

# MASSACHUSETTS DIVISION OF FISHERIES AND WILDLIFE

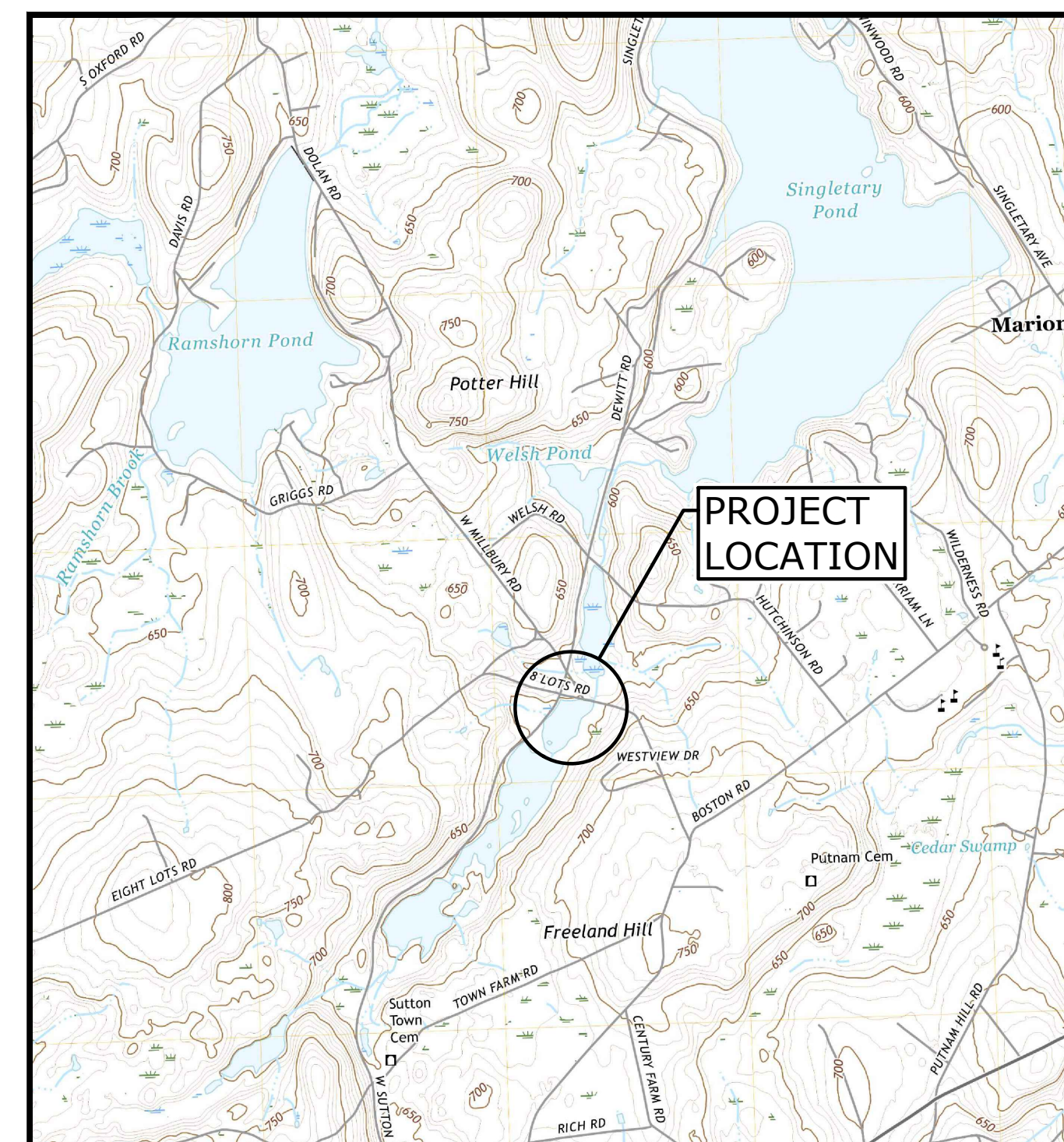
# SCHOOLHOUSE POND DAM REMOVAL

# PROJECT

## SUTTON, MASSACHUSETTS

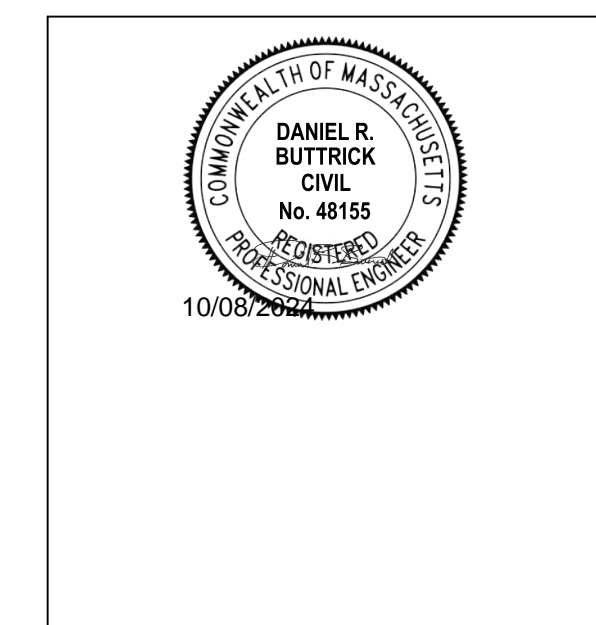
## OCTOBER 2024

LIST OF DRAWINGS		
SHEET NO.	DRAWING NO.	DRAWING TITLE
GENERAL		
1	G-001	COVER SHEET
2	G-002	GENERAL NOTES, ABBREVIATIONS, AND LEGEND
CIVIL		
3	C-101	EXISTING CONDITIONS PLAN
4	C-102	DEMOLITION, EROSION, SEDIMENT, AND WATER CONTROL PLAN
5	C-103	PROPOSED CONDITIONS PLAN
6	C-104	SCHOOLHOUSE CHANNEL CONTROL PLAN 1 OF 3
7	C-105	SCHOOLHOUSE CHANNEL CONTROL PLAN 2 OF 3
8	C-106	SCHOOLHOUSE CHANNEL CONTROL PLAN 3 OF 3
9	C-201	CULVERT PLAN AND DETAILS
10	C-202	MISCELLANEOUS DETAILS
11	C-203	EROSION, SEDIMENT, AND WATER CONTROL DETAILS
12	C-204	BOULDER RIFFLE DETAILS
13	C-205	TRAFFIC MANAGEMENT PLAN
14	C-206	TEMPORARY TURBIDITY CURTAIN
15	C-207	HIGHWAY GUARDRAIL DETAILS (SHEET 1 OF 2)
16	C-208	HIGHWAY GUARDRAIL DETAILS (SHEET 2 OF 2)
17	C-209	GUARDRAIL APPROACH GEOMETRY

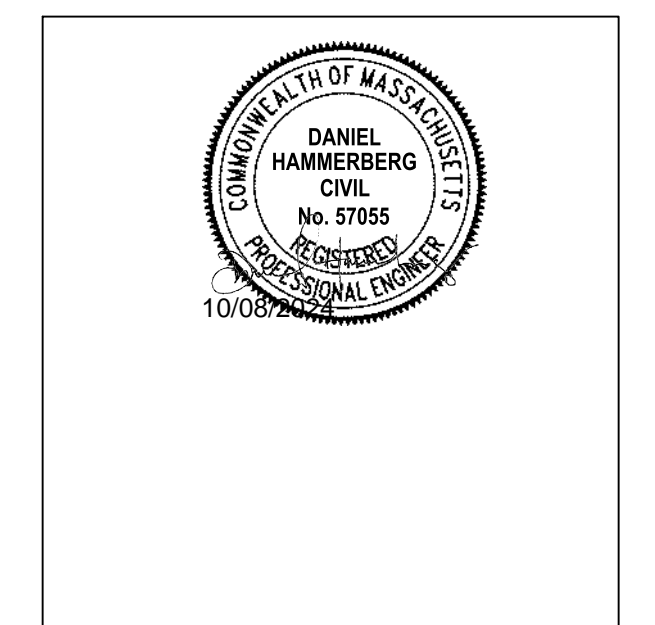


LOCATION MAP  
SCALE: 1" = 2000'

PREPARED BY:  
**Tighe & Bond**



DANIEL R. BUTTRICK, PE



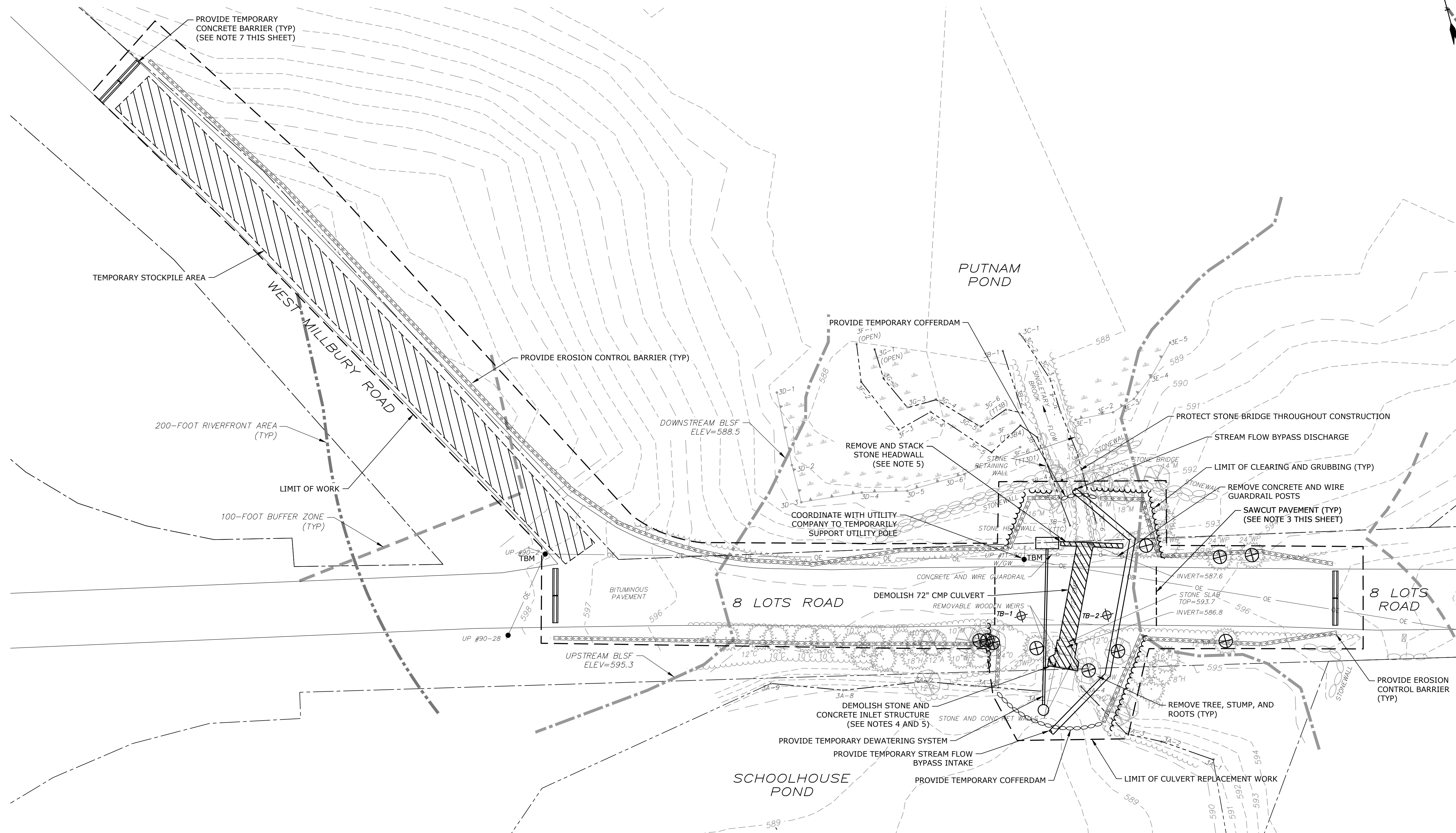
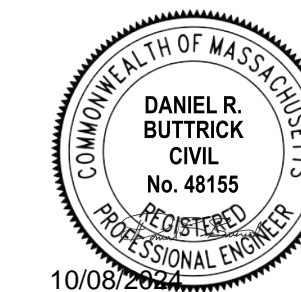
DANIEL R. HAMMERBERG, PE

PREPARED FOR:  
MASSACHUSETTS DIVISION OF FISHERIES & WILDLIFE  
CALEB SLATER, PhD, CHIEF OF HATCHERIES

**COMPLETE SET 17 SHEETS**





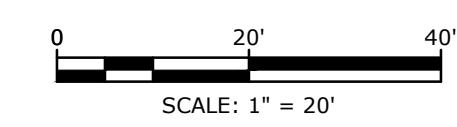


**NOTES**

1. REMOVE SCHOOLHOUSE POND WEIR OUTLET CONTROLS IN 1-FOOT VERTICAL INCREMENTS, OR SHORTER AS STOPLOG DIMENSIONS DICTATE, ALLOWING WATER-LEVEL TO DROP 6" BETWEEN INCREMENTS. MONITOR DOWNSTREAM CONDITIONS AND LIMIT FLOWS TO WITHIN THE ORDINARY HIGH WATER MARK.
2. KEEP WATER LEVEL AT ELEVATION 587.5 UNTIL PILOT CHANNEL IS CONSTRUCTED. SEE SHEETS C-104 THROUGH C-106 FOR PILOT CHANNEL LOCATION.
3. ADJUST PAVEMENT SAWCUT LOCATIONS AS REQUIRED TO ACCOMMODATE WORK. APPROXIMATE LIMITS SHOWN. REMOVE PAVEMENT BETWEEN SAWCUTS. THERE WILL BE NO ADDITIONAL PAYMENT TO REPLACE DAMAGED PAVEMENT.
4. PROPERLY DISPOSE OF ALL MATERIALS GENERATED FROM DEMOLITION WORK AND TO REMOVE AND REPLACE PAVEMENT DAMAGED BY WORK. ANY MATERIALS REQUESTED BY THE TOWN OF SUTTON SHALL BE DELIVERED TO THE SUTTON DEPARTMENT OF PUBLIC WORKS.
5. SURPLUS STONES RESULTING FROM DEMOLITION WORK SHALL BE STACKED ON-SITE.
6. USE TEMPORARY STREAM FLOW BYPASS TO CONVEY FLOW ACROSS 8 LOTS ROAD.
7. PROVIDE AND ADJUST TEMPORARY CONCRETE BARRIERS AND FENCING AS NEEDED. WORK SITE SHALL BE SECURE AT ALL TIMES.
8. ADJUST LOCATIONS OF TEMPORARY CONTROLS (EG. TEMPORARY COFFERDAMS, FLOW BYPASS, DEWATERING SYSTEM) AS NEEDED TO ACCOMMODATE THE WORK.
9. EXCAVATE BURIED PEAT AND ORGANICS LAYERS BELOW PROPOSED STRUCTURES PRIOR TO BACKFILL.

TBM = SPIKE IN U.P. #11-50  
BY CULVERT ON 8 LOT ROAD  
ELEV = 596.17

TBM = SPIKE IN U.P. #90-2  
CORNER OF  
WEST MILLBURY ROAD  
ELEV = 599.76



**Schoolhouse Dam Removal Project**

Massachusetts  
Division of Fisheries and Wildlife

Sutton,  
Massachusetts

B	9/2024	Issued For Bidding
A	4/2023	Permit Set
MARK	DATE	DESCRIPTION

PROJECT NO: M-0944-039  
DATE: 9/2024  
FILE: M-0944-039-06-C-102.dwg  
DRAWN BY: GNM,LPT  
CHECKED BY: DH,DRB  
APPROVED BY: CDH

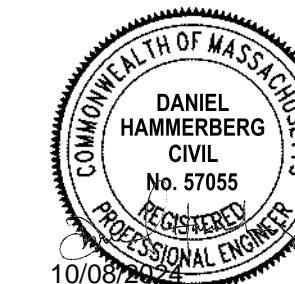
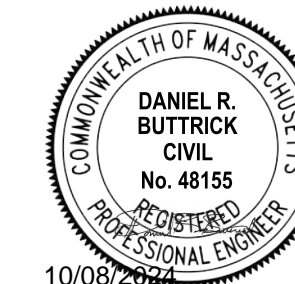
**DEMOLITION, EROSION, SEDIMENT, AND WATER CONTROL PLAN**

SCALE: 1" = 20'









**Schoolhouse Dam Removal Project**

Massachusetts  
Division of  
Fisheries and  
Wildlife

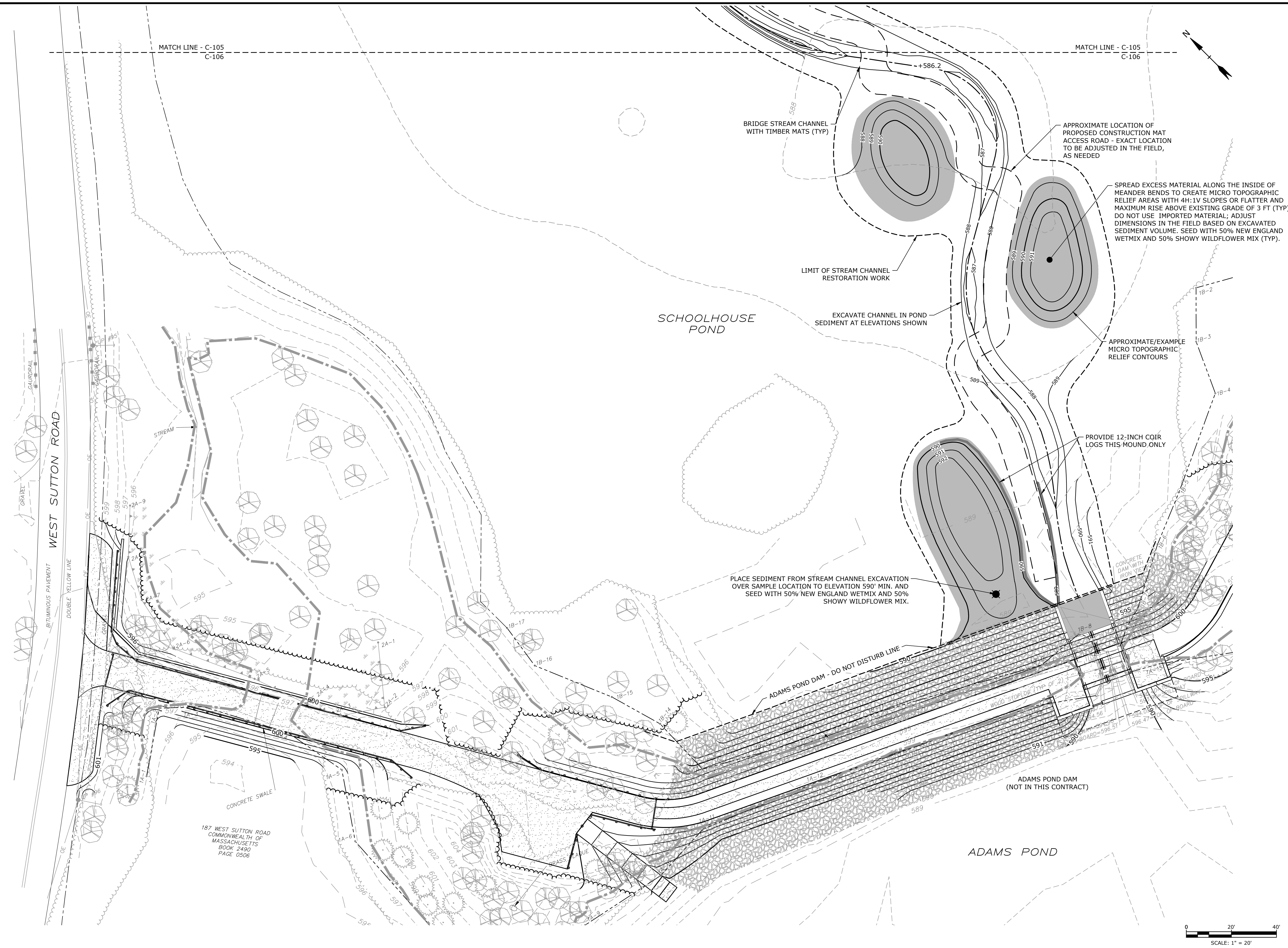
Sutton,  
Massachusetts

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DATE: 9/2024		
FILE: M-0944-039-06-C-104-106.dwg		
DRAWN BY: GNM,LPT		
CHECKED BY: DH,DRB		
APPROVED BY: CDH		

SCHOOLHOUSE CHANNEL  
CONTROL PLAN 3 OF 3

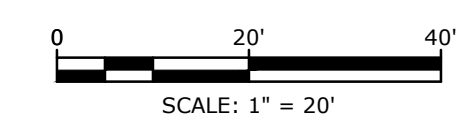
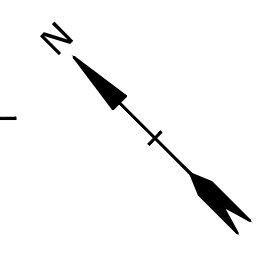
SCALE: 1" = 20'

**C-106**  
SHEET 8 OF 17



MATCH LINE - C-105  
C-106

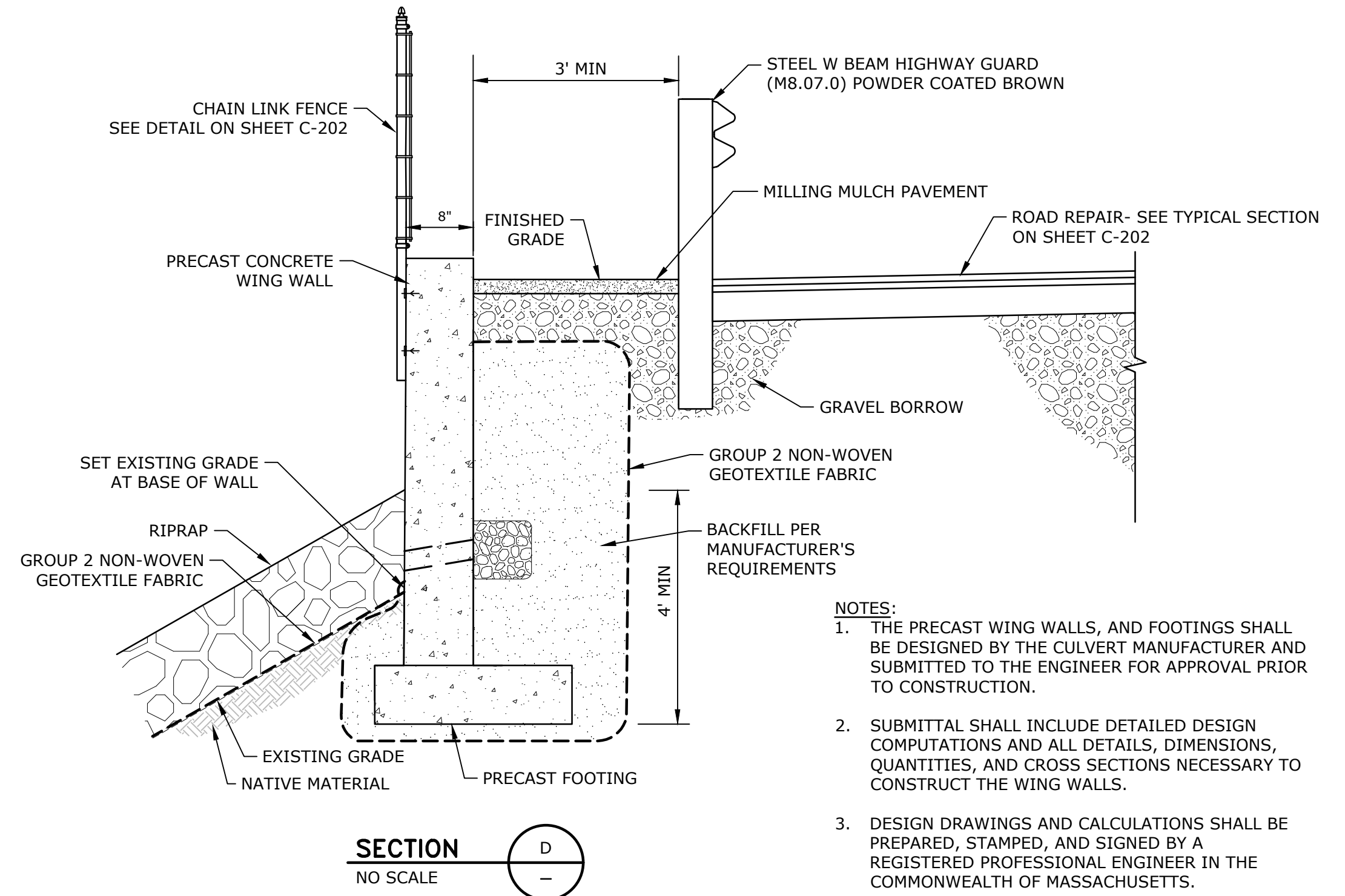
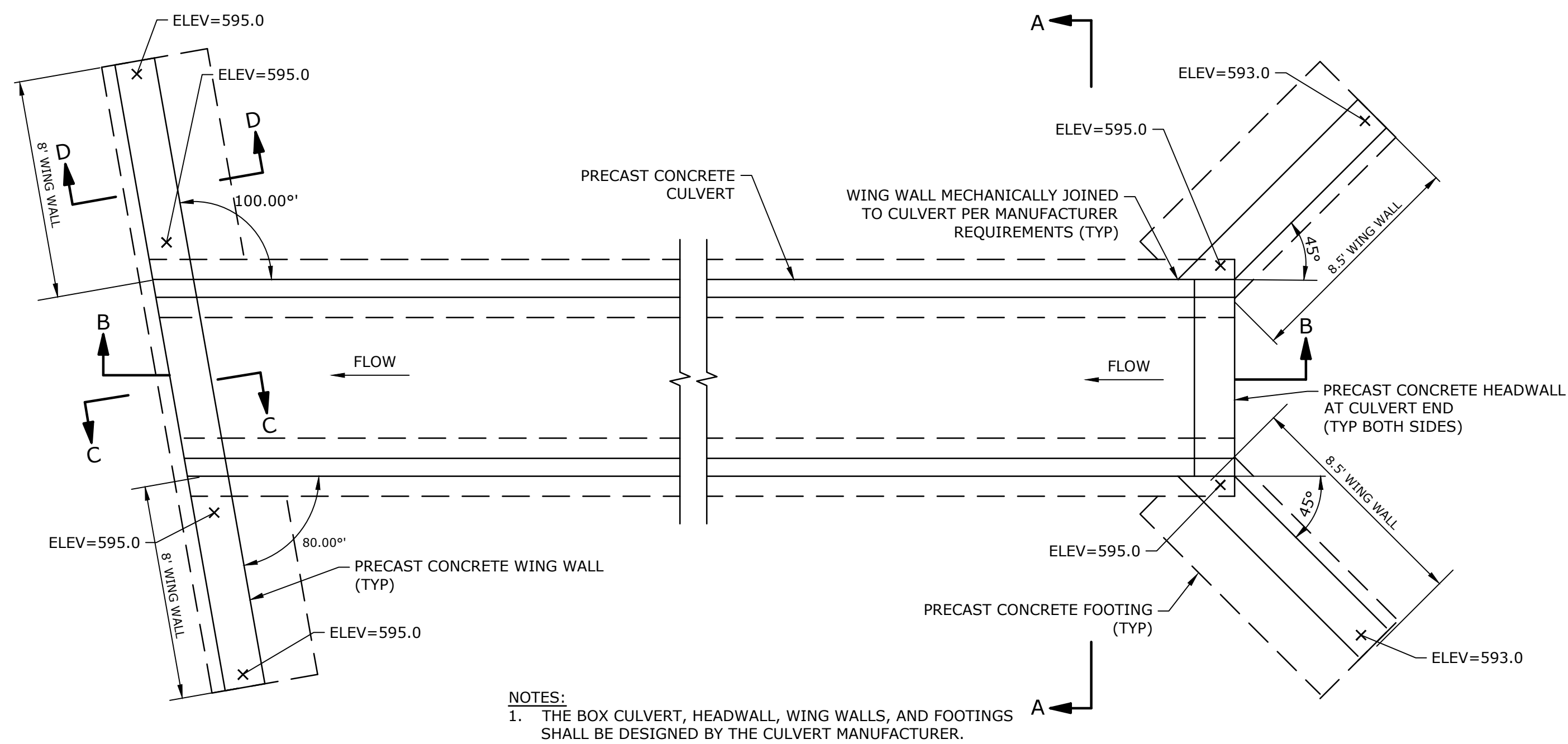
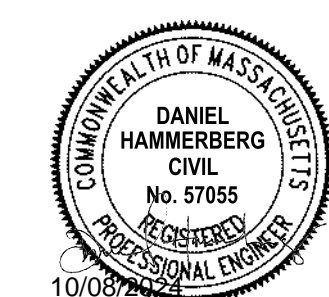
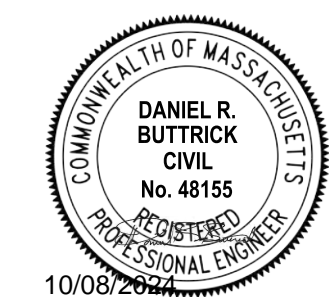
MATCH LINE - C-105  
C-106



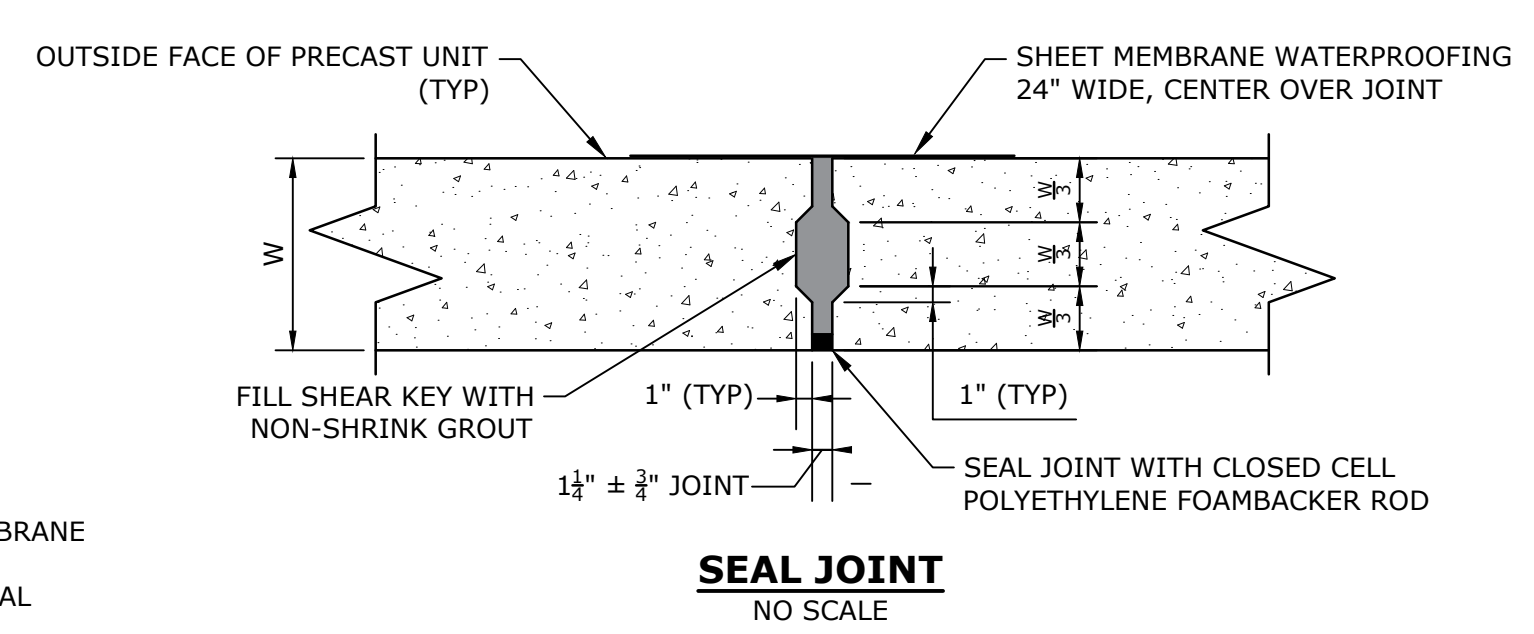
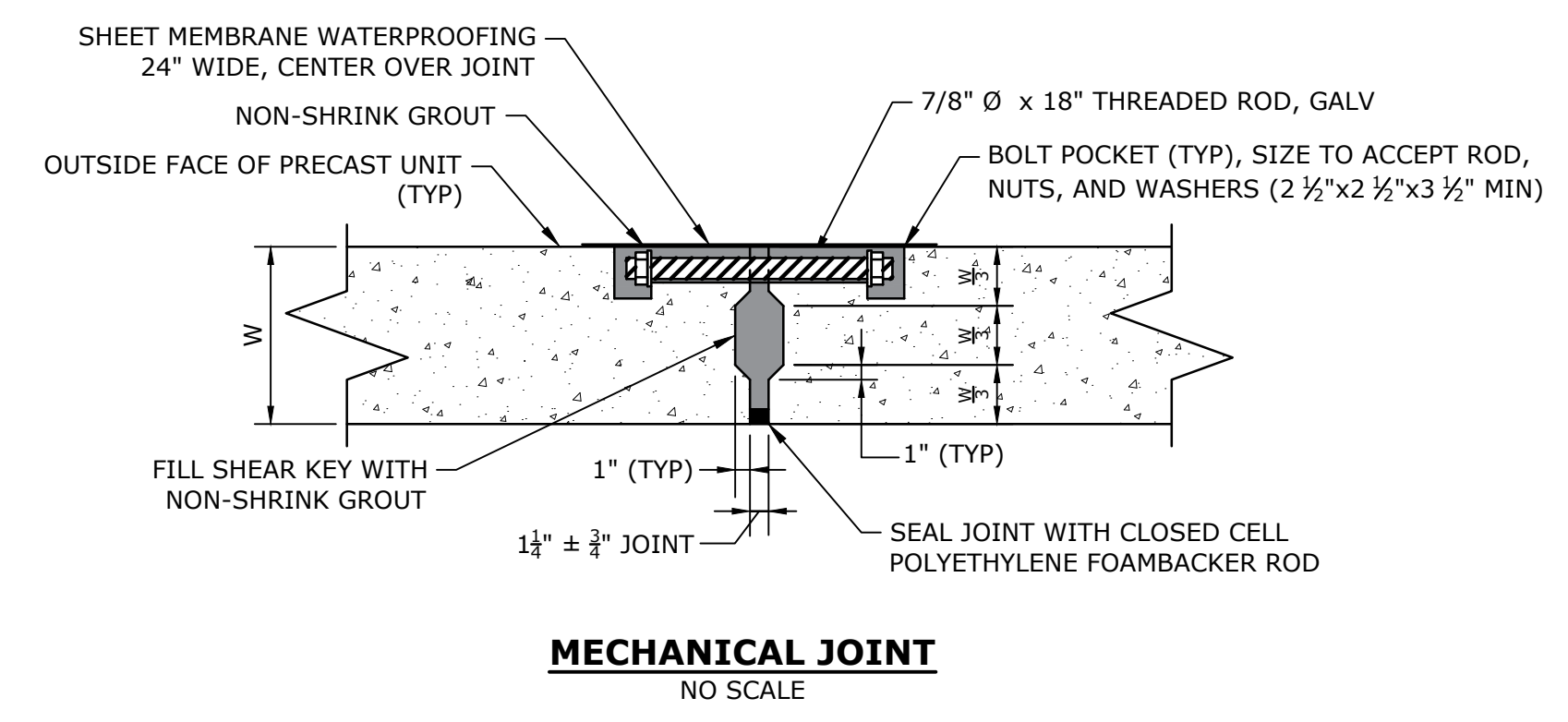
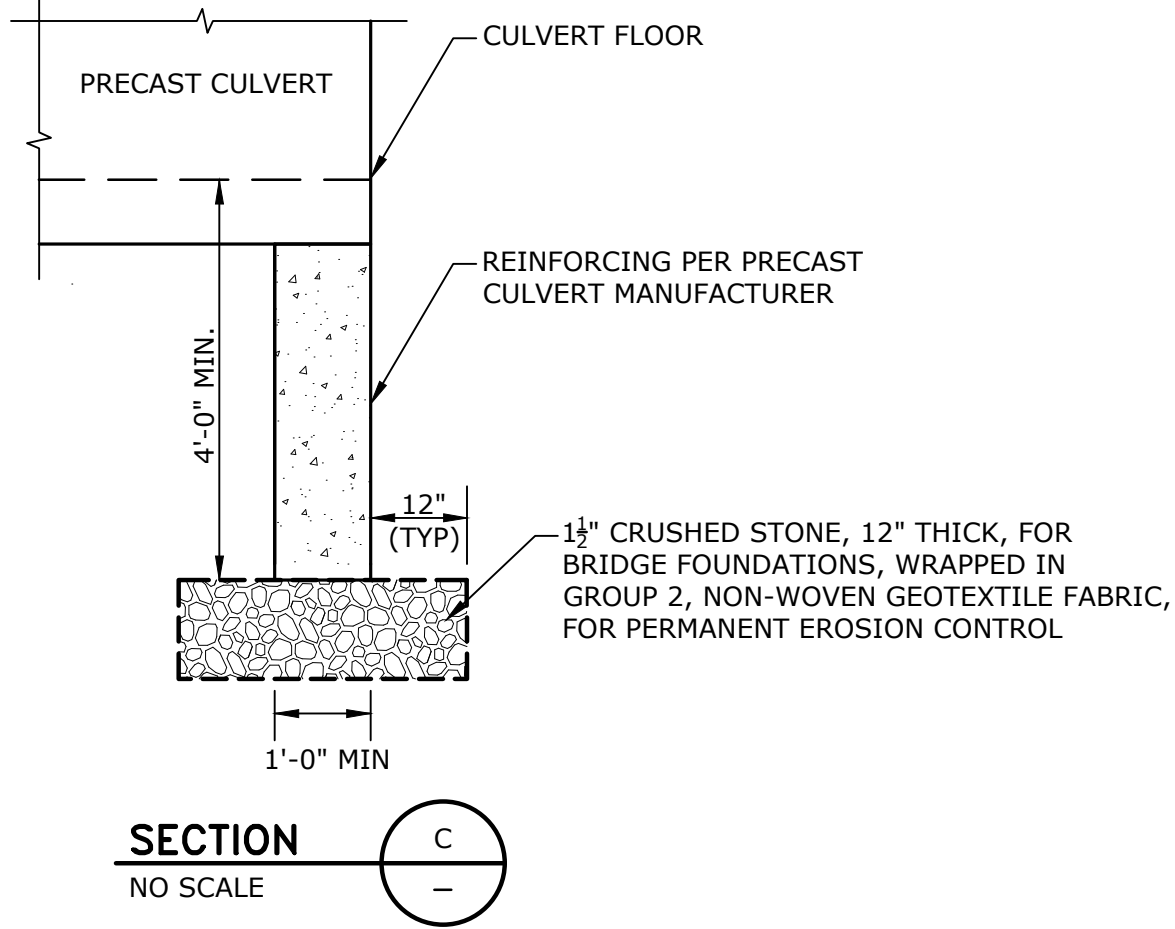
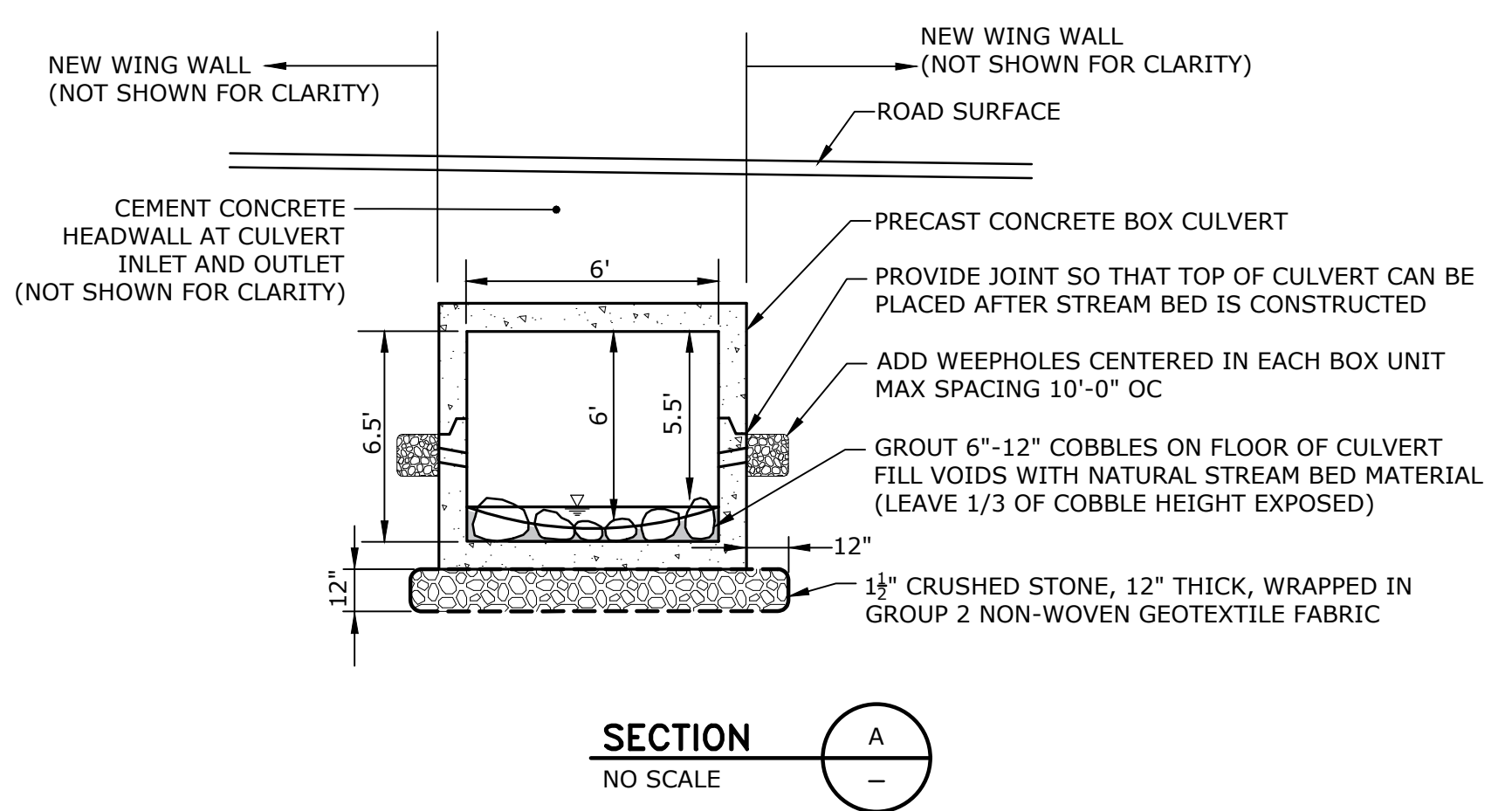
187 WEST SUTTON ROAD  
COMMONWEALTH OF  
MASSACHUSETTS  
BOOK 2490  
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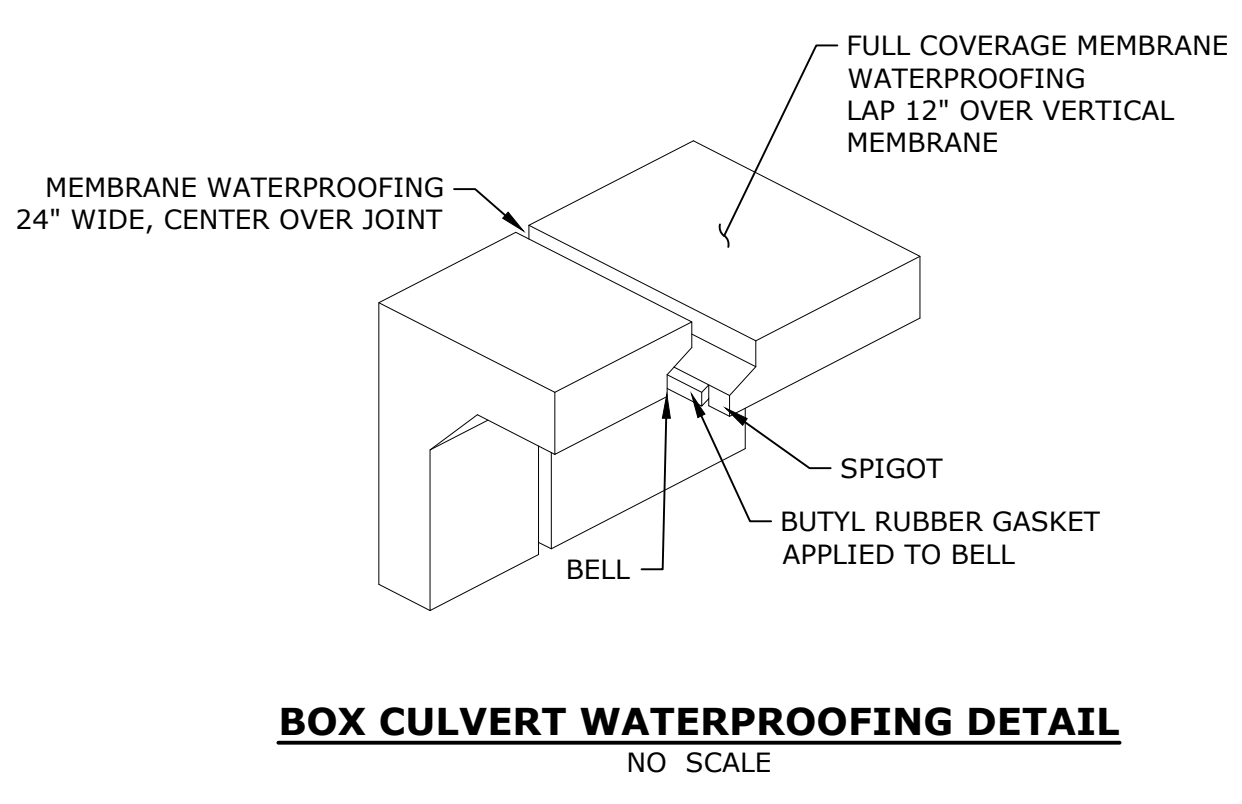
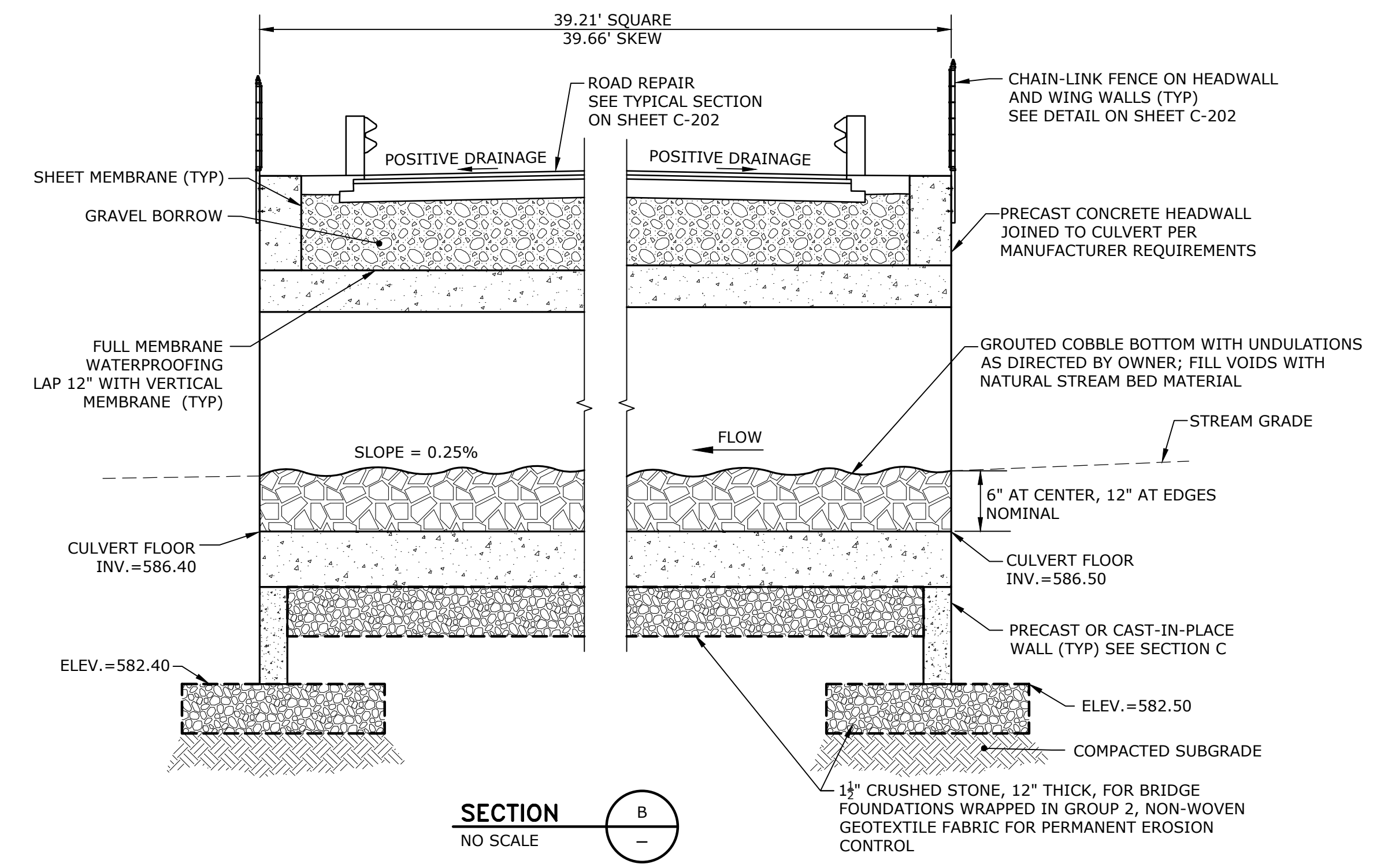




- NOTES:**
1. THE PRECAST WING WALLS, AND FOOTINGS SHALL BE DESIGNED BY THE CULVERT MANUFACTURER AND SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
  2. SUBMITTAL SHALL INCLUDE DETAILED DESIGN COMPUTATIONS AND ALL DETAILS, DIMENSIONS, QUANTITIES, AND CROSS SECTIONS NECESSARY TO CONSTRUCT THE WING WALLS.
  3. DESIGN DRAWINGS AND CALCULATIONS SHALL BE PREPARED, STAMPED, AND SIGNED BY A REGISTERED PROFESSIONAL ENGINEER IN THE COMMONWEALTH OF MASSACHUSETTS.



