachusetts Department of Environmental Protection

eDEP Transaction Copy

Here is the file you requested for your records.

To retain a copy of this file you must save and/or print.

Username: **4SITE**

Transaction ID: **1948767**

Document: **WPA Form 3 - NOI**

Size of File: **273.22K**

Status of Transaction: **In Process**

Date and Time Created: **11/17/2025:1:24:47 PM**

Note: This file only includes forms that were part of your transaction as of the date and time indicated above. If you need a more current copy of your transaction, return to eDEP and select to "Download a Copy" from the Current Submittals page.



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 #:
eDEP Transaction #:1948767
City/Town:CLARKSBURG

A.General Information

1. Project Location:

a. Street Address	WEST ROAD	c. Zip Code	01247
b. City/Town	CLARKSBURG	e. Longitude	73.11864W
d. Latitude	42.74272N	g.Parcel/Lot #	N/A
f. Map/Plat #	N/A		

2. Applicant:

☐ Individual ☒ Organization

a. First Name		b. Last Name	
c. Organization	THE TOWN OF CLARKSBURG		
d. Mailing Address	111 RIVER ROAD		
e. City/Town	CLARKSBURG	f. State	MA
g. Zip Code	01247		
h. Phone Number	413-663-3451	i. Fax	
j. Email	dpw@clarksburg.ma.gov		

3. Property Owner:

☐ more than one owner

a. First Name		b. Last Name	
c. Organization	THE TOWN OF CLARKSBURG		
d. Mailing Address	111 RIVER ROAD		
e. City/Town	CLARKSBURG	f. State	MA
g. Zip Code	01247		
h. Phone Number	413-663-3451	i. Fax	
j. Email	dpw@clarksburg.ma.gov		

4. Representative:

a. First Name	MARC	b. Last Name	LEVASSEUR
c. Organization	FORESIGHT LAND SERVICES		
d. Mailing Address	1496 W HOUSATONIC STREET		
e. City/Town	PITTSFIELD	f. State	MA
g. Zip Code	01201		
h. Phone Number	413-499-1560	i. Fax	
j. Email	mlevasseur@foresightland.com		

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

a. Total Fee Paid	0.00	b. State Fee Paid	0.00	c. City/Town Fee Paid	0.00
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6. General Project Description:

CULVERT REPLACEMENT.

7a. Project Type:

- | | |
|---|--|
| 1. ☐ Single Family Home | 2. ☐ Residential Subdivision |
| 3. ☐ Limited Project Driveway Crossing | 4. ☐ Commercial/Industrial |
| 5. ☐ Dock/Pier | 6. ☐ Utilities |
| 7. ☐ Coastal Engineering Structure | 8. ☐ Agriculture (eg., cranberries, forestry) |
| 9. ☒ Transportation | 10. ☐ Other |

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



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1. ☐ Yes ☒ No If yes, describe which limited project applies to this project:

2. Limited Project

8. Property recorded at the Registry of Deeds for:

a. County: **b. Certificate:** **c. Book:** **d. Page:**

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

1. Buffer Zone & Resource Area Impacts (temporary & permanent):

☐ This is a Buffer Zone only project - Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.

2. Inland Resource Areas: (See 310 CMR 10.54 - 10.58, if not applicable, go to Section B.3. Coastal Resource Areas)

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☒ Bank	160 1. linear feet	160 2. linear feet
b. ☐ Bordering Vegetated Wetland	1. square feet	2. square feet
c. ☒ Land under Waterbodies and Waterways	630 1. Square feet	630 2. square feet
	0 3. cubic yards dredged	
d. ☐ Bordering Land Subject to Flooding	1. square feet	2. square feet
	3. cubic feet of flood storage lost	4. cubic feet replaced
e. ☐ Isolated Land Subject to Flooding	1. square feet	
	2. cubic feet of flood storage lost	3. cubic feet replaced
f. ☒ Riverfront Area	1. Name of Waterway (if any)	
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		8220 square feet
4. Proposed Alteration of the Riverfront Area:		
8220 a. total square feet	8220 b. square feet within 100 ft.	0 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



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

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

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Designated Port Areas	Indicate size under	Land under the ocean below,
b. ☐ Land Under the Ocean	1. square feet	
	2. cubic yards dredged	
c. ☐ Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes, below	
d. ☐ Coastal Beaches	1. square feet	2. cubic yards beach nourishment
e. ☐ Coastal Dunes	1. square feet	2. cubic yards dune nourishment
f. ☐ Coastal Banks	1. linear feet	
g. ☐ Rocky Intertidal Shores	1. square feet	
h. ☐ Salt Marshes	1. square feet	2. sq ft restoration, rehab, crea.
i. ☐ Land Under Salt Ponds	1. square feet	
	2. cubic yards dredged	
j. ☐ Land Containing Shellfish	1. square feet	
k. ☐ Fish Runs	Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above	
	1. cubic yards dredged	
l. ☐ Land Subject to Coastal Storm Flowage	1. square feet	

4.Restoration/Enhancement

☐ Restoration/Replacement

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 entered the additional amount here.

a. square feet of BVW

b. square feet of Salt Marsh

5.Projects Involves Stream Crossings

☒ Project Involves Streams Crossings

If the project involves Stream Crossings, please enter the number of new stream crossings/number of replacement stream crossings.

0

1

a. number of new stream crossings

b. number of replacement stream crossings



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 #:
eDEP Transaction #:1948767
City/Town:CLARKSBURG

C. Other Applicable Standards and Requirements

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 of Endangered Species program (NHESP)?

a. ☐ Yes ☒ No

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

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

b. Date of map:FROM MAP VIEWER

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

c. Submit Supplemental Information for Endangered Species Review * (Check boxes as they apply)

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

3. ☐ Project plans for entire project site, including wetland resource areas and areas outside of wetland 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

c. ☐ MESA filing fee (fee information available at: <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/mass-endangered-species-act-mesa/mesa-fee-schedule.html>)

Make check payable to "Natural Heritage & Endangered Species Fund" 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

d. 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/eea/agencies/dfg/dfw/laws-regulations/cmr/321-cmr-1000-massachusetts-endangered-species-act.html#10.14>; 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 Number

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.



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

WPA Form 3 - Notice of Intent

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

Provided by MassDEP:
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City/Town:CLARKSBURG

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review...

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

a. ☒ Not applicable - project is in inland resource area only

b. ☐ Yes ☐ No

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

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

North Shore - Hull to New Hampshire:

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
836 S. Rodney French Blvd
New Bedford, MA 02744

Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930

If yes, it 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.

3. 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 DEP Website for ACEC locations). **Note:** electronic filers click on Website.

b. ACEC Name

4. 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

5. 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

6. 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, Explain why the project is exempt:

1. ☐ Single Family Home

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.



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 #:
eDEP Transaction #:1948767
City/Town:CLARKSBURG

D. Additional Information

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 by regular mail delivery.

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. ☒
3. Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s)). ☒
4. 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. ☒

a. Plan Title: **b. Plan Prepared By:** **c. Plan Signed/Stamped By:** **c. Revised Final Date:** **e. Scale:**

SEE TOC

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. ☐



**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 #:
eDEP Transaction #:1948767
City/Town:CLARKSBURG

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. Payer name on check: First Name	7. Payer name on check: Last Name

F. Signatures and Submittal Requirements

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

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

<u>[Signature]</u> 1. Signature of Applicant	<u>11/5/25</u> 2. Date
<u>Town of Clarksburg</u> 3. Signature of Property Owner(if different)	<u>11/5/25</u> 4. Date
 5. Signature of Representative (if any)	 6. Date

For Conservation Commission:

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

For MassDEP:

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

Other:

If the applicant has checked the "yes" box in Section C, Items 1-3, 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
WPA Form 3 - Notice of Wetland Fee Transmittal Form

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

Provided by MassDEP:
MassDEP File #:
eDEP Transaction #:1948767
City/Town:CLARKSBURG

A. Applicant Information

1. Applicant:

a. First Name		b. Last Name	
c. Organization	THE TOWN OF CLARKSBURG		
d. Mailing Address	111 RIVER ROAD		
e. City/Town	CLARKSBURG	f. State	MA
g. Zip Code	01247		
h. Phone Number	4136633451	i. Fax	
j. Email	dpw@clarksburg.ma.gov		

2. Property Owner:(if different)

a. First Name		b. Last Name	
c. Organization	THE TOWN OF CLARKSBURG		
d. Mailing Address	111 RIVER ROAD		
e. City/Town	CLARKSBURG	f. State	MA
g. Zip Code	01247		
h. Phone Number	4136633451	i. Fax	
j. Email	dpw@clarksburg.ma.gov		

3. Project Location:

a. Street Address	WEST ROAD	b. City/Town	CLARKSBURG
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Are you exempted from Fee? ☐ (YOU HAVE SELECTED 'YES')

Note: Fee will be exempted if you are one of the following:

- City/Town/County/District
- Municipal Housing Authority
- Indian Tribe Housing Authority
- MBTA

State agencies are only exempt if the fee is less than \$100

B. Fees

Activity Type	Activity Number	Activity Fee	RF Multiplier	Sub Total
	City/Town share of filing fee	State share of filing fee	Total Project Fee	
	\$0.00	\$0.00	\$0.00	

AFFIDAVIT OF SERVICE

I, Marc A. LeVasseur, hereby certify under the pains and penalties of perjury that on November 17, 2025, 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 filed on November 17, 2025 with the Clarksburg Conservation Commission under the Massachusetts Wetlands Protection Act by Foresight Land Services, Inc. on behalf of the applicant, The Town of Clarksburg, c/o Kyle Hurlbut, Highway Supt.

The applicant proposes the following as part of this Notice of Intent: Proposed Culvert Replacement and Related Site Work.

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

Foresight Land Services, Inc.

By: 

Marc A. LeVasseur

November 17, 2025

cc: Clarksburg Conservation Commission
Western Regional Office of DEP

Notification to Abutters

By Hand Delivery, Certified Mail (return receipt requested), or Certificates of Mailing

This is a notification required by law. You are receiving this notification because you have been identified as the owner of land abutting another parcel of land for which certain activities are proposed. Those activities require a permit under the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40).

In accordance with the second paragraph of the Massachusetts Wetlands Protection Act, and 310 CMR 10.05(4)(a) of the Wetlands Regulations, you are hereby notified that:

- A. A Notice of Intent was filed with the Clarksburg Conservation Commission on November 17, 2025 seeking permission to remove, fill, dredge, or alter an area subject to protection under M.G.L. c. 131 §40. The following is a description of the proposed activity/activities:

Proposed culvert replacement with new open bottom precast concrete box culvert and related site work.

- B. The name of the applicant is: The Town of Clarksburg, c/o Kyle Hurlbut, Highway Supt.
- C. The address of the land where the activity is proposed is: West Road over Bear Swamp Brook, Clarksburg, MA 01247.
- D. Copies of the Notice of Intent may be examined or obtained at the office of the Clarksburg Conservation Commission, located at 111 River Rd, Clarksburg, MA 01247.
- E. Copies of the Notice of Intent may be obtained from the applicant's representative by calling Foresight Land Services, Inc. at 413-499-1560. An administrative fee may be applied for providing copies of the NOI and plans.
- F. Information regarding the date, time, and location of the public hearing regarding the Notice of Intent may be obtained from the Clarksburg Conservation Commission. Notice of the public hearing will be published at least five business days in advance, in the Berkshire Eagle.

Notification provided pursuant to the above requirement does not automatically confer standing to the recipient to request Departmental Action for the underlying matter. See 310 CMR 10.05(7)(a)4.

List of Abutters to Property at
West Road Culvert over Bear Swamp Brook
Clarksburg, MA 01247

Lot #1
Martin Hammond
77 Deakins Road
North Petersburg, NY 12138

Lot #3
Benjamin Svenson
91 Cole Ave
Williamstown, MA 01247



**UNITED STATES
POSTAL SERVICE®**

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Mailing**

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To pay fee, affix stamps or
meter postage here.

From:

Foresight Land Services, INC.
1496 West Housatonic Street
Pittsfield, MA 01201

To:

Martin Hammond
77 Deakins Road
North Petersburg, NY 12138

Postmark Here

PS Form **3817**, April 2007 PSN 7530-02-000-9065



**UNITED STATES
POSTAL SERVICE®**

**Certificate Of
Mailing**

This Certificate of Mailing provides evidence that mail has been presented to USPS® for mailing.
This form may be used for domestic and international mail.

To pay fee, affix stamps or
meter postage here.

From:

Foresight Land Services, INC.
1496 West Housatonic Street
Pittsfield, MA 01201

To:

Benjamin Svenson
91 Cole Ave
Williamstown, MA 01247

Postmark Here

PS Form **3817**, April 2007 PSN 7530-02-000-9065

UNITED STATES GEOLOGICAL SURVEY MAP



N.T.S.

FORESIGHT LAND SERVICES, INC.
ENGINEERING • SURVEYING • PLANNING
1496 West Housatonic Street
Pittsfield, MA 01201

Exhibit A-1
USGS North Adams QUAD, 1987 ed.
Source MASSGIS

West Road
Clarksburg, MA

USDA WEB SOIL SURVEY MAP



Map Unit Symbol	Map Unit Name
95D	Houghtonville fine sandy loam, 15 to 25 percent slopes, very stony
106D	Berkshire fine sandy loam, 15 to 25 percent slopes, very stony
106E	Berkshire fine sandy loam, 25 to 50 percent slopes, very stony
108C	Peru fine sandy loam, 8 to 15 percent slopes, very stony
113B	Cabot silt loam, 0 to 8 percent slopes, very stony
75B	Pillsbury fine sandy loam, 0 to 8 percent slopes, very stony
901E	Berkshire-Marlow association, 15 to 45 percent slopes, extremely stony
904E	Lyman-Tunbridge association, 15 to 60 percent slopes, extremely stony
905C	Peru-Marlow association, 3 to 15 percent slopes, extremely stony

N.T.S.

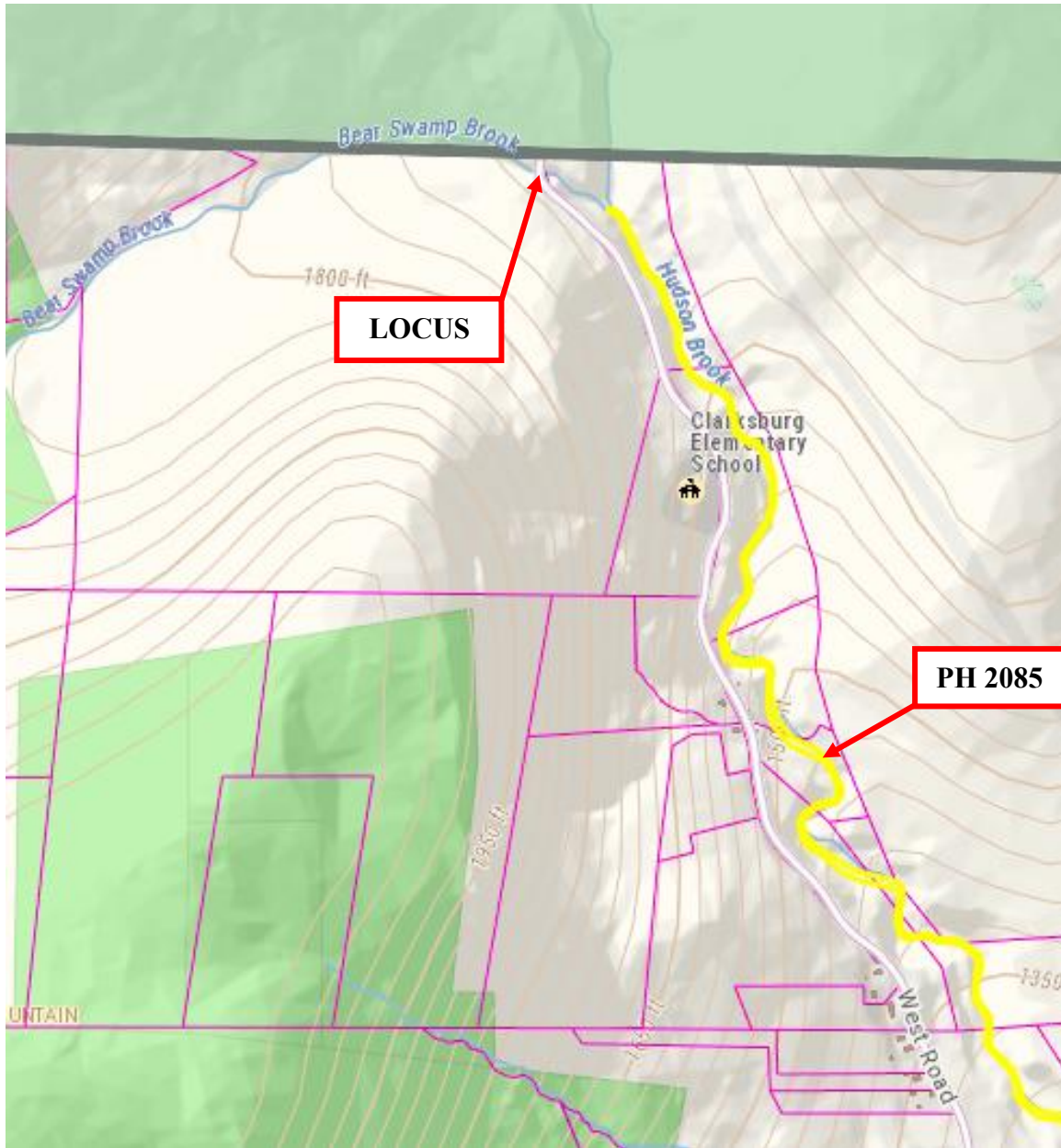
FORESIGHT LAND SERVICES, INC.
ENGINEERING • SURVEYING • PLANNING
1496 West Housatonic Street
Pittsfield, MA 01201

Exhibit A-2
USDA Web Soil Survey Map

West Road
Clarksburg, MA

PRIORITY HABITATS AND ESTIMATED HABITATS Effective August 1, 2017
Priority Habitats for use with the MA Endangered Species Act Regulations (321 CMR 10)
Estimated Habitats for use with the MA Wetland Protection Act Regulations (310 CMR 10)
Produced by Natural Heritage & Endangered Species Program

MA Division of Fisheries and Wildlife



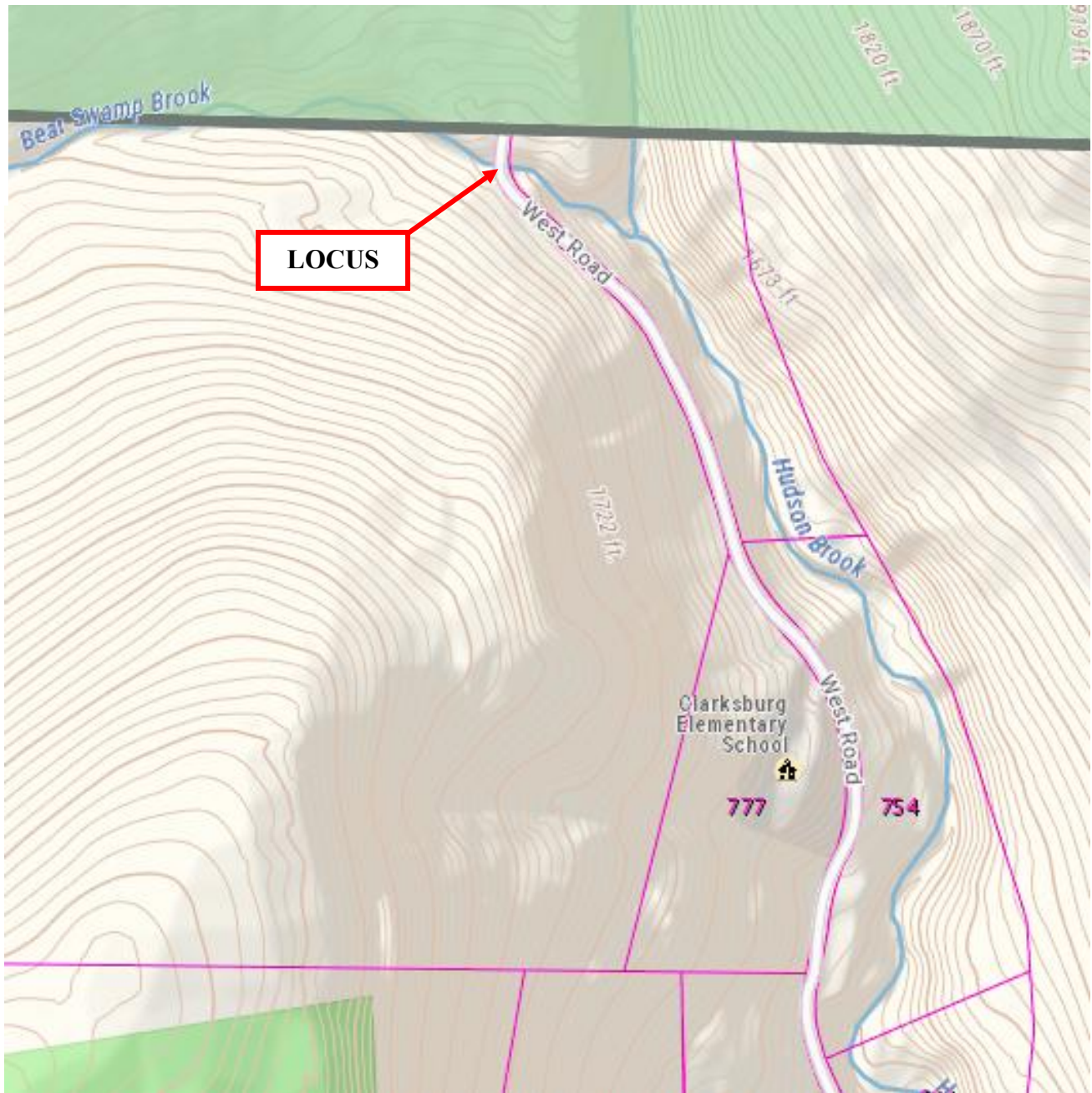
N.T.S.

