

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION

DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	1	92
PROJECT FILE NO.		608634	

TITLE SHEET & INDEX

PLAN AND PROFILE OF
UPPER ROAD OVER DEERFIELD RIVER
(BRIDGE NO. D-06-001 (CAQ))

IN THE TOWN OF

DEERFIELD

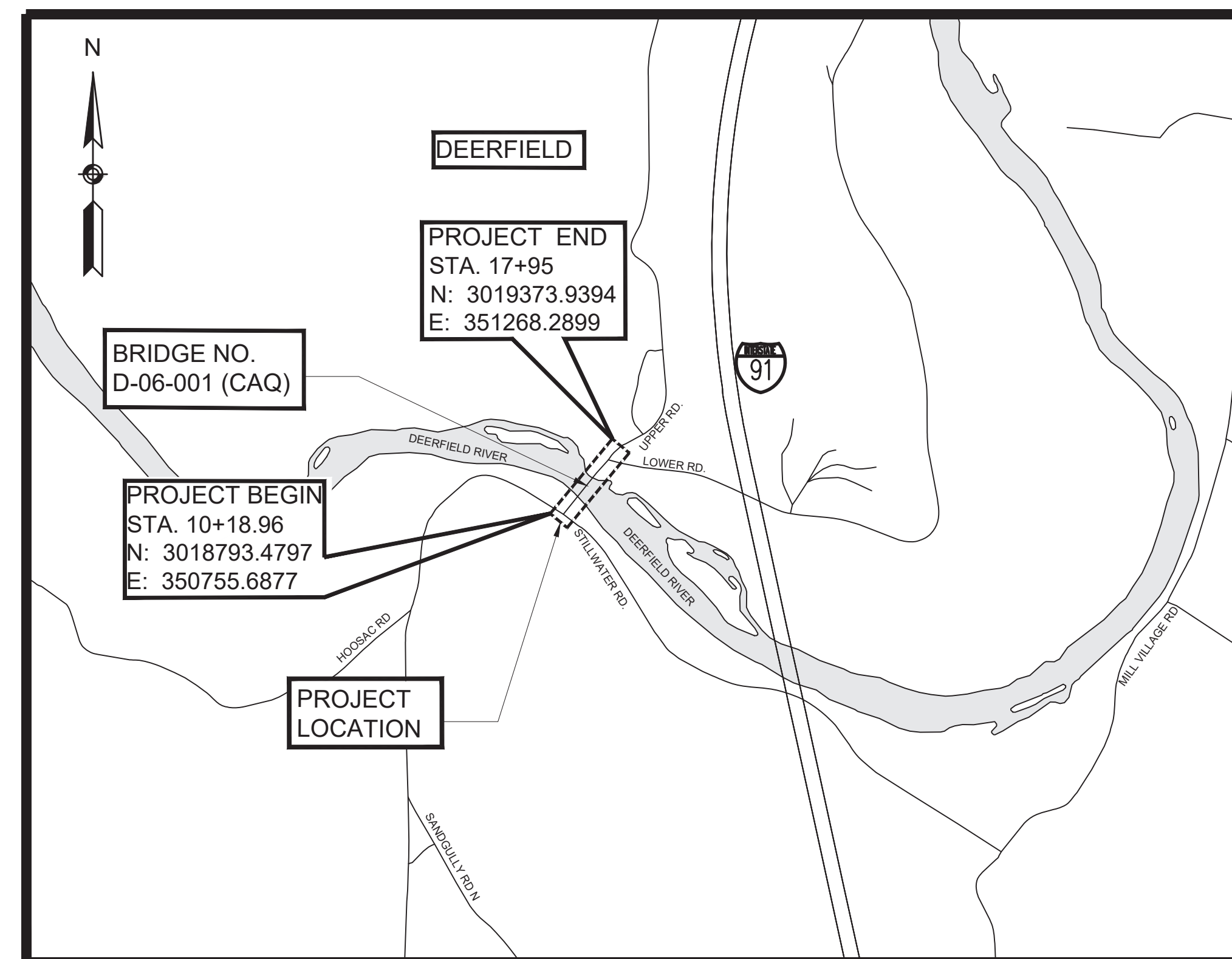
FRANKLIN COUNTY

FEDERAL AID PROJECT NO. BFL(BR-OFF)-0032(052)X

THESE PLANS ARE SUPPLEMENTED BY THE LATEST EDITIONS OF THE FOLLOWING PUBLICATIONS, AS IDENTIFIED IN THE CONTRACT SPECIAL PROVISIONS: THE MASSDOT CONSTRUCTION STANDARD DETAILS, THE MASSDOT STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE MASSDOT STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, THE MASSDOT OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, THE MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, AND THE ANSI AMERICAN STANDARD FOR NURSERY STOCK.

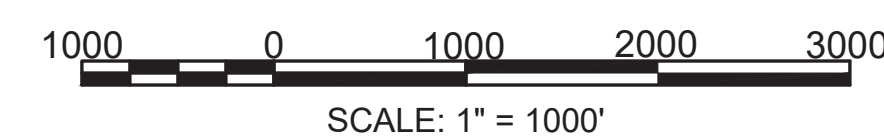
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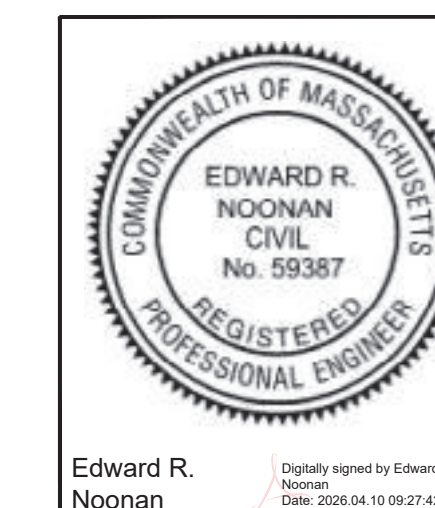


DESIGN DESIGNATION (UPPER ROAD)

DESIGN SPEED	30 MPH
ADT (2018)	1,218
ADT (2038)	1,486
K	9.4%
D	50.7%
T (PEAK HOUR)	10.6%
T (AVERAGE DAY)	8.7%
DHV	139
DDHV	70
FUNCTIONAL CLASSIFICATION	RURAL MINOR COLLECTOR



LENGTH OF PROJECT = 776.04 FEET = 0.147 MILES



Edward R. Noonan
Digitally signed by Edward R. Noonan
Date: 2026.04.30 09:59:38 -0400

DATE	DESCRIPTION	REV #



APPROVED	
Carrie Lavalée, P.E.	Digitally signed by Carrie Lavalée, P.E. Date: 2026.04.30 09:59:38 -0400
CHIEF ENGINEER	DATE
	04/30/2026

GENERAL SYMBOLS

Table with columns: EXISTING, PROPOSED, DESCRIPTION. Lists symbols for various infrastructure elements like manholes, poles, barriers, and utility lines.

TRAFFIC SYMBOLS

Table with columns: EXISTING, PROPOSED, DESCRIPTION. Lists symbols for traffic control elements like signal heads, detectors, and pavement markings.

PAVEMENT MARKINGS SYMBOLS

Table with columns: EXISTING, PROPOSED, DESCRIPTION. Lists symbols for various pavement markings such as stop lines, crosswalks, and lane markings.

ABBREVIATIONS

Table with columns: GENERAL, DESCRIPTION. Lists abbreviations for traffic and construction terms like AADT, ABAN, ADJ, etc.

DEERFIELD UPPER ROAD OVER DEERFIELD RIVER

Small table with columns: STATE, FED. AID PROJ. NO., SHEET NO., TOTAL SHEETS. Contains project identification numbers.

LEGEND & ABBREVIATIONS

ABBREVIATIONS (cont.)

Table with columns: GENERAL, DESCRIPTION. Continuation of abbreviations for terms like POINT OF TANGENCY, POINT OF VERTICAL CURVATURE, etc.

**DEERFIELD
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GENERAL NOTES

GENERAL NOTES

1. ALL UTILITY POLES REQUIRING RELOCATION ARE TO BE RELOCATED BY OTHERS.
2. THE CONTRACTOR SHALL RETAIN ALL CURBS, FENCES, WALLS, TREES, SHRUBS, POSTS, LANDSCAPE FEATURES, AND OTHER MISCELLANEOUS ITEMS WITHIN ABUTTING PROPERTIES, UNLESS OTHERWISE NOTED. WHEN RETAINING THOSE ITEMS IS NOT PRACTICAL IN THE OPINION OF THE ENGINEER, THE CONTRACTOR SHALL REMOVE, STOCKPILE, PROTECT AND RESET THE ITEMS. THE CONTRACTOR SHALL REPLACE ITEMS DAMAGED DURING REMOVAL, STOCKPILING, OR RESETTING DUE TO NEGLIGENCE, CARELESSNESS, OR MISHANDLING WITH EQUIVALENT NEW ITEMS AT NO COST TO THE OWNER.
3. ALL TREES WITHIN THE SLOPE LIMIT SHALL BE RETAINED AND PROTECTED UNLESS OTHERWISE NOTED.
4. CONTRACTOR SHALL PROTECT ALL PROPERTY MARKERS OF ABUTTERS.
5. TREATMENT OF SLOPE AREAS SHALL BE REPLACED IN KIND UNLESS OTHERWISE NOTED.
6. IN AREAS OF GUARDRAIL, PAVEMENT MILLING MULCH SHALL BE PLACED TWO FEET BEYOND THE GUARDRAIL POST. SEEDING SHALL BE PLACED BEYOND THE PAVEMENT MILLING MULCH OR AS OTHERWISE CALLED OUT ON THE PLANS.

UTILITY NOTES:

1. THE LOCATION OF ALL UNDERGROUND UTILITIES ARE SHOWN APPROXIMATE AND WERE COMPILED USING FIELD SURVEY INFORMATION AND AVAILABLE RECORD INFORMATION. THE LOCATION OF EXISTING PIPES OR OTHER UNDERGROUND STRUCTURES OR PROPERTY LINES ARE NOT WARRANTED TO BE EXACT, NOR IS IT WARRANTED THAT ALL UNDERGROUND PIPES OR STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL CALL "DIG SAFE" (1-888-344-7233) 72 HOURS (EXCLUDING SATURDAYS, SUNDAYS AND HOLIDAYS) PRIOR TO ANY EXCAVATION TO OBTAIN ACCURATE UTILITY LOCATIONS.
2. RECORD UTILITY INFORMATION FROM THE VARIOUS UTILITY COMPANIES AND PUBLIC AGENCIES ARE APPROXIMATE ONLY AND ACTUAL LOCATIONS MUST BE DETERMINED IN THE FIELD.
3. SUBSURFACE UTILITY LOCATIONS HAVE BEEN PLOTTED TO MEET UTILITY QUALITY LEVEL "C" AS DESCRIBED IN ASCE STANDARD 38-02 AND SUMMARIZED ON THIS SHEET. THE UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS BASED ON ABOVE-GROUND FIELD OBSERVATION AND EXISTING RECORD INFORMATION RECEIVED FROM UTILITY STAKE-HOLDERS.
4. INVERTS SHOWN ON PLAN ARE NOT GUARANTEED TO BE ACCURATE. DUE TO THE LIMITATIONS OF FIELD OBSERVATION AND SURVEY TECHNIQUES THE INVERTS ARE SHOWN AS APPROXIMATE ONLY AND SHALL NOT BE WARRANTED TO BE CORRECT. ADDITIONAL FIELD INVESTIGATION IS NECESSARY WHERE ACCURATE MEASUREMENTS ARE REQUIRED FOR DESIGN OF CRITICAL AREAS.
5. WHERE AN EXISTING UTILITY IS FOUND TO BE IN CONFLICT WITH THE PROPOSED WORK, THE CONTRACTOR SHALL ACCURATELY DETERMINE THE LOCATION, ELEVATION AND SIZE OF THE UTILITY AND FURNISH THE INFORMATION TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
6. THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHEN EXCAVATING NEAR AND BACKFILLING IN THE VICINITY OF EXISTING UTILITIES. THE CONTRACTOR SHALL USE HAND EXCAVATION WHERE APPROPRIATE TO PROTECT EXISTING UTILITIES.
7. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING UTILITIES IN SERVICE AT ALL TIMES UNLESS NOTED ON THE PLANS OR APPROVED BY THE ENGINEER.
8. THE CONTRACTOR SHALL SUPPORT AND PROTECT EXISTING UTILITIES IN AND AROUND EXCAVATIONS, AND IN PARTICULAR, WHEN CROSSING OVER OR UNDER ANY DUCT OR PIPE. ALL PROTECTIVE MEASURES SHALL BE CONSIDERED INCIDENTAL WORK.
9. IF THE CONTRACTOR DAMAGES ANY UTILITY SYSTEM, HE OR SHE SHALL IMMEDIATELY NOTIFY THE RESPECTIVE UTILITY COMPANY AND SHALL REPAIR/REPLACE THE AFFECTED SYSTEM AT HIS OR HER OWN EXPENSE.
10. THE CONTRACTOR SHALL COORDINATE WITH PRIVATE UTILITY COMPANIES AND MAKE ARRANGEMENTS FOR ADJUSTMENTS, ALTERATIONS AND REPLACEMENT OF PRIVATE UTILITIES.
11. BELOW GROUND STRUCTURES ARE SHOWN SYMBOLIC UNLESS DIMENSIONED.
12. THE EXISTING CONDITIONS PLAN IS TO BE USED FOR THE SPECIFIED PROJECT ONLY AND IS NOT WARRANTED TO BE COMPLETE FOR ANY OTHER FUTURE PROJECTS.
13. THE CONTRACTOR SHALL VERIFY UNDERGROUND UTILITIES DO NOT INTERFERE WITH THE GUARDRAIL POST SPACING.

DRAINAGE NOTES

1. ALL REINFORCED CONCRETE (RCP) PIPE SHALL BE CLASS III UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL CONFLICTS BETWEEN THE EXISTING UTILITIES AND THE PROPOSED WORK. THE ENGINEER RESERVES THE RIGHT TO MODIFY THE DESIGN TO REALIGN THE PIPE AND STRUCTURE LOCATIONS AND INVERTS TO SUIT ACTUAL FIELD CONDITIONS ENCOUNTERED AT NO ADDITIONAL COST.
3. ALL OFFSETS TO THE CATCH BASINS ARE TO THE CENTER OF THE GRATE. THE LOCATION AND ORIENTATION OF THE BELOW GRADE STRUCTURE SHALL BE FIELD COORDINATED BY THE CONTRACTOR TO AVOID CONFLICTS WITH EXISTING UTILITIES.
4. ALL EXISTING AND PROPOSED CATCH BASINS SHALL BE PROTECTED FROM SEDIMENT INUNDATION DURING ALL CONSTRUCTION ACTIVITIES.
5. ALL EXISTING DRAIN PIPES UNDER THE PROPOSED ROAD OR SIDEWALK SHALL BE RETAINED UNLESS OTHERWISE NOTED. IF THE EXISTING PIPE IS TO BE REMOVED TO ACCOMMODATE THE WORK OR ABANDONED AND IT EXTENDS OUTSIDE THE PROPOSED ROADWAY OR SIDEWALK LIMIT IT SHALL BE CUT AND CAPPED AT THE RESPECTIVE LIMIT AT NO ADDITIONAL COST. REMOVAL AND DISPOSAL OF THESE PIPES ARE INCIDENTAL TO THE DRAINAGE ITEMS.
6. ALL PROPOSED CATCH BASINS SHALL BE DEEP SUMP CATCH BASINS WITH HOOD.
7. DRAINAGE ELEVATIONS ARE PROVIDED FOR DESIGN PURPOSES ONLY. THE CONTRACTOR SHALL PERFORM TEST PITS, WHERE APPROVED BY THE ENGINEER, TO VERIFY THE LOCATIONS OF EXISTING UTILITIES WHICH MAY CONFLICT WITH THE PROPOSED DRAINAGE DESIGN. FIELD ADJUSTMENTS WILL BE MADE AS APPROVED OR AS REQUIRED BY THE ENGINEER. ONLY AFTER THE CONTRACTOR VERIFIES ELEVATIONS FOR CONSTRUCTABILITY OF THE DRAINAGE SYSTEM SHALL STRUCTURES BE ORDERED. ANY FIELD ADJUSTMENTS TO DRAIN LINE UP TO A DEPTH OF 5 FEET SHALL BE INCLUDED IN THE COST OF THE PIPE.
8. ALL SINGLE GRATE CATCH BASINS AND DRAIN MANHOLE STRUCTURES ARE ECCENTRIC, UNLESS OTHERWISE NOTED.
9. USE FLAT TOP SLAB MANHOLE AND CATCH BASIN WHERE NEEDED AND APPROVED BY THE ENGINEER.
10. IN INSTANCES WHERE AN EXISTING MANHOLE, HANDHOLE OR "SURFACE" TYPE STRUCTURE THAT CANNOT BE REMOVED OR RESET IS WITHIN THE PROPOSED OR EXISTING ACCESSIBLE SURFACE, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACES OF THE STRUCTURE COVER SHALL BE FLUSH WITH THE CURB RAMP SURFACE.
11. A MINIMUM OF 12" OF SEPARATION BETWEEN THE EXISTING 8" HP GAS MAIN AND ALL IMPROVEMENTS MUST BE MAINTAINED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF EXISTING FIELD CONDITIONS DO NOT ALLOW FOR THIS SEPARATION REQUIREMENT TO BE MAINTAINED.
12. ALL EXISTING CATCH BASINS TO BE RETAINED WITHIN THE LIMIT OF WORK SHALL BE CLEANED AS DIRECTED BY THE ENGINEER.
13. BICYCLE SAFE CASCADE GRATE SHALL BE USED FOR ALL THE INLETS.

SUMMARY OF UTILITY MAPPING QUALITY LEVELS:

THE FOLLOWING IS A SUMMARY OF THE SURVEY MAPPING LEVELS FOR UTILITIES AS DESCRIBED IN ASCE STANDARD 38-02, "STANDARD GUIDELINE FOR THE DEPICTION OF EXISTING SUBSURFACE UTILITY DATA". THESE GUIDELINES ARE MORE FULLY DESCRIBED IN THE ASCE STANDARD.

UTILITY QUALITY LEVEL A:
PRECISE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES OBTAINED BY THE ACTUAL EXPOSURE (OR VERIFICATION OF PREVIOUSLY EXPOSED AND SURVEYED UTILITIES) AND SUBSEQUENT MEASUREMENT OF SUBSURFACE UTILITIES, USUALLY AT A SPECIFIC POINT. MINIMALLY INTRUSIVE EXCAVATION EQUIPMENT IS TYPICALLY USED TO MINIMIZE THE POTENTIAL FOR UTILITY DAMAGE. A PRECISE HORIZONTAL AND VERTICAL LOCATION, AS WELL AS OTHER UTILITY ATTRIBUTES, IS SHOWN ON PLAN DOCUMENTS. ACCURACY IS TYPICALLY SET TO 15-MM VERTICAL AND TO APPLICABLE HORIZONTAL SURVEY AND MAPPING ACCURACY AS DEFINED OR EXPECTED BY THE PROJECT OWNER.

UTILITY QUALITY LEVEL B:
INFORMATION OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF SUBSURFACE UTILITIES. QUALITY LEVEL B DATA SHOULD BE REPRODUCIBLE BY SURFACE GEOPHYSICS AT ANY POINT OF THEIR DEPICTION. THIS INFORMATION IS SURVEYED TO APPLICABLE TOLERANCES DEFINED BY THE PROJECT AND REDUCED ONTO PLAN DOCUMENTS.

UTILITY QUALITY LEVEL C:
INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGMENT IN CORRELATING THIS INFORMATION TO QUALITY LEVEL D INFORMATION.

UTILITY QUALITY LEVEL D:
INFORMATION DERIVED FROM EXISTING RECORDS OR ORAL RECOLLECTIONS.

SURVEY NOTES

1. THE BASEMAP IS THE RESULT OF AN ON-THE-GROUND INSTRUMENT SURVEY BY PRIME AE BETWEEN JUNE 14, 2018 AND OCTOBER 26, 2018. SUPPLEMENTED BY GREEN INTERNATIONAL AFFILIATES IN APRIL, 2020 AND JULY, 2023. CONTROL WAS PROVIDED BY MASSDOT.
2. HORIZONTAL BASED UPON THE NORTH AMERICAN DATUM OF 1983 MASSACHUSETTS MAINLAND NAD 83 (2011) EPOCH 2010.00, MASSACHUSETTS STATE PLANE COORDINATE SYSTEM. COORDINATES ARE BASED ON CONTROL PROVIDED BY MASSDOT SURVEY PROJECT: 021N D608487-PAYP11.
3. VERTICAL CONTROL IS BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 AS PROVIDED BY MASSDOT SURVEY SECTION FOR COPPER PLUG MASSDOT POINT ID: 13271, NGS ID: MZ0291 AND STATION NAME 501. THE STATION IS LOCATED IN DEERFIELD SOUTH CORNER TOP NORTHWEST WINGSWALL, NORTHEAST ABUTMENT, BRIDGE NO. 110.15 OVER UPPER ROAD.

EROSION AND SEDIMENT CONTROL

1. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY LAND DISTURBANCE/EARTHWORK ACTIVITIES.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE, REPAIR AND REPLACEMENT OF ALL SEDIMENTATION/EROSION CONTROL MEASURES UNTIL ALL DISTURBED AREAS ARE STABILIZED.

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TYPICAL SECTIONS

PAVEMENT NOTES

PROPOSED FULL DEPTH PAVEMENT

SURFACE COURSE: 1.5" SUPERPAVE BRIDGE SURFACE COURSE - 9.5 POLYMER (SSC-B-9.5-P) OVER ASPHALT EMULSION FOR TACK COAT (RS-1H) OVER

INTERMEDIATE COURSE: 2" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER ASPHALT EMULSION FOR TACK COAT (RS-1H) OVER

BASE COURSE: 4" SUPERPAVE BASE COURSE 37.5 (SBC-37.5) OVER

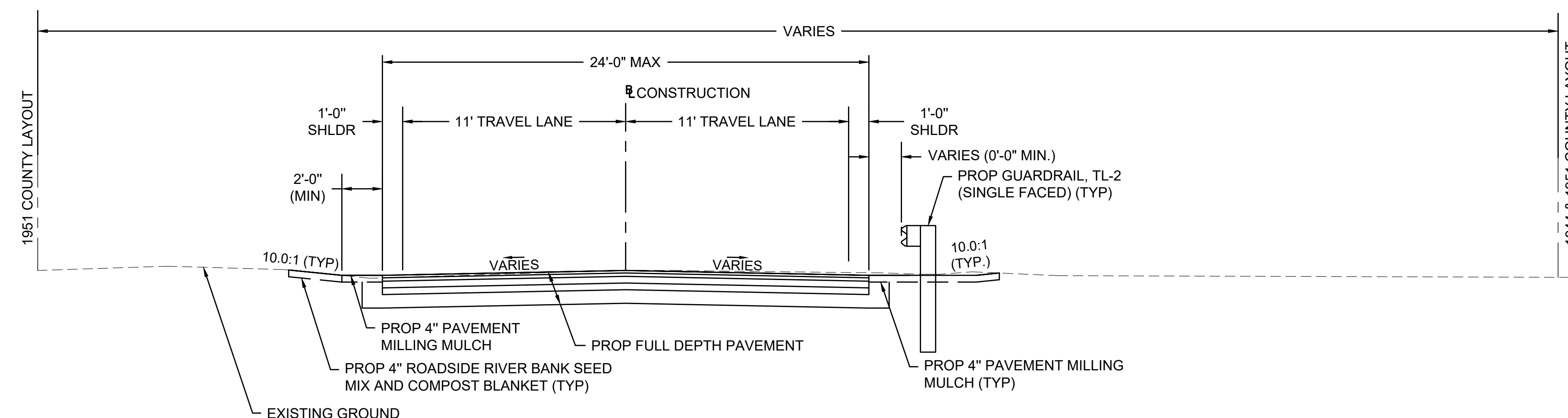
SUBBASE: 4" DENSE GRADED CRUSHED STONE BASE OVER
8" GRAVEL BORROW (TYPE B) (COMPACTED IN MAX 4" LIFTS)

PROPOSED PAVEMENT FINE MILLING & RESURFACING

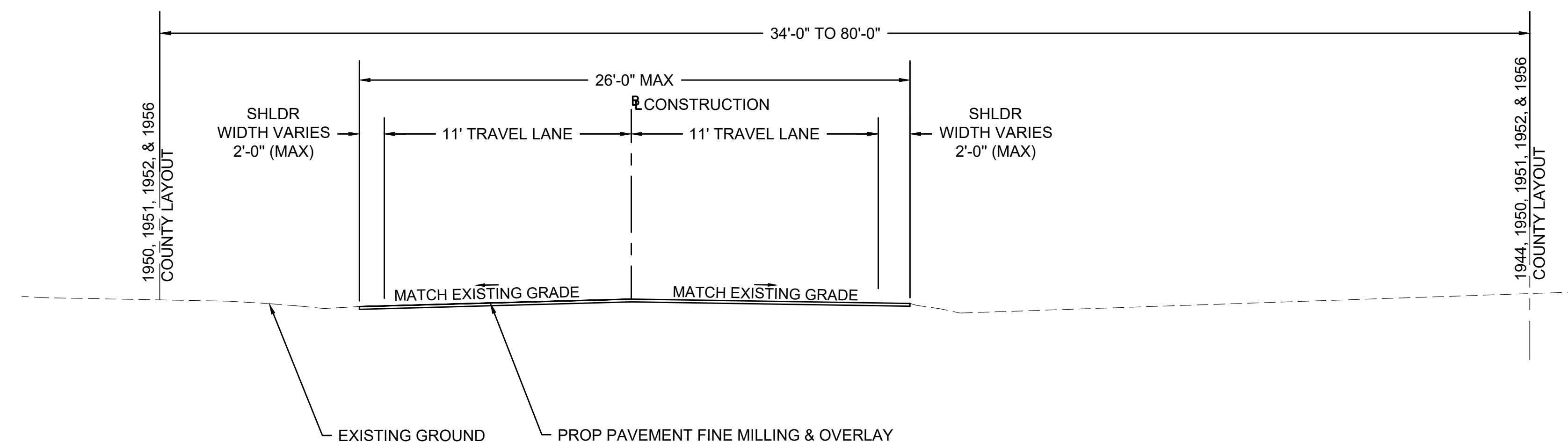
SURFACE COURSE: 1.5" SUPERPAVE BRIDGE SURFACE COURSE - 9.5 POLYMER (SSC-B-9.5-P) OVER ASPHALT EMULSION FOR TACK COAT (RS-1H)

FINE MILLING: 1.5" PAVEMENT FINE MILLING

NOTE:
1. TACK COAT SHALL BE APPLIED BETWEEN NEW PAVEMENT LAYERS AT A RATE OF 0.08 GALLONS PER SQUARE YARD AND ON MILLED SURFACES AT A RATE OF 0.09 GALLONS PER SQUARE YARD.



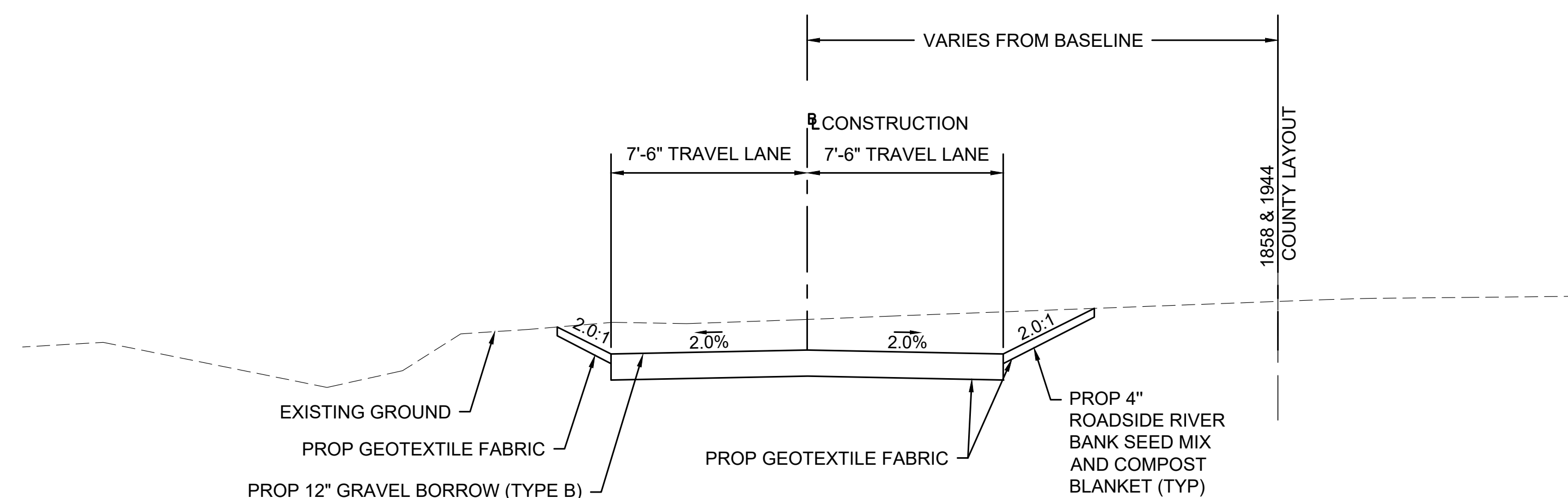
STILLWATER ROAD
STA. 100+68.0 TO 102+21.0
SCALE: 1"=4'



STILLWATER ROAD
STA. 102+21.0 TO 102+46.0
STA. 100+43.0 TO 100+68.0
SCALE: 1"=4'

LOWER ROAD
STA. 201+10.0 TO 201+35.0
SCALE: 1"=4'

UPPER ROAD
STA. 17+70.0 TO 17+95.0
SCALE: 1"=4'

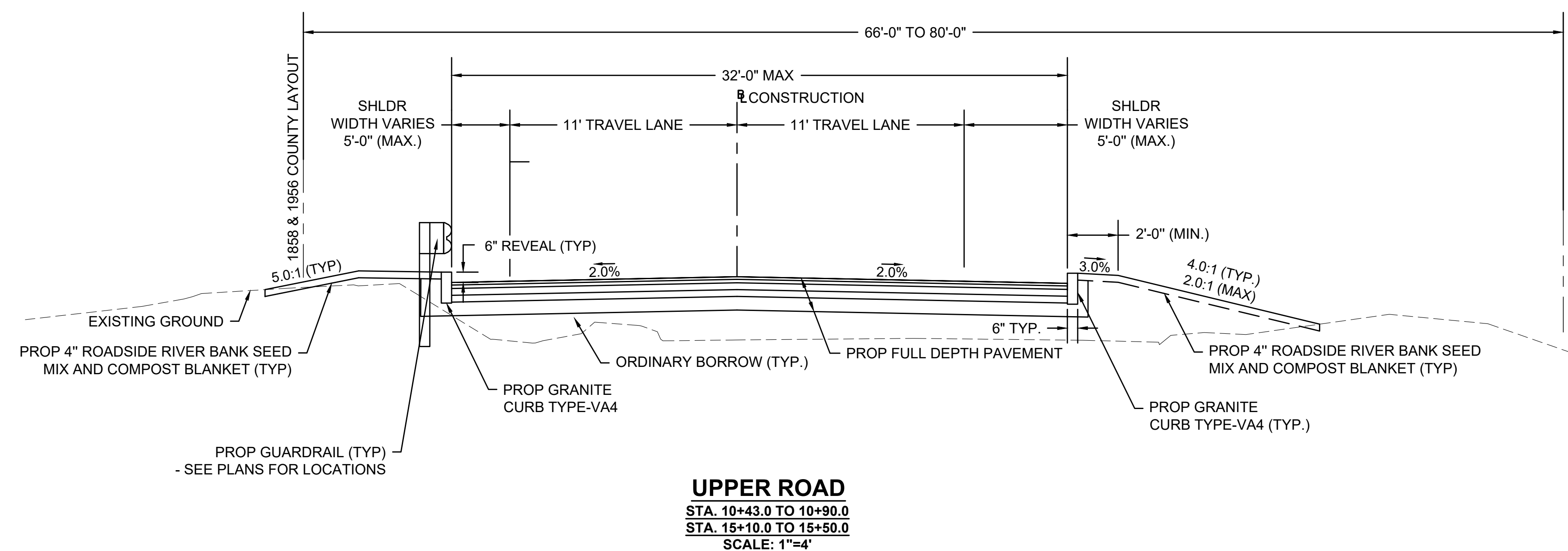
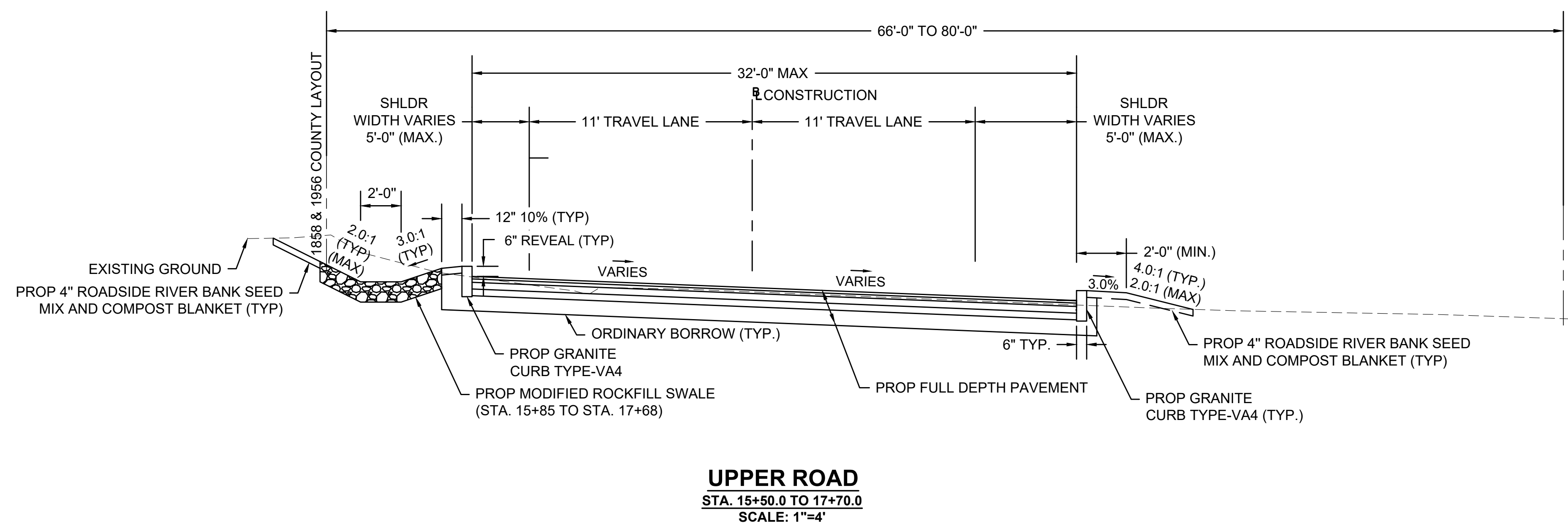
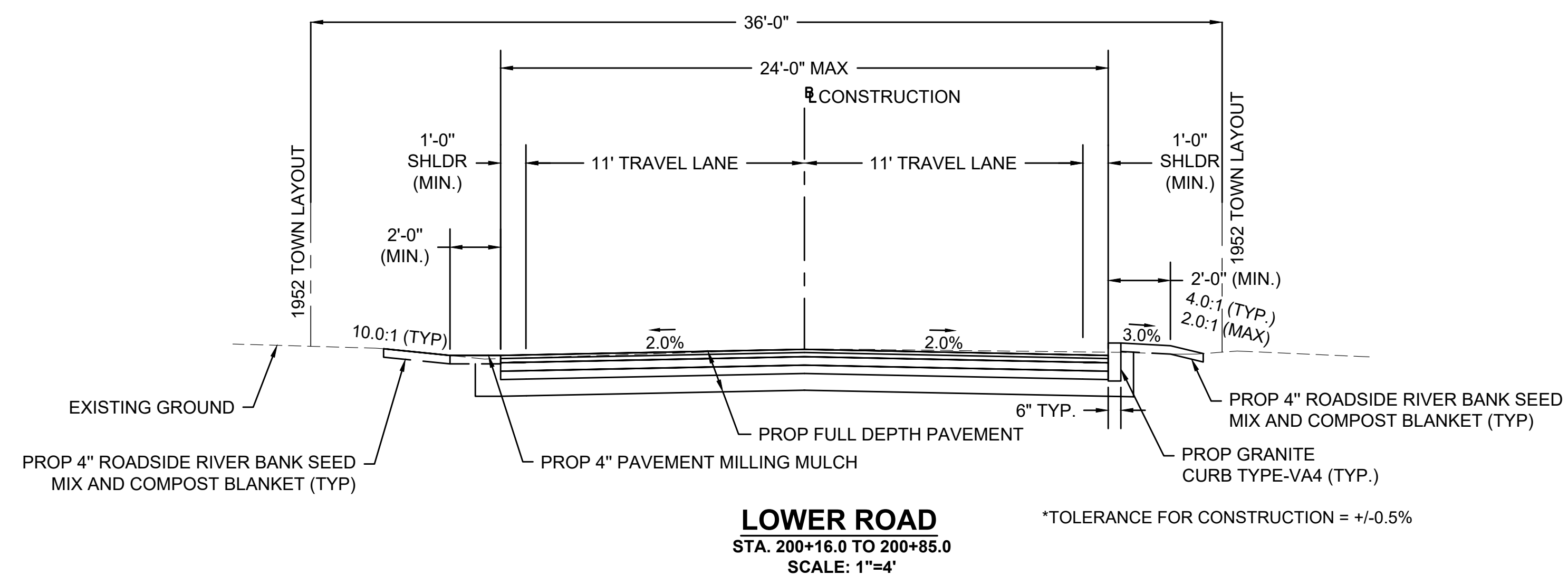


TEMPORARY ACCESS ROAD
STA. 0+00.0 TO 2+48.25
SCALE: 1"=4'

DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

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TYPICAL SECTIONS



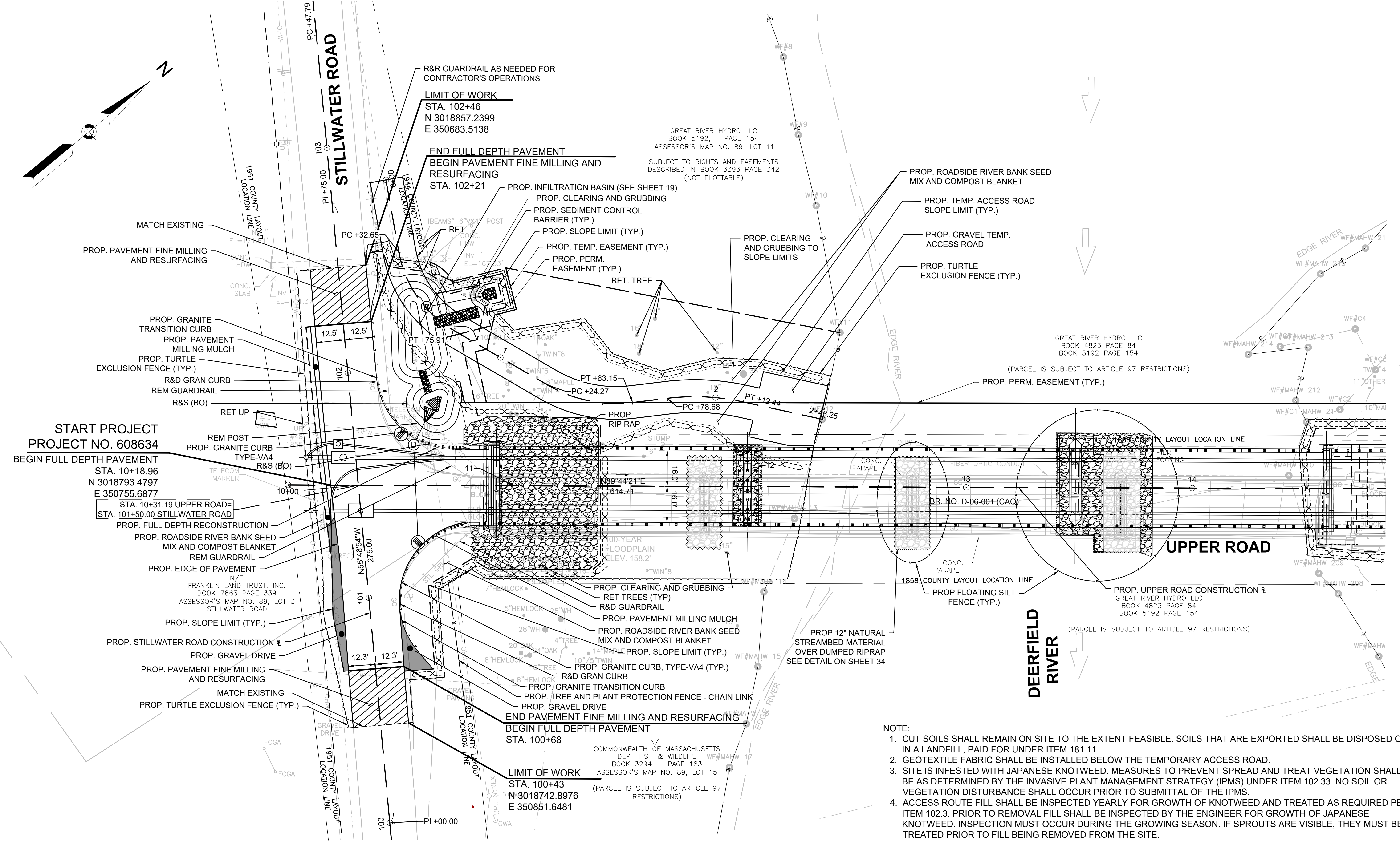
**DEERFIELD
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CONSTRUCTION PLANS 1 OF 2

HIGHWAY GUARD DETAILS
 STA. 100+69 RT - STA. 100+74 RT TRAILING ANCHORAGE (THRIE BEAM)
 STA. 100+74 RT - STA. 10+82 RT TRANSITION TO BRIDGE RAIL
 STA. 10+50 LT - STA. 10+82 LT TRANSITION TO BRIDGE RAIL
 STA. 10+50 LT - STA. 101+97 RT GUARDRAIL-CURVED, TL-2 (SINGLE FACED)
 STA. 101+97 RT - STA. 102+16 RT GUARDRAIL, TL-2 (SINGLE FACED)
 STA. 102+16 RT - 102+49 RT TRANSITION TO NCHRP 350 GUARDRAIL

TRAFFIC SIGNAL CONDUIT NONE
WATER SUPPLY ALTERATIONS NONE
DRAINAGE DETAILS SEE SHEET 14



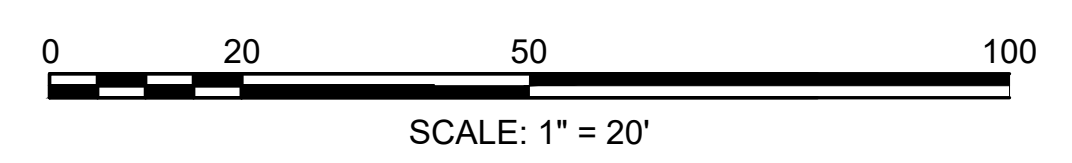
**START PROJECT
PROJECT NO. 608634
BEGIN FULL DEPTH PAVEMENT**
 STA. 10+18.96
 N 3018793.4797
 E 350755.6877

LIMIT OF WORK
 STA. 102+46
 N 3018857.2399
 E 350683.5138

**END FULL DEPTH PAVEMENT
BEGIN PAVEMENT FINE MILLING AND RESURFACING**
 STA. 102+21

LIMIT OF WORK
 STA. 100+43
 N 3018742.8976
 E 350851.6481

- NOTE:**
- CUT SOILS SHALL REMAIN ON SITE TO THE EXTENT FEASIBLE. SOILS THAT ARE EXPORTED SHALL BE DISPOSED OF IN A LANDFILL, PAID FOR UNDER ITEM 181.11.
 - GEOTEXTILE FABRIC SHALL BE INSTALLED BELOW THE TEMPORARY ACCESS ROAD.
 - SITE IS INFESTED WITH JAPANESE KNOTWEED. MEASURES TO PREVENT SPREAD AND TREAT VEGETATION SHALL BE AS DETERMINED BY THE INVASIVE PLANT MANAGEMENT STRATEGY (IPMS) UNDER ITEM 102.33. NO SOIL OR VEGETATION DISTURBANCE SHALL OCCUR PRIOR TO SUBMITTAL OF THE IPMS.
 - ACCESS ROUTE FILL SHALL BE INSPECTED YEARLY FOR GROWTH OF KNOTWEED AND TREATED AS REQUIRED PER ITEM 102.3. PRIOR TO REMOVAL FILL SHALL BE INSPECTED BY THE ENGINEER FOR GROWTH OF JAPANESE KNOTWEED. INSPECTION MUST OCCUR DURING THE GROWING SEASON. IF SPROUTS ARE VISIBLE, THEY MUST BE TREATED PRIOR TO FILL BEING REMOVED FROM THE SITE.
 - COMPOST BLANKET AND ROADSIDE RIVER BANK SEED MIX SHALL BE APPLIED TO ALL DISTURBED SOILS PER THE SPECIFICATIONS.



FOR PROFILE SEE SHEET 8

608634_HD07 (CONSTRUCTION PLANS).DWG Plotted on: 22-Apr-2026 10:51 AM CONTINUED ON SHEET NO. 7

HIGHWAY GUARD DETAILS

STA. 15+15 LT - STA. 15+49 LT TRANSITION TO BRIDGE RAIL
STA. 15+20 RT - STA. 15+54 RT TRANSITION TO BRIDGE RAIL
STA. 15+49 LT - STA. 15+74 LT GUARDRAIL TANGENT END TREATMENT, TL-2
STA. 15+54 RT - STA. 15+73 RT TRAILING ANCHORAGE

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

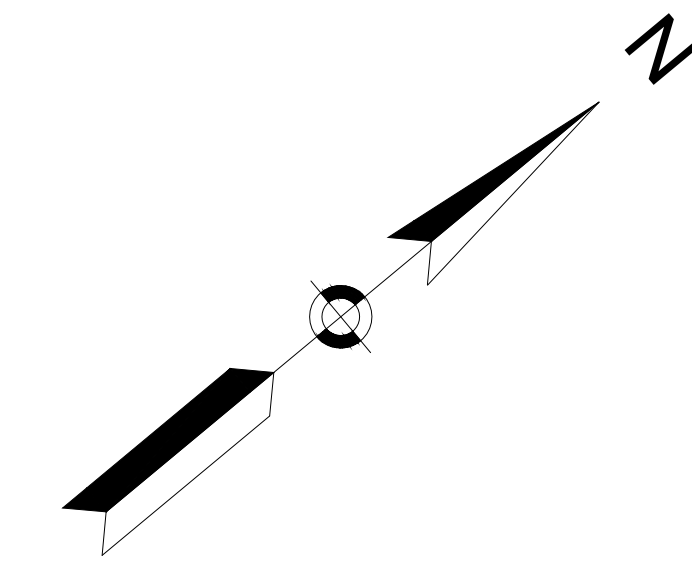
DRAINAGE DETAILS

SEE SHEET 15

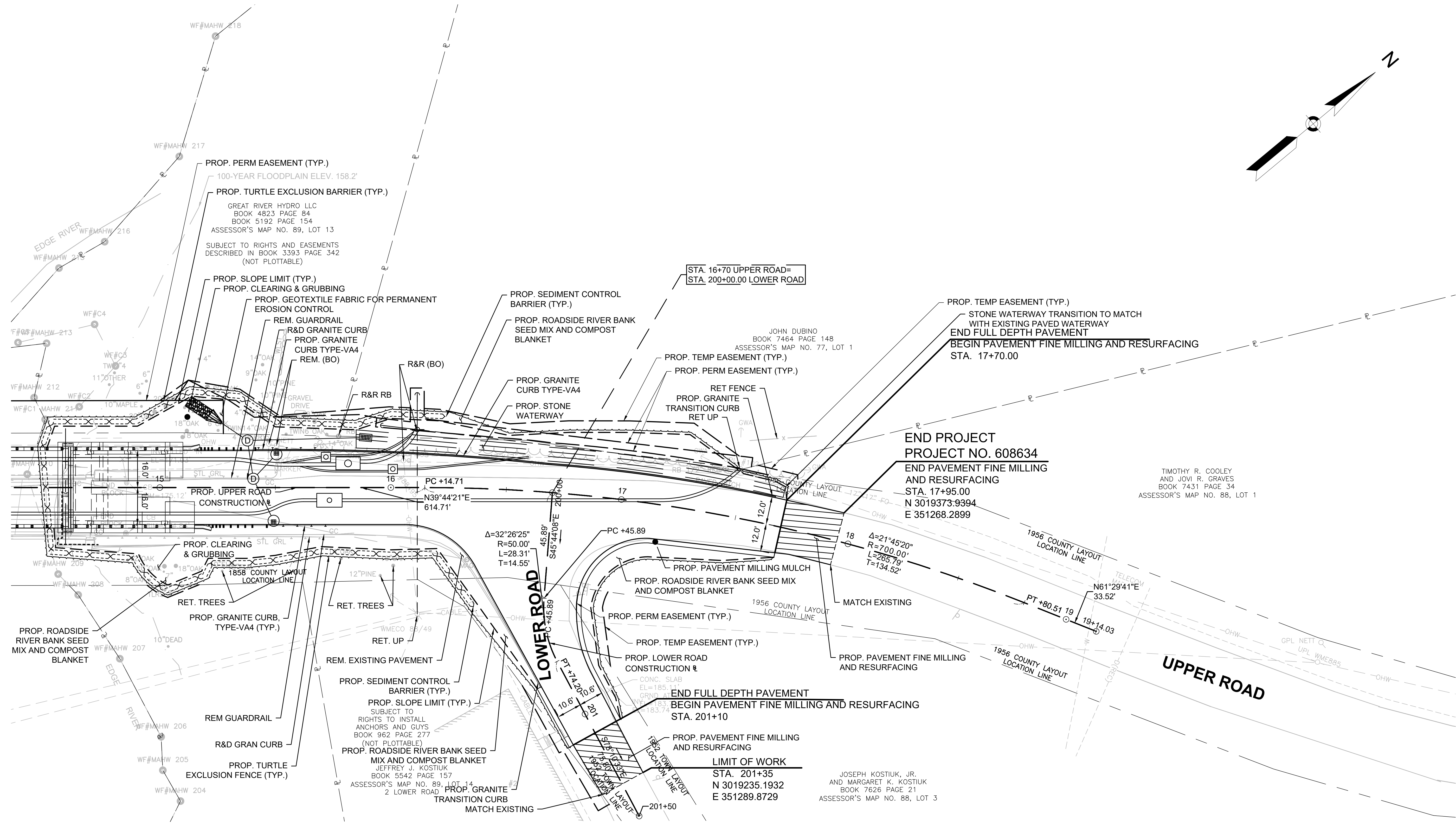
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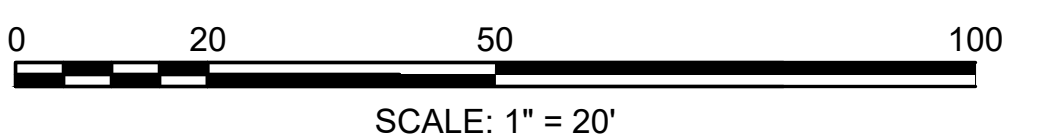
CONSTRUCTION PLANS 2 OF 2



CONTINUED ON SHEET NO. 6



FOR PROFILE SEE SHEETS 9 - 10

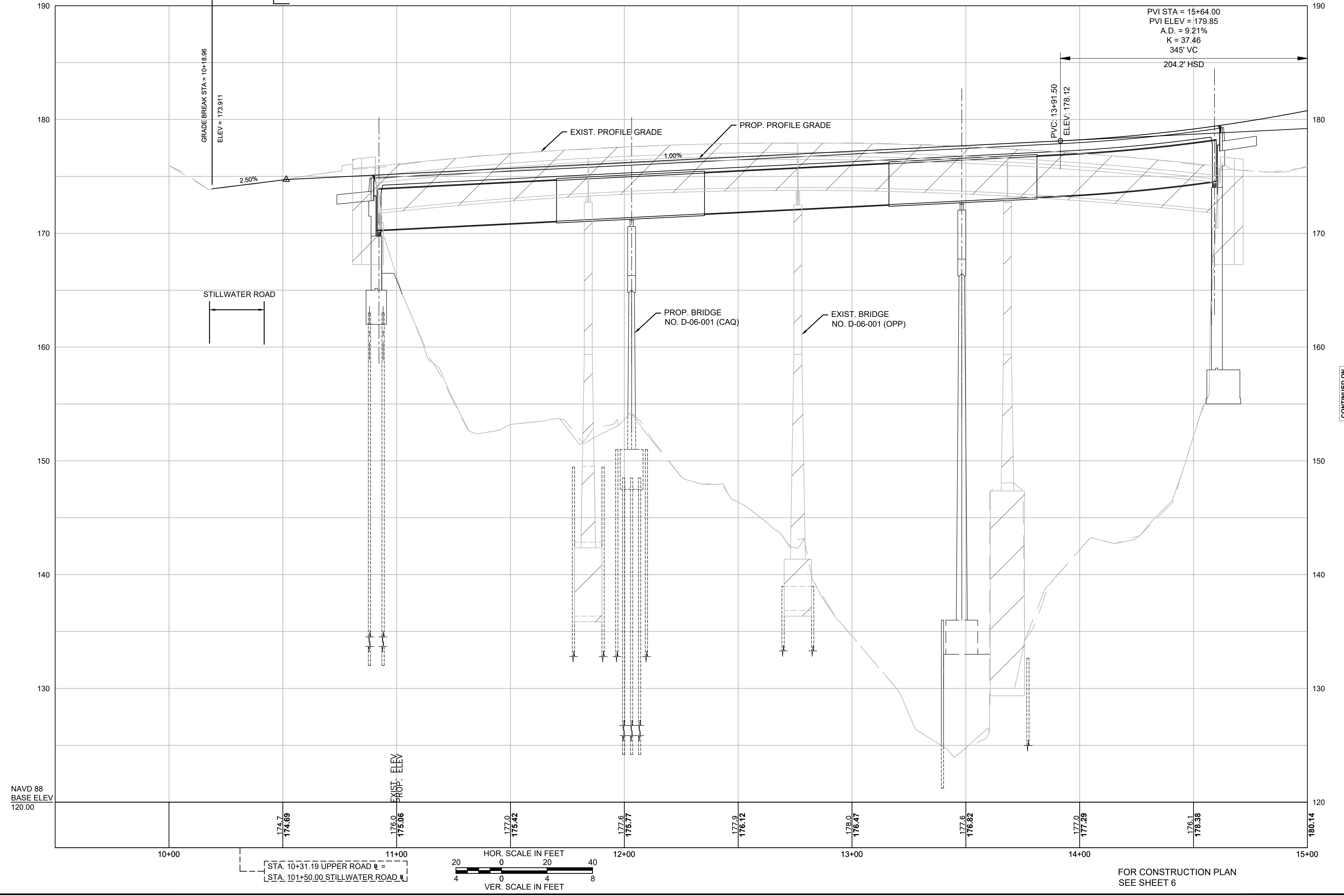


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CONSTRUCTION PROFILE - 1

BEGIN PROJECT
PROJECT NO. 608634
BEGIN FULL DEPTH RECONSTRUCTION
STA. 10+18.96
COORD. $\begin{matrix} N & 3018793.4797 \\ E & 350755.6877 \end{matrix}$



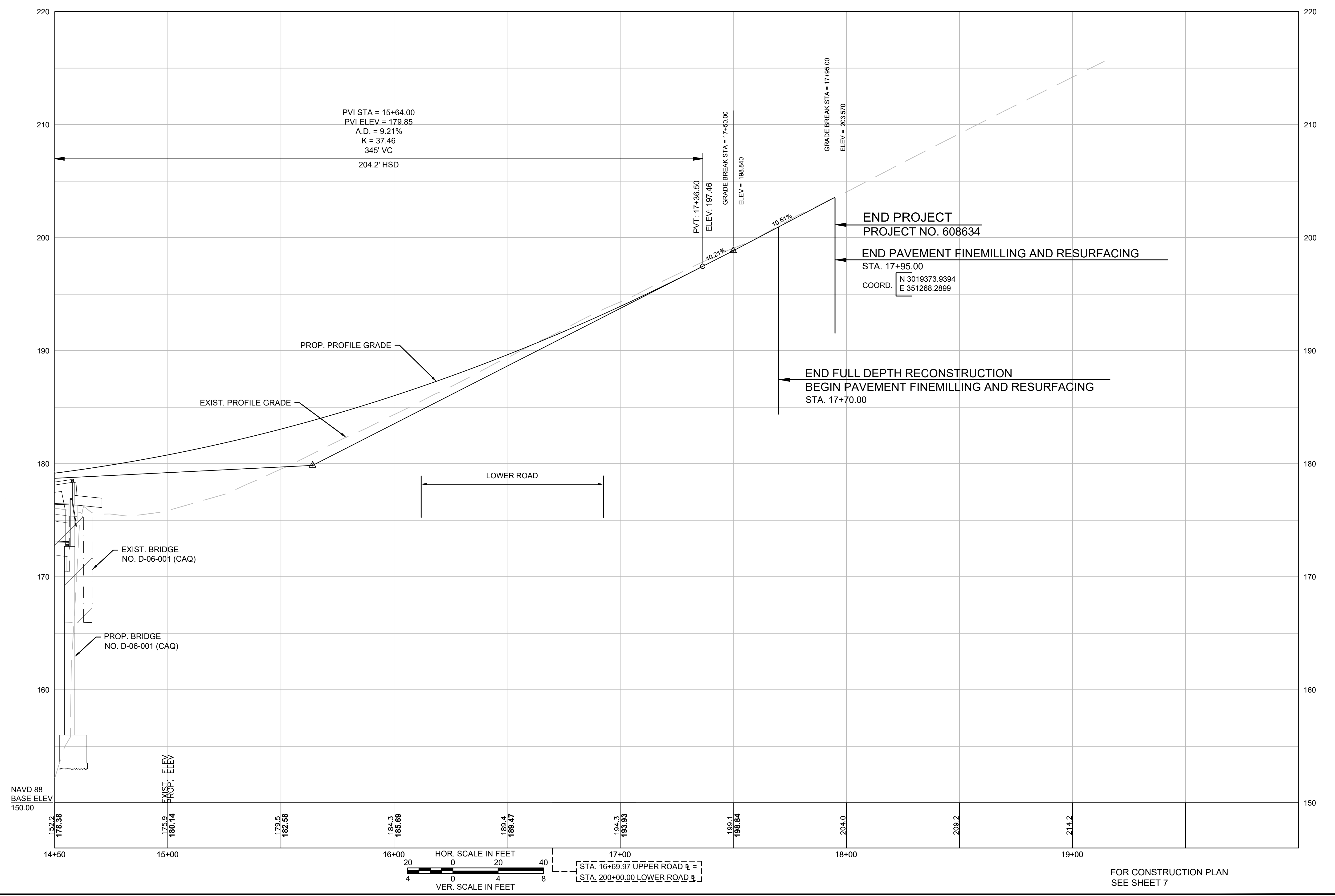
CONTINUED ON
SHEET NO. 9

FOR CONSTRUCTION PLAN
SEE SHEET 6

DEERFIELD
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CONSTRUCTION PROFILE - 2



CONTINUED ON
SHEET NO. 8

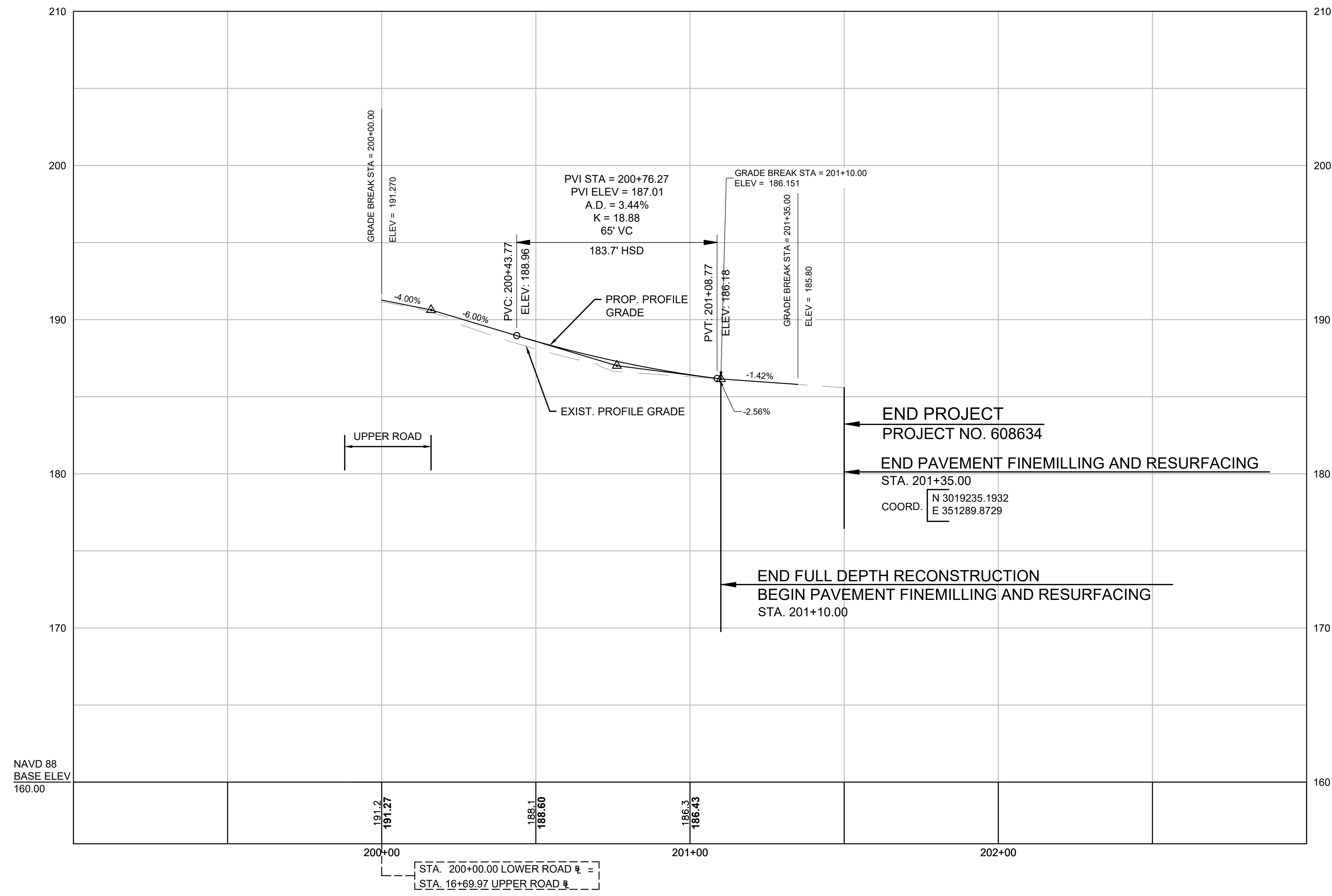
FOR CONSTRUCTION PLAN
SEE SHEET 7

DEERFIELD
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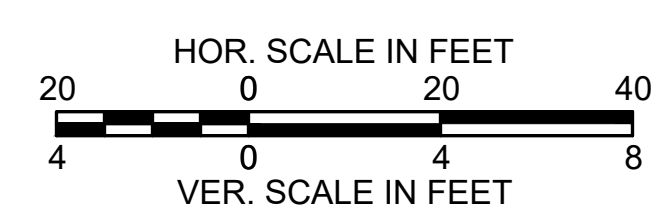
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CONSTRUCTION PROFILE - 3

LOWER ROAD ALIGNMENT



CONTINUED ON
SHEET NO. 8



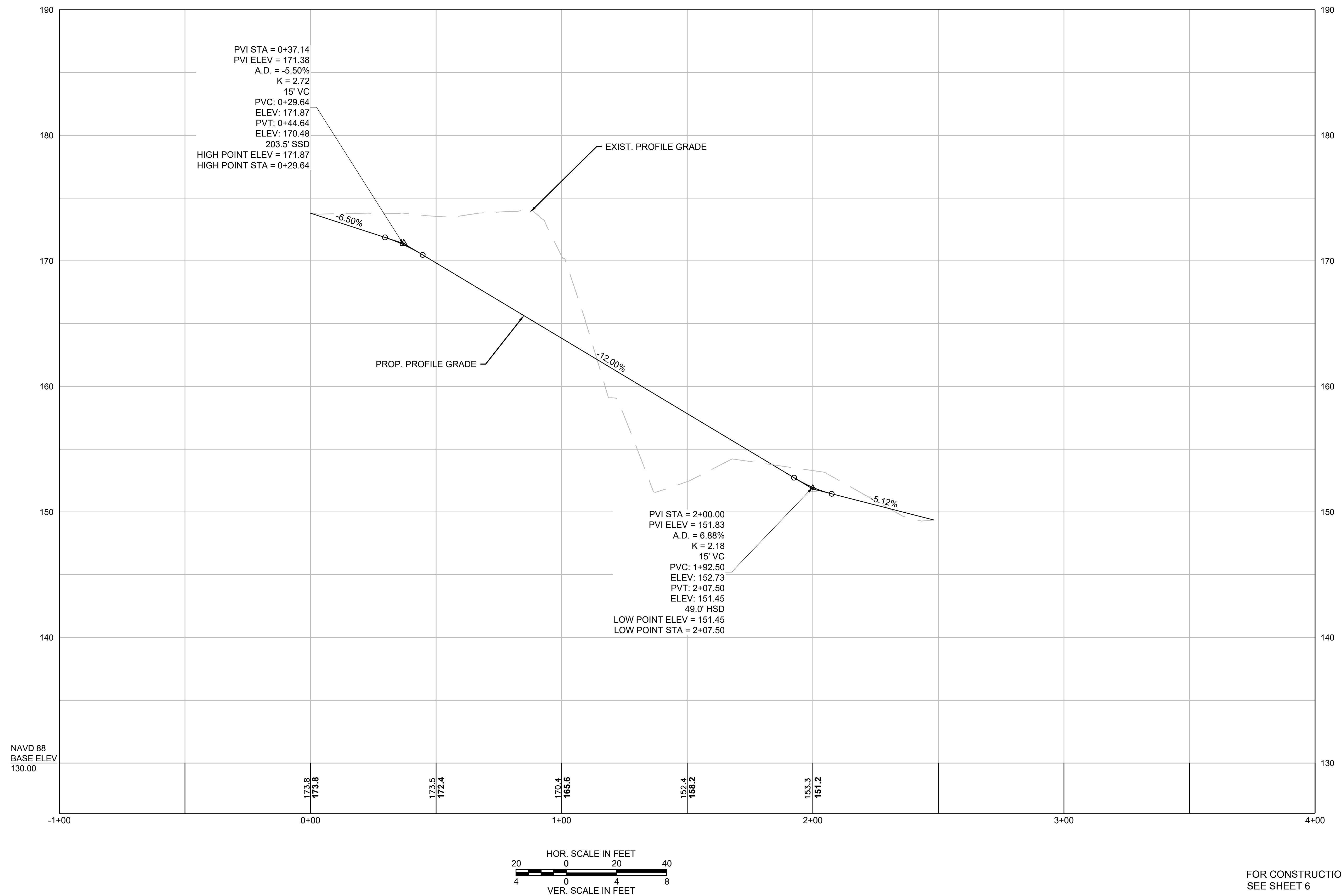
FOR CONSTRUCTION PLAN
SEE SHEET 7

DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	11	92
PROJECT FILE NO.		608634	

CONSTRUCTION PROFILE - 4

TEMPORARY ACCESS ROAD



CONTINUED ON
SHEET NO. 8

FOR CONSTRUCTION PLAN
SEE SHEET 6

**DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	12	92
PROJECT FILE NO.		608634	

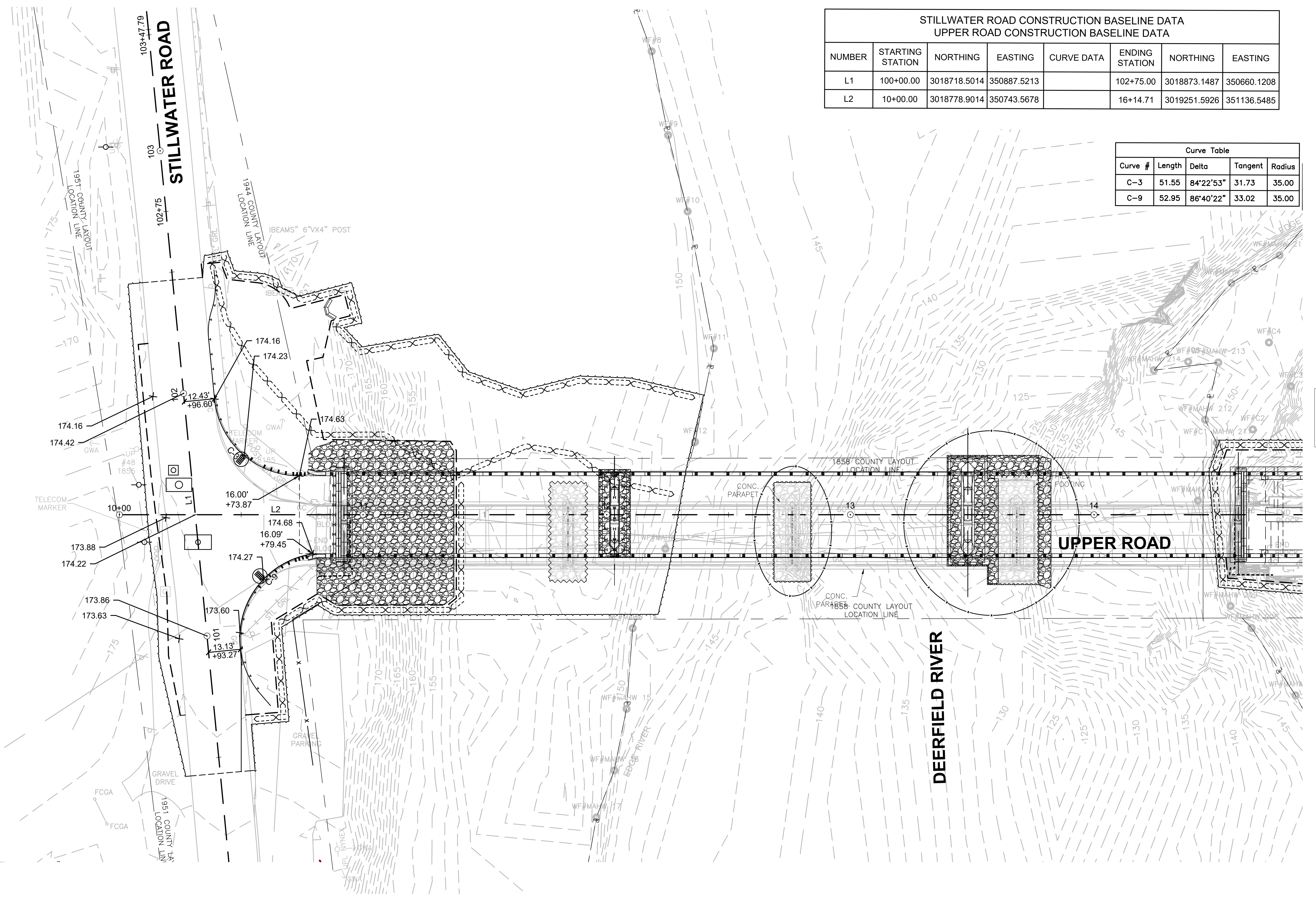
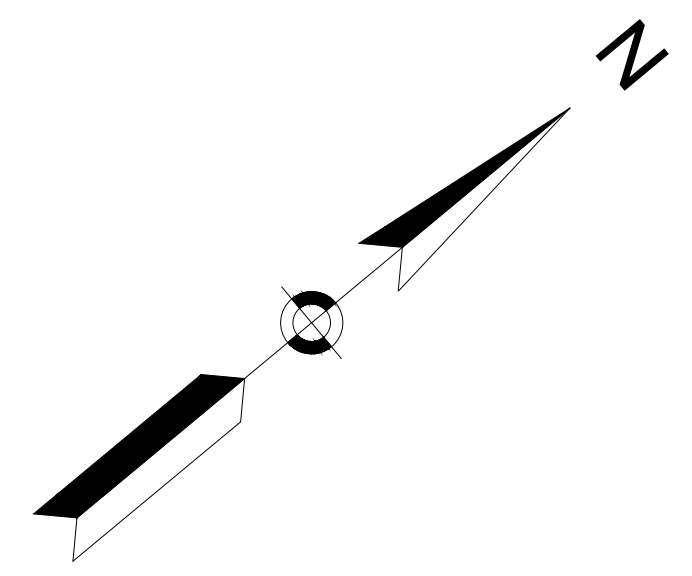
CURB TIE AND GRADING PLANS (1 OF 2)

**STILLWATER ROAD CONSTRUCTION BASELINE DATA
UPPER ROAD CONSTRUCTION BASELINE DATA**

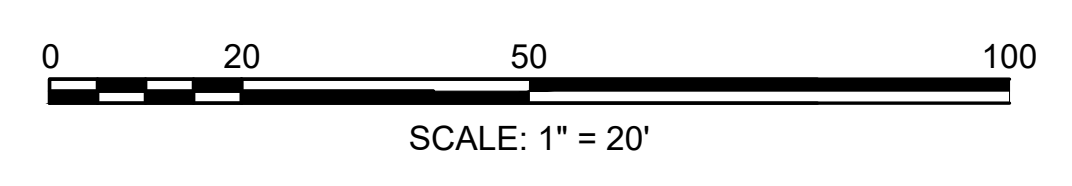
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L1	100+00.00	3018718.5014	350887.5213		102+75.00	3018873.1487	350660.1208
L2	10+00.00	3018778.9014	350743.5678		16+14.71	3019251.5926	351136.5485

Curve Table

Curve #	Length	Delta	Tangent	Radius
C-3	51.55	84°22'53"	31.73	35.00
C-9	52.95	86°40'22"	33.02	35.00



NOTE:
ALL GRADES SHOWN ARE AT THE BOTTOM OF CURB.



CONTINUED ON
SHEET NO. 12

**DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER**

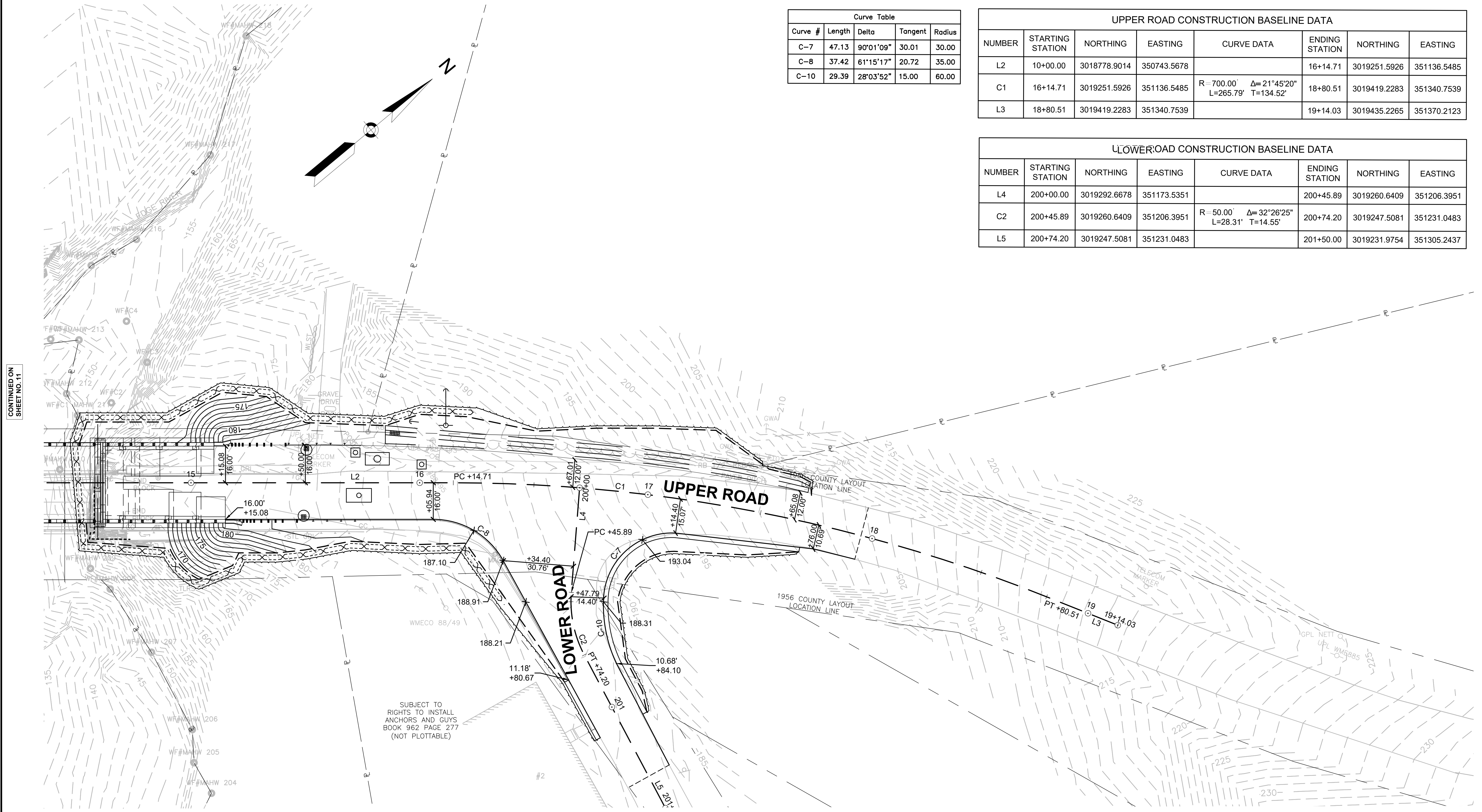
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	13	92
PROJECT FILE NO.		608634	

CURB TIE AND GRADING PLANS (2 OF 2)

Curve Table				
Curve #	Length	Delta	Tangent	Radius
C-7	47.13	90°01'09"	30.01	30.00
C-8	37.42	61°15'17"	20.72	35.00
C-10	29.39	28°03'52"	15.00	60.00

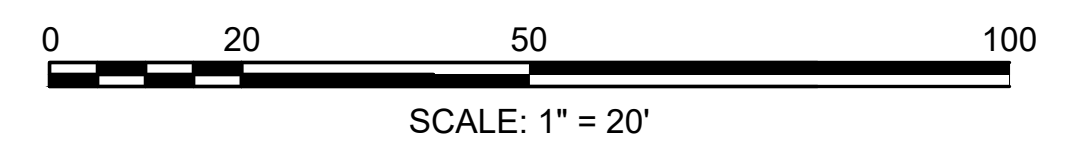
UPPER ROAD CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L2	10+00.00	3018778.9014	350743.5678		16+14.71	3019251.5926	351136.5485
C1	16+14.71	3019251.5926	351136.5485	R = 700.00 Δ = 21°45'20" L = 265.79' T = 134.52'	18+80.51	3019419.2283	351340.7539
L3	18+80.51	3019419.2283	351340.7539		19+14.03	3019435.2265	351370.2123

LOWER ROAD CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	ENDING STATION	NORTHING	EASTING
L4	200+00.00	3019292.6678	351173.5351		200+45.89	3019260.6409	351206.3951
C2	200+45.89	3019260.6409	351206.3951	R = 50.00 Δ = 32°26'25" L = 28.31' T = 14.55'	200+74.20	3019247.5081	351231.0483
L5	200+74.20	3019247.5081	351231.0483		201+50.00	3019231.9754	351305.2437



CONTINUED ON
SHEET NO. 11

SUBJECT TO RIGHTS TO INSTALL ANCHORS AND GUYS BOOK 962 PAGE 277 (NOT PLOTTABLE)



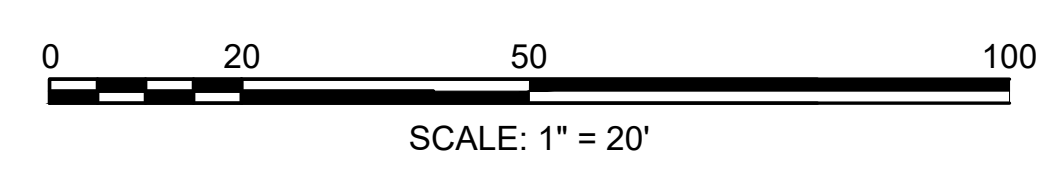
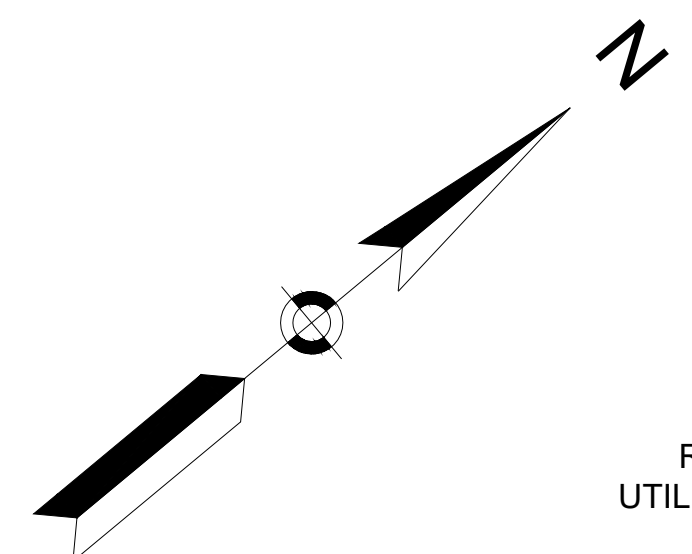
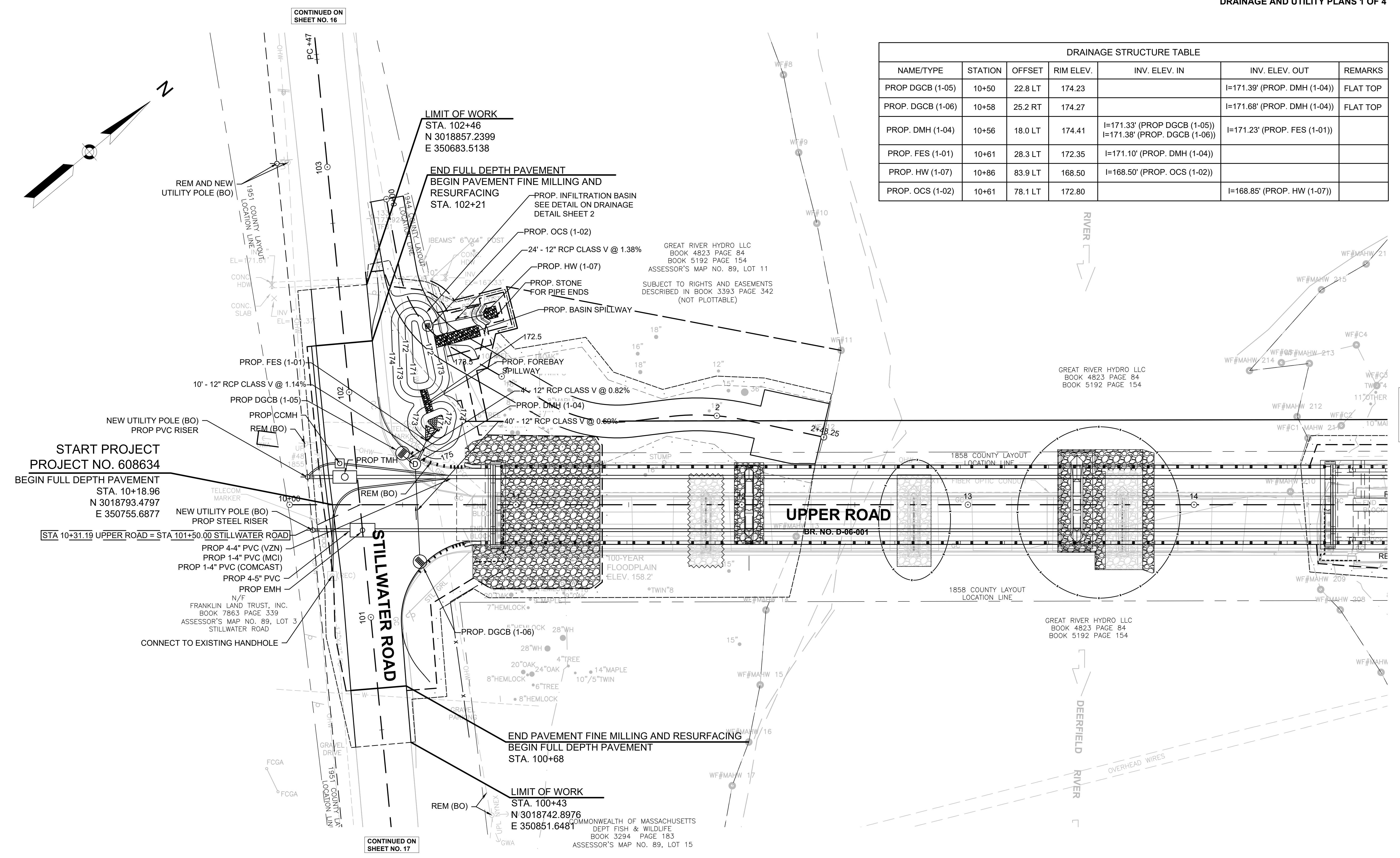
NOTE:
ALL GRADES SHOWN ARE AT THE BOTTOM OF CURB.

**DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	14	92
PROJECT FILE NO.		608634	

DRAINAGE AND UTILITY PLANS 1 OF 4

DRAINAGE STRUCTURE TABLE						
NAME/TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
PROP DGCB (1-05)	10+50	22.8 LT	174.23		I=171.39' (PROP. DMH (1-04))	FLAT TOP
PROP. DGCB (1-06)	10+58	25.2 RT	174.27		I=171.68' (PROP. DMH (1-04))	FLAT TOP
PROP. DMH (1-04)	10+56	18.0 LT	174.41	I=171.33' (PROP DGCB (1-05)) I=171.38' (PROP. DGCB (1-06))	I=171.23' (PROP. FES (1-01))	
PROP. FES (1-01)	10+61	28.3 LT	172.35	I=171.10' (PROP. DMH (1-04))		
PROP. HW (1-07)	10+86	83.9 LT	168.50	I=168.50' (PROP. OCS (1-02))		
PROP. OCS (1-02)	10+61	78.1 LT	172.80		I=168.85' (PROP. HW (1-07))	



608634_HDXX(DRAINAGE & UTIL).DWG Plotted on 23-Apr-2026 11:38 AM

CONTINUED ON SHEET NO. 16

CONTINUED ON SHEET NO. 17

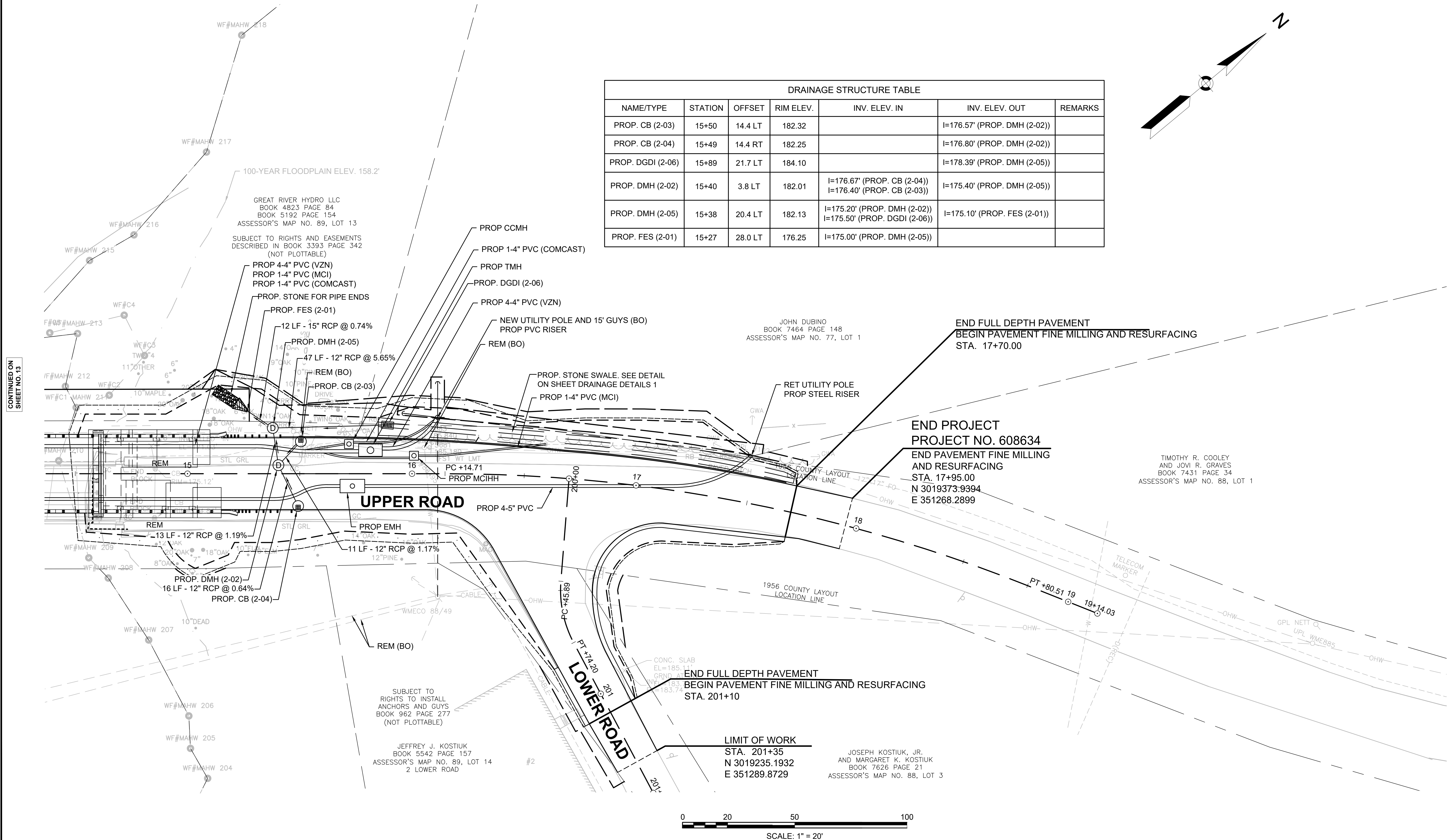
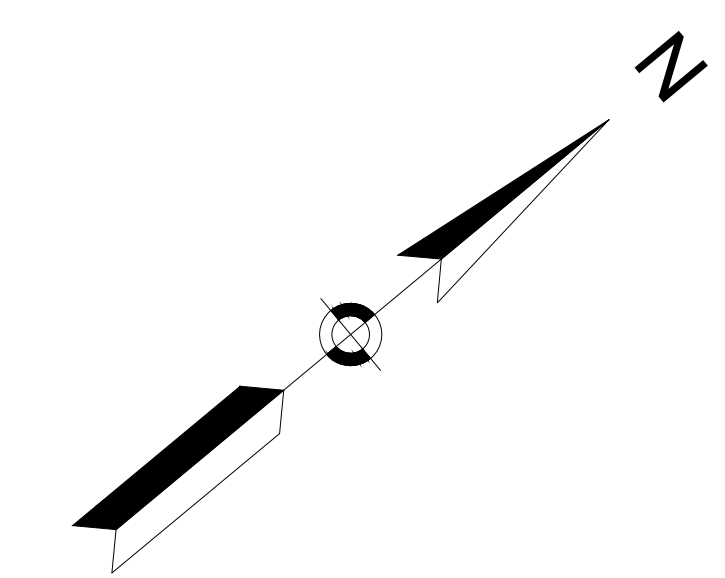
CONTINUED ON SHEET NO. 14

DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

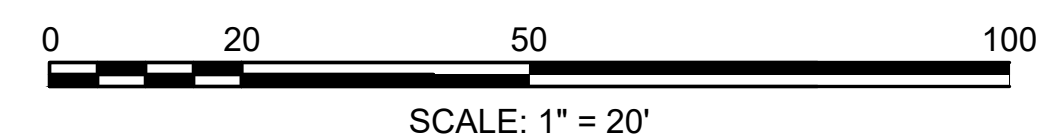
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	15	92
PROJECT FILE NO.		608634	

DRAINAGE AND UTILITY PLANS 2 OF 4

DRAINAGE STRUCTURE TABLE						
NAME/TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
PROP. CB (2-03)	15+50	14.4 LT	182.32		I=176.57' (PROP. DMH (2-02))	
PROP. CB (2-04)	15+49	14.4 RT	182.25		I=176.80' (PROP. DMH (2-02))	
PROP. DGDI (2-06)	15+89	21.7 LT	184.10		I=178.39' (PROP. DMH (2-05))	
PROP. DMH (2-02)	15+40	3.8 LT	182.01	I=176.67' (PROP. CB (2-04)) I=176.40' (PROP. CB (2-03))	I=175.40' (PROP. DMH (2-05))	
PROP. DMH (2-05)	15+38	20.4 LT	182.13	I=175.20' (PROP. DMH (2-02)) I=175.50' (PROP. DGDI (2-06))	I=175.10' (PROP. FES (2-01))	
PROP. FES (2-01)	15+27	28.0 LT	176.25	I=175.00' (PROP. DMH (2-05))		



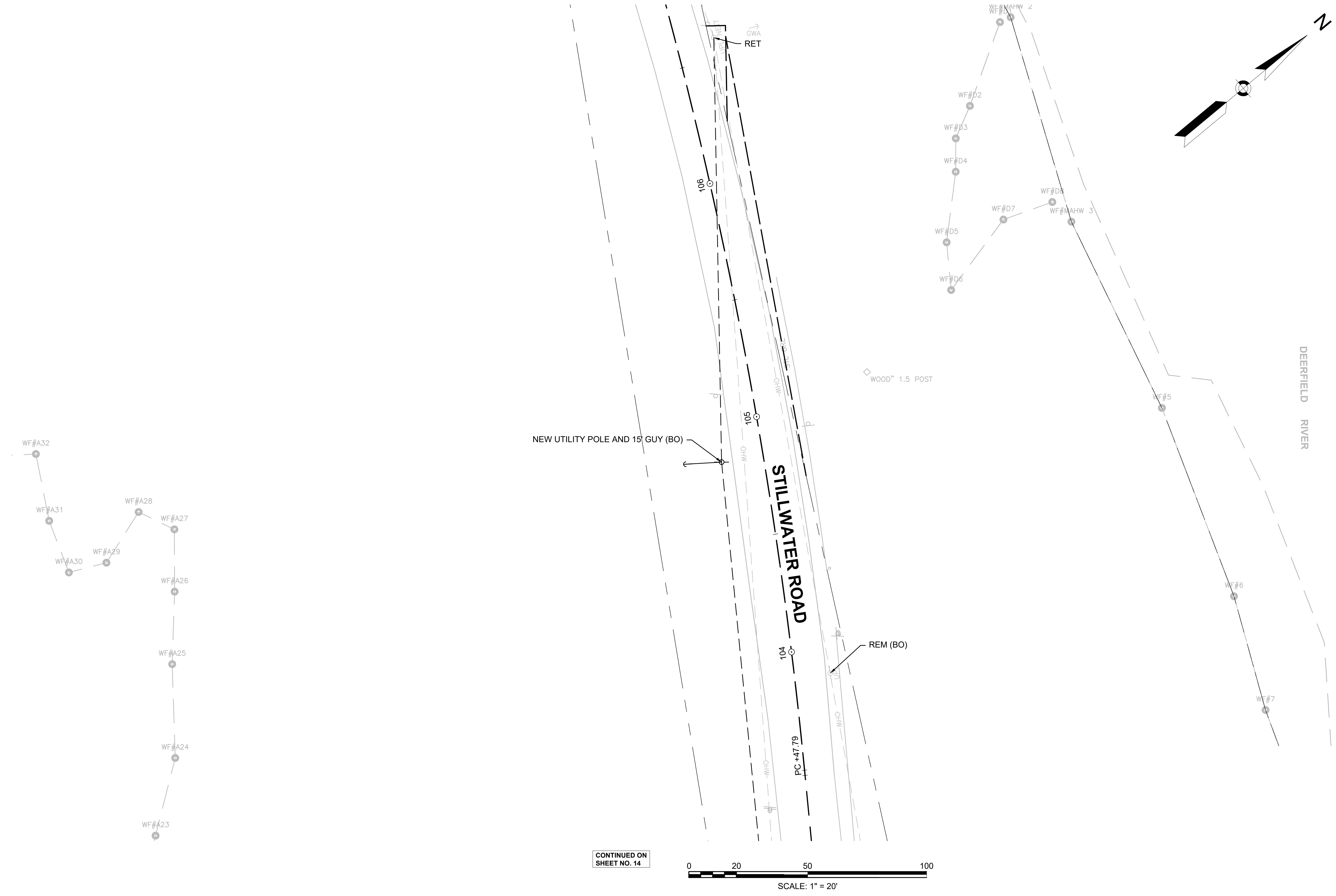
CONTINUED ON SHEET NO. 13



DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	16	92
PROJECT FILE NO.		608634	

DRAINAGE AND UTILITY PLANS 3 OF 4

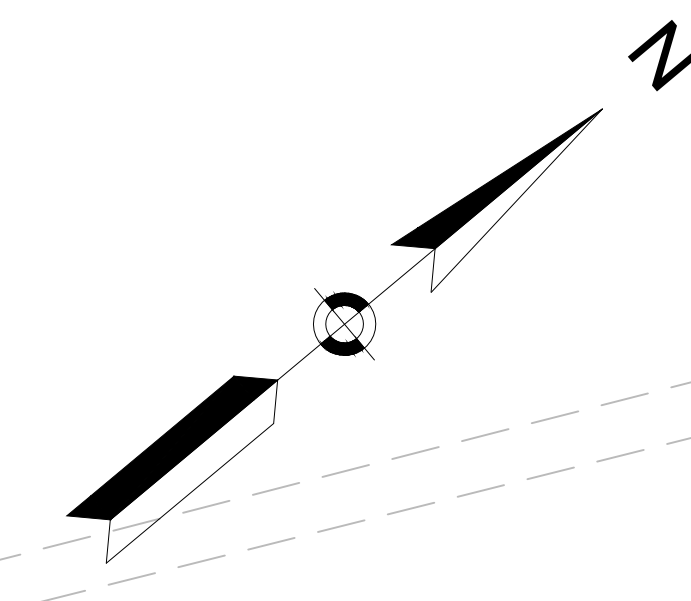
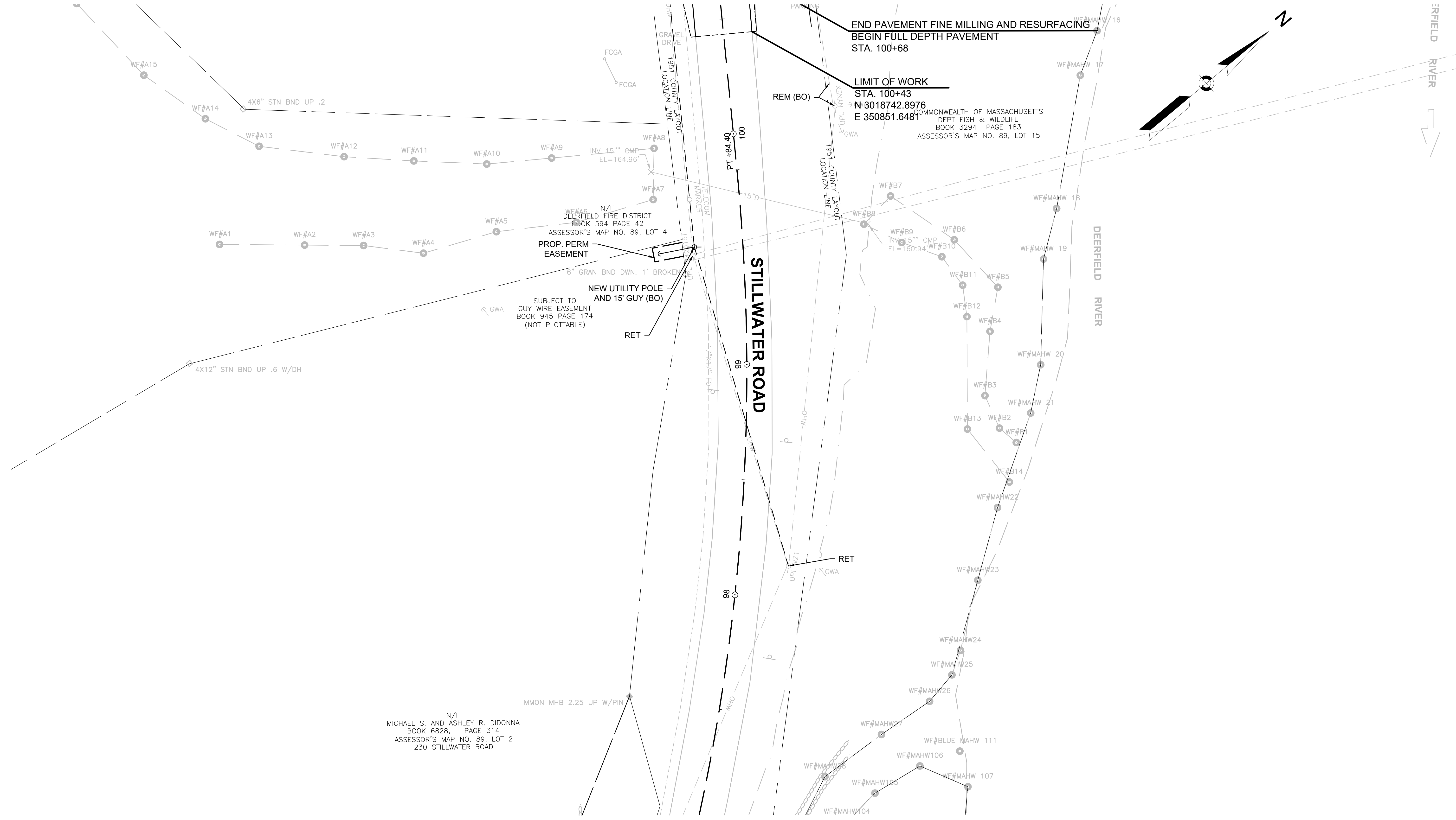


**DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER**

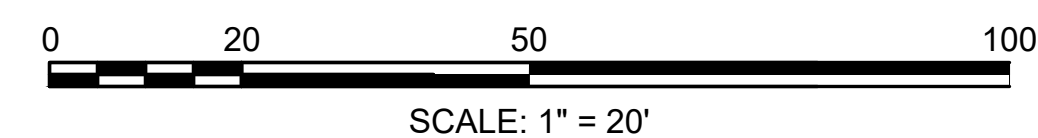
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	17	92
PROJECT FILE NO.		608634	

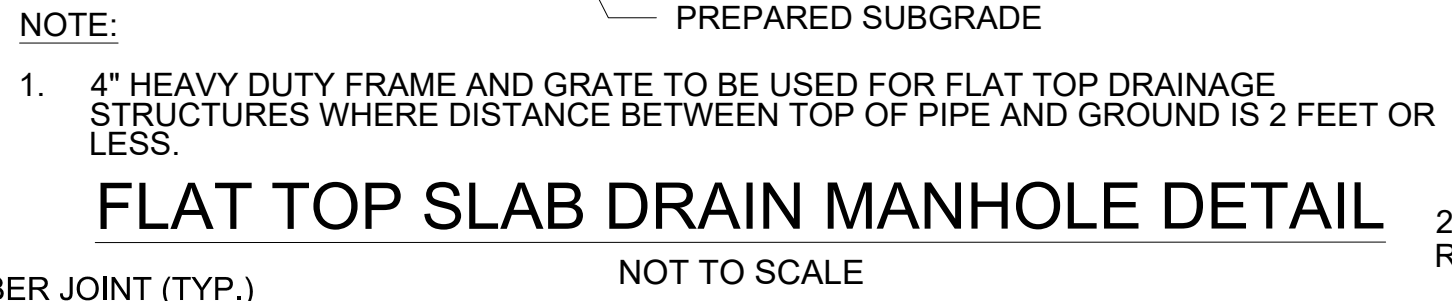
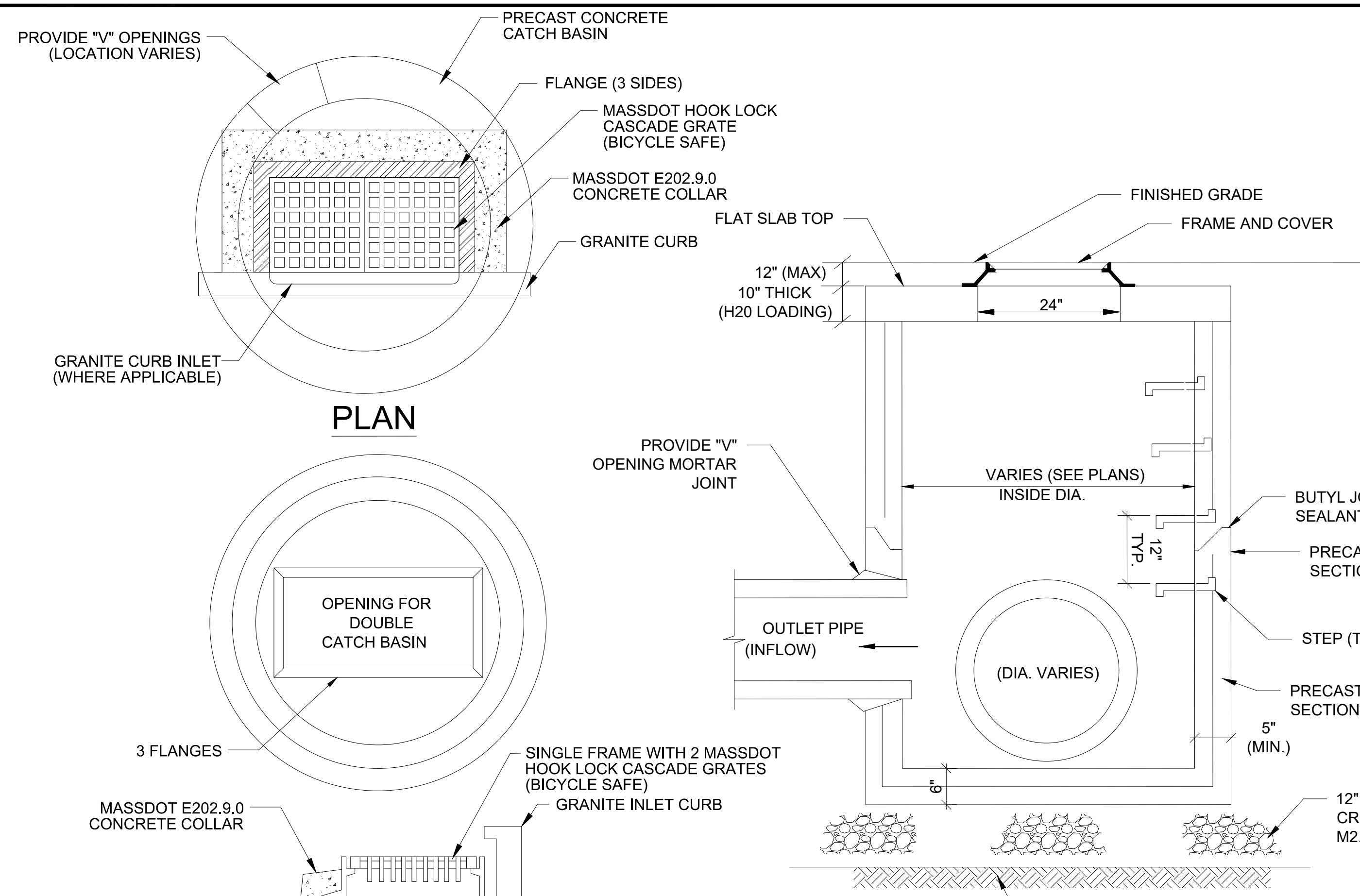
DRAINAGE AND UTILITY PLANS 4 OF 4

CONTINUED ON SHEET NO. 14

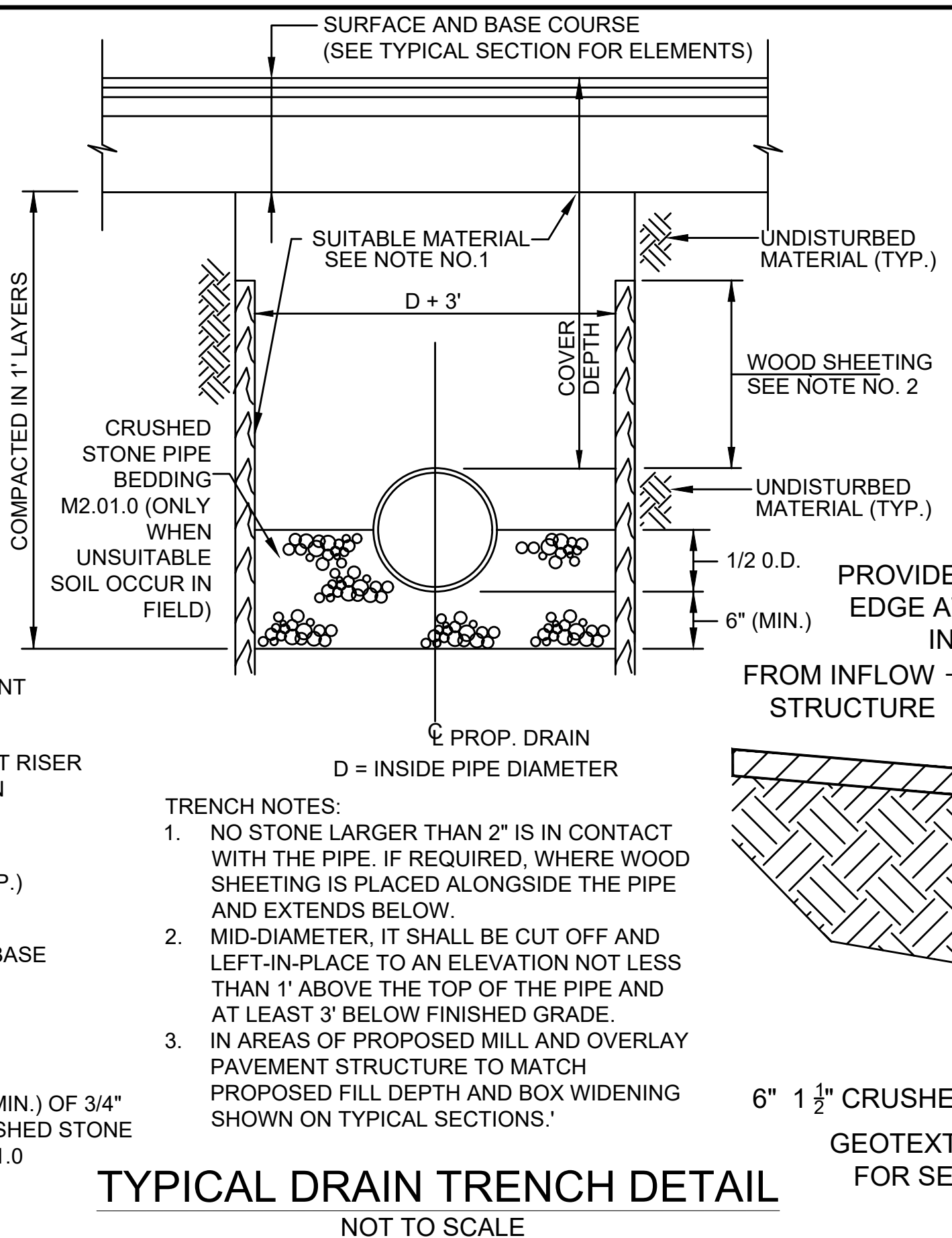
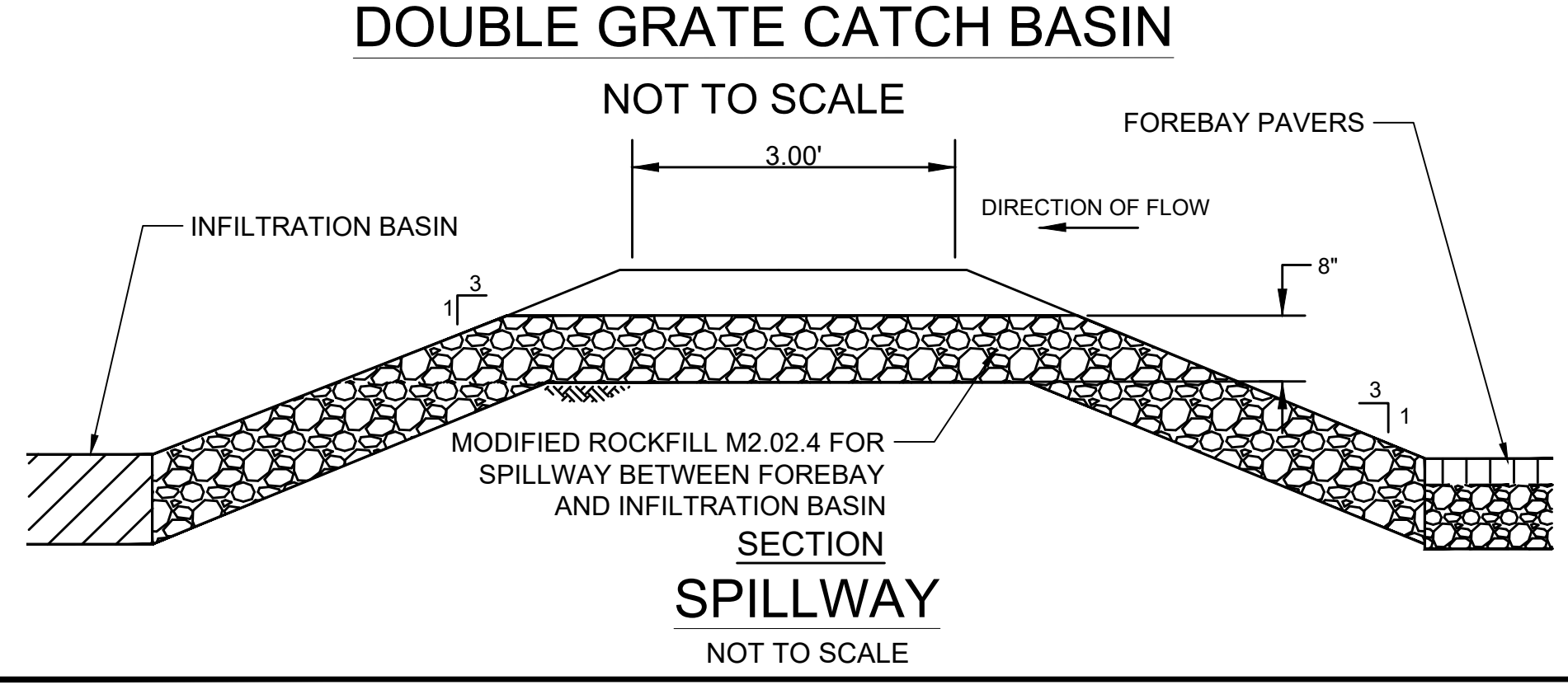


N/F
MICHAEL S. AND ASHLEY R. DIDONNA
BOOK 682B, PAGE 314
ASSESSOR'S MAP NO. 89, LOT 2
230 STILLWATER ROAD

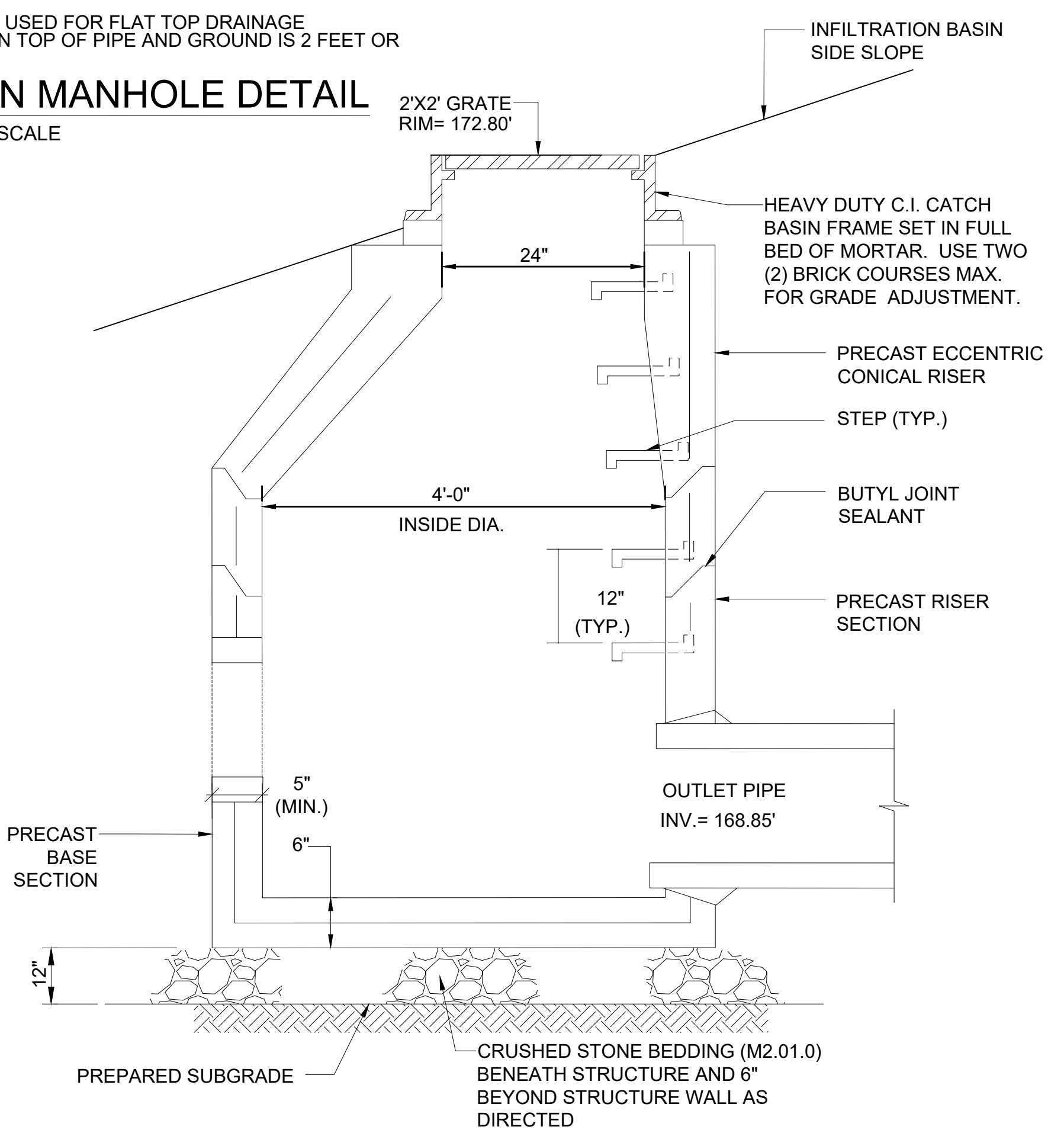




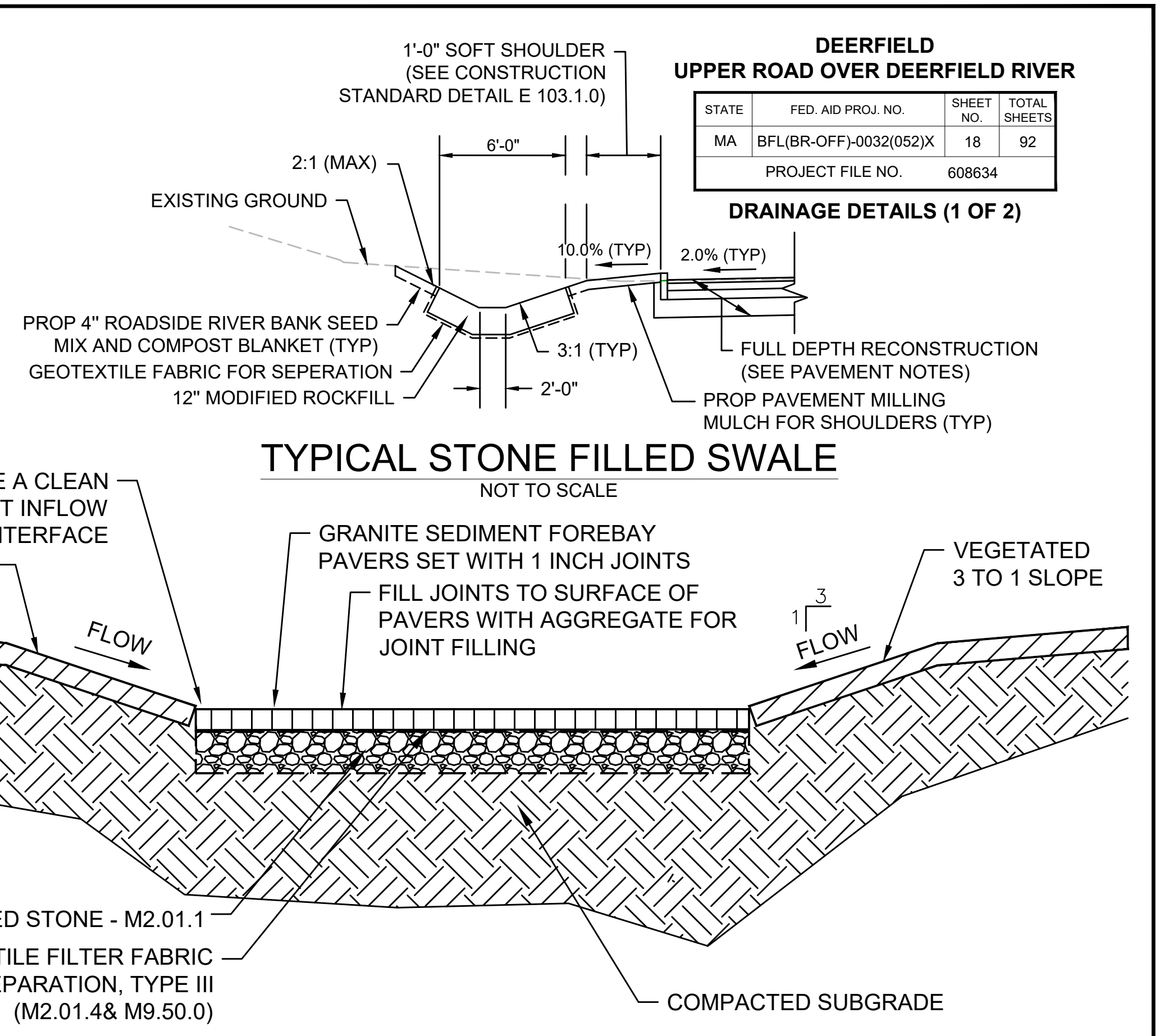
NOTE:
 1. FACE OF PIPE FLUSH OR NOT TO PROJECT MORE THAN 4" FROM FACE OF WALL ALONG CENTERLINE OF PIPE.
 2. FOR DESCRIPTION, MATERIALS AND CONSTRUCTION METHOD, SEE SPECIFICATIONS.
 3. ALL CONCRETE TO BE AIR ENTRAINED.