- NOTES:**
1. PROVIDE A MINIMUM OF 8 MECHANICAL CONNECTORS BETWEEN EACH BOX CULVERT UNIT (2 ON EACH SIDE) AND 2 MECHANICAL CONNECTORS BETWEEN WINGWALL UNITS.
  2. ALL BOLT POCKETS SHALL BE FILLED WITH NON-SHRINK GROUT (M4.04.0).
  3. SHEET MEMBRANE SHALL BE PLACED IN 2-FOOT WIDE STRIPS, CENTERED OVER THE SIDES OF EACH JOINT.
  4. BOTTOM OF PRECAST BOX SHALL HAVE THREADED ROD ON INSIDE FACE OF STRUCTURE AND MEMBRANE NEED NOT BE PLACED.



**Schoolhouse Dam Removal Project**

Massachusetts Division of Fisheries and Wildlife

Sutton, Massachusetts

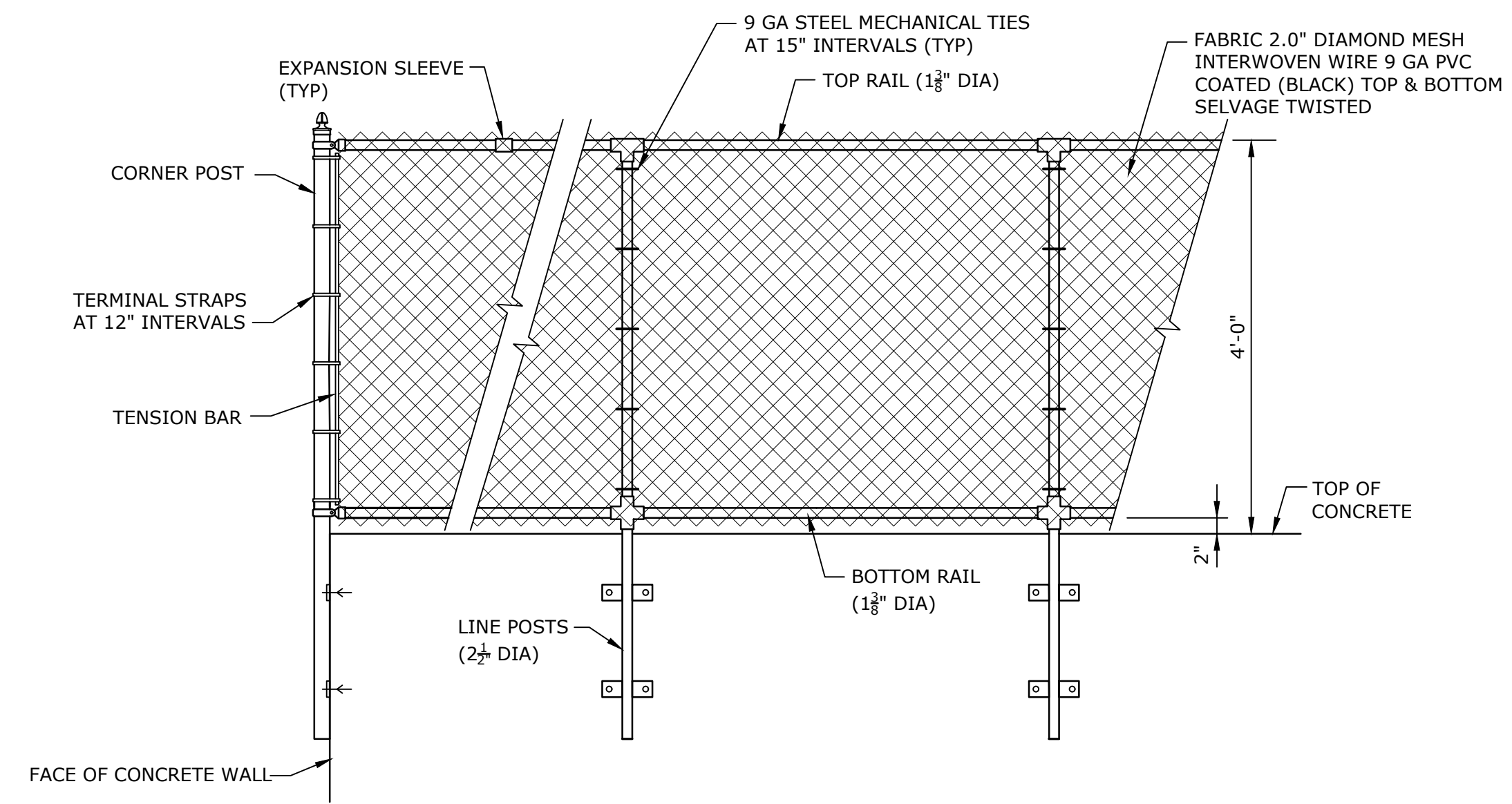
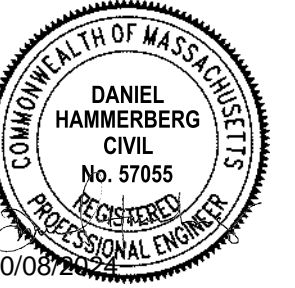
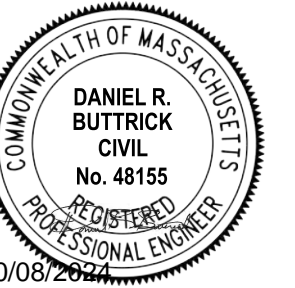
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A	4/2023	Permit Set

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DATE:	9/2024
FILE:	M-0944-039-06-C-201.dwg
DRAWN BY:	GNM,LPT
CHECKED BY:	DH,DRB
APPROVED BY:	CDH

**CULVERT PLAN AND DETAILS**

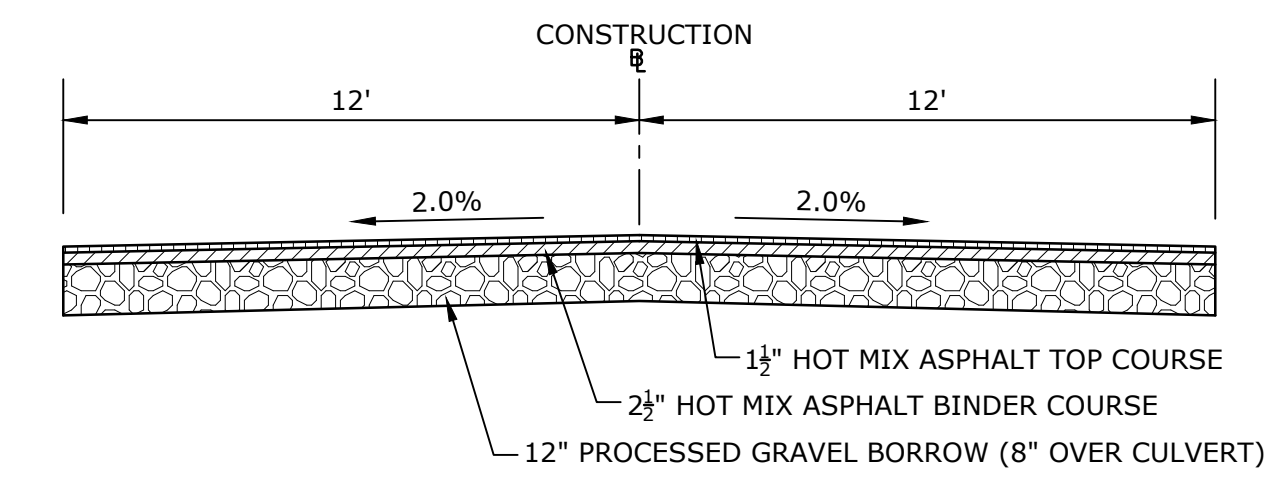
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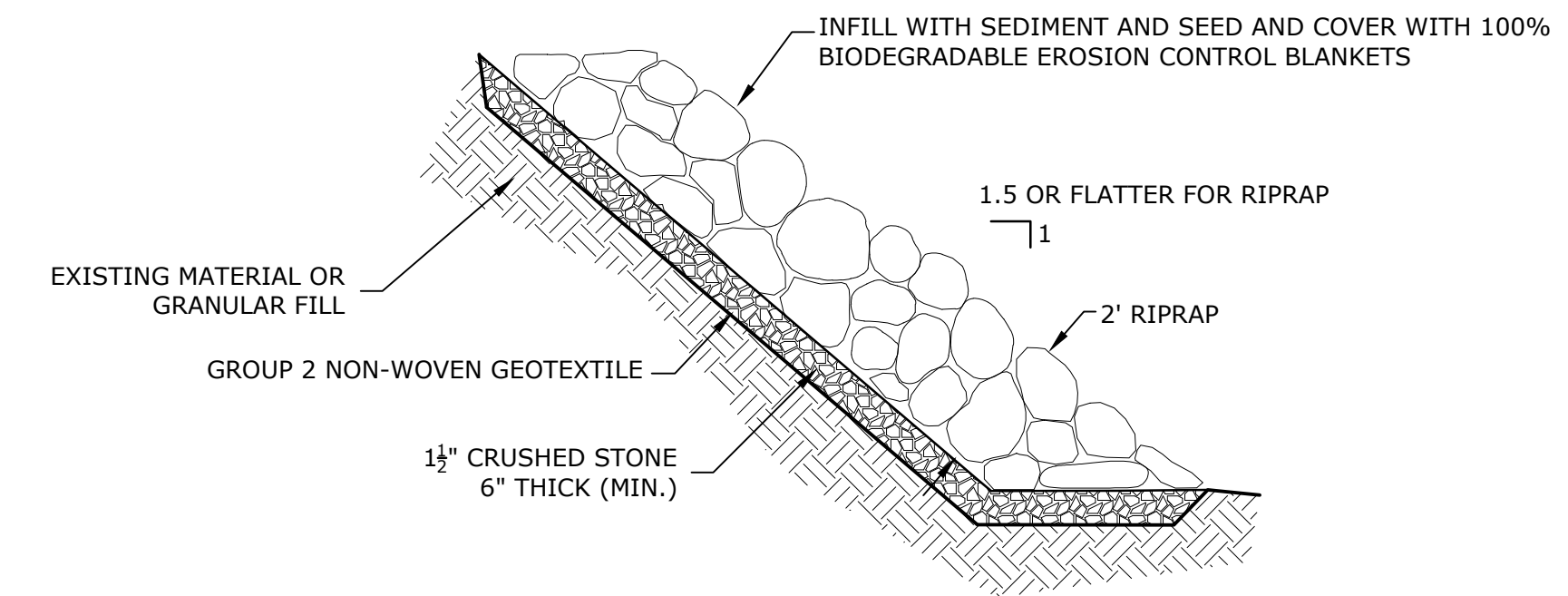
- NOTES:**
1. COORDINATE ANCHOR INSTALLATION WITH PRECASTER. IF ANCHORS ARE POST-INSTALLED, LOCATE REINFORCING STEEL PRIOR TO DRILLING.
  2. ALL COMPONENTS SHALL BE GALVANIZED AND PVC COATED BLACK.

**CHAIN-LINK FENCE**  
NO SCALE



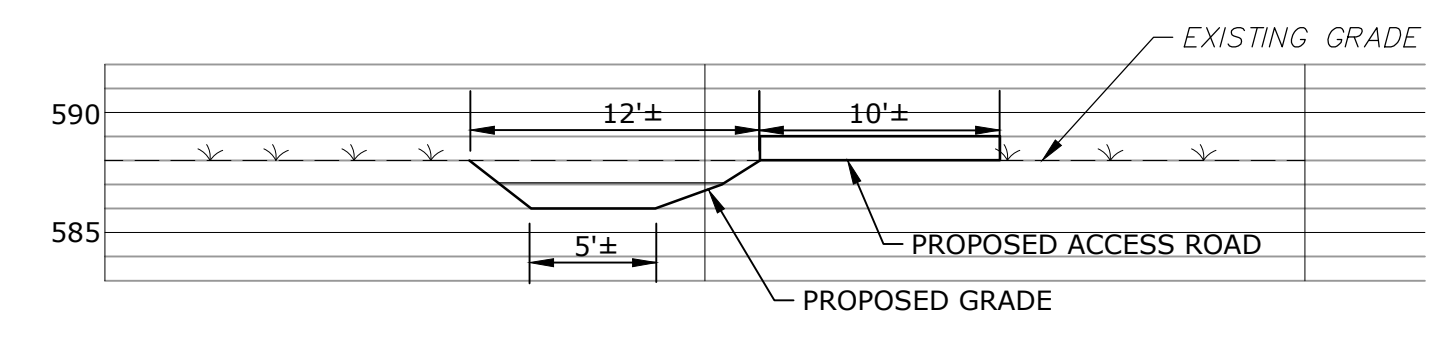
**ROADWAY CROSS SECTION**  
NO SCALE

- \* TOLERANCE FOR CONSTRUCTION ±.5%
- NOTES:**
1. ROAD WIDTH AND SLOPE SHOWN SHALL BE CONSIDERED TYPICAL. FIELD MODIFICATIONS TO MATCH EXISTING CONDITIONS ARE ANTICIPATED.
  2. TACK COAT APPLIED AT 0.05 GAL/SY BETWEEN LIFTS.

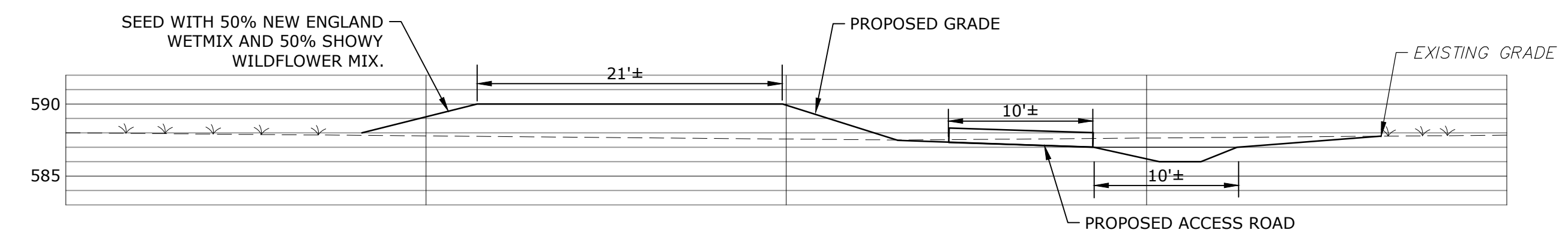


**RIP-RAP INSTALLATION/SLOPE PROTECTION**  
NO SCALE

- NOTES:**
1. ALL RIPRAP TO BE UNDERLAID WITH CRUSHED STONE AND GEOTEXTILE AS SHOWN.



**SCHOOLHOUSE POND CHANNEL SECTION A**  
SCALE: 1"=8'±



**SCHOOLHOUSE POND CHANNEL SECTION B**  
SCALE: 1"=8'±

**Schoolhouse Dam Removal Project**

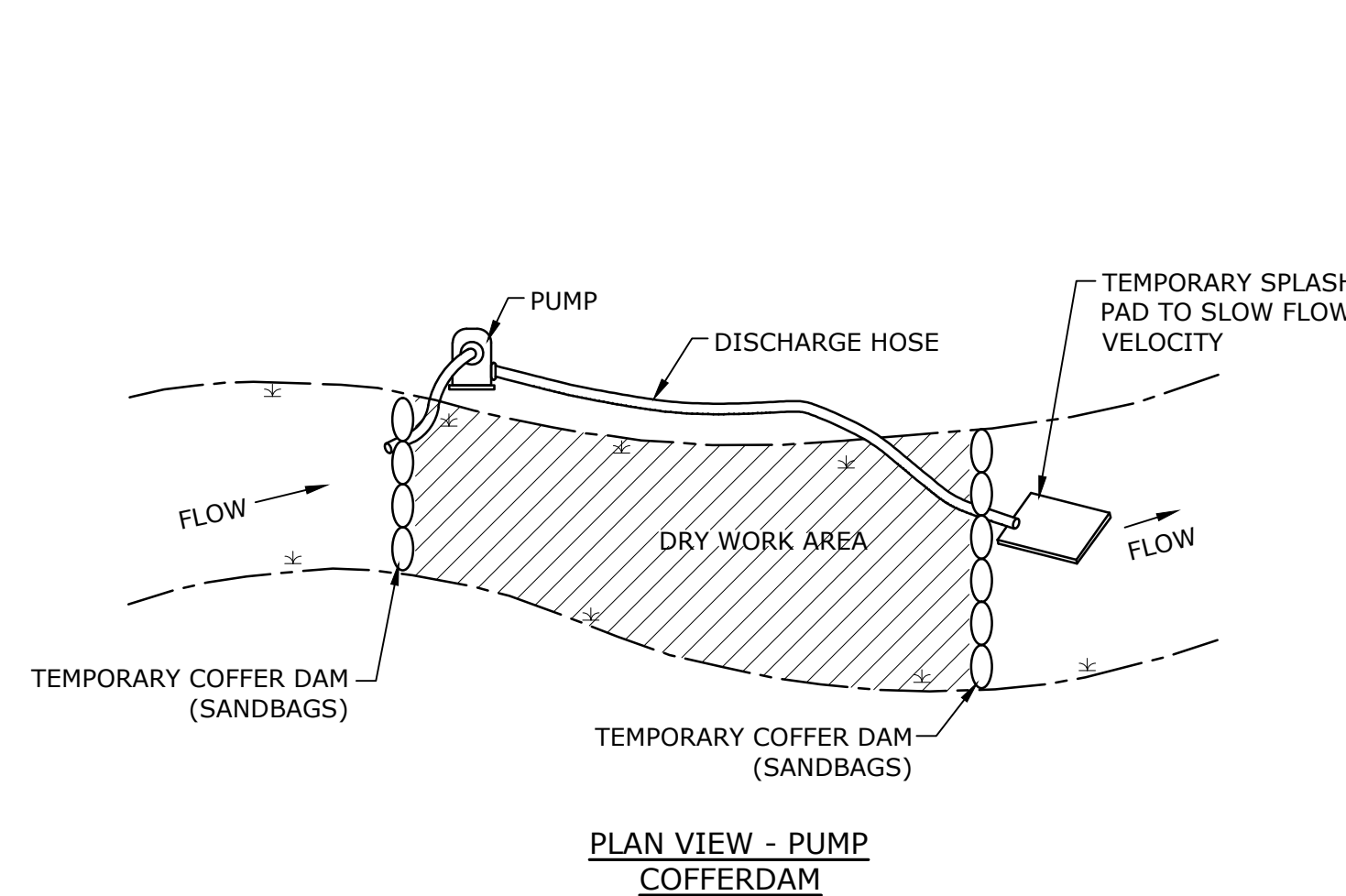
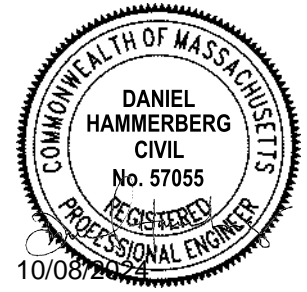
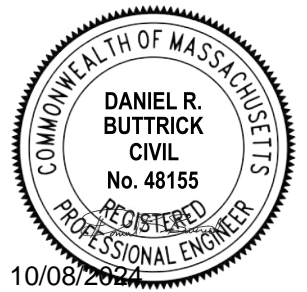
Massachusetts Division of Fisheries and Wildlife

Sutton, Massachusetts

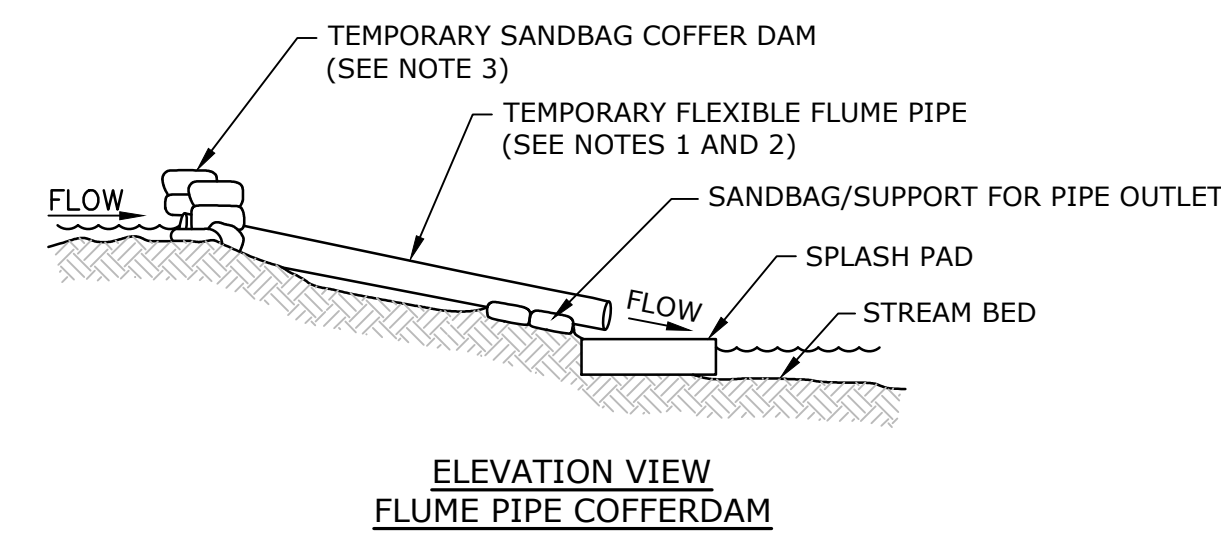
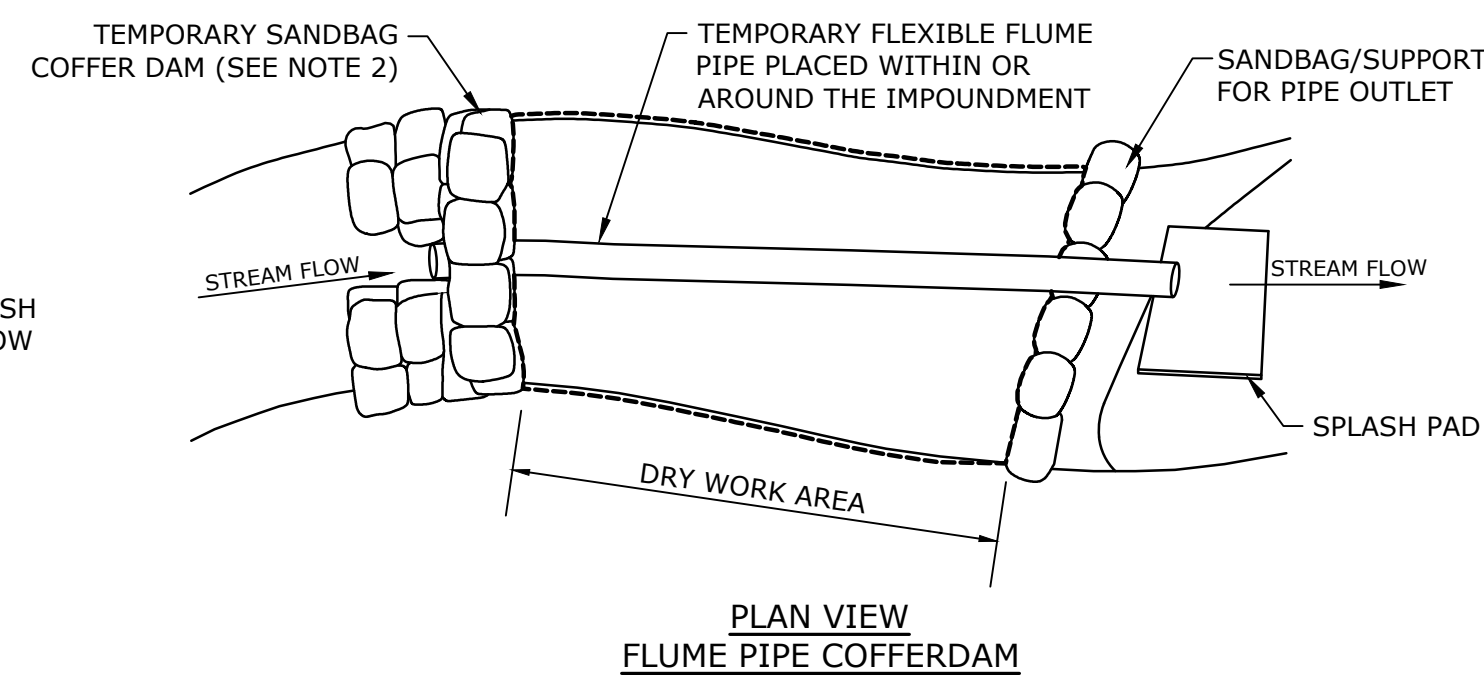

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A	4/2023	Permit Set
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DATE: 9/2024		
FILE: M-0944-039-06-C-202.dwg		
DRAWN BY: GNM,LPT		
CHECKED BY: DH,DRB		
APPROVED BY: CDH		

MISCELLANEOUS DETAILS

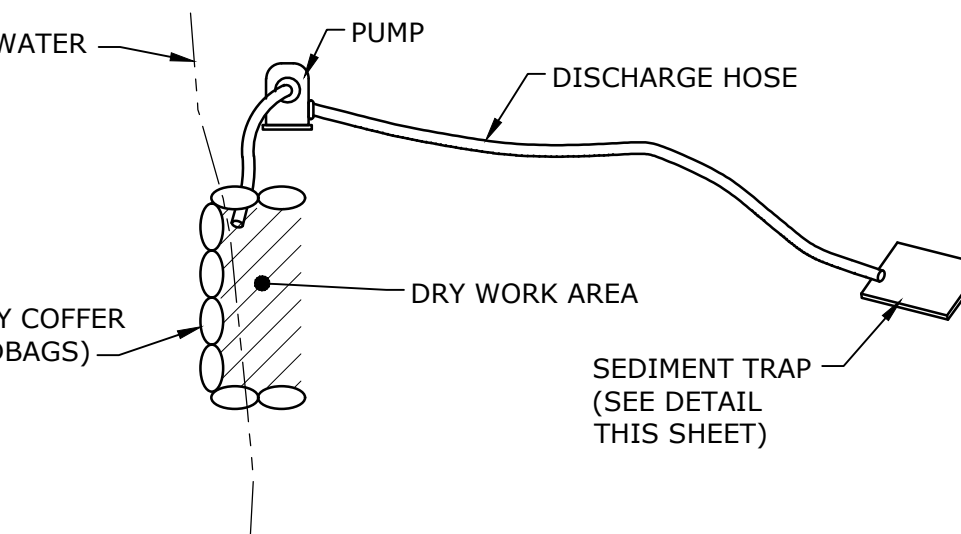
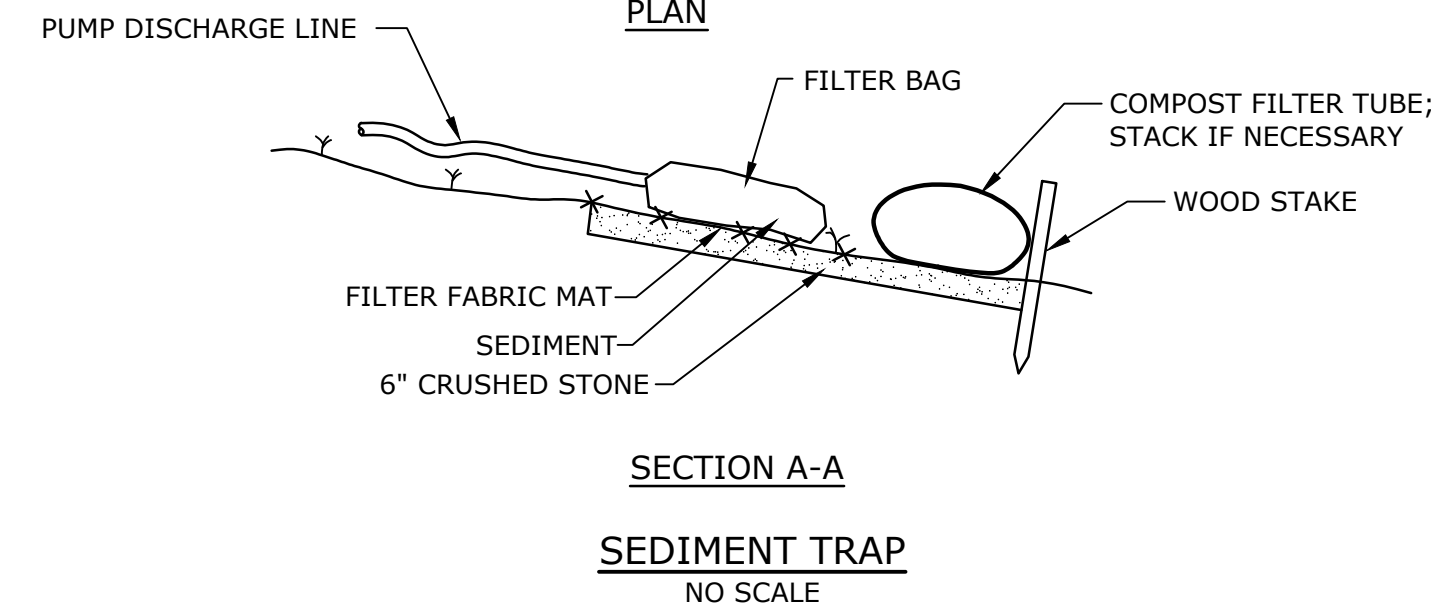
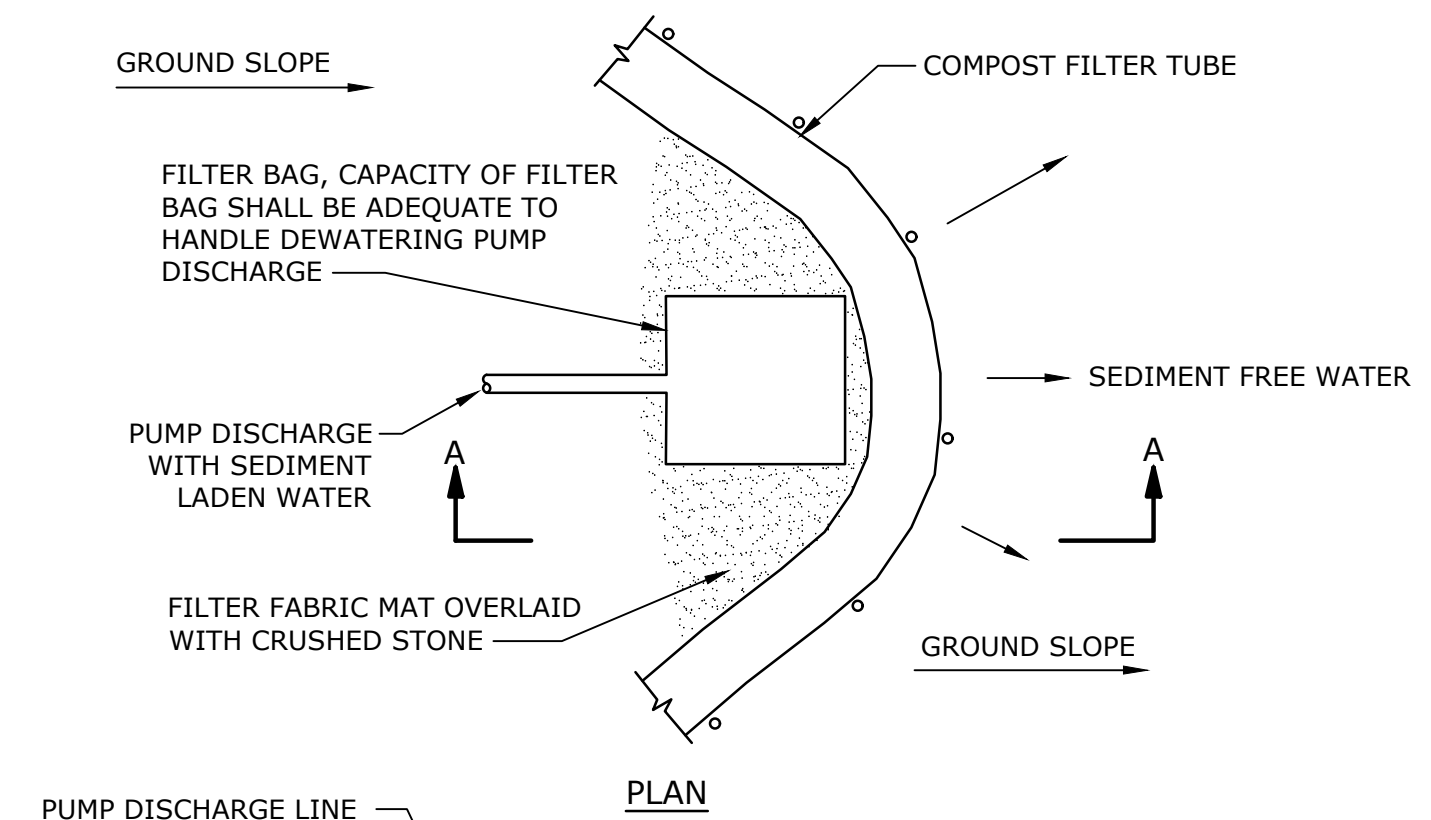
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- NOTES:**
- SANDBAGS AT PIPE INLET SHALL BE ABOVE THE PIPE CROWN TO ALLOW FULL CAPACITY OF CHOSEN FLUME PIPE SIZE.



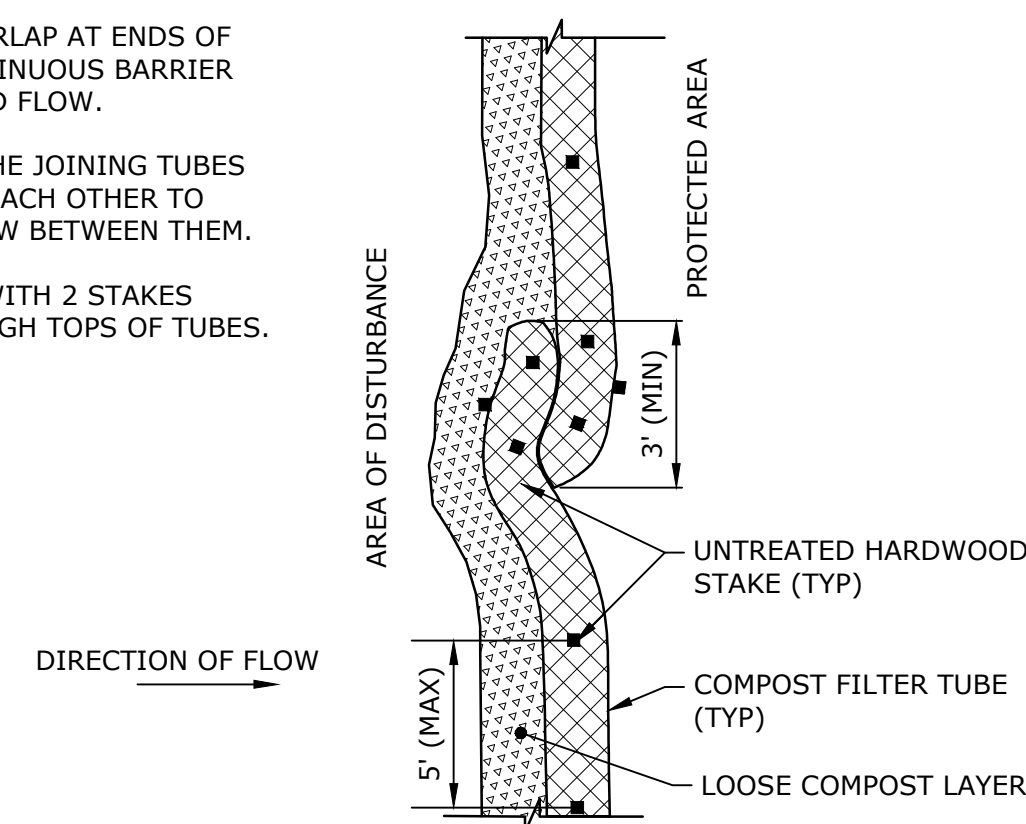
**TEMPORARY SANDBAG COFFER DAM DIVERSION PIPING**  
NO SCALE



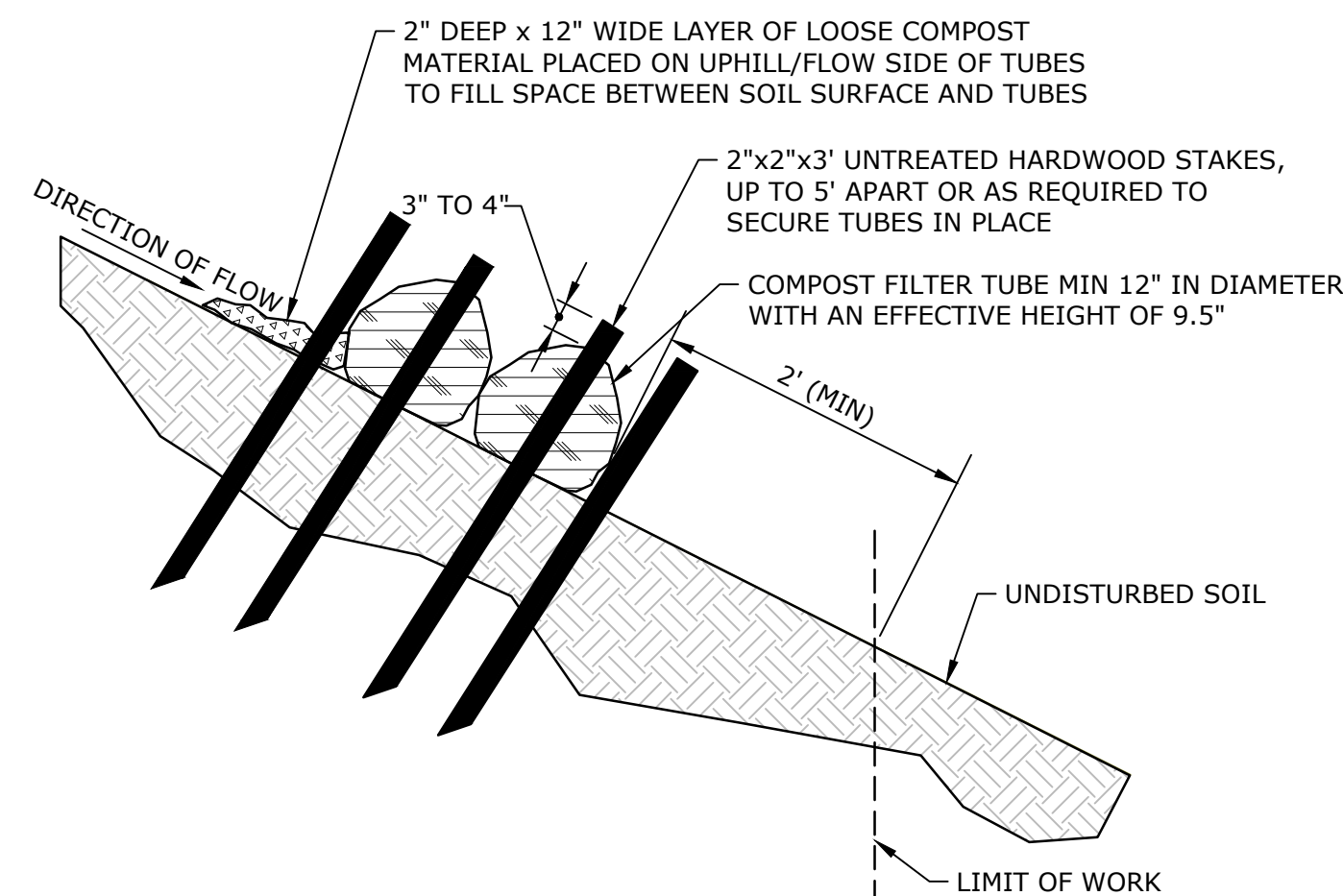
- NOTES:**
- DEWATERING EQUIPMENT SHALL REMAIN WITHIN THE COFFER DAM AND EROSION CONTROL MEASURES, AND SHALL DISCHARGE OUTSIDE OF THE WETLAND BOUNDARY.
  - DISCHARGE HOSE SHALL NOT CROSS THE STREAM AT ANY LOCATION.

**COFFERDAM AND DEWATERING**  
NO SCALE

- JOINING NOTES:**
- PROVIDE 3" MINIMUM OVERLAP AT ENDS OF TUBES TO JOIN IN A CONTINUOUS BARRIER AND MINIMIZE UNIMPEDED FLOW.
  - STAKE THE OUTSIDE OF THE JOINING TUBES TO FIT SNUGLY AGAINST EACH OTHER TO PREVENT UNFILTERED FLOW BETWEEN THEM.
  - SECURE ENDS OF TUBES WITH 2 STAKES SPACED 18" APART THROUGH TOPS OF TUBES.



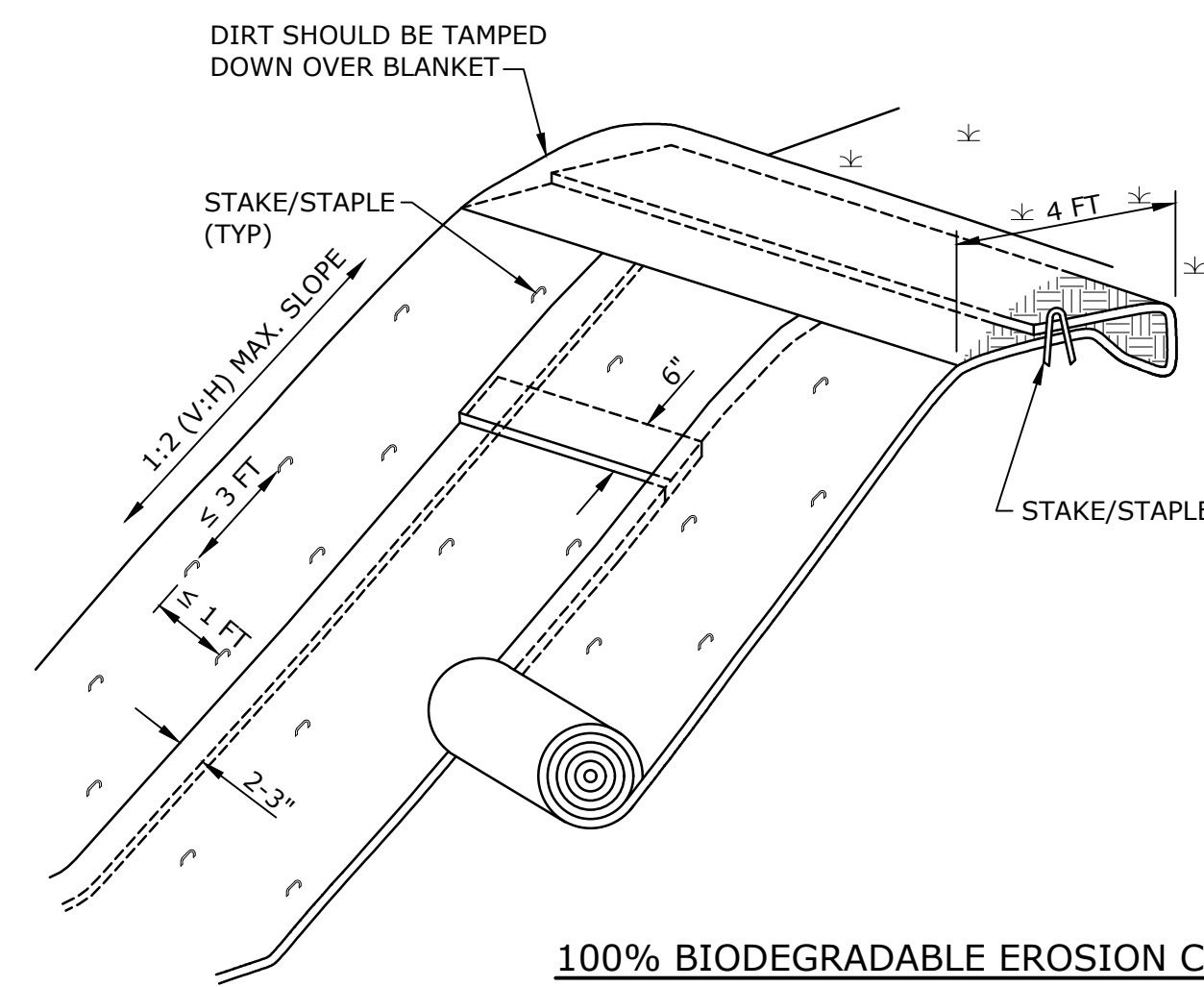
**PLAN VIEW - JOIN DETAIL**



**SECTION VIEW - JOIN DETAIL**

- GENERAL NOTES:**
- PROVIDE A MINIMUM TUBE DIAMETER OF 12" FOR SLOPES UP TO 50' IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATION WITH LONGER SLOPES OR STEEPER SLOPES.
  - INSTALL TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
  - DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
  - CONFIGURE TUBES AROUND EXISTING SITE FEATURES TO MINIMIZE SITE DISTURBANCE AND MAXIMIZE CAPTURE AREA OF STORMWATER RUN-OFF.
  - TUBES FOR COMPOST FILTERS SHALL BE JUTE MESH OR APPROVED BIODEGRADABLE MATERIAL. ADDITIONAL TUBES SHALL BE USED AT THE DIRECTION OF THE ENGINEER.
  - TAMP TUBES IN PLACE TO ENSURE GOOD CONTACT WITH SOIL SURFACE. IT IS NOT NECESSARY TO TRENCH TUBES INTO EXISTING GRADE.
  - WHEN STAKING IS NOT POSSIBLE, SUCH AS WHEN TUBES MUST BE PLACED ON PAVEMENT, HEAVY CONCRETE OR CINDER BLOCKS CAN BE USED BEHIND TUBES UP TO 5' APART OR AS REQUIRED TO SECURE TUBES IN PLACE.