FORESIGHT LAND SERVICES, INC.
ENGINEERING • SURVEYING • PLANNING
1496 West Housatonic Street
Pittsfield, MA 01201

Exhibit A-3
Priority Habitat Map
North Adams QUAD
Source MASSGIS

West Road
Clarksburg, MA

NATIONAL FLOOD INSURANCE PROGRAM



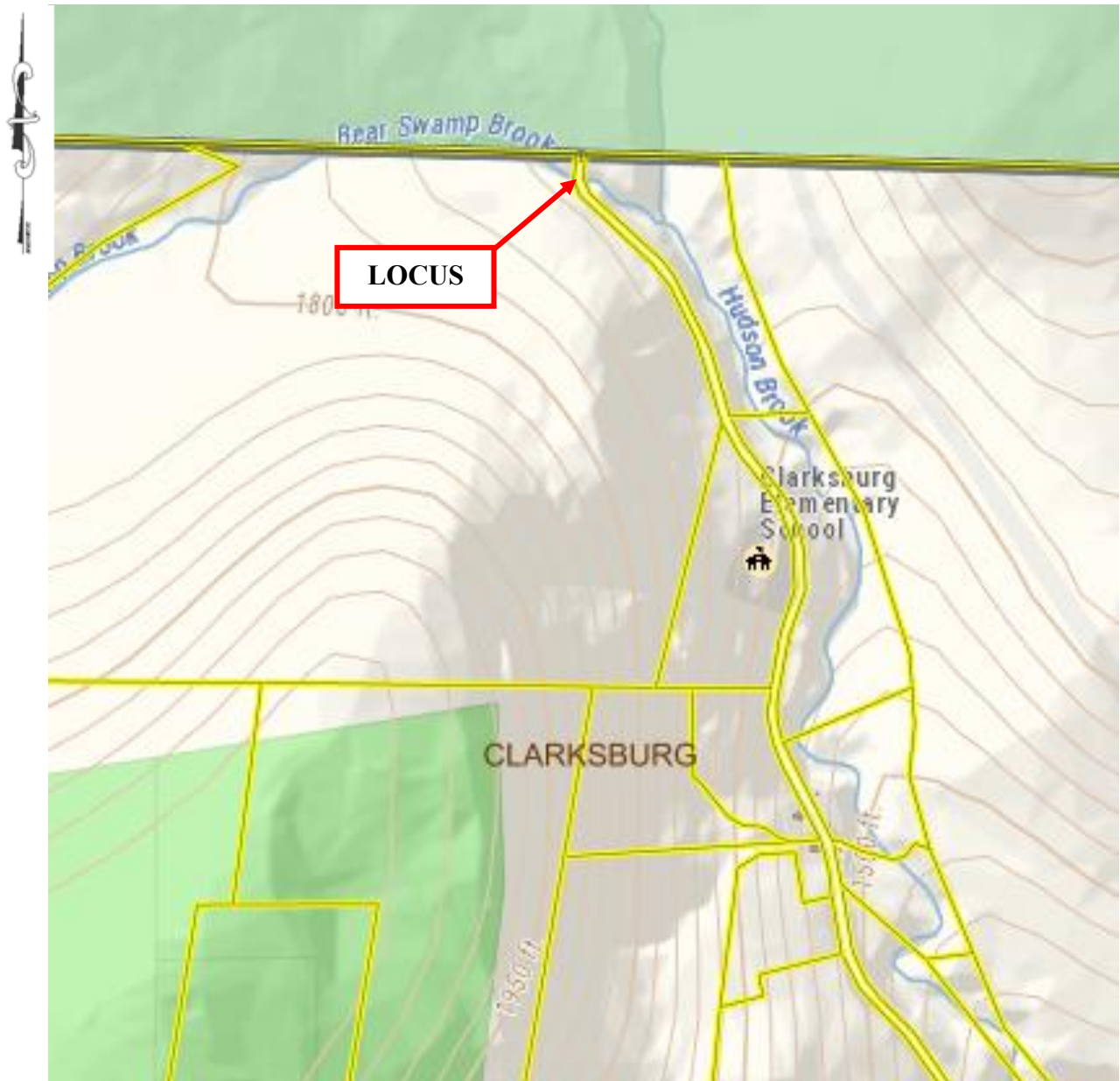
N.T.S.

FORESIGHT LAND SERVICES, INC.
ENGINEERING • SURVEYING • PLANNING
1496 West Housatonic Street
Pittsfield, MA 01201

Exhibit A-4
North Adams QUAD
Source MASSGIS

West Road
Clarksburg, MA

ASSESSOR'S MAP



N.T.S.

FORESIGHT LAND SERVICES, INC.
ENGINEERING • SURVEYING • PLANNING
1496 West Housatonic Street
Pittsfield, MA 01201

Exhibit A-5
Clarksburg Assessor's Map
Map #213

West Road
Clarksburg, MA



Steven A. Mack, P.E.*
Marc A. LeVasseur

Exhibit B
Project Narrative
Proposed Culvert Replacement & Related Site Work
West Road, Clarksburg, MA

GENERAL

The project area is located at the crossing of Bear Swamp Brook and West Road in Clarksburg, MA. The Town's goal for the proposed project is to replace the old culvert at its existing location and improve the condition of the culvert to provide safe wildlife passage. The existing culvert is proposed to be replaced with an open bottom reinforced precast concrete box culvert, which will achieve the Town's goals of improving roadway and stream conditions.

EXISTING CONDITIONS

The project area is located on West Road, approximately 125 feet south of the Vermont/Massachusetts State Line. The ±8' diameter, approximately 40' long, deteriorating culvert crosses under West Road adjacent to a gravel pull-off area. The inlet and outlet channels consist of a well-defined, very stony perennial stream known as Bear Swamp Brook. The Banks of Bear Swamp were delineated using methods identified in the Massachusetts Department of Environmental Protection Wetland Delineation Manual, 1995. The existing mortar and stone walls at the inlet and outlet are in poor condition. There are wooden guard rails located at the crossing site.

The wetland resource areas on site are Bank (10.54), Land Under Water Bodies and Waterways (10.56), and Riverfront Area (10.58), associated with Bear Swamp Brook. The proposed work is located within the Riverfront Area (310CMR 10.58) of Bear Swamp Brook; there is a 100 Foot Buffer Zone extending from the bank of the brook. The property is not located within an Area of Critical Environmental Concern, Estimated Habitat for Rare Wildlife or Priority Habitat for Rare Species, or a FEMA-mapped floodplain. Soils according to the USDA Web Soil Survey are Peru-Marlow association, 3 to 15 percent slopes, extremely stony.

WETLAND RESOURCE AREAS

The wetland resource areas present on the subject parcel are Bank (310 CMR 10.54), Land Under Water Bodies and Waterways (310 CMR 10.56) and Riverfront Area (310 CMR 10.58) associated with Bear Swamp Brook. Bear Swamp Brook is a perennial stream that converges into Hudson Brook.

The bank of Bear Swamp Brook is defined by the MAHW.

A-Series- The southern bank of Bear Swamp Brook was formally delineated on January 15, 2020 by Foresight Land Services with pink ribbon labelled A1-A45 END as shown on the attached plan.

B-series- The northern bank of Bear Swamp Brook was formally delineated on January 15, 2020 by Foresight Land Services with pink ribbon labelled B1-A44 END as shown on the attached plan.

PROPOSED WORK

The existing culvert is proposed to be replaced with an open bottom reinforced precast concrete box culvert, with head and wing walls, C.I.P. footings, and approach slabs. The proposed box structure is 13' high, 31' wide, and 45' long. The proposed structure will have at least 1.2 times the average bankfull width, meeting the Massachusetts River & Stream Crossing Standards to the maximum extent practicable while still maintaining manufacturer cover requirements for the proposed culvert structure. The culvert replacement will include a new natural brook substrate through the crossing and provide for scour protection below the substrate. The structure is proposed to minimize construction impacts by reducing the time of installation as well as impacts from onsite construction methods.

On site excavated materials that are not proposed to be re-used shall be removed from the site. Materials that are proposed to be re-used shall be stored outside the immediate culvert construction site and be covered and/or ringed with erosion controls.

West Road is proposed to be reconstructed, where disturbed by construction, over the new culvert to meet minimum Town standard roadway widths with shoulders and guardrails. The roadway is proposed to be reconstructed to 20-feet wide with the addition of 2' gravel shoulders and MassDOT approved guardrails. Full depth roadway improvements and repairs are proposed for the culvert replacement installation.

No new point source discharges are proposed, therefore the project is not subject to the Stormwater Management Standards.

Wetland Resource Protection, Water Control, and Habitat Enhancement Measures

Installation of the culvert is proposed for late summer and early fall construction that is normally low flow conditions. Wetland resources are proposed to be protected through the use of various erosion control methods including wattles, straw bales, erosion control fencing and a combination of those listed. Erosion controls shall be placed as shown on the plans and as evidently required through the construction sequence. Erosion controls shall be installed and maintained throughout the construction period and until the site has stabilized with vegetation and is approved by the Conservation Commission. Erosion controls shall also be used as limit of work barriers.

Stream flow water control may include a temporary drain pipe and temporary use of the existing culvert, with concrete block and/or jersey barriers and impervious sheeting coffer dams upstream of the work site. The culvert may need to be adjusted to meet the sequence of the construction process. The pipe outlet shall have scour protection provided. The contractor shall submit detailed stream flow dewatering methods prior to construction for approval of the Conservation

Commission and the Engineer. It is proposed to minimize the use of sand bags that increase the amount of site impact from placement and removal activities.

If required, construction site dewatering is proposed to be by pump and filter bag system. The filter bag shall be set on a level surface and on a bed of straw or crushed stone and have wattles or straw bale surround. Attention shall be made to pump pipe connections and filter bag capacity. Filter bags shall be maintained and replaced as required by manufacturer and as evidently required. The contractor shall submit detailed dewatering methods prior to construction for approval of the Conservation Commission and the Engineer.

The project has been designed to minimize hard surface armoring to maximize the habitat environment. The reconstructed brook substrate is proposed to match as much as possible the existing substrate for grain sizing and cobble/ boulder placement.

The replacement stream crossing is designed to pass 100 year peak storm event. The new 13' high box structure should pass most stream born debris.

The open bottom culvert design will improve the Bank condition by replacing the existing culvert that is not a "Naturally Occurring Bank", and has limited presumptive bank values, with a proposed natural bank condition that will provide the full presumptive values of Bank as well as improve the wildlife habitat. A total of 160 linear feet is proposed to be altered and replaced. Bank conditions within the proposed pipe arch structure will be greatly improved from the existing culvert.

GENERAL PERFORMANCE STANDARDS REVIEW PER 310 CMR 10

310 CMR 10.54(4) Bank General Performance Standards

The project has been designed to reduce and mitigate negative impacts to bank areas. Bank alteration is proposed to be replaced at the same location. The physical stability of the replaced bank will be improved in the future through the use stabilization practices (new stream channel) and new headwalls. The water carrying capacity of the existing channel within the bank, the groundwater quality and the surface water quality will not be adversely affected. The bank's breeding habitat, escape cover, and food will not be adversely impacted. Approximately 160 linear feet of bank is proposed to be altered and 160 linear feet of bank is proposed to be replaced, therefore there is no cumulative permanent alteration and the proposed work shall not impair the capacity of the bank to provide important wildlife habitat functions. The proposed work will have no adverse effect on specified habitat sites or rare wetland or upland, vertebrate or invertebrate species, or on vernal pools.

310 CMR 10.58(4) Riverfront General Performance Standards

The proposed project will abide by all other resource area's general performance standards, see above for details. Therefore, complying with the protection of other resource areas. The project will also not have adverse effects on habitat or species. The larger new culvert will comply with stream crossing standards and provide more space for wildlife crossing. There is no other

practicable and substantially equivalent economic alternative. This is a culvert replacement occurring within the already disturbed area as the previous culvert.

310 CMR 10.56 Land Under Water Bodies and Waterways General Performance Standards

The proposed project will result in 630 SF of temporary LUWW alteration. These areas will be restored after the conclusion of the project.

1. *the carrying capacity within the defined channel*
The carrying capacity of the defined channel will not increase from the proposed project.
2. *ground and surface water quality*
The proposed project will not have any affect on the quality of ground or surface water.
3. *the capacity of said land to provide breeding habitat, escape cover, and food for fisheries*
The proposed project will result in improvements to the lands capacity to provide breeding habitat, escape cover, and food for fisheries. This is due to the expansion of the culvert size to better accommodate wildlife crossings.
4. *the capacity of said land to provide important wildlife habitat functions*
The proposed project will result in improvements to the lands capacity to provide important wildlife habitat functions. This is due to the culvert size expansion and addition of natural bottom that better accommodates wildlife crossings and habitat.
5. *work on a stream crossing shall be presumed to meet the performance standards set forth in 310 CMR 10.56(4)(a)*
The proposed project will improve culvert that conveys the stream to meet current stream crossing standards.

MITIGATING MEASURES

Erosion controls shall be installed as shown on the plans and as evidently needed to control run off from the construction site from reaching the resource area. Disturbed areas associated with the culvert replacement will be contained by staked straw wattles, staked silt fencing, and straw bales.

Erosion controls shall be installed prior to work, maintained throughout, and removed only after Conservation Commission approval. Erosion controls shall remain in place and shall be maintained until the construction site has vegetated and stabilized. All disturbed exposed soils shall be seeded and straw mulched as soon as possible to establish vegetation during construction. These measures represent the minimum needed to control sediment on the site and to provide a limit of work barrier. The Contractor is responsible for the implementation of additional measures, if needed, to prevent negative impact to resource areas. All work shall be in conformance with the "Construction-Phase Measures for the Control of Sediments and the Protection of Wetlands" included in this Notice of Intent. All disturbed areas shall be restored with loam, seed and straw mulch. See exhibits C-1 Erosion Control Methods and the plans for Erosion Control details.

EXHIBIT C
GENERAL CONDITIONS:
Construction-Phase Measures for
Control of Sediment and Erosion and Protection of Wetlands

1. Do not disturb existing vegetated areas far in advance of construction. Limit disturbance only to the extent and duration required for imminent construction activities. Retain and protect natural vegetation and vegetative filter strips wherever possible.
2. Temporary vegetation or a heavy mat of wood chips shall be established on all earth stockpiles or stripped areas which will be bare for more than two months and less than 12 months. Such vegetation shall consist of a commercial conservation seed mixture with a high percentage of annual rye grass. Permanent herbaceous cover shall be established on areas which would be bare more than 12 months.
3. A heavy mat of straw mulch, wood chips, erosion control netting, mesh or blanket matting shall be used on disturbed areas if vegetation cannot be established due to season or on-going construction process, or if otherwise required.
4. Silt fence or carefully positioned staked straw bales shall be installed along the downhill edge of disturbed earthwork areas where required to control erosion and sedimentation.
5. Water courses, including intermittent drainage swales, shall be protected from siltation by silt fence barriers or carefully positioned staked straw bale check dams.
6. Sediment traps shall be constructed downhill of disturbed areas and upstream of watercourses and/or wetlands. Trapped sediments shall be removed from the basins during the construction period before they become 50% full to prevent sediment from being transported downhill. Dispose of sediments in on-site upland disposal areas, properly graded, seeded and mulched.
7. Permanent drainage control structures shall be installed as early as possible in the construction process. Drains shall be provided with drain inlet sediment filters and/or traps.
8. Do not fuel construction equipment or store fuel or other potential contaminants within 100 feet of water courses or wetlands.
9. Precast concrete shall be washed down at the manufacturer's plant. Cast-in-place concrete within 100 feet of watercourses/wetlands shall be placed so as to minimize runoff of stormwater from fresh concrete, through use of sumps, diversions, etc. Concrete trucks and equipment contaminated with fresh concrete shall not be washed down within 100 feet of wetlands.
10. An adequate stockpile of erosion control materials shall be on site at all times for emergency or routine replacement and shall include materials to repair silt fences, straw bales, stone-riprap filter dikes or any other devices planned for use during construction.
11. The areas of construction should remain in a stable condition at the close of each construction day. Erosion controls shall be inspected at this time, and maintained or reinforced if necessary.
12. Strictly adhere to all general and special conditions of any Wetlands Protection Act Permits, including plans, details, construction sequencing outline, and other applicable requirements.

SITE PHOTOGRAPHS

Proposed Culvert Replacement and Related Site Work West Road, Clarksburg, MA

The following photographs shall serve as documentation of existing conditions at the proposed culvert replacement location.



Photo 1: Displays Bear Swamp Brook and the existing culvert under West Road from an upstream perspective.



Photo 2: Displays the existing headwall and culvert inlet under West Road from an upstream perspective.



Photo 3: Displays West Road from the South of the Bear Swamp Brook stream crossing.



Photo 4: Displays Bear Swamp Brook and the existing culvert outlet from a downstream perspective.



Photo 5: Displays the perched outlet of the existing culvert under West Road.



Photo 6: Displays a portion of the upstream Reference Reach, facing upstream.



Photo 7: Displays a portion of the downstream Reference Reach, facing upstream.

MassDEP Wetlands Program: Sample 310 CMR 10.24(10) and 10.53(8) Replacement Stream Crossing Evaluation Worksheet

Evaluation Criteria	Alternative 1: Replace in-kind <u>8' Diameter Steel Culvert</u>	Alternative 2: Meet General Performance Standards for Bank and LUWW ¹ <u>13'H± x 31'W x 45'L</u> <u>Open bottom Arch culvert, headwalls, & wingwalls. C.I.P. footings & approach slabs</u>	Alternative 3: Meet minimum applicable Stream Crossing Standards ² & General Performance Standards for Bank and LUWW ¹ <u>13'H± x 31'W x 45'L</u> <u>Open bottom reinforced precast concrete box culvert, headwalls, & wingwalls. C.I.P. footings & approach slabs (Proposed)</u>
1) potential for downstream flooding	There is no record of the current crossing causing downstream flooding; therefore an in-kind replacement is not likely to result in downstream flooding.	The existing culvert is only a 8' diameter CMP and increasing the opening to meet the standards would significantly increase the capacity, however the downstream perennial stream should be able to accommodate any increased flow.	The existing culvert is only a 8' diameter CMP and increasing the opening to meet the standards would significantly increase the capacity, however the downstream perennial stream should be able to accommodate any increased flow.
2) upstream and downstream habitat	There would be no change to the existing upstream and downstream habitat.	Construction of a culvert of this size would require significant earthwork and disturbance to the site which could possibly impact the surrounding habitat. If standards were met, the potential for flooding could also pose a hazard to the downstream habitat.	Increasing the crossing to 13'H± x 31'W x 45'L Open bottom reinforced precast concrete box culvert would improve Bank conditions at the crossing but would require a significantly larger amount of earthwork, which may negatively impact upstream and downstream habitat.
3) potential for erosion and head-cutting	The existing crossing does not show signs of erosion or head-cutting, therefore an in-kind replacement would not likely cause erosion or head-cutting.	The potential for erosion and head-cutting is minimal. This culvert would roughly match the existing invert; therefore there would be minimal temporary impact to the existing stream bed. The increase in flow rate through the culvert will not cause erosion.	The potential for erosion and head-cutting is minimal. This culvert would roughly match the existing invert; therefore there would be minimal temporary impact to the existing stream bed. The increase in flow rate through the culvert will not cause erosion.
4) stream stability	The existing stream is stable and a replacement in-kind would not have a negative impact, but would not provide any stability improvements.	The downstream should be able to accommodate any increased flow; therefore there will be no negative impacts to stream stability.	The downstream should be able to accommodate any increased flow; therefore there will be no negative impacts to stream stability.

