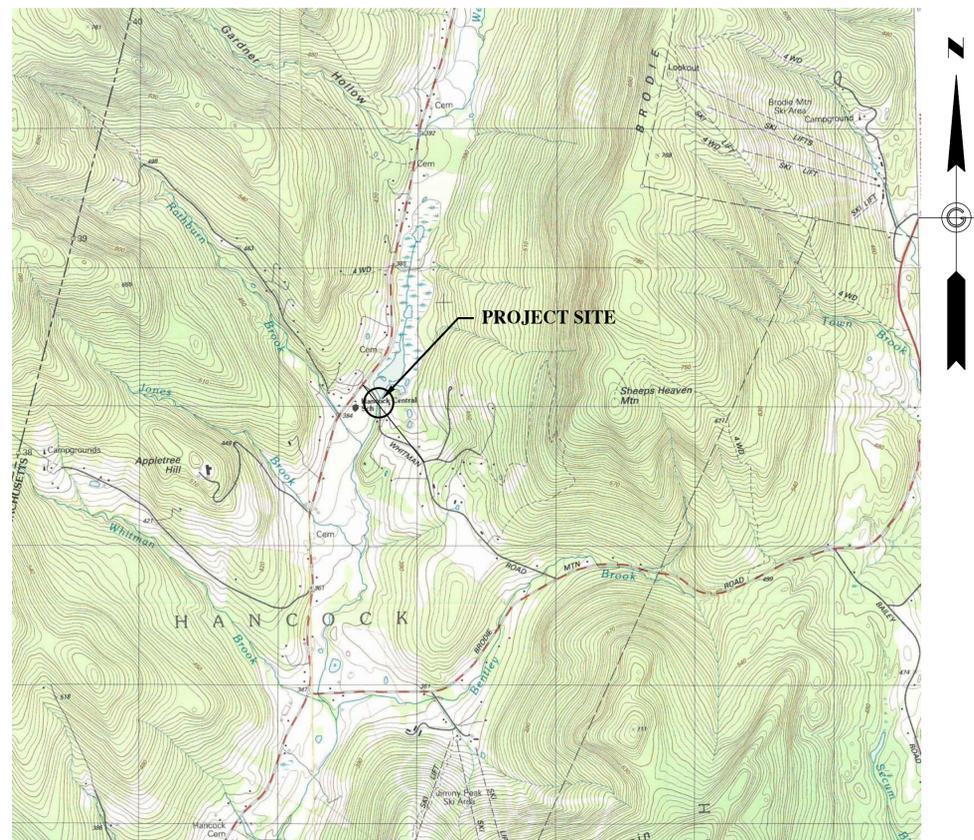


Town of Hancock, MA
Whitman Road Culvert Replacement Project
Kinderhook Creek
Hancock, Massachusetts



Prepared for:

Town of Hancock
3650 Hancock Road
PO Box 1084
Hancock, Massachusetts

Date:

March 13, 2026

Prepared By:

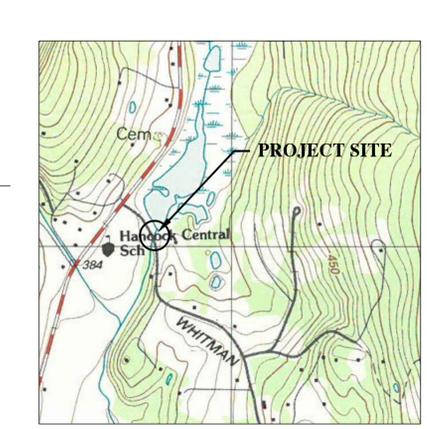
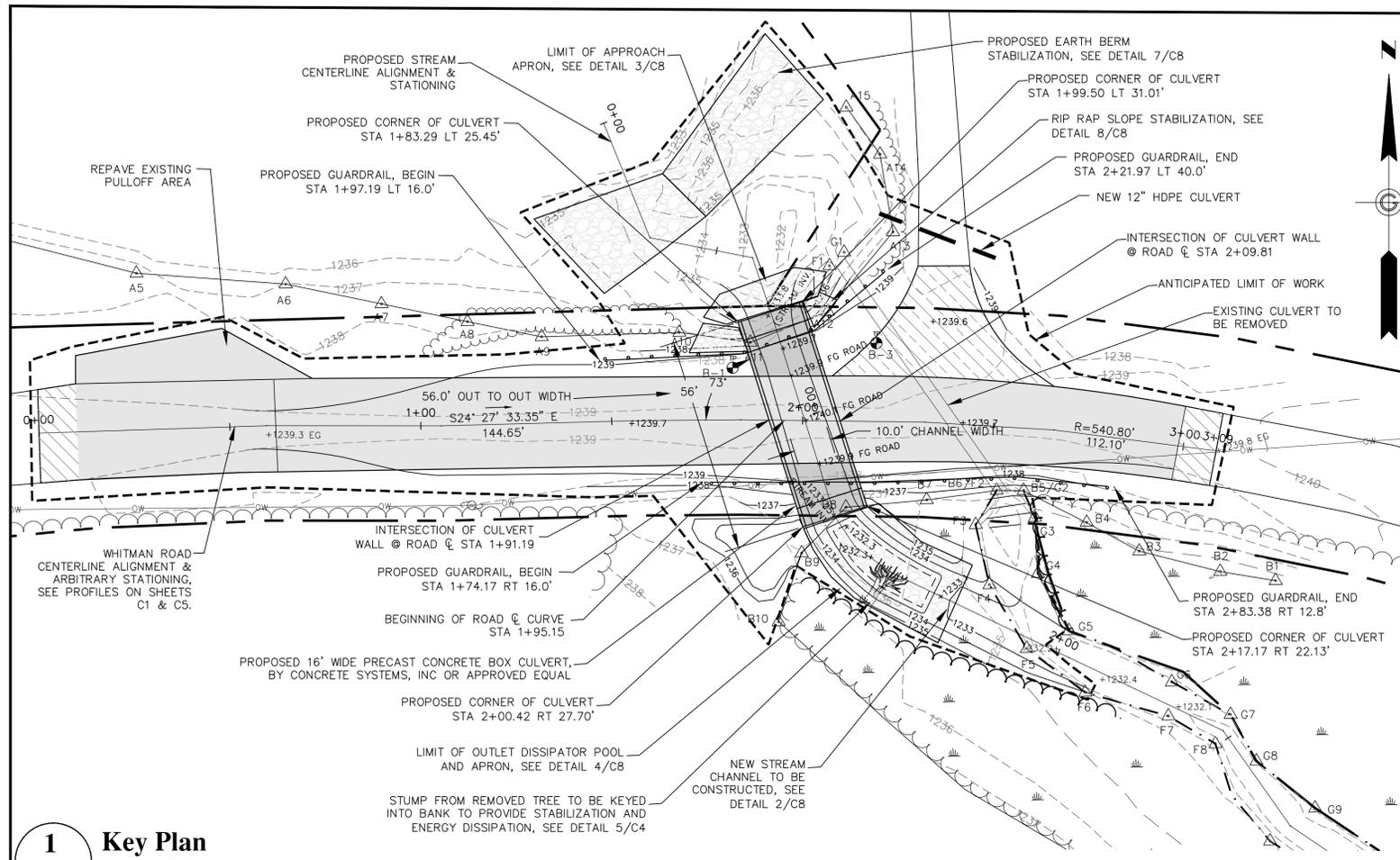


GUNTLOW & ASSOCIATES, INC.
ENGINEERS • SURVEYORS ARCHITECTS

55 NORTH STREET
WILLIAMSTOWN, MA. 01267
413-458-2198
413-458-2712 FAX

Sheet Index

Sheet No.	Description
1	Title Sheet
2	General Notes
3	Boring Logs
4	Existing Condition/Preparation Plans
5	Proposed Conditions & Culvert Cross Section
6	Box Culvert Layout & Design Parameters
7	Box Culvert Section Views & Guardrail Details
8	Misc. Site Details
9	Misc. Site Plans
10	Traffic Management & Site Details



PROJECT INFORMATION	
PROJECT FILE NO.:	N/A
PROJECT DESCRIPTION:	WHITMAN ROAD CULVERT REPLACEMENT
BRIDGE DESIGN LOADING:	H-93
SURVEY BY:	GUNTLOW & ASSOCIATES, INC.
ELEVATION REFERENCE:	NAVD88
BENCH MARK:	CHRISNIK NAIL IN U-POLE #2, ELEV=1240.10

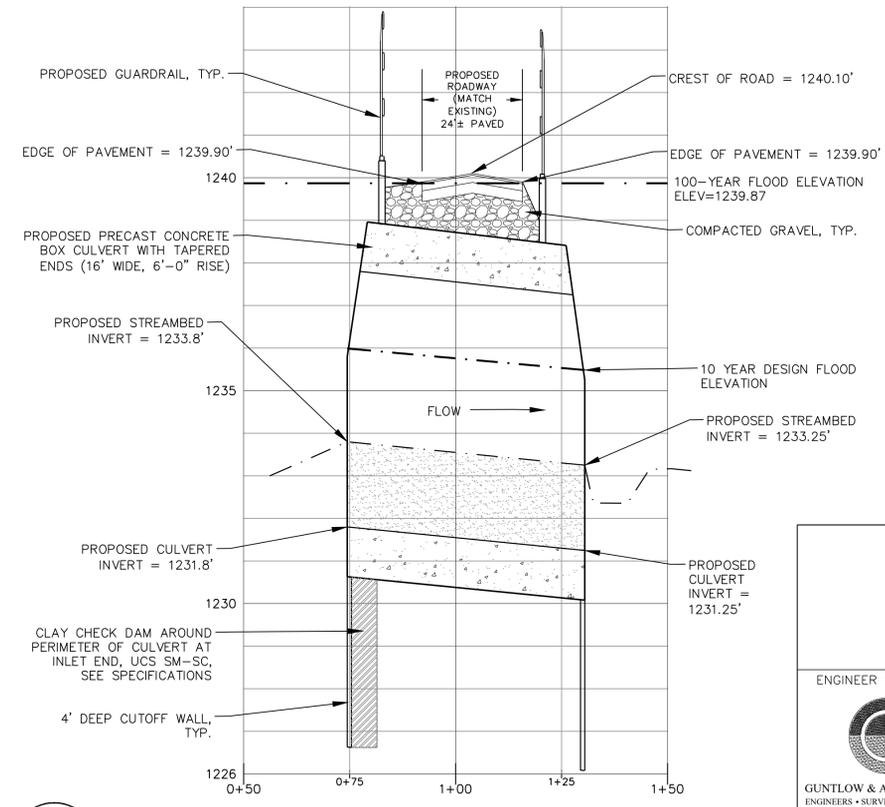
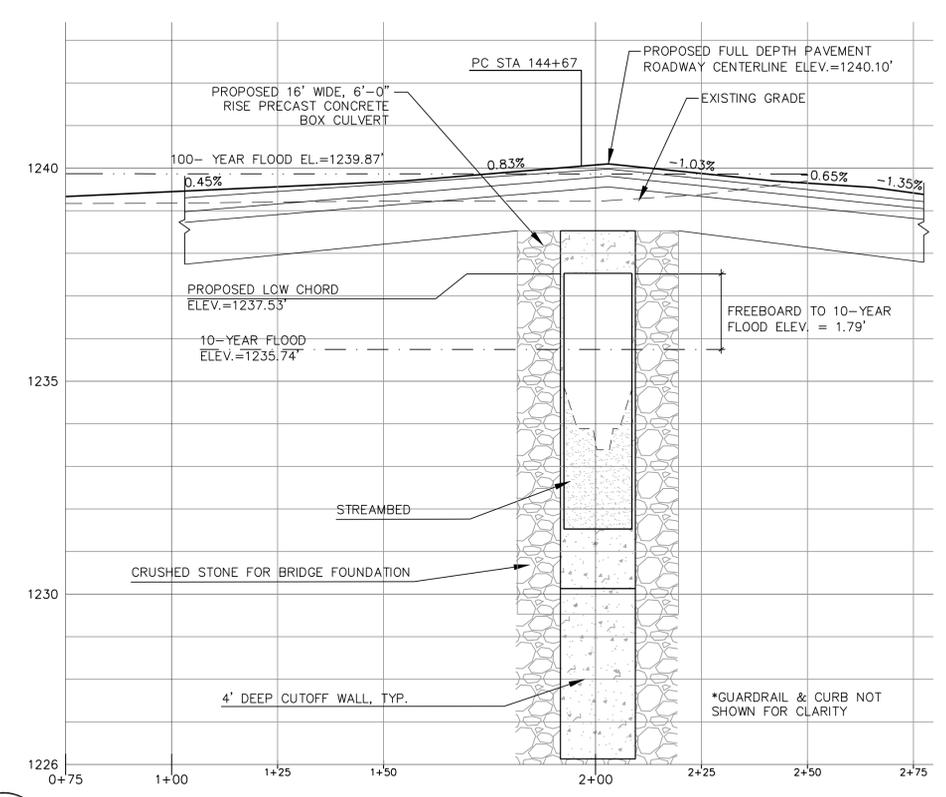
COMMONWEALTH OF MASSACHUSETTS	
MassDOT, Highway Division	
CONCEPTUAL DESIGN IS ACCEPTABLE TO MASSDOT FOR CONTRACTING	
STATE BRIDGE ENGINEER	DATE