**COMPOST FILTER TUBES**  
NO SCALE



**100% BIODEGRADABLE EROSION CONTROL BLANKET**  
NO SCALE

- NOTES:**
- EROSION CONTROL BLANKET SHOULD BE INSTALLED VERTICALLY DOWNSLOPE.
  - STAKES/STAPLES SHOULD BE PLACED NO MORE THAN 3 FT APART VERTICALLY, AND 1 FT APART HORIZONTALLY.
  - SLOPE SURFACE SHOULD BE FREE OF STICKS, ROCKS, AND OTHER OBSTRUCTIONS.
  - BLANKETS SHOULD BE ROLLED OUT LOOSELY AND STAKED/STAPLED TO MAINTAIN DIRECT SOIL CONTACT. DO NOT STRETCH THE BLANKETS.

**Schoolhouse Dam Removal Project**

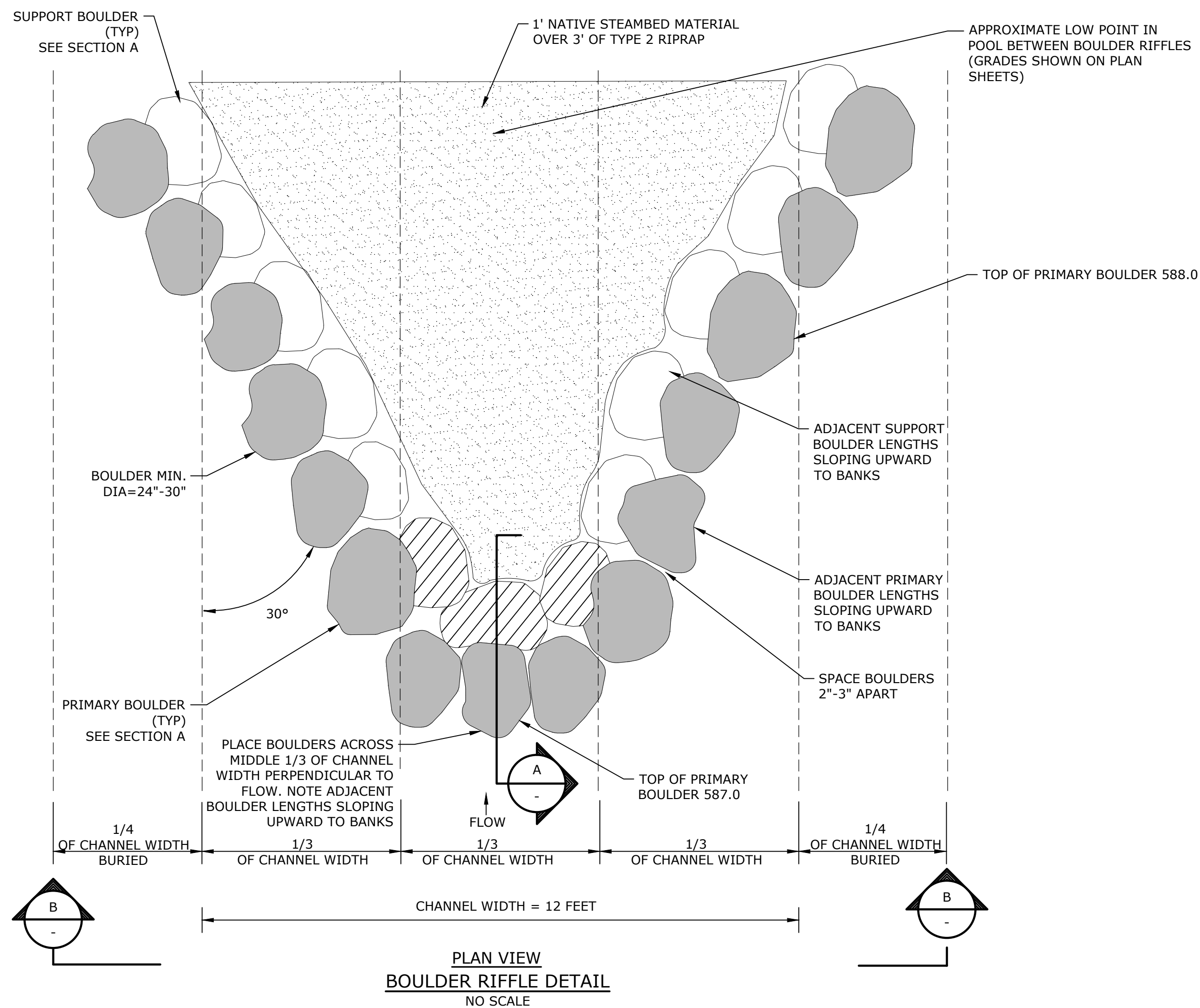
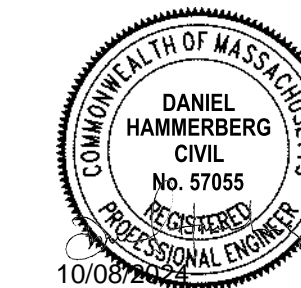
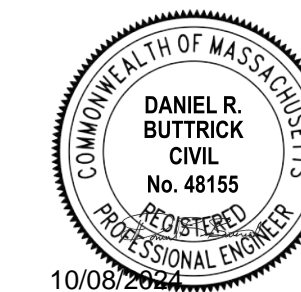
Massachusetts Division of Fisheries and Wildlife

Sutton, Massachusetts

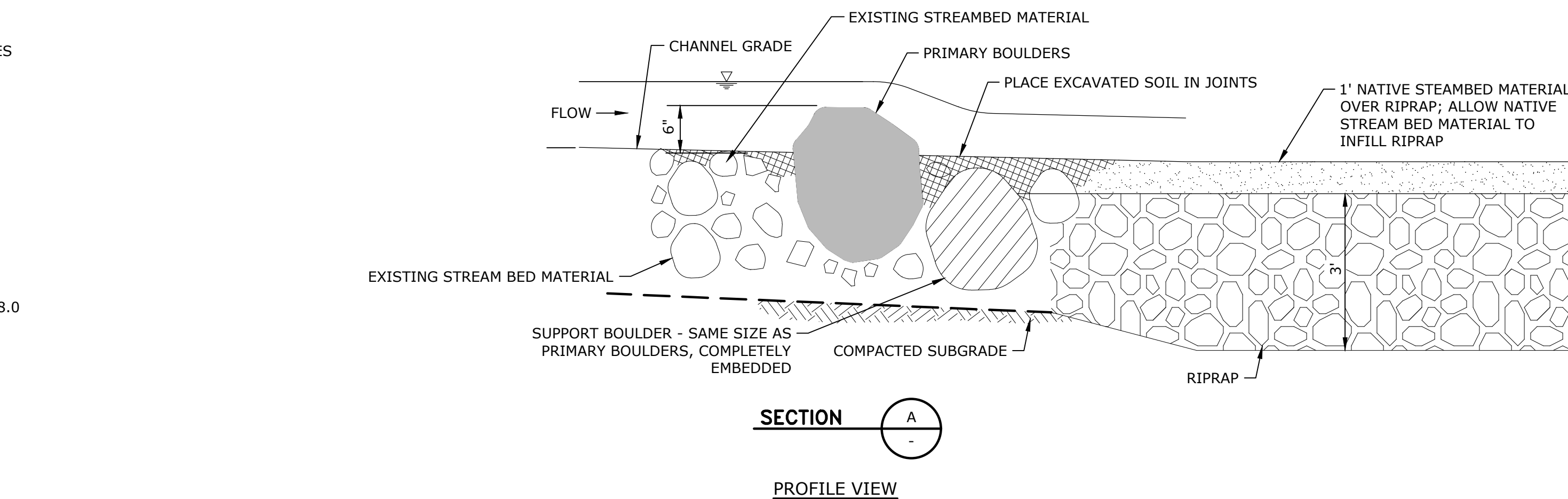
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DRAWN BY:	GNM,LPT	
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EROSION, SEDIMENT, AND WATER CONTROL DETAILS

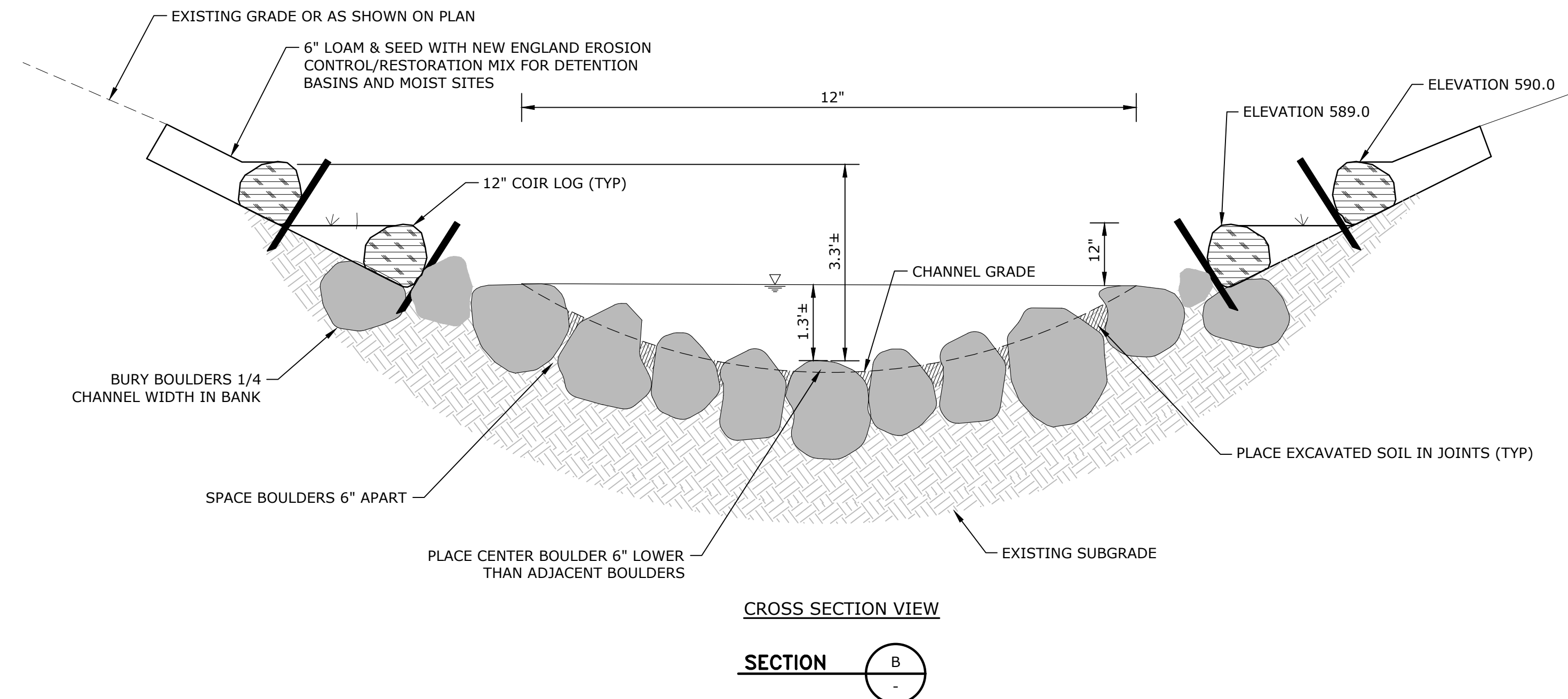
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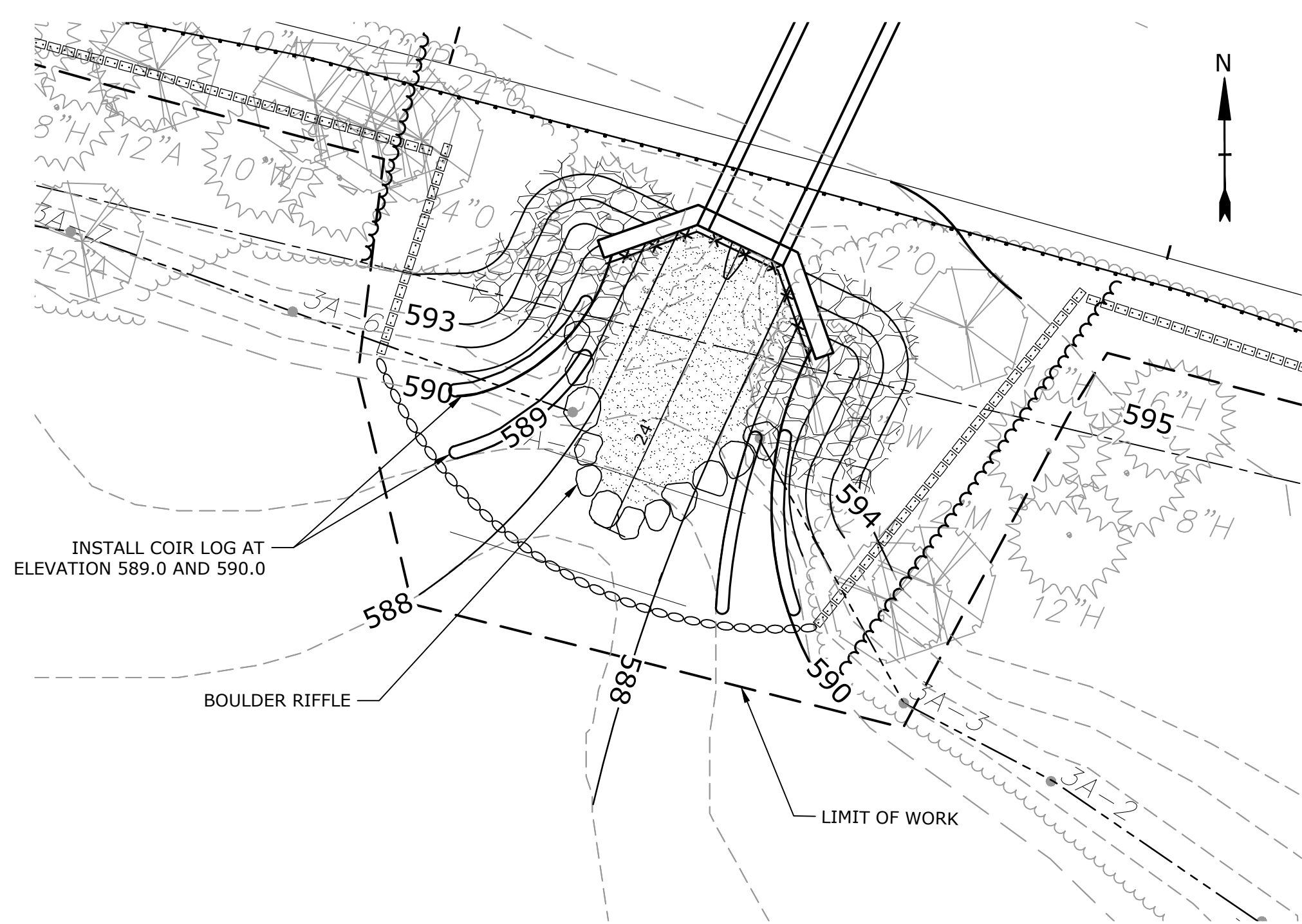
PLAN VIEW  
BOULDER RIFFLE DETAIL  
NO SCALE



SECTION A  
PROFILE VIEW



CROSS SECTION VIEW  
SECTION B



PLAN VIEW  
BOULDER RIFFLE DETAIL  
1" = 10'

- STREAM CHANNEL RESTORATION NOTES:**
1. USE WEATHERED SUBANGULAR OR ROUNDED COBBLES AND BOULDERS FOR STREAM CHANNELS AND BOULDER RIFFLES.
  2. ALIGN LONG AXIS OF BOULDER PARALLEL TO STREAM FLOW.
  3. PLACE EXCAVATED SOIL OVER RIPRAP AND BOULDERS AND MECHANICALLY WORK SMALLER MATERIAL INTO VOIDS UNTIL VOIDS ARE FILLED.

**Schoolhouse Dam Removal Project**

Massachusetts Division of Fisheries and Wildlife

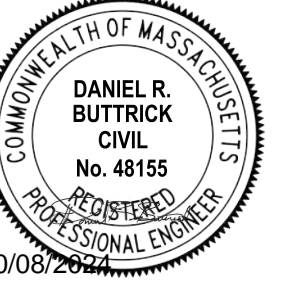
Sutton, Massachusetts

MARK	DATE	DESCRIPTION
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A	4/2023	Permit Set
PROJECT NO: M-0944-039		
DATE: 9/2024		
FILE: M-0944-039-06-C-204.dwg		
DRAWN BY: GNM,LPT		
CHECKED BY: DH,DRB		
APPROVED BY: CDH		

**BOULDER RIFFLE DETAILS**

SCALE: AS SHOWN

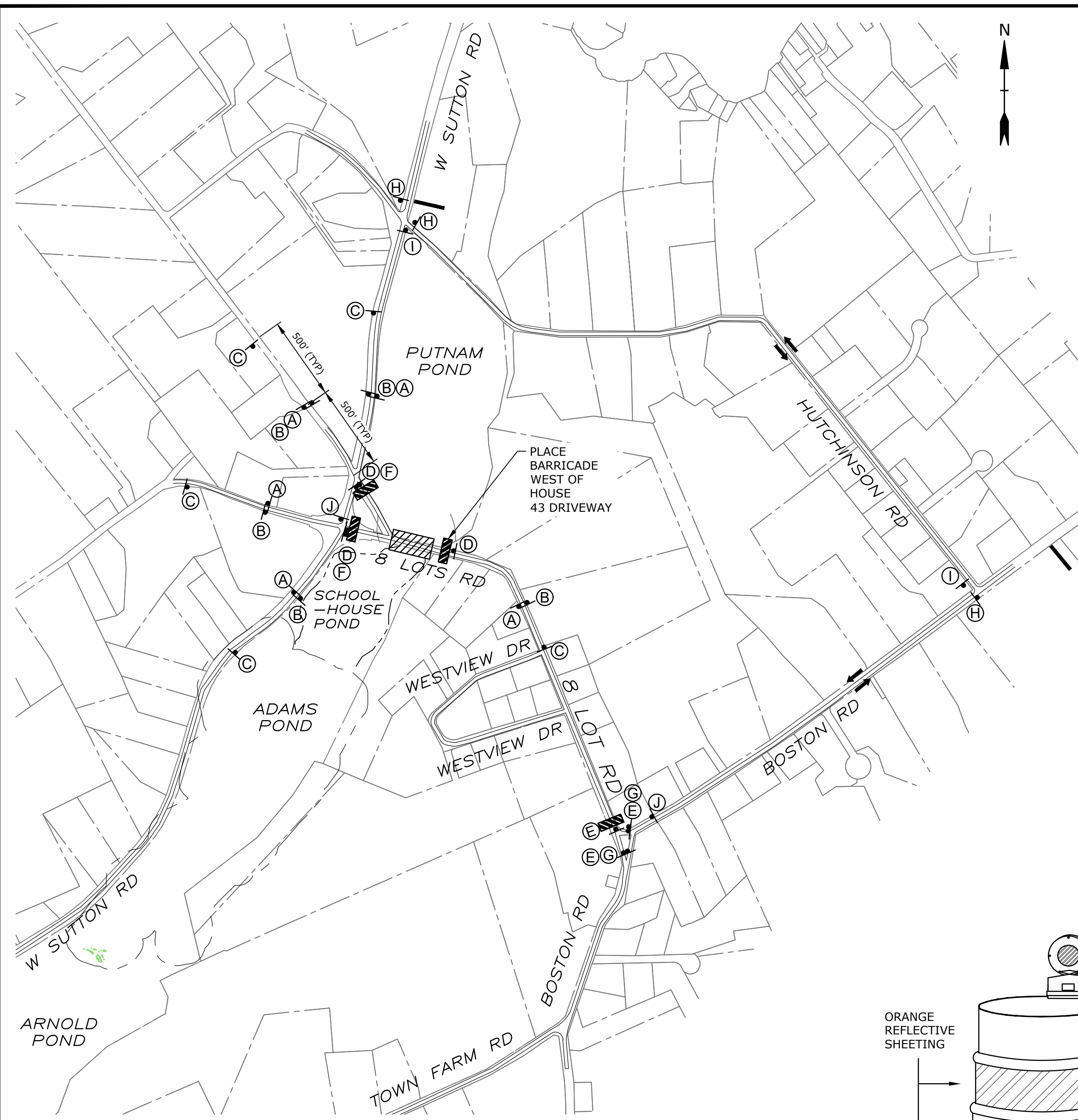
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 Project: 06-C-204-1-2024-1-35pm  
 Title: Schoolhouse Dam Removal Project - Riprap and Boulder Riffle Details  
 File: C:\Users\cdh\OneDrive\Documents\Schoolhouse Dam Removal Project - Riprap and Boulder Riffle Details.dwg



IDENTIFICATION NUMBER	SYMBOL	SIZE OF SIGN (IN)		TEXT	NUMBER OF SIGNS REQUIRED	AREA IN SQ. FT.
		WIDTH	HEIGHT			
MA-R2-10e	(A)	36	48	END ROAD WORK DOUBLE FINES END	5	60
MA-R2-10a	(B)	48	36	WORK ZONES SPEEDING FINES DOUBLED	5	60
W20-1-a	(C)	36	36	ROAD WORK AHEAD	5	45
R11-2	(D)	48	30	ROAD CLOSED	3	30
R11-4	(E)	60	30	ROAD CLOSED TO THRU TRAFFIC	3	37.5
M4-10 (L)	(F)	48	18	DETOUR	2	12
M4-10 (R)	(G)	48	18	DETOUR	2	12
M4-9 (L)	(H)	30	24	DETOUR	3	15
M4-9 (R)	(I)	30	24	DETOUR	2	10
M4-8a	(J)	24	18	END DETOUR	2	6
TOTAL =						287.5

**NOTES:**

- COORDINATE LANE AND ROAD CLOSURES WITH TOWN OF SUTTON POLICE, FIRE, HIGHWAY, AND SCHOOL DEPARTMENTS.
- ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS, UNLESS SUPERCEDED BY THESE PLANS.
- ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD.
- TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
- TEMPORARY CONSTRUCTION SIGNING, BARRICADES, AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE ROADWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
- SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, CHANNELIZING DEVICES, BARRIERS, AND CRASH ATTENUATORS MUST PASS THE CRITERIA SET FORTH IN NCHRP REPORT 350, "RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES" AND/OR "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
- NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS EXISTING PAVEMENT EXCAVATION, PAVING, AND SIMILAR OPERATIONS.
- THE FIRST FIVE PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH TYPE A LIGHTS.
- THE ADVISORY SPEED LIMIT, IF REQUIRED, SHALL BE DETERMINED BY THE ENGINEER.
- DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
- MINIMUM LANE WIDTH IS TO BE 10 FEET UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER.
- ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.
- SEE MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS (CURRENT ISSUE) FIGURES D-1 (DETOUR - ADVANCE SIGNING) & D-2 (DETOUR) FOR TYPICAL DETOUR SETUP. SEE ALSO FIGURES TLR-5 (TWO LANE ROAD - ONE LANE ALTERNATING TRAFFIC) AND INT-2 (SINGLE LANE APPROACH - ONE QUADRANT CLOSURE) FOR WORK IN OR ADJACENT TO THE ROADWAY WHERE THE ROAD IS NOT CLOSED.

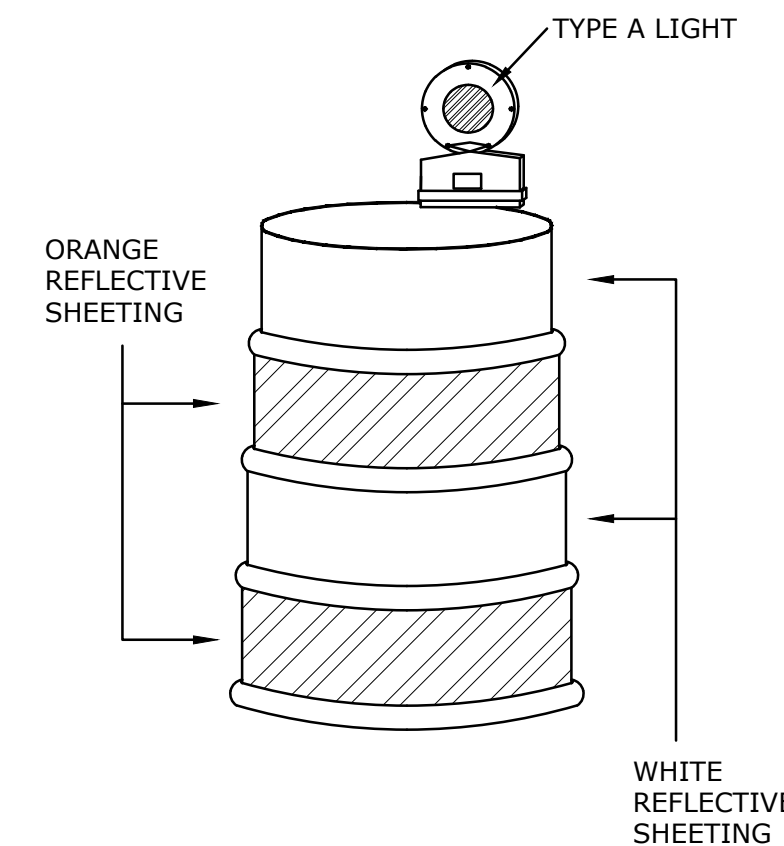


**DETOUR PLAN AND ADVANCED WARNING SIGNAGE**  
NO SCALE

**LEGEND**

- TYPE III BARRICADE
- WORK ZONE
- CHANGEABLE MESSAGE SIGN
- DIRECTION OF TRAFFIC SIGN

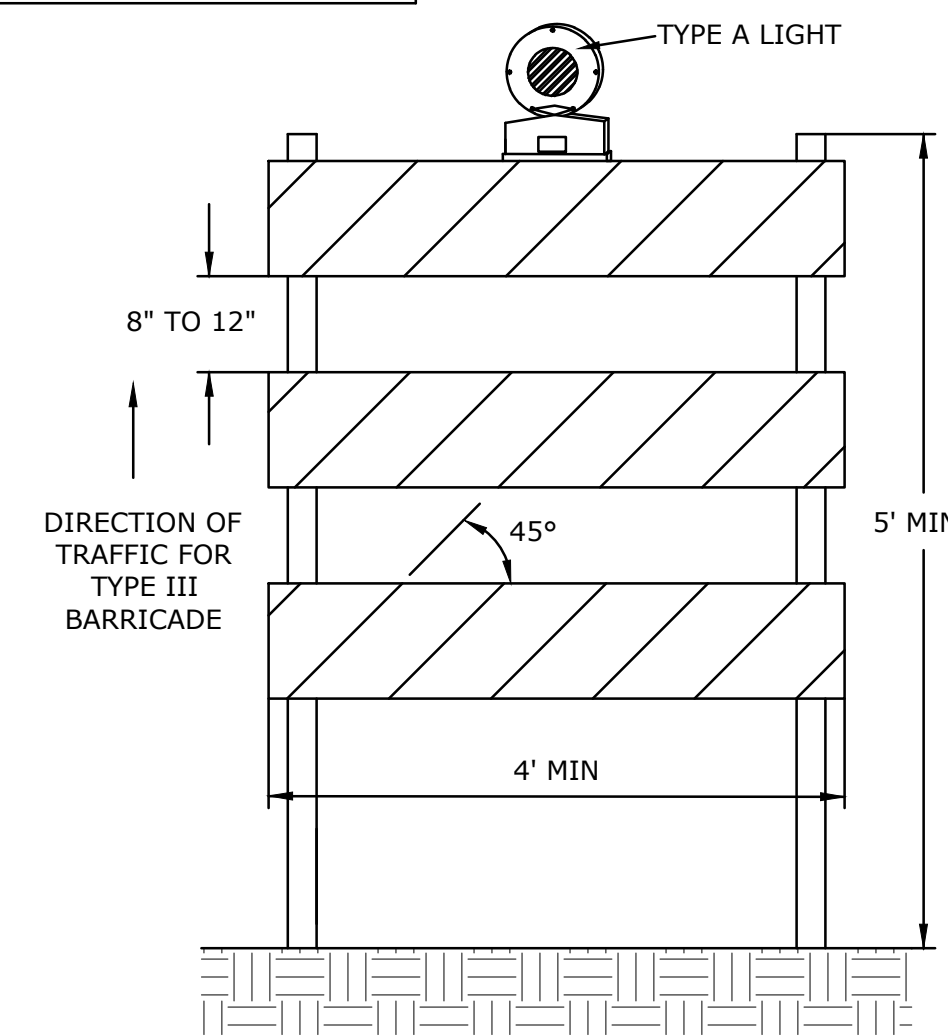
- TEMPORARY FENCING AND BARRIERS SHALL BE DEPLOYED ON SITE DURING THE ROADWAY CLOSURE TO PREVENT ACCESS TO THE CROSSING.
- NO THROUGH TRAFFIC SHALL BE PERMITTED UNTIL THE BRIDGE STRUCTURE AND GAURDRAILS HAVE BEEN INSTALLED.
- ALL DETOUR SIGNAGE TO BE PLACED PRIOR TO THE START OF CONSTRUCTION AND REMOVED IMMEDIATELY FOLLOWING COMPLETION AND ACCEPTANCE OF THE WORK.
- PLACEMENT OF SIGNS TO BE COORDINATED WITH THE ENGINEER, DEPARTMENT OF PUBLIC WORKS, POLICE DEPARTMENT, AND FIRE DEPARTMENT (SUTTON, MASSACHUSETTS)
- RECOMMENDED CHANGEABLE MESSAGE TEXT: ROAD CLOSED 8 LOTS RD USE HUTCHINSON RD



**PLASTIC DRUMS**  
NO SCALE

**NOTES:**

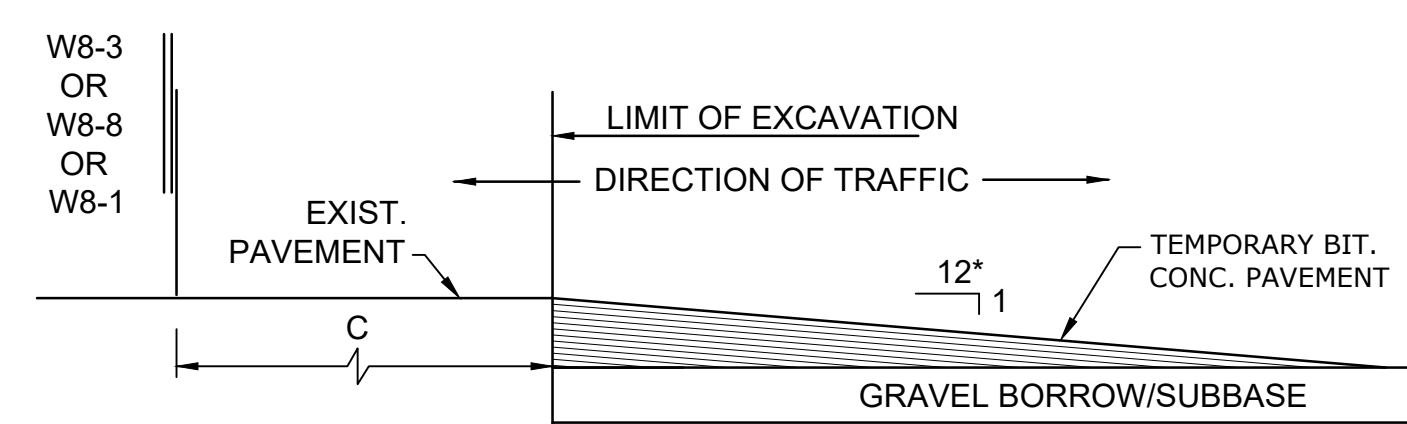
- DRUM DESIGN AND APPLICATION SHALL MEET THE CURRENT EDITION OF THE MUTCD AND JANUARY 2012 MASSACHUSETTS AMENDMENTS.
- DRUMS SHALL BE APPROXIMATELY 36" IN HEIGHT, HAVING A MINIMUM WALL THICKNESS OF 3/32" AND A MINIMUM DIAMETER OF 18" REGARDLESS OF ORIENTATION.
- DRUM MATERIAL MUST BE APPROVED UV RESISTANT, LOW DENSITY, IMPACT RESISTANT, LINEAR POLYETHYLENE (OR APPROVED EQUIVALENT).
- SHEETING SHALL BE APPROVED ORANGE AND WHITE TYPE IV REFLECTORIZED SHEETING.
- ALL DRUMS SHALL BE WELL MAINTAINED INCLUDING REMOVAL OF DUST OR ROAD FILM, SO AS NOT TO REDUCE REFLECTIVE EFFICIENCY. WHEN A DRUM LOSES TARGET VALUE IT SHALL BE REPLACED.
- STORE UNUSED DRUMS IN ONE LOCATION, AWAY FROM ALL TRAFFIC, OR REMOVE FROM SITE ENTIRELY.
- THIS DETAIL WILL BE USED IF THE BID ALTERNATIVE IS ACCEPTED.



**TYPE III CONSTRUCTION BARRICADE**  
NO SCALE

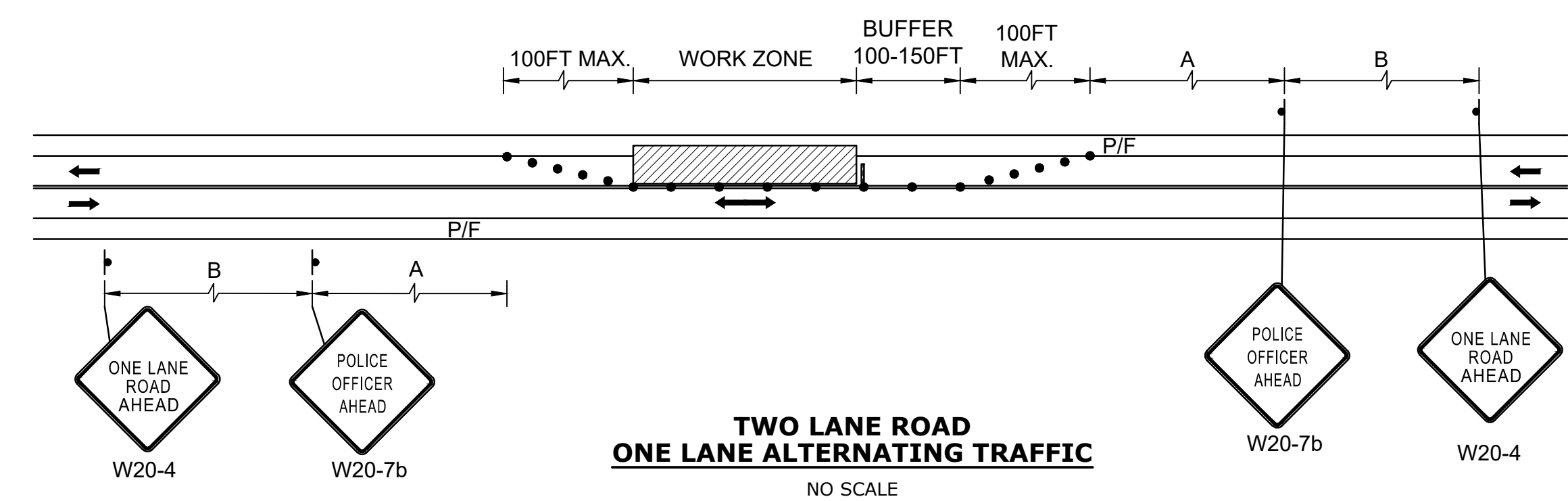
**NOTES:**

- CONSTRUCTION BARRICADES SHALL CONFORM TO THE REQUIREMENTS OF THE NCHRP REPORT 350 (TL-3) AND THE LATEST EDITION OF THE MUTCD.
- MARKINGS FOR BARRICADE RAILS SHALL BE ALTERNATE ORANGE WHITE STRIPES SLOPING DOWNWARD IN THE DIRECTION TRAFFIC IS TO PASS. 6" WIDE STRIPES SHALL BE USED.
- THE ENTIRE AREA OF ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.



**LONGITUDINAL DROP-OFF DETAIL**  
NO SCALE

\* - INCREASE SLOPE RATIO FOR HIGHER SPEEDS



**TWO LANE ROAD ONE LANE ALTERNATING TRAFFIC**  
NO SCALE

Last Saved: 8/14/2024 11:35am By: Daniel Hammerberg  
 Project: Schoolhouse Pond  
 File: M-0944-039-06-C-205.dwg  
 Title: Schoolhouse Pond Drawings

**Schoolhouse Dam Removal Project**

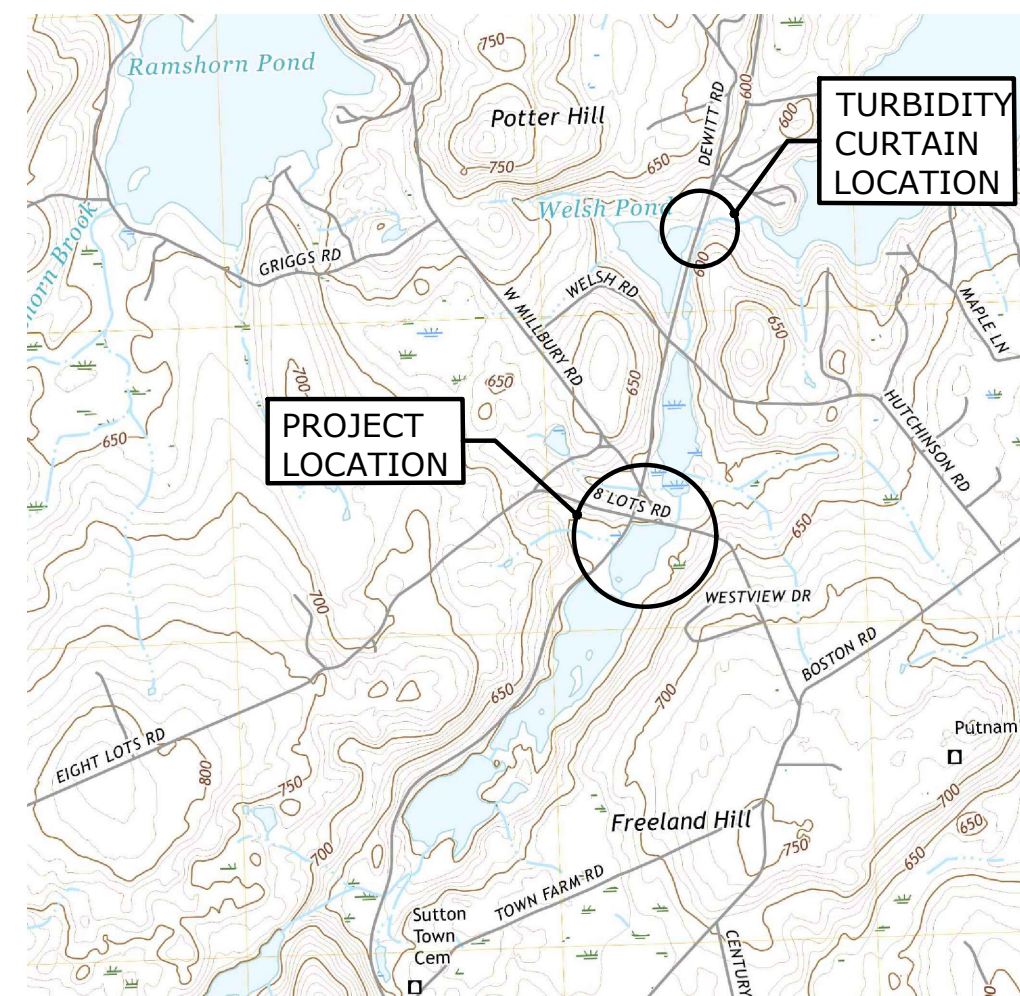
Massachusetts Division of Fisheries and Wildlife

Sutton, Massachusetts

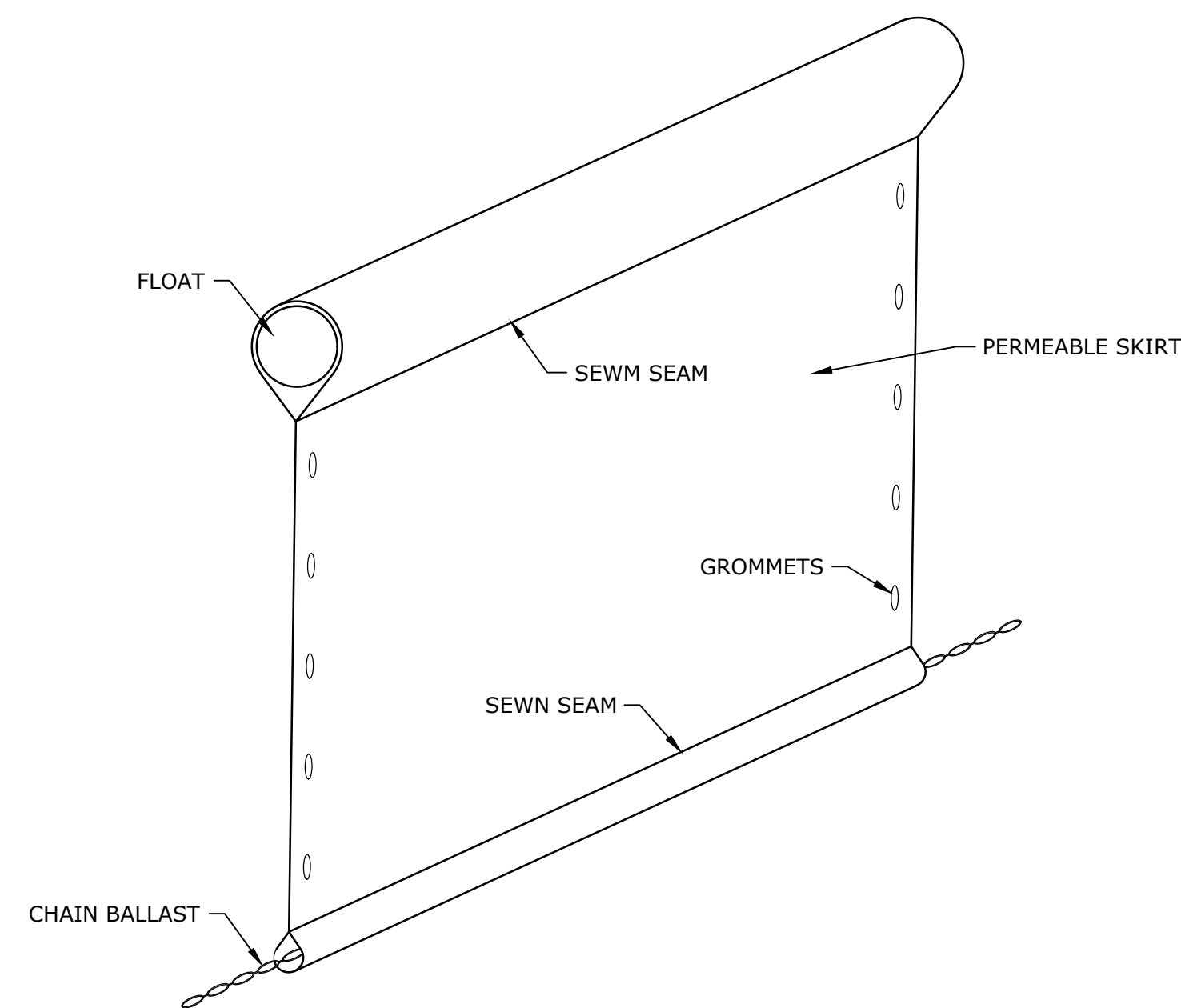
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A	4/2023	Permit Set
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DATE:	9/2024	
FILE:	M-0944-039-06-C-205.dwg	
DRAWN BY:	GNM,LPT	
CHECKED BY:	DH,DRB	
APPROVED BY:	CDH	

**TRAFFIC MANAGEMENT PLAN**

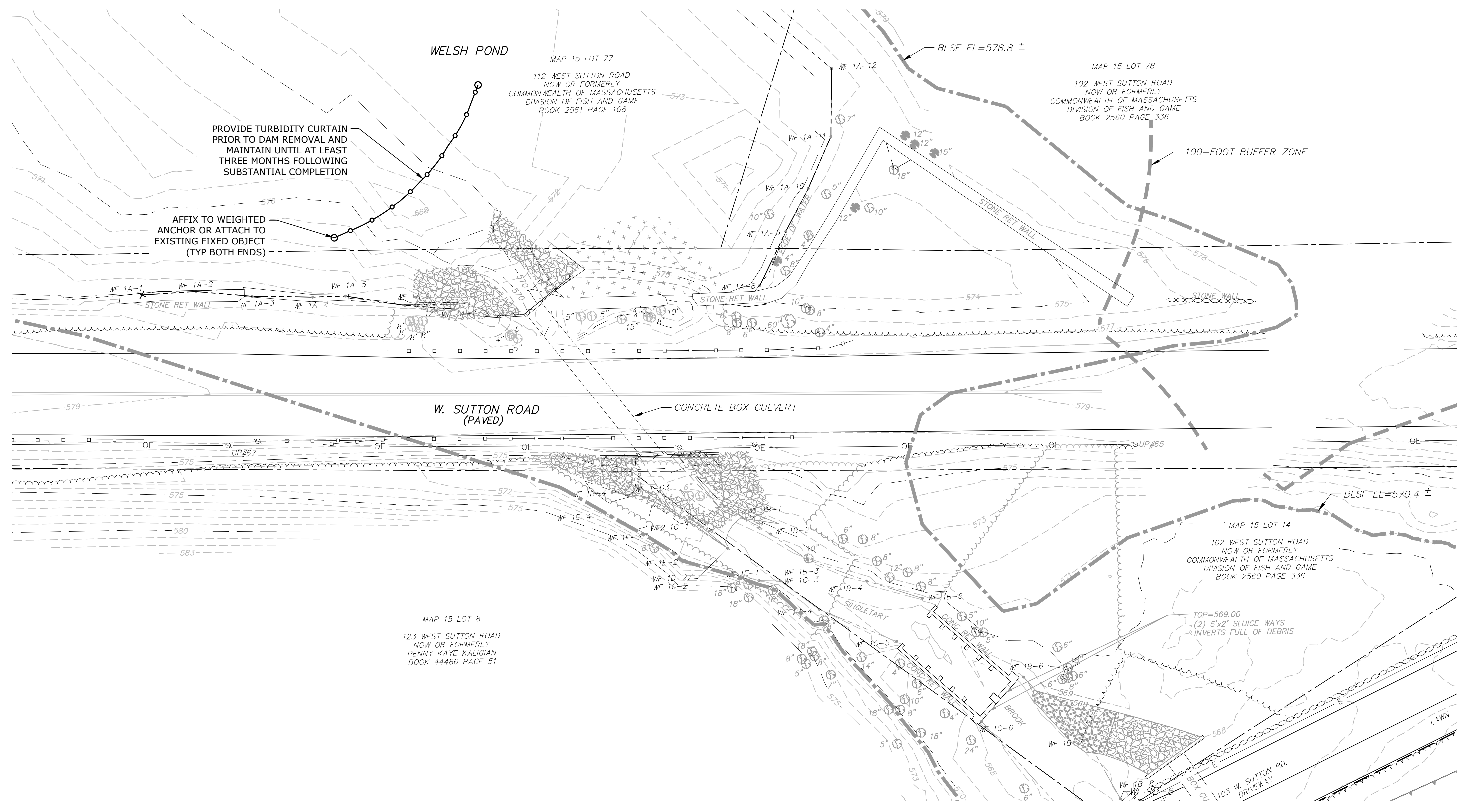
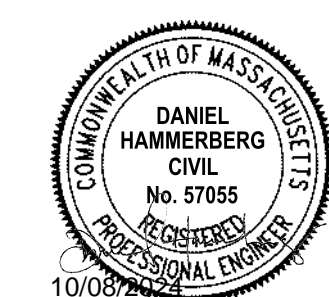
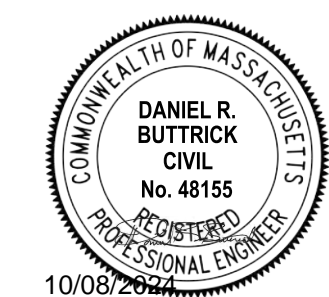
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**LOCATION MAP**  
SCALE: 1" = 2000'