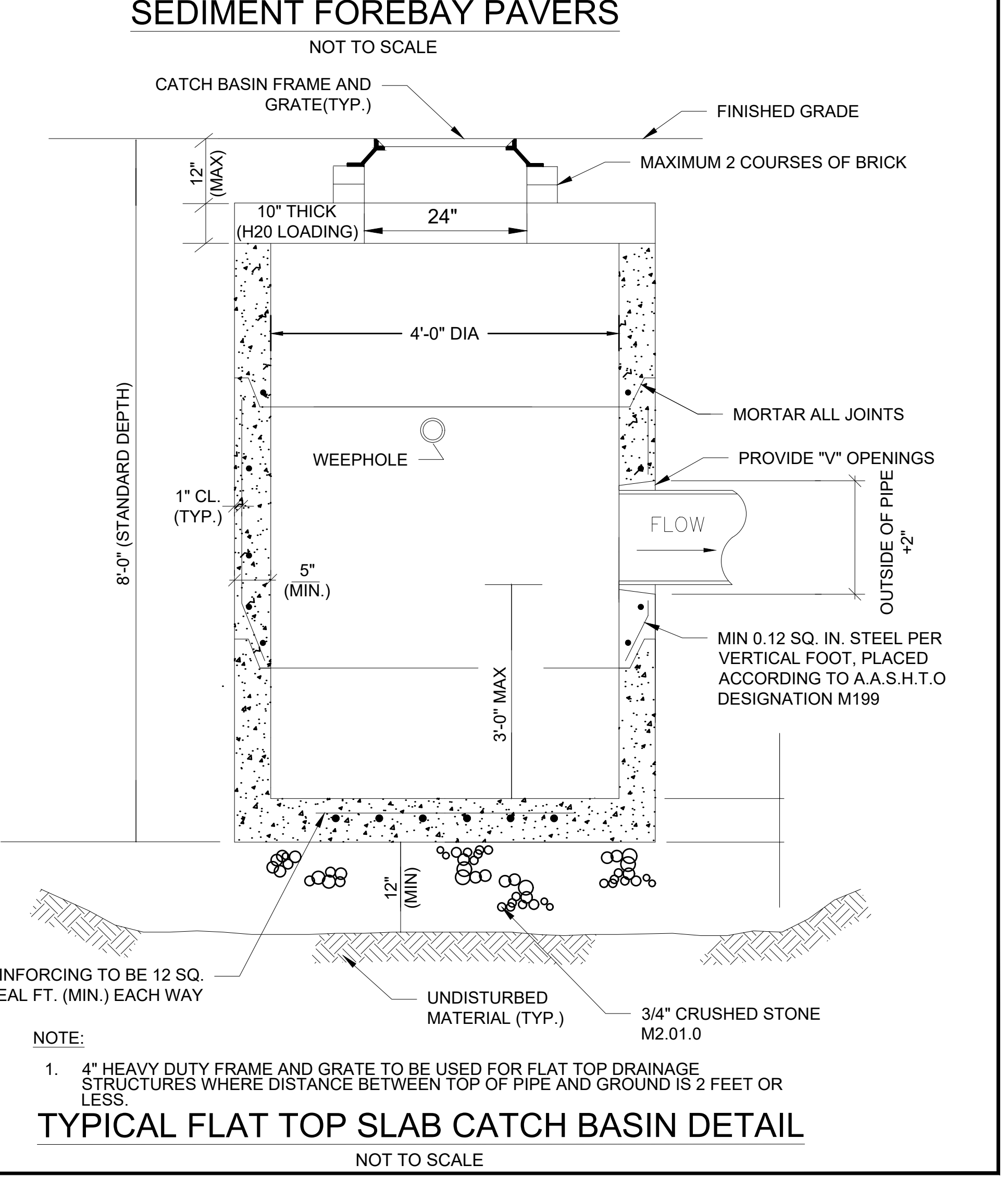
TRENCH NOTES:
 1. NO STONE LARGER THAN 2" IS IN CONTACT WITH THE PIPE. IF REQUIRED, WHERE WOOD SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW.
 2. MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT-IN-PLACE TO AN ELEVATION NOT LESS THAN 1' ABOVE THE TOP OF THE PIPE AND AT LEAST 3' BELOW FINISHED GRADE.
 3. IN AREAS OF PROPOSED MILL AND OVERLAY PAVEMENT STRUCTURE TO MATCH PROPOSED FILL DEPTH AND BOX WIDENING SHOWN ON TYPICAL SECTIONS.



NOTES:
 1. PRECAST CONCRETE SECTIONS SHALL CONFORM TO ASTM C-478
 2. STEEL REINFORCING SHALL CONFORM TO ASTM A185
 3. MANHOLE STEPS SHALL BE 14" WIDE STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC AND SHALL BE CAST INTO MANHOLE SECTIONS BY THE PRECAST MANHOLE MANUFACTURER.



NOTES:
 1. SEE SPECIFICATIONS FOR SEDIMENT FOREBAY PAVER REQUIREMENTS.
 2. SEE DRAINAGE AND UTILITY PLANS FOR DIMENSIONS GRADING AND ELEVATIONS FOR SEDIMENT FOREBAY



NOTE:
 1. 4" HEAVY DUTY FRAME AND GRATE TO BE USED FOR FLAT TOP DRAINAGE STRUCTURES WHERE DISTANCE BETWEEN TOP OF PIPE AND GROUND IS 2 FEET OR LESS.

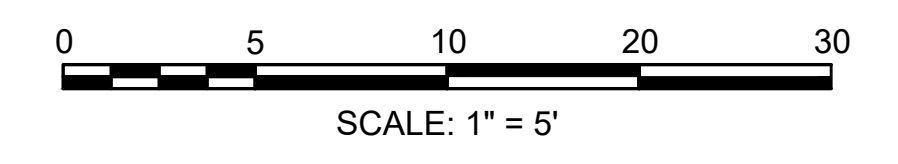
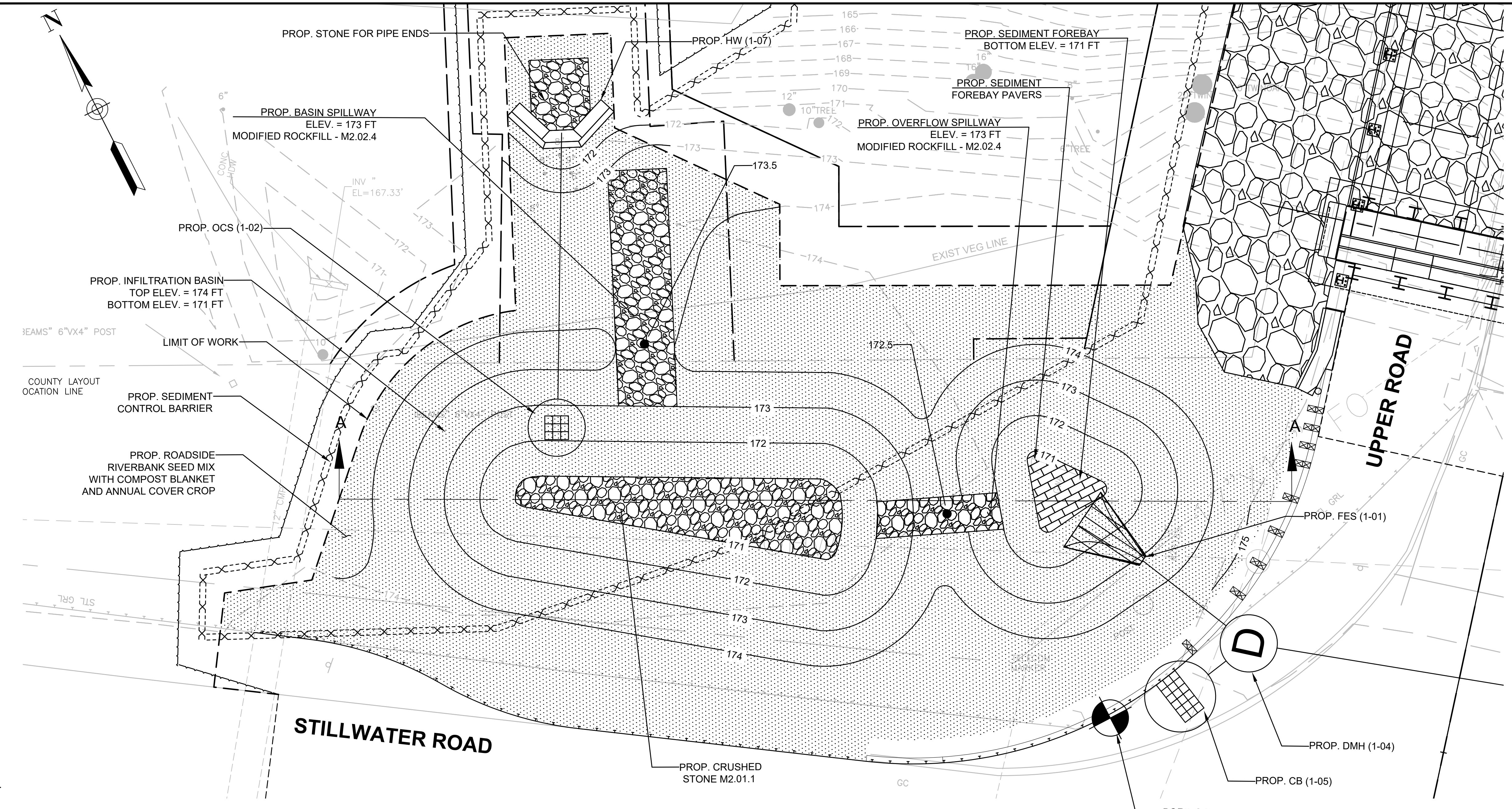
DEERFIELD UPPER ROAD OVER DEERFIELD RIVER				
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	
MA	BFL(BR-OFF)-0032(052)X	18	92	
PROJECT FILE NO.		608634		

DRAINAGE DETAILS (1 OF 2)

**DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	19	92
PROJECT FILE NO.		608634	

DRAINAGE DETAILS (2 OF 2)

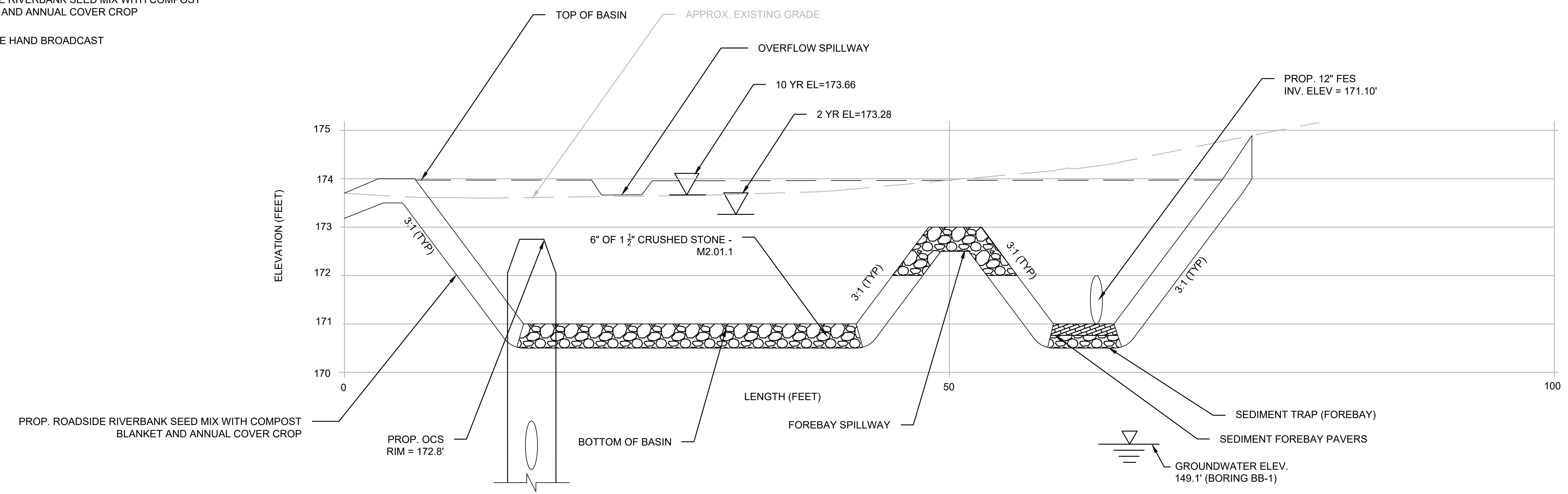


**PLAN
SCALE: 1" = 5'
INFILTRATION BASIN**

LEGEND

ROADSIDE RIVERBANK SEED MIX WITH COMPOST BLANKET AND ANNUAL COVER CROP

NOTE: SEED MIX SHALL BE HAND BROADCAST

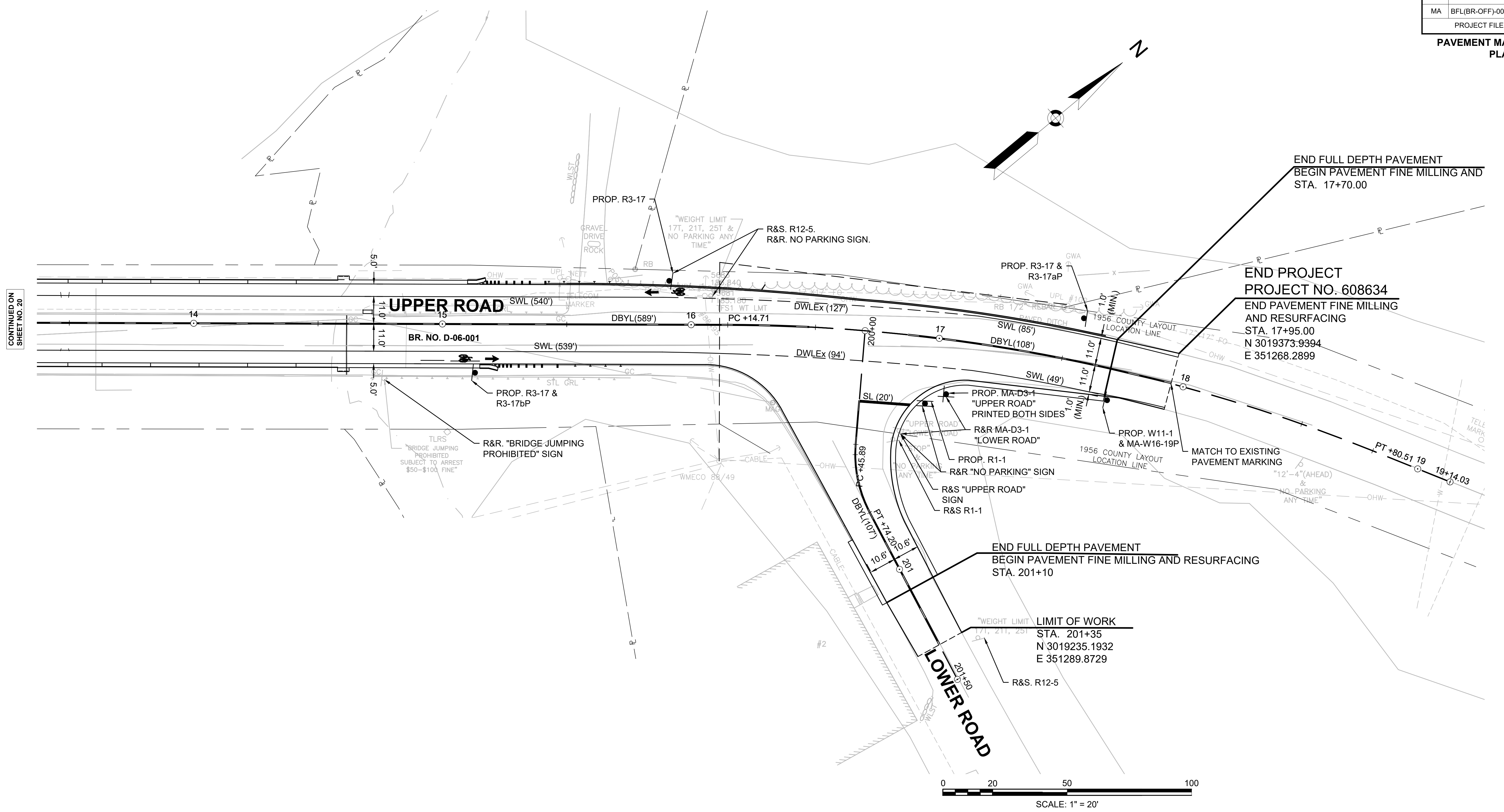


**SECTION A - A
SCALE: HOR: 1" = 5'
VERT: 1" = 1-1/4'**

DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	21	92
PROJECT FILE NO.		608634	

PAVEMENT MARKING & SIGN
PLAN 2

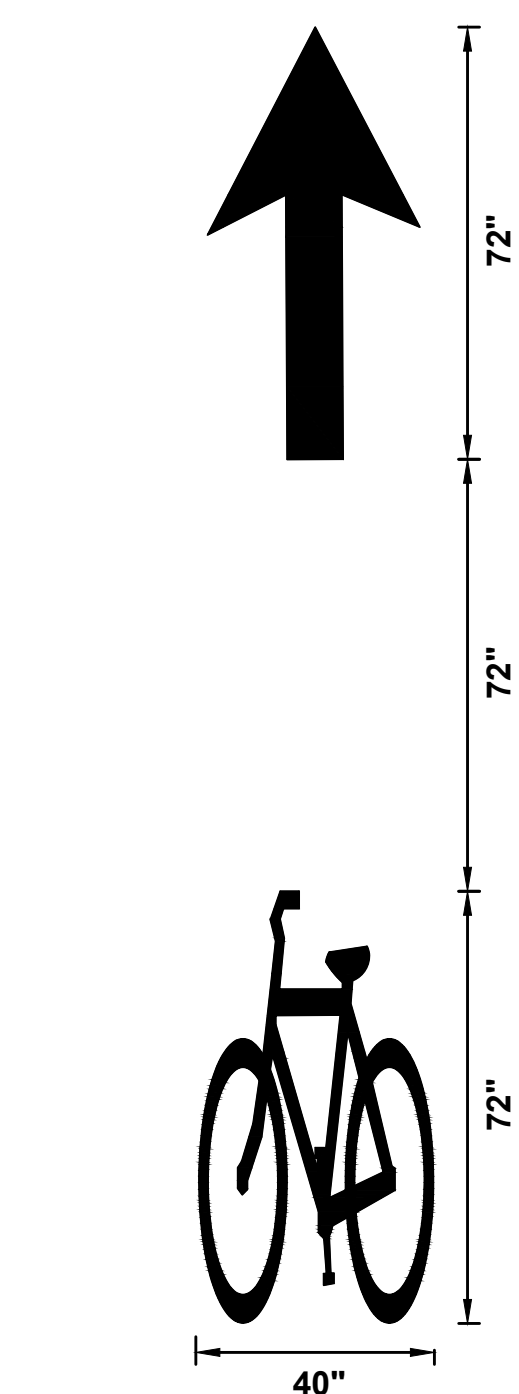


CONTINUED ON
SHEET NO. 20

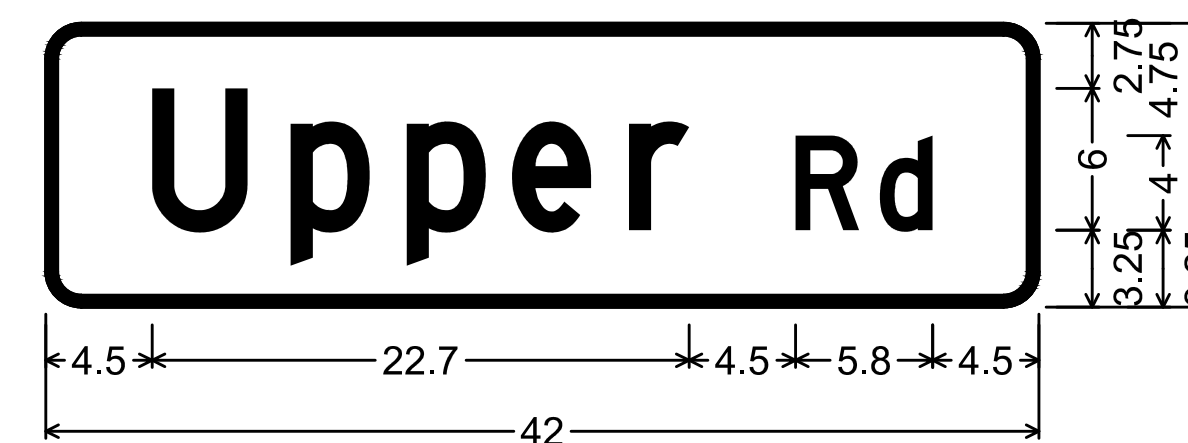
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	22	92
PROJECT FILE NO.		608634	

SIGN SUMMARY SHEET

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA IN SQUARE FEET	TOTAL AREA IN SQUARE FEET
	WIDTH IN INCHES	HEIGHT IN INCHES		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE MKR		BACK-GROUND	LEGEND	BORDER			
R1-1	30	30		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			2	RETROREFLECTIVE RED	RETROREFLECTIVE WHITE	RETROREFLECTIVE WHITE	2	6.25	12.50
R3-17	24	18					4	RETROREFLECTIVE WHITE	BLACK	BLACK	4	3.00	12.00
R13-17aP	24	9					1	RETROREFLECTIVE WHITE	BLACK	BLACK	0 MOUNTED W/ R3-17	1.50	1.50
R3-17bp	24	9					1	RETROREFLECTIVE WHITE	BLACK	BLACK	0 MOUNTED W/ R3-17	1.50	1.50
W11-1	30	30					1	FLOURESCENT YELLOW-GREEN	BLACK	BLACK	1	6.25	6.25
MA-W16-19p	24	18		SEE MASSDOT STD. SIGN BOOK			1	FLOURESCENT YELLOW-GREEN	BLACK	BLACK	0 MOUNTED W/ W11-1	3.00	3.00
MA-D3-1	42	12		SEE DETAIL (RIGHT)			2	RETROREFLECTIVE GREEN PBS	RETROREFLECTIVE WHITE	RETROREFLECTIVE WHITE	1 MOUNTED W/ R1-1	—	—
SP-1	30	30					1	RETROREFLECTIVE WHITE	BLACK	BLACK	1	6.25	6.25
TOTAL											43.00		



BIKE LANE SYMBOL
(NOT TO SCALE)



MA-D-3;
1.50" Radius, 0.50" Border, White on, Green;
"Upper", D; "Rd", D;
Table of letter and object lefts

U	p	p	e	r	R	d
4.50	10.36	15.26	19.72	24.66	31.70	35.27

MA-D3-1
(NOT TO SCALE)



SP-1;
1.88" Radius, 0.75" Border, 0.50" Indent, Black on White;
"BRIDGE", C 2K specified length;
"JUMPING", C 2K specified length;
"PROHIBITED", C 2K specified length;
"SUBJECT TO ARREST", C 2K specified length;
"\$50-100 FINE", D 2K specified length;

Table of distances between letter and object lefts

8.25	B	2.63	R	2.50	I	1.25	D	2.63	G	2.63	E	1.75	8.38
6.50	J	2.63	U	2.75	M	3.00	P	2.75	I	1.25	N	2.63	6.50
4.00	P	2.63	R	2.50	O	2.75	H	2.75	I	1.25	B	1.00	2.25
3.00	S	1.50	U	1.50	B	1.38	J	1.38	E	1.38	C	1.38	4.00
3.00	T	1.25	O										
3.13	A	1.63	R	1.38	R	1.50	E	1.25	S	1.25	T	1.13	3.00
6.13	S	1.75	5	1.75	O	1.63	I	1.00	O	0.88	O	1.88	
3.38	F	1.50	I	0.88	N	1.75	E	1.25		6.25			

SP-1
(NOT TO SCALE)

NOTES:

- UNLESS OTHERWISE NOTED, ALL POSTS SHALL BE P-5.
- SEE THE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND REVISIONS, THE 1990 MASSDOT HIGHWAY DIVISION STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, 2022 MASSDOT MASSACHUSETTS AMENDMENTS TO THE 2009 MUTCD, 2012 SUPPLEMENT TO THE 2004 STANDARD HIGHWAY SIGNS AND THE LATEST PHASED FHWA RELEASES OF STANDARD HIGHWAY SIGNS, AND MASSDOT STANDARD SIGN BOOK.
- SIGNS SHALL BE MOUNTED SO THAT THE BOTTOM OF THE SIGN IS NO LESS THAN 5'-0" ABOVE ADJACENT ROADWAY SURFACE ELEVATION.
- STREET NAME SIGNS TO BE PAID FOR UNDER ITEM 874.
- RETROREFLECTIVE SHEETING ON ALL TRAFFIC SIGNS SHALL CONFORM TO MASSDOT STANDARD SPECIFICATION M9.30.0

TEMPORARY TRAFFIC CONTROL NOTES:

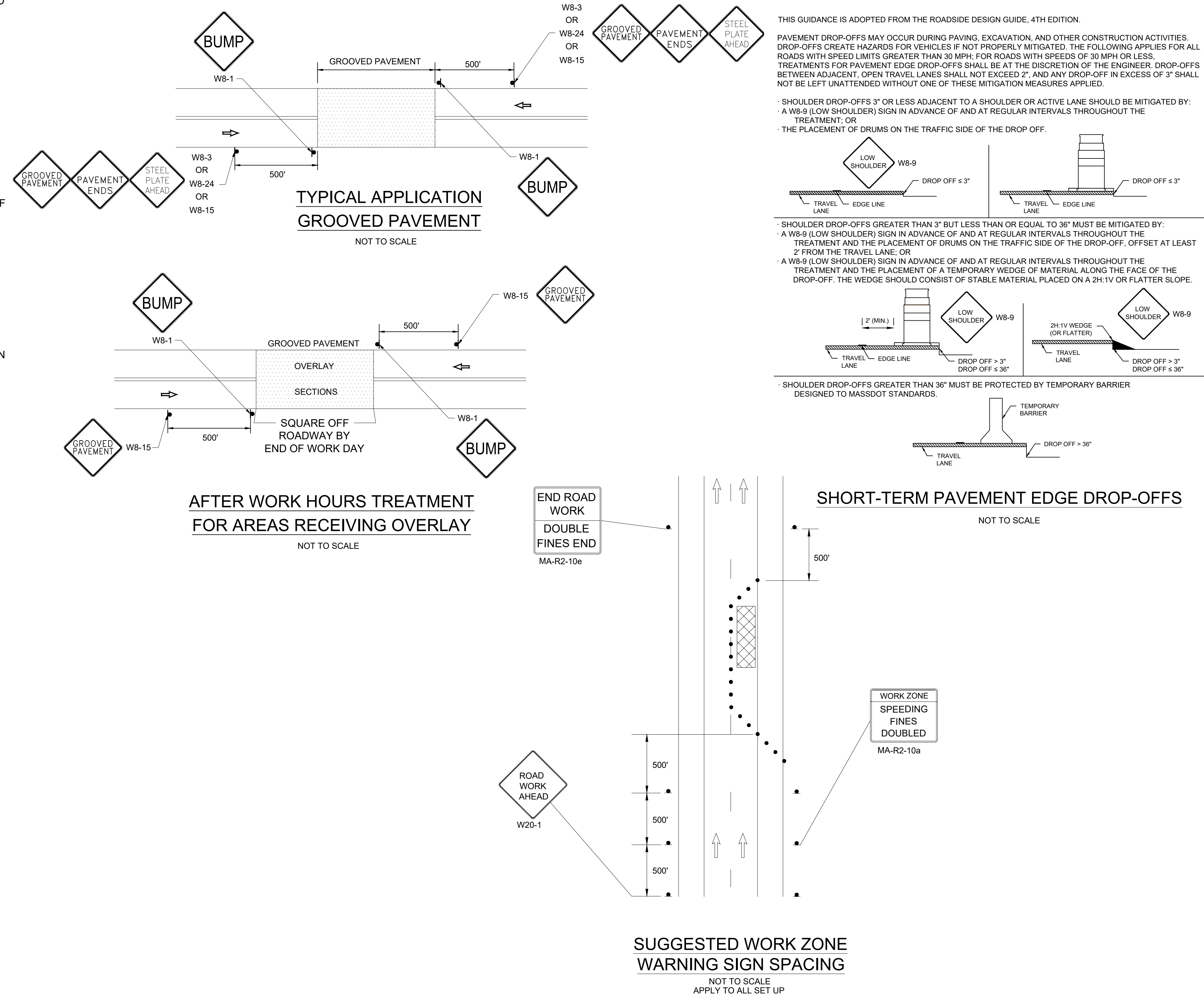
- MINIMUM LANE WIDTH OF 11 FEET SHALL BE MAINTAINED UNLESS OTHERWISE NOTED. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF THE DRUMS OR CONES (IF USED).
- THE CONTRACTOR MAY ELECT TO PROVIDE ALTERNATE METHODS TO MAINTAIN TRAFFIC. ALTERNATE METHODS PROPOSED BY THE CONTRACTOR SHALL BE SUBMITTED TO MASSDOT FOR REVIEW AND APPROVAL.
- THE CONTRACTOR SHALL COORDINATE APPROVAL OF ANY CHANGES TO THE TEMPORARY TRAFFIC CONTROL PLAN WITH MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MASSDOT) AND TOWN OF DEERFIELD PRIOR TO CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL ALSO NOTIFY MASSDOT AND THE TOWN OF DEERFIELD THREE (3) WEEKS IN ADVANCE OF PLACING TEMPORARY TRAFFIC CONTROL SIGNS.
- THE CONTRACTOR SHALL COORDINATE APPROVAL AND IMPLEMENTATION OF THIS TEMPORARY TRAFFIC CONTROL PLAN WITH MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MASSDOT) PRIOR TO CONSTRUCTION ACTIVITIES
- THESE PLANS ARE NOT INTENDED TO LIMIT THE CONTRACTOR'S APPROACH TO SCHEDULE THE WORK BUT TO OUTLINE ONE WAY OF PROGRESSING. THE CONTRACTOR IS EXPECTED TO USE KNOWLEDGE AND EXPERIENCE TO PERFORM THE WORK IN THE MOST EFFICIENT AND SAFE MANNER IN COMPLIANCE WITH THE DRAWINGS AND SPECIFICATIONS.
- PLACE ALL SAFETY DEVICES AND CONSTRUCTION SIGNING BEFORE ACTUAL CONSTRUCTION WORK BEGINS.
- DISTANCES ARE A GUIDE AND MAY BE ADJUSTED BASED ON FIELD CONDITIONS WITH THE APPROVAL OF THE ENGINEER.
- WHEN EXISTING SIGNS ARE NO LONGER APPLICABLE THEY SHALL BE TEMPORARILY COVERED DURING CONSTRUCTION OR REMOVED AND RESET UPON COMPLETION OF CONSTRUCTION. THE COST SHALL BE INCIDENTAL TO THE CONTRACT.
- ALL SIGNS SHALL BE REFLECTORIZED, WITH REFLECTIVE SHEETING CONFORMING TO M9.30.0. ALL SIGN COLORS SHALL BE PER THE CONSTRUCTION SIGN SUMMARY TABLE AND CURRENT MUTCD.
- SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, CHANNELIZING DEVICES, BARRIERS, AND CRASH ATTENUATORS MUST PASS THE CRITERIA SET FORTH IN THE "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
- CONTRACTOR SHALL RECORD EXISTING PAVEMENT MARKINGS AND RESTORE ALL MARKINGS TO EXISTING CONDITIONS AT THE CONCLUSION OF CONSTRUCTION AT EACH LOCATION.
- CONTRACTOR SHALL REMOVE ALL TRAFFIC CONTROL DEVICES IMMEDIATELY WHEN NO LONGER NEEDED. CONTRACTOR IS RESPONSIBLE FOR ERADICATING CONFLICTING TEMPORARY PAVEMENT MARKINGS INSTALLED DURING THE CONSTRUCTION PHASES. ERADICATING TEMPORARY PAVEMENT MARKINGS SHALL BE INCLUDED IN THE COST OF THE RESPECTIVE TEMPORARY PAVEMENT MARKING ITEM.
- UNLESS OTHERWISE NOTED, ALL PAVEMENT MARKINGS, SIGNS AND OTHER TRAFFIC EQUIPMENT REMOVED OR DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN CONFORMANCE WITH THE CONTRACT DOCUMENTS.
- CONTRACTOR SHALL INSTALL, RENEW, AND MAINTAIN ALL TRAFFIC CONTROL DEVICES AS SHOWN ON THE DRAWINGS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- ACCESS/EGRESS TO ALL ABUTTERS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN EMERGENCY PASSAGE AT ALL TIMES TO BUILDINGS WITHIN AND ADJACENT TO THE PROJECT LIMITS AS WELL AS A LARGER AREA IF AFFECTED BY CONSTRUCTION CONDITIONS. CONTRACTOR SHALL MAINTAIN 24 HOUR EMERGENCY VEHICLE ACCESS TO CONSTRUCTION AREAS.
- CONTRACTOR SHALL COORDINATE WITH ABUTTERS FOR THE PROPOSED WORK AND SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF THE WORK THAT WILL REQUIRE TEMPORARY CLOSURE OF ACCESS TO THEIR PROPERTY OR LOSS OF SERVICE (I.E. WATER SHUTDOWN).
- THE CONTRACTOR SHALL COORDINATE THE WORK WITH ALL ABUTTING PROJECTS.
- ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS, UNLESS SUPERSEDED BY THESE PLANS.
- ALL DETOURS AND LANE CLOSURES SHALL BE COORDINATED WITH MASSDOT AND THE TOWN OF DEERFIELD AT LEAST TWO WEEKS IN ADVANCE.
- THE FIRST TEN (10) PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH SEQUENTIAL FLASHING LIGHTS.
- THE TEMPORARY PAVEMENT MARKINGS INSTALLED DURING CONSTRUCTION SHALL BE 6 INCH.
- ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY IMPACT ATTENUATORS TO PROTECT ALL BLUNT-ENDS OF TEMPORARY CONCRETE BARRIER OR AS REQUIRED ON THE TRAFFIC MANAGEMENT PLANS. TEMPORARY IMPACT ATTENUATORS SHALL BE DESIGNED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO THE START OF WORK. ALL TEMPORARY IMPACT ATTENUATORS SHALL BE DESIGNED FOR TEST LEVEL 3 (TL-3), UNLESS OTHERWISE NOTED. IMPACT ATTENUATOR DEVICES SHALL BE INSTALLED PER THE MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS.
- THE MAXIMUM SPACING BETWEEN CHANNELIZATION DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
- THE CONTRACTOR SHALL LOCATE ALL TEMPORARY BARRIERS (IF USED) SO THERE ARE NO EXPOSED BLUNT ENDS WHICH WILL CAUSE HAZARDOUS CONDITIONS TO TRAFFIC. IN SUCH CASES, THE CONTRACTOR SHALL PROVIDE AND LOCATE BARRIER TAPERED END SECTIONS TO PROTECT VEHICULAR TRAFFIC AND THE WORK AREA.
- SAFETY SIGNS PROPOSED FOR LOCATIONS OTHER THAN ERECTED ON TEMPORARY BARRICADES SHALL BE CONSTRUCTED WITH THEIR OWN SUPPORTS OR SIGN POSTS.
- NO ALTERATION SHALL BE UNDERTAKEN WHICH DECREASES OR HAS THE EFFECT OF DECREASING ACCESSIBILITY OR USABILITY OF A FACILITY BELOW THE REQUIREMENTS FOR NEW CONSTRUCTION.
- A LONGITUDINAL BUFFER SPACE SHALL BE UTILIZED IN ADVANCE OF WORK AREAS. REFER TO PART VI OF THE 2023 MUTCD FOR GUIDELINES AND DETAILS.
- AT THE END OF EACH WORKING DAY, EXCAVATED AREA OR TRENCHES OF TRAVEL LANE THAT IS ACTIVE OUTSIDE OF WORKING HOURS SHALL BE RESURFACED OR STEEL PLATED FOR VEHICLE USE.
- ALL DRUMS SHALL BE PLACED APPROPRIATELY OR MOVED AS NECESSARY TO MAINTAIN ADEQUATE ABUTTER ACCESS AT ALL TIMES.

DETAIL NUMBER	DETAIL NAME	CURRENT VERSION
852.4.4	ALTERNATING ONE-WAY (TRAFFIC OFFICER)	Jan-25
852.10.2	INTERSECTION QUADRANT CLOSURE	Jan-25
852.5.3	TWO-LANE ROAD SHOULDER CLOSURE	Jan-25
851.1.1	CONES & DRUMS	Jan-25
851.2.2	TYPE III BARRICADE WITH SIGN	Jan-25
852.5.3	TWO LANE ROAD SHOULDER CLOSURE	Jan-25

**DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	23	92
PROJECT FILE NO.		608634	

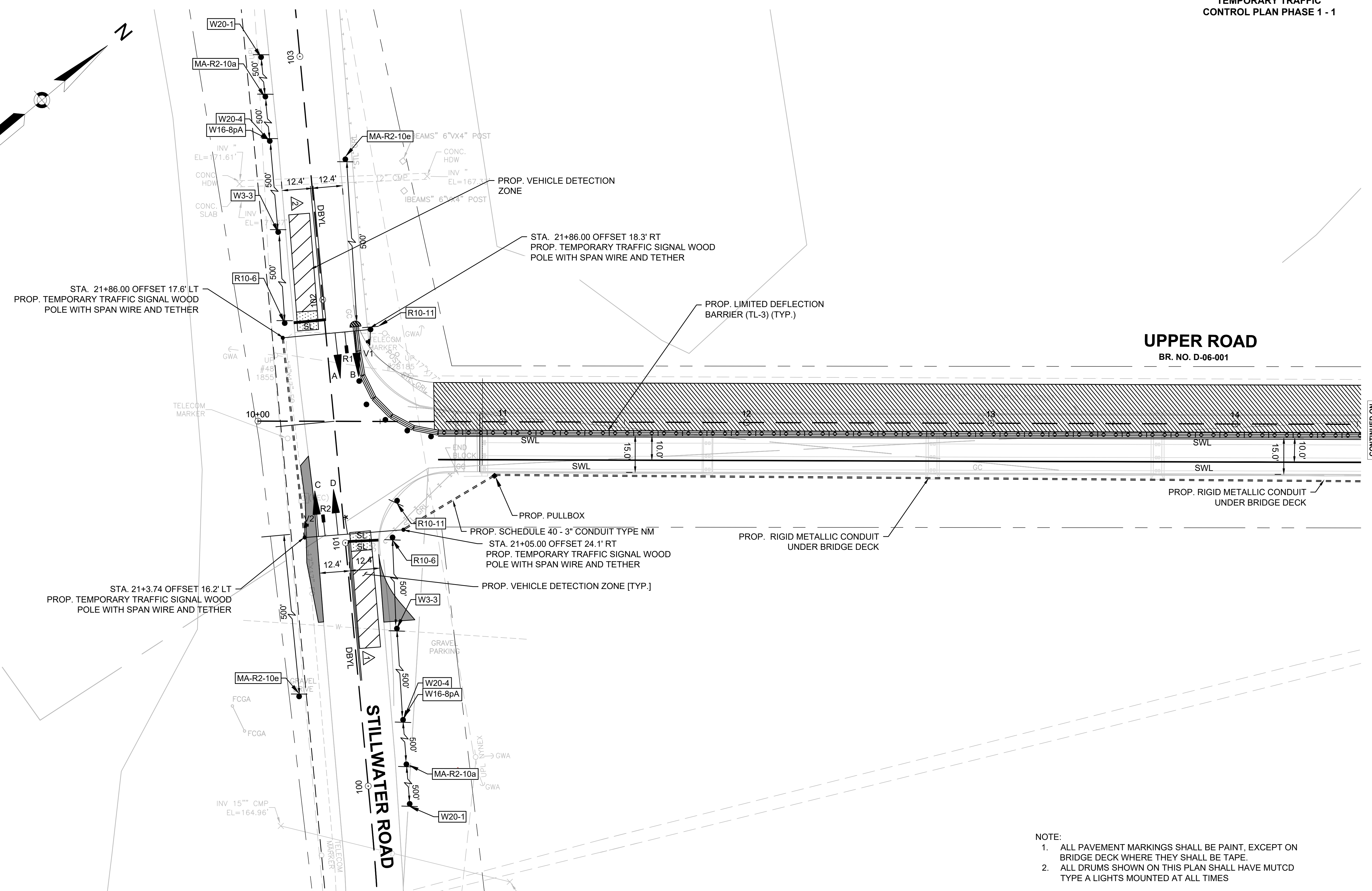
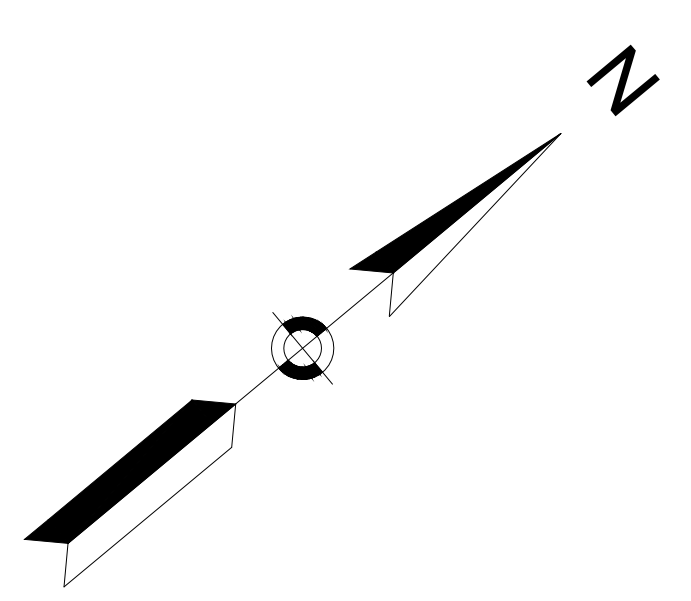
TTCP-TYPICAL DETAILS - 1



DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	24	92
PROJECT FILE NO.		608634	

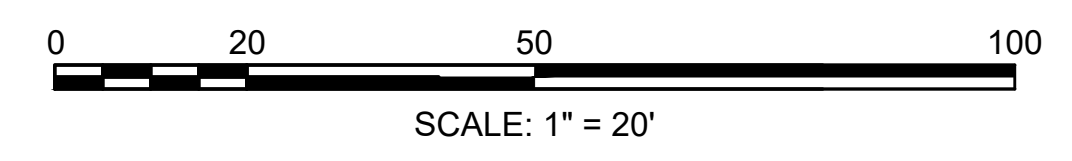
TEMPORARY TRAFFIC
CONTROL PLAN PHASE 1 - 1



TRAFFIC DEVICE LEGEND

	SIGN
	TEMPORARY CONCRETE BARRIER
	TEMPORARY CONCRETE BARRIER - LIMITED DEFLECTION
	IMPACT ATTENUATOR

- NOTE:
1. ALL PAVEMENT MARKINGS SHALL BE PAINT, EXCEPT ON BRIDGE DECK WHERE THEY SHALL BE TAPE.
 2. ALL DRUMS SHOWN ON THIS PLAN SHALL HAVE MUTCD TYPE A LIGHTS MOUNTED AT ALL TIMES

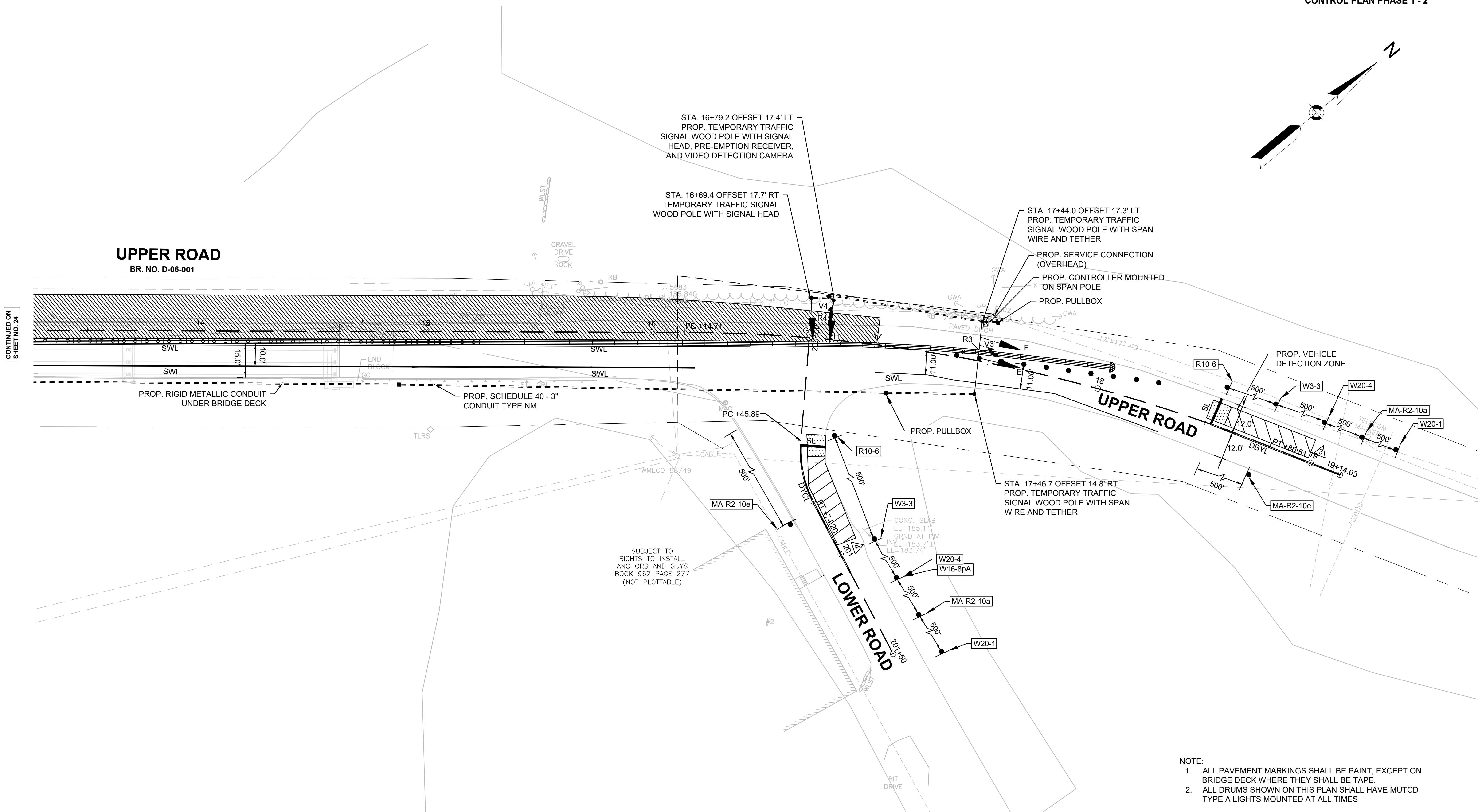
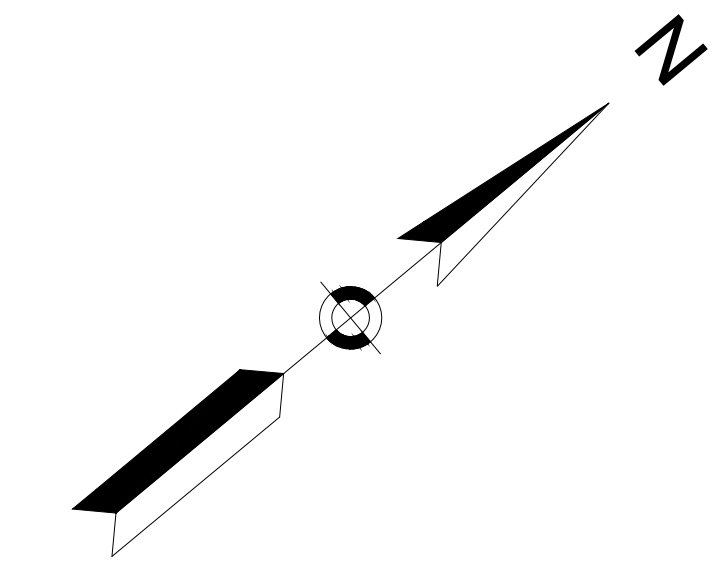


CONTINUED ON
SHEET NO. 25

DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	25	92
PROJECT FILE NO.		608634	

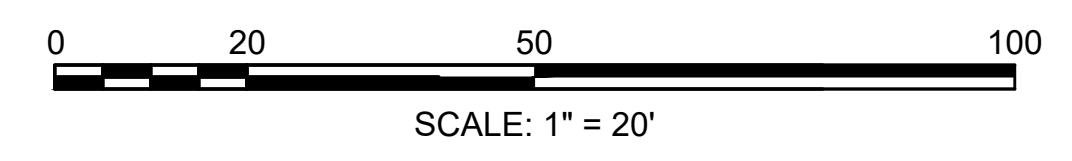
TEMPORARY TRAFFIC
CONTROL PLAN PHASE 1 - 2



CONTINUED ON
SHEET NO. 24

SUBJECT TO RIGHTS TO INSTALL ANCHORS AND GUYS BOOK 962 PAGE 277 (NOT PLOTTABLE)

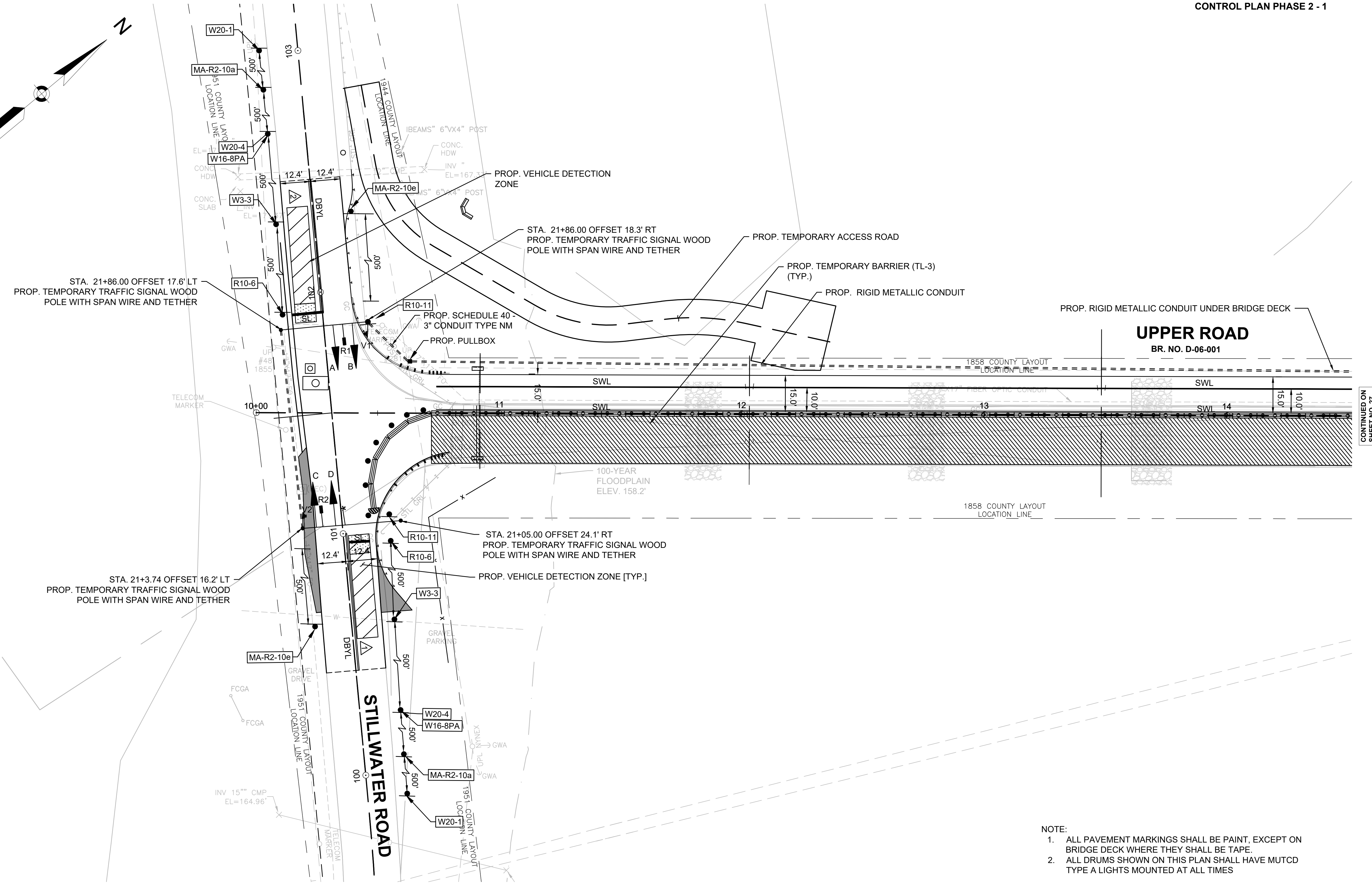
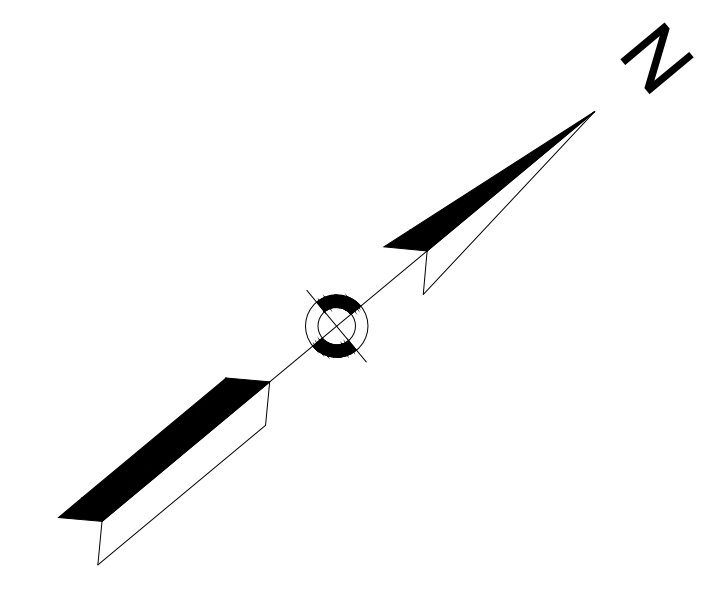
- NOTE:
1. ALL PAVEMENT MARKINGS SHALL BE PAINT, EXCEPT ON BRIDGE DECK WHERE THEY SHALL BE TAPE.
 2. ALL DRUMS SHOWN ON THIS PLAN SHALL HAVE MUTCD TYPE A LIGHTS MOUNTED AT ALL TIMES



DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	26	92
PROJECT FILE NO.		608634	

TEMPORARY TRAFFIC
CONTROL PLAN PHASE 2 - 1

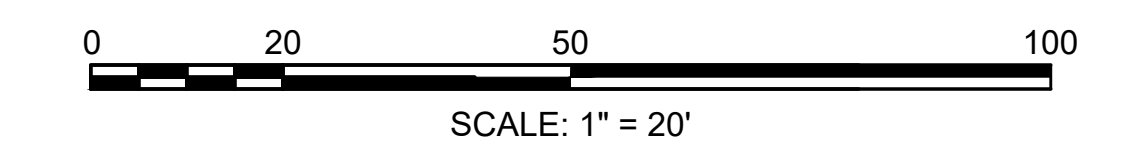


CONTINUED ON
SHEET NO. 27

TRAFFIC DEVICE LEGEND

- SIGN
- TEMPORARY CONCRETE BARRIER
- TEMPORARY CONCRETE BARRIER - LIMITED DEFLECTION
- IMPACT ATTENUATOR

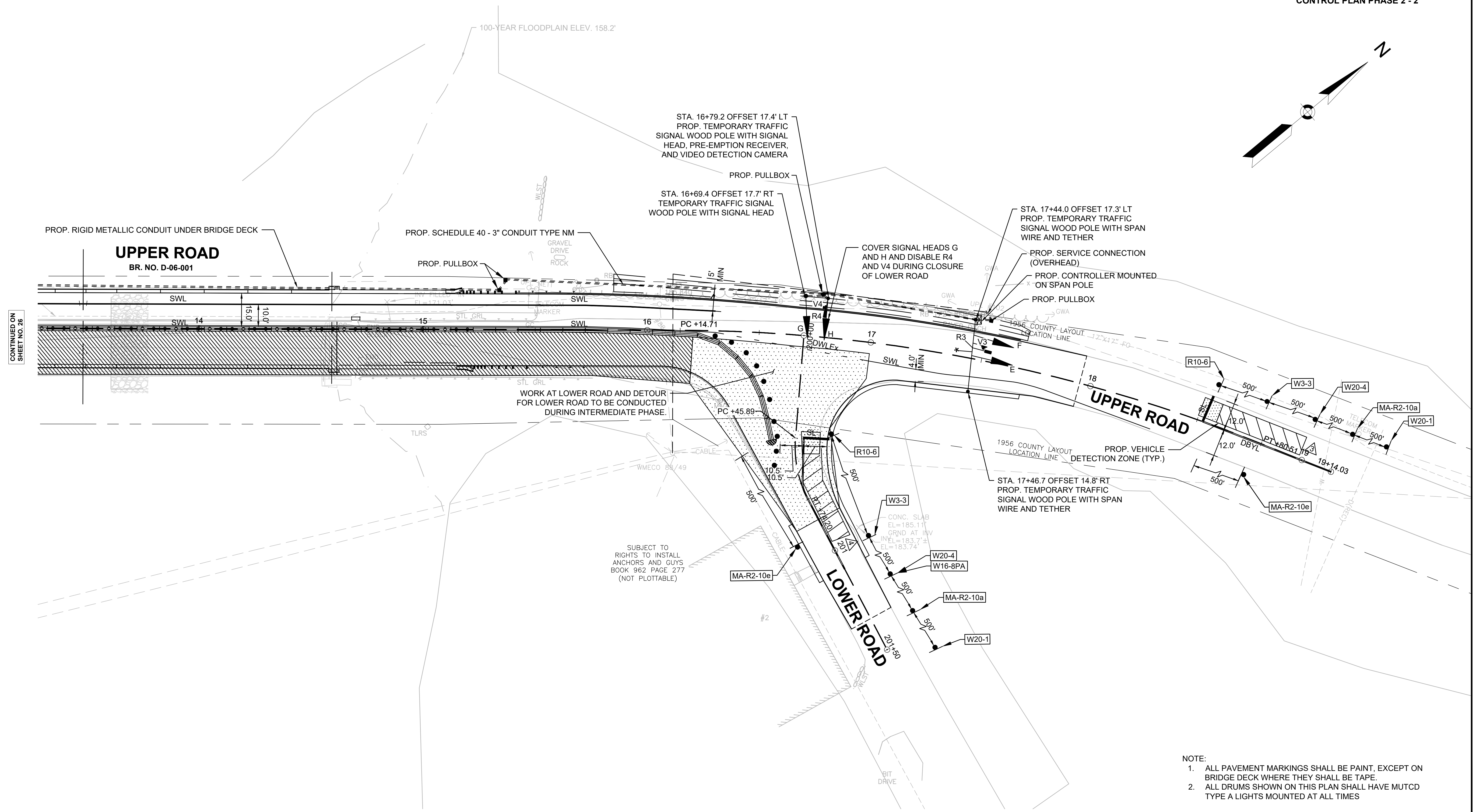
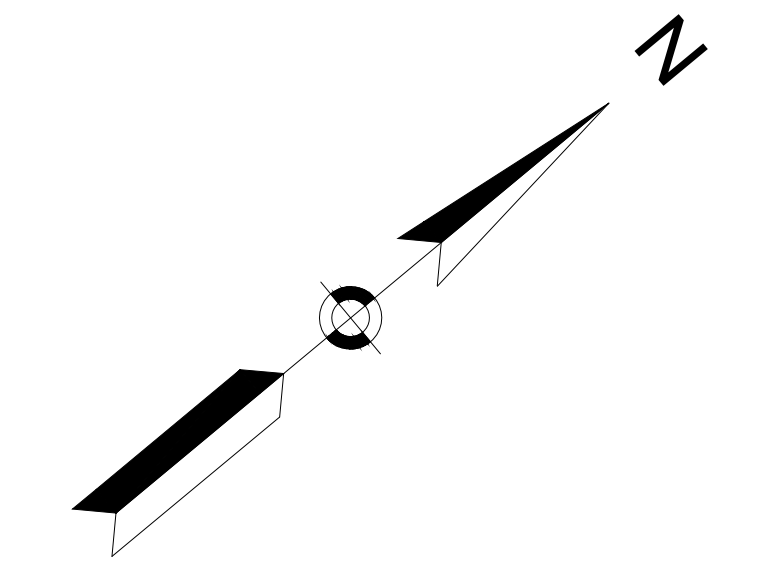
- NOTE:
1. ALL PAVEMENT MARKINGS SHALL BE PAINT, EXCEPT ON BRIDGE DECK WHERE THEY SHALL BE TAPE.
 2. ALL DRUMS SHOWN ON THIS PLAN SHALL HAVE MUTCD TYPE A LIGHTS MOUNTED AT ALL TIMES



**DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	27	92
PROJECT FILE NO.		608634	

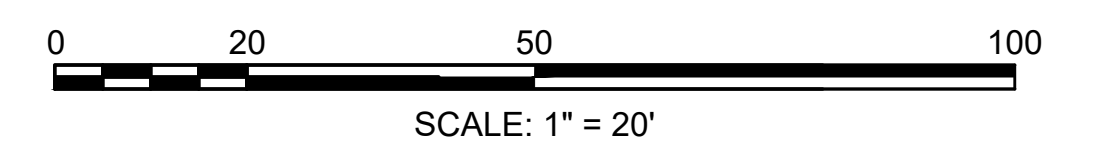
**TEMPORARY TRAFFIC
CONTROL PLAN PHASE 2 - 2**



CONTINUED ON
SHEET NO. 26

SUBJECT TO RIGHTS TO INSTALL ANCHORS AND GUYS BOOK 962 PAGE 277 (NOT PLOTTABLE)

- NOTE:
- ALL PAVEMENT MARKINGS SHALL BE PAINT, EXCEPT ON BRIDGE DECK WHERE THEY SHALL BE TAPE.
 - ALL DRUMS SHOWN ON THIS PLAN SHALL HAVE MUTCD TYPE A LIGHTS MOUNTED AT ALL TIMES



DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	28	92
PROJECT FILE NO.		608634	

TEMPORARY TRAFFIC
CONTROL PLAN -
SIGNAL TIMING

SEQUENCE & TIMING FOR FULL ACTUATED CONTROL UPPER ROAD AT STILLWATER ROAD			Ø 2		Ø 4		Ø 5		Ø 6		Ø 8		FLASHING OPERATION				
APPROACH	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	10		11	12	13	14
STILLWATER ROAD	EB	C	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R
STILLWATER ROAD	EB	D	G	Y	R	R	R	R	R	G	Y	R	R	R	R	R	R
STILLWATER ROAD	WB	A, B	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R
UPPER ROAD	SB	E, F	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R
LOWER ROAD	WB	G, H	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R

TIMING IN SECONDS																	
MINIMUM GREEN (INITIAL)	10																
MAX GREEN 1	26																
MAX GREEN 2 (MON-FRI 3:00 PM - 6:00 PM)	29																
MAX GREEN 1 - LOWER ROAD CLOSURE	27																
MAX GREEN 2 - LOWER ROAD CLOSURE	27																
VEHICLE EXTENSION	3																

EMERGENCY ONLY																	
YELLOW CLEARANCE			3.0				3.0				3.0				3.0		
RED CLEARANCE				25.0				25.0			2.5			25.0			2.5
RECALL				SOFT			MIN			NONE			SOFT			NONE	
DETECTION (MEMORY)				NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK	

NOTES:

- STANDARD NEMA CLEARANCES SHALL APPLY.
- MAXIMUM GREEN 1 SHALL BE IN EFFECT AT ALL TIMES UNLESS OTHERWISE SPECIFIED ABOVE.
- NORMAL CLEARANCES SHALL BE PROVIDED ON PHASES THAT ARE TERMINATED BY PRE-EMPTION DEMAND.

VIDEO DETECTION DATA								
VIDEO CAMERA	DETECTOR NO.	PHASE CALLED	PHASE EXT.	OPERATIONS	DELAY TIME	EXT. TIME	WIDTH (FEET)	LENGTH (FEET)
V1	1	Ø6	Ø2 & Ø6	PRESENCE	-	-	6	40
V2	2	Ø2 & Ø5	Ø2 & Ø6	PRESENCE	-	-	6	40
V3	3	Ø4	Ø4	PRESENCE	-	-	6	40
V4	4	Ø8	Ø8	PRESENCE	-	-	6	40

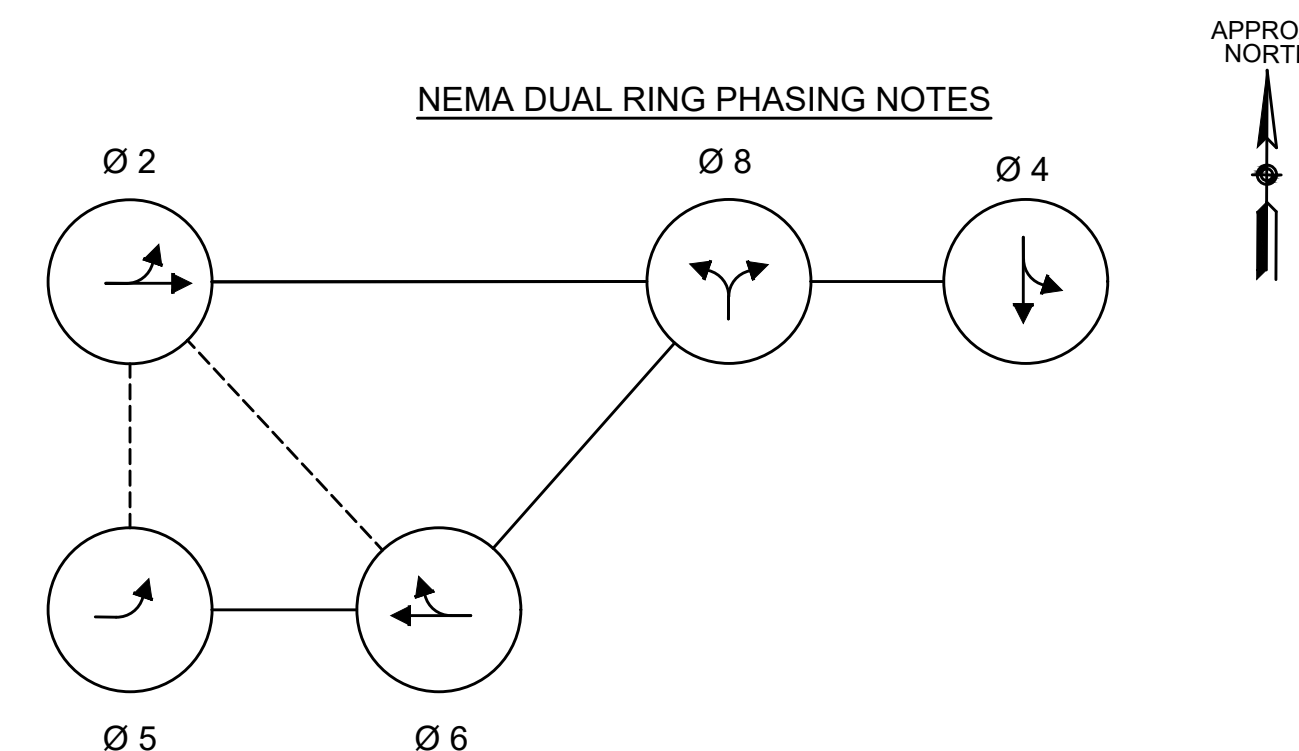
FIRE PRE-EMPTION SCHEDULE				
RECEIVER AND PRIORITY	PRE-EMPT PHASE ASSIGNMENT	APPROACH AND MOVEMENT	VEHICLE ASSIGNMENT	NEXT PHASE CALLED
R1	1	WB	Ø6	Ø4
R2	2	EB	Ø2 & Ø5	Ø2 & Ø6
R3	3	SB	Ø4	Ø8
R4	4	WB	Ø8	Ø4

NOTES:

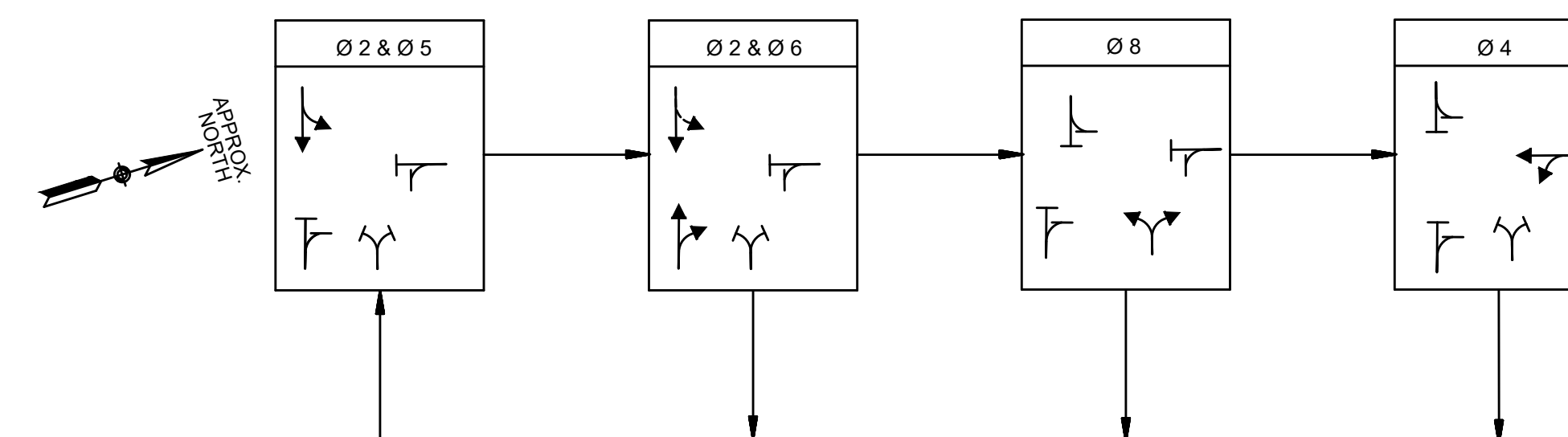
- EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL AND INFRARED EMITTERS MOUNTED IN EMERGENCY VEHICLES AND RECEIVED BY RECEIVERS LOCATED AT THE INTERSECTION.
- PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES AS FOLLOWS: (R1, R2, THEN R3)
- IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED BY AN OPTICAL RECEIVER THE CONTROLLER SHALL HOLD OR ADVANCED TO AND HOLD IN EMERGENCY PRE-EMPTION THE ASSOCIATED GREEN PHASE FOR A MINIMUM OF TEN (10) SECONDS OR UNTIL, PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN PROVIDE PRE-EMPTION PHASE CLEARANCE SERVICE THEN RESUME NORMAL OPERATION.
- MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
- ONCE PRE-EMPTION TERMINATED THE SIGNAL WILL RETURN TO PHASE SHOWN

MAJOR ITEMS REQUIRED		
PAY ITEM	QUANTITY	ITEM
813.81	1	SERVICE CONNECTION (OVERHEAD)
816.81	1	CONTROLLER NEMA 4 PHASE TS-2 (TYPE 1), POLE MOUNTED CABINET
	7	12 INCH 1 WAY 3-SECTION LED VEHICLE SIGNAL INDICATION
	1	12 INCH 1 WAY 4-SECTION LED VEHICLE SIGNAL INDICATION
	1	PREEMPTION PHASE SELECTOR MODULE-FOUR CHANNEL
	1	PREEMPTION CARD RACK
	2	EMERGENCY PRE-EMPTION CONFIRMATION STROBE LIGHT
	4	EMERGENCY PRE-EMPTION RECEIVER (DETECTOR) - ONE WAY
	1	PREEMPTION PHASE SELECTOR MODULE-FOUR CHANNEL
811.31	2	PREEMPTION CARD RACK
	1	VIDEO DETECTION SYSTEM WITH 4 CAMERAS
804.3	660	3 INCH ELECTRICAL CONDUIT TYPE NM - PLASTIC - (UL)
806.3	880	3 INCH ELECTRICAL CONDUIT TYPE RM - GALVANIZED STEEL

PLUS ALL NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION OF A FULLY OPERATIONAL SIGNAL SYSTEM AS INTENDED ON THESE PLANS



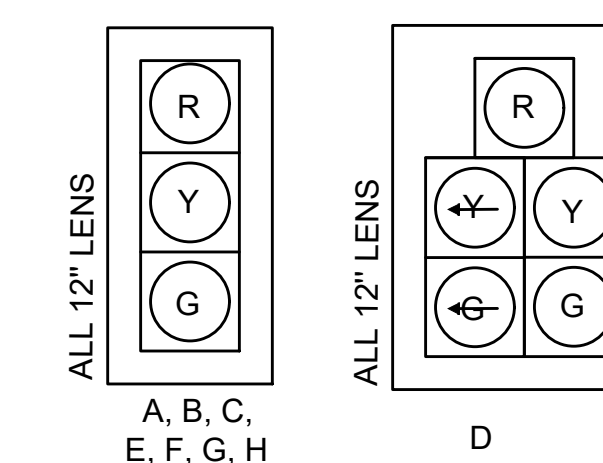
PREFERENTIAL PHASING SEQUENCE



NOTE:

- PHASE 8 TO BE OMITTED DURING CLOSURE OF LOWER ROAD DURING INTERMEDIATE CONSTRUCTION PHASE.

SIGNAL IDENTIFICATION



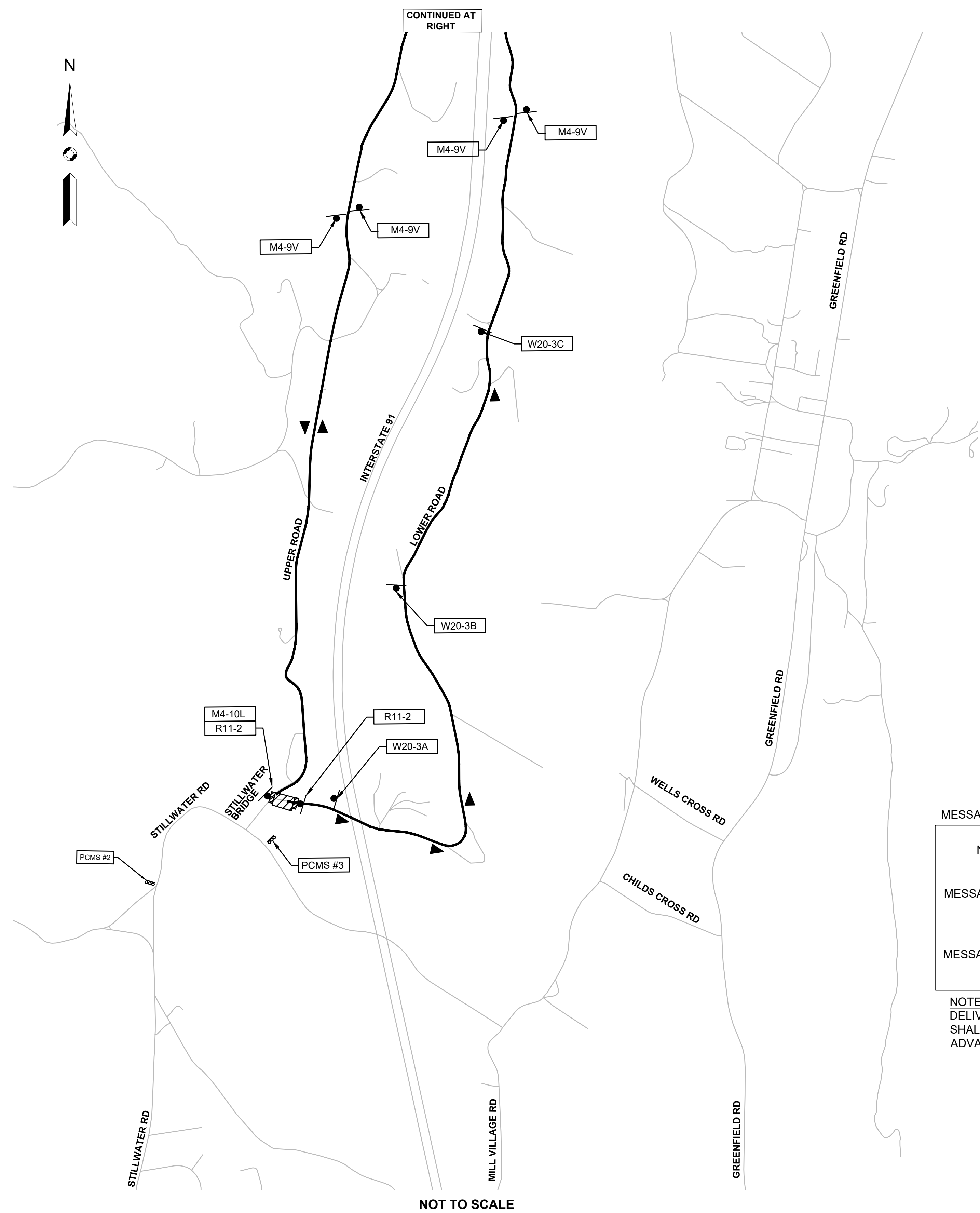
NOTES:

- ALL VEHICLE SIGNAL HEADS SHALL BE LED TYPE
- ALL VEHICLE SIGNAL HEADS SHALL BE 12 INCHES
- ALL HOUSINGS TO BE PROVIDED WITH 3/4 TUNNEL VISORS AND 5-INCH NON-LOUVERED BACKPLATES WITH 3-INCH YELLOW TAPE RETROREFLECTIVE BORDER

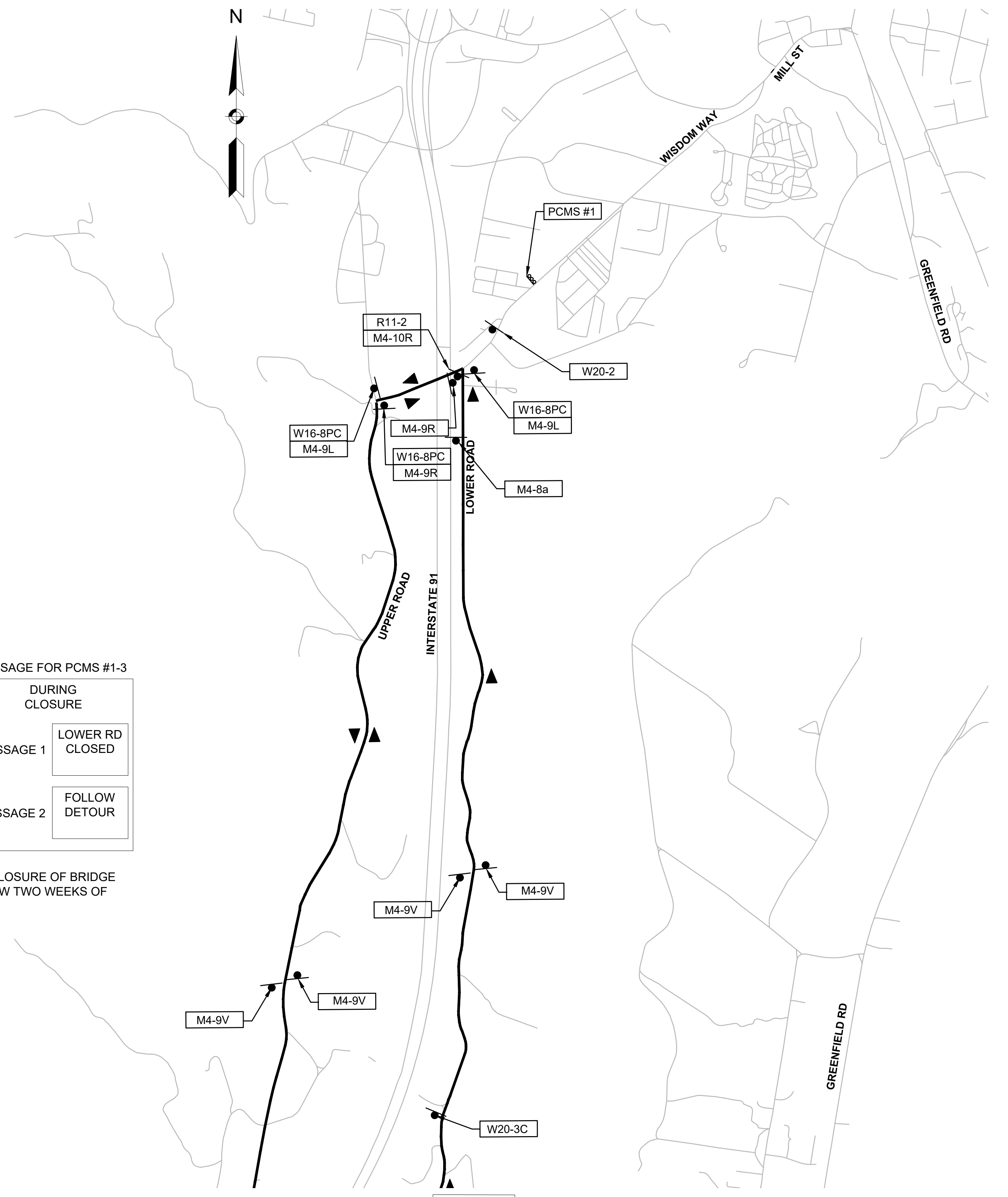
**DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	30	92
PROJECT FILE NO.		608634	

LOWER ROAD DETOUR



NOT TO SCALE



CONTINUED AT LEFT

NOT TO SCALE

MESSAGE FOR PCMS #1-3 ADVANCE NOTIFICATION		MESSAGE FOR PCMS #1-3 DURING CLOSURE	
MESSAGE 1	LOWER RD CLOSING	MESSAGE 1	LOWER RD CLOSED
MESSAGE 2	MM/DD TO MM/DD	MESSAGE 2	FOLLOW DETOUR

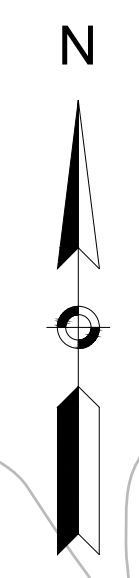
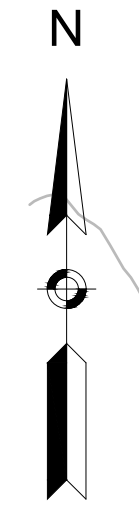
NOTE:
DELIVERY OF ITEMS REQUIRING CLOSURE OF BRIDGE SHALL BE COORDINATED TO ALLOW TWO WEEKS OF ADVANCE NOTIFICATION.

TRAFFIC DEVICE LEGEND

- WORK AREA
- DIRECTIONAL ARROW
- SIGN
- TYPE III BARRICADE

DETOUR NOTES:

1. THE CONTRACTOR SHALL COORDINATE APPROVAL AND IMPLEMENTATION OF THE DETOUR, IF DEVIATING FROM THIS DETOUR PLAN, WITH MASSDOT PRIOR TO CONSTRUCTION ACTIVITIES.
2. PLACE ALL SAFETY DEVICES AND CONSTRUCTION SIGNING BEFORE ACTUAL CONSTRUCTION WORK BEGINS. THE CONTRACTOR SHALL NOTIFY APPLICABLE STATE AND LOCAL AGENCIES TWO (2) WEEKS IN ADVANCE OF PLACING TEMPORARY TRAFFIC CONTROL SIGNS.
3. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER NECESSARY WORK ZONE TRAFFIC DEVICES SHALL BE REMOVED FROM THE ROADWAY WHEN THEY ARE NOT REQUIRED FOR TRAFFIC CONTROL.
4. THE CONTRACTOR SHALL COORDINATE WITH ANY ABUTTING PROJECTS.
5. ANY CONFLICTING SIGNAGE SHALL BE COVERED OR REMOVED FOR THE DURATION OF THE DETOUR.
6. THE DETOUR SHOWN ON THIS PLAN IS TO BE IMPLEMENTED FOR LONG-TERM CLOSURE OF LOWER ROAD AT THE INTERSECTION WITH UPPER ROAD.



NOTES:

- UNLESS OTHERWISE NOTED, ALL POSTS SHALL BE P-5.
- SEE THE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND REVISIONS, THE 1990 MASSDOT HIGHWAY DIVISION STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, 2022 MASSDOT MASSACHUSETTS AMENDMENTS TO THE 2009 MUTCD, 2012 SUPPLEMENT TO THE 2004 STANDARD HIGHWAY SIGNS AND THE LATEST PHASED FHWA RELEASES OF STANDARD HIGHWAY SIGNS, AND MASSDOT STANDARD SIGN BOOK.
- SIGNS SHALL BE MOUNTED SO THAT THE BOTTOM OF THE SIGN IS NO LESS THAN 5'-0" ABOVE ADJACENT ROADWAY SURFACE ELEVATION.
- STREET NAME SIGNS TO BE PAID FOR UNDER ITEM 874.
- RETROREFLECTIVE SHEETING ON ALL TRAFFIC SIGNS SHALL CONFORM TO MASSDOT STANDARD SPECIFICATION M9.30.0

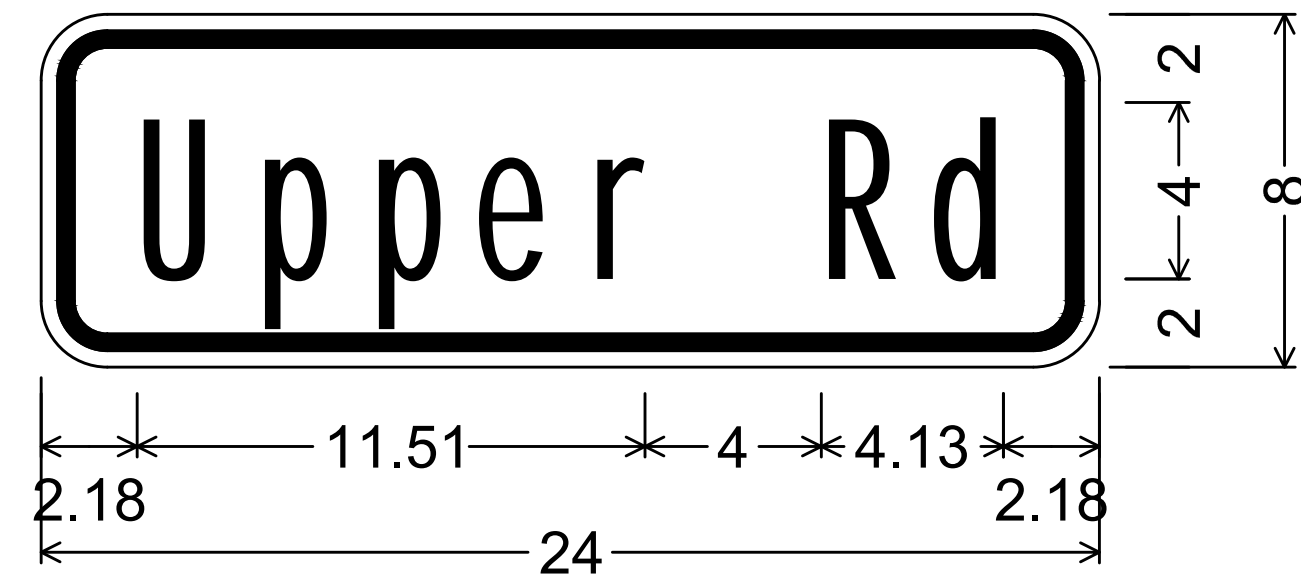
DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	31	92
PROJECT FILE NO.		608634	

DETOUR AND TEMPORARY TRAFFIC CONTROL
SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA IN SQUARE FEET	TOTAL AREA IN SQUARE FEET
	WIDTH IN INCHES	HEIGHT IN INCHES		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE MKR		BACK-GROUND	LEGEND	BORDER			
MA-R2-10a	48	36		SEE MASSDOT STD. SIGN BOOK			4	FLOURESCENT ORANGE	BLACK	BLACK	4	12.00	48.00
MA-R2-10e	36	48		SEE MASSDOT STD. SIGN BOOK			4	FLOURESCENT ORANGE	BLACK	BLACK	4	12.00	48.00
MA-W20-7b	36	36		SEE MASSDOT STD. SIGN BOOK			2	FLOURESCENT ORANGE	BLACK	BLACK	2	9.00	18.00
M4-8a	24	18		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			3	FLOURESCENT ORANGE	BLACK	BLACK	3	3.00	9.00
M4-9L	30	24		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			6	FLOURESCENT ORANGE	BLACK	BLACK	0 (MOUNT W/ W16-8P(A/B/C))	5.00	30.00
M4-9R	30	24		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			11	FLOURESCENT ORANGE	BLACK	BLACK	0 (MOUNT W/ W16-8P(A/B/C))	5.00	55.00
M4-9V	30	24		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			11	FLOURESCENT ORANGE	BLACK	BLACK	4 (7 MOUNT W/ W16-8P(A/B/C))	5.00	55.00
M4-10L	48	18		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			2	FLOURESCENT ORANGE	BLACK	BLACK	2	6.00	12.00
M4-10R	48	18		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			3	FLOURESCENT ORANGE	BLACK	BLACK	1 (4 MOUNT W/ W16-8P(A/B/C))	6.00	18.00
R10-6	24	36		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			4	WHITE	BLACK	BLACK	4	6.00	24.00
R10-11	24	30		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			2	WHITE	BLACK/RED	BLACK	2	5.00	10.00
R11-2	30	24		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			7	WHITE	BLACK	BLACK	5 (2 MOUNT W/ W4-10(R/L))	5.00	35.00
R11-3B	60	30		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			1	WHITE	BLACK	BLACK	1	12.50	12.50
W3-3	36	36		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			4	FLOURESCENT ORANGE	BLACK	BLACK	4	9.00	36.00
W5-1	36	36		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			1	FLOURESCENT ORANGE	BLACK	BLACK	1	9.00	9.00
W8-1	36	36		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			3	FLOURESCENT ORANGE	BLACK	BLACK	3	9.00	27.00

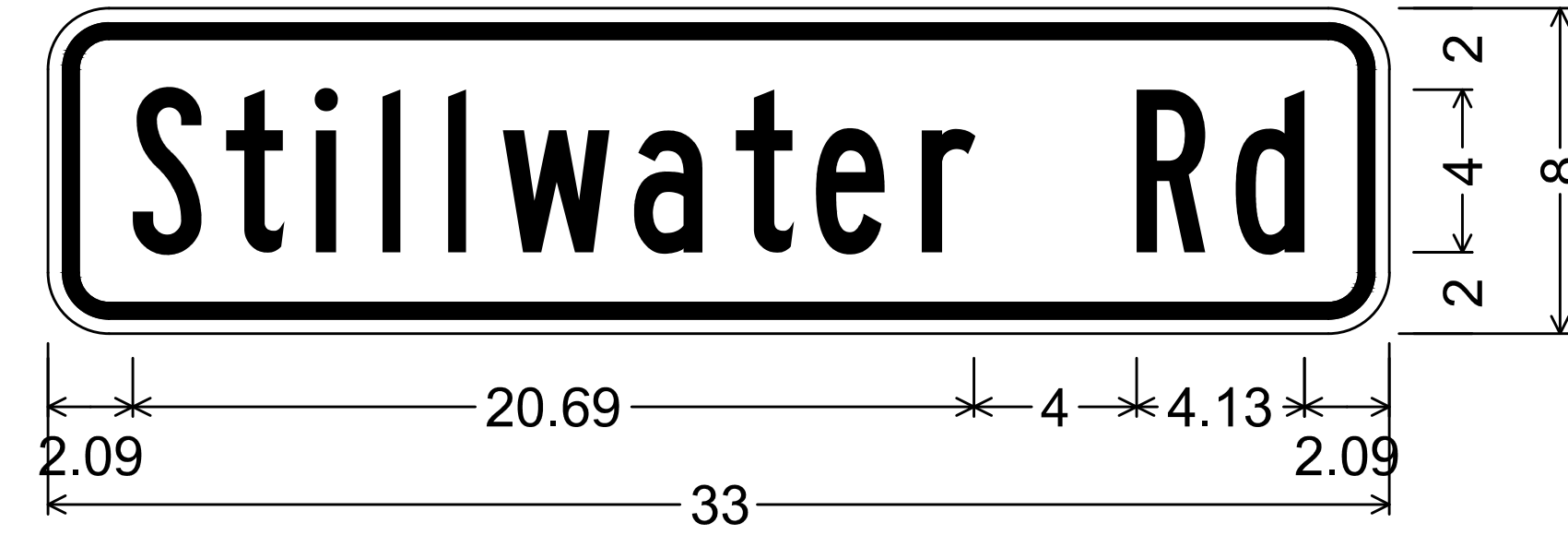
IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA IN SQUARE FEET	TOTAL AREA IN SQUARE FEET
	WIDTH IN INCHES	HEIGHT IN INCHES		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE MKR		BACK-GROUND	LEGEND	BORDER			
W8-3	36	36		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			3	FLOURESCENT ORANGE	BLACK	BLACK	3	9.00	27.00
W8-9	36	36		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			2	FLOURESCENT ORANGE	BLACK	BLACK	2	9.00	18.00
W8-15	36	36		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			3	FLOURESCENT ORANGE	BLACK	BLACK	3	9.00	27.00
W8-24	36	36		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			3	FLOURESCENT ORANGE	BLACK	BLACK	3	9.00	27.00
W16-8PA	24	8	Upper Rd	SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			13	FLOURESCENT ORANGE	BLACK	BLACK	14	1.33	17.33
W16-8PB	33	8	Stillwater Rd	SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			14	FLOURESCENT ORANGE	BLACK	BLACK	14	1.83	25.67
W16-8PC	24	8	Lower Rd	SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			3	FLOURESCENT ORANGE	BLACK	BLACK	3	1.33	4.00
W20-1	36	36		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			4	FLOURESCENT ORANGE	BLACK	BLACK	4	9.00	36.00
W20-2	36	36		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			4	FLOURESCENT ORANGE	BLACK	BLACK	3 (1 MOUNT W/ W16-8PB)	9.00	36.00
W20-3A	36	36		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			2	FLOURESCENT ORANGE	BLACK	BLACK	2	9.00	18.00
W20-3B	36	36		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			3	FLOURESCENT ORANGE	BLACK	BLACK	1 (2 MOUNT W/ W16-8PA/B)	9.00	27.00
W20-3C	36	36		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			4	FLOURESCENT ORANGE	BLACK	BLACK	2 (1 MOUNT W/ W16-8PB)	9.00	36.00
W20-3D	36	36		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			2	FLOURESCENT ORANGE	BLACK	BLACK	2	9.00	18.00
W20-4	36	36		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			4	FLOURESCENT ORANGE	BLACK	BLACK	0 (MOUNT W/ W13-1P)	9.00	36.00
W20-7	36	36		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			4	FLOURESCENT ORANGE	BLACK	BLACK	2	9.00	36.00
W21-5	36	36		SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES			1	FLOURESCENT ORANGE	BLACK	BLACK	1	9.00	9.00
TOTAL												844.50	



1.50" Radius, 0.38" Border, 0.38" Indent, Black on Yellow;
 "Upper", B; "Rd", B;
 Table of letter and object lefts

U	p	p	e	r
2.18	4.90	7.49	9.81	12.41
R		d		
17.69		20.13		

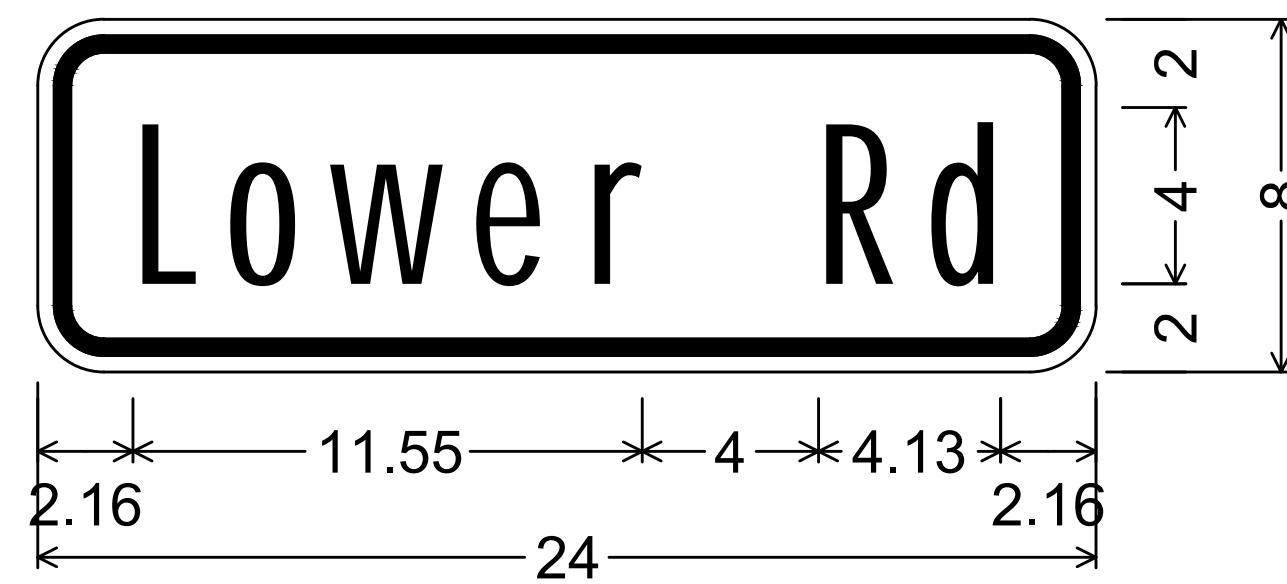
W16-8PA
(NOT TO SCALE)



1.50" Radius, 0.38" Border, 0.38" Indent, Black on Yellow;
 "Stillwater", B; "Rd", B;
 Table of letter and object lefts

S	t	i	l	l	w	a	t	e	r
2.09	4.39	6.62	8.23	9.84	11.19	14.42	16.92	18.90	21.50
R		d							
26.78		29.22							

W16-8PB
(NOT TO SCALE)



1.50" Radius, 0.38" Border, 0.38" Indent, Black on Yellow;
 "Lower", B; "Rd", B;
 Table of letter and object lefts

L	o	w	e	r
2.16	4.25	6.60	9.82	12.43
R		d		
17.71		20.15		

W16-8PC
(NOT TO SCALE)

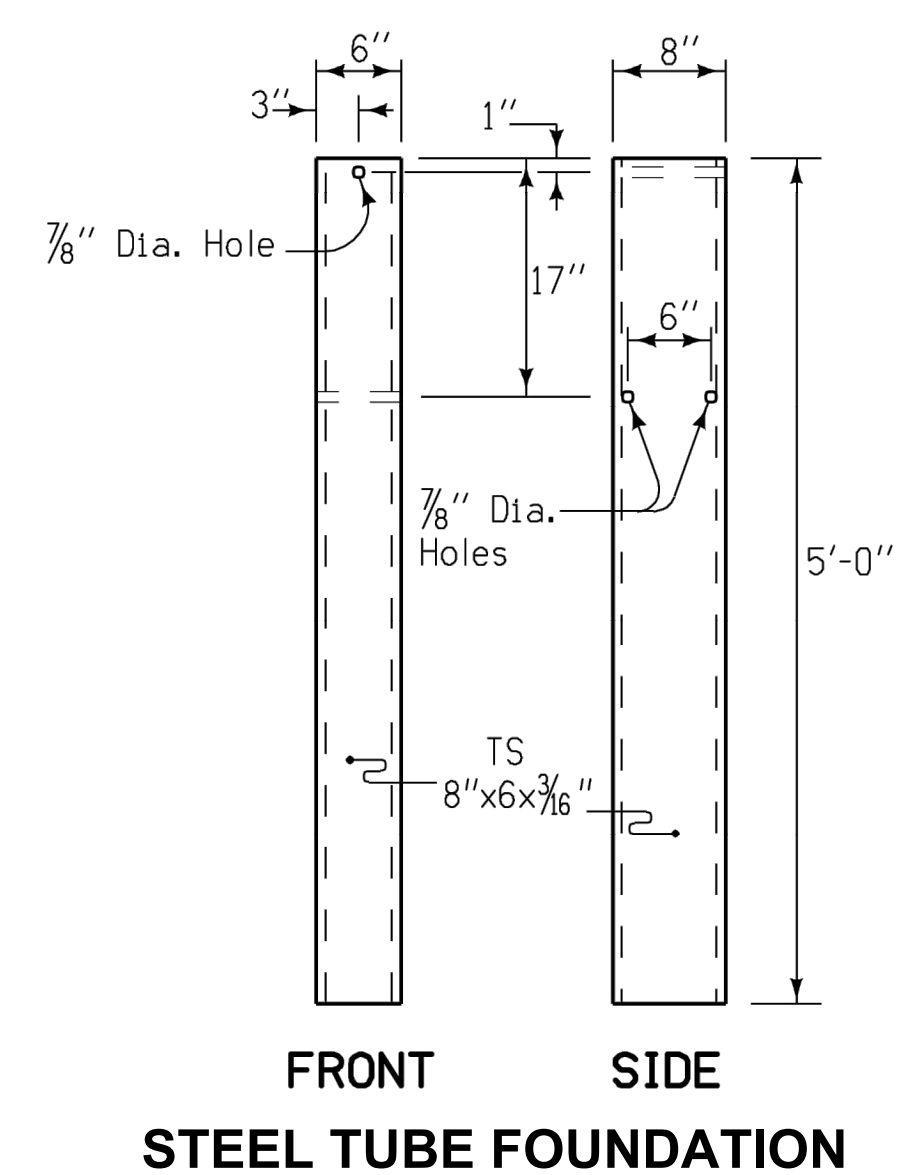
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	33	92
PROJECT FILE NO.		608634	

CONSTRUCTION DETAILS (1 OF 4)

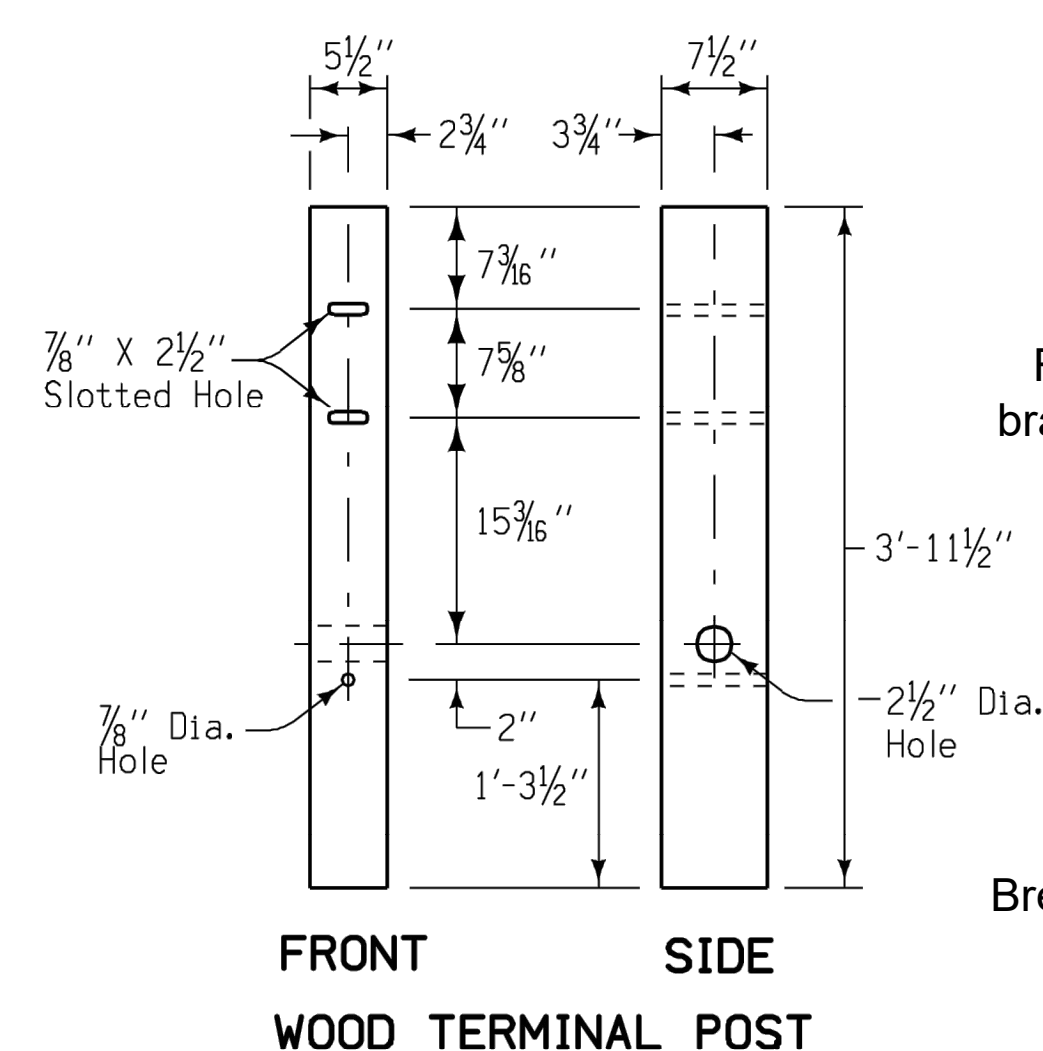
NOTES:

- 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 TIRER POST TO PREVENT DAMAGE TO THE SHORT BREAKAWAY POST.
- HEX NUTS, HEX JAM NUTS AND WASHERS SHALL BE IN ACCORDANCE WITH AASHTO-ARTBA-AGC A GUIDE TO STANDARDIZING HIGHWAY BARRIER HARDWARE. TWO HEX NUTS MAY BE USED FOR THE HEX JAM SYSTEM.
- DRIVE TWO ASTM A153 HOT DIP GALVANIZED STEEL 2 1/2" TYPE 8D NAILS TO PREVENT ROTATION OF THE BEARING PLATE.
- TRAILING ANCHORAGE(THRIE BEAM) SHALL BE CONNECTED TO THRIE BEAM GUARDRAIL WITH A MIDSPAN PANEL LAP SPLICE.

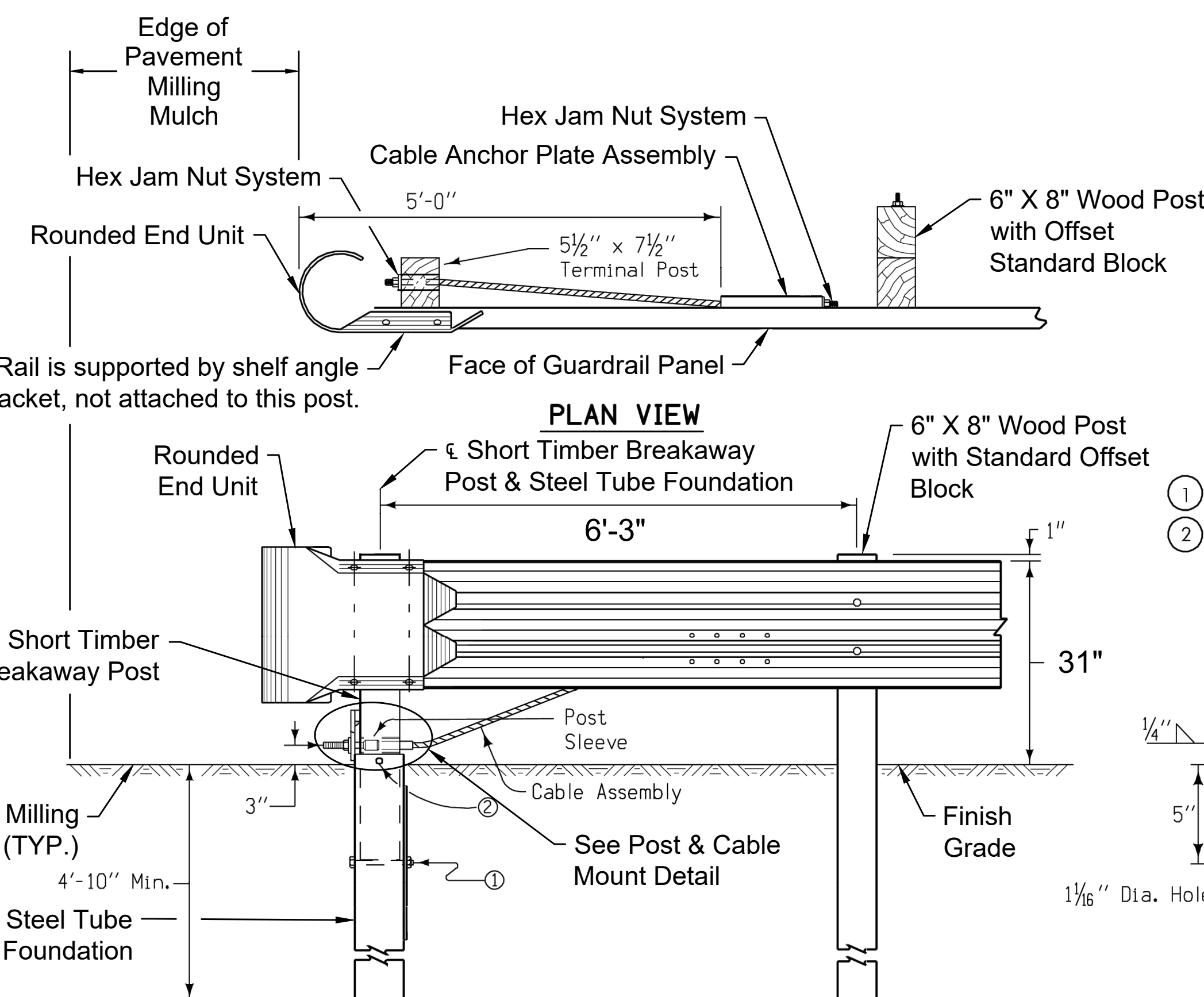
- Two 7.5" long, 3/4" hex bolt, nut and washers under head and nut.
- One 10" long, 3/4" hex bolt, nut and washers under head and nut.



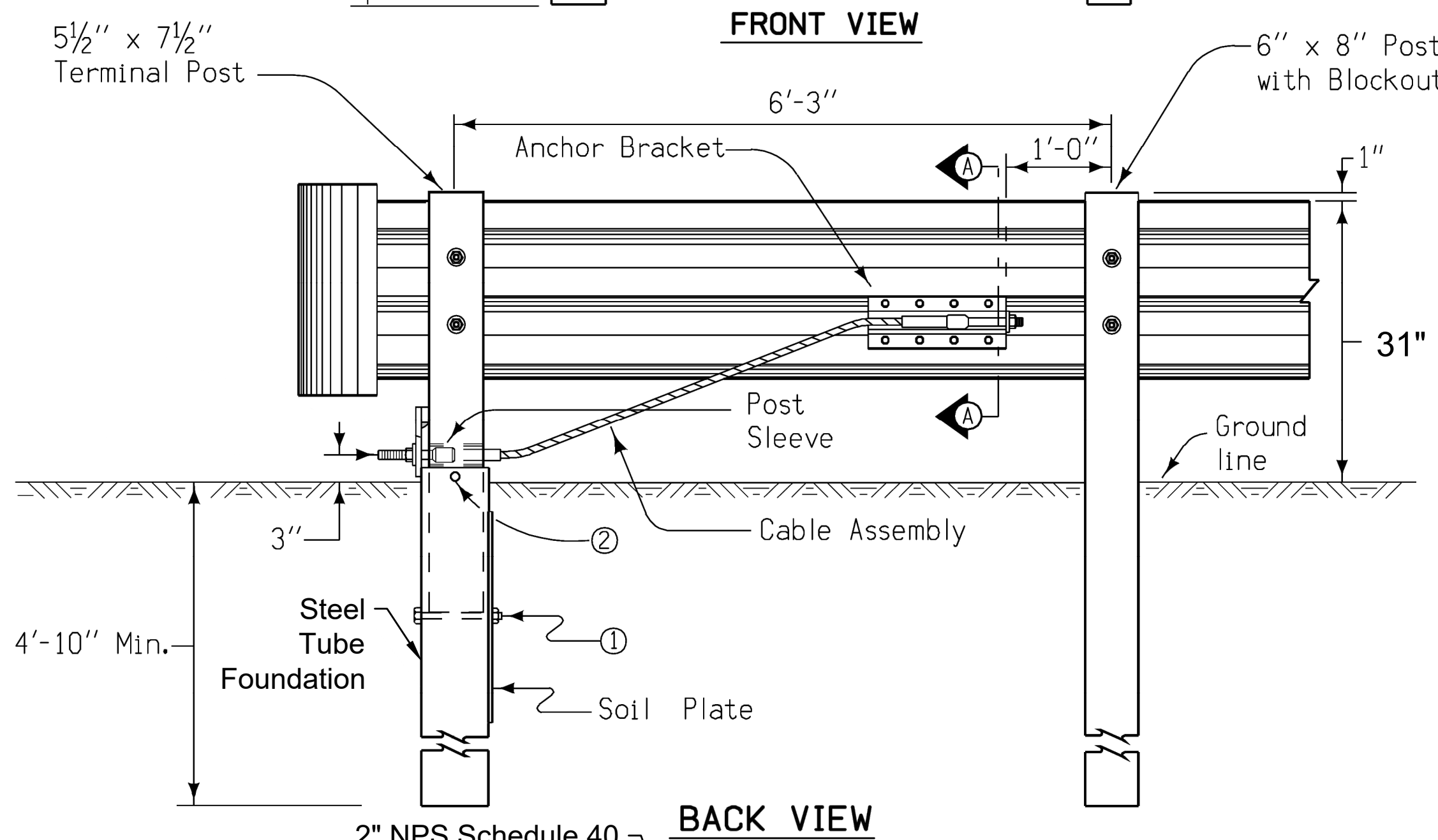
STEEL TUBE FOUNDATION



WOOD TERMINAL POST

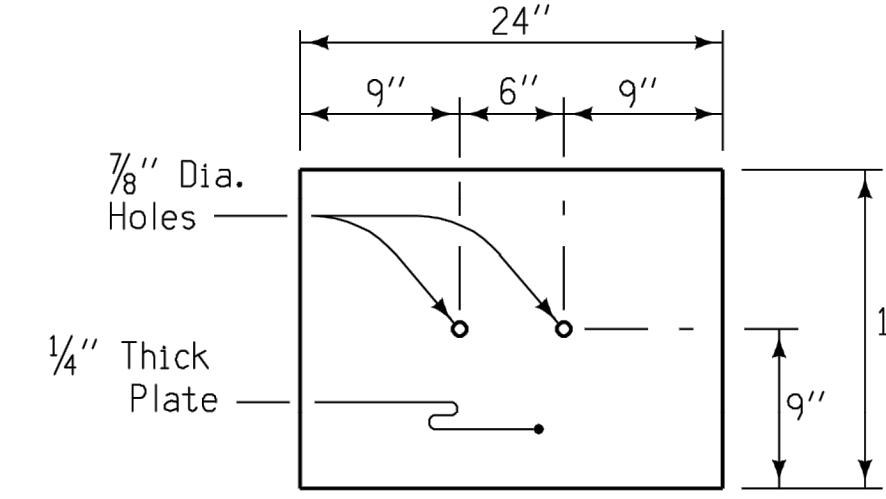


FRONT VIEW

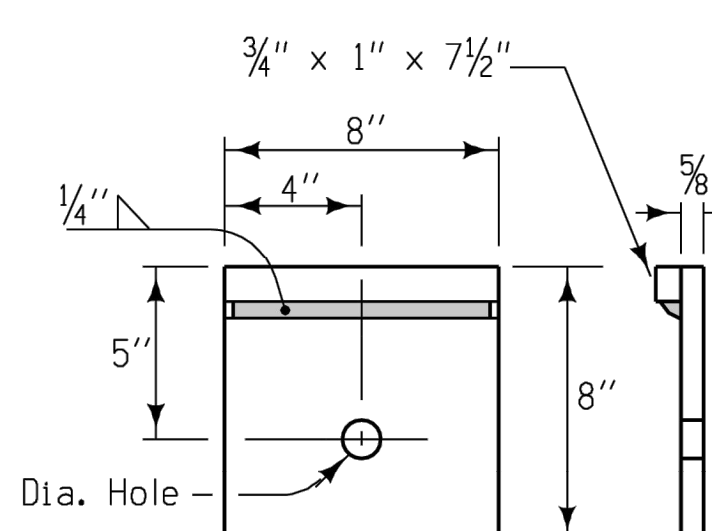


BACK VIEW

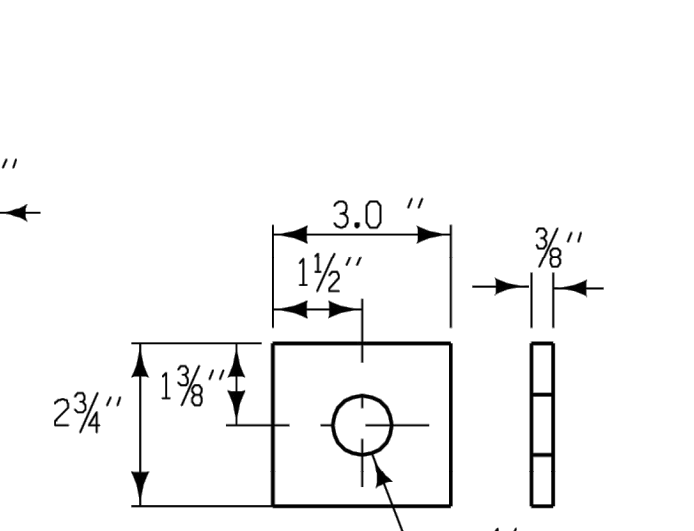
BREAKAWAY TERMINAL POST SLEEVE



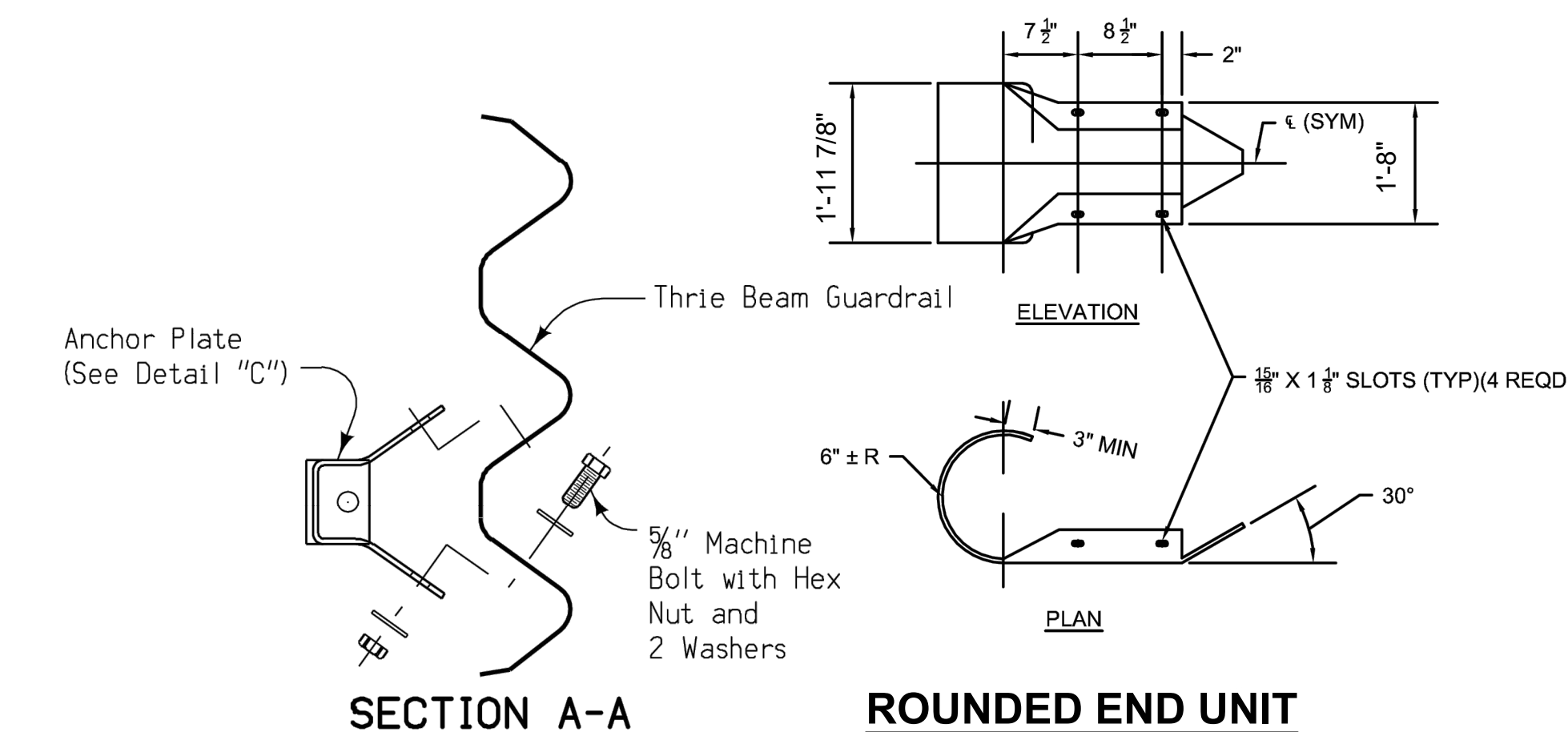
SOIL PLATE



BEARING PLATE

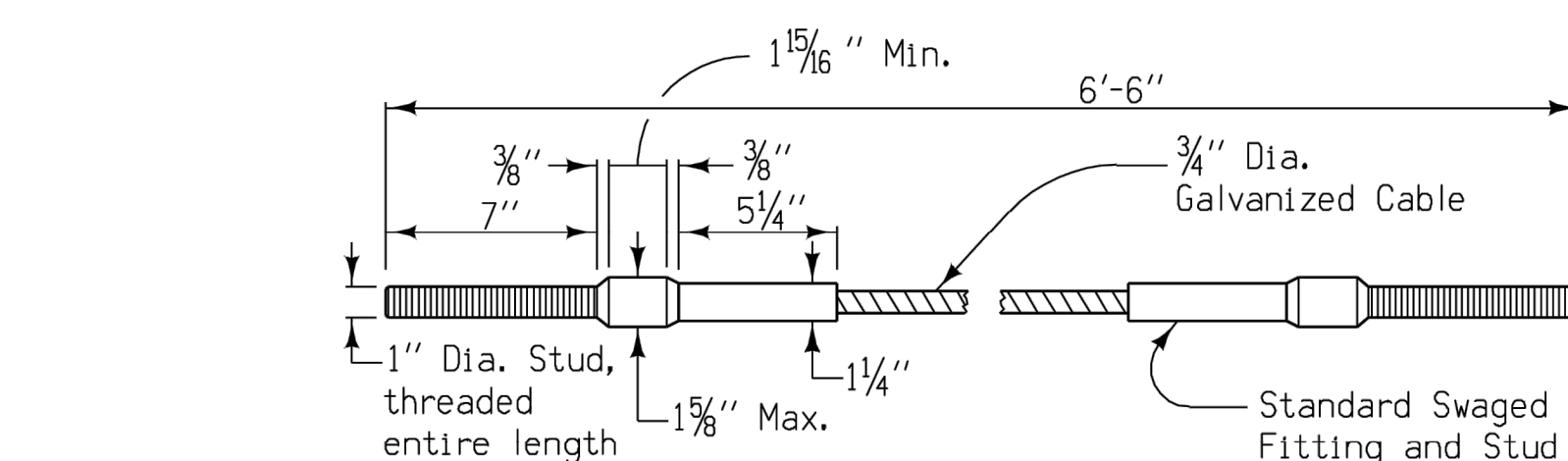


STEEL END PLATE

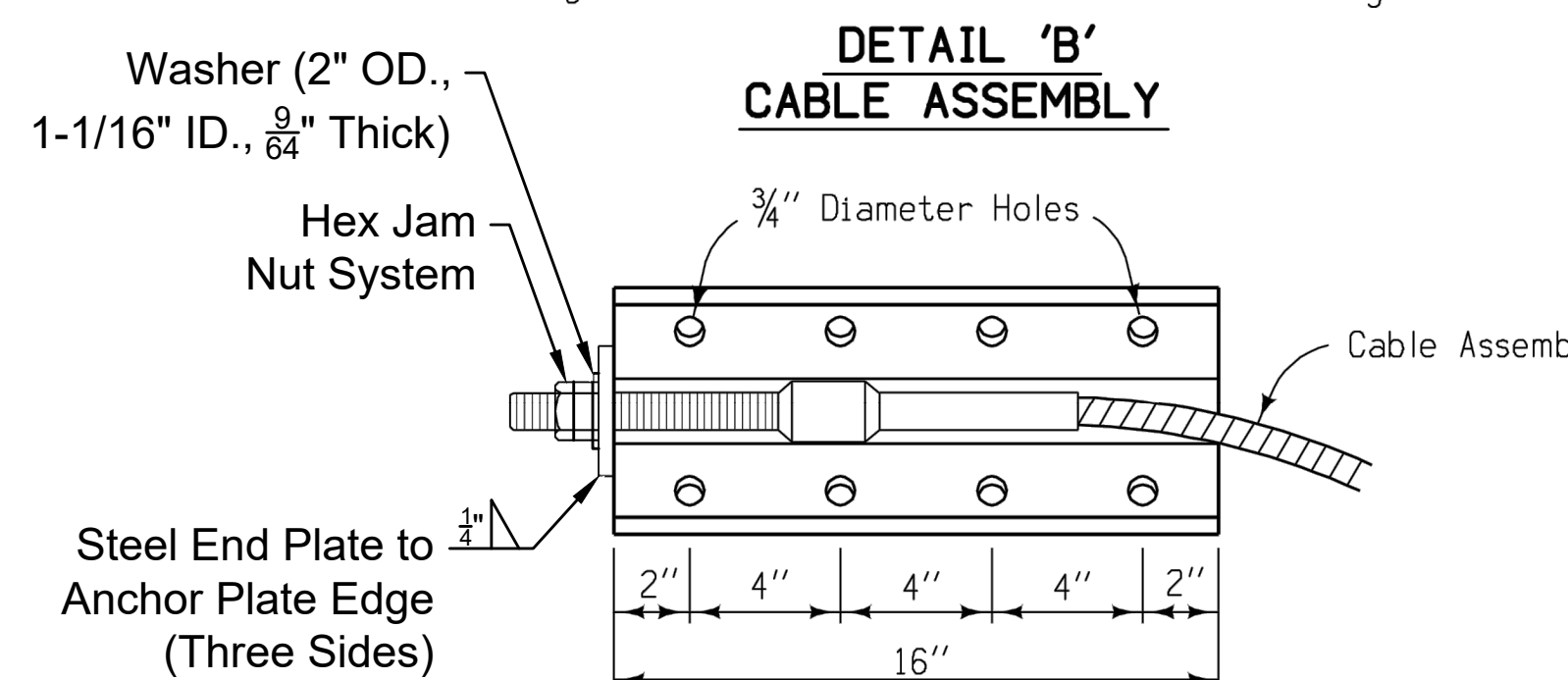


SECTION A-A

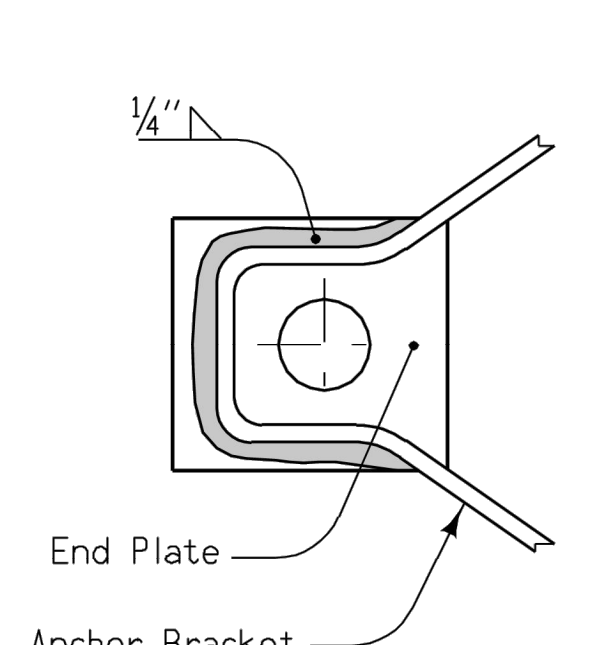
ROUNDED END UNIT



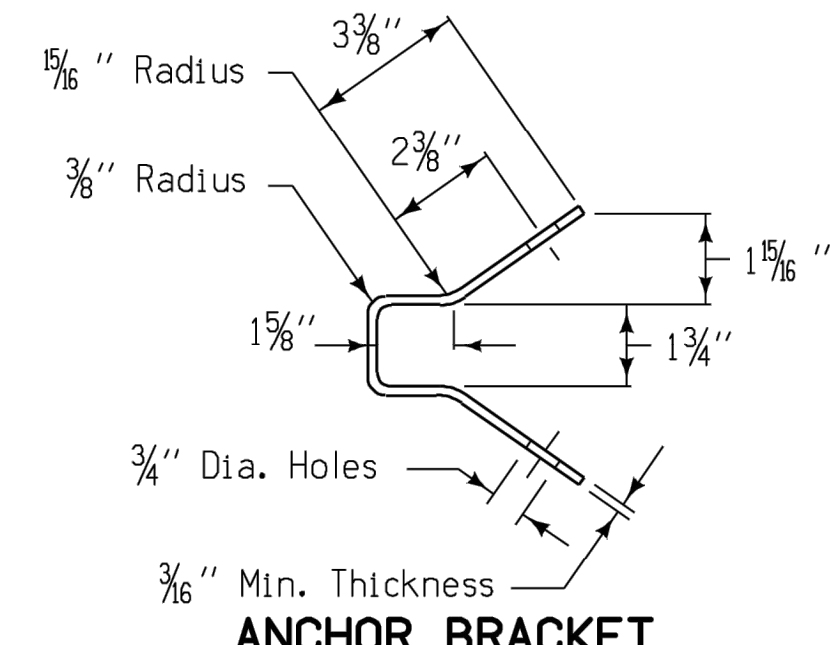
DETAIL 'B' CABLE ASSEMBLY



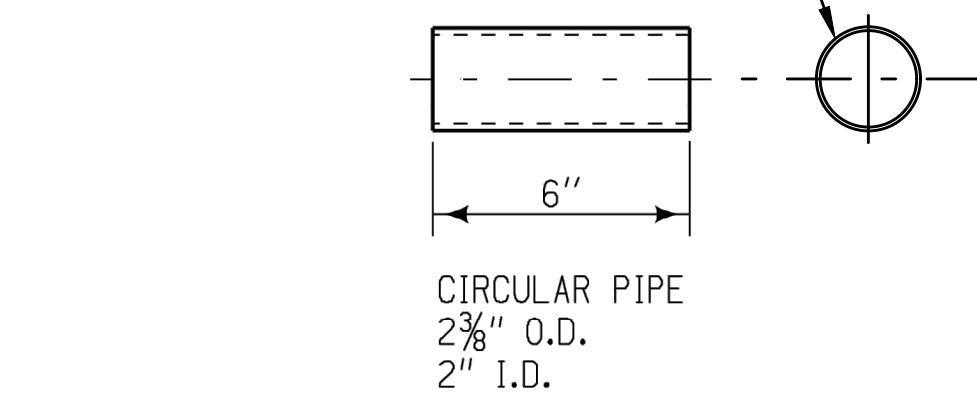
CABLE ANCHOR PLATE ASSEMBLY



ANCHOR BRACKET

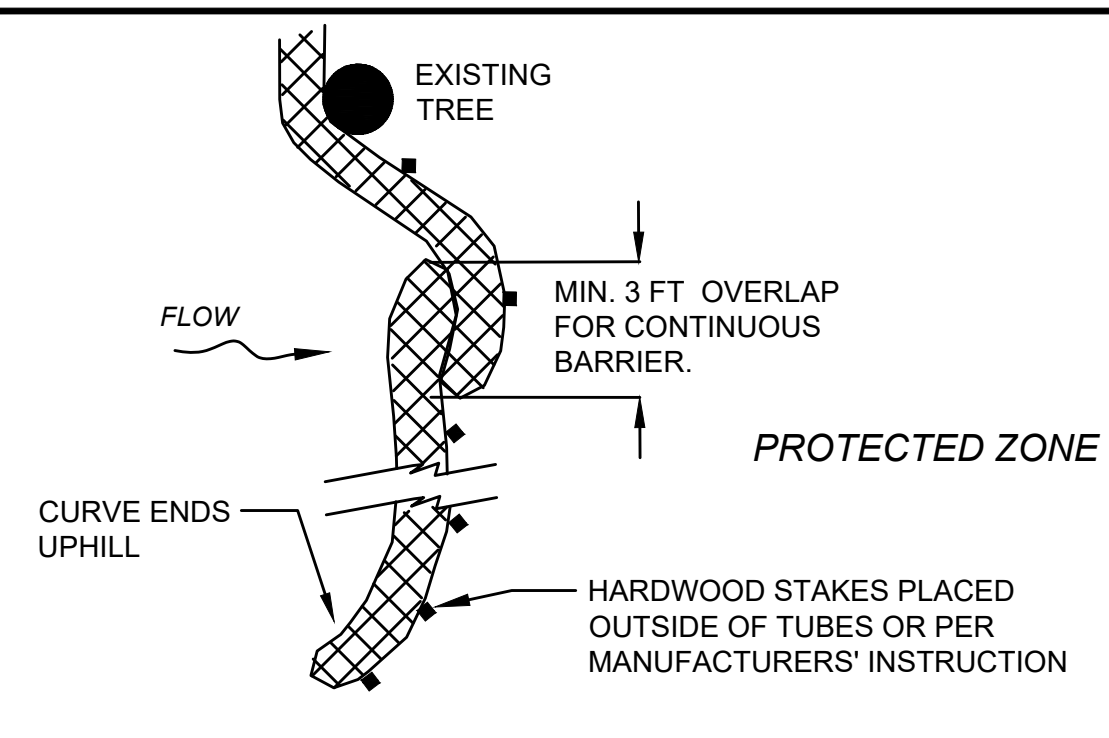


ANCHOR BRACKET FABRICATION DETAILS



CIRCULAR PIPE

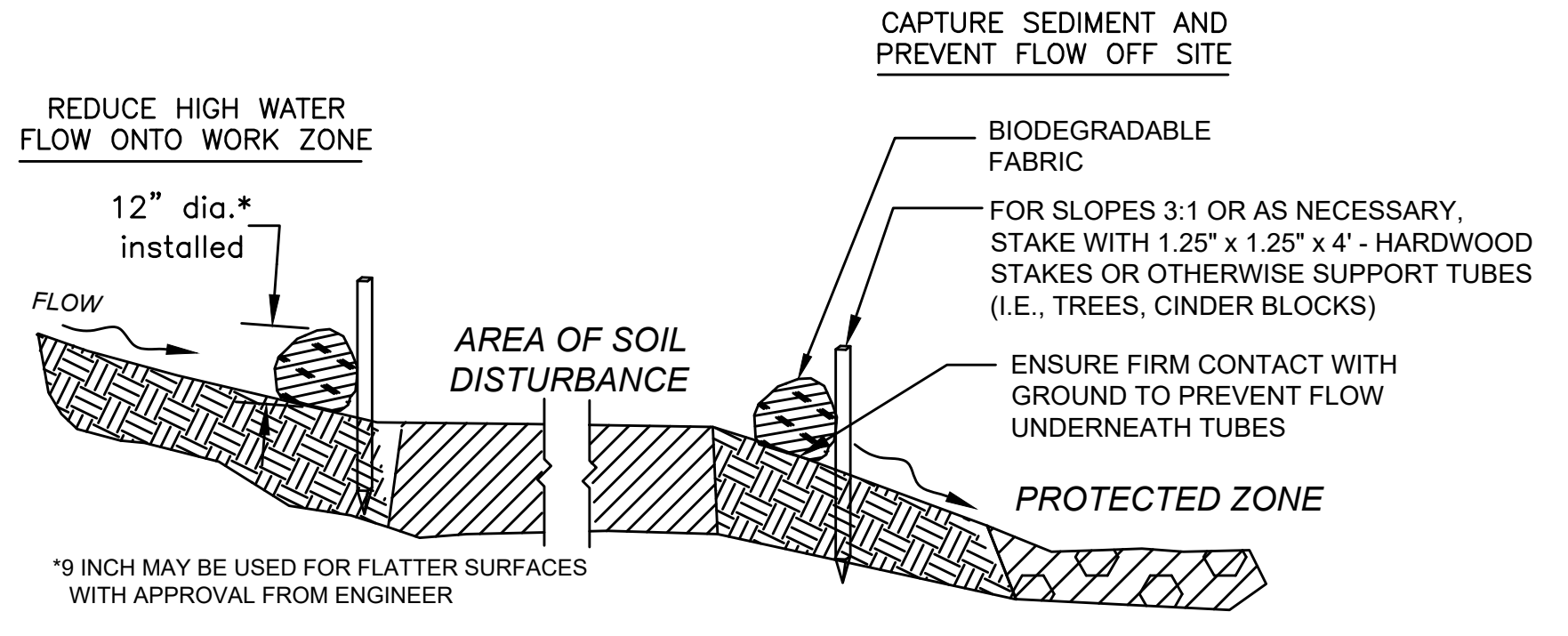
TRAILING ANCHORAGE (THRIE BEAM)



PLACE TUBE AS CLOSE TO LIMIT OF SOIL DISTURBANCE AS POSSIBLE, ALONG CONTOURS, AND PERPENDICULAR TO FLOW.