MassDEP Wetlands Program: Sample 310 CMR 10.24(10) and 10.53(8) Replacement Stream Crossing Evaluation Worksheet

Evaluation Criteria	Alternative 1: Replace in-kind <u>8' Diameter Steel Culvert</u>	Alternative 2: Meet General Performance Standards for Bank and LUWW ¹ <u>13'H± x 31'W x 45'L</u> <u>Open bottom Arch culvert, headwalls, & wingwalls. C.I.P. footings & approach slabs</u>	Alternative 3: Meet minimum applicable Stream Crossing Standards ² & General Performance Standards for Bank and LUWW ¹ <u>13'H± x 31'W x 45'L</u> <u>Open bottom reinforced precast concrete box culvert, headwalls, & wingwalls. C.I.P. footings & approach slabs (Proposed)</u>
5) habitat fragmentation caused by the crossing	Replacement in-kind would not provide an improvement over habitat continuity. The 8' partially embedded structure does not provide adequate passage for wildlife.	A crossing of this size would not result in habitat fragmentation and would provide improved habitat continuity over the existing conditions.	A crossing of this size would not result in habitat fragmentation and would provide improved habitat continuity over the existing conditions.
6) amount of stream mileage made accessible	No Change.	It is unknown if crossing or barriers exist upstream in State Forest	It is unknown if crossing or barriers exist upstream in State Forest
7) storm flow conveyance	There would be no change in storm flow conveyance under this option. There is no record of the existing crossing overtopping.	This crossing would be able to accommodate high storm flow.	This crossing would be able to accommodate high storm flow.
8) engineering design constraints	Replacement in-kind would have the least engineering design constraints. The existing culvert has the minimum cover for structural integrity and the same would be the case for an in-kind replacement.	The existing site constraints and manufacturer cover requirements mean the larger culvert must be partially embedded, which reduces the openness ratio.	A structure of this size requires significantly more earthwork and would require changes to the roadway profile.

MassDEP Wetlands Program: Sample 310 CMR 10.24(10) and 10.53(8) Replacement Stream Crossing Evaluation Worksheet

Evaluation Criteria	Alternative 1: Replace in-kind <u>8' Diameter Steel Culvert</u>	Alternative 2: Meet General Performance Standards for Bank and LUWW ¹ <u>13'H± x 31'W x 45'L</u> <u>Open bottom Arch culvert, headwalls, & wingwalls. C.I.P. footings & approach slabs</u>	Alternative 3: Meet minimum applicable Stream Crossing Standards ² & General Performance Standards for Bank and LUWW ¹ <u>13'H± x 31'W x 45'L</u> <u>Open bottom reinforced precast concrete box culvert, headwalls, & wingwalls. C.I.P. footings & approach slabs</u> <u>(Proposed)</u>
9) hydrologic constraints	No change.	Increased crossing capacity will result in greater stormwater capacity and stability of the stream.	Increased crossing capacity will result in greater stormwater capacity and stability of the stream.
10) impacts to wetlands that would occur	Replacement in-kind would result in minimal wetland impacts.	To accommodate a structure of this size, site work will temporarily alter LUWW, Bank, and BVW. This option will greatly improve LUWW and Bank conditions after the project is completed. All BVW altered will be replicated in place.	To accommodate a structure of this size, site work will temporarily alter LUWW, Bank, and BVW. This option will greatly improve LUWW and Bank conditions after the project is completed. All BVW altered will be replicated in place.
11) potential to affect property and infrastructure	There would be no negative impacts to property or infrastructure for an in-kind replacement. There would be no improvements to the roadway.	Replacement of the culvert will result in improved roadway conditions.	Replacement of the culvert will result in improved roadway conditions.
12) cost of replacement	\$45,000	\$100,000	\$250,000

¹ LUWW = Land Under Water Bodies & Waterways

MassDEP Wetlands Program: Sample 310 CMR 10.24(10) and 10.53(8) Replacement Stream Crossing Evaluation Worksheet

² Refer to Page 18, Item #2 of the *Massachusetts River & Stream Crossing Standards* (March 1, 2011, Revised March 8, 2012)



Steven A. Mack, P.E.*
Marc A. LeVasseur

West Road Culvert Replacement

Replacement Stream Crossing Compliance Statement
West Road over Bear Swamp Brook, Clarksburg, MA

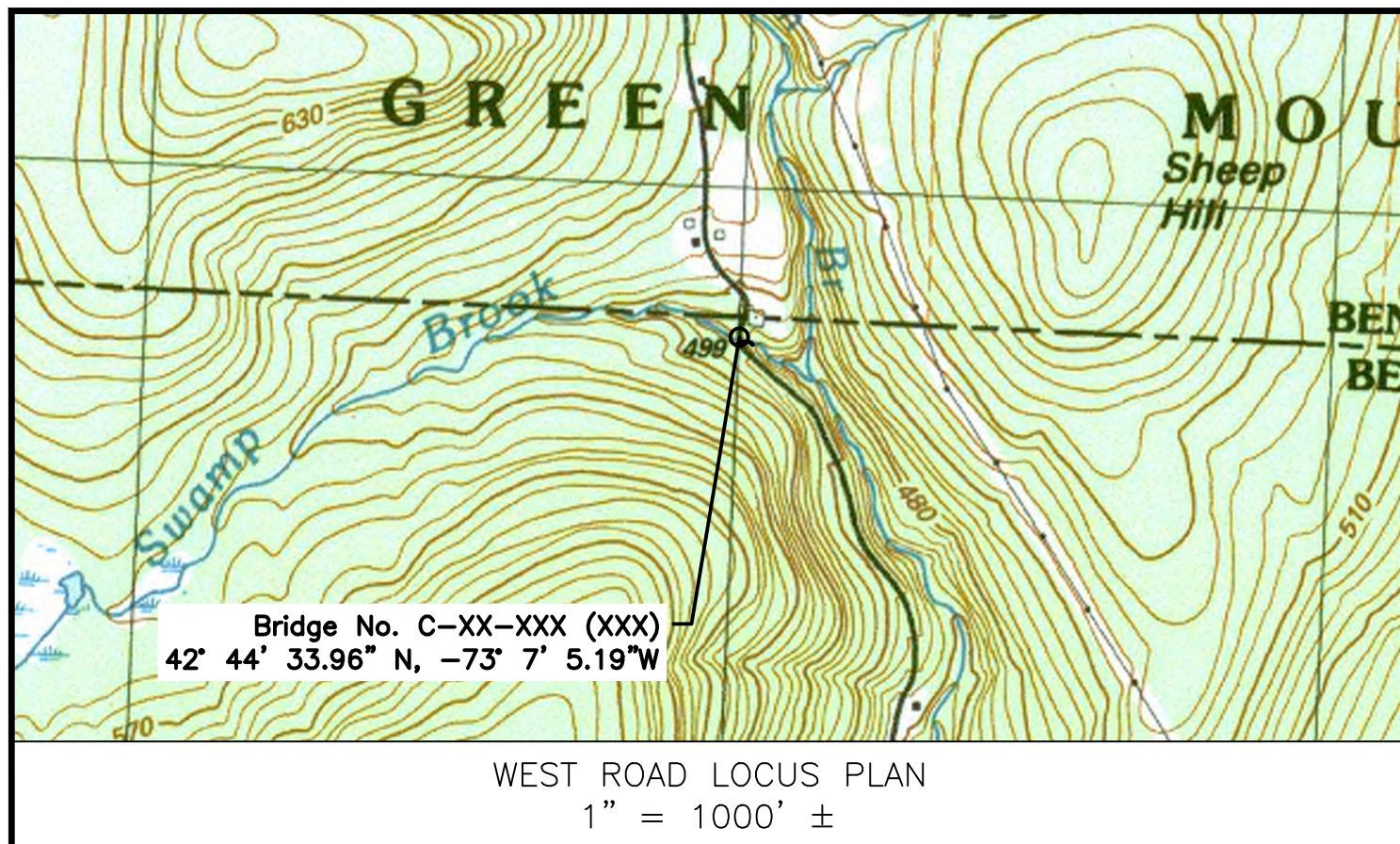
The Town of Clarksburg's DPW is proposing to replace an existing $\pm 8'$ diameter culvert under West Road with an open bottom reinforced precast concrete box culvert, meeting the General Standards of the Massachusetts River and Stream Crossing Standards. The project also meets the requirements for 310 CMR 10.53(8), replacement of an existing stream crossing.

The project is considered to be eligible for the United States Army Corp of Engineers Programmatic General Permit, Self-Verification. Specifically, PGP GP #23 terms and conditions have been reviewed, and can meet Self-Verification. The project is not subject to MEPA review.

The following summarizes the existing and proposed conditions. As shown below and provided in the Notice of Intent, the proposed replacement stream crossing attempts to meet, to the maximum extent practicable, the required General Standards Openness Ratio of 0.82 feet and the required Clear Span width of 1.2 times the bankfull width. The openness ratio for the proposed box culvert is 6.1. The average stream width, taken at several cross sections, is approximately 25 feet downstream and upstream. The required Clear Span width is 30.1 feet. The project has been designed to meet other General Standards including a natural bottom substrate within the structure, an appropriate bed form and stream bed so that water depths and velocities are compatible to those found in the natural channel at a variety of flows (a continuous thalweg has been provided in the structure), and banks on each side of the stream to match the horizontal profile of the existing stream and banks (banks provided are no greater than 1.5:1).

See the Project Narrative in the Notice of Intent for additional information

	Size	Length	Openness Ratio (Min. 0.82)	Clear Span (Min. 30.1')
Existing Culvert	$\pm 8'$ Diameter	40'	1.26	8'
Proposed Open Bottom Culvert	13' H x 31' W	45'	6.1	31'



DESIGN:
IN ACCORDANCE WITH THE 10TH EDITION OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS LRFD BRIDGE DESIGN SPECIFICATIONS WITH CURRENT INTERIM SPECIFICATIONS, FOR HL-93 LOADING.

BENCH MARK:
REFERENCE EXISTING CONDITIONS SURVEY NOTES, NOTE #6 ON SHEET 1

DATE:
TO BE PLACED ON THE OUTSIDE FACE OF THE HEADWALLS IN 5" BLOCK LETTERS. THE DATE USED SHALL BE THE LATEST YEAR OF THE CONTRACT COMPLETION AS OF THE DATE THE FIRST HEADWALL IS CONSTRUCTED. ALL HEADWALLS SHALL FEATURE THE SAME DATE.

SURVEY NOTEBOOKS:
COPIES OF SURVEY FILES MAY BE OBTAINED FROM FORESIGHT LAND SERVICES, INC.

FOUNDATIONS:
FOUNDATIONS MAY BE ALTERED, IF NECESSARY, TO SUIT CONDITIONS ENCOUNTERED DURING CONSTRUCTION, WITH THE APPROVAL OF THE ENGINEER.

UNSUITABLE MATERIAL:
ALL UNSUITABLE MATERIAL SHALL BE REMOVED WITHIN THE LIMITS OF THE FOUNDATIONS OF THE STRUCTURE, AS DIRECTED BY THE ENGINEER.

SEISMIC GROUND SHAKING HAZARD:
DESIGN SPECTRA:
PGA = 0.06, SITE CLASS = B, SEISMIC DESIGN CATEGORY (SDC) = A
S_s = 0.138
S₁ = 0.042

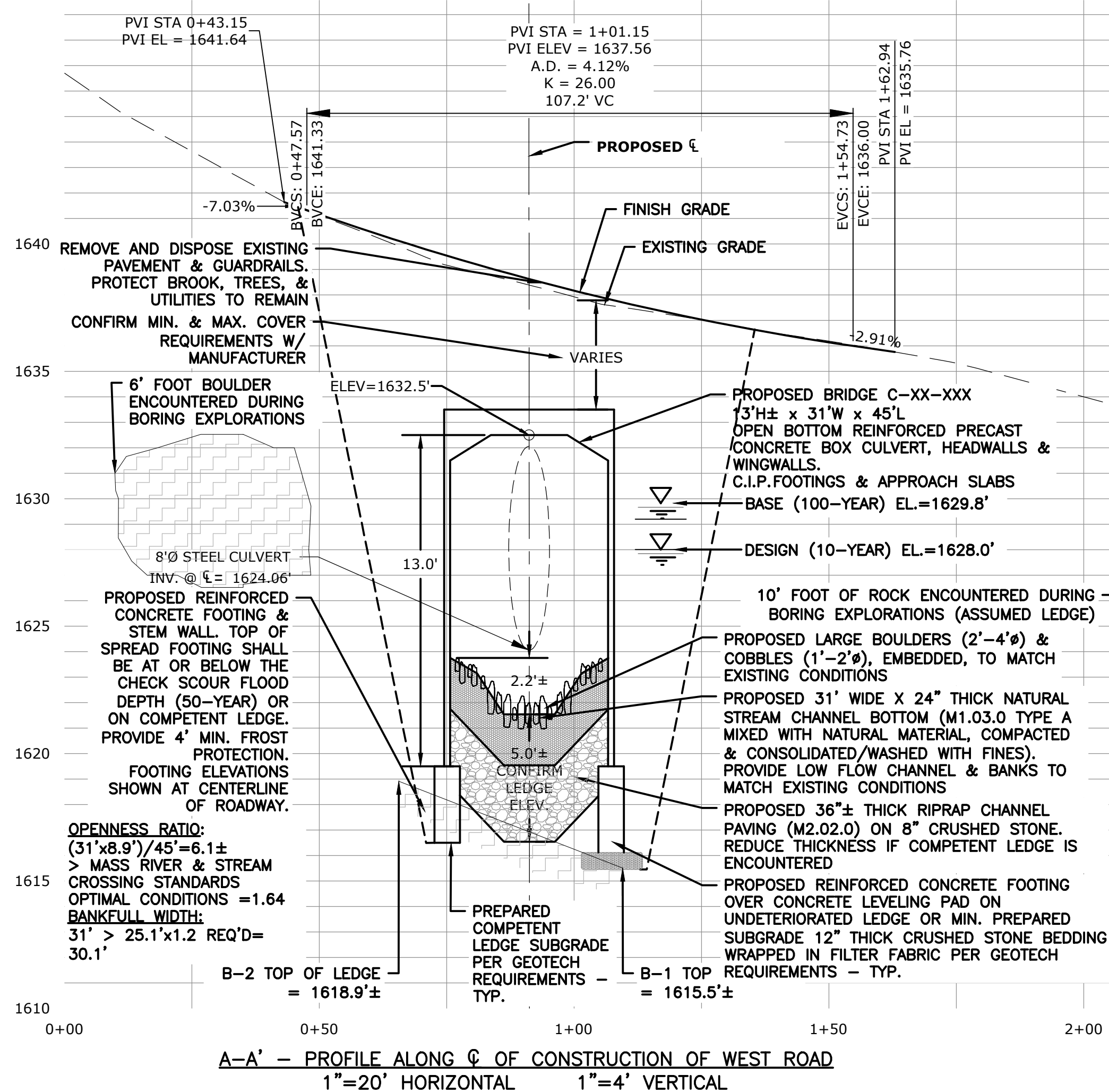
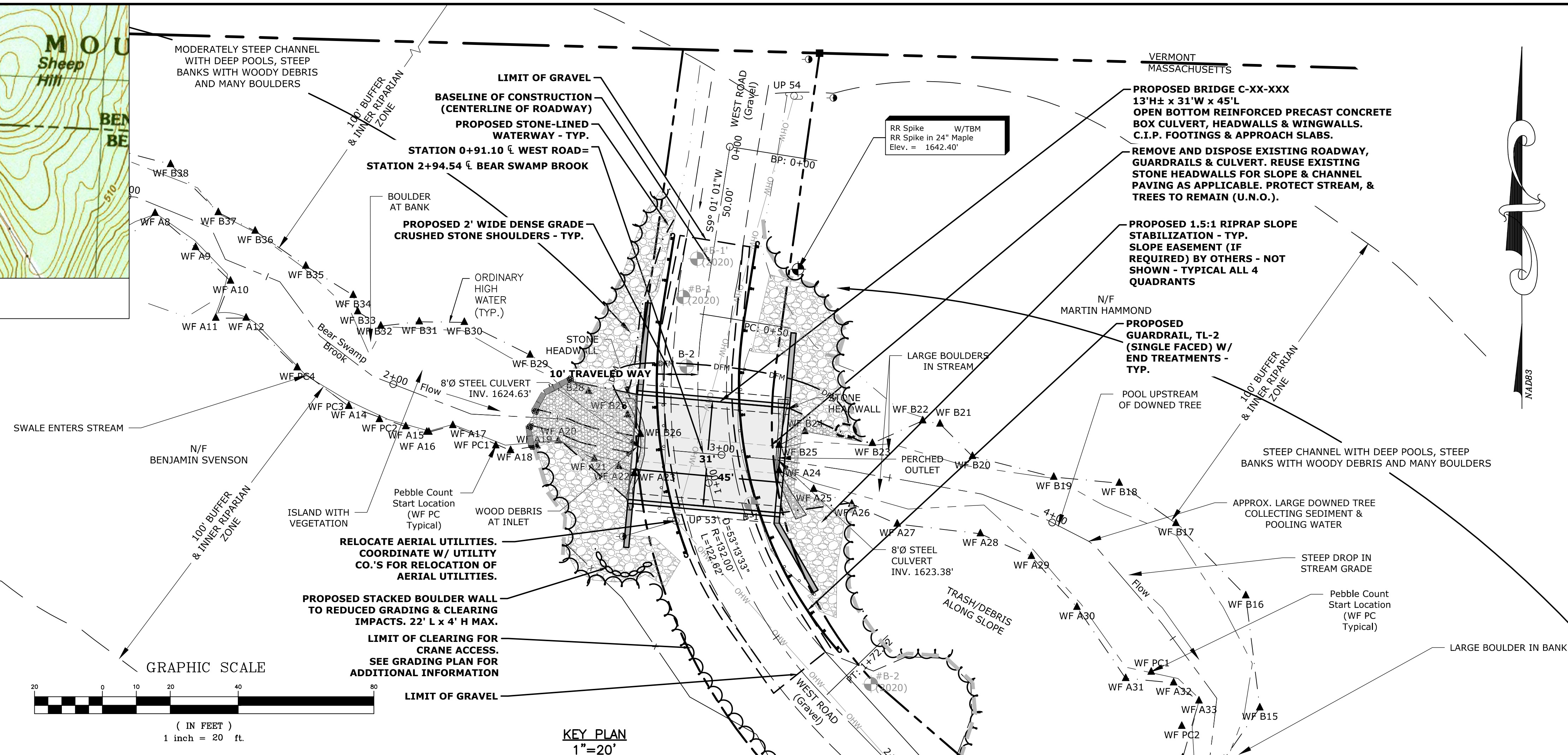
ANCHOR BOLTS:
NOT APPLICABLE FOR 3-SIDED PRECAST CONCRETE BOX CULVERT.