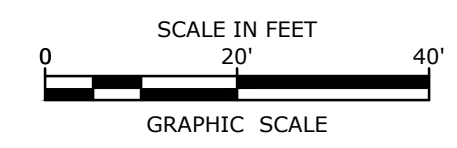


**TURBIDITY CURTAIN DETAIL**  
NO SCALE



PROVIDE TURBIDITY CURTAIN PRIOR TO DAM REMOVAL AND MAINTAIN UNTIL AT LEAST THREE MONTHS FOLLOWING SUBSTANTIAL COMPLETION

AFFIX TO WEIGHTED ANCHOR OR ATTACH TO EXISTING FIXED OBJECT (TYP BOTH ENDS)



**Schoolhouse Dam Removal Project**

Massachusetts Division of Fisheries and Wildlife

Sutton, Massachusetts

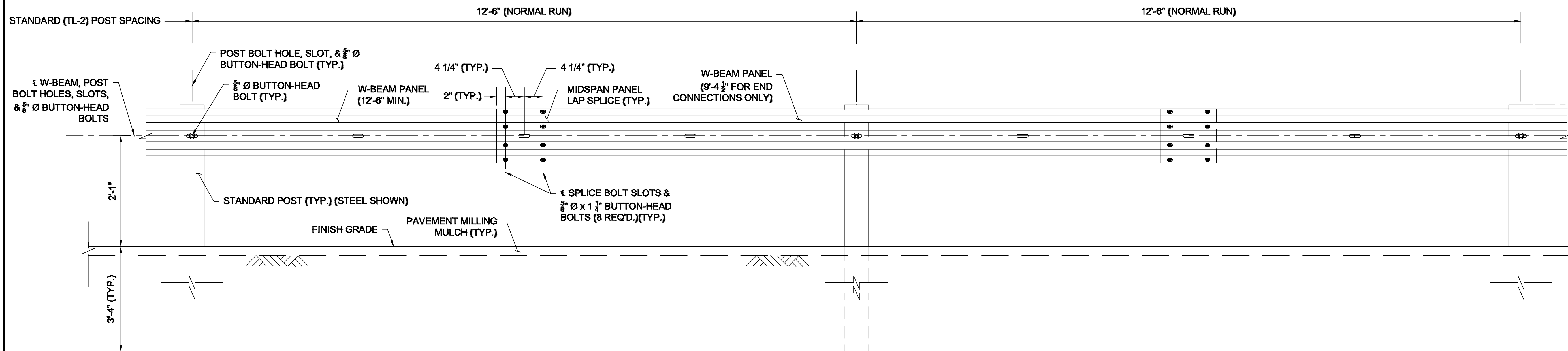
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DATE:	9/2024	
FILE:	M-0944-039-06-WelshPDRD.dwg	
DRAWN BY:	GNM,LPT	
CHECKED BY:	DH,DRB	
APPROVED BY:	CDH	

**TEMPORARY TURBIDITY CURTAIN**

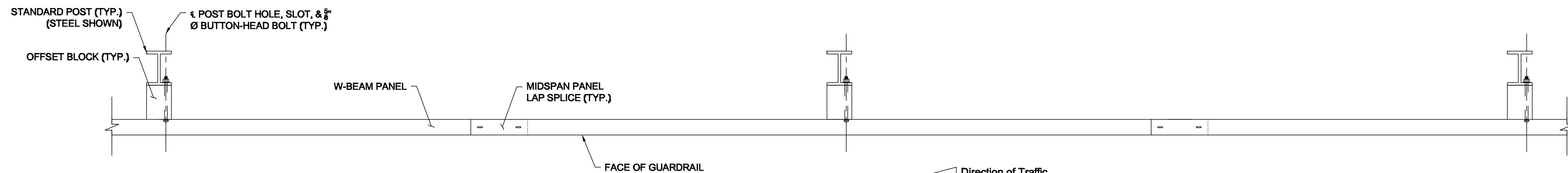
SCALE: 1" = 20'

**C-206**  
SHEET 14 OF 17

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**ELEVATION**

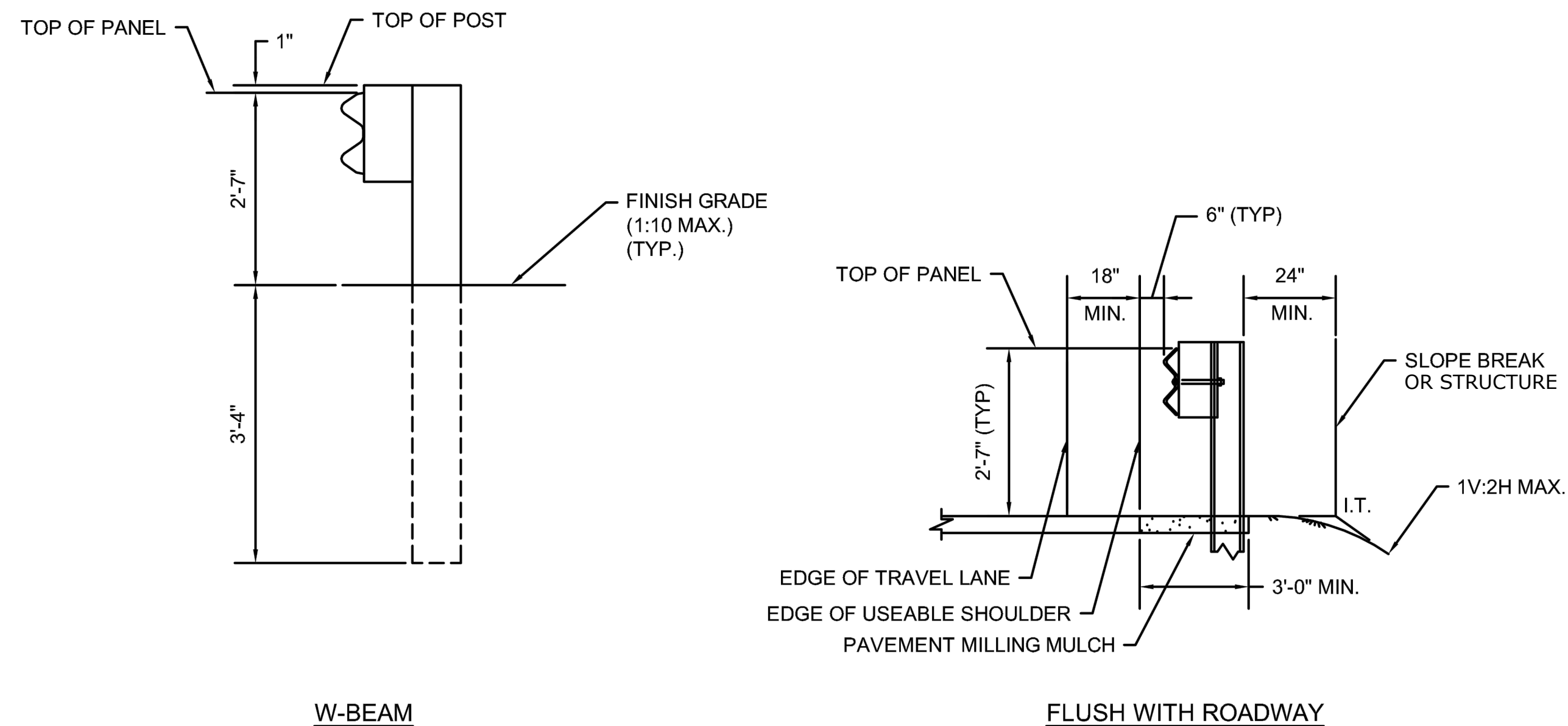


**PLAN**

**NOTES:**

1. A 9'-4 1/2" PANEL IS REQUIRED WHEN TRANSITIONING TO TL-3 W-BEAM GUARDRAIL TO MAINTAIN PROPER POST SPACING.

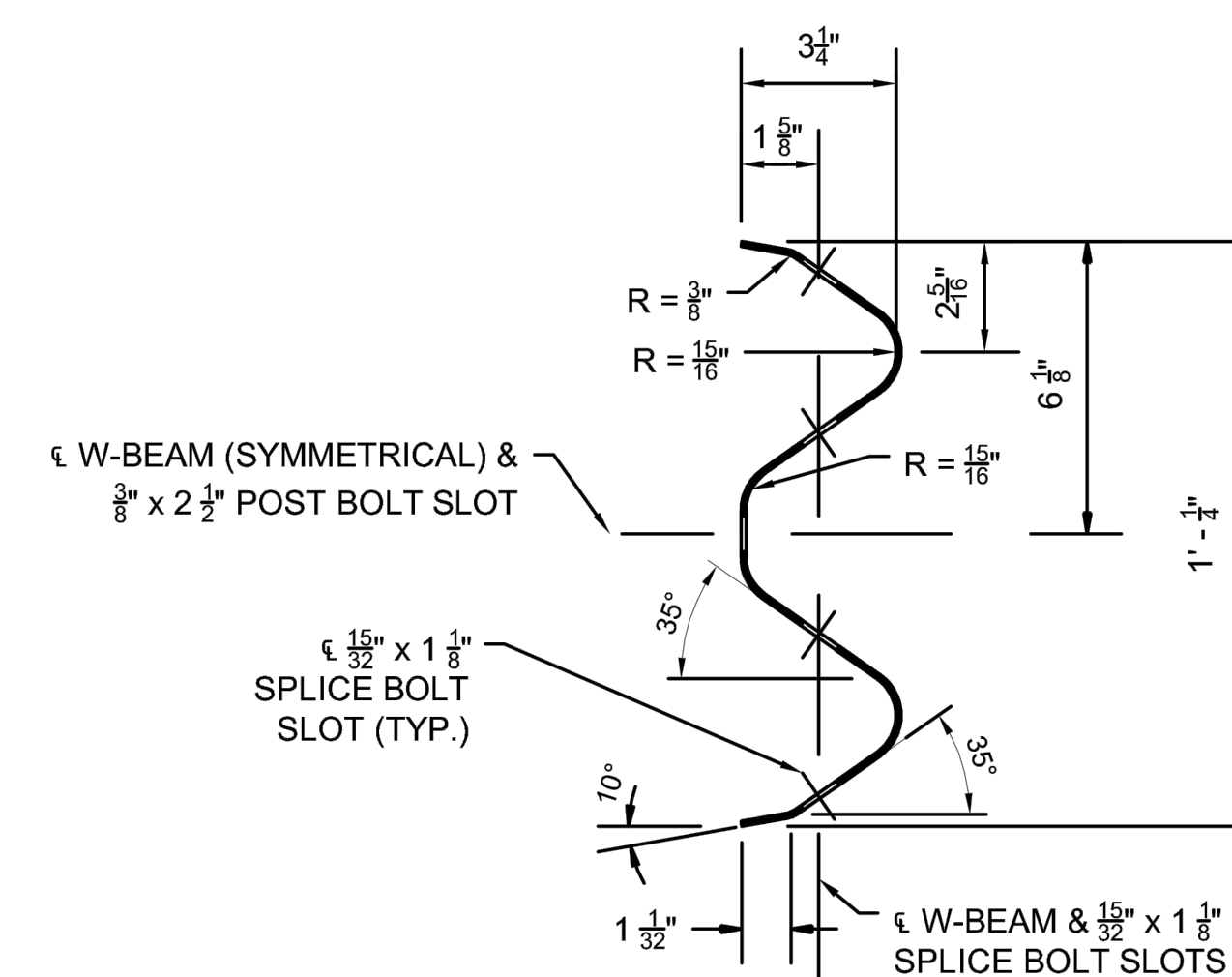
**GUARDRAIL, TL2 DETAILS**



**W-BEAM**

**FLUSH WITH ROADWAY**

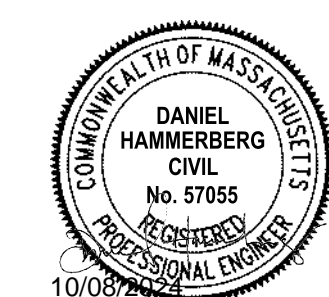
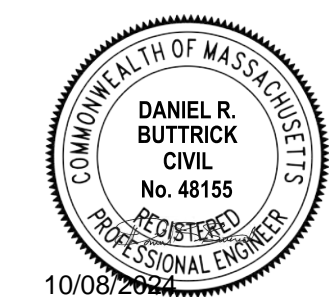
**GUARDRAIL MOUNTING HEIGHTS & POST DEPTHS**



**W-BEAM PANEL SECTION**

- NOTES:**
1. W-BEAM PANELS SHALL BE POWDER COATED BROWN.

**MASSDOT STANDARD DETAILS:**  
**MASSDOT HIGHWAY DIVISION**  
**CONSTRUCTION STANDARD DETAILS**  
**GUARDRAIL, TL2 & W-BEAM PANEL DETAILS**



**Schoolhouse Dam Removal Project**

Massachusetts Division of Fisheries and Wildlife

Sutton, Massachusetts

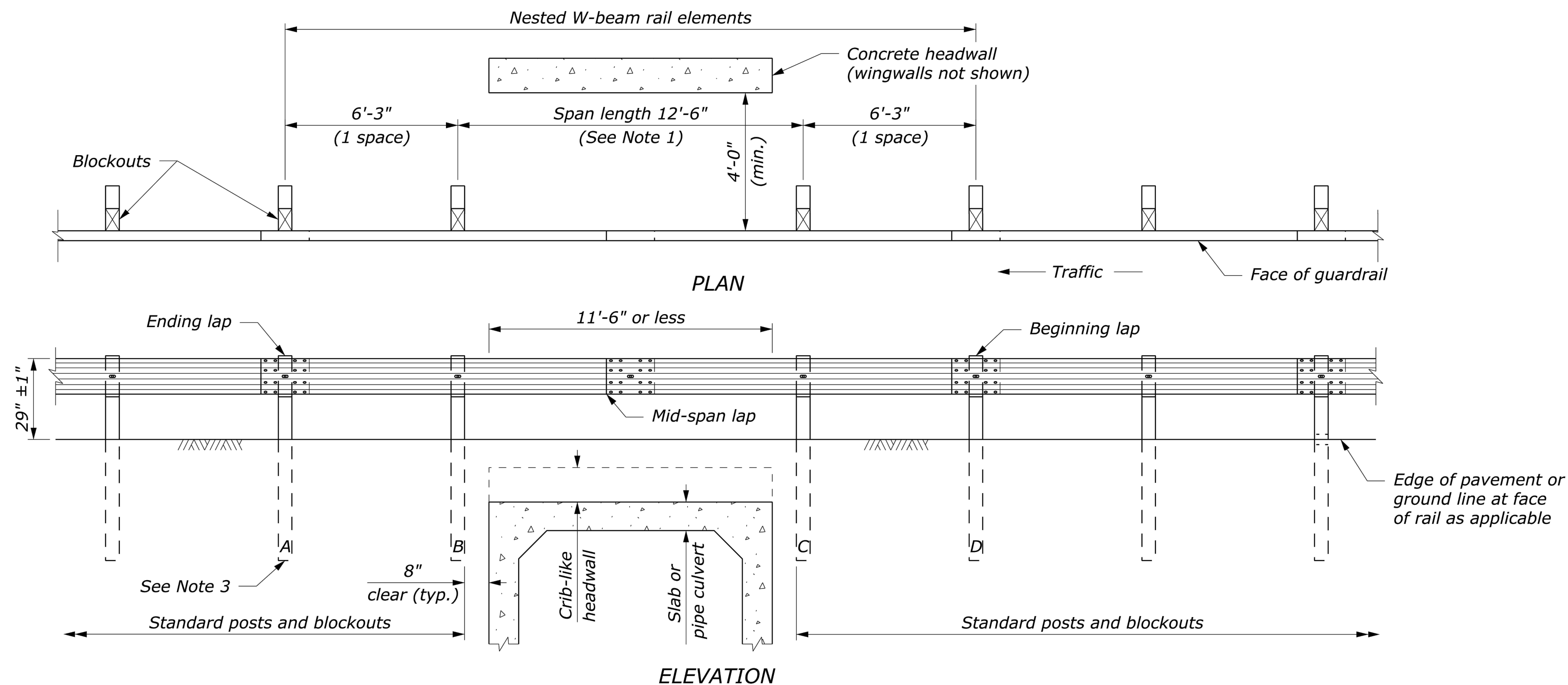
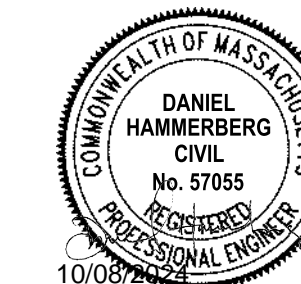
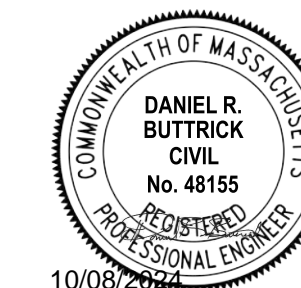
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 DRAWN BY: GNM,LPT  
 CHECKED BY: DH,DRB  
 APPROVED BY: CDH

SCALE: NO SCALE

**C-207**  
 SHEET 15 OF 17

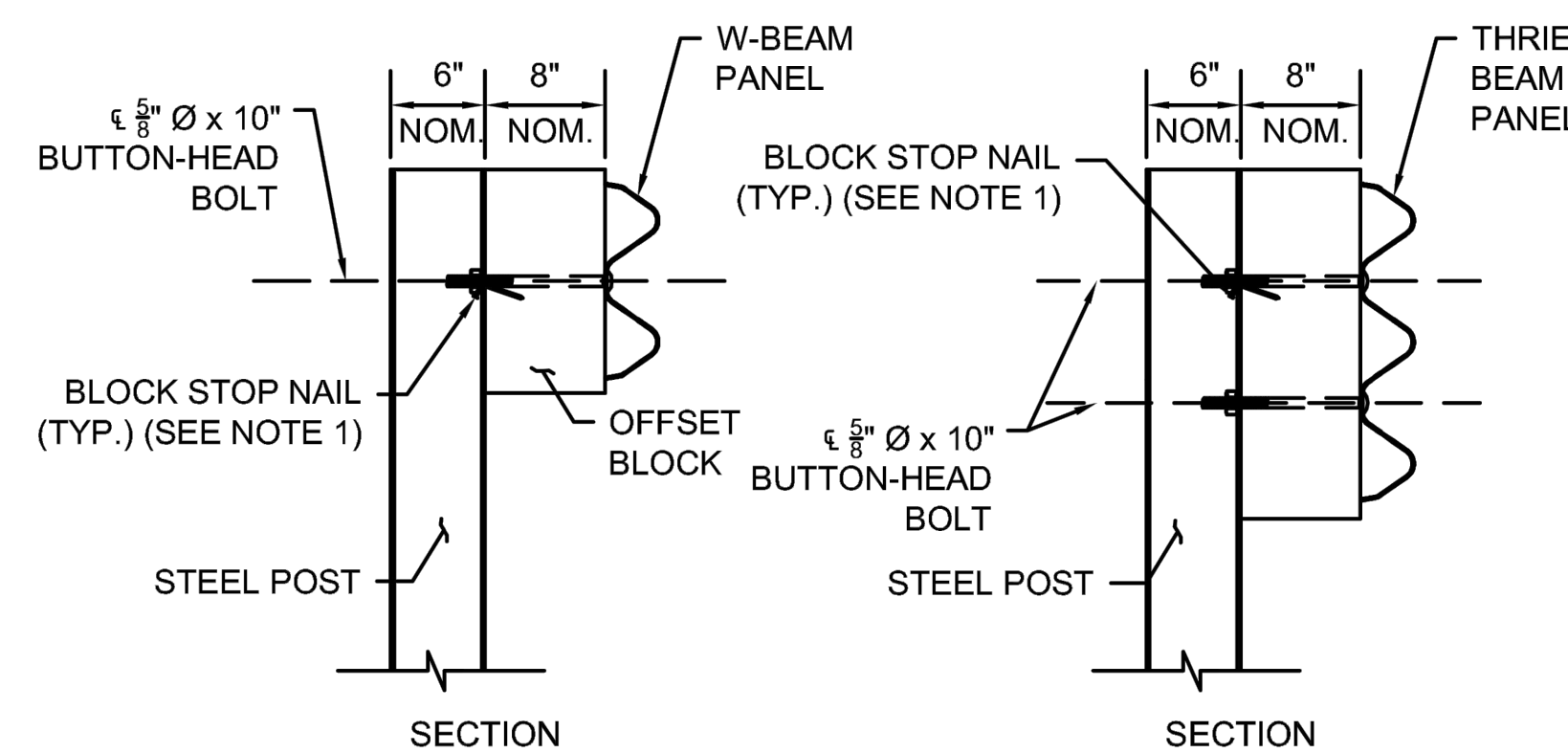
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 User: Ptkammer@tbg  
 Path: C:\Users\PTKAMMER\OneDrive\Documents\Schoolhouse Dam Removal\Drawings\AutoCAD\Sheet\0944-039-06-MaDOT-DETAILS.dwg



**GUARDRAIL, TL-2 DETAILS TO SPAN OVER CULVERT**

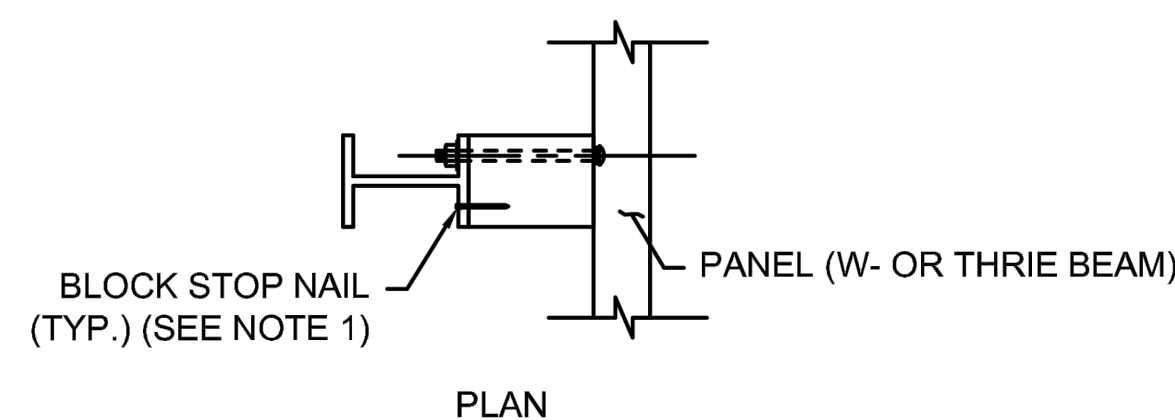
**NOTES:**

1. DRIVE ONE NAIL PER W BEAM TIMBER OFFSET BLOCK TO PREVENT BLOCK ROTATION. USE ASTM A153 HOT DIP GALVANIZED STEEL 3 1/2" TYPE 16D NAILS. FOR STEEL POSTS, DRIVE THE NAIL THROUGH THE UNUSED FLANGE BOLT HOLE AND BEND THE NAIL SO ITS HEAD CONTACTS THE FLANGE.
  2. DEEP STEEL POSTS SHALL ONLY BE USED WHERE INDICATED IN THESE STANDARDS OR THE PLANS.
  3. WHERE BACK OF POSTS ARE EXPOSED AND PLACED WITHIN 2'-0" OF A SIDEWALK, SEPARATED BIKE FACILITY OR SHARED-USE PATH, TIMBER POSTS SHALL BE USED. ALTERNATIVELY, STEEL POSTS WITH A TIMBER BACKING, PER 400.5.1, MAY BE SUBSTITUTED AT NO ADDITIONAL COST. WHEN TIMBER POSTS ARE USED, ONE OF THE FOLLOWING SAFETY TREATMENTS IS REQUIRED FOR ALL BOLTS PROTRUDING FROM THE BACK FACE OF THE POST:
    - A. AFTER TIGHTENING THE NUT, TRIM THE PROTRUDING POST BOLT FLUSH WITH THE NUT AND GALVANIZE PER M7.04.11;
    - B. USE 15" POST BOLTS AND COUNTERSINK THE WASHER AND NUT BETWEEN 1" AND 1 1/2" DEEP INTO THE BACK FACE OF THE POST; OR
    - C. USE 15" POST BOLT SLEEVE NUTS AND WASHERS.
- END TREATMENTS AND TRANSITIONS, WHERE SPECIFIC MATERIAL TYPES ARE SPECIFIED, ARE EXEMPT FROM THESE REQUIREMENTS.



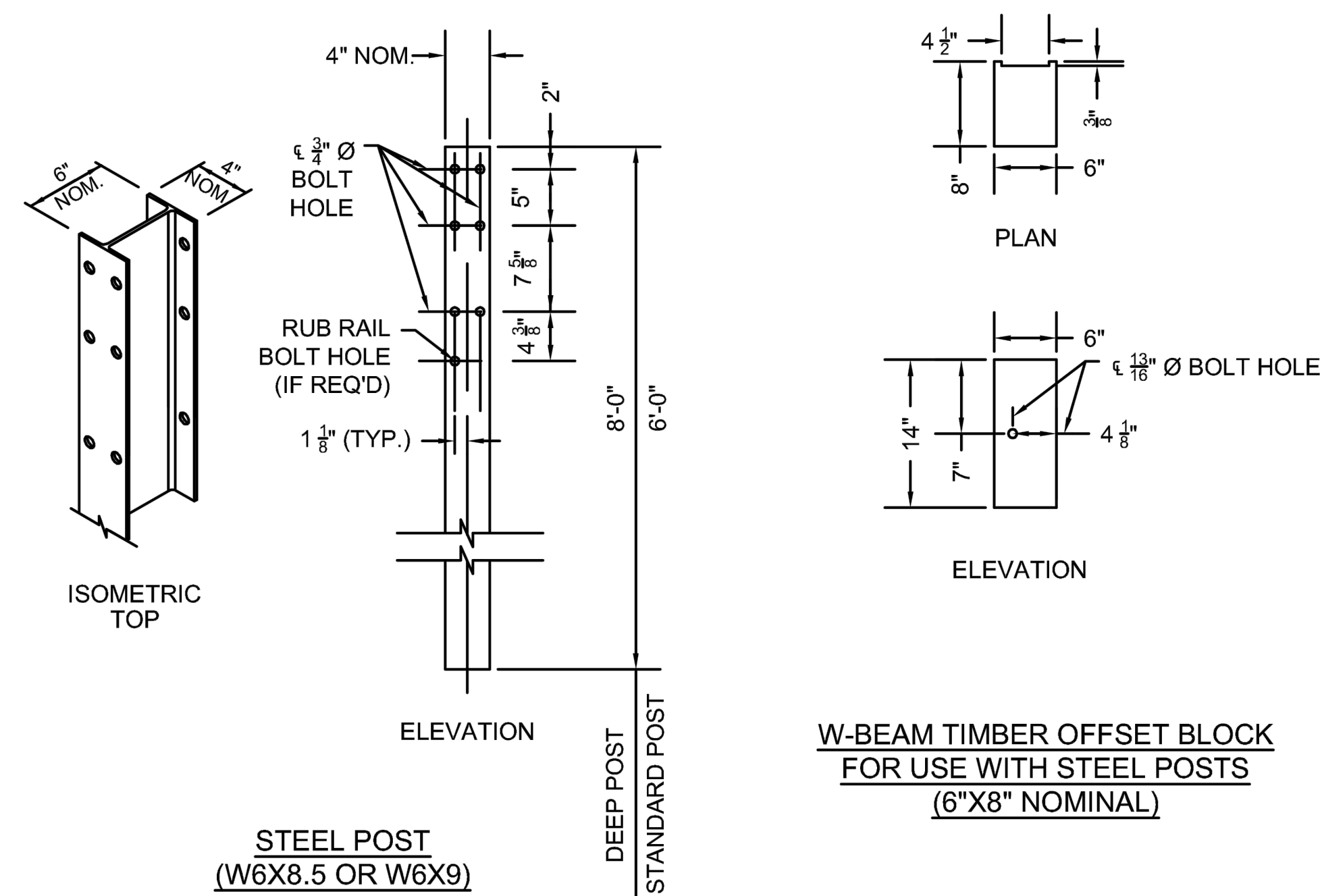
SECTION

SECTION



PLAN

**W-BEAM & THRIE BEAM STEEL POST**



ISOMETRIC TOP

ELEVATION

PLAN

ELEVATION

**W-BEAM TIMBER OFFSET BLOCK FOR USE WITH STEEL POSTS (6"X8" NOMINAL)**

**MASSDOT STANDARD DETAILS:**  
 MASSDOT HIGHWAY DIVISION  
 CONSTRUCTION STANDARD DETAILS  
 GUARDRAIL, TL2 & W-BEAM PANEL DETAILS

**Schoolhouse Dam Removal Project**

Massachusetts Division of Fisheries and Wildlife

Sutton, Massachusetts

MARK	DATE	DESCRIPTION
A	9/2024	Issued For Bidding

PROJECT NO: M-0944-039

DATE: 9/2024

FILE: M-0944-039-06-MaDOT-DETAILS.dwg

DRAWN BY: GNM,LPT

CHECKED BY: DH,DRB

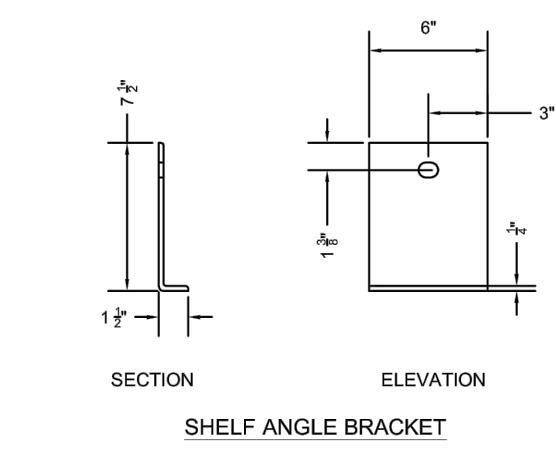
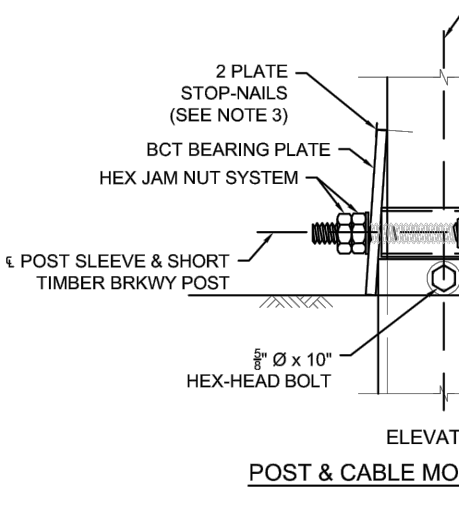
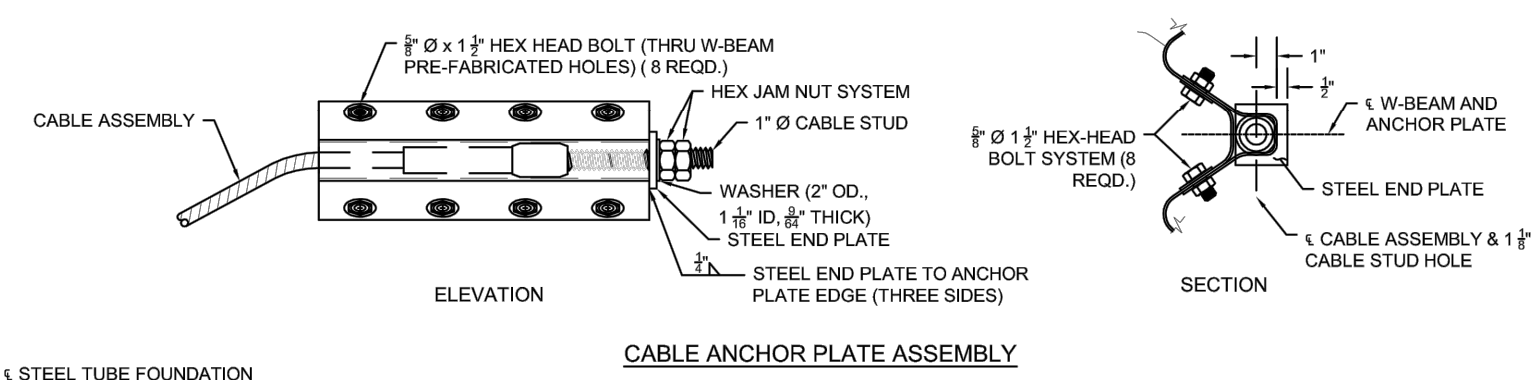
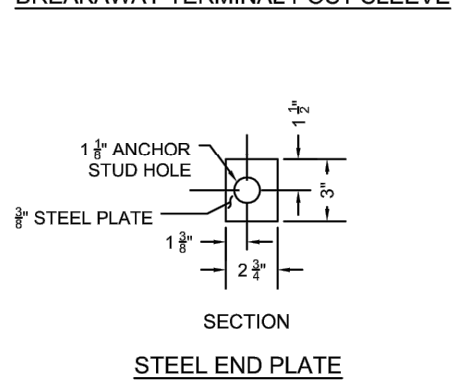
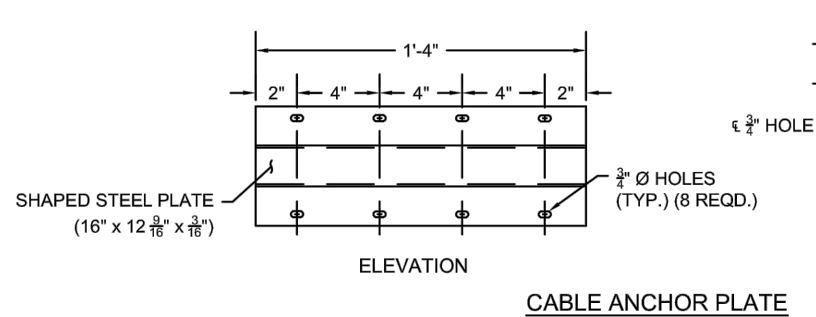
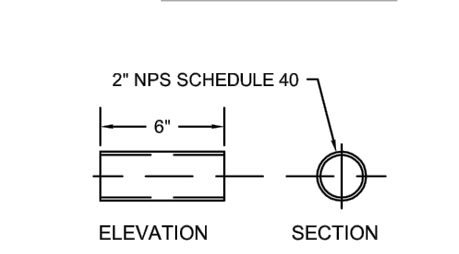
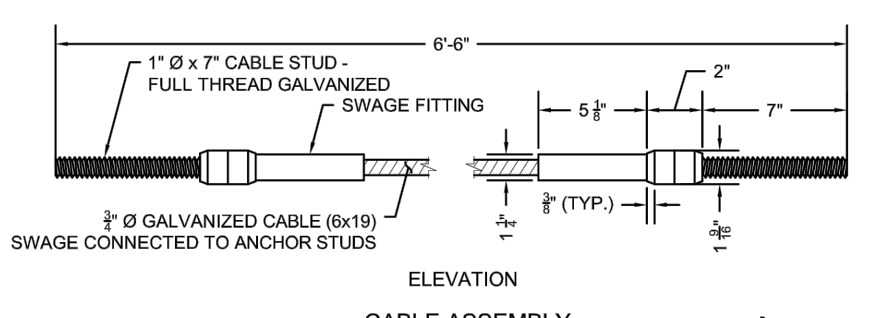
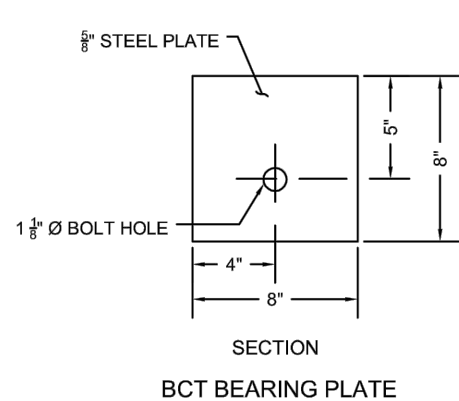
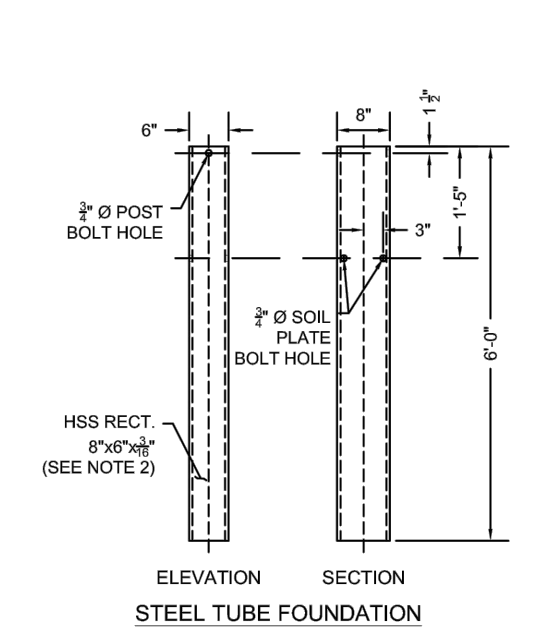
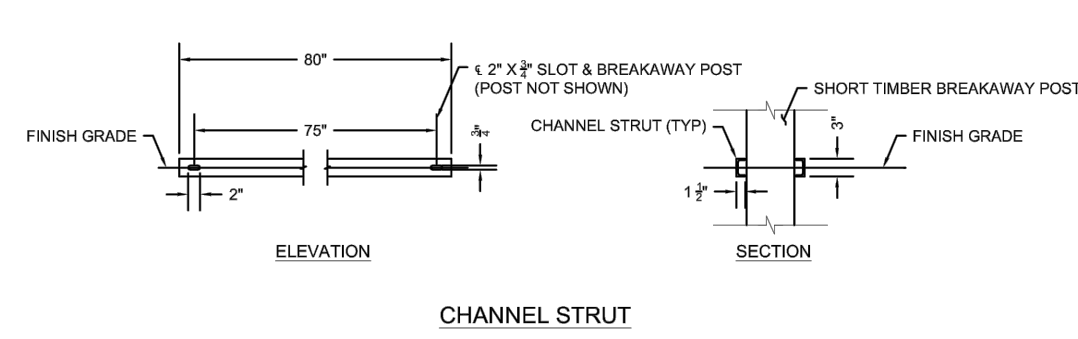
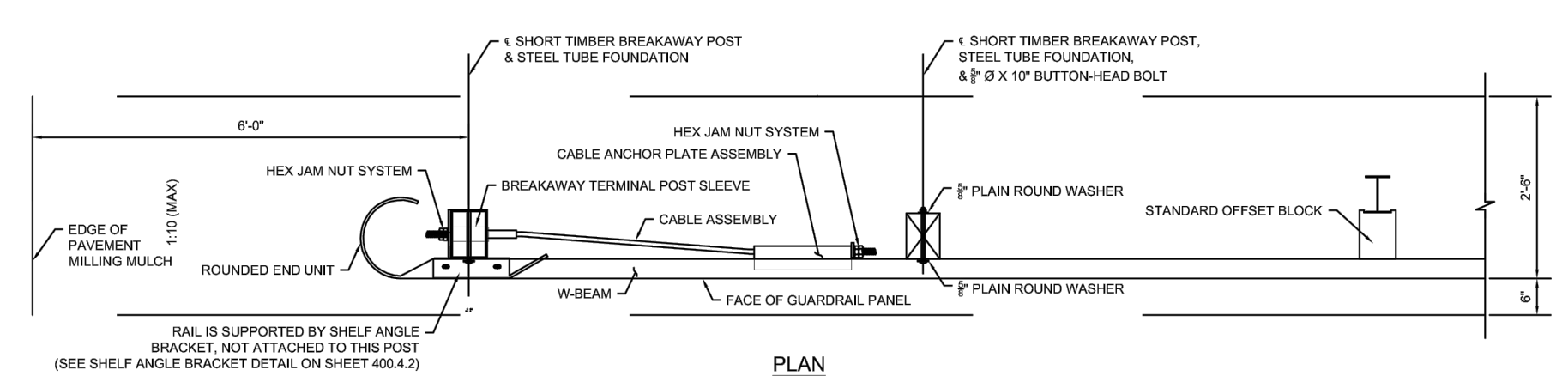
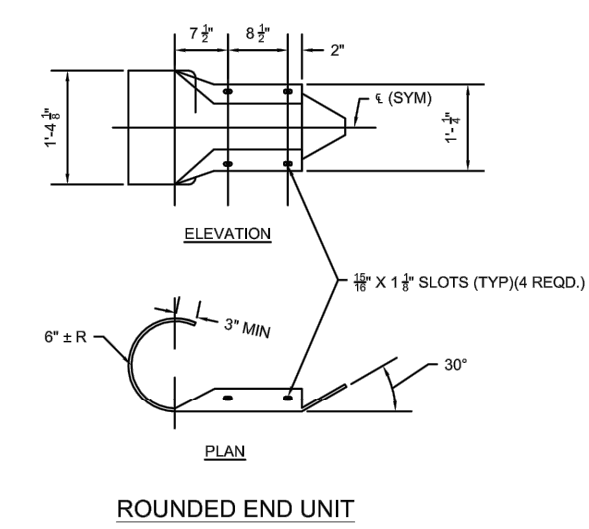
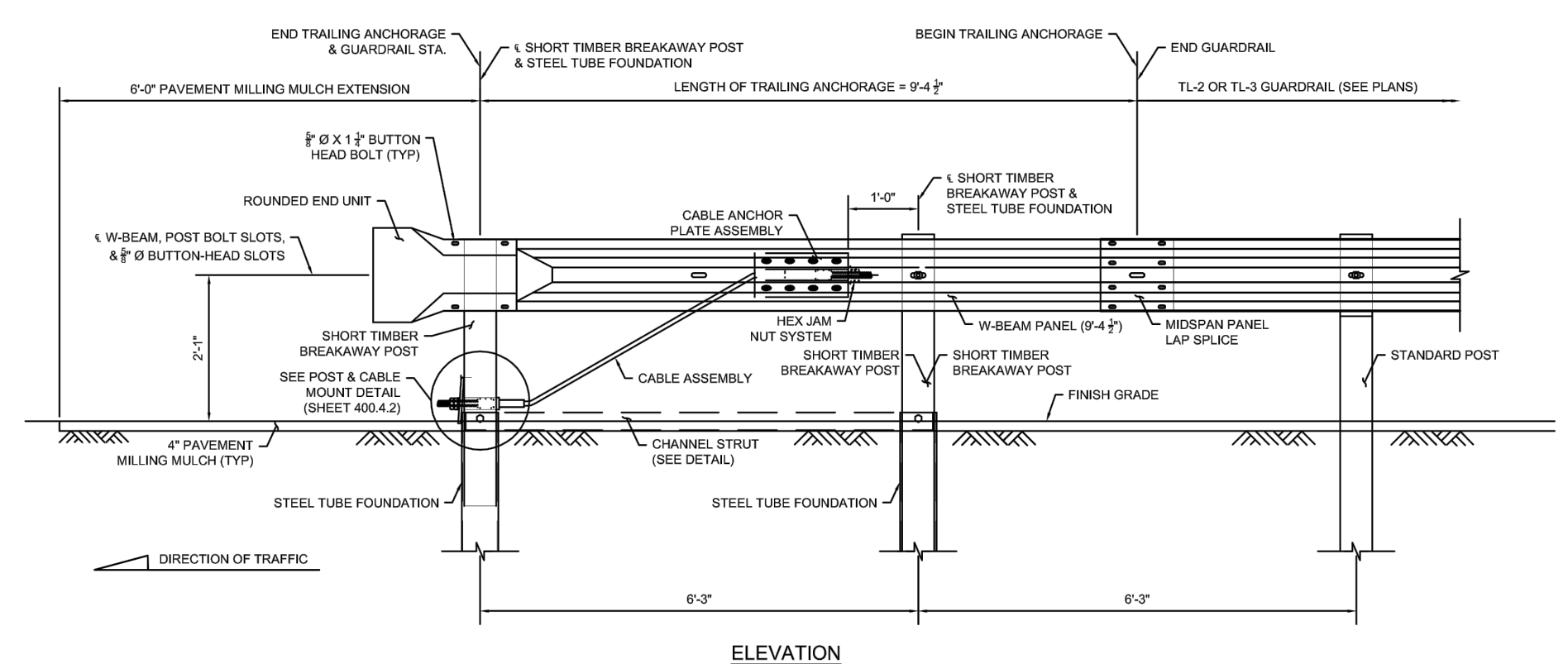
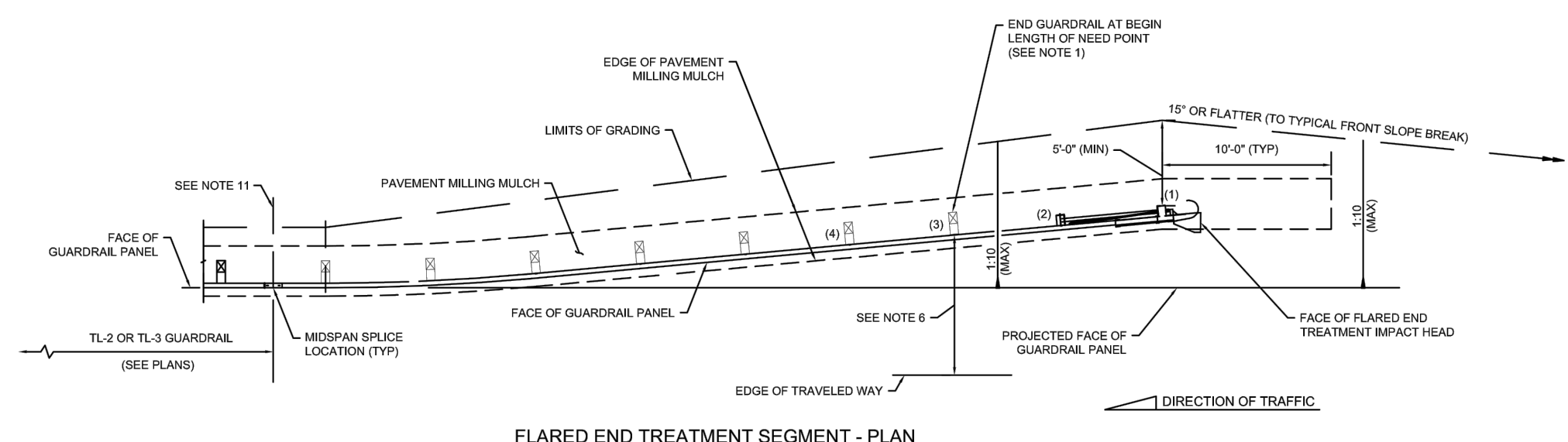
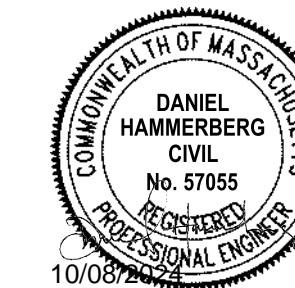
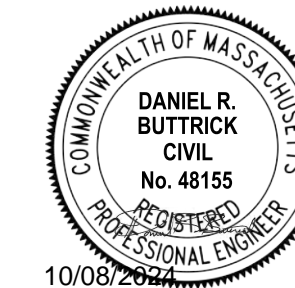
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HIGHWAY GUARDRAIL DETAILS (SHEET 2 OF 2)

SCALE: NO SCALE

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**NOTES:**

1. INSTALL GUARDRAIL AT STATION AND OFFSET SHOWN IN THE PLANS. THE END OF THE GUARDRAIL SHOWN IN THE PLANS CORRESPONDS WITH THE BEGIN LENGTH OF NEED POINT FOR THE END TREATMENT (SHOWN AT POST 3 IN THESE STANDARDS, BUT MAY VARY BY MANUFACTURER).
2. PROPRIETARY END TREATMENTS MAY VARY IN SIZE AND SHAPE FROM WHAT IS DEPICTED IN THESE STANDARDS. HOWEVER, THE MAXIMUM SLOPES AND MINIMUM OFFSETS DIMENSIONED FROM THE POSTS SHOWN HEREIN SHALL STILL APPLY.
3. END TREATMENT TEST LEVEL AND TYPE (TANGENT OR FLARED) SHALL BE SPECIFIED IN THE PLANS.
4. CONSTRUCT TANGENT AND FLARED END TREATMENTS IN ACCORDANCE WITH THE MANUFACTURER'S UNIQUE DRAWING DETAILS, PROCEDURES, AND SPECIFICATIONS.
5. AT THE DISCRETION OF THE ENGINEER, THE FACE OF THE TANGENT END TREATMENT IMPACT HEAD MAY BE OFFSET UP TO 2'-0" FROM THE PROJECTED FACE OF GUARDRAIL TO MINIMIZE NUISANCE HITS. THE OFFSET SHALL OCCUR OVER THE ENTIRE LENGTH OF THE END TREATMENT UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER.
6. LATERAL OFFSET OF FLARED END TREATMENT SHALL BE DETERMINED BY THE DESIGN ENGINEER FOLLOWING THE METHODOLOGY FOUND IN THE ROADSIDE DESIGN GUIDE AND SHOULD FALL WITHIN THE ALLOWABLE TOLERANCES SPECIFIED BY THE MANUFACTURER. LATERAL OFFSET SHALL BE MEASURED FROM THE EDGE OF TRAVELED WAY TO THE FACE OF THE GUARDRAIL AT POST #3.
7. END TREATMENTS SHALL NOT TERMINATE CURVED W-BEAM SEGMENTS.
8. END TREATMENT IMPACT HEAD DELINEATION SHALL CONFORM TO 601.63.
9. INSTALL GRADING AS SHOWN HEREIN UNDER SEPARATE PAY ITEMS.
10. SEE 400.2.2 FOR APPROACH TERMINAL GEOMETRY FOR GUARDRAIL INSTALLED ADJACENT TO CURB AND DOUBLE FACED GUARDRAIL.
11. MAINTAIN 2'-0" (MIN) OFFSET TO FRONT SLOPE BREAK DOWNSTREAM OF MIDSPAN SPLICE LOCATION AT ALL TIMES. IF, DOWNSTREAM OF THE SPLICE, GRADING CONSTRAINTS INHIBIT THIS MINIMUM OFFSET THEN USE DEEP STEEL POSTS AND TRANSITION TO A SLOPE BREAK CONDITION DESIGN PER THE DETAIL IN 400.1.5 UNTIL THE 2'-0" OFFSET CAN BE MET.