Sheet Index

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1 Key Plan
C1 1" = 20'

2 Project Locus
C1 1" = 1000'



Chapter 85 Section 35 Review and Approval

IN ACCORDANCE AND COMPLIANCE WITH THE REQUIREMENTS OF CHAPTER 85 SECTION 35 OF THE MASSACHUSETTS GENERAL LAWS, THE CONTRACTOR SHALL SUBMIT TO THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION ALL CONSTRUCTION DRAWINGS AND DESIGN CALCULATIONS THAT SHALL BE USED TO FABRICATE AND CONSTRUCT THE STRUCTURE DENOTED ON THESE PLANS FOR REVIEW AND APPROVAL. THIS APPROVAL SHALL CONSTITUTE THE FINAL APPROVAL AS STIPULATED BY CHAPTER 85 SECTION 35 OF THE MASSACHUSETTS GENERAL LAWS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ADEQUACY AND ACCURACY THEREOF AND SHALL NOT COMMENCE ANY FABRICATION UNTIL THEY HAVE MADE THE REQUIRED MEASUREMENTS ON THE ACTUAL STRUCTURE AND THE SUBMITTED SHOP DRAWINGS HAVE BEEN APPROVED BY THE ENGINEER. SHOP DRAWINGS SHALL STATE THAT THE EXISTING DIMENSIONS, ANGLES, ELEVATIONS AND FIELD CONDITIONS HAVE BEEN FIELD VERIFIED BY THE CONTRACTOR.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS REQUIRED FOR THE PROPER PERFORMANCE OF THE WORK. FIELD CONDITIONS MAY EXIST WHICH DEVIATE FROM THE TYPICAL AND THEORETICAL DIMENSIONS SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR FABRICATION AND FIT OF THEIR WORK.

3 Profile Along Centerline of Whitman Road
C1 Horizontal 1" = 20'; Vertical 1" = 2'

4 Profile Along Kinderhook Creek
C1 Horizontal 1" = 20'; Vertical 1" = 2'

MARCH 13, 2026	ISSUED FOR BRIDGE DIVISION REVIEW
PROPOSED CULVERT HANCOCK WHITMAN ROAD OVER KINDERHOOK CREEK	
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION 10 PARK PLAZA BOSTON, MASS	
ENGINEER OF RECORD GUNTLOW & ASSOCIATES, INC. ENGINEERS • SURVEYORS • ARCHITECTS 55 NORTH STREET WILLIAMSTOWN, MA 01267 413-458-2198 413-458-2712 FAX	STATE BRIDGE ENGINEER CHIEF ENGINEER

Boring #1

PROJECT NAME: New Box Culvert										FILE NO.: 2474									
BORING NO.: B-1										CASING SAMPLER CORE BARREL									
CLIENT: Guntlow & Associates										TYPE: HSA SS									
SITE LOCATION: Whitman Rd, Hancock, MA 01267										SIZE I.D.: 4.25" 1.375"									
BORING LOCATION: See Location Diagram										HAMMER W.T.: 140#									
SURFACE ELEVATION: See Location Diagram										HAMMER FALL: 30"									
DEPTH	NO.	DEPTH RANGE	SAMPLE				COL. A	STRATA CHANGE	FIELD CLASSIFICATION AND REMARKS										
			BLOWS PER 6"	ON SAMPLER	REC.														
5	S-1	0.0' - 2.0'	10	11	10	9	1.4'		Brown/grey, moist, medium dense, Sand, little Gravel, trace Silt, SP, native with rock fragments. Similar except wet.										
	S-2	2.0' - 4.0'	6	17	9	5	1.2'	4'											
	S-3	4.0' - 6.0'	6	5	9	5	0.8'		Grey/brown, wet, loose, Sand, some Gravel, trace Silt and Clay, SM with rock fragments.										
	S-4	6.0' - 8.0'	3	3	2	4	0.6'	9'											
	S-5	10.0' - 12.0'	3	5	4	4	0.8'		Silver/grey, wet, loose, very fine Sand and Silt, little Gravel and Clay, silky texture, SM, with rock fragments.										
	S-6	15.0' - 17.0'	3	5	7	6	0.9'	18'	Similar.										
	S-7	20.0' - 22.0'	4	9	9	11	1.5'	24'	Grey/brown, wet, medium dense, Sand, little Silt, trace Gravel, SM.										
	S-8	25.0' - 27.0'	6	13	14	18	1.4'	29'	Grey/brown, wet, medium dense, nonplastic Silt, some Sand, trace Gravel and Clay, ML.										
	S-9	30.0' - 32.0'	9	12	19	25	1.6'	32'	Grey, wet, dense, Sand and Silt, trace Gravel, SM.										
									End of boring at 32 feet.										

BOTTOM OF PROPOSED CULVERT
ELEV=1230.63

BOTTOM OF PROPOSED CUTOFF WALL
ELEV=1226.63

Boring #3

PROJECT NAME: New Box Culvert										FILE NO.: 2474									
BORING NO.: B-3										CASING SAMPLER CORE BARREL									
CLIENT: Guntlow & Associates										TYPE: HSA SS									
SITE LOCATION: Whitman Rd, Hancock, MA 01267										SIZE I.D.: 4.25" 1.375"									
BORING LOCATION: See Location Diagram										HAMMER W.T.: 140#									
SURFACE ELEVATION: See Location Diagram										HAMMER FALL: 30"									
DEPTH	NO.	DEPTH RANGE	SAMPLE				COL. A	STRATA CHANGE	FIELD CLASSIFICATION AND REMARKS										
			BLOWS PER 6"	ON SAMPLER	REC.														
5	S-1	0.0' - 2.0'	9	13	9	6	1.5'		Brown/grey, moist, medium dense, Sand, little Gravel, trace Silt, SP, native with rock fragments.										
	S-2	2.0' - 4.0'	6	6	5	5	1.0'	2'											
	S-3	4.0' - 6.0'	4	2	6	2	0.8'	4'	Brown/grey, wet at 3 feet, medium dense, nonplastic Silt and Sand, trace Gravel, ML.										
	S-4	6.0' - 8.0'	2	2	4	2	1.1'	6'	Grey, wet, loose, Sand, and Silt, trace Gravel, SM.										
	S-5	10.0' - 12.0'	WOH	2	1	2	0.4'	9'	Black, wet, medium stiff, Peat, PT.										
	S-6	15.0' - 17.0'	3	3	4	4	1.7'	13'	Grey, wet, soft, Silt, some Clay, trace Sand and Gravel, ML.										
	S-7	20.0' - 22.0'	9	11	10	11	1.3'	18'	Grey, wet, medium dense, Sand, little Gravel and Silt, SM.										
	S-8	25.0' - 26.0'	10	14	19	50/0.1'	1.3'		Similar.										
	S-9	30.0' - 30.7	29	50/0.2'			0.3'	32'	Similar.										
									End of boring at 32 feet.										

BOTTOM OF PROPOSED CULVERT
ELEV=1230.63

BOTTOM OF PROPOSED CUTOFF WALL
ELEV=1226.63

GIFFORD ENGINEERING
Geotechnical & Geoenvironmental Services

LABORATORY TEST RESULTS
New Box Culvert
Whitman Road, Hancock, MA 01267
File No. 2474

COMMONWEALTH OF MASSACHUSETTS
MassDOT, Highway Division
CONCEPTUAL DESIGN IS ACCEPTABLE
TO MASSDOT FOR CONTRACTING

STATE BRIDGE ENGINEER _____ DATE _____

Grain Size Distribution ASTM D 421, D 422 & D 1140

Size/Sieve	Percent Passing by Weight	Percent Passing by Weight
No. 4	B-1 4'-6"	B-3 20'-22"
No. 10	70.2%	89.9%
No. 20	59.8%	78.3%
No. 40	47.7%	58.6%
No. 100	36.5%	42.1%
No. 200	24.6%	23.4%
	19.8%	17.3%
Natural Moisture	17.9%	15.4%

3 Lab Test Results
C3 Not to Scale

Geotechnical Report Considerations:

THE GEOTECH REPORT WAS PRODUCED BY GIFFORD ENGINEERING, MARCH 2026

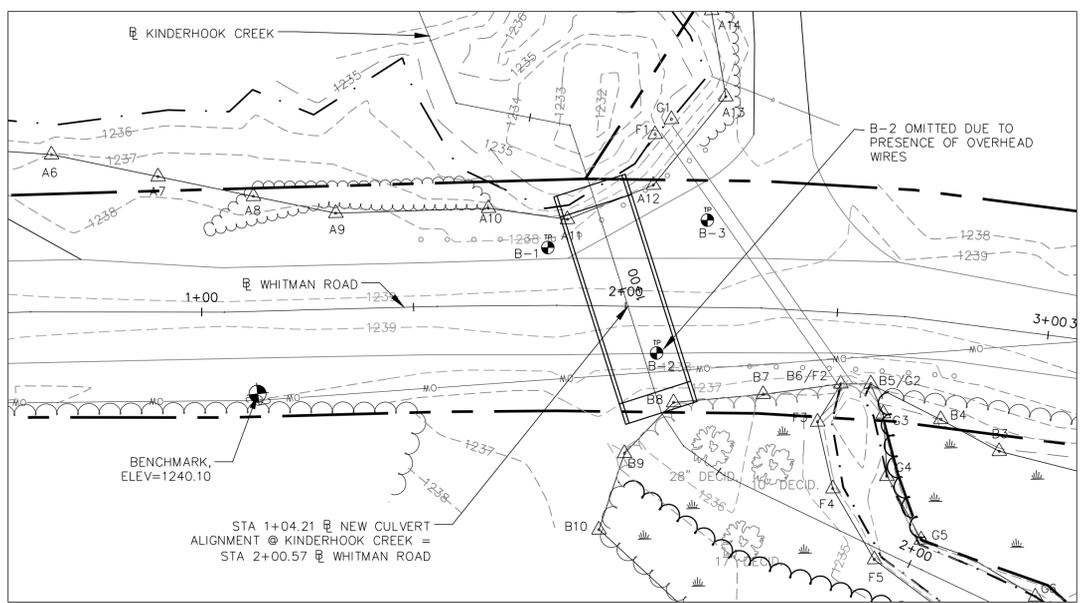
1. THE CULVERT FOUNDATION SUBGRADE SHOULD BE PROOF ROLLED WITH A MINIMUM 5-TON STATIC WEIGHT VIBRATORY ROLLER MAKING AT LEAST 6 PASSES. THE PROOF ROLL SHOULD BE OBSERVED BY THE GEOTECHNICAL ENGINEER WHO WILL JUDGE SUITABILITY OF THE SOILS FOR SUPPORT OF THE STRUCTURE. SEE GEOTECH REPORT FOR ALTERNATIVE STABILIZATION OF SUBGRADE IF CONDITIONS ARE SOFTER OR WETTER THAN ANTICIPATED.