ADJUST LOCATION AS REQUIRED FOR OPTIMUM EFFECTIVENESS. DO NOT INSTALL IN WATERWAYS.

PLAN VIEW



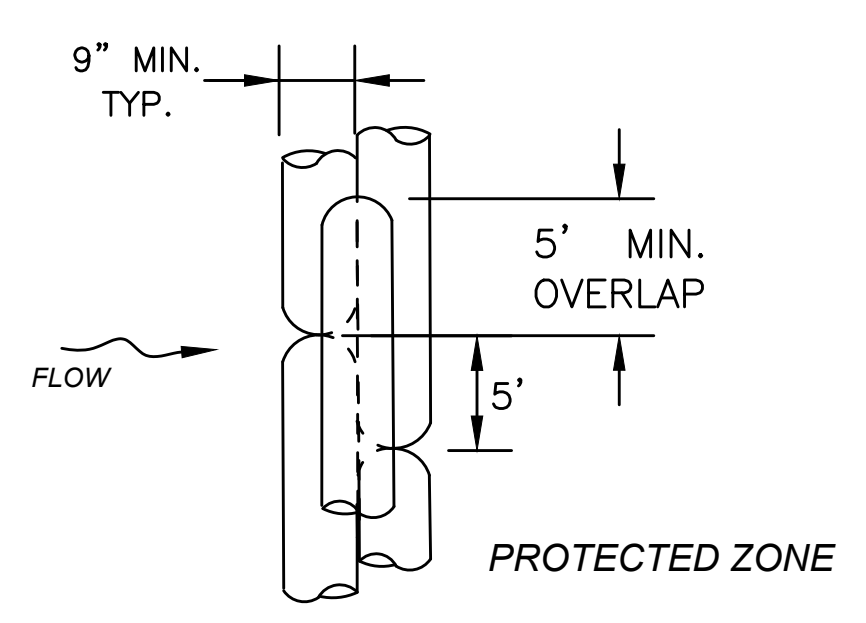
SECTION

SEDIMENT BARRIER - COMPOST FILTER TUBE

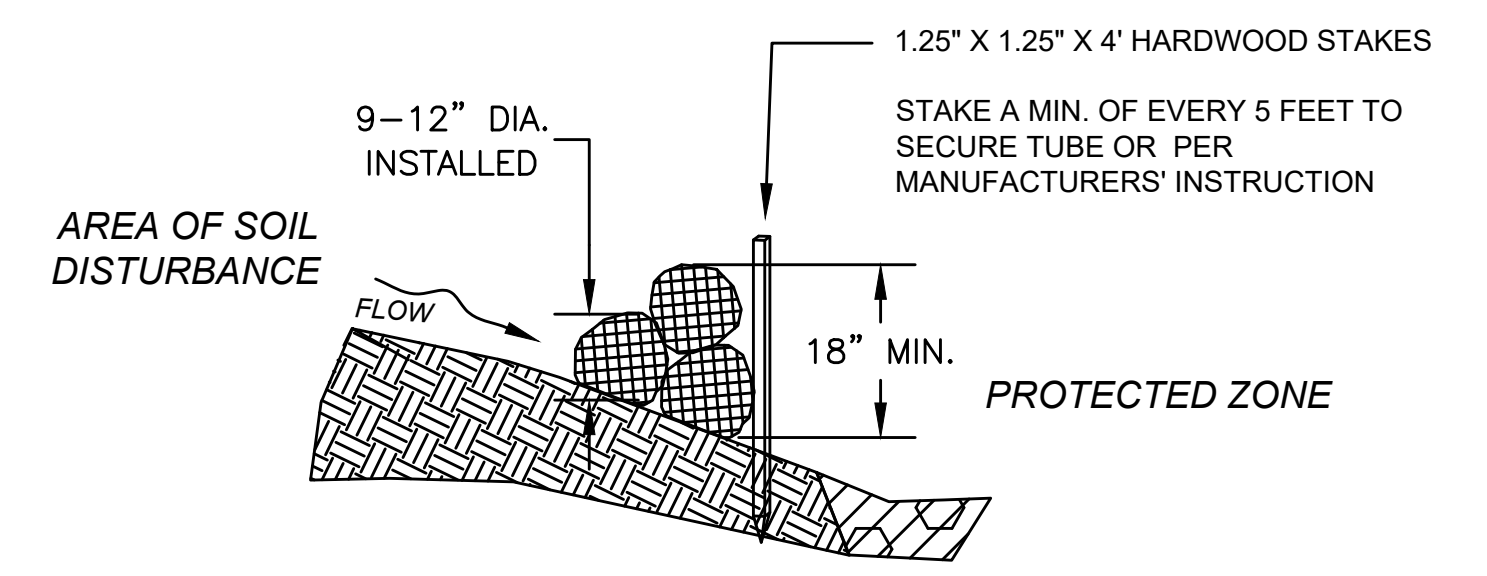
NOT TO SCALE

NOTE:
REFER TO THE TURTLE EXCLUSION BARRIER WITH SEDIMENT CONTROL BARRIER DETAIL FOR INSTALLATION OF THE COMPOST FILTER TUBE WHERE IT RUNS PARALLEL TO THE TURTLE EXCLUSION BARRIER.

WHERE SPECIFIED ON CONSTRUCTION PLANS OR AS REQUIRED



PLAN VIEW

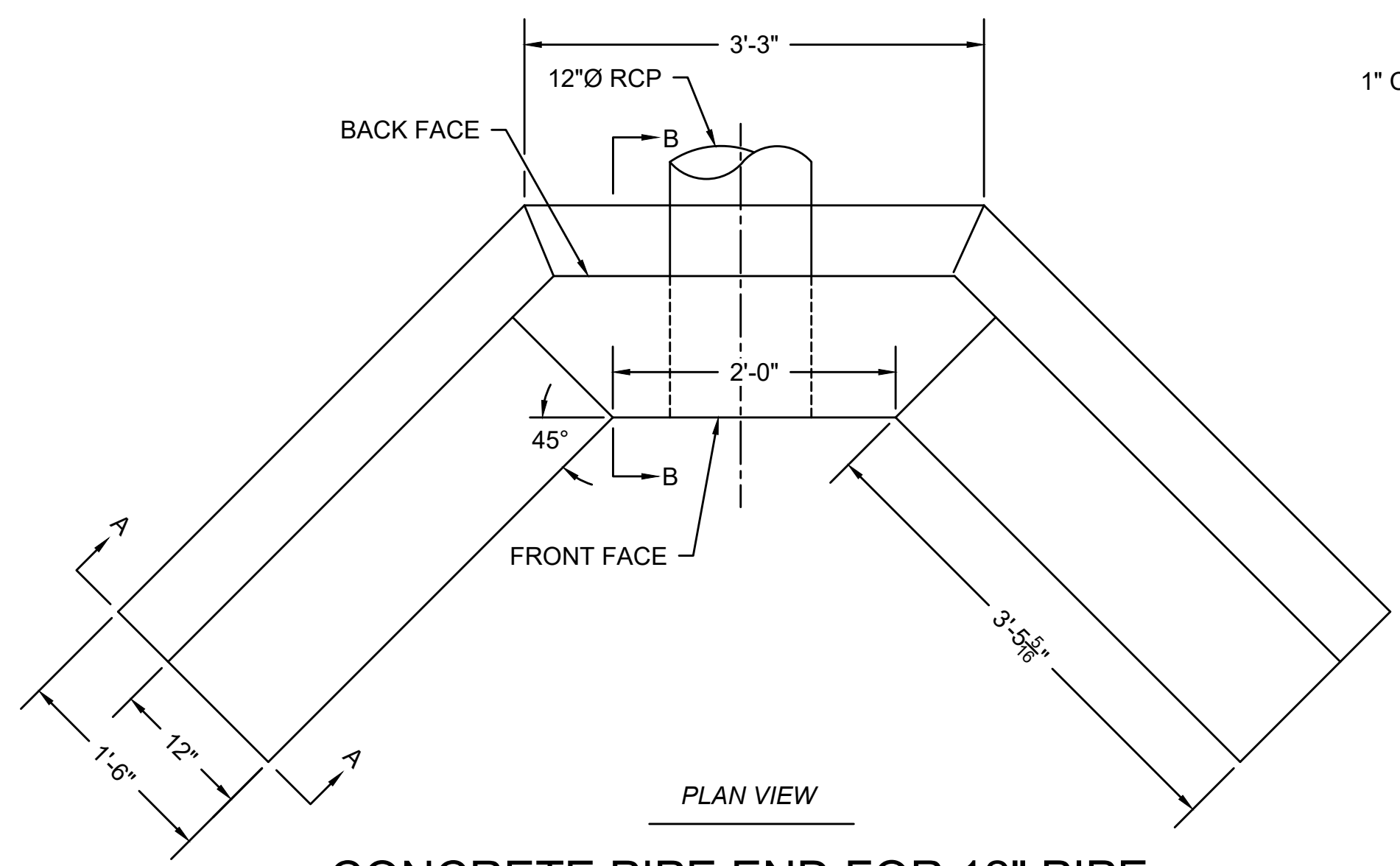


SECTION

SEDIMENT BARRIER- COMPOST FILTER TUBES STACKED

NOT TO SCALE

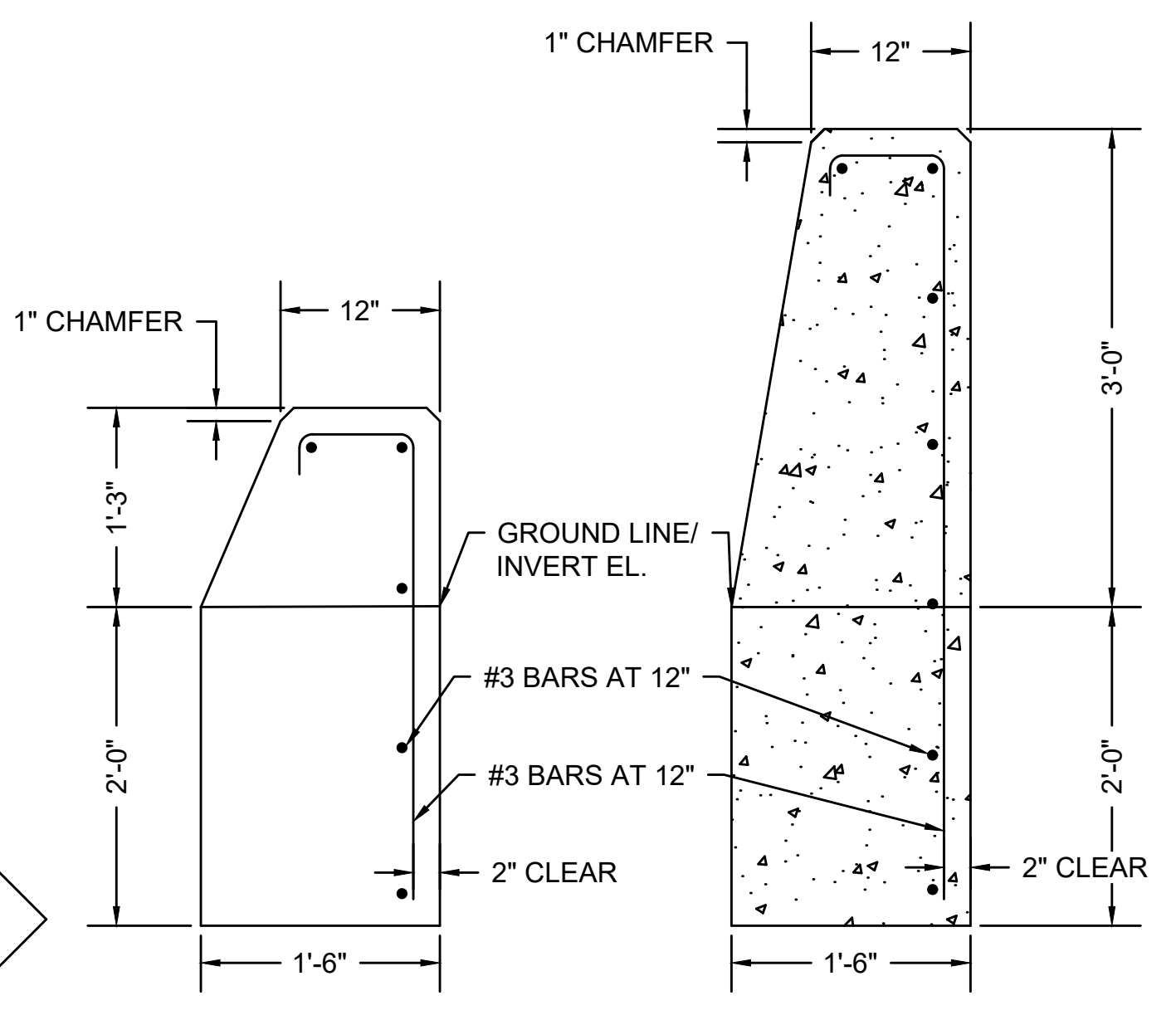
NOTE:
REFER TO THE TURTLE EXCLUSION BARRIER WITH SEDIMENT CONTROL BARRIER DETAIL FOR INSTALLATION OF THE COMPOST FILTER TUBE WHERE IT RUNS PARALLEL TO THE TURTLE EXCLUSION BARRIER.



PLAN VIEW

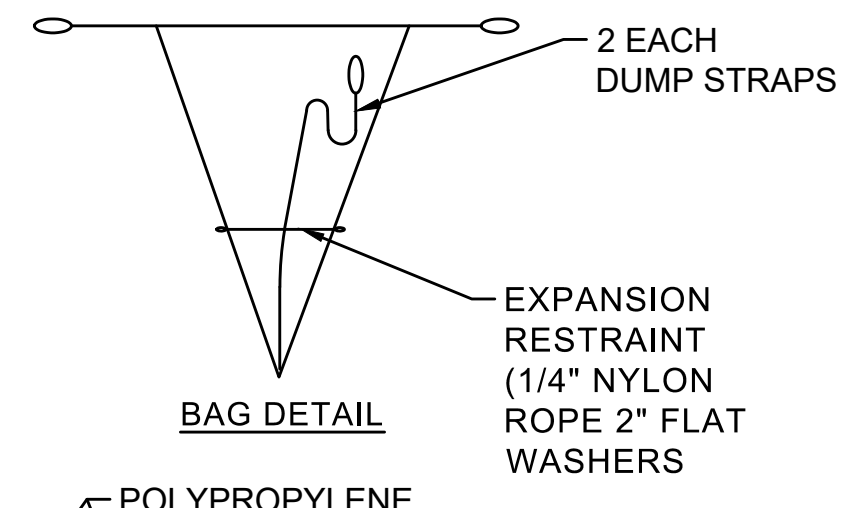
CONCRETE PIPE END FOR 12" PIPE

SCALE: 1" = 1'-0"

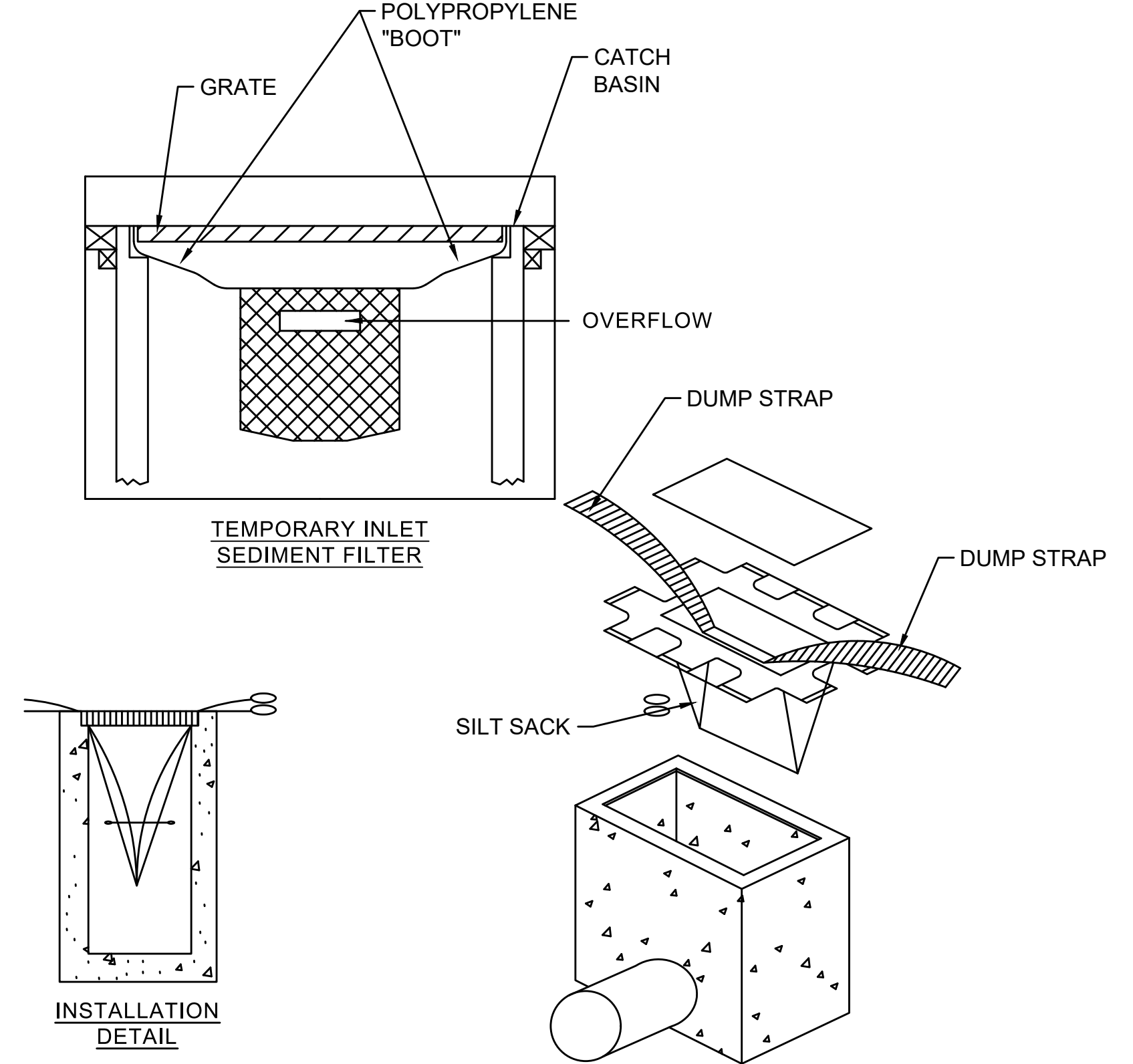


SECTION A-A

SECTION B-B



BAG DETAIL



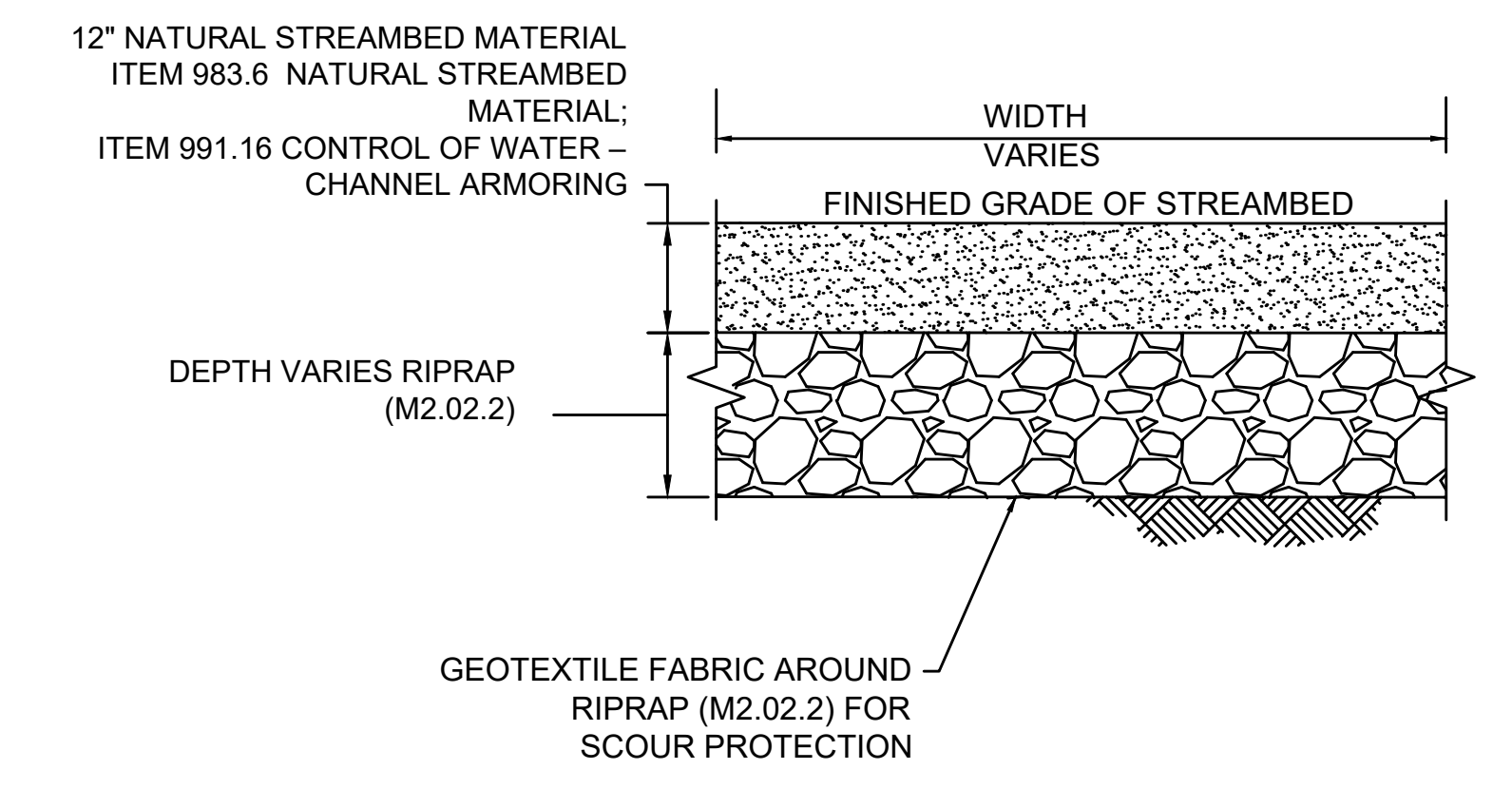
TEMPORARY INLET SEDIMENT FILTER

INSTALLATION DETAIL

INLET PROTECTION SILT SACK

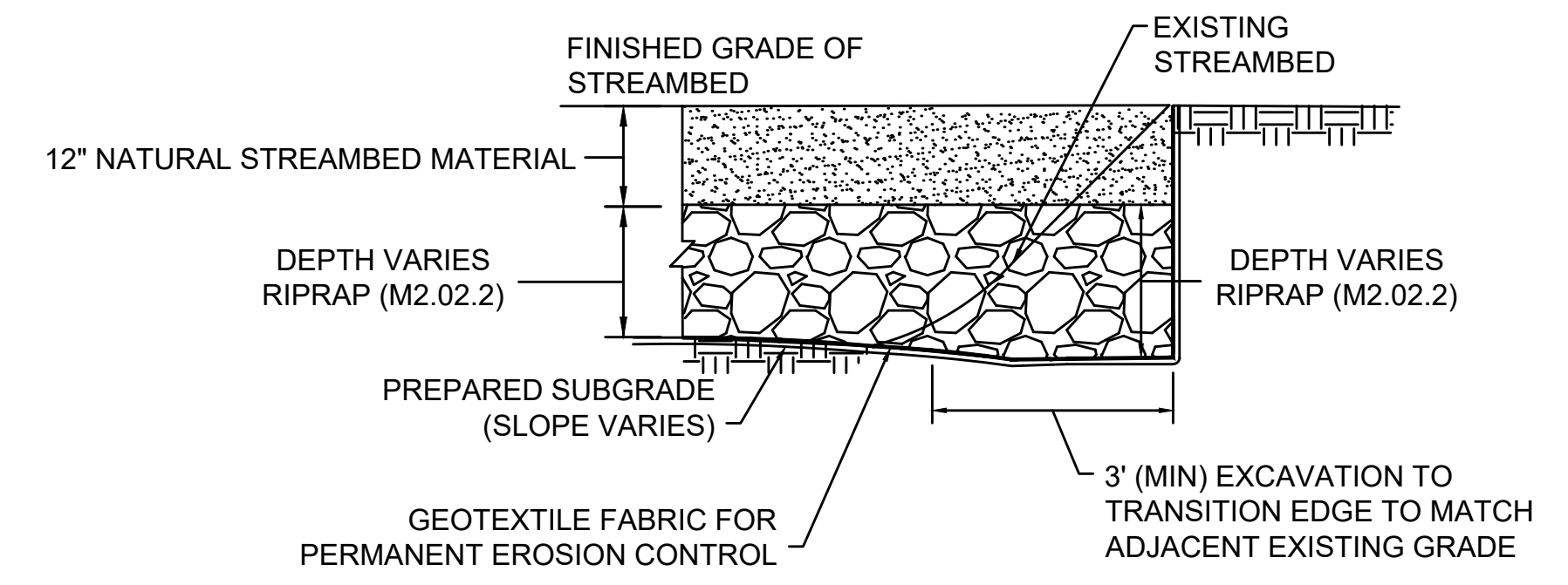
NOTE 1:
TEMPORARY INLET SEDIMENT FILTER TO BE INSTALLED ON ALL PAVED CATCH BASINS OR STORM INLETS.

NOT TO SCALE



CHANNEL ARMORING

NOT TO SCALE



RIPRAP ARMORING END TRANSITION

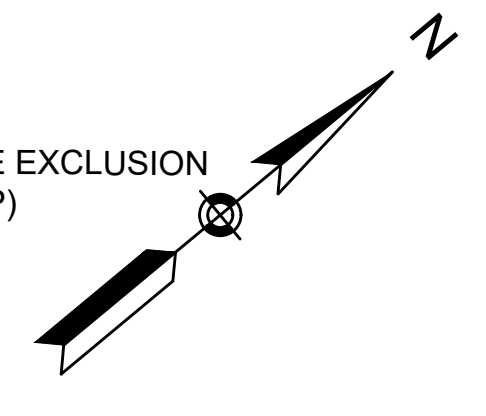
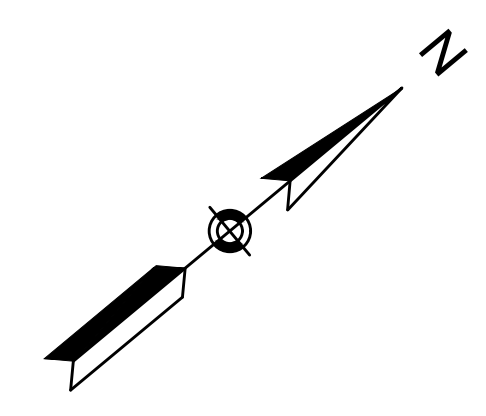
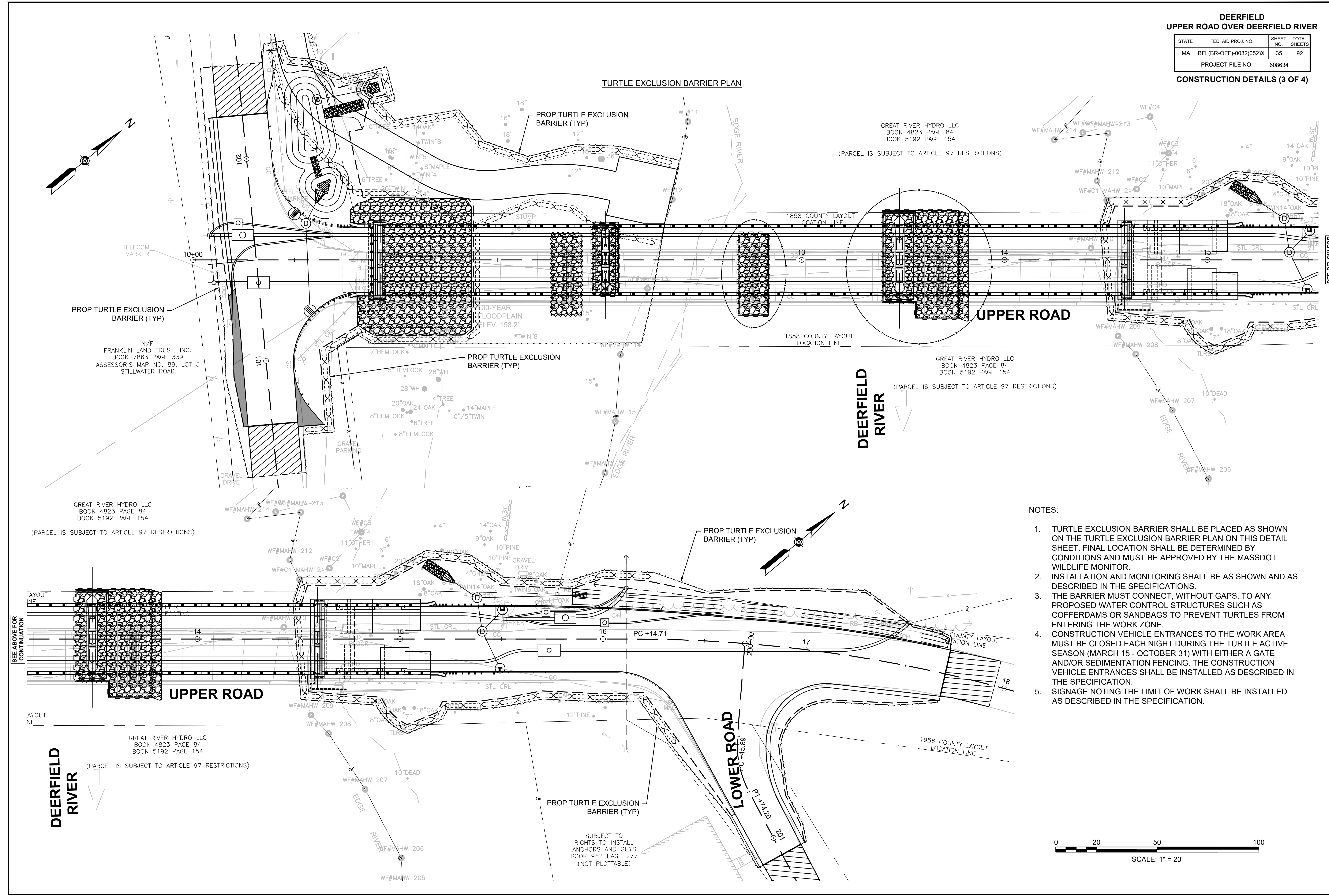
NOT TO SCALE

**DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	35	92
PROJECT FILE NO.		608634	

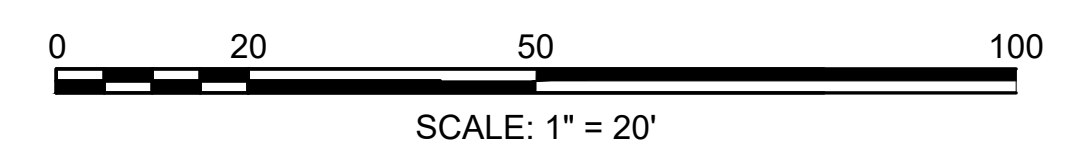
CONSTRUCTION DETAILS (3 OF 4)

TURTLE EXCLUSION BARRIER PLAN



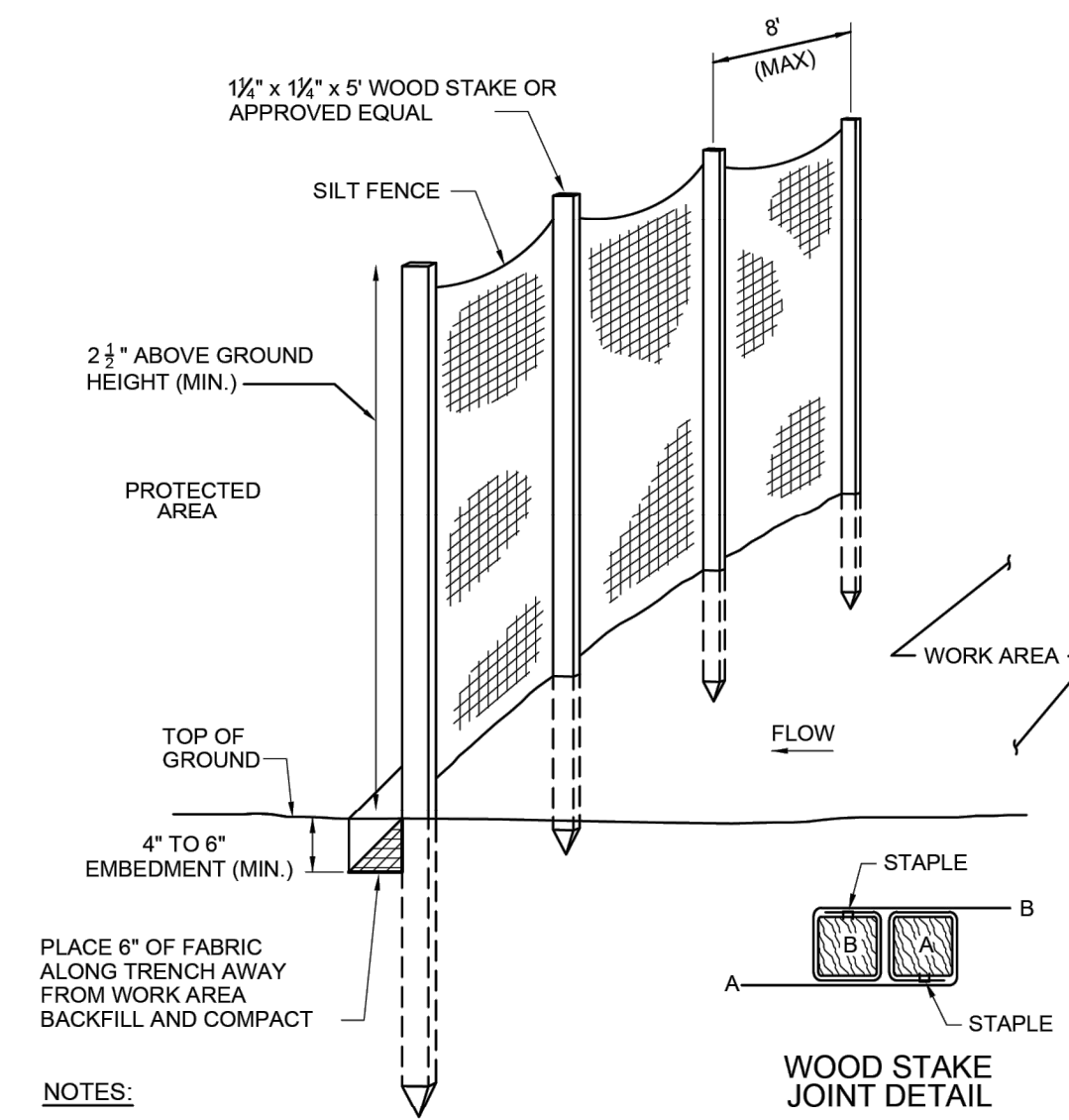
NOTES:

1. TURTLE EXCLUSION BARRIER SHALL BE PLACED AS SHOWN ON THE TURTLE EXCLUSION BARRIER PLAN ON THIS DETAIL SHEET. FINAL LOCATION SHALL BE DETERMINED BY CONDITIONS AND MUST BE APPROVED BY THE MASSDOT WILDLIFE MONITOR.
2. INSTALLATION AND MONITORING SHALL BE AS SHOWN AND AS DESCRIBED IN THE SPECIFICATIONS.
3. THE BARRIER MUST CONNECT, WITHOUT GAPS, TO ANY PROPOSED WATER CONTROL STRUCTURES SUCH AS COFFERDAMS OR SANDBAGS TO PREVENT TURTLES FROM ENTERING THE WORK ZONE.
4. CONSTRUCTION VEHICLE ENTRANCES TO THE WORK AREA MUST BE CLOSED EACH NIGHT DURING THE TURTLE ACTIVE SEASON (MARCH 15 - OCTOBER 31) WITH EITHER A GATE AND/OR SEDIMENTATION FENCING. THE CONSTRUCTION VEHICLE ENTRANCES SHALL BE INSTALLED AS DESCRIBED IN THE SPECIFICATION.
5. SIGNAGE NOTING THE LIMIT OF WORK SHALL BE INSTALLED AS DESCRIBED IN THE SPECIFICATION.



SEE BELOW FOR CONTINUATION

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	36	92
PROJECT FILE NO.		608634	

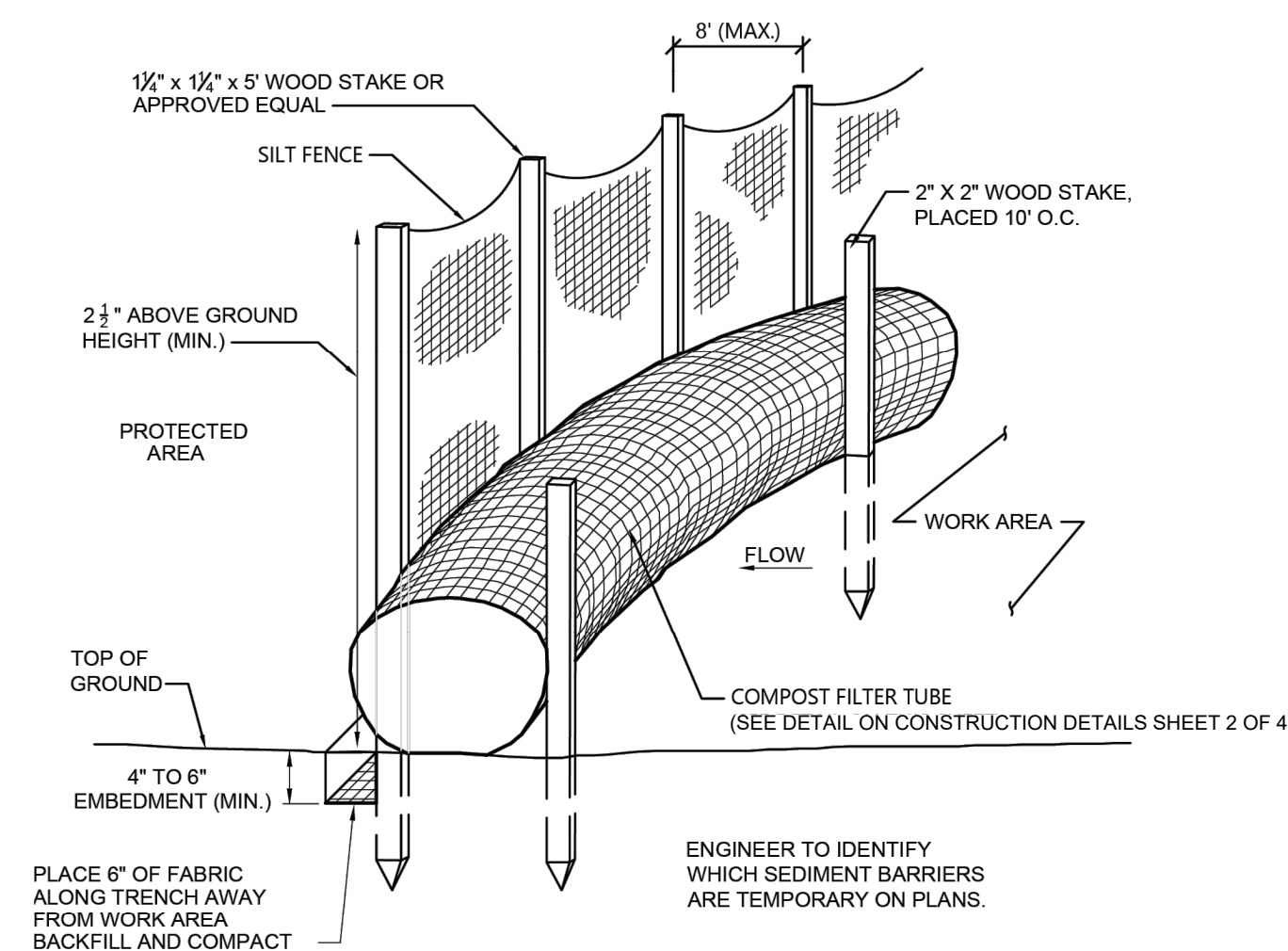


NOTES:

1. ENSURE THE TURTLE EXCLUSION BARRIER CONNECTS, WITHOUT GAPS, TO ANY WATER CONTROL STRUCTURES, SUCH AS COFFERDAMS OR SAND BAGS, TO PREVENT TURTLES FROM ENTERING WORK ZONE
2. INSPECT TURTLE EXCLUSION BARRIER DAILY AND REPAIR AS NEEDED AROUND WORK AREA AT THE END OF EACH WORK DAY.

TURTLE EXCLUSION BARRIER

SCALE: N.T.S.

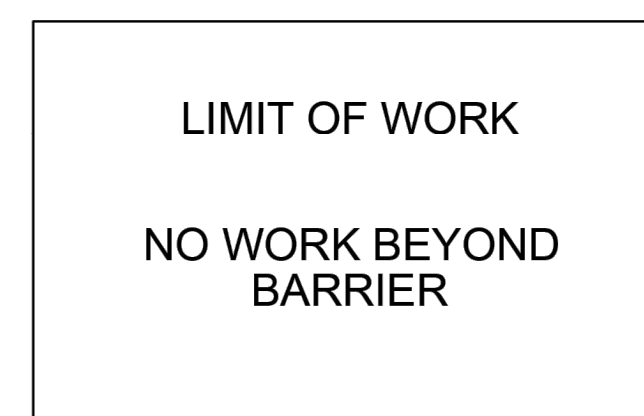


NOTES:

1. ENSURE THE TURTLE EXCLUSION BARRIER CONNECTS, WITHOUT GAPS, TO ANY WATER CONTROL STRUCTURES, SUCH AS COFFERDAMS OR SAND BAGS, TO PREVENT TURTLES FROM ENTERING WORK ZONE
2. INSPECT TURTLE EXCLUSION BARRIER DAILY AND REPAIR AS NEEDED AROUND WORK AREA AT THE END OF EACH WORK DAY.

TURTLE EXCLUSION BARRIER WITH SEDIMENT CONTROL BARRIER

SCALE: NTS



NOTES:

1. SIGNAGE MUST CLEARLY IDENTIFY THE LIMIT OF WORK IN ALL 4 QUADRANTS OF THE WORK SITE.

ENVIRONMENTALLY SENSITIVE AREA SIGNAGE

SCALE: N.T.S.

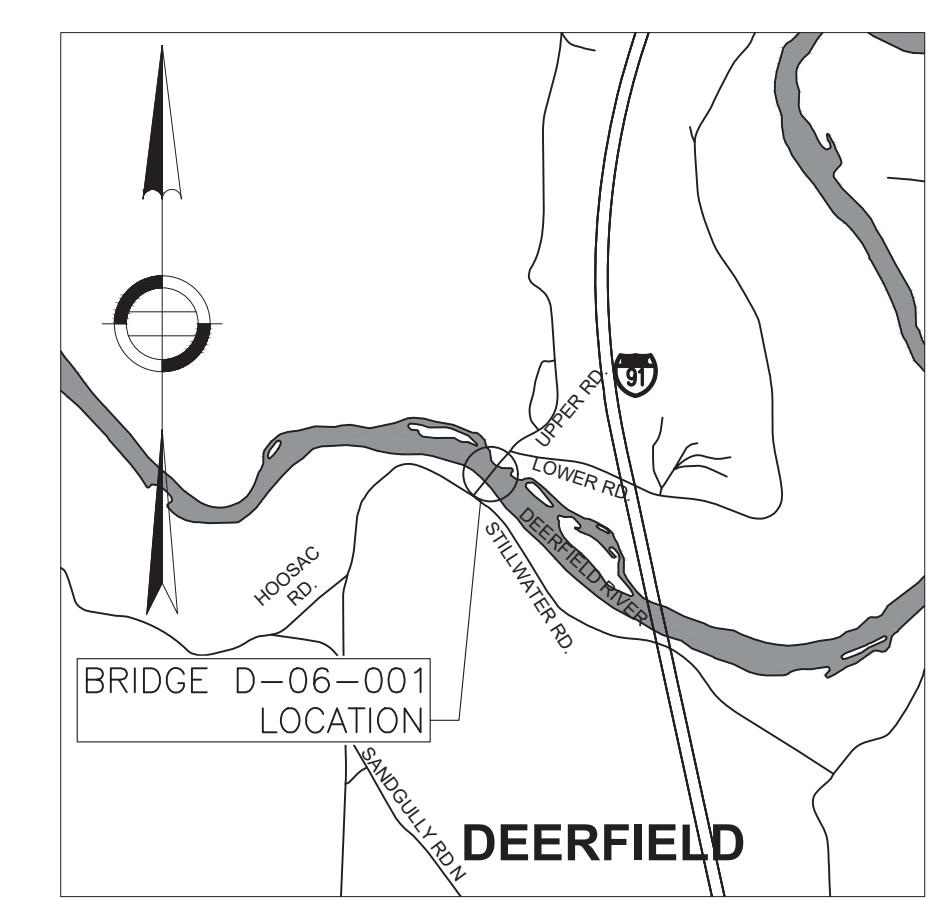
**DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	37	92
PROJECT FILE NO.			608634

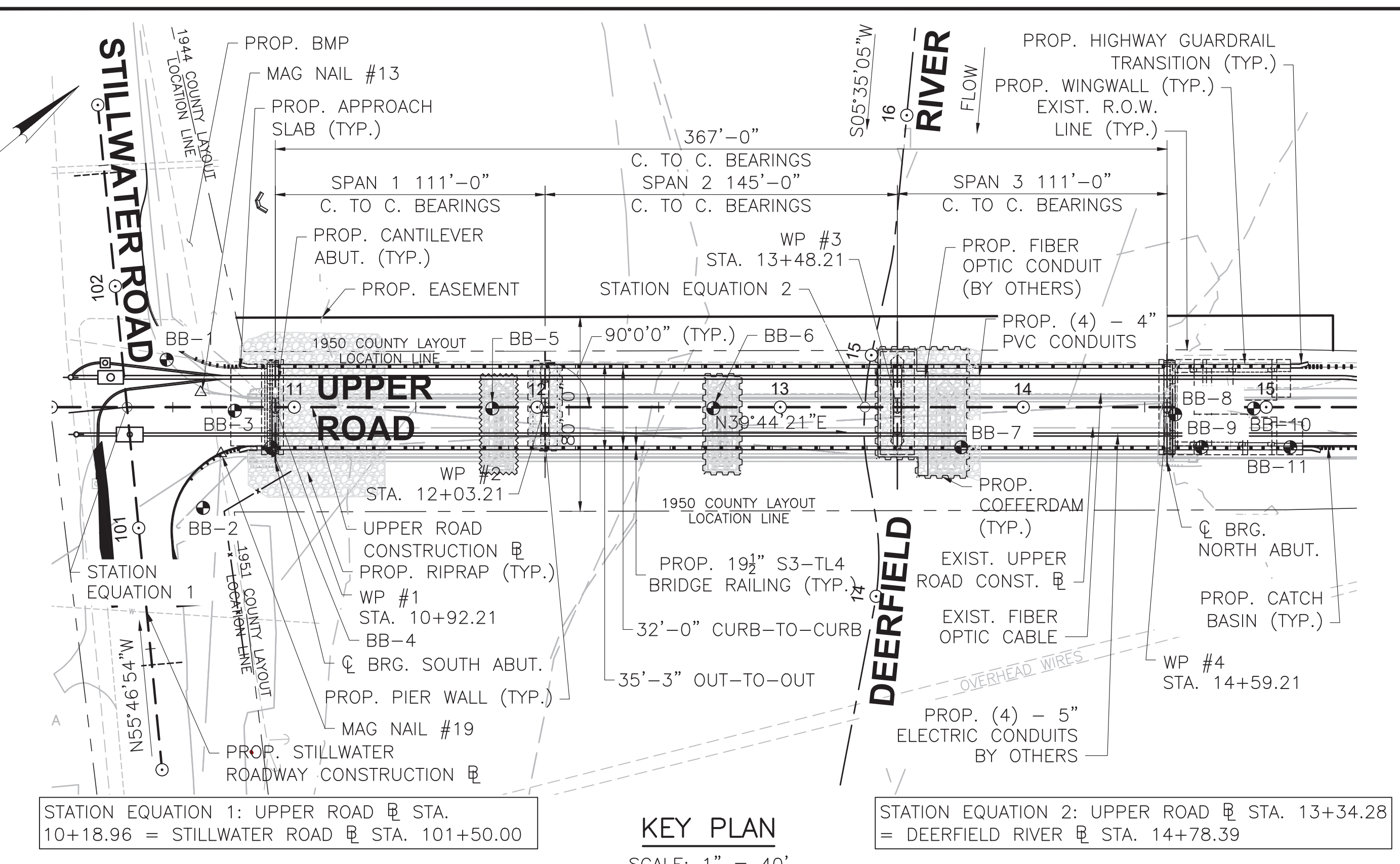
KEY PLAN, PROFILES AND LOCUS

INDEX OF DRAWINGS

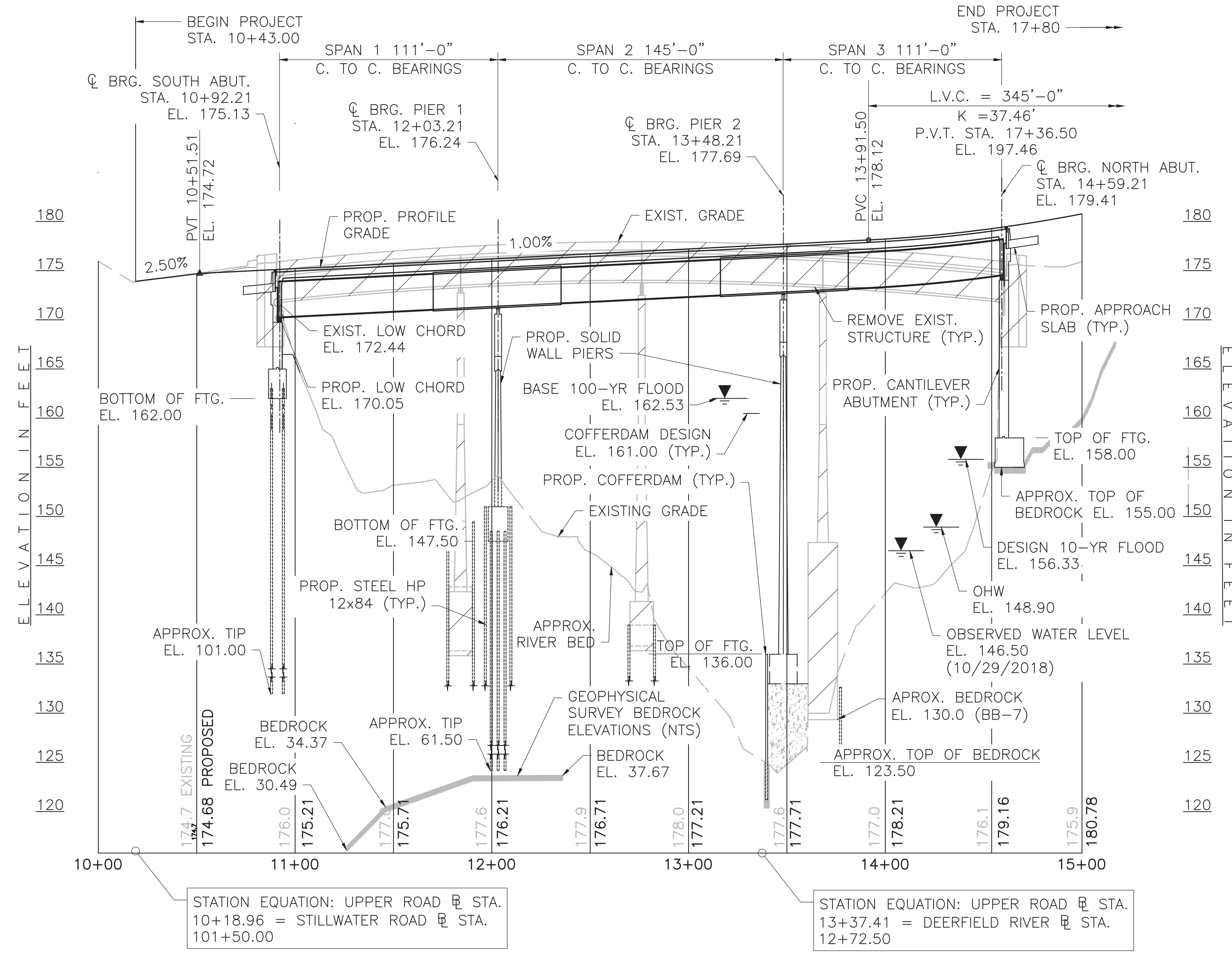
TITLE	SHEET NO.
KEY PLAN, PROFILES AND LOCUS	1
GENERAL NOTES AND ESTIMATED QUANTITIES	2
BORING LOGS 1	3
BORING LOGS 2	4
BORING LOGS 3	5
BORING LOGS 4	6
BORING LOGS 5	7
BORING LOGS 6	8
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FOUNDATION LAYOUT PLAN AND DETAILS	16
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NORTH ABUTMENT PLAN AND ELEVATION	18
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STRIP SEAL JOINT DETAILS	39
HIGHWAY GUARDRAIL TRANSITION DETAILS	40
S3-TL4 RAILING DETAILS	41



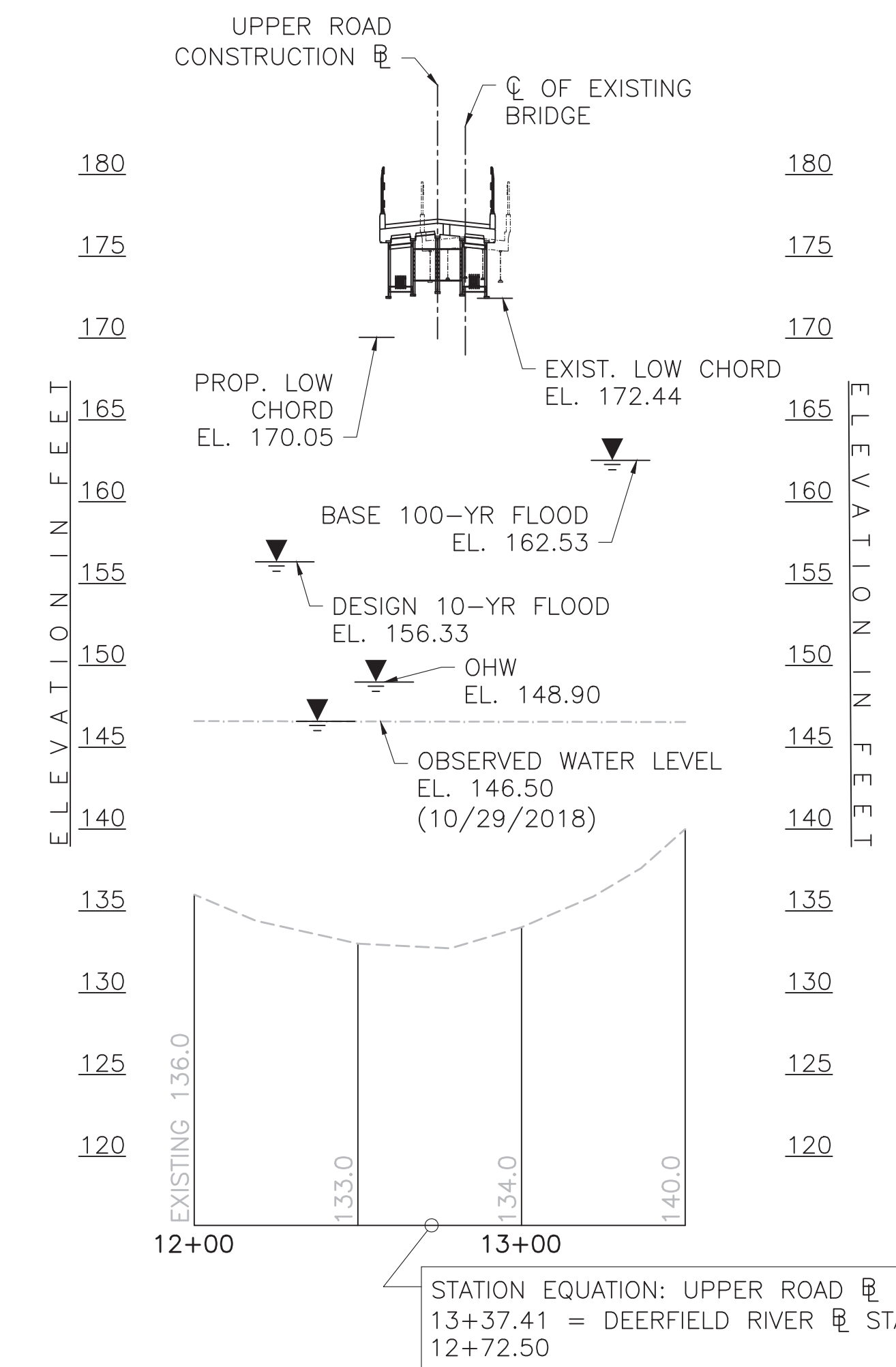
LOCUS MAP
SCALE: 1" = 2000'



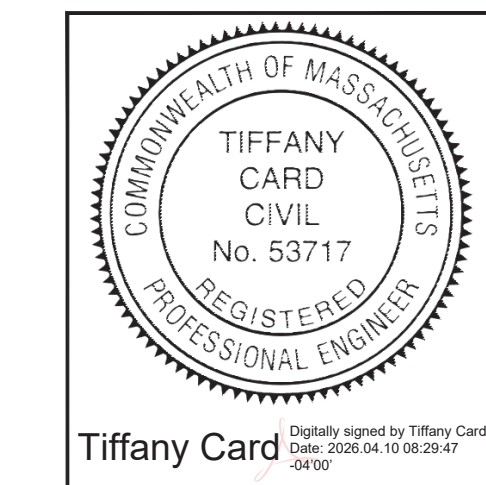
KEY PLAN
SCALE: 1" = 40'



PROFILE - UPPER ROAD
HORIZ. SCALE: 1" = 40'
VERT. SCALE: 1" = 8'



PROFILE - DEERFIELD RIVER
HORIZ. SCALE: 1" = 40'
VERT. SCALE: 1" = 8'



Tiffany Card
A Lochner Company
Green International Affiliates, Inc.
100 Ames Pond Drive, Suite 200, Tewksbury, MA 01886
1-800-923-0400 | www.greenintl.com

May 30, 2026 ISSUED FOR CONSTRUCTION



**PROPOSED BRIDGE
DEERFIELD
UPPER ROAD
OVER DEERFIELD RIVER**

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
10 PARK PLAZA BOSTON, MASS

Alexander K. Bardow, P.E. STATE BRIDGE ENGINEER
Carrie Lavallee, P.E. CHIEF ENGINEER

Z:\Shared\Engineering\Projects\2025\130328\130328-1-CAQ\Upper Road\608634\DWG\Current\Design\608634_BR01.dwg

608634_BR01.DWG Plotted on 9-Apr-2026 3:44 PM

08-April-2026 Final Structural Submission (SF)

GENERAL NOTES

DESIGN:
IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION, 2020, FOR HL-93 LOADING.

MASSDOT BENCH MARK:
ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.

BENCHMARK: #2099 MAG. NAIL IN ROAD
NORTHING: 3019181.549
EASTING: 351572.073
ELEVATION: 185.43

BENCHMARK: #2100 MAG. NAIL IN ROAD
NORTHING: 3019156.272
EASTING: 351814.786
ELEVATION: 181.20

MAG. NAIL: #15
NORTHING: 3019206.196
EASTING: 351094.698
ELEVATION: 179.768

MAG. NAIL: #10
NORTHING: 3019247.688
EASTING: 351162.722
ELEVATION: 186.426

MAG. NAIL: #14
NORTHING: 3019451.643
EASTING: 351368.423
ELEVATION: 215.555

MAG. NAIL: #13
NORTHING: 3018830.058
EASTING: 350778.145
ELEVATION: 175.087

MAG. NAIL: #19
NORTHING: 3018820.396
EASTING: 350802.839
ELEVATION: 175.200

DATE:
TO BE PLACED ON THE INSIDE FACE OF THE SOUTHEAST AND NORTHWEST GUARDRAIL TRANSITIONS. A SHEET SHOWING SIZE AND CHARACTER OF NUMERALS WILL BE FURNISHED. THE DATE USED SHALL BE THE LATEST YEAR OF CONTRACT COMPLETION AS OF THE DATE THE FIRST GUARDRAIL TRANSITION IS CONSTRUCTED. BOTH HIGHWAY GUARDRAIL TRANSITIONS SHALL FEATURE THE SAME DATE.

MASSDOT SURVEY:
THE EXISTING CONDITION WAS SUPPLEMENTED BY AN ON THE GROUND INSTRUMENT SURVEY PERFORMED BY PRIME AE BETWEEN JUNE 14, 2018 AND OCTOBER 26, 2018. ADDITIONAL CONTROL WAS PROVIDED BY MASSDOT.

SCALES:
SCALES NOTED ON THE PLANS ARE NOT APPLICABLE TO REDUCED SIZE PRINTS. DIVIDE SCALES BY 2 FOR HALF-SIZE PRINTS (A3).

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

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

GEOTECHNICAL REPORT:
REFER TO GEOTECHNICAL REPORT, DATED JANUARY 2026, PREPARED BY LAMSON ENGINEERING CORPORATION.

EXISTING CONDITIONS:
DIMENSIONS OF THE EXISTING STRUCTURE SHOWN ON THESE PLANS ARE FOR GENERAL REFERENCE ONLY. THEY HAVE BEEN TAKEN FROM THE ORIGINAL DESIGN DRAWINGS, AND ARE NOT GUARANTEED.

CONTRACTOR SHALL DETERMINE AND ESTABLISH ALL DIMENSIONS AND DETAILS NECESSARY FOR COMPLETION OF ALL WORK BY FIELD MEASUREMENTS AND SURVEY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ADEQUACY AND ACCURACY THEREOF, AND SHALL NOT ORDER ANY MATERIAL OR COMMENCE ANY FABRICATION UNTIL HE/SHE HAS MADE THE REQUIRED MEASUREMENTS AND THE EXTENT OF THE PROPOSED WORK HAS BEEN APPROVED BY THE ENGINEER.

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

MODIFICATION CONDITION	#4 BARS	#5 BARS	#6 BARS
1. NONE	16"	17"	21"
2. 12" OF CONCRETE BELOW BAR	18"	22"	27"
3. EPOXY COATED BARS, COVER < 3d _b , OR CLEAR SPACING < 6d _b	21"	26"	31"
4. COATED BARS, ALL OTHER CASES	17"	21"	25"
5. CONDITION 2. AND 3.	23"	29"	35"
6. CONDITION 2. AND 4.	21"	27"	32"

ALL OTHER BARS SHALL BE LAPPED AS SHOWN ON THE CONSTRUCTION DRAWINGS.

MEMBRANE WATERPROOFING:
ALL MEMBRANE WATERPROOFING USED ON BRIDGE DECKS SHALL BE MEMBRANE WATERPROOFING FOR BRIDGE DECKS - SPRAY APPLIED.

STRUCTURAL STEEL:
SEE SHEET 30 FOR STRUCTURAL STEEL NOTES.

MISCELLANEOUS STEEL:
UTILITY SLEEVE STEEL SHALL BE STEEL PIPE CONFORMING TO ASTM A-53, TYPE S, GRADE B, STANDARD WEIGHT, PLAIN ENDS, HOT-DIP GALVANIZED, UNLESS OTHERWISE NOTED.

STEEL PILES:
SEE SHEET 19, 21, AND 25 FOR STEEL H-PILES NOTES AND DETAILED INFORMATION.

CONCRETE:
UNLESS OTHERWISE SPECIFIED, ALL CONCRETE SHALL BE 5000 HP CONCRETE.

ALL CIP AND PRECAST CONCRETE POURS SHOWN ON THESE CONSTRUCTION DRAWINGS WHERE ALL VOLUMETRIC DIMENSIONS ARE 4 FEET OR GREATER SHALL BE CONSIDERED TO BE MASS CONCRETE PLACEMENTS AND SHALL REQUIRE A HEAT OF HYDRATION ANALYSIS AND THERMAL CONTROL PLAN, AS SPECIFIED IN THE MASSDOT STANDARD SPECIFICATIONS.

— ESTIMATED QUANTITIES — (NOT GUARANTEED)	
DEMOLITION OF SUPERSTRUCTURE OF BRIDGE NO. D-06-001	1 LS
REINFORCED CONCRETE EXCAVATION	900 CY
REINFORCED CONCRETE EXCAVATION (FULL DEPTH)	40 SY
REINFORCED CONCRETE EXCAVATION (PARTIAL DEPTH)	20 CY
BRIDGE EXCAVATION	470 CY
CLASS B ROCK EXCAVATION	680 CY
GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES	1380 CY
CONTROLLED DENSITY FILL - NON-EXCAVATABLE	5 CY
SUPERPAVE BRIDGE SURFACE COURSE - 9.5 POLYMER (SSC-B-9.5-P)	120 TON
SUPERPAVE BRIDGE PROTECTIVE COURSE - 9.5 POLYMER (SPC-B-9)	120 TON
TEMPORARY BARRIER - LIMITED DEFLECTION (TL-3)	750 FT
RAPID SETTING CONCRETE (LOW ABSORPTION)	10 CY
STEEL PILE HP 12 X 84	3600 FT
STEEL PILE SPLICE HP 12 X 84	46 EA
DYNAMIC LOAD TEST BY CONTRACTOR	4 EA
PRE-DRILLING FOR PILES	50 FT
DRILLING FOR PILE OBSTRUCTION	250 FT
PILE SHOES	46 EA
TEMPORARY SUPPORT OF EXCAVATION	1 LS
TEMPORARY STABILIZATION OF EXISTING MASONRY ABUTMENTS	1 LS
MISCELLANEOUS STEEL REPAIRS	4950 LB
DUMPED RIPRAP	1150 TON
NATURAL STREAMBED MATERIAL	25 CY
COFFERDAM STRUCTURE NO.1	1 LS
COFFERDAM STRUCTURE NO.2	1 LS
COFFERDAM STRUCTURE NO.3	1 LS
CONTROL OF WATER STRUCTURE NO. D-06-001	1 LS
TEMPORARY PROTECTIVE SHIELDING STRUCTURE NO. D-06-001	1 LS
BRIDGE STRUCTURE, BRIDGE NO. D-06-001	1 LS

**DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	38	92
PROJECT FILE NO.		608634	

GENERAL NOTES AND ESTIMATED QUANTITIES

TRAFFIC DATA		
	ROADWAY OVER	ROADWAY UNDER
DESIGN YEAR	2038	N/A
AVERAGE DAILY TRAFFIC - PRESENT	1218	N/A
AVERAGE DAILY TRAFFIC - DESIGN YEAR	1486	N/A
DESIGN HOURLY VOLUME	15.5%	N/A
DIRECTIONAL DISTRIBUTION	50.7%	N/A
TRUCK PERCENTAGE - AVERAGE DAY	8.7%	N/A
TRUCK PERCENTAGE - PEAK HOUR	10.6%	N/A
DESIGN SPEED	30 MPH	N/A
DIRECTIONAL DESIGN HOURLY VOLUME	70	N/A

SEISMIC DESIGN CRITERIA	
DESIGN RETURN PERIOD:	1,000
DESIGN SPECTRA	
As	0.088
SDs	0.216
SD1	0.094
SITE CLASS	D
SEISMIC DESIGN CATEGORY (SDC)	A

HYDRAULIC DESIGN DATA	
DRAINAGE AREA (SQ. MILES)	562
DESIGN FLOOD DISCHARGE (C.F.S.)	33,500
DESIGN FLOOD FREQUENCY (YEARS)	10
DESIGN FLOOD VELOCITY (F.P.S.)	9.5
DESIGN FLOOD ELEVATION (FEET, NAVD)	156.33
BASE (100-YEAR) FLOOD DATA	
BASE FLOOD DISCHARGE (C.F.S.)	73,000
BASE FLOOD ELEVATION (FEET, NAVD)	162.53
DESIGN AND CHECK SCOUR DATA	
DESIGN SCOUR FLOOD EVENT RETURN FREQUENCY (YEARS)	25
DESIGN FLOOD ABUTMENT SCOUR DEPTH (FEET)	15.0
DESIGN FLOOD PIER SCOUR DEPTH (FEET)	14.9
CHECK SCOUR FLOOD EVENT RETURN FREQUENCY (YEARS)	50
CHECK FLOOD ABUTMENT SCOUR DEPTH (FEET)	16.7
CHECK FLOOD PIER SCOUR DEPTH (FEET)	15.1
FLOOD OF RECORD	
DISCHARGE (C.F.S.)	89,800
FREQUENCY (IF KNOWN, YEARS)	N/A
MAXIMUM ELEVATION (FEET, NAVD)	180.51
DATE (MM/YYYY)	08/2011
HISTORY OF ICE FLOES	N/A
EVIDENCE OF SCOUR AND EROSION	Yes

May 30, 2026	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	39	92
PROJECT FILE NO.		608634	

BORING LOGS 1

BORING CONTRACTOR Northern Drill Service, Inc. Northborough, MA		PAUL B. ALDINGER & ASSOCIATES, INC. 860A Waterman Avenue, Suite 9 East Providence, RI BORING LOG		SHEET 1 OF 1 BORING No.: BB-1					
BORING LOG PREPARED BY: Bryan D. Deely		PROJECT NAME: Upper Road over Deerfield River LOCATION: Deerfield, Massachusetts		LINE & STA.: 10+45					
Drill Rig Used: Mobile Drill B-57		BRIDGE No.: D-06-001 PROJECT FILE No.: 608634 CONTRACT No.: 102483		OFFSET: 31 Left NORTHING: 3,018,827.9 EASTING: 350,758.9 SURFACE ELEV.: 174.5					
GROUND WATER OBSERVATIONS		AUGER CASING SAMPLER CORE BAR.		DATE STARTED: 11/30/18					
DEPTH: 25 ft		TYPE --- HW S/S ---		TIME STARTED: 12:30 PM					
DATE: 11/30/18		SIZE, I.D. --- 4" 1 3/8" ---		DATE FINISHED: 11/30/18					
TIME: 02:00 PM		HAMMER WT. 140# 140# BIT ---		TIME FINISHED: 03:00 PM					
		HAMMER FALL 30" 30" ---		DRILLER: Carl Bierholm					
		HAMMER TYPE Automatic Automatic		INSPECTOR: Bryan Deely					
LOCATION OF BORING: Southwest Wingwall									
DEPTH BELOW SURFACE	CASING BLOWS/FOOT	SAMPLE DEPTH FROM - TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM-TO	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL & ROCK INCL. COLOR, LOSS OF WASH WATER, JOINTS IN ROCK, ETC.	SAMPLE NO.	PEN.	REC.
		0.5' - 2.5'	D	11 14 11 9	6"	Asphalt	1	24	15
5		4' - 6'	D	3 3 4 5		Dry, medium dense brown FINE to COARSE SAND, some gravel, some inorganic silt	2	24	16
10		9' - 11'	D	3 4 5 7		Dry, loose, brown FINE to MEDIUM SAND, trace inorganic silt	3	24	12
15		14' - 15'8"	D	5 14 82		Dry, very dense brown GRAVEL and FINE to COARSE SAND, some inorganic silt	4	20	8
20		19' - 21'	D	9 11 11 15		Moist, medium dense, brown FINE to COARSE SAND, some gravel, trace inorganic silt	5	24	12
25		24' - 26'	D	14 19 22 24	26"	Wet, dense, brown FINE to COARSE SAND and GRAVEL, trace inorganic silt	6	24	14
30						Bottom of boring at 26 feet			
35									
40									
GROUND SURFACE T 24 FT., USED 4" CASING:						COHESIONLESS DENSITY:	FOOTAGE IN EARTH: 26		
THEN Split spoon sample							FOOTAGE IN ROCK: 0		
TYPE OF SAMPLE						PROPORTIONS USED:	WELL FOOTAGE: 0		
D=DRY W=WASHED C=CORED						TRACE=0-10%	NO. OF SAMPLES: 6		
TP=TEST PIT A=AUGER V=VANE TEST						SOME=10-40%	BORING NO.: BB-1		
UP=UNDISTURBED, PISTON						10-29 MED. DENSE	TYPE: Driven Sample		
US=UNDISTURBED, SHELBY						AND=40-50%			
						30-49 DENSE			
						50+ VERY DENSE			

BB-1

SCALE: $\frac{3}{16}" = 1'-0"$

BORING CONTRACTOR Northern Drill Service, Inc. Northborough, MA		PAUL B. ALDINGER & ASSOCIATES, INC. 860A Waterman Avenue, Suite 9 East Providence, RI BORING LOG		SHEET 1 OF 1 BORING No.: BB-2					
BORING LOG PREPARED BY: Bryan D. Deely		PROJECT NAME: Upper Road over Deerfield River LOCATION: Deerfield, Massachusetts		LINE & STA.: 10+62					
Drill Rig Used: Mobile Drill B-59		BRIDGE No.: D-06-001 PROJECT FILE No.: 608634 CONTRACT No.: 102483		OFFSET: 33 Right NORTHING: 3,018,800.4 EASTING: 350,815.4 SURFACE ELEV.: 174.5					
GROUND WATER OBSERVATIONS		AUGER CASING SAMPLER CORE BAR.		DATE STARTED: 11/28/18					
DEPTH: 25 ft		TYPE --- HW S/S ---		TIME STARTED: 09:00 AM					
DATE: 11/28/18		SIZE, I.D. --- 4" 1 3/8" ---		DATE FINISHED: 11/28/18					
TIME: 11:00 AM		HAMMER WT. 140# 140# BIT ---		TIME FINISHED: 11:30 AM					
		HAMMER FALL 30" 30" ---		DRILLER: Jon Bierholm					
		HAMMER TYPE Automatic Automatic		INSPECTOR: Bryan Deely					
LOCATION OF BORING: Southeast Wingwall									
DEPTH BELOW SURFACE	CASING BLOWS/FOOT	SAMPLE DEPTH FROM - TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM-TO	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL & ROCK INCL. COLOR, LOSS OF WASH WATER, JOINTS IN ROCK, ETC.	SAMPLE NO.	PEN.	REC.
		0' - 2'	D	6 4 3 3		Dry, loose, brown FINE to COARSE SAND, some gravel, some inorganic silt (Fill)	1	24	19
5		4' - 6'	D	3 3 3 4		Dry, loose, brown FINE SAND, trace medium to coarse sand, trace inorganic silt	2	24	24
10		9' - 11'	D	4 5 5 5		Dry, loose, brown FINE SAND, trace inorganic silt, trace medium sand			
15		14' - 16'	D	15 24 30 21		Dry, medium dense, brown FINE to MEDIUM SAND, trace inorganic silt	3	24	20
20		19' - 21'	D	20 33 31 16		Dry, very dense, brown FINE to COARSE SAND and GRAVEL, trace inorganic silt	4	24	12
25		24' - 26'	D	14 11 13 13	26"	Moist, very dense, brown FINE to COARSE SAND and GRAVEL, trace inorganic silt	5	24	8
30						Wet, medium dense, brown FINE to COARSE SAND, trace fine Gravel, trace inorganic silt	6	24	14
35						Bottom of boring at 26 feet			
40									
GROUND SURFACE T 24 FT., USED 4" CASING:						COHESIONLESS DENSITY:	FOOTAGE IN EARTH: 26		
THEN Split spoon sample							FOOTAGE IN ROCK: 0		
TYPE OF SAMPLE						PROPORTIONS USED:	WELL FOOTAGE: 0		
D=DRY W=WASHED C=CORED						TRACE=0-10%	NO. OF SAMPLES: 6		
TP=TEST PIT A=AUGER V=VANE TEST						SOME=10-40%	BORING NO.: BB-2		
UP=UNDISTURBED, PISTON						10-29 MED. DENSE	TYPE: Driven Sample		
US=UNDISTURBED, SHELBY						AND=40-50%			
						30-49 DENSE			
						50+ VERY DENSE			

BB-2

SCALE: $\frac{3}{16}" = 1'-0"$

BORING NOTES:

- LOCATION OF BORINGS SHOWN ON THE PLANS THUS: BB-#
- BORINGS ARE TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORINGS POINTS ONLY, BUT DO NOT NECESSARILY SHOW THE NATURE OF THE MATERIALS TO BE ENCOUNTERED DURING CONSTRUCTION.
- WATER LEVELS SHOWN ON THE BORING LOGS WERE OBSERVED AT THE TIME OF TAKING BORINGS AND DO NOT NECESSARILY SHOW THE TRUE GROUND WATER LEVEL.
- FIGURES IN COLUMNS INDICATE NUMBER OF BLOWS REQUIRED TO DRIVE A 1 3/4" I.D. SPLIT SPOON SAMPLER 6" USING A 140 POUND WEIGHT FALLING 30".
- BORING SAMPLES ARE STORED AT A STORAGE FACILITY LOCATED ON ROUTE 114 (219 WINTHROP AVE.) IN LAWRENCE, MA. THE CONTRACTOR MAY EXAMINE THE SOIL AND ROCK SAMPLES BY CONTACTING THE MASSDOT GEOTECHNICAL SECTION AT 10 PARK PLAZA, BOSTON, MA.
- ALL BORINGS WERE MADE IN NOVEMBER AND DECEMBER 2018.
- BORINGS WERE MADE BY NORTHERN DRILL SERVICE, INC., 130 E MAIN ST., NORTHBOROUGH, MA 01532 AT 508-393-6900.
- THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 IS USED THROUGHOUT.
- GEOPHYSICAL SURVEYS REPORTS WERE PREPARED BY HAGER-RICHTER GEOSCIENCE, INC. IN MAY 2021 AND MAY 2024.
- WATER LEVELS SHOWN ON THE BORING LOGS WERE OBSERVED AT THE TIME OF TAKING BORINGS AND DO NOT NECESSARILY SHOW THE TRUE GROUND WATER LEVEL.

May 30, 2026	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	40	92
PROJECT FILE NO.		608634	

BORING LOGS 2

BORING CONTRACTOR Northern Drill Service, Inc. Northborough, MA		PAUL B. ALDINGER & ASSOCIATES, INC. 860A Waterman Avenue, Suite 9 East Providence, RI		SHEET 1 OF 3 BORING No: BB-3	
BORING LOG PREPARED BY: Bryan D. Deely		PROJECT NAME: Upper Road over Deerfield River		BORING TYPE: Drive Sample	
Drill Rig Used: Mobile Drill B-59		LOCATION: Deerfield, Massachusetts		LINE & STA.: 10+77	
		BRIDGE No.: D-06-001		PROJECT FILE No.: 608634	
		CONTRACT No.: 102483		OFFSET: 6 Left	
GROUND WATER OBSERVATIONS		AUGER TYPE: PW-HW-NW		NORTHING: 3,018,836.0	
DEPTH: 30 ft		CASING S/S: ---		EASTING: 350,793.0	
DATE: 11/29/18		SAMPLER: S/S		SURFACE ELEV: 175.0	
TIME: 08:00 AM		CORE BAR: ---		DATE STARTED: 11/28/18	
		SIZE, I.D.: 5'-4"-3" 1 3/8"		TIME STARTED: 12:00 PM	
		HAMMER WT: 140#		DATE FINISHED: 12/03/18	
		HAMMER FALL: 30"		TIME FINISHED: 03:00 PM	
		HAMMER TYPE: Automatic Automatic		DRILLER: Jon Bierholm	
				INSPECTOR: Bryan Deely	

DEPTH BELOW SURFACE	CASING BLOWS/FOOT	SAMPLE DEPTH FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM-TO				STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL & ROCK INCL. COLOR, LOSS OF WASH WATER, JOINTS IN ROCK, ETC.	SAMPLE		
				0-5	6-12	12-18	18-24			NO.	PEN.	REC.
		0.5' - 2.5'	D	13	22	12	11	6"	Asphalt	1	24	14
5		4' - 6'	D	11	13	5	3		Dry, dense, brown FINE to COARSE SAND, some Gravel, trace inorganic silt (Fill)	2	24	10
10		9' - 11'	D	5	3	4	3		Dry, medium dense, brown FINE to COARSE SAND, some gravel, trace inorganic silt (Fill)	3	24	11
15		14' - 16'	D	5	3	3	5		Dry, loose, brown FINE to MEDIUM SAND, trace inorganic silt	4	24	9
20		19' - 21'	D	18	14	9	7		Dry, loose, brown FINE to COARSE SAND, trace inorganic silt	5	24	7
25		24' - 26'	D	6	18	13	10		Moist, medium dense, brown FINE to COARSE SAND & GRAVEL, trace inorganic silt cobble 23.5 to 24 feet	6	24	11
30		29' - 31'	D	12	12	14	18		Wet, dense, brown, FINE to COARSE SAND & GRAVEL, some inorganic silt	7	24	12
35		34' - 36'	D	8	11	15	13		Wet, medium dense, brown FINE to COARSE SAND, trace fine gravel, trace inorganic silt	8	24	11
40		39' - 41'	D	17	13	17	22		Wet, medium dense, brown FINE to COARSE SAND, some fine gravel, trace inorganic silt	9	24	15
45		44' - 46'	D	14	14	18	18		Wet, dense, FINE to COARSE SAND, some inorganic silt	10	24	15
50		49' - 51'	D	14	18	22	19		Wet, dense, brown FINE to MEDIUM SAND, trace inorganic silt	11	24	14
55		54' - 56'	D	11	16	21	28		Wet, dense, brown FINE SAND, some inorganic silt	12	24	14
60		59' - 61'	D	20	29	33	34		Wet, dense, brown FINE SAND, some inorganic silt	13	24	16
65		64' - 66'	D	15	23	26	30		Wet, very dense, brown FINE to MEDIUM SAND, some inorganic silt	14	24	18
70		69' - 71'	D	15	23	28	30		Wet, dense, brown FINE SAND, some inorganic silt	15	24	18
75		74' - 76'	D	10	17	21	23		Wet, very dense, gray FINE SAND, some inorganic silt	16	24	20
80		79' - 81'	D	11	10	40	44	78.5'	Wet, dense, gray FINE SAND, some inorganic silt	17	24	20
									Wet, very dense, gray FINE to COARSE SAND, some gravel, some inorganic silt (Glacial Till)	17	24	12

GROUND SURFACE T 30 FT., USED 5" CASING:	COHESIONLESS DENSITY:	FOOTAGE IN EARTH: 119
THEN 4" casing to 70' then 3" casing to 100'	0-4 VERY LOOSE	FOOTAGE IN ROCK: 0
TYPE OF SAMPLE	PROPORTIONS USED:	WELL FOOTAGE: 0
D=DRY W=WASHED C=CORED	TRACE=0-10%	NO. OF SAMPLES: 24
TP=TEST PIT A=AUGER V=VAPE TEST	SOME=10-40%	BORING NO.: BB-3
UP=UNDISTURBED, PISTON	AND=40-50%	TYPE: Driven Sample
US=UNDISTURBED, SHELBY	50+ VERY DENSE	

BB-3 (1 & 2 OF 3)
SCALE: 3/16" = 1'-0"

PROP. BOTTOM OF FOOTING SOUTH ABUTMENT EL. 162.00

APPROX. PILE TIP SOUTH ABUTMENT EL. 101.00

BORING CONTRACTOR Northern Drill Service, Inc. Northborough, MA		PAUL B. ALDINGER & ASSOCIATES, INC. 860A Waterman Avenue, Suite 9 East Providence, RI		SHEET 3 OF 3 BORING No: BB-3	
BORING LOG PREPARED BY: Bryan D. Deely		PROJECT NAME: Upper Road over Deerfield River		BORING TYPE: Drive Sample	
Drill Rig Used: Mobile Drill B-59		LOCATION: Deerfield, Massachusetts		LINE & STA.: 10+77	
		BRIDGE No.: D-06-001		PROJECT FILE No.: 608634	
		CONTRACT No.: 102483		OFFSET: 6 Left	
GROUND WATER OBSERVATIONS		AUGER TYPE: PW-HW-NW		NORTHING: 3,018,836.0	
DEPTH: 30 ft		CASING S/S: ---		EASTING: 350,793.0	
DATE: 11/29/18		SAMPLER: S/S		SURFACE ELEV: 175.0	
TIME: 08:00 AM		CORE BAR: ---		DATE STARTED: 11/28/18	
		SIZE, I.D.: 5'-4"-3" 1 3/8"		TIME STARTED: 12:00 PM	
		HAMMER WT: 140#		DATE FINISHED: 12/03/18	
		HAMMER FALL: 30"		TIME FINISHED: 03:00 PM	
		HAMMER TYPE: Automatic Automatic		DRILLER: Jon Bierholm	
				INSPECTOR: Bryan Deely	

DEPTH BELOW SURFACE	CASING BLOWS/FOOT	SAMPLE DEPTH FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM-TO				STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL & ROCK INCL. COLOR, LOSS OF WASH WATER, JOINTS IN ROCK, ETC.	SAMPLE		
				0-5	6-12	12-18	18-24			NO.	PEN.	REC.
85		84' - 86'	D	24	28	31	40		Wet, very dense, gray FINE to COARSE SAND some gravel, some inorganic silt (Glacial Till)	18	24	12
90		89' - 91'	D	33	26	25	25		Wet, very dense, gray FINE to COARSE SAND some inorganic silt, trace gravel (Glacial Till)	19	24	20
95		94' - 96'	D	38	40	50	61		Wet, very dense, gray FINE to COARSE SAND some inorganic silt, trace gravel (Glacial Till)	20	24	21
100		99' - 99'2"	D	100/2"					Wet, very dense, gray FINE to COARSE SAND some gravel, some inorganic silt (Glacial Till)	21	2	2
105		104' - 106'	D	24	28	51	53		Wet, very dense, gray FINE to COARSE SAND some inorganic silt, some gravel (Glacial Till)	22	24	20
110		109' - 111'	D	24	39	39	44		Wet, very dense, gray FINE to COARSE SAND some inorganic silt, some gravel (Glacial Till)	23	24	24
115		114' - 114'10"	D	90	100/4"				Wet, very dense, gray FINE to COARSE SAND some inorganic silt, some gravel (Glacial Till)	24	10	7
120								119'	Bottom of Boring at 119 feet			

GROUND SURFACE T 30 FT., USED 5" CASING:	COHESIONLESS DENSITY:	FOOTAGE IN EARTH: 119
THEN 4" casing to 70' then 3" casing to 100'	0-4 VERY LOOSE	FOOTAGE IN ROCK: 0
TYPE OF SAMPLE	PROPORTIONS USED:	WELL FOOTAGE: 0
D=DRY W=WASHED C=CORED	TRACE=0-10%	NO. OF SAMPLES: 24
TP=TEST PIT A=AUGER V=VAPE TEST	SOME=10-40%	BORING NO.: BB-3
UP=UNDISTURBED, PISTON	AND=40-50%	TYPE: Driven Sample
US=UNDISTURBED, SHELBY	50+ VERY DENSE	

BB-3 (CONT'D 3 OF 3)
SCALE: 3/16" = 1'-0"

NOTE:
SEE SHEET 3 FOR BORING NOTES.

May 30, 2026	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

BORING CONTRACTOR Northern Drill Service, Inc. Northborough, MA		PAUL B. ALDINGER & ASSOCIATES, INC. 860A Waterman Avenue, Suite 9 East Providence, RI		SHEET 1 OF 1	
BORING LOG PREPARED BY: Bryan D. Deely		PROJECT NAME: Upper Road over Deerfield River		BORING No.: BB-4	
LOCATION: Deerfield, Massachusetts		BRIDGE No.: D-06-001		PROJECT FILE No.: 608634	
Drill Rig Used: Mobile Drill B-59		CONTRACT No.: 102483		BORING TYPE: Drive Sample	
GROUND WATER OBSERVATIONS DEPTH: None Encountered		AUGER TYPE: HW		SAMPLER: S/S	
DATE: 12/4/18		SIZE, I.D.: 4"		CORE BAR: ---	
TIME: 3:00 PM		HAMMER WT.: 140#		BIT: ---	
		HAMMER FALL: 30"		---	
		HAMMER TYPE: Automatic		Automatic	
LOCATION OF BORING: South Abutment		DATE STARTED: 12/04/18		TIME STARTED: 08:00 AM	
		DATE FINISHED: 12/04/18		TIME FINISHED: 03:00 PM	
		DRILLER: Jon Bierholm		INSPECTOR: Bryan Deely	

DEPTH BELOW SURFACE	CASING BLOWS/FOOT	SAMPLE DEPTH FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM-TO	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL & ROCK INCL. COLOR, LOSS OF WASH WATER, JOINTS IN ROCK, ETC.	SAMPLE NO.	PER.	REC.
0					8"	Concrete Bridge Deck			
5		5'-10"	C	7	5'	Air Beneath Bridge	C1	60	60
10		10'-15"	C	3	8'10"	CONCRETE ABUTMENT	C2	60	54
15		15'-17.5"	C	3		Mortared Stone Abutment	C3	60	24
20		17.5'-19.5"	D	6	17.5'	Dense, brown FINE to COARSE SAND, some gravel, trace inorganic silt	1	24	14
25		19.5'-21.5"	D	23	21.5'	Very dense, brown, FINE to COARSE SAND, some gravel, trace inorganic silt	2	24	9
30						Boring Grouted Upon Completion			

GROUND SURFACE TO FT., USED	CASING	COHESIONLESS DENSITY:	FOOTAGE IN EARTH:
THEN	4"	0-4 VERY LOOSE	21.5
TYPE OF SAMPLE	PROPORTIONS USED:	5-9 LOOSE	FOOTAGE IN ROCK:
D=DRY W=WASHED C=CORED	TRACE=0-10%	10-29 MED. DENSE	0
TP=TEST PIT A=AUGER V=VANE TEST	SOME=10-40%	30-49 DENSE	WELL FOOTAGE:
UP=UNDISTURBED, PISTON	AND=40-50%	50+ VERY DENSE	0
US=UNDISTURBED, SHELBY			NO. OF SAMPLES:
			5
			BORING NO.: BB-4
			TYPE: Driven Sample

BB-4
SCALE: 3/16" = 1'-0"

NOTE:
SEE SHEET 3 FOR BORING NOTES.

BORING CONTRACTOR Northern Drill Service, Inc. Northborough, MA		PAUL B. ALDINGER & ASSOCIATES, INC. 860A Waterman Avenue, Suite 9 East Providence, RI		SHEET 1 OF 3	
BORING LOG PREPARED BY: Bryan D. Deely		PROJECT NAME: Upper Road over Deerfield River		BORING No.: BB-5	
LOCATION: Deerfield, Massachusetts		BRIDGE No.: D-06-001		PROJECT FILE No.: 608634	
Drill Rig Used: Mobile Drill B-57		CONTRACT No.: 102483		BORING TYPE: Drive Sample	
GROUND WATER OBSERVATIONS DEPTH: 27"		AUGER TYPE: PW-HW		SAMPLER: S/S	
DATE: 12/07/18		SIZE, I.D.: 5'-4"		CORE BAR: 1 3/8"	
TIME: 08:00 AM		HAMMER WT.: 140#		BIT: 140#	
		HAMMER FALL: 30"		---	
		HAMMER TYPE: Automatic		Automatic	
LOCATION OF BORING: South Pier		DATE STARTED: 12/06/18		TIME STARTED: 09:00 AM	
		DATE FINISHED: 12/11/18		TIME FINISHED: 10:30 AM	
		DRILLER: Jon Bierholm		INSPECTOR: Bryan Deely	

DEPTH BELOW SURFACE	CASING BLOWS/FOOT	SAMPLE DEPTH FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM-TO	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL & ROCK INCL. COLOR, LOSS OF WASH WATER, JOINTS IN ROCK, ETC.	SAMPLE NO.	PER.	REC.
0					8"	Concrete Bridge Deck			
5						Air Beneath Bridge			
10									
15									
20									
25		26'-28"	D	1	26'	Loose, moist, brown FINE to MEDIUM SAND, some gravel, trace inorganic silt	1	24	14
30		29'-31'	D	5		Wet, loose, gray FINE to MEDIUM SAND, some inorganic silt, trace gravel	2	24	12
35		34'-34.7"	D	1	34.5'	Wet, gray, loose FINE to MEDIUM SAND, trace inorganic silt, trace gravel	3	7	4
40		35'-40'	C	5		CONCRETE FOOTING	C1	60	60
45		40'-41'	C	4			C2	12	9
45		41'-43'	D	7		Wet, loose, gray FINE to COARSE SAND, trace inorganic silt	4	24	15
45		43'-45'	D	3		Wet, loose, gray FINE to COARSE SAND, trace inorganic silt	5	24	18
45		45'-47'	D	4		Wet, loose, brown FINE to COARSE SAND, some gravel, trace inorganic silt	6	24	11
45		47'-49'	D	5		Wet, medium dense, brown FINE to COARSE SAND, trace gravel, trace inorganic silt	7	24	14
45		49'-51'	D	9		Wet, medium dense, gray FINE to COARSE SAND, trace inorganic silt	8	24	13
55		54'-56'	D	9		Wet, medium dense, gray FINE to MEDIUM SAND, trace coarse sand, trace inorganic silt	9	24	17
60		59'-61'	D	12		Wet, medium dense gray FINE SAND, trace inorganic silt	10	24	18
65		64'-66'	D	12		Wet, dense, gray FINE SAND, trace inorganic silt	11	24	23
70		69'-71'	D	10		Wet, medium dense, gray FINE to MEDIUM trace inorganic silt	12	24	18
75		74'-76'	D	13		Wet, dense, gray FINE SAND, trace inorganic silt	13	24	24
80		79'-81'	D	13		Wet, medium dense, gray FINE to MEDIUM SAND, trace coarse sand, trace inorganic silt	14	24	15

GROUND SURFACE TO FT., USED	CASING	COHESIONLESS DENSITY:	FOOTAGE IN EARTH:
THEN	4" casing to 49' then open hole	0-4 VERY LOOSE	119
TYPE OF SAMPLE	PROPORTIONS USED:	5-9 LOOSE	FOOTAGE IN ROCK:
D=DRY W=WASHED C=CORED	TRACE=0-10%	10-29 MED. DENSE	0
TP=TEST PIT A=AUGER V=VANE TEST	SOME=10-40%	30-49 DENSE	WELL FOOTAGE:
UP=UNDISTURBED, PISTON	AND=40-50%	50+ VERY DENSE	0
US=UNDISTURBED, SHELBY			NO. OF SAMPLES:
			22
			BORING NO.: BB-5
			TYPE: Driven Sample

BB-5 (1 & 2 OF 3)
SCALE: 3/16" = 1'-0"

DEERFIELD UPPER ROAD OVER DEERFIELD RIVER			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	41	92
PROJECT FILE NO. 608634			

BORING LOGS 3

BORING CONTRACTOR Northern Drill Service, Inc. Northborough, MA		PAUL B. ALDINGER & ASSOCIATES, INC. 860A Waterman Avenue, Suite 9 East Providence, RI		SHEET 3 OF 3	
BORING LOG PREPARED BY: Bryan D. Deely		PROJECT NAME: Upper Road over Deerfield River		BORING No.: BB-5	
LOCATION: Deerfield, Massachusetts		BRIDGE No.: D-06-001		PROJECT FILE No.: 608634	
Drill Rig Used: Mobile Drill B-57		CONTRACT No.: 102483		BORING TYPE: Drive Sample	
GROUND WATER OBSERVATIONS DEPTH: 27"		AUGER TYPE: PW-HW		SAMPLER: S/S	
DATE: 12/07/18		SIZE, I.D.: 5'-4"		CORE BAR: 1 3/8"	
TIME: 08:00 AM		HAMMER WT.: 140#		BIT: 140#	
		HAMMER FALL: 30"		---	
		HAMMER TYPE: Automatic		Automatic	
LOCATION OF BORING: South Pier		DATE STARTED: 12/06/18		TIME STARTED: 09:00 AM	
		DATE FINISHED: 12/11/18		TIME FINISHED: 10:30 AM	
		DRILLER: Jon Bierholm		INSPECTOR: Bryan Deely	

DEPTH BELOW SURFACE	CASING BLOWS/FOOT	SAMPLE DEPTH FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM-TO	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL & ROCK INCL. COLOR, LOSS OF WASH WATER, JOINTS IN ROCK, ETC.	SAMPLE NO.	PER.	REC.
85		84'-86"	D	23	88'	Wet, very dense, gray FINE to MEDIUM SAND, trace coarse sand, trace inorganic silt	15	24	14
90		89'-90.2"	D	56		Wet, very dense, gray FINE to MEDIUM SAND, trace coarse sand, trace gravel, trace inorganic silt (Glacial Till)	16	16	14
95		94'-94.6"	D	100		Wet, very dense, gray FINE to COARSE SAND some gravel, some inorganic silt (Glacial Till)	17	6	3
100		99'-99.4"	D	100/4"		Wet, very dense, gray FINE to COARSE SAND some gravel, some inorganic silt (Glacial Till)	18	4	3
105		104'-104.3"	D	100/3"		Wet, very dense, gray FINE to COARSE SAND some gravel, some inorganic silt (Glacial Till)	19	3	2
110		109'-109.3"	D	100/3"		Wet, very dense, gray FINE to COARSE SAND some gravel, some inorganic silt (Glacial Till)	20	3	2
115		114'-114.5"	D	100/5"		Wet, very dense, gray FINE to COARSE SAND some gravel, some inorganic silt (Glacial Till)	21	5	4
120		119'-119.8"	D	79	119.8"	Wet, very dense, gray FINE to COARSE SAND some gravel, some inorganic silt (Glacial Till)	22	8	7

GROUND SURFACE TO FT., USED	CASING	COHESIONLESS DENSITY:	FOOTAGE IN EARTH:
THEN	4" casing to 49' then open hole	0-4 VERY LOOSE	119
TYPE OF SAMPLE	PROPORTIONS USED:	5-9 LOOSE	FOOTAGE IN ROCK:
D=DRY W=WASHED C=CORED	TRACE=0-10%	10-29 MED. DENSE	0
TP=TEST PIT A=AUGER V=VANE TEST	SOME=10-40%	30-49 DENSE	WELL FOOTAGE:
UP=UNDISTURBED, PISTON	AND=40-50%	50+ VERY DENSE	0
US=UNDISTURBED, SHELBY			NO. OF SAMPLES:
			22
			BORING NO.: BB-5
			TYPE: Driven Sample

BB-5 (CONT'D 3 OF 3)
SCALE: 3/16" = 1'-0"

May 30, 2026	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

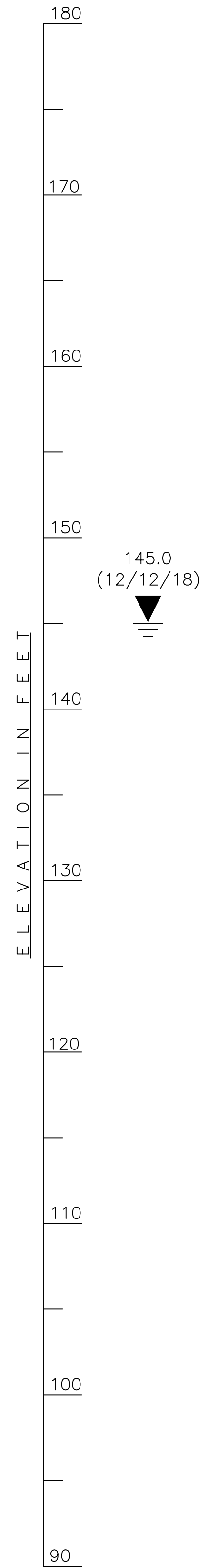
DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	42	92
PROJECT FILE NO.		608634	

BORING LOGS 4

BORING CONTRACTOR Northern Drill Service, Inc. Northborough, MA	PAUL B. ALDINGER & ASSOCIATES, INC. 860A Waterman Avenue, Suite 9 East Providence, RI	SHEET 1 OF 3
BORING LOG PREPARED BY: Bryan D. Deely	PROJECT NAME: Upper Road over Deerfield River LOCATION: Deerfield, Massachusetts	BORING No.: BB-6 BORING TYPE: Drive Sample
Drill Rig Used: Mobile Drill B-57	BRIDGE No.: D-06-001 PROJECT FILE No.: 608634 CONTRACT No.: 102483	LINE & STA.: 12+72 OFFSET: 8 Left NORTHING: 3,018,988.1 EASTING: 350,918.1 SURFACE ELEV: 178.0
GROUND WATER OBSERVATIONS DEPTH: 33' DATE: 12/12/18 TIME: 08:00 AM	AUGER TYPE: PW-HW CASING SIZE, I.D.: 5'-4" SAMPLER: S/S CORE BAR: --- HAMMER WT.: 140# HAMMER FALL: 30" HAMMER TYPE: Automatic	DATE STARTED: 12/11/18 TIME STARTED: 11:00 AM DATE FINISHED: 12/15/18 TIME FINISHED: 2:00 PM DRILLER: Carl Bierholm INSPECTOR: Bryan Deely

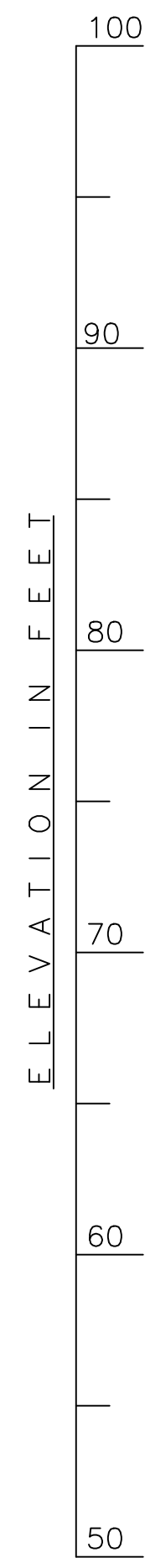
DEPTH BELOW SURFACE	CASING BLOWS/FOOT	SAMPLE DEPTH FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM-TO				STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL & ROCK INCL. COLOR, LOSS OF WASH WATER, JOINTS IN ROCK, ETC.	SAMPLE		
				0-6	6-12	12-18	18-24			NO.	PEN.	REC.
								8"	Concrete Bridge Deck			
5									Air Beneath Bridge			
10												
15												
20												
25												
30												
33								33'	River Surface 12-11-18			
35		35'-36'-3"	1	3	120/3"			35'		1	15	7
		37'-41'	5					36'	Wet, gray, loose fine to coarse SAND & GRAVEL, trace inorganic silt	C1	48	36
40									CONCRETE FOOTING			
		41'-43'	D	2	2	23	33	41'	Wet, medium dense, gray FINE to COARSE SAND & GRAVEL, trace inorganic silt	2	24	12
45		43'-45'	D	18	24	19	21		Wet, dense, gray FINE to COARSE SAND & GRAVEL, trace inorganic silt	3	24	13
		45'-47'	D	13	14	12	19		Wet, medium dense, gray FINE to COARSE SAND & GRAVEL, trace inorganic silt	4	24	6
		47'-49'	D	19	15	14	19		Wet, medium dense, gray FINE to COARSE SAND & GRAVEL, trace inorganic silt	5	24	10
50		19'-51'	D	9	48	24	14		Wet, very dense, gray FINE to COARSE SAND & GRAVEL, trace inorganic silt	6	24	4
55		54'-56'	D	14	12	10	12		Wet, medium dense, gray FINE to COARSE SAND, trace inorganic silt	7	24	4
60		59'-61'	D	12	17	20	28		Wet, dense, gray, FINE to COARSE SAND & GRAVEL, some silt	8	24	7
65		64'-66'	D	16	10	10	12		Wet, medium dense, gray FINE to COARSE SAND, trace gravel, trace inorganic silt	9	24	9
70		69'-71'	D	15	19	18	20		Wet, medium dense, gray FINE to MEDIUM SAND, trace coarse SAND, trace inorganic silt	10	24	12
75		74'-76'	D	15	16	14	16		Wet, dense, gray FINE to COARSE SAND, some gravel, some inorganic silt	11	24	12
80		79'-81'	D	19	38	37	41		Wet, very dense, gray FINE to COARSE SAND, some gravel, some inorganic silt	12	24	15



BB-6 (1 & 2 OF 3)
SCALE: 3/16" = 1'-0"

BORING CONTRACTOR Northern Drill Service, Inc. Northborough, MA	PAUL B. ALDINGER & ASSOCIATES, INC. 860A Waterman Avenue, Suite 9 East Providence, RI	SHEET 3 OF 3
BORING LOG PREPARED BY: Bryan D. Deely	PROJECT NAME: Upper Road over Deerfield River LOCATION: Deerfield, Massachusetts	BORING No.: BB-6 BORING TYPE: Drive Sample
Drill Rig Used: Mobile Drill B-57	BRIDGE No.: D-06-001 PROJECT FILE No.: 608634 CONTRACT No.: 102483	LINE & STA.: 12+72 OFFSET: 8 Left NORTHING: 3,018,988.1 EASTING: 350,918.1 SURFACE ELEV: 178.0
GROUND WATER OBSERVATIONS DEPTH: 33' DATE: 12/12/18 TIME: 08:00 AM	AUGER TYPE: PW-HW CASING SIZE, I.D.: 5'-4" SAMPLER: S/S CORE BAR: --- HAMMER WT.: 140# HAMMER FALL: 30" HAMMER TYPE: Automatic	DATE STARTED: 12/11/18 TIME STARTED: 11:00 AM DATE FINISHED: 12/15/18 TIME FINISHED: 2:00 PM DRILLER: Carl Bierholm INSPECTOR: Bryan Deely

DEPTH BELOW SURFACE	CASING BLOWS/FOOT	SAMPLE DEPTH FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM-TO				STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL & ROCK INCL. COLOR, LOSS OF WASH WATER, JOINTS IN ROCK, ETC.	SAMPLE		
				0-6	6-12	12-18	18-24			NO.	PEN.	REC.
85		84'-84'11"	D	41	100/5"				Wet, very dense, gray FINE to COARSE SAND, some inorganic silt, trace gravel (Glacial Till)	13	11	8
90		89'-90'	D	59	100/6"				Wet, very dense, gray FINE to COARSE SAND, some inorganic silt, some gravel (Glacial Till)	14	12	7
95		94'-94'8"	D	70	100/2"				Wet, very dense, gray FINE to COARSE SAND some inorganic silt, some gravel (Glacial Till)	15	8	5
100		99'-99'9"	D	85	100/3"				Wet, very dense, gray FINE to COARSE SAND some gravel, some inorganic silt (Glacial Till)	16	9	5
105		104'-105'8"	D	43	82	78			Wet, very dense, gray FINE to COARSE SAND some gravel, some inorganic silt (Glacial Till)	17	20	12
110		109'-109'8"	D	79	100/2"				Wet, very dense, gray FINE to COARSE SAND some gravel, some inorganic silt (Glacial Till)	18	8	5
115		114'-114'8"	D	85	100/2"			114'-8"	Wet, very dense, gray FINE to COARSE SAND some gravel, some inorganic silt (Glacial Till)	19	8	5
									Bottom of Boring at 114'-8"			
									Borehole Grouted Upon Completion			



BB-6 (CONT'D 3 OF 3)
SCALE: 3/16" = 1'-0"

NOTE:
SEE SHEET 3 FOR BORING NOTES.

May 30, 2026	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

Z:\Shared\Engineering\Projects\2015\13033\13033_21X - Deerfield Upper Road\608634.DWG\Boring\Current\Drawings\BODL_BRI06.dwg

608634_BRI06.DWG Plotted on 18-May-2026 3:21 PM 08-April-2026 Final Structural Submittal (SF)

BORING CONTRACTOR Northern Drill Service, Inc. Northborough, MA		PAUL B. ALDINGER & ASSOCIATES, INC. 860A Waterman Avenue, Suite 9 East Providence, RI		SHEET 1 OF 2 BB-7					
BORING LOG PREPARED BY: Bryan D. Deely		PROJECT NAME: Upper Road over Deerfield River		BORING No.: BB-7					
Drill Rig Used: Mobile Drill B-57		LOCATION: Deerfield, Massachusetts		BORING TYPE: Drive Sample					
		BRIDGE No.: D-06-001		LINE & STA.: 13+71					
		PROJECT FILE No.: 608634		OFFSET: 8 Right					
		CONTRACT No.: 102483		NORTHING: 3,019,056.3					
				EASTING: 350,995.7					
				SURFACE ELEV.: 177.0					
GROUND WATER OBSERVATIONS		AUGER TYPE: ---		CASING PW-HW: S/S					
DEPTH: 30'		SAMPLER S/S: ---		CORE BAR: ---					
DATE: 12/18/18		SIZE, I.D.: 5"-4"		1 3/8"					
TIME: 08:00 AM		HAMMER WT.: 140#		140#					
		HAMMER FALL: 30"		30"					
		HAMMER TYPE: Automatic		Automatic					
		DATE STARTED: 12/17/18		DATE FINISHED: 12/18/18					
		TIME STARTED: 07:30 AM		TIME FINISHED: 10:30 AM					
		DRILLER: Jon Bierholm		INSPECTOR: Bryan Deely					
LOCATION OF BORING: North Pier									
DEPTH BELOW SURFACE	CASING BLOWS/FOOT	SAMPLE DEPTH FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM-TO	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL & ROCK INCL. COLOR, LOSS OF WASH WATER, JOINTS IN ROCK, ETC.	SAMPLE NO.	PEN.	REC.
5					8'	Concrete Bridge Deck			
10						Air Beneath Bridge			
15									
20									
25									
30					29'	CONCRETE			
35		34'-39'	C	5		RQD=78%	C1	60	57
40		39'-44'	C	4		RQD=67%	C2	60	57
45		44'-49'	C	5		RQD=53%	3	60	60
50		49'-54'	C	6	47'	Gray SCHIST			
55		54'-57'	C	7		RQD=53%	4	36	35
60					57'	Bottom of Boring at 57 feet			
65						Boring Grouted Upon Completion			
70									
75									
80									
GROUND SURFACE T 29 FT., USED 5" CASING:		THEN 4" casing to 34' then open hole		COHESIONLESS DENSITY:		FOOTAGE IN EARTH: 47		FOOTAGE IN ROCK: 10	
TYPE OF SAMPLE		PROPORTIONS USED:		0-4 VERY LOOSE		WELL FOOTAGE: 0		NO. OF SAMPLES: 5	
D=DRY W=WASHED C=CORED		TRACE=0-10%		5-9 LOOSE		BORING NO.: BB-7		TYPE: Driven Sample	
TP=TEST PIT A=AUGER V=VANE TEST		SOME=10-40%		10-29 MED. DENSE					
UP=UNDISTURBED, PISTON		AND=40-50%		30-49 DENSE					
US=UNDISTURBED, SHELBY				50+ VERY DENSE					

BB-7 (1 & 2 OF 2)
SCALE: $\frac{3}{16}'' = 1'-0''$

PROP. TOP OF FOOTING
PLER. NO. 2
EL. 136.00

BORING CONTRACTOR Northern Drill Service, Inc. Northborough, MA		PAUL B. ALDINGER & ASSOCIATES, INC. 860A Waterman Avenue, Suite 9 East Providence, RI		SHEET 1 OF 1 BB-8					
BORING LOG PREPARED BY: Bryan D. Deely		PROJECT NAME: Upper Road over Deerfield River		BORING No.: BB-8					
Drill Rig Used: Mobile Drill B-57		LOCATION: Deerfield, Massachusetts		BORING TYPE: Drive Sample					
		BRIDGE No.: D-06-001		LINE & STA.: 14+58					
		PROJECT FILE No.: 608634		OFFSET: 7 Left					
		CONTRACT No.: 102483		NORTHING: 3,019,132.6					
				EASTING: 351,041.5					
				SURFACE ELEV.: 176.0					
GROUND WATER OBSERVATIONS		AUGER TYPE: ---		CASING HW: S/S					
DEPTH: 23'		SAMPLER S/S: ---		CORE BAR: ---					
DATE: 12/04/18		SIZE, I.D.: 4"		1 3/8"					
TIME: 08:00 AM		HAMMER WT.: 140#		140#					
		HAMMER FALL: 30"		30"					
		HAMMER TYPE: Automatic		Automatic					
		DATE STARTED: 12/03/18		DATE FINISHED: 12/04/18					
		TIME STARTED: 08:30 AM		TIME FINISHED: 03:00 PM					
		DRILLER: Carl Bierholm		INSPECTOR: Bryan Deely					
LOCATION OF BORING: North Abutment									
DEPTH BELOW SURFACE	CASING BLOWS/FOOT	SAMPLE DEPTH FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM-TO	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL & ROCK INCL. COLOR, LOSS OF WASH WATER, JOINTS IN ROCK, ETC.	SAMPLE NO.	PEN.	REC.
5					8'	Concrete Bridge Deck			
10						Air Beneath Bridge			
15									
20									
25									
30									
35									
40									
5		5'-10'	C	8	5'	CONCRETE	RQD=85%	C1	60 56
10		10'-15'	C	3	9'	Mortared Stone Abutment	RQD=32%	C2	60 56
15		15'-20'	C	2			RQD=20%	C3	60 35
20		20'-23'	C	7	19'	Gray SCHIST	RQD=0%	C4	36 33
25		23'-28'	C	6			RQD=27%	C5	60 50
30					28'	Bottom of Boring at 28 feet			
35						Boring Grouted Upon Completion			
40									
GROUND SURFACE T 29 FT., USED 5" CASING:		THEN 4" casing to 34' then open hole		COHESIONLESS DENSITY:		FOOTAGE IN EARTH: 19		FOOTAGE IN ROCK: 9	
TYPE OF SAMPLE		PROPORTIONS USED:		0-4 VERY LOOSE		WELL FOOTAGE: 0		NO. OF SAMPLES: 5	
D=DRY W=WASHED C=CORED		TRACE=0-10%		5-9 LOOSE		BORING NO.: BB-8		TYPE: Driven Sample	
TP=TEST PIT A=AUGER V=VANE TEST		SOME=10-40%		10-29 MED. DENSE					
UP=UNDISTURBED, PISTON		AND=40-50%		30-49 DENSE					
US=UNDISTURBED, SHELBY				50+ VERY DENSE					

BB-8
SCALE: $\frac{3}{16}'' = 1'-0''$

NOTE:
SEE SHEET 3 FOR BORING NOTES.

DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	43	92
PROJECT FILE NO.		608634	

BORING LOGS 5

PROP. TOP OF FOOTING
NORTH ABUTMENT
EL. 158.00

May 30, 2026	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	44	92
PROJECT FILE NO.		608634	

BORING LOGS 6

BORING CONTRACTOR Northern Drill Service, Inc. Northborough, MA		PAUL B. ALDINGER & ASSOCIATES, INC. 860A Waterman Avenue, Suite 9 East Providence, RI		SHEET 1 OF 1 BORING No: BB-9 BORING TYPE: Drive Sample					
BORING LOG PREPARED BY: Bryan D. Deely		PROJECT NAME: Upper Road over Deerfield River LOCATION: Deerfield, Massachusetts BRIDGE No.: D-06-001 PROJECT FILE No.: 608634 CONTRACT No.: 102483		LINE & STA.: 14+72 OFFSET: 6.5 Right NORTHING: 3,019,132.4 EASTING: 351,058.9 SURFACE ELEV: 176.0					
Drill Rig Used: Mobile Drill B-57		AUGER CASING SAMPLER CORE BAR. TYPE --- HW S/S --- SIZE, I.D. --- 4" 1 3/8" --- HAMMER WT. 140# 140# BIT --- HAMMER FALL 30" 30" --- HAMMER TYPE Automatic Automatic		DATE STARTED: 11/29/18 TIME STARTED: 01:00 PM DATE FINISHED: 11/30/18 TIME FINISHED: 11:00 AM DRILLER: Carl Bierholm INSPECTOR: Bryan Deely					
GROUND WATER OBSERVATIONS DEPTH: 23' DATE: 11/30/18 TIME: 08:00 AM									
LOCATION OF BORING: North Abutment									
DEPTH BELOW SURFACE	CASING BLOWS/FOOT	SAMPLE DEPTH FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM-TO 0-6 6-12 12-18 18-24	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL & ROCK INCL. COLOR, LOSS OF WASH WATER, JOINTS IN ROCK, ETC.	SAMPLE NO.	PEN.	REC.
		0.5'-2.5'	D	9 10 10 9	7"	Asphalt Dry, medium dense, brown FINE TO COARSE SAND, some gravel, trace inorganic silt (Fill)	1	24	17
5		4'-6"	D	3 4 5 4		Dry, loose, brown FINE TO COARSE SAND, some gravel, some inorganic silt (Fill)	2	24	10
10		9'-11"	D	28 27 9 5		Dry, dense, brown FINE TO COARSE SAND, some gravel, some inorganic silt (Fill)	3	24	6
15		14'-16"	D	5 8 7 7		Dry, medium dense GRAVEL (Fill)	4	24	4
20		19'-20'7"	D	10 9 20	20.5'	Moist, medium dense, brown FINE TO COARSE SAND, some inorganic silt, some gravel, roots in spoon tip (Fill)	5	19	10
25		23'-28"	C	4 3 6 3 5 6 5 5 4		Gray SCHIST RQD=37%	C1	60	56
30		28'-33"	C				C2	60	60
35					33'	Bottom of Boring at 33 feet			
40									
GROUND SURFACE T 19 FT., USED 4" CASING: THEN open hole						COHESIONLESS DENSITY: FOOTAGE IN EARTH: 20.5 FOOTAGE IN ROCK: 12.5 WELL FOOTAGE: 0 NO. OF SAMPLES: 7		BORING NO.: BB-9 TYPE: Driven Sample	

BB-9
SCALE: $\frac{3}{16}" = 1'-0"$

BORING CONTRACTOR Northern Drill Service, Inc. Northborough, MA		PAUL B. ALDINGER & ASSOCIATES, INC. 860A Waterman Avenue, Suite 9 East Providence, RI		SHEET 1 OF 1 BORING No: BB-10 BORING TYPE: Drive Sample					
BORING LOG PREPARED BY: Bryan D. Deely		PROJECT NAME: Upper Road over Deerfield River LOCATION: Deerfield, Massachusetts BRIDGE No.: D-06-001 PROJECT FILE No.: 608634 CONTRACT No.: 102483		LINE & STA.: 14+92 OFFSET: 6.5 Left NORTHING: 3,019,158.8 EASTING: 351,090.1 SURFACE ELEV: 175.0					
Drill Rig Used: Mobile Drill B-57		AUGER CASING SAMPLER CORE BAR. TYPE --- HW S/S --- SIZE, I.D. --- 4" 1 3/8" --- HAMMER WT. 140# 140# BIT --- HAMMER FALL 30" 30" --- HAMMER TYPE Automatic Automatic		DATE STARTED: 11/30/18 TIME STARTED: 08:30 AM DATE FINISHED: 11/30/18 TIME FINISHED: 12:00 PM DRILLER: Carl Bierholm INSPECTOR: Bryan Deely					
GROUND WATER OBSERVATIONS DEPTH: 22' DATE: 11/31/18 TIME: 08:00 AM									
LOCATION OF BORING: Northwest Wingwall									
DEPTH BELOW SURFACE	CASING BLOWS/FOOT	SAMPLE DEPTH FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM-TO 0-6 6-12 12-18 18-24	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL & ROCK INCL. COLOR, LOSS OF WASH WATER, JOINTS IN ROCK, ETC.	SAMPLE NO.	PEN.	REC.
		0.5'-2.5'	D	11 16 11 10	6"	Asphalt Dry, medium dense, brown FINE TO COARSE SAND, some gravel, trace inorganic silt (Fill)	1	24	14
5		4'-6"	D	5 11 6 6		Dry, medium dense, brown FINE TO COARSE SAND, some gravel, trace inorganic silt (Fill)	2	24	11
10		9'-11"	D	5 4 5 5		Moist, loose, brown fine to coarse SAND & GRAVEL, some inorganic silt (Fill)	3	24	18
15		14'-16"	D	2 2 3 4		Wet, very loose, brown FINE TO COARSE SAND, some inorganic silt, trace gravel, with root fibers (Fill)	4	24	19
20		16'-18"	D	5 2 4 5	18'	Rollerbit 18 to 23 feet into probable rock	5	24	17
25					23'	Bottom of Boring at 23 feet			
30									
35									
40									
GROUND SURFACE T 14 FT., USED 4" CASING: THEN open hole						COHESIONLESS DENSITY: FOOTAGE IN EARTH: 23 FOOTAGE IN ROCK: 0 WELL FOOTAGE: 0 NO. OF SAMPLES: 5		BORING NO.: BB-10 TYPE: Driven Sample	

BB-10
SCALE: $\frac{3}{16}" = 1'-0"$

BORING CONTRACTOR Northern Drill Service, Inc. Northborough, MA		PAUL B. ALDINGER & ASSOCIATES, INC. 860A Waterman Avenue, Suite 9 East Providence, RI		SHEET 1 OF 1 BORING No: BB-11 BORING TYPE: Drive Sample					
BORING LOG PREPARED BY: Bryan D. Deely		PROJECT NAME: Upper Road over Deerfield River LOCATION: Deerfield, Massachusetts BRIDGE No.: D-06-001 PROJECT FILE No.: 608634 CONTRACT No.: 102483		LINE & STA.: 14+63 OFFSET: 6.5 right NORTHING: 3,019,160.1 EASTING: 351,082.0 SURFACE ELEV: 175.0					
Drill Rig Used: Mobile Drill B-57		AUGER CASING SAMPLER CORE BAR. TYPE --- HW S/S --- SIZE, I.D. --- 4" 1 3/8" --- HAMMER WT. 140# 140# BIT --- HAMMER FALL 30" 30" --- HAMMER TYPE Automatic Automatic		DATE STARTED: 11/29/18 TIME STARTED: 11:30 AM DATE FINISHED: 11/29/18 TIME FINISHED: 01:30 PM DRILLER: Carl Bierholm INSPECTOR: Bryan Deely					
GROUND WATER OBSERVATIONS DEPTH: None encountered DATE: 11/29/18 TIME: 1:30 PM									
LOCATION OF BORING: Northeast Wingwall									
DEPTH BELOW SURFACE	CASING BLOWS/FOOT	SAMPLE DEPTH FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM-TO 0-6 6-12 12-18 18-24	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL & ROCK INCL. COLOR, LOSS OF WASH WATER, JOINTS IN ROCK, ETC.	SAMPLE NO.	PEN.	REC.
		0.5'-2.5'	D	11 9 3 3	6"	Asphalt Dry, medium dense, brown FINE TO COARSE SAND, some gravel, trace inorganic silt (Fill)	1	24	10
5		4'-6"	D	7 7 7 7		Dry, medium dense, brown FINE TO COARSE SAND, some gravel, trace inorganic silt (Fill)	2	24	3
10		9'-9'7"	D	8 100/1"	9.5'	Wet, brown, fine to coarse SAND & GRAVEL, some inorganic silt (Fill)	3	7	4
15					14.5'	Rollerbit 9.5' to 14.5' in probable rock Bottom of Boring at 14.5 feet			
20									
25									
30									
35									
40									
GROUND SURFACE T 9 FT., USED 4" CASING: THEN open hole						COHESIONLESS DENSITY: FOOTAGE IN EARTH: 14.5 FOOTAGE IN ROCK: 0 WELL FOOTAGE: 0 NO. OF SAMPLES: 3		BORING NO.: BB-11 TYPE: Driven Sample	

BB-11
SCALE: $\frac{3}{16}" = 1'-0"$

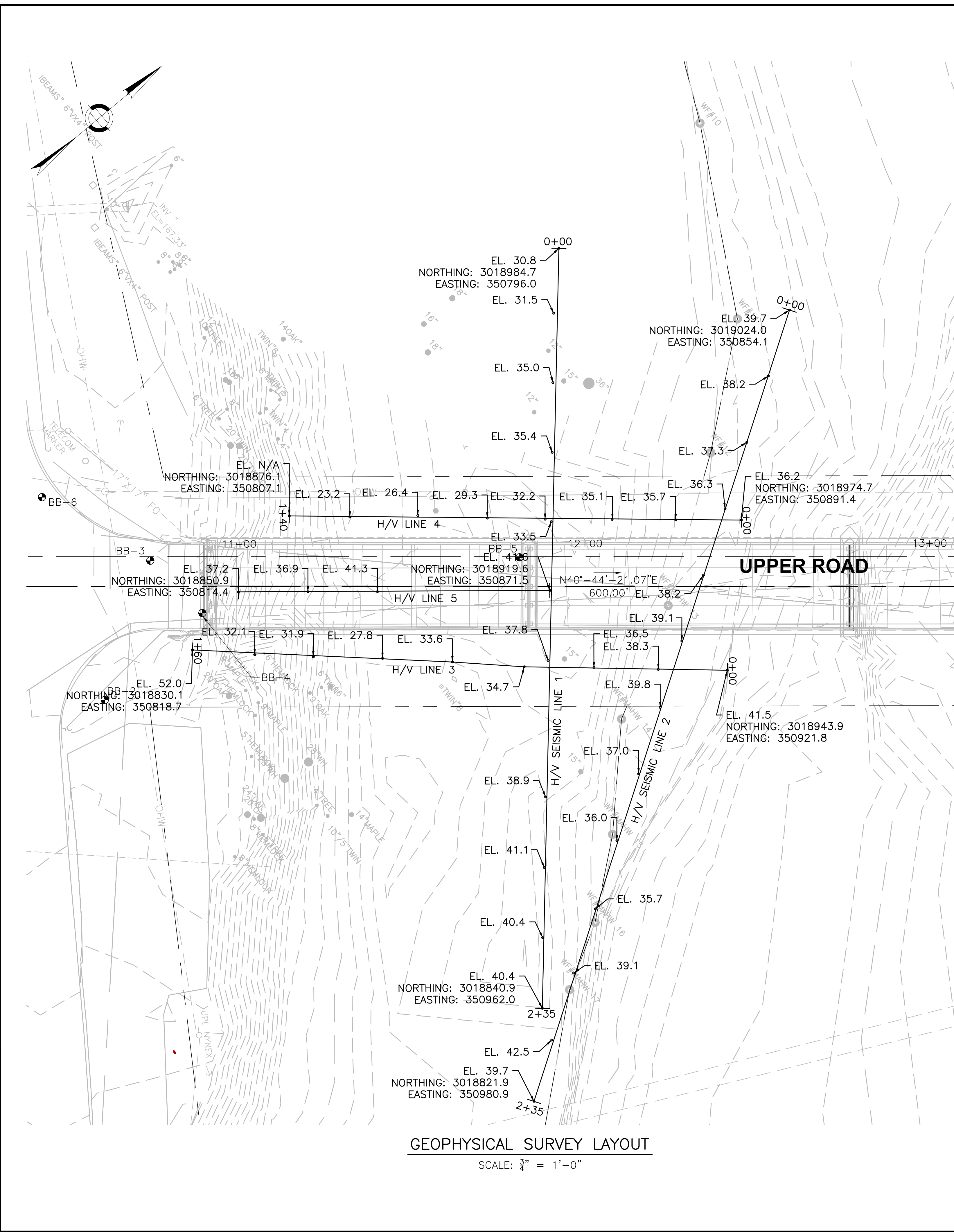
NOTE:
SEE SHEET 3 FOR BORING NOTES.

May 30, 2026	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

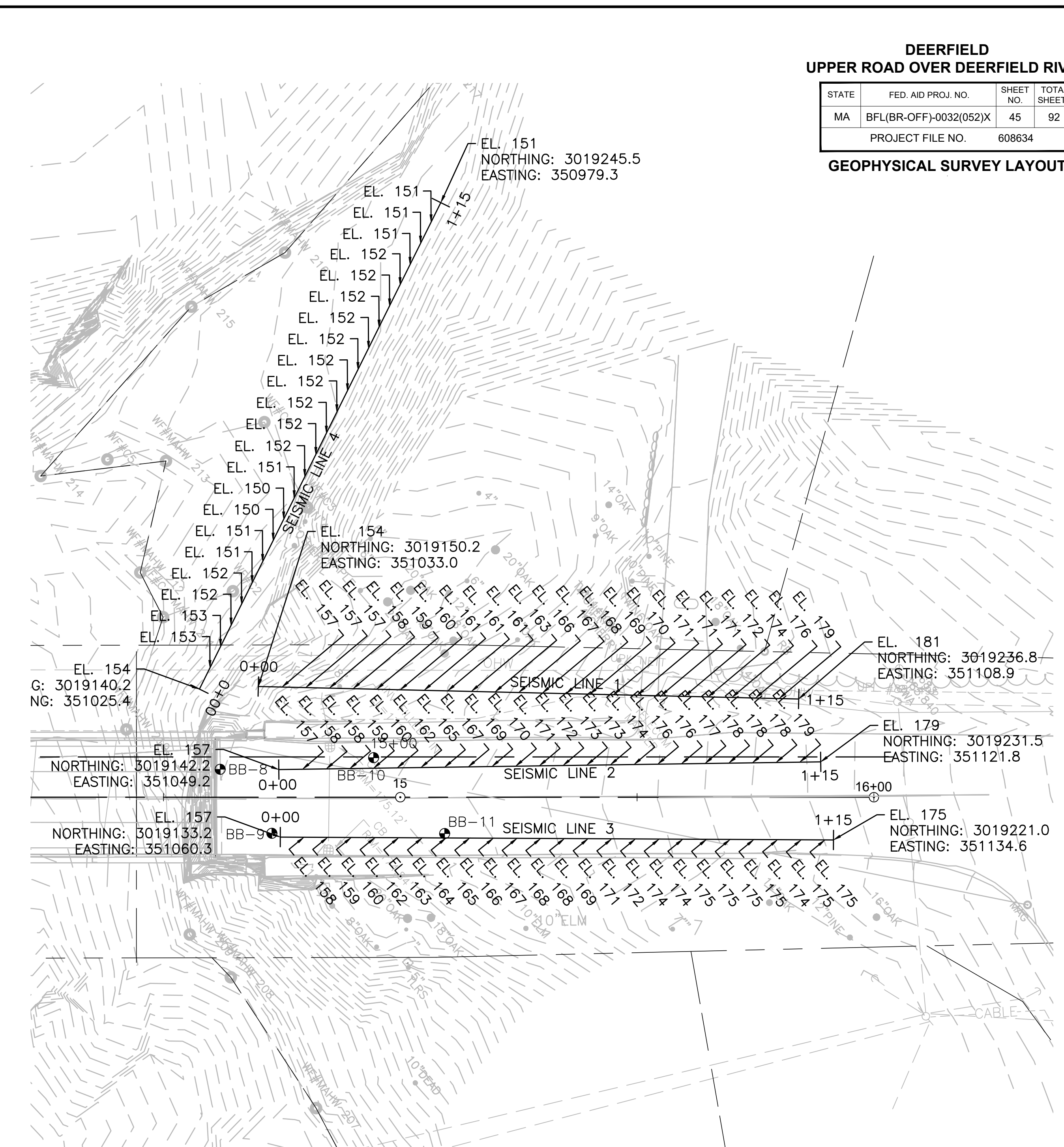
DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	45	92
PROJECT FILE NO.		608634	

GEOPHYSICAL SURVEY LAYOUT



GEOPHYSICAL SURVEY LAYOUT
SCALE: 3/4" = 1'-0"



GEOPHYSICAL SURVEY LAYOUT
SCALE: 3/4" = 1'-0"

NOTES:

- ELEVATIONS CALLED OUT ON PLAN SHEET REPRESENT SURVEYED TOP OF BEDROCK ELEVATIONS PERFORMED BY HAGER-RICHTER.
- AS STATED IN THE GEOPHYSICAL SURVEY REPORTS PROVIDED BY HAGER-RICHTER DATED 06/04/2021 AND 05/08/2024 THE ESTIMATED ACCURACY (STANDARD DEVIATION) OF DEPTH OF BEDROCK IS ±10% OR 2'-0", WHICHEVER IS GREATER.

May 30, 2026	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
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USE ONLY PRINTS OF LATEST DATE	

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608634_BR15.DWG Plotted on 18-May-2026 3:22 PM

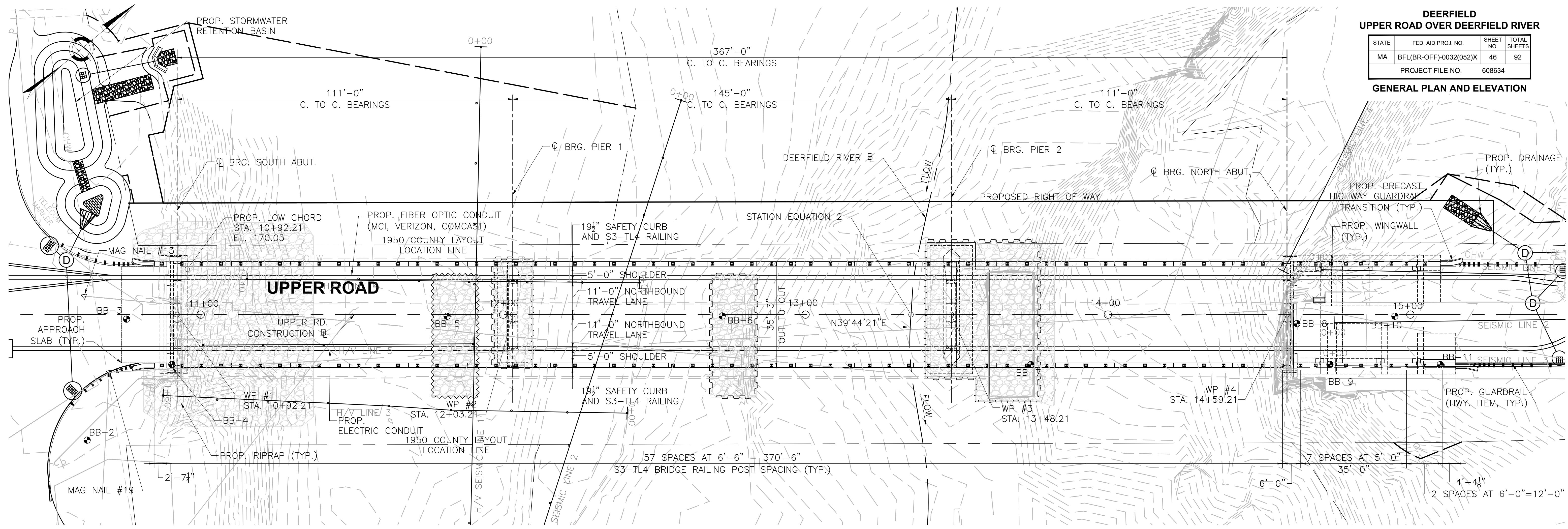
08-April-2026

Final Structural Submission (SF)

**DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER**

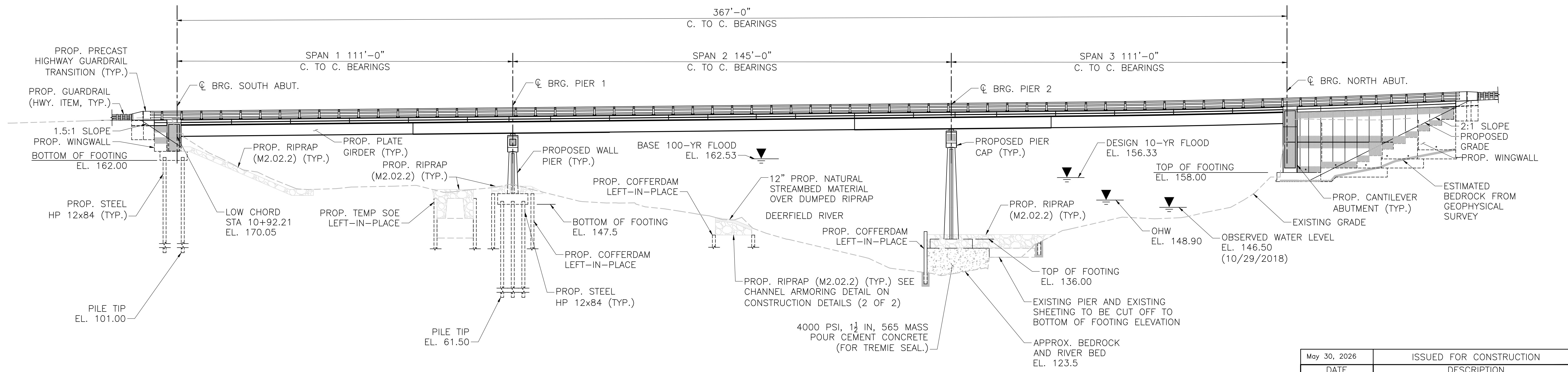
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	46	92
PROJECT FILE NO. 608634			

GENERAL PLAN AND ELEVATION



GENERAL PLAN
SCALE: 1/16" = 1'-0"

NOTE:
SEE DECK PLAN ON SHEET 36 FOR
PARAFFIN JOINT SPACING.



ELEVATION
SCALE: 1/16" = 1'-0"

May 30, 2026	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

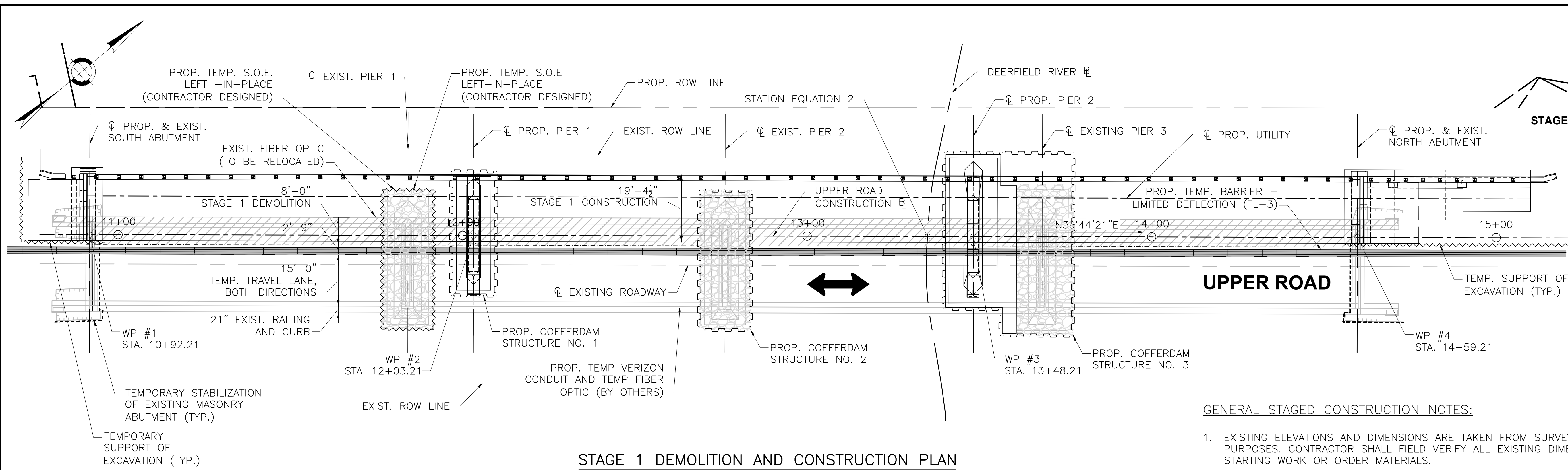
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08-April-2026

Final Structural Submission (SF)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	47	92
PROJECT FILE NO.		608634	



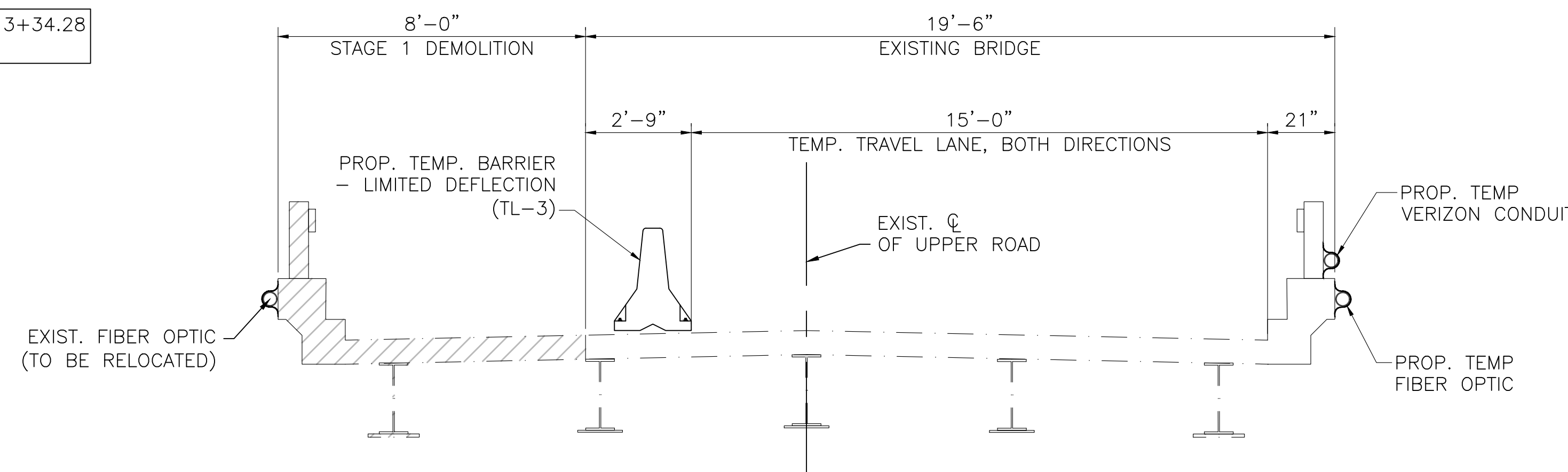
STAGE 1 DEMOLITION AND CONSTRUCTION PLAN

SCALE: 1/16" = 1'-0"

STATION EQUATION 2: UPPER ROAD @ STA. 13+34.28
= DEERFIELD RIVER @ STA. 14+78.39

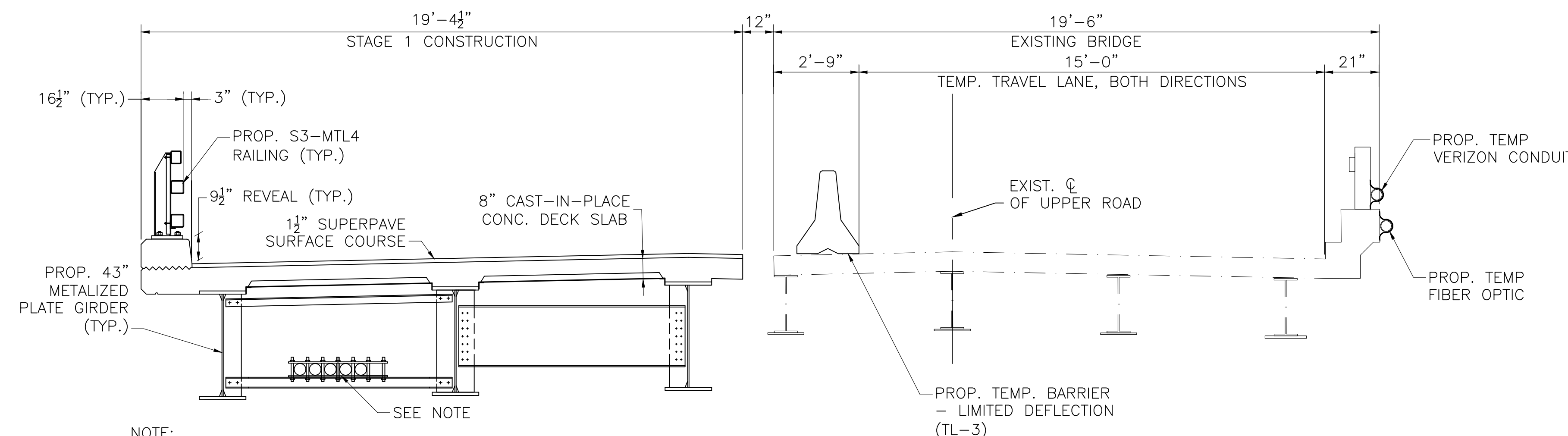
LEGEND

- DEMOLITION LIMITS
- TEMPORARY BARRIER - LIMITED DEFLECTION (TL-3)
- LIMITS OF TEMPORARY SUPPORT OF EXCAVATION
- LIMITS OF TEMPORARY STABILIZATION OF EXISTING MASONRY ABUTMENTS
- LIMITS OF PROPOSED COFFERDAM STRUCTURES



STAGE 1 DEMOLITION SECTION

SCALE: 3/8" = 1'-0"



STAGE 1 CONSTRUCTION SECTION

SCALE: 3/8" = 1'-0"

NOTE:
PROP. UTILITY WORK:
(1) - 4" DIA. MCI FIBER OPTIC CONDUIT
(2) - 4" DIA. VERIZON CONDUIT
(2) - 4" DIA. COMCAST CONDUIT

GENERAL STAGED CONSTRUCTION NOTES:

- EXISTING ELEVATIONS AND DIMENSIONS ARE TAKEN FROM SURVEY AND EXISTING PLANS FOR BIDDING PURPOSES. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND ELEVATIONS PRIOR TO STARTING WORK OR ORDER MATERIALS.
- SEE HIGHWAY PLANS FOR ADDITIONAL TRAFFIC MANAGEMENT REQUIREMENTS FOR UPPER ROAD, STILLWATER ROAD, AND LOWER ROAD AS WELL AS ANY PROPOSED DETOURS.
- TEMPORARY SUPPORT OF EXCAVATION AND TEMPORARY STABILIZATION OF EXISTING MASONRY ABUTMENTS AND PIER NO. 1 SHALL BE DESIGNED BY THE CONTRACTOR IN ACCORDANCE WITH THEIR MEANS AND METHODS FOR DEMOLITION AND CONSTRUCTION, AND FOLLOW THE REQUIREMENTS OF THE SPECIAL PROVISIONS FOR ITEM NOS. 953. AND 953.12.
- THE COFFERDAMS SHALL BE DESIGNED BY THE CONTRACTOR IN ACCORDANCE WITH THE SPECIAL PROVISIONS FOR ITEM NOS. 990.1, 990.2, AND 990.3 FOR COFFERDAM STRUCTURE NOS. 1, 2, AND 3 RESPECTIVELY. SEE SHEET 15 FOR PROPOSED COFFERDAM LAYOUT AND ADDITIONAL INFORMATION.
- THE CONTRACTOR SHALL REFER TO THE SPECIAL PROVISIONS FOR THE MASH TEST LEVEL 3 REQUIREMENTS FOR ITEM NO. 853.33 TEMPORARY BARRIER - LIMITED DEFLECTION (TL-3).
- THE CONTRACTOR SHALL DESIGN AND INSTALL THE TEMPORARY SUPPORT AND PROTECTION OF THE FIBER OPTIC LINE RELOCATED DURING CONSTRUCTION FOR REVIEW BY THE ENGINEER. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 114.1 DEMOLITION OF THE SUPERSTRUCTURE BRIDGE NO. D-06-001.
- THE CONTRACTOR SHALL SUPPORT THE TEMPORARY 3" TRAFFIC SIGNAL AS SHOWN IN THE TEMPORARY TRAFFIC CONTROL PLANS.
- THE CONTRACTOR SHALL REFER TO THE SPECIAL PROVISIONS IF DIRECTED BY THE ENGINEER TO MAKE EMERGENCY REPAIRS TO THE EXISTING DECK DURING CONSTRUCTION.
- DISPOSAL OF ALL MATERIALS UTILIZED BY THE CONTRACTOR FOR DEMOLITIONS AND CONSTRUCTION PURPOSES SHALL BE IN COMPLIANCE WITH ALL PERTINENT FEDERAL AND STATE REGULATIONS.
- CONTRACTOR TO COORDINATE WITH ALL UTILITY COMPANIES CARRIED BY THE NEW BRIDGE TO PROVIDE ACCESS FOR INSTALLATION AS NECESSARY.
- CONTRACTOR SHALL MONITOR THE EXISTING SUBSTRUCTURE ELEMENTS TO BE PARTIALLY DEMOLISHED AND MAINTAINED FOR STAGE 1 IN ACCORDANCE WITH THE SPECIAL PROVISIONS FOR ITEM 127.1 REINFORCED CONCRETE EXCAVATION.

SUGGESTED SEQUENCE OF STAGE 1 SUPERSTRUCTURE CONSTRUCTION:

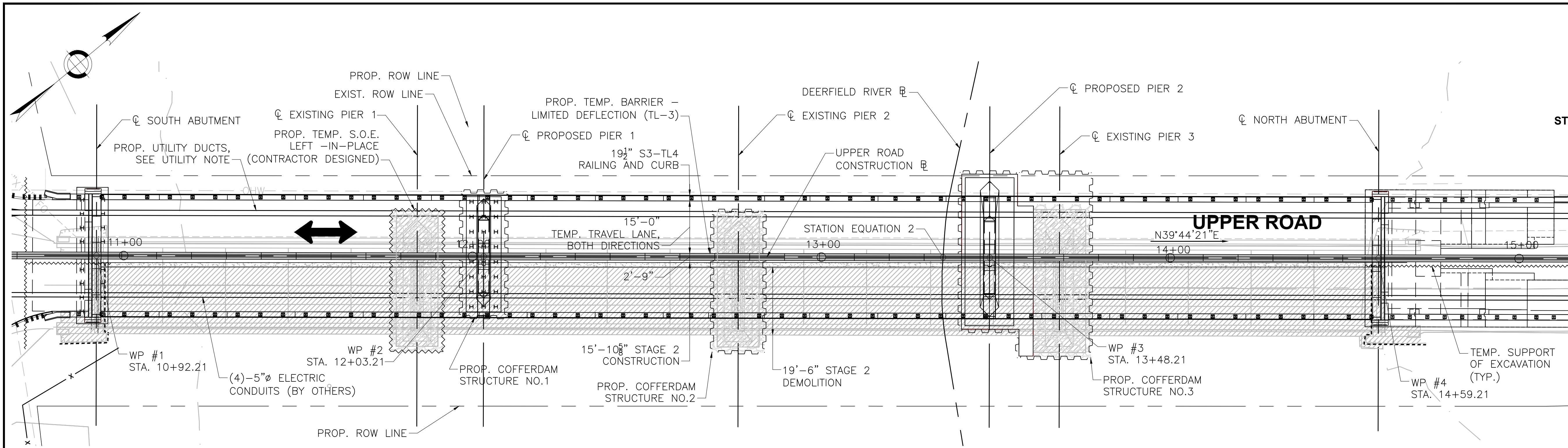
- THE CONTRACTOR SHALL RELOCATE THE EXISTING OVERHEAD LINE WEST OF THE EXISTING BRIDGE AND ATTACH IT TO THE STRUCTURE AS SHOWN IN THE STAGE 1 DEMOLITION SECTION.
- INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AND TEMPORARY LIMITED DEFLECTION BARRIER.
- TEMPORARILY RELOCATE FIBER OPTIC UTILITY TO EAST SIDE OF BRIDGE.
- TRANSITION TO SINGLE LANE ALTERNATING TRAFFIC OVER THE BRIDGE ON THE EAST PORTION OF THE EXISTING STRUCTURE.
- REMOVE STAGE 1 LIMITS OF THE EXISTING STRUCTURE.
- CONSTRUCT STAGE 1 LIMITS OF THE PROPOSED STRUCTURE AND APPROACHES.
- RELOCATE COMMUNICATION UTILITIES TO FINAL PROPOSED LOCATION ON WEST SIDE OF NEWLY BUILT BRIDGE.

May 30, 2026	ISSUED FOR CONSTRUCTION
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AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	48	92
PROJECT FILE NO.		608634	

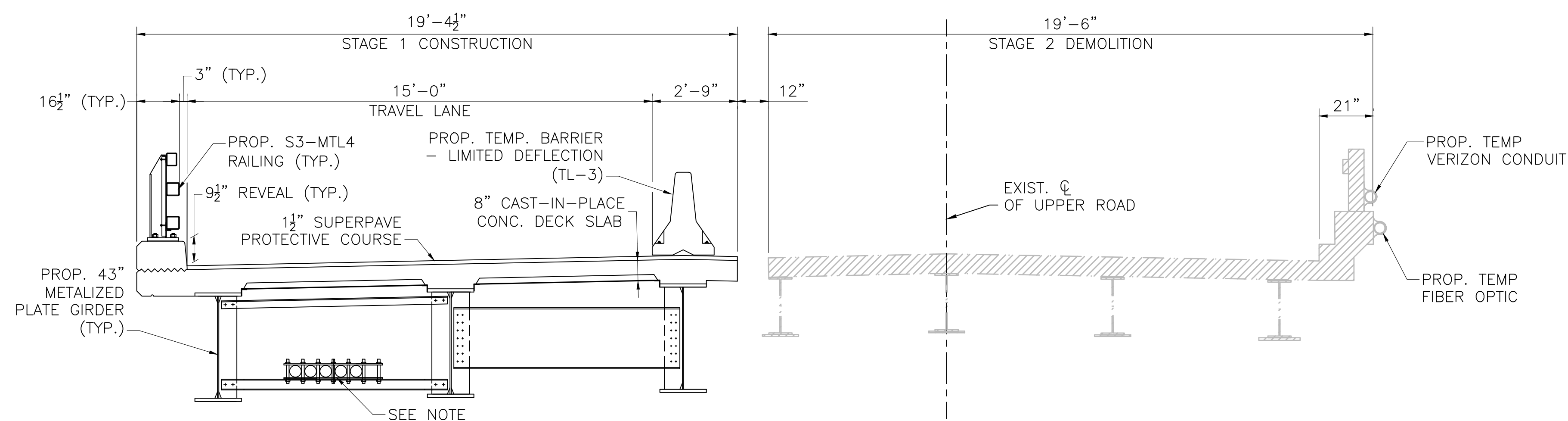
STAGE 2 CONSTRUCTION PLAN AND SECTION 2 OF 2



STAGE 2 CONSTRUCTION PLAN

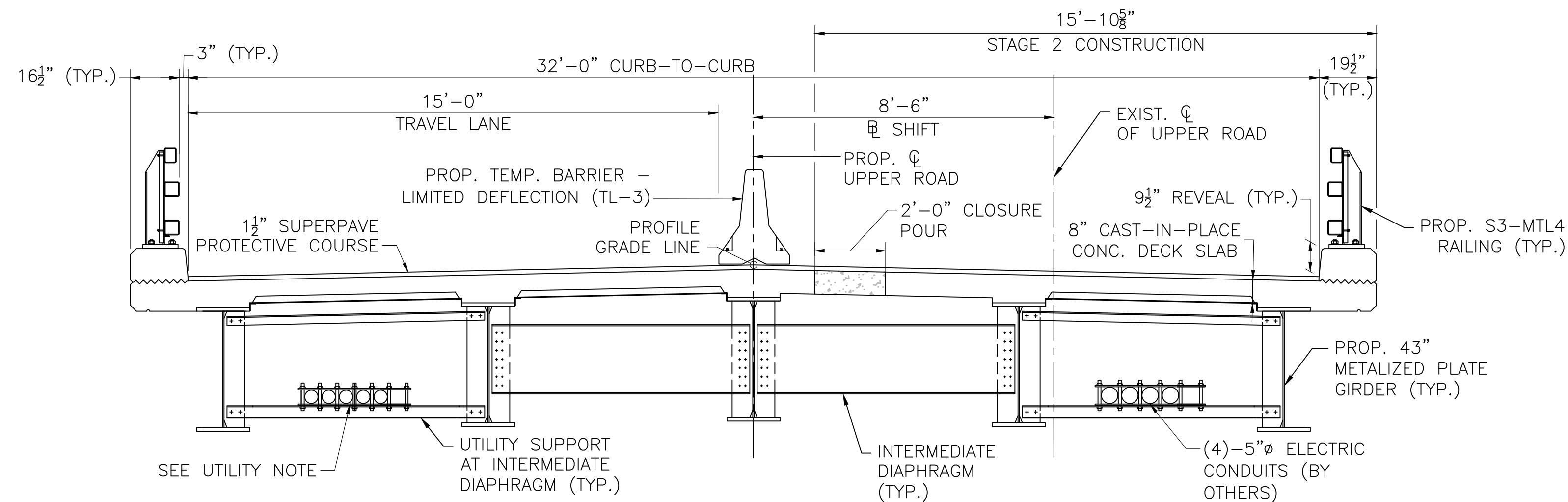
SCALE: 1/16" = 1'-0"

STATION EQUATION 2: UPPER ROAD CL STA. 13+34.28
= DEERFIELD RIVER CL STA. 14+78.39



STAGE 2 DEMOLITION SECTION

SCALE: 3/8" = 1'-0"



STAGE 2 CONSTRUCTION

SCALE: 3/8" = 1'-0"

REFER TO SHEET 11 FOR GENERAL STAGED CONSTRUCTION NOTES.

SUGGESTED SEQUENCE OF STAGE 2 SUPERSTRUCTURE CONSTRUCTION:

1. INSTALL TEMPORARY LIMITED DEFLECTION BARRIER ON THE STAGE 1 LIMITS OF THE NEWLY BUILT BRIDGE.
2. UPDATE TEMPORARY TRAFFIC CONTROL MEASURES AND SWITCH TRAFFIC TO THE PROPOSED BRIDGE LIMITS.
3. REMOVE THE STAGE 2 LIMITS OF THE EXISTING STRUCTURE.
4. CONSTRUCT STAGE 2 LIMITS OF THE PROPOSED STRUCTURE AND APPROACHES.
5. INSTALL PROPOSED DECK CLOSURE POUR, AND PERFORM FINAL PAVING, AND REMOVE TEMPORARY TRAFFIC CONTROL MEASURES AND BARRIERS.
6. RELOCATE OVERHEAD ELECTRIC TO EAST SIDE BAY OF STAGE 2 CONSTRUCTION (BY OTHERS).
7. OPEN THE STRUCTURE TO TWO-WAY TRAFFIC IN FINAL CONDITION.

UTILITY NOTE:

- PROP. UTILITY WORK:
- (1) - 4" DIA. MCI FIBER OPTIC CONDUIT
 - (2) - 4" DIA. VERIZON CONDUIT
 - (2) - 4" DIA. COMCAST CONDUIT

LEGEND

- DEMOLITION LIMITS
- TEMPORARY BARRIER - LIMITED DEFLECTION (TL-3)
- LIMITS OF TEMPORARY SUPPORT OF EXCAVATION
- LIMITS OF PROPOSED COFFERDAM STRUCTURES

May 30, 2026	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	49	92
PROJECT FILE NO.		608634	

STAGED CONSTRUCTION SUBSTRUCTURE 1 OF 2

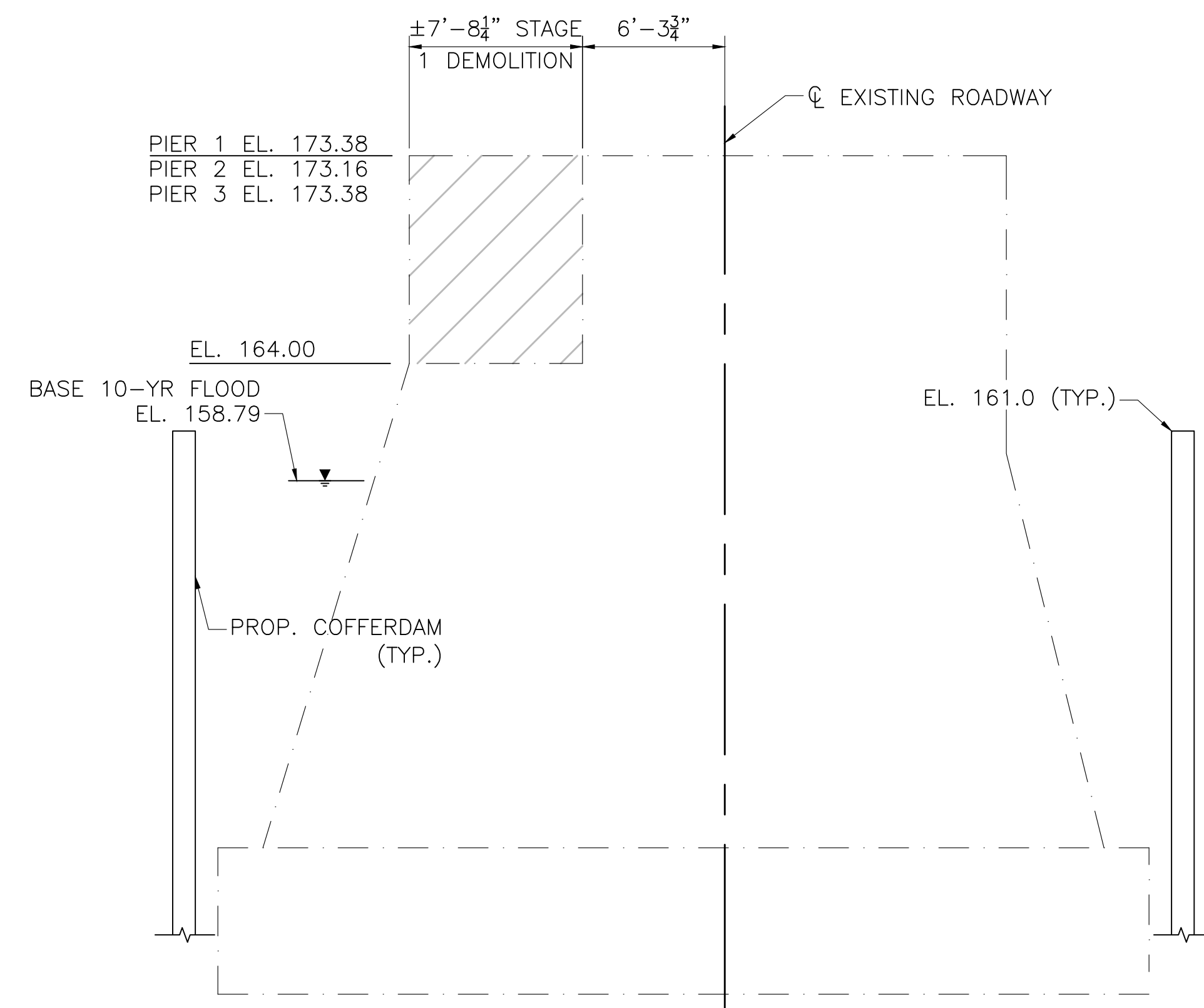
REFER TO SHEET 11 FOR GENERAL STAGED CONSTRUCTION NOTES.

PIER STAGING NOTES:

- EXISTING ELEVATIONS AND DIMENSIONS ARE TAKEN FROM SURVEY AND EXISTING PLANS FOR BIDDING PURPOSES. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND ELEVATIONS PRIOR TO STARTING WORK OR ORDER MATERIALS.
- PIER SECTIONS ARE TAKEN AT CL OF PIER.
- PIER DEMOLITION AND CONSTRUCTION ACTIVITIES SHALL BE COORDINATED WITH THE TRAFFIC MANAGEMENT, SEE HIGHWAY PLANS.
- STAGING SHOWN FOR EXISTING PIER NO. 1 DEMOLITION AND PROPOSED PIERS NO. 1 AND 2 CONSTRUCTION. DEMOLITION FOR EXISTING PIERS NO. 1, 2 AND 3 SHALL BE SIMILAR, WITH EXISTING PIER NO. 1 CUT DOWN TO 2'-0" BELOW THE MUD LINE IN THE FINAL CONDITION.

SUGGESTED SEQUENCE OF STAGE 1 SUBSTRUCTURE CONSTRUCTION:

- ESTABLISH WATER AND LAND ACCESS TO THE EXISTING BRIDGE FOR THE PROPOSED DEMOLITION AND CONSTRUCTION. BASED ON CONTRACTORS MEANS AND METHODS.
- INSTALL TEMPORARY SAFETY MEASURES UPSTREAM AND DOWNSTREAM OF THE WORK ZONE IN THE DEERFIELD RIVER TO PROTECT RECREATIONAL USERS.
- INSTALL PROPOSED COFFERDAM STRUCTURE NO. 1, 2, AND 3 AS SHOWN ON SHEET 15, AND INSTALL TEMPORARY SUPPORT OF EXCAVATION FOR EXISTING PIER NO. 1 REMOVAL, INCLUDING CONTROL OF WATER MEASURES.
- INSTALL TEMPORARY STABILIZATION OF EXISTING MASONRY ABUTMENT MEASURES, AND TEMPORARY SUPPORT OF EXCAVATION REQUIRED FOR STAGED ABUTMENT DEMOLITION AND CONSTRUCTION, INCLUDING OF WATER MEASURES.
- EXCAVATE AND DE-WATER WITHIN THE LIMITS OF COFFERDAM STRUCTURE NO. 1 THROUGH 3 FOR THE CONSTRUCTION OF PROPOSED PIER NO. 1 AND 2.
- EXCAVATE THE STAGE 1 LIMITS OF THE PROPOSED ABUTMENTS AT THE SOUTH ABUTMENT REMOVE THE EXISTING MASONRY ABUTMENT DOWN TO EL. 157.00 AND BACKFILL WITH ITEM NO. 151.2 TO THE PROPOSED BOTTOM OF FOOTING ELEVATION.
- INSTALL THE PROPOSED DRIVEN H-PILES AT THE SOUTH ABUTMENT AND PROPOSED PIER NO. 1. POUR THE MASS CONCRETE FOR PROPOSED PIER NO. 2 AS SHOWN. ITEM NO. 944.2 PRE-DRILLING FOR PILES AND ITEM NO. 944.3 DRILLING FOR PILE OBSTRUCTION TO BE USED AS APPROPRIATE FOR THE PILE INSTALLATION WORK.
- CONSTRUCT THE PROPOSED ABUTMENTS AND PIERS FOR THE STAGE 1 LIMITS SHOWN.
- PERFORM SAW CUTTING OF EXISTING PIER NO. 1, 2 AND 3 FOR STAGE 1 LIMITS AS SHOWN ON THE DRAWINGS

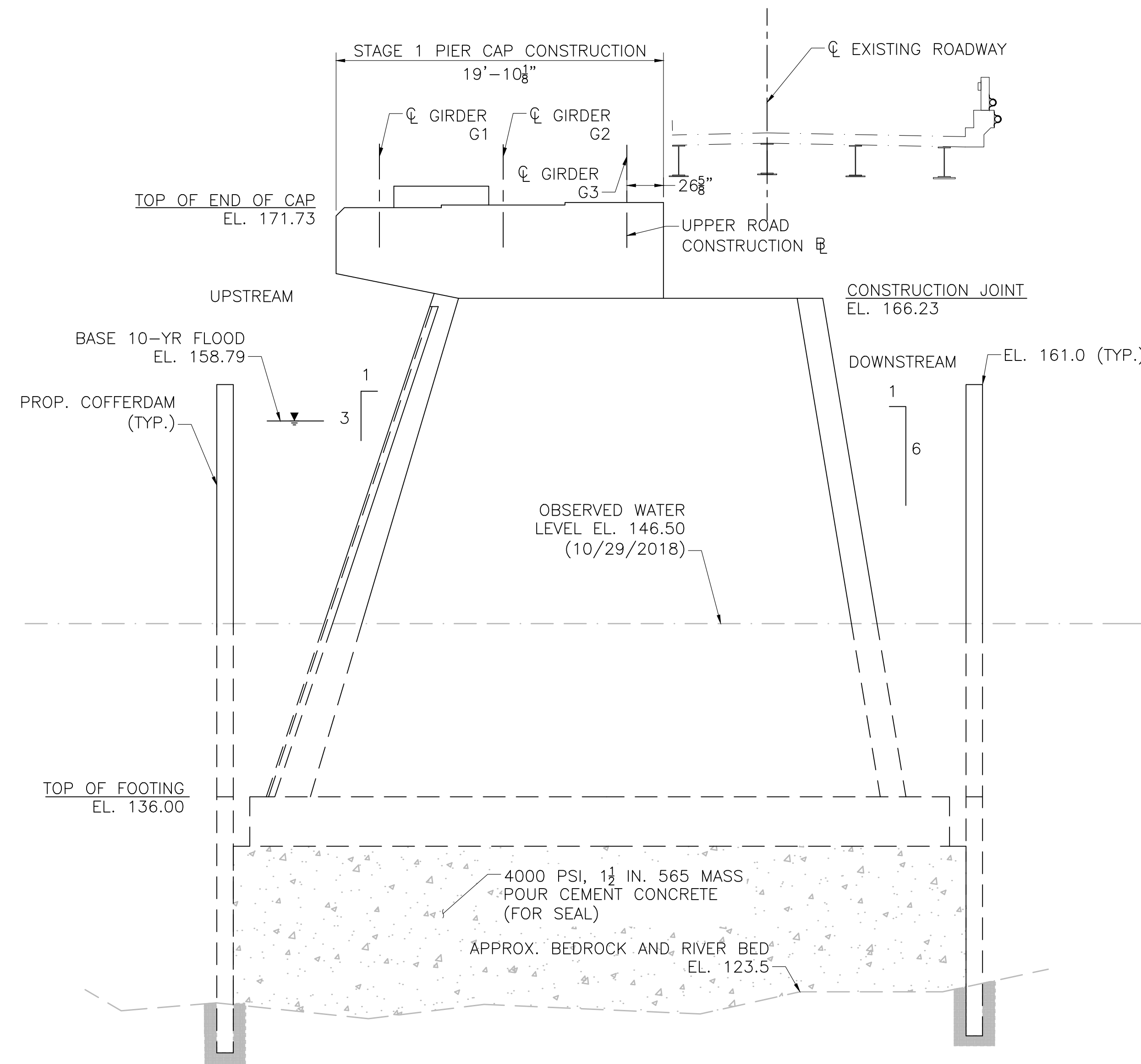


NOTE:
PIER 1 SHOWN, PIER 2 AND 3 SIMILAR. SEE SHEET 15 FOR COFFERDAM LAYOUT AT EXISTING PIERS.

LEGEND
LIMITS OF DEMOLITION

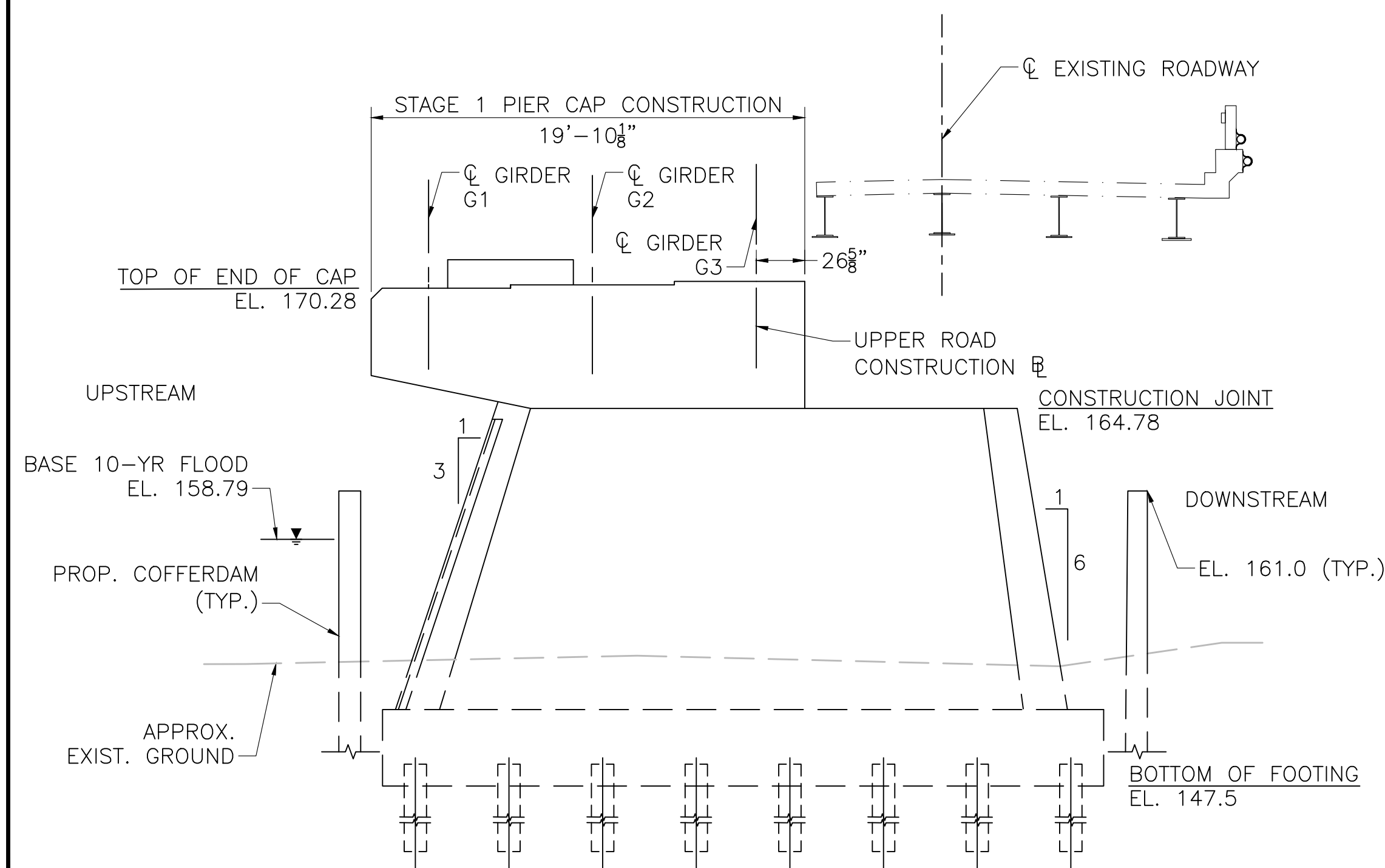
STAGE 1 DEMOLITION – EXISTING PIER I (SHOWN)

SCALE: 3/16" = 1'-0"



STAGE 1 CONSTRUCTION – PROPOSED PIER 2 ELEVATION

SCALE: 1/8" = 1'-0"



STAGE 1 CONSTRUCTION – PROPOSED PIER I ELEVATION

SCALE: 3/16" = 1'-0"

DATE	DESCRIPTION
May 30, 2026	ISSUED FOR CONSTRUCTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	50	92
PROJECT FILE NO.		608634	

STAGED CONSTRUCTION SUBSTRUCTURE 2 OF 2

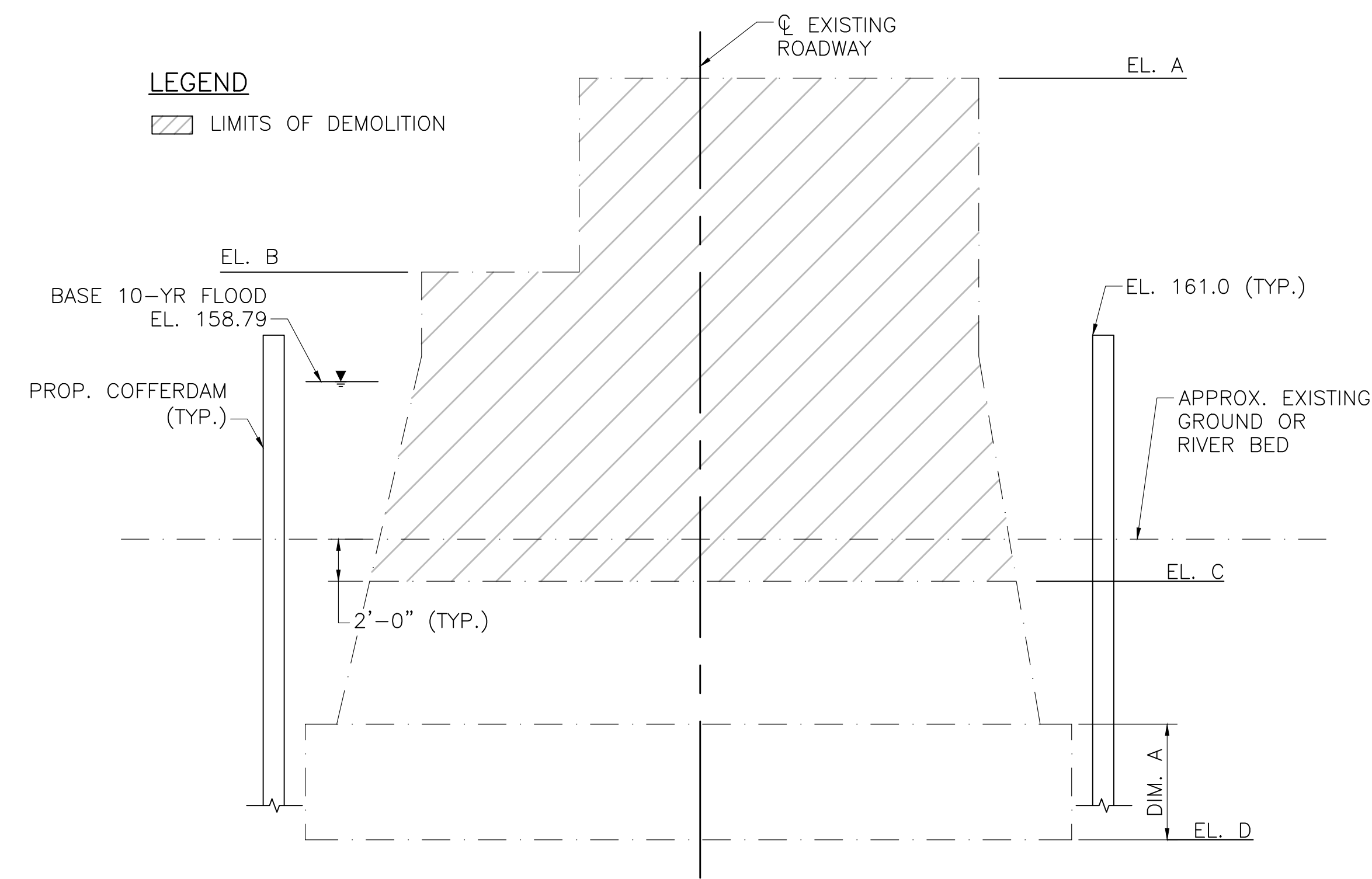
REFER TO SHEET 11 FOR GENERAL STAGED CONSTRUCTION NOTES AND SHEET 13 FOR PIER STAGING NOTES.

SUGGESTED SEQUENCE OF STAGE 2 SUBSTRUCTURE CONSTRUCTION:

1. REMOVE THE REMAINING LIMITS OF EXISTING PIER NOS. 1, 2 AND 3 AS SHOWN, CUT OFF TO MINIMUM 2- FEET BELOW THE MUDLINE.
2. CONSTRUCT THE STAGE 2 LIMITS OF THE PROPOSED ABUTMENTS AND WINGWALLS.
3. REMOVE COFFERDAMS AND TEMPORARY SUPPORT OF EXCAVATION MEASURES DOWN TO THE CUT OFF ELEVATIONS SHOWN, AND THE PORTIONS BELOW THE CUTOFF ELEVATIONS SHALL REMAIN LEFT-IN-PLACE.
4. REMOVE TEMPORARY SAFETY MEASURES FROM THE DEERFIELD RIVER TO PROTECT RECREATIONAL USERS FROM ENTERING THE WORK ZONE.

LEGEND

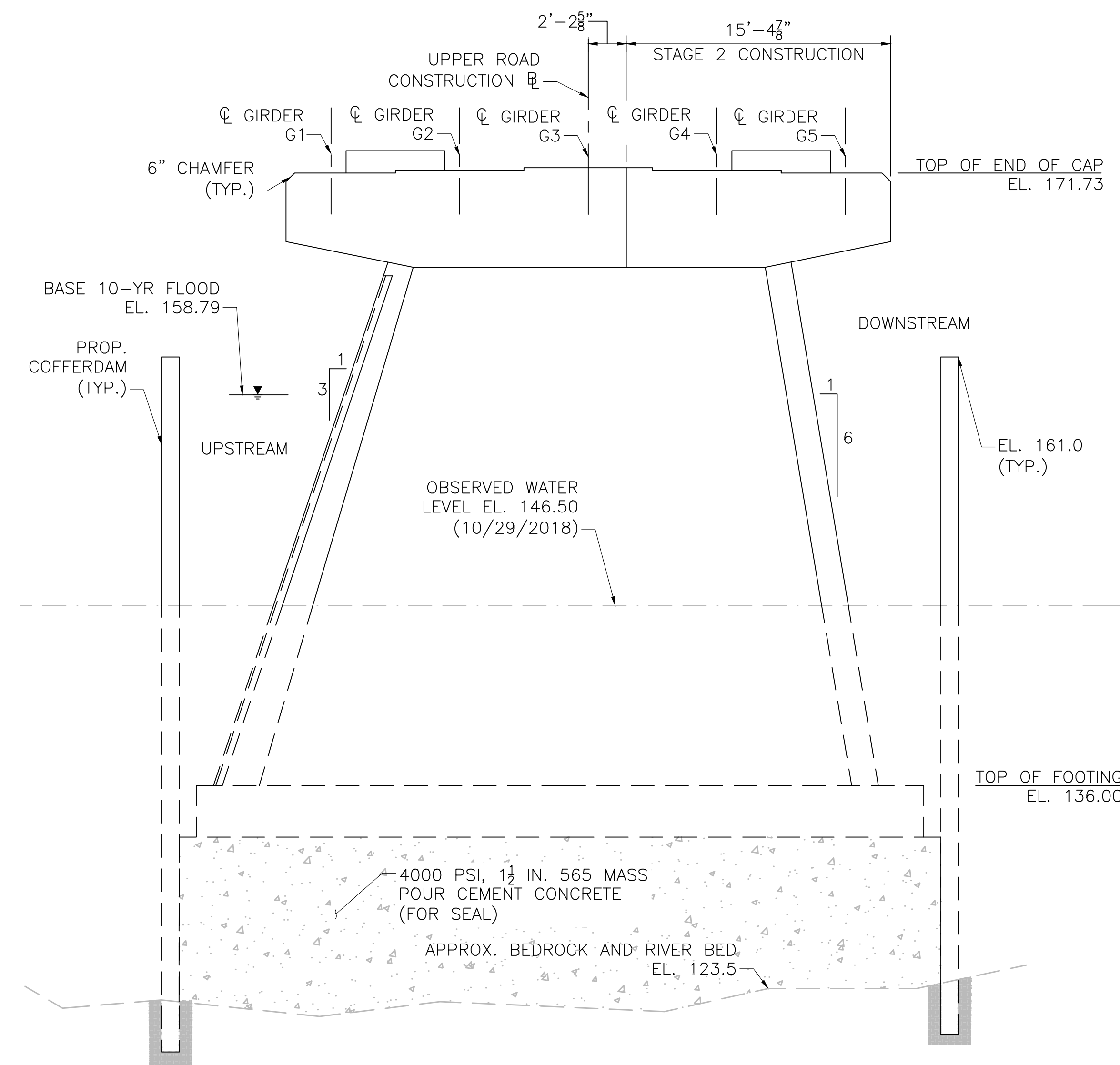
▨ LIMITS OF DEMOLITION



PIER DEMOLITION ELEVATIONS AND DIMENSIONS					
PIER	EL. A	EL. B	EL. C	EL. D	DIM. A
1	173.36 ±	164.00	149.00 ±	136.50	6'-6"
2	173.16 ±	164.00	137.00 ±	137.00	5'-0"
3	173.36 ±	164.00	130.00 ±	130.00	18'-0"

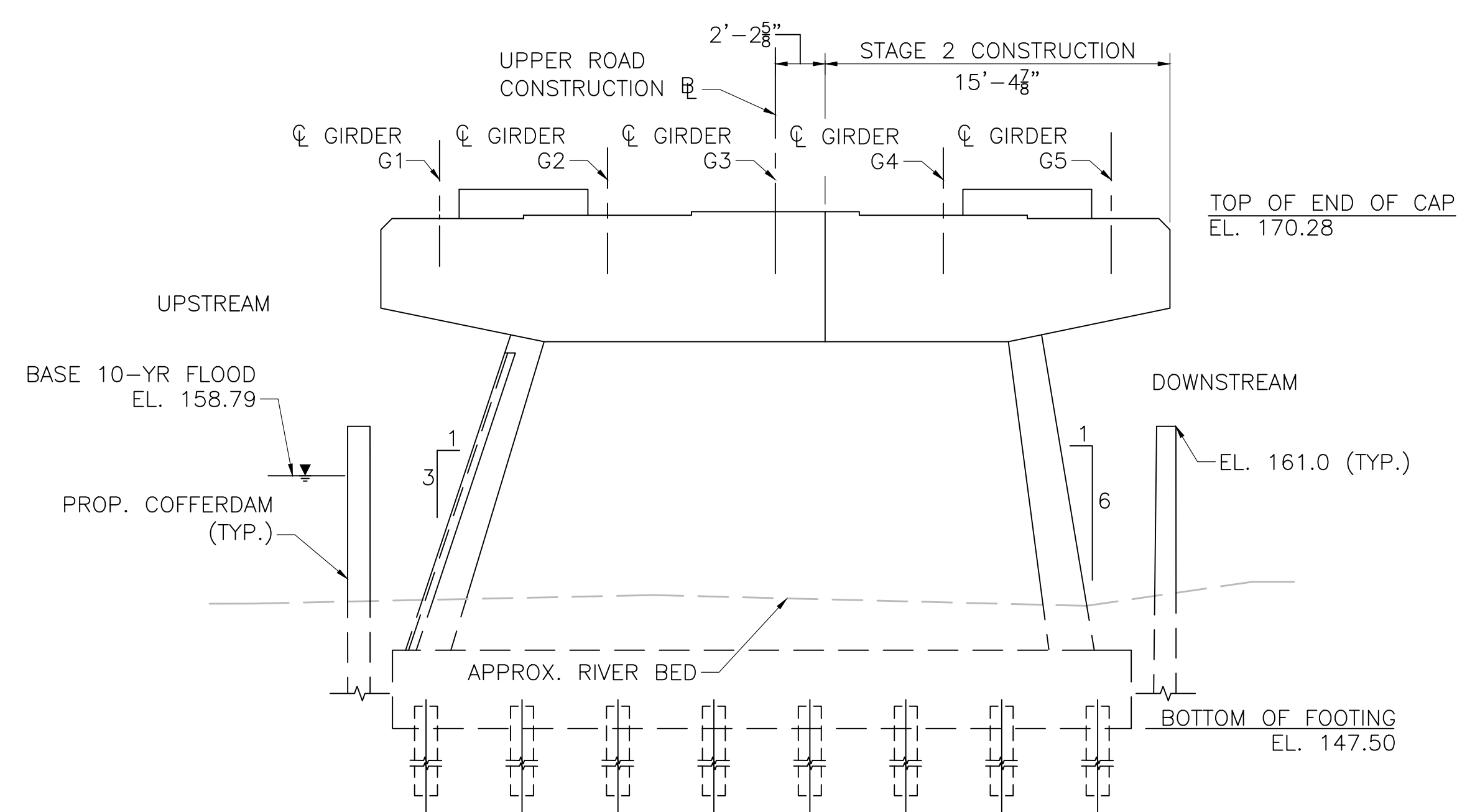
STAGE 2 DEMOLITION – EXISTING PIER 1 (SHOWN)

NOT TO SCALE



STAGE 2 CONSTRUCTION – PROPOSED PIER 2 ELEVATION

SCALE: 3/8" = 1'-0"



STAGE 2 CONSTRUCTION – PROPOSED PIER 1 ELEVATION

SCALE: 3/8" = 1'-0"

May 30, 2026	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

**DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER**


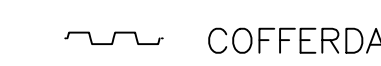

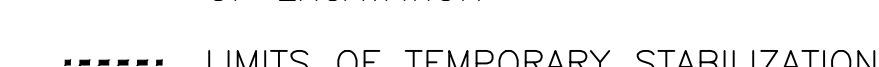
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	51	92
PROJECT FILE NO.		608634	

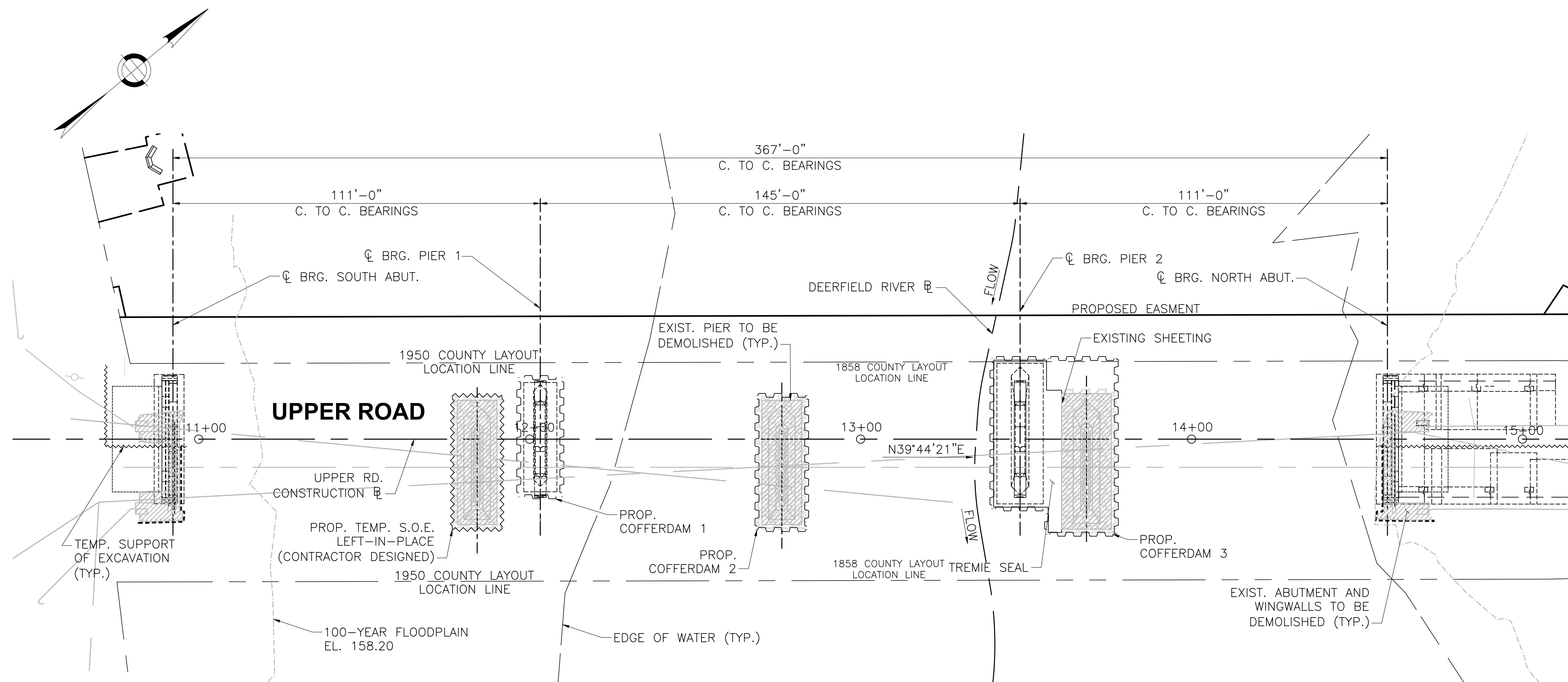
COFFERDAM LAYOUT AND DETAILS

NOTES:

1. ALL TEMPORARY WORK SHOWN IS FOR GRAPHICAL REPRESENTATION ONLY.
2. COFFERDAM STRUCTURES NUMBERS 1, 2, AND 3 SHALL BE CONTRACTOR DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SPECIAL PROVISIONS FOR ITEMS NUMBERS 990.1, 990.2, AND 990.3.
3. COFFERDAM STRUCTURES AND TEMPORARY SUPPORT OF EXCAVATION SHALL BE CUT DOWN TO THE ELEVATIONS SHOWN ON THE PLANS AND LEFT IN PLACE.
4. ALL COFFERDAM STRUCTURES TO BE DESIGNED TO ELEVATION 161.0 TO MEET HYDRAULIC REQUIREMENTS.
5. COFFERDAM STRUCTURES NO. 1 AND NO. 2 SHALL BE INSTALLED TO A MINIMUM ELEVATION OF 128.50 TO MEET SCOUR REQUIREMENTS. COFFERDAM STRUCTURE NO. 3 TO BE INSTALLED TO BEDROCK.

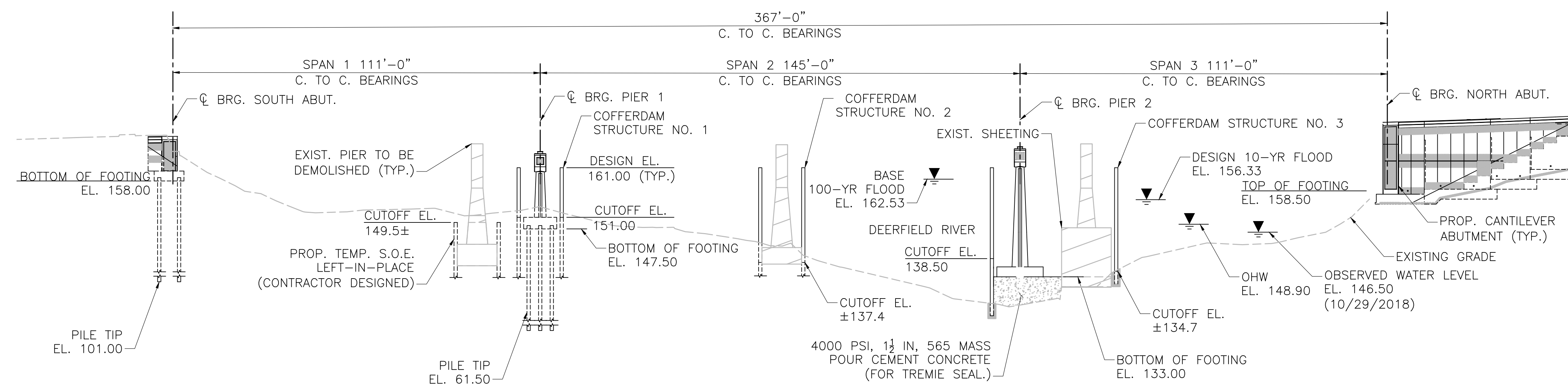
LEGEND:

-  DEMOLITION
-  COFFERDAM
-  LIMITS OF TEMPORARY SUPPORT OF EXCAVATION
-  LIMITS OF TEMPORARY STABILIZATION OF EXISTING MASONRY ABUTMENTS



COFFERDAM PLAN

SCALE: 1" = 20'



COFFERDAM LONGITUDINAL SECTION

SCALE: 1" = 20'

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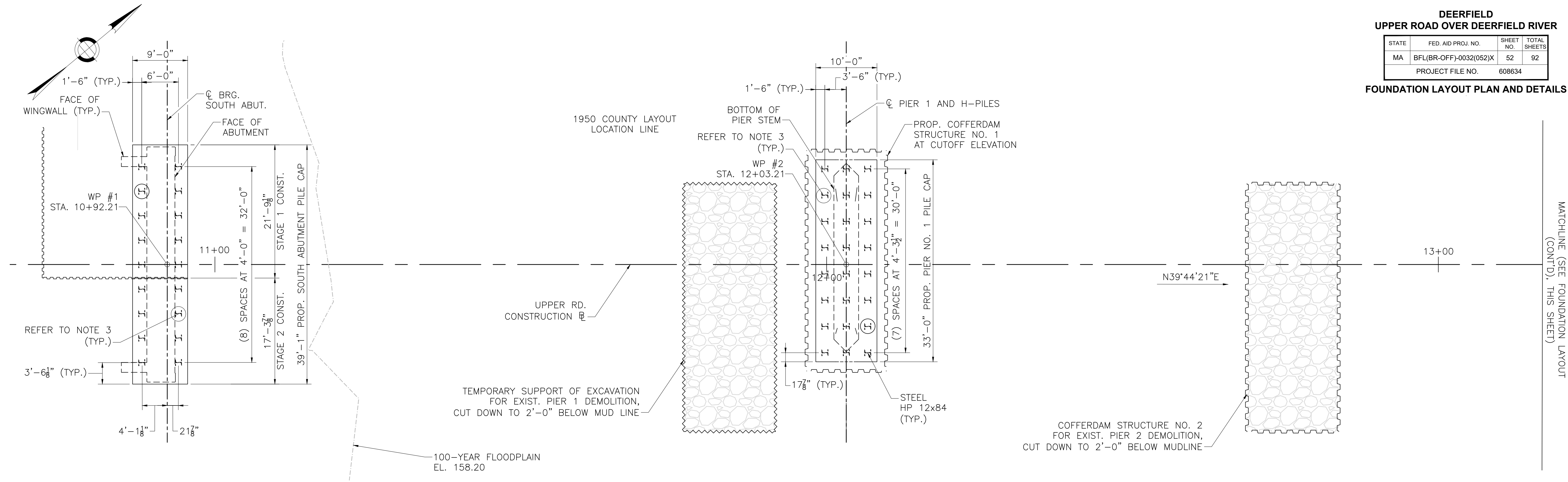
08-April-2026 Final Structural Submittal (SF)

608634_BR14.DWG Plotted on 18-May-2026 3:25 PM

DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

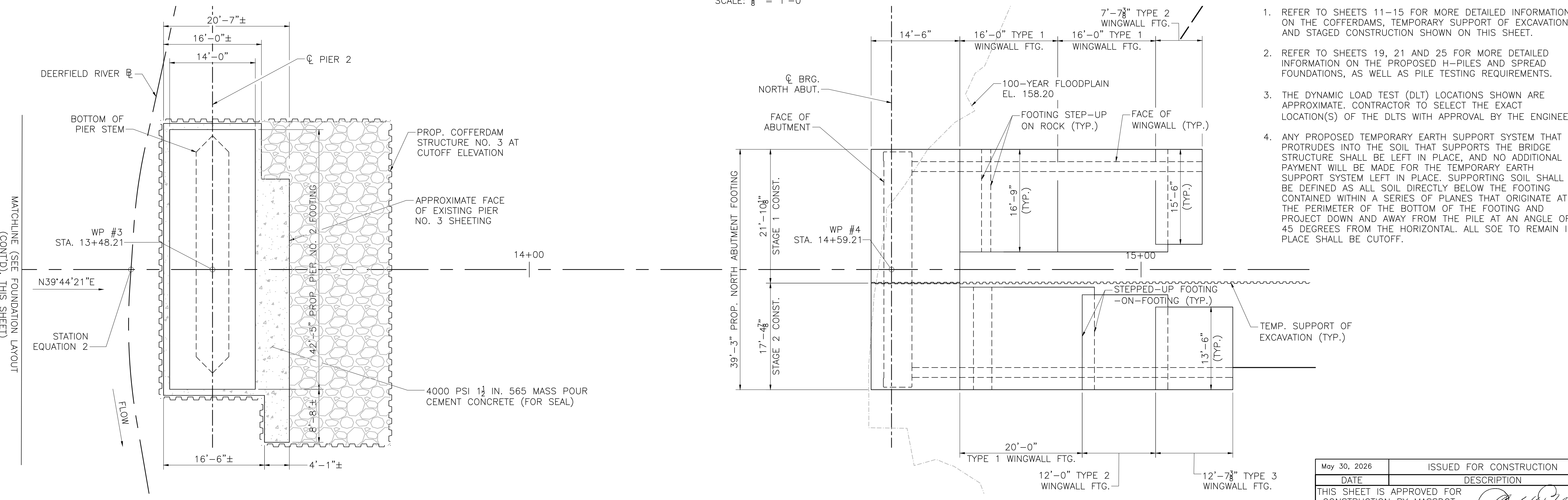
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	52	92
PROJECT FILE NO.		608634	

FOUNDATION LAYOUT PLAN AND DETAILS



FOUNDATION LAYOUT PLAN

SCALE: 1/8" = 1'-0"



- NOTES:
- REFER TO SHEETS 11-15 FOR MORE DETAILED INFORMATION ON THE COFFERDAMS, TEMPORARY SUPPORT OF EXCAVATION, AND STAGED CONSTRUCTION SHOWN ON THIS SHEET.
 - REFER TO SHEETS 19, 21 AND 25 FOR MORE DETAILED INFORMATION ON THE PROPOSED H-PILES AND SPREAD FOUNDATIONS, AS WELL AS PILE TESTING REQUIREMENTS.
 - THE DYNAMIC LOAD TEST (DLT) LOCATIONS SHOWN ARE APPROXIMATE. CONTRACTOR TO SELECT THE EXACT LOCATION(S) OF THE DLT'S WITH APPROVAL BY THE ENGINEER.
 - ANY PROPOSED TEMPORARY EARTH SUPPORT SYSTEM THAT PROTRUDES INTO THE SOIL THAT SUPPORTS THE BRIDGE STRUCTURE SHALL BE LEFT IN PLACE, AND NO ADDITIONAL PAYMENT WILL BE MADE FOR THE TEMPORARY EARTH SUPPORT SYSTEM LEFT IN PLACE. SUPPORTING SOIL SHALL BE DEFINED AS ALL SOIL DIRECTLY BELOW THE FOOTING CONTAINED WITHIN A SERIES OF PLANES THAT ORIGINATE AT THE PERIMETER OF THE BOTTOM OF THE FOOTING AND PROJECT DOWN AND AWAY FROM THE PILE AT AN ANGLE OF 45 DEGREES FROM THE HORIZONTAL. ALL SOE TO REMAIN IN PLACE SHALL BE CUTOFF.

STATION EQUATION 2: UPPER ROAD @ STA. 13+34.28
= DEERFIELD RIVER @ STA. 14+78.39

FOUNDATION LAYOUT PLAN (CONT'D)

SCALE: 1/8" = 1'-0"

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608634_BR16.DWG Plotted on 18-May-2026 3:25 PM

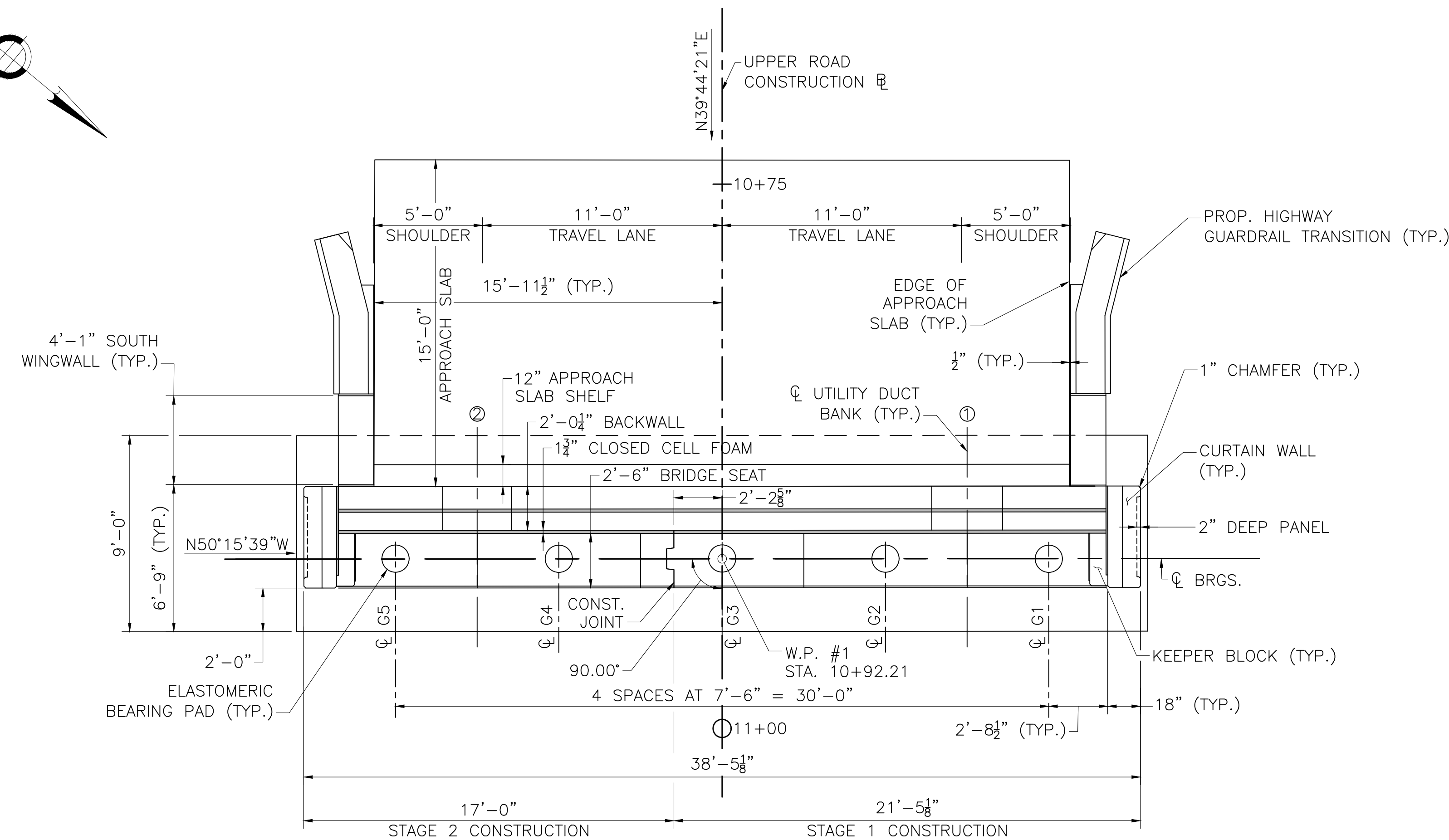
08-April-2026

Final Structural Submission (SF)

DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

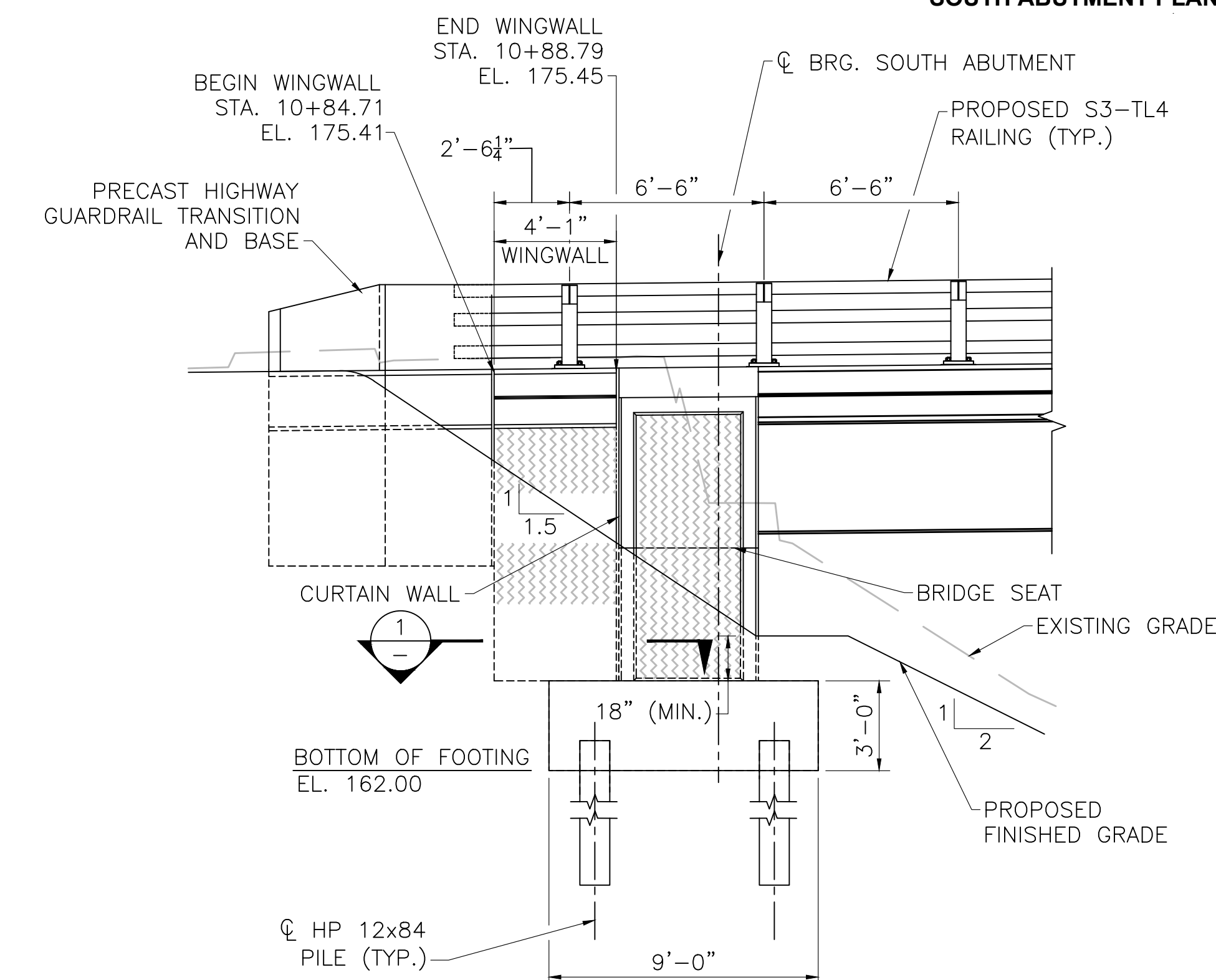
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	53	92
PROJECT FILE NO.		608634	

SOUTH ABUTMENT PLAN AND ELEVATION



SOUTH ABUTMENT - PLAN

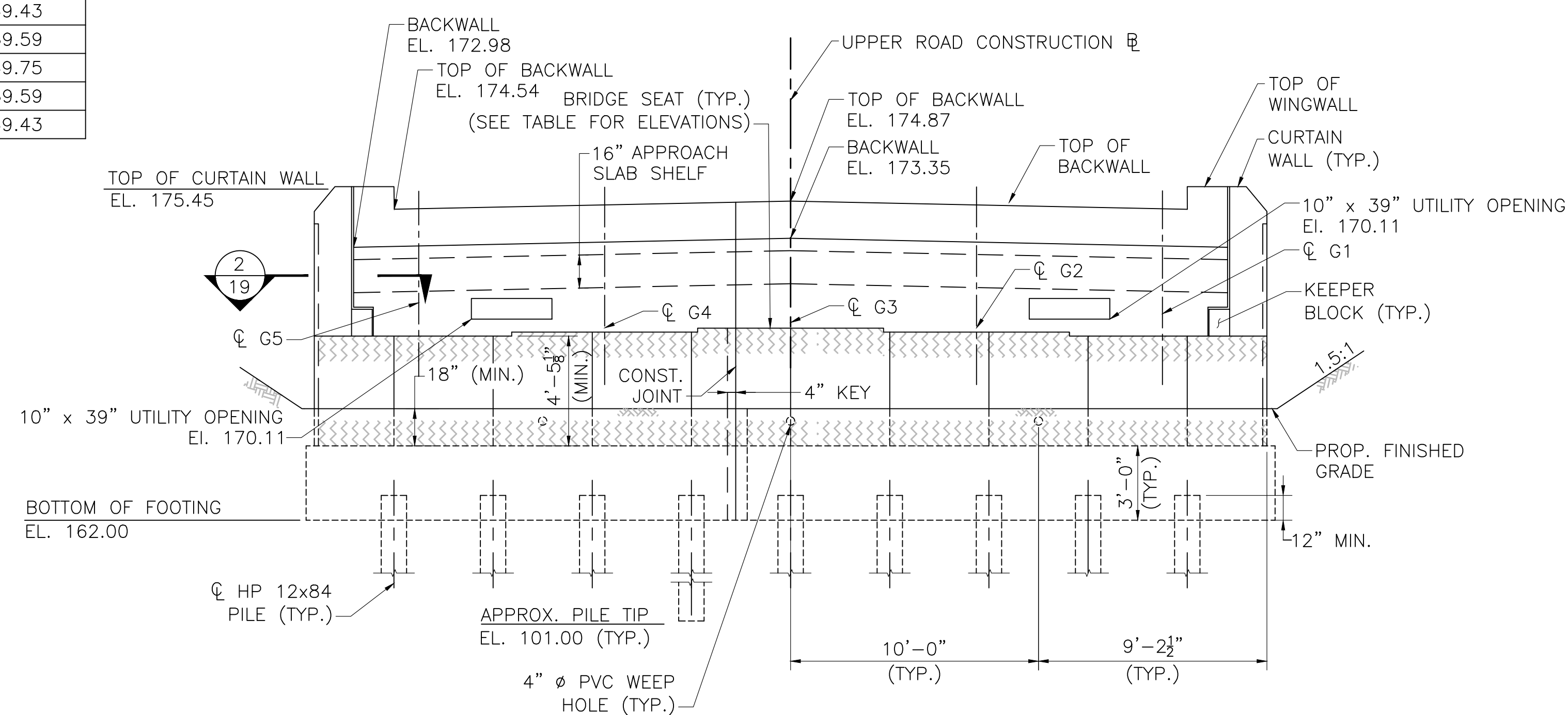
SCALE: 1/4" = 1'-0"



SOUTH ABUTMENT - TYPICAL WINGWALL ELEVATION

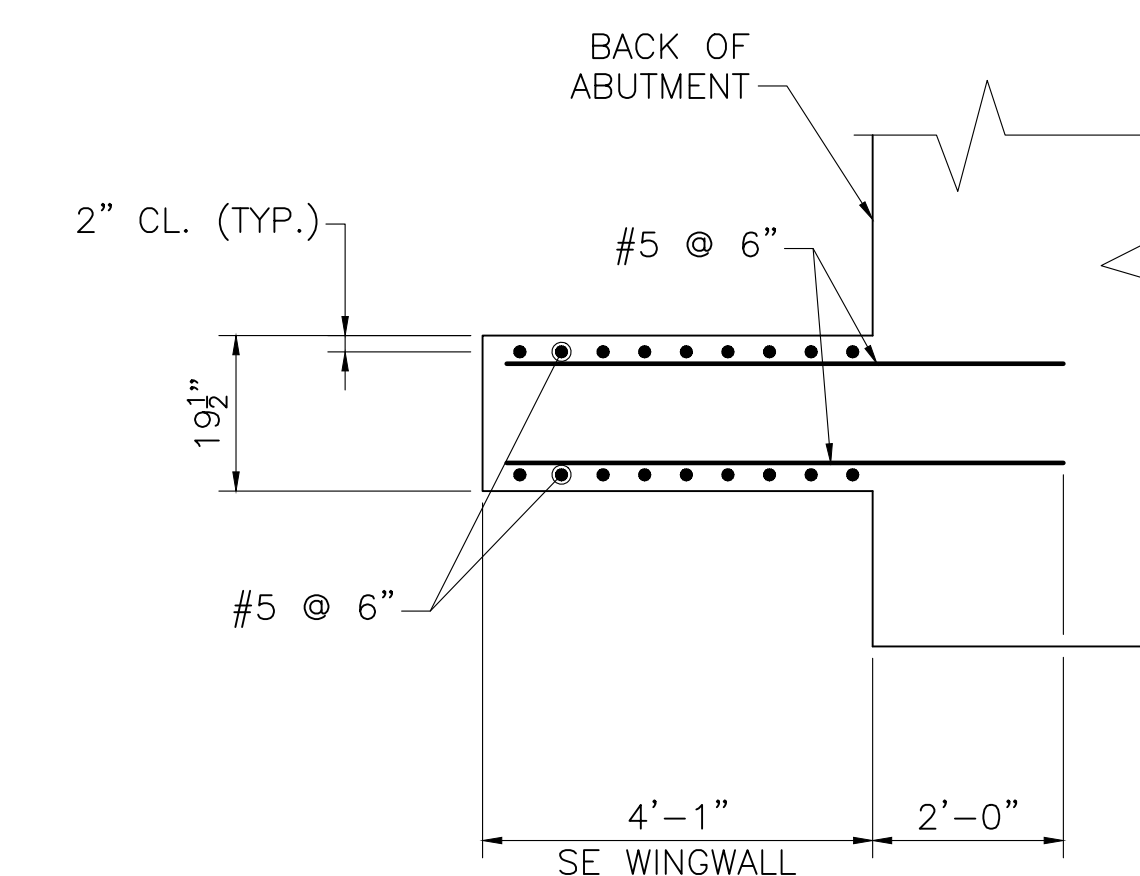
SCALE: 1/2" = 1'-0"

BRIDGE SEAT ELEVATIONS	
G1	169.43
G2	169.59
G3	169.75
G4	169.59
G5	169.43



SOUTH ABUTMENT - ELEVATION

SCALE: 1/4" = 1'-0"



NOTE:
ABUTMENT REINFORCING NOT SHOWN FOR CLARITY.

SECTION 1
SCALE: 1/2" = 1'-0"

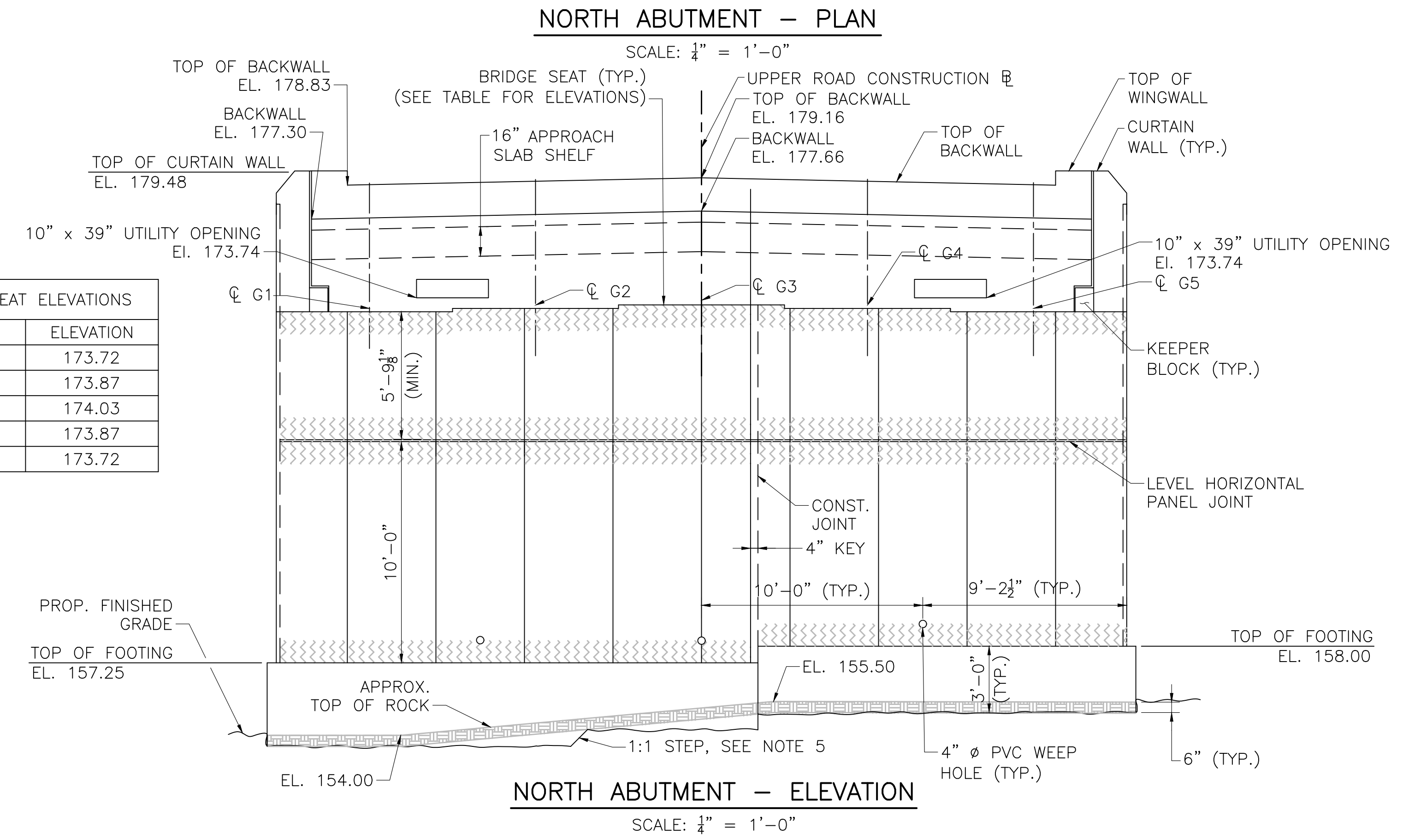
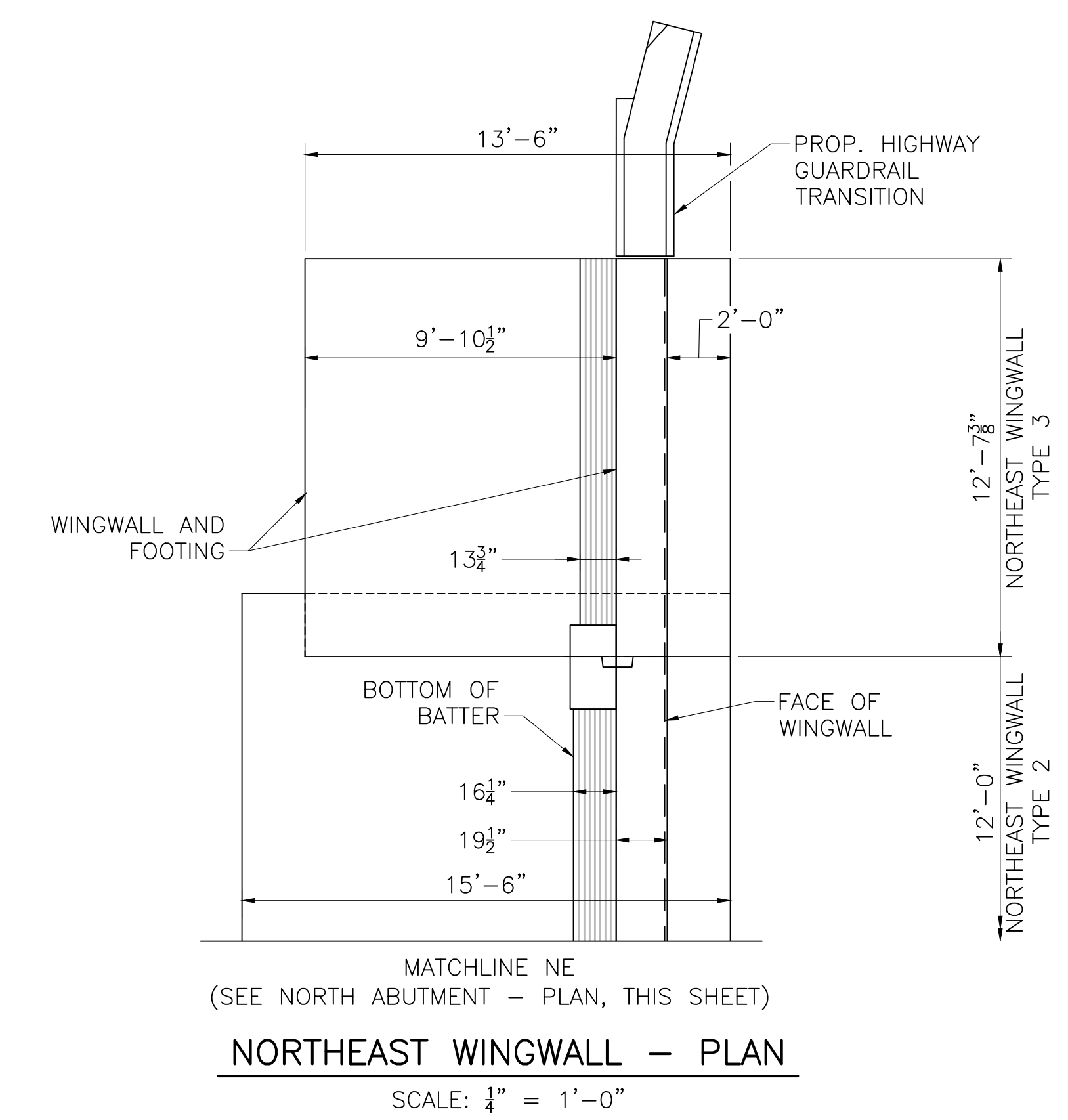
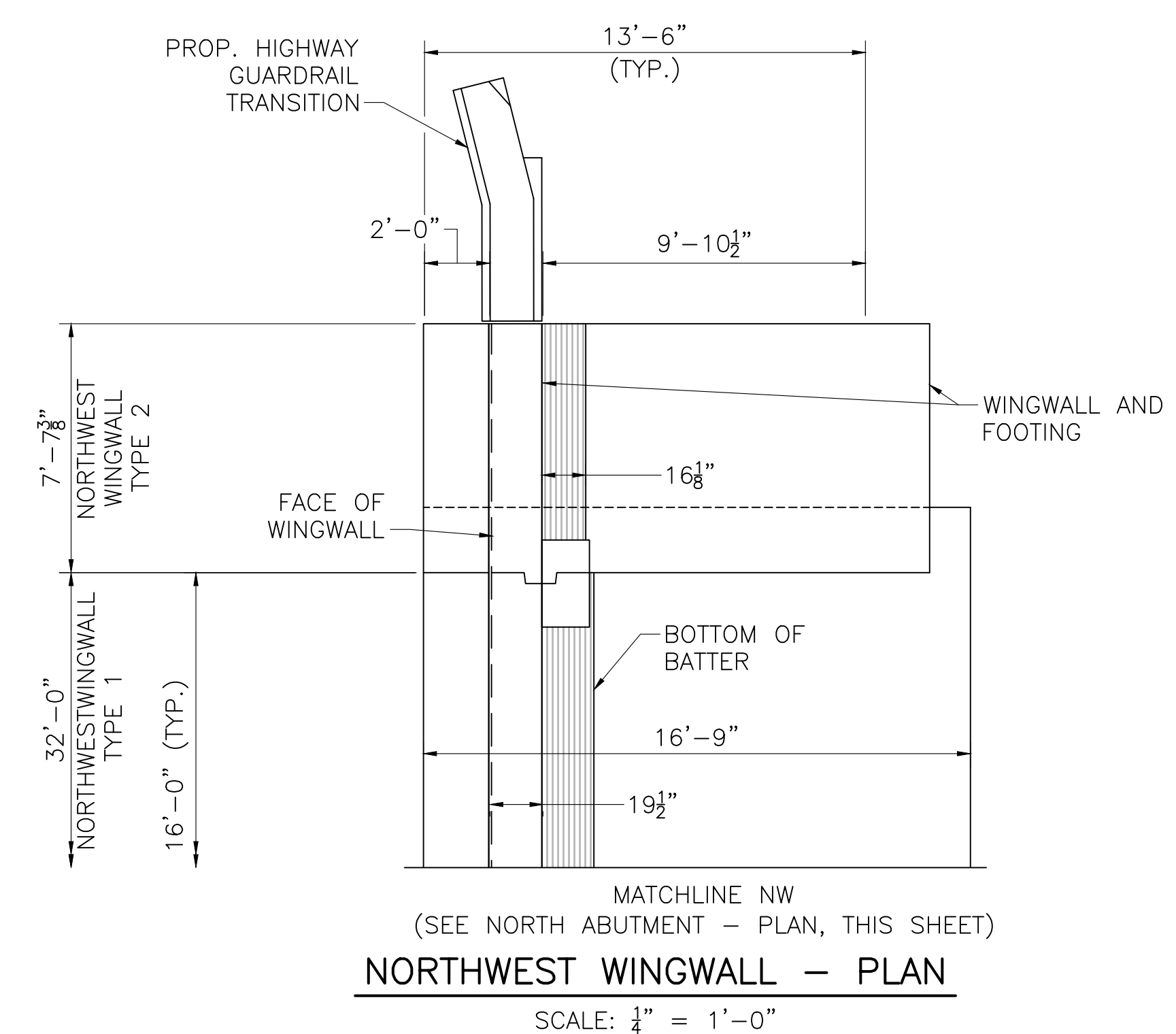
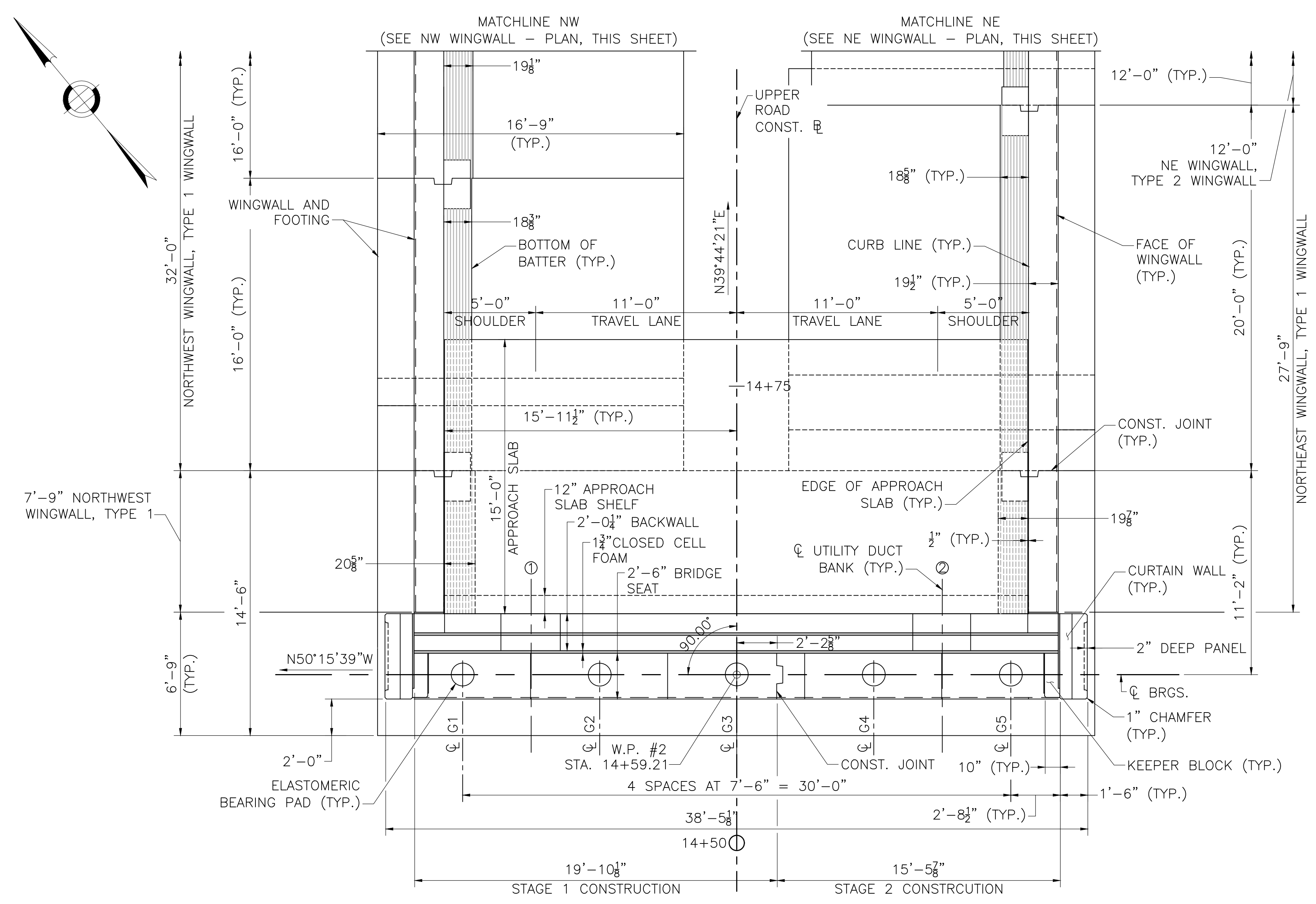
NOTES:

- BRIDGE SEAT ELEVATIONS ARE SHOWN AT CENTERLINE OF BEARINGS.
- BACKWALL ELEVATIONS ARE SHOWN AT FACE OF BACKWALL.

UTILITY DESCRIPTIONS:

- (1) - 4" DIA. MCI FIBER OPTIC CONDUIT
- (2) - 4" DIA. VERIZON CONDUIT
- (2) - 4" DIA. COMCAST CONDUIT
- (4) - 5" DIA. ELECTRIC CONDUIT

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BRIDGE SEAT ELEVATIONS	
GIRDER	ELEVATION
G1	173.72
G2	173.87
G3	174.03
G4	173.87
G5	173.72

- NOTES:**
- BRIDGE SEAT ELEVATIONS ARE SHOWN AT CENTERLINE OF BEARINGS.
 - BACKWALL ELEVATIONS ARE SHOWN AT FACE OF BACKWALL.
 - SEE SHEET 10 FOR S3-MTL4 RAILING POST SPACING OVER THE BRIDGE AND OVER THE WINGWALLS.
 - SEE SHEET 22 FOR NORTHWEST AND NORTHEAST WINGWALL ELEVATIONS.
 - PROPOSED FOOTING STEP SHALL BE LOCATED BASED ON THE BEDROCK PROFILE TO PROVIDE THE 6" MINIMUM KEY PER DETAIL ON SHEET 22.