**NOTES:**

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

**NOTES:**

1. ALL DIMENSIONS OF STANDARD GUARDRAIL COMPONENTS, INCLUDING PANELS, POSTS, OFFSET BLOCKS, BOLTS, NUTS, WASHERS AND HOLES, ARE BASED UPON ENGLISH UNIT CONVERSIONS OF THE AASHTO-ARTBA-AGC JOINT COMMITTEE TASK FORCE 13 REPORT: A GUIDE TO STANDARDIZING HIGHWAY BARRIER HARDWARE (<http://www.aashtotf13.org/Barrier-Hardware.php>).
2. ALL GUARDRAIL MATERIALS SHALL CONFORM TO M8.07.0 UNLESS OTHERWISE INDICATED.
3. APPROVAL BY THE ENGINEER IS REQUIRED WHERE A DIFFERING GUARDRAIL CONFIGURATION IS REQUIRED FOR CONSTRUCTABILITY BEYOND THE OPTIONS SHOWN IN THESE STANDARDS OR THE PLANS.
4. THE BEGIN OR END STATION LABELS SHOWN IN THESE STANDARDS CORRESPOND TO THE STATION AND OFFSET CALLOUTS SPECIFIED IN THE PLANS.
5. USE 12'-6" NOMINAL LENGTH PANELS UNLESS OTHERWISE INDICATED IN THESE STANDARDS OR THE PLANS.
6. ALL LAP SPLICES SHALL BE MIDSPAN UNLESS OTHERWISE SHOWN.
7. LAP SPLICES SHALL BE CONSTRUCTED WITH THE SPLICE RIDGE ORIENTED DOWNSTREAM OF THE FINAL DIRECTION OF TRAFFIC IN THE NEAREST TRAVEL LANE. REORIENTING LAP SPLICES FOR TEMPORARY TRAFFIC CONTROL IS NOT REQUIRED.
8. STANDARD POSTS SHALL BE STEEL OR TIMBER, UNLESS OTHERWISE INDICATED IN THE PLANS, FABRICATED TO THE DIMENSIONS SHOWN ON 400.1.4. POSTS OF A SINGLE MATERIAL TYPE SHALL BE USED THROUGHOUT AN ENTIRE RUN OF GUARDRAIL; EXCEPTIONS ARE ALLOWED ONLY WHEN SPECIFIC MATERIAL TYPES ARE REQUIRED FOR TRANSITIONS, END TREATMENTS, AND/OR ANCHORAGES.
9. DEEP POST SHALL ONLY BE USED WHERE INDICATED IN THESE STANDARDS OR THE PLANS.
10. OFFSET BLOCKS, WHERE REQUIRED, SHALL BE TIMBER AND FABRICATED TO THE NOMINAL DIMENSIONS SHOWN ON 400.1.4. PLASTIC OR COMPOSITE OFFSET BLOCKS OF THE SAME NOMINAL DIMENSIONS THAT ARE LISTED ON THE QUALIFIED CONSTRUCTION MATERIALS LIST MAY BE SUBSTITUTED. OFFSET BLOCKS OF A SINGLE MATERIAL TYPE SHALL BE USED THROUGHOUT AN ENTIRE RUN OF GUARDRAIL; EXCEPTIONS ARE ALLOWED ONLY WHEN SPECIFIC MATERIAL TYPES ARE REQUIRED FOR TRANSITIONS, END TREATMENTS, AND/OR ANCHORAGES.
11. PAVEMENT MILLING MULCH, WHERE CALLED FOR IN THE STANDARDS, SHALL CONFORM TO SECTION 739.
12. GUARDRAIL DELINEATORS, CONFORMING TO SECTION 601, SHALL BE INSTALLED AT 25' INTERVALS WITHIN 100' OF AN END TREATMENT OR TRAILING ANCHORAGE AND AT 100' INTERVALS IN ALL OTHER AREAS UNLESS OTHERWISE SHOWN IN THE PLANS.
13. MINIMUM OFFSET DISTANCE FROM FACE OF W-BEAM PANEL TO A FIXED (NON-BREAKAWAY) OBJECT SHALL BE 48' FOR TL-2 AND 60' FOR TL-3.

**MASSDOT STANDARD DETAILS:**  
**MASSDOT 2017 CONSTRUCTION STANDARD**  
**DETAILS, 400.1.0, 400.3.6, 400.4.1, 400.4.2**

**Schoolhouse Dam Removal Project**

Massachusetts Division of Fisheries and Wildlife

Sutton, Massachusetts

MARK	DATE	DESCRIPTION
A	9/2024	Issued For Bidding

PROJECT NO: M-0944-039  
 DATE: 9/2024  
 FILE: M-0944-039-06-MaDOT-DETAILS.dwg  
 DRAWN BY: GNM,LPT  
 CHECKED BY: DHM,DRB  
 APPROVED BY: CDH

GUARDRAIL APPROACH GEOMETRY

SCALE: NO SCALE

C-209 SHEET 17 OF 17

Last Saved: 9/23/2024, 1:36pm By: daniel.hammerberg  
 Title: Schoolhouse Dam Removal Project - Guardrail Details  
 Path: C:\Users\dhammerberg\OneDrive - Tighe & Bond\Documents\Schoolhouse Dam Removal Project - Guardrail Details.dwg

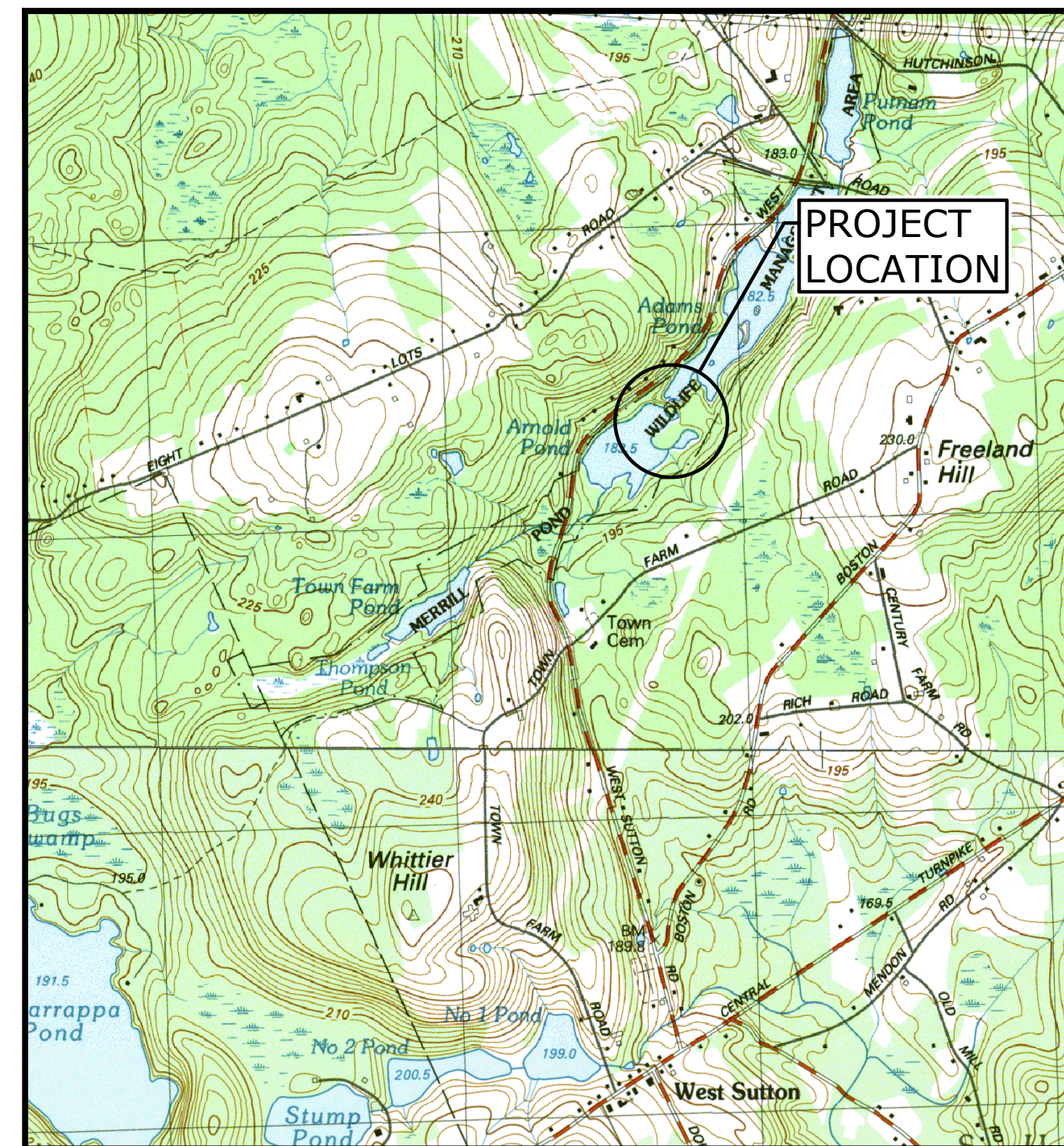
# MASSACHUSETTS DIVISION OF FISHERIES AND WILDLIFE

# ARNOLD POND DAM REMOVAL PROJECT

## SUTTON, MASSACHUSETTS

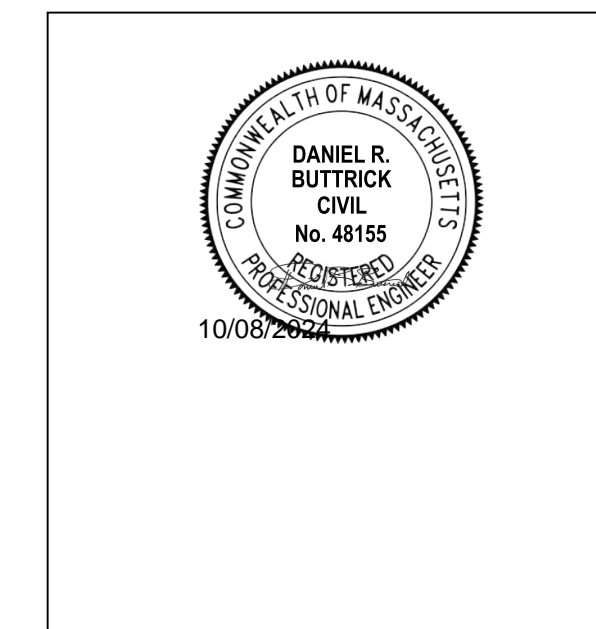
## OCTOBER 2024

INDEX OF SHEETS		
SHEET	SHEET NUMBER	SHEET TITLE
GENERAL		
1	G-001	COVER SHEET
2	G-002	GENERAL NOTES, ABBREVIATIONS, AND LEGEND
CIVIL		
3	C-101	EXISTING CONDITIONS PLAN
4	C-102	SITE PREPARATION AND DEMOLITION PLAN
5	C-103	PROPOSED CONDITIONS PLAN
6	C-201	EROSION, SEDIMENT, AND WATER CONTROL DETAILS
7	C-202	MISCELLANEOUS DETAILS
STRUCTURAL		
8	S-201	PEDESTRIAN BRIDGE PLAN AND PROFILE VIEW
9	S-202	PEDESTRIAN BRIDGE AND ABUTMENT DETAILS

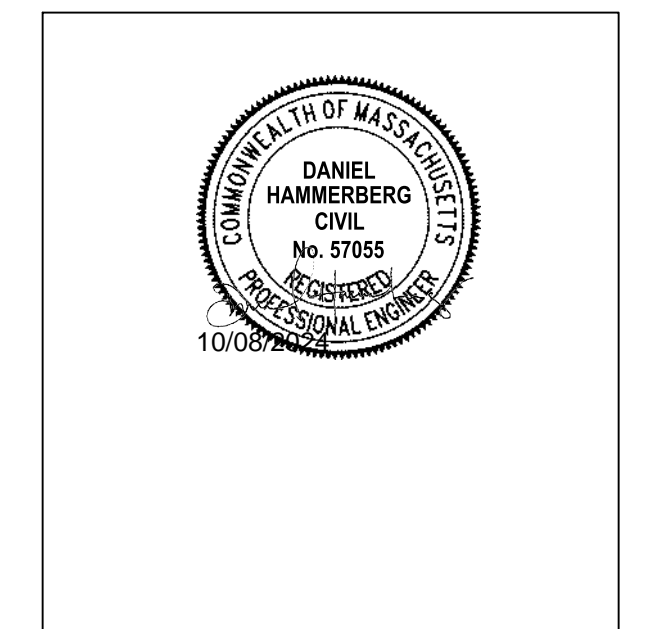


LOCATION MAP  
SCALE: 1" = 2000'

PREPARED BY:  
**Tighe&Bond**



DANIEL R. BUTTRICK, PE

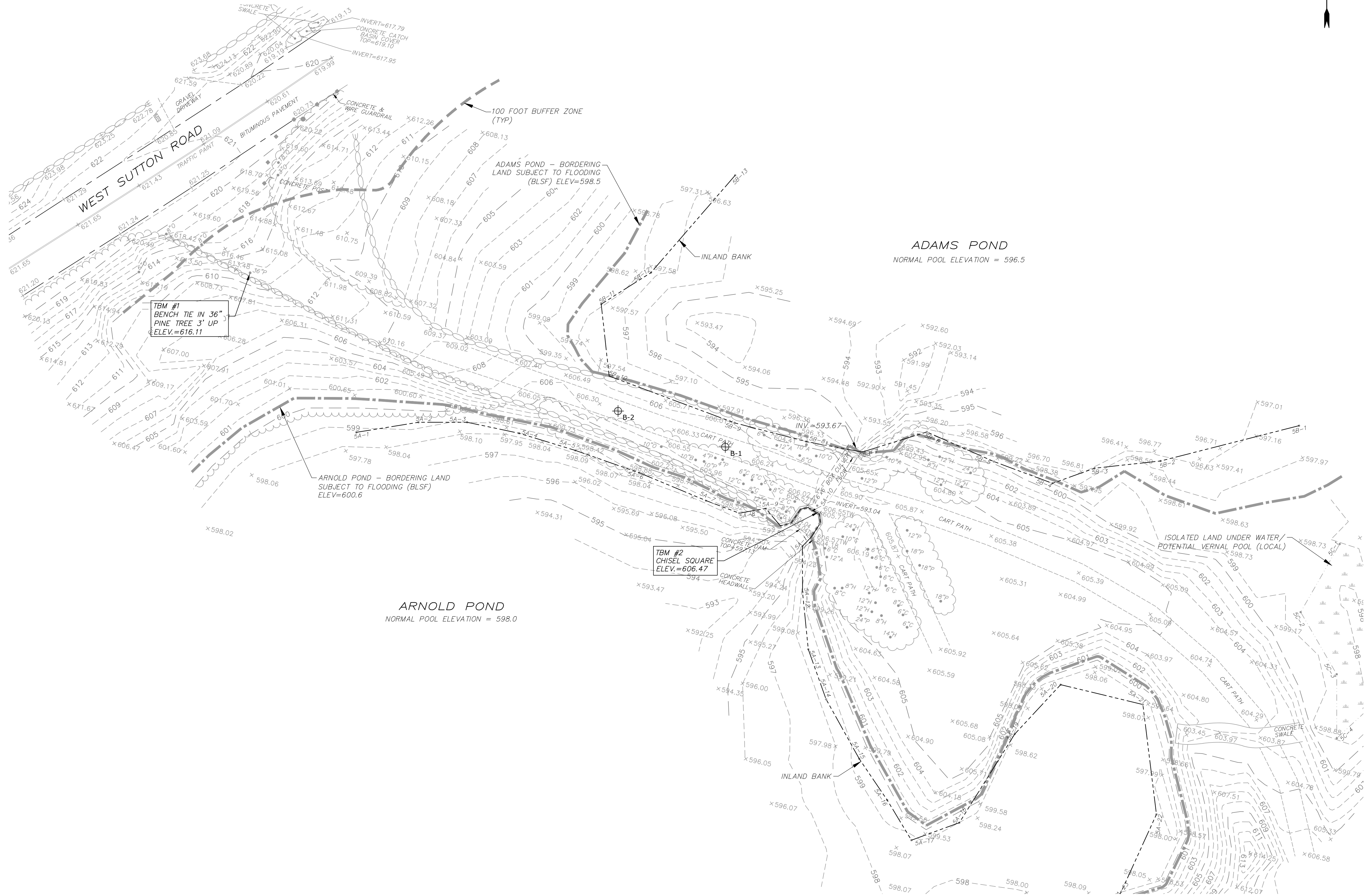
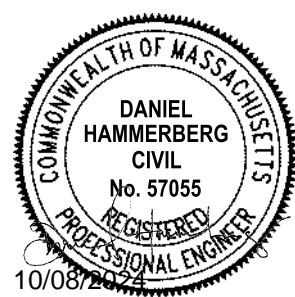
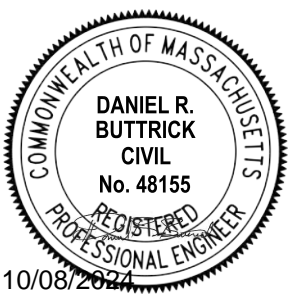
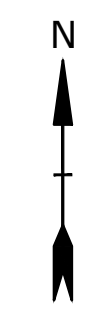


DANIEL R. HAMMERBERG, PE

PREPARED FOR:  
MASSACHUSETTS DIVISION OF FISHERIES & WILDLIFE  
CALEB SLATER, PhD, CHIEF OF HATCHERIES

**COMPLETE SET 9 SHEETS**





TBM #1  
BENCH TIE IN 36"  
PINE TREE 3' UP  
ELEV.=616.11

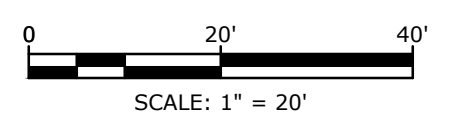
TBM #2  
CHISEL SQUARE  
ELEV.=606.47

ARNOLD POND - BORDERING LAND  
SUBJECT TO FLOODING (BLSF)  
ELEV.=600.6

ARNOLD POND  
NORMAL POOL ELEVATION = 598.0

ADAMS POND  
NORMAL POOL ELEVATION = 596.5

OVERVIEW OF PROJECT  
1" = 20'



### Arnold Pond Dam Removal Project

Massachusetts  
Division of  
Fisheries and  
Wildlife

Sutton,  
Massachusetts

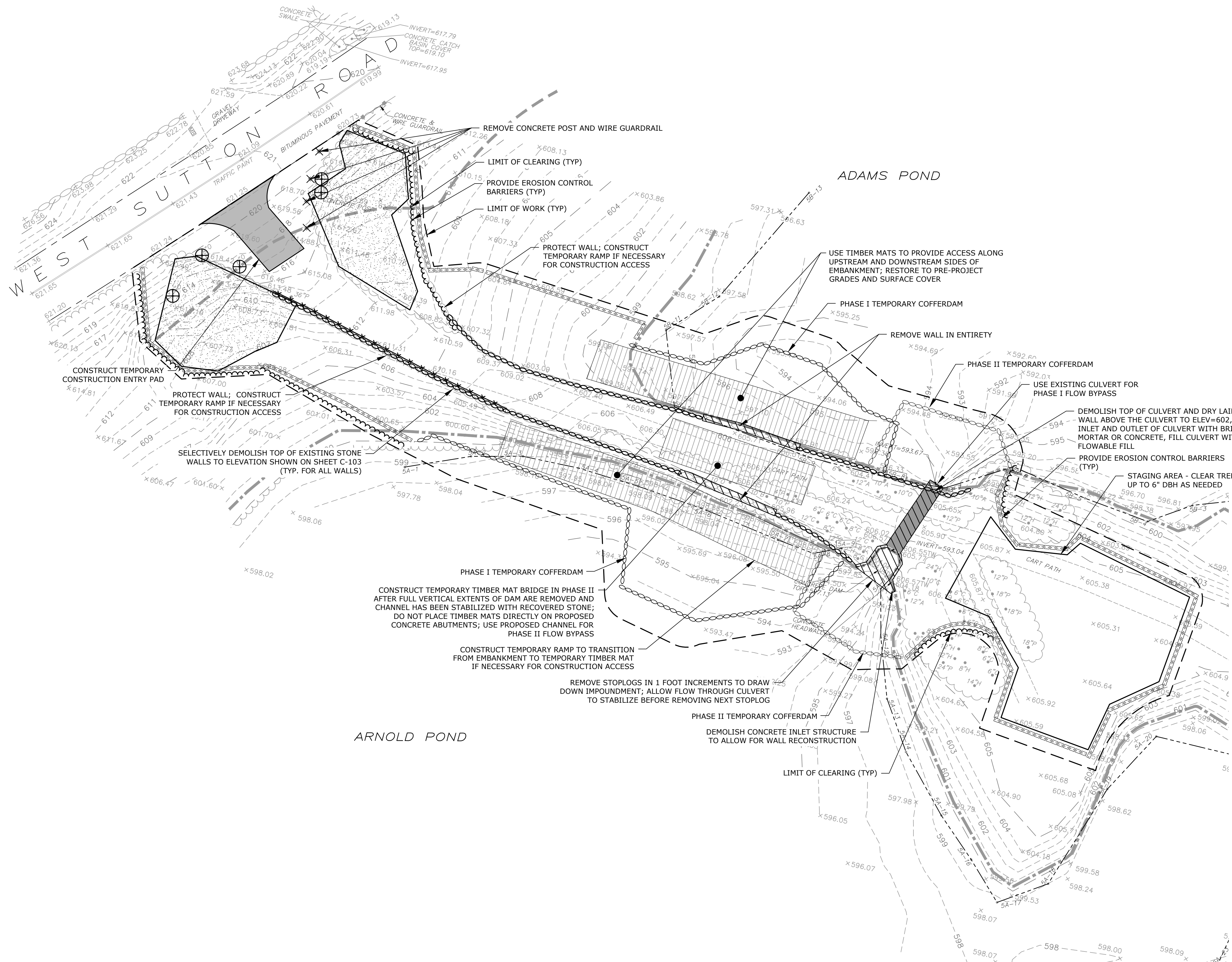
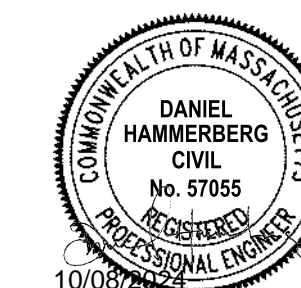
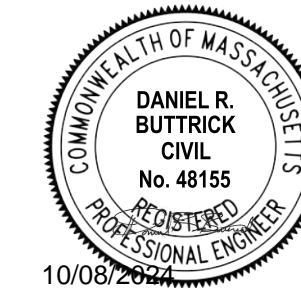
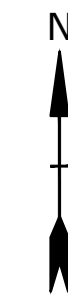
MARK	DATE	DESCRIPTION
1	10/24	Issued For Bidding

EXISTING CONDITIONS PLAN

SCALE: 1" = 20'

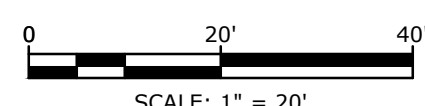
C-101  
SHEET 3 OF 9

Last Saved: 9/30/2024  
Plotted On: Oct 03, 2024 12:58pm By: Dhammerberg  
Tighe & Bond 23 Win0944 Mass DGS094.DWG Danis Arnold Pond Dam Drawings - Figures AutoCAD Sheet C-101 EXISTING CONDITIONS PLAN.dwg



LAST SAVED: 10/2/2024 10:23:58 AM BY: DHAMMERBERG  
 PLOTTED ON: 10/2/2024 10:24:12 AM  
 TIGHE & BOND: 23:10:09 44 Mass DGS/DPS/DPW Dennis Arnold Pond Dam Drawings - Figures AutoCAD Sheet C-102 SITE PREPARATION AND DEMOLITION PLAN.dwg

**OVERVIEW OF PROJECT**  
1" = 20'



- NOTES:**
1. REMOVE FULL VERTICAL EXTENT OF DAM THROUGH THE PROPOSED BRIDGE OPENING.
  2. COFFERDAM, WATER CONTROL, ACCESS ROAD USE AND PHASING TO BE DETERMINED BY CONTRACTOR AND LIMITED TO AREAS SHOWN.
  3. MOST TREES TO BE CUT ARE NOT INDIVIDUALLY SHOWN.

**Arnold Pond Dam Removal Project**

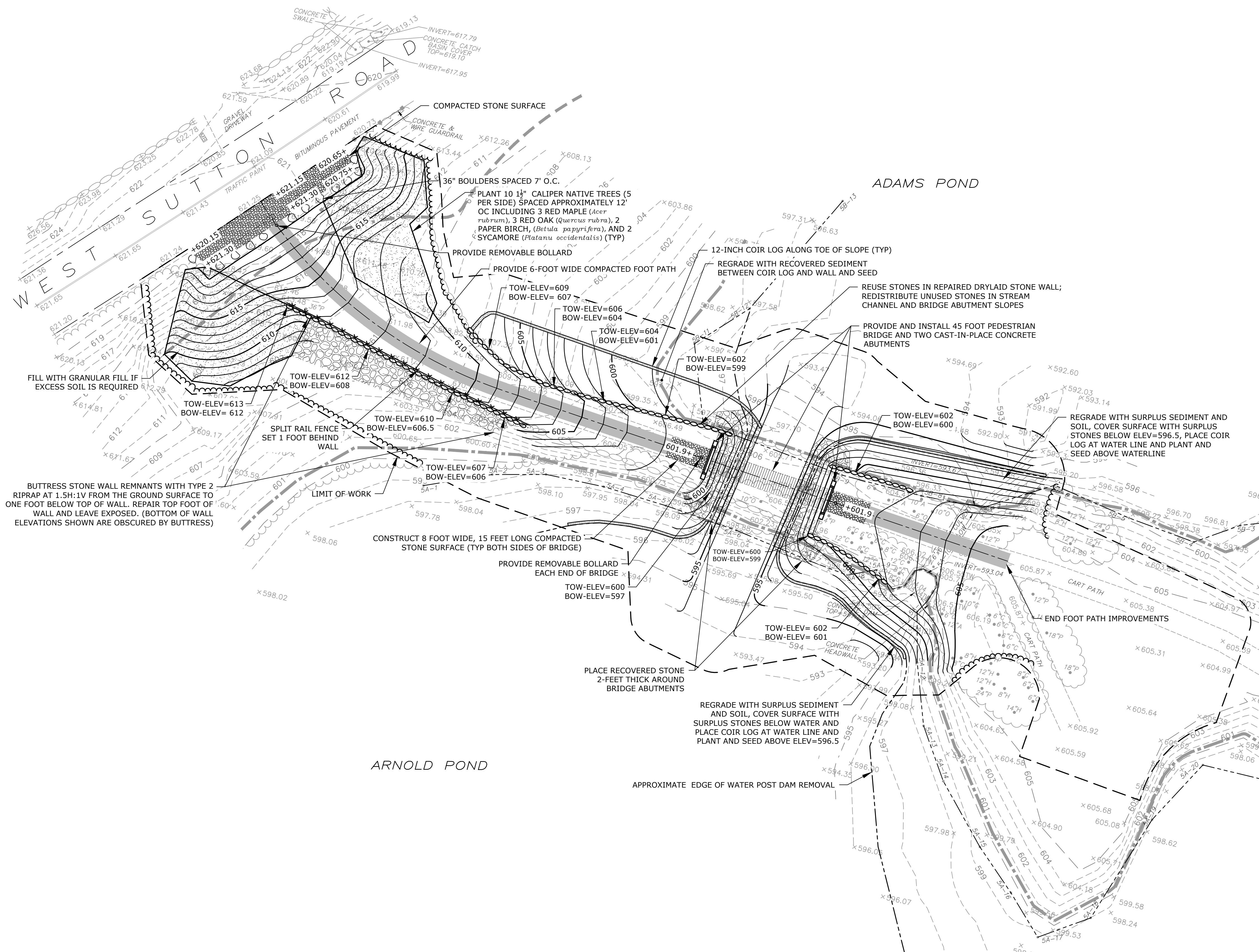
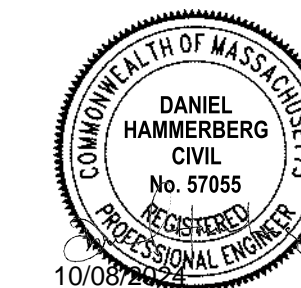
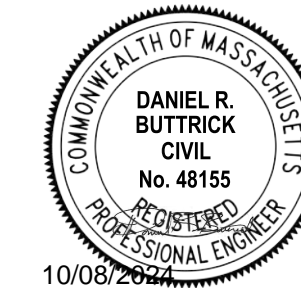
Massachusetts Division of Fisheries and Wildlife

Sutton, Massachusetts

MARK	DATE	DESCRIPTION
1	10/24	Issued For Bidding

PROJECT NO: M944-051  
 DATE: 10/2024  
 FILE: C-102 SITE PREPARATION AND DE  
 DRAWN BY: CMH  
 DESIGNED/CHECKED BY: DRH, DRB  
 APPROVED BY: DRB

SCALE: 1" = 20'



FILL WITH GRANULAR FILL IF EXCESS SOIL IS REQUIRED

TOW-ELEV=613  
BOW-ELEV=612

TOW-ELEV=610  
BOW-ELEV=608.5

SPLIT RAIL FENCE SET 1 FOOT BEHIND WALL

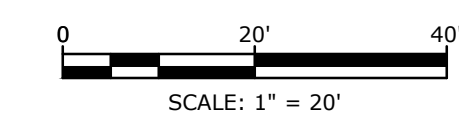
LIMIT OF WORK

TOW-ELEV=607  
BOW-ELEV=606

BUTTRESS STONE WALL REMNANTS WITH TYPE 2 RIPRAP AT 1.5H:1V FROM THE GROUND SURFACE TO ONE FOOT BELOW TOP OF WALL. REPAIR TOP FOOT OF WALL AND LEAVE EXPOSED. (BOTTOM OF WALL ELEVATIONS SHOWN ARE OBSCURED BY BUTTRESS)

ARNOLD POND

- NOTES:
- DISTURBED VEGETATED AREAS SHALL BE RESTORED WITH NEW ENGLAND RESTORATION MIX FOR DRY SITES AND 100% BIODEGRADABLE EROSION CONTROL BLANKETS EXCEPT WHERE NOTED OTHERWISE.
  - CHINK VOIDS IN STONE WALL TO REMAIN.
  - AS MITIGATION FOR TREE REMOVAL REQUIRED BY THE SUTTON PUBLIC SHADE TREE PERMIT, PLANT 3 SUGAR MAPLES (*Acer saccharum*), 4 LONDON PLANETREE (*Plantanus acerfolia*), 4 TULIPTREE (*Liriodendron tulipifera*), AND 4 WHITE OAK (*Quercus alba*) OF 1 1/2" DBH AT ARMSBY ROAD CEMETERY, IN LOCATIONS DETERMINED BY TREE WARDEN. SPECIES SUBSTITUTIONS ARE ACCEPTABLE DEPENDING ON NURSERY STOCK. SPECIES SUBSTITUTIONS MUST BE APPROVED BY THE SUTTON TREE WARDEN. ARMSBY CEMETERY IS LOCATED AT 20 ARMSBY ROAD, SUTTON, MA 01590.



### Arnold Pond Dam Removal Project

Massachusetts Division of Fisheries and Wildlife

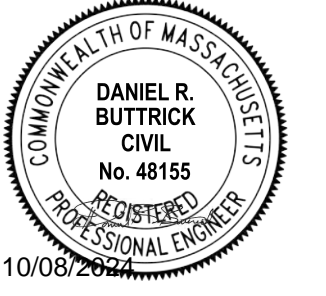
Sutton, Massachusetts


1	10/24	Issued For Bidding
MARK	DATE	DESCRIPTION
PROJECT NO:	M944-051	
DATE:	10/2024	
FILE:	C-103 PROPOSED CONDITIONS PLA	
DRAWN BY:	CMH,LPT	
DESIGNED/CHECKED BY:	DRH,DRB	
APPROVED BY:	DRB	

### PROPOSED CONDITIONS PLAN

SCALE: 1" = 20'

Last Saved: 10/2/2024 12:58pm By: Dhammerberg  
 Plotted On: Oct 03, 2024 12:58pm  
 Title: Arnold Pond Dam Removal Project  
 Figure: AutoCAD Sheet C-103 PROPOSED CONDITIONS PLAN.dwg



**Arnold Pond Dam Removal Project**

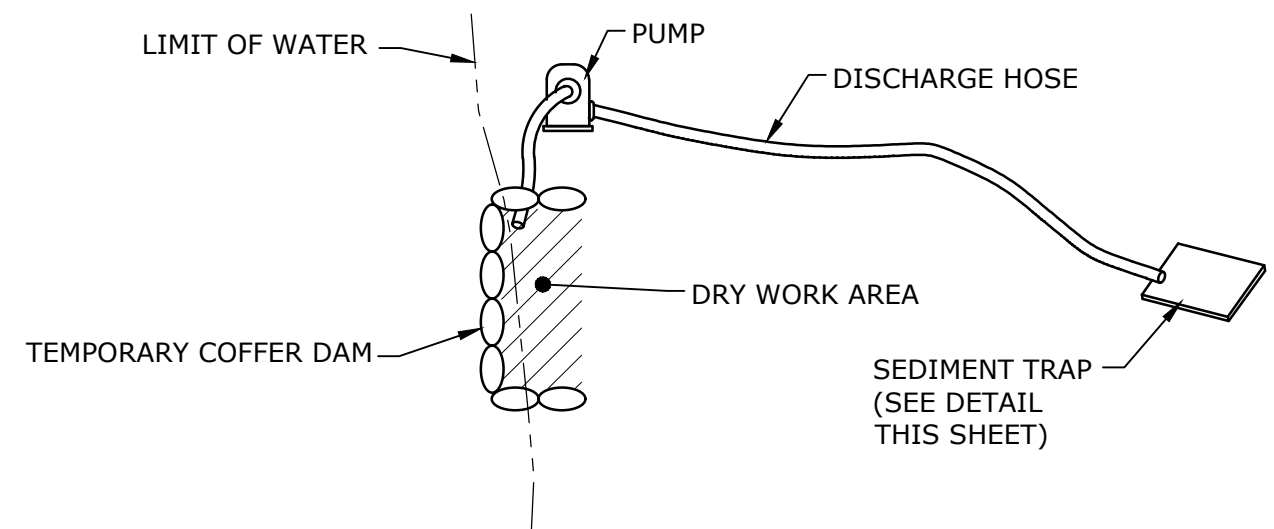
Massachusetts Division of Fisheries and Wildlife

Sutton, Massachusetts


1	10/24	Issued For Bidding
MARK	DATE	DESCRIPTION
PROJECT NO:	M944-051	
DATE:	10/2024	
FILE:	C-201 EROSION, SEDIMENT, AND	
DRAWN BY:	CMH,LPT	
DESIGNED/CHECKED BY:	DRH,DRB	
APPROVED BY:	DRB	

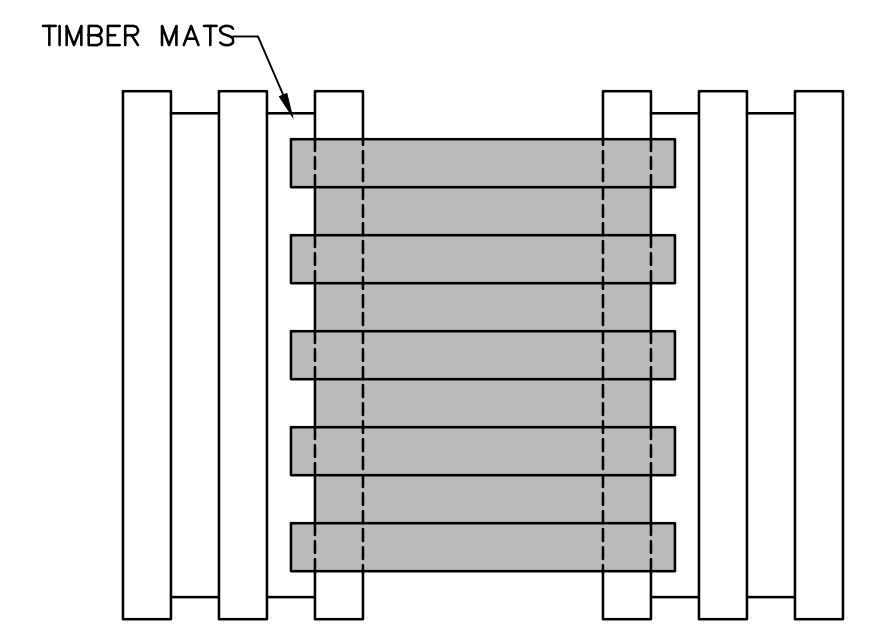
**EROSION, SEDIMENT, AND WATER CONTROL DETAILS**

SCALE: AS SHOWN



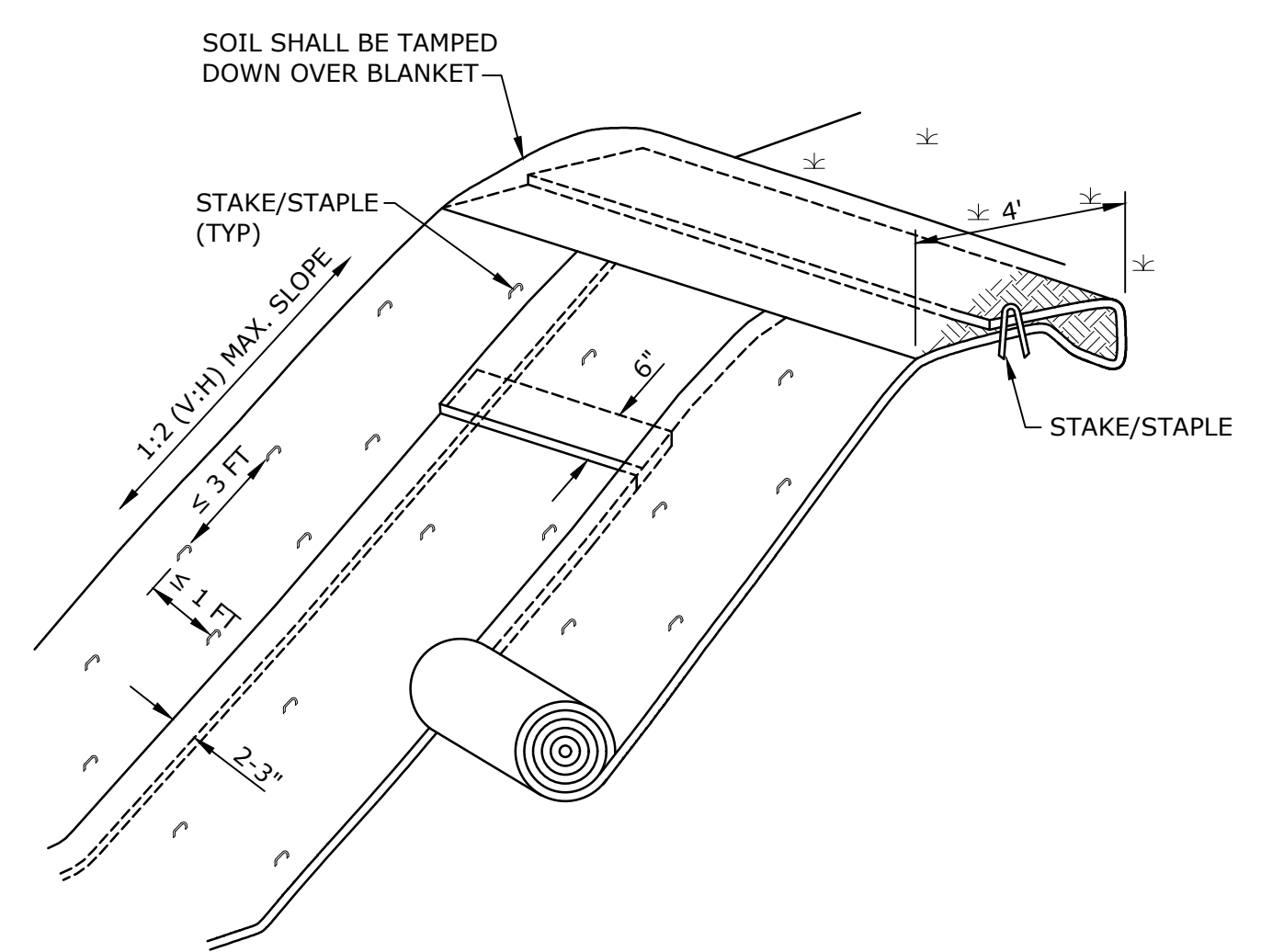
- NOTES:**
- DEWATERING EQUIPMENT SHALL REMAIN WITHIN THE PERMANENTLY IMPACTED AREAS AND SHALL DISCHARGE OUTSIDE OF THE WETLAND BOUNDARY.
  - DISCHARGE HOSE SHALL NOT CROSS THE STREAM AT ANY LOCATION.

**COFFERDAM AND DEWATERING**  
NO SCALE



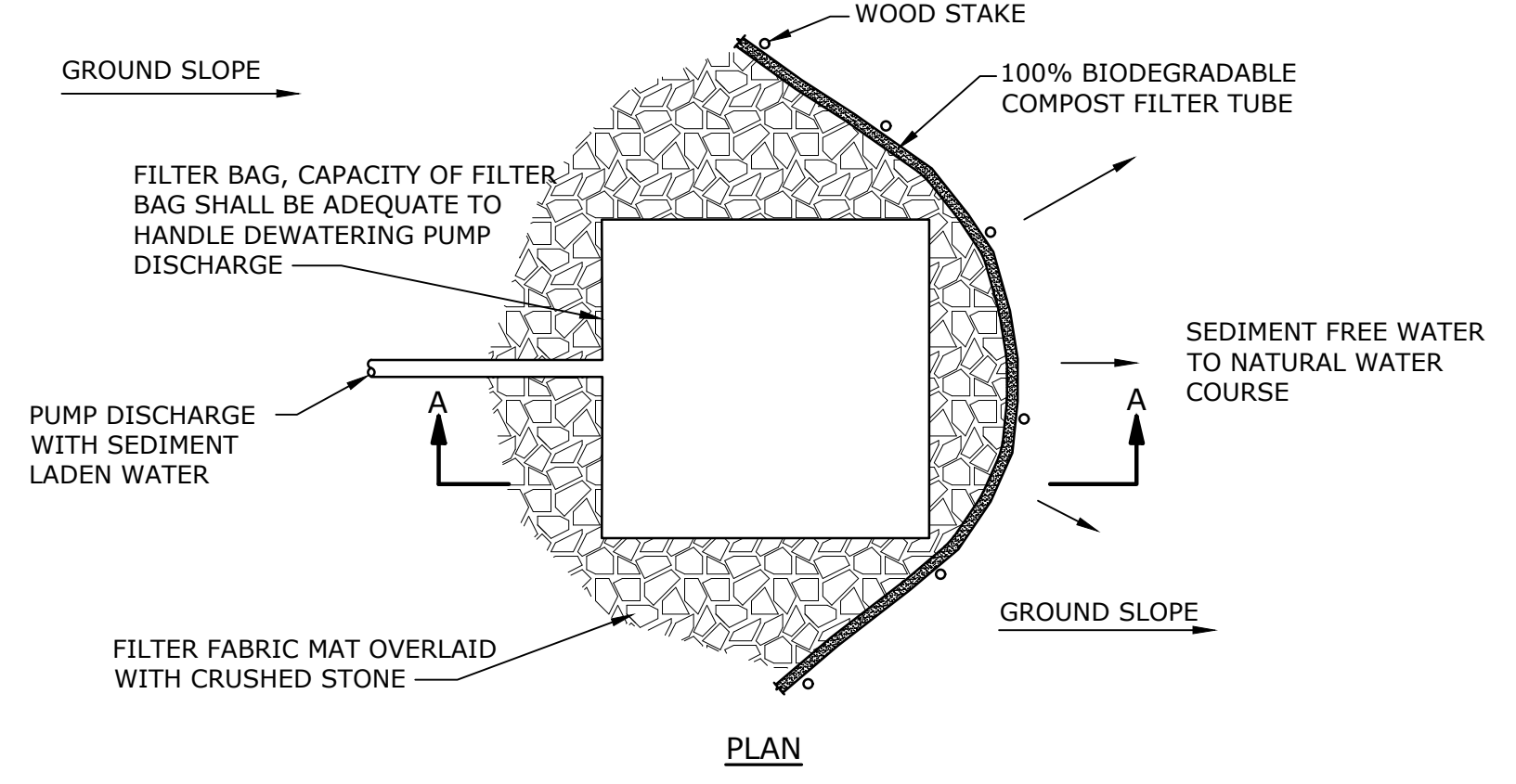
**TYPICAL TIMBER MATS IN WETLANDS AREA**  
NO SCALE

- NOTES:**
- TIMBER MATS SHALL BE PLACED CLOSELY TOGETHER SO THERE ARE NO GAPS BETWEEN EACH MAT SECTION.
  - ADDITIONAL MEASURES MAY BE REQUIRED.
  - USE TIMBER MATS FOR TEMPORARY ACCESS, WHERE WORK WILL BE CONTINUOUS, IN WET OR SOFT AREAS.
  - BRIDGE EXCESSIVELY WET AREAS WITH MATS.