2. SOIL BEARING CAPACITY: 2000 PSF.
EARTHQUAKE SITE CLASS: D (SEE GEOTECH REPORT FOR DESIGN VALUES)

3. A LAYER OF PEAT WAS OBSERVED BETWEEN 6'-9' WITHIN BORING #3 OUTSIDE OF THE PROPOSED CULVERT ALIGNMENT. THE CONTRACTOR MUST PROVIDE A MINIMUM OF THREE (3) TEST PROBES WITH AN EXCAVATOR TO A MINIMUM DEPTH OF 10 FEET WITHIN THE CULVERT ALIGNMENT. THESE TEST PITS MUST BE WITNESSED BY THE GEOTECHNICAL ENGINEER. TEST PROBES SHALL BE BACKFILLED WITH CRUSHED STONE BELOW THE CULVERT BOTTOM ELEVATION. THE REMOVAL OF ANY PEAT MATERIALS BELOW THE REQUIRED 12" CRUSHED STONE BASE FOR THE CULVERT AND WITHIN 2' OF THE CULVERT FOOTPRINT SHALL BE INCLUDED AS A SUPPLEMENTAL UNIT FOR PRICING.

1 Boring Log, Boring #1
C3 Not to Scale

2 Boring Log, Boring #3
C3 Not to Scale

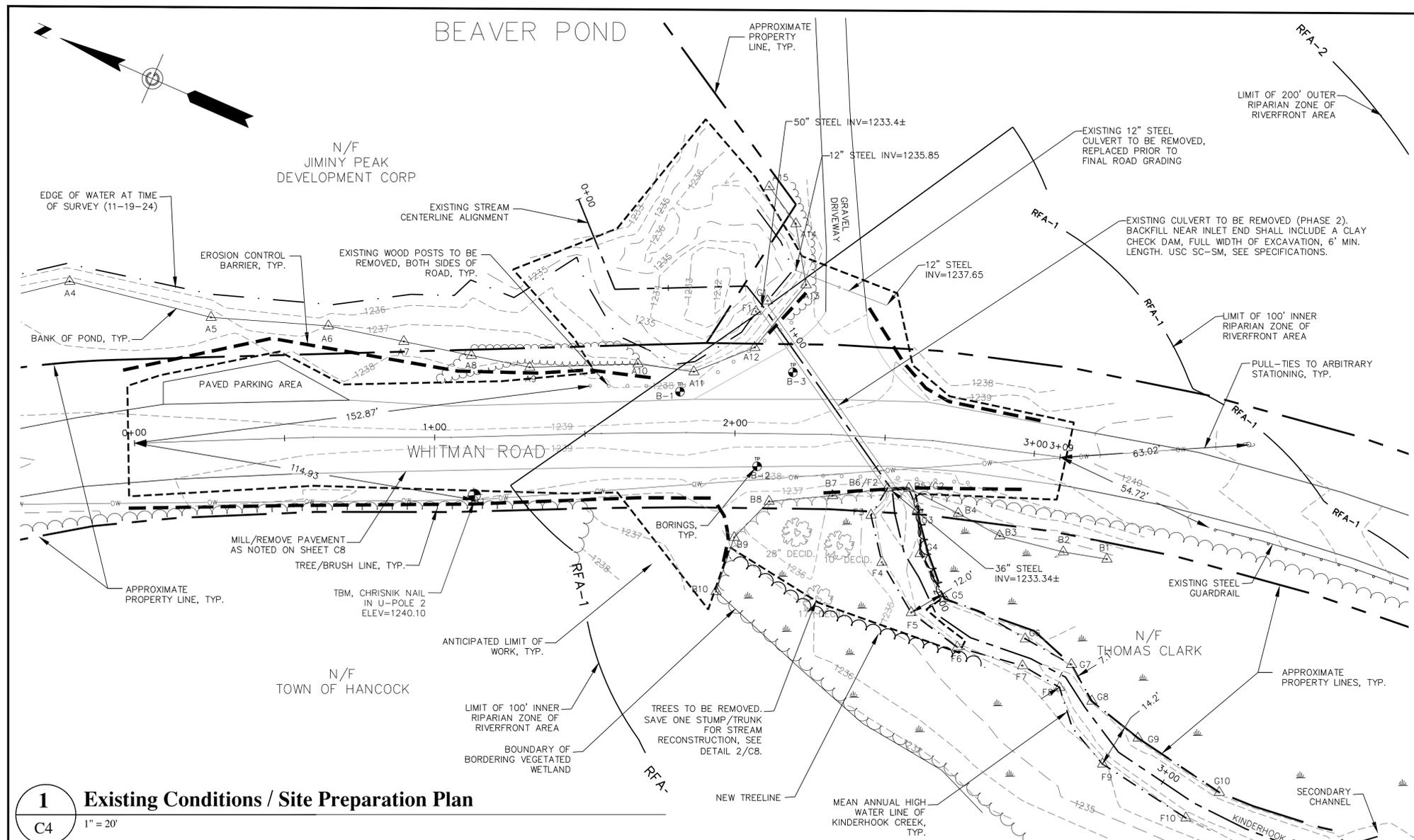


BORING LOCATIONS (FEET)					
BORING	NORTHING	EASTING	STATION	OFFSET	SURFACE ELEV.
1	3040453.1527	172119.5301	1+81	14' LT	1238.2
3	3040421.3234	172140.5833	2+19	20' LT	1238.6

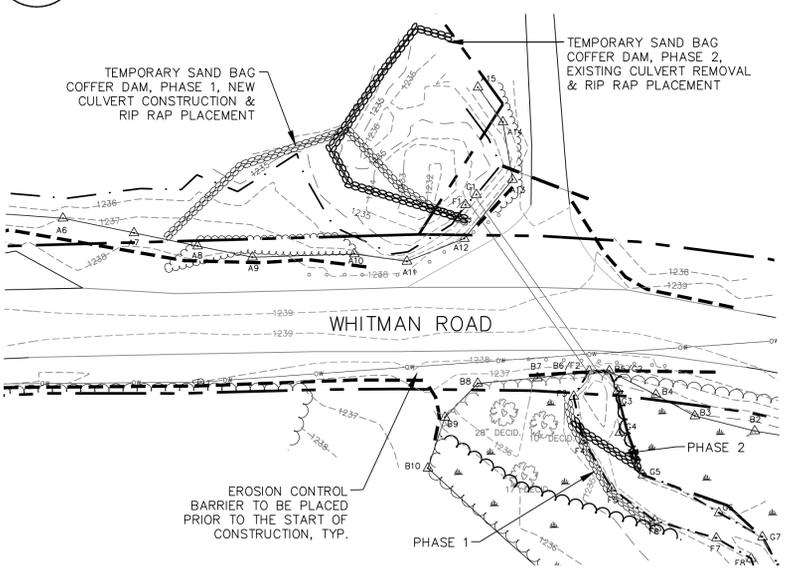
- Boring Notes**
- LOCATION OF BORINGS ARE SHOWN THUS: [Symbol]
 - SEE THE BORING LOCATIONS TABLE FOR THE SPECIFIED HIGHEST BOTTOM ELEVATION (H.B.E.) OF EACH BORING.
 - BORINGS SHALL EXTEND TO THE SPECIFIED HIGHEST BOTTOM ELEVATION OR TO REFUSAL BELOW THE H.B.E., WHICHEVER IS DEEPER.
 - SHOULD BEDROCK BE ENCOUNTERED AT OR ABOVE THE SPECIFIED HIGHEST BOTTOM ELEVATION, THE BORING SHALL BE CONTINUED AS A ROCK CORE BORING FOR A DEPTH OF 10', THEN TERMINATED.
 - BENCHMARK: CHRISNIK NAIL IN U-POLE #2 ON SOUTH SIDE OF WHITMAN ROAD, STA 1+12.70, 19' RT. ELEVATION=1240.10.
 - BORINGS ARE LOCATED FROM THE BASELINE OF WHITMAN ROAD.
 - ADDITIONAL BORINGS MAY BE REQUESTED BY THE ENGINEER, IF NECESSARY.

4 Boring Diagram
C3 1"=20'

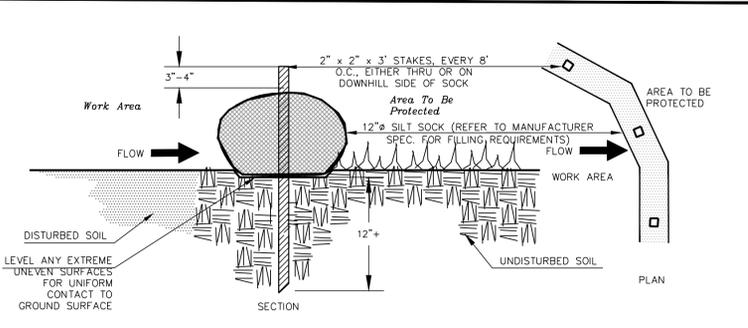
MARCH 13, 2026	ISSUED FOR BRIDGE DIVISION REVIEW
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



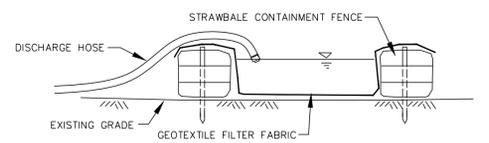
1 Existing Conditions / Site Preparation Plan
C4 1" = 20'



2 Erosion Control/Coffer Dam Plan
C4 1" = 30'



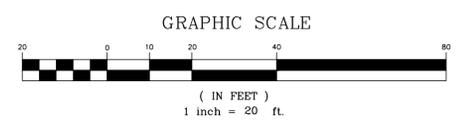
3 Erosion Control Barrier - Silt Sock / Wattle Detail
C4 Not to Scale