- UTILITY DESCRIPTIONS:**
- (1) - 4" DIA. MCI FIBER OPTIC CONDUIT
(2) - 4" DIA. VERIZON CONDUIT
(2) - 4" DIA. COMCAST CONDUIT
 - (4) - 5" DIA. ELECTRIC CONDUIT

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USE ONLY PRINTS OF LATEST DATE	

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608634_BR18.DWG Plotted on 18-May-2026 3:26 PM

08-April-2026

Final Structural Submittal (SF)

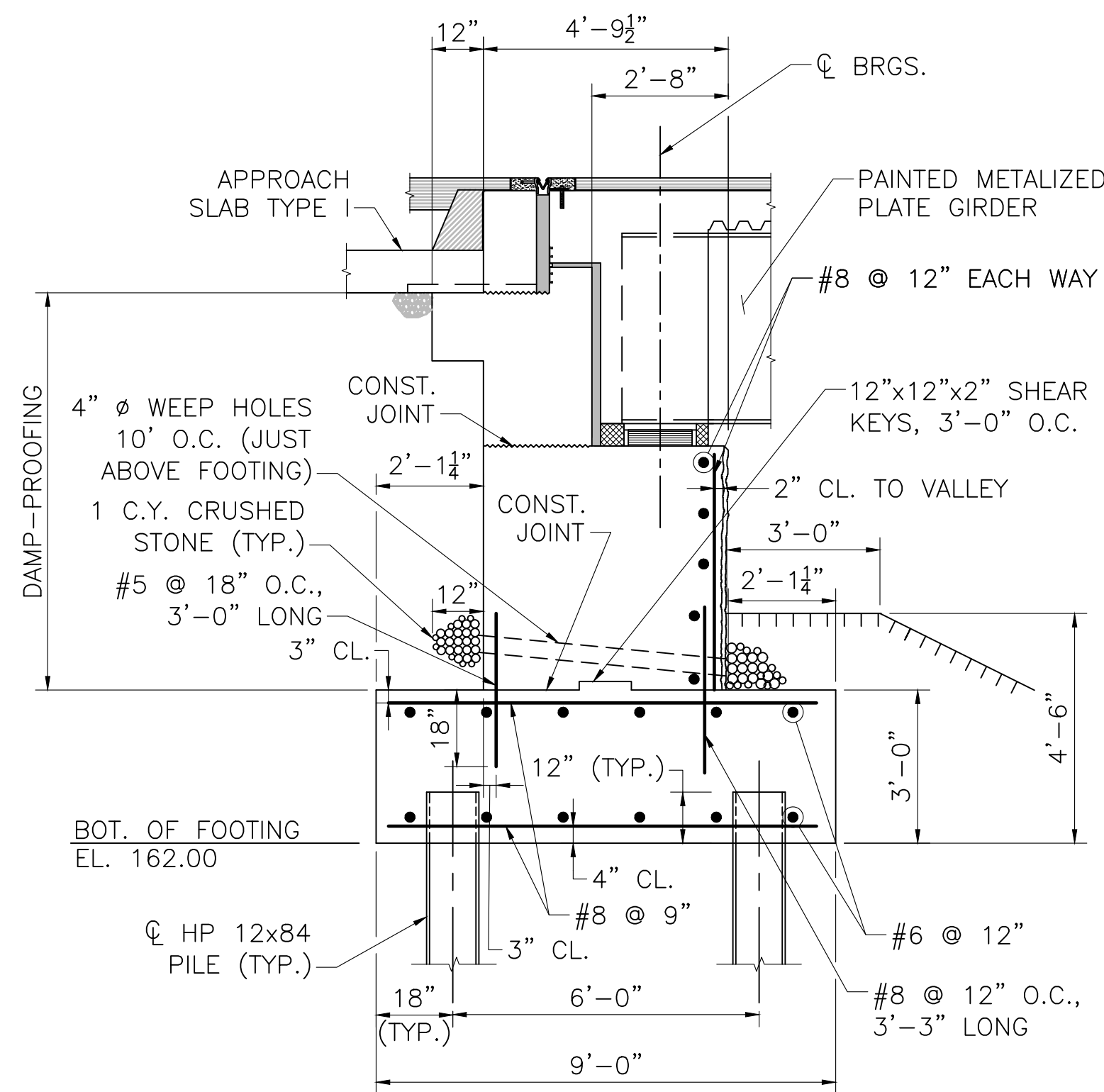
DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	55	92
PROJECT FILE NO.		608634	

ABUTMENT SECTIONS

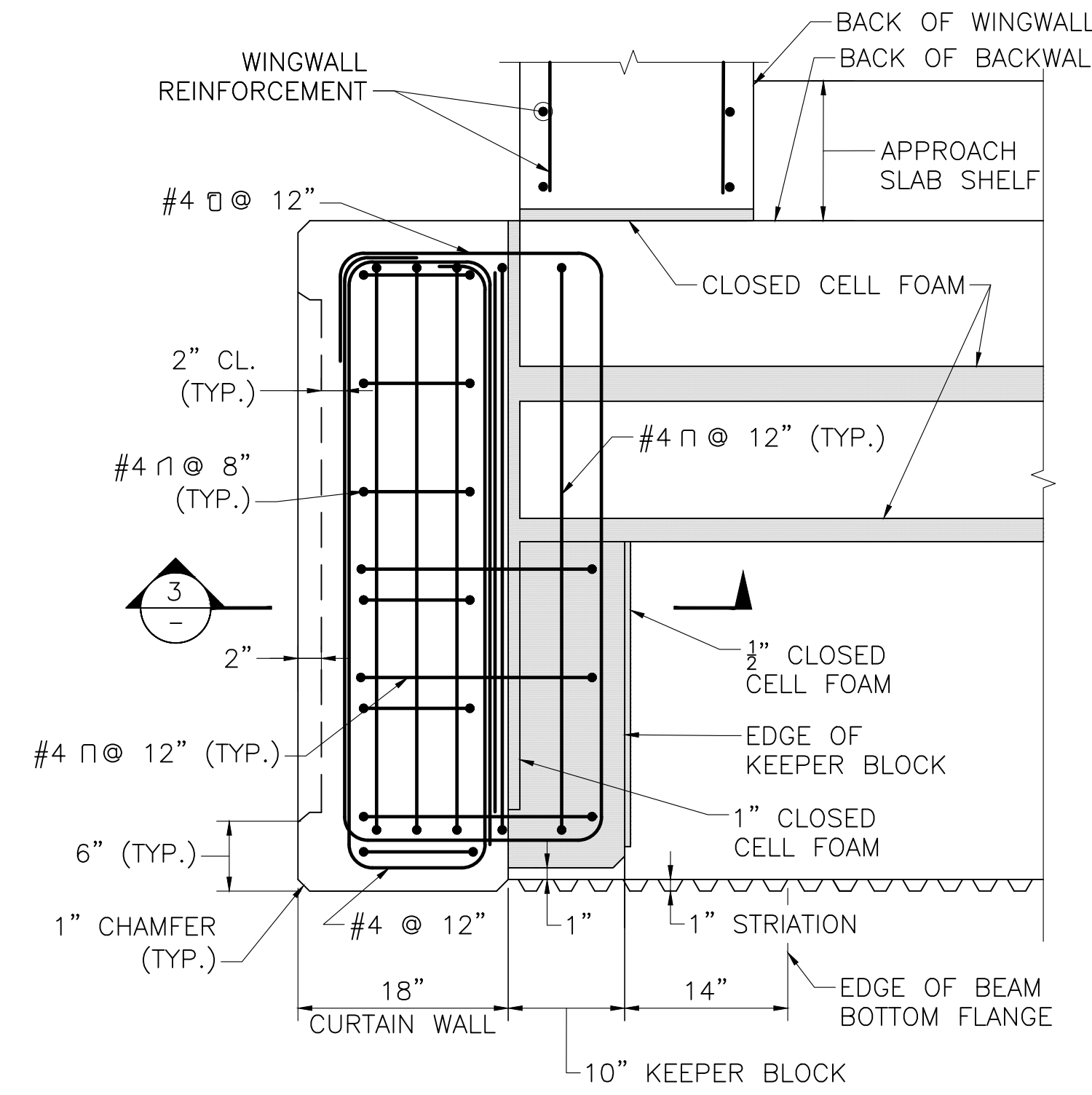
ABUTMENT SECTION NOTES:

- 4" Ø WEEP HOLES 10'-0" O.C. LOCATED 12" ABOVE THE HEEL OF THE FOOTING SLOPING 1" PER FOOT TOWARDS THE FRONT FACE. PROVIDE 1 CUBIC YARD OF CRUSHED STONE AT EACH END OF WEEP HOLE.
- EXTEND EVERY OTHER BAR FULL LENGTH AS SHOWN.
- FOR THE NORTH ABUTMENT, THE FACTORED BEARING PRESSURE = 9.8 KSF AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATION STRENGTH I LOAD COMBINATION.
FACTORED BEARING RESISTANCE = 17.3 KSF. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45.
- FOR THE SOUTH ABUTMENT, THE FACTORED AXIAL DESIGN LOAD PER PILE IS 115.0 KIPS AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION.
- PILES SHALL CONFORM TO AASHTO M270 GRADE 50.
- HEAVY DUTY PILE SHOES SHALL BE INSTALLED ON THE TIPS OF ALL PILES. PREFABRICATED PILE SHOES MAY BE USED IF APPROVED BY THE ENGINEER.
- ALL PILE SPLICES SHALL BE EITHER BUTT JOINTS MADE USING COMPLETE JOINT PENETRATION WELDS OR MECHANICAL TYPE SPLICERS INSTALLED IN ACCORDANCE WITH THE APPROVED INSTALLATION NOTES, ALL SPLICE WELDS WITHIN 34.5 FEET FROM THE SOUTH ABUTMENT SHALL BE 100% INSPECTED USING UT.
- THE FACTORED GEOTECHNICAL PILE RESISTANCE IS 120.0 KIPS AND IS THE PRODUCT OF THE NOMINAL GEOTECHNICAL RESISTANCE OF 266.7 KIPS AND A RESISTANCE FACTOR OF 0.45. THE ESTIMATED TIP ELEVATION IS 101.0 FEET.
- DETERMINATION OF THE DRIVEN PILE RESISTANCE, PILE DRIVING CRITERIA, AND PILE INTEGRITY SHALL BE PERFORMED ON THE FIRST PILE INSTALLED FOR EACH PHASE OF SOUTH ABUTMENT CONSTRUCTION USING DYNAMIC TESTING WITH A RESISTANCE FACTOR OF 0.65. PILES SHALL BE INSTALLED TO ACHIEVE A FACTORED DRIVEN RESISTANCE EQUAL TO OR GREATER THAN THE FACTORED AXIAL DESIGN LOAD NEGLECTING AN ESTIMATED 5.95 KIPS OF SIDE RESISTANCE THAT WILL BE LOST DUE TO 15.30 FEET OF DESIGN SCOUR.
- THE CONTRACTOR SHALL SUBMIT A PILE SCHEDULE, PILE INSTALLATION, AND PILE DRIVING/TESTING PLAN FOR REVIEW AND APPROVAL BY THE ENGINEER.
- AFTER PILE DRIVING IS COMPLETE, THE CONTRACTOR SHALL SUBMIT PILE DRIVING LOGS INCLUDING THE FINAL TIP ELEVATIONS AND THE RESULTS OF ANY DYNAMIC OR STATIC LOAD TESTING. SIGNIFICANT DEVIATIONS SHALL BE NOTED AS REVISIONS ON THE CONSTRUCTION DRAWINGS.
- ALL PROPOSED H-PILES SHALL BE INSTALLED WITH A PILE SHOE ITEM NO. 948.5.
- PROPOSED PILES TO BE INSTALLED UTILIZING ITEM NO. 944.2 PRE-DRILLING FOR PILES AND ITEM NO. 944.3 DRILLING FOR PILE OBSTRUCTION AS APPROPRIATE AND IN ACCORDANCE WITH THE SPECIFICATION REQUIREMENTS.



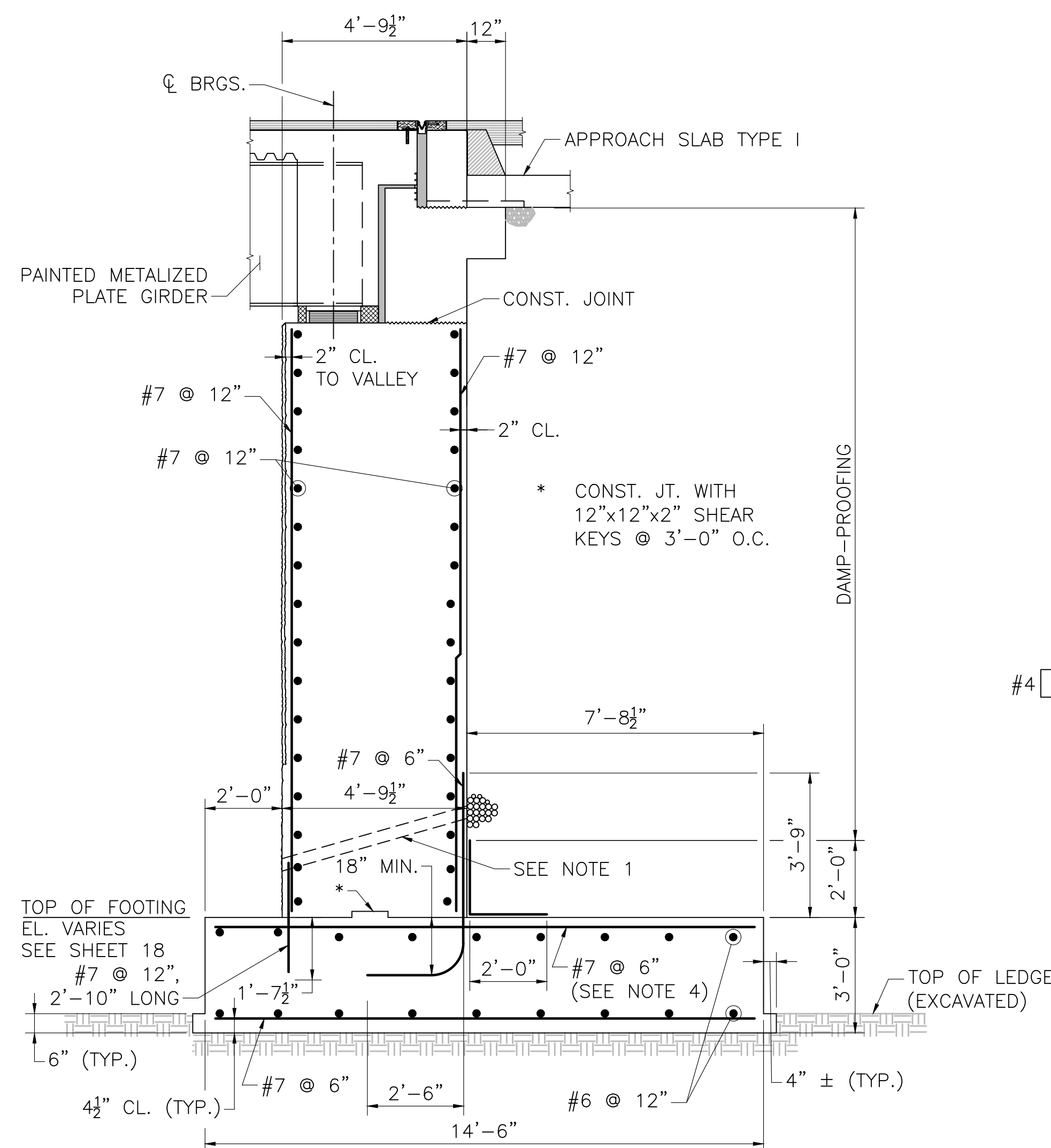
TYPICAL SOUTH ABUTMENT SECTION

SCALE: 3/8" = 1'-0"



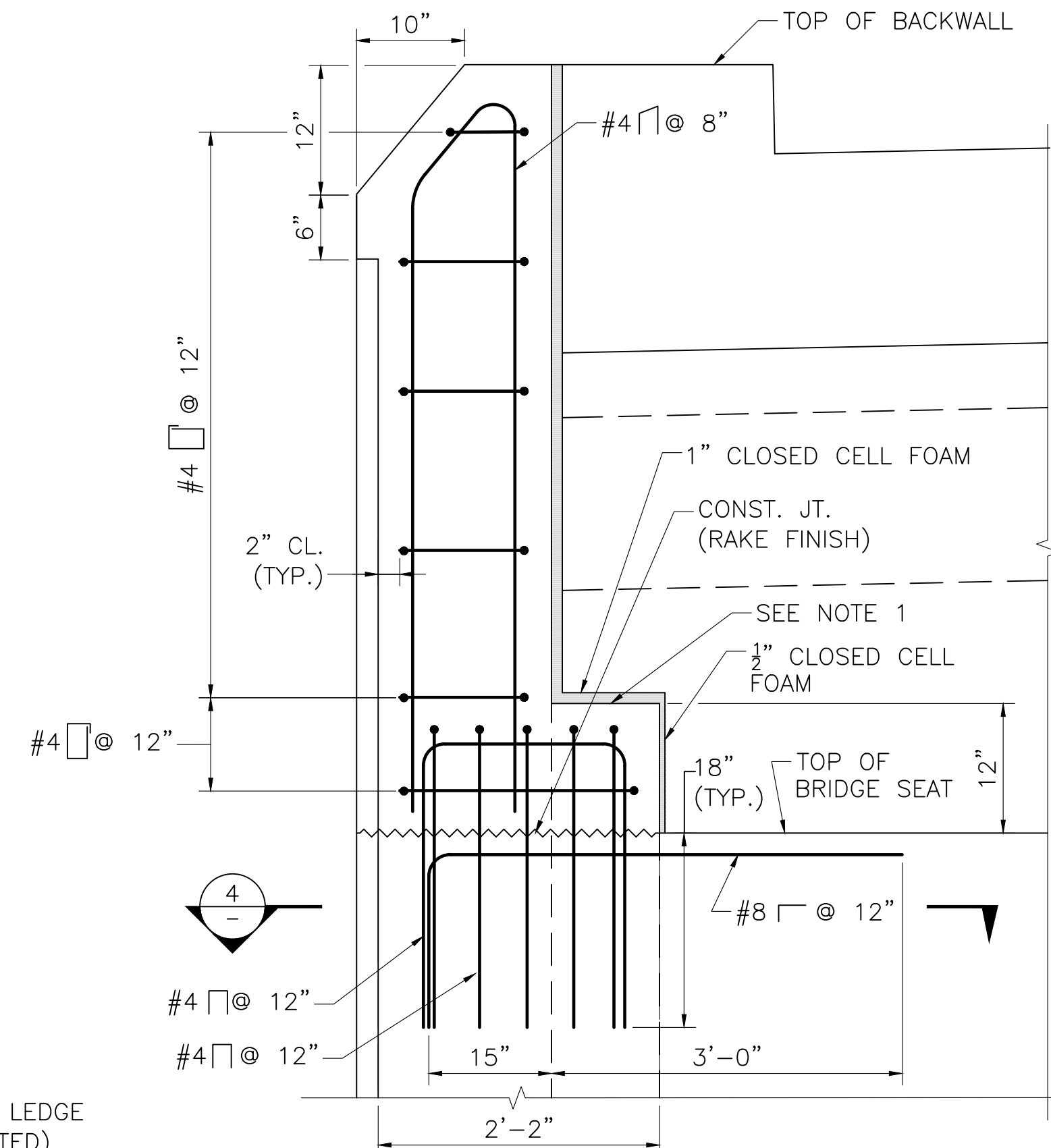
SECTION 2

SCALE: 1" = 1'-0"



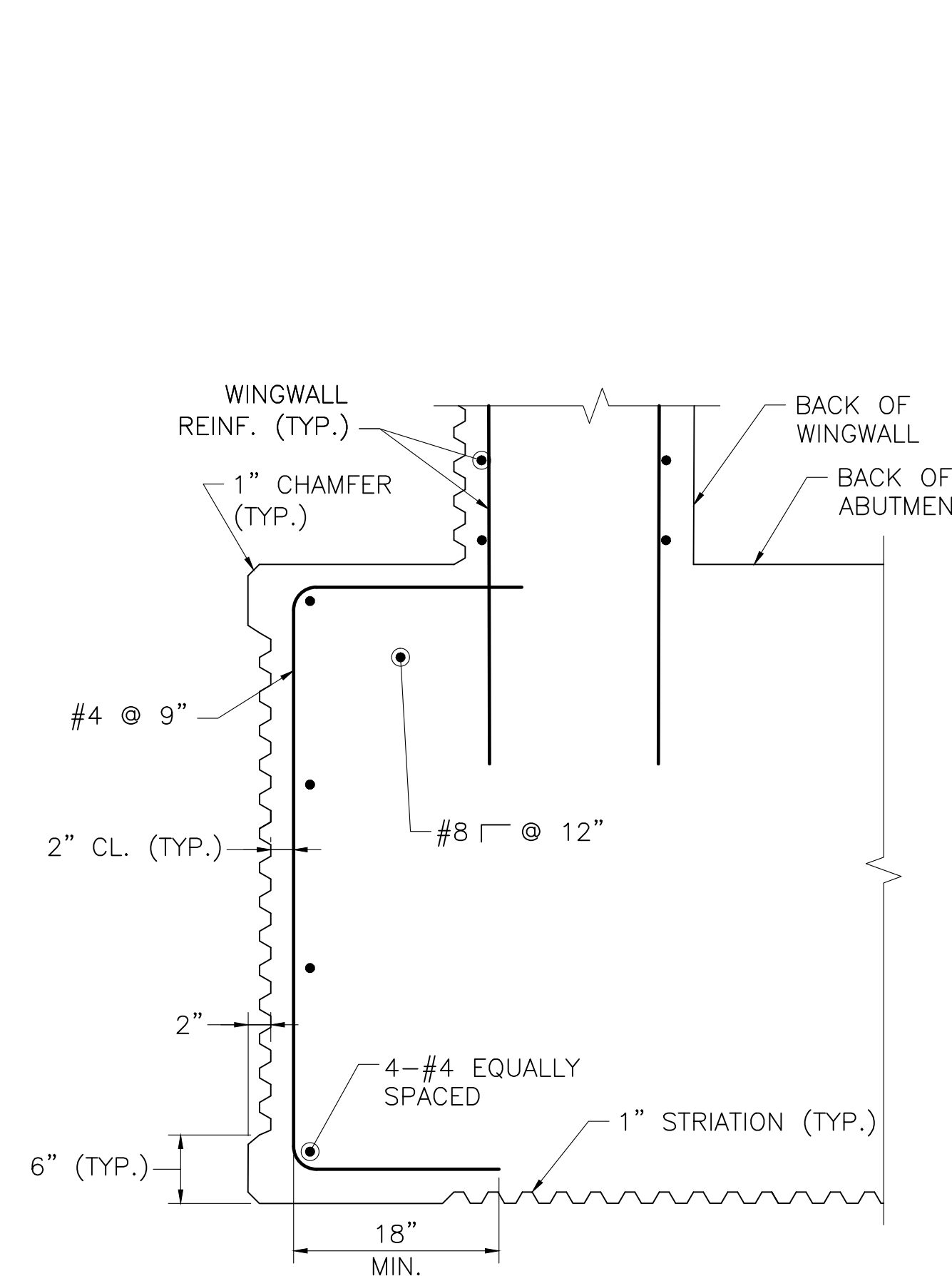
TYPICAL NORTH ABUTMENT SECTION

SCALE: 3/8" = 1'-0"



SECTION 3

SCALE: 1" = 1'-0"



SECTION 4

SCALE: 1" = 1'-0"

- NOTES:
- TOP OF KEEPER BLOCK SHALL BE TROWELED SMOOTH PARALLEL TO PROFILE GRADE.
 - ABUTMENT REINFORCEMENT BELOW CONSTRUCTION JOINT HAS BEEN OMITTED FOR CLARITY.

- NOTES:
- ABUTMENT REINFORCEMENT HAS BEEN OMITTED FOR CLARITY.

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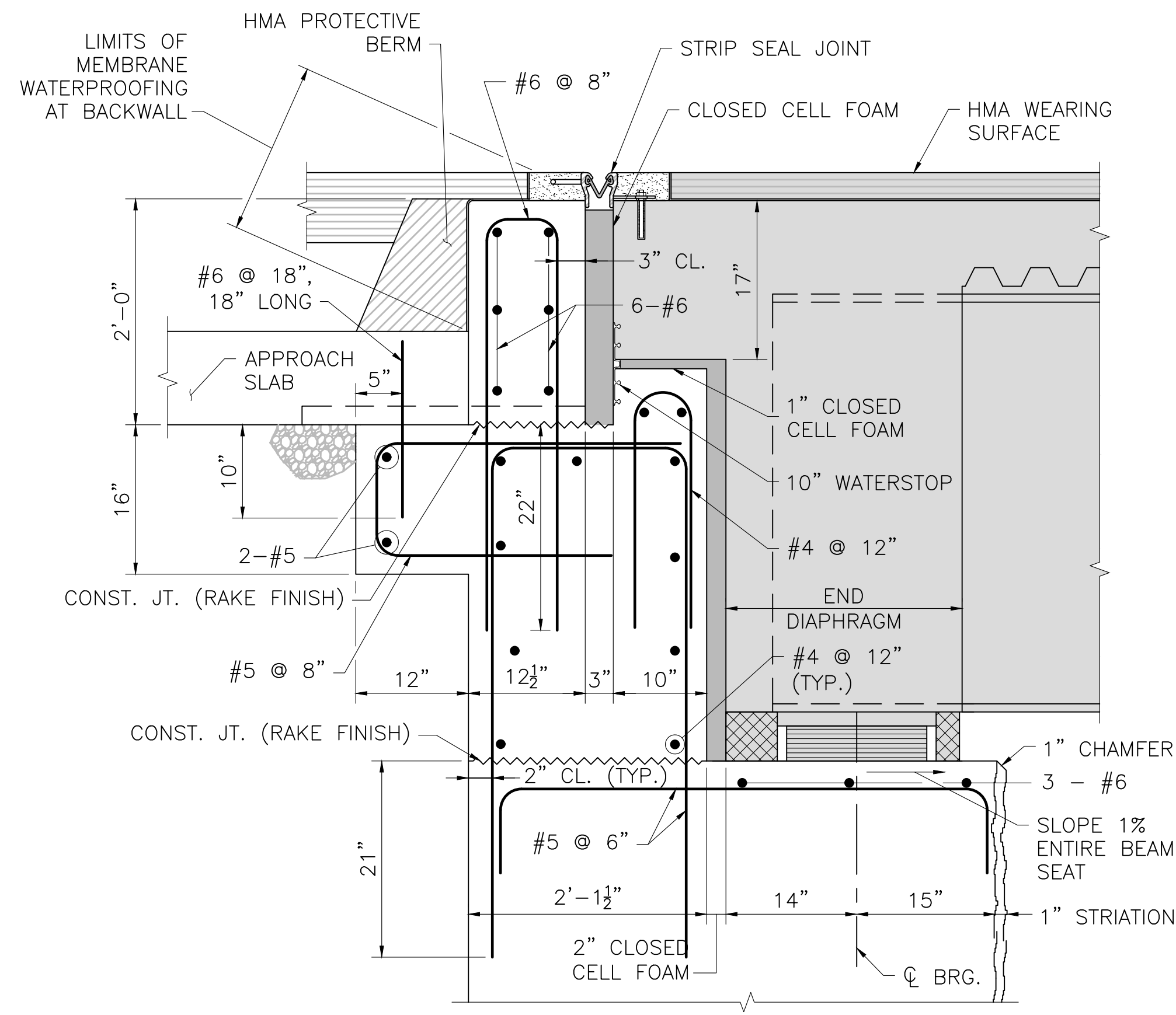
**DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	56	92
PROJECT FILE NO.			608634

ABUTMENT DETAILS 1

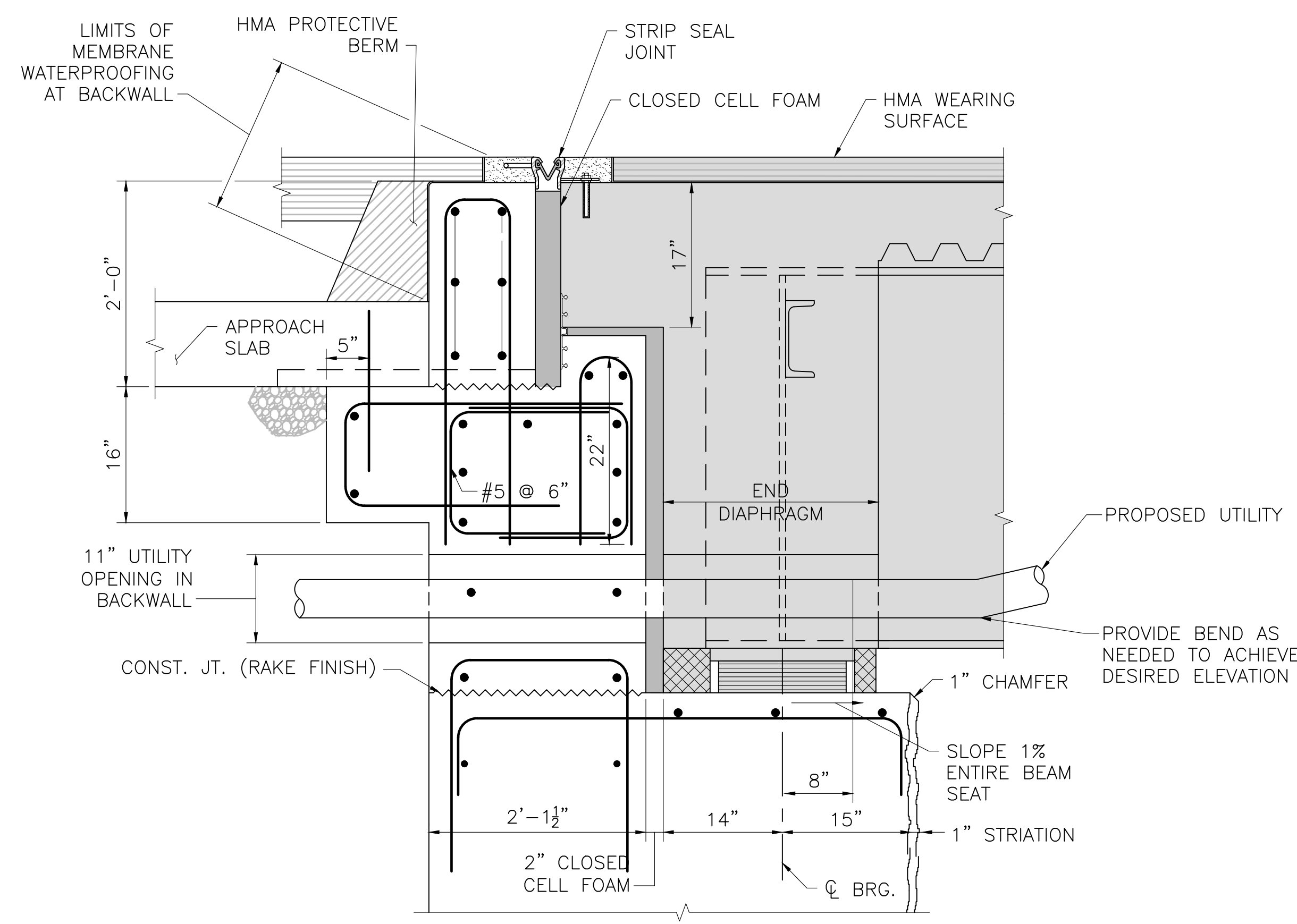
ROADWAY/SAFETY CURB SECTION NOTES:

1. ALL REINFORCEMENT SHOWN IN THIS DETAIL SHALL BE COATED, EXCEPT FOR THE APPROACH SLAB REINFORCEMENT.
2. HMA PROTECTIVE BERM TO BE SUPERPAVE BRIDGE PROTECTIVE COURSE (SPC-B-12.5), PLACED IN 2" LAYERS AND COMPACTED WITH A MECHANICAL HAND-GUIDED TAMPER.
3. ALL INTERMEDIATE KEEPER BLOCKS SHALL BE PLACED AFTER THE BERMS ARE ERECTED.
4. TOP OF BACKWALL SHALL BE TROWELED SMOOTH PARALLEL TO THE PROFILE GRADE.
5. CONSTRUCTION JOINTS SHALL BE GIVEN A RAKE FINISH WITH A 1/4" MINIMUM AMPLITUDE.
6. BACKWALL BELOW CONSTRUCTION JOINT, KEEPER BLOCK AND CURTAIN WALL CONCRETE MUST BE PLACED AND SUFFICIENTLY CURED PRIOR TO PLACING THE END DIAPHRAGM CONCRETE.
7. PRIOR TO PLACING THE END DIAPHRAGM CONCRETE, CLOSED CELL FOAM OF THE SPECIFIED THICKNESSES SHALL BE ATTACHED WITH ADHESIVE TO ALL SURFACES OF THE BACKWALL, KEEPER BLOCKS, AND CURTAIN WALLS AS SHOWN ON THE PLANS. THE BOTTOM OF THE END DIAPHRAGM SHALL BE FORMED BY PLACING EXPANDED POLYSTYRENE FILLER OF THE REQUIRED THICKNESS ON THE BRIDGE SEAT AND TUCKING IT UNDER THE BEAM BOTTOM FLANGES. THE CONTRACTOR SHALL MAKE SURE THAT THE CLOSED CELL FOAM AND EXPANDED POLYSTYRENE FILLER HAVE BEEN PROPERLY AND SECURELY INSTALLED SO THAT THE END DIAPHRAGM CONCRETE SHALL NOT COME IN DIRECT CONTACT WITH THE ABUTMENT CONCRETE.
8. AFTER THE END DIAPHRAGM CONCRETE HAS CURED SUFFICIENTLY, PLACE THE APPROACH SLAB CONCRETE AND THE UPPER BACKWALL CONCRETE. THE BACKWALL TROUGH WILL BE FORMED WITH CLOSED CELL FOAM AND CARE SHALL BE TAKEN TO ENSURE THAT CONCRETE DOES NOT ENTER THE TROUGH DRAINS.
9. COVER THE BACKWALL TROUGH OPENING SECURELY TO KEEP DEBRIS OUT UNTIL READY TO INSTALL THE STRIP SEAL JOINT. PRIOR TO INSTALLATION OF STRIP SEAL JOINT REMOVE THE TOP 2" OF CLOSED CELL FOAM.
10. DECK SLAB REINFORCEMENT NOT SHOWN FOR CLARITY.



DETAILS AT ABUTMENT - ROADWAY SECTION

SCALE: 1" = 1'-0"

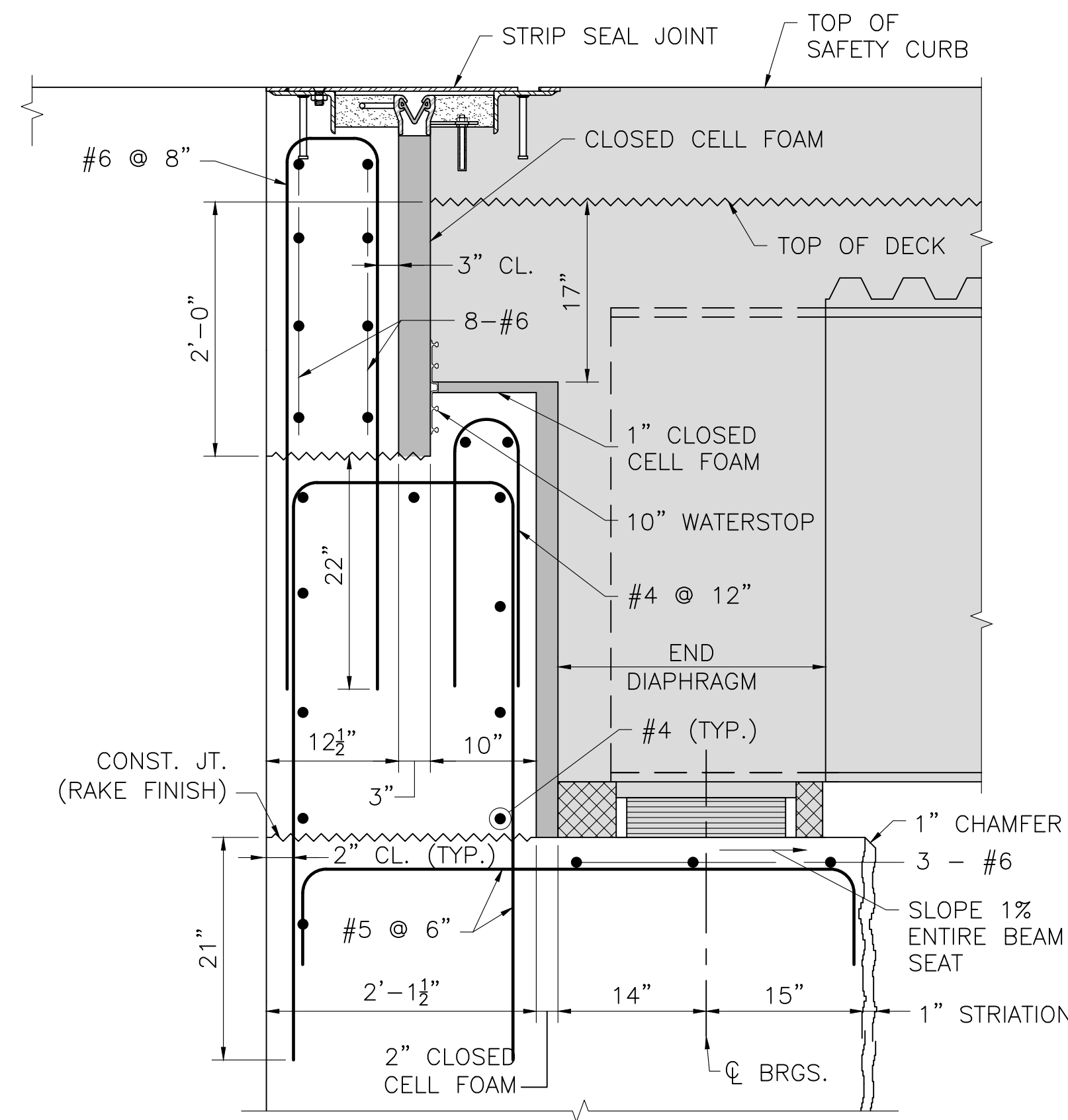


NOTE:

SEE DETAILS AT ABUTMENT - ROADWAY SECTION FOR REINFORCEMENT NOT LABELED ON THIS DETAIL

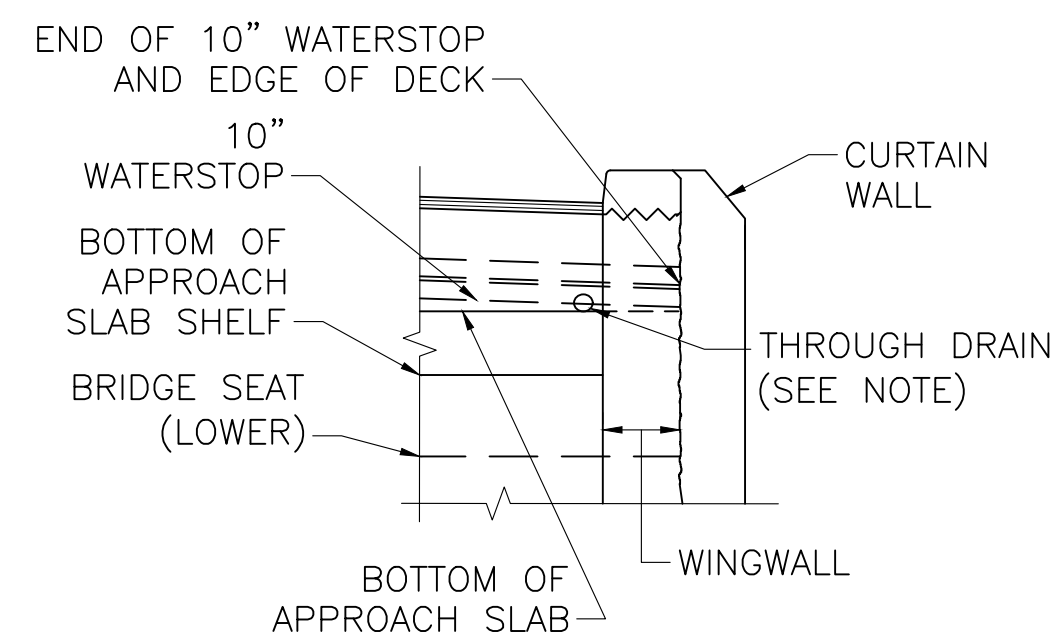
DETAILS AT ABUTMENT - UTILITY BAY SECTION

SCALE: 1" = 1'-0"



DETAILS AT ABUTMENT - SAFETY CURB SECTION

SCALE: 1" = 1'-0"

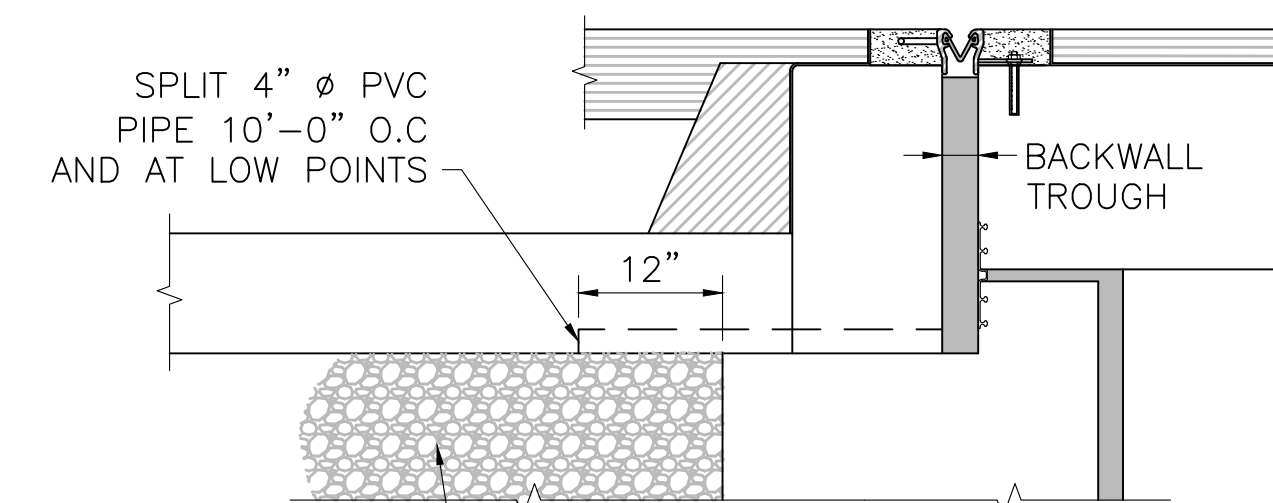


NOTE:

PROVIDE BACKWALL TROUGH DRAINS AT LOW POINTS.

END OF DECK ELEVATION

SCALE: 1/4" = 1'-0"



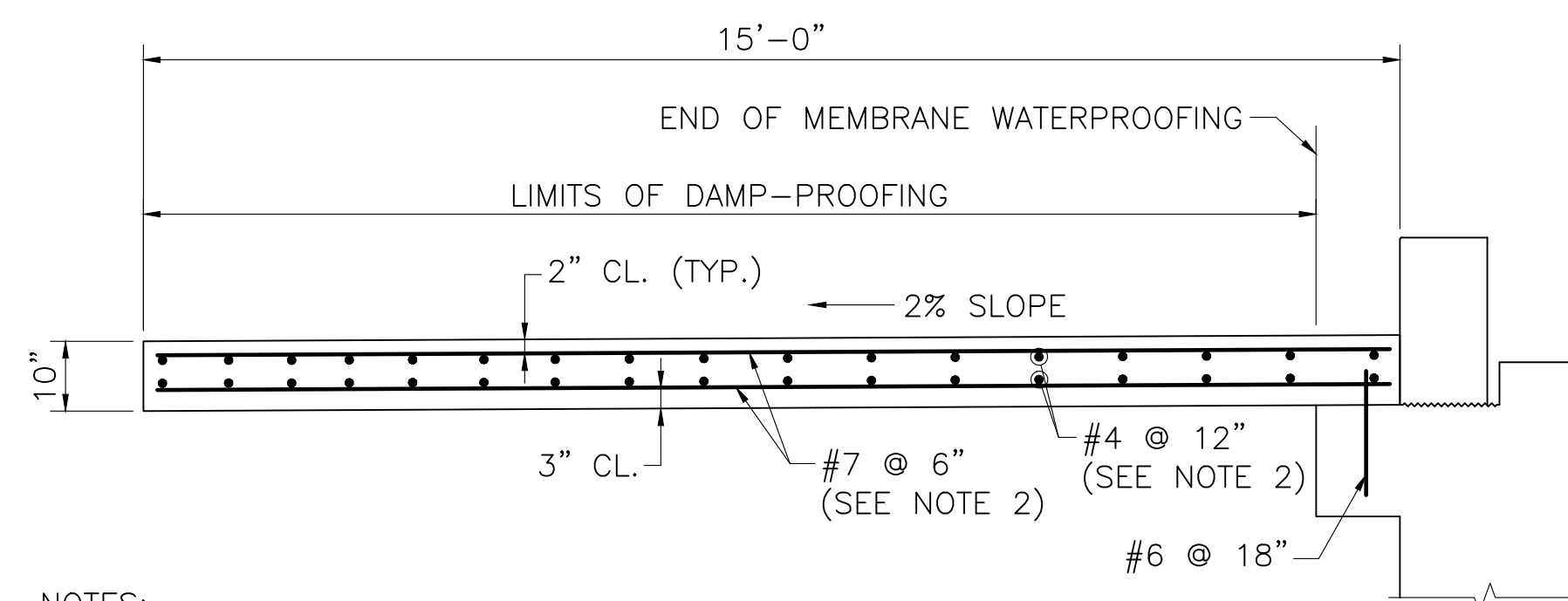
THROUGH DRAIN DETAILS

SCALE: 3/4" = 1'-0"

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USE ONLY PRINTS OF LATEST DATE	

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	57	92
PROJECT FILE NO.		608634	

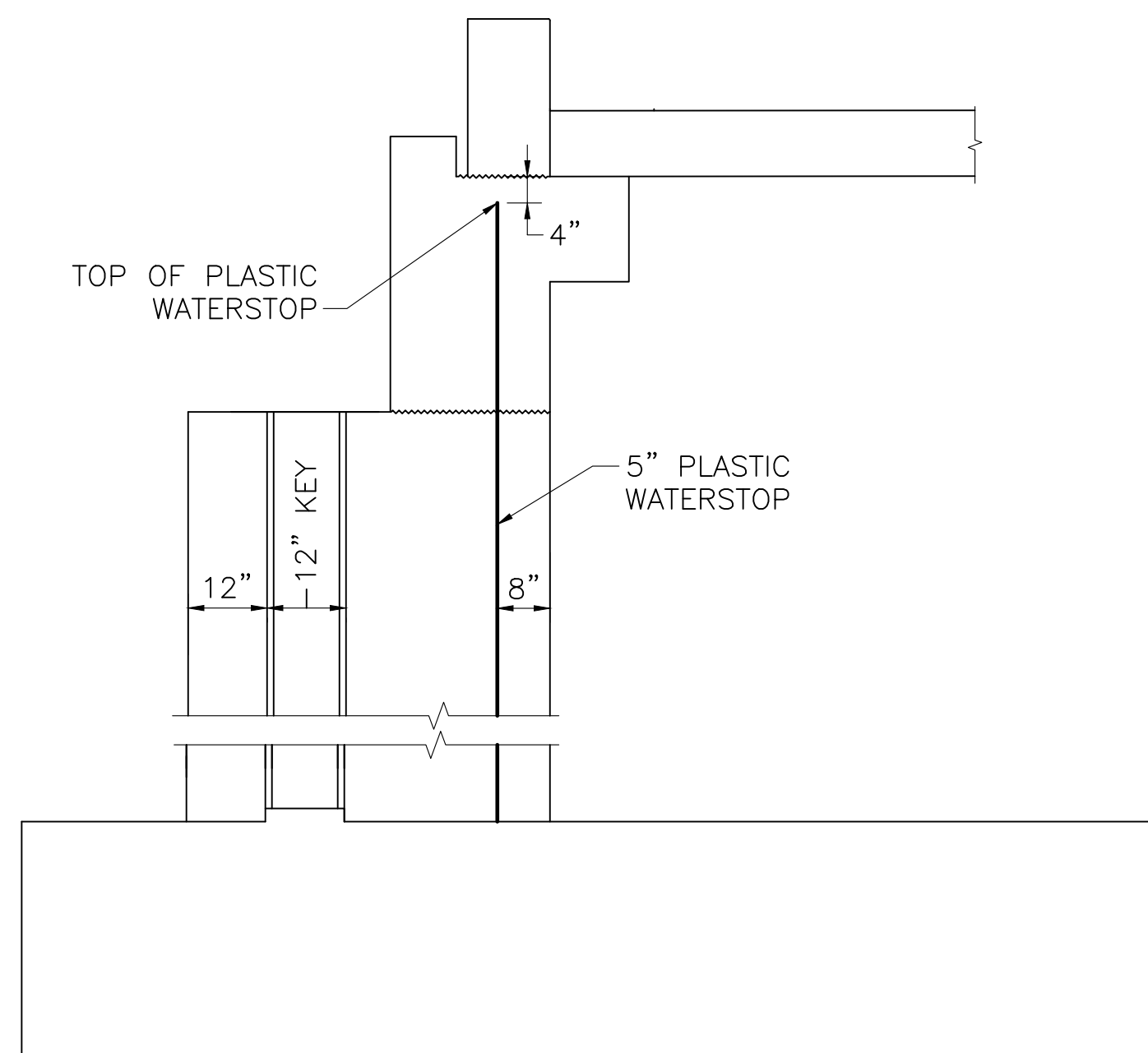
ABUTMENT DETAILS 2



- NOTES:
1. PLACE LONGITUDINAL REINFORCEMENT PARALLEL TO CENTERLINE OF CONSTRUCTION. PLACE TRANSVERSE REINFORCEMENT PARALLEL TO ABUTMENT.
 2. ALL REINFORCEMENT SHALL NOT BE COATED.

APPROACH SLAB DETAIL

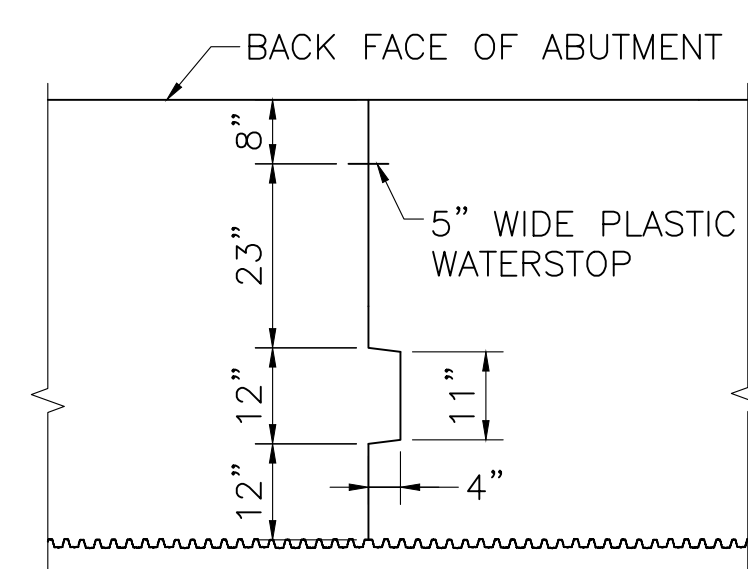
SCALE: 1/2" = 1'-0"



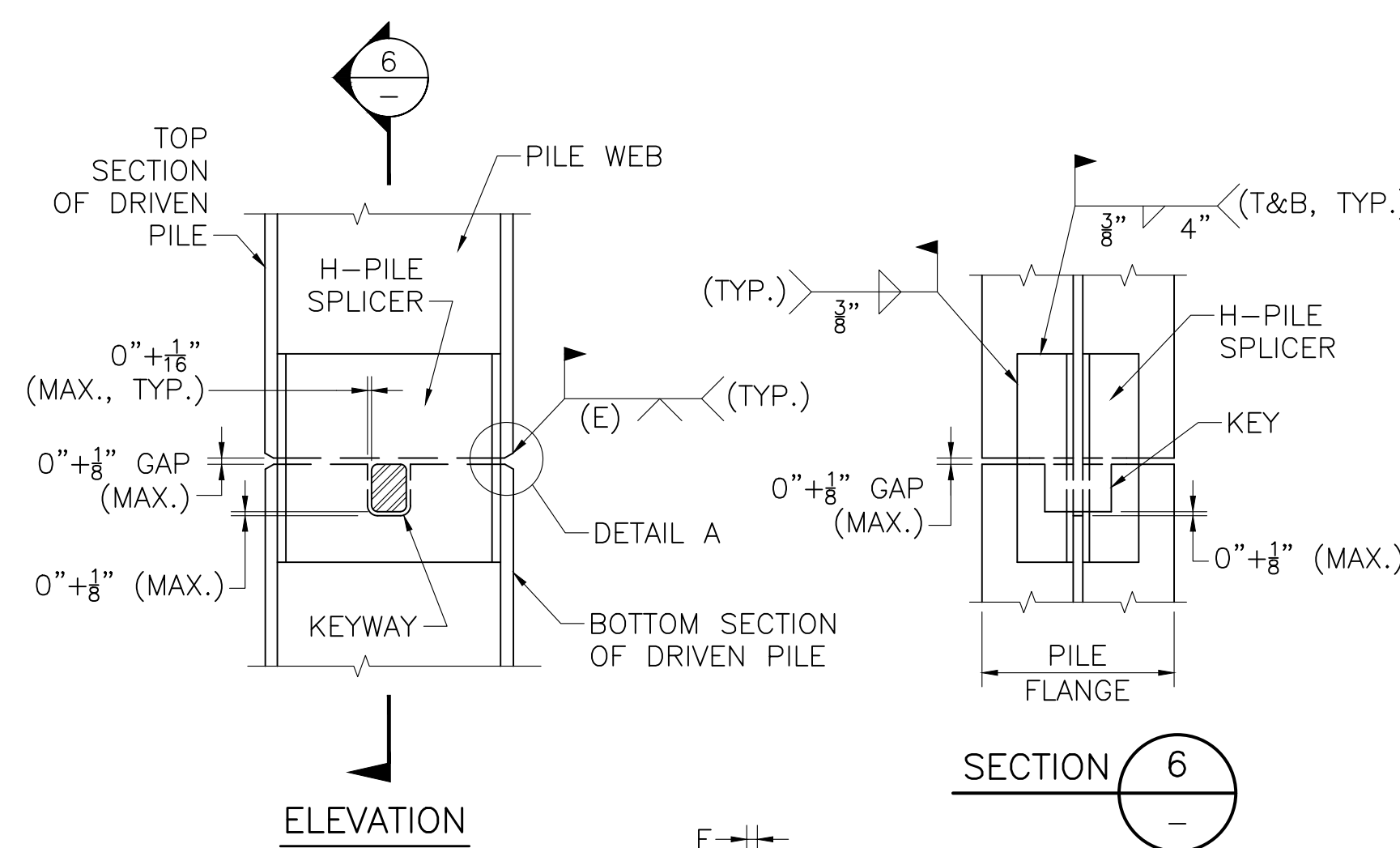
NOTE:
REINFORCEMENT SHALL BE CONTINUOUS THRU CONSTRUCTION JOINTS.

VERTICAL SECTION THRU
ABUTMENT CONSTRUCTION JOINT

SCALE: 1/2" = 1'-0"

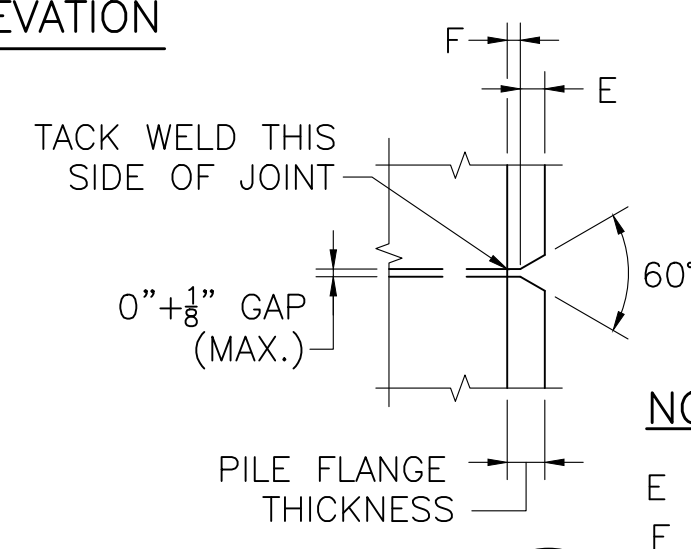


SCALE: 1/2" = 1'-0"



ELEVATION

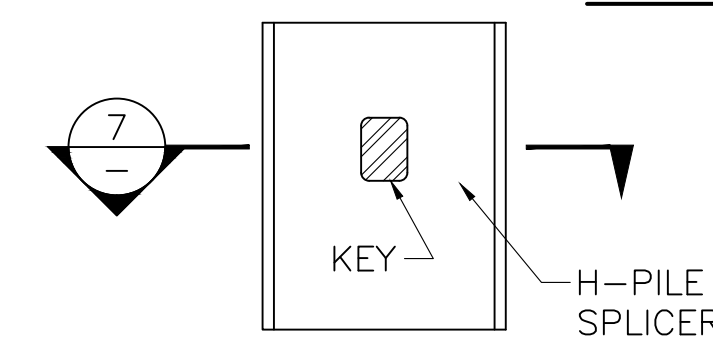
SECTION 6



DETAIL A

NOTES:

E = (PILE FLANGE THICKNESS - F)
F = ROOT FACE ≤ 3/32"

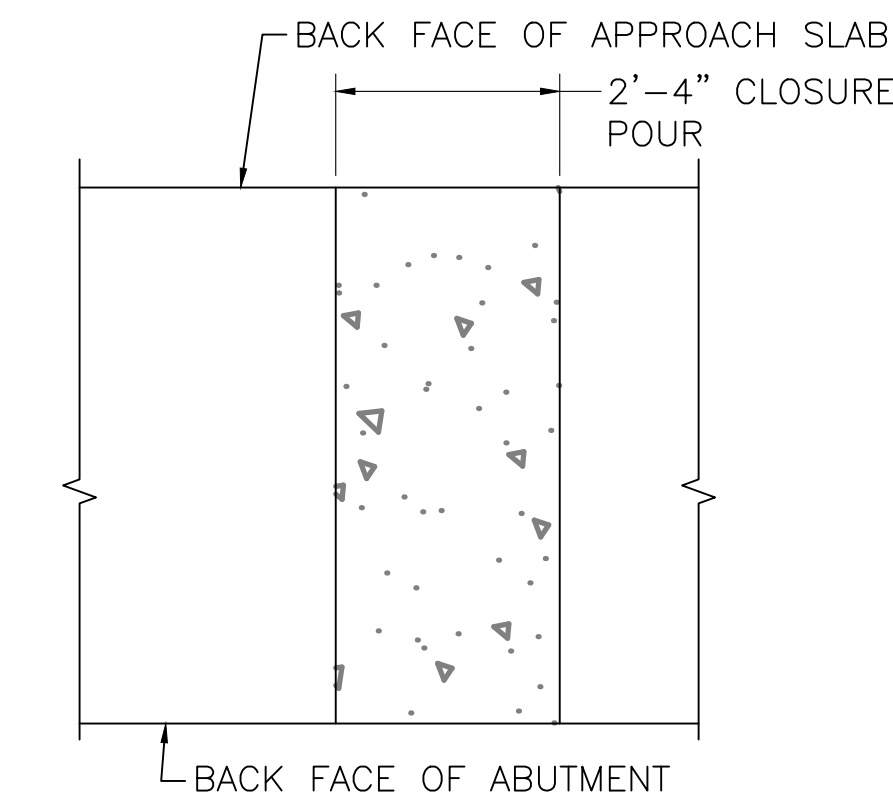


SPLICER ELEVATION

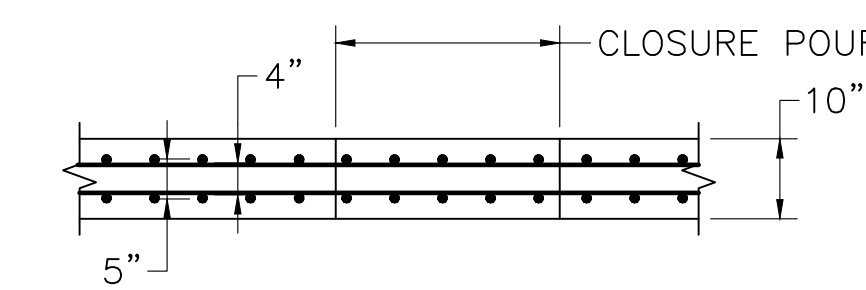
SECTION 7

WELDED MECHANICAL H-PILE SPLICE DETAILS

NOT TO SCALE



PLAN



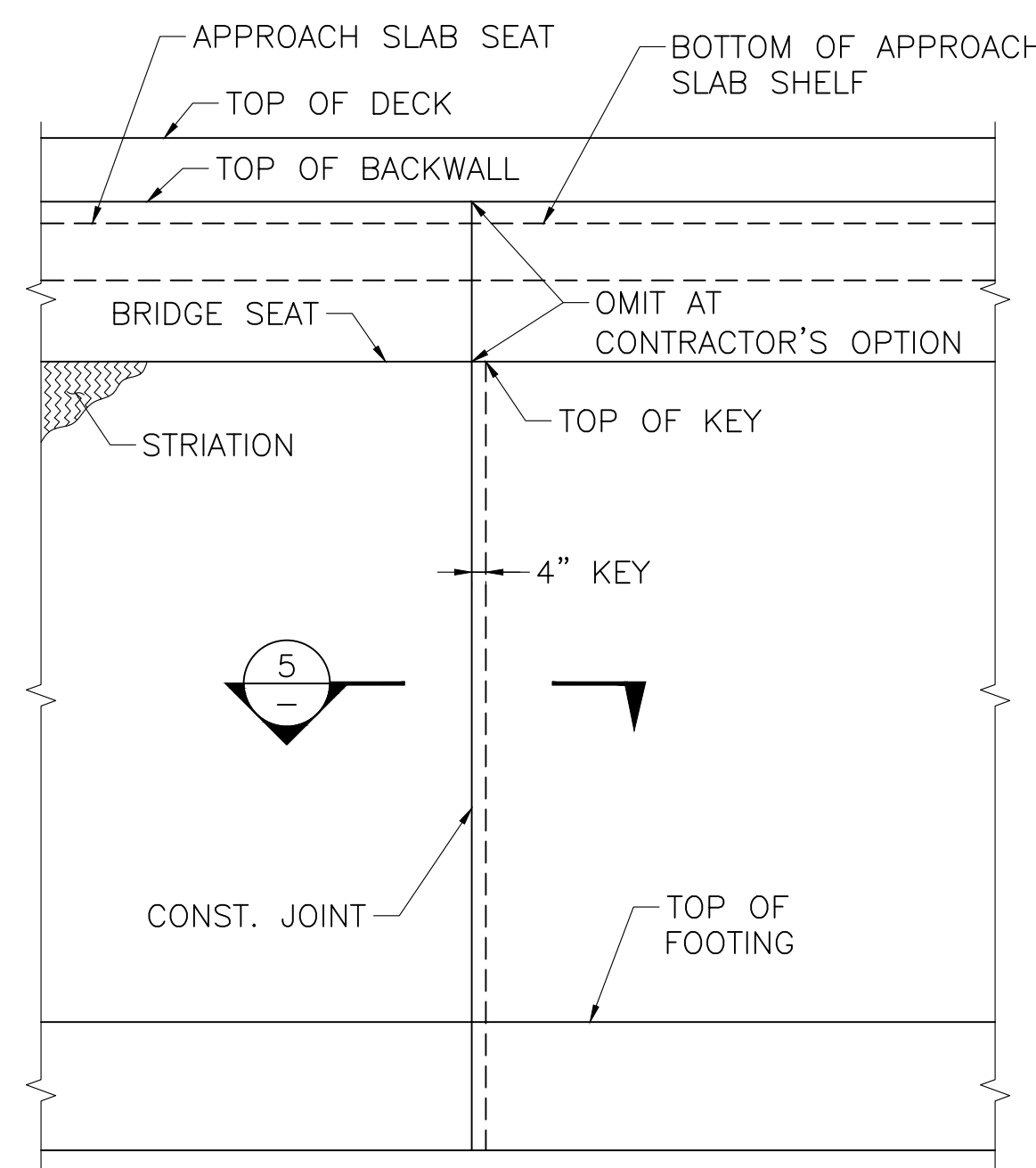
ELEVATION

NOTE:

CLOSURE POUR SHALL BE CONTINUOUS WITH DECK SLAB CLOSURE POUR.

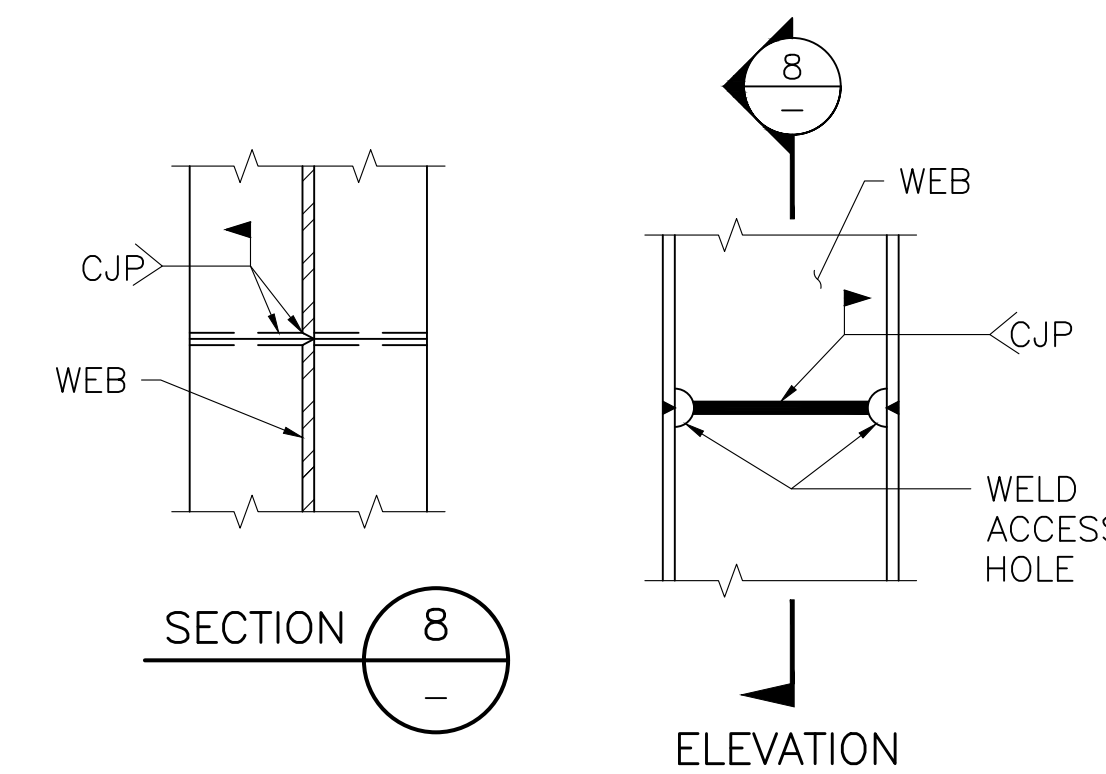
APPROACH SLAB CONSTRUCTION JOINT

SCALE: 1/2" = 1'-0"



ELEVATION OF ABUTMENT

SCALE: 1/4" = 1'-0"



SECTION 8

ELEVATION

NOTES:

1. ALL WELDS SHALL BE COMPLETE PENETRATION AND SHALL CONFORM TO THE AASHTO/AWS BRIDGE WELDING CODE, D1.5.
2. WELDING PROCEDURE SPECIFICATIONS MUST BE APPROVED BY THE ENGINEER PRIOR TO WELDING.
3. WHENEVER POSSIBLE ALL PILES SHALL BE SPLICED ON THE GROUND IN THE FLAT POSITION.
4. WEB SHALL BE COPED TO ALLOW FOR COMPLETE PENETRATION WELDING OF FLANGES.
5. WELDED MECHANICAL PILE SPLICERS MAY BE USED PROVIDED THAT COMPLETE DETAILS AND WELDING PROCEDURES HAVE BEEN REVIEWED AND APPROVED BY THE ENGINEER.

CJP H-PILE SPLICE DETAILS

NOT TO SCALE

H-PILE SPLICER INSTALLATION NOTES:

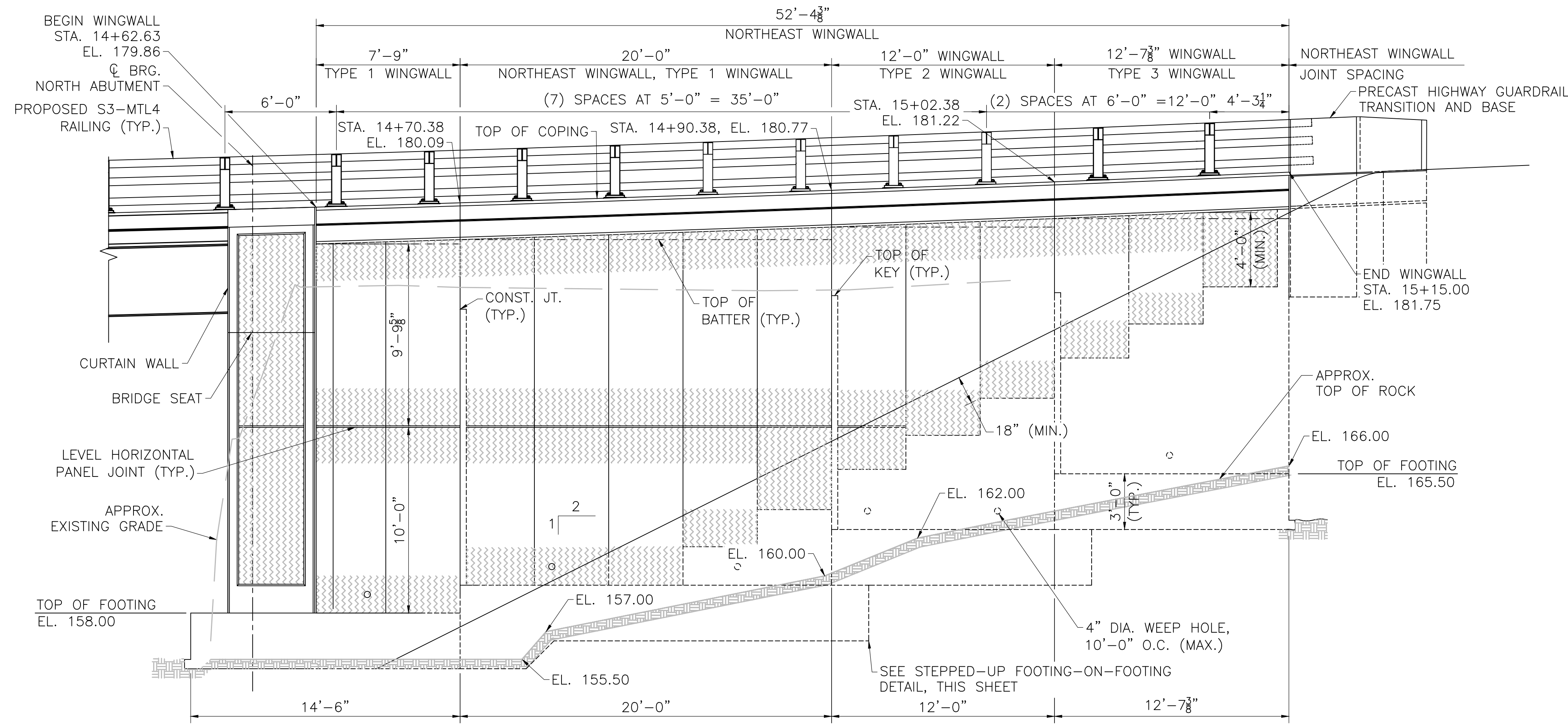
1. CUT OFF AND SQUARE A MINIMUM LENGTH OF 1 FOOT FROM THE TOP OF THE PILE THAT HAS JUST BEEN DRIVEN INTO THE GROUND.
2. BEVEL THE TWO FLANGES OF THE DRIVEN PILE 30° DEGREES (+10°, -5°) EACH WITH A MAXIMUM ROOT FACE OF 3/32" (+0, -3/32).
3. GRIND ALL FLAME CUT SURFACES SMOOTH.
4. LAYOUT AND FLAME CUT THE KEYWAY IN THE WEB OF THE DRIVEN PILE FOR THE KEY OF THE H-PILE SPLICER WITH THE SPECIFIED TOLERANCES. RADIUS THE BOTTOM OF THE SLOT 3/8" IN EACH CORNER.
5. GRIND ALL FLAME CUT SURFACES SMOOTH.
6. SLIDE THE H-PILE SPLICER ONTO THE PILE. THE KEY OF THE SPLICER MUST SLIDE DOWN THE KEYWAY IN THE WEB OF THE DRIVEN PILE.
7. SQUARE THE END OF THE PILE SECTION TO BE ADDED TO THE PREVIOUSLY DRIVEN PILE. BEVEL BOTH FLANGES OF THE PILE 30° DEGREES (+10°, -5°) EACH WITH A MAXIMUM ROOT FACE OF 3/32" (+0, -3/32).
8. GRIND ALL FLAME CUT SURFACES SMOOTH.
9. SLIDE THE TOP PILE SECTION WITH A CRANE INTO THE H-PILE SPLICER SLEEVE. PLUMB PILE; ALIGN THE FLANGES OF BOTH PILE SECTIONS. THE FLANGES MUST BE IN ALIGNMENT WITH THE MAXIMUM TOLERANCE OF +3/8". TACK WELD IN PLACE ON BACK SIDE OF JOINT AS PER THE APPROVED FILLET WELDING PROCEDURE.
10. FAYING SURFACES BETWEEN THE H-PILE SPLICER AND THE PILE FLANGES SHALL HAVE A GAP OF 0" (+3/8"). CLAMPS OR HYDRAULIC JACKS MAY BE USED TO ACCOMPLISH THIS. NO HEATING WILL BE ALLOWED.
11. USING A 3/8" FILLET WELD, WELD THE H-PILE SPLICER TO THE FLANGES, 4 INCHES OF WELD AT THE TOP AND BOTTOM AT EACH CORNER AND THE LENGTH OF THE SPLICER AS PER THE APPROVED FILLET WELDING PROCEDURE.
12. USING A PARTIAL PENETRATION GROOVE WELD, WELD THE FLANGES AS PER THE APPROVED GROOVE WELDING PROCEDURE. THE SIZE SHALL BE SHOWN ON THE WELDING PROCEDURE.

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**DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER**

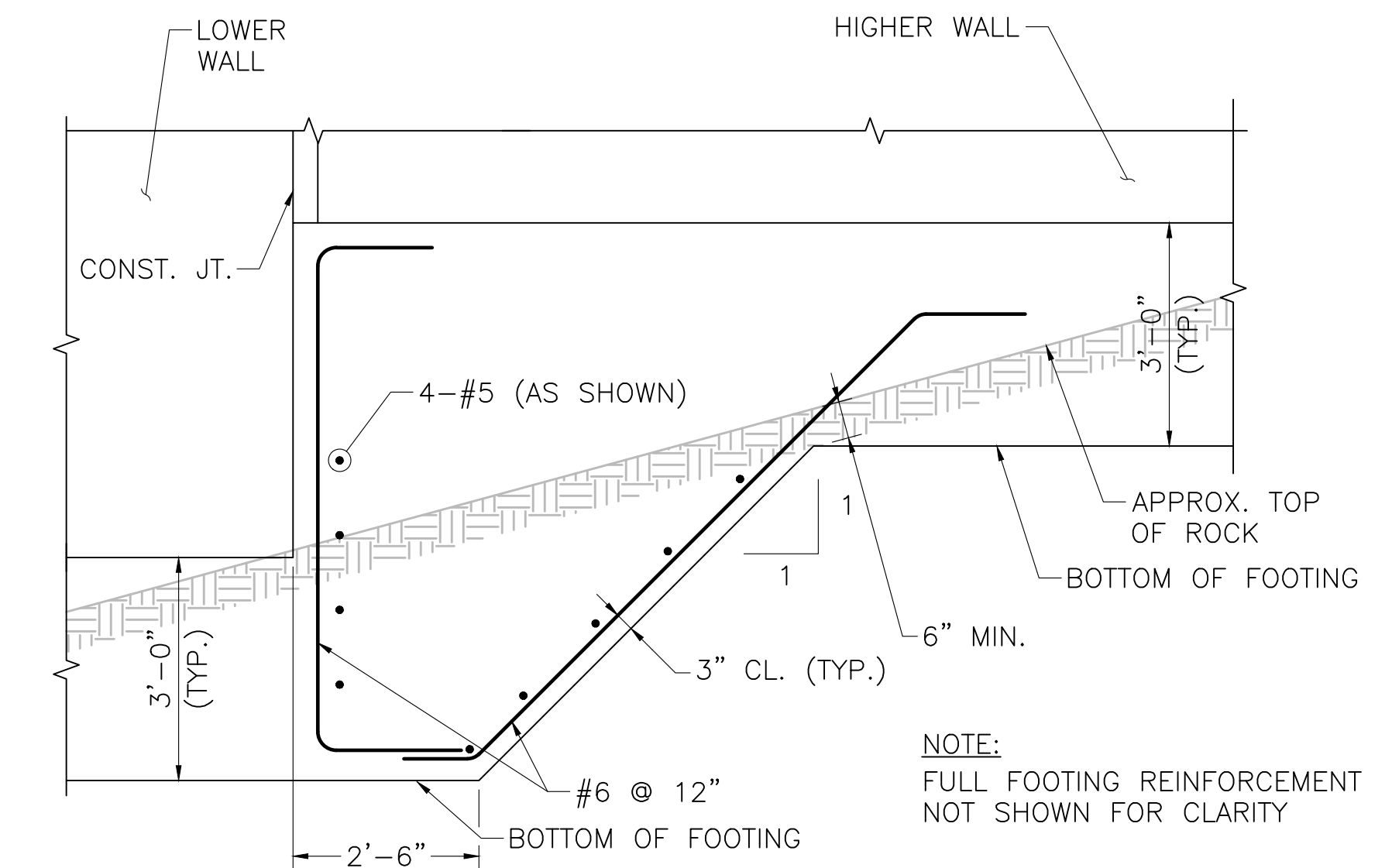
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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NORTH WINGWALL ELEVATIONS



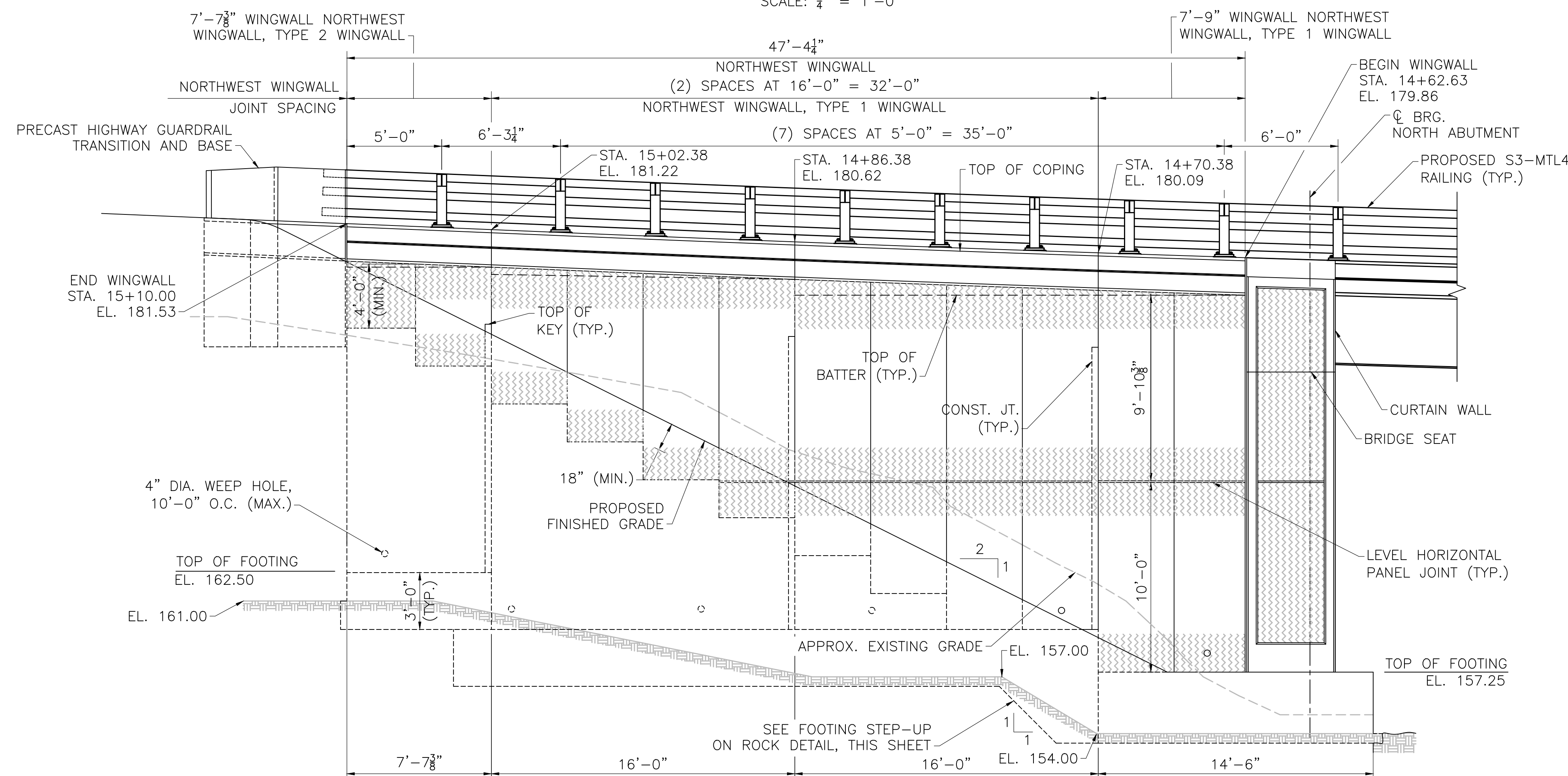
NORTHEAST WINGWALL ELEVATION

SCALE: 1/4" = 1'-0"



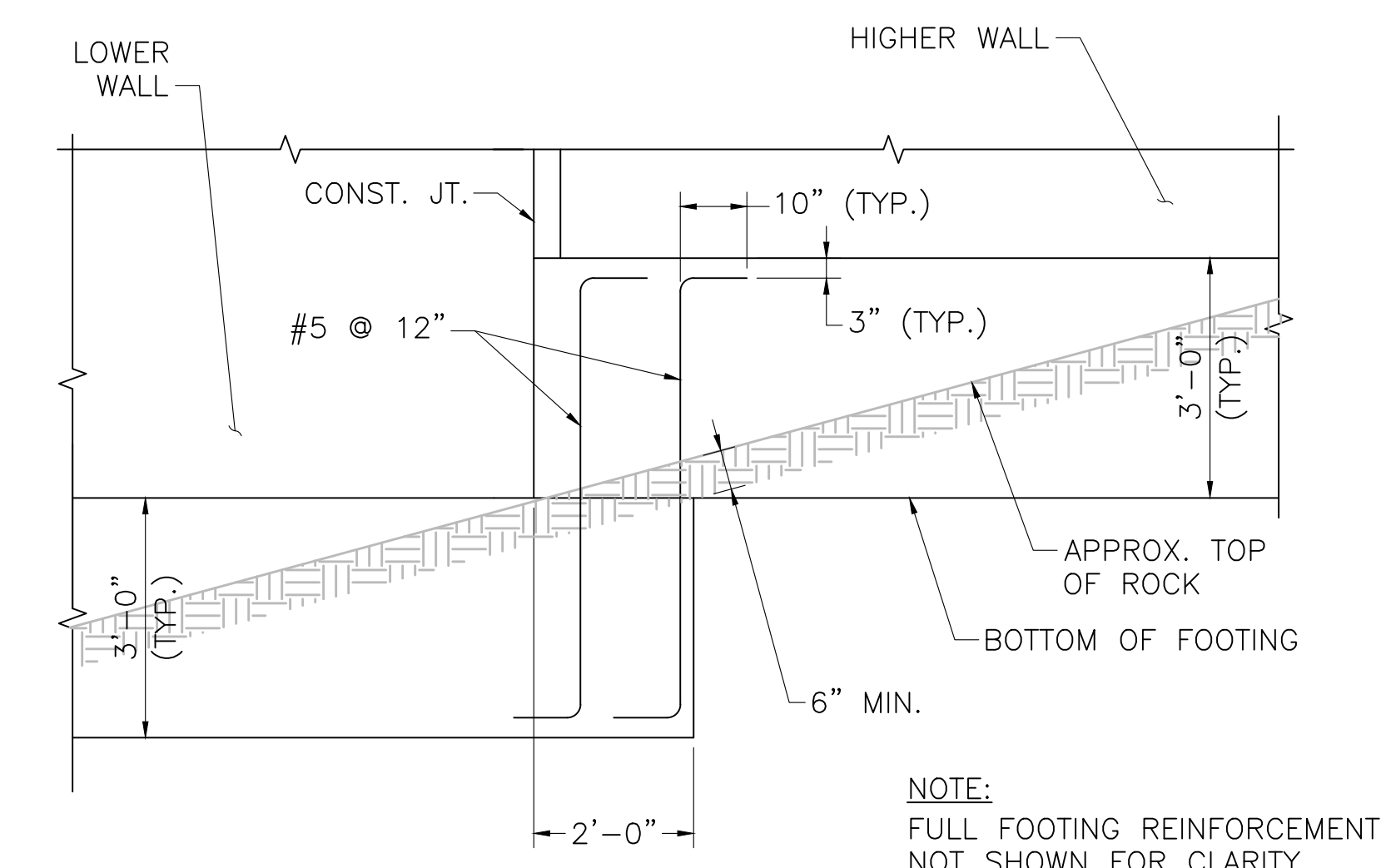
FOOTING STEP-UP ON ROCK DETAIL

SCALE: 1/2" = 1'-0"



NORTHWEST WINGWALL ELEVATION

SCALE: 1/4" = 1'-0"



STEPPED-UP FOOTING ON FOOTING DETAIL

SCALE: 1/2" = 1'-0"

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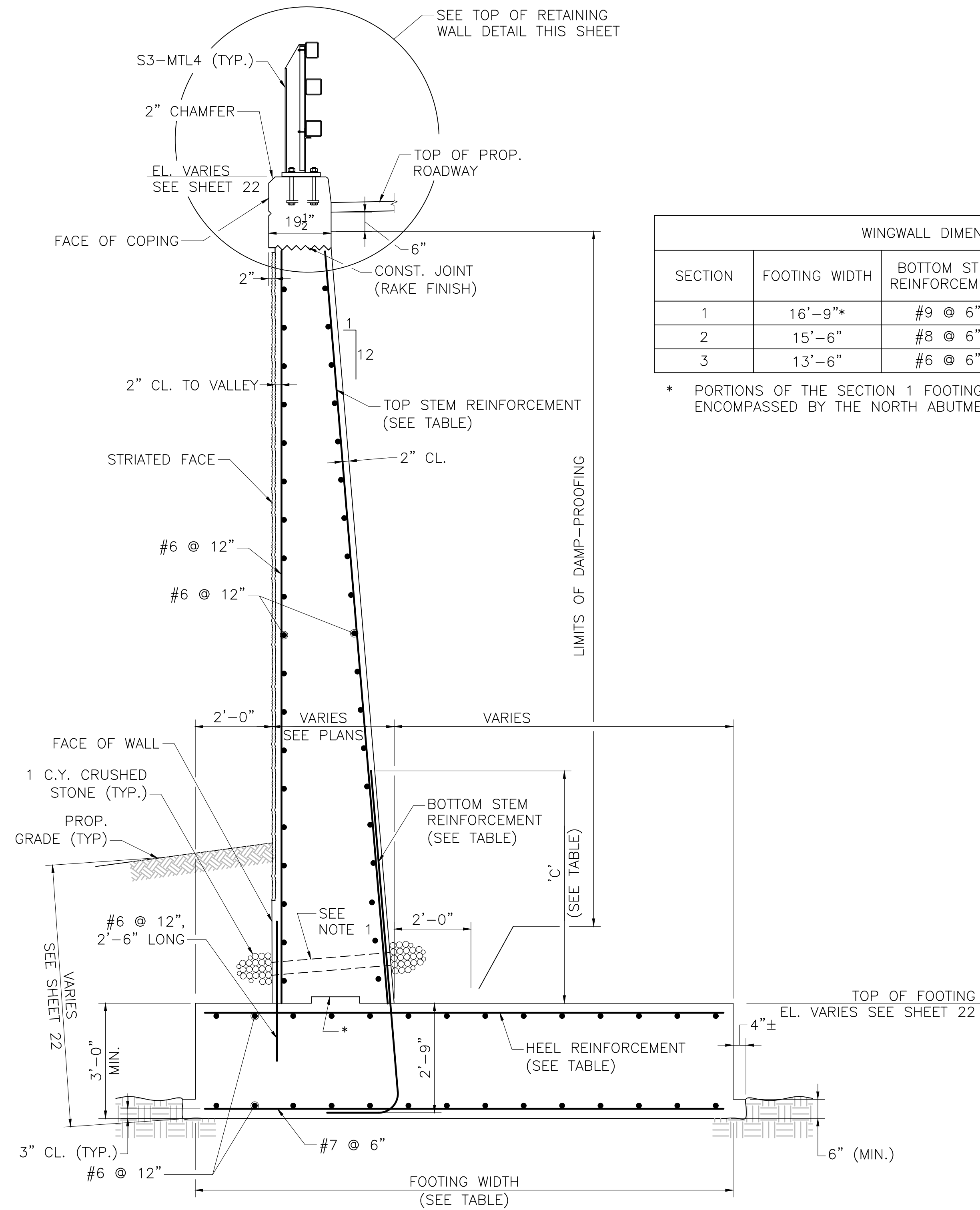
DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	59	92
PROJECT FILE NO.		608634	

WINGWALL SECTIONS AND DETAILS

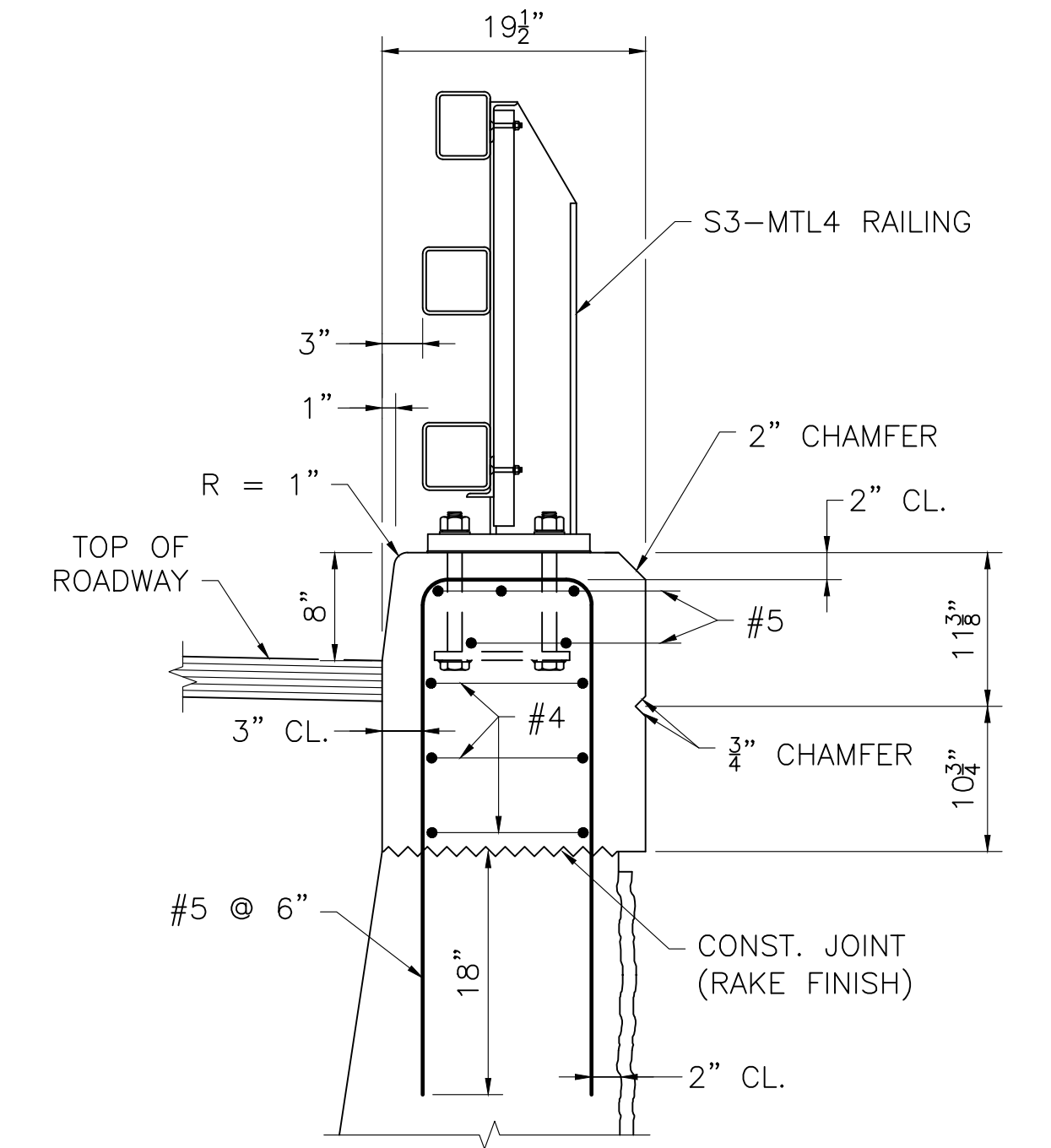
WINGWALL DIMENSIONS AND REINFORCEMENT					
SECTION	FOOTING WIDTH	BOTTOM STEM REINFORCEMENT	TOP STEM REINFORCEMENT	HEEL REINFORCEMENT	LAP SPLICE LENGTH 'C'
1	16'-9"*	#9 @ 6"	#9 @ 12"	#9 @ 6"	5'-3"
2	15'-6"	#8 @ 6"	#8 @ 12"	#8 @ 6"	4'-3"
3	13'-6"	#6 @ 6"	#6 @ 12"	#7 @ 6"	3'-3"

* PORTIONS OF THE SECTION 1 FOOTING ARE ENTIRELY ENCOMPASSED BY THE NORTH ABUTMENT FOOTING.



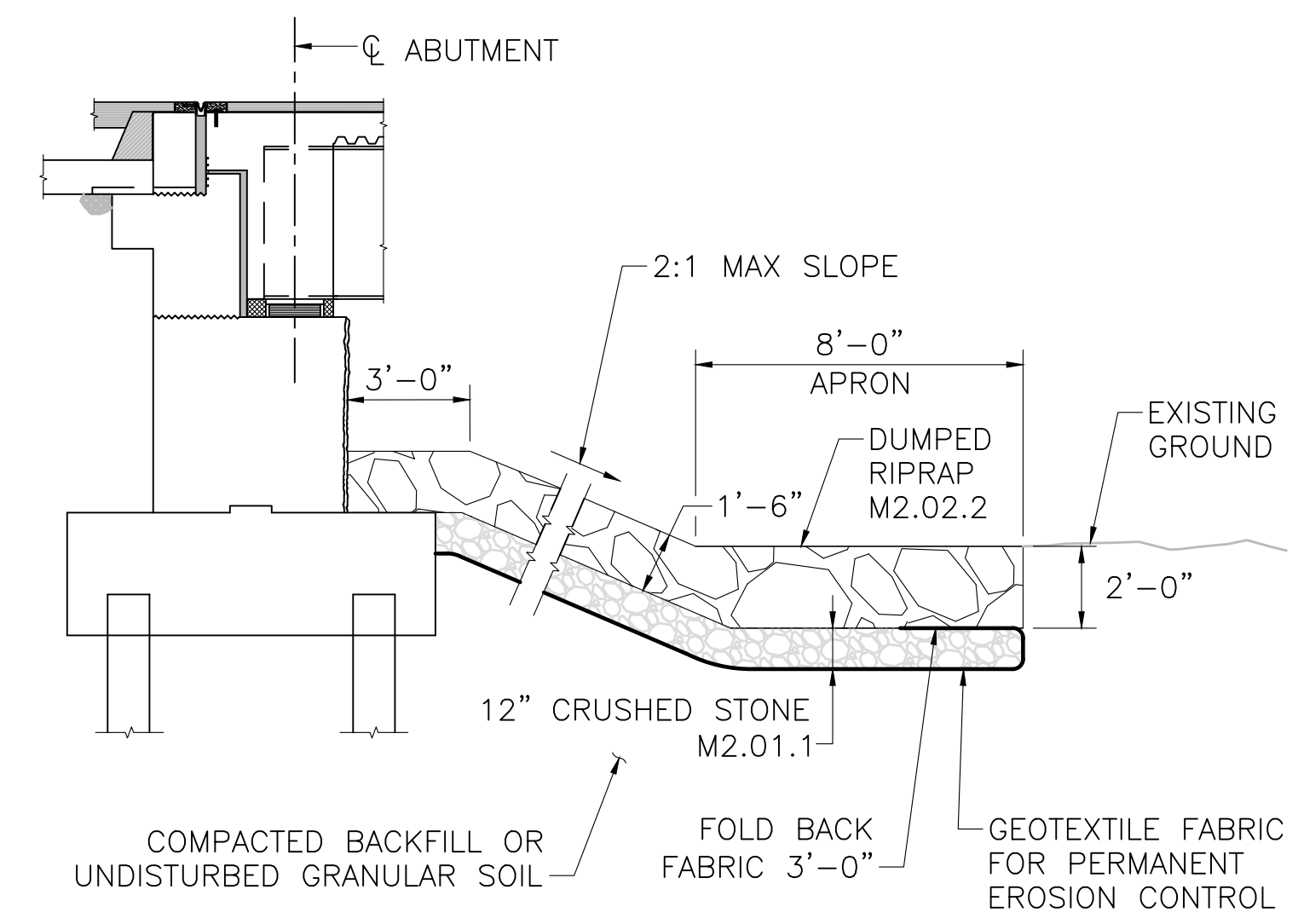
WINGWALL TYPICAL SECTION

SCALE: 1/4" = 1'-0"



TOP OF U-WINGWALL/RETAINING WALL DETAILS AT SAFETY CURB

SCALE: 1" = 1'-0"



DUMPED RIPRAP DETAIL

SCALE: 1/4" = 1'-0"

NOTES:

- 4" Ø WEEP HOLES 10'-0" O.C. LOCATED 12" ABOVE THE HEEL OF THE FOOTING SLOPING 1" PER FOOT TOWARDS THE FRONT FACE. PROVIDE 1 CUBIC YARD OF CRUSHED STONE AT EACH END OF WEEP HOLE.
- SEE SHEET 29 FOR CONSTRUCTION JOINT DETAILS, AND SHEET 22 FOR STEPPED-UP FOOTING DETAILS, AND LIMITS OF PREFORMED FILLER DETAIL.
- FOR THE TYPE 1 WINGWALLS ON ROCK, THE FACTORED BEARING PRESSURE = 7.35 KSF AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION.
FOR THE TYPE 2 WINGWALL ON ROCK, THE FACTORED BEARING PRESSURE = 7.07 KSF AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION.
FOR THE TYPE 3 WINGWALL ON ROCK, THE FACTORED BEARING PRESSURE = 4.76 KSF AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION.
FOR THE NORTH WINGWALLS ON ROCK, THE FACTORED BEARING RESISTANCE = 17.3 KSF. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE OF 38.4 KSF AND A RESISTANCE FACTOR OF 0.45.

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Z:\Shared\Engineering\Projects\2015\10033\21X - Deerfield Upper Road\608634.DWG\Bridge\Current Design\Detail\04_BR23.dwg

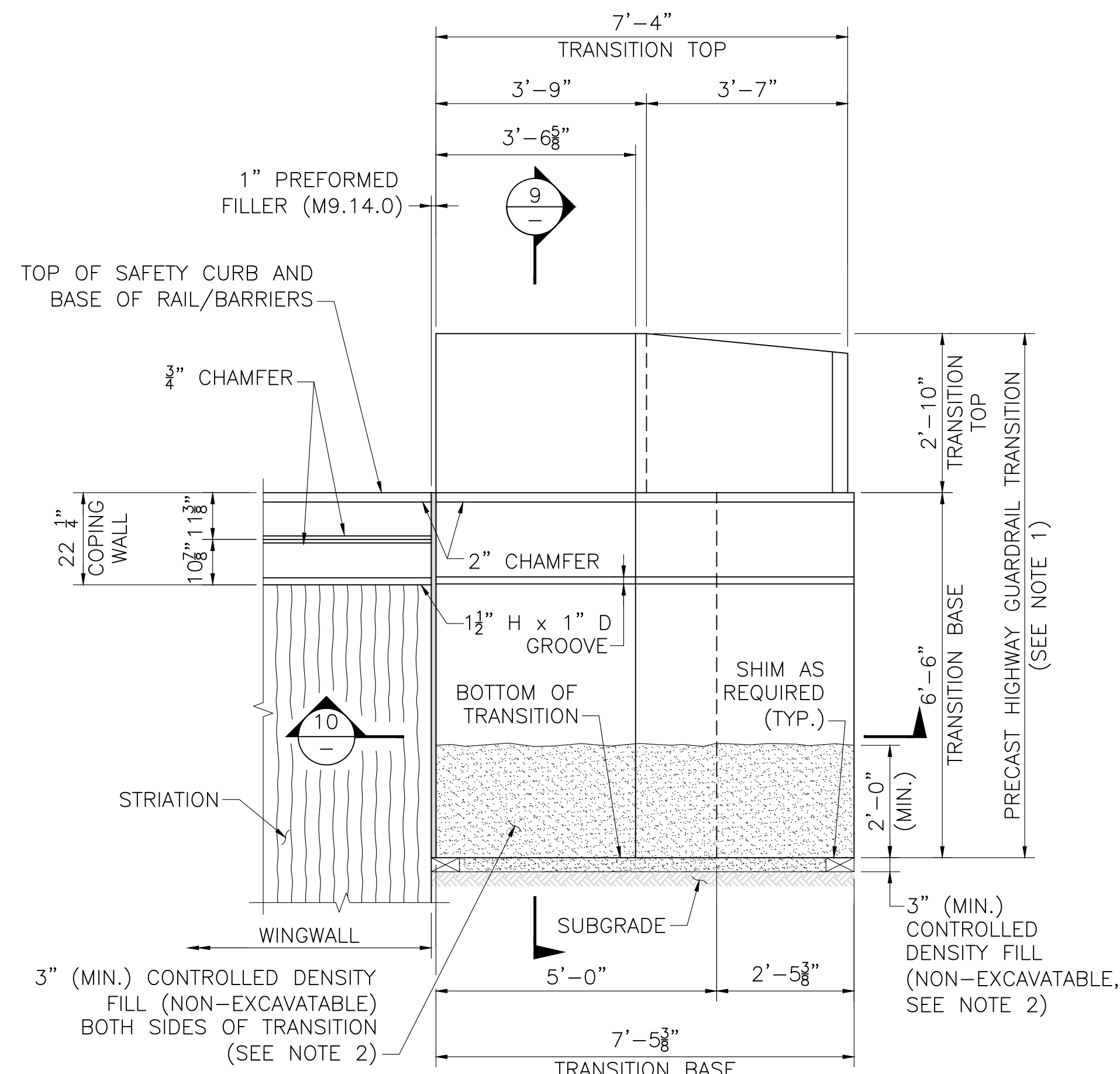
608634_BR23.DWG Plotted on 18-May-2026 3:28 PM

08-April-2026 Final Structural Submission (SF)

DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

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GUARDRAIL TRANSITION BASE DETAILS



PRECAST GUARDRAIL TRANSITION
ELEVATION AT U-WINGWALL

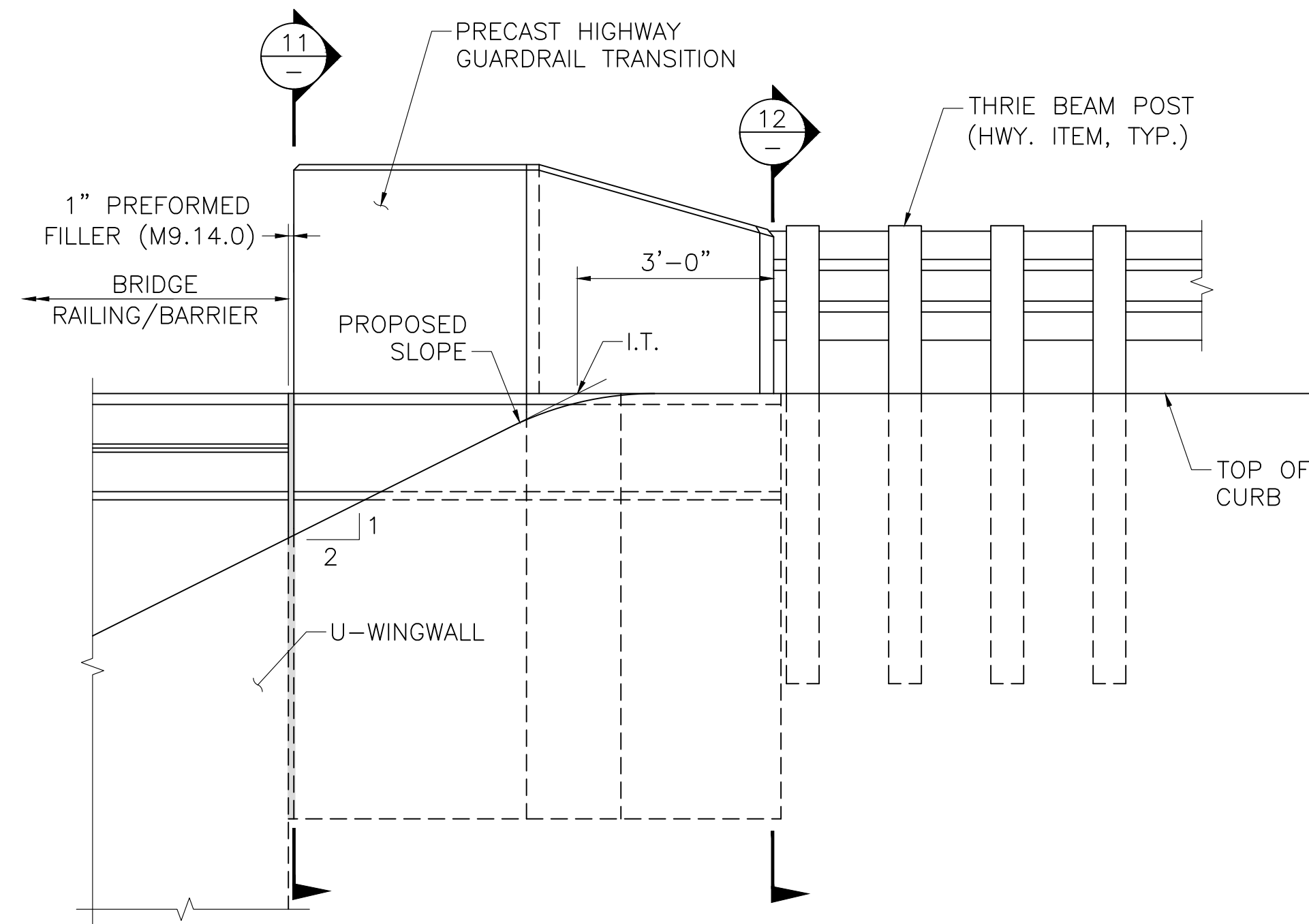
SCALE: 1/2" = 1'-0"

NOTES:

- 1 1/2" H x 1" D GROOVE. ALIGN WITH GROOVE AT TOP OF STRIATIONS.
- REINFORCEMENT OF THE TRANSITION TOP IS NOT SHOWN FOR CLARITY.

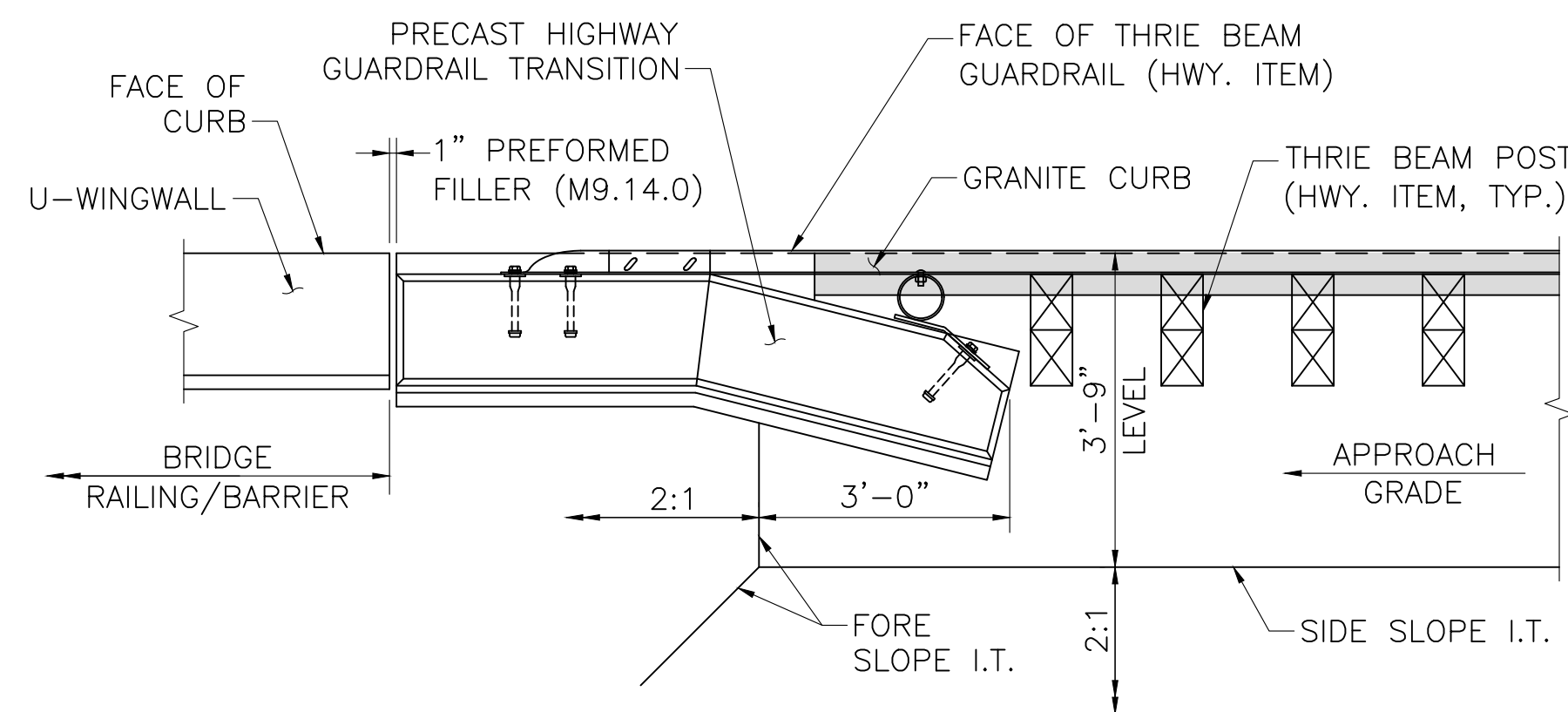
SECTION 9

SCALE: 1/2" = 1'-0"



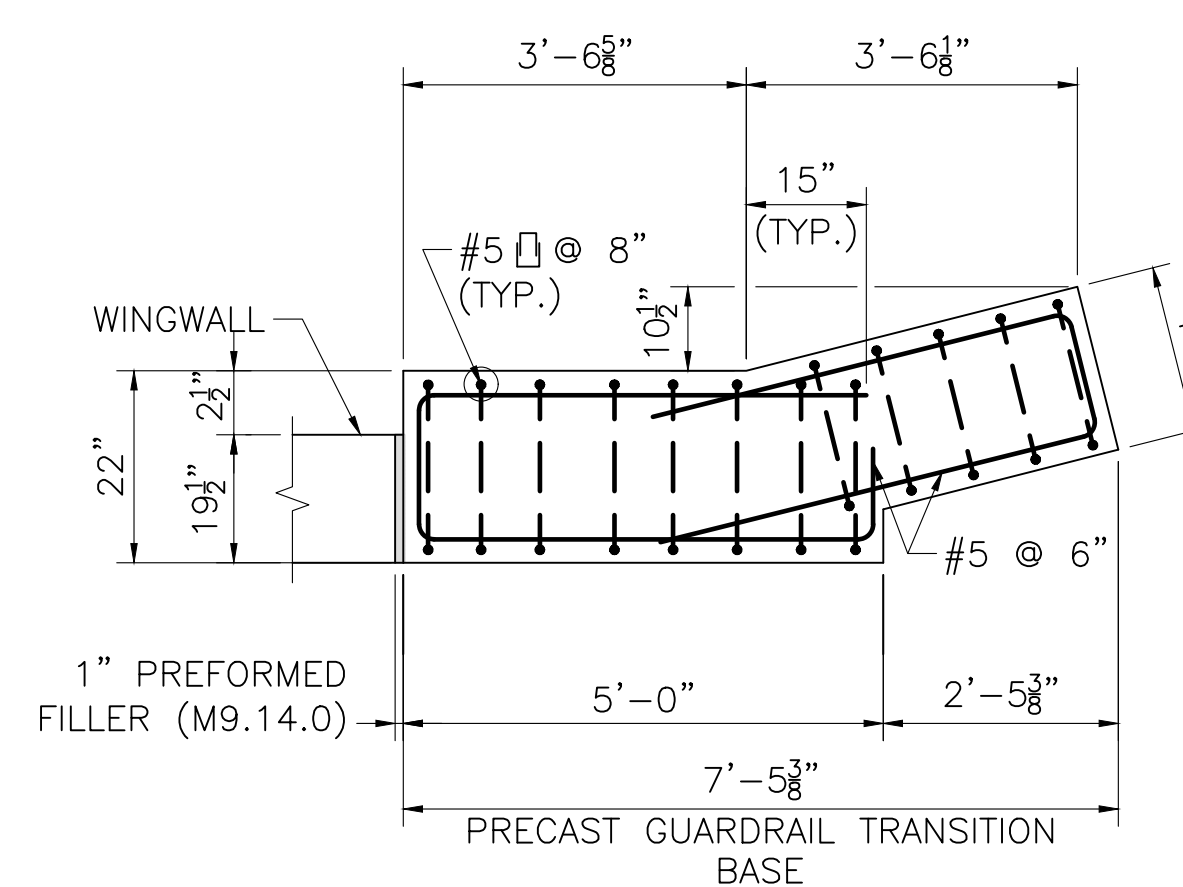
GRADING REQUIREMENTS ELEVATION

SCALE: 1/2" = 1'-0"



GRADING REQUIREMENTS PLAN

SCALE: 1/2" = 1'-0"

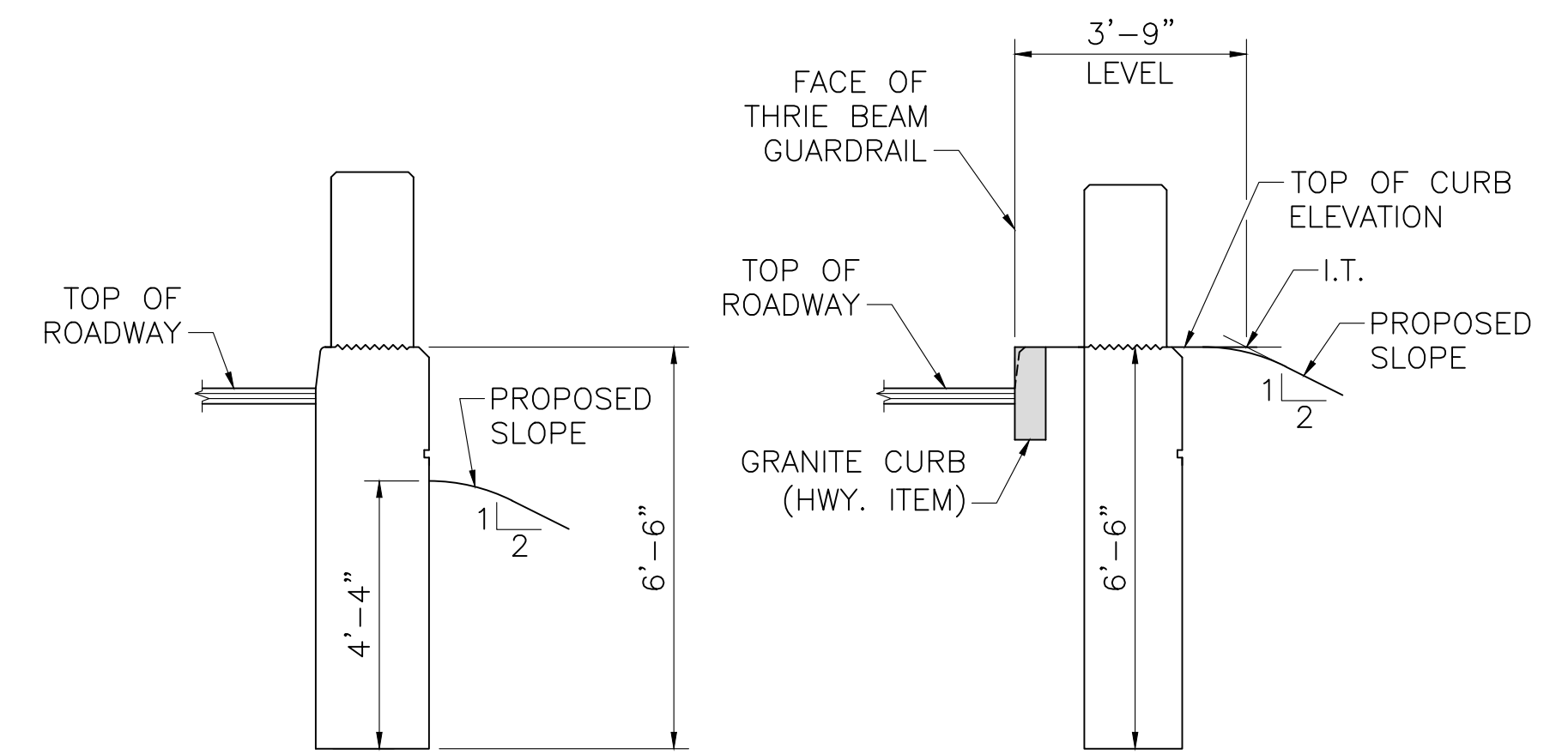


NOTE:

WINGWALL REINFORCEMENT AND STRIATIONS NOT SHOWN FOR CLARITY.

SECTION 10

SCALE: 1/2" = 1'-0"



SECTION 11

SCALE: 3/4" = 1'-0"

SECTION 12

SCALE: 3/4" = 1'-0"

NOTES:

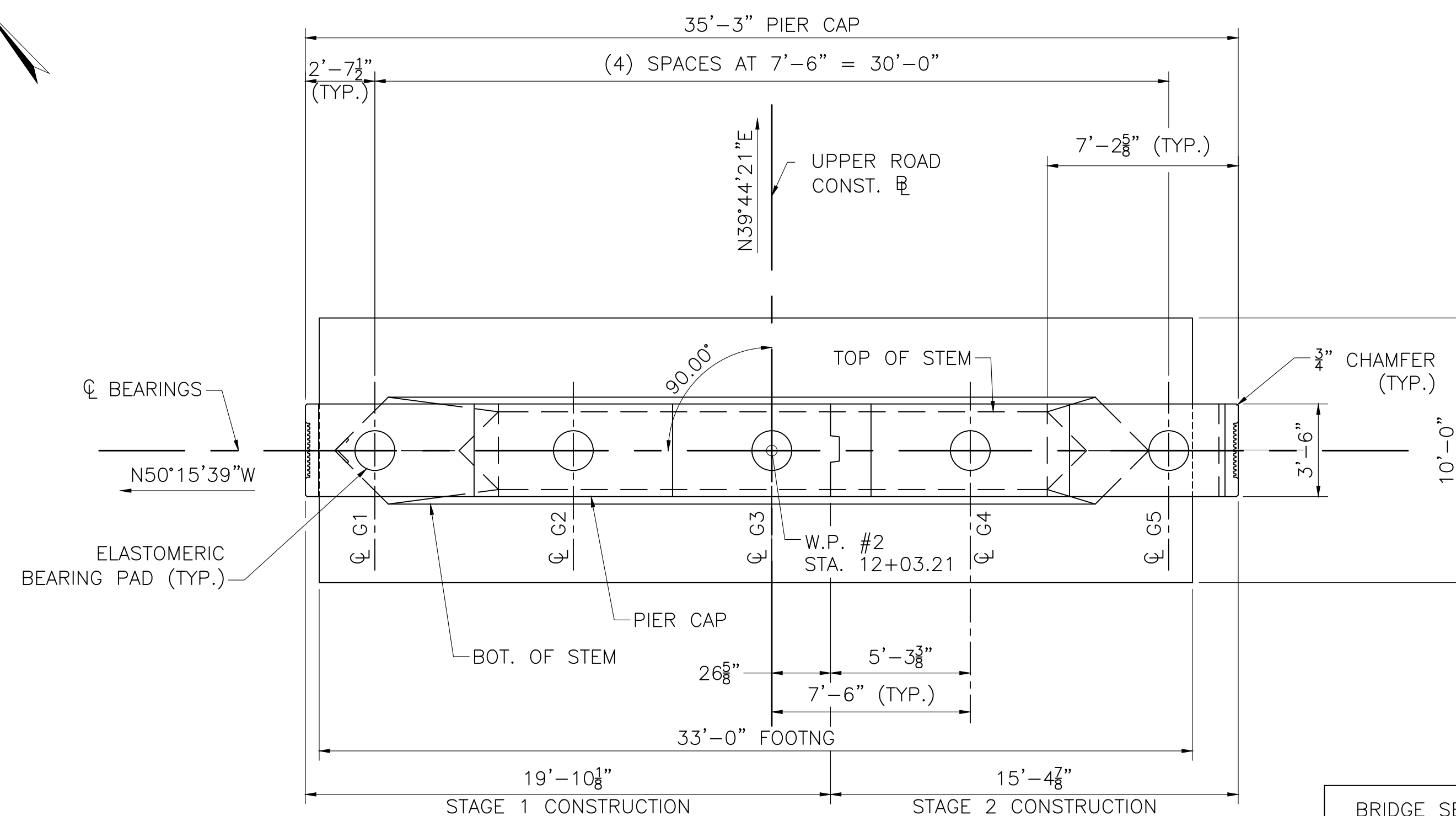
- GRAVEL BORROW SHALL BE PLACED AND THOROUGHLY COMPACTED TO THE GRADE OF 3" (MIN.) BELOW THE INTENDED BOTTOM OF THE PRECAST GUARDRAIL TRANSITION BASE AND TO A HEIGHT OF 2'-0" (MIN.) ON ALL SIDES OF THE TRANSITION BASE TO FORM A TRENCH IN WHICH TO SET THE TRANSITION. WHERE NO GRAVEL BORROW IS REQUIRED BELOW THE BASE, IT SHALL BE PLACED ON UNDISTURBED SOIL.
- CONTRACTOR SHALL SET THE PRECAST GUARDRAIL TRANSITION TO THE REQUIRED ELEVATION AND ALIGNMENT, AND BACKFILL PRECAST GUARDRAIL TRANSITION WITH CONTROLLED DENSITY FILL (NON-EXCAVATABLE) TO THE ELEVATION SHOWN.
- BACKFILL THE REMAINDER OF EXCAVATION WITH GRAVEL BORROW, WHICH SHALL BE THOROUGHLY COMPACTED IN 12" LIFTS.