REINFORCEMENT:
REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 31 GRADE 60, UNLESS OTHERWISE NOTED ON THE CONSTRUCTION DRAWINGS, ALL BARS SHALL BE LAPPED AS FOLLOWS:

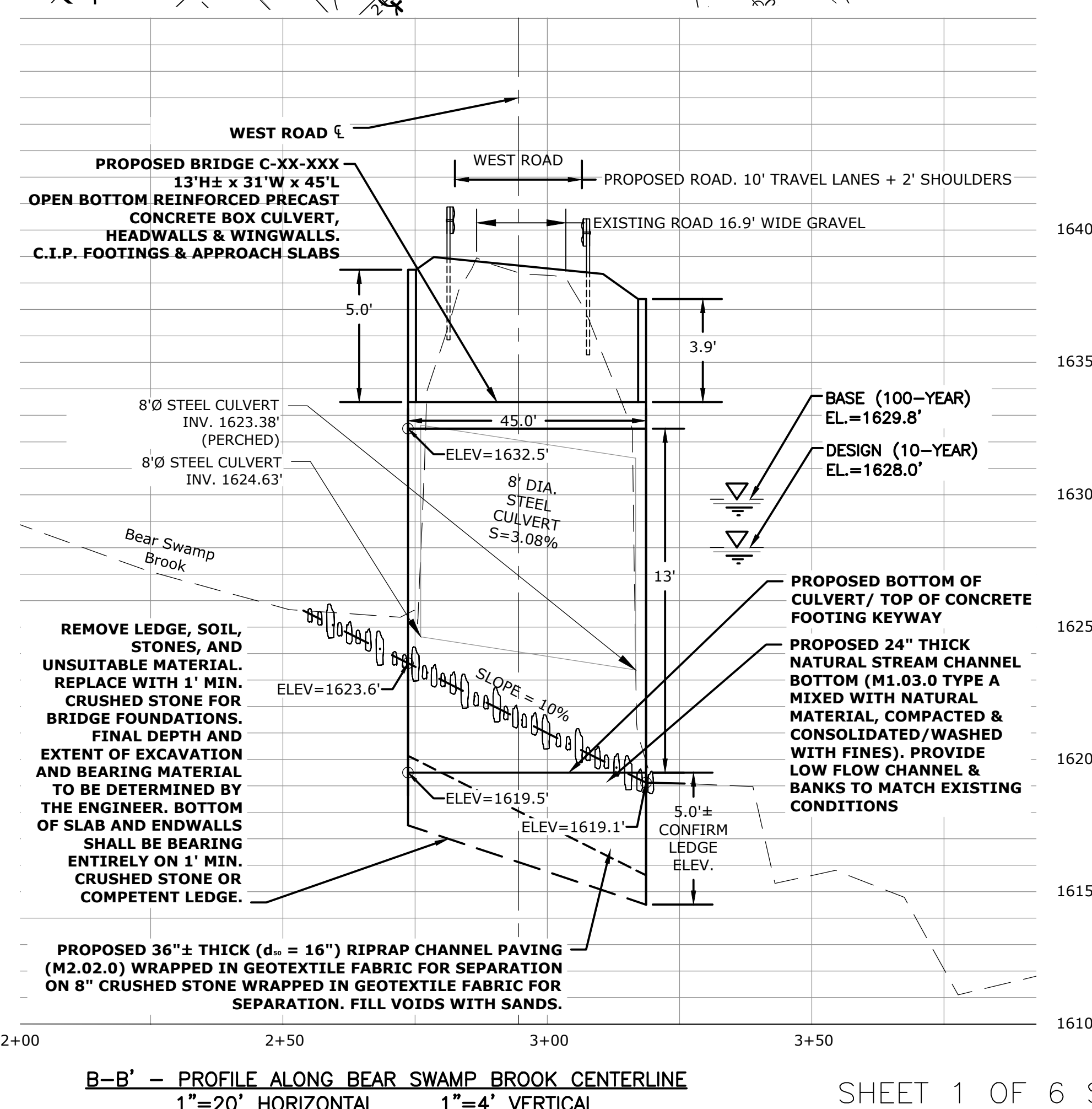
MODIFICATION CONDITION	#4 BARS	#5 BARS
1. NONE	21"	26"
2. 12" OF CONCRETE BELOW BAR	29"	36"
3. COATED BARS, COVER < 3db, OR CLEAR SPACING < 6db	31"	39"
4. COATED BARS, ALL OTHER CASES	25"	31"
5. CONDITION 2. AND 3.	35"	44"
6. CONDITION 2. AND 4.	34"	43"

IF THE ABOVE BARS ARE SPACED 6" OR MORE ON CENTER, THE LAP LENGTH SHALL BE 80% OF THE LAP LENGTH GIVEN ABOVE.
ALL OTHER BARS SHALL BE LAPPED AS SHOWN ON THE CONSTRUCTION DRAWINGS.

NOTES:
1. APPROVAL DOES NOT INCLUDE STRUCTURAL ANALYSIS.
2. DIMENSIONS OF STRUCTURAL MEMBERS ARE APPROXIMATE, AND WILL BE FINALIZED DURING THE FINAL DESIGN PHASE.
3. SEE GEOTECHNICAL REPORT, DATED JUNE, 2020
4. SEE HYDRAULIC REPORT, DATED JUNE 2025



A-A' - PROFILE ALONG C OF CONSTRUCTION OF WEST ROAD
1"=20' HORIZONTAL 1"=4' VERTICAL



B-B' - PROFILE ALONG BEAR SWAMP BROOK CENTERLINE
1"=20' HORIZONTAL 1"=4' VERTICAL

EXISTING CONDITIONS SURVEY NOTES:

- WETLANDS WERE DELINEATED BY FORESIGHT LAND SERVICES IN JANUARY 15 2020, AND FIELD SURVEYED BY FORESIGHT LAND SERVICES ON FEBRUARY 26, 2020.
- TOPOGRAPHIC SURVEY WAS PERFORMED BY FORESIGHT LAND SERVICES ON FEBRUARY 26 AND APRIL 7, 2020 USING ELECTRONIC TOTAL STATION WITH DATA COLLECTOR.
- PLAN WAS COMPILED ON A PC-BASED COMPUTER USING AUTOCAD CIVIL 3D 2018.
- CONTOURS ARE COMPUTER-GENERATED INTERPOLATIONS, EDITED TO GENERALLY CONFORM TO FIELD OBSERVATIONS. CONTOUR INTERVAL = 1 (ONE) FOOT. CONTRACTOR SHALL VERIFY CRITICAL ELEVATIONS AND GRADES IN THE FIELD PRIOR TO CONSTRUCTION.
- HORIZONTAL DATUM IS BASED UPON NAD83.
- VERTICAL DATUM IS BASED UPON NAD83. TEMPORARY BENCHMARK WAS ESTABLISHED ON SITE, TBM A, RAILROAD SPIKE, ELEV = 1642.40'.
- THE LOCATIONS AND INFORMATION ABOUT UNDERGROUND PIPES, UTILITIES OR OTHER STRUCTURES ARE COMPILED FROM AVAILABLE RECORD DATA AND VISIBLE FIELD EVIDENCE AND ARE NOT REPRESENTED AS BEING EXACT OR COMPLETE. PRIOR TO BEGINNING EXCAVATION, THE EXCAVATOR SHALL GIVE ADEQUATE ADVANCE NOTICE TO THE DIG SAFE CENTER, THE MUNICIPAL AND/OR STATE PUBLIC WORKS DEPARTMENT, AND PRIVATE UTILITY COMPANIES, TO ALLOW FOR FIELD LOCATION OF FACILITIES IN THE VICINITY.
- IF CONTRACTOR OBSERVES ANY FIELD CONDITIONS WHICH VARY SIGNIFICANTLY FROM WHAT IS SHOWN ON THESE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND ENGINEER FOR RESOLUTION OF THE CONFLICTING INFORMATION.
- THE CONTRACTOR SHALL RECORD TIE MEASUREMENTS, DEPTHS, DIMENSIONS, MATERIALS, FIELD CONDITIONS AND OTHER PERTINENT DATA ABOUT ALL UNDERGROUND PIPES, UTILITIES AND STRUCTURES ENCOUNTERED DURING THE WORK, BOTH EXISTING AND CONSTRUCTED. CONTRACTOR SHALL SUBMIT RECORD DRAWINGS WITH THIS INFORMATION TO THE OWNER AND ENGINEER PRIOR TO COMPLETION OF THE WORK.
- CONTRACTOR SHALL IMMEDIATELY REPORT ANY DAMAGE TO EXISTING PIPES, UTILITIES, OR STRUCTURES TO THE OWNER AND ENGINEER, AND OBTAIN DIRECTIONS AS TO REPAIR, REPLACEMENT OR ABANDONMENT.

SHEET INDEX

- GENERAL NOTES, LOCUS PLAN, KEY PLAN & PROFILE
- BORING INFORMATION, EROSION CONTROL NOTES & DETAIL
- PLAN VIEW
- EROSION CONTROLS & GRADING PLAN
- SITE DETAILS - SHEET 1
- SITE DETAILS - SHEET 2

NO.	DATE	REVISION/ISSUE	BY
10/27/2025	ISSUED FOR WPA NOI & ACOE PCN		MAL
9/10/2025	ISSUED FOR CRMA GRANT		MAL
9/30/2020	ISSUED FOR CRMA GRANT		SAM

PROJECT NO. E2790		SCALE AS NOTED
DATE 7-28-20		DESIGNED BY MAL
DRAWN BY MAL/AZM		CHECKED BY SAM
SHEET NO. 1		DATE 7-28-20
PROJECT NO. E2790		DATE 7-28-20

PROPOSED BRIDGE
CLARKSBURG
WEST ROAD
OVER BEAR SWAMP BROOK

FORESIGHT LAND SERVICES, INC.
1496 WEST HOUSTON STREET - PITTSFIELD, MA 01201
TEL: (413) 499-1560 FAX: (413) 499-3307 WWW.FORESIGHTLAND.COM

ENGINEERING SURVEYING PLANNING

1. LOCATION OF BORINGS SHOWN ON THE PLAN THUS:
2. BORINGS ARE TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW THE NATURE OF THE MATERIALS TO BE ENCOUNTERED DURING CONSTRUCTION.

3. WATER LEVELS SHOWN ON THE BORING LOGS WERE OBSERVED AT THE TIME OF TAKING BORINGS AND DO NOT NECESSARILY SHOW THE TRUE GROUND WATER LEVEL.
4. FIGURES IN COLUMNS INDICATE NUMBER OF BLOW REQUIRED TO DRIVE A 1 1/2" I.D. SPLIT SPOON SAMPLER 6" USING A 140 POUND WEIGHT FALLING 30".

5. BORING SAMPLES ARE STORED AT FORESIGHT LAND SERVICES, INC. AT 1496 WEST HOUSATONIC STREET IN PITTSFIELD, MA. THE CONTRACTOR MAY EXAMINE THE SOIL AND ROCK SAMPLES, IF APPLICABLE, BY CONTACTING FORESIGHT LAND SERVICES, INC. AT (413) 499-1560.

6. ALL BORINGS WERE MADE IN MARCH 2019.

7. BORINGS WERE MADE BY NORTHEAST SPECIALIZED DRILLING INC. IN 2020 AND NEW ENGLAND BORING CONTRACTORS IN 2025

SS : Split-Spoon – 1½" I.D., 2" O.D., except where noted
 S : Shelby Tube – 2" O.D., except where noted
 PA : Power Auger Sample
 DB : Diamond Bit – NX:BX:AX:
 CB : Carborundum Bit – NX:BX:AX:
 OS : Osterberg Sampler – 3" Shelby Tube
 HS : House Sampler
 WS : Wash Sample
 FT : Fish Tail
 RB : Rock Bit
 WO : Wash Out

Standard "N" Penetration: Blows per foot of a 140 pound hammer falling 30 inches on a 2 inch OD split spoon, except where noted.

WL : Water Level
WCI : Wet Cave In
DCI : Dry Cave In
WS : While Sampling
WD : While Drilling
BCR : Before Casting Removal
ACR : After Casting Removal
AB : After Boring

Water levels indicated on the boring logs are the levels measured in the boring at the times indicated. In pervious soils, the indicated elevations are considered reliable ground water levels. In impervious soils the accurate determination of ground water elevations is not possible in even several day's observations, and additional evidence of ground water elevations must be sought.

A. PROTECTION OF WETLANDS, WATER QUALITY, AND STORMWATER MANAGEMENT

1. WORK PROPOSED ON THIS PLAN INCLUDES AREAS WHICH ARE SUBJECT TO REGULATION UNDER THE MASS. WETLANDS PROTECTION ACT (WPA), FEDERAL CLEAN WATERS ACT (CWA), NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) AND/OR OTHER STATUTES AND REGULATIONS PERTAINING TO WETLANDS, WATER QUALITY, AND STORMWATER MANAGEMENT.
2. CONTRACTOR SHALL PERFORM ALL PROPOSED WORK IN COMPLIANCE WITH THE APPROVED WETLANDS PERMIT (ORDER OF CONDITIONS OR DETERMINATION OF APPLICABILITY AS APPLICABLE).
3. CONTRACTOR SHALL INSTALL, MONITOR, MAINTAIN AND REPLACE, WHENEVER NECESSARY, ALL EROSION AND SEDIMENTATION CONTROL MEASURES REQUIRED TO CONTROL STORMWATER RUNOFF, EROSION AND SEDIMENTATION FROM THE WORK, AND TO PREVENT SEDIMENTS FROM ALTERING ANY WETLANDS OR WATERCOURSES. REFER TO PLANS, SPECIFICATIONS AND PERMITS FOR MINIMUM REQUIREMENTS. CONTRACTOR SHALL INSTALL ADDITIONAL MEASURES WHEREVER NECESSARY TO CONTROL SITE RUNOFF.
4. CONTRACTOR SHALL DISPOSE OF ANY UNSUITABLE OR EXCESS EARTH MATERIALS EXCAVATED FROM THE SITE ("SPOIL MATERIAL") IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS. UNLESS AN ON-SITE SPOIL AREA IS SPECIFIED, CONTRACTOR SHALL DISPOSE OF EXCESS CLEAN EARTH MATERIAL OFF-SITE IN AN UPLAND AREA OUTSIDE ANY WETLAND BUFFER ZONES OR RESOURCE AREAS.
5. CONTRACTOR SHALL DISPOSE OF ANY DEMOLITION DEBRIS, CONSTRUCTION DEBRIS, WOOD WASTES, CONTAMINATED SOILS, HAZARDOUS MATERIALS AND OTHER SPECIAL WASTES IN STRICT ACCORDANCE WITH APPLICABLE LAWS AND REGULATIONS.

B. WORK LIMITS

1. CONTRACTOR SHALL CONFINE ACTIVITIES TO THE WORK LIMITS SHOWN ON THE PLANS OR DIRECTED IN THE FIELD.
2. UNLESS OTHERWISE INDICATED, CONTRACTOR SHALL PROTECT ALL TREES, STRUCTURES, AND UTILITIES AGAINST DAMAGE, AND SHALL REPAIR OR REPLACE DAMAGED AREAS AT CONTRACTOR'S EXPENSE.
3. IN ORDER TO AVOID DAMAGING TREE ROOTS BY COMPACTING THE SOIL, CONTRACTOR SHALL NOT ALLOW EQUIPMENT OR VEHICLES TO OPERATE UNDER TREE CANOPIES EXCEPT WHERE NECESSARY TO CARRY OUT THE WORK.

C. SOIL CONDITIONS

1. REFER TO SPECIFICATIONS FOR SOILS INFORMATION. ANY REFERENCE ON THE PLANS TO LEDGE OR BEDROCK ARE FOR INFORMATION ONLY AND SHALL NOT BE RELIED UPON AS REPRESENTING LIMITS, QUANTITIES, PRESENCE OR ABSENCE OF ROCK REQUIRING EXCAVATION.

COHESIONLESS SOILS

"Trace"	:	1% to 10%	] or equivalent
"Trace to Some"	:	10% to 20%	
"Some"	:	20% to 35%	
"And"	:	35% to 50%	
Loose	:	0 to 9 Blows	
Medium Dense	:	10 to 29 Blows	
Dense	:	30 to 59 Blows	
Very Dense	:	≥ 60 Blows	

If clay content is sufficient so that clay dominates soil properties, then clay becomes the principle noun with the other major soil constituent as modifiers: i.e., silty clay. Other minor soil constituents may be added according to classification breakdown for cohesionless soils; i.e., silty clay, trace to some sand, trace gravel.

Soft	:	0.00–0.59 tons/ft
Medium	:	0.60–0.99 tons/ft
Stiff	:	1.00–1.99 tons/ft
Very Stiff	:	2.00–3.99 tons/ft
Hard	:	≥ 4.00 tons/ft

▲ WETLAND FLAG

UTILITY POLE

☐ CATCH BASIN HYDRANT DECIDUOUS TREE

	EDGE, PROPERTY LINE
	APPROX. OF PAVEMENT
	DOUBLE YELLOW CENTERLINE
	STONEWALL
	FENCE
	GUARDRAIL
	DRAIN LINE
	STREAM CENTERLINE
	EDGE OF STREAM
	SWALE
	WETLAND BOUNDARY
	RIPARIAN ZONE
	APPROX. 100-YEAR FLOODPLAIN
	1' CONTOUR
	5' CONTOUR
	LEDGE
	WALL

CONSTRUCTION-PHASE MEASURES FOR CONTROL OF SEDIMENT AND EROSION AND PROTECTION OF WETLANDS

1. DO NOT DISTURB EXISTING VEGETATED AREAS FAR IN ADVANCE OF CONSTRUCTION. LIMIT DISTURBANCE ONLY TO THE EXTENT AND DURATION REQUIRED FOR IMMEDIATE CONSTRUCTION ACTIVITIES. RETAIN AND PROTECT NATURAL VEGETATION AND VEGETATIVE FILTER STRIPS WHEREVER POSSIBLE.
2. TEMPORARY VEGETATION OR A HEAVY MAT OF WOOD CHIPS SHALL BE ESTABLISHED ON ALL EARTH STOCKPILES OR STRIPPED AREAS WHICH WILL BE BARE FOR MORE THAN TWO MONTHS AND LESS THAN 12 MONTHS. SUCH VEGETATION SHALL CONSIST OF A COMMERCIAL CONSERVATION SEED MIXTURE WITH A HIGH PERCENTAGE OF ANNUAL RYE GRASS. PERMANENT HERBACEOUS COVER SHALL BE ESTABLISHED ON AREAS WHICH WOULD BE BARE MORE THAN 12 MONTHS.
3. A HEAVY MAT OF STRAW MULCH, WOOD CHIPS, EROSION CONTROL NETTING, MESH OR BLANKET MATTING SHALL BE USED ON DISTURBED AREAS IF VEGETATION CANNOT BE ESTABLISHED DUE TO SEASON OR ON-GOING CONSTRUCTION PROCESS, OR IF OTHERWISE REQUIRED.
4. SILT FENCE OR CAREFULLY POSITIONED STAKED STRAW BALES SHALL BE INSTALLED ALONG THE DOWNHILL EDGE OF DISTURBED EARTHWORK AREAS WHERE REQUIRED TO CONTROL EROSION AND SEDIMENTATION.
5. WATER COURSES, INCLUDING INTERMITTENT DRAINAGE SWALES, SHALL BE PROTECTED FROM SILTATION BY SILT FENCE BARRIERS OR CAREFULLY POSITIONED STAKED STRAW BALE CHECK DAMS.
6. SEDIMENT TRAPS SHALL BE CONSTRUCTED DOWNHILL OF DISTURBED AREAS AND UPSTREAM OF WATERCOURSES AND/OR WETLANDS. TRAPPED SEDIMENTS SHALL BE REMOVED FROM THE BASINS DURING THE CONSTRUCTION PERIOD BEFORE THEY BECOME 50% FULL TO PREVENT SEDIMENT FROM BEING TRANSPORTED DOWNHILL. DISPOSE OF SEDIMENTS IN ON-SITE UPLAND DISPOSAL AREAS, PROPERLY GRADED, SEEDED AND MULCHED.
7. PERMANENT DRAINAGE CONTROL STRUCTURES SHALL BE INSTALLED AS EARLY AS POSSIBLE IN THE CONSTRUCTION PROCESS. DRAINS SHALL BE PROVIDED WITH DRAIN INLET SEDIMENT FILTERS AND/OR TRAPS.
8. DO NOT FUEL CONSTRUCTION EQUIPMENT OR STORE FUEL OR OTHER POTENTIAL CONTAMINANTS WITHIN 100 FEET OF WATER COURSES OR WETLANDS.
9. STRICTLY ADHERE TO ALL GENERAL AND SPECIAL CONDITIONS OF ANY WETLANDS PROTECTION ACT PERMITS, INCLUDING PLANS, DETAILS, CONSTRUCTION SEQUENCING OUTLINE, AND OTHER APPLICABLE REQUIREMENTS.

CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION AND SEDIMENTATION CONTROLS DAILY AND SUBMIT DAILY REPORTS ON A WEEKLY BASIS TO THE CONSERVATION COMMISSION, TOWN, AND ENGINEER. DAILY REPORTS SHALL INCLUDE, AT A MINIMUM, DATE AND TIME OF REVIEW, REVIEWER NAME AND COMPANY, RECENT PRECIPITATION EVENTS, ACTIONS PERFORMED (IF ANY), AND ANY OTHER COMMENTS. PHOTOGRAPHS OF THE EROSION CONTROLS SHALL ALSO BE PROVIDED ON A WEEKLY BASIS.

STA 0+35.08, 4.22' RT

[illegible]

UP-STREAM:
APPROX. BOTTOM OF
FOOTING @ 1618.6'

DOWN-STREAM:
APPROX. BOTTOM OF
FOOTING @ 1614.1'

STA 1+23.5, 5.9' LT

[illegible]

STA 0+65.3, 3.4' RT

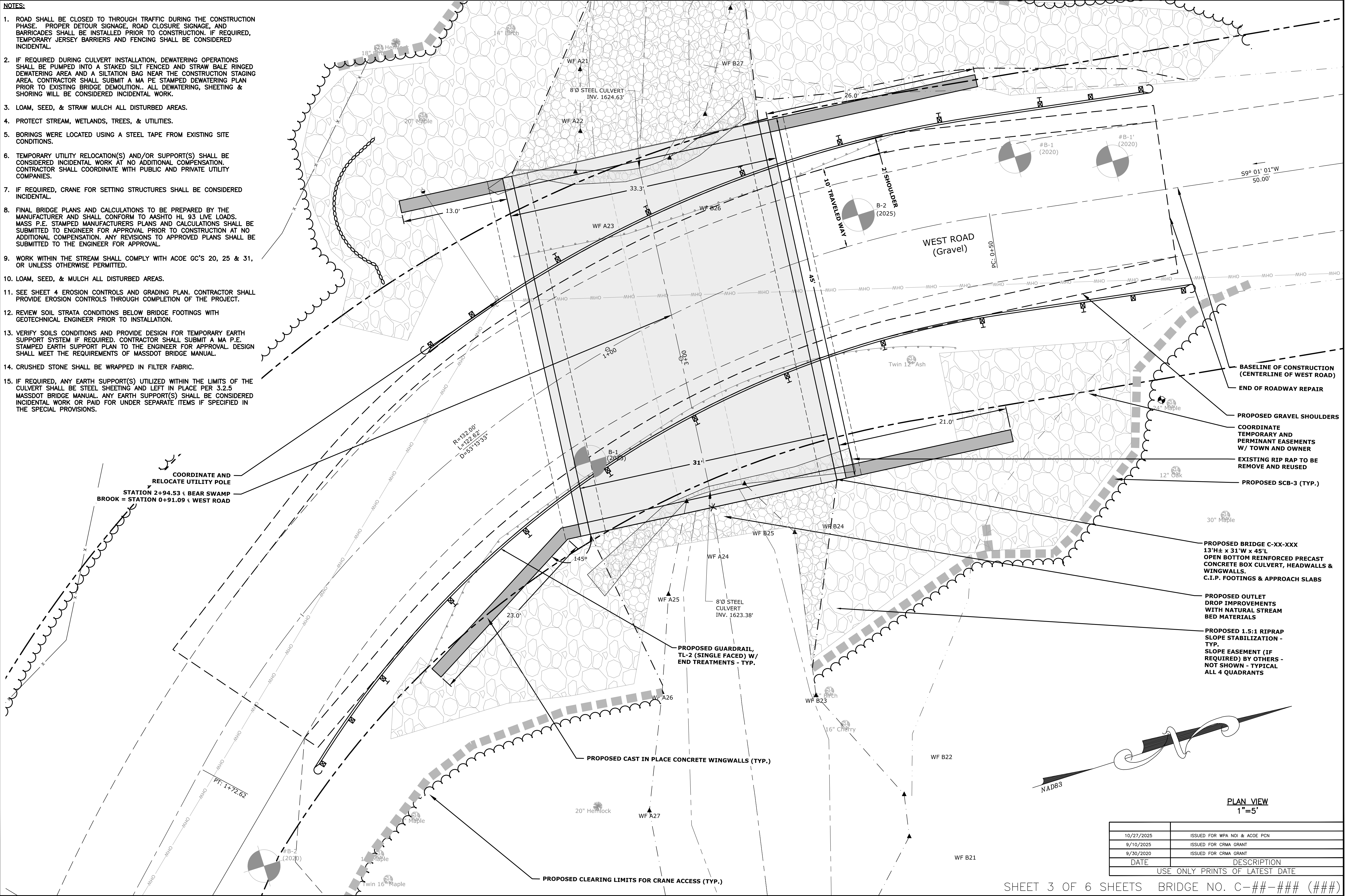
(603) 437-1610		New England Boring Contractors P.O. Box 165 Derry, NH 03038 E-Mail: nebc@neboring.com				Fax: (603) 437-0034	
Boring #B-2		Project: JDB Consulting Engineers				Project # C19452	
Project Address: Best Rd. Bridge			City: Clarksburg			State: MA Zip: 01247	
Date Start: 6/10/2025			Date End: 6/10/2025			Location: See Plan	
Casing Type & size: HW 4"ID Hammer wt.: 300lb. Hammer fall: 30".			Sampler: SS 1 3/8 Hammer wt.: 140lb. Hammer fall: 30".		Core Barrel: NQ Size: 1 7/8 dia		
G R O U N D W A T E R O B S E R V A T I O N							
Date: 6/10/25	Depth:		Casing:			Stabilization Period	
DP	S#	DEPTH	PEN	REC	BLOWS/6"	S/C	SAMPLE DESCRIPTION
-	S-1	1'-3"	24"	12"	14-15-22-11		Brown, fine to coarse SAND and fine to coarse GRAVEL, some cobbles and boulders, little Silt.
-							
-							
5'0"	S-2	5'-7"	24"	14"	8-13-15-27		Brown, fine to coarse SAND and fine to coarse GRAVEL, some cobbles and boulders, little Silt.
-							
-							
-							
10'0"	S-3	10'-11"		6"	29-100		Brown, fine to coarse SAND and fine to coarse GRAVEL, some cobbles and boulders, little Silt.
-							
-							
-							
15'0"	S-4	15'-15'3"		2"			Brown, fine to coarse SAND and fine to coarse GRAVEL, some cobbles and boulders, little Silt.
-							
-							
-							
20'0"	S-5	20'-20'4"		3"	100/4"		Brown, fine to coarse SAND and fine to coarse GRAVEL, some cobbles and boulders, little Silt.
-						21'	Top of bedrock at 21'.
-						23'	Rolled 2' in.
-	C-1	23'-28"		51"			Granite
25'0"							
-							
-							
-	C-2	28'-33"		60"			Granite
30'0"							
Driller: Mike St. John			Helpers:			Inspector: Joe B.	
Remarks: Water at 14'+/-							
S/H: Sample			PEN: Penetration		REC: Recovery		S/C: Strata Change

BORING INFO, EROSION
CONTROL NOTES, ETC.

10/27/2025	ISSUED FOR WPA NOI & ACOE PCN
9/10/2025	ISSUED FOR CRMA GRANT
9/30/2020	ISSUED FOR CRMA GRANT
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

NOTES:

1. ROAD SHALL BE CLOSED TO THROUGH TRAFFIC DURING THE CONSTRUCTION PHASE. PROPER DETOUR SIGNAGE, ROAD CLOSURE SIGNAGE, AND BARRICADES SHALL BE INSTALLED PRIOR TO CONSTRUCTION. IF REQUIRED, TEMPORARY JERSEY BARRIERS AND FENCING SHALL BE CONSIDERED INCIDENTAL.
2. IF REQUIRED DURING CULVERT INSTALLATION, DEWATERING OPERATIONS SHALL BE PUMPED INTO A STAKED SILT FENCED AND STRAW BALE RINGED DEWATERING AREA AND A SILTATION BAG NEAR THE CONSTRUCTION STAGING AREA. CONTRACTOR SHALL SUBMIT A MA P.E. STAMPED DEWATERING PLAN PRIOR TO EXISTING BRIDGE DEMOLITION. ALL DEWATERING, SHEETING & SHORING WILL BE CONSIDERED INCIDENTAL WORK.
3. LOAM, SEED, & STRAW MULCH ALL DISTURBED AREAS.
4. PROTECT STREAM, WETLANDS, TREES, & UTILITIES.
5. BORINGS WERE LOCATED USING A STEEL TAPE FROM EXISTING SITE CONDITIONS.
6. TEMPORARY UTILITY RELOCATION(S) AND/OR SUPPORT(S) SHALL BE CONSIDERED INCIDENTAL WORK AT NO ADDITIONAL COMPENSATION. CONTRACTOR SHALL COORDINATE WITH PUBLIC AND PRIVATE UTILITY COMPANIES.
7. IF REQUIRED, CRANE FOR SETTING STRUCTURES SHALL BE CONSIDERED INCIDENTAL.
8. FINAL BRIDGE PLANS AND CALCULATIONS TO BE PREPARED BY THE MANUFACTURER AND SHALL CONFORM TO AASHTO HL 93 LIVE LOADS. MASS P.E. STAMPED MANUFACTURERS PLANS AND CALCULATIONS SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION AT NO ADDITIONAL COMPENSATION. ANY REVISIONS TO APPROVED PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
9. WORK WITHIN THE STREAM SHALL COMPLY WITH ACOE GC'S 20, 25 & 31, OR UNLESS OTHERWISE PERMITTED.
10. LOAM, SEED, & MULCH ALL DISTURBED AREAS.
11. SEE SHEET 4 EROSION CONTROLS AND GRADING PLAN. CONTRACTOR SHALL PROVIDE EROSION CONTROLS THROUGH COMPLETION OF THE PROJECT.
12. REVIEW SOIL STRATA CONDITIONS BELOW BRIDGE FOOTINGS WITH GEOTECHNICAL ENGINEER PRIOR TO INSTALLATION.
13. VERIFY SOILS CONDITIONS AND PROVIDE DESIGN FOR TEMPORARY EARTH SUPPORT SYSTEM IF REQUIRED. CONTRACTOR SHALL SUBMIT A MA P.E. STAMPED EARTH SUPPORT PLAN TO THE ENGINEER FOR APPROVAL. DESIGN SHALL MEET THE REQUIREMENTS OF MASSDOT BRIDGE MANUAL.
14. CRUSHED STONE SHALL BE WRAPPED IN FILTER FABRIC.
15. IF REQUIRED, ANY EARTH SUPPORT(S) UTILIZED WITHIN THE LIMITS OF THE CULVERT SHALL BE STEEL SHEETING AND LEFT IN PLACE PER 3.2.5 MASSDOT BRIDGE MANUAL. ANY EARTH SUPPORT(S) SHALL BE CONSIDERED INCIDENTAL WORK OR PAID FOR UNDER SEPARATE ITEMS IF SPECIFIED IN THE SPECIAL PROVISIONS.

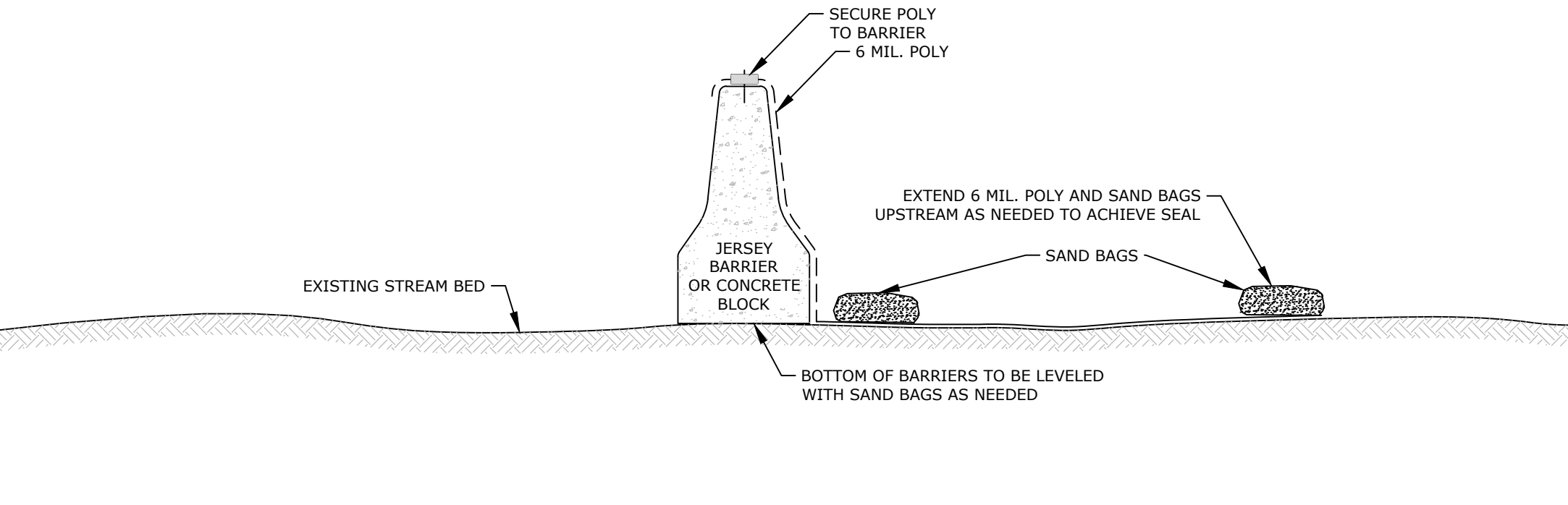


PLAN VIEW 1"=5'	
10/27/2025	ISSUED FOR WPA NOI & ACOE PCN
9/10/2025	ISSUED FOR CRMA GRANT
9/30/2020	ISSUED FOR CRMA GRANT
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



SAMPLE - WATER CONTROL SECTION/DETAIL

FOR INFORMATION ONLY.
CONTRACTOR TO PROVIDE FINAL WATER CONTROL PLAN
& DETAILS TO ENGINEER & CONSERVATION COMMISSION FOR
APPROVAL.



PRECAST/CAST IN PLACE CONCRETE NOTES:

1. THE CONTRACTOR SHALL SUBMIT DESIGN CALCULATIONS PREPARED IN ACCORDANCE WITH THE LATEST AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL USING ENGLISH UNITS FOR HL-93 LOADING FOR APPROVAL BY THE ENGINEER. THE DESIGN COMPUTATIONS SHALL CONSIDER ALL LOADING AS APPROPRIATE DURING FABRICATION, SHIPMENT, ERECTION, CONSTRUCTION AND AFTER COMPLETION OF CONSTRUCTION BASED UPON THESE CONSTRUCTION DRAWINGS. CALCULATIONS SHALL BE PREPARED AND DRAWINGS SHALL BE STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MASSACHUSETTS.
2. THE DIMENSIONS PROVIDED ARE SHOWN TO ESTABLISH THE SIZE OF THE PROPOSED OPENING. THE WIDTHS AND THICKNESSES MAY VARY DEPENDING ON THE MANUFACTURER'S SPECIFICATIONS, PROVIDED THAT THE OPENING SIZE IS MAINTAINED AND ALL LONGITUDINAL JOINTS ARE PERPENDICULAR TO THE STREAM CONSTRUCTION CENTERLINE. FINAL DIMENSIONS FOR SECTION LENGTHS, WALL THICKNESS, SLAB THICKNESS, WINGWALLS, FOOTINGS, ETC. SHALL BE BASED ON THE STAMPED ENGINEERING PLANS SUBMITTED TO AND APPROVED BY THE DESIGN ENGINEER OF RECORD PRIOR TO CONSTRUCTION.
3. ANY REVISIONS TO APPROVED PLANS SHALL BE SUBMITTED TO THE DESIGN ENGINEER OF RECORD FOR APPROVAL AND FILING WITH MASSDOT.
4. THE DESIGN OF THE FOOTING DETAILED HEREIN IS BASED ON ASSUMED GEOMETRY OF THE CULVERT SHOWN AND THE DESIGN LOADS SPECIFIED IN THE SPECIAL PROVISIONS. THE CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL A COMPLETE DESIGN OF THE FOOTINGS AND SHALL NOTIFY THE ENGINEER SHOULD THE GEOMETRY VARY FROM THAT SPECIFIED ON THE PLANS.
5. PRECAST CONCRETE UNITS SHALL CONFORM TO THE RELEVANT SECTIONS OF SECTION 930 OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES INCLUDING ALL THE LATEST SUPPLEMENTAL SPECIFICATIONS.
6. THE MINIMUM 28-DAY CONCRETE COMPRESSIVE STRENGTH FOR PRECAST CONCRETE UNITS SHALL BE 4000 PSI.

GENERAL NOTES:

1. BOX CULVERT DETAILS SHOWN FOR COORDINATION PURPOSES ONLY. FINAL DESIGN WITH DIMENSIONS FOR SECTION LENGTHS, SLAB THICKNESS, WALL THICKNESS, & WINGWALLS SHALL BE BASED ON THE MANUFACTURER'S STAMPED ENGINEERING PLANS AND CALCULATIONS SUBMITTED TO MASSDOT PRIOR TO CONSTRUCTION.
2. STRUCTURE DESIGNED AND CONSTRUCTED ACCORDING TO THE MASSDOT BRIDGE MANUAL, THE LATEST EDITION AASHTO LRFD DESIGN SPECIFICATIONS (WITH INTERIM REVISIONS) FOR HL-93 LOADING AND THE MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES WITH THE LATEST SUPPLEMENTAL SPECIFICATIONS.
3. DESIGN PARAMETERS
LIVE LOAD: AASHTO LRFD HL-93
EARTH COVER: PER JOB CONDITION
CONCRETE: DESIGN STRENGTH $f'_c = 4000\text{PSI}$, $1\frac{1}{2}"$ 565 CEM. COMC.
UNIT WEIGHT = 150 PCF
REINFORCING: ASTM A615 (REBAR) GRADE 60
ASTM A185 (WELDED WIRE FABRIC) GRADE 70
4. EXTERIOR DAMPPROOFING CAN BE SUPPLIED BY PRECASTER.

ADDITIONAL NOTES:

1. CONCRETE FOR 3-SIDED BRIDGE CULVERT SHALL BE 4000 PSI, $1\frac{1}{2}"$, 565 CEMENT CONCRETE. UNIT WEIGHT = 150 PCF.
2. IF APPLICABLE, CONCRETE FOR SAFETY CURB SHALL BE 5000 PSI, $\frac{3}{8}"$, 685 HP CEMENT CONCRETE. CONCRETE PENETRANT IS NOT REQUIRED FOR BARRIERS COMPOSED OF HP CEMENT CONCRETE.
3. REINFORCEMENT STEEL SHALL CONFORM TO AASHTO M 31, GRADE 60. ALL REINFORCEMENT SHALL BE EPOXY COATED PER AASHTO M 284.
4. FINAL STEEL REINFORCEMENT SIZE, PLACEMENT, AND LAP DISTANCE SHALL BE DETERMINED BY THE PRECASTER.
5. TRANSVERSE REINFORCING STEEL SHALL BE PLACED NORMAL TO THE CENTERLINE OF THE CULVERT.
6. TOLERANCE IN DIMENSIONS TO BE AS SHOWN BELOW.
LENGTH = $\pm 1/4"$
WIDTH AND HEIGHT = $\pm 1/8"$
REINFORCEMENT POSITION: COVER -0, +3/8"
SPACING: $\pm 2"$ (NON-CUMULATIVE)
7. THIS MATERIAL SHALL BE MANUFACTURED AT THE PRECASTER'S FACILITY.
8. USE MEMBRANE WATERPROOFING WITH A WATERPROOFING PROTECTIVE COURSE WHERE ROADWAY PAVEMENT IS DIRECTLY ON THE STRUCTURE. USE BITUMINOUS DAMPPROOFING WHERE ROADWAY IS NOT DIRECTLY ON THE STRUCTURE. EXTERIOR DAMPPROOFING CAN BE SUPPLIED BY THE PRECASTER.
9. TESTING AND INSPECTION SHALL BE PERFORMED BY THE PRECASTER, CONTACT OWNER (2) WEEKS PRIOR TO CASTING.
10. ANY CHANGES TO THE SPECIFICATIONS BY THE PRECASTER SHALL BE HIGHLIGHTED IN THEIR SUBMISSION.