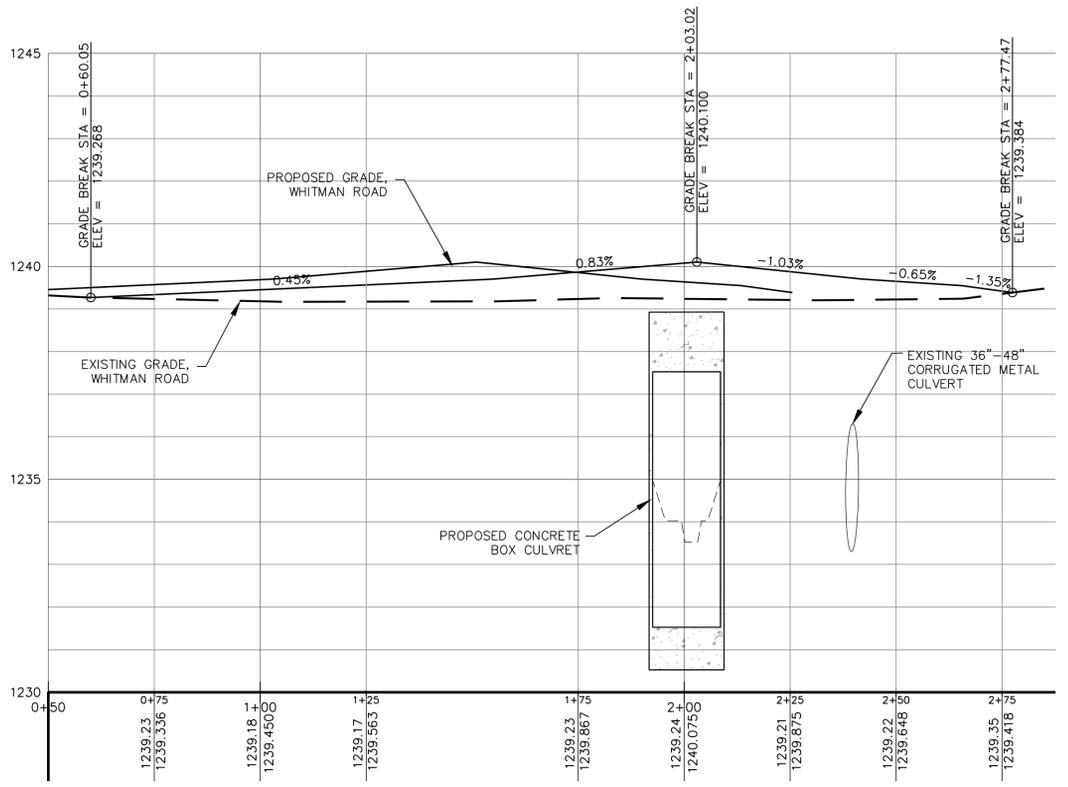
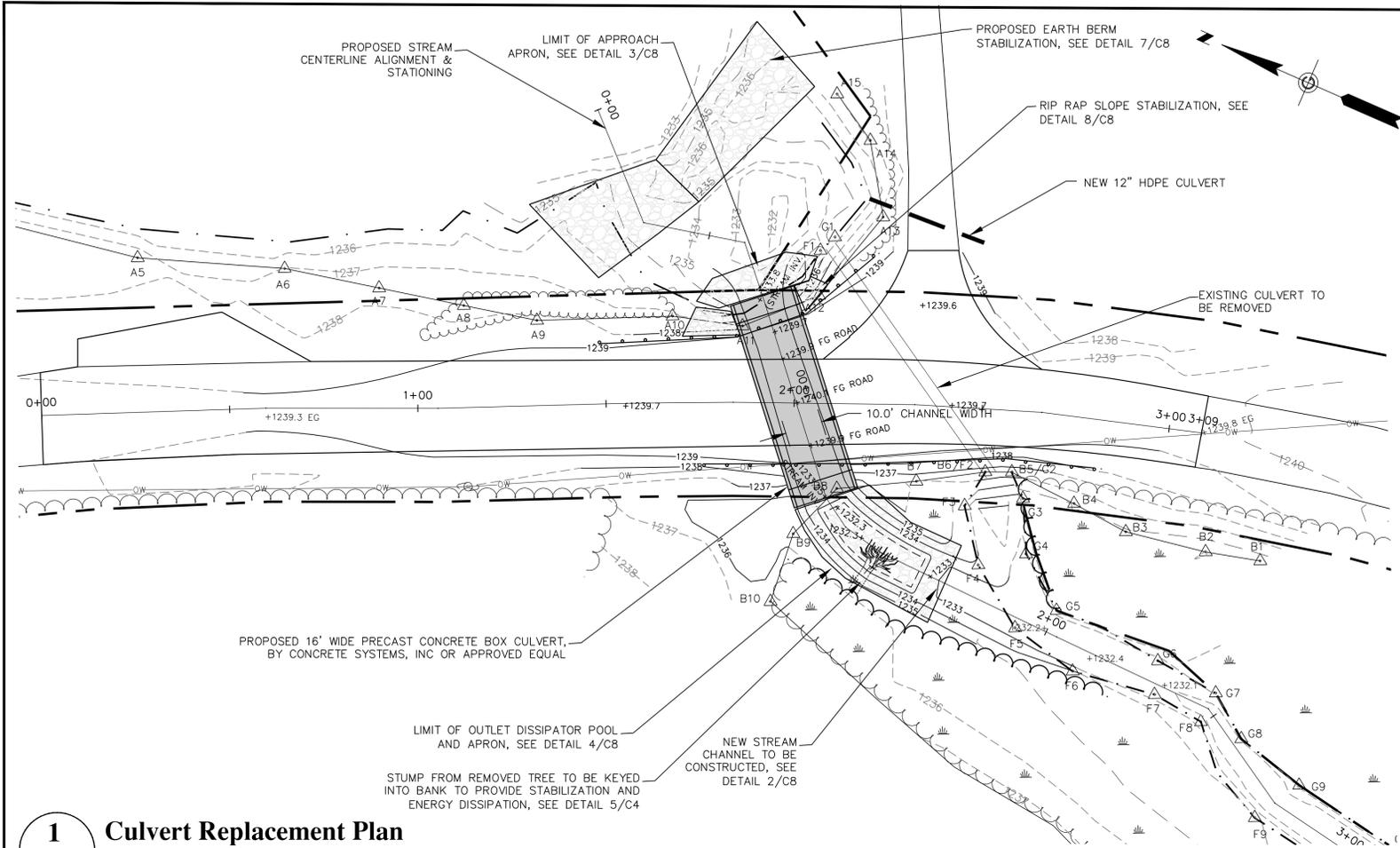
General Dewatering Notes:

- > THIS CONTAINMENT AREA IS FOR DEWATERING EXCAVATION AREAS.
- > DEWATER PRIOR TO EXCAVATION.
- > DO NOT DEWATER OR BYPASS STREAMS WITH PUMPS OR THIS DETAIL.
- > STREAM SHALL BE ISOLATED FROM THE WORK AREA BY SAND BAG COFFER DAMS
- > COLLECT CONSTRUCTION DRAINAGE FROM GROUNDWATER, STORMS, AND LEAKS AND TREAT TO REMOVE SEDIMENT.
- > USE DOWNSTREAM SEDIMENT CONTROL SUMP TO COLLECT WATER THAT SEEPS OUT OF THE CONSTRUCTION AREA.
- > SILTATION BASINS SHALL BE CONSTRUCTED FOR THE PURPOSE OF SETTLING OUT SEDIMENT IN THE DEWATERING DISCHARGE.

4 Dewatering Discharge Containment Detail
C4 Not to Scale



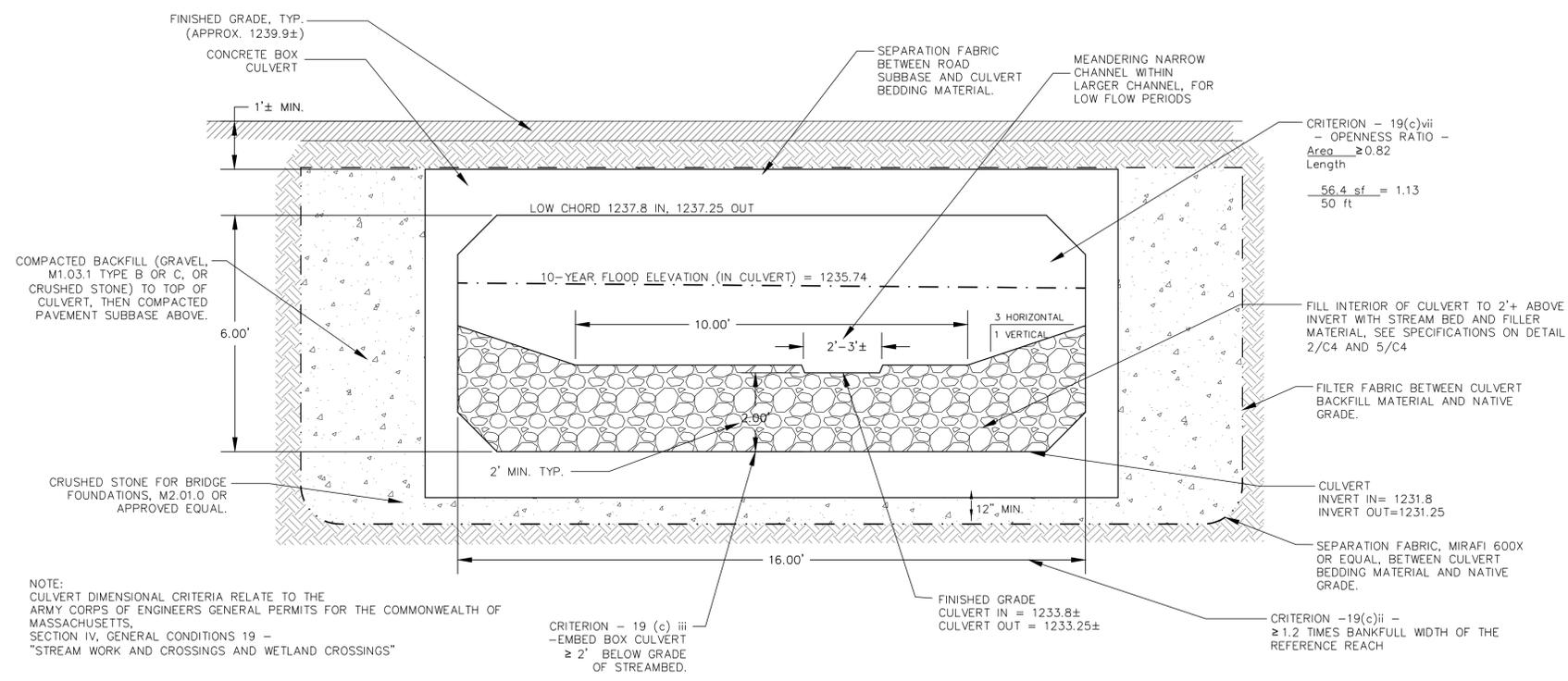
MARCH 13, 2026	ISSUED FOR BRIDGE DIVISION REVIEW
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	
SHEET 4 OF 10 SHEETS BRIDGE NO. H-05-016 (CY3)	



1 Culvert Replacement Plan
 C5 1" = 20'

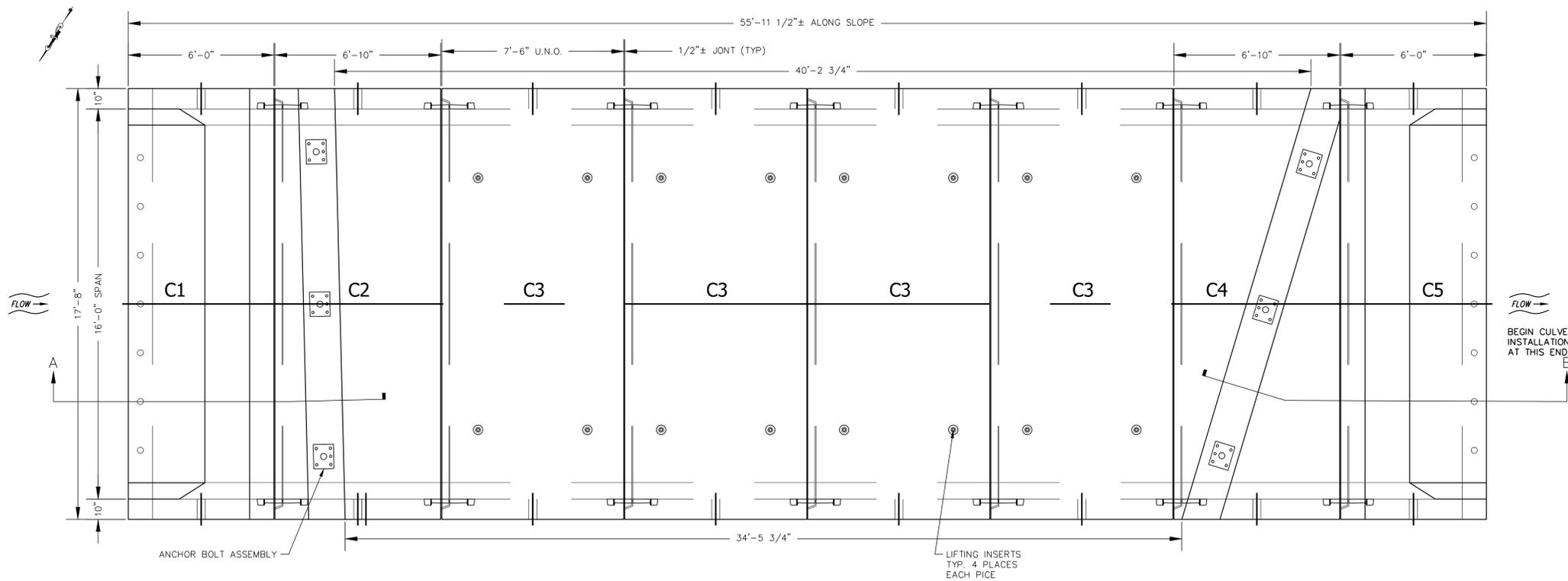
2 Profile of Existing and Proposed Structures Along Road Centerline
 C5 1" = 20'

COMMONWEALTH OF MASSACHUSETTS
 MassDOT, Highway Division
 CONCEPTUAL DESIGN IS ACCEPTABLE
 TO MASSDOT FOR CONTRACTING
 STATE BRIDGE ENGINEER _____ DATE _____



3 Culvert Cross Section
 C5 1" = 2'

MARCH 13, 2026	ISSUED FOR BRIDGE DIVISION REVIEW
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SHEET 5 OF 10 SHEETS BRIDGE NO. H-05-016 (CY3)	



- GENERAL NOTES:
- REFERENCE STANDARDS:
AASHTO "LRFD BRIDGE DESIGN SPECIFICATIONS"
ASTM C1577
 - DESIGN PARAMETERS
LIVE LOAD: HL-93
EARTH COVER: 1.58'±
CONCRETE: DESIGN STRENGTH $f'_c = 5000$ PSI HP
UNIT WEIGHT = 150 PCF
REINFORCING: ASTM A615 (REBAR) OR 60, EPOXY COATED (ASTM A775)
SOIL UNIT WEIGHT = 120 PCF
MINIMUM LATERAL PRESSURE 60 PCF
MAXIMUM LATERAL PRESSURE 30 PCF
COVER TO REINFORCING: 2" U.N.O.
 - DIMENSIONS INCLUDE A 1/2" JOINT CREEP PER JOINT, OVERALL CULVERT LENGTH WILL VARY SLIGHTLY DEPENDING ON INSTALLATION.
 - NO DAMPPROOFING OR WATERPROOFING SUPPLIED BY CSI.
 - DBS ARE DOWEL BAR SPLICERS AND DI ARE DOWEL INS.
 - HEADWALLS NOT DESIGNED FOR IMPACT LOAD.
 - ALL PIECES TO BE MARKED WITH SPAN & RISE, DATE OF MANUFACTURE, AND MANUFACTURER TIME & TRADEMARK.