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DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

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PIER 1 PLAN AND ELEVATION



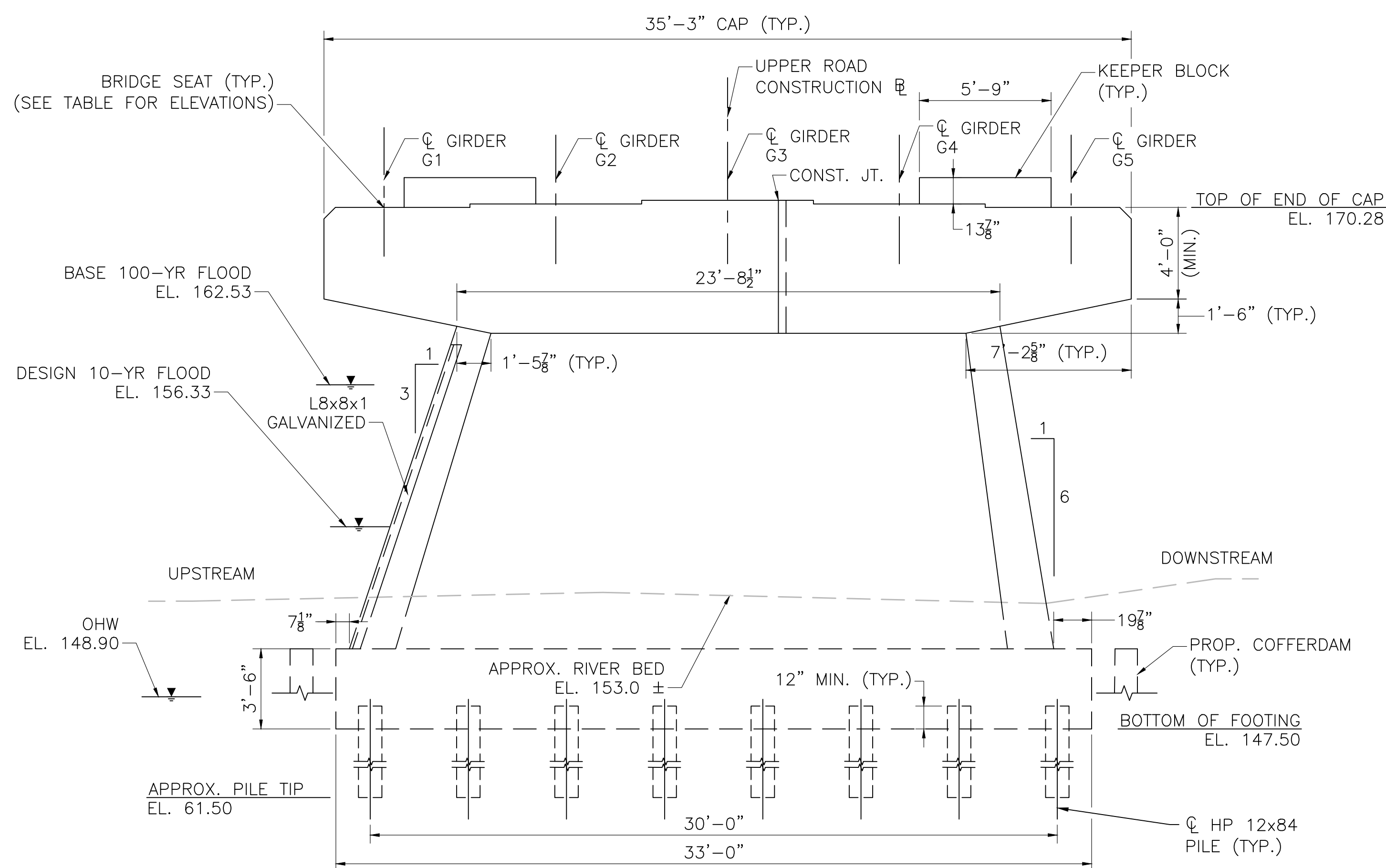
PIER 1 PLAN

SCALE: 1/4" = 1'-0"

BRIDGE SEAT ELEVATIONS	
G1	170.27
G2	170.43
G3	170.59
G4	170.43
G5	170.27

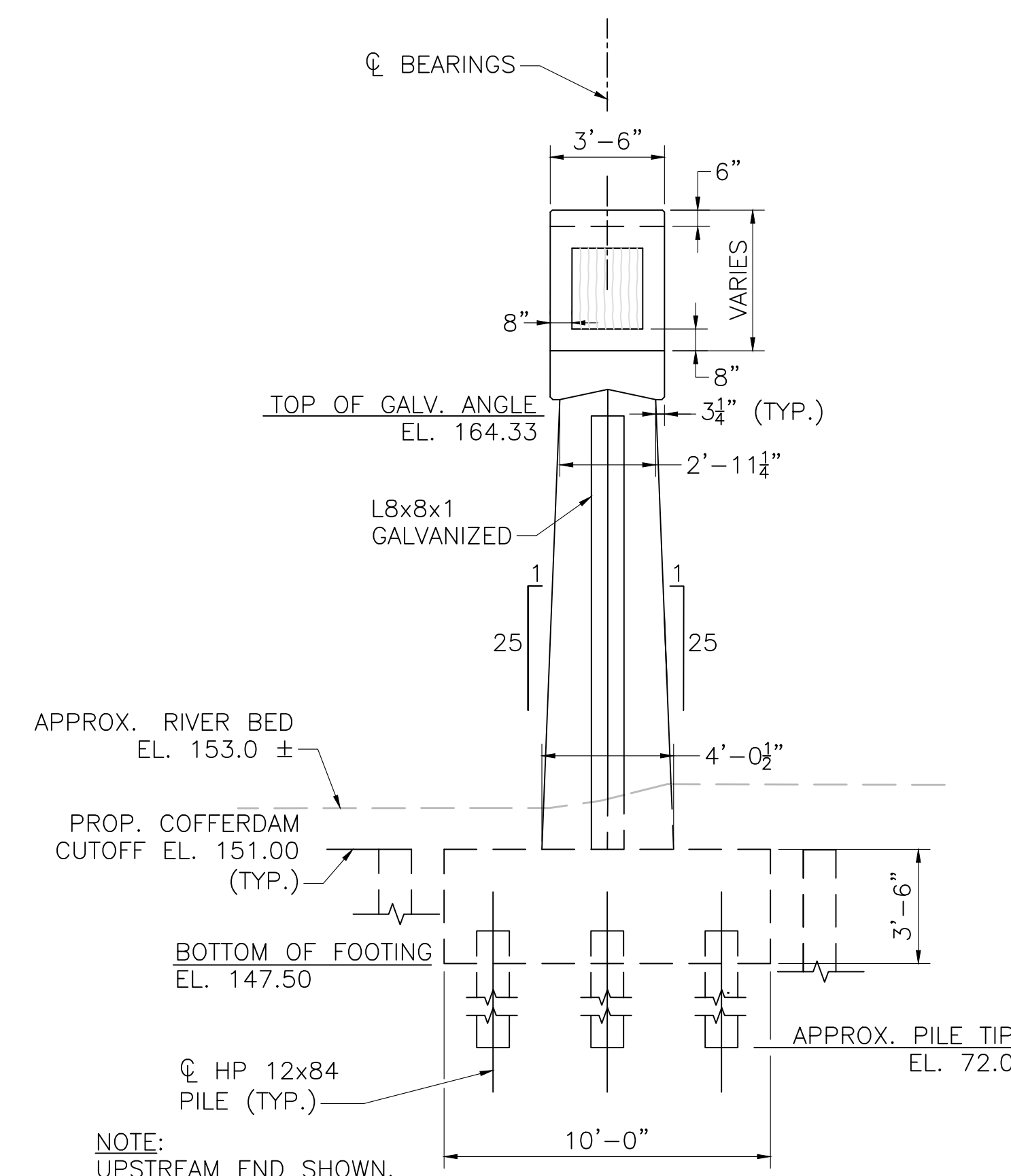
NOTES:

- SEE SHEET 15 FOR COFFERDAM LAYOUT AND DETAILS.
- SEE SHEET 16 FOR PILE AND FOUNDATION LAYOUT AND DIMENSIONS NOT SHOWN HERE.
- THE FACTORED AXIAL DESIGN LOAD PER PILE IS 180 KIPS AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION.
- THE FACTORED GEOTECHNICAL PILE RESISTANCE IS 180 KIPS AND IS THE PRODUCT OF THE NOMINAL GEOTECHNICAL RESISTANCE OF 400.0 KIPS AND A RESISTANCE FACTOR OF 0.45. THE ESTIMATED TIP ELEVATION IS 61.5 FEET.
- DETERMINATION OF THE DRIVEN PILE RESISTANCE, PILE DRIVING CRITERIA, AND PILE INTEGRITY SHALL BE PERFORMED ON THE FIRST PILE INSTALLED FOR EACH PHASE OF PROPOSED PIER NO. 1 CONSTRUCTION USING DYNAMIC TESTING WITH A RESISTANCE FACTOR OF 0.65. PILES SHALL BE INSTALLED TO ACHIEVE A FACTORED DRIVEN RESISTANCE EQUAL TO OR GREATER THAN THE FACTORED AXIAL DESIGN LOAD NEGLECTING AN ESTIMATED 2.14 KIPS OF SIDE RESISTANCE THAT WILL BE LOST DUE TO 5.00 FEET OF DESIGN SCOUR.
- ALL PILE SPLICES SHALL BE EITHER BUTT JOINTS MADE USING COMPLETE JOINT PENETRATION WELDS OR MECHANICAL TYPE SPLICERS INSTALLED IN ACCORDANCE WITH THE APPROVED INSTALLATION NOTES. ALL SPICE WELDS WITHIN 37.5 FEET FROM PROPOSED PIER 1 SHALL BE 100% INSPECTED USING UT.
- THE CONTRACTOR SHALL SUBMIT A PILE SCHEDULE, PILE INSTALLATION, AND PILE DRIVING/TESTING PLAN FOR REVIEW AND APPROVAL BY THE ENGINEER.
- AFTER PILE DRIVING IS COMPLETE, THE CONTRACTOR SHALL SUBMIT PILE DRIVING LOGS INCLUDING THE FINAL TIP ELEVATIONS AND THE RESULTS OF ANY DYNAMIC OR STATIC LOAD TESTING. SIGNIFICANT DEVIATIONS SHALL BE NOTED AS REVISIONS ON THE CONSTRUCTION DRAWINGS.
- ALL PROPOSED H-PILES SHALL BE INSTALLED WITH A PILE SHOE ITEM NO. 948.5.
- PROPOSED PILES TO BE INSTALLED UTILIZING ITEM NO. 944.2 PRE-DRILLING FOR PILES AND ITEM NO. 944.3 DRILLING FOR PILE OBSTRUCTION AS APPROPRIATE AND IN ACCORDANCE WITH THE SPECIFICATION REQUIREMENTS.
- LAP SPLICES IN PIER WALL LONGITUDINAL REINFORCEMENT SHALL BE ALTERNATED AND STAGGERED AND SHOWN ON THE CONSTRUCTION DRAWINGS.
- BRIDGE SEAT REINFORCING IS REQUIRED FOR BRIDGE SEAT SUPPORTING BEAM 1 THROUGH BEAM 5.
- CONTRACTOR SHALL PREPARE THE SURFACE OF ANY PREVIOUSLY CAST CONCRETE BY WATER-BLAST TO REMOVE ALL LAITANCE AND DEBRIS.
- THE CONTRACTOR SHALL MAKE SURE THAT THE FORM LINER PANELS ARE ORIENTATED APPROPRIATELY, PLUMB AND LINED UP VERTICALLY FROM PANEL TO PANEL FOR THE FULL HEIGHT OF THE WALL.
- THE FORM LINER PANELS SHALL BE INSTALLED END TO END WITHOUT CREATING A VISIBLE SEAM IN THE FINAL CAST CONCRETE
- SEE SHEET 27 FOR CAP END DETAILS.
- SEE SHEET 27 FOR KEEPER BLOCK DETAILS.



PIER 1 ELEVATION

SCALE: 1/4" = 1'-0"



PIER 1 END ELEVATION

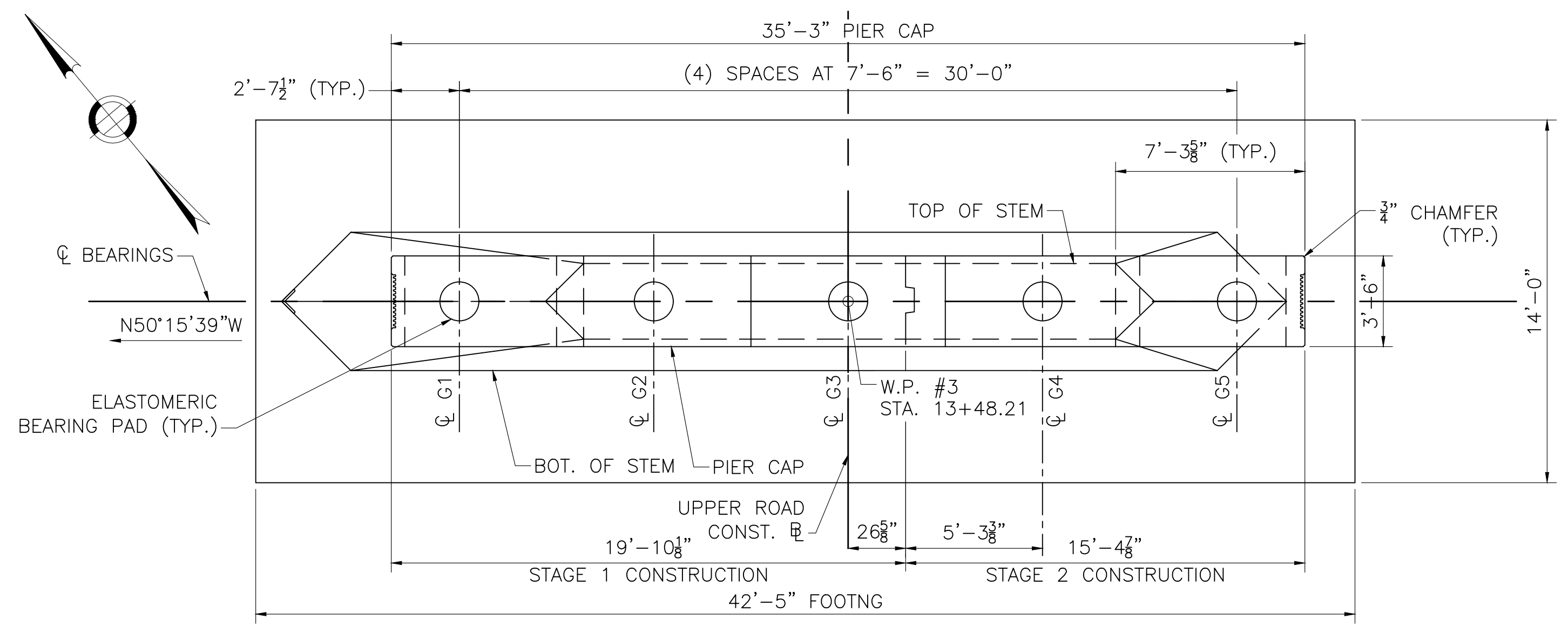
SCALE: 1/4" = 1'-0"

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DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

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PIER 2 PLAN AND ELEVATION



PIER 2 PLAN

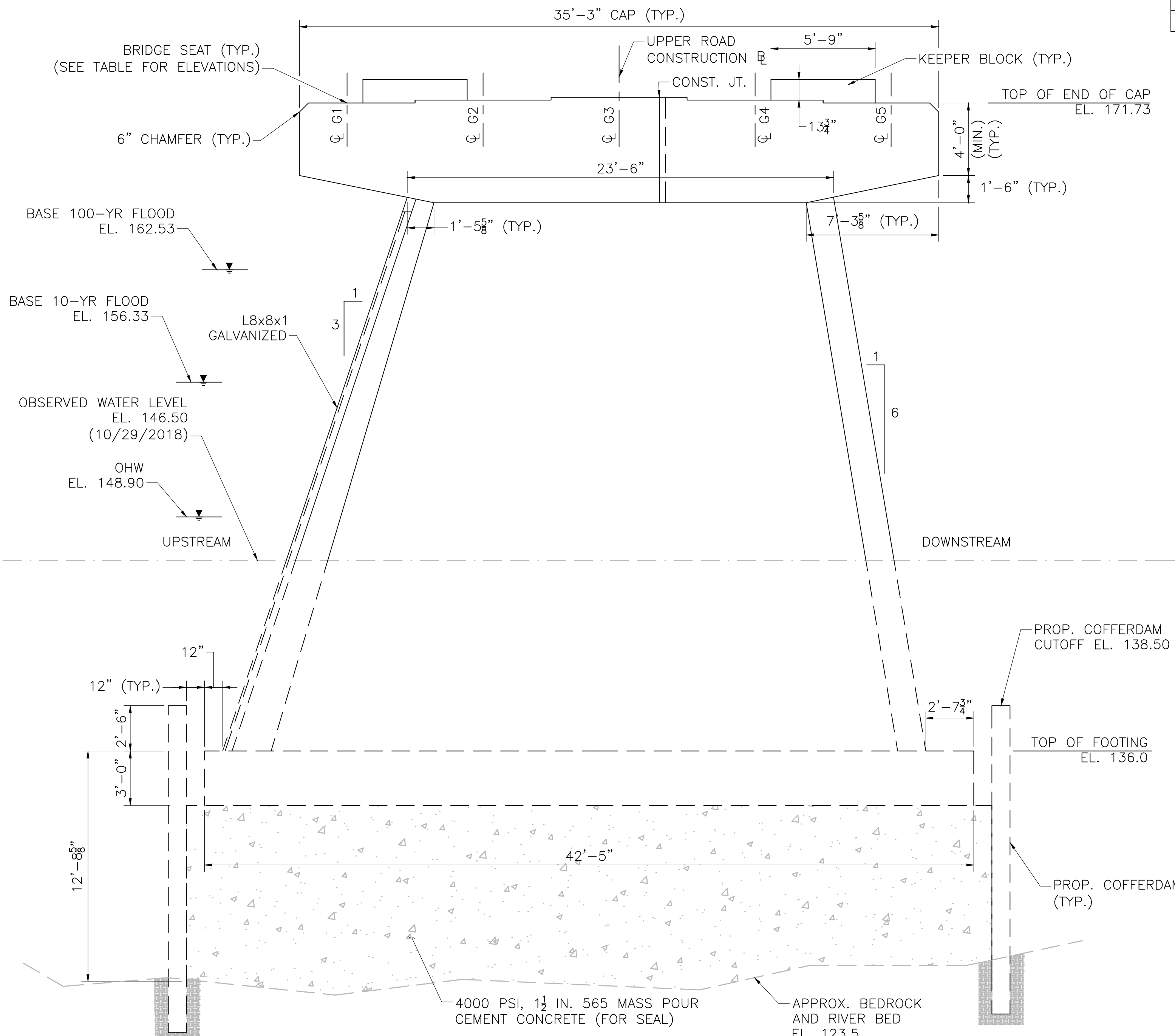
SCALE: 1/4" = 1'-0"

BRIDGE SEAT ELEVATIONS	
G1	171.72
G2	171.88
G3	172.04
G4	171.88
G5	171.72

NOTES:

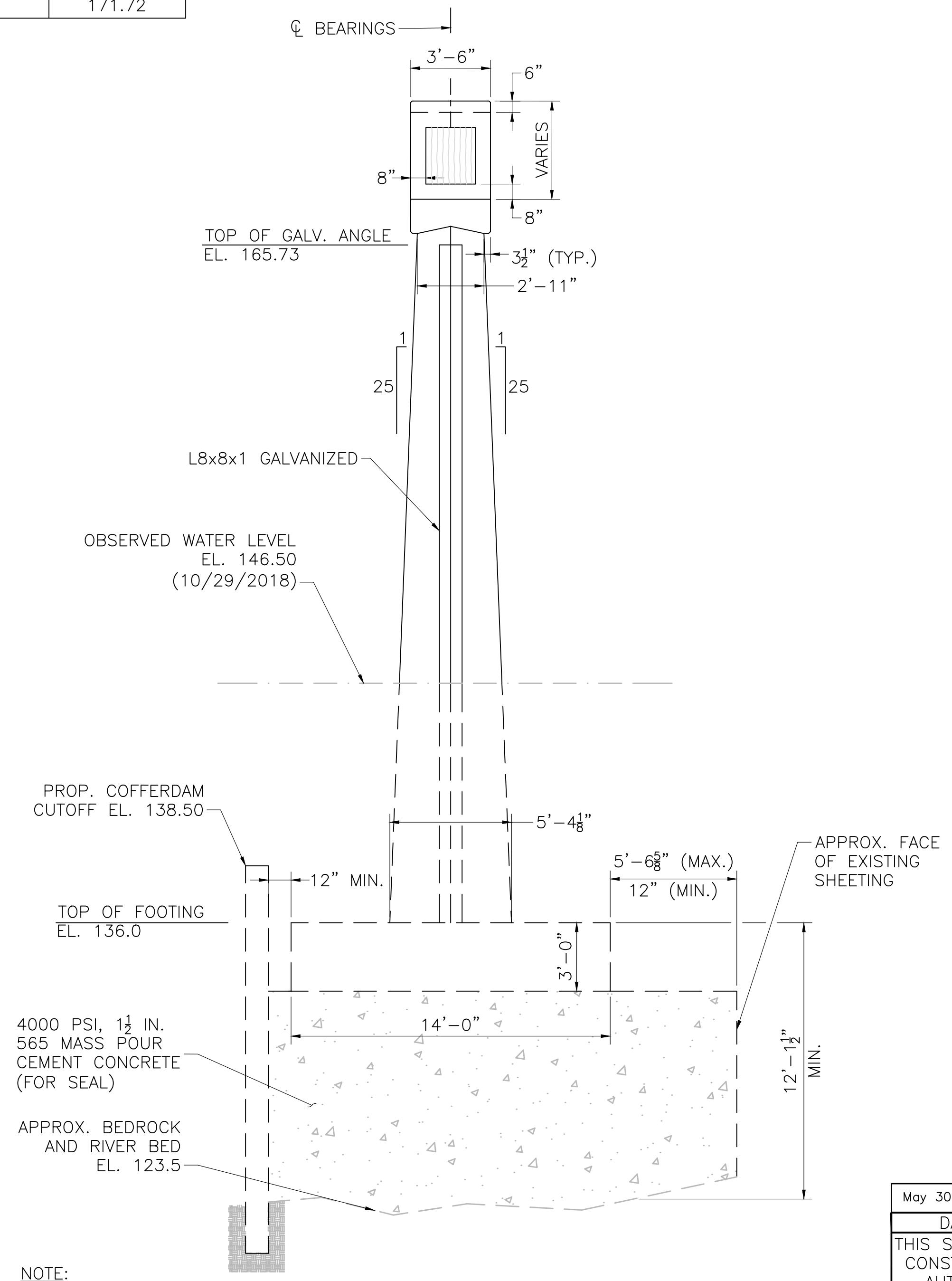
- SEE SHEET 15 FOR COFFERDAM LAYOUT AND DETAILS.
- THE FACTORED BEARING PRESSURE AT PIER 2 = 10.23 KSF AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION.

FACTORED BEARING RESISTANCE = 17.3 KSF. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE OF 38.4 KSF AND A RESISTANCE FACTOR OF 0.45.
- PROPOSED COFFERDAM AT PIER 2 SHALL BE CUT DOWN TO THE TOP OF FOOTING AND LEFT IN PLACE.



PIER 2 ELEVATION

SCALE: 1/4" = 1'-0"



PIER 2 END ELEVATION

SCALE: 1/4" = 1'-0"

NOTE:
UPSTREAM END SHOWN.

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608634_BR26.DWG Plotted on 18-May-2026 3:28 PM

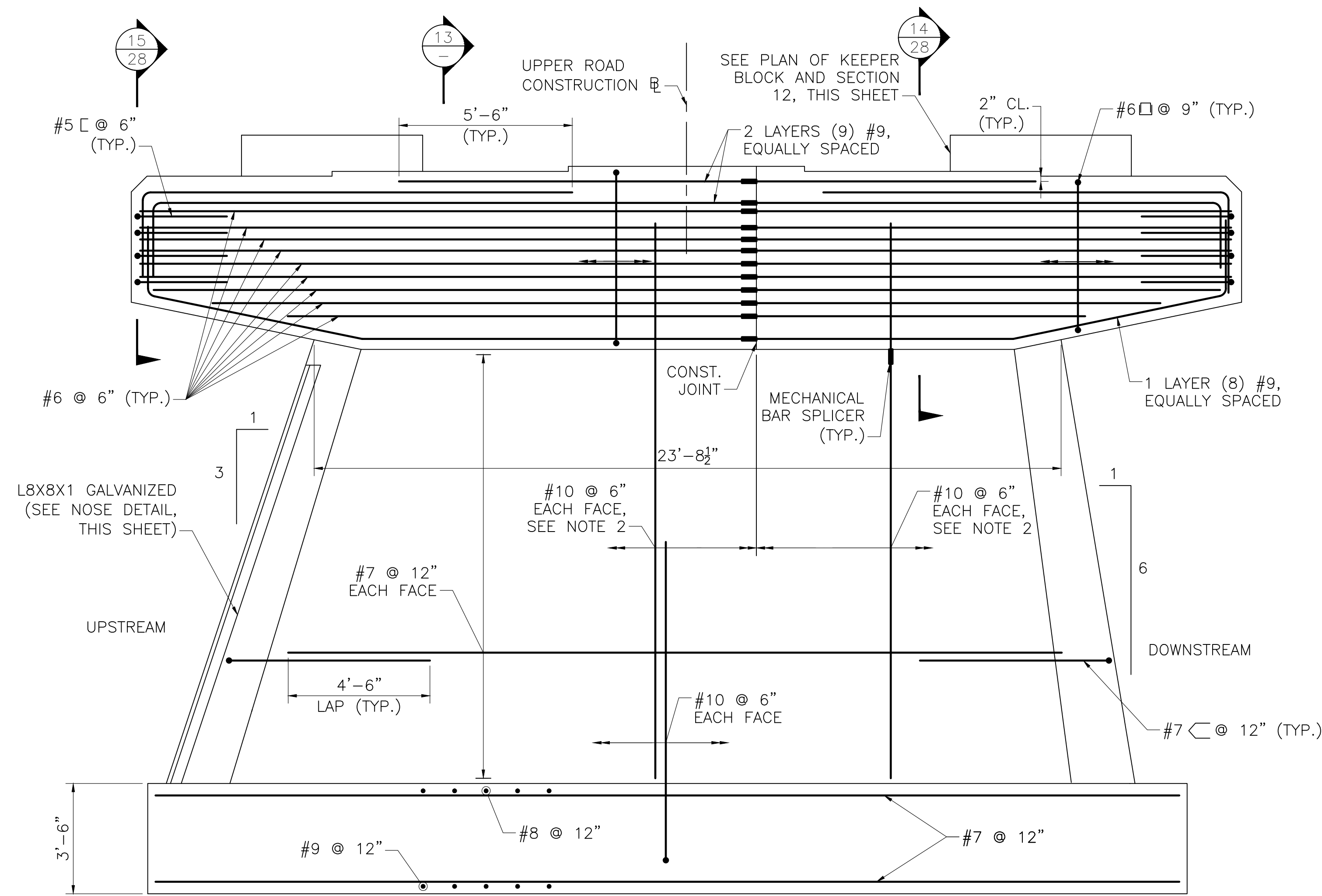
08-April-2026

Final Structural Submittal (SF)

DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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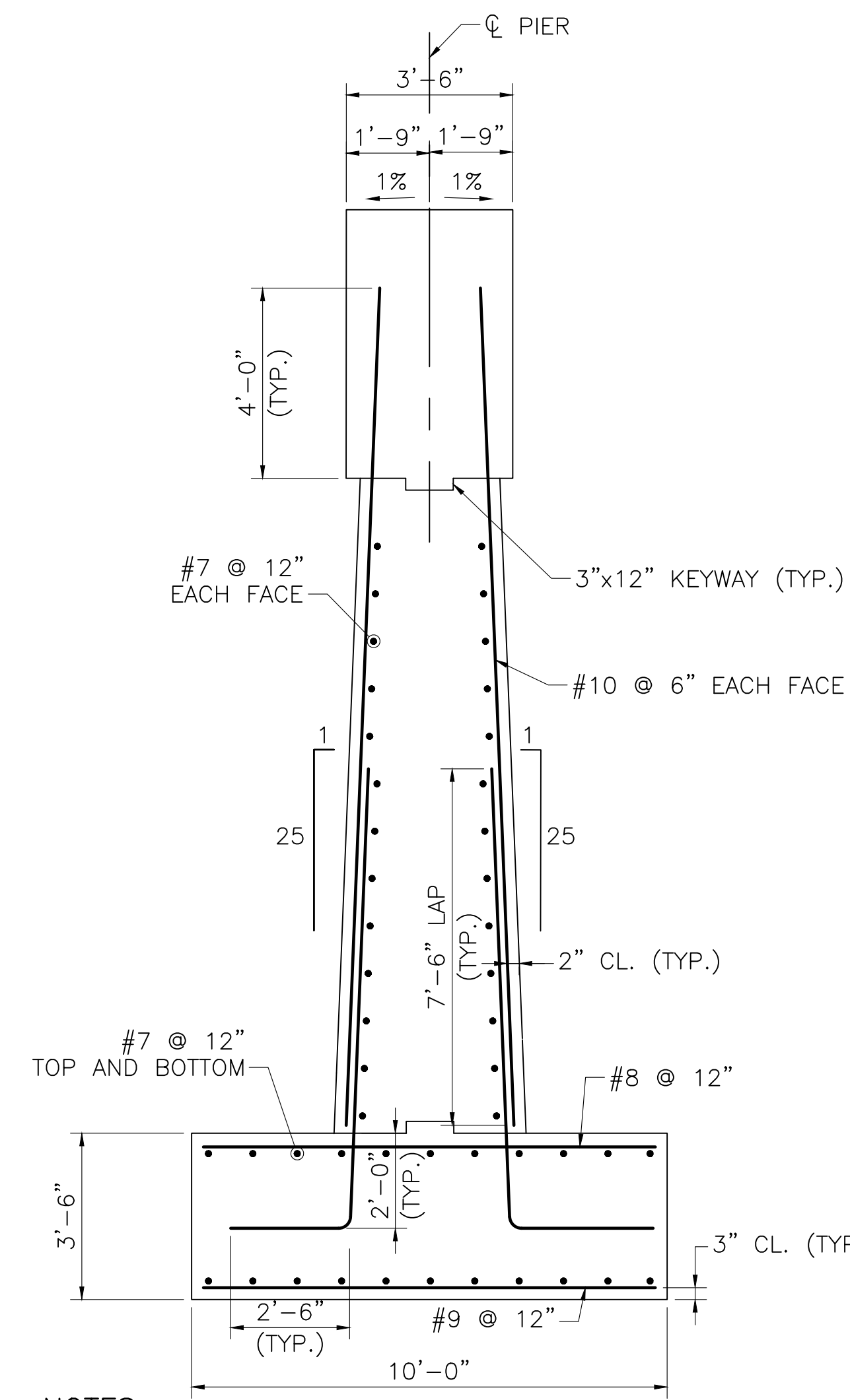
PIER SECTIONS AND DETAILS 1 OF 2



- NOTES:**
- PILES NOT SHOWN FOR CLARITY.
 - VERTICAL BARS SHALL NOT BE SPLAYED WITHIN LIMITS OF FLARED PIER NOSE. BARS SHALL BE STRAIGHT AND CUT TO LENGTH.

ELEVATION - PIER NO. 1 REINFORCING

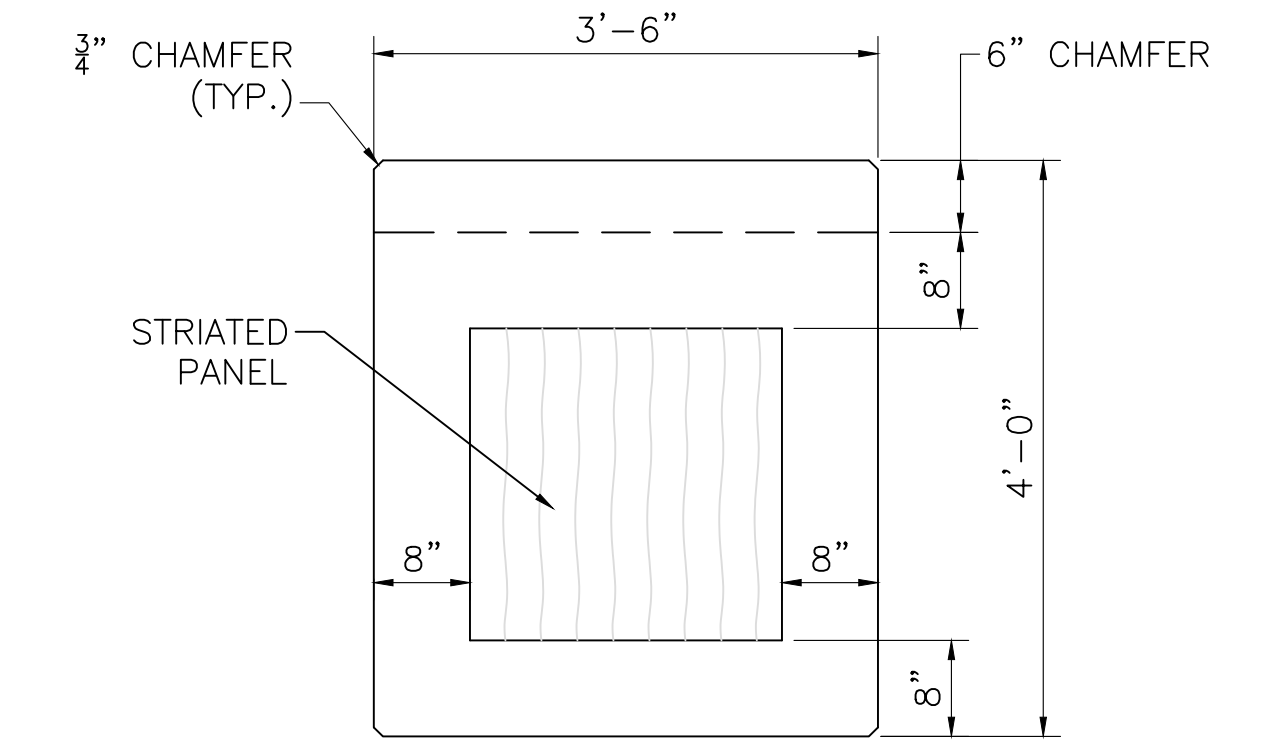
SCALE: $\frac{3}{8}$ " = 1'-0"



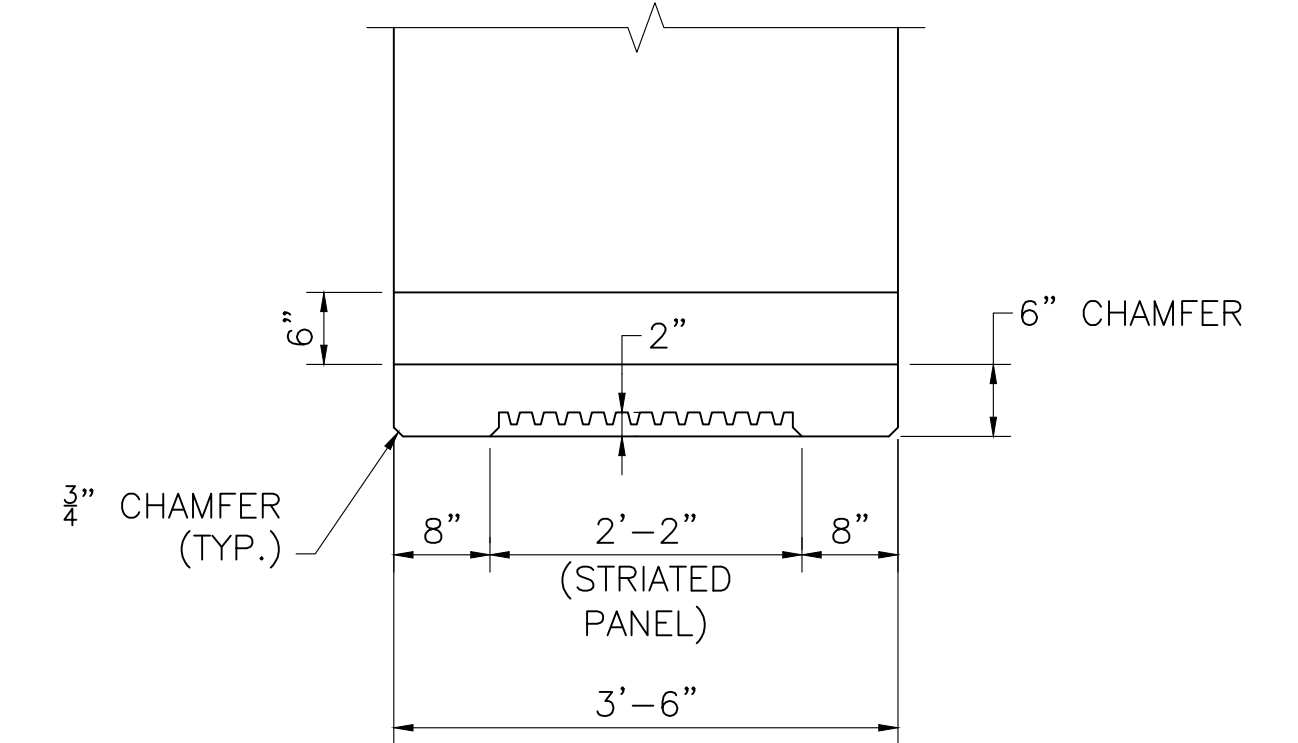
- NOTES:**
- FOR PIER CAP REINFORCEMENT, REFER TO SECTIONS 12 AND 13, SHEET 28.
 - ADJUST HOOK BARS AS NEEDED TO AVOID PILES.

SECTION 13

SCALE: $\frac{3}{8}$ " = 1'-0"



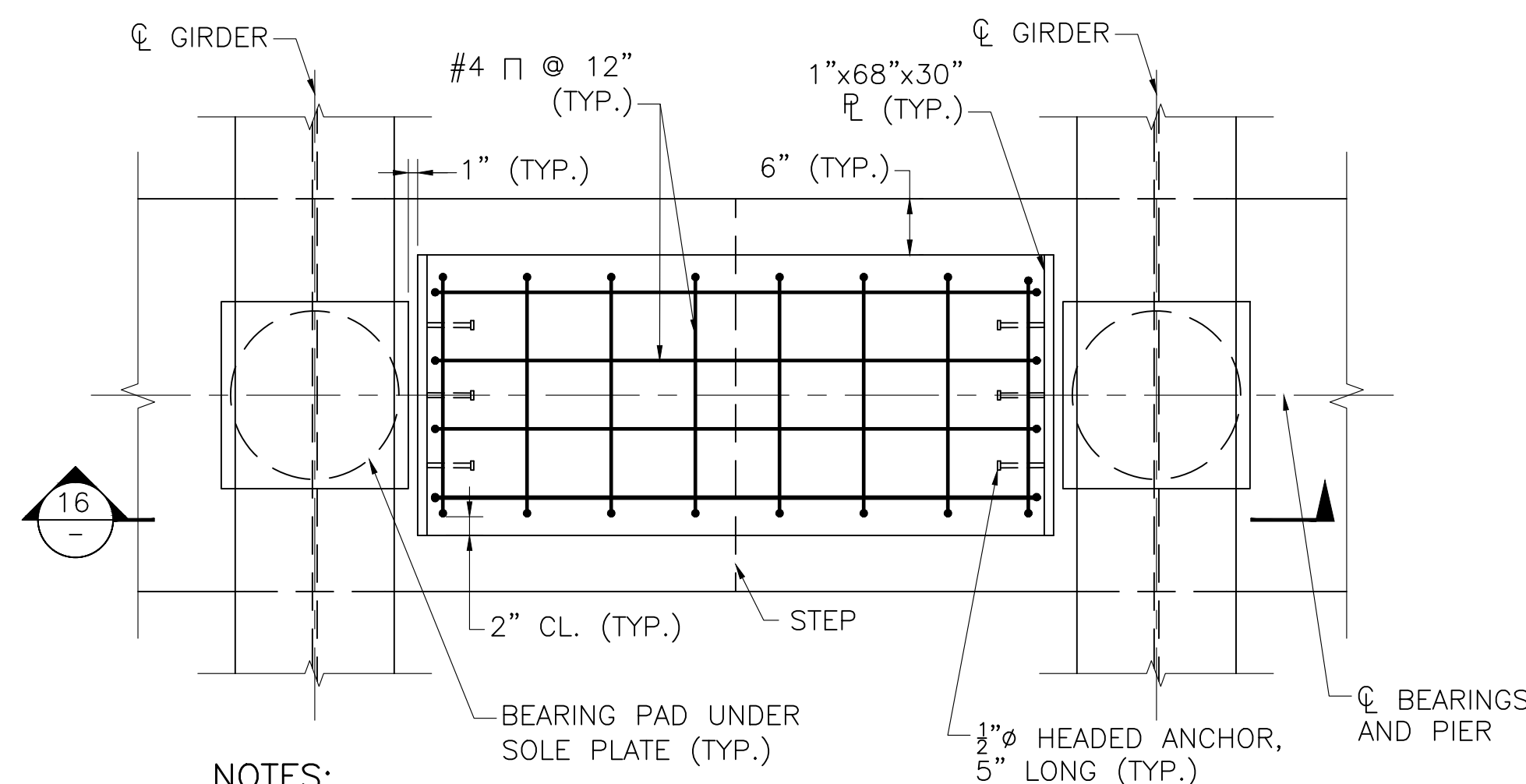
ELEVATION



PLAN

PIER CAP ENDS

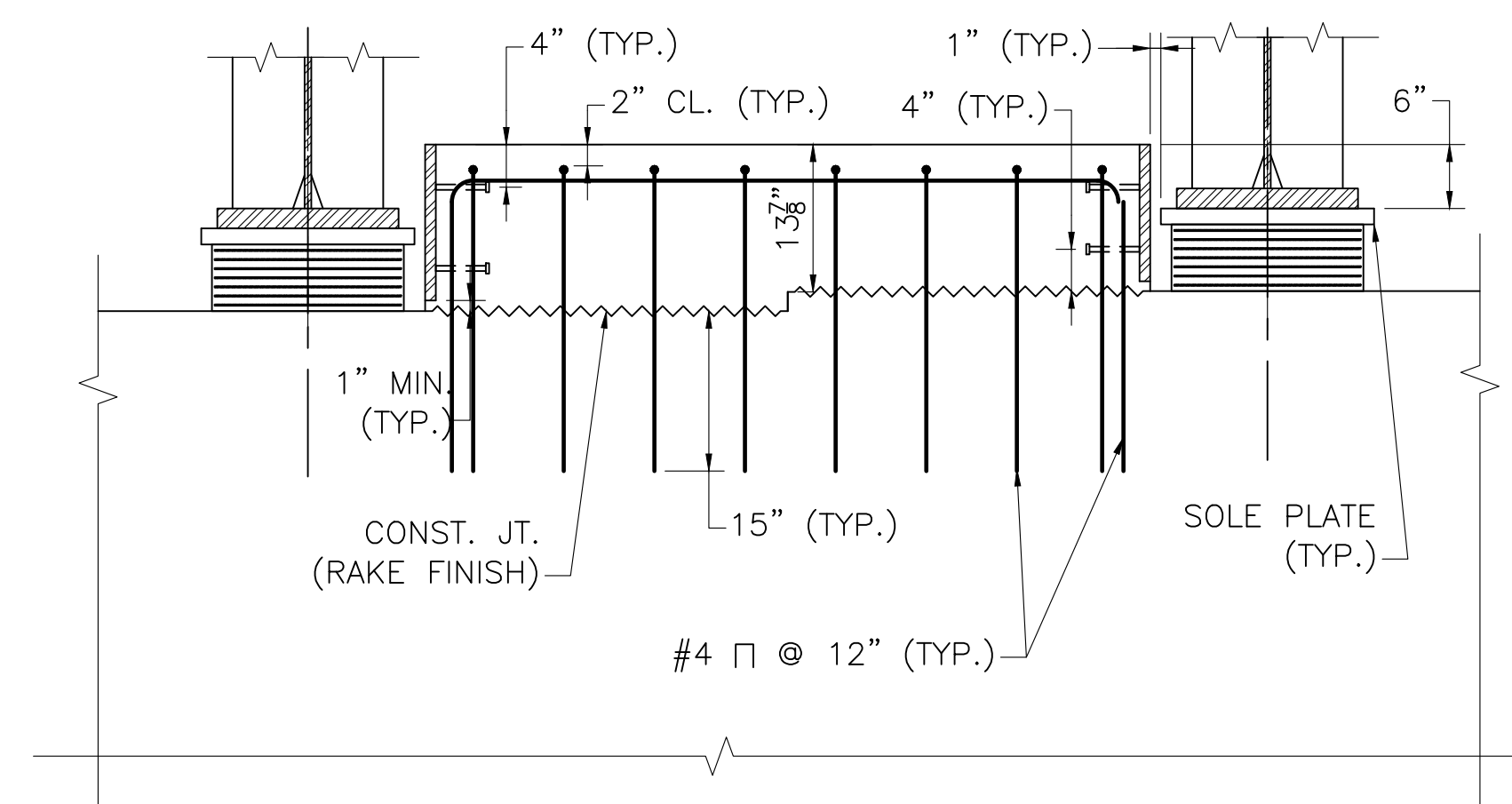
SCALE: $\frac{3}{4}$ " = 1'-0"



- NOTES:**
- KEEPER BLOCKS SHALL BE CAST BEFORE BEAMS ARE SET.
 - STEEL PLATES EMBEDDED IN KEEPER BLOCK SHALL BE HOT-DIP GALVANIZED.

PLAN OF KEEPER BLOCK

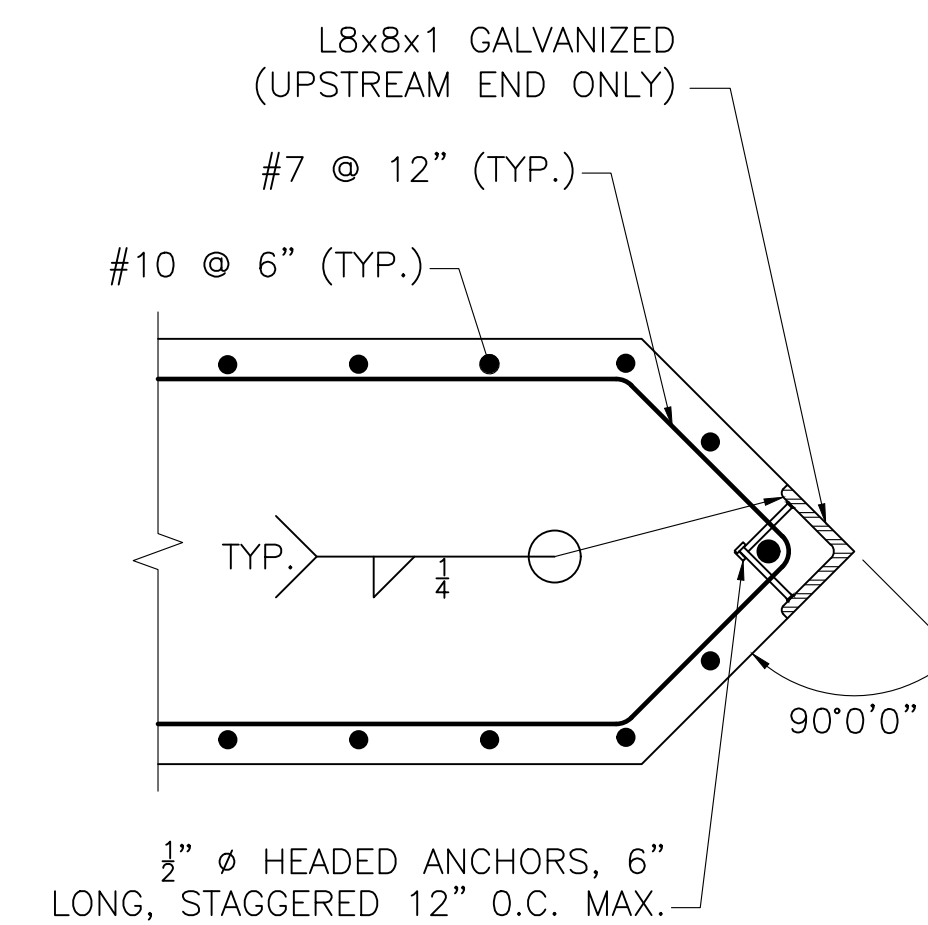
SCALE: $\frac{3}{4}$ " = 1'-0"



- NOTE:**
- TOP OF INTERMEDIATE KEEPER BLOCK SHALL BE TROWELED SMOOTH.
 - REMAINDER OF PIER CAP REINFORCEMENT OMITTED FOR CLARITY.

SECTION 16

SCALE: $\frac{3}{4}$ " = 1'-0"



NOSE DETAIL

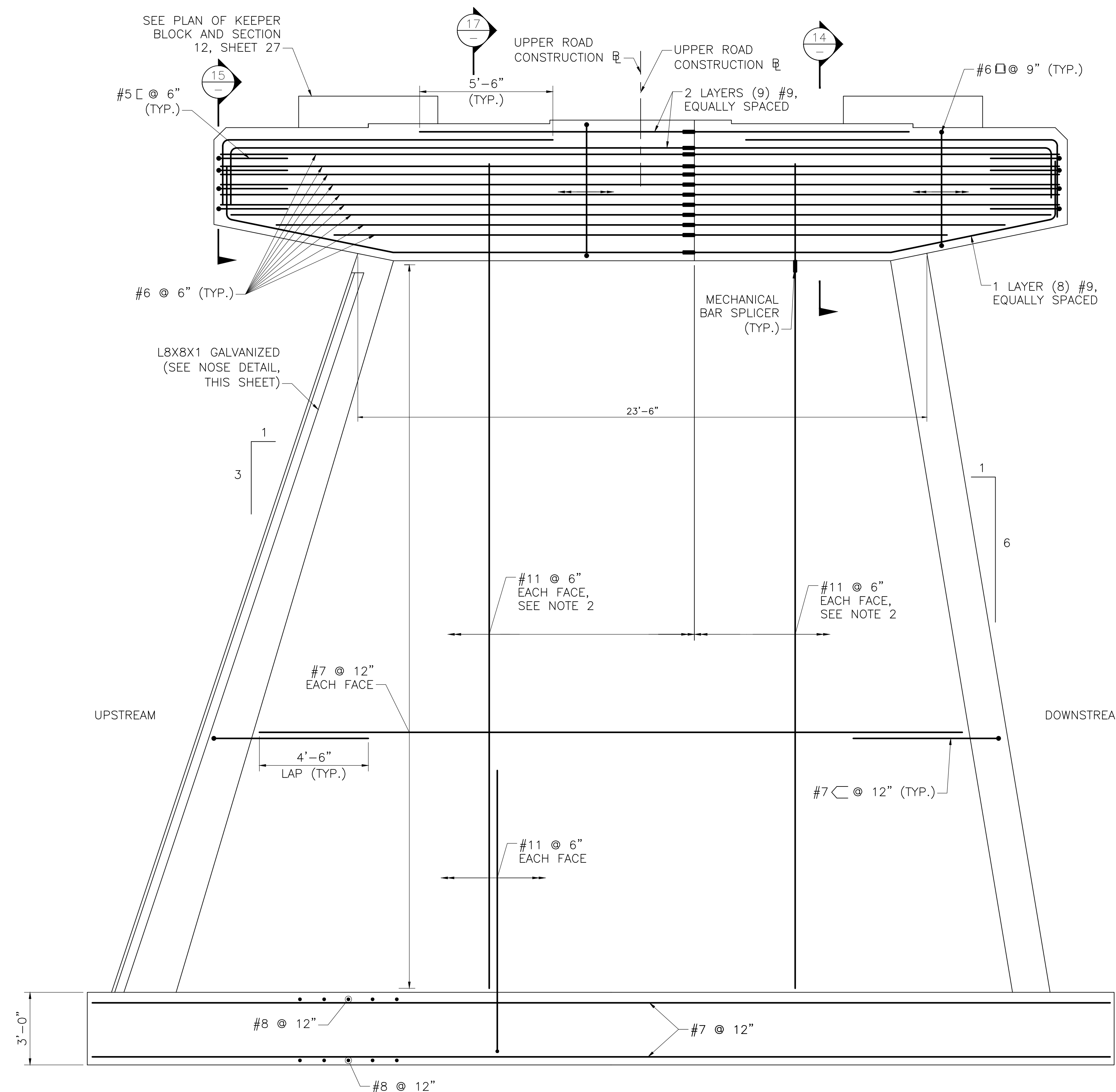
SCALE: $\frac{3}{4}$ " = 1'-0"

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DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

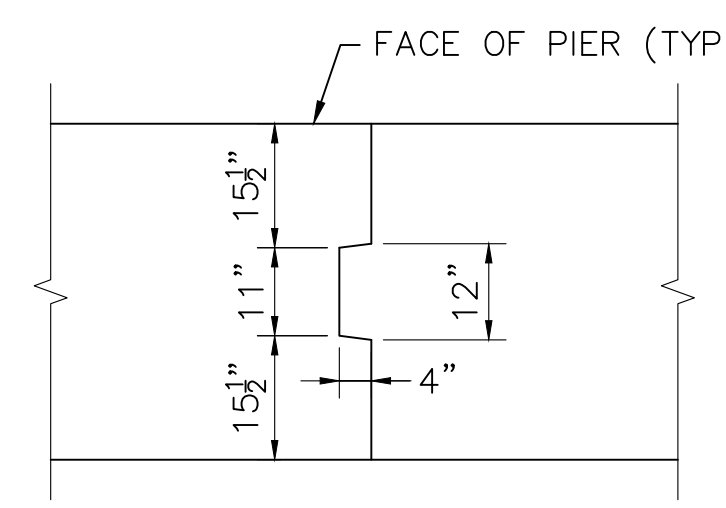
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	64	92
PROJECT FILE NO.		608634	

PIER SECTIONS AND DETAILS 2 OF 2

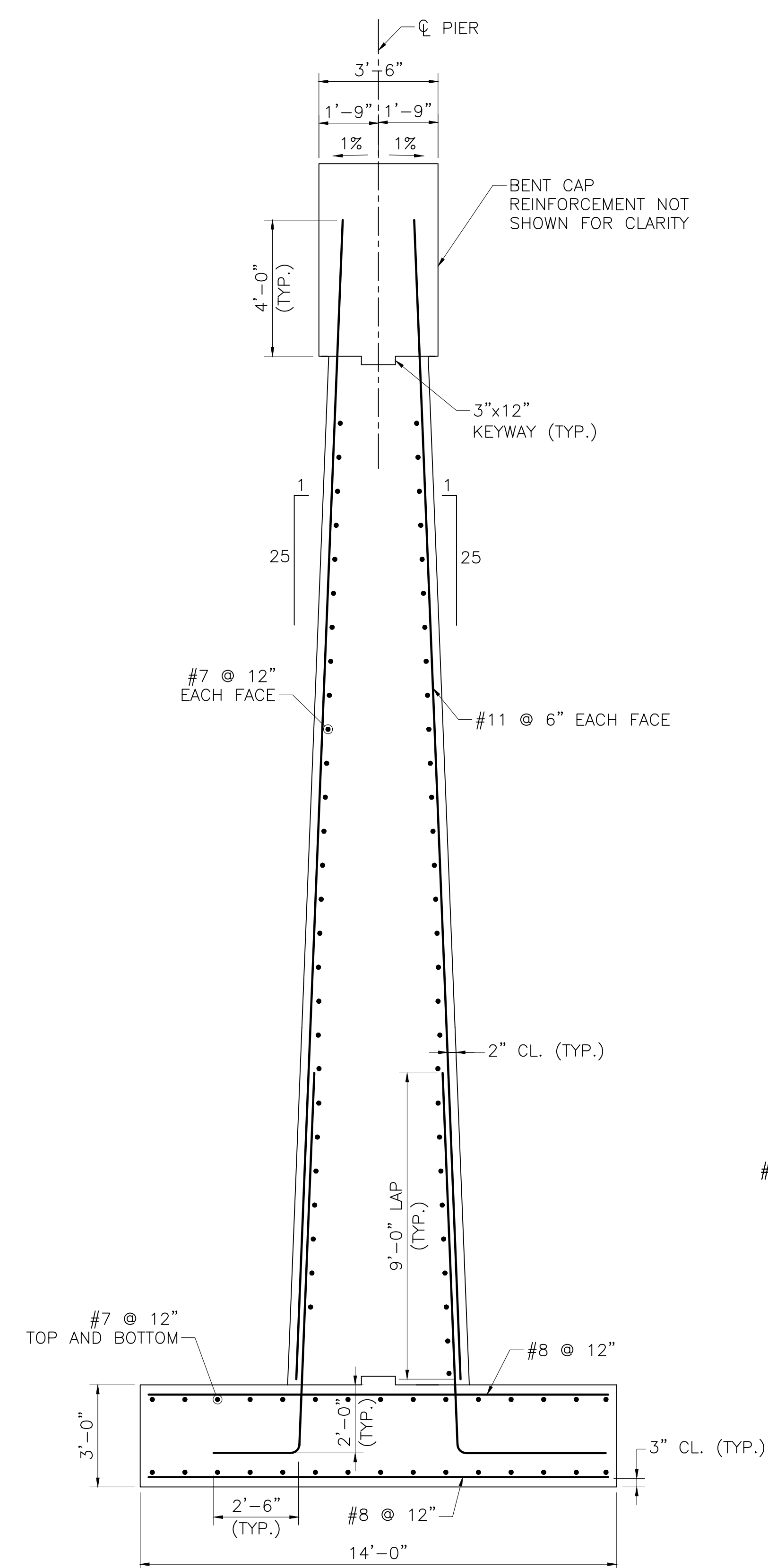


ELEVATION - PIER NO. 2 REINFORCING
SCALE: 3/8" = 1'-0"

NOTES:
VERTICAL BARS SHALL NOT BE SPLAYED WITHIN LIMITS OF FLARED PIER NOSE. BARS SHALL BE STRAIGHT AND CUT TO LENGTH.

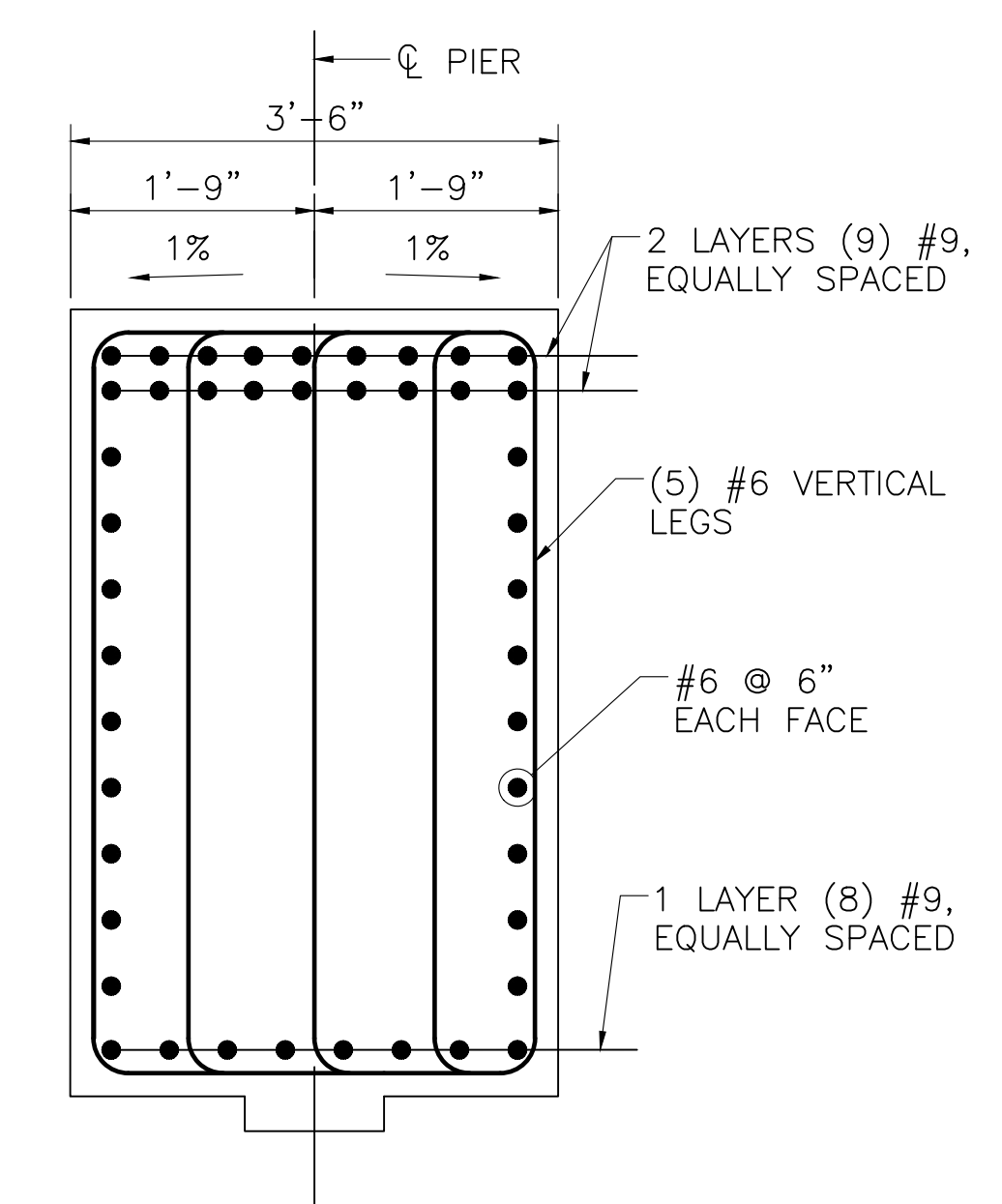


PIER CAP CONSTRUCTION JOINT DETAIL
SCALE: 1/2" = 1'-0"

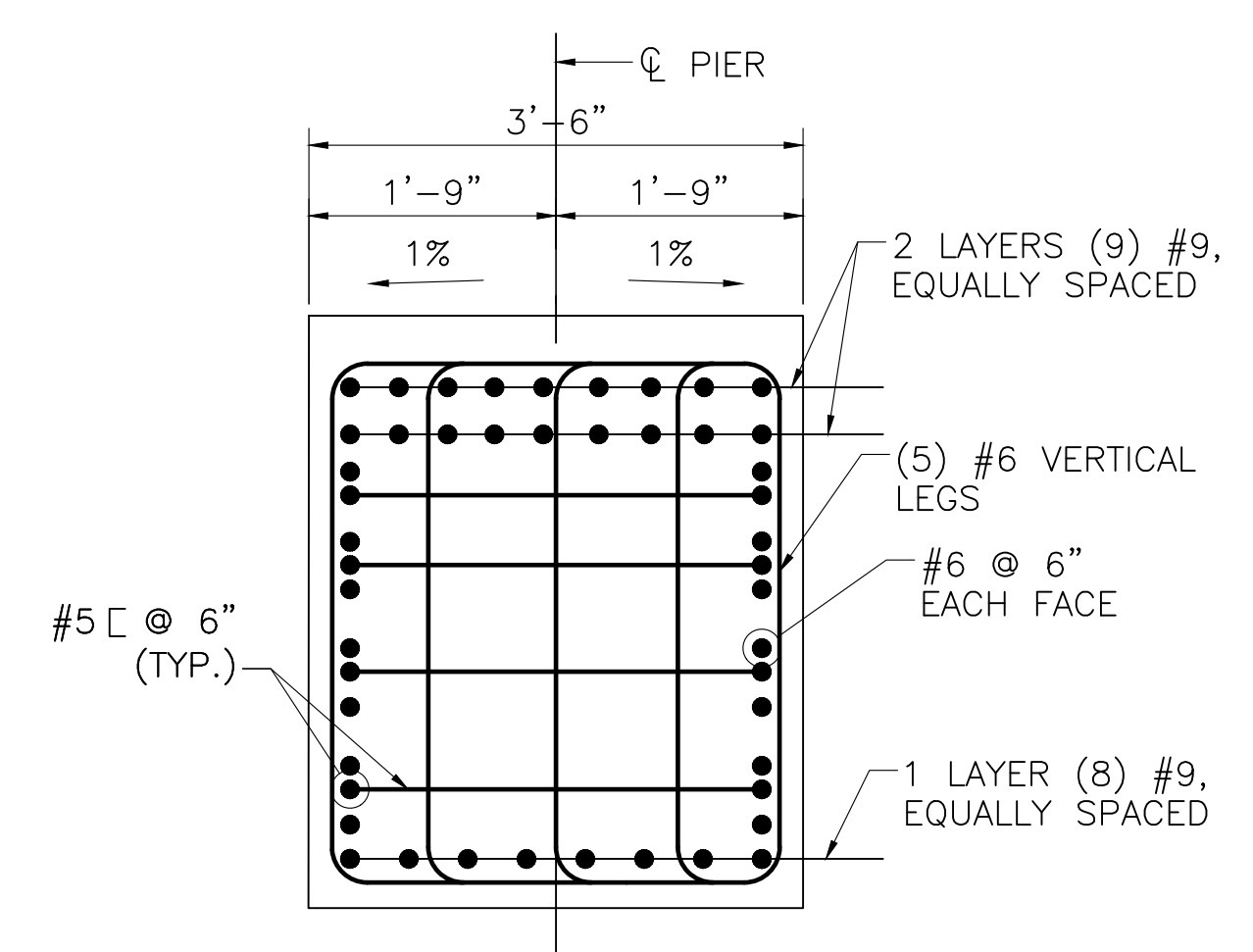


NOTES:
FOR PIER CAP REINFORCEMENT, REFER TO SECTIONS 12 AND 13, THIS SHEET.

SECTION 17
SCALE: 3/8" = 1'-0"



SECTION 14
SCALE: 3/4" = 1'-0"



SECTION 15
SCALE: 3/4" = 1'-0"

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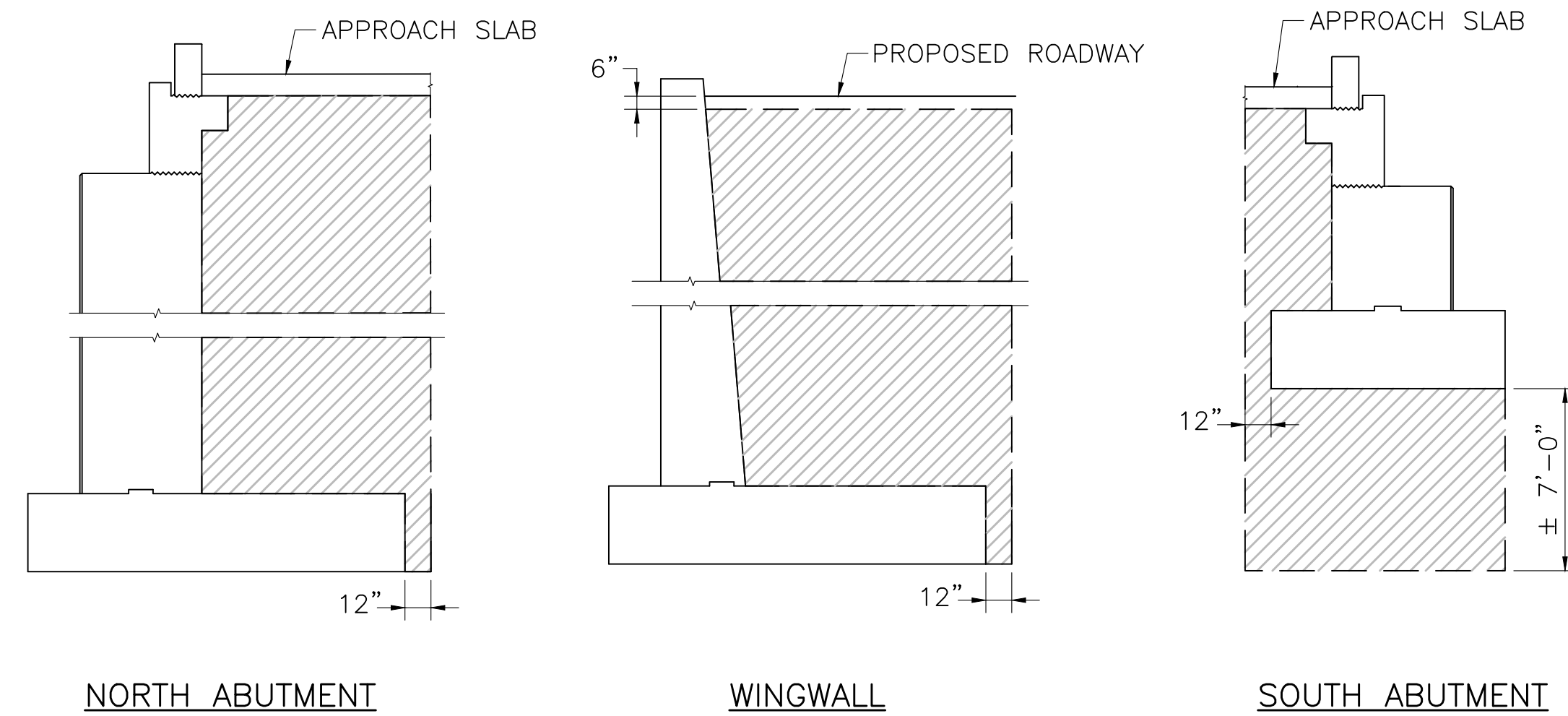
Z:\Shared\Engineering\Projects\2015\1003110033\21X - Deerfield Upper Road\608634\DWG\Bridge\Current Design\Reinforc. BR28.dwg

608634_BR28.DWG Plotted on 18-May-2026 3:29 PM

08-April-2026

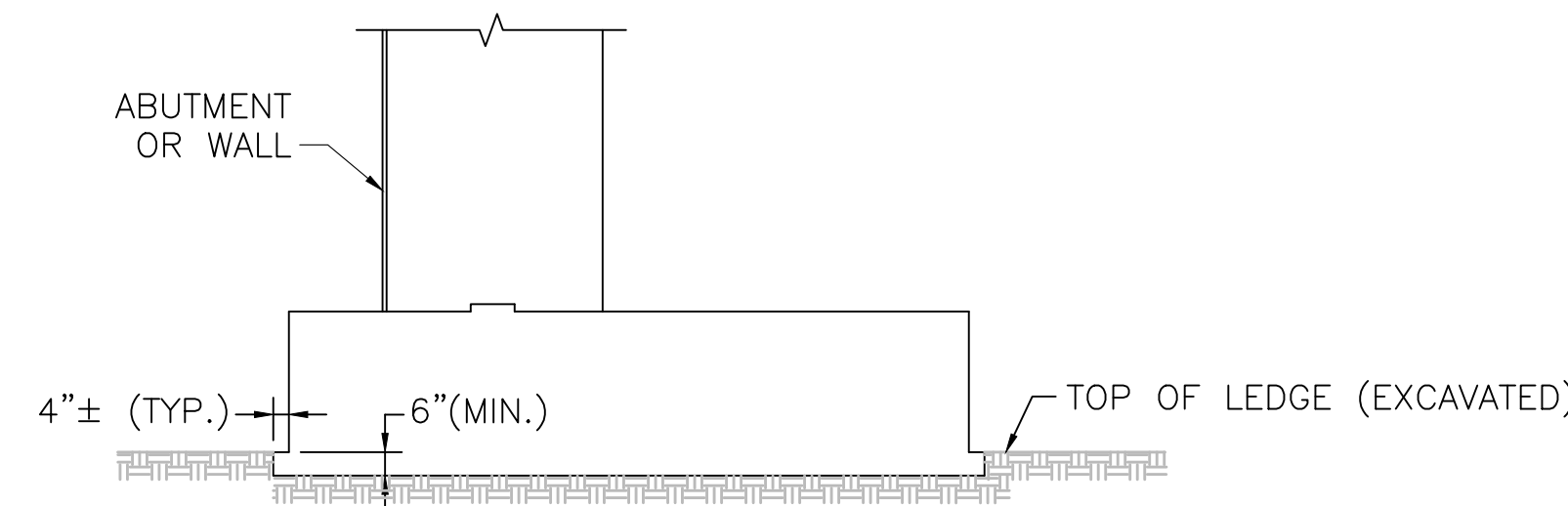
Final Structural Submittal (SF)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	65	92
PROJECT FILE NO.		608634	

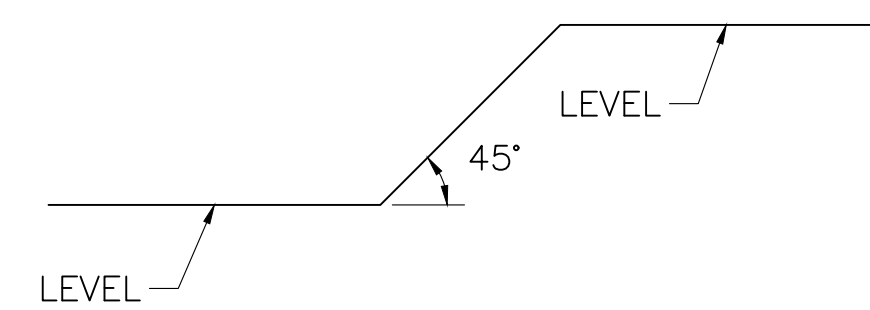


NOTE:
HATCHED AREA INDICATES LIMITS OF GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES.

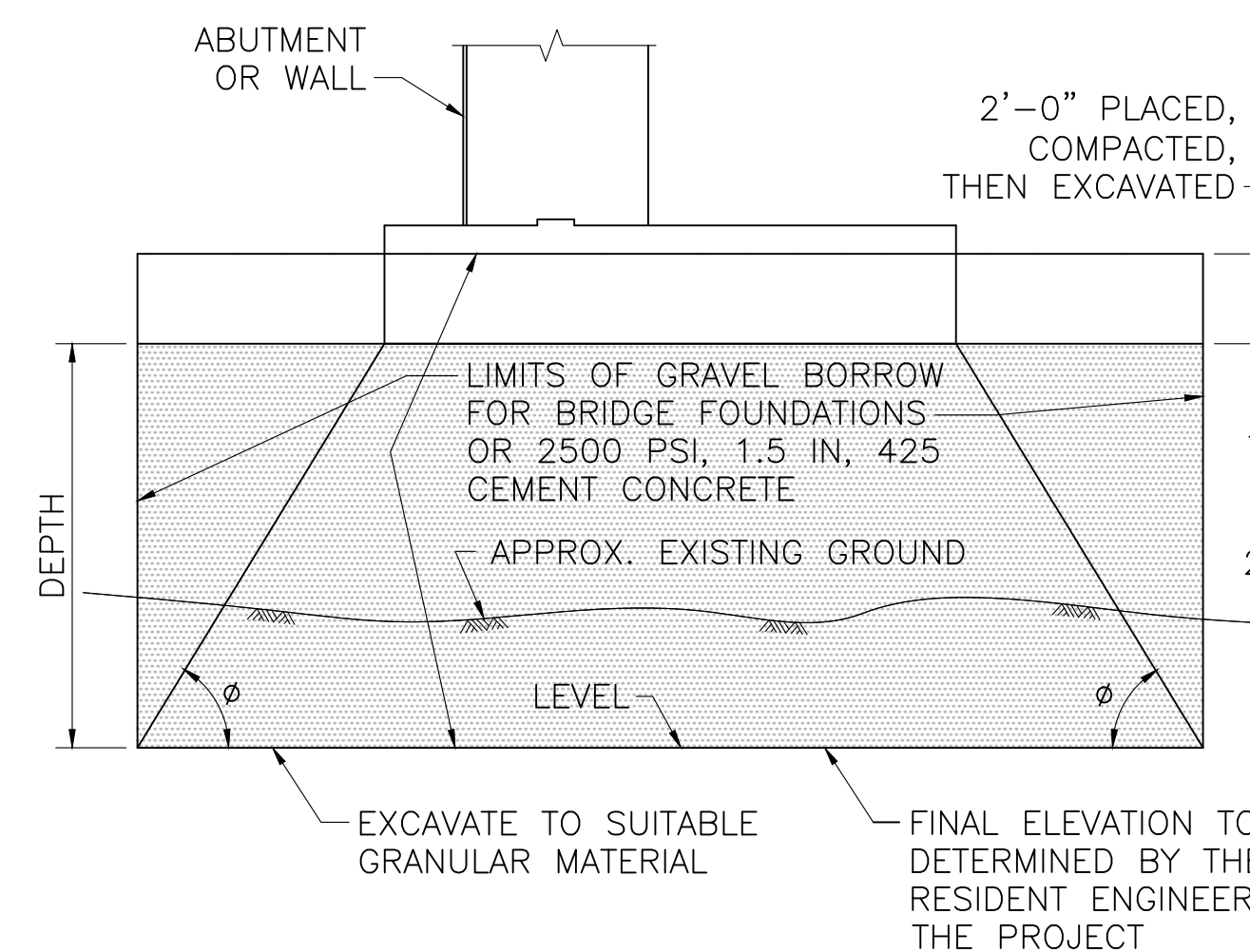
LIMITS OF GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES
SCALE: $\frac{3}{16}$ " = 1'-0"



NOTES:
BOTTOM OF ABUTMENT OR WALL SHALL BE STEPPED ALONG ITS LENGTH TO CONFORM WITH BEDROCK.

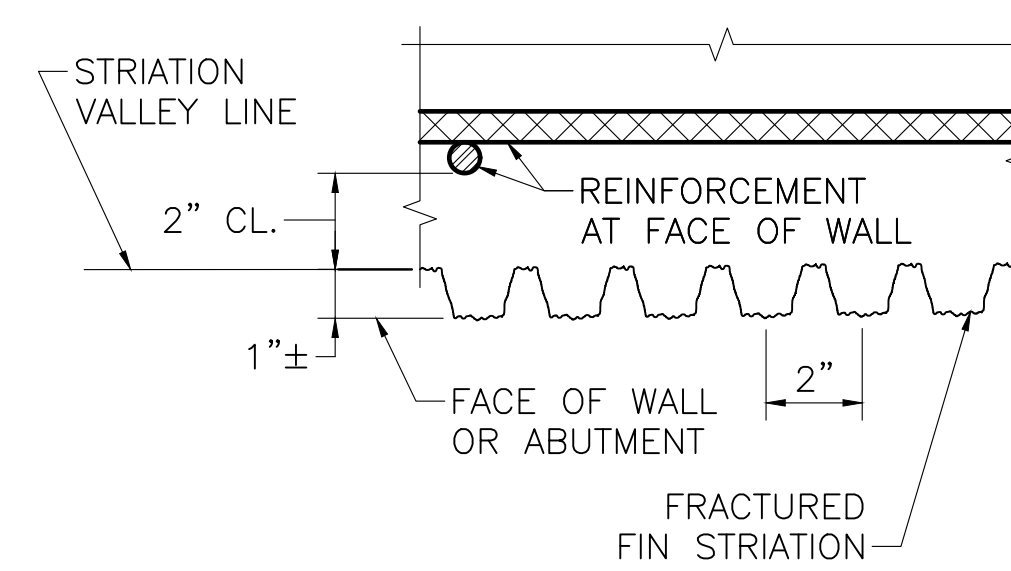


MODIFICATIONS FOR FOOTINGS ON LEDGE
SCALE: 3" = 1'-0"



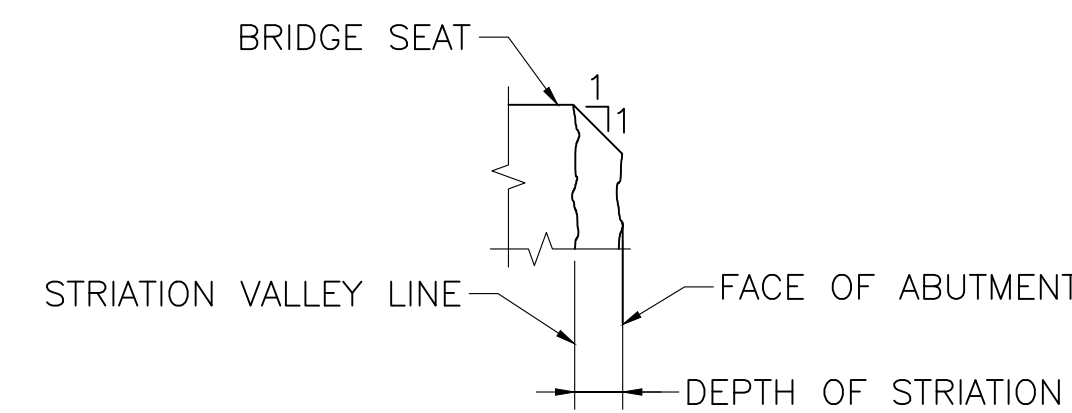
NOTES:
1. $\phi = 45^\circ$ FOR DEPTH OF 5'-0" OR LESS.
 $\phi = 60^\circ$ FOR DEPTH OVER 5'-0".
2. SAME TREATMENT IS TO BE USED AT ENDS OF WALLS, PIERS, AND ABUTMENTS.

LIMITS OF GRAVEL BORROW FOR BRIDGE FOUNDATIONS AND 2500 PSI, 1.5 IN, 425 CEMENT CONCRETE
NOT TO SCALE

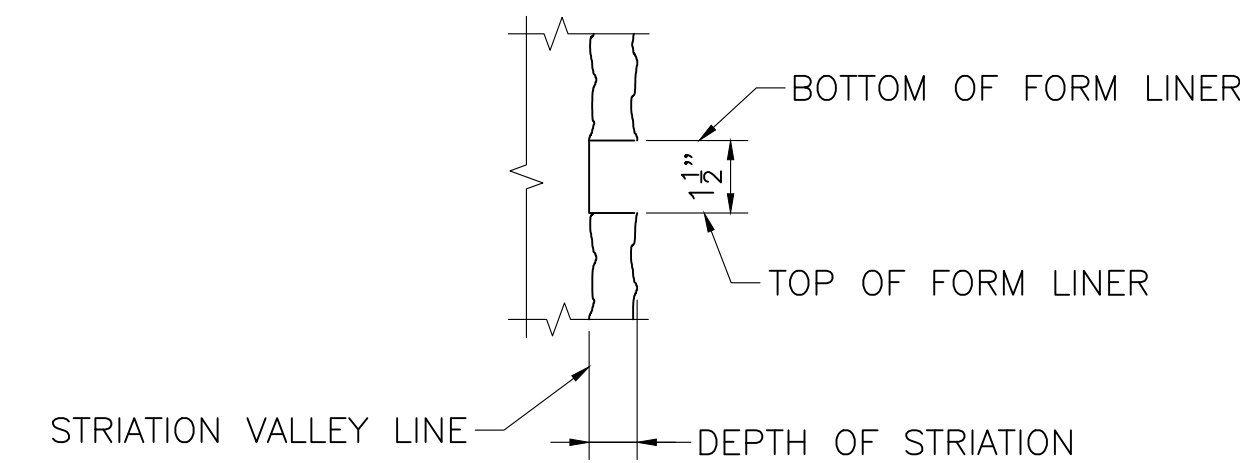


NOTES:
1. THE CONTRACTOR SHALL MAKE SURE THAT THE STRIATION FINIS ARE PLUMB AND LINED UP VERTICALLY FROM PANEL TO PANEL FOR THE FULL HEIGHT OF THE WALL.
2. THE HORIZONTAL JOINT MAY BE OMITTED IF THE CONTRACTOR CAN DEMONSTRATE THAT THE FORM LINER PANELS CAN BE INSTALLED END TO END WITHOUT CREATING A VISIBLE SEAM IN THE FINAL CAST CONCRETE.

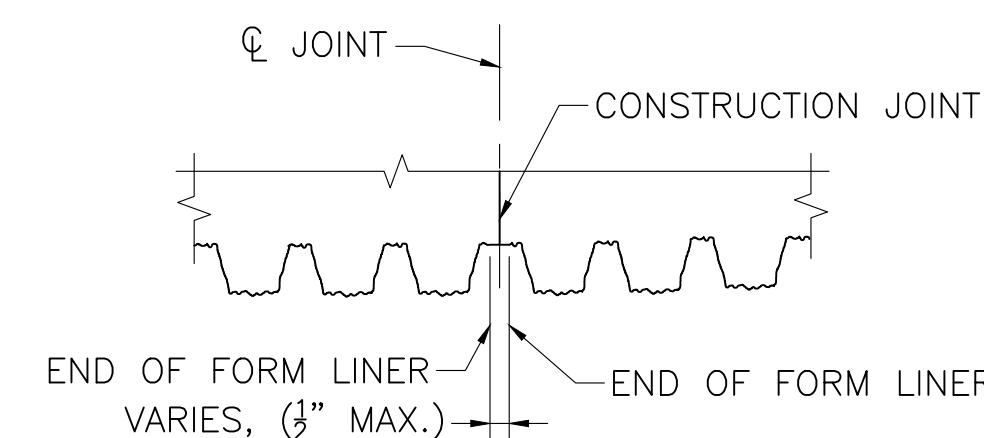
TYPICAL STRIATION DETAIL
SCALE: 3" = 1'-0"



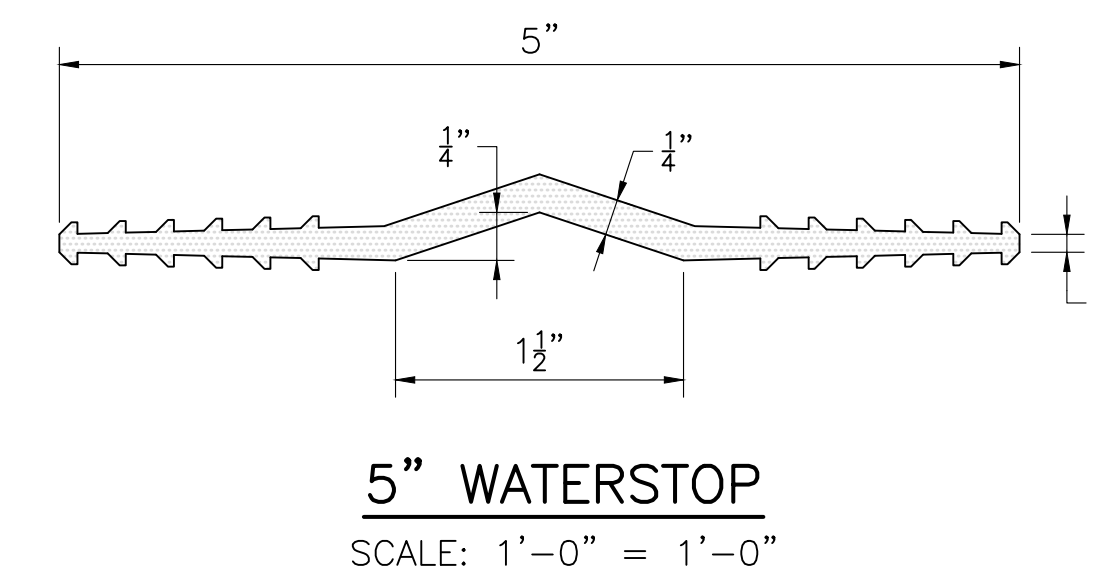
DETAIL AT BRIDGE SEAT
SCALE: 3" = 1'-0"



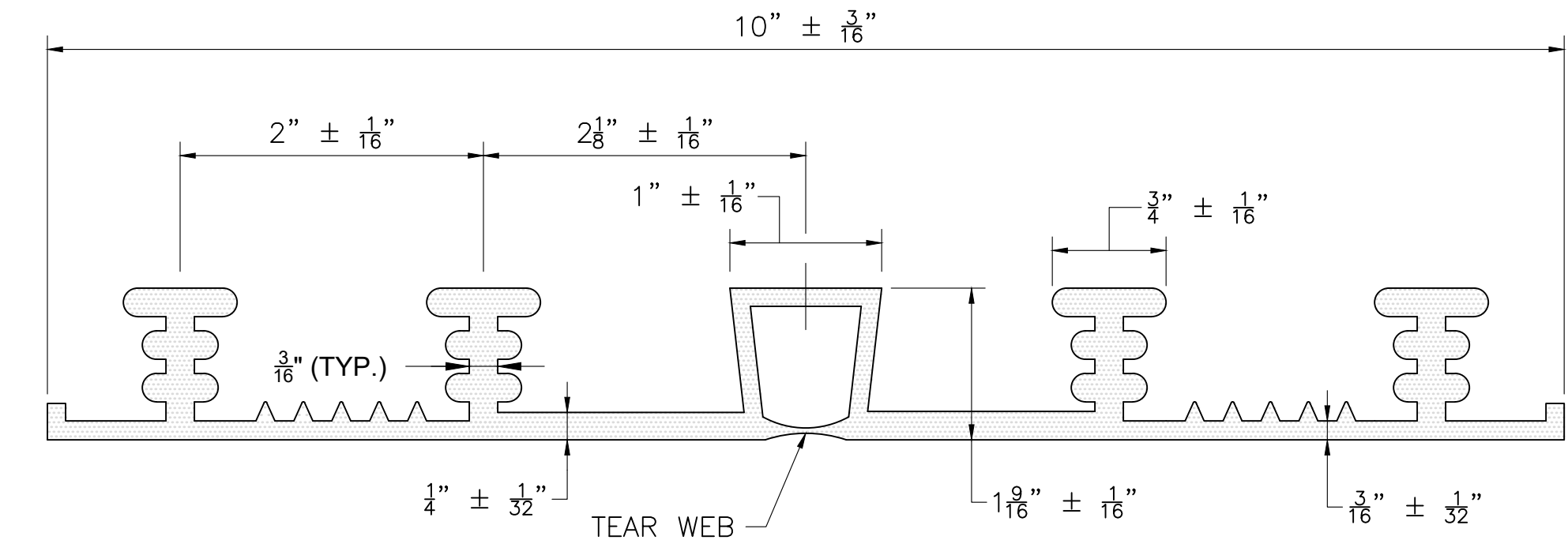
HORIZONTAL PANEL JOINT
SCALE: 3" = 1'-0"



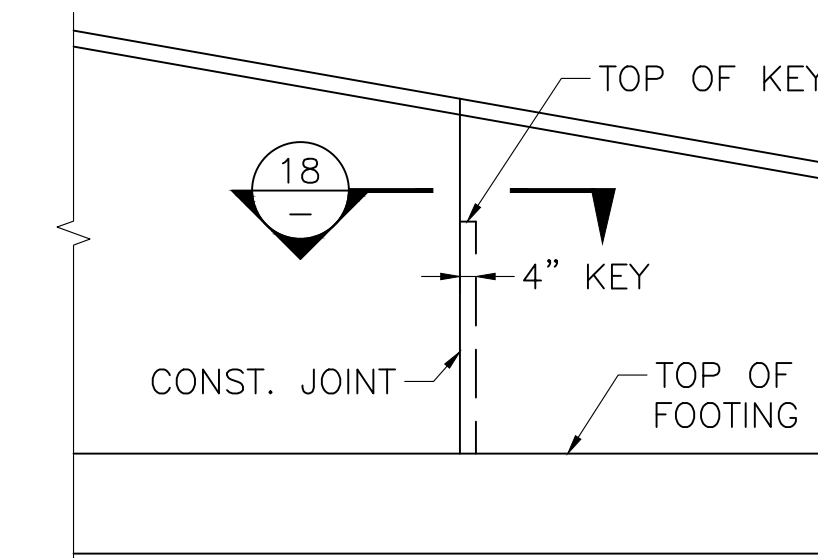
CONSTRUCTION JOINT
SCALE: 3" = 1'-0"



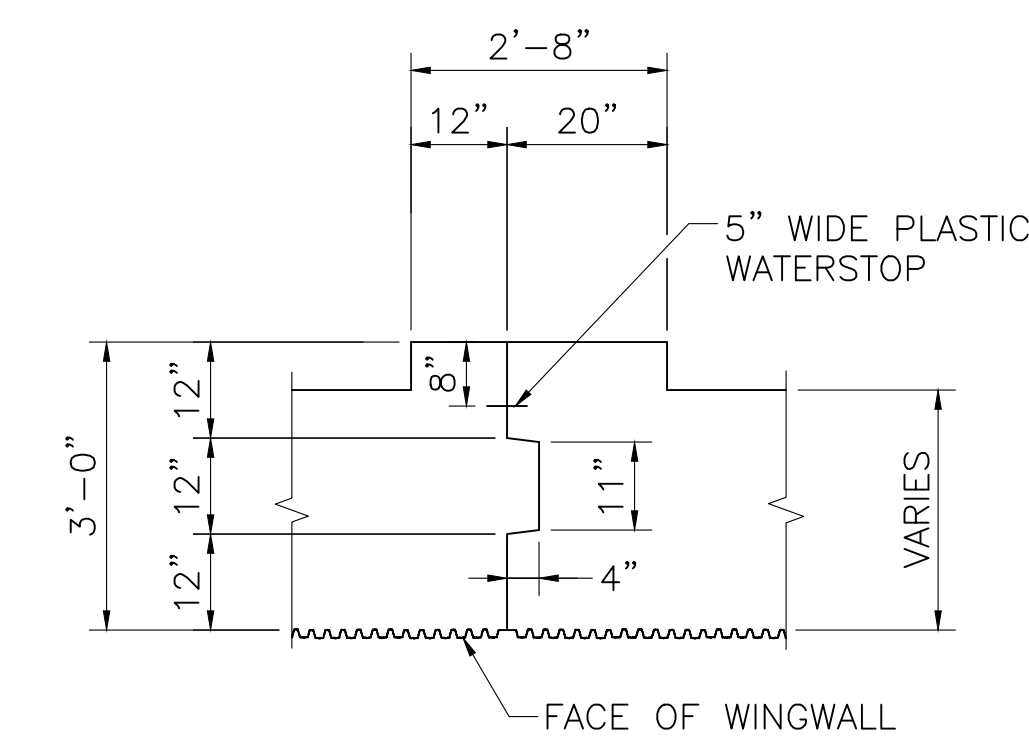
5" WATERSTOP
SCALE: 1'-0" = 1'-0"



10" WATERSTOP
SCALE: 1'-0" = 1'-0"



ELEVATION



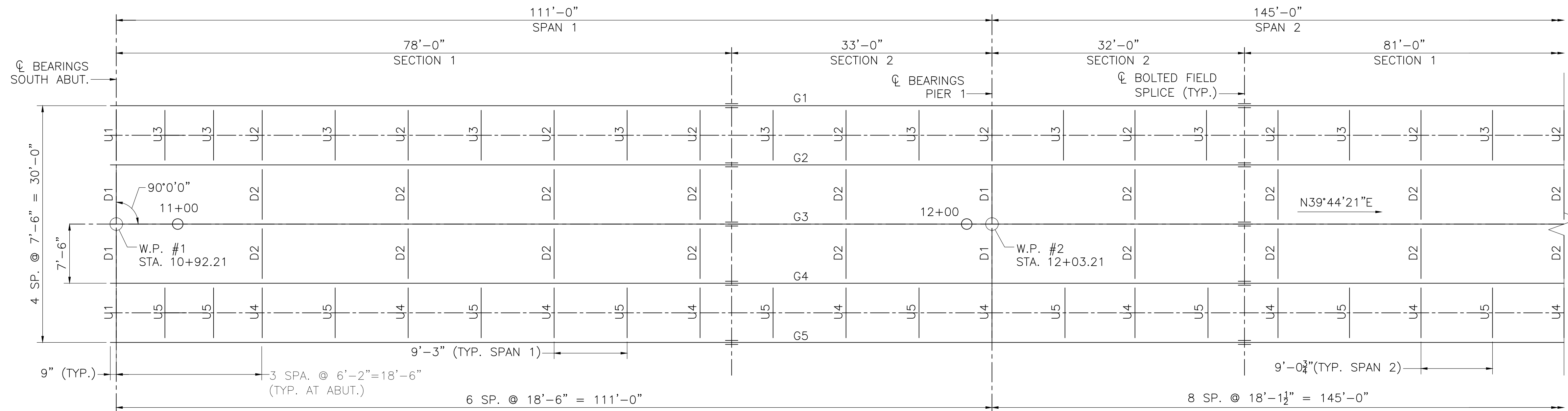
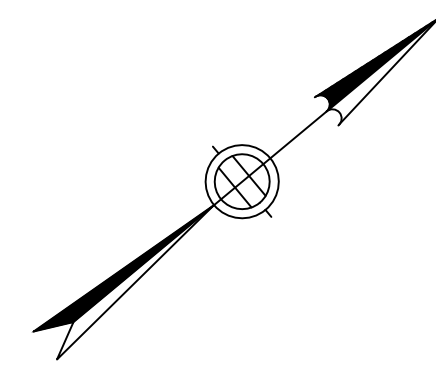
SECTION 18
SCALE: $\frac{1}{2}$ " = 1'-0"
WINGWALL CONSTRUCTION JOINT
SCALE: $\frac{1}{2}$ " = 1'-0"

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DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

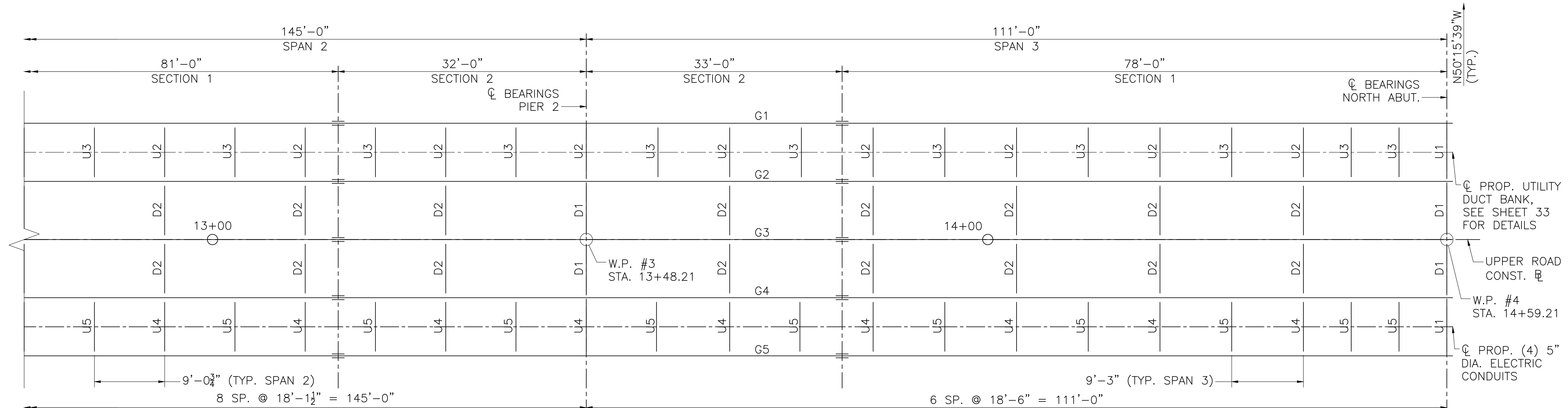
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	66	92
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FRAMING PLAN



FRAMING PLAN

SCALE: $\frac{1}{8}'' = 1'-0''$



FRAMING PLAN (CONT'D)

SCALE: $\frac{1}{8}'' = 1'-0''$

NOTES:

- D1 = TYPICAL END DIAPHRAGM
 - D2 = TYPICAL INTERMEDIATE DIAPHRAGM
 - U1 = TYPICAL UTILITY SUPPORT AT END DIAPHRAGMS
 - U2/U4 = TYPICAL UTILITY SUPPORT AT INTERMEDIATE DIAPHRAGMS
 - U3/U5 = TYPICAL UTILITY SUPPORT BETWEEN DIAPHRAGMS
1. SEE SHEET 33 FOR DIAPHRAGM AND UTILITY SUPPORT DETAILS.
 2. THE PRIMARY MEMBERS ARE GIRDERS G1 THROUGH G5. REFER TO SHEET 31 FOR LIMITS OF NET TENSILE STRESS.
 3. ALL DIAPHRAGMS, TRANSVERSE CONNECTION PLATES, INTERMEDIATE STIFFENERS, BEARING STIFFENERS, AND SOLE PLATES ARE CONSIDERED SECONDARY MEMBERS.
 4. ALL STEEL SHALL CONFORM TO AASHTO M 270 GRADE 50 WITH THE EXCEPTION OF THE TOP AND BOTTOM FLANGES OF GIRDER SECTION 2 WHICH SHALL CONFORM TO AASHTO M 270 GRADE HPS 70.
 5. ALL HIGH STRENGTH BOLTS SHALL BE $\frac{7}{8}'' \phi$ CONFORMING TO THE REQUIREMENTS OF ASTM F3125 GRADE A325 TYPE 1 GALVANIZED, UNLESS OTHERWISE NOTED. NUTS AND WASHERS SHALL BE LISTED AS SUITABLE IN THE ASTM F3125 SPECIFICATION FOR GRADE A325.
 6. ALL INTERMEDIATE STIFFERS SHALL BE PERPENDICULAR TO THE WEB AND TO THE GIRDER FLANGES.
 8. ALL CONNECTIONS HAVE BEEN DESIGNED FOR A CLASS B SURFACE CONDITION, ASSUMING A COEFFICIENT OF FRICTION ON THE FAYING SURFACES EQUAL TO OR GREATER THAN 0.5, EXCEPT FOR THE CONNECTION OF THE DIAPHRAGMS TO THE TRANSVERSE CONNECTION PLATE, WHICH HAS BEEN DESIGNED FOR CLASS C WITH A COEFFICIENT OF FRICTION OF 0.30.
 9. ALL WELDING AND THE PREPARATION AND ASSEMBLY OF MATERIAL FOR WELDING SHALL CONFORM TO THE MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, BRIDGE WELDING CODE (AASHTO AWS D1.5) AND ALL INTERIM REVISIONS PUBLISHED BY AASHTO AS OF THE BID OPENING DATE.
 10. ALL DIAPHRAGMS SHALL BE DETAILED AND FABRICATED TO THE TOTAL DEAD LOAD FIT (TDLF) CONDITION.
 11. THE GIRDERS SHALL BE FABRICATED SO THAT UNDER FULL DEAD LOAD, THE ENDS ARE PLUMB.
 12. ALL GIRDERS SHALL BE METALIZED PER ENVIRONMENTAL ZONE 2. THE ENTIRE FASCIA GIRDERS G1 AND G5 SHALL BE METALIZED AND PAINTED, AMS STANDARD 595A COLOR NUMBER 14223 OF THE FEDERAL STANDARD 595B. DIAPHRAGMS MAY BE HOT-DIP GALVANIZED.

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SHEET 30 OF 41 SHEETS BRIDGE NO. D-06-001 (CAQ)

**DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER**

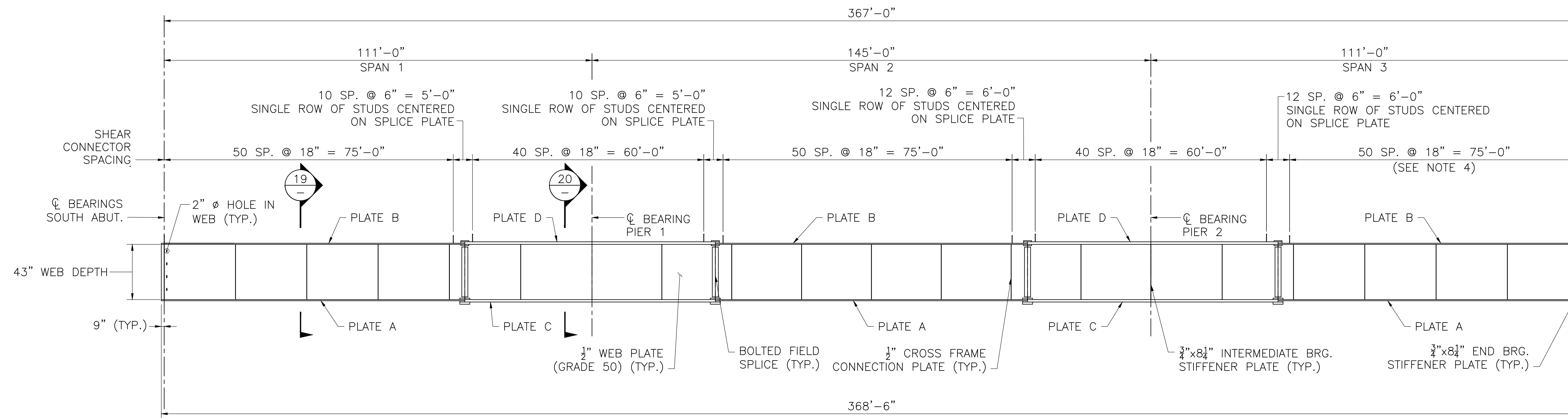
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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GIRDER DETAILS 1 OF 2

PLATE	SIZE	GRADE
A	17"x $\frac{7}{8}$ "	50
B	15"x $\frac{7}{8}$ "	50
C	17"x $\frac{1}{8}$ "	HPS 70W
D	15"x2"	HPS 70W

NOTES:

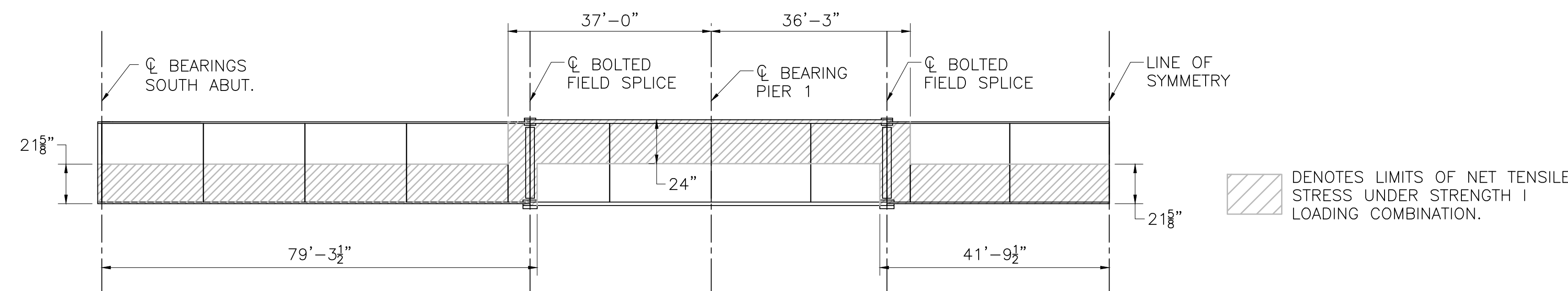
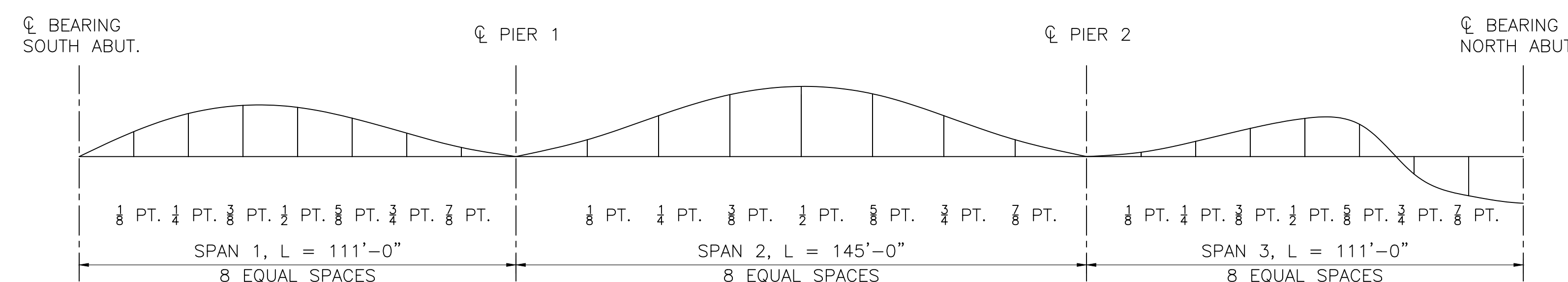
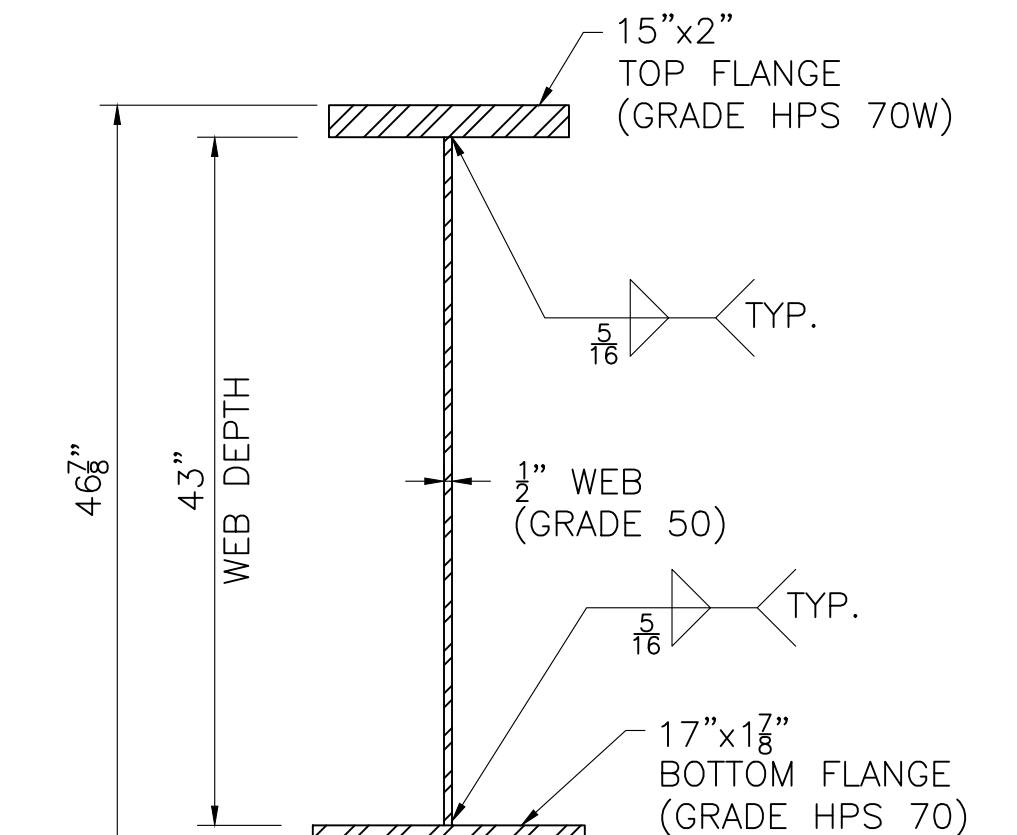
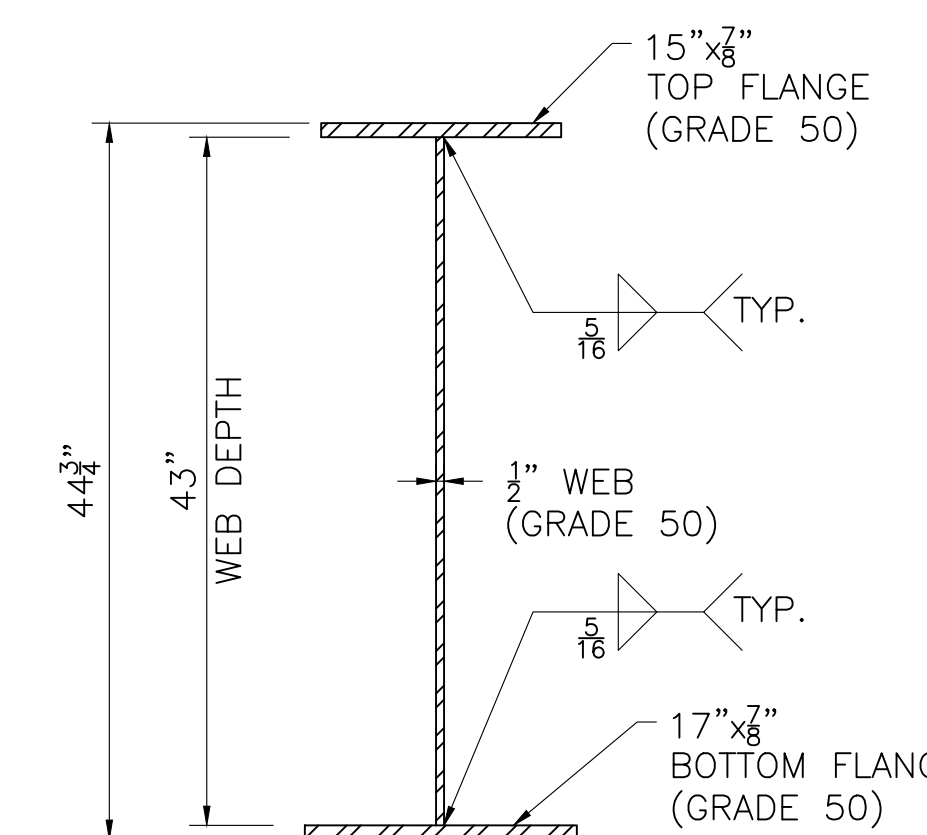
- ALL INTERMEDIATE CONNECTION PLATES SHALL BE PERPENDICULAR TO THE WEB AND TO THE GIRDER FLANGES.
- ALL BEARING STIFFENERS SHALL BE PLUMB.
- ENDS OF GIRDERS SHALL BE FABRICATED SO THAT UNDER FULL DEAD LOAD THE ENDS WILL BE PLUMB.
- STUD LENGTH VARIES IN SPAN 3 DUE TO DEEP HAUNCH REQUIRED FOR THE VERTICAL CURVE GEOMETRY. SEE SHEET 37 FOR DETAIL AND ADDITIONAL INFORMATION.



TYPICAL GIRDER ELEVATION

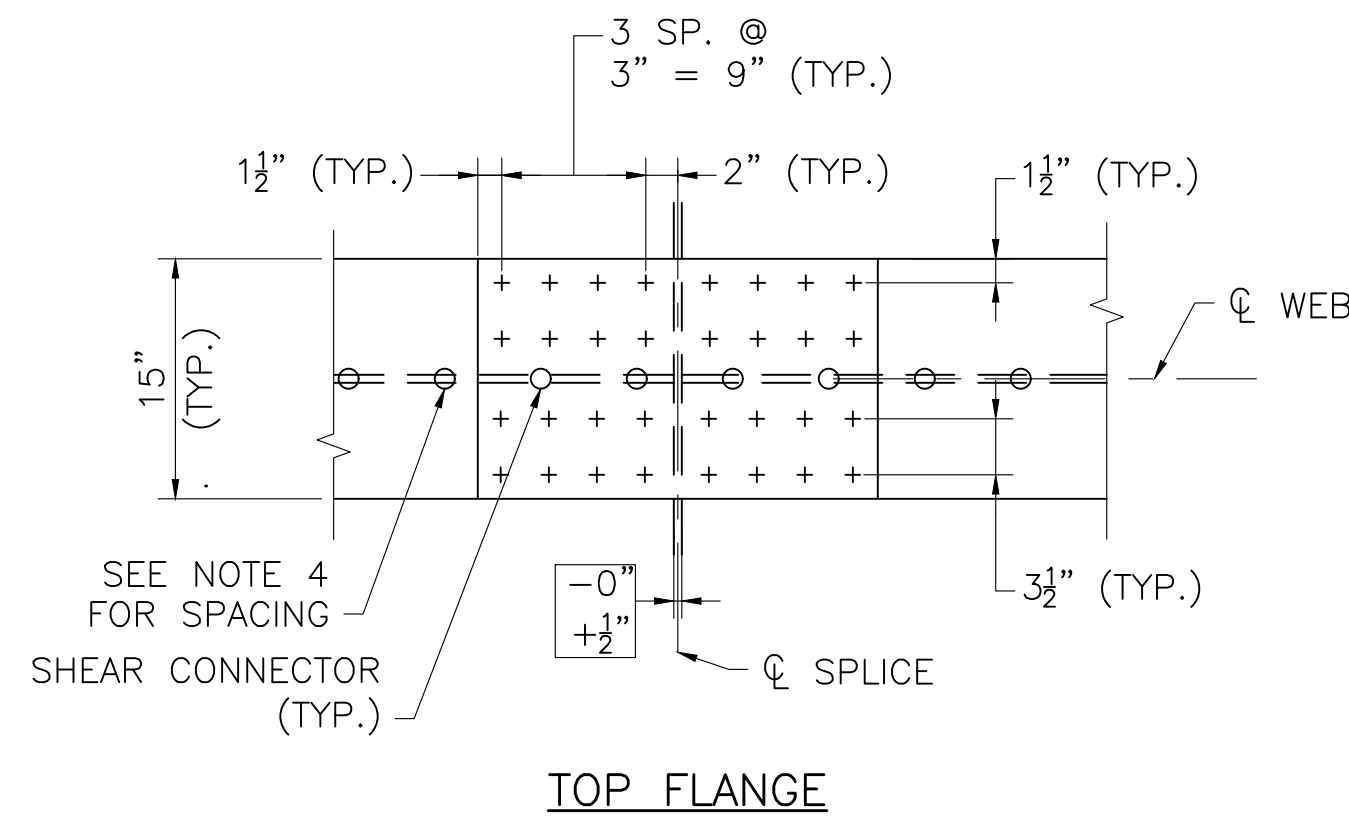
HORIZ. SCALE: $\frac{1}{16}$ " = 1'-0"
VERT. SCALE: $\frac{1}{4}$ " = 1'-0"

GIRDER NO.		CAMBER TABLE (INCHES)																																	
		SPAN 1								SPAN 2								SPAN 3								CL BRG. ABUT.									
		CL BRG. ABUT.	1/8 PT.	1/4 PT.	3/8 PT.	1/2 PT.	5/8 PT.	3/4 PT.	7/8 PT.	CL BRG. PIER	1/8 PT.	1/4 PT.	3/8 PT.	1/2 PT.	5/8 PT.	3/4 PT.	7/8 PT.	CL BRG. PIER	1/8 PT.	1/4 PT.	3/8 PT.	1/2 PT.	5/8 PT.	3/4 PT.	7/8 PT.	CL BRG. PIER	1/8 PT.	1/4 PT.	3/8 PT.	1/2 PT.	5/8 PT.	3/4 PT.	7/8 PT.	CL BRG. ABUT.	
G1 & G5	STEEL DL DEFLECTION	0	0.204	0.352	0.415	0.391	0.291	0.159	0.045	0	0.112	0.315	0.503	0.578	0.503	0.315	0.112	0	0.045	0.159	0.291	0.391	0.415	0.352	0.204	0	0	0.045	0.159	0.291	0.391	0.415	0.352	0.204	0
	CONC. DL DEFLECTION	0	0.796	1.379	1.617	1.506	1.105	0.595	0.169	0	0.402	1.157	1.875	2.161	1.871	1.152	0.398	0	0.175	0.608	1.126	1.531	1.642	1.399	0.808	0	0	0.175	0.608	1.126	1.531	1.642	1.399	0.808	0
	S.D.L. DEFLECTION	0	0.311	0.541	0.638	0.597	0.441	0.237	0.064	0	0.183	0.512	0.813	0.931	0.813	0.512	0.183	0	0.064	0.237	0.441	0.597	0.638	0.541	0.311	0	0	0.064	0.237	0.441	0.597	0.638	0.541	0.311	0
	VERT. CURVE CAMBER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.240	-1.091	-2.559	-4.643	-7.345	0	0	0	0	0	0	0	0	0
	ADDITIONAL CAMBER	0	0.304	0.520	0.650	0.694	0.650	0.520	0.304	0	0.396	0.680	0.850	0.906	0.850	0.680	0.396	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL CAMBER	0	1.615	2.792	3.320	3.188	2.487	1.511	0.582	0	1.093	2.664	4.041	4.576	4.037	2.659	1.089	0	0.284	1.004	1.858	2.279	1.604	-0.267	-3.320	-7.345	0	0.284	1.004	1.858	2.279	1.604	-0.267	-3.320	-7.345	
G2 THRU G4	STEEL DL DEFLECTION	0	0.217	0.375	0.444	0.417	0.309	0.169	0.048	0	0.120	0.338	0.540	0.620	0.540	0.338	0.120	0	0.048	0.169	0.309	0.417	0.444	0.375	0.217	0	0	0.048	0.169	0.309	0.417	0.444	0.375	0.217	0
	CONC. DL DEFLECTION	0	0.831	1.440	1.688	1.572	1.153	0.622	0.176	0	0.419	1.208	1.957	2.255	1.953	1.203	0.415	0	0.182	0.635	1.174	1.597	1.713	1.460	0.843	0	0	0.182	0.635	1.174	1.597	1.713	1.460	0.843	0
	S.D.L. DEFLECTION	0	0.254	0.442	0.521	0.488	0.360	0.193	0.053	0	0.150	0.419	0.663	0.760	0.663	0.419	0.150	0	0.053	0.193	0.360	0.488	0.521	0.442	0.254	0	0	0.053	0.193	0.360	0.488	0.521	0.442	0.254	0
	VERT. CURVE CAMBER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.240	-1.091	-2.559	-4.643	-7.345	0	0	0	0	0	0	0	0	0
	ADDITIONAL CAMBER	0	0.304	0.520	0.650	0.694	0.650	0.520	0.304	0	0.396	0.680	0.850	0.906	0.850	0.680	0.396	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL CAMBER	0	1.606	2.777	3.303	3.171	2.472	1.504	0.581	0	1.085	2.645	4.010	4.541	4.006	2.640	1.081	0	0.283	0.997	1.843	2.262	1.587	-0.282	-3.329	-7.345	0	0.283	0.997	1.843	2.262	1.587	-0.282	-3.329	-7.345	

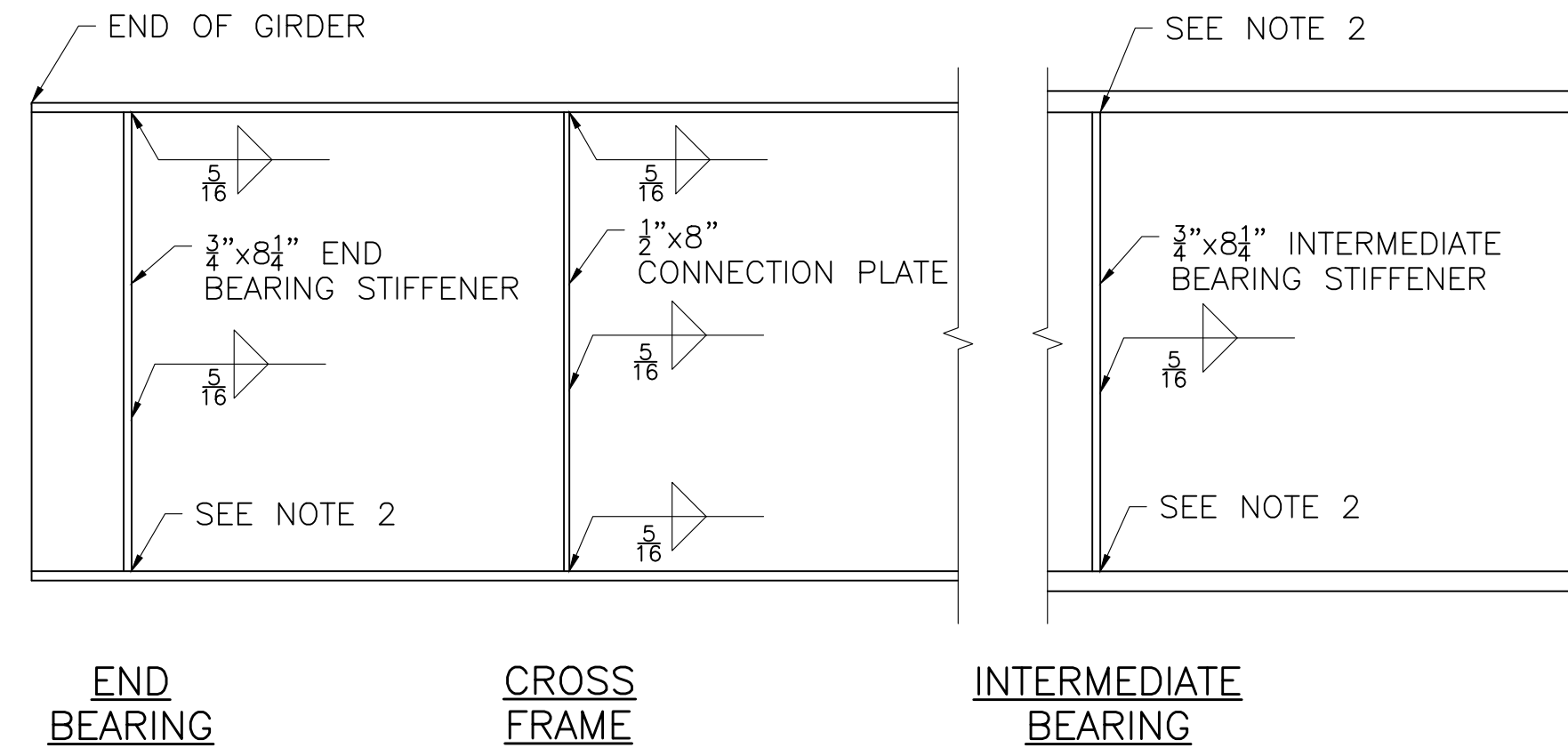


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TOP FLANGE



END BEARING

CROSS FRAME

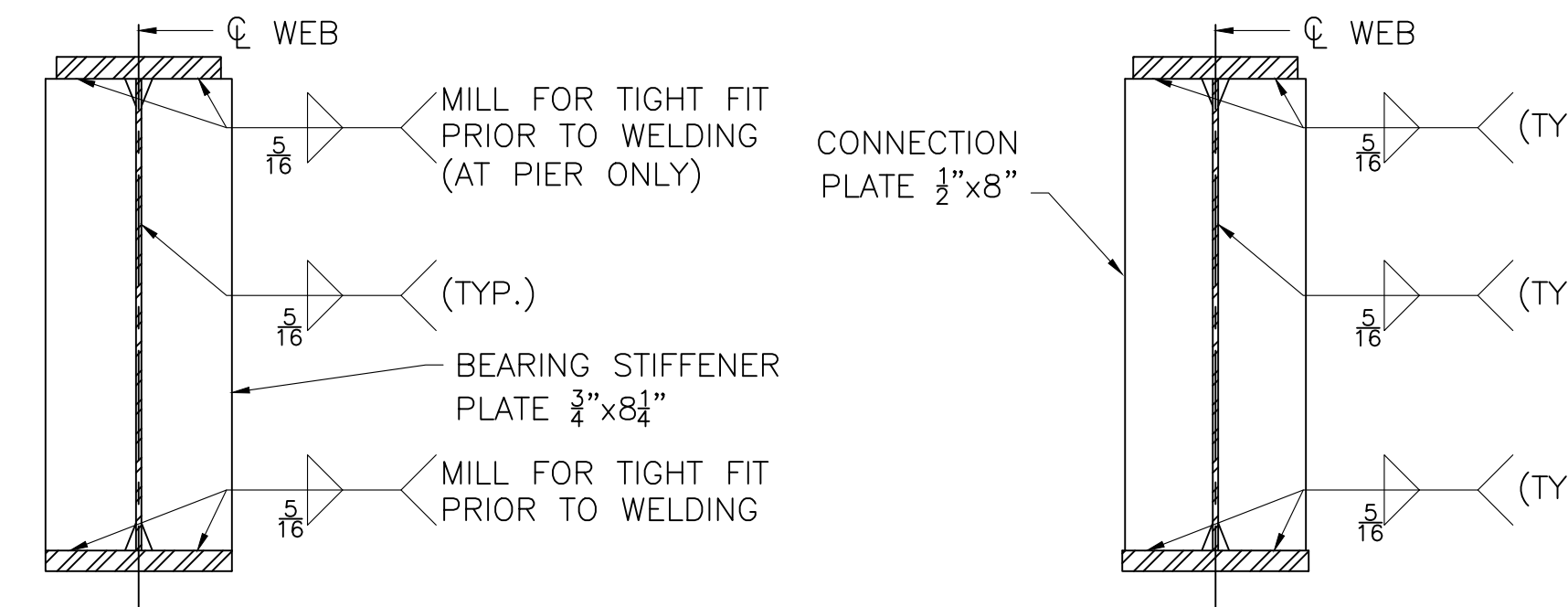
INTERMEDIATE BEARING

NOTES:

- SEE CLIP DETAIL ON THIS SHEET.
- BEARING STIFFENER PLATE AT BOTTOM FLANGE SHALL BE MILLED FOR TIGHT FIT AND WELDED WITH 5/16\"/>

STIFFENER ATTACHMENT DETAILS

SCALE: 3/4\"/>



NOTES:

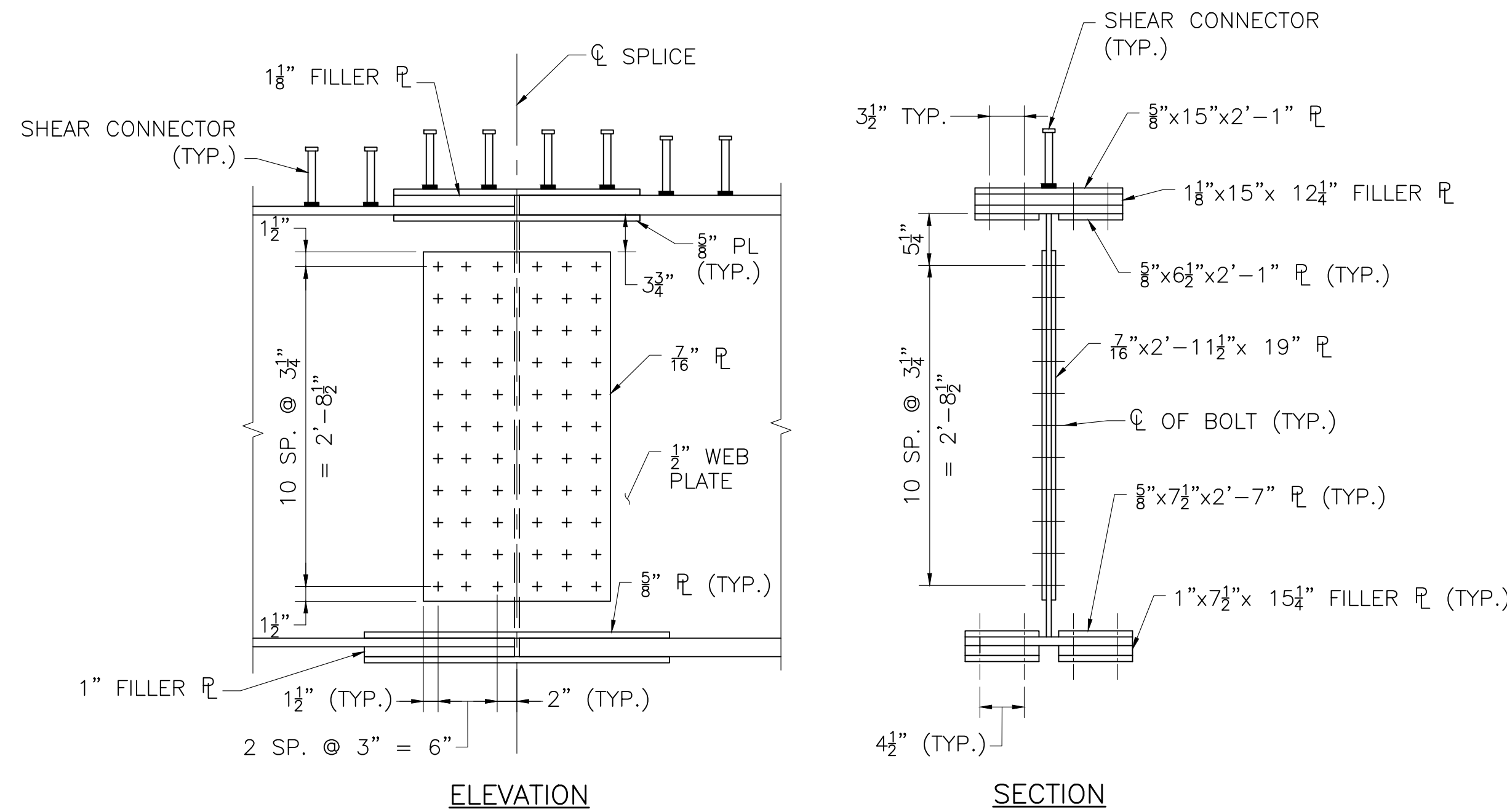
- ALL BEARING STIFFENERS SHALL BE PLUMB.
- BEARING STIFFENERS AT TENION FLANGE CAN BE WELDED WITH A COMPLETE JOINT PENETRATION WELD (CJP) WITH A REINFORCING FILLET OR FABRICATED FOR TIGHT FIT AND WELDED WITH 5/16\"/>

BEARING STIFFENER DETAIL

SCALE: 3/4\"/>

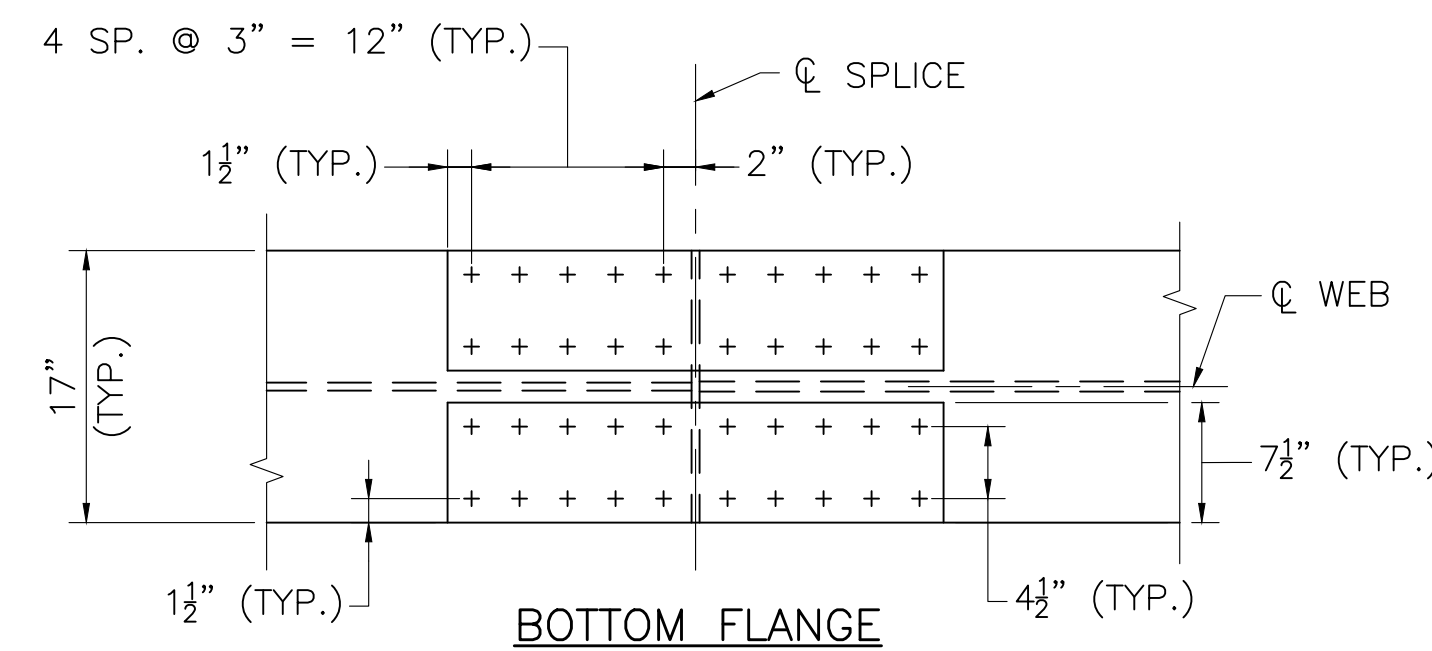
CONNECTION PLATE DETAIL

SCALE: 3/4\"/>



ELEVATION

SECTION



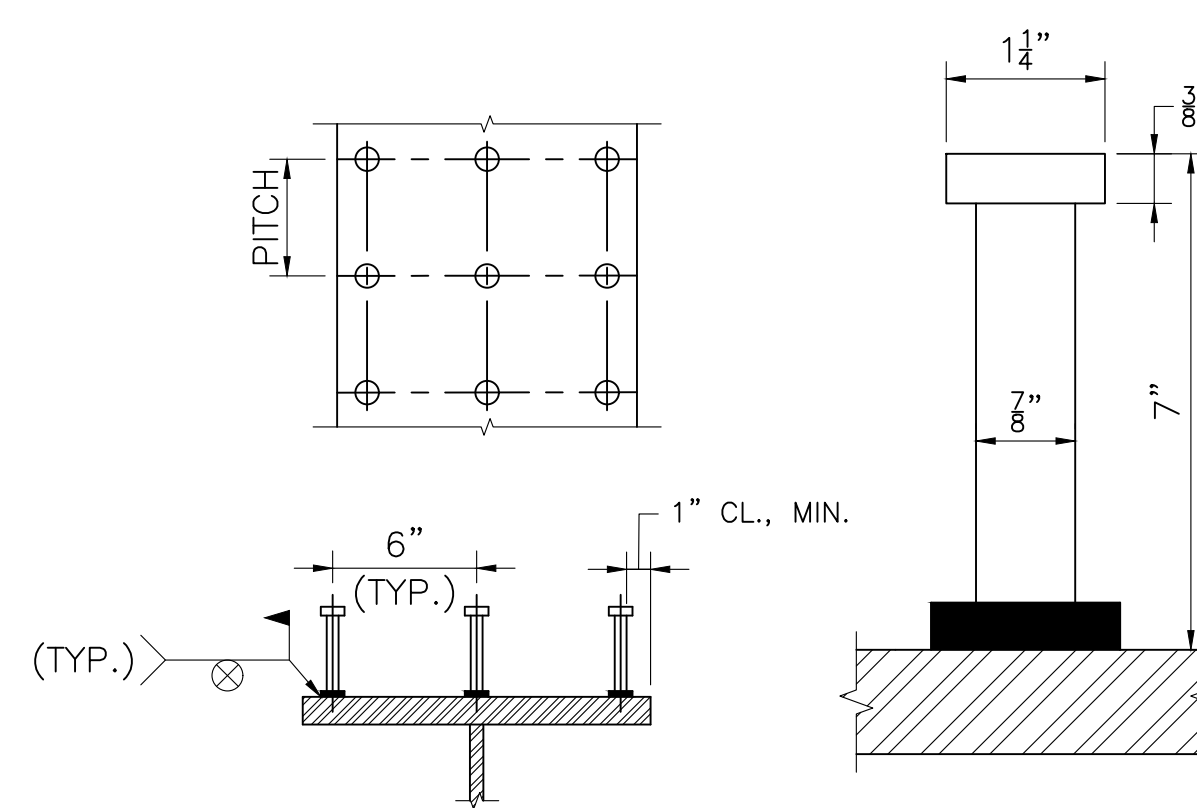
BOTTOM FLANGE

NOTES:

- BOLTED FIELD SPLICES SHALL BE CONSIDERED SLIP CRITICAL CONNECTIONS WITH CLASS B FAYING SURFACES.
- + DENOTES 7/8\"/>

BOLTED FIELD SPLICE DETAILS

SCALE: 1\"/>

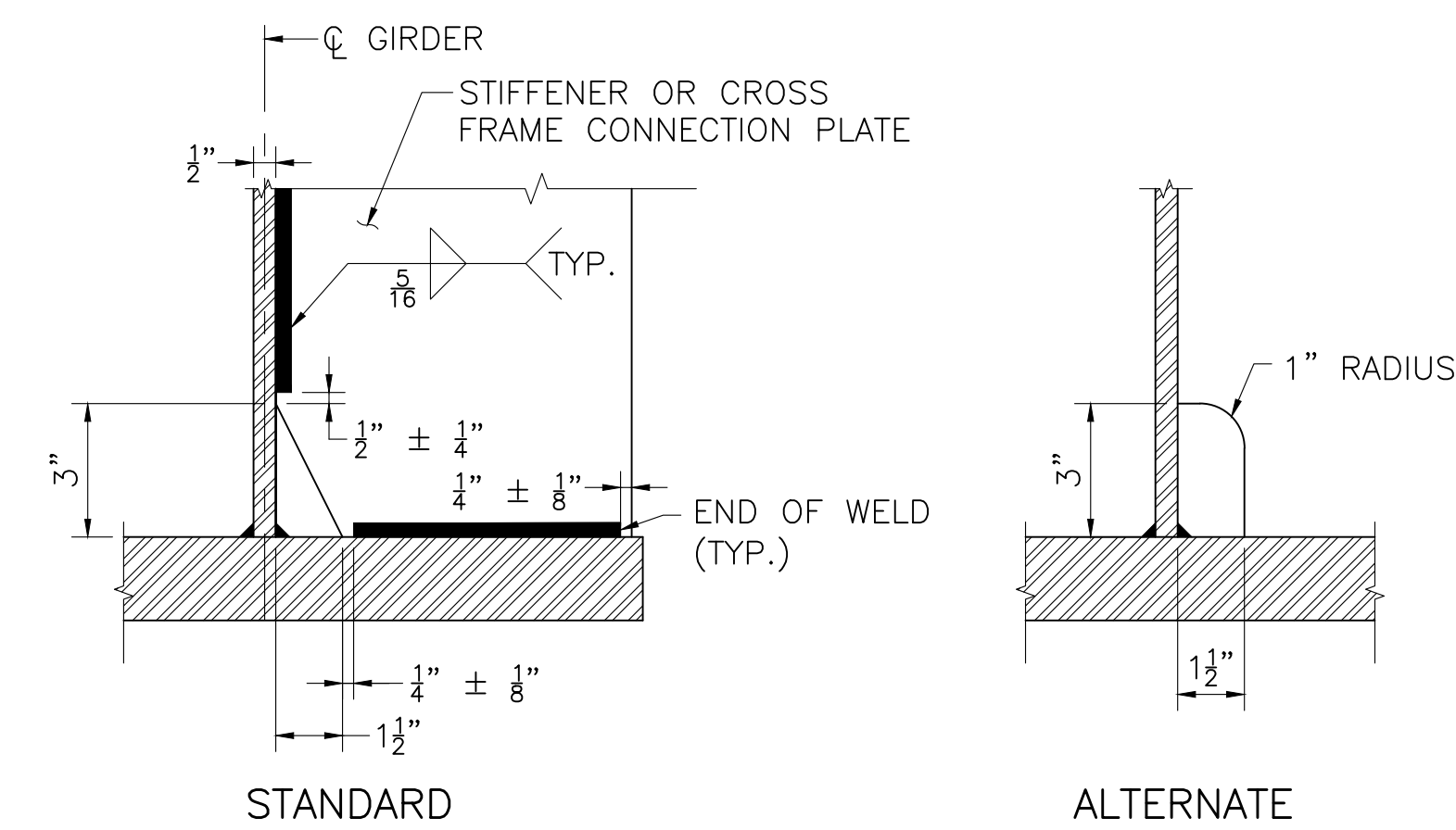


NOTE:

INSTALL ONLY MIDDLE ROW OF SHEAR CONNECTORS AT SPLICE LOCATIONS, SEE SHEET 31.