SUBGRADE NOTES:

1. ALL EXCAVATIONS OF MORE THAN A FEW FEET SHOULD BE SHEETED AND BRACED OR LAID BACK TO PREVENT SLOUGHING IN OF THE SIDES. ALL PREVAILING EXCAVATION CODES SHOULD BE OBSERVED IN DURING THE CONSTRUCTION.
2. SUMP-PIT AND SUMP-PUMP-TYPE DEWATERING MAY BE REQUIRED IN EXCAVATIONS OR LOW AREAS DURING WET WEATHER OR IF GROUNDWATER IS ENCOUNTERED.
3. SUBGRADES SHOULD BE KEPT FROM FREEZING DURING CONSTRUCTION.
4. WATER, SNOW, AND ICE SHOULD NOT BE ALLOWED TO COLLECT AND STAND IN EXCAVATIONS OR LOW AREAS OF THE SUBGRADE.
5. SOME OBSTACLES, INCLUDING OLD FOUNDATIONS OR BUILDING RUBBLE AND POSSIBLY BOULDERS, MAY BE ENCOUNTERED IN EXCAVATIONS.
6. THE USE OF HYDRAULICALLY-OPERATED RIPPERS, PNEUMATIC TOOLS, OR DRILLING AND BLASTING MAY BE REQUIRED TO REMOVE LARGE BOULDERS IF ENCOUNTERED.
7. THE DESIGN ENGINEER OF RECORD OR GEOTECHNICAL ENGINEER SHOULD BE CALLED TO THE SITE TO OBSERVE AND ACCEPT THE FOUNDATION SUBGRADE CONDITIONS. A QUALIFIED TESTING LABORATORY SHOULD BE RETAINED TO MONITOR THE PLACEMENT OF CONTROLLED FILL.
8. WORKMANSHIP AND MATERIALS SHALL CONFORM TO MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES UNLESS OTHERWISE SPECIFIED.
9. GRAVEL BASE MATERIALS (12" MAX. LIFTS) TO BE COMPACTED TO 95% OF THE LABORATORY MAXIMUM AASHTO MODIFIED PROCTOR DENSITY.

NOTES:

1. MAXIMUM BEARING PRESSURE = 9.5 KSF.
2. TRANSVERSE REINFORCING SHALL BE PLACED NORMAL TO THE CENTERLINE OF THE CULVERT.
3. FINAL DIMENSIONS FOR BY MANUFACTURER.
4. FINAL STEEL REINFORCEMENT SIZE, PLACEMENT, AND LAP DISTANCE BY PRECASTER.

GEOTECHNICAL INFORMATION:

1. ALLOWABLE BEARING PRESSURE = 9,500 PSF
 2. BACKFILL UNIT WEIGHT = 120 PCF
 3. FRICTION ANGLE = 35°
 4. AT REST PRESSURE COEFFICIENT, $K_o = 0.40$
 5. PEAK GROUND ACCELERATION FACTOR = 0.06
- SEE GEOTECHNICAL REPORT FOR MORE INFORMATION

SURFACE FINISHES (AS APPLICABLE):

1. TOP OF CONCRETE SHALL BE HARD STEEL TROWEL FINISH TO ACCEPT MEMBRANE WATERPROOFING.
2. INTERIOR JOINTS SHALL BE REGULAR STEEL FORM (OR WOOD) WITH LIGHT SANDBLAST.
3. BOTTOM IN FORM SHALL BE EPOXY COATED WOOD.
4. FASCIAS AND EDGE BEAMS TO RECEIVE A FORMICA FORM WITH SACK RUB.
5. TOP OF EDGE CONCRETE SECTIONS TO RECEIVE A HARD STEEL TROWEL FINISH.

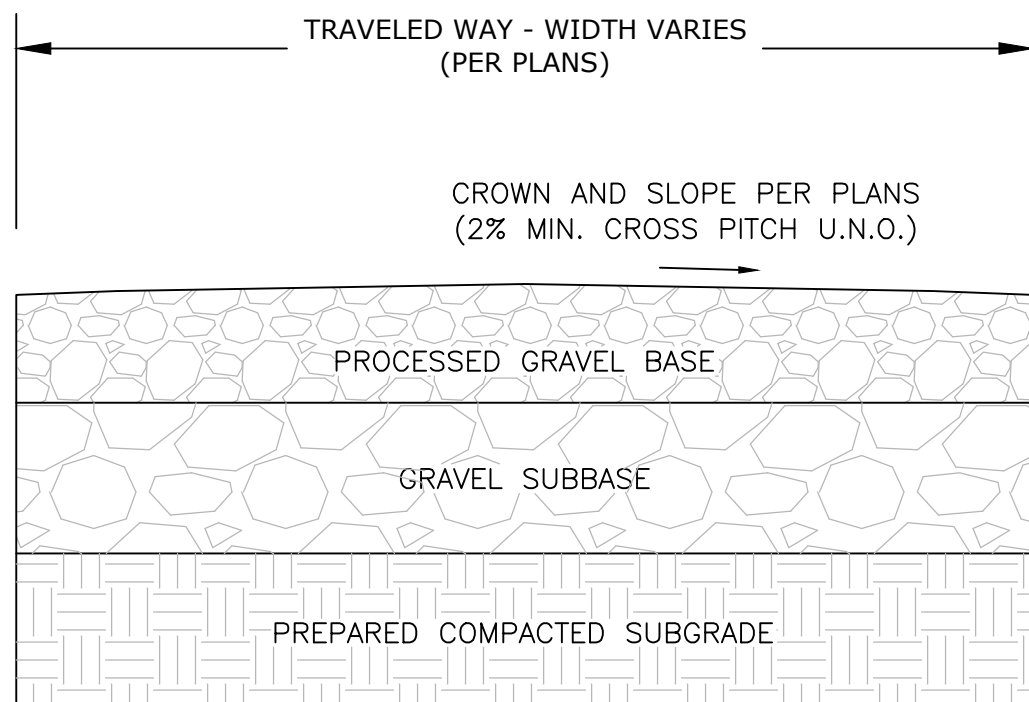
CONSTRUCTION NOTES:

1. INSTALL ROAD CLOSED CONSTRUCTION SIGNAGE AND BARRICADES AS APPLICABLE.
2. PLACE SILT FENCING, STAKED STRAW BALES, AND STRAW WADDLES AS SHOWN ON PLANS AND AS REQUIRED TO CONTROL EROSION & SEDIMENTATION.
3. INSTALL WATER CONTROLS.
4. REMOVE THE EXISTING PAVEMENT, GUARDRAILS, CULVERT, HEADWALLS, ETC. ALL DEMOLITION MATERIAL TO BE TAKEN OFFSITE WITHIN 24 HOURS OF REMOVAL.
5. EXCAVATE AND PREPARE SUBGRADE & CONSTRUCT PORTIONS OF STREAMBED.
6. INSTALL THE DRAINAGE ENVELOPE AND PERF. PIPING WITHIN THE EXCAVATED AREA PER ELEVATIONS ON PLAN.
7. SET THE NEW BRIDGE FOOTINGS AND BEGIN STREAMBED STABILIZATION.
8. INSTALL CULVERT AND WINGWALLS. BACKFILL AS REQUIRED.
9. COMPLETE THE STREAMBED STABILIZATION AND SLOPE STABILIZATION/REVEITEMT.
10. COMPLETE THE COMPACTED GRAVEL PLACEMENTS & PLACE THE BIT. CONCRETE ROADWAY PAVEMENT.
11. INSTALL WATERWAYS AND GUARDRAIL SYSTEM.
12. LOAM, SEED, & MULCH ANY DISTURBED AREAS OF THE ROADWAY SHOULDER.
12. REMOVE THE CONSTRUCTION SIGNS AND BARRICADES.

AREA: REGULAR DUTY PAVEMENT AREA AS PER PLAN;
INSTALL ROAD STABILIZATION GEOTEXTILE AS DIRECTED

GRAVEL SUBBASE (MHD M1.03 Type c)	PROC. GRAVEL BASE (MHD M1.03.1)	HOT MIX ASPHALT (MHD M3.11.03)
8"	4"	N/A
		BINDER COURSE
		TOP COURSE

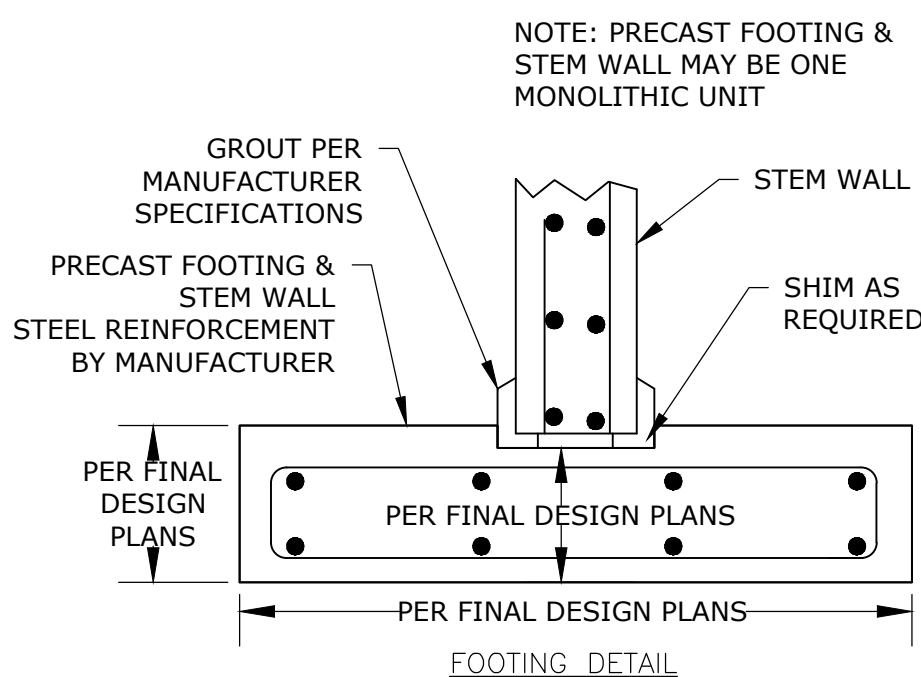
* CONFIRM WITH TOWN SPECIFICATIONS.



NOTES:

1. PREPARE SUBGRADE IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT FOR THE PROJECT IF APPLICABLE; REMOVE AND REPLACE ANY UNSUITABLE MATERIAL; PROOF ROLL IN PRESENCE OF ENGINEER; COMPACT.
2. INSTALL ROAD STABILIZATION GEOTEXTILE WHERE SPECIFIED OR AS DIRECTED BY THE ENGINEER.

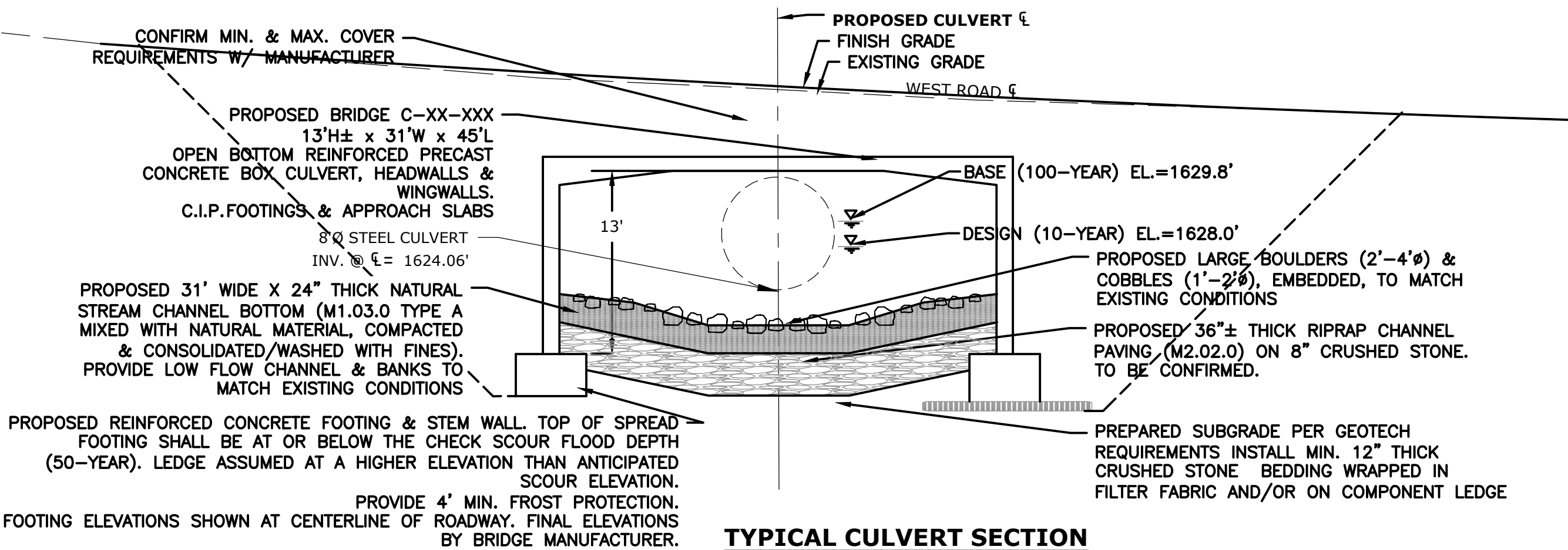
ROADWAY REPAIR DETAIL NTS



NOTES:
BOX CULVERT DETAILS SHOWN FOR COORDINATION PURPOSES ONLY. FINAL DESIGN WITH DIMENSIONS FOR SECTION LENGTHS, THICKNESS, REINFORCING RIBS, HEADWALLS, WINGWALLS, AND ALL OTHER ASSOCIATED DETAILS SHALL BE BASED ON THE MANUFACTURER'S STAMPED ENGINEERING PLANS AND CALCULATIONS SUBMITTED TO ENGINEER PRIOR TO CONSTRUCTION.

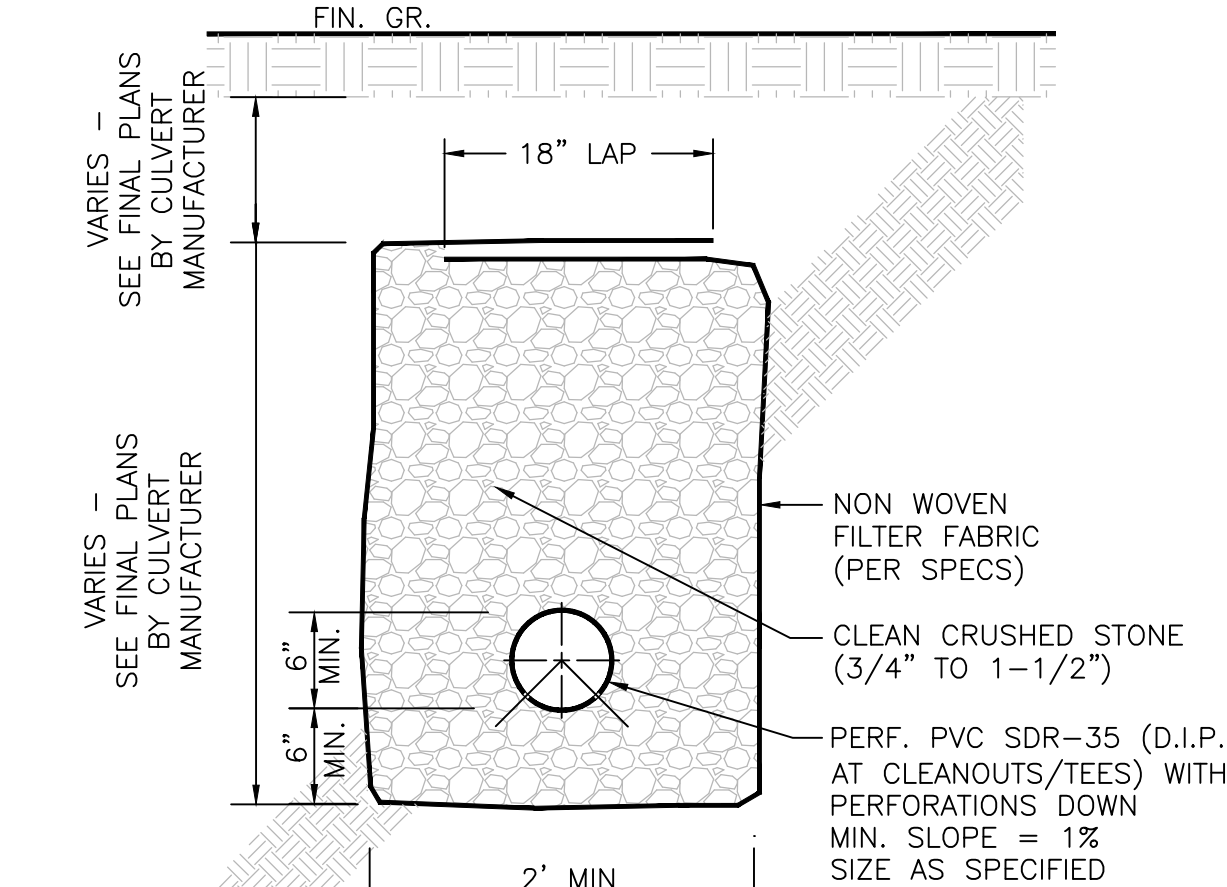
ANY TEMPORARY EARTH SUPPORT UTILIZED WITHIN THE LIMITS OF THE FOOTINGS SHALL BE LEFT IN PLACE PER 3.2.5 MassDOT BRIDGE MANUAL.