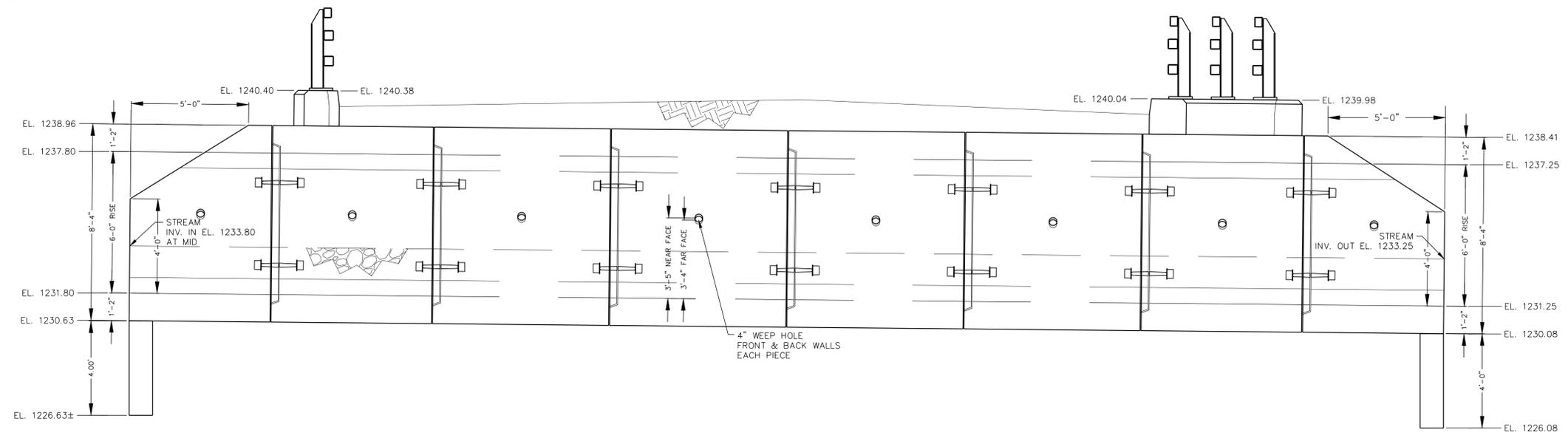
PIECE SCHEDULE (MX-FA5000HPSCC)				
MARK	QTY	LENGTH	TDS	WEIGHT
C1	2	6.00'	8.42	17.05 TONS
C2*	1	6.83'	14.66	29.69 TONS
C3	4	7.50'	14.48	29.31 TONS
C4*	1	6.83'	14.66	29.69 TONS
C5	1	6.00'	8.04	16.28 TONS
CW1	2	17.67'	2.62	5.31 TONS

*WEIGHT INCLUDES MONOLITHIC HEADWALL

COMMONWEALTH OF MASSACHUSETTS
MassDOT, Highway Division
CONCEPTUAL DESIGN IS ACCEPTABLE
TO MASSDOT FOR CONTRACTING

STATE BRIDGE ENGINEER _____ DATE _____

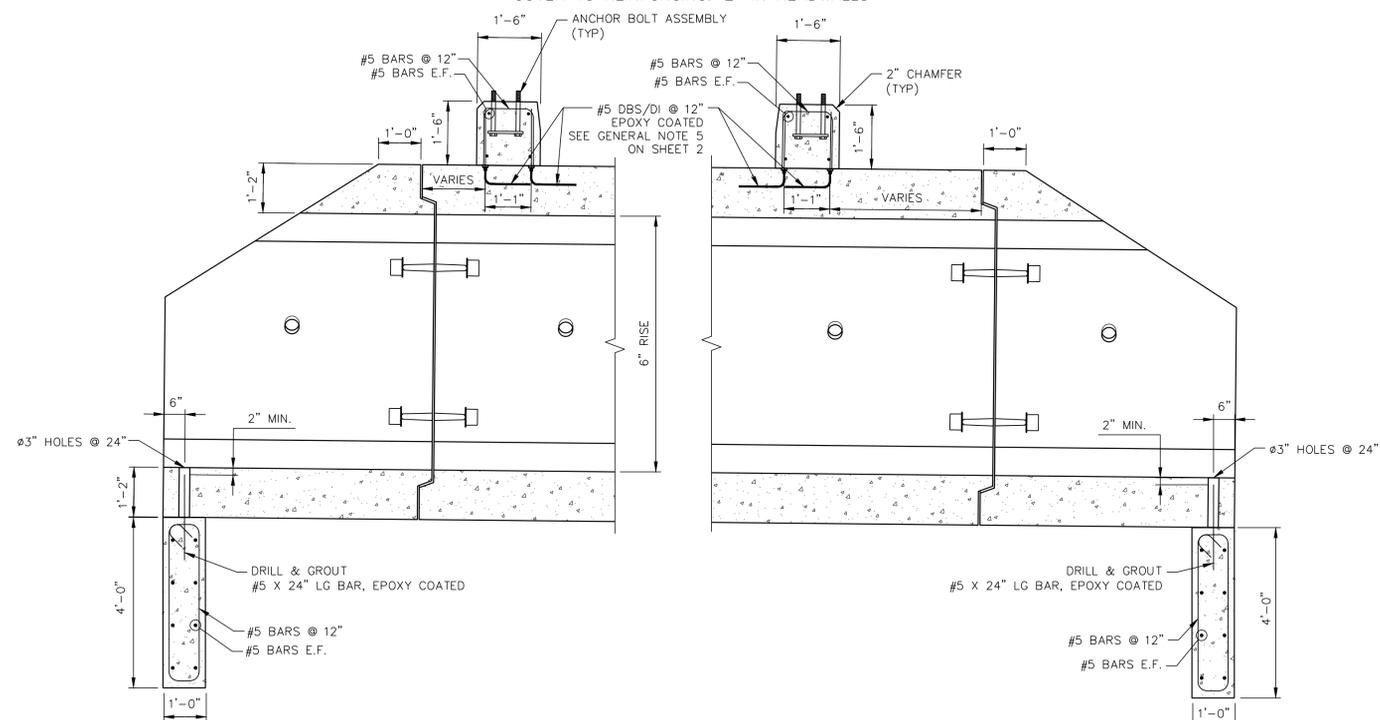
1 Culvert Plan View
C6 3/8"=1'-0"



2 Culvert Side Elevation - Looking South
C6 3/8"=1'-0"

MARCH 13, 2026	ISSUED FOR BRIDGE DIVISION REVIEW
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USE ONLY PRINTS OF LATEST DATE	

ALL REINFORCING TO BE EPOXY COATED
 COVER TO REINFORCING: 2" IN HEADWALLS

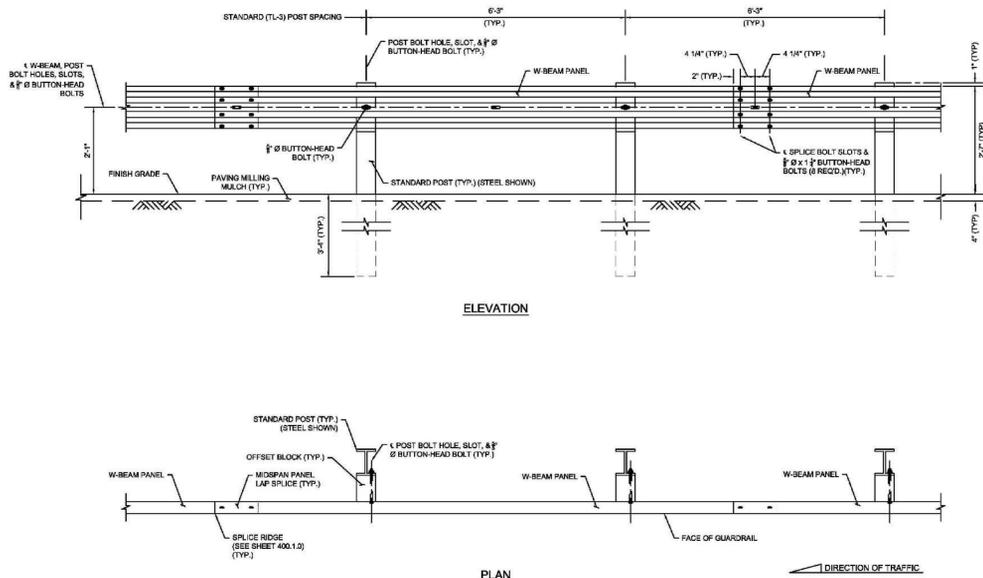


1 Inlet End Section View (A)

C7 1/2"=1'-0"

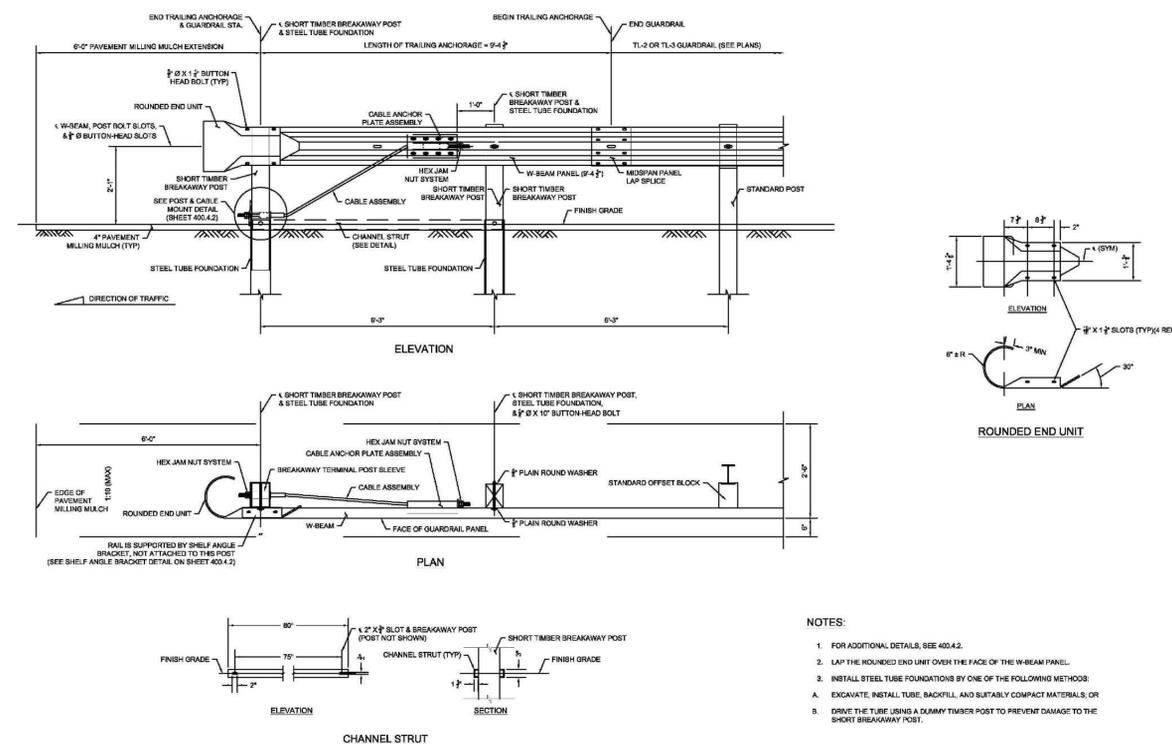
2 Outlet End Section View (B)