STUD SHEAR CONNECTORS

NOT TO SCALE



NOTE:

AT STIFFENER LOCATIONS, MODIFY THE PLATE ATTACHMENT TO THE FLANGES AS SHOWN IN THE TYPICAL STIFFENER ATTACHMENTS ON THIS SHEET.

CLIP DETAIL

SCALE: 3\"/>

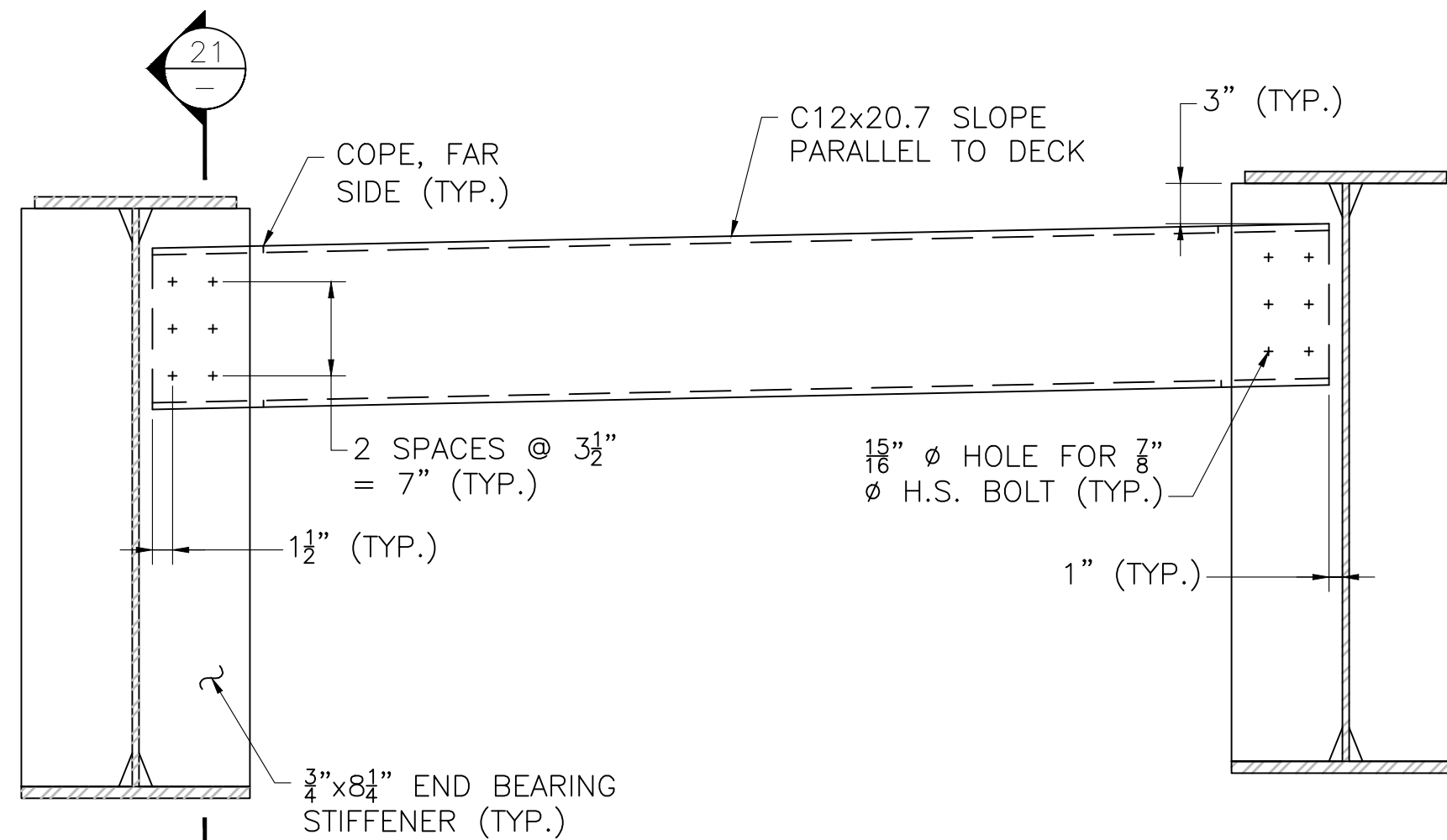
May 30, 2026	ISSUED FOR CONSTRUCTION
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MA	BFL(BR-OFF)-0032(052)X	69	92
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DIAPHRAGM AND UTILITY SUPPORT DETAILS

DIAPHRAGM NOTES:

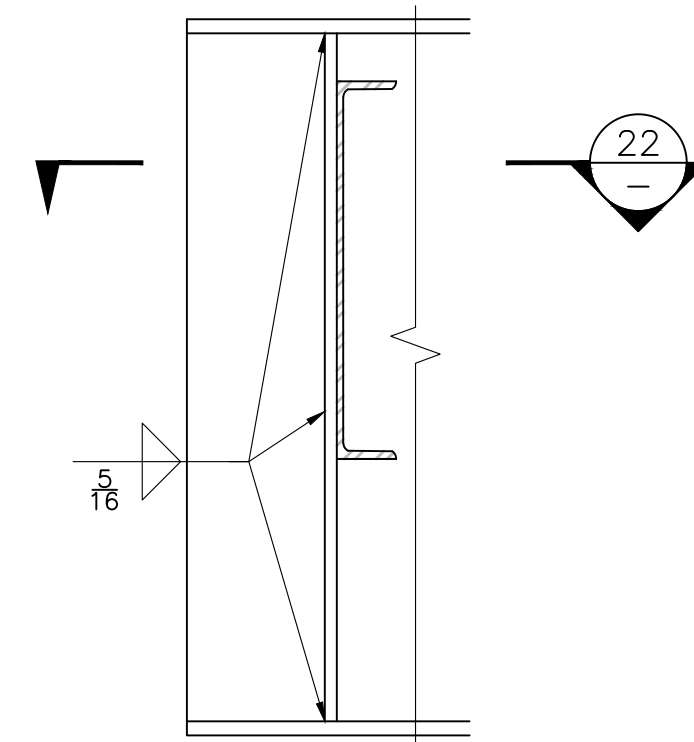
- SEE CLIP DETAIL ON SHEET 32.
- TERMINATE FILLET WELDS 1/2" SHORT OF ALL PLATE EDGES.



ELEVATION

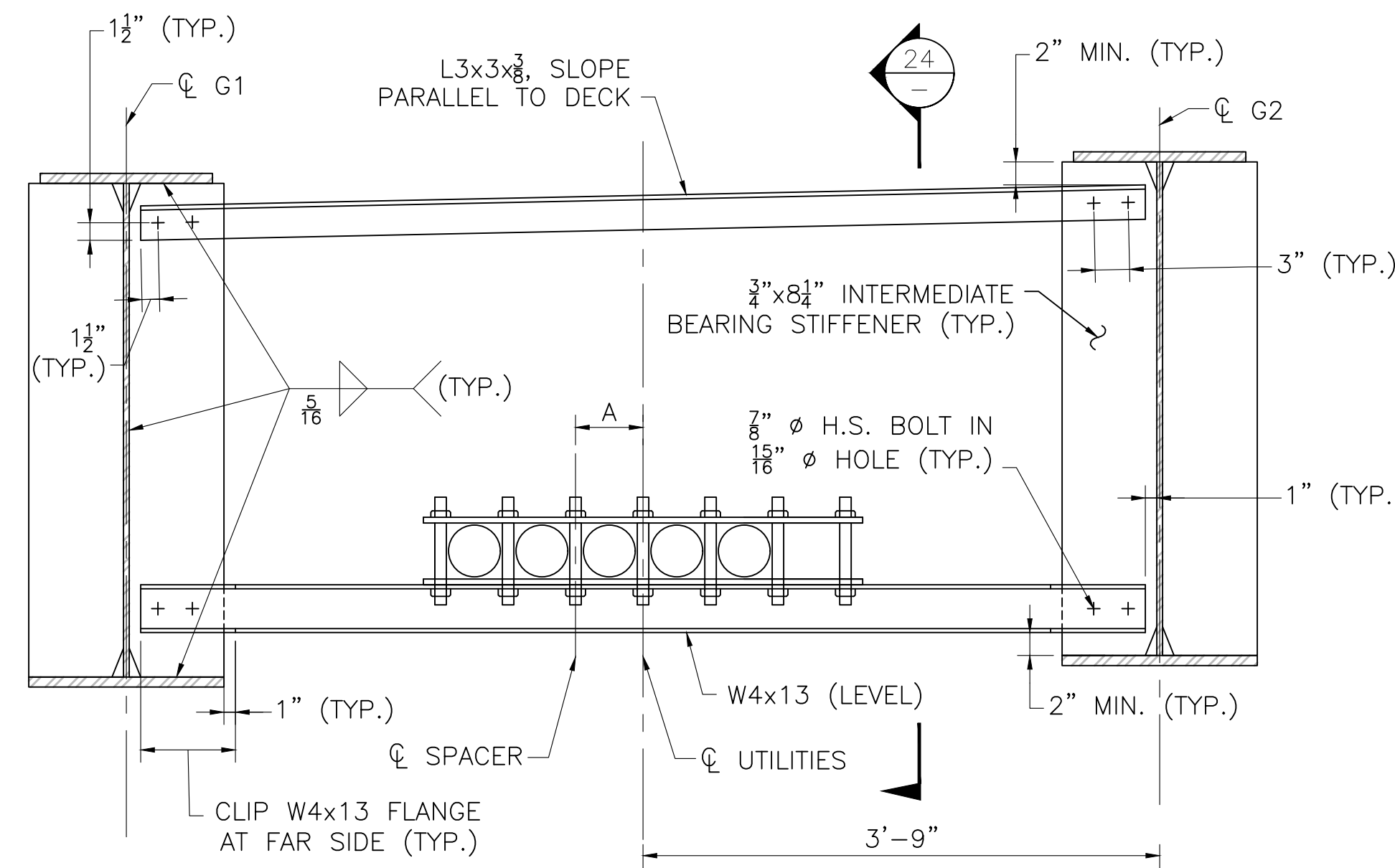
END DIAPHRAGM DETAILS, D1

SCALE: 1" = 1'-0"



SECTION 21

SCALE: 1 1/2" = 1'-0"



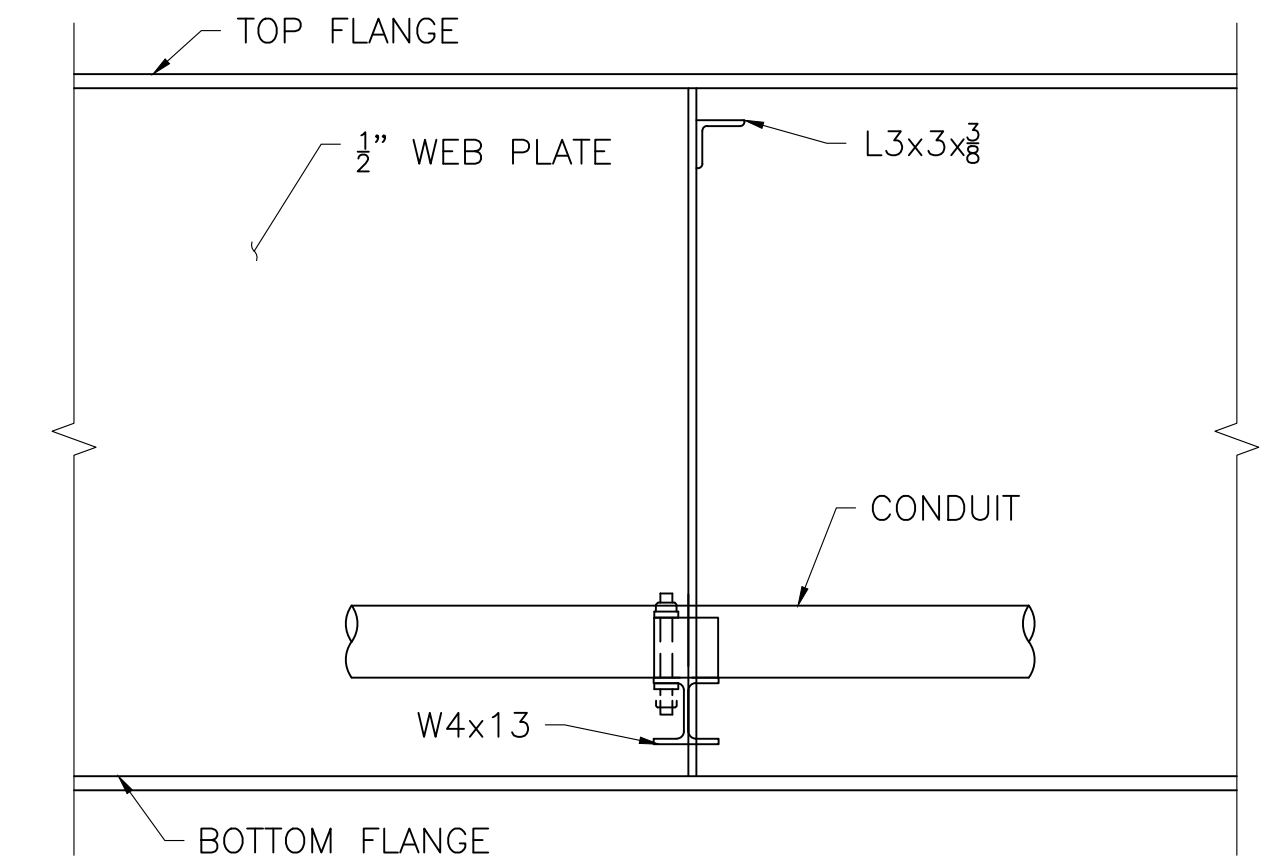
NOTE:

- UTILITY SUPPORT AT DIAPHRAGMS, U2, SHOWN, UTILITY SUPPORT AT DIAPHRAGMS, U1 AND U4, SIMILAR EXCEPT AS NOTED.
- FOR U2 AND U4 LOCATED AT CENTERLINE OF BEARING AT THE PIERS, THIS VALUE SHALL BE 3/8" MINIMUM.

UTILITY SUPPORT DETAILS AT DIAPHRAGMS, U1, U2, AND U4

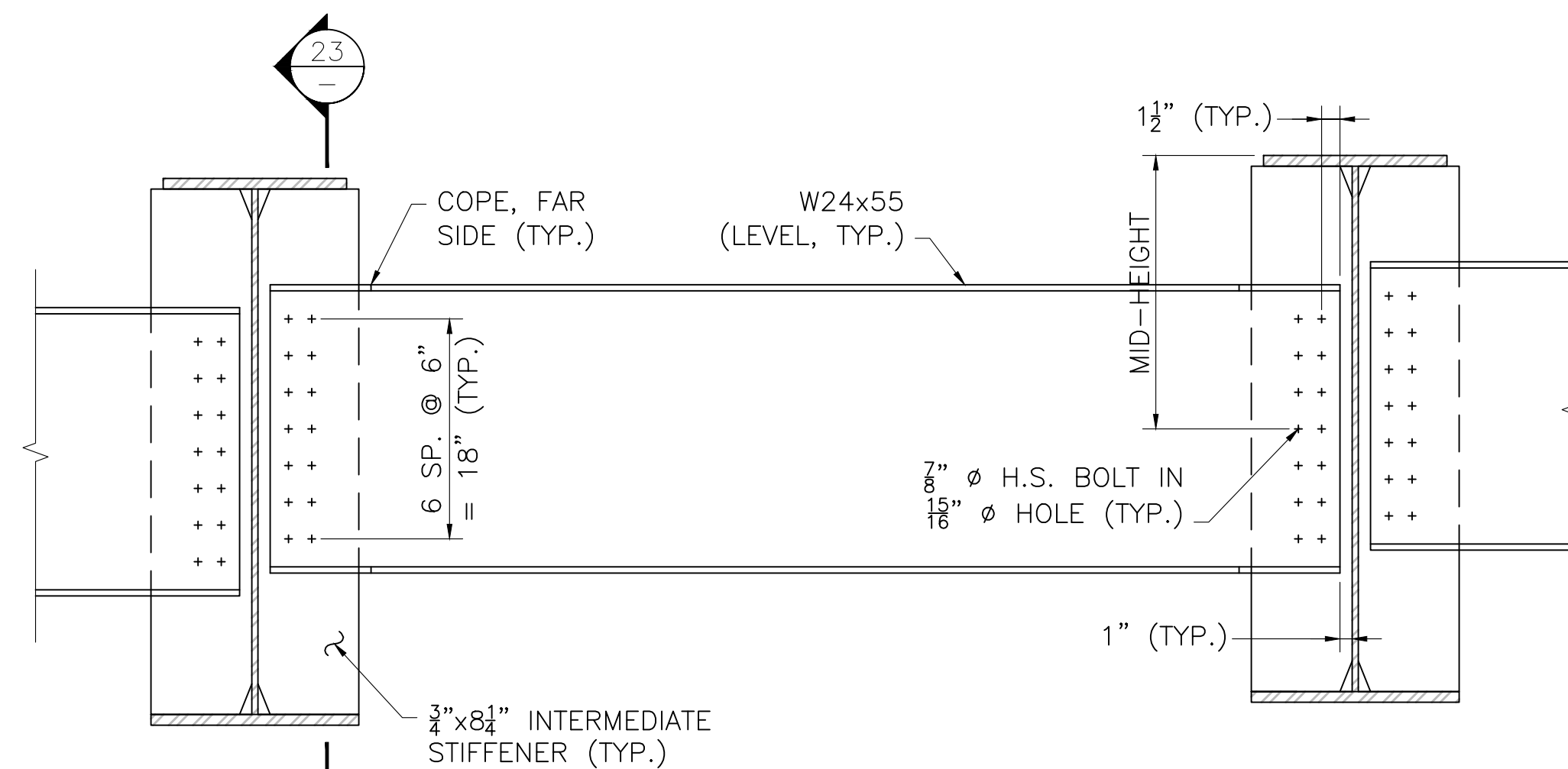
SCALE: 1" = 1'-0"

SUPPORT(S)	"A"
U2 AND U3	5 5/8"
U4 AND U5	6 1/4"



SECTION 24

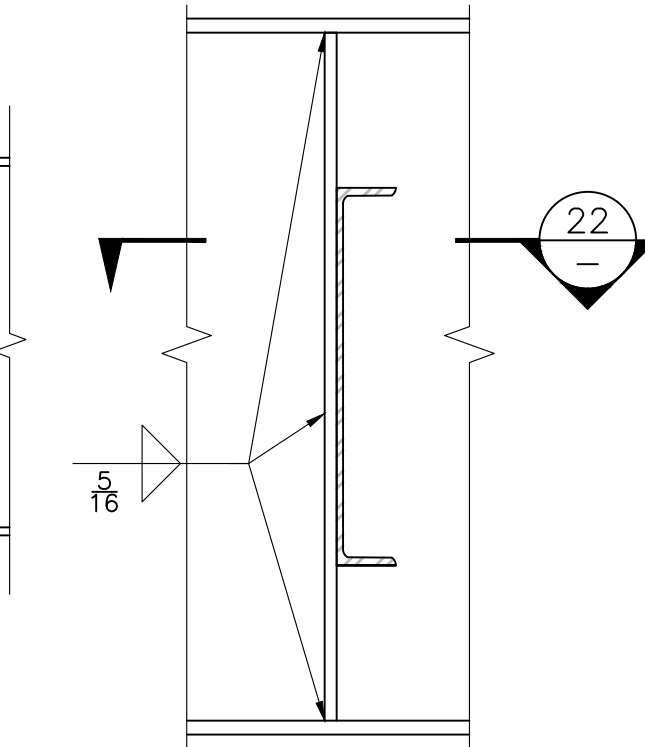
SCALE: 1" = 1'-0"



ELEVATION

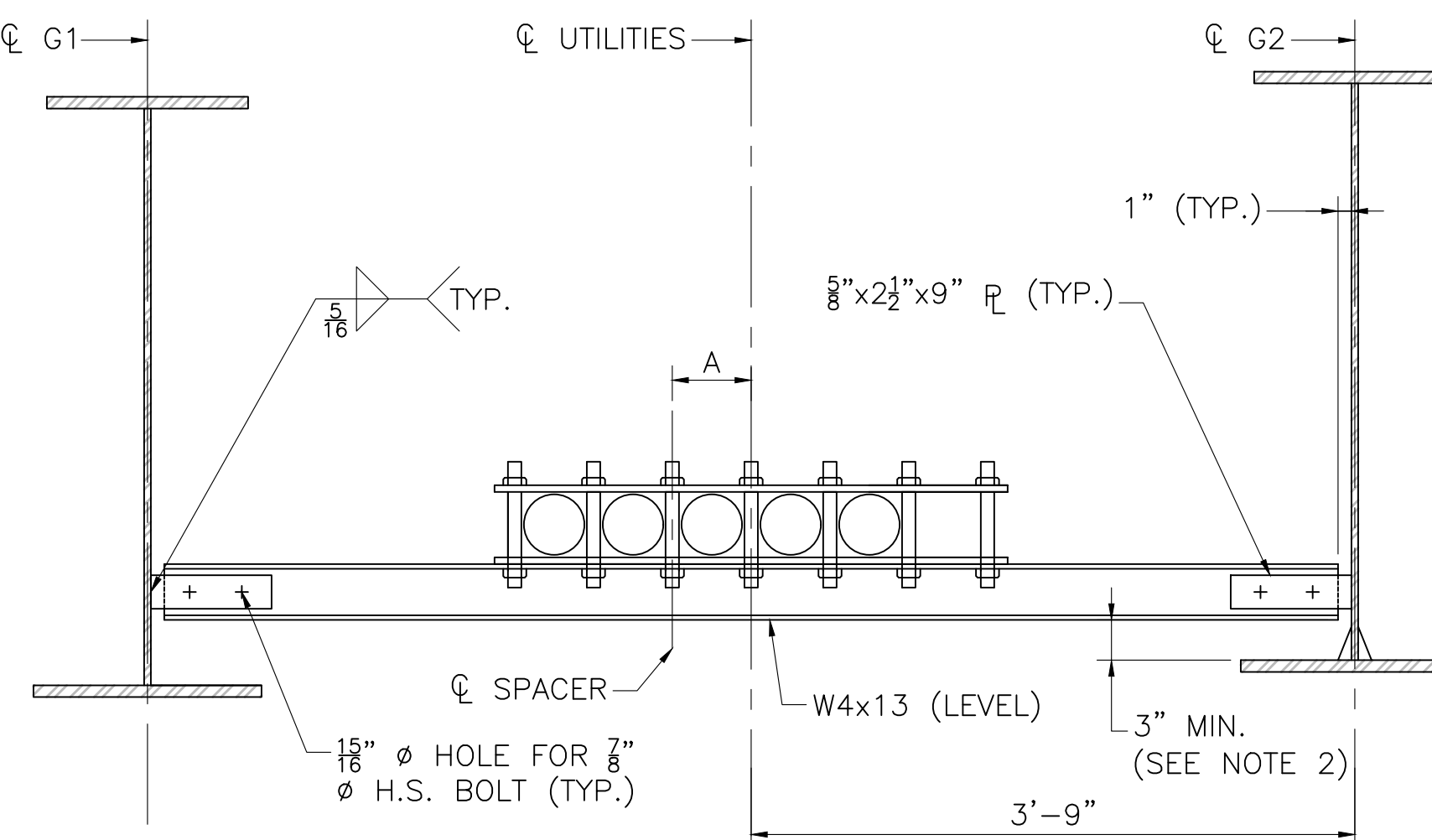
INTERMEDIATE DIAPHRAGM DETAILS, D2

SCALE: 1" = 1'-0"



SECTION 23

SCALE: 1 1/2" = 1'-0"

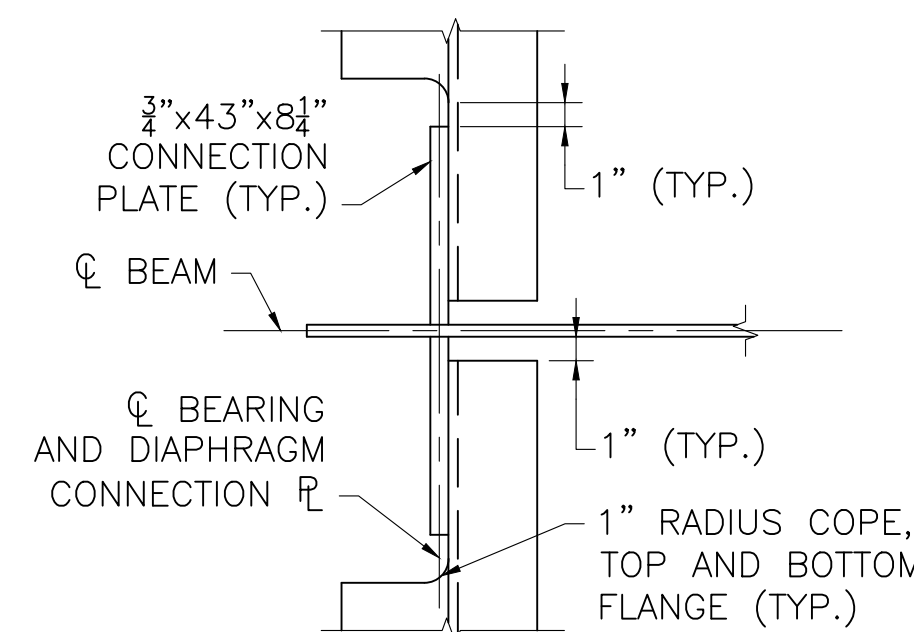


NOTE:

- UTILITY SUPPORT BETWEEN CROSS FRAMES, U3, SHOWN, UTILITY SUPPORT BETWEEN CROSS FRAMES, U5, SIMILAR EXCEPT AS NOTED.
- FOR U3 AND U5 LOCATED AT CENTERLINE OF BEARING AT THE PIERS, THIS VALUE SHALL BE 5 5/8" MINIMUM.

UTILITY SUPPORT DETAILS BETWEEN DIAPHRAGMS, U3 AND U5

SCALE: 1" = 1'-0"



SECTION 22

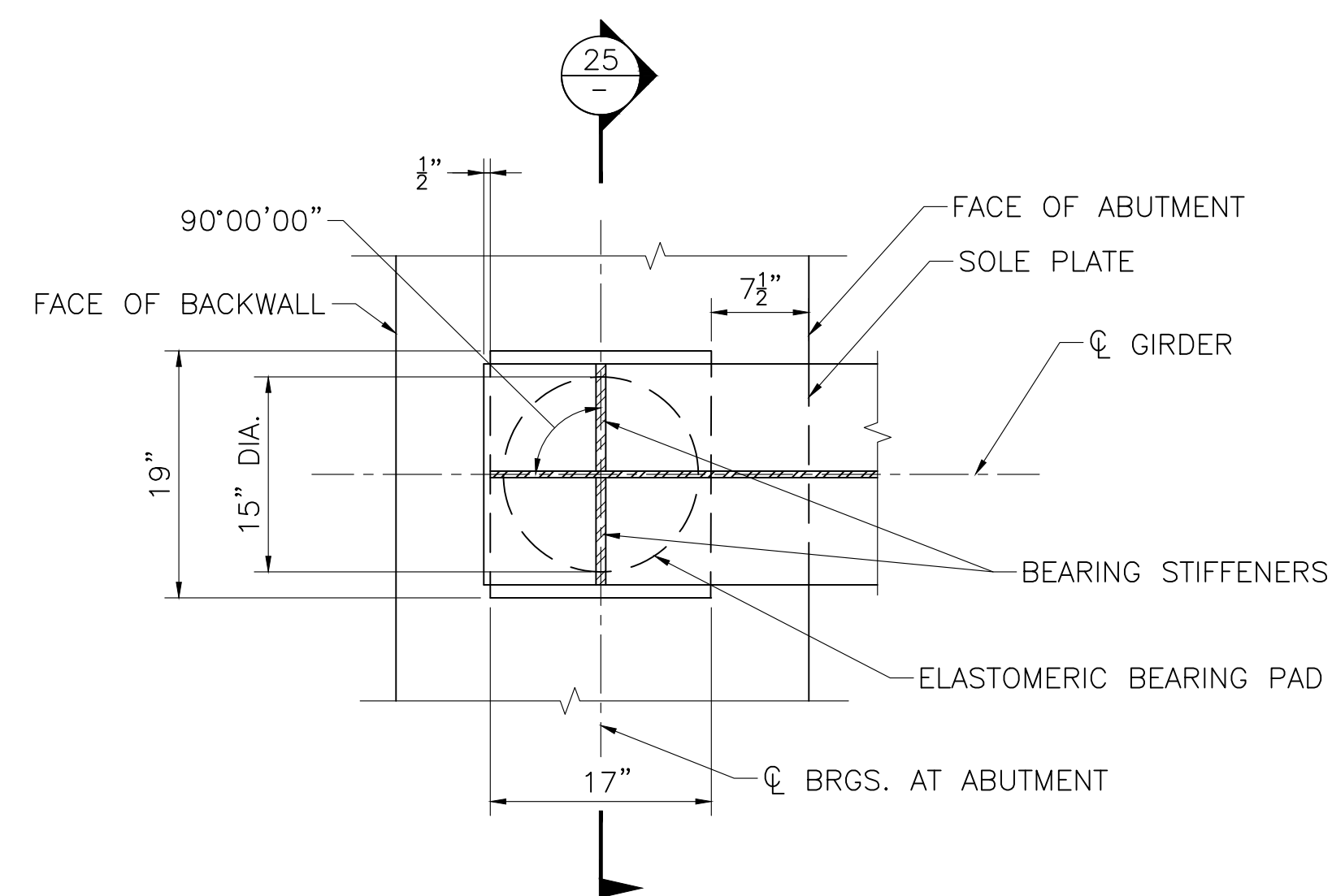
SCALE: 1" = 1'-0"

May 30, 2026	ISSUED FOR CONSTRUCTION
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AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

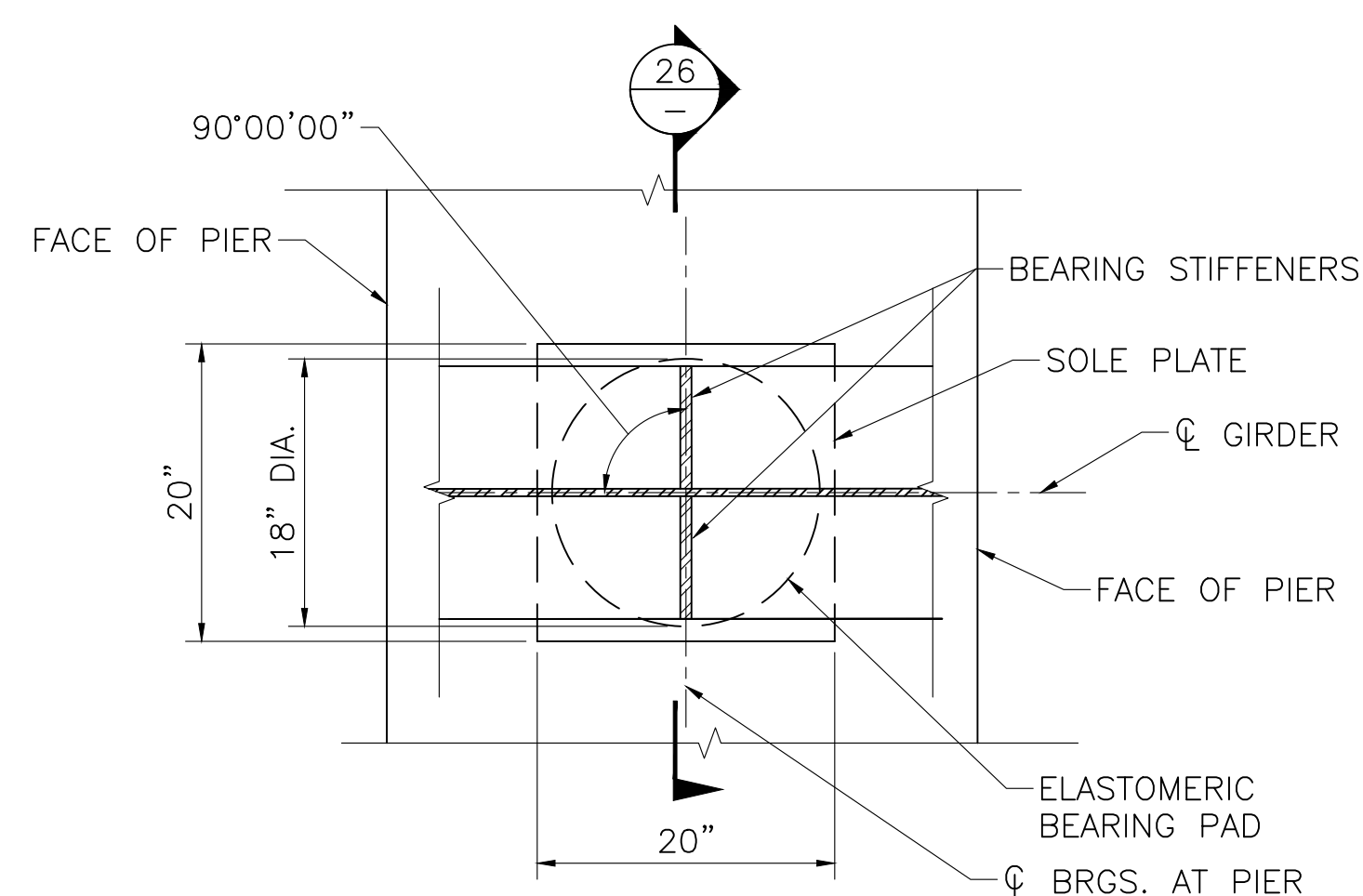
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	70	92
PROJECT FILE NO.		608634	

BEARING DETAILS



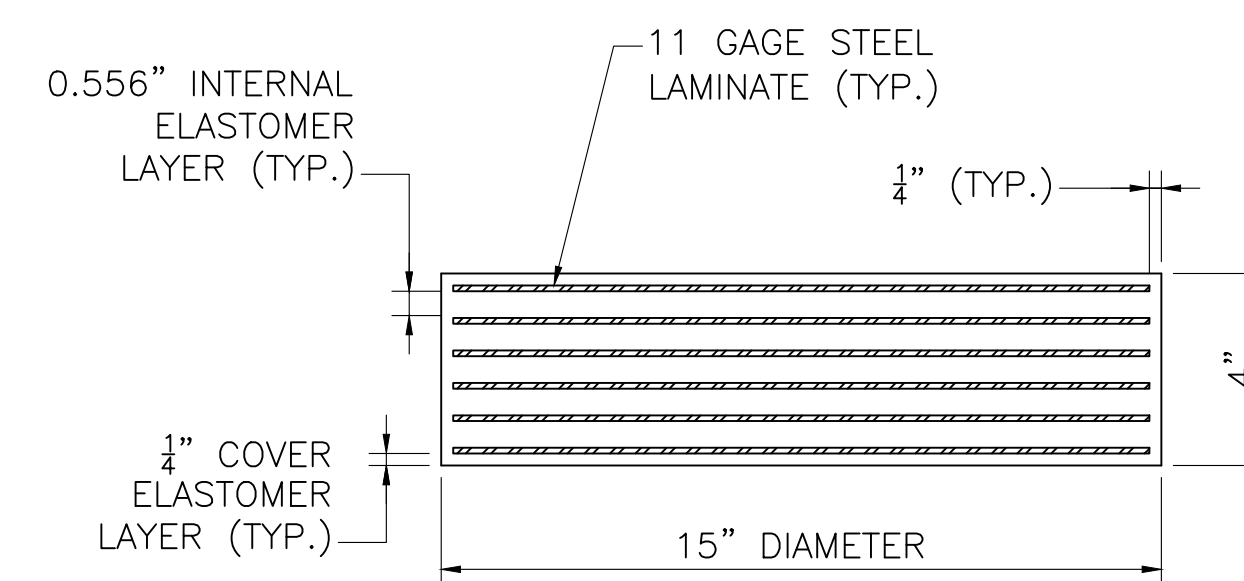
PLAN AT ABUTMENTS

SCALE: 1" = 1'-0"



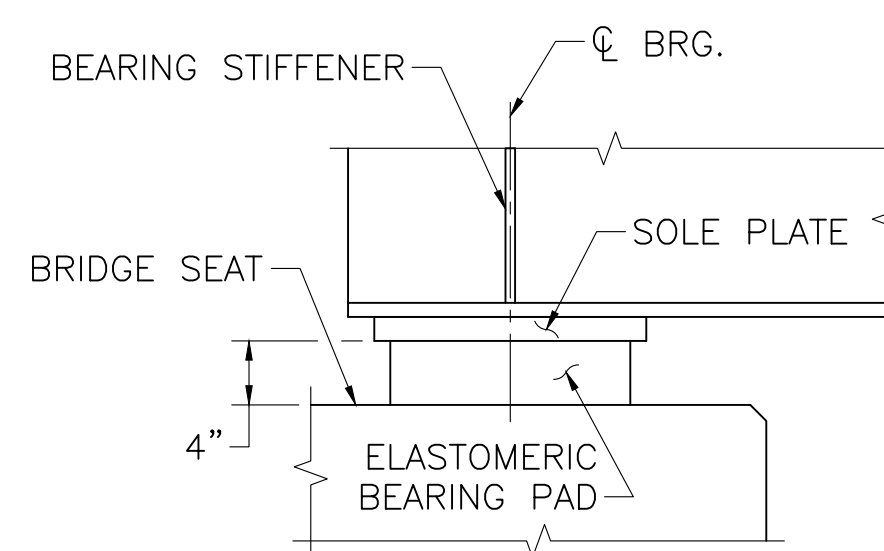
PLAN AT PIERS

SCALE: 1" = 1'-0"



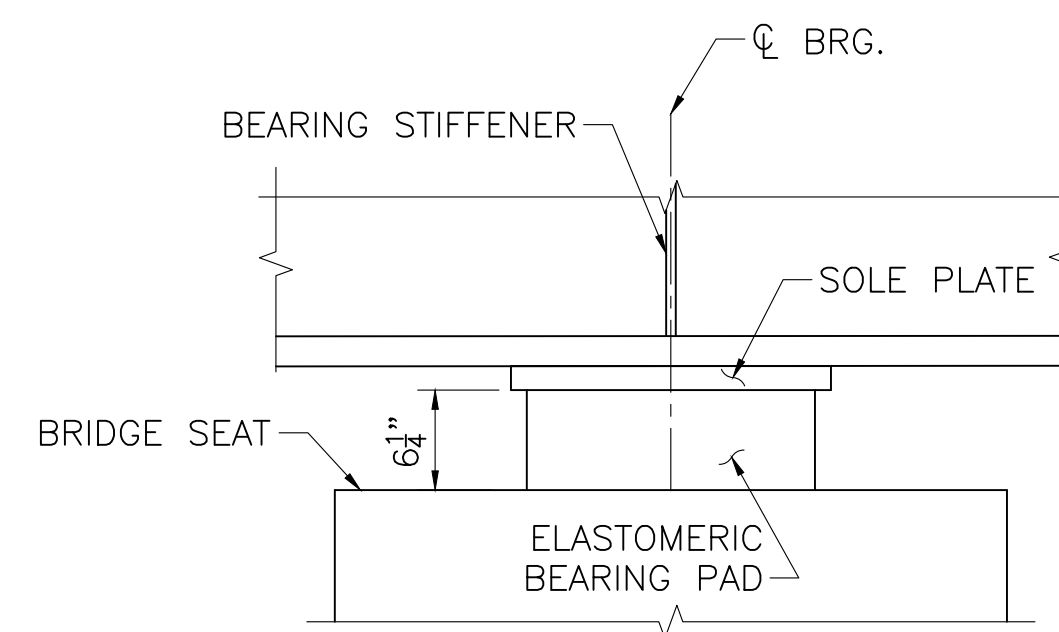
ELASTOMERIC BEARING PAD AT ABUTMENTS

SCALE: 3" = 1'-0"



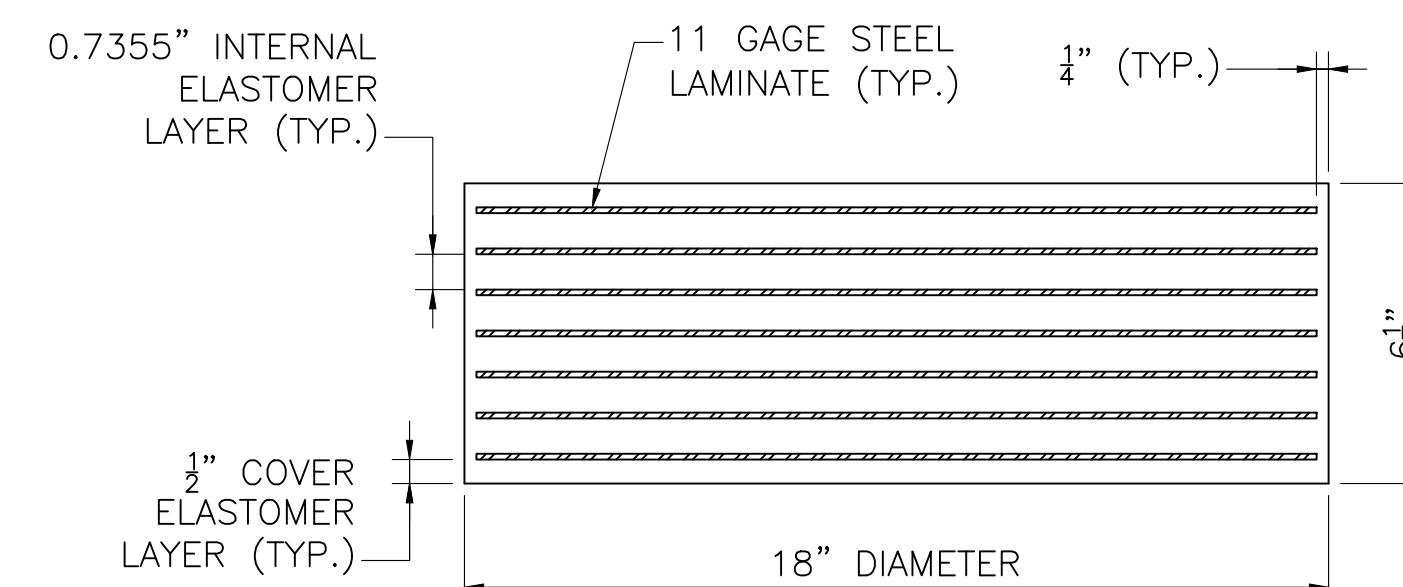
ELEVATION AT ABUTMENTS

SCALE: 1" = 1'-0"



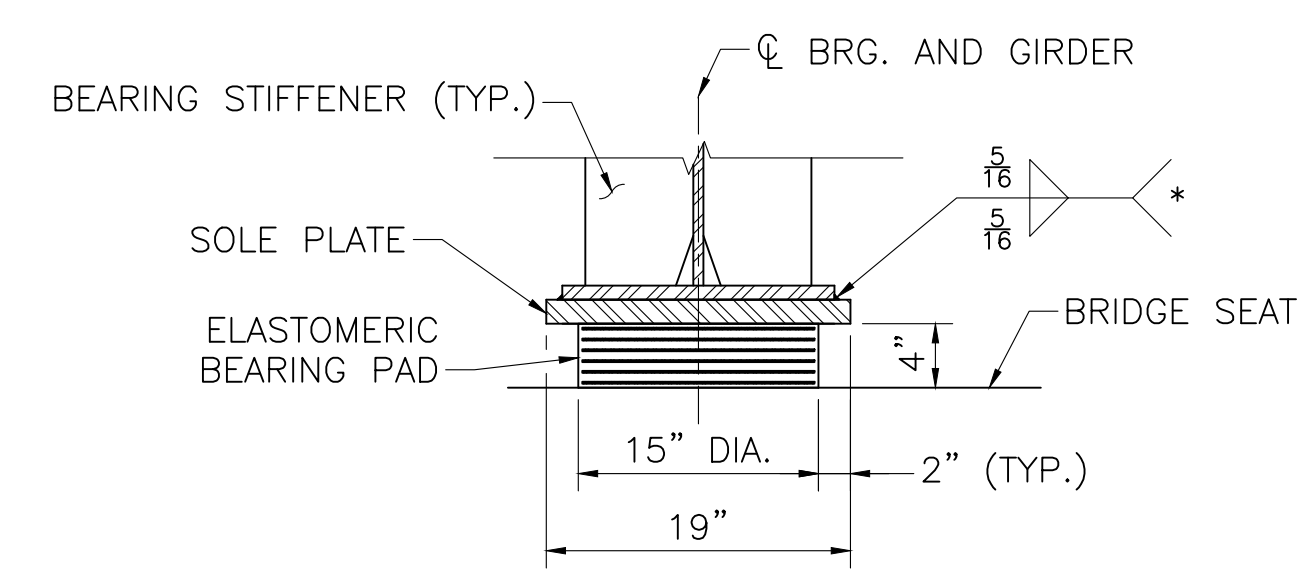
ELEVATION AT PIERS

SCALE: 1" = 1'-0"



ELASTOMERIC BEARING PAD AT PIERS

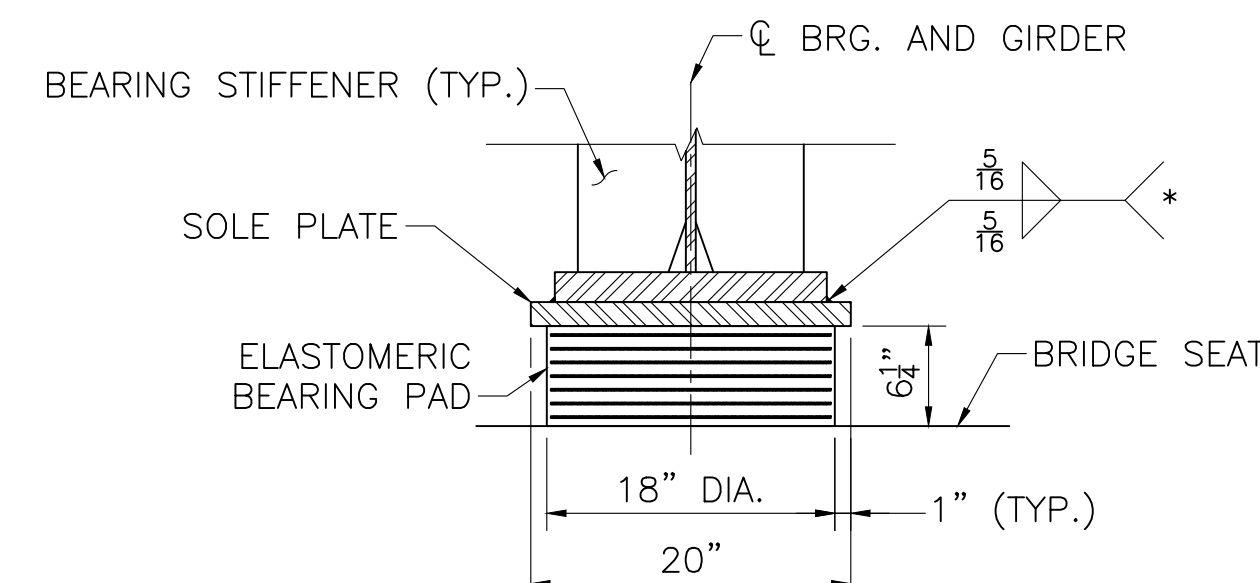
SCALE: 3" = 1'-0"



(*) - WELDS SHALL TERMINATE 1/4" FROM EDGE OF PLATE.

SECTION 25

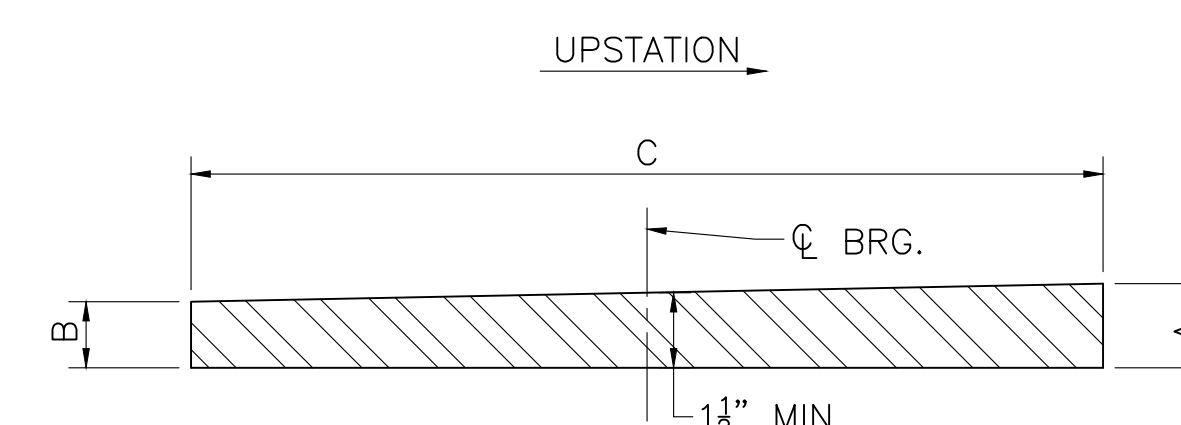
SCALE: 1" = 1'-0"



(*) - WELDS SHALL TERMINATE 1/4" FROM EDGE OF PLATE.

SECTION 26

SCALE: 1" = 1'-0"



SOLE PLATE DIMENSIONS

LOCATION	A	B	C
S. ABUT.	1 1/2"	1 1/2"	19"
PIER 1	1 1/8"	1 3/8"	20"
PIER 2	1 1/8"	1 3/8"	20"
N. ABUT.	1 1/8"	1 3/8"	19"

SOLE PLATE DETAIL

SCALE: 3" = 1'-0"

BEARING NOTES:

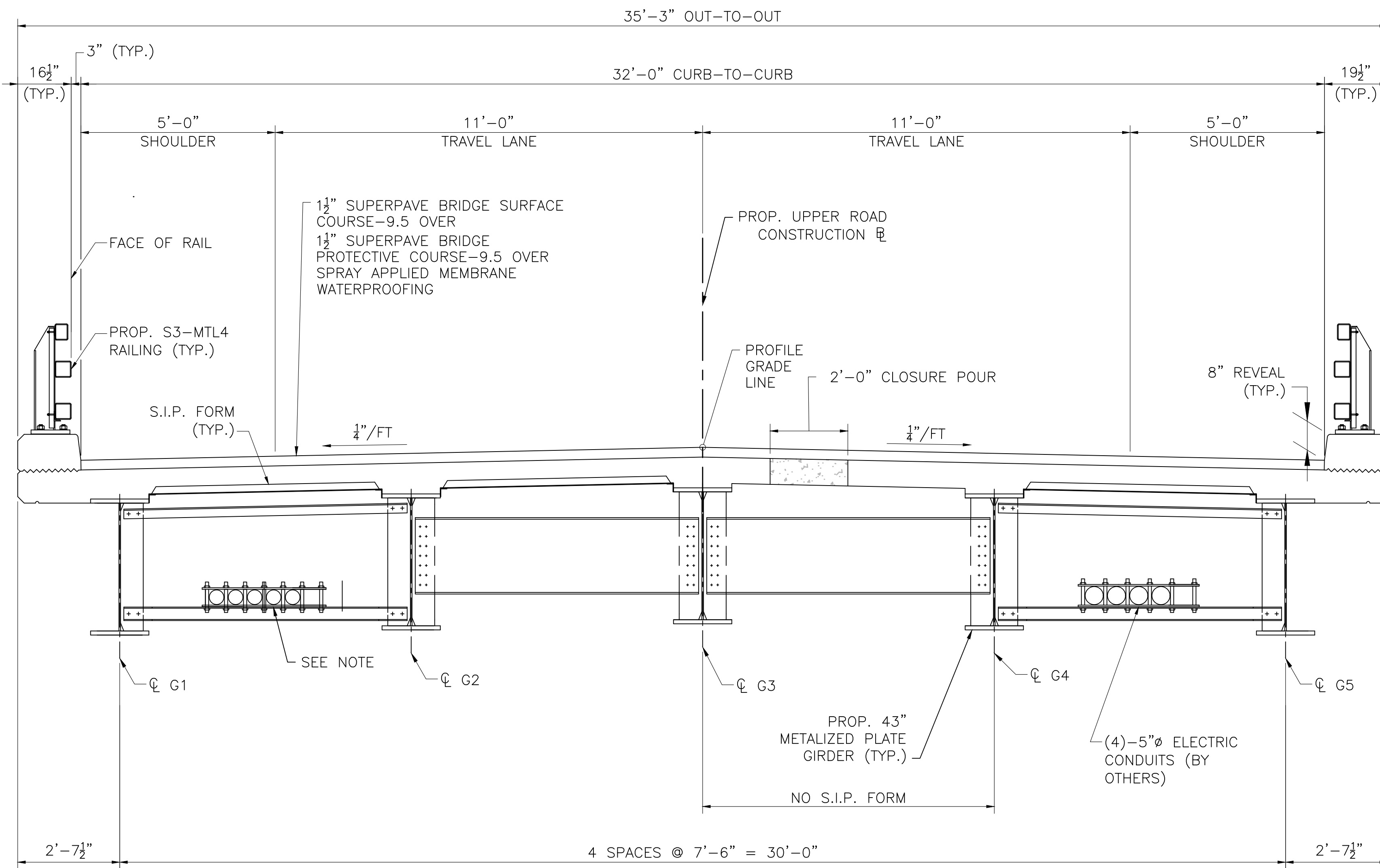
- THIS BEARING IS DESIGNED USING AASHTO METHOD B.
- ELASTOMER SHALL HAVE A SHEAR MODULUS OF 0.160 KSI.
- STEEL LAMINATES SHALL CONFORM TO ASTM A 1011 GRADE 36 OR HIGHER. ALL EDGES OF STEEL LAMINATES SHALL BE GROUND SMOOTH.
- THE COMPRESSIVE DESIGN LOAD ON THE ABUTMENT BEARING PAD IS 124 KIPS. THE COMPRESSIVE DESIGN STRESS IS THE RESULT OF DIVIDING THE COMPRESSIVE DESIGN LOAD BY THE AREA OF THE PAD AND IS EQUAL TO 0.69 KSI.
- THE COMPRESSIVE DESIGN LOAD ON THE PIER BEARING PAD IS 349 KIPS. THE COMPRESSIVE DESIGN STRESS IS THE RESULT OF DIVIDING THE COMPRESSIVE DESIGN LOAD BY THE AREA OF THE PAD AND IS EQUAL TO 1.37 KSI.
- THE 25 YEAR CREEP STRAIN SHALL BE LIMITED TO 35%.
- ELASTOMERIC BEARING PAD SHALL NOT BE VULCANIZED TO THE SOLE PLATE.
- STEEL SOLE PLATE SHALL CONFORM TO AASHTO M 270 GRADE 36 AND SHALL BE HOT-DIP GALVANIZED.
- CENTER THE ELASTOMERIC PAD UNDER THE SOLE PLATE DURING GIRDER ERECTION.
- GIRDERS SHALL BE ERECTED WHEN THE AMBIENT TEMPERATURE IS BETWEEN 30 °F AND 90 °F. IF GIRDERS ARE ERECTED AT OTHER AMBIENT TEMPERATURES, THEY WILL HAVE TO BE JACKED AND THE ELASTOMERIC BEARING RECENTERED WHEN THE TEMPERATURE RETURNS TO THAT RANGE.

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DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	71	92
PROJECT FILE NO.		608634	

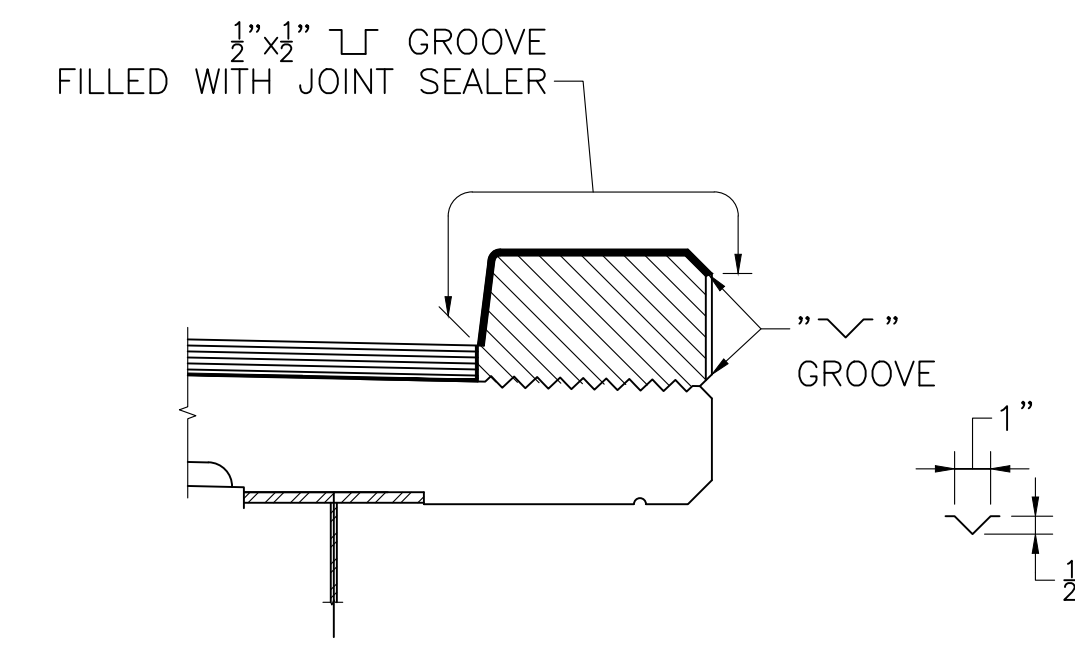
TRANSVERSE BRIDGE AND DECK SECTIONS



TYPICAL TRANSVERSE SECTION

SCALE: 1/2" = 1'-0"

NOTE:
PROP. UTILITY (BY OTHERS):
(1) - 4" DIA. MCI FIBER OPTIC CONDUIT
(2) - 4" DIA. VERIZON CONDUIT
(2) - 4" DIA. COMCAST CONDUIT

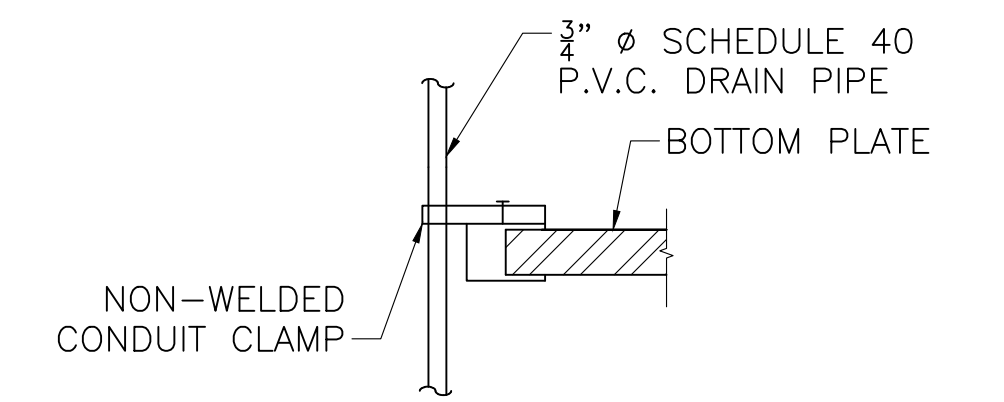


NOTES:

1. ALL CONCRETE ABOVE SLAB SHALL BE Poured IN ALTERNATING SECTIONS WITH NOT LESS THAN 3 DAYS BETWEEN POURS.
2. DO NOT CARRY LONGITUDINAL BARS THROUGH THE PARAFFIN JOINTS. END THE REINFORCEMENT 2" CLEAR OF JOINT.
3. JOINT SHALL BE SQUARE TO FACE OF CURB.

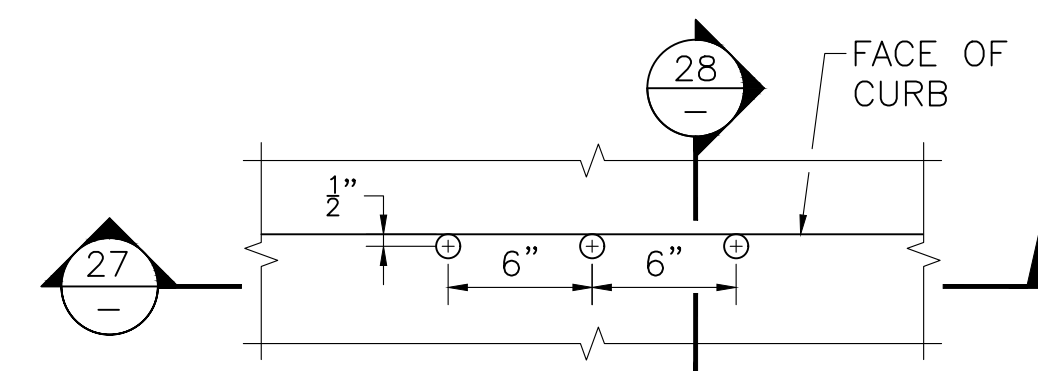
PARAFFIN JOINT DETAILS

SCALE: 3/4" = 1'-0"

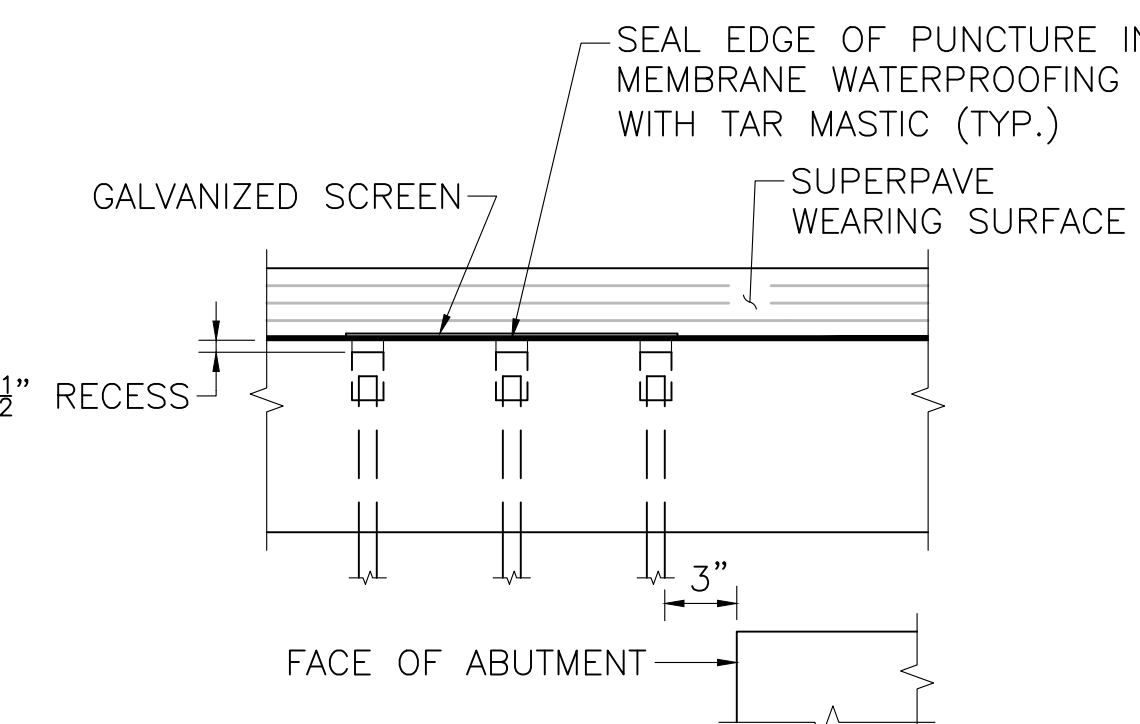


DETAIL B

SCALE: 1 1/2" = 1'-0"

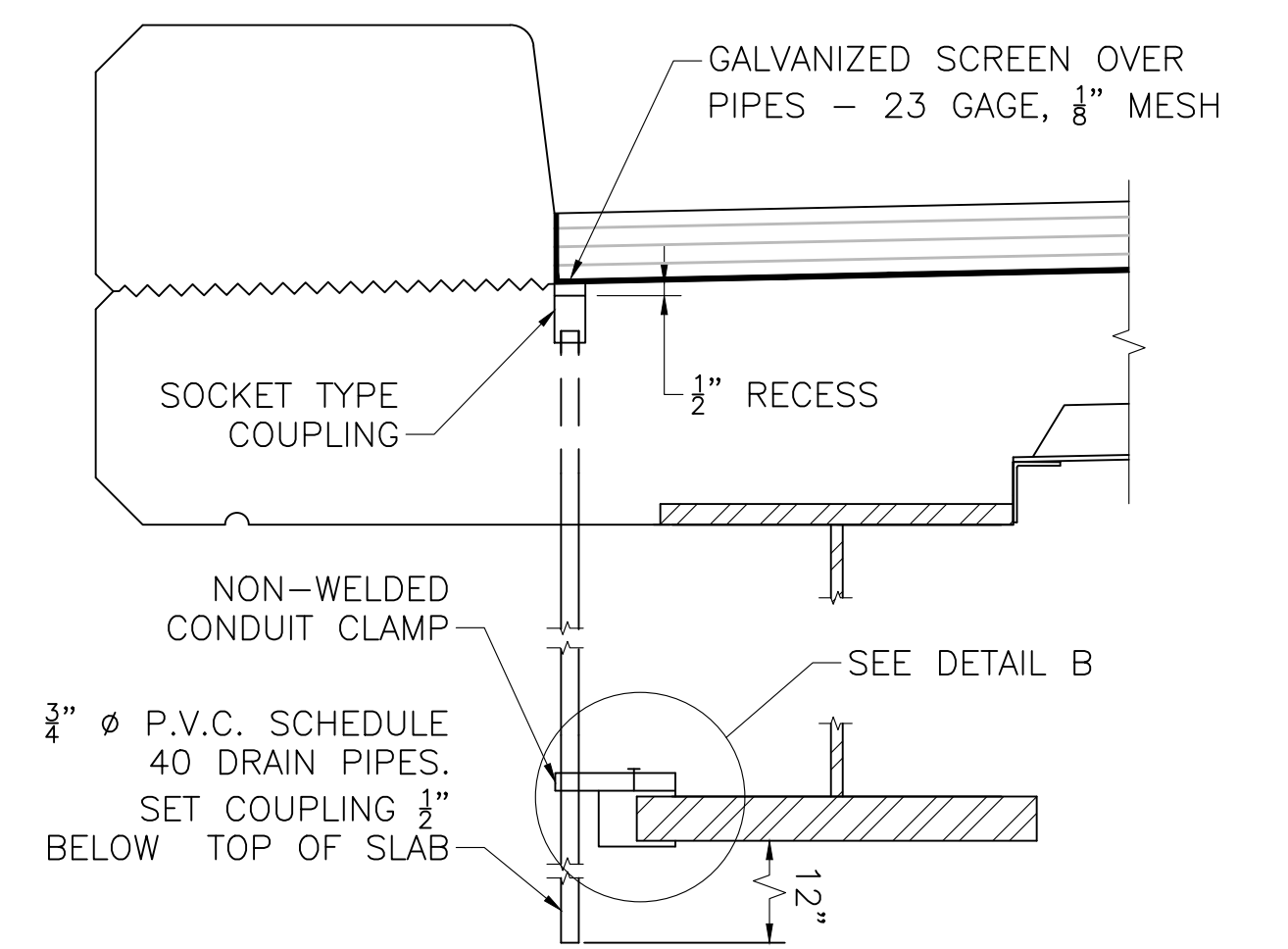


DECK PLAN



SECTION 27

SCALE: 1 1/2" = 1'-0"

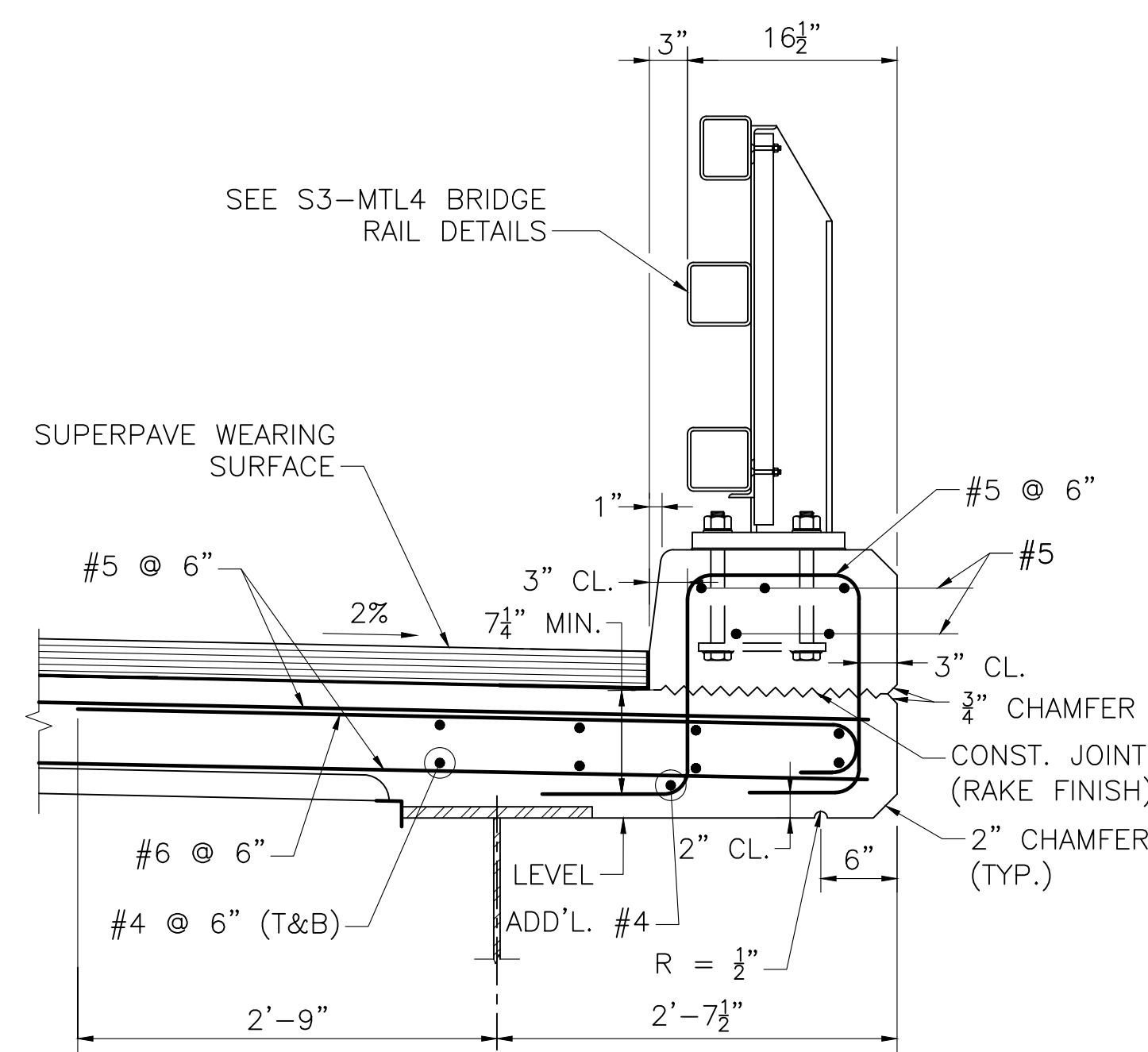


SECTION 28

SCALE: 1 1/2" = 1'-0"

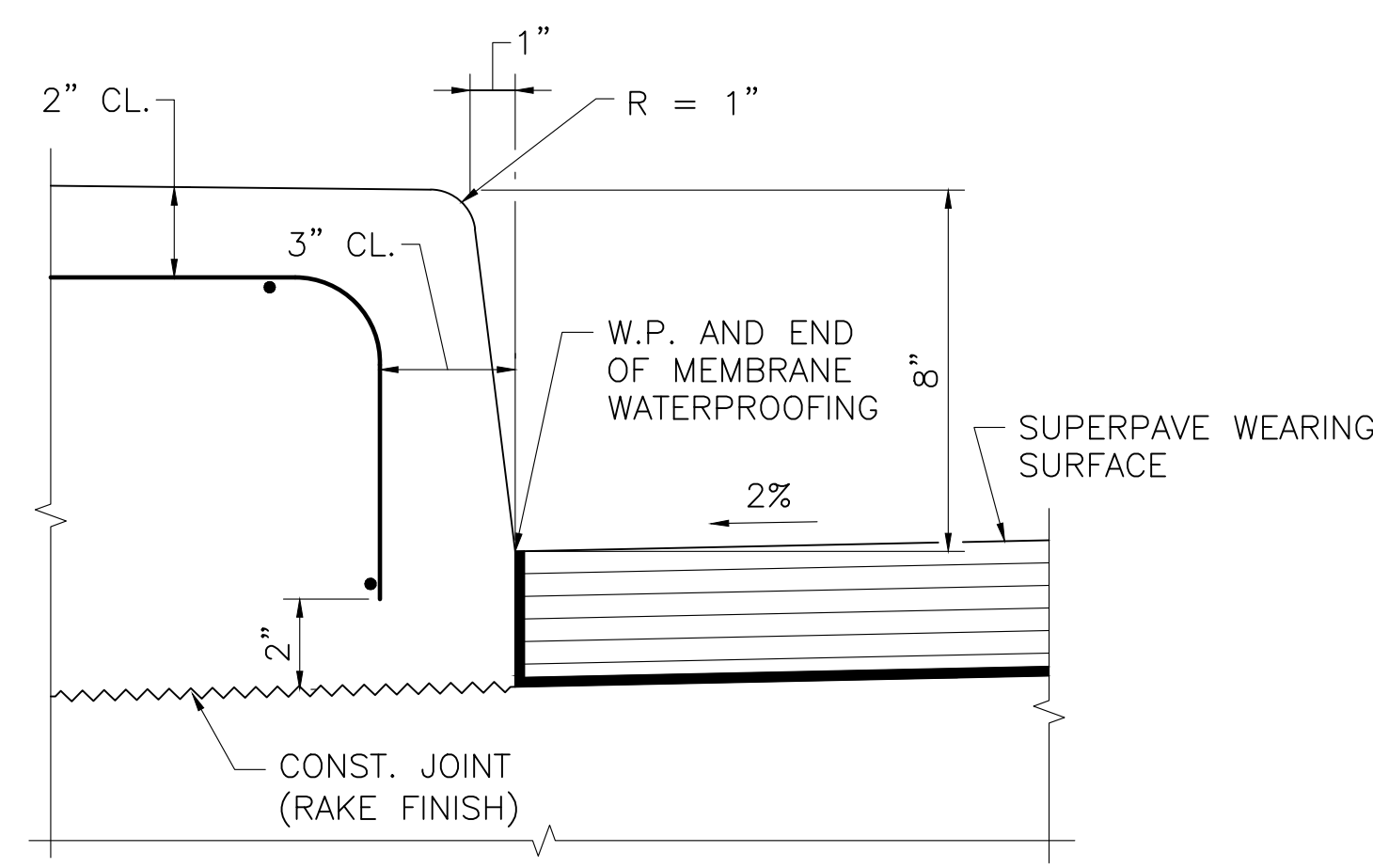
DECK DRAIN PIPES

SCALE: 1 1/2" = 1'-0"



SECTION THRU SAFETY CURB

SCALE: 1" = 1'-0"



FACE OF SAFETY CURB DETAILS

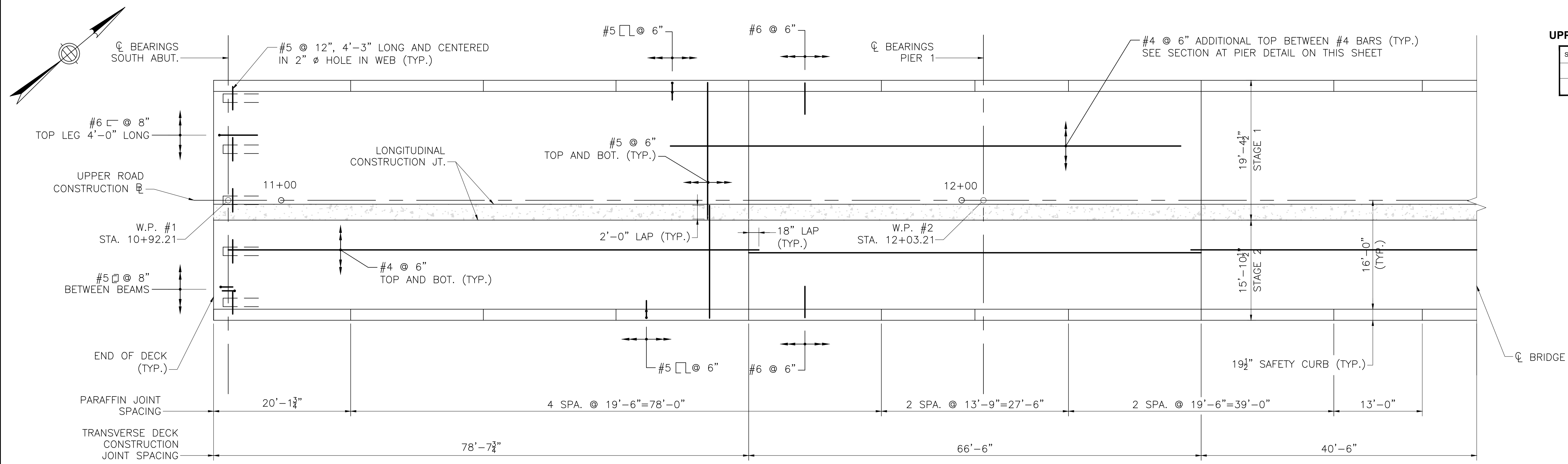
SCALE: 3" = 1'-0"

DATE	DESCRIPTION
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**DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	72	92
PROJECT FILE NO.		608634	

DECK PLAN

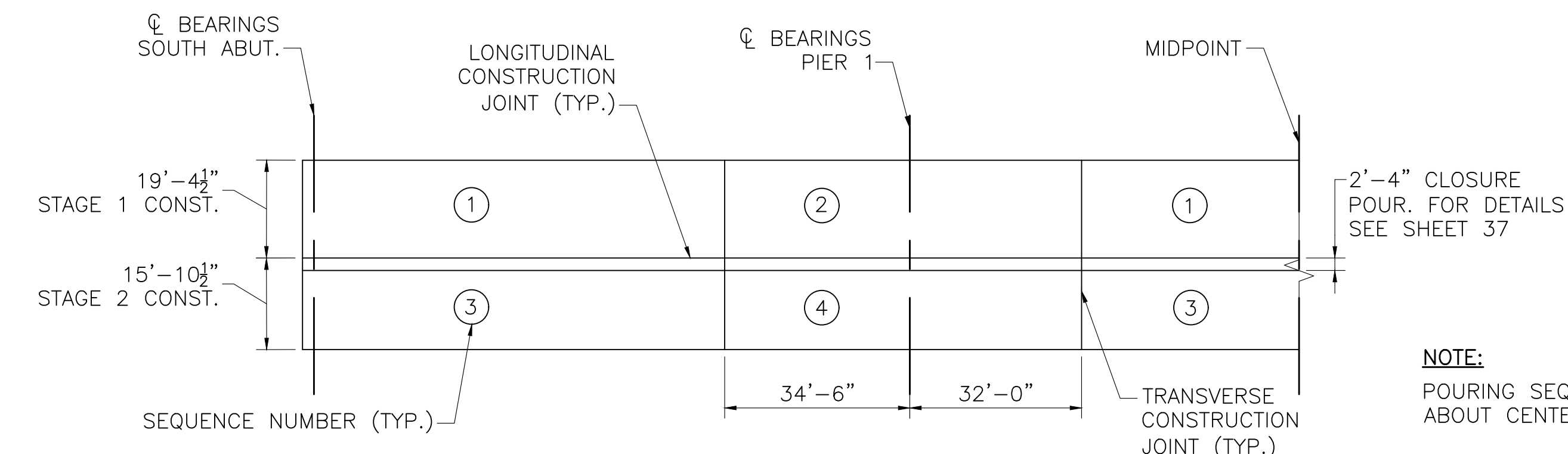


NOTES:

1. REINFORCING AND PARAFFIN JOINT SPACING SYMMETRICAL ABOUT CENTERLINE OF BRIDGE.
2. S3-TL4 RAIL POSTS NOT SHOWN, SEE GENERAL PLAN, SHEET 10, FOR SPACING.

DECK PLAN

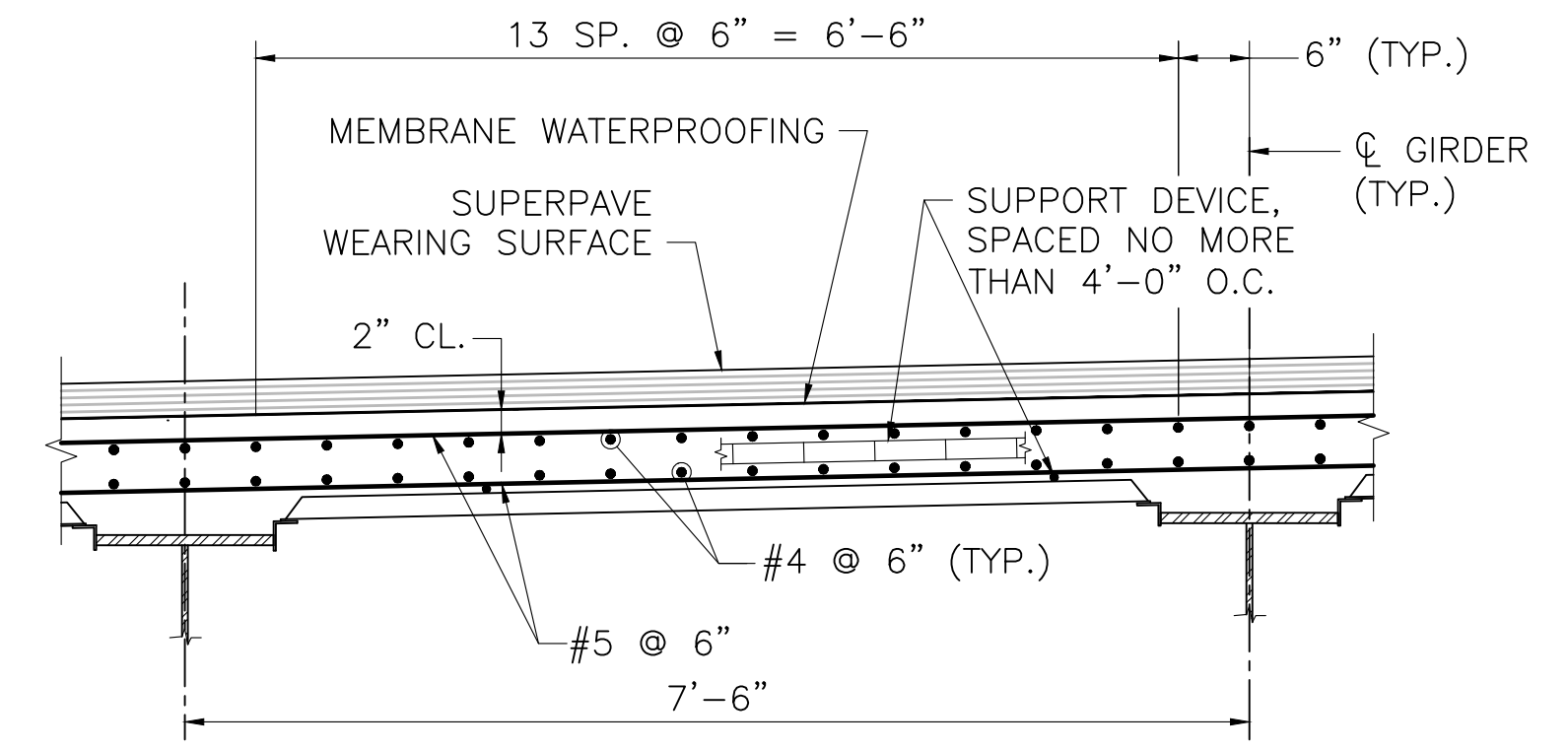
SCALE: 3/8" = 1'-0"



NOTE:
POURING SEQUENCE IS SYMMETRICAL ABOUT CENTERLINE OF BRIDGE.

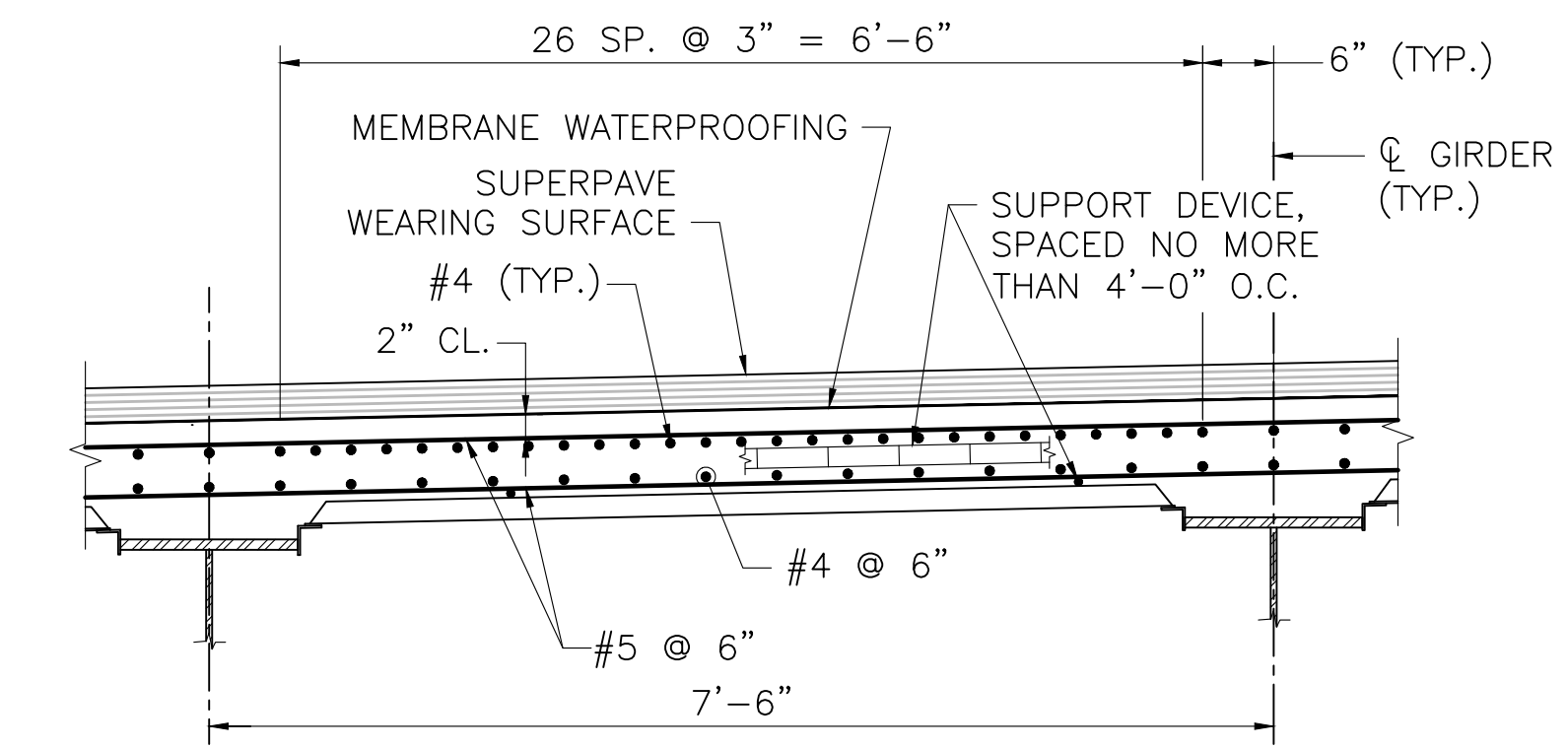
DECK REINFORCING NOTES:

1. LONGITUDINAL REINFORCEMENT SHALL BE PLACED PARALLEL TO THE CL OF CONSTRUCTION. TRANSVERSE (PRIMARY) REINFORCEMENT SHALL BE PLACED PERPENDICULAR TO THE CL OF CONSTRUCTION.
2. ALL REINFORCEMENT AND SUPPORT DEVICES SHALL BE COATED.
3. THE FINISHED SURFACE OF BRIDGE DECK SHALL BE SMOOTH AND WITHOUT ANY PROJECTIONS THAT COULD PUNCTURE THE MEMBRANE WATERPROOFING OR DEPRESSIONS THAT COULD RETAIN WATER.



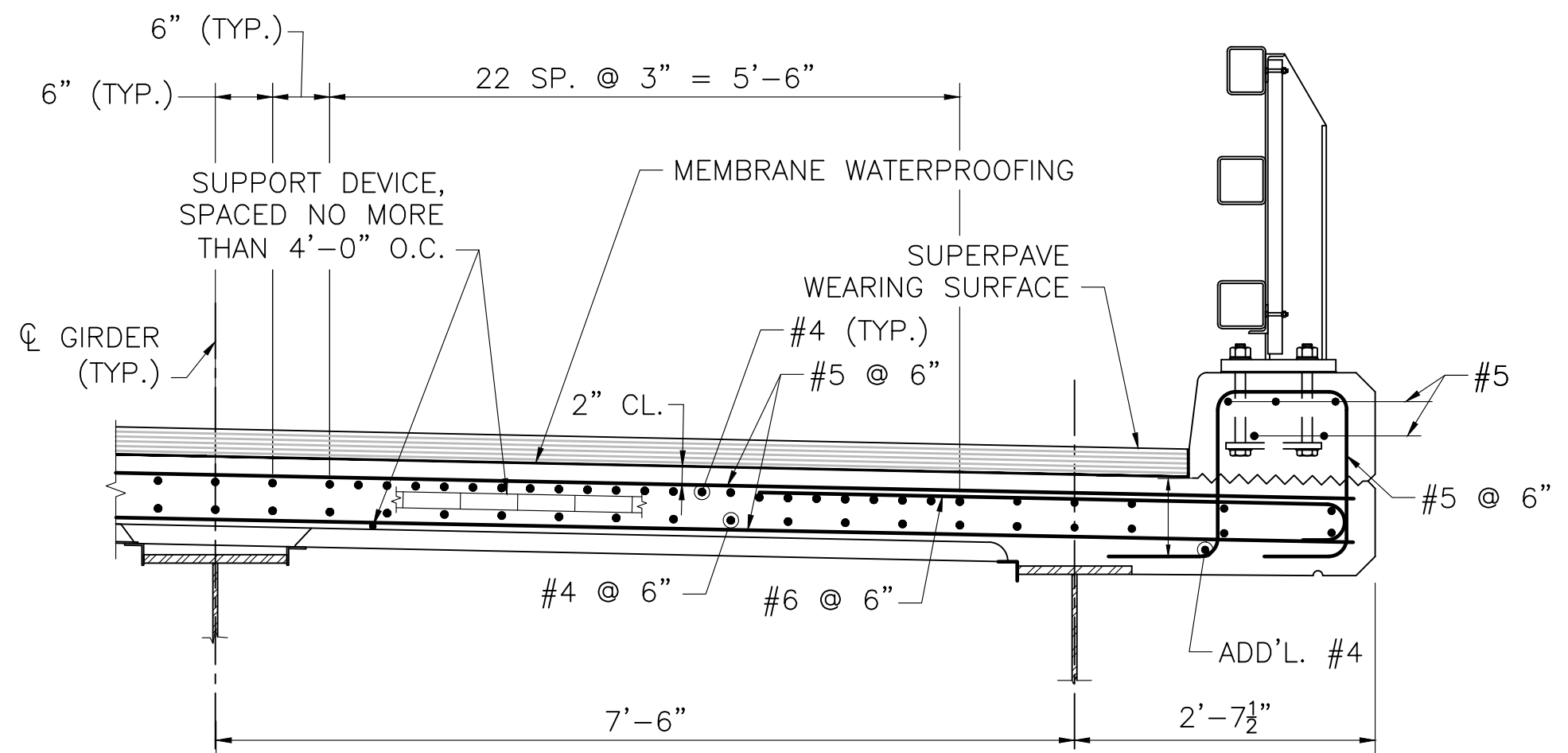
TYPICAL DECK REINFORCEMENT

SCALE: 3/4" = 1'-0"



DECK REINFORCEMENT AT PIER - INTERIOR GIRDER

SCALE: 3/4" = 1'-0"

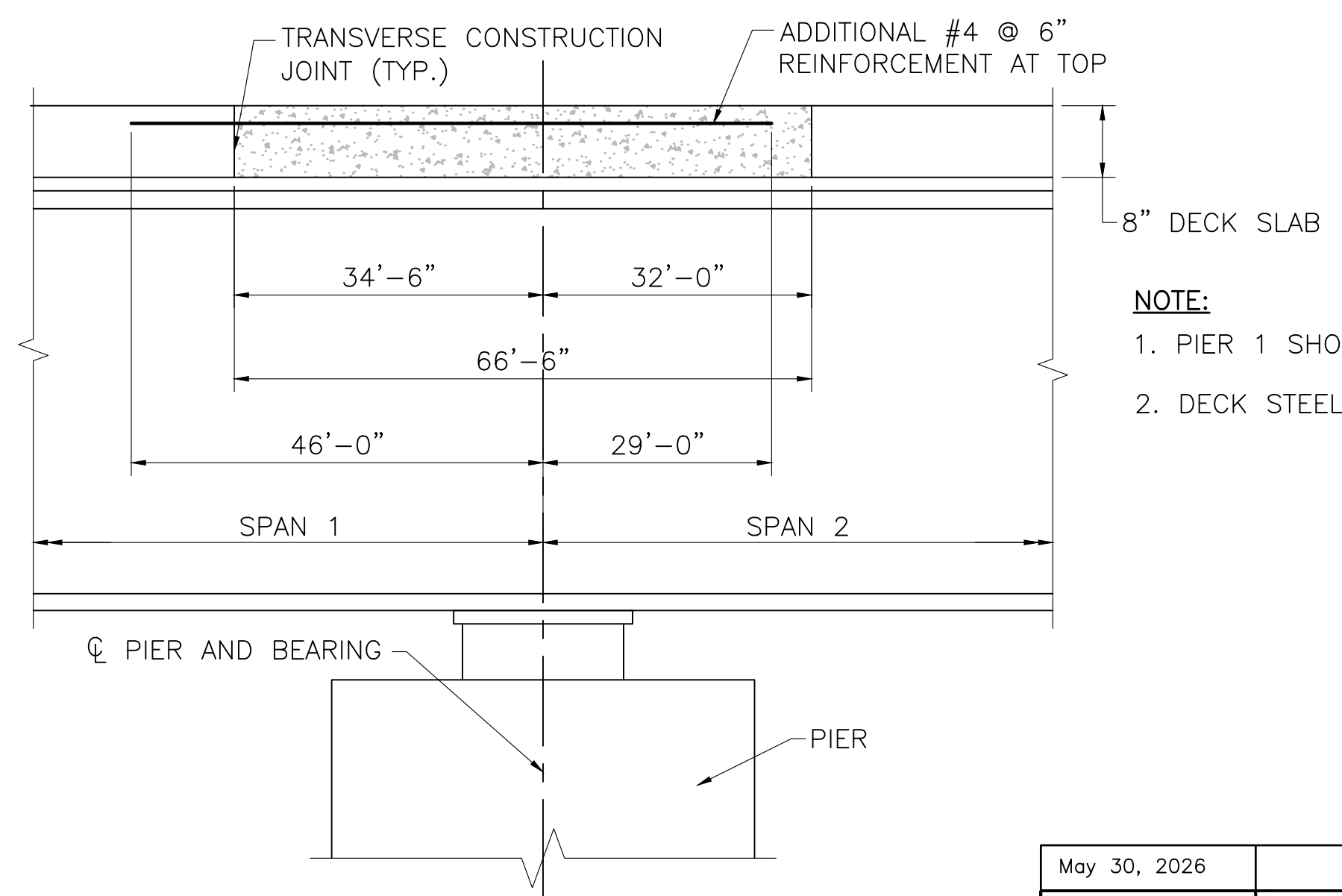


DECK REINFORCEMENT AT PIER - EXTERIOR GIRDER

SCALE: 3/4" = 1'-0"

SUGGESTED DECK POURING SEQUENCE

NOT TO SCALE



SECTION AT PIER

NOT TO SCALE

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Z:\Shared\Engineering\Projects\2015\1003110031\11X - Deerfield Upper Road\608634\DWG\Bridge\Current\DeckPlan\DECK_BR36.dwg

608634_BR36.DWG Plotted on 18-May-2026 3:30 PM

08-April-2026

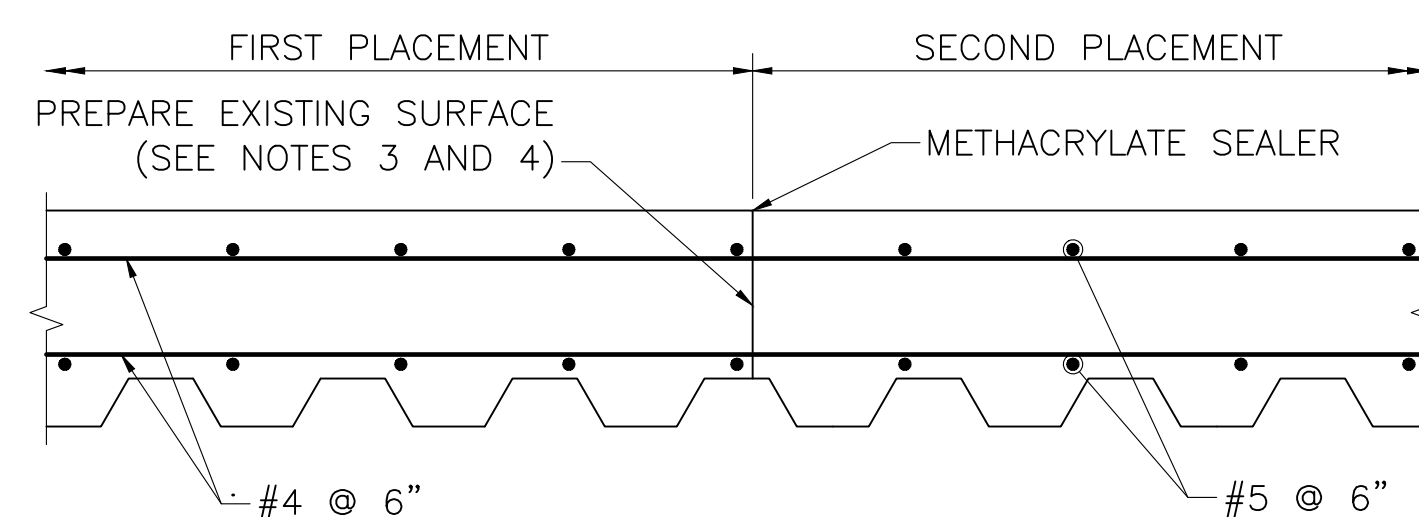
Final Structural Submittal (SF)

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DECK DETAILS

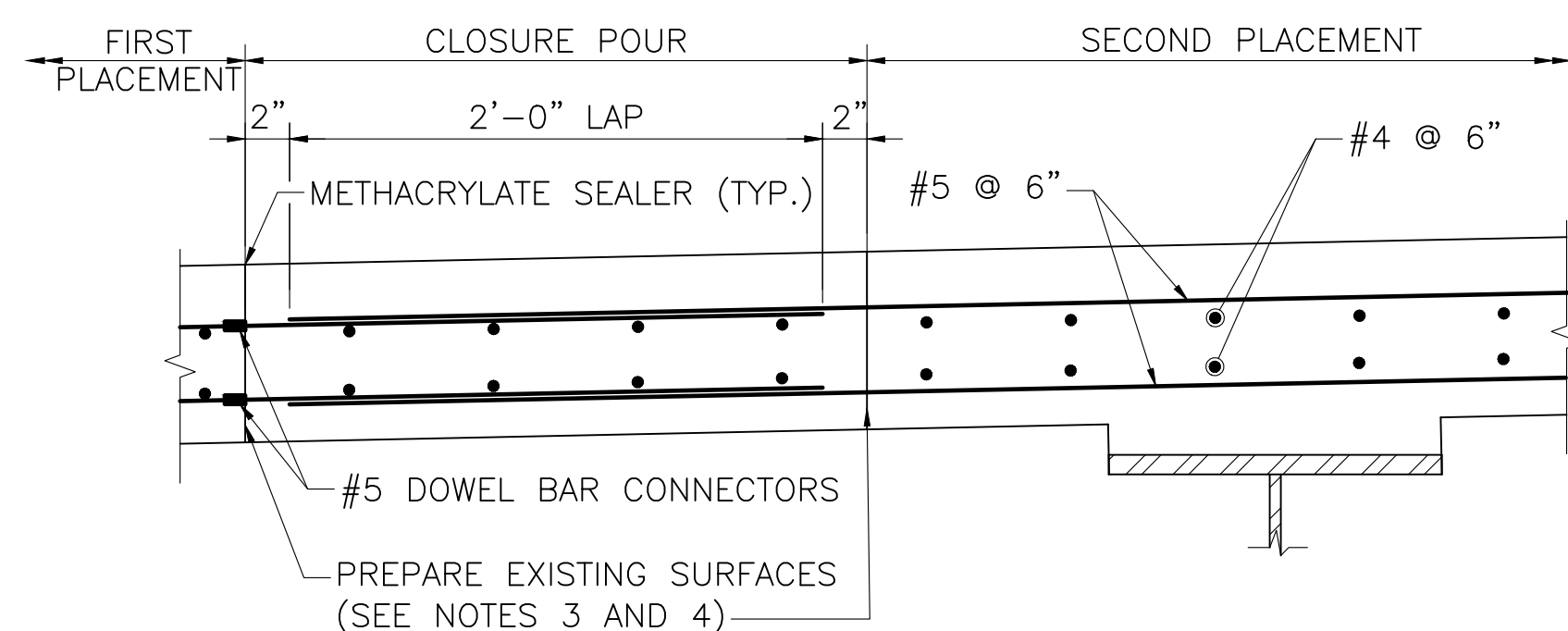
STAY-IN-PLACE FORM NOTES:

- FOR 2" S.I.P FORM, SET BOTTOM OF FORM 1" BELOW ELEVATION GIVEN IN TABLE. FOR 3" S.I.P FORM, SET BOTTOM OF FORM 1½" BELOW TABLE ELEVATIONS.
- FROM ENDS SHALL BE CRIMPED CLOSED IN A TAPERED MANNER. SEPARATE END CLOSURE PIECES WILL NOT BE ALLOWED.
- SUPPORT ANGLES SHALL BE PLACED IN THE "LEG DOWN" POSITION WHERE POSSIBLE. WHERE "LEG UP" POSITION IS NECESSARY, THE UPPER MOST PORTION OF THE ANGLE SHALL NOT PROJECT MORE THAN 1" ABOVE THE TOP FLANGE OR COVER PLATE. THE CONTRACTOR SHALL HAVE AN ASSORTMENT OF ANGLES OF VARIOUS SIZES AVAILABLE ON THE SITE TO CONFORM TO THIS REQUIREMENT.
- ALL MAIN STEEL REINFORCEMENT IN THE LOWER MAT SHALL BE CENTERED OVER THE VALLEY OF THE S.I.P FORM.
- CONTRACTOR SHALL DESIGN AND DETAIL ALL ELEMENTS OF THE FORMING SYSTEM AND SHALL SUBMIT TO THE ENGINEER FOR APPROVAL.
- IN CASES WHERE STANDARD 2" OR 3" DEEP S.I.P FORMS DO NOT SATISFY DESIGN REQUIREMENTS AN ALTERNATIVE FORMING SYSTEM CONSISTING OF DEEPER S.I.P FORM OR REMOVABLE FORMS SHALL BE DESIGNED AND DETAILED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL. THE DESIGN THICKNESS OF THE SLAB SHALL NOT BE REDUCED.



TRANSVERSE CONSTRUCTION JOINT DETAIL IN DECK SLAB

SCALE: 1½" = 1'-0"

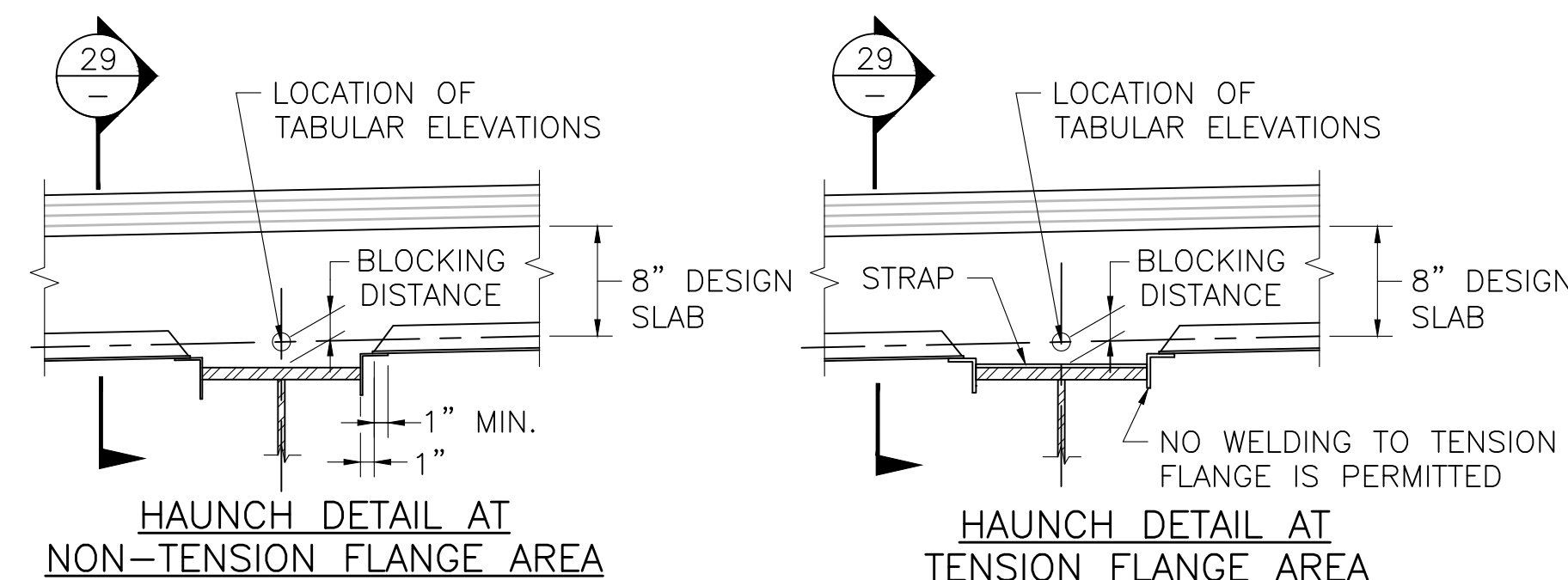


LONGITUDINAL CONSTRUCTION JOINT DETAIL IN DECK SLAB

SCALE: 1½" = 1'-0"

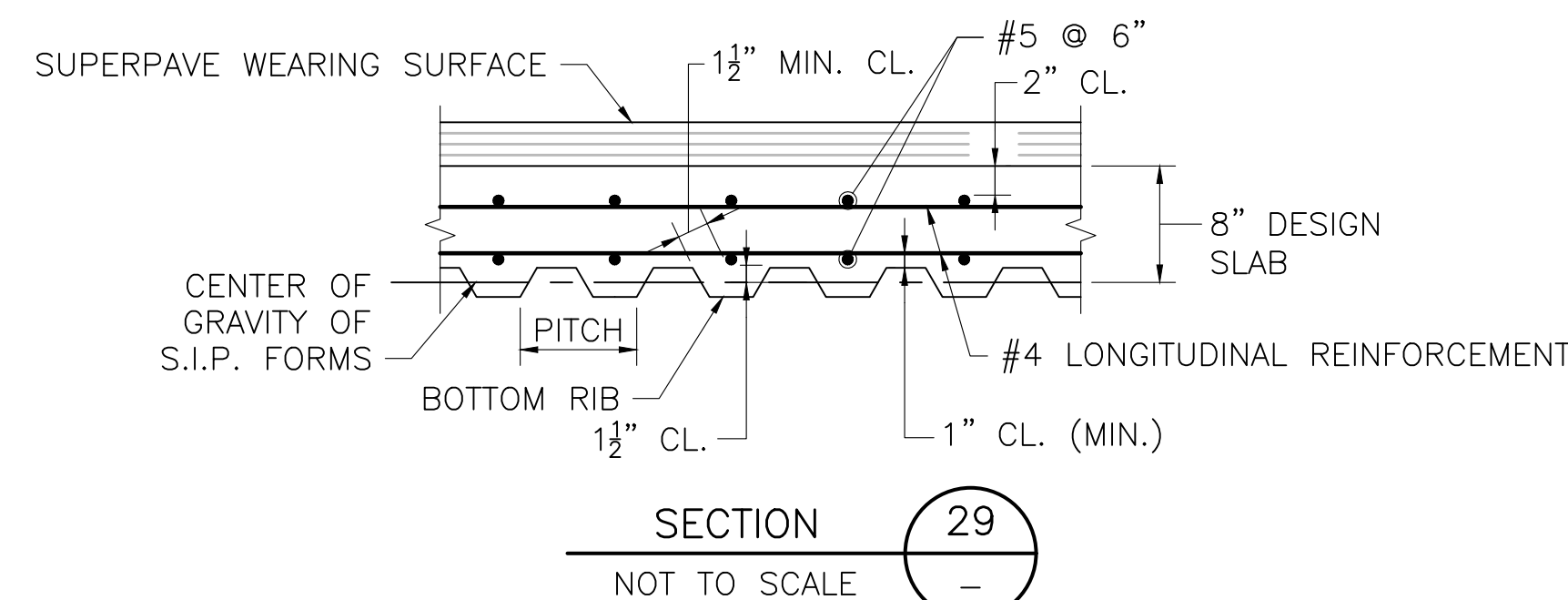
CONSTRUCTION JOINT NOTES:

- BRIDGE DECK SLAB SHALL BE PLACED IN ACCORDANCE WITH THE PLACEMENT SEQUENCE SHOWN ON THE PLANS.
- THE CONTRACTOR MAY PLACE THE ENTIRE DECK IN ONE CONTINUOUS OPERATION WITHOUT CONSTRUCTION JOINTS WITH THE APPROVAL OF THE ENGINEER PROVIDED THAT THE INITIAL SET ($F_c = 500$ PSI) OF ALL CONCRETE DOES NOT OCCUR UNTIL AFTER THE COMPLETION OF THE PLACEMENT. AN APPROVED RETARDER SHALL BE USED, WHEN NECESSARY, TO RETAIN THE WORKABILITY OF THE CONCRETE. IF MULTIPLE PLACEMENTS ARE MADE, POSITIVE MOMENT REGIONS SHALL BE PLACED PRIOR TO NEGATIVE MOMENT REGIONS AND A MINIMUM OF 72 HOURS SHALL PASS BETWEEN PLACEMENTS.
- THE SURFACE OF THE PREVIOUSLY CAST CONCRETE SHALL BE BLAST CLEANED, ROUGHENED, WETTED WITH CLEAN WATER, AND THEN FLUSHED WITH MORTAR COMPOSED OF EQUAL PARTS OF THE CEMENT AND SAND SPECIFIED FOR THE NEW CONCRETE, BEFORE THE NEW CONCRETE IS PLACED ADJACENT THERETO. NEW CONCRETE SHALL BE PLACED BEFORE MORTAR HAS TAKEN INITIAL SET.
- IN LIEU OF THE MORTAR, AN EPOXY ADHESIVE SUITABLE FOR BONDING FRESH CONCRETE TO HARDENED CONCRETE FOR LOAD BEARING APPLICATIONS MAY BE USED. THE EPOXY ADHESIVE SHALL CONFORM TO AASHTO M 235, TYPE V AND SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- THE CONTRACTOR MAY SUBMIT A PROPOSAL DETAILING THE ELIMINATION OF THE CLOSURE POUR FOR THE APPROVAL OF THE ENGINEER. THE PROPOSAL SHALL DETAIL THE CONTRACTOR'S MEANS AND METHODS FOR ACCURATELY CONSTRUCTING THE DECK SLAB TO THE LINES, GRADES, AND THICKNESS SHOWN ON THE CONSTRUCTION DRAWINGS WITHOUT LEAKAGE OF CONCRETE.
- DOWEL BAR SPLICERS SHOWN, LAP SPLICES MAY BE USED IF FEASIBLE.