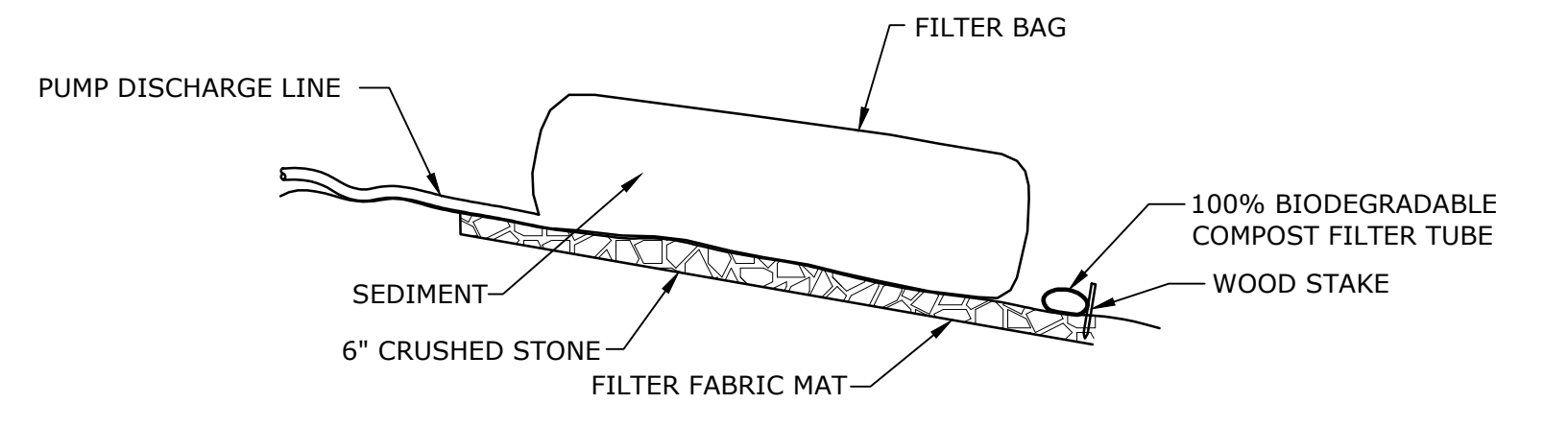


**EROSION CONTROL BLANKET**  
NO SCALE

- NOTES:**
- EROSION CONTROL BLANKET SHALL BE 100% BIODEGRADABLE.
  - EROSION CONTROL BLANKET SHALL BE INSTALLED VERTICALLY DOWNSLOPE.
  - STAKES/STAPLES SHALL BE PLACED NO MORE THAN 3 FT APART VERTICALLY, AND 1 FT APART HORIZONTALLY.
  - SLOPE SURFACE SHALL BE FREE OF STICKS, ROCKS, AND OTHER OBSTRUCTIONS.
  - BLANKETS SHALL BE ROLLED OUT LOOSELY AND STAKED/STAPLED TO MAINTAIN DIRECT SOIL CONTACT. DO NOT STRETCH THE BLANKETS.

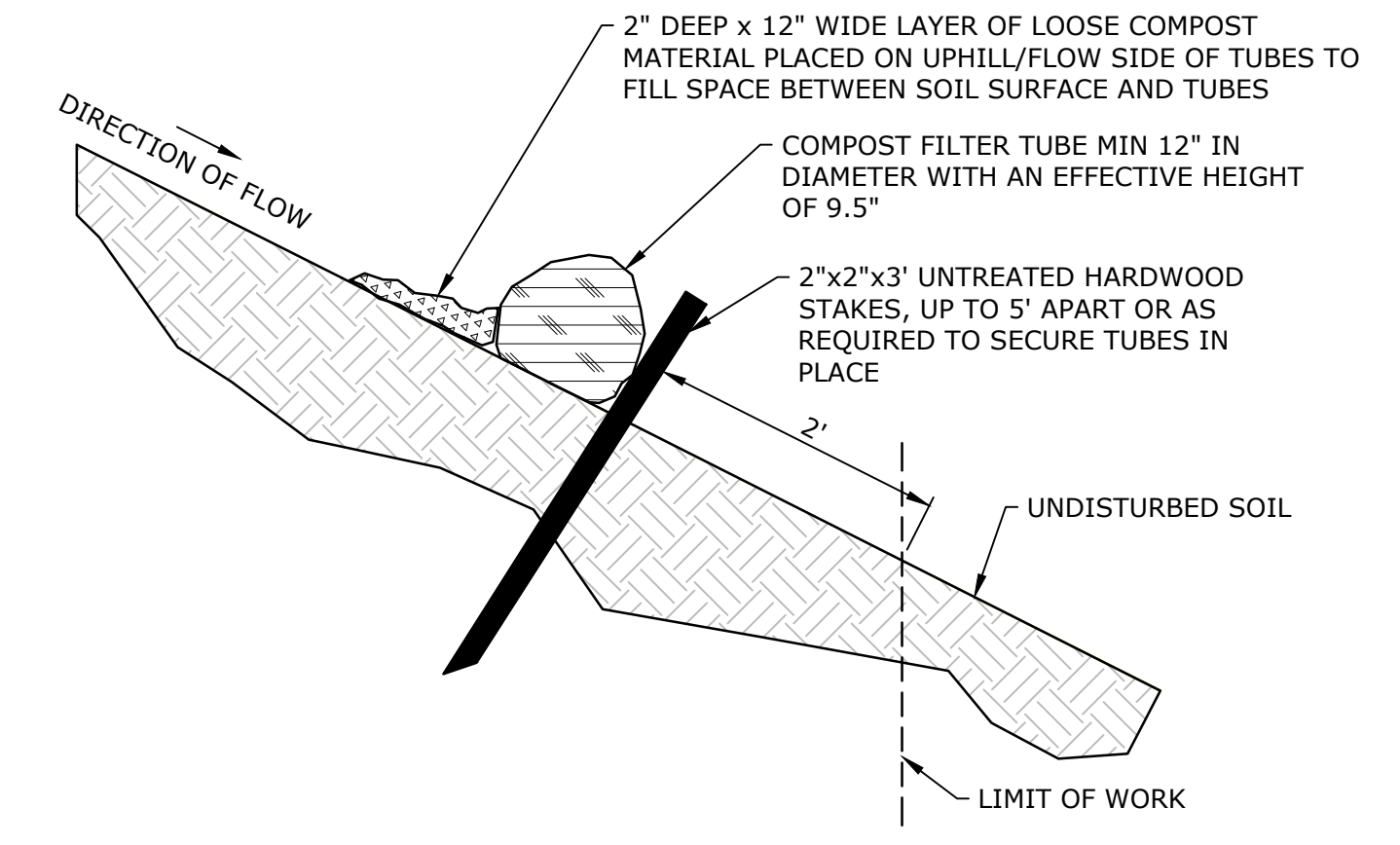


**PLAN**



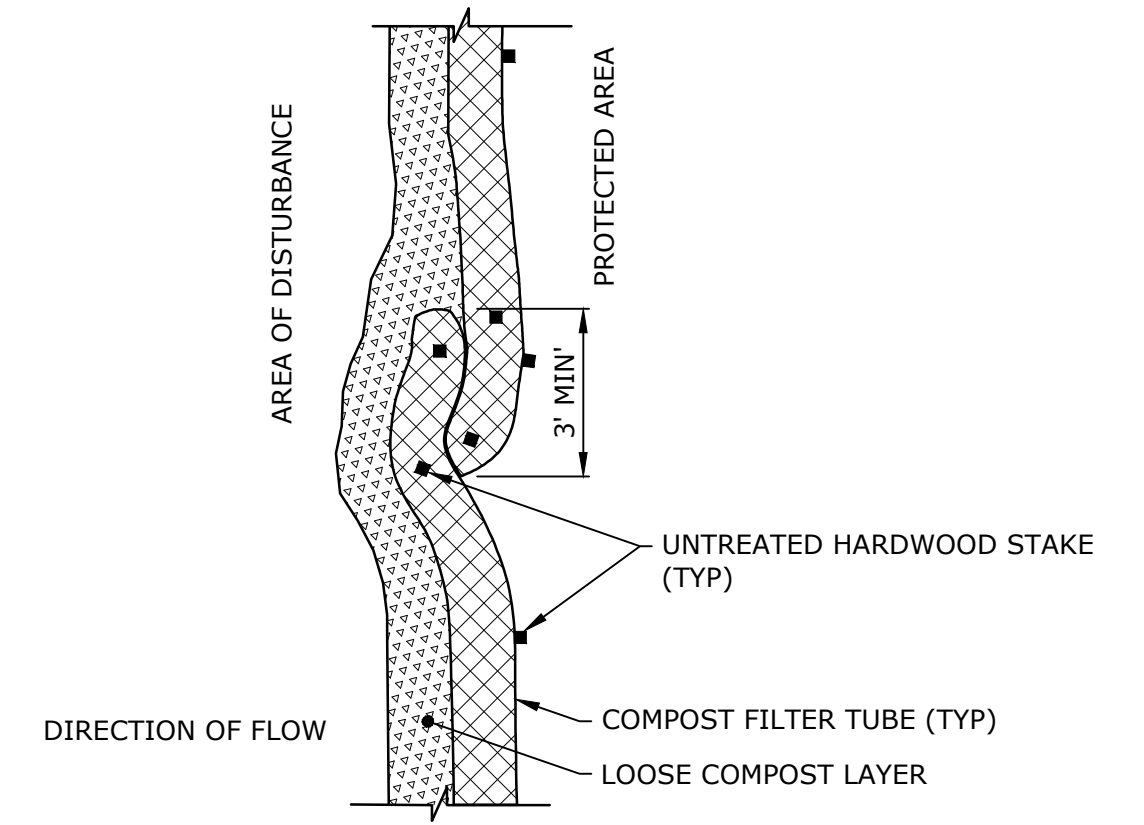
**SECTION A-A**

**SEDIMENT TRAP**  
NO SCALE



**SECTION VIEW**

- NOTES:**
- TUBES FOR COMPOST FILTERS SHALL BE JUTE MESH OR APPROVED BIODEGRADABLE MATERIAL. ADDITIONAL TUBES SHALL BE USED AT THE DIRECTION OF THE ENGINEER.
  - TAMP TUBES IN PLACE TO ENSURE GOOD CONTACT WITH SOIL SURFACE. IT IS NOT NECESSARY TO TRENCH TUBES INTO EXISTING GRADE.
  - WHEN STAKING IS NOT POSSIBLE, SUCH AS WHEN TUBES MUST BE PLACED ON PAVEMENT, HEAVY CONCRETE OR CINDER BLOCKS CAN BE USED BEHIND TUBES UP TO 5' APART OR AS REQUIRED TO SECURE TUBES IN PLACE.



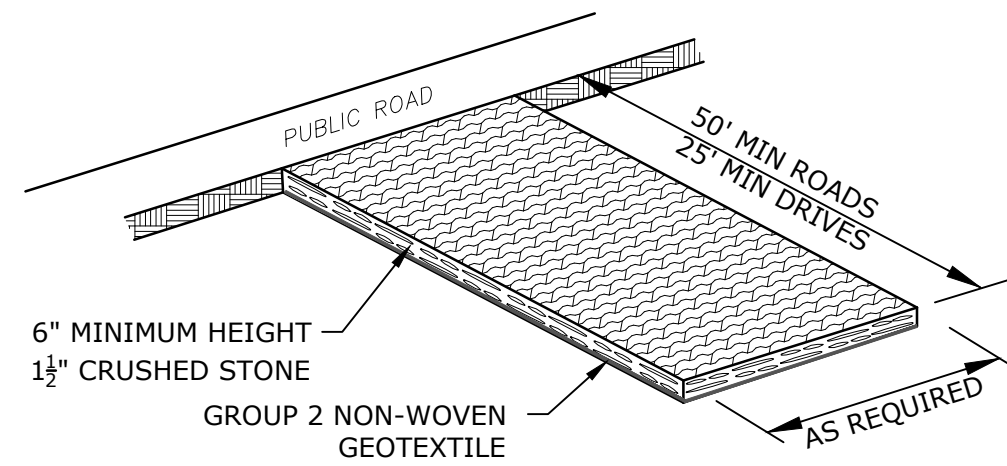
**PLAN VIEW - JOIN DETAIL**

**EROSION CONTROL BARRIER**  
**COMPOST FILTER TUBE**  
NO SCALE

- NOTES:**
- PROVIDE 3' MINIMUM OVERLAP AT ENDS OF TUBES TO JOIN IN A CONTINUOUS BARRIER AND MINIMIZE UNIMPEDED FLOW.
  - STAKE JOINING TUBES SNUGLY AGAINST EACH OTHER TO PREVENT UNFILTERED FLOW BETWEEN THEM.
  - SECURE ENDS OF TUBES WITH STAKES SPACED 18" APART THROUGH TOPS OF TUBES.

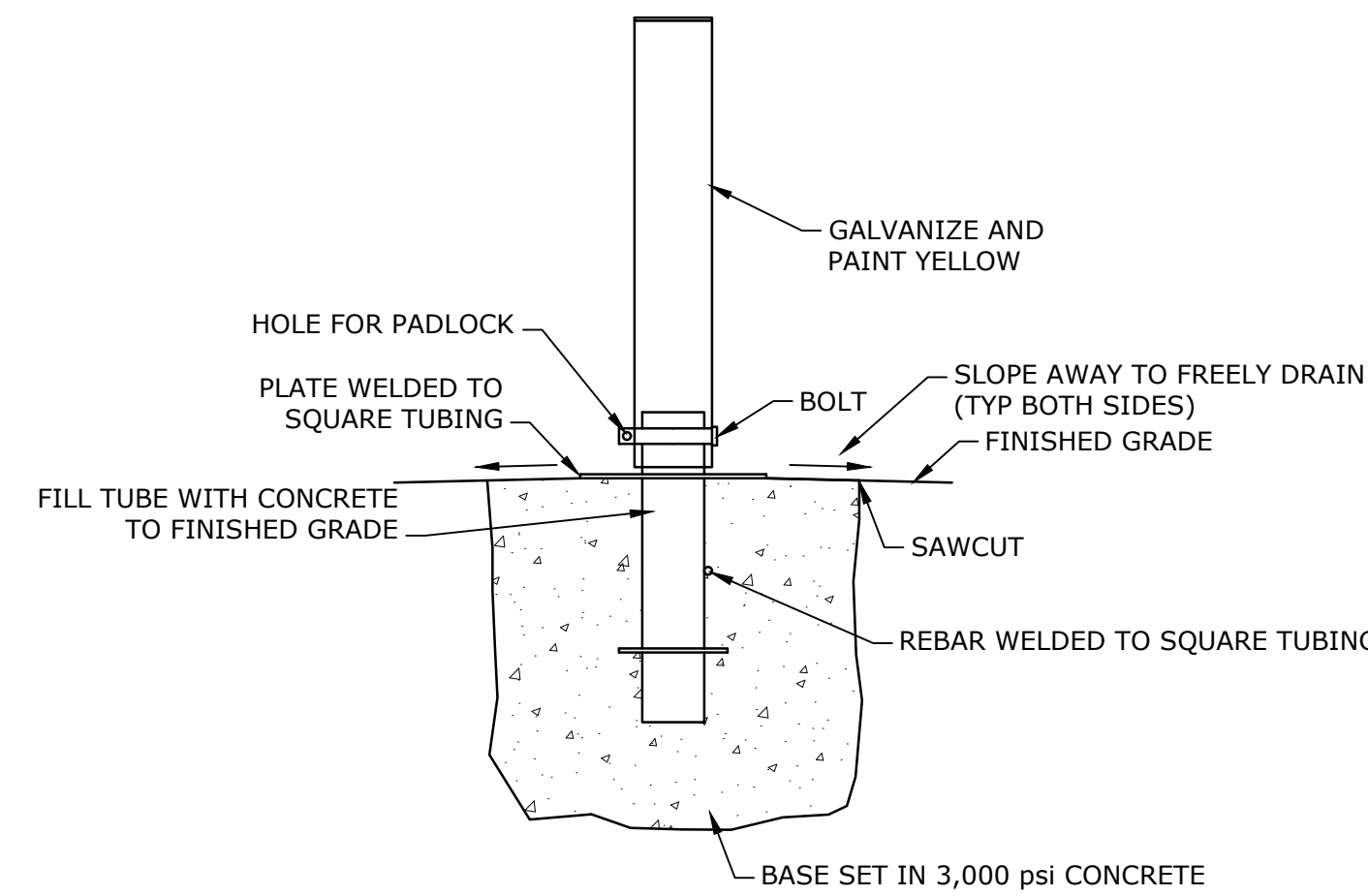
- GENERAL COMPOST FILTER TUBE NOTES:**
- PROVIDE A MINIMUM TUBE DIAMETER OF 12" FOR SLOPES UP TO 50' IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER SLOPES OR STEEPER SLOPES.
  - INSTALL TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
  - DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
  - CONFIGURE TUBES AROUND EXISTING SITE FEATURES TO MINIMIZE SITE DISTURBANCE AND MAXIMIZE CAPTURE AREA OF STORMWATER RUN-OFF.
  - TUBES CAN BE PLACED DIRECTLY ON EXISTING PAVEMENT WHEN NECESSARY.
  - PLACING TUBES AGAINST THE UPHILL SIDE OF WELL-ANCHORED, STATIONARY FEATURES SUCH AS EXISTING TREES, CAN PROVIDE ADDITIONAL BRACING.
  - CURVE ENDS UPHILL TO PREVENT DIVERSION OF UNFILTERED RUN-OFF.
  - STRAW WATTLES WITH A 100% BIODEGRADABLE MESH MAY BE SUBSTITUTED IN AREAS INACCESSIBLE FOR FILTER TUBE INSTALLATION EQUIPMENT.

Last Saved: 8/20/2024 12:58pm By: Dhammerberg  
 Plotted On: Oct 03, 2024 12:58pm  
 Tighe & Bond 3:11:09 PM 944 Mass Design DRW Dennis Arnold Pond Dam Drawings - Figures AutoCAD Sheet C-201 EROSION, SEDIMENT, AND WATER CONTROL DETAILS.dwg



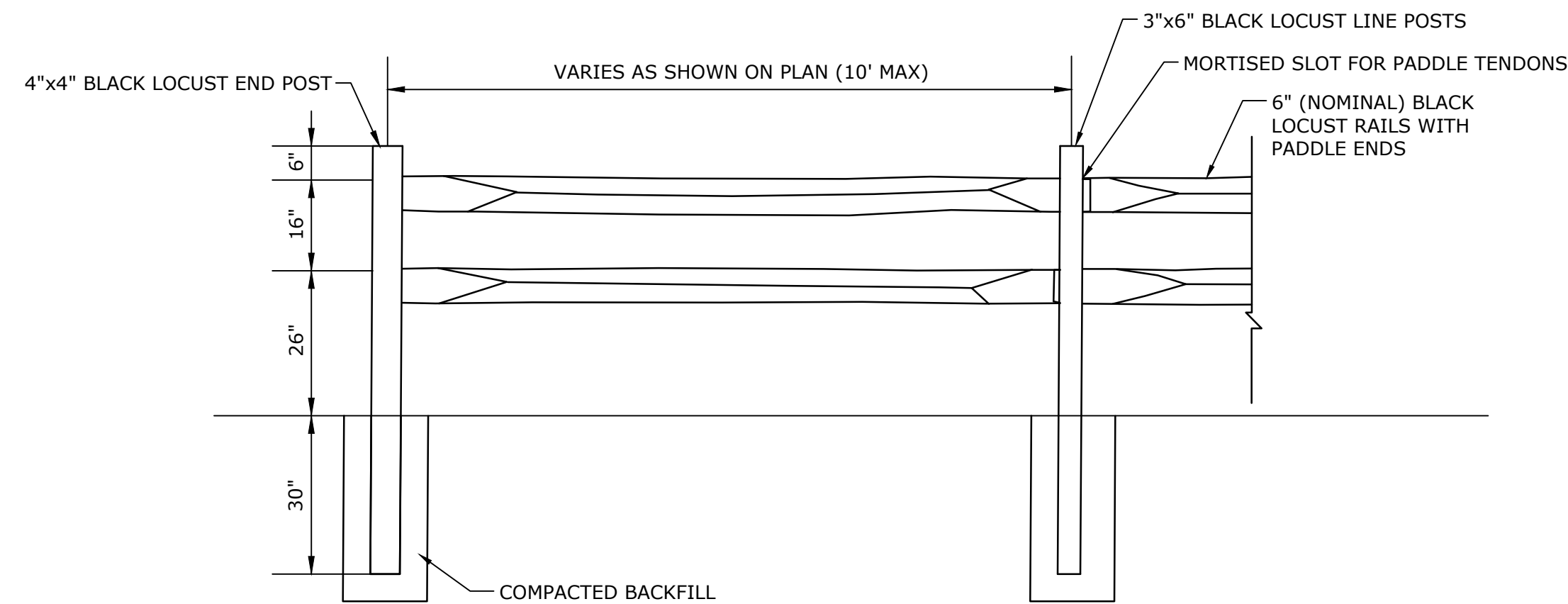
NOTES:  
1. REMOVE FOLLOWING CONSTRUCTION.

**TEMPORARY CONSTRUCTION ENTRY PAD**  
NO SCALE



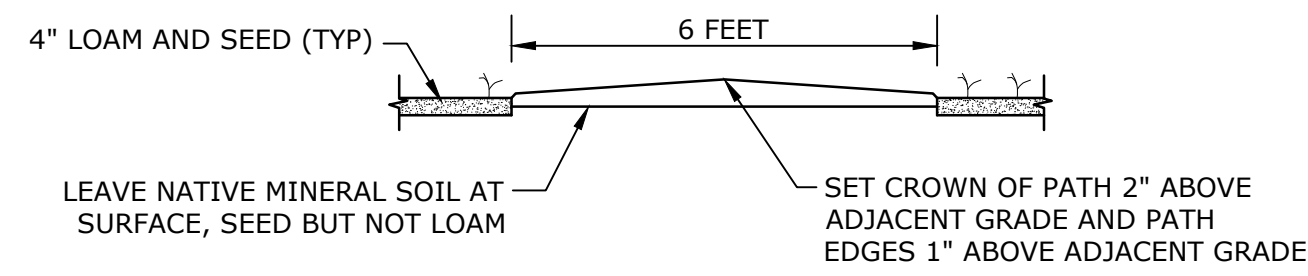
**REMOVABLE BOLLARD DETAIL**  
NO SCALE

NOTES:  
1. ALIGN BOLLARD PIPE AND GROUND INSERT SO EYES ARE LOCATED AT BACK AND FRONT OF BOLLARD, NOT PROTRUDING INTO THE TRAVELED WAY.  
2. BOLLARD SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.



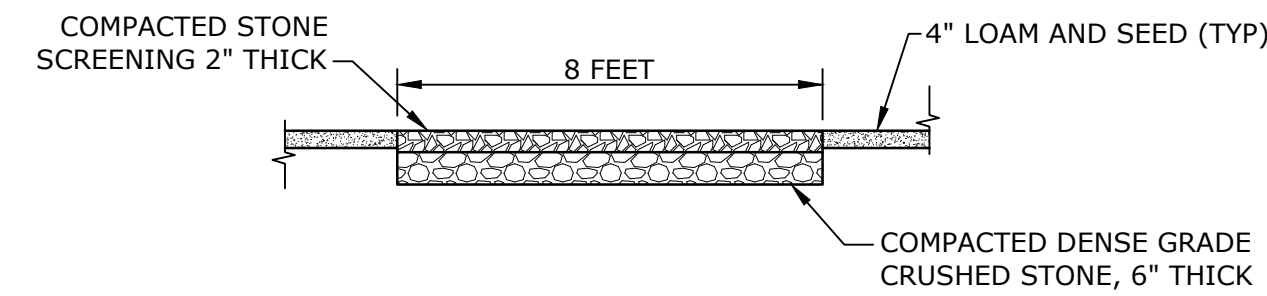
NOTES:  
1. SPLIT RAIL FENCE TERMINATION AT 6" BY 6" TIMBER RAIL POSTS IS MORTISED SIMILARLY TO SPLIT RAIL FENCE END POSTS.

**SPLIT RAIL FENCE**  
NO SCALE

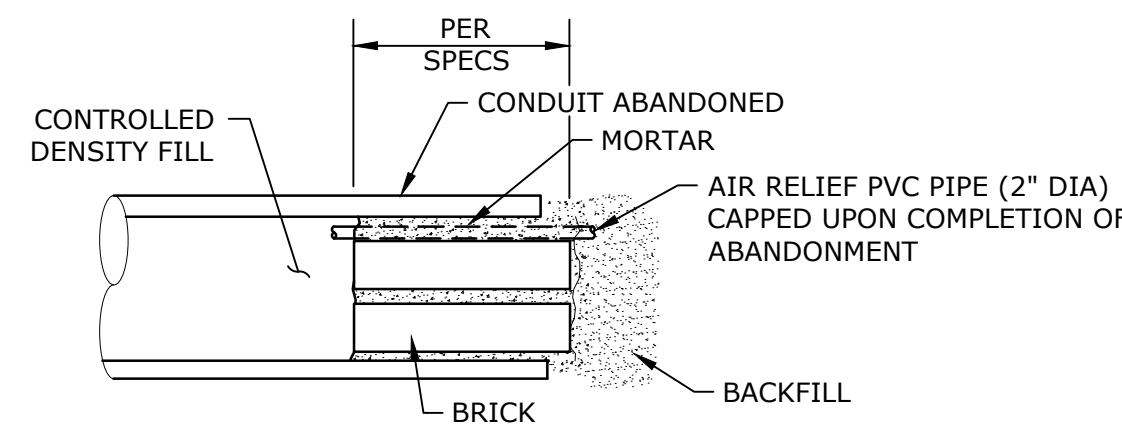


**COMPACTED FOOT PATH**  
NO SCALE

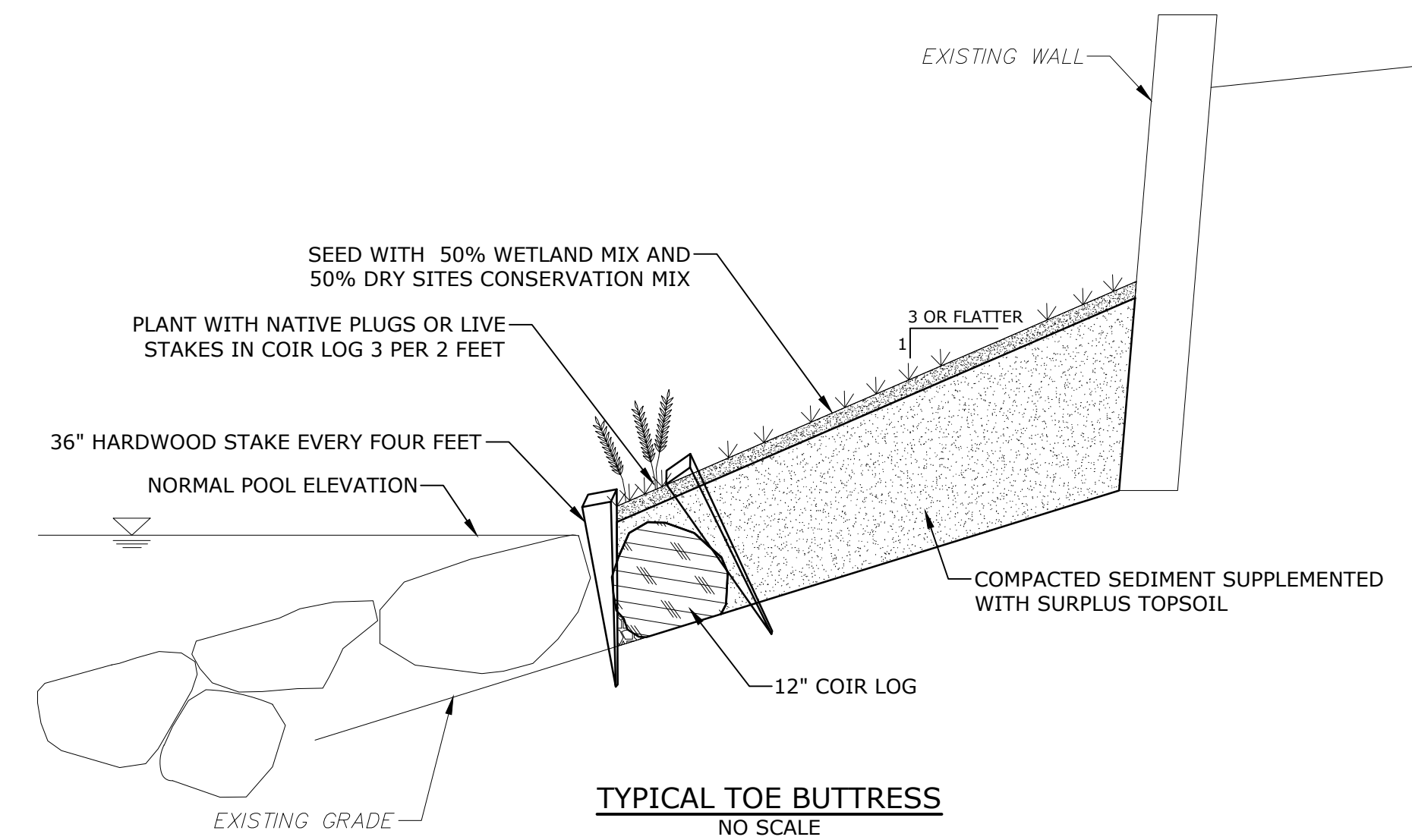
NOTES:  
1. PROVIDE WATER BARS AT INTERVALS IF NECESSARY TO PITCH RUNOFF OFF PATH TO SHEET FLOW ACROSS ADJACENT SURFACE.



**COMPACTED STONE SURFACE**  
NO SCALE



**PIPE ABANDONMENT**  
NO SCALE

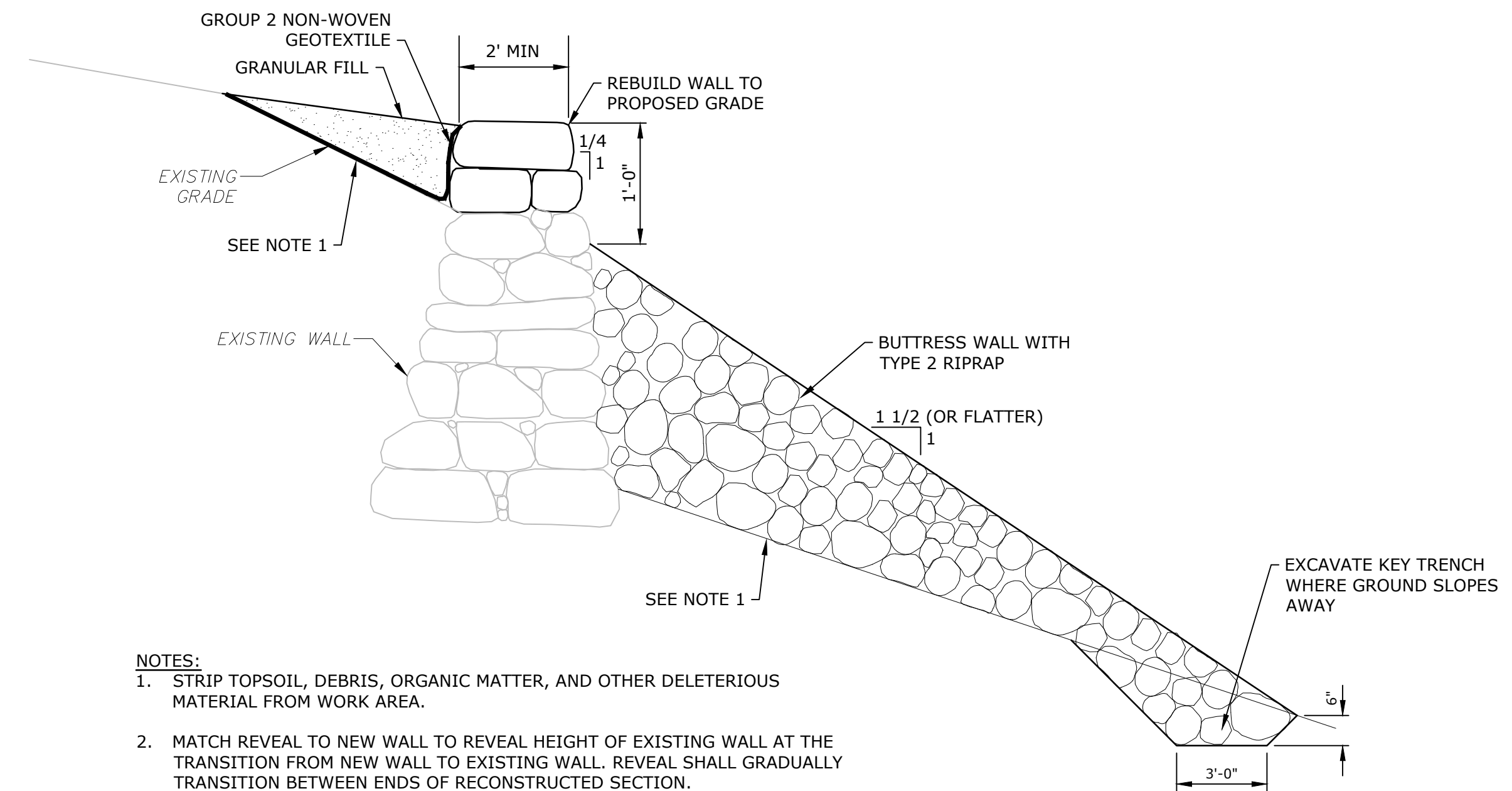


**TYPICAL TOE BUTTRESS**  
NO SCALE

**PLANTING SCHEDULE FOR TOE BUTTRESS**

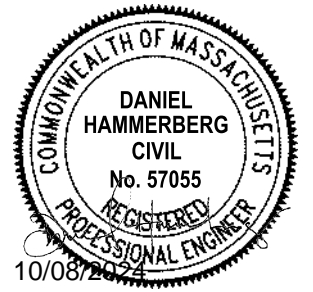
SURFACE TREATMENTS: COVER LIBERALLY WITH EXCAVATED SEDIMENT  
SEED: SEED WITH 50% NEW ENGLAND WETLAND MIX AND 50% NEW ENGLAND EROSION CONTROL MIX FOR DRY SITES  
PLANTINGS: LIVE STAKES AS RECOMMENDED BY SUPPLIER FOR SEASON, WITHIN COMPACTED SEDIMENT AND COIR LOG AT 4' O.C.; LIVE STAKES TO BE GRIDDED IN CLUSTERS OF 3.

COMMON NAME	BOTANICAL NAME
COMMON WINTERBERRY	<i>Ilex verticillata</i>
BLACK WILLOW	<i>Salix nigra</i>
SILKY DOGWOOD	<i>Swida amomum</i>
WILD RAISIN	<i>Viburnum cassinoides</i>
NORTHERN ARROW-WOOD	<i>Viburnum dentatum</i>



NOTES:  
1. STRIP TOPSOIL, DEBRIS, ORGANIC MATTER, AND OTHER DELETERIOUS MATERIAL FROM WORK AREA.  
2. MATCH REVEAL TO NEW WALL TO REVEAL HEIGHT OF EXISTING WALL AT THE TRANSITION FROM NEW WALL TO EXISTING WALL. REVEAL SHALL GRADUALLY TRANSITION BETWEEN ENDS OF RECONSTRUCTED SECTION.  
3. INTERLOCK NEW STONE WITH EXISTING STONE AT TRANSITION OF NEW WALL WITH EXISTING WALLS.  
4. ALIGN EXPOSED FACE OF NEW WALL WITH FACE OF ADJACENT EXISTING WALLS.  
5. PROTECT AND PREVENT UNDERMINING OF EXISTING WALL.  
6. USE EXISTING SOIL FOR BACKFILL SUPPLEMENTED WITH GRANULAR FILL.

**REBUILT OR NEW DRY STONE MASONRY WALL - TYPICAL SECTION**  
NO SCALE



**Arnold Pond Dam Removal Project**

Massachusetts Division of Fisheries and Wildlife

Sutton, Massachusetts

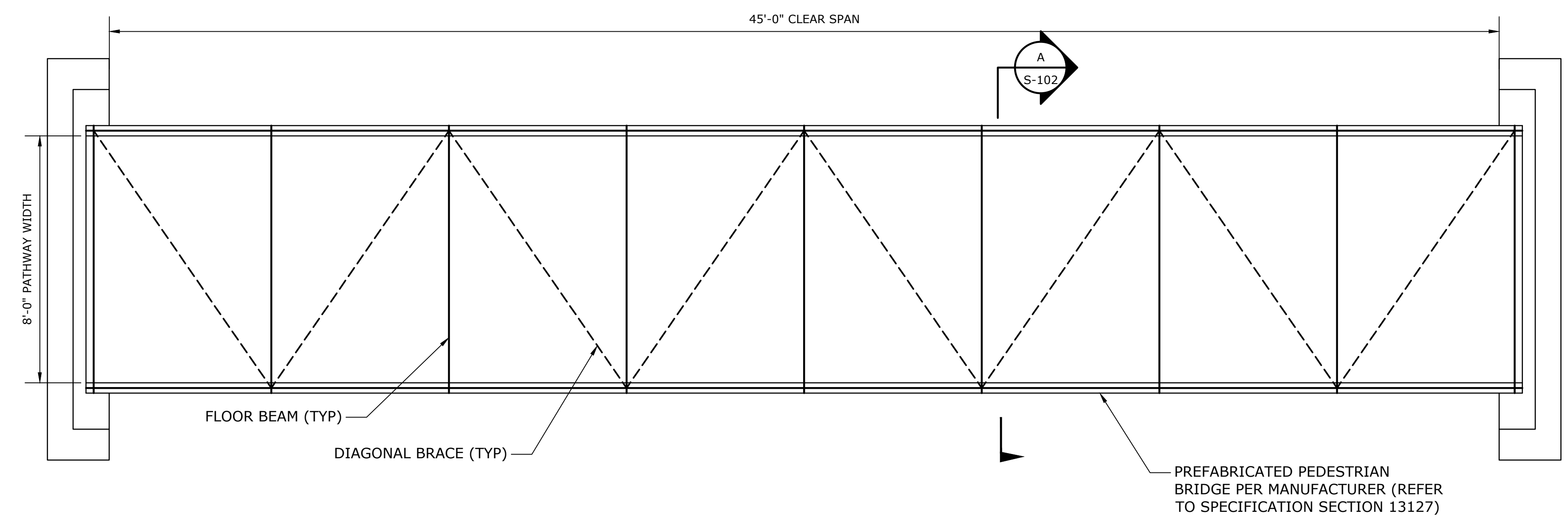
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1	10/24	Issued For Bidding

PROJECT NO: M944-051  
DATE: 10/2024  
FILE: C-202 MISCELLANEOUS DETAILS.d  
DRAWN BY: CMH,LPT  
DESIGNED/CHECKED BY: DRH,DRB  
APPROVED BY: DRB

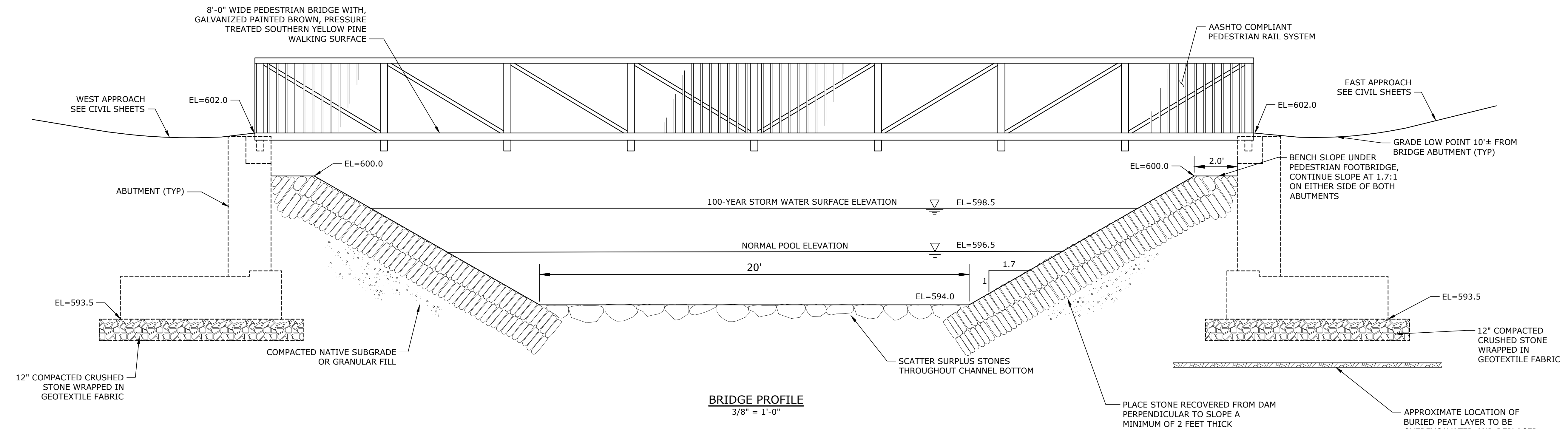
MISCELLANEOUS DETAILS

SCALE: AS SHOWN





**BRIDGE PLAN**  
3/8" = 1'-0"



**BRIDGE PROFILE**  
3/8" = 1'-0"

**DEWATERING NOTES**

1. DEWATERING IS REQUIRED AT EACH FOUNDATION LOCATION TO CONTROL THE WATER INFLOW AND ADEQUATELY DEWATER THE FOOTING EXCAVATION. SUMP PUMPING AROUND THE ENTIRE PERIMETER MAY BE REQUIRED TO ADEQUATELY CONTROL THE GROUNDWATER WITHIN THE EXCAVATION AREAS. DEWATERING SHALL BE CONTINUOUS UNTIL THE CONCRETE IS BACKFILLED EVENLY ON BOTH SIDES TO THE ELEVATIONS OF THE SURROUNDING WATER TABLE, UNLESS OTHERWISE DIRECTED. ANY PROPOSED DEWATERING SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND ACCEPTANCE.
2. WATER PUMPED FROM DEWATERING LOCATIONS SHALL BE FILTERED ADEQUATELY TO REMOVE FINE MATERIALS PRIOR TO RETURNING THE WATER TO THE POND. ACTUAL LOCATION OF SEDIMENTATION BASIN TO BE DETERMINED BY CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
3. ANY FOUNDATION MATERIALS WEAKENED AS A RESULT OF INSUFFICIENT CARE WHILE MAINTAINING A DEWATERED CONDITION SHALL BE REMOVED AND REPLACED WITH GRAVEL BORROW OR CRUSHED STONE AT NO EXPENSE TO THE OWNER. SEE SPECIFICATION SECTION 02320.
4. THE CONTRACTOR SHALL SUBMIT DRAWINGS AND DESIGN CALCULATIONS, SEALED AND SIGNED BY A CURRENTLY REGISTERED MASSACHUSETTS PROFESSIONAL ENGINEER TO THE ENGINEER FOR REVIEW AND ACCEPTANCE OF THE PROPOSED SHORING AND SUPPORT OF EXCAVATION. SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED PRIOR TO FABRICATION AND INSTALLATION FOR ALL SHORING AND SUPPORT OF EXCAVATION ELEMENTS.

**Arnold Pond Dam Removal Project**

Massachusetts Division of Fisheries and Wildlife

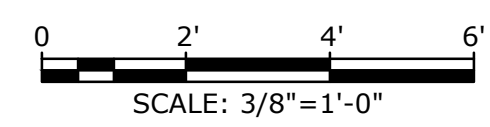
Sutton, Massachusetts

MARK	DATE	DESCRIPTION
1	9/24	Issued For Bidding

PROJECT NO: M944-051  
DATE: 9/2024  
FILE: S-201 PEDESTRIAN BRIDGE PLAN  
DRAWN BY: AvC  
DESIGNED/CHECKED BY: AvC, DH  
APPROVED BY: CDH

PEDESTRIAN BRIDGE AND ABUTMENT DETAILS

SCALE: AS SHOWN



**S-201**  
SHEET 9 OF 9

Last Saved: 9/6/2024 11:46am By: Avon Campie  
Plotted On: Sep 06, 2024 11:46am By: Avon Campie  
Figure: AutoCAD Sheet S-201 PEDESTRIAN BRIDGE PLAN AND PROFILE VIEW.dwg  
Tighe & Bond 23 Winthrop Street, Boston, MA 02110

**GENERAL**

- STRUCTURAL WORK SHALL CONFORM TO STATE BUILDING CODE, LATEST EDITION, INCLUDING MOST RECENT ADDENDA, AND CONTRACT DOCUMENTS. IN CASE OF CONFLICT, MOST STRINGENT REQUIREMENT SHALL GOVERN. DESIGN OF BRIDGE SHALL BE GOVERNED BY AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, LATEST EDITION WITH INTERIM REVISIONS.
- CONTRACTOR SHALL VERIFY AND COORDINATE DIMENSIONS RELATED TO THIS PROJECT.
- CONTRACTOR SHALL EXAMINE DRAWINGS FOR ALL TRADES FOR THE VERIFICATION OF LOCATION AND DIMENSIONS OF ALL PROJECT REQUIREMENTS NOT SHOWN ON THE STRUCTURAL DRAWINGS.