C7 1/2"=1'-0"



3 TL-3 Guardrail

C7 Not to Scale

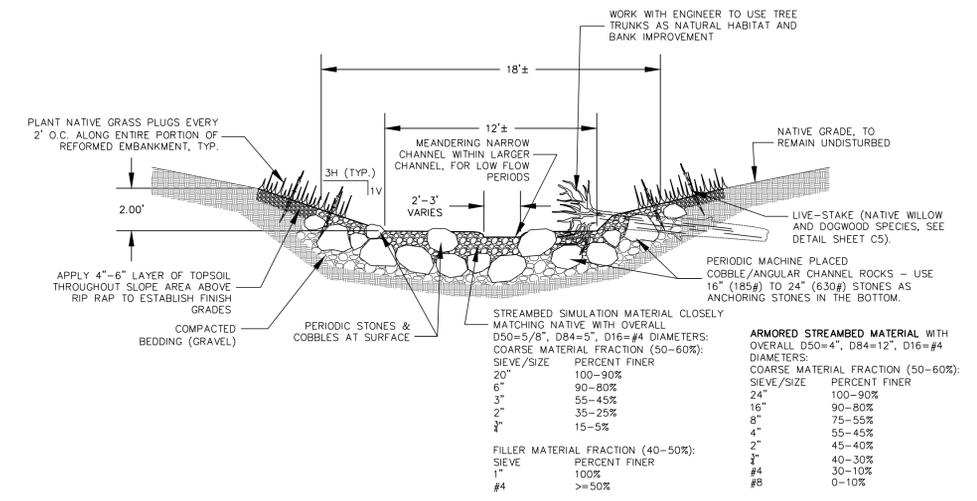
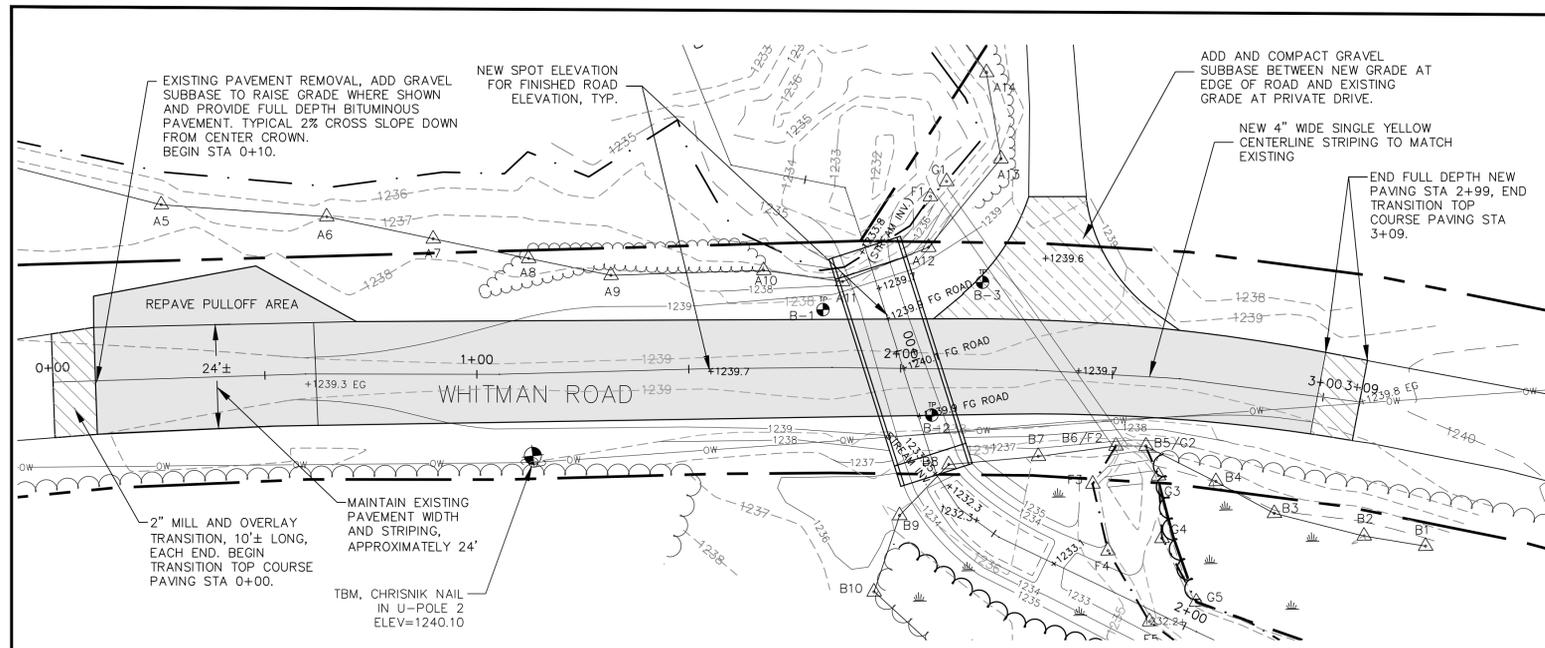


4 Guardrail Trailing Anchorage

C7 Not to Scale

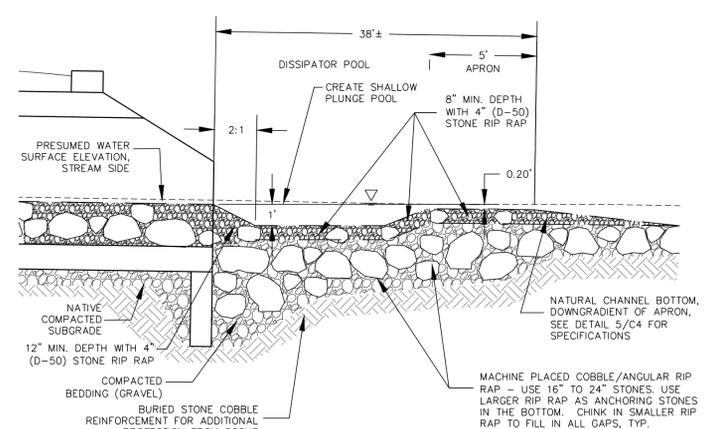
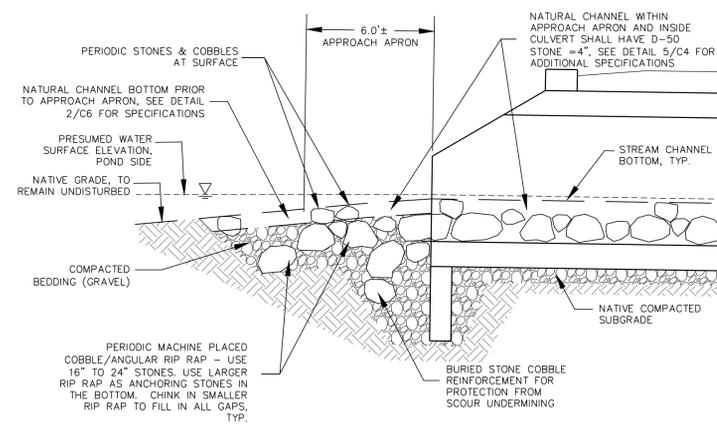
- NOTES:
- FOR ADDITIONAL DETAILS, SEE 400.4.2.
 - LAP THE ROUNDED END UNIT OVER THE FACE OF THE W-BEAM PANEL.
 - INSTALL STEEL TUBE FOUNDATIONS BY ONE OF THE FOLLOWING METHODS:
 - EXCAVATE, INSTALL TUBE, BACKFILL, AND SUITABLY COMPACT MATERIALS, OR
 - DRIVE THE TUBE USING A DUMMY TIMBER POST TO PREVENT DAMAGE TO THE SHORT BREAKAWAY POST.

MARCH 13, 2026	ISSUED FOR BRIDGE DIVISION REVIEW
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USE ONLY PRINTS OF LATEST DATE	
SHEET 7 OF 10 SHEETS BRIDGE NO. H-05-016 (CY3)	



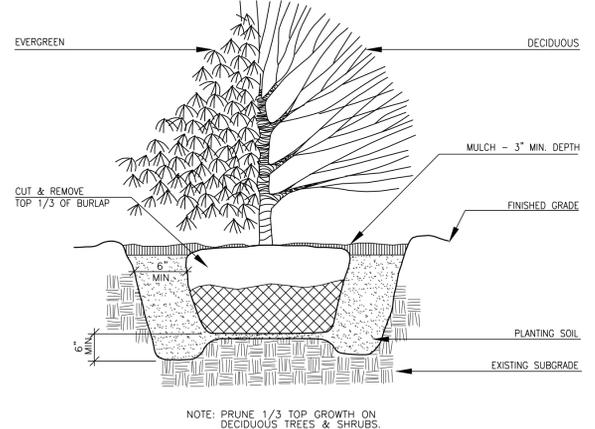
1 Road Paving Plan
C8 Scale: 1"=20'

2 New Stream Cross Section
C8 Not to Scale

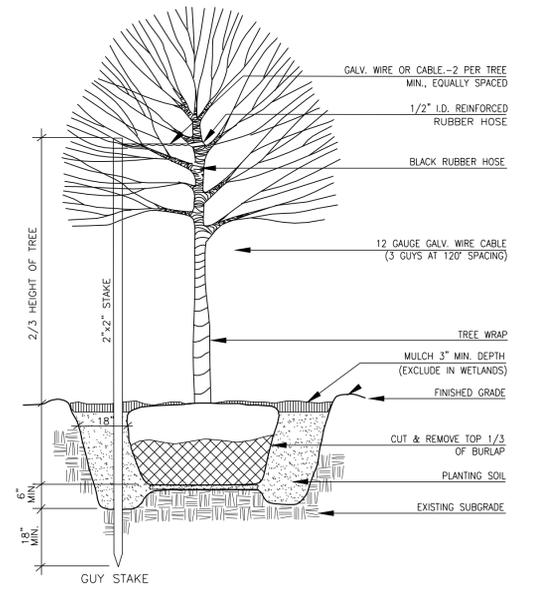


3 Culvert Inlet Channel Profile
C8 Not to Scale

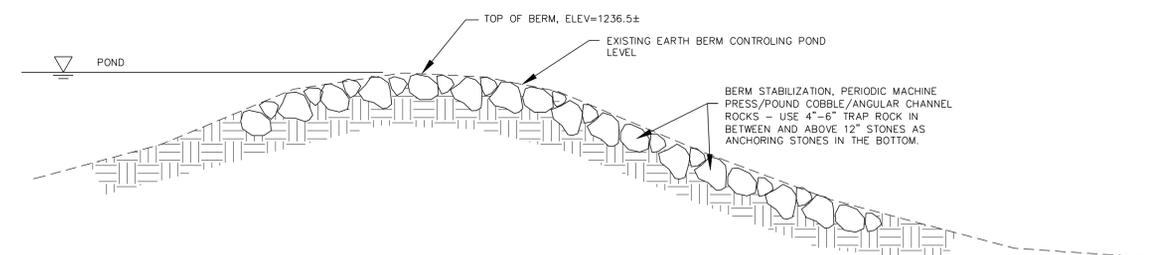
4 Culvert Outlet Channel Profile
C8 Not to Scale



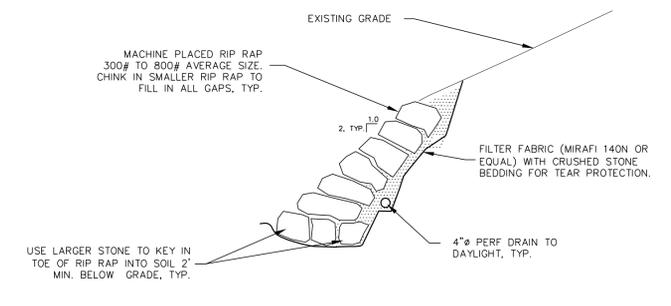
5 Typical Shrub Planting
C8 Not to Scale