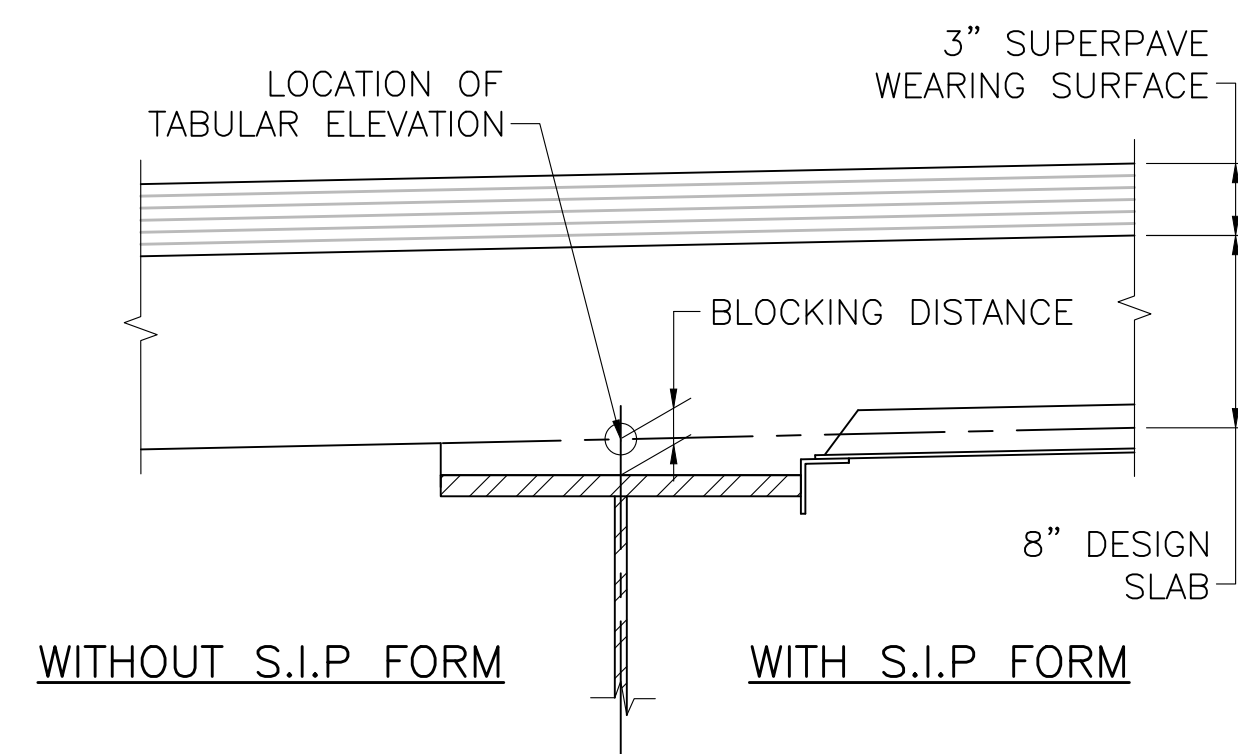
HAUNCH DETAIL AT NON-TENSION FLANGE AREA

HAUNCH DETAIL AT TENSION FLANGE AREA



STAY-IN-PLACE FORM DETAILS

NOT TO SCALE



HAUNCH DETAIL

TOP OF FORM DETAILS

SCALE: 1½" = 1'-0"

GIRDER NO.	TOP OF FORM ELEVATIONS FOR DECK SLAB PRIOR TO PLACEMENT OF CONCRETE																								
	CL BRGS. S. ABUT.	SPAN 1 INCREASING STATIONS							CL BRGS. PIER 1	SPAN 2 INCREASING STATIONS							CL BRGS. PIER 2	SPAN 3 INCREASING STATIONS							CL BRGS. N. ABUT.
	1/8L	1/4L	3/8L	1/2L	5/8L	3/4L	7/8L		1/8L	1/4L	3/8L	1/2L	5/8L	3/4L	7/8L		1/8L	1/4L	3/8L	1/2L	5/8L	3/4L	7/8L		
G1	173.90	174.13	174.33	174.50	174.62	174.72	174.80	174.89	175.01	175.24	175.51	175.77	175.99	176.13	176.23	176.32	176.46	176.62	176.80	177.00	177.21	177.43	177.66	177.91	178.18
G2	174.05	174.28	174.49	174.65	174.78	174.87	174.95	175.04	175.16	175.39	175.66	175.92	176.14	176.29	176.39	176.48	176.61	176.77	176.96	177.16	177.36	177.58	177.82	178.06	178.34
G3	174.21	174.44	174.64	174.81	174.93	175.03	175.11	175.20	175.32	175.55	175.81	176.08	176.29	176.44	176.54	176.63	176.77	176.93	177.11	177.31	177.51	177.73	177.97	178.22	178.49
G4	174.05	174.28	174.49	174.65	174.78	174.87	174.95	175.04	175.16	175.39	175.66	175.93	176.14	176.29	176.39	176.48	176.61	176.77	176.96	177.16	177.36	177.58	177.82	178.06	178.34
G5	173.90	174.13	174.34	174.50	174.63	174.72	174.80	174.89	175.01	175.24	175.51	175.78	175.99	176.14	176.23	176.33	176.46	176.62	176.81	177.00	177.21	177.43	177.67	177.91	178.18

NOTE:

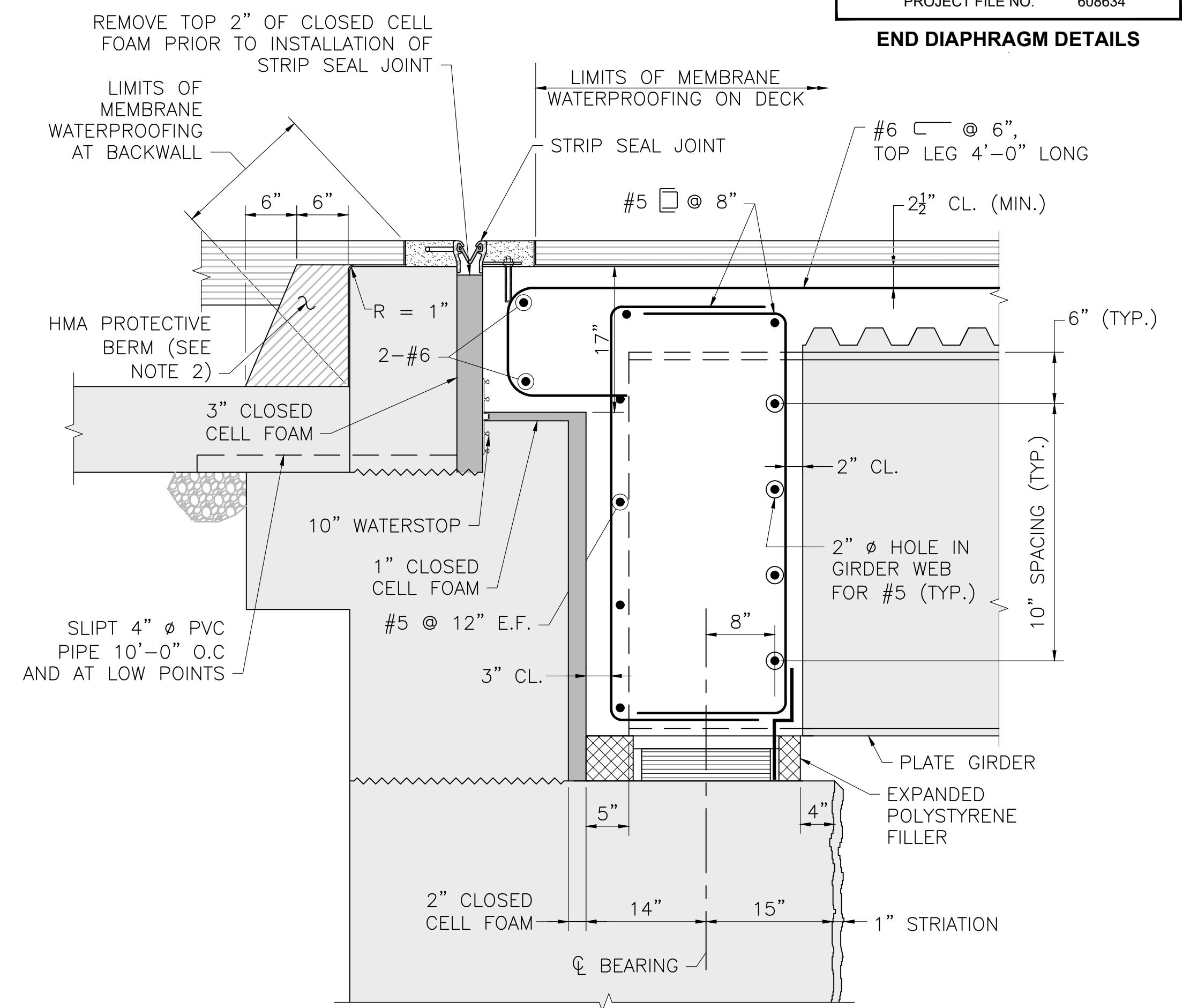
AFTER THE BEAMS ARE ERECTED BUT BEFORE THE FORMS ARE BUILT, ELEVATIONS ON TOP OF THE FLANGE OF THE BEAMS ARE TO BE OBTAINED AT THE POINTS INDICATED IN THE TABLE. THE DIFFERENCE BETWEEN THE ELEVATIONS OBTAINED AND THOSE SHOWN IN THE TABLE GIVES THE ACTUAL BLOCKING DISTANCE FROM THE TOP OF BEAM TO THE BOTTOM OF THE SLAB AT CENTER LINE OF BEAM.

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**DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER**

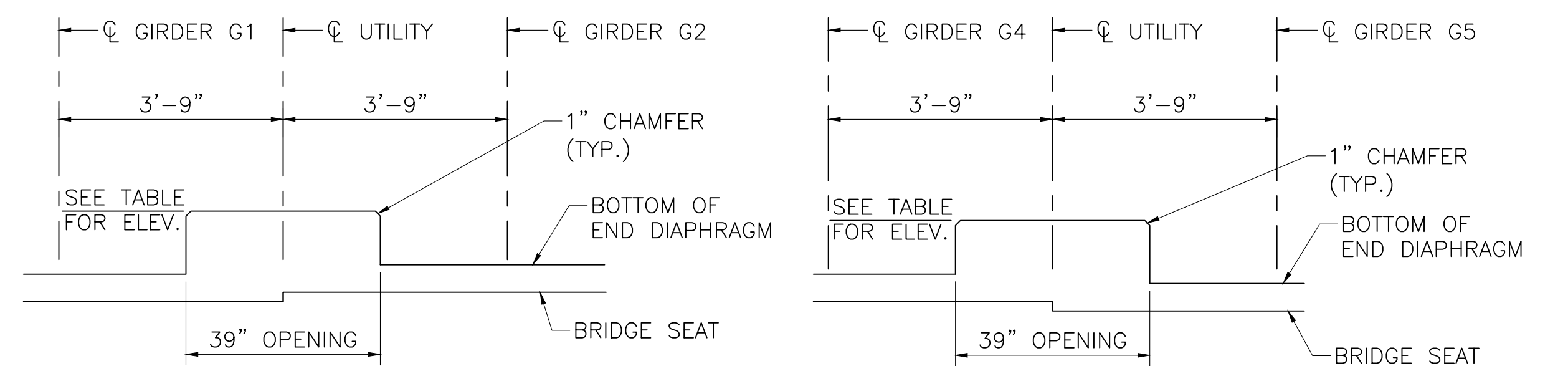
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	74	92
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END DIAPHRAGM DETAILS



NOTE:
SEE ABUTMENT SECTION FOR REINFORCEMENT NOT LABELED HERE.

SECTION 30
SCALE: 1" = 1'-0"

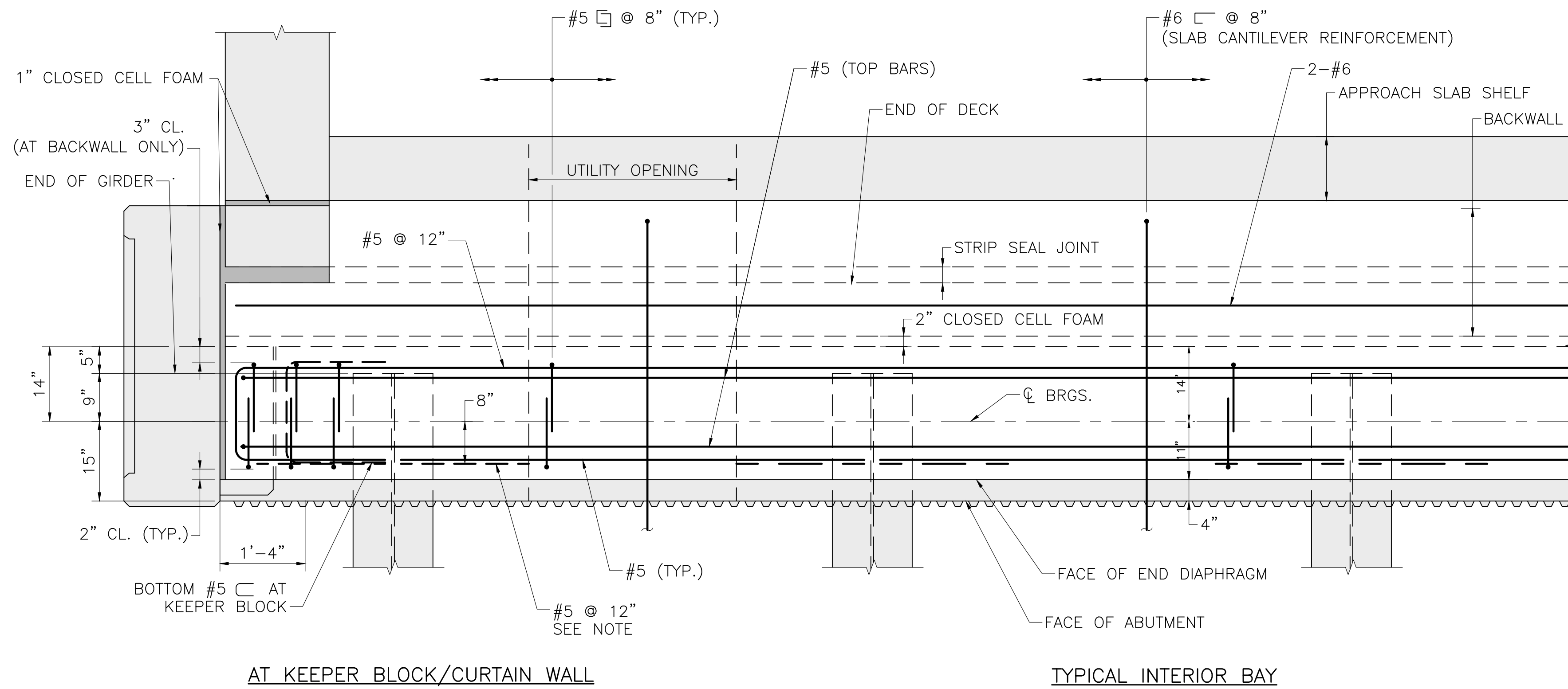


NOTE:
UTILITY OPENINGS AT SOUTH ABUTMENT SHOWN, UTILITY OPENINGS AT NORTH ABUTMENT SIMILAR, WITH ELEVATIONS SHOWN IN PROVIDED TABLE.

	TOP OF UTILITY OPENING ELEV. (FT)	
LOCATION	SOUTH ABUT.	NORTH ABUT.
BAY 1	170.95	174.62
BAY 4	170.95	174.62

UTILITY OPENING DETAIL

SCALE: 1/2" = 1'-0"



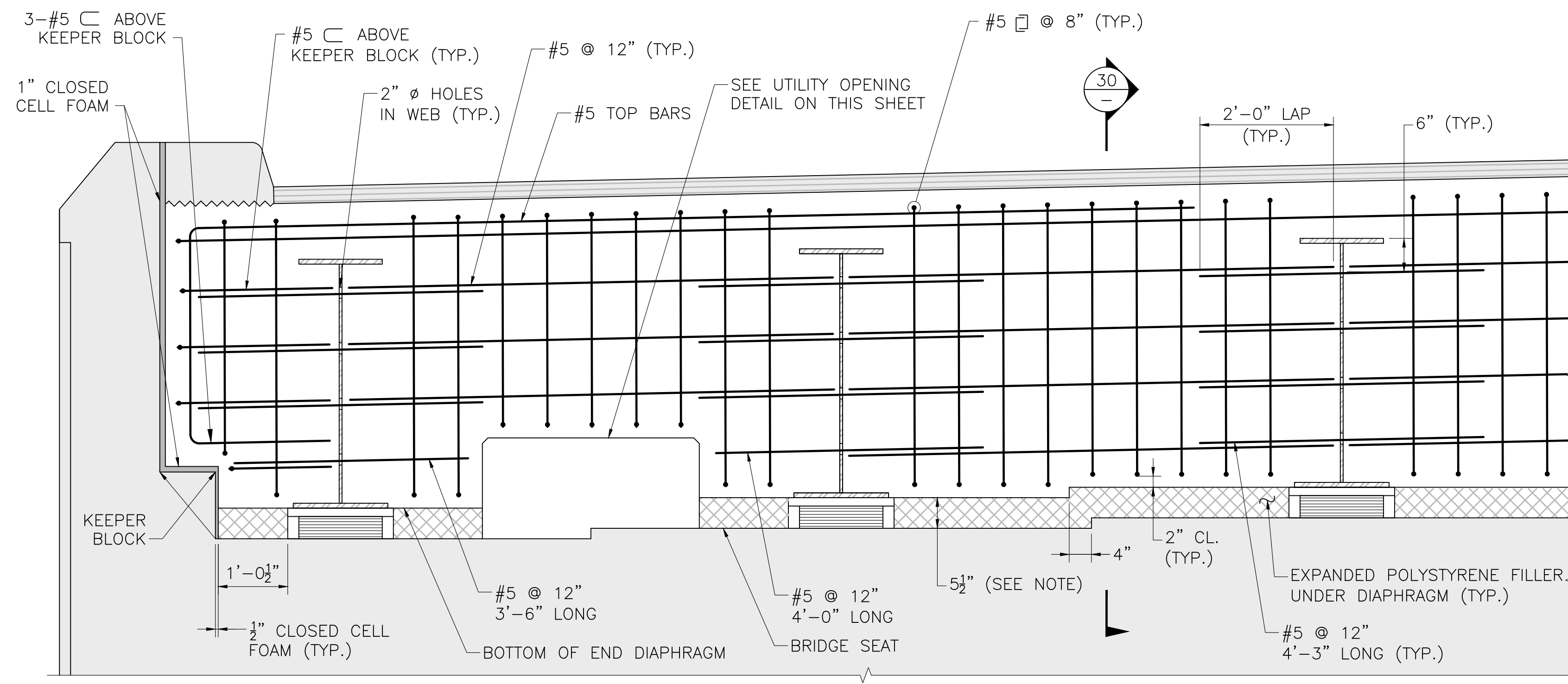
AT KEEPER BLOCK/CURTAIN WALL

TYPICAL INTERIOR BAY

NOTE:
BAR TO BE 4'-3" LONG AND CENTERED IN 2" DIAMETER HOLE IN WEB EXCEPT AT UTILITY OPENINGS, SEE END DIAPHRAGM ELEVATION ON THIS SHEET.

END DIAPHRAGM PLAN

SCALE: 3/8" = 1'-0"



AT KEEPER BLOCK/CURTAIN WALL

TYPICAL INTERIOR BAY

NOTE:
CONTRACTOR MAY USE EXPANDED POLYSTYRENE FILLER OR A REMOVABLE FORM TO FORM THE BOTTOM OF THE END DIAPHRAGM.

END DIAPHRAGM ELEVATION

SCALE: 3/8" = 1'-0"

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STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	75	92
PROJECT FILE NO.		608634	

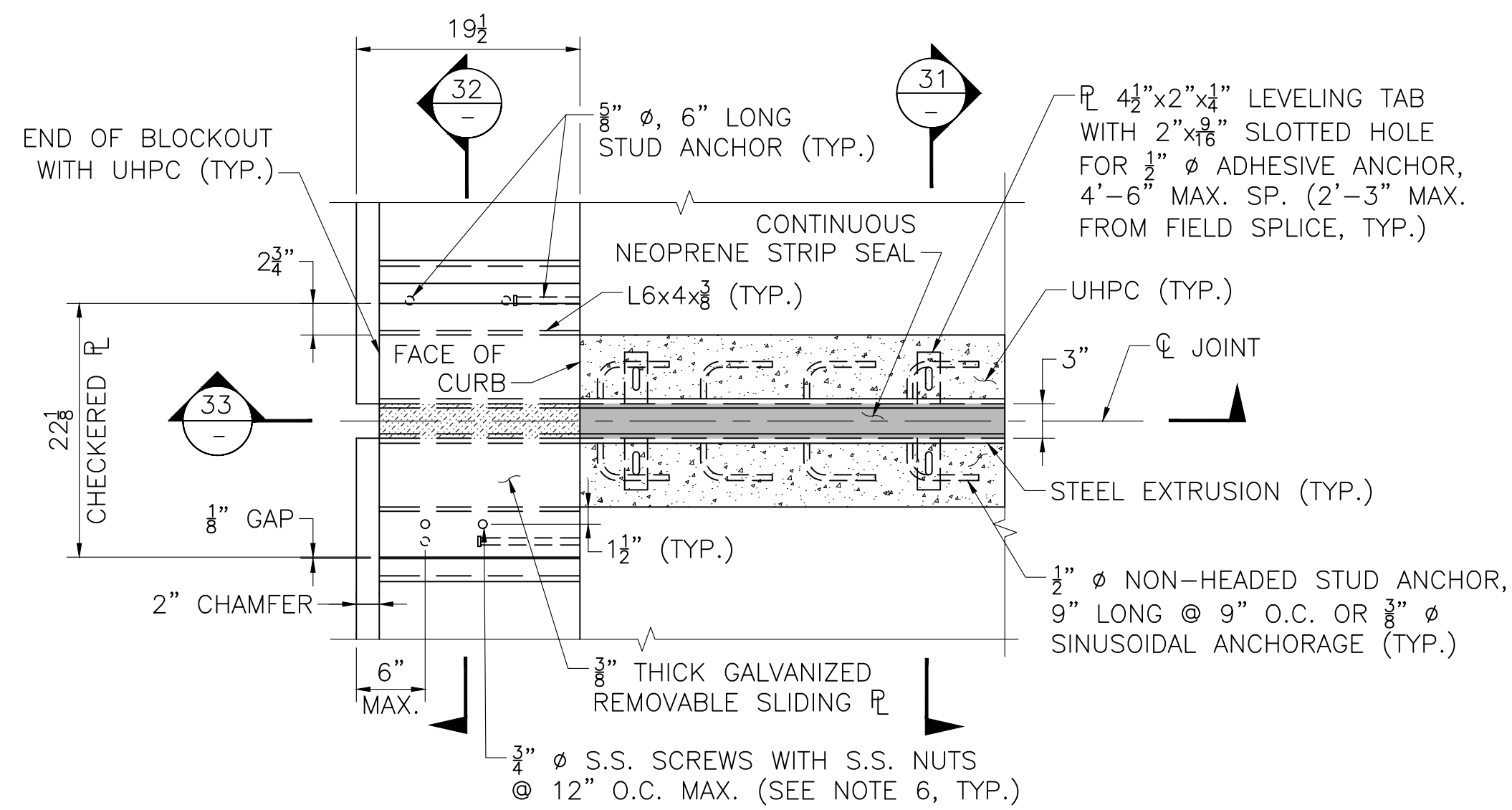
STRIP SEAL JOINT DETAILS

STRIP SEAL JOINT NOTES:

- THE DETAILS SHOWN HERE ARE INTENDED AS A GENERAL GUIDE FOR A TYPICAL GLANDULAR TYPE STRIP SEAL JOINT SYSTEM. SHOP DRAWINGS WHICH INCLUDE DETAILS OF THE GLAND SHAPE, STEEL EXTRUSION SHAPE, WELDING PROCEDURE SPECIFICATIONS, ANCHOR ARRANGEMENT, TEMPERATURE CORRECTION REQUIREMENTS, AND TEMPORARY SUPPORT DETAILS SHALL BE SUBMITTED FOR APPROVAL OF THE ENGINEER ACCORDING TO THE STANDARD SPECIFICATIONS.
- ALL STRUCTURAL STEEL COMPONENTS SHALL CONFORM TO AASHTO M270 GRADE 36 OR GRADE 50. AFTER THE COMPLETION OF ALL WELDING OPERATIONS STEEL PLATE ASSEMBLIES SHALL BE HOT-DIP GALVANIZED.
- UHPC BLOCKOUT SHALL BE SANDBLASTED AND CLEANED WITH COMPRESSED OIL-LESS AIR PRIOR TO CASTING UHPC. UHPC HEADERS SHALL BE FORMED AND CAST TO ALLOW THE HEADERS TO MOVE INDEPENDENTLY WITH THEIR RESPECTIVE BRIDGE SPAN UNTIL THE UHPC IS FULLY CURED.
- NEOPRENE STRIP SEAL SHALL BE BONDED TO STEEL EXTRUSION WITH APPROVED ADHESIVE.
- INSTALL CONTINUOUS NEOPRENE STRIP SEAL IN THE FIELD. SPLICING OF SEAL IS NOT PERMITTED. TEMPORARY SEAL SHALL BE REQUIRED ON STAGE CONSTRUCTION PROJECTS.
- PRIOR TO PLACEMENT OF SIDEWALK/SAFETY CURB CONCRETE, LUBRICATE STAINLESS STEEL SCREWS WITH GRAPHITE AND SET SECURELY IN PLACE. MACHINE SCREWS TO BE TEMPORARILY REMOVED AFTER CONCRETE HAS ATTAINED FINAL SET.
- NO WELDING OF PORTIONS OF STEEL EXTRUSIONS IN DIRECT CONTACT WITH NEOPRENE SEAL SHALL BE PERMITTED.

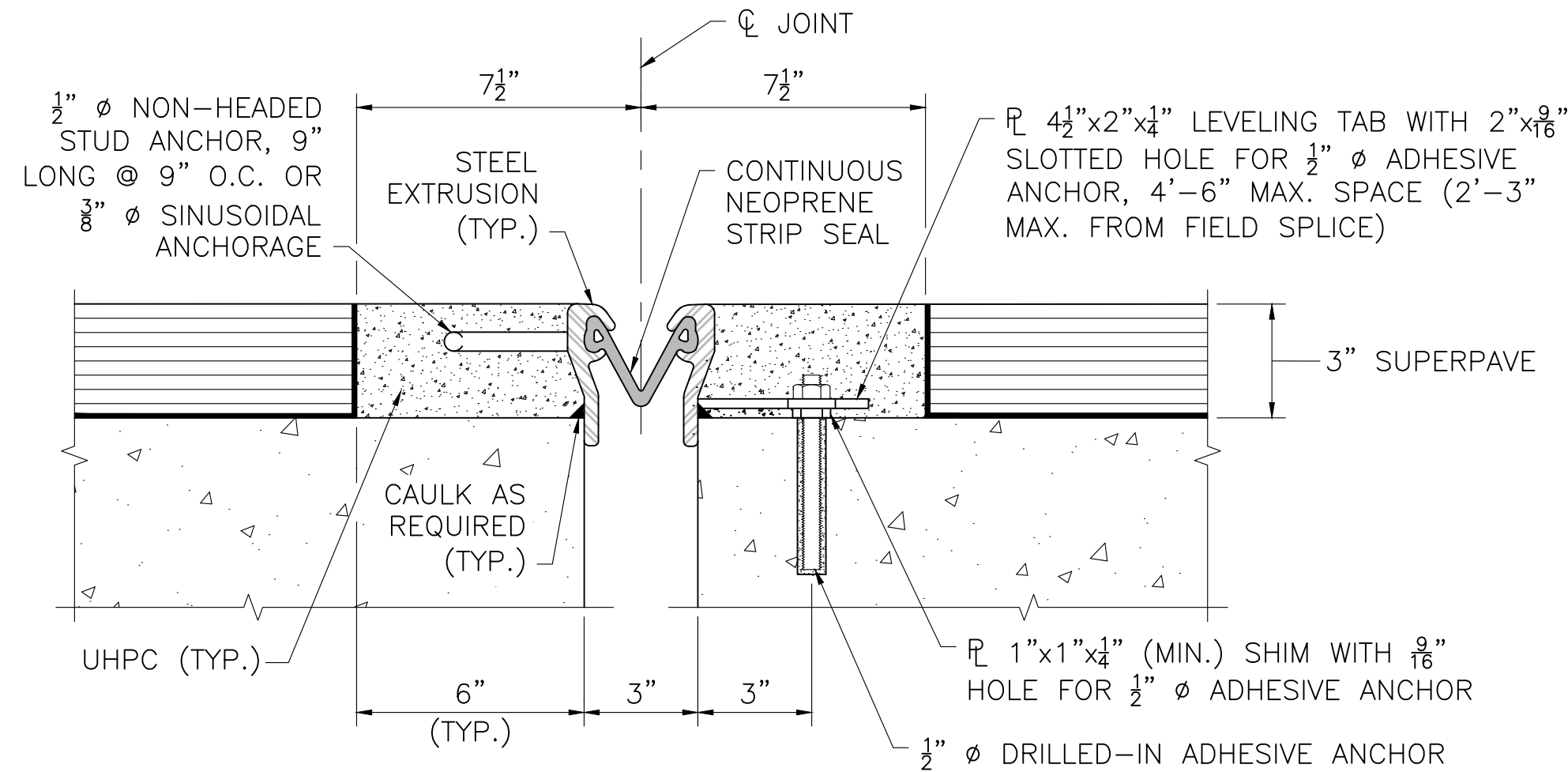
ACCEPTABLE STRIP SEAL JOINTS

MANUFACTURER	STEEL EXTRUSION MODEL	NEOPRENE STRIP SEAL MODEL
WATSON BOWMAN ACME	TYPE R	SE-400
D.S. BROWN	TYPE SSCM2	A2R-400



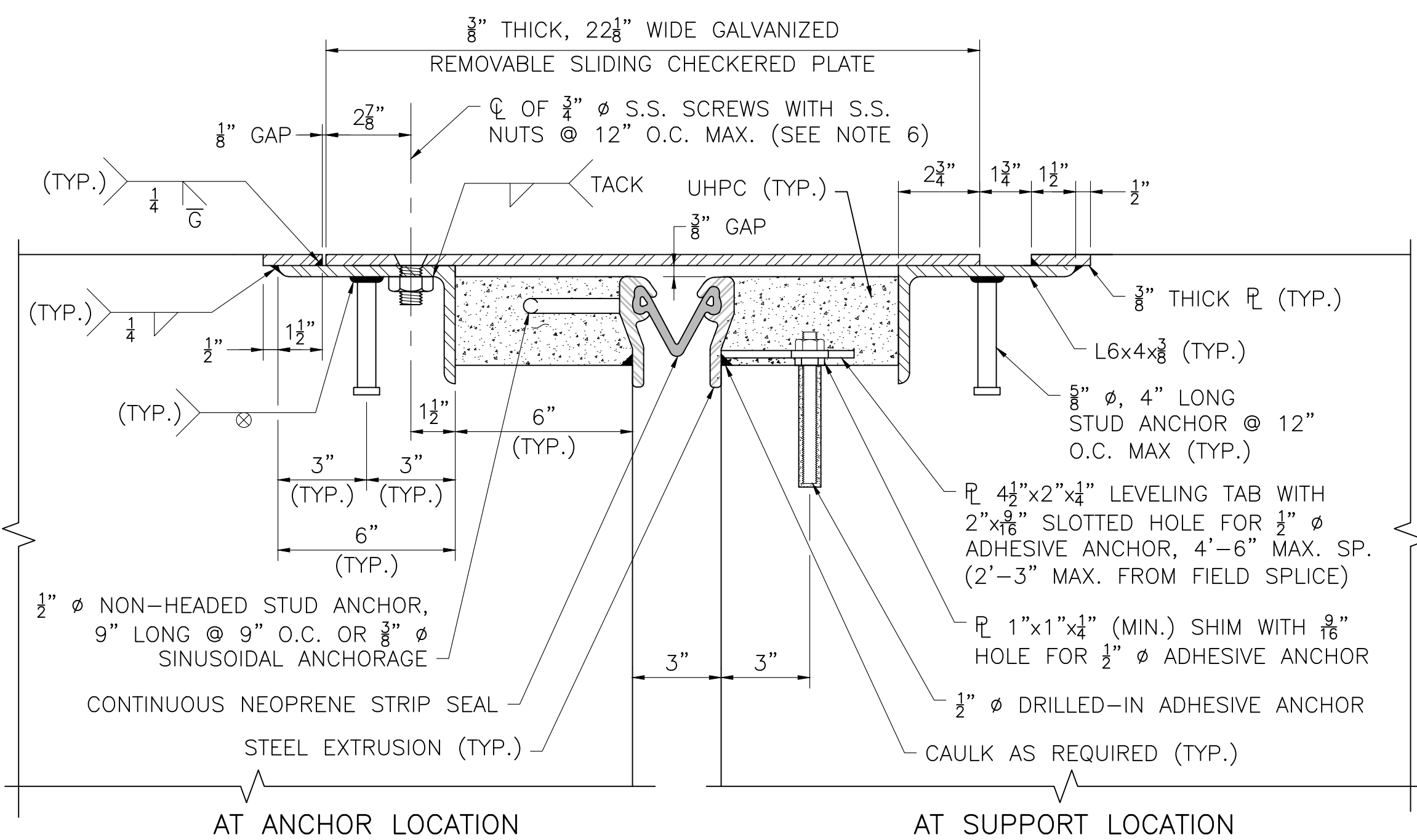
PLAN - STRIP SEAL JOINT AT SAFETY CURB

SCALE: 1" = 1'-0"



SECTION 31

SCALE: 3" = 1'-0"

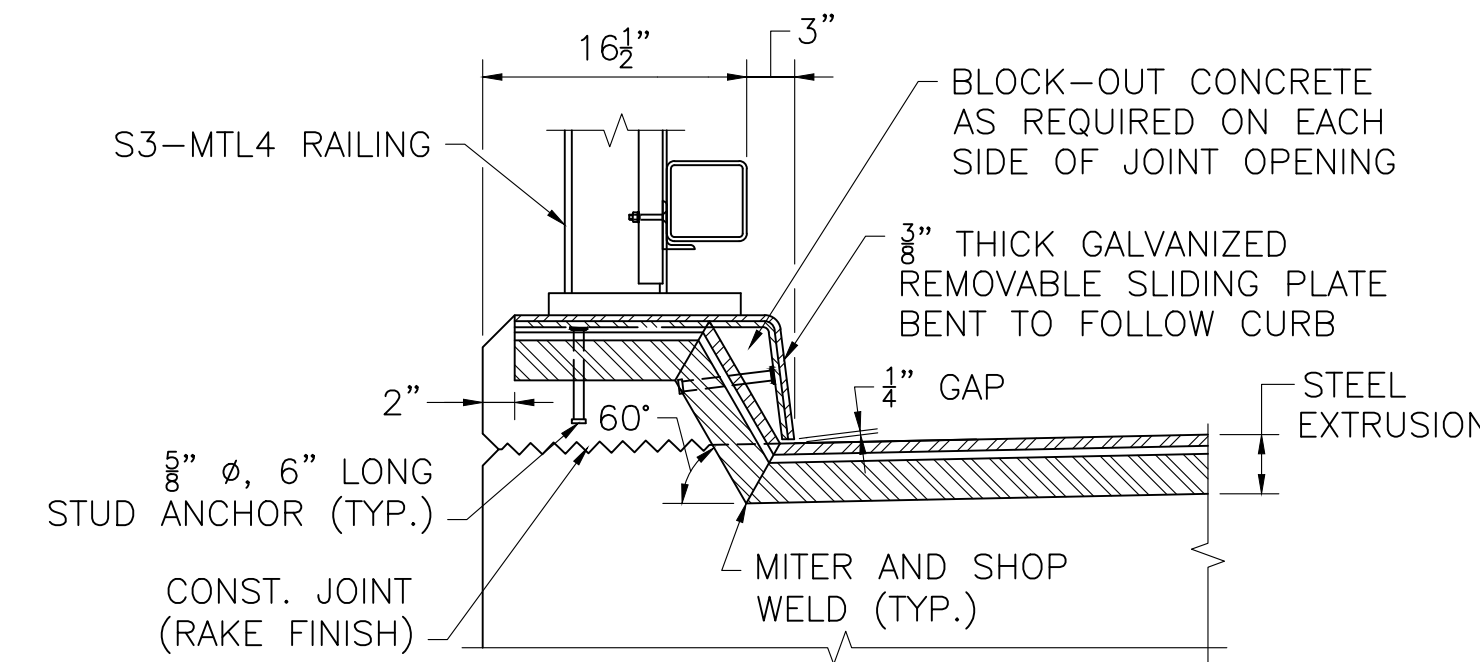


AT ANCHOR LOCATION

AT SUPPORT LOCATION

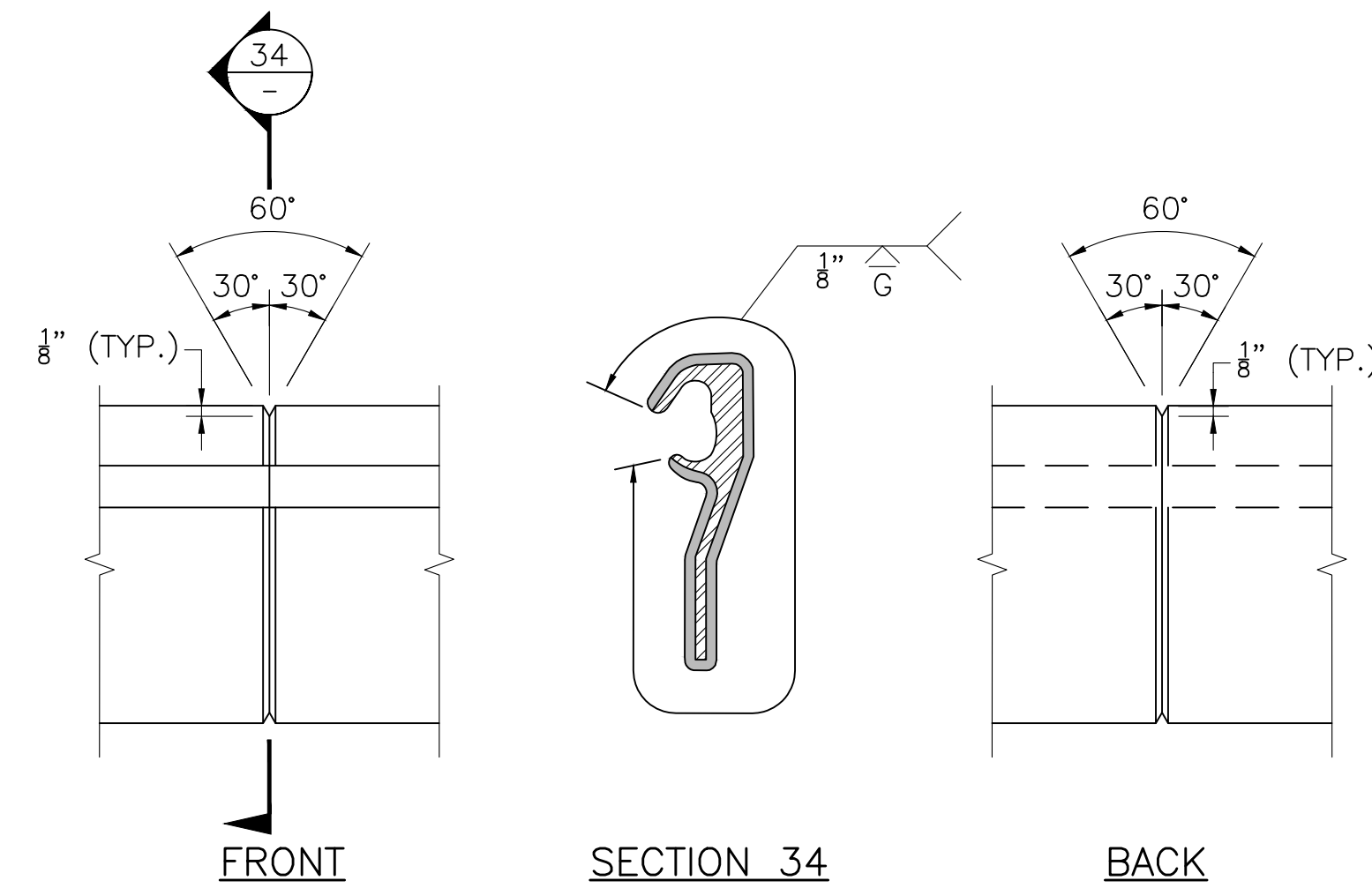
SECTION 32

SCALE: 3" = 1'-0"



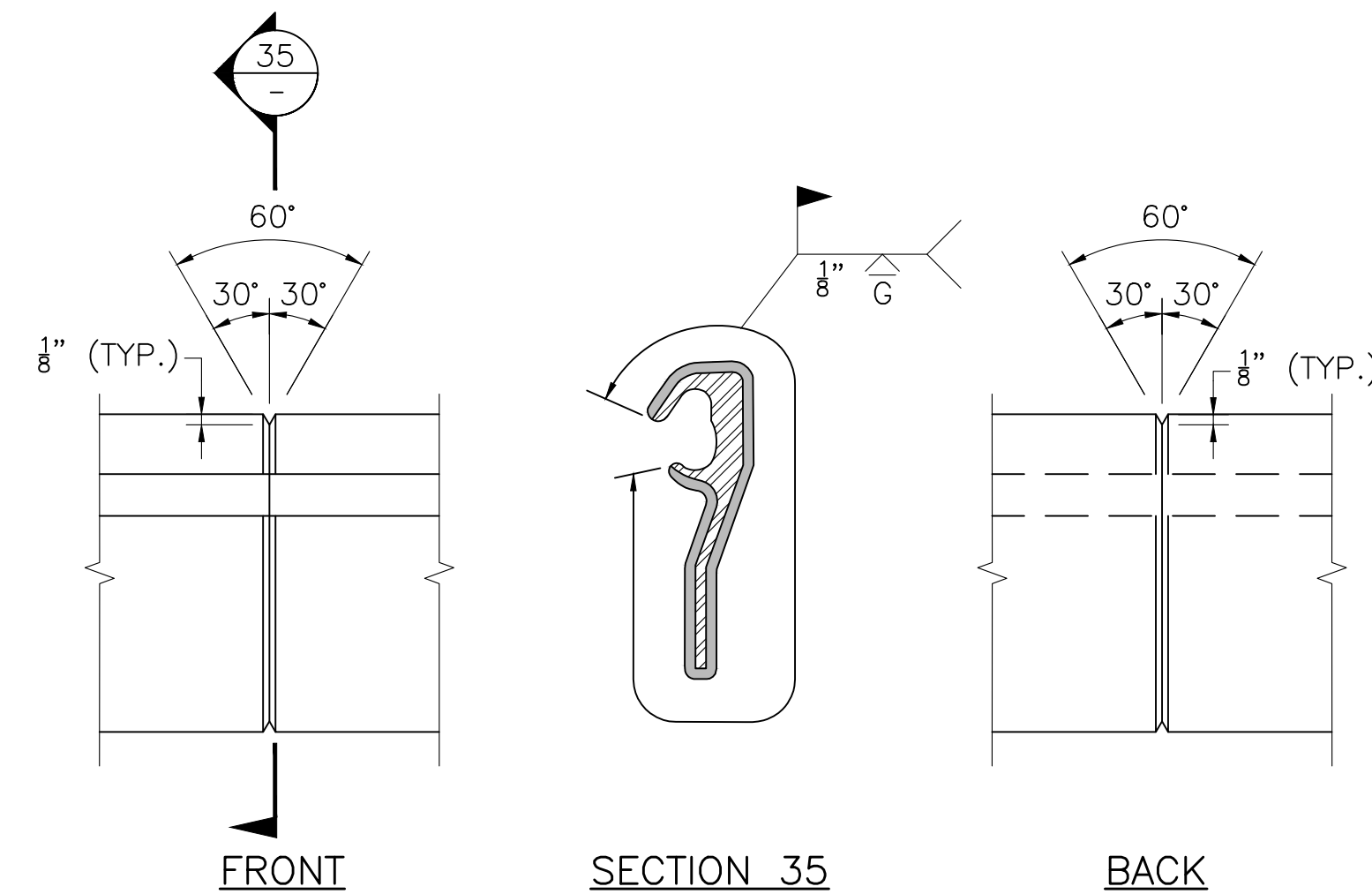
SECTION 33

SCALE: 3" = 1'-0"



STEEL EXTRUSION SHOP SPLICE DETAIL

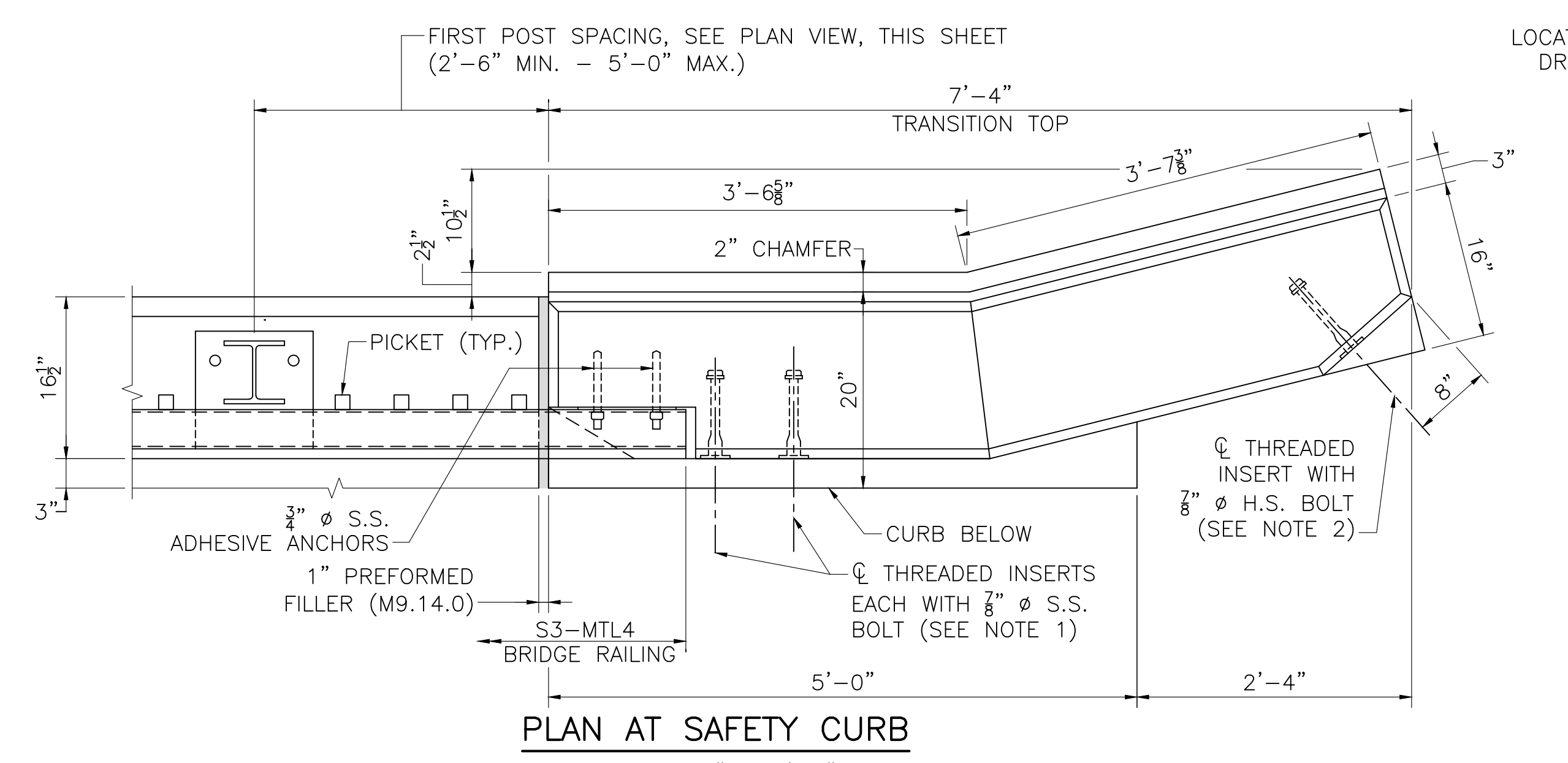
SCALE: 6" = 1'-0"



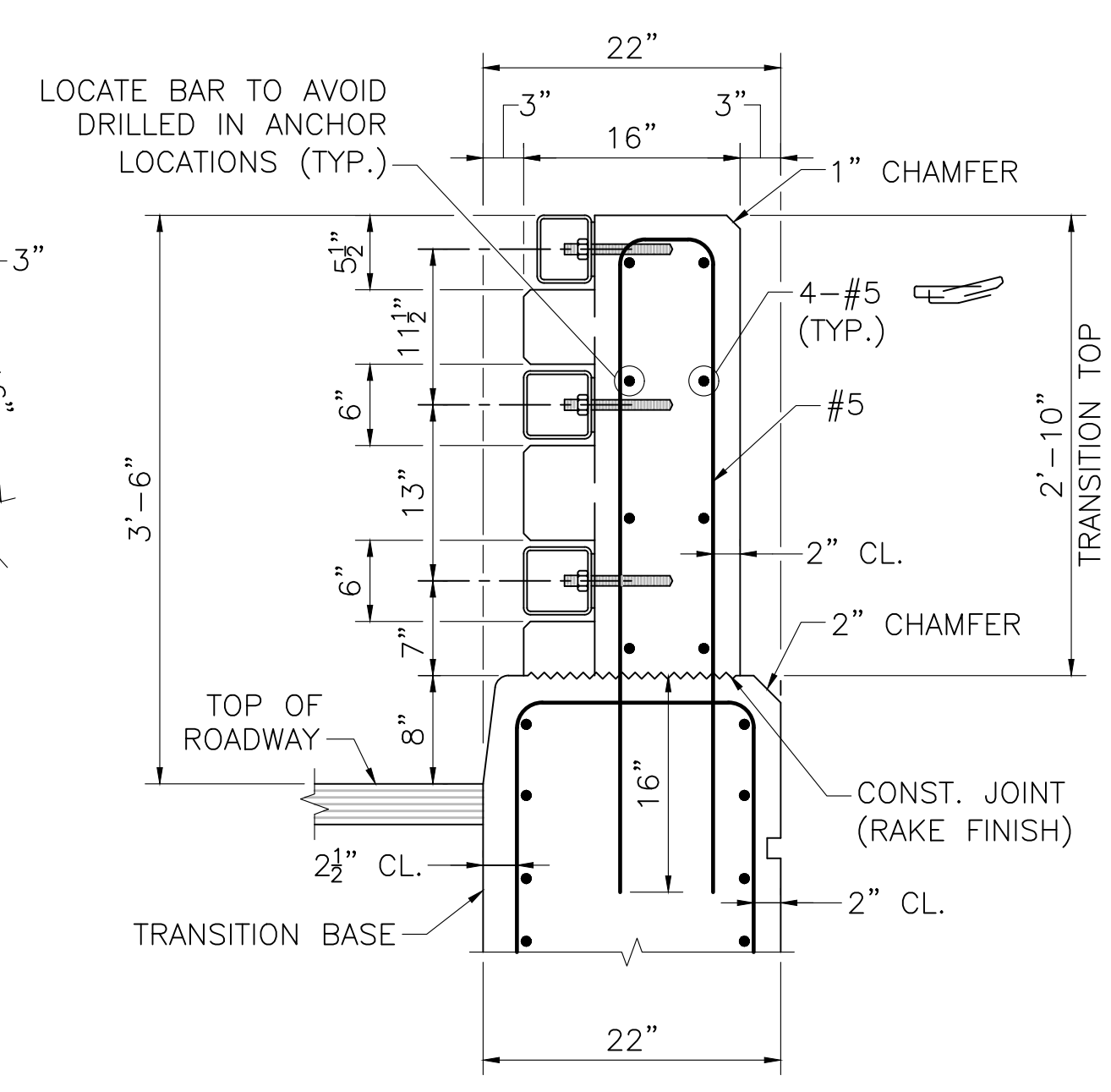
STEEL EXTRUSION FIELD SPLICE DETAIL

SCALE: 6" = 1'-0"

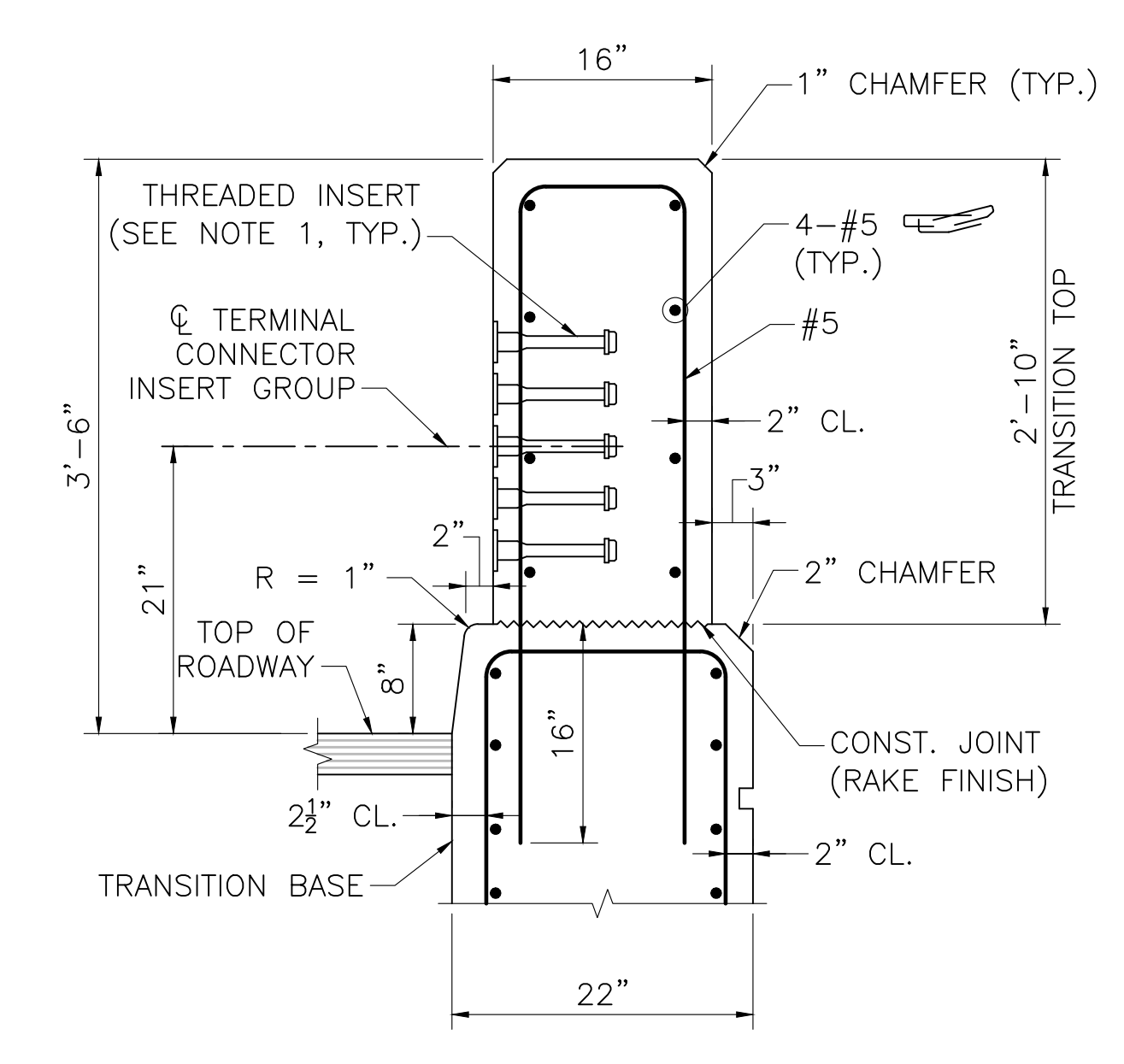
May 30, 2026	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	



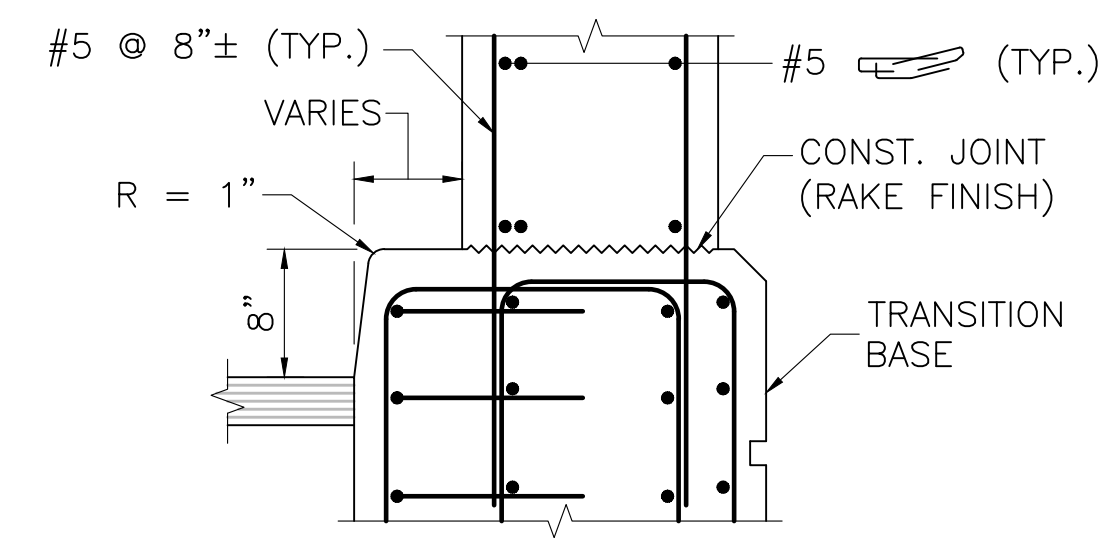
PLAN AT SAFETY CURB
SCALE: 1" = 1'-0"



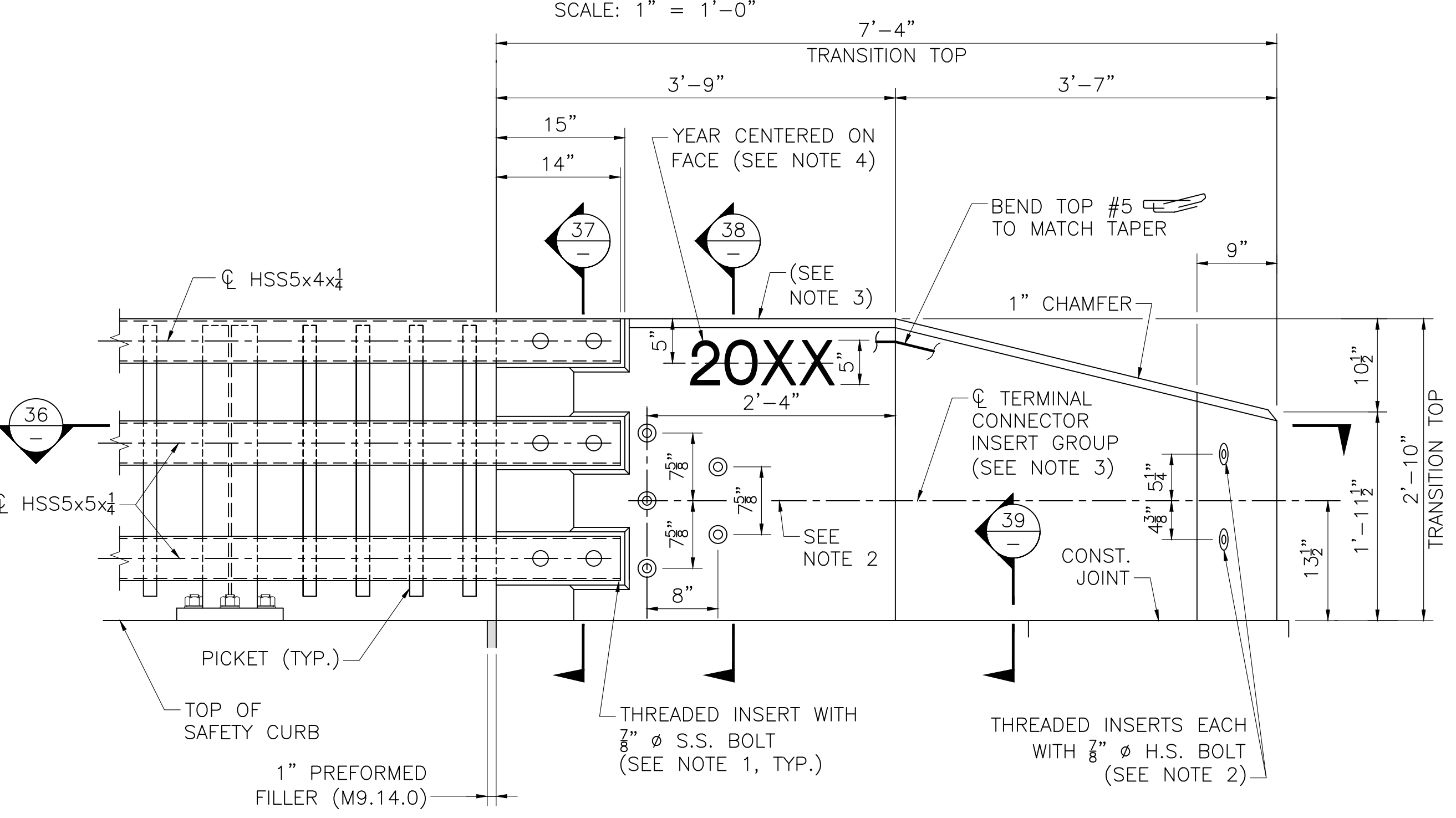
SECTION 37
SCALE: 1" = 1'-0"



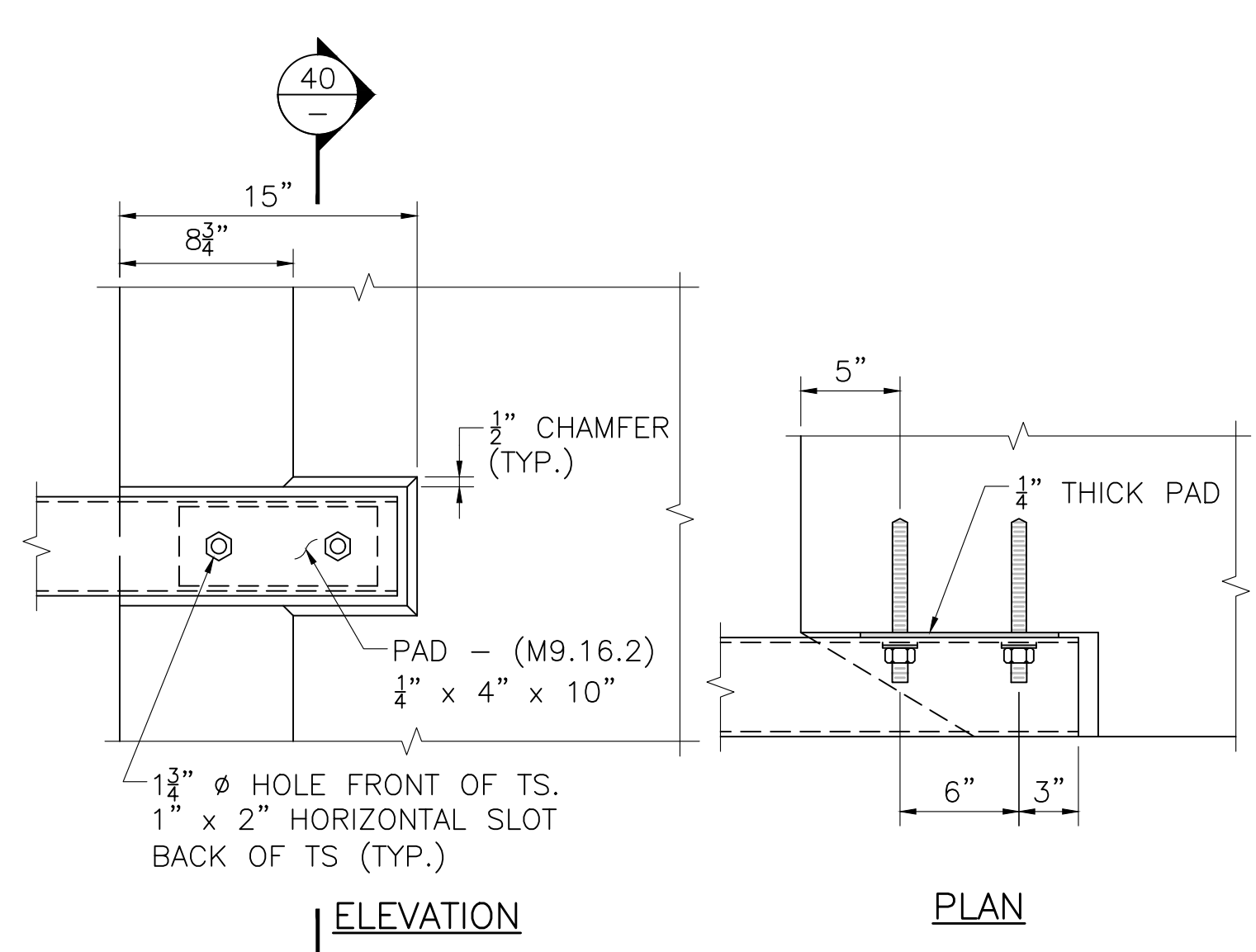
SECTION 38
SCALE: 1" = 1'-0"



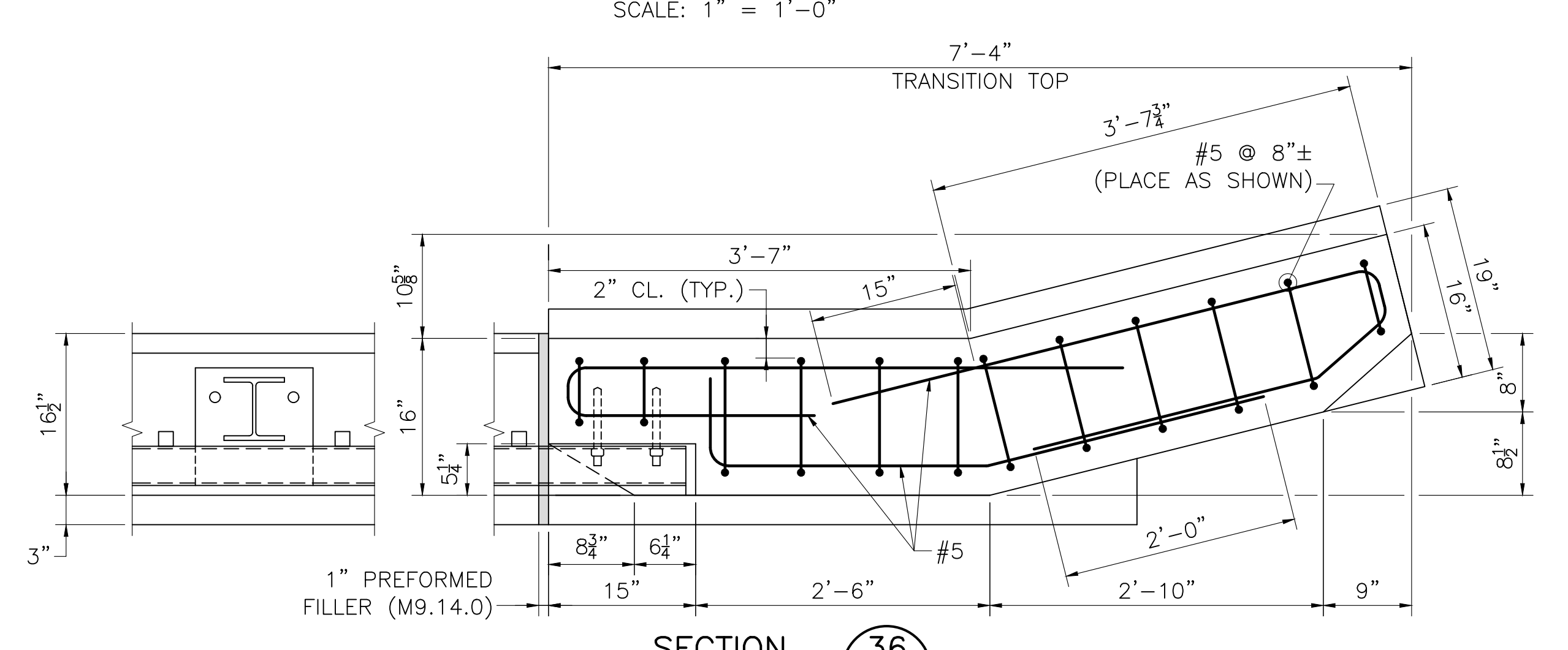
SECTION 39
SCALE: 1" = 1'-0"



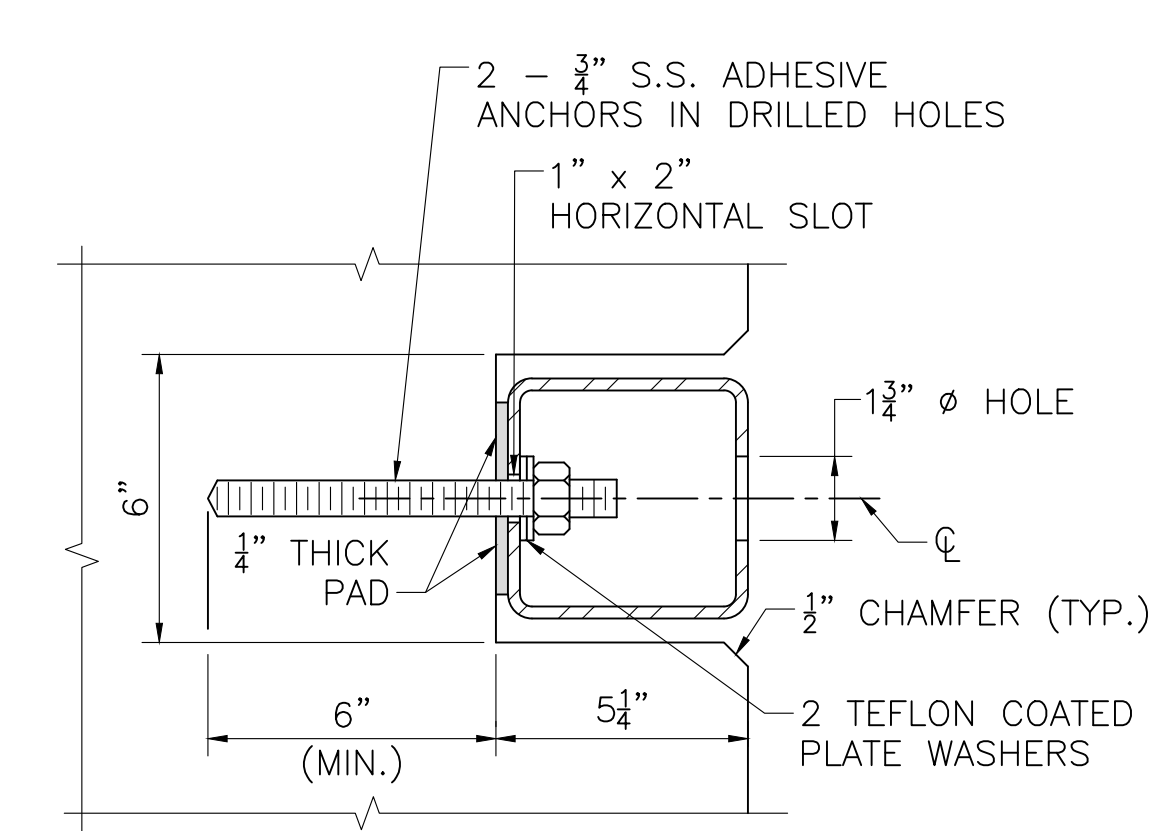
ELEVATION AT SAFETY CURB
SCALE: 1" = 1'-0"



RAIL ATTACHMENT
SCALE: 1 1/2" = 1'-0"



SECTION 36
SCALE: 1" = 1'-0"



SECTION 40
SCALE: 3" = 1'-0"

- NOTES:**
- THREADED INSERTS SHALL BE PREQUALIFIED BY THE MANUFACTURER AS BEING CAPABLE OF DEVELOPING A NOMINAL SHEAR RESISTANCE OF 20 KIPS PER 7/8" Ø S.S. (STAINLESS STEEL) BOLT. S.S. BOLTS SHALL BE 7/8" Ø x 1 1/2" LONG FULLY THREADED CONFORMING TO ASTM F593D WITH AISI TYPE 304N S.S. WASHERS. INSERTS FOR 7/8" S.S. BOLTS SHALL BE GALVANIZED AND CAST INTO THE TRANSITION.
 - 7/8" Ø HIGH STRENGTH BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F3125 AND BE GALVANIZED. USE ADDITIONAL WASHERS AS REQUIRED TO PROPERLY ENGAGE THE BOLTS.
 - FOR AN APPROACH GRADE IN EXCESS OF 3%, THE TRANSITION TOP AND THE TOP OF CURB SHALL FOLLOW THE APPROACH GRADE. THE HEIGHT OF THE TRANSITION TOP SHALL VARY PROVIDED THAT THE MINIMUM DIMENSIONS SHOWN ON THE CONSTRUCTION DRAWINGS ARE MET. THE BOTTOM OF THE TRANSITION BASE SHALL BE SET LEVEL WITH THE MINIMUM EMBEDMENT DEPTH SHOWN. THE TERMINAL CONNECTOR INSERT GROUP SHALL BE SLOPED TO FOLLOW THE APPROACH GRADE.

FOR AN APPROACH GRADE UP TO 3%, THE TRANSITION MAY BE CAST SQUARE AND SET PLUMB WITH THE MINIMUM EMBEDMENT DEPTH SHOWN. THE TERMINAL CONNECTOR INSERT GROUP SHALL BE SQUARE TO THE POST.
 - USE LATEST CONTRACT COMPLETION YEAR IN EFFECT WHEN THE FIRST GUARDRAIL TRANSITION IS CAST. USE THIS YEAR FOR ALL GUARDRAIL TRANSITIONS.
 - ALL CONCRETE FOR THE PRECAST HIGHWAY GUARDRAIL TRANSITION SHALL BE 5000 HP CEMENT CONCRETE.
 - LIFTING DEVICES (NOT SHOWN), INCLUDING THEIR NUMBER AND LOCATION, SHALL BE DESIGNED AND DETAILED BY THE PRECASTER. THEY SHALL BE GALVANIZED AND SHALL BE PLACED AND RECESSED IN POCKETS TO PROVIDE 1 1/2" CLEAR COVER TO THE FACE OF THE TRANSITION CONCRETE. THESE DEVICES SHALL BE CLEARLY SHOWN ON THE SHOP DRAWINGS ALONG WITH ALL SUPPORTING CALCULATIONS AND/OR CATALOG CUTS. ONCE THE PRECAST TRANSITION IS SET IN PLACE, THE LIFTING DEVICE POCKETS SHALL BE FILLED WITH A NON-SHRINK GROUT THAT MATCHES THE COLOR OF THE TRANSITION CONCRETE WHEN CURED AND THE FILLED POCKETS SHALL BE RUBBED WITH A CORUNDUM STONE TO BLEND OUT THE JOINTS.

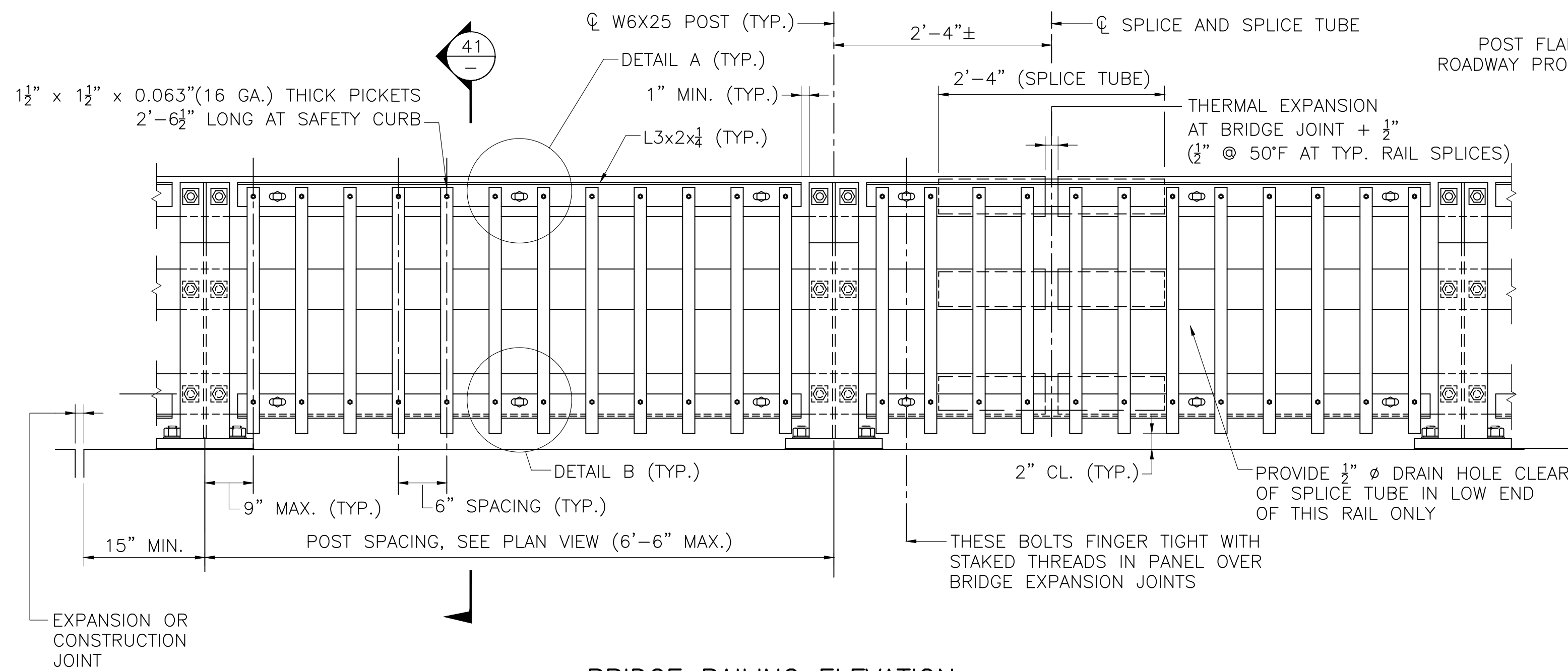
TOP OF PRECAST HIGHWAY GUARDRAIL TRANSITION FOR S3-TL4 RAILING

May 30, 2026	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

Z:\Shared\Engineering\Projects\2015\100313\0321-X - Deerfield Upper Road\608634\DWG\Bridge\Current\Drawings\BR40.dwg

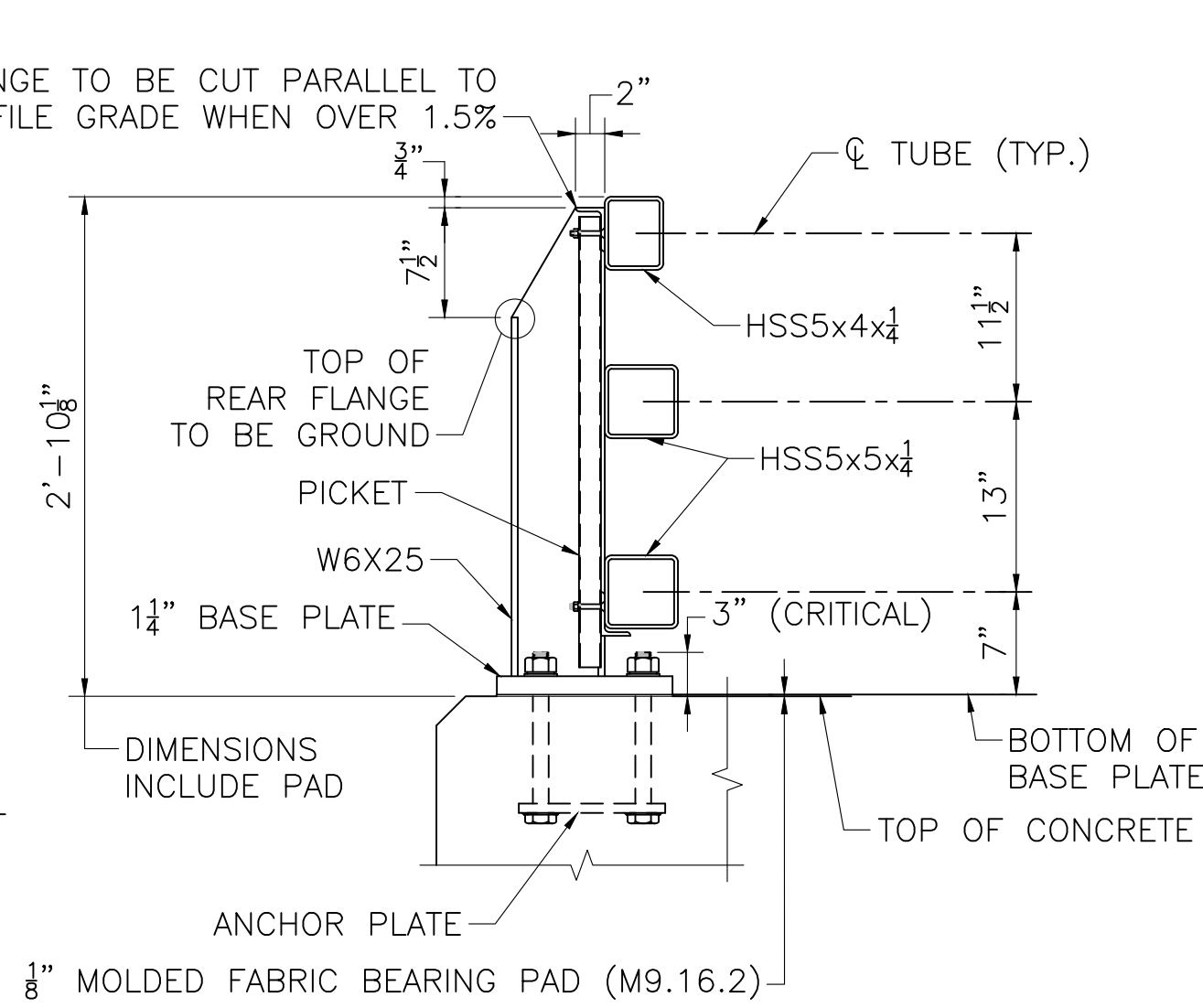
608634_BR40.DWG Plotted on 18-May-2026 3:30 PM

08-April-2026 Final Structural Submission (SF)



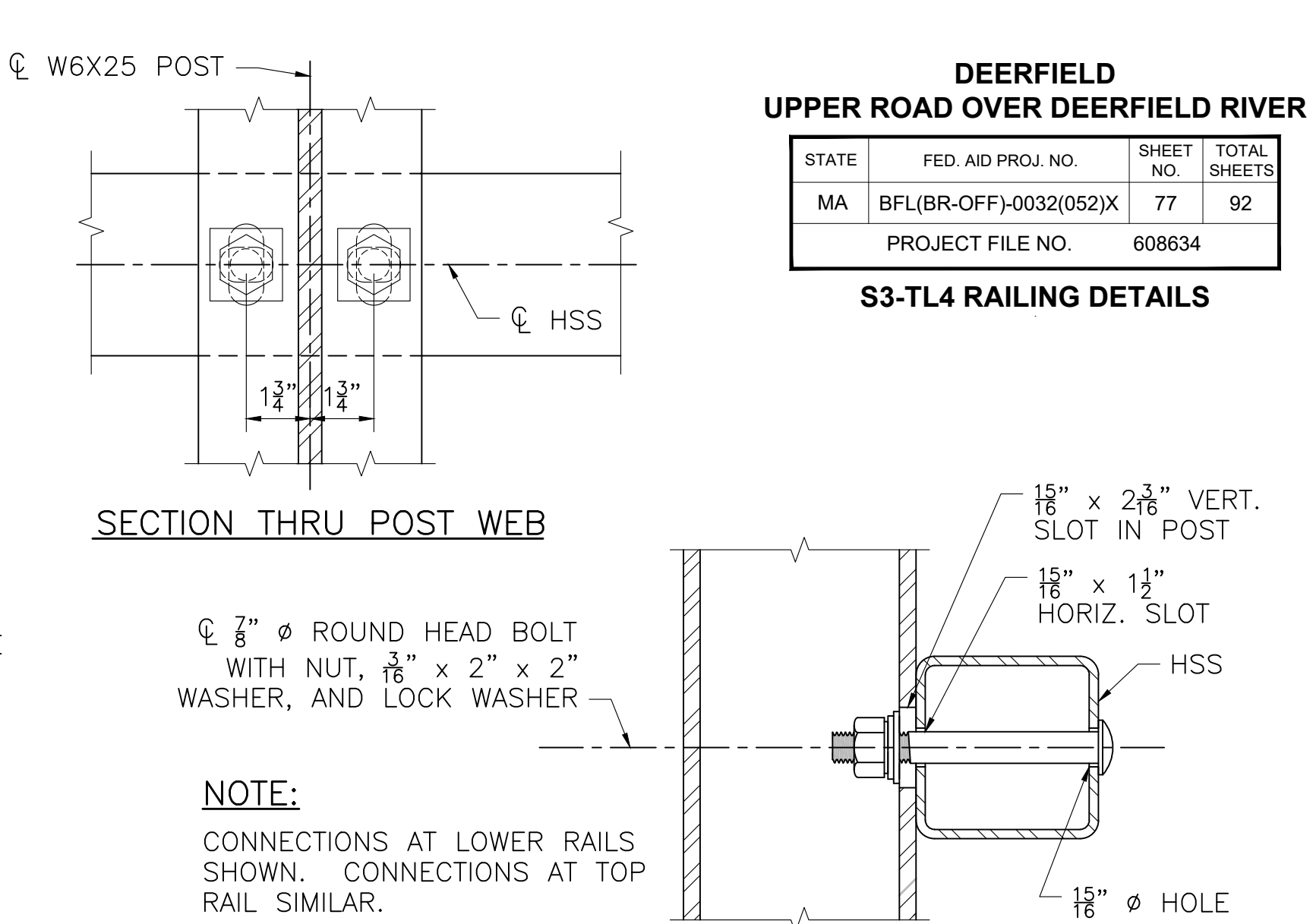
BRIDGE RAILING ELEVATION

SCALE: 1" = 1'-0"



SECTION 41

SCALE: 1" = 1'-0"



DEERFIELD UPPER ROAD OVER DEERFIELD RIVER			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	77	92
PROJECT FILE NO. 608634			

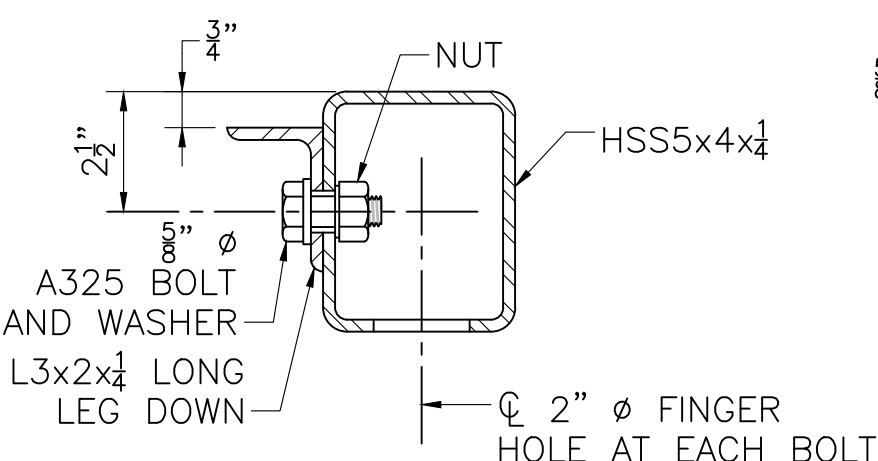
S3-TL4 RAILING DETAILS

SECTION THRU POST WEB

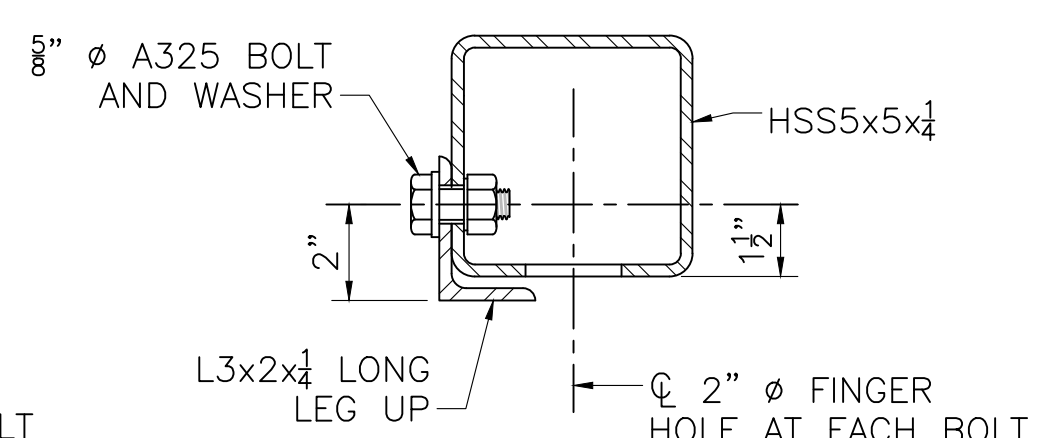
SECTION THRU RAIL

TYPICAL RAIL TO POST CONNECTION

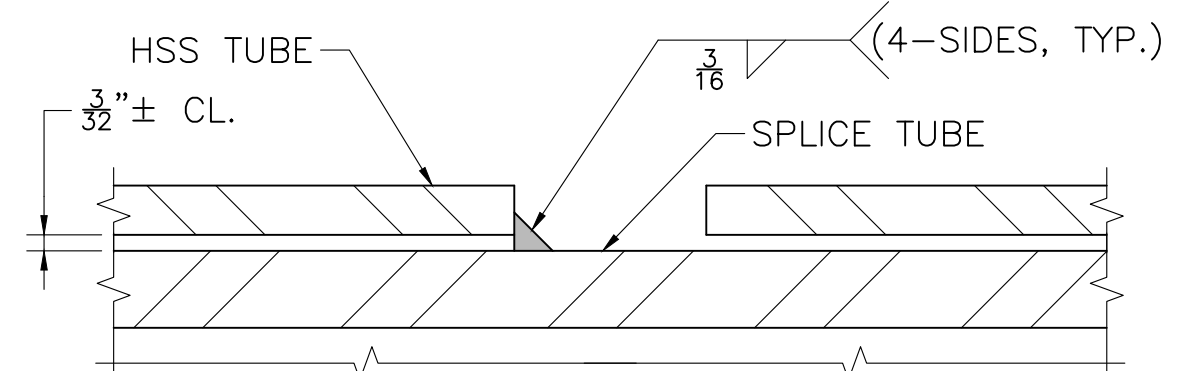
SCALE: 1" = 1'-0"



SECTION 42

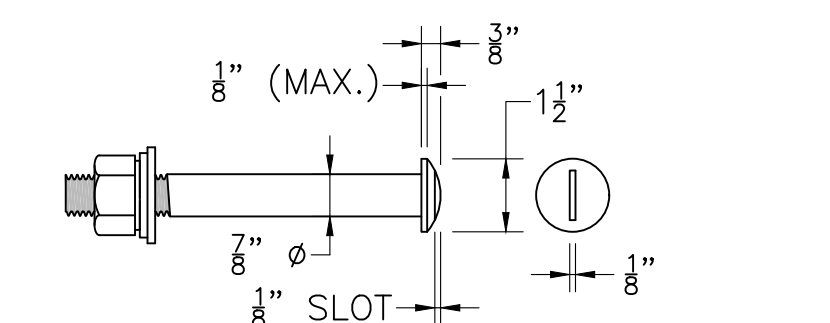


SECTION 44



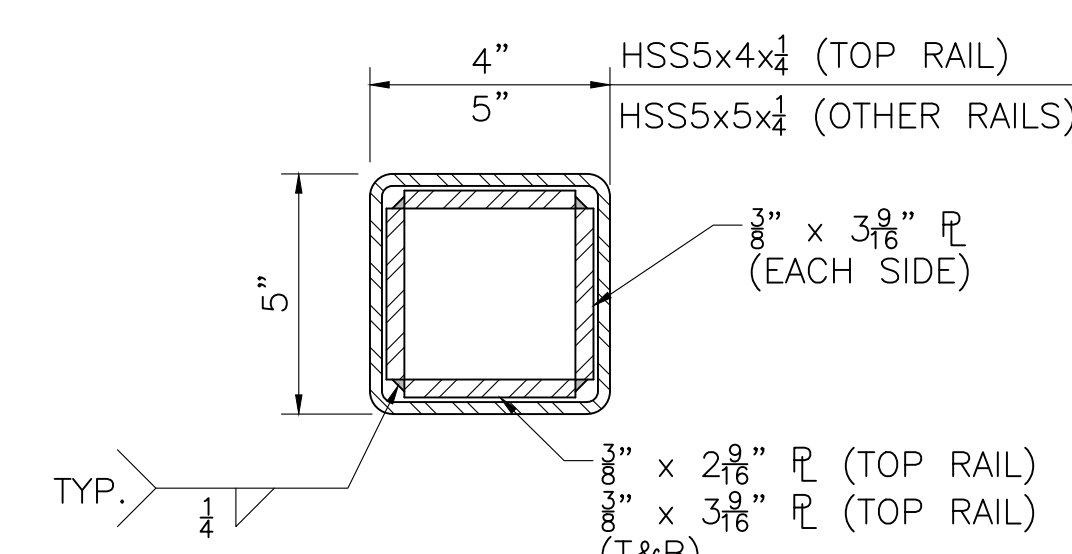
SPlice DETAIL

FULL SCALE



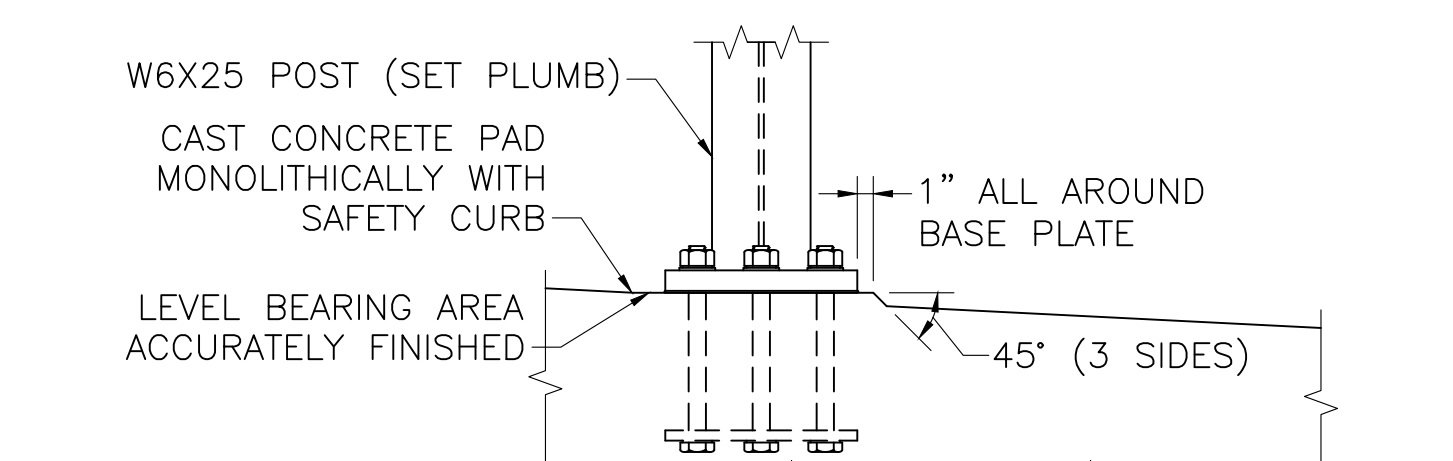
7/8" Ø ROUND HEAD BOLT

SCALE: 3" = 1'-0"



SPlice TUBE DETAILS

SCALE: 3" = 1'-0"

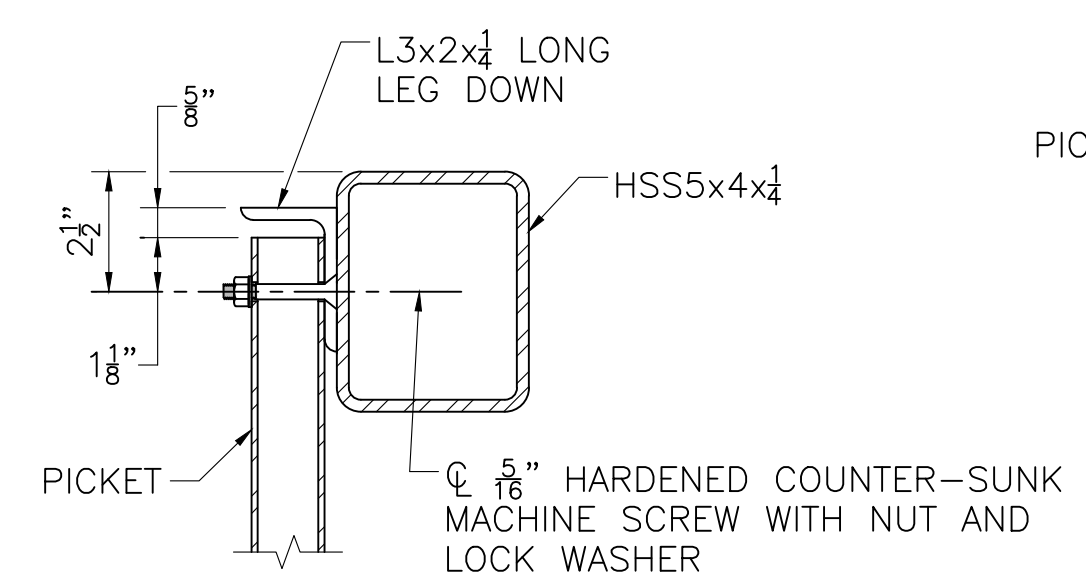


SETTING OF POSTS (PROFILE GRADE OVER 1.5%)

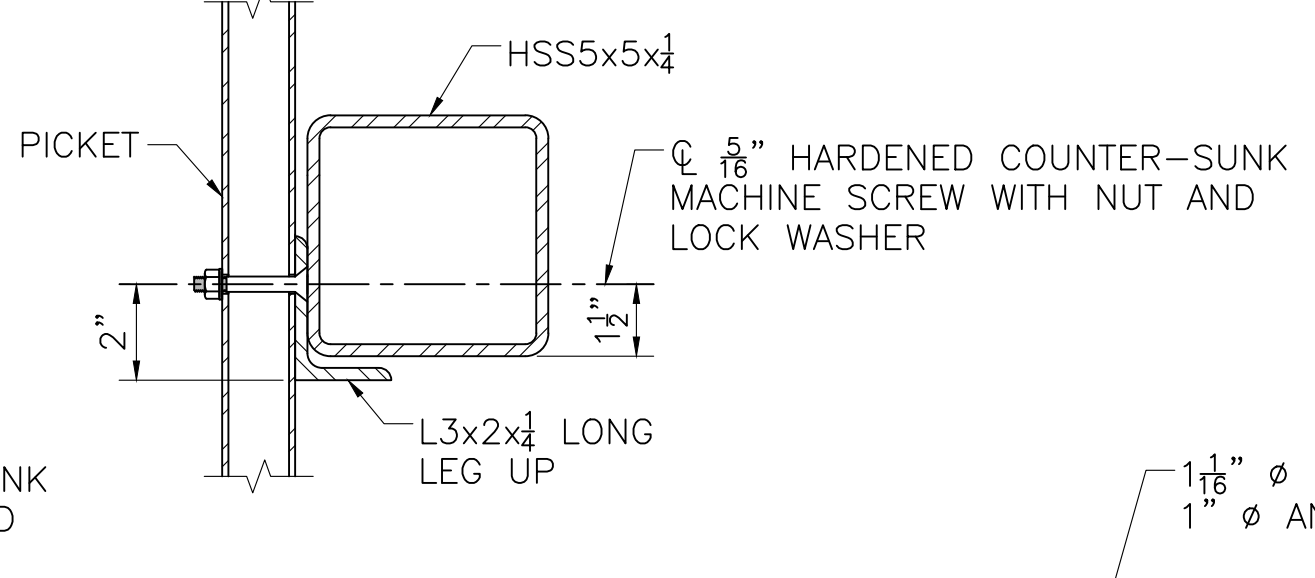
SCALE: 1" = 1'-0"

RAILING NOTES:

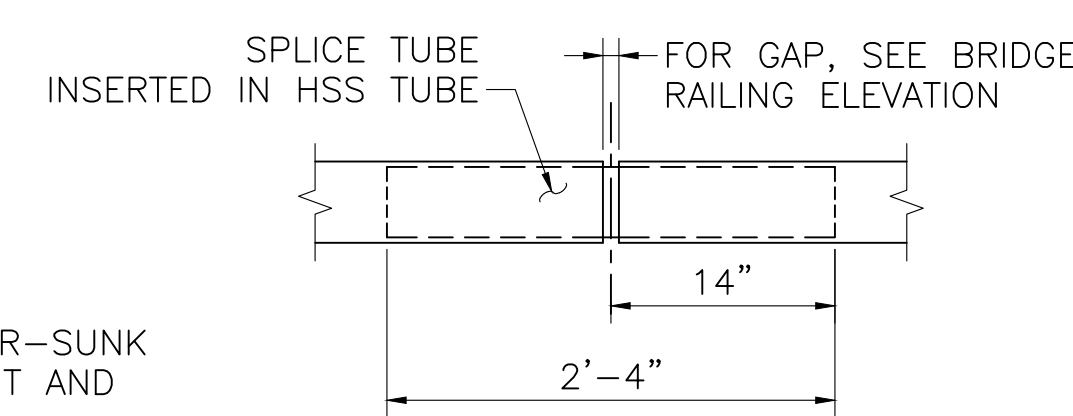
- RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 270 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING (HSS) SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 500 WITH A CERTIFIED F_y = 50 KSI MINIMUM. THE MINIMUM HORIZONTAL BENDING RADIUS OF THE HSS TUBING SHALL BE 8 FEET. PICKET CARRIER ANGLES, ANCHOR PLATES, AND SPlice TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 270 GRADE 36. PICKET TUBING SHALL CONFORM TO ASTM A 513 WITH F_y = 36 KSI MIN. OR A 500 GRADE B.
- ALL STEEL (EXCEPT THE 7/8" ANCHOR PLATE AND FASTENERS) SHALL BE GALVANIZED AND PAINTED DARK BRONZE (FEDERAL STD. 595B COLOR NO. 10045). ANCHOR PLATE SHALL BE GALVANIZED ONLY. HEADS OF 7/8" Ø ROUND HEAD BOLTS SHALL BE PAINTED TO MATCH RAIL.
- ANCHOR BOLTS SHALL BE SET WITH TEMPLATES. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/4 TURN AFTER STEEL IS IN PLACE.
- RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF FOUR (4) POSTS WITHOUT SPlices WHERE POSSIBLE. IN ADDITION SPlices SHALL ALSO BE LOCATED IN RAILS OVER EXPANSION JOINT.
- ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
- ALL POSTS TO BE PLUMB WHEN PROFILE GRADE EXCEEDS 1.5%. FOR PROFILE GRADES LESS THAN 1.5%, POSTS SHALL BE SET PERPENDICULAR TO GRADE.
- POST TO FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING. BEVEL OUTSIDE FLANGES OF POST. FIT POST TO BASE PLATE. WELD 1/8" FILLET ON INSIDE OF FLANGE AND WEB. BACKGOUGE OUTSIDE OF FLANGE TO SOUND METAL. COMPLETE GROOVE WELD WITH MINIMUM OF 3/8" REINFORCEMENT. WELD IS THE SAME ON BOTH FLANGES.
- 7/8" Ø ROUND HEAD BOLTS SHALL CONFORM TO THE CHEMICAL AND PHYSICAL REQUIREMENTS OF ASTM F3125 GRADE 325 TYPE 1 GALVANIZED.



SECTION 43

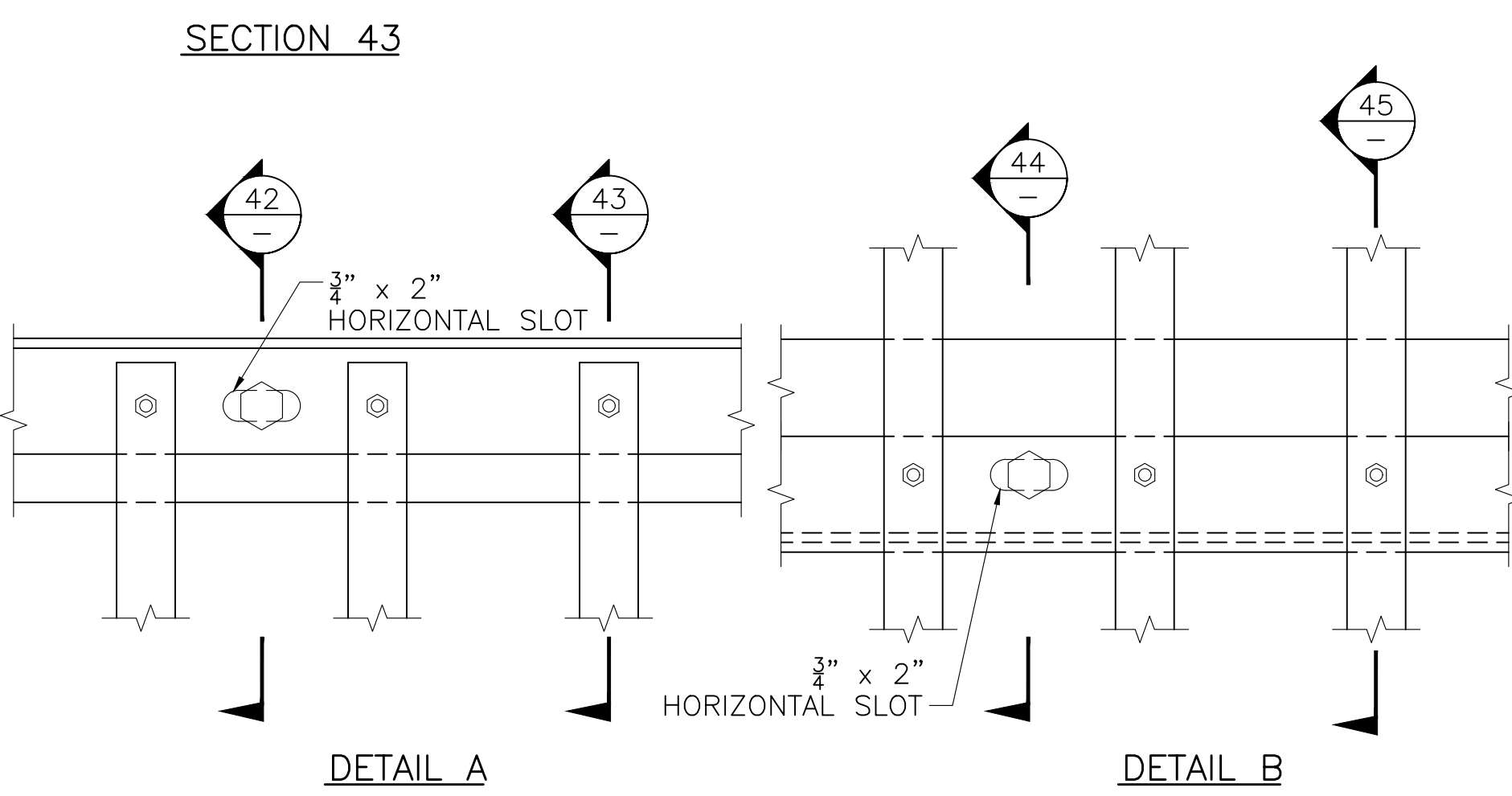


SECTION 45



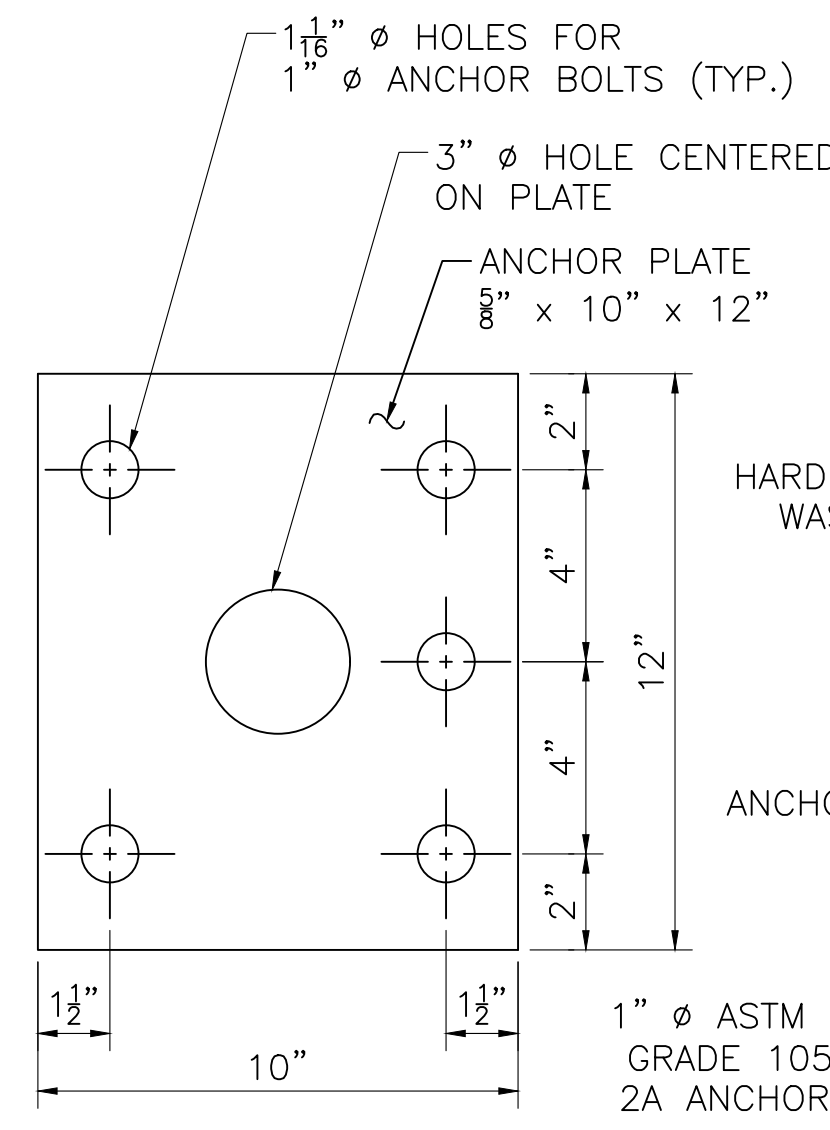
TYPICAL SPlice

SCALE: 1" = 1'-0"



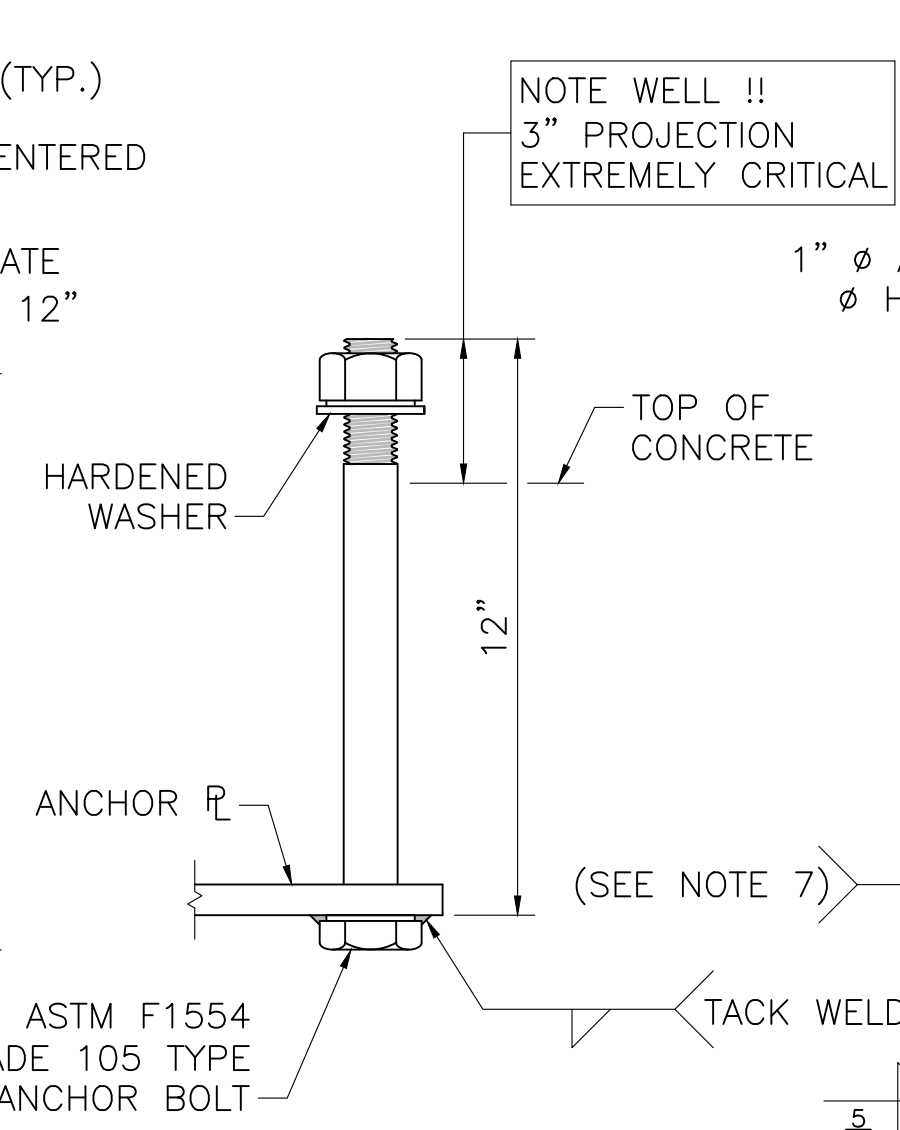
TYPICAL PICKET TO RAIL DETAILS

SCALE: 3" = 1'-0"



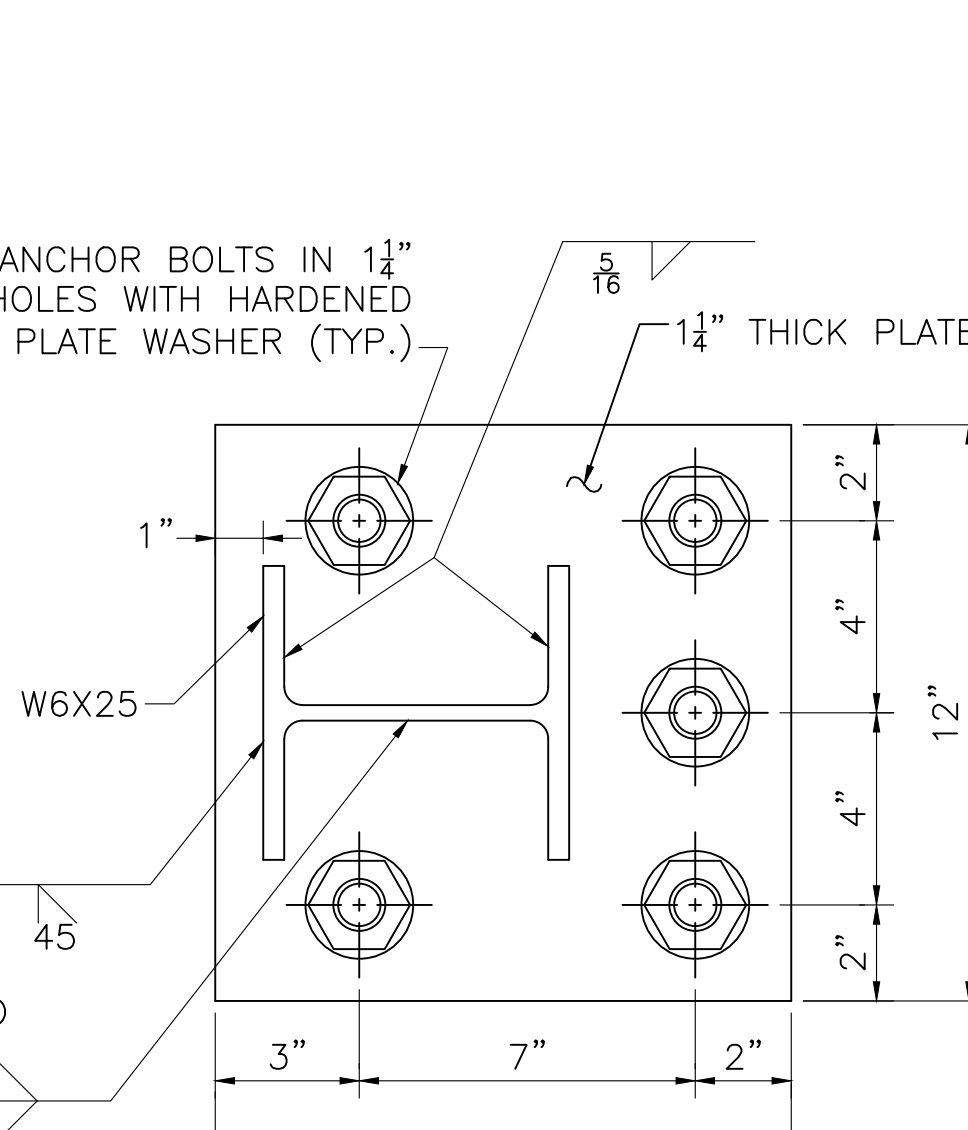
ANCHOR PLATE

SCALE: 3" = 1'-0"



ANCHOR BOLT

SCALE: 3" = 1'-0"



BASE PLATE

SCALE: 3" = 1'-0"

S3-TL4 BRIDGE RAILING

MAY 30, 2026	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

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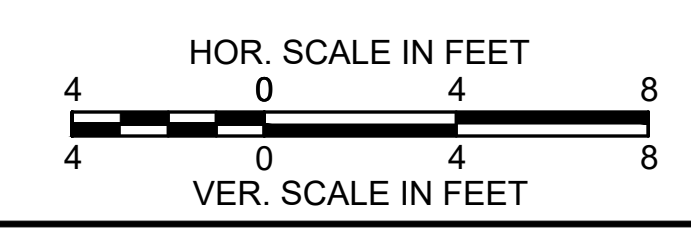
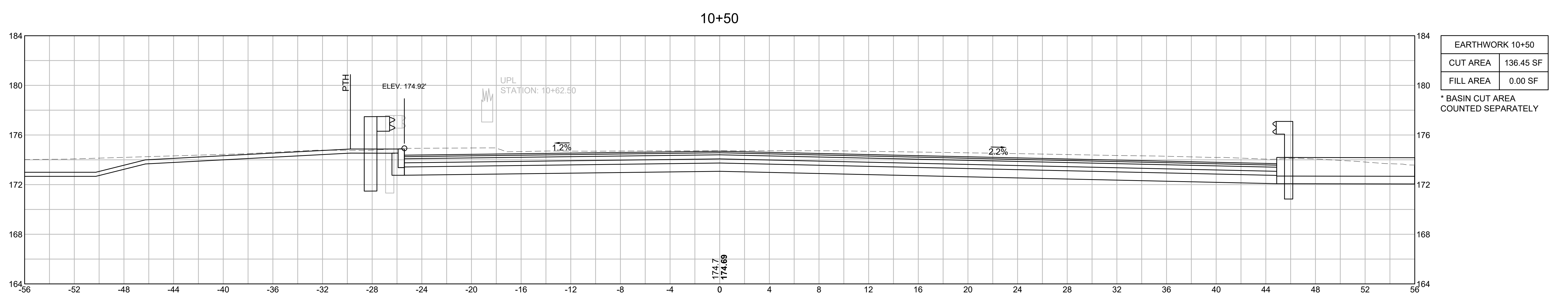
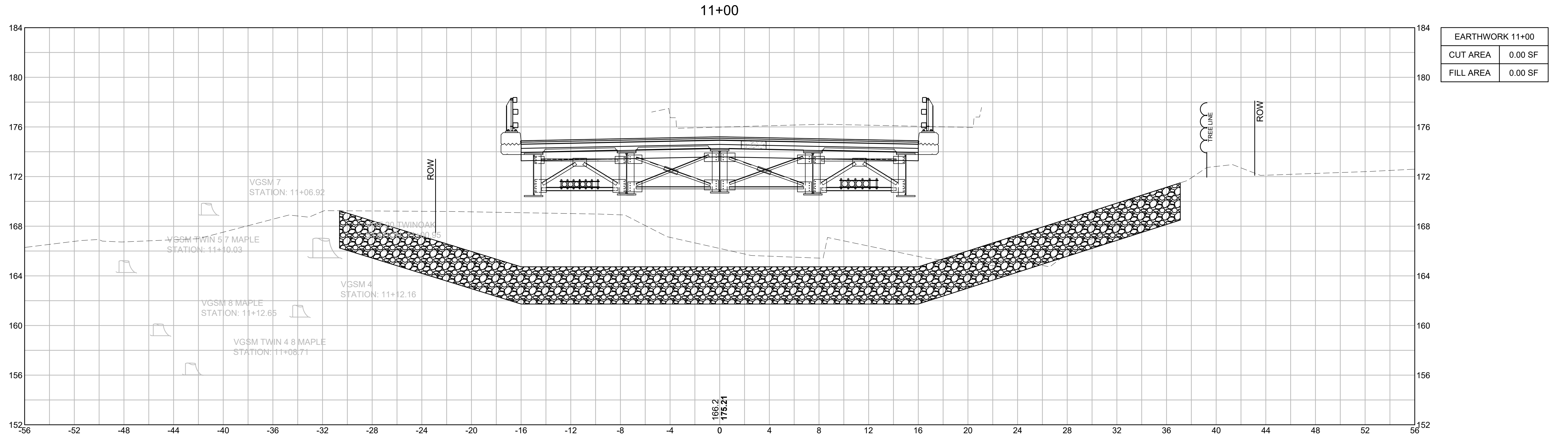
608634_BR41.DWG Plotted on 18-May-2026 3:30 PM

08-April-2026 Final Structural Submittal (SF)

**DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	78	92
PROJECT FILE NO.		608634	

CROSS SECTIONS - 1 OF 15



DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

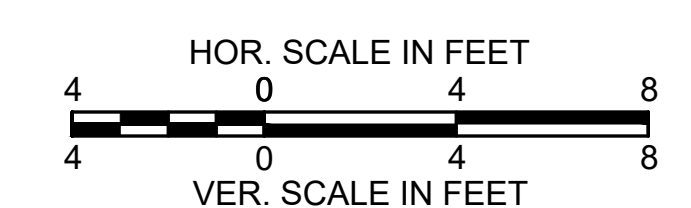