**REINFORCEMENT**

- DETAILING, FABRICATION, AND ERECTION OF REINFORCEMENT, UNLESS OTHERWISE NOTED, SHALL CONFORM TO ACI "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318)" AND ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI 315)", LATEST EDITION.
- STEEL REINFORCEMENT UNLESS OTHERWISE SHOWN SHALL CONFORM TO ASTM A615 GRADE 60 MINIMUM (YIELD STRENGTH - 60,000 PSI).
- PROVIDE AND SCHEDULE ON SHOP DRAWINGS, ALL NECESSARY ACCESSORIES TO HOLD REINFORCEMENT SECURELY IN POSITION: MINIMUM REQUIREMENTS SHALL BE: HIGH CHAIRS, 4'-0" ON CENTER, #5 SUPPORT BAR FOR HIGH CHAIRS, SLAB BOLSTERS, 3'-6" ON CENTER, ALL WIRE CHAIRS AND BOLSTERS TO BE PLASTIC TIPPED.
- THE CONCRETE PROTECTIVE COVERING FOR REINFORCEMENT SHALL BE AS SHOWN ON THESE DRAWINGS AND NO LESS THAN 2" AGAINST FORMS, OR 3" AGAINST EARTH.
- WHERE REINFORCEMENT IS NOT SHOWN ON DRAWINGS, PROVIDE REINFORCEMENT IN ACCORDANCE WITH APPLICABLE TYPICAL DETAILS OR AS SHOWN FOR MOST SIMILAR DETAIL, AS DETERMINED BY THE ENGINEER. IN NO CASE SHALL REINFORCEMENT BE LESS THAN MINIMUM REINFORCEMENT PERMITTED BY THE APPLICABLE CODES, NOR LESS THAN THE FOLLOWING:
  - STRUCTURAL FOOTINGS - .0028 GROSS CONCRETE AREA IN EACH DIRECTION
  - STRUCTURAL WALLS - .0028 GROSS CONCRETE AREA IN EACH DIRECTION
- WHERE REINFORCEMENT IS CALLED FOR IN SECTION, REINFORCEMENT IS CONSIDERED TYPICAL WHEREVER THE SECTION APPLIES.
- REINFORCEMENT SHALL BE CONTINUOUS THROUGH ALL CONSTRUCTION JOINTS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- REINFORCEMENT COUPLER SPLICES SHALL BE MECHANICAL DEVICES CAPABLE OF TRANSMITTING THE ULTIMATE TENSILE AND COMPRESSIVE STRENGTH OF THE BAR.
- INSTALLATION OF REINFORCEMENT SHALL BE COMPLETE AT LEAST 24 HOURS PRIOR TO SCHEDULED CONCRETE PLACEMENT. NOTIFY ENGINEER OF COMPLETION AT LEAST 24 HOURS PRIOR TO SCHEDULED COMPLETION OF REINFORCEMENT PLACEMENT.
- REINFORCEMENT SHALL BE SET BEFORE PLACING CONCRETE. SETTING ANY REINFORCEMENT INTO WET CONCRETE IS PROHIBITED.

**CONCRETE**

- CONCRETE WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318), AND SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDING (ACI 301).
- CONCRETE SHALL BE CONTROLLED CONCRETE, PROPORTIONED, MIXED, AND PLACED UNDER THE SUPERVISION OF AN APPROVED CONCRETE TESTING AGENCY OR THE ENGINEER.
- CONCRETE SHALL BE NORMAL WEIGHT CONCRETE AND SHALL HAVE A COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, AND A MAXIMUM WATER TO CEMENT RATIO NOT GREATER THAN 0.45 UNLESS OTHERWISE NOTED AND SHALL BE AIR ENTRAINED. SEE SPECIFICATION 03300.
- WHERE CONSTRUCTION JOINTS ARE NOT SHOWN BUT PROPOSED BY THE CONTRACTOR, DRAWINGS SHOWING LOCATION OF CONSTRUCTION JOINTS AND CONCRETE PLACING SEQUENCE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO PREPARATION OF THE REINFORCEMENT SHOP DRAWINGS.
- CONCRETE SHALL BE PLACED WITHOUT HORIZONTAL CONSTRUCTION JOINTS EXCEPT WHERE SHOWN OR NOTED.
- EXPOSED EDGES OF CONCRETE ELEMENTS SHALL HAVE CHAMFERED CORNERS

**FOUNDATIONS**

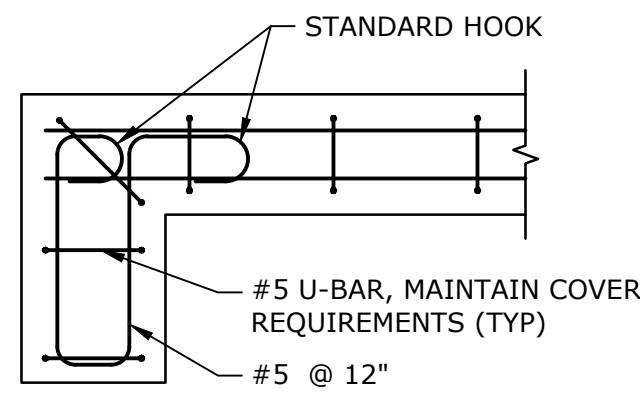
- NO CONCRETE SHALL BE PLACED IN WATER OR ON FROZEN GROUND.
- BOTTOM OF FOUNDATION ELEVATIONS GIVEN ON DRAWINGS ARE TO BE CONSIDERED MINIMUM DEPTHS. CONTRACTOR SHALL HAVE FURTHER EXCAVATION AS REQUIRED TO REACH ADEQUATE BEARING.
- ALL EXCAVATIONS FOR FOOTINGS SHALL BE FINISHED BY HAND FOR THE LAST 6".
- ALL FINISHED EXCAVATIONS SHALL BE INSPECTED BY THE ENGINEER BEFORE ANY CONCRETE IS PLACED.
- ALL BACKFILL UNDER OR ADJACENT TO ANY PORTION OF THE STRUCTURES SHALL BE COMPACTED IN 6" LIFTS. SEE SPECIFICATIONS.
- REMOVE UNSUITABLE FILL AND/OR IMPROVE THE SUBGRADE PER SPECIFICATION REQUIREMENTS. BACKFILL WITH COMPACTED STRUCTURAL (GRANULAR) FILL UP TO THE UNDERSIDE OF THE PROPOSED CRUSHED STONE LAYER. SEE SPECIFICATION SECTION 02315.
- ANY UNSUITABLE MATERIAL SUCH AS BOULDERS, EXISTING SUBSTRUCTURES, ROOTS, ORGANIC SOILS, OR SILT/CLAY ENCOUNTERED WITHIN THE FOUNDATION BEARING ZONE, DEFINED BY A 1H:1V PLANE EXTENDING DOWNWARD AND OUTWARD FROM 1 FOOT BEYOND THE EDGE OF FOOTING, SHALL BE REMOVED AND REPLACED WITH CRUSHED STONE, AS DIRECTED BY THE ENGINEER.

**REBAR SPLICE LENGTH NOTES**

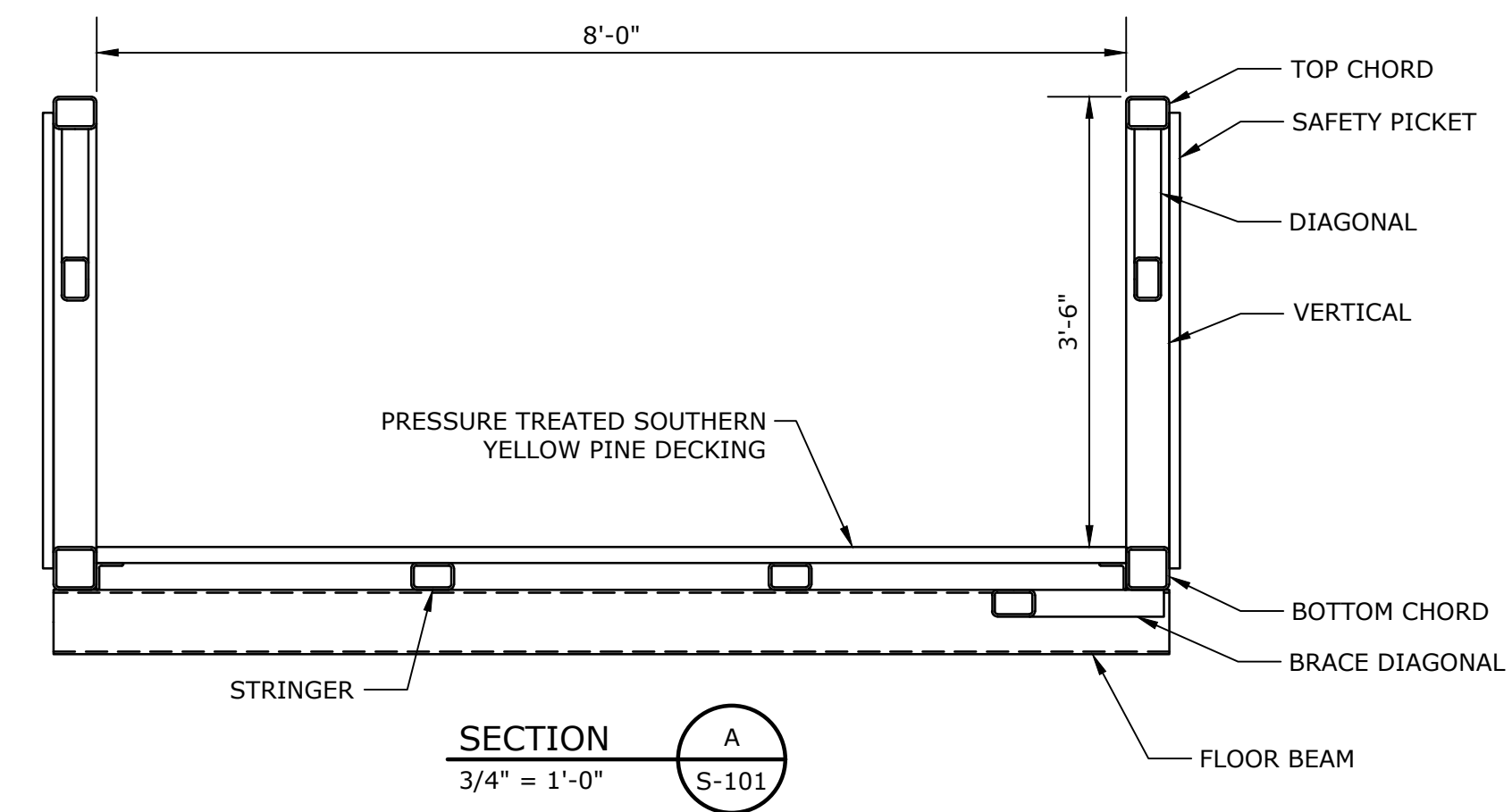
- IF CLEAR SPACING BETWEEN THE REBARS IS LESS THAN THREE BAR DIAMETERS, OR IF COVER IS LESS THAN TWO BAR DIAMETERS, INCREASE THE SPLICE LENGTH BY AN ADDITIONAL 50%.
- IF LIGHTWEIGHT CONCRETE IS USED, INCREASE THE SPLICE LENGTH BY AN ADDITIONAL 30%.
- THE MINIMUM REBAR SPLICE LENGTH SCHEDULE IS BASED ON  $F'c = 4,000$  PSI AND  $F_y = 60,000$  PSI. ADJUST FOR OTHER STRENGTHS USING ACI-318.
- FOR HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW, INCREASE THE DEVELOPMENT LENGTH BY AN ADDITIONAL 30%.
- WHEN BARS OF DIFFERENT SIZE ARE LAP SPICED, THE SPLICE LENGTH SHALL BE THE LARGER OF EITHER THE DEVELOPMENT LENGTH OF THE LARGER BAR OR THE SPLICE LENGTH OF THE SMALLER BAR.

BAR SIZE DESIGNATION	DEVELOPMENT LENGTH (INCHES)	SPLICE LENGTH (INCHES)	
		CLASS B	CLASS B TOP BARS
#3	15	19	25
#4	19	25	33
#5	24	31	40
#6	29	37	48

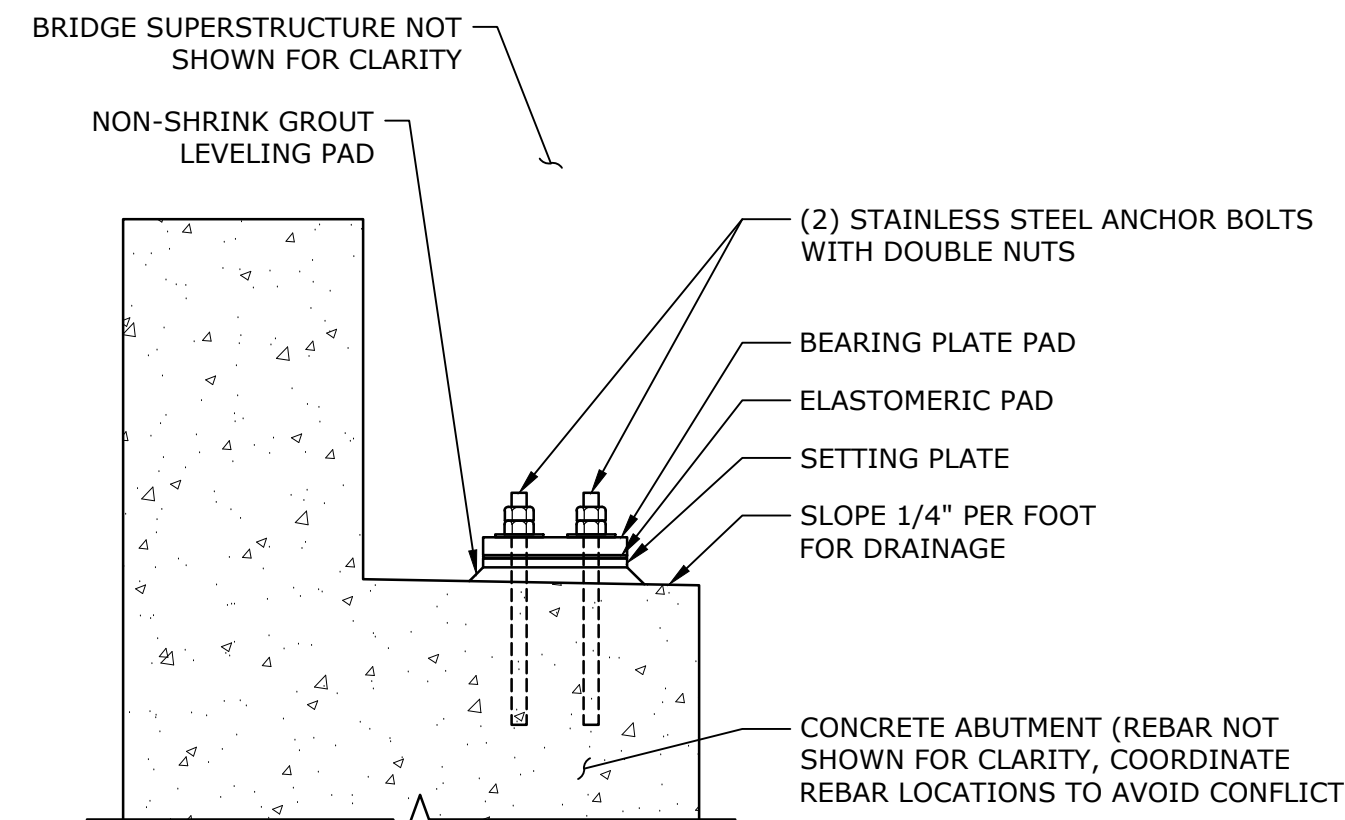
**REBAR SPLICE LENGTH SCHEDULE**



**REINFORCEMENT PLAN AT CHEEK WALL**  
3/4" = 1'-0"

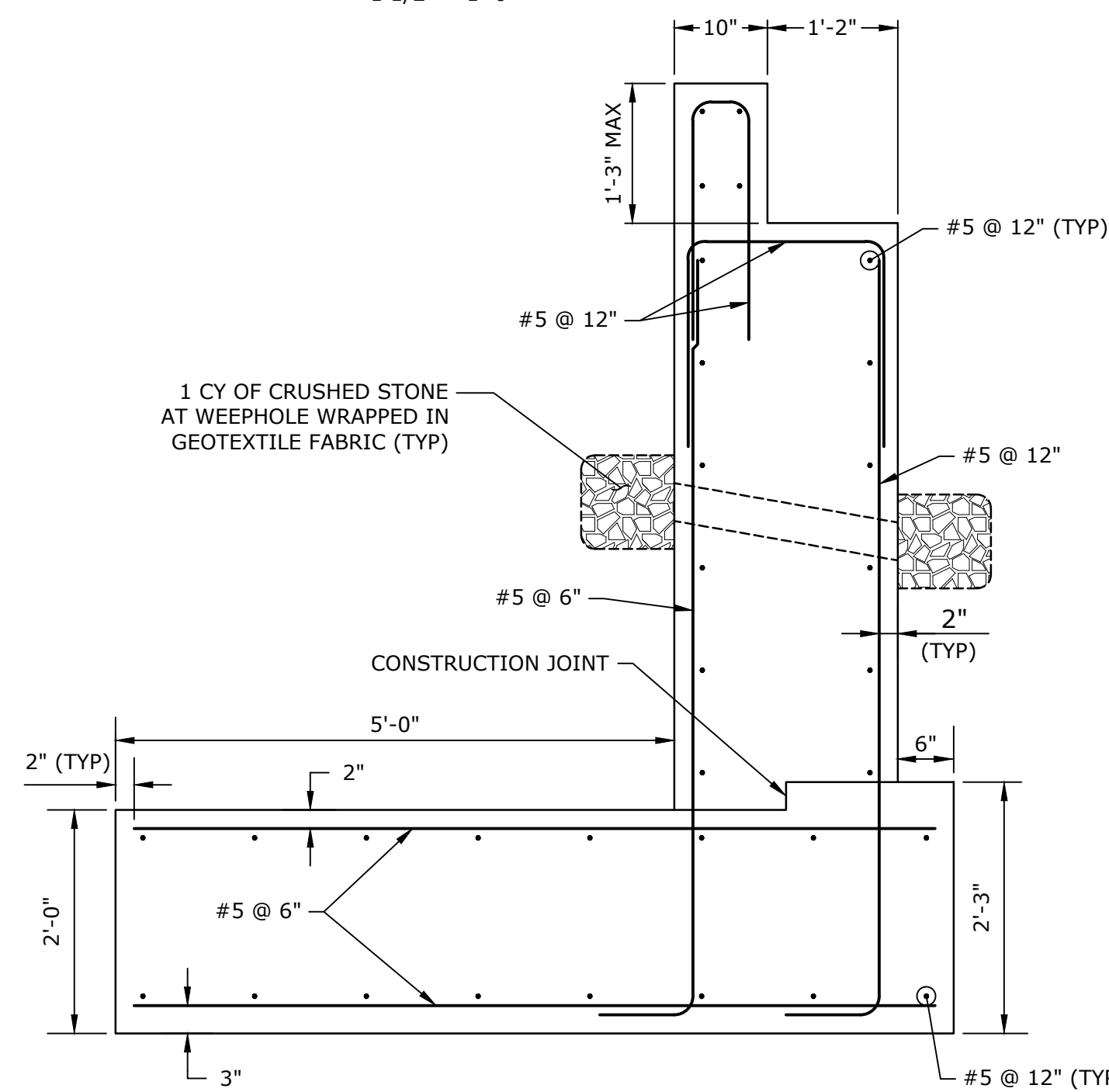


**SECTION A**  
3/4" = 1'-0"



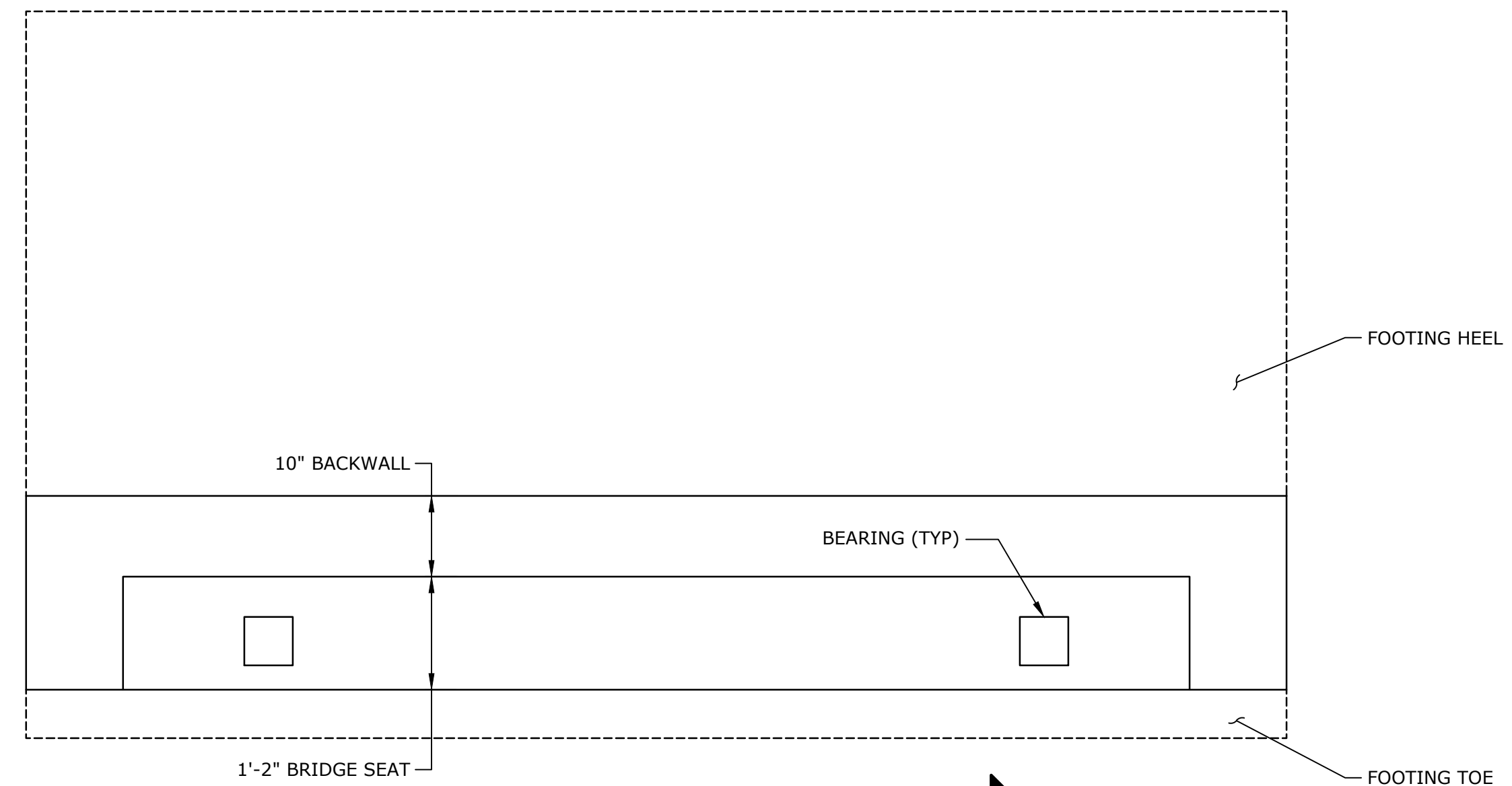
**NOTES:**  
1. SETTING PLATE, ELASTOMERIC PAD, BEARING PLATE, AND ANCHOR BOLTS FURNISHED BY PEDESTRIAN BRIDGE MANUFACTURER.

**BEARING DETAIL**  
1 1/2" = 1'-0"

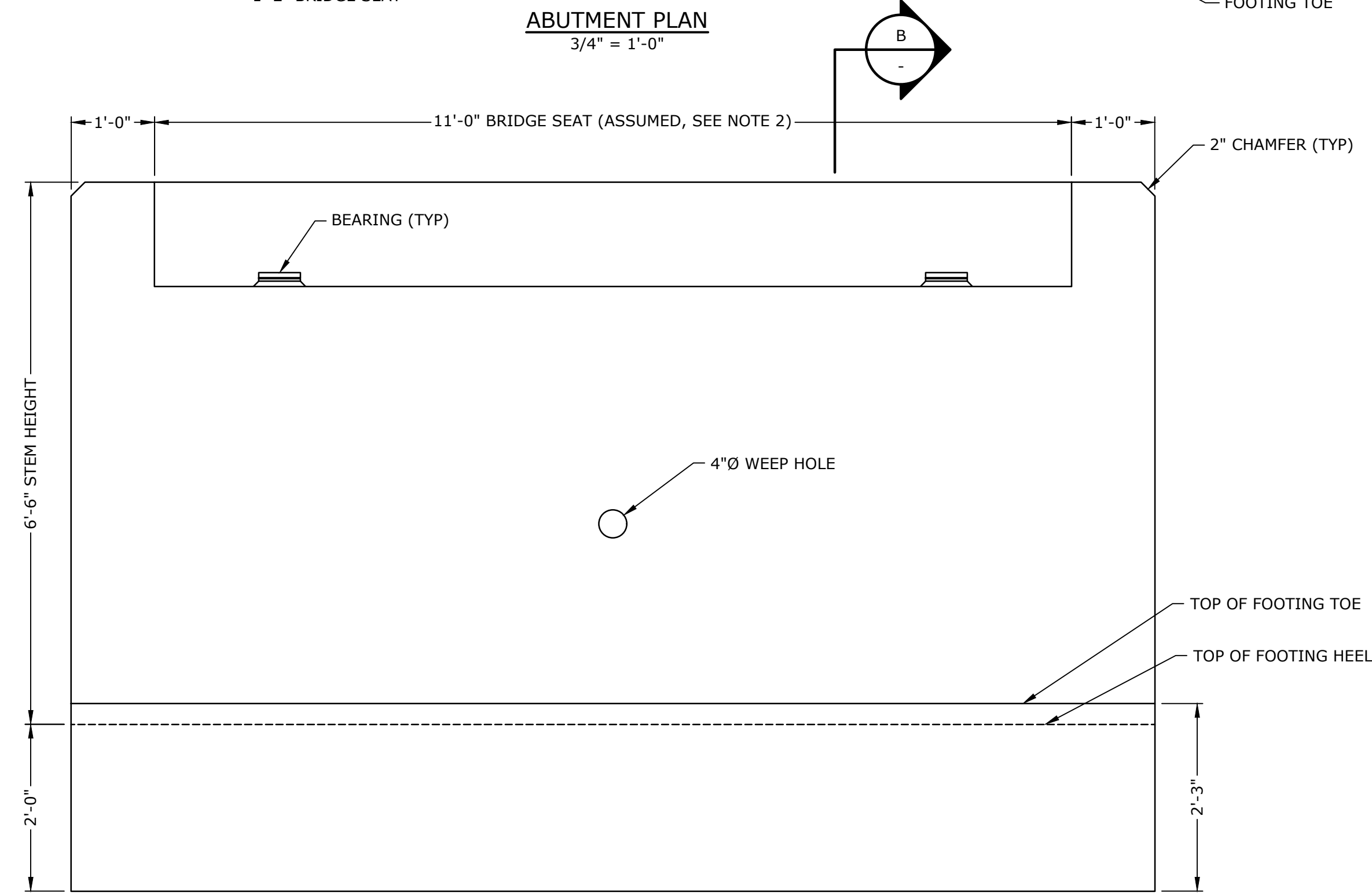


**SECTION B**  
3/4" = 1'-0"

**NOTES:**  
1. ADJUST DIMENSIONS TO ACCOMMODATE MANUFACTURER SYSTEM.

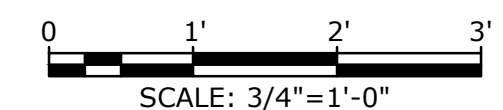


**ABUTMENT PLAN**  
3/4" = 1'-0"



**ABUTMENT ELEVATION**  
3/4" = 1'-0"

- NOTES:**
- ONE ABUTMENT SHOWN, OTHER SIMILAR.
  - COORDINATE BRIDGE SEAT DIMENSIONS WITH BRIDGE MANUFACTURER. NOTIFY ENGINEER IF THIS DIMENSION NEEDS TO VARY FROM WHAT IS SHOWN IN ORDER TO ACCOMMODATE THE BRIDGE.
  - WEEP HOLE TO BE LOCATED APPROXIMATELY 12" ABOVE NORMAL POOL ELEVATION. COORDINATE EXACT LOCATION WITH STEM REINFORCING.



**Arnold Pond Dam Removal Project**

Massachusetts Division of Fisheries and Wildlife

Sutton, Massachusetts


1	9/24	Issued For Bidding
MARK	DATE	DESCRIPTION
PROJECT NO:	M944-051	
DATE:	9/2024	
FILE:	S-201 PEDESTRIAN BRIDGE PLAN	
DRAWN BY:	AvC	
DESIGNED/CHECKED BY:	AvC, DH	
APPROVED BY:	CDH	

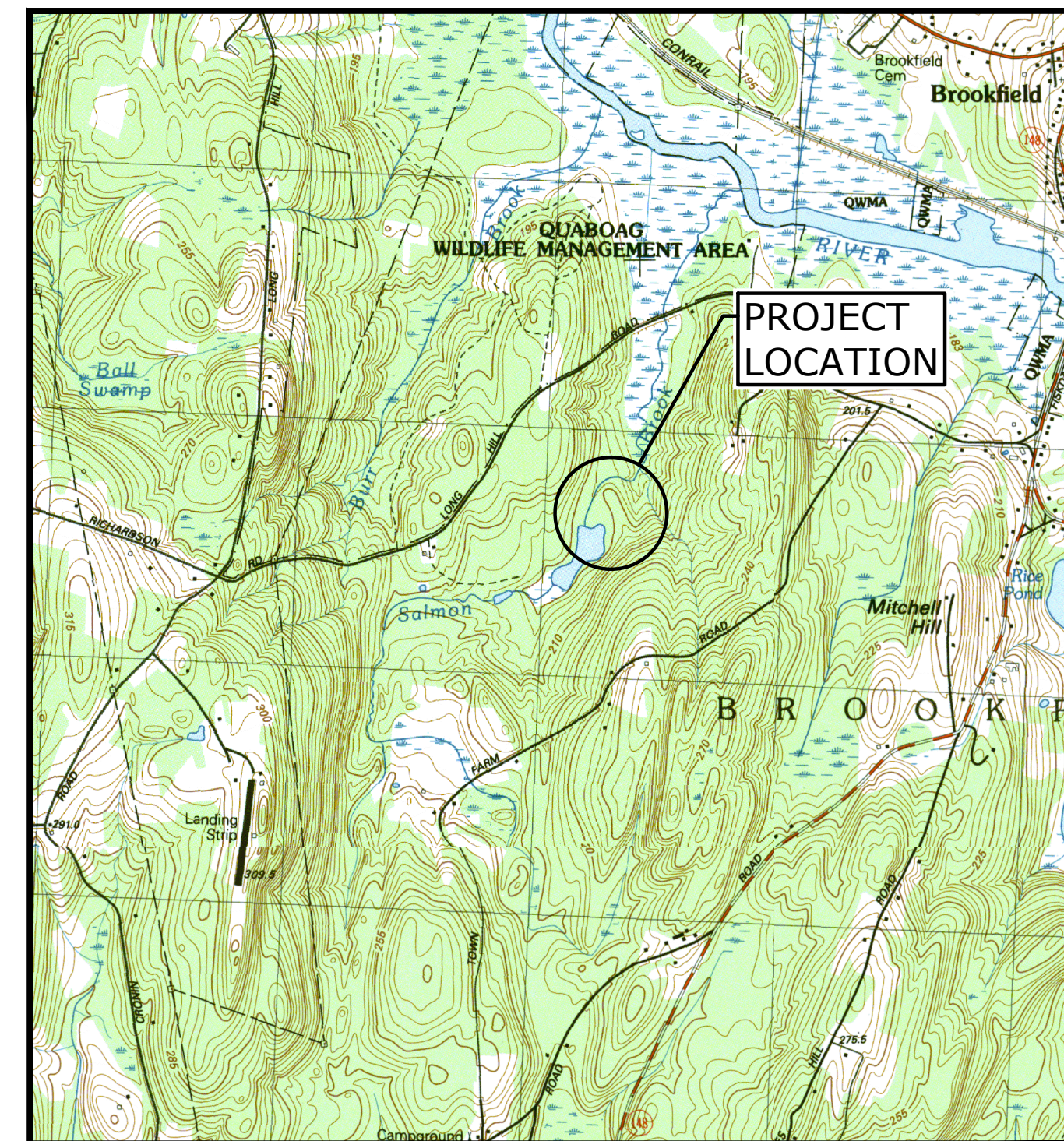
**PEDESTRIAN BRIDGE AND SUBSTRUCTURE DETAILS**

SCALE: AS SHOWN

# MASSACHUSETTS DIVISION OF FISHERIES AND WILDLIFE SALMON BROOK DAM REMOVAL PROJECT

## BROOKFIELD, MASSACHUSETTS OCTOBER 2024

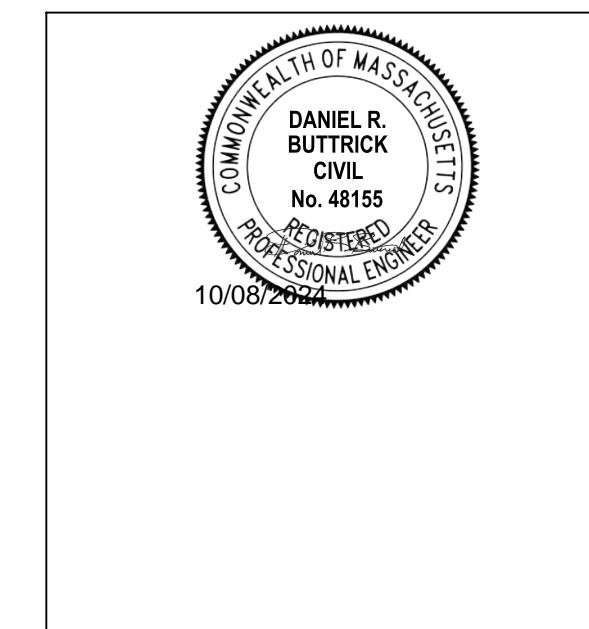
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SHEET NO.	DRAWING NO.	DRAWING TITLE
GENERAL		
1	G-001	COVER SHEET
2	G-002	GENERAL NOTES, ABBREVIATIONS, AND LEGEND
CIVIL		
3	C-101	EXISTING CONDITIONS PLAN
4	C-102	CONSTRUCTION ACCESS, SITE PREPARATION, AND DEMOLITION PLAN
5	C-103	PROPOSED CONDITIONS AND SITE RESTORATION PLAN
6	C-104	CULVERT REMOVAL PLAN
7	C-201	EROSION, SEDIMENT, AND WATER CONTROL DETAILS



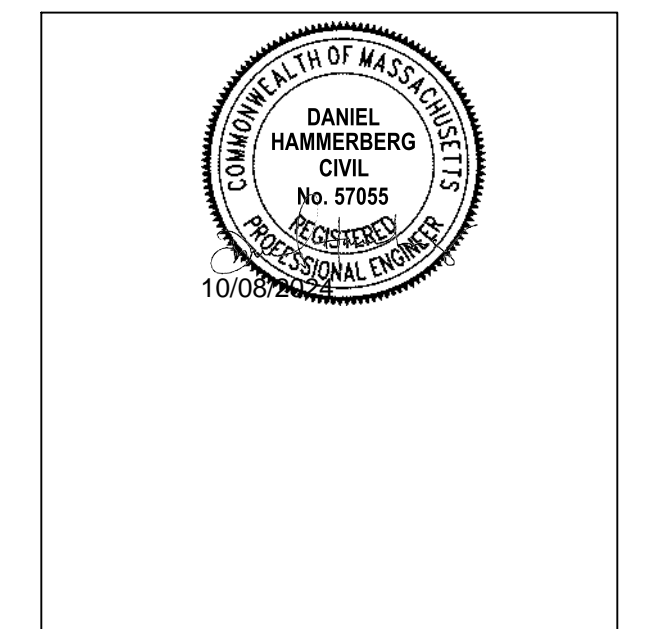
LOCATION MAP  
SCALE: 1" = 2000'

PREPARED BY:

**Tighe & Bond**



DANIEL R. BUTTRICK, PE



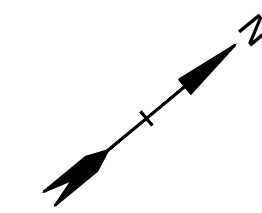
DANIEL R. HAMMERBERG, PE

PREPARED FOR:

MASSACHUSETTS DIVISION OF FISHERIES AND WILDLIFE  
CALEB SLATER, PhD, CHIEF OF HATCHERIES

**COMPLETE SET 7 SHEETS**





**Salmon Brook Dam Removal Project**

Massachusetts Division of Fisheries and Wildlife

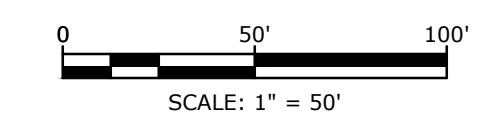
Brookfield, Massachusetts

MARK	DATE	DESCRIPTION
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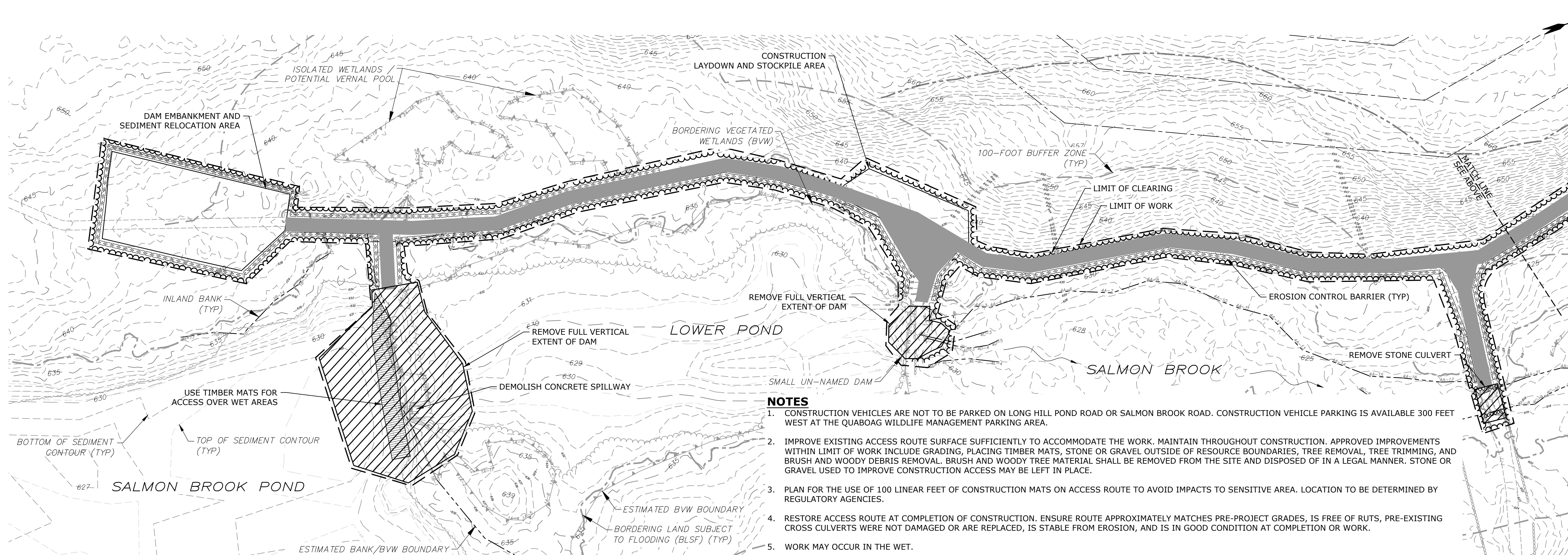
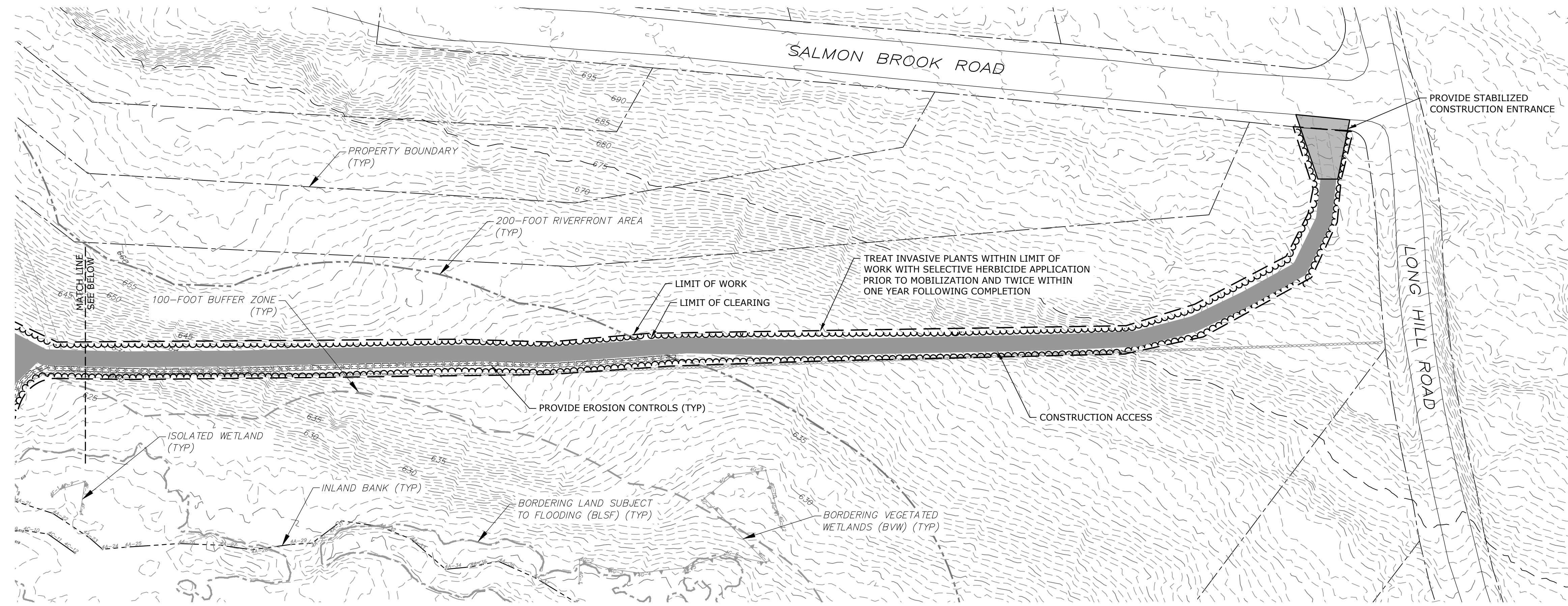
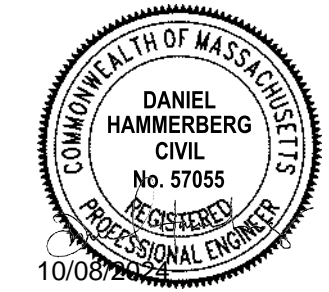
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 DATE: 9/2024  
 FILE: C-101 EXISTING CONDITIONS PLAN.dwg  
 DRAWN BY: CMH/ARG/LPT  
 DESIGNED/CHECKED BY: DRB/DRH  
 APPROVED BY: CDH

**EXISTING CONDITIONS PLAN**

SCALE: 1" = 50'



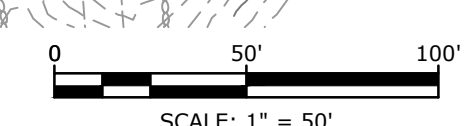
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 Plotted On: OCT 03, 2024 1:20pm By: Dhammerberg  
 Tighe & Bond: \\M0944-051\Drawings\AutoCAD\Sheet\C-101 EXISTING CONDITIONS PLAN.dwg



**NOTES**

- CONSTRUCTION VEHICLES ARE NOT TO BE PARKED ON LONG HILL POND ROAD OR SALMON BROOK ROAD. CONSTRUCTION VEHICLE PARKING IS AVAILABLE 300 FEET WEST AT THE QUABOAG WILDLIFE MANAGEMENT PARKING AREA.
- IMPROVE EXISTING ACCESS ROUTE SURFACE SUFFICIENTLY TO ACCOMMODATE THE WORK. MAINTAIN THROUGHOUT CONSTRUCTION. APPROVED IMPROVEMENTS WITHIN LIMIT OF WORK INCLUDE GRADING, PLACING TIMBER MATS, STONE OR GRAVEL OUTSIDE OF RESOURCE BOUNDARIES, TREE REMOVAL, TREE TRIMMING, AND BRUSH AND WOODY DEBRIS REMOVAL. BRUSH AND WOODY TREE MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LEGAL MANNER. STONE OR GRAVEL USED TO IMPROVE CONSTRUCTION ACCESS MAY BE LEFT IN PLACE.
- PLAN FOR THE USE OF 100 LINEAR FEET OF CONSTRUCTION MATS ON ACCESS ROUTE TO AVOID IMPACTS TO SENSITIVE AREA. LOCATION TO BE DETERMINED BY REGULATORY AGENCIES.
- RESTORE ACCESS ROUTE AT COMPLETION OF CONSTRUCTION. ENSURE ROUTE APPROXIMATELY MATCHES PRE-PROJECT GRADES, IS FREE OF RUTS, PRE-EXISTING CROSS CULVERTS WERE NOT DAMAGED OR ARE REPLACED, IS STABLE FROM EROSION, AND IS IN GOOD CONDITION AT COMPLETION OR WORK.
- WORK MAY OCCUR IN THE WET.
- LOWER POND LEVELS IN A CONTROLLED MANNER. BEGIN AT 3-INCH PER DAY, MONITORING LONG HILL ROAD CULVERT FOR OVERTOPPING. IF NO OVERTOPPING OCCURS, AND NO PRECIPITATION IS FORECAST, DRAWDOWN RATE MAY BE INCREASED TO A MAXIMUM OF 6- INCHES PER DAY PROVIDED LONG HILL ROAD IS NOT OVERTOPPED.