6 Typical Tree Planting
C8 Not to Scale



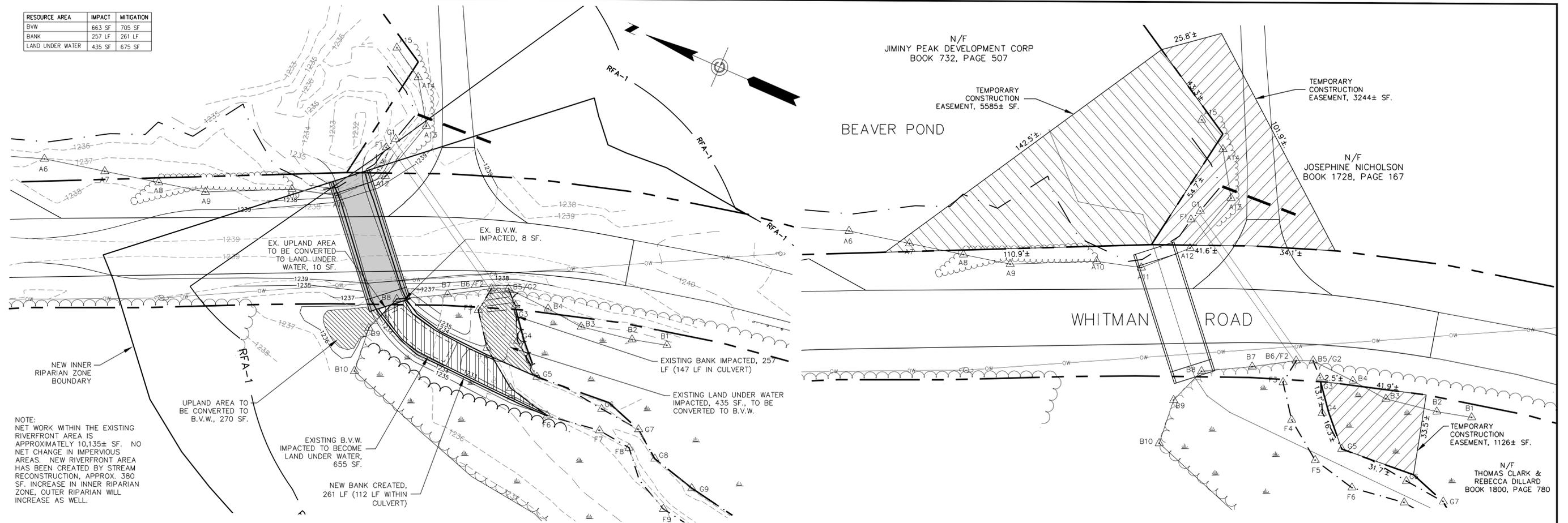
7 Existing Berm Stabilization Detail
C8 Not to Scale



8 Rip Rap Slope Stabilization Detail
C8 Not to Scale

MARCH 13, 2026	ISSUED FOR BRIDGE DIVISION REVIEW
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USE ONLY PRINTS OF LATEST DATE	
SHEET 8 OF 10 SHEETS BRIDGE NO. H-05-016 (CY3)	

RESOURCE AREA	IMPACT	MITIGATION
BVW	663 SF	705 SF
BANK	257 LF	261 LF
LAND UNDER WATER	435 SF	675 SF



1 Resource Area Impacts and Mitigation Tabulation Plan

C9 1" = 20'

2 Temporary Easement Plan

C9 1" = 20'

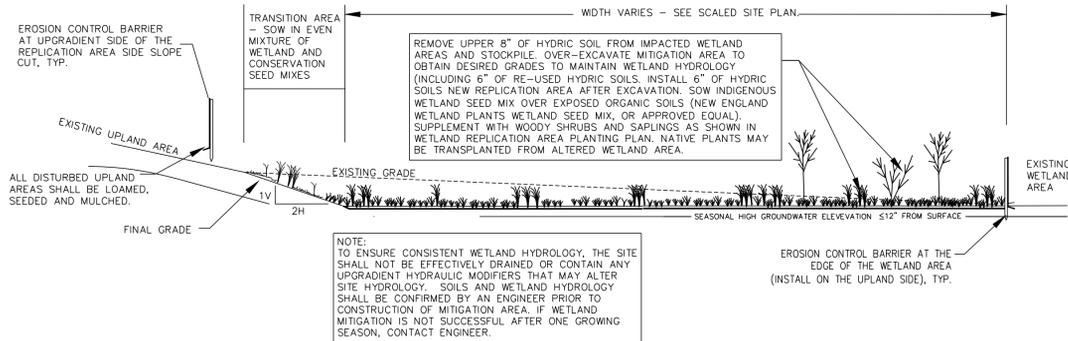
New England Wetmix (Wetland Seed Mix)

THE NEW ENGLAND WETMIX (WETLAND SEED MIX) CONTAINS A WIDE VARIETY OF NATIVE SEEDS THAT ARE SUITABLE FOR MOST WETLAND RESTORATION SITES THAT ARE NOT PERMANENTLY FLOODED. ALL SPECIES ARE BEST SUITED TO MOIST GROUND AS FOUND IN MOST WET MEADOWS, SCRUB SHRUB, OR FORESTED WETLAND RESTORATION AREAS. THE MIX IS WELL SUITED FOR DETENTION BASIN BORDERS AND THE BOTTOM OF DETENTION BASINS NOT GENERALLY UNDER STANDING WATER. THE SEEDS WILL NOT GERMINATE UNDER INUNDATED CONDITIONS. IF PLANTED DURING THE FALL MONTHS, THE SEED MIX WILL GERMINATE THE FOLLOWING SPRING. DURING THE FIRST SEASON OF GROWTH, SEVERAL SPECIES WILL PRODUCE SEEDS WHILE OTHER SPECIES WILL PRODUCE SEEDS AFTER THE SECOND GROWING SEASON. NOT ALL SPECIES WILL GROW IN ALL WETLAND SITUATIONS. THIS MIX IS COMPRISED OF THE WETLAND SPECIES MOST LIKELY TO GROW IN CREATED/RESTORED WETLANDS AND SHOULD PRODUCE MORE THAN 75% GROUND COVER IN TWO FULL GROWING SEASONS.

THE WETLAND SEEDS IN THIS MIX CAN BE SOWN BY HAND, WITH A HAND HELD SPREADER, OR HYDRO-SEEDED ON LARGE OR HARD TO REACH SITES. LIGHTLY RAKE TO INSURE GOOD SEED TO SOIL CONTACT. SEEDING CAN TAKE PLACE ON FROZEN SOIL, AS THE FREEZING AND THAWING WEATHER OF LATE FALL AND LATE WINTER WILL WORK THE SEED INTO THE SOIL. IF SPRING CONDITIONS ARE DRIER THAN USUAL WATERING MAY BE REQUIRED. IF SOWING DURING THE SUMMER MONTHS SUPPLEMENTAL WATERING WILL LIKELY BE REQUIRED UNTIL GERMINATION. A LIGHT MULCH OF CLEAN, WEED FREE STRAW IS RECOMMENDED.

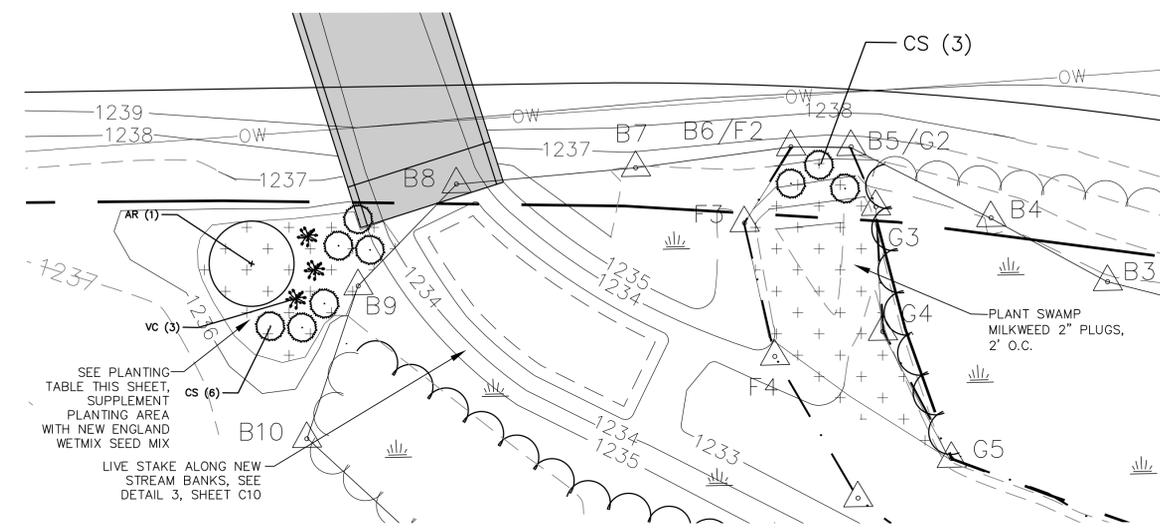
APPLICATION RATE: 1 LB./2500 SQ. FT.
18 LBS./ACRE
PRICE: \$135/BULK POUND

SPECIES: FOX SEDGE (CAREX VULPINOIDEA), LURID SEDGE (CAREX LURIDA), BLUNT BROOM SEDGE (CAREX SCOPARIA), BLUE VERVAIN (VERBENA HASTATA), FOWL BLUEGRASS (POA PALUSTRIS), HOP SEDGE (CAREX LUPULINA), GREEN BULRUSH (SCIRPUS ATROVIRENS), CREEPING SPIKE RUSH (ELEOCHARIS PALUSTRIS), FRINGED SEDGE (CAREX CRINITA), SOFT RUSH (JUNCUS EFFUSUS), SPOTTED JOE PYE WEED (EUPATORIUM MACULATUM), RATTLESNAKE GRASS (GLYCERIA CANADENSIS), SWAMP ASTER (ASTER PUNICEUS), BLUEFLAG (IRIS VERSICOLOR), SWAMP MILKWEED (ASCLEPIAS INCARNATA), SQUARE STEMMED MONKEY FLOWER (MIMULUS RINGENS).