EXISTING CULVERT SECTIONS TO BE REMOVED AND DISPOSED

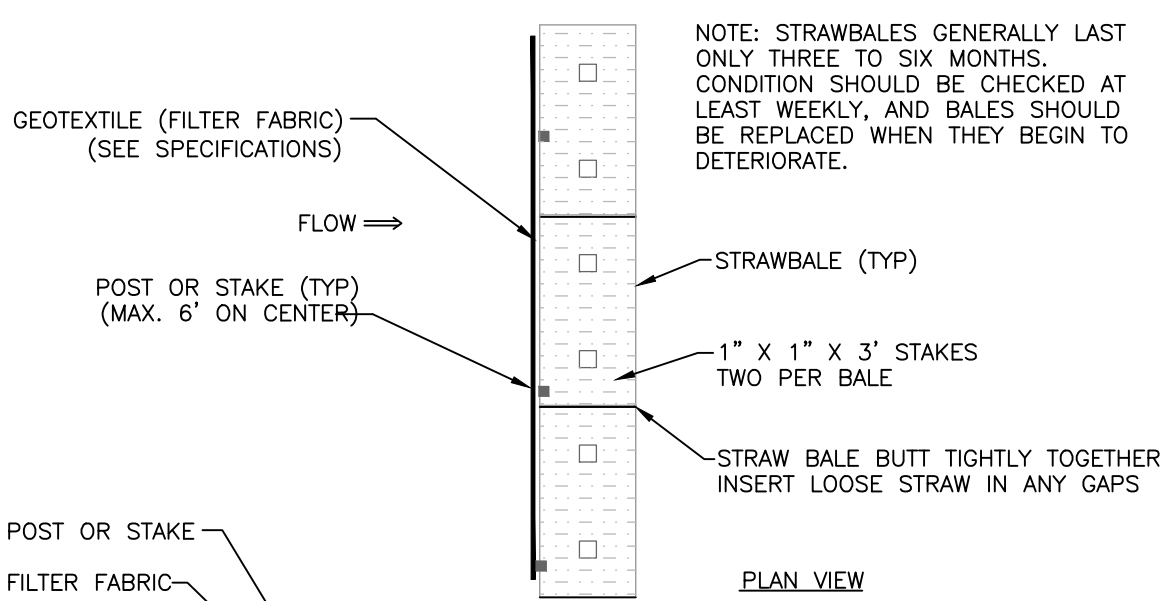


TYPICAL CULVERT SECTION

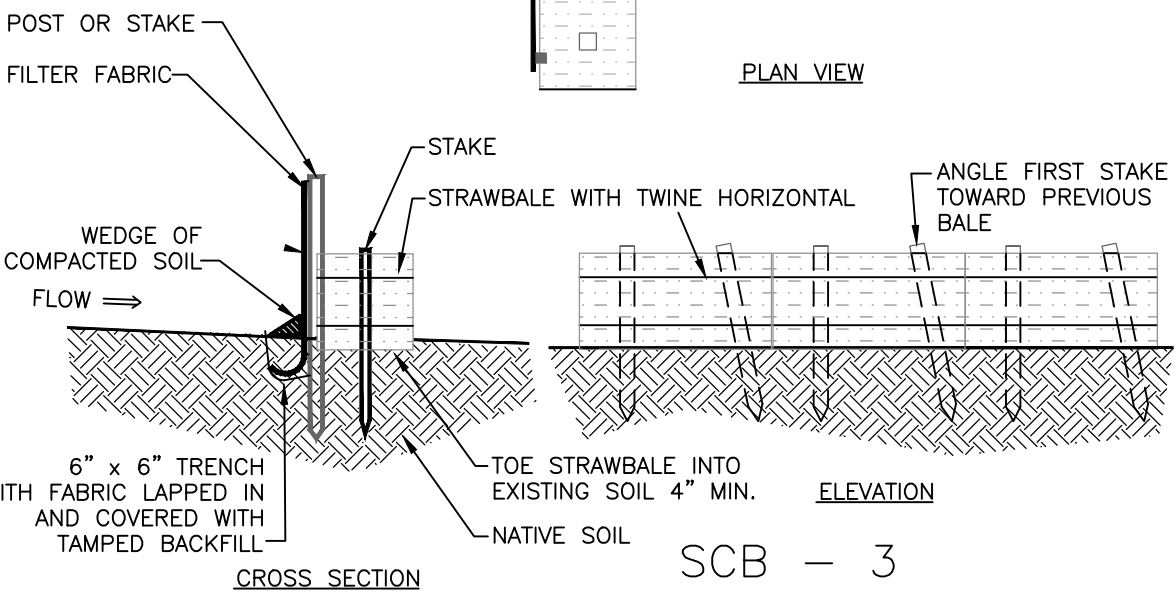
NOTE: PROVIDE A 4' LENGTH OF SOLID-WALL DUCTILE IRON PIPE AT OUTLET TO DAYLIGHT, OR AT CONNECTION TO DRAINAGE STRUCTURE. PROVIDE SMALL ANIMAL GUARD IF OUTLET TO DAYLIGHT.



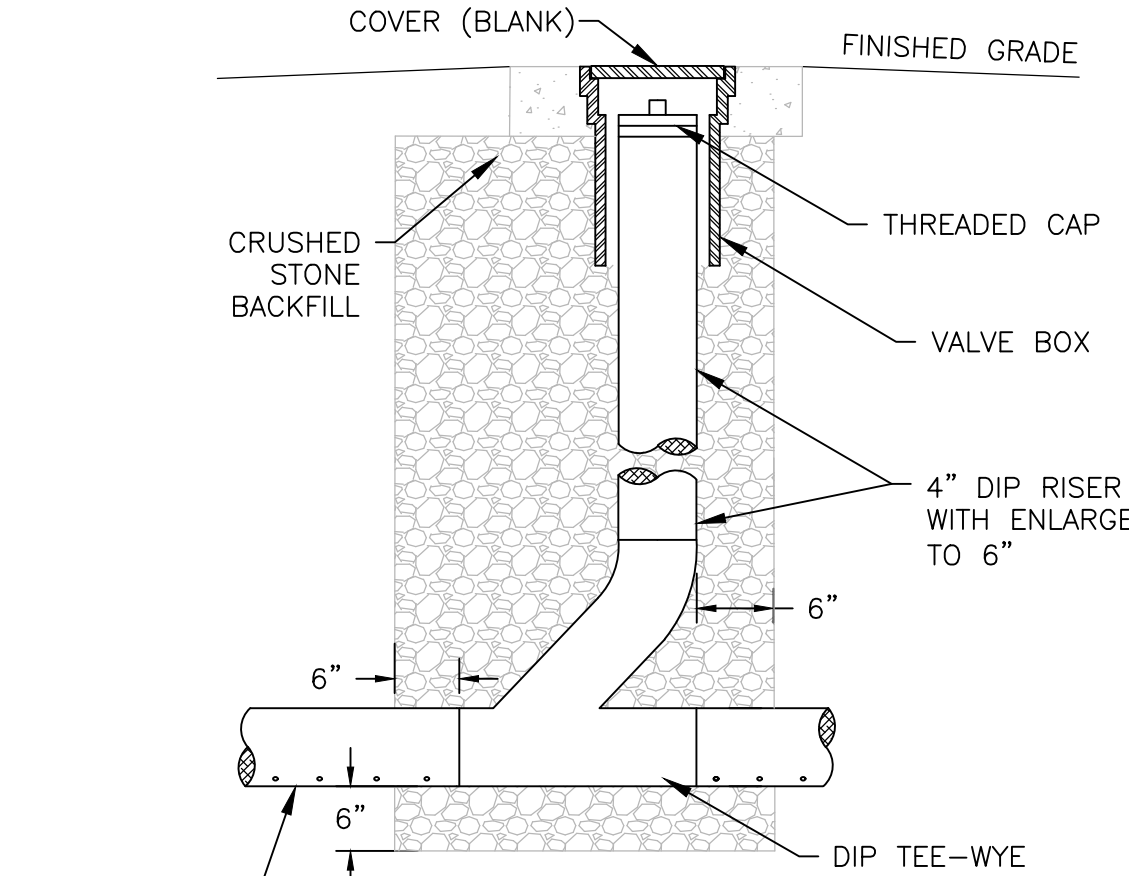
SUBDRAIN NTS



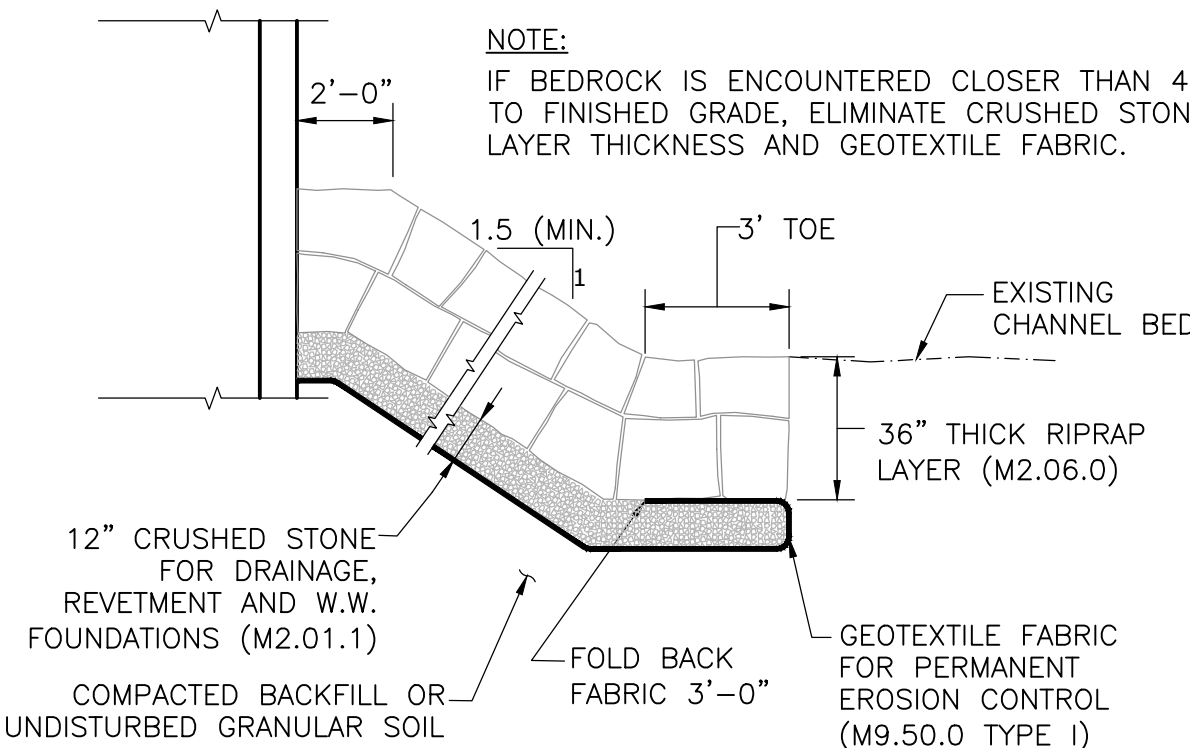
PLAN VIEW



SILT FENCE & STRAW BALE DETAIL N.T.S.