**ACCESS PLAN**  
1"=50'



**Salmon Brook Dam Removal Project**

Massachusetts Division of Fisheries and Wildlife

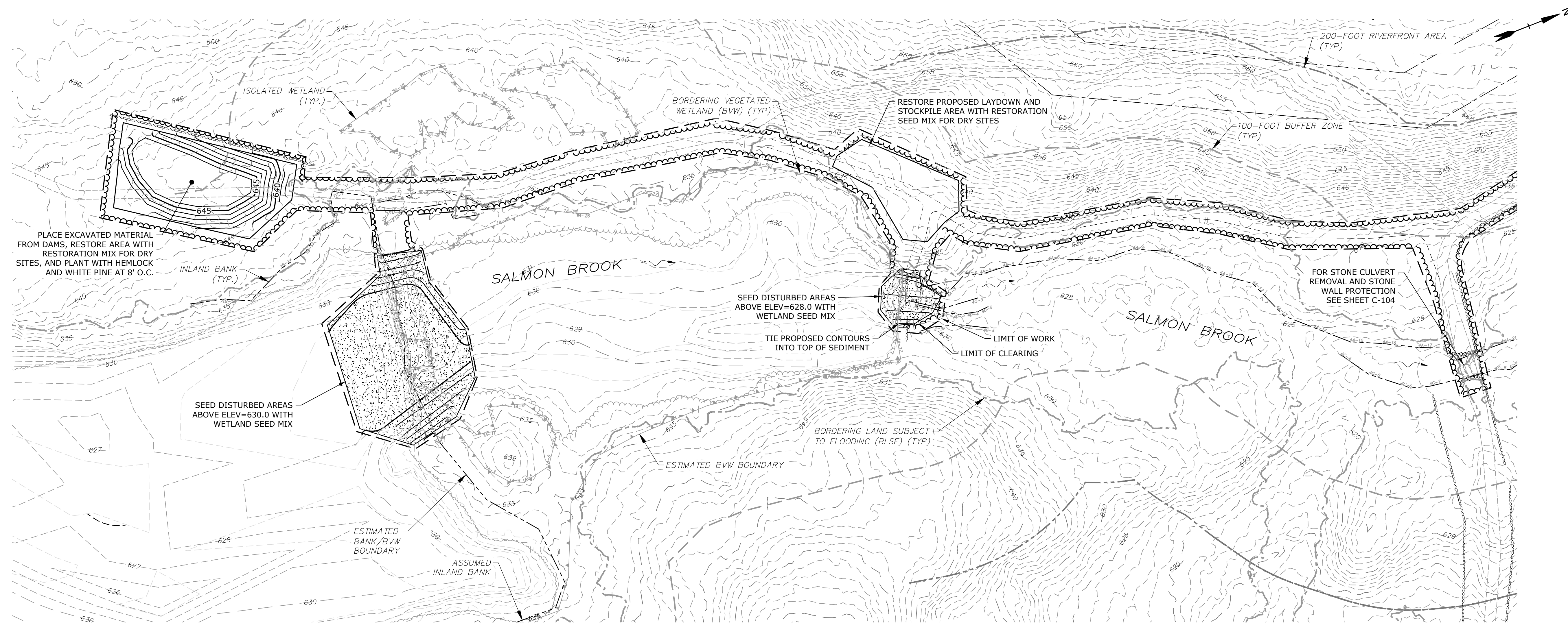
Brookfield, Massachusetts

MARK	DATE	DESCRIPTION
1	9/24	Issued For Bidding

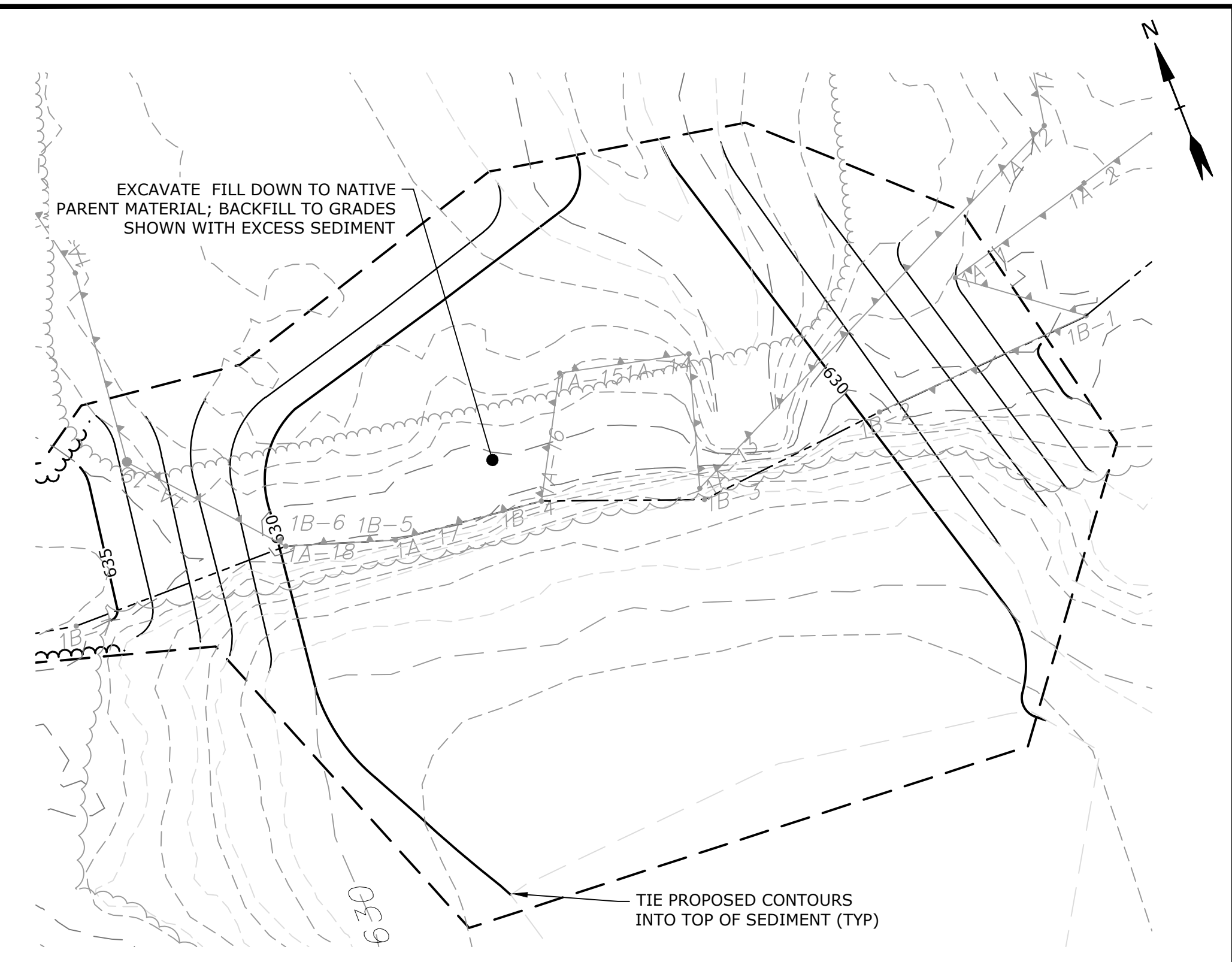
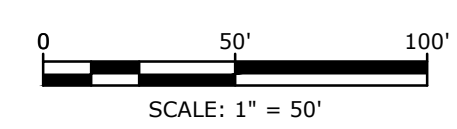
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DATE: 9/2024  
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DRAWN BY: CMH/ARG  
DESIGNED/CHECKED BY: DRB/DRH  
APPROVED BY: CDH

**CONSTRUCTION ACCESS, SITE PREPARATION, AND DEMOLITION PLAN**

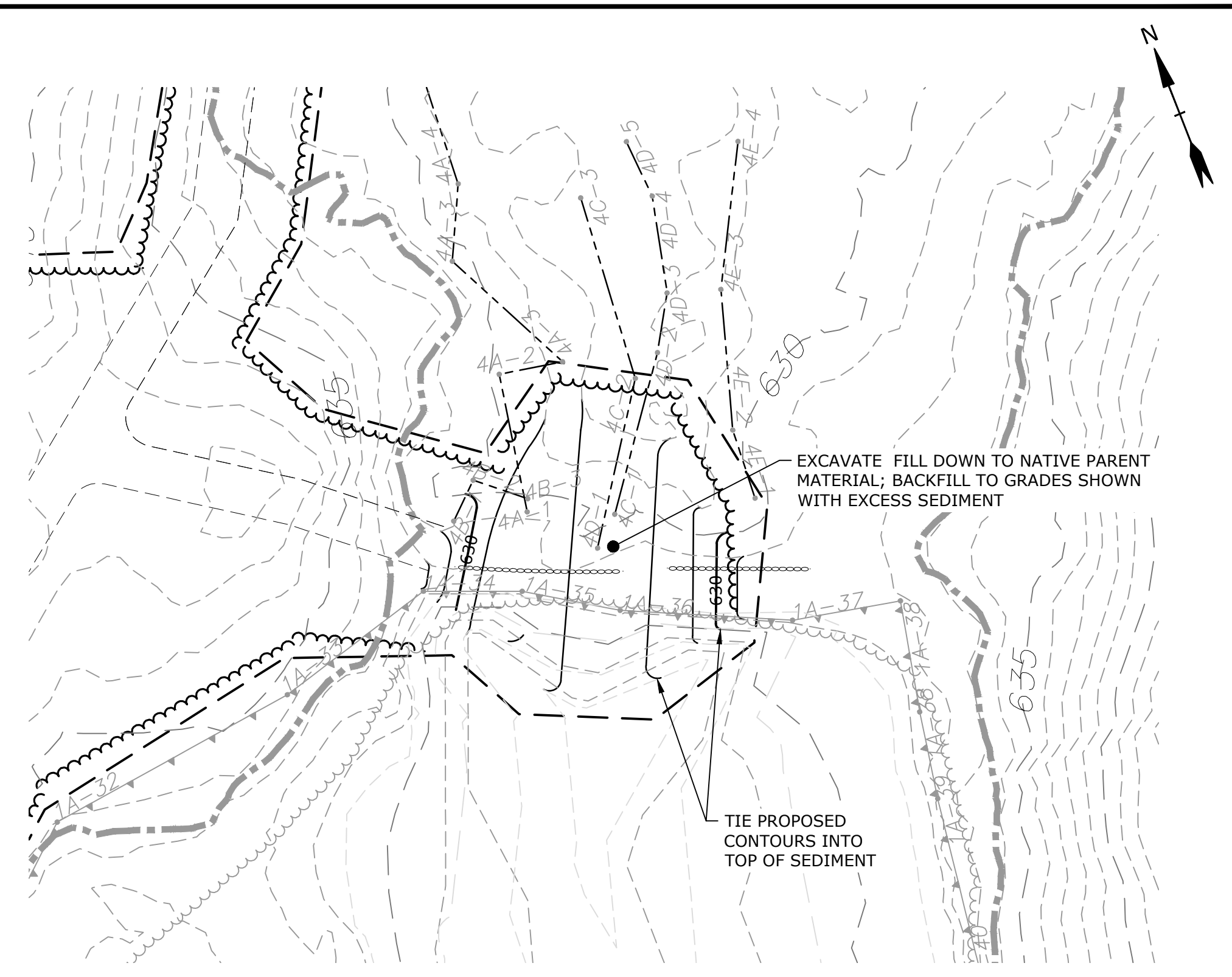
SCALE: 1" = 50'



**SITE PLAN**  
SCALE 1" = 50'



**SALMON BROOK DAM REMOVAL GRADING PLAN**  
SCALE 1" = 20'



**UNNAMED DAM REMOVAL GRADING PLAN**  
SCALE 1" = 20'

- NOTES**
- RESTORE PROPOSED ACCESS ROAD FOLLOWING DAM REMOVALS; SEED SURFACE WITH NATIVE GRASSES TOLERANT OF POOR SOILS, AND PLANT WHITE PINE AND HEMLOCK SAPLING AT FOUR SAPLINGS TO EACH TREE CUT.
  - REMOVE EROSION CONTROL BARRIERS ONCE SITE IS STABLE.

**Salmon Brook Dam Removal Project**

Massachusetts Division of Fisheries and Wildlife

Brookfield, Massachusetts


1	9/24	Issued For Bidding
MARK	DATE	DESCRIPTION
PROJECT NO:		M0944-051
DATE:		9/2024
FILE: C-103 PROPOSED CONDITIONS.dwg		
DRAWN BY: CMH/ARG		
DESIGNED/CHECKED BY: DRB/DRH		
APPROVED BY: CDH		

**PROPOSED CONDITIONS AND SITE RESTORATION PLAN**

SCALE: AS SHOWN

Last Saved: 9/4/2024 1:21:12 PM By: DHammerberg  
 Plotted On: Oct 03, 2024 1:21:12 PM By: DHammerberg  
 Tighe & Bond 23 Winthrop St. Boston, MA 02110  
 Project: Salmon Brook Dam (M0944-051) Sheet: C-103 PROPOSED CONDITIONS.dwg



PHOTO NO. 1  
EXISTING STONE WALL TO BE PROTECTED AND  
TO REMAIN INTACT



PHOTO NO. 2  
CULVERT TO BE REMOVED



PHOTO NO. 3  
CULVERT TO BE REMOVED

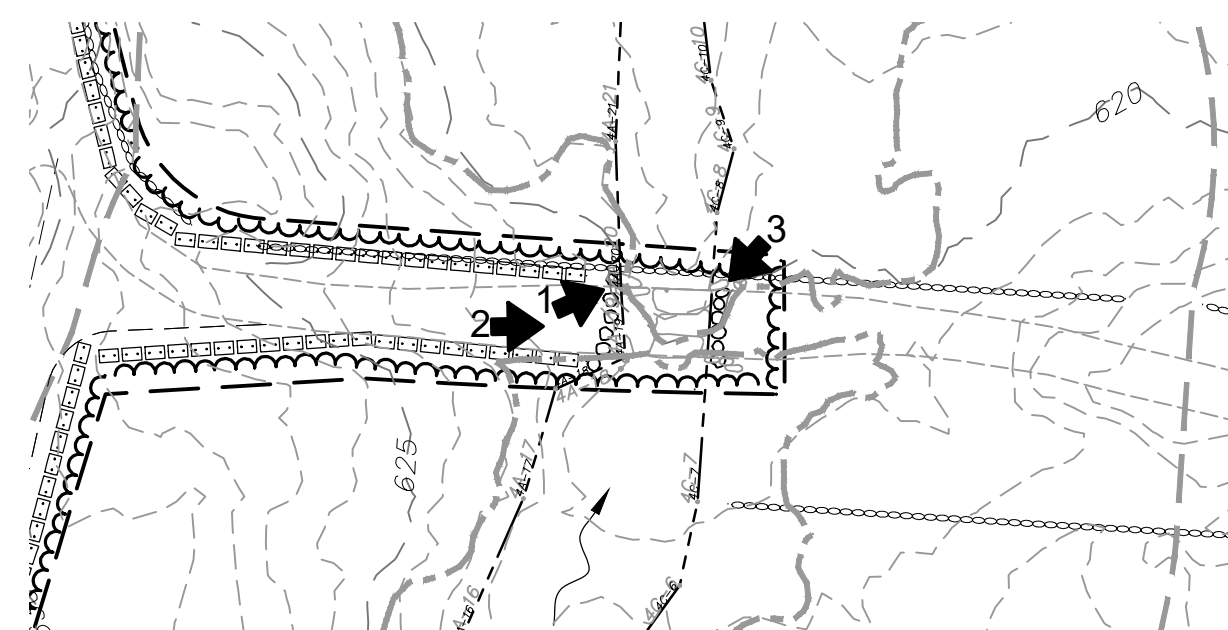
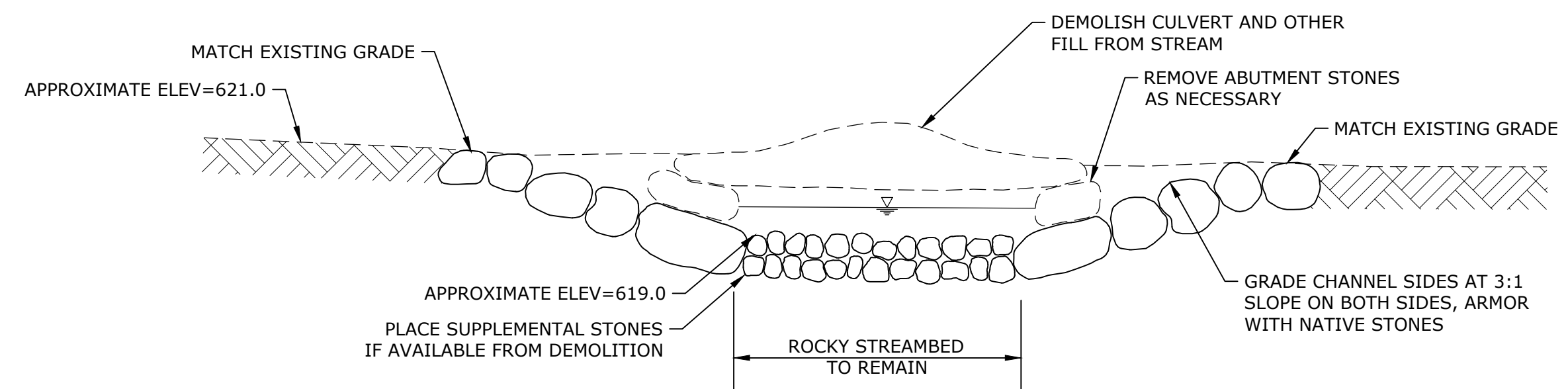
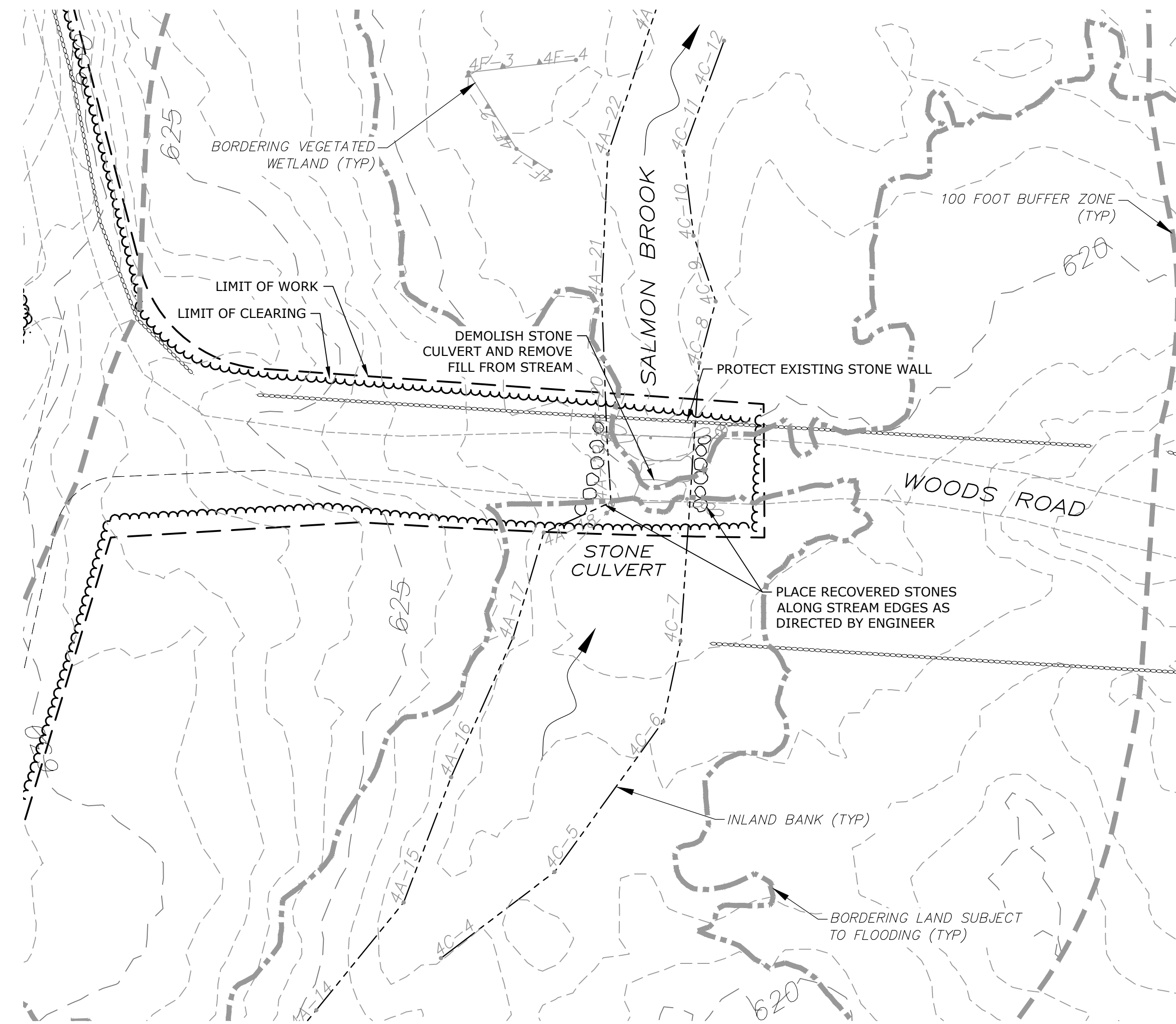
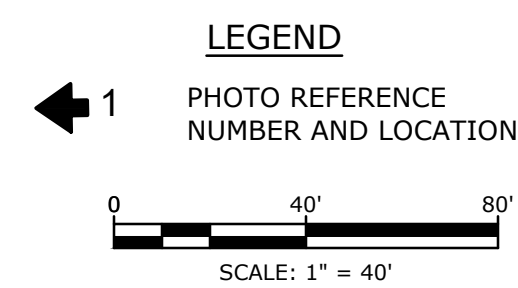


PHOTO LOCATION PLAN  
1" = 40'



**Salmon Brook Dam Removal Project**

Massachusetts  
Division of  
Fisheries and  
Wildlife

Brookfield,  
Massachusetts

MARK	DATE	DESCRIPTION
1	9/24	Issued For Bidding

PROJECT NO: M0944-051  
DATE: 9/2024  
FILE: C-103 PROPOSED CONDITIONS.dwg  
DRAWN BY: CMH  
DESIGNED/CHECKED BY: DRB  
APPROVED BY: CDH

**CULVERT REMOVAL PLAN**

SCALE: AS SHOWN





**Salmon Brook Dam Removal Project**

Massachusetts Division of Fisheries and Wildlife

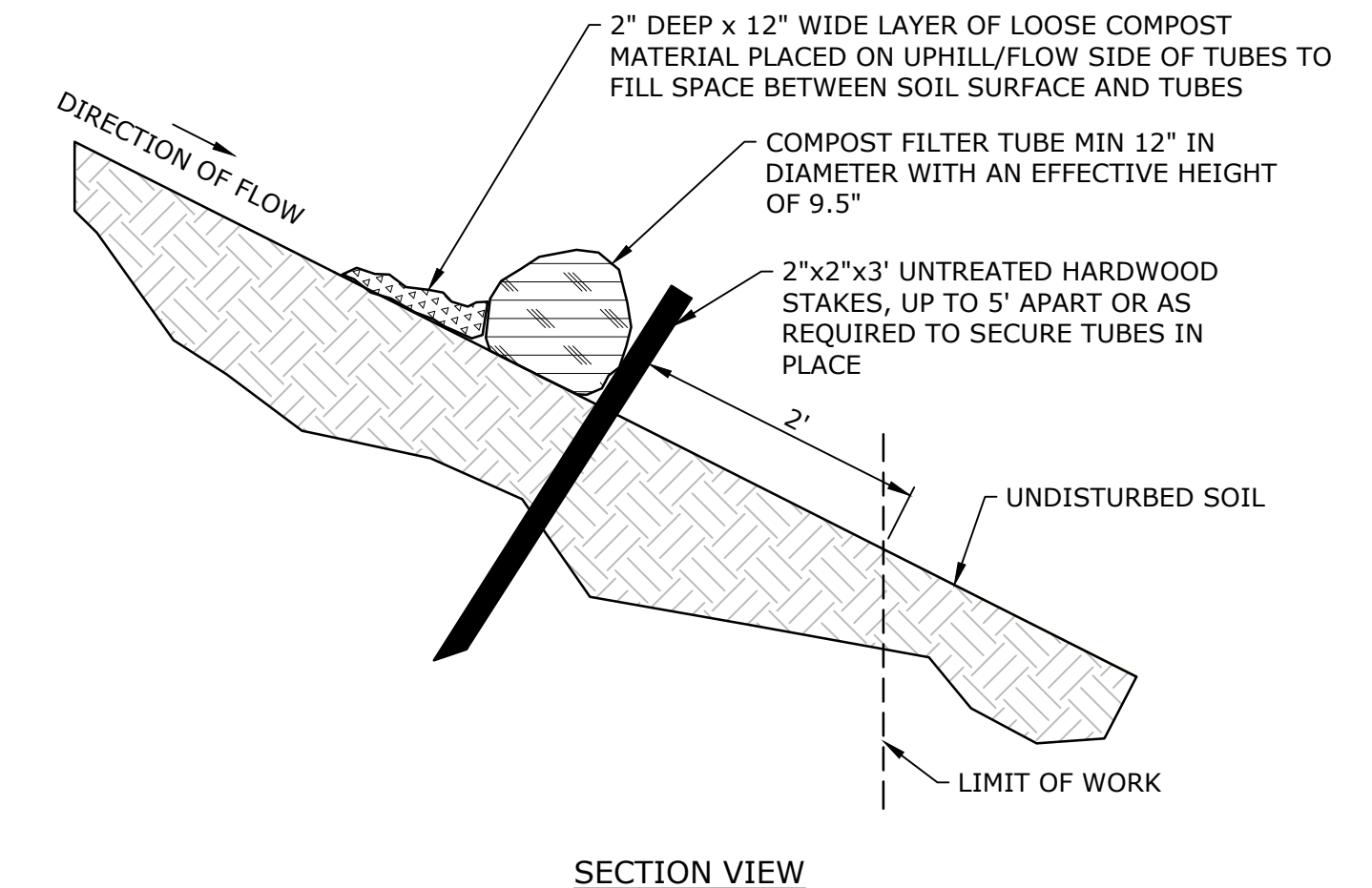
Brookfield, Massachusetts

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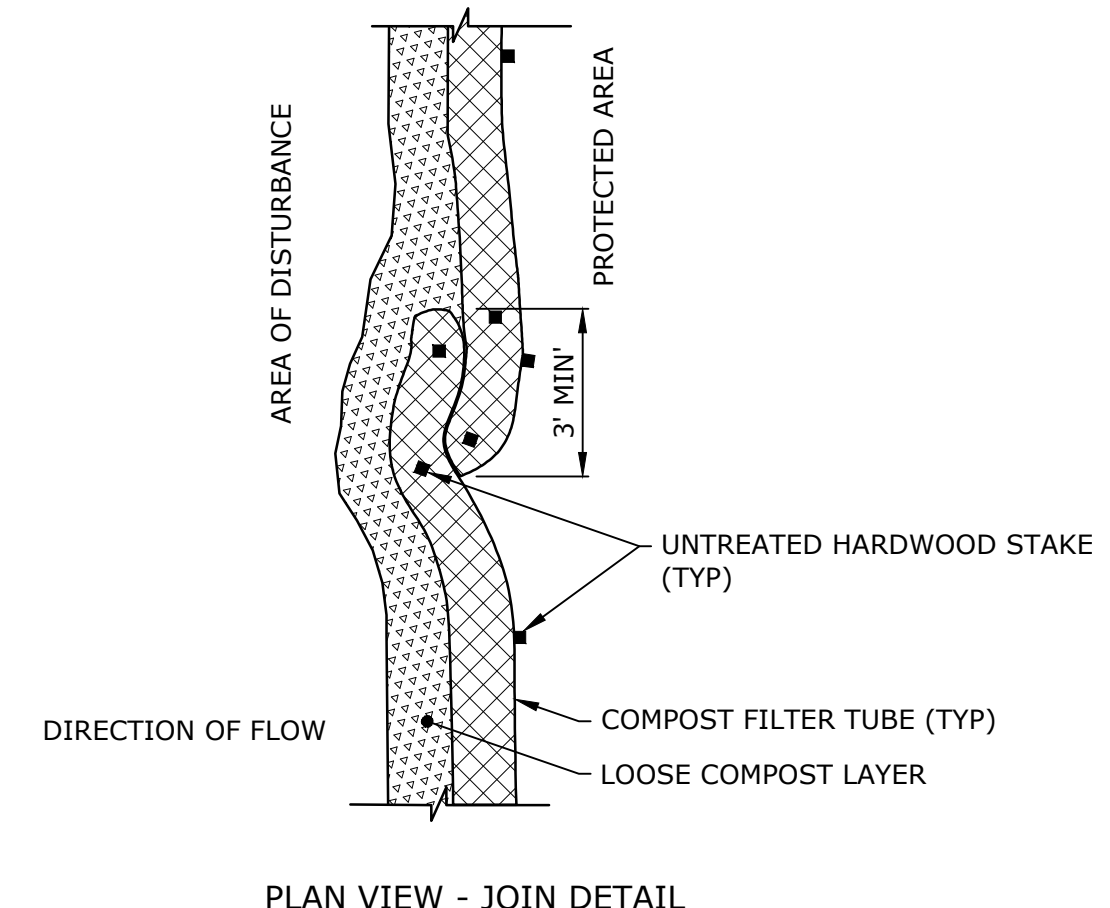
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DATE:	9/2024
FILE:	C-201 EROSION CONTROL DETAILS.dwg
DRAWN BY:	CMH/ARG/LPT
DESIGNED/CHECKED BY:	DRB/DRH
APPROVED BY:	CDH

**EROSION, SEDIMENT, AND WATER CONTROL DETAILS**

SCALE: AS SHOWN



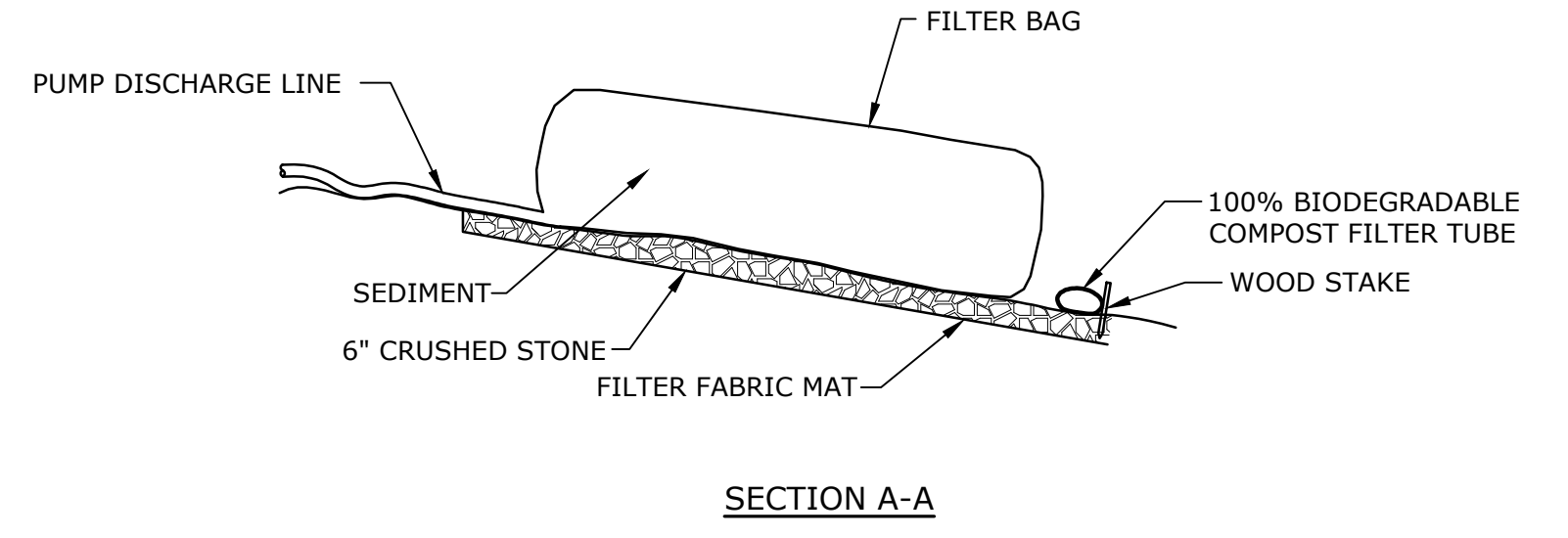
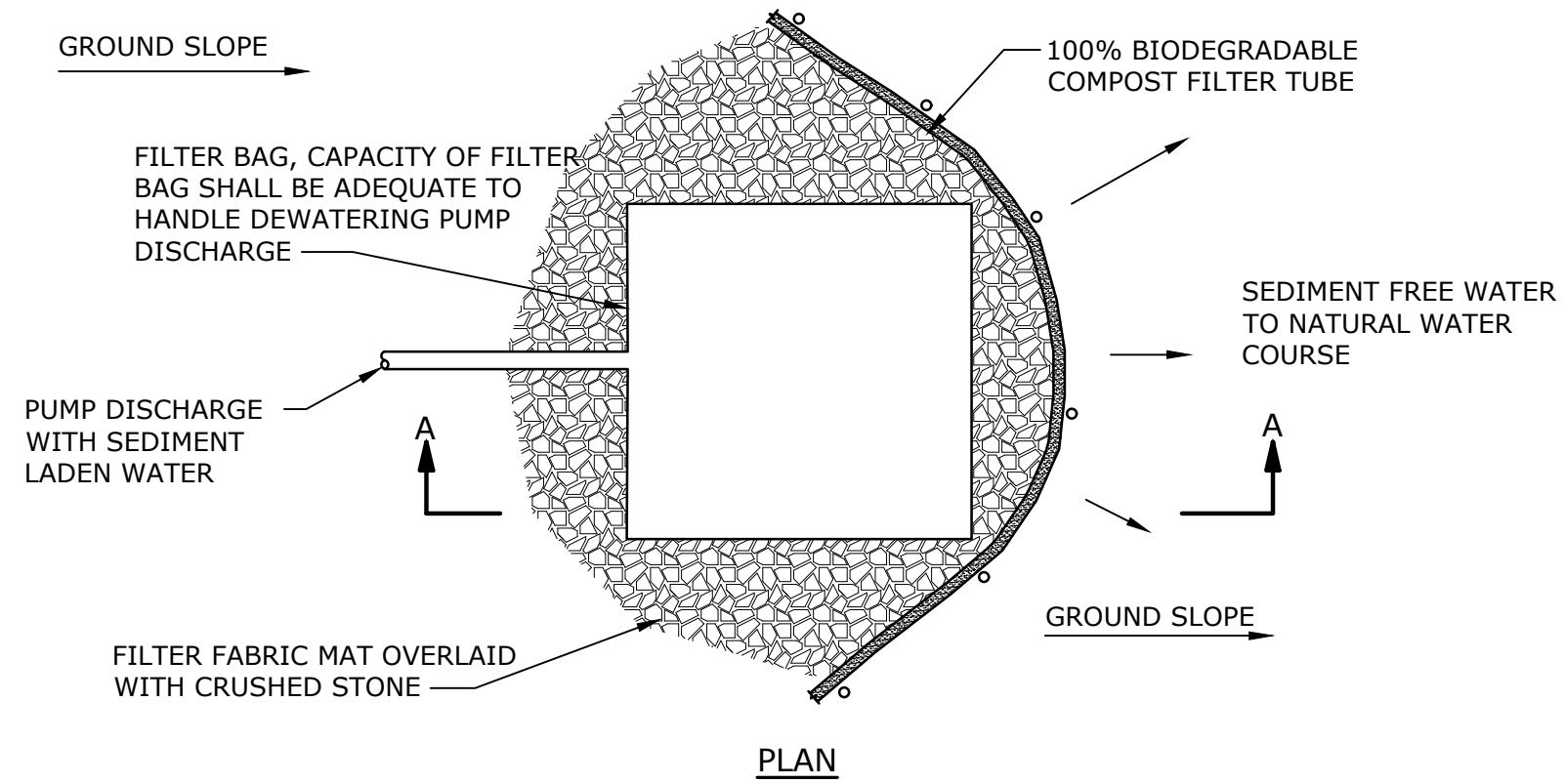
- NOTES:**
- TUBES FOR COMPOST FILTERS SHALL BE JUTE MESH OR APPROVED BIODEGRADABLE MATERIAL. ADDITIONAL TUBES SHALL BE USED AT THE DIRECTION OF THE ENGINEER.
  - TAMP TUBES IN PLACE TO ENSURE GOOD CONTACT WITH SOIL SURFACE. IT IS NOT NECESSARY TO TRENCH TUBES INTO EXISTING GRADE.
  - WHEN STAKING IS NOT POSSIBLE, SUCH AS WHEN TUBES MUST BE PLACED ON PAVEMENT, HEAVY CONCRETE OR CINDER BLOCKS CAN BE USED BEHIND TUBES UP TO 5' APART OR AS REQUIRED TO SECURE TUBES IN PLACE.



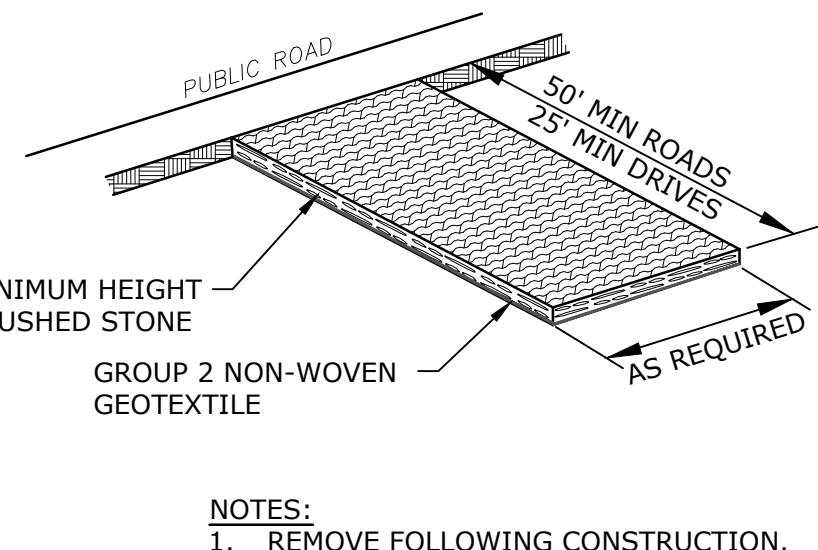
**EROSION CONTROL BARRIER COMPOST FILTER TUBE**  
NO SCALE

- NOTES:**
- PROVIDE 3' MINIMUM OVERLAP AT ENDS OF TUBES TO JOIN IN A CONTINUOUS BARRIER AND MINIMIZE UNIMPEDED FLOW.
  - STAKE JOINING TUBES SNUGLY AGAINST EACH OTHER TO PREVENT UNFILTERED FLOW BETWEEN THEM.
  - SECURE ENDS OF TUBES WITH STAKES SPACED 18" APART THROUGH TOPS OF TUBES.

- GENERAL COMPOST FILTER TUBE NOTES:**
- PROVIDE A MINIMUM TUBE DIAMETER OF 12" FOR SLOPES UP TO 50' IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER SLOPES OR STEEPER SLOPES.
  - INSTALL TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
  - DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
  - CONFIGURE TUBES AROUND EXISTING SITE FEATURES TO MINIMIZE SITE DISTURBANCE AND MAXIMIZE CAPTURE AREA OF STORMWATER RUN-OFF.
  - TUBES CAN BE PLACED DIRECTLY ON EXISTING PAVEMENT WHEN NECESSARY.
  - PLACING TUBES AGAINST THE UPHILL SIDE OF WELL-ANCHORED, STATIONARY FEATURES SUCH AS EXISTING TREES, CAN PROVIDE ADDITIONAL BRACING.
  - CURVE ENDS UPHILL TO PREVENT DIVERSION OF UNFILTERED RUN-OFF.
  - STRAW WATTLES WITH A 100% BIODEGRADABLE MESH MAY BE SUBSTITUTED IN AREAS INACCESSIBLE FOR FILTER TUBE INSTALLATION EQUIPMENT.

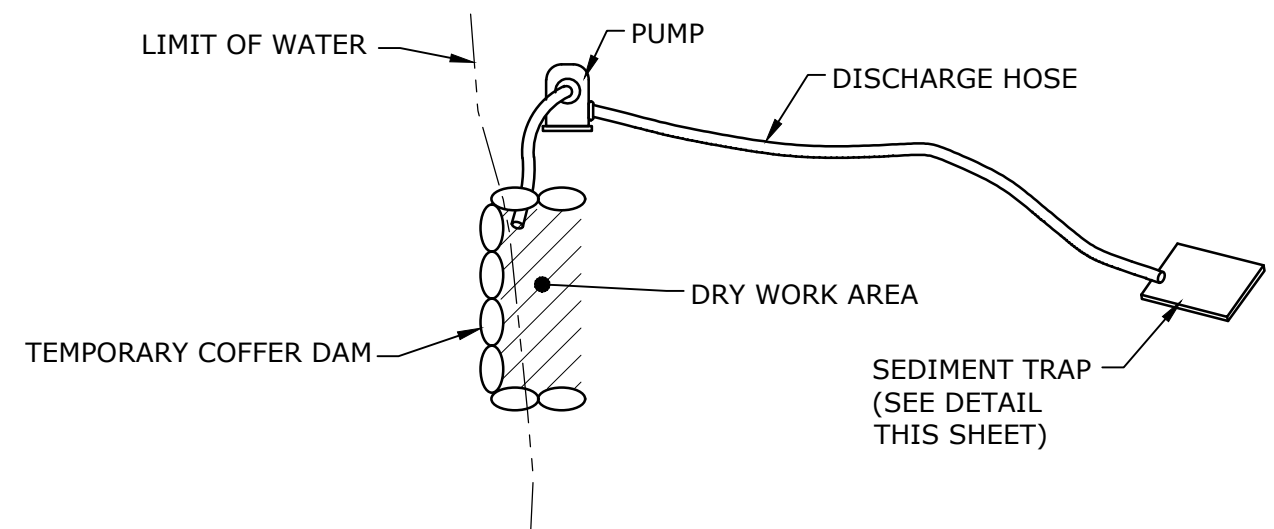


**SEDIMENT TRAP**  
NO SCALE



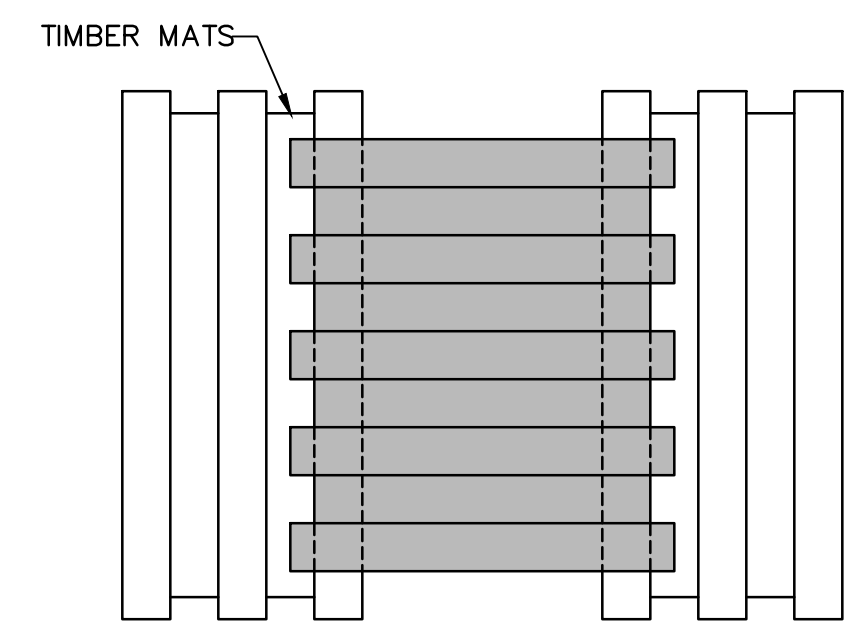
**TEMPORARY CONSTRUCTION ENTRY PAD**  
NO SCALE

- NOTES:**
- EROSION CONTROL BLANKET SHALL BE 100% BIODEGRADABLE.
  - EROSION CONTROL BLANKET SHALL BE INSTALLED VERTICALLY DOWNSLOPE.
  - STAKES/STAPLES SHALL BE PLACED NO MORE THAN 3 FT APART VERTICALLY, AND 1 FT APART HORIZONTALLY.
  - SLOPE SURFACE SHALL BE FREE OF STICKS, ROCKS, AND OTHER OBSTRUCTIONS.
  - BLANKETS SHALL BE ROLLED OUT LOOSELY AND STAKED/STAPLED TO MAINTAIN DIRECT SOIL CONTACT. DO NOT STRETCH THE BLANKETS.



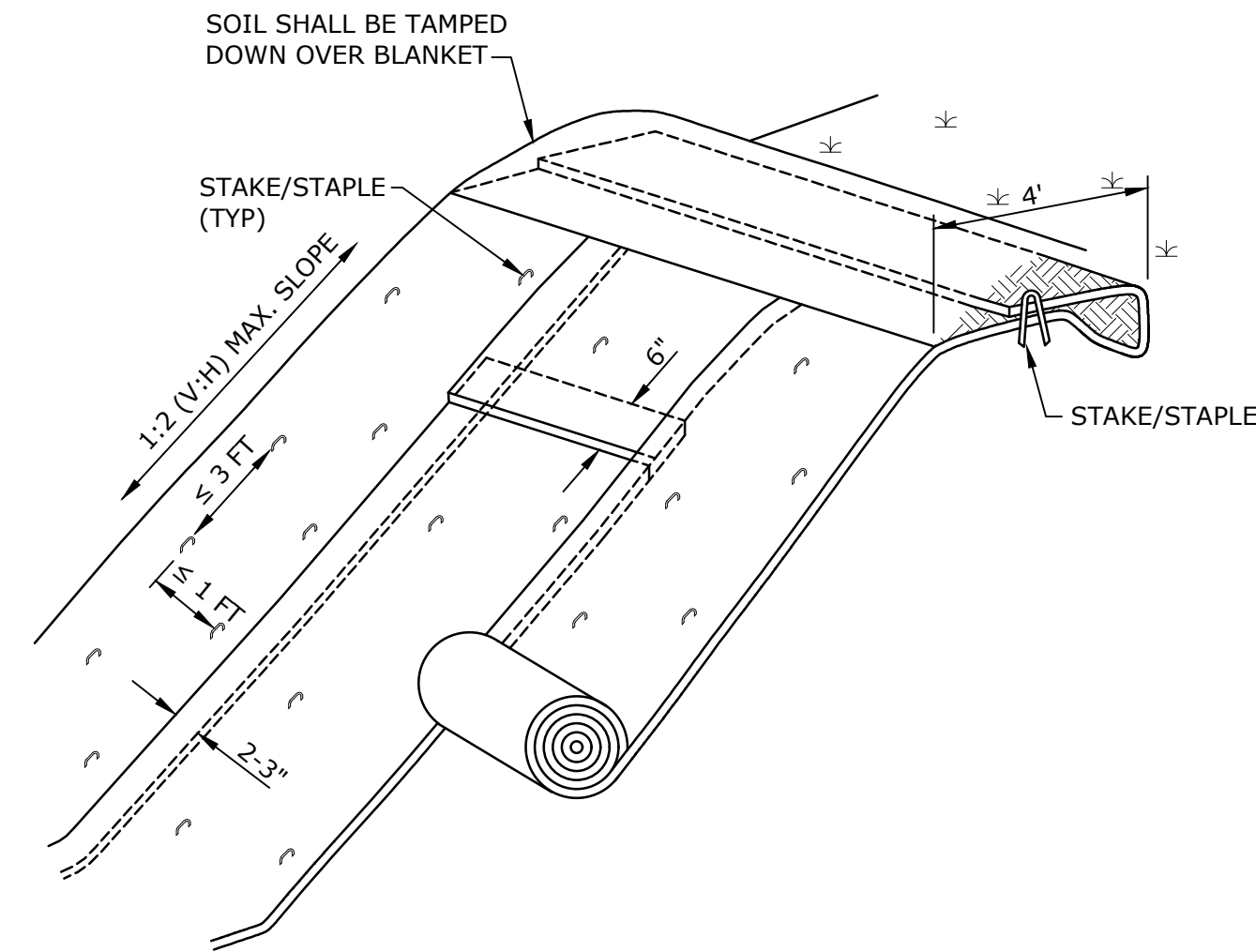
- NOTES:**
- DEWATERING EQUIPMENT SHALL REMAIN WITHIN THE PERMANENTLY IMPACTED AREAS AND SHALL DISCHARGE OUTSIDE OF THE WETLAND BOUNDARY.
  - DISCHARGE HOSE SHALL NOT CROSS THE STREAM AT ANY LOCATION.

**COFFERDAM AND DEWATERING**  
NO SCALE



**TYPICAL TIMBER MATS IN WETLANDS AREA**  
NO SCALE

- NOTES:**
- TIMBER MATS SHALL BE PLACED CLOSELY TOGETHER SO THERE ARE NO GAPS BETWEEN EACH MAT SECTION.
  - ADDITIONAL MEASURES MAY BE REQUIRED.
  - USE TIMBER MATS FOR TEMPORARY ACCESS, WHERE WORK WILL BE CONTINUOUS, IN WET OR SOFT AREAS.
  - BRIDGE EXCESSIVELY WET AREAS WITH MATS.



**EROSION CONTROL BLANKET**  
NO SCALE

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Plotted On: Oct 03, 2024 11:22:00 AM  
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