3 Typical Cross Section Through Wetland Replication Area

C9 Not to Scale



4 Detailed Mitigation Planting Plan

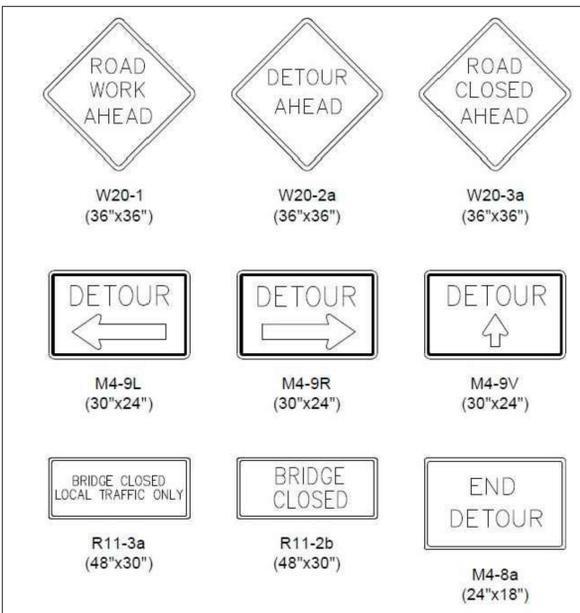
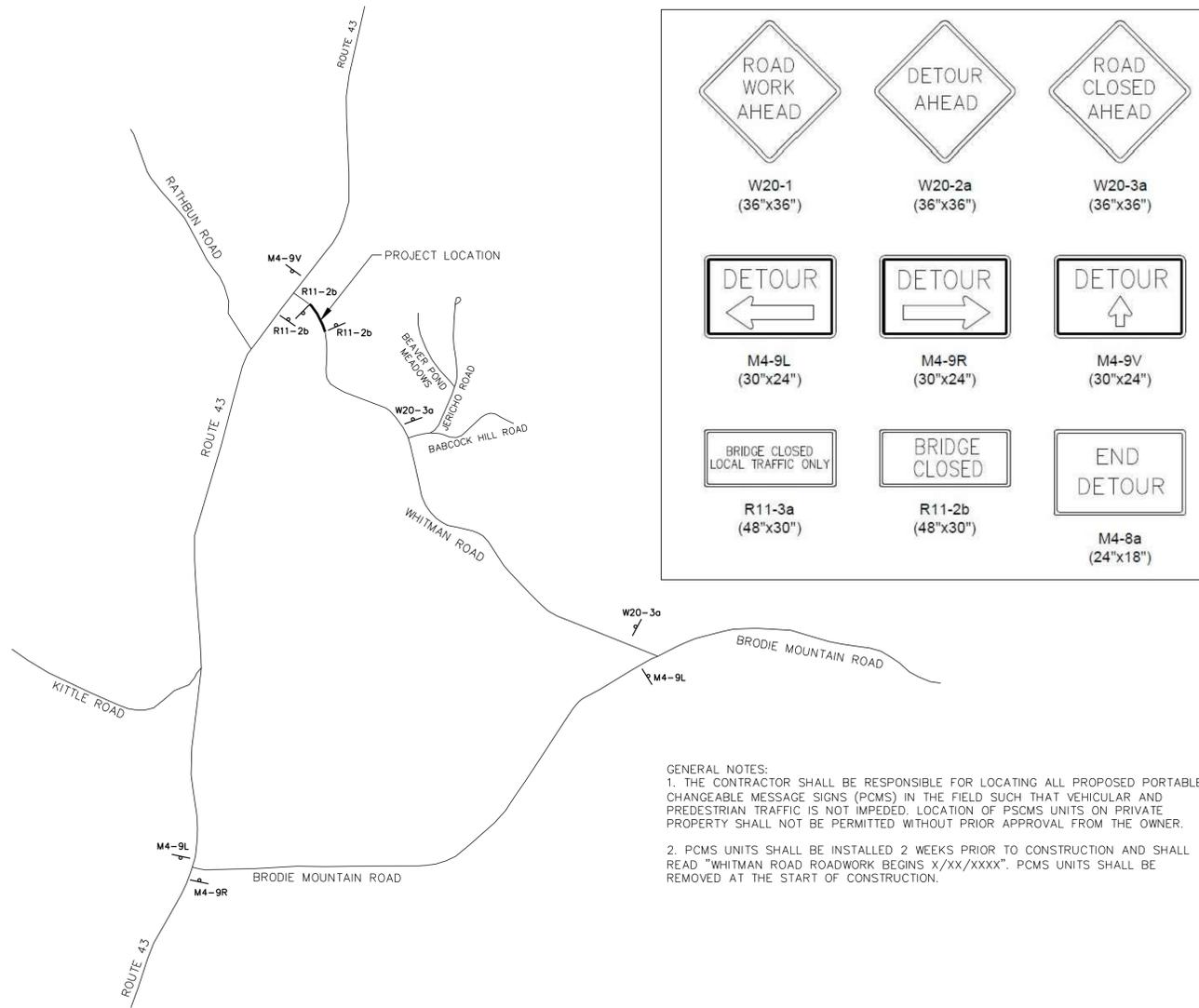
C9 1" = 10'

Wetland Replication Plant List

SEED WETLAND REPLICATION AREA WITH NEW ENGLAND WETMIX WETLAND SEED MIX (NEW ENGLAND WETLAND PLANTS) AND SUPPLEMENT WITH THE FOLLOWING PLANTINGS AS SHOWN ON SHEET C7:

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES
AI	100	ASCLEPIAS INCARNATA	SWAMP MILKWEED	2" PLUG @ 2' OC	DBL
AR	1	ACER RUBRUM	RED MAPLE	4'-6'	FAC
CS	9	CORNUS SERICEA	RED-OSIER DOGWOOD	3'-4' @ 6' OC	FACW
VC	3	VACCINIUM CORYMBOSUM	HIGHBUSH BLUEBERRY	2'-3' @ 5' OC	FACW

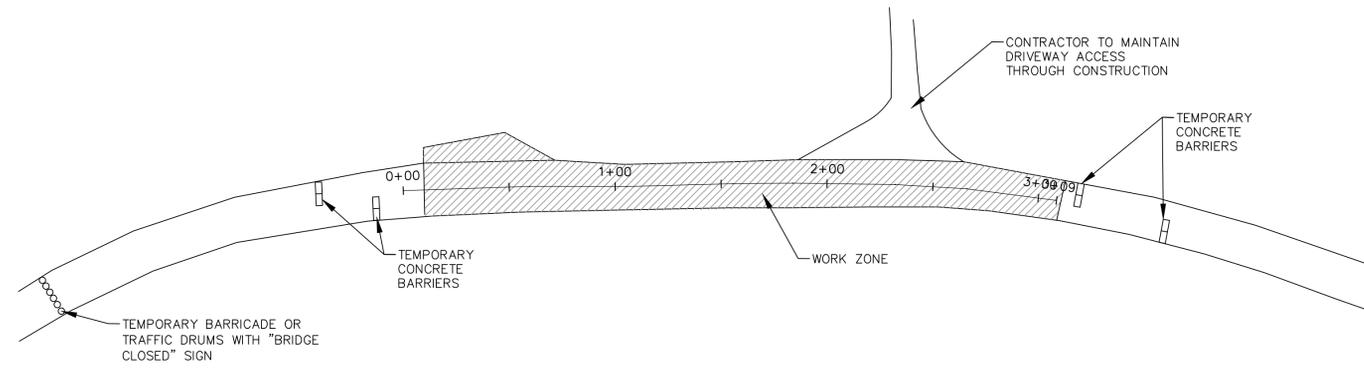
MARCH 13, 2026	ISSUED FOR BRIDGE DIVISION REVIEW
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	
SHEET 9 OF 10 SHEETS BRIDGE NO. H-05-016 (CY3)	



GENERAL NOTES:
 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL PROPOSED PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) IN THE FIELD SUCH THAT VEHICULAR AND PEDESTRIAN TRAFFIC IS NOT IMPEDED. LOCATION OF PCMS UNITS ON PRIVATE PROPERTY SHALL NOT BE PERMITTED WITHOUT PRIOR APPROVAL FROM THE OWNER.
 2. PCMS UNITS SHALL BE INSTALLED 2 WEEKS PRIOR TO CONSTRUCTION AND SHALL READ "WHITMAN ROAD ROADWORK BEGINS X/XX/XXXX". PCMS UNITS SHALL BE REMOVED AT THE START OF CONSTRUCTION.

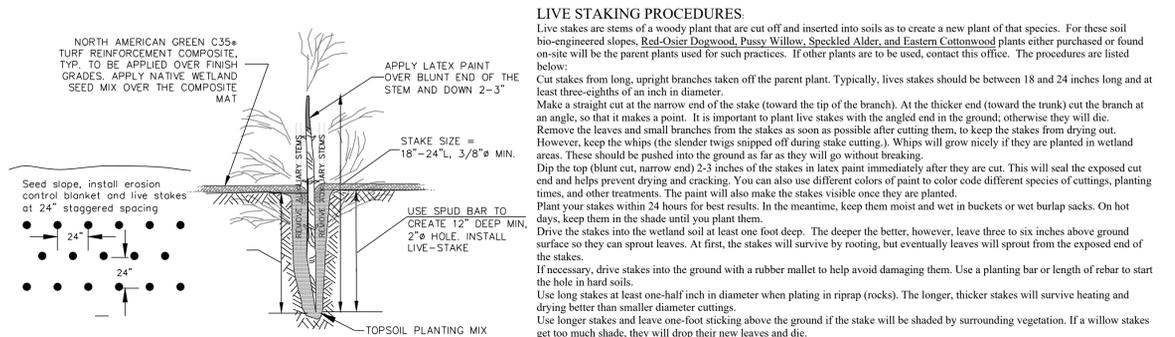
1 Work Zone Advance Signage & Detour Plan

C10 1" = 1000'



2 Bridge Closure Detail

C10 1" = 40'



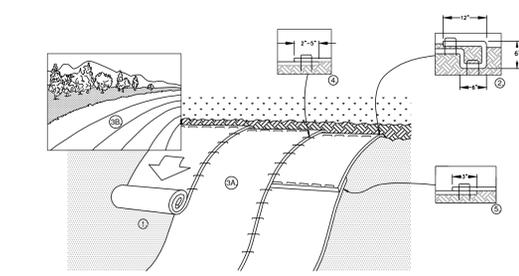
3 Live-Stake Detail

C10 Not to Scale

LIVE STAKING PROCEDURES:
 Live stakes are stems of a woody plant that are cut off and inserted into soils as to create a new plant of that species. For these soil bio-engineered slopes, Red-Osier Dogwood, Pussy Willow, Speckled Alder, and Eastern Cottonwood plants either purchased or found on-site will be the parent plants used for such practices. If other plants are to be used, contact this office. The procedures are listed below:
 Cut stakes from long, upright branches taken off the parent plant. Typically, live stakes should be between 18 and 24 inches long and at least three-eighths of an inch in diameter.
 Make a straight cut at the narrow end of the stake (toward the tip of the branch). At the thicker end (toward the trunk) cut the branch at an angle, so that it makes a point. It is important to plant live stakes with the angled end in the ground, otherwise they will die. Remove the leaves and small branches from the stakes as soon as possible after cutting them, to keep the stakes from drying out. However, keep the whips (the slender twigs snipped off during stake cutting). Whips will grow nicely if they are planted in wetland areas. These should be pushed into the ground as far as they will go without breaking.
 Dip the top (blunt cut, narrow end) 2-3 inches of the stakes in latex paint immediately after they are cut. This will seal the exposed cut end and helps prevent drying and cracking. You can also use different colors of paint to color code different species of cuttings, planting times, and other treatments. The paint will also make the stakes visible once they are planted.
 Plant your stakes within 24 hours for best results. In the meantime, keep them moist and wet in buckets or wet burlap sacks. On hot days, keep them in the shade until you plant them.
 Drive the stakes into the wetland soil at least one foot deep. The deeper the better, however, leave three to six inches above ground surface so they can sprout leaves. At first, the stakes will survive by rooting, but eventually leaves will sprout from the exposed end of the stakes.
 If necessary, drive stakes into the ground with a rubber mallet to help avoid damaging them. Use a planting bar or length of rebar to push the hole in hard soils.
 Use long stakes at least one-half inch in diameter when plating in riprap (rocks). The longer, thicker stakes will survive heating and drying better than smaller diameter cuttings.
 Use longer stakes and leave one-foot sticking above the ground if the stake will be shaded by surrounding vegetation. If a willow stake get too much shade, they will drop their new leaves and die.
 The best time to plant live stakes is during the dormant season. In Berkshire County, this is roughly from the beginning of November through the end of March. Live stakes can also be planted during the growing season, especially at sites that will remain moist, although survival rates will be lower. Some species, other than the ones suggested, may require the bottom ends of cuttings to be soaked or dipped in a solution of plant rooting hormone before planting to speed up growth.

INSTALLATION NOTES:

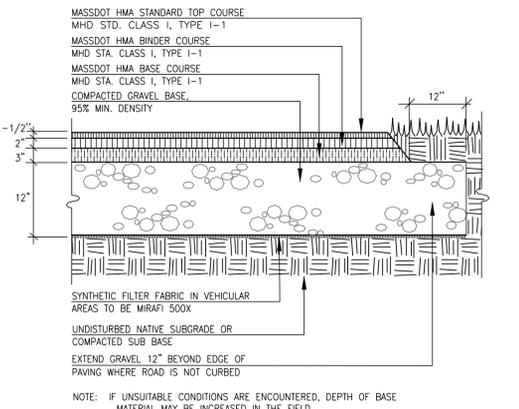
- ROLLED EROSION CONTROL BLANKETS (RECB) SHALL BE NORTH AMERICAN GREEN C125BN (100% COCONUT FIBER MATRIX WITH WOVEN BIODEGRADABLE NETS) OR APPROVED EQUAL.
- PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
- BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
- ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
- THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
- CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.



4 Rolled Erosion Control Blanket Detail

C10 Not to Scale

NOTE: *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.



5 Bituminous Concrete Pavement

C10 Not to Scale

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