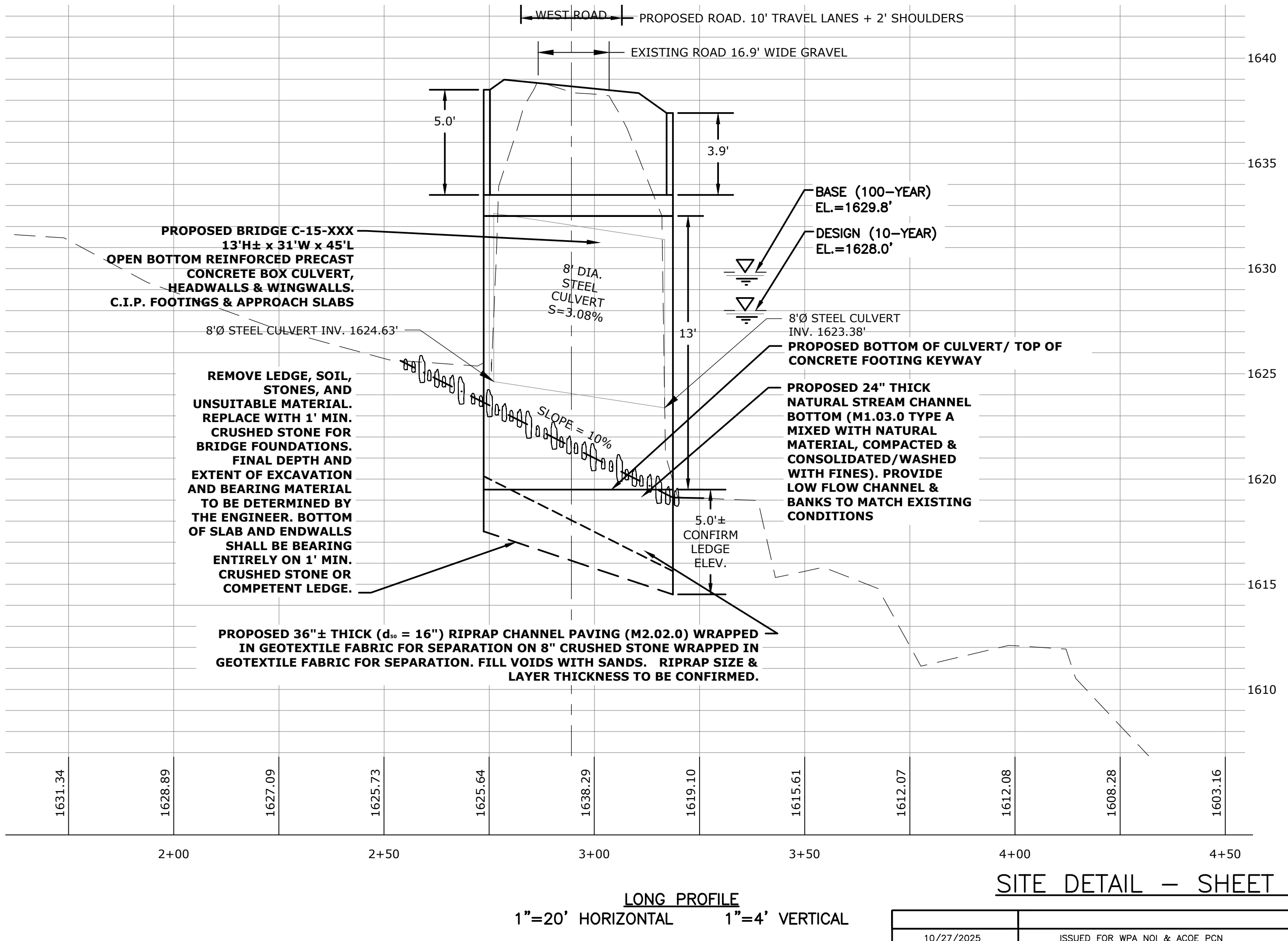
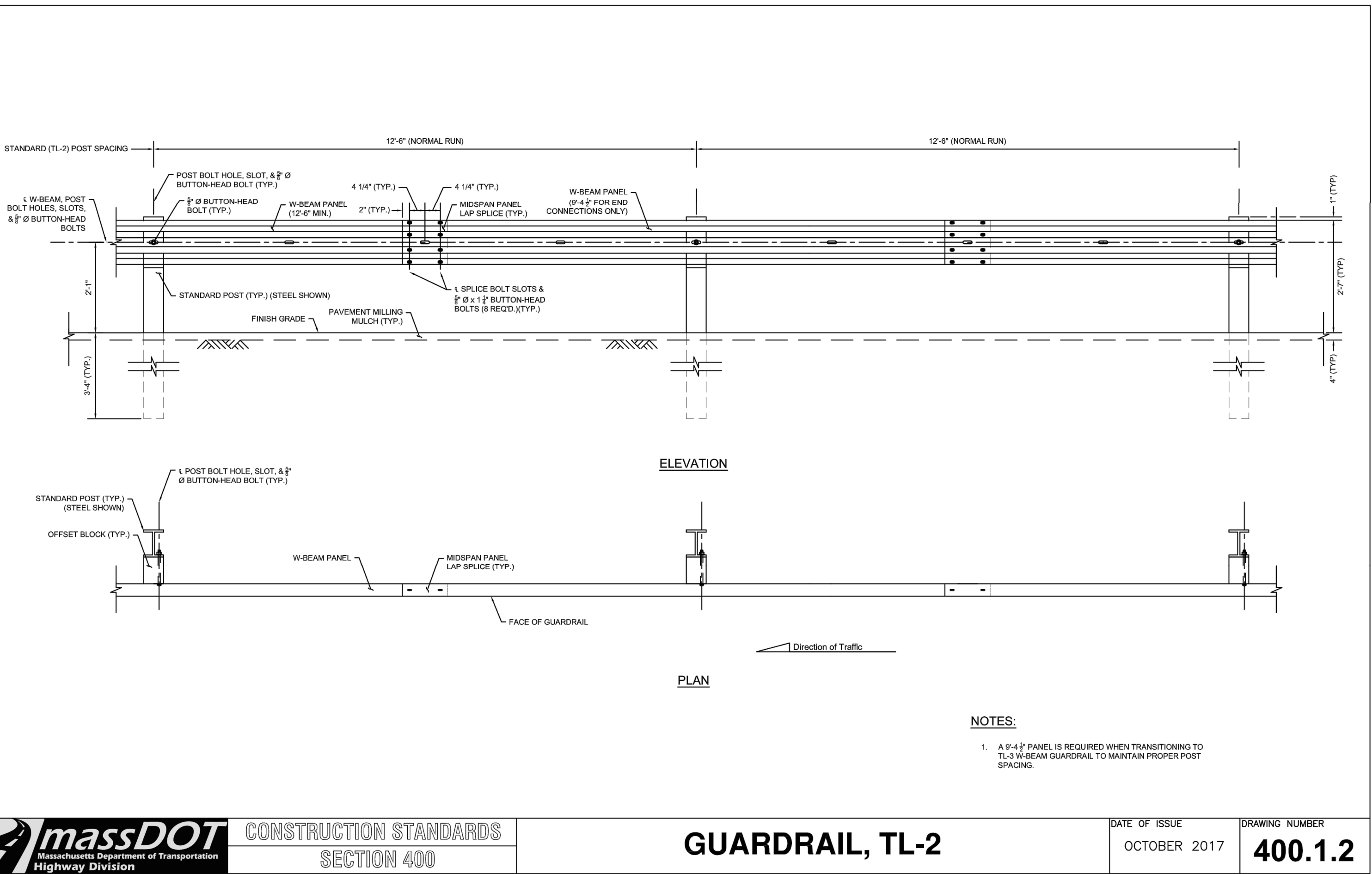
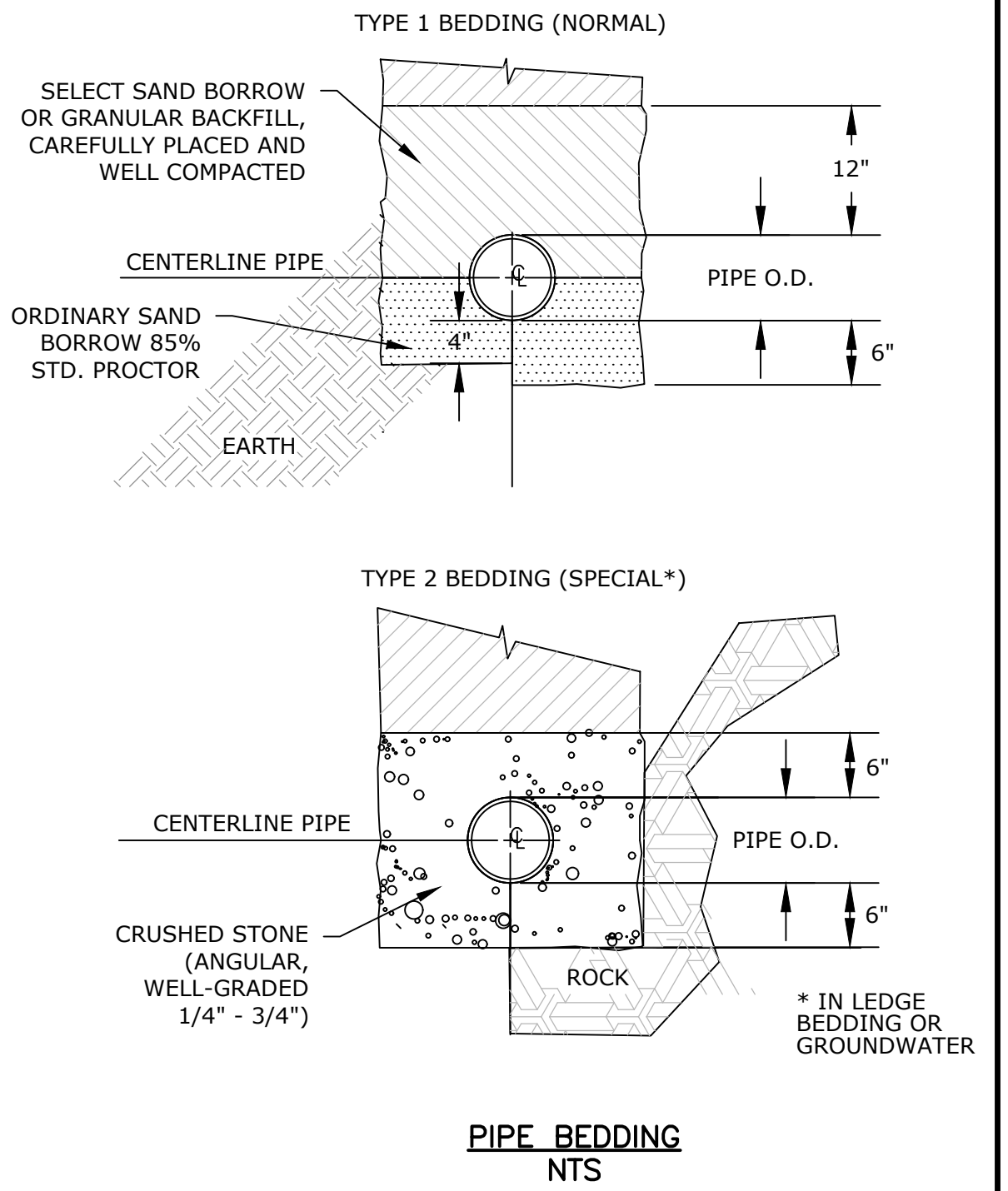
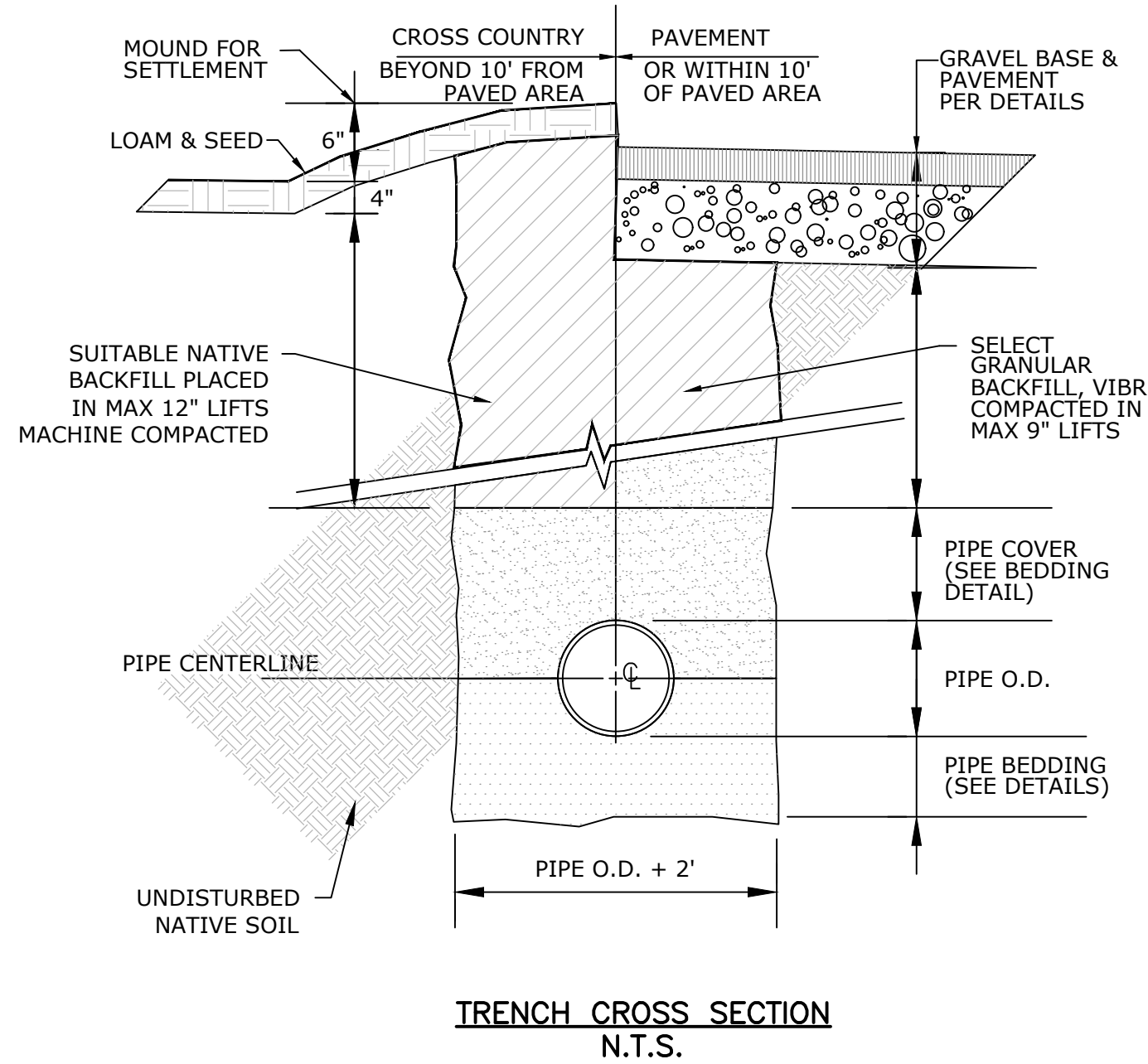
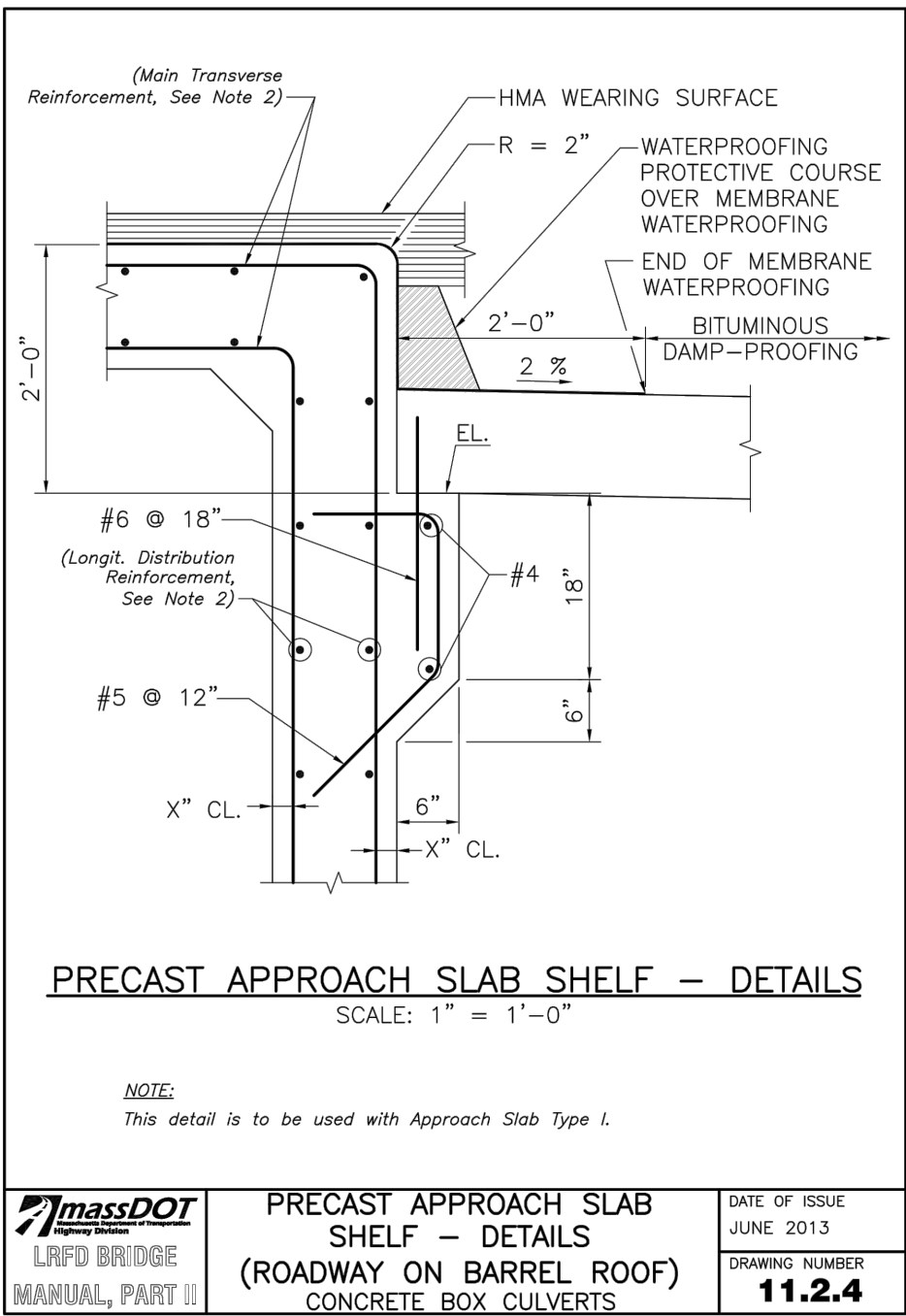
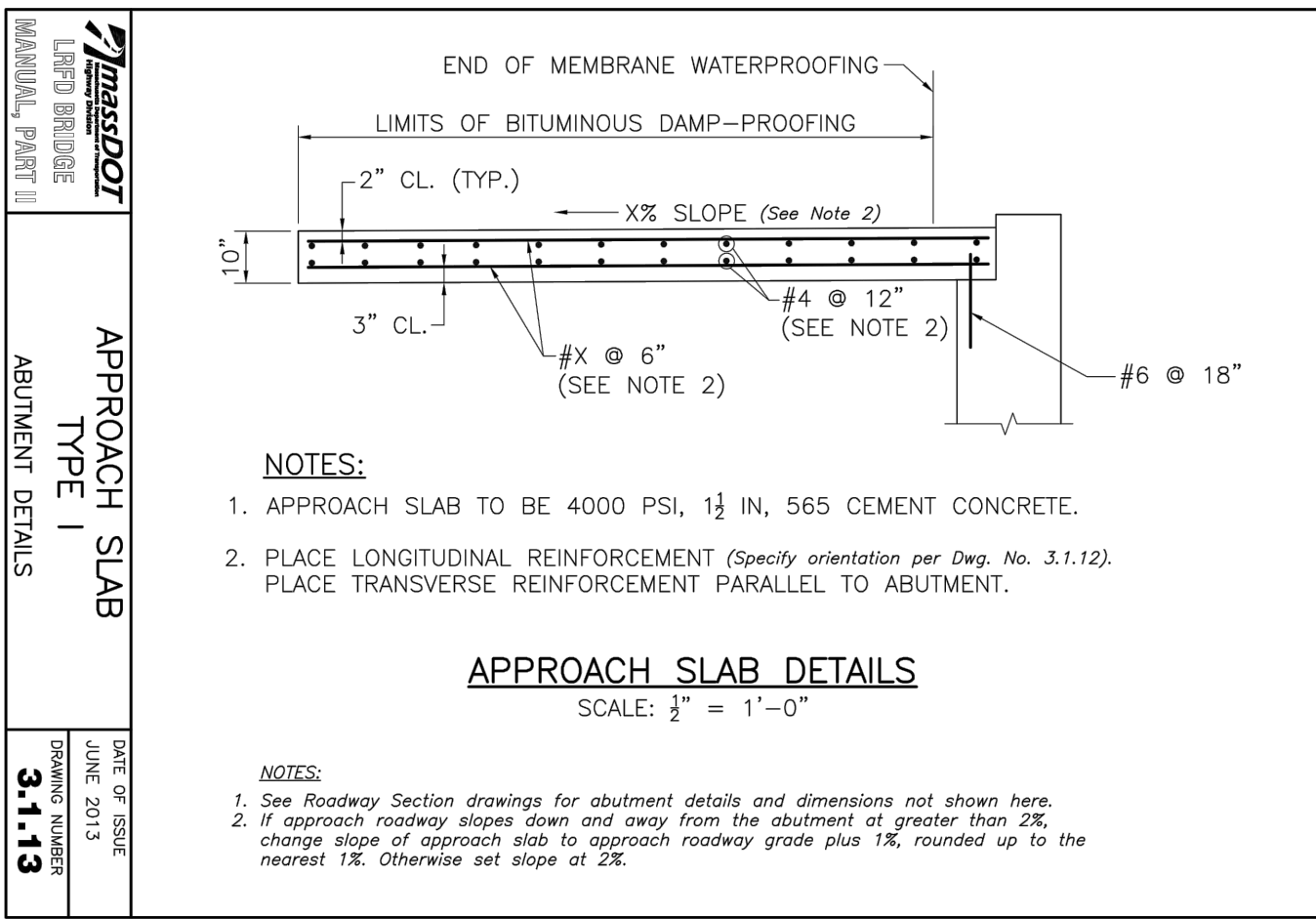
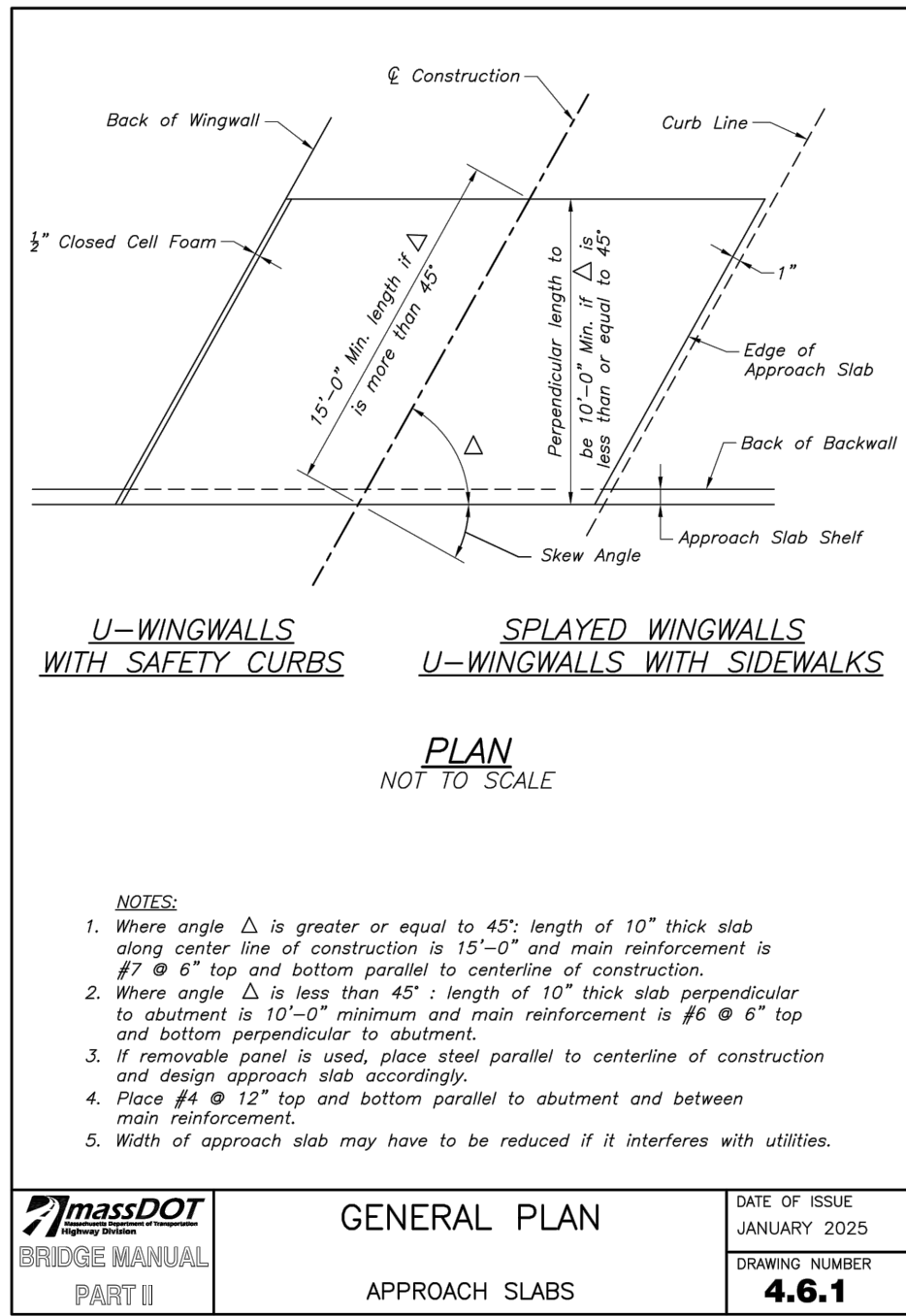
SUBDRAIN CLEANOUT NTS

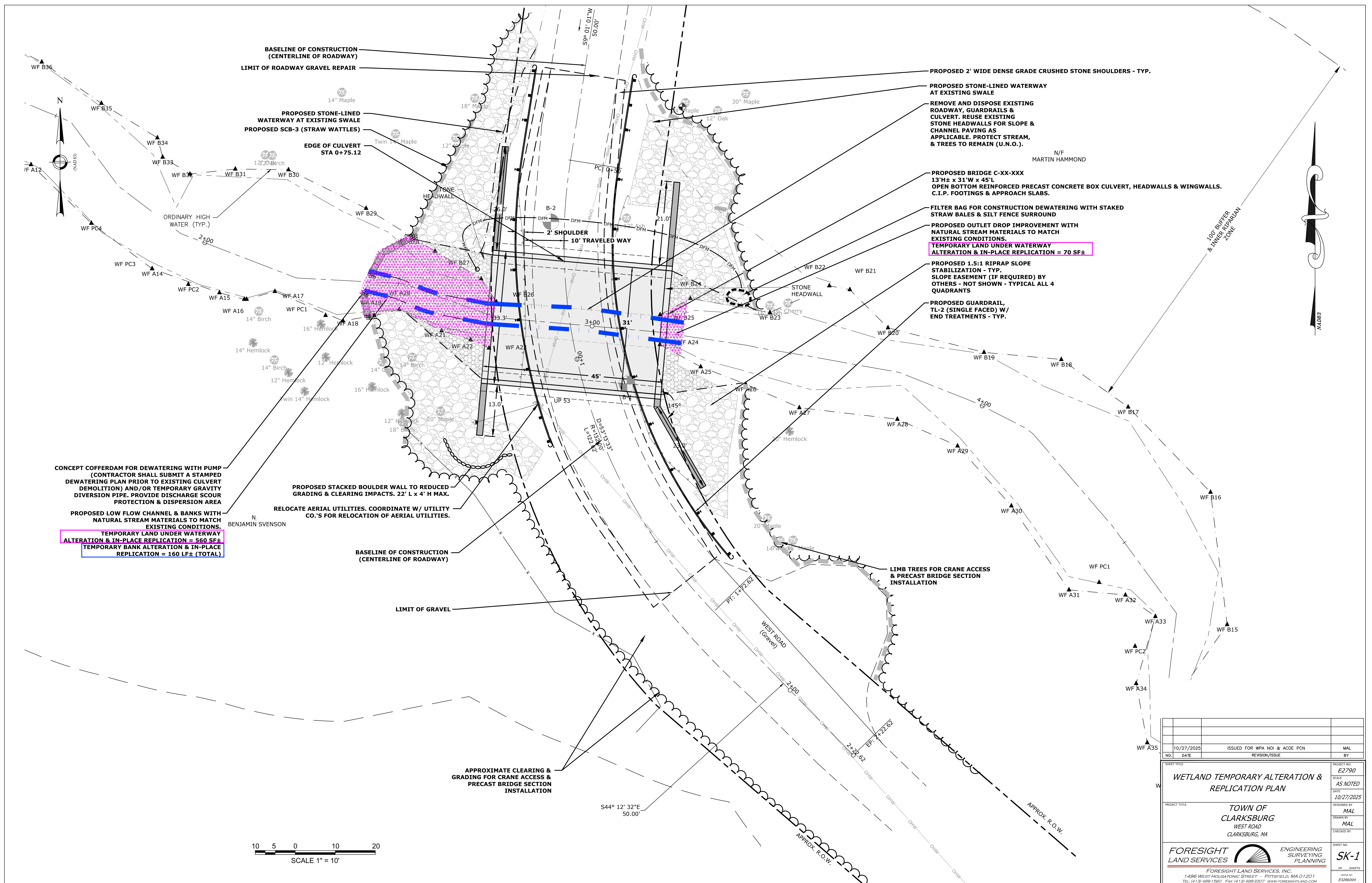


RIPRAP DETAIL NTS

SITE DETAILS - SHEET 1

10/27/2025	ISSUED FOR WPA NOI & ACOE PCN
9/10/2025	ISSUED FOR CRMA GRANT
9/30/2020	ISSUED FOR CRMA GRANT
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	





05	10/27/2025	ISSUED FOR WPA NOI & ACOE PCN	MAL
	NO.	DATE	REVISION/ISSUE
			BY
	SHEET TITLE	PROJECT NO.	
	TOWN OF CLARKSBURG WEST ROAD CLARKSBURG, MA	E2790	
		SCALE	
		AS NOTED	
		DATE	
		10/27/2025	
		DESIGNED BY	
		MAL	
		DRAWN BY	
		MAL	
		CHECKED BY	
	FORESIGHT LAND SERVICES		ENGINEERING SURVEYING PLANNING
	FORESIGHT LAND SERVICES, INC. 1496 WEST HOUSTON TONIC STREET • PITTSFIELD, MA 01201 TEL: (413) 498-1160 FAX: (413) 498-0370 WWW.FORESIGHT-LAND.COM		
			SHEET NO.
			SK-1
			OF SHEETS
			E328D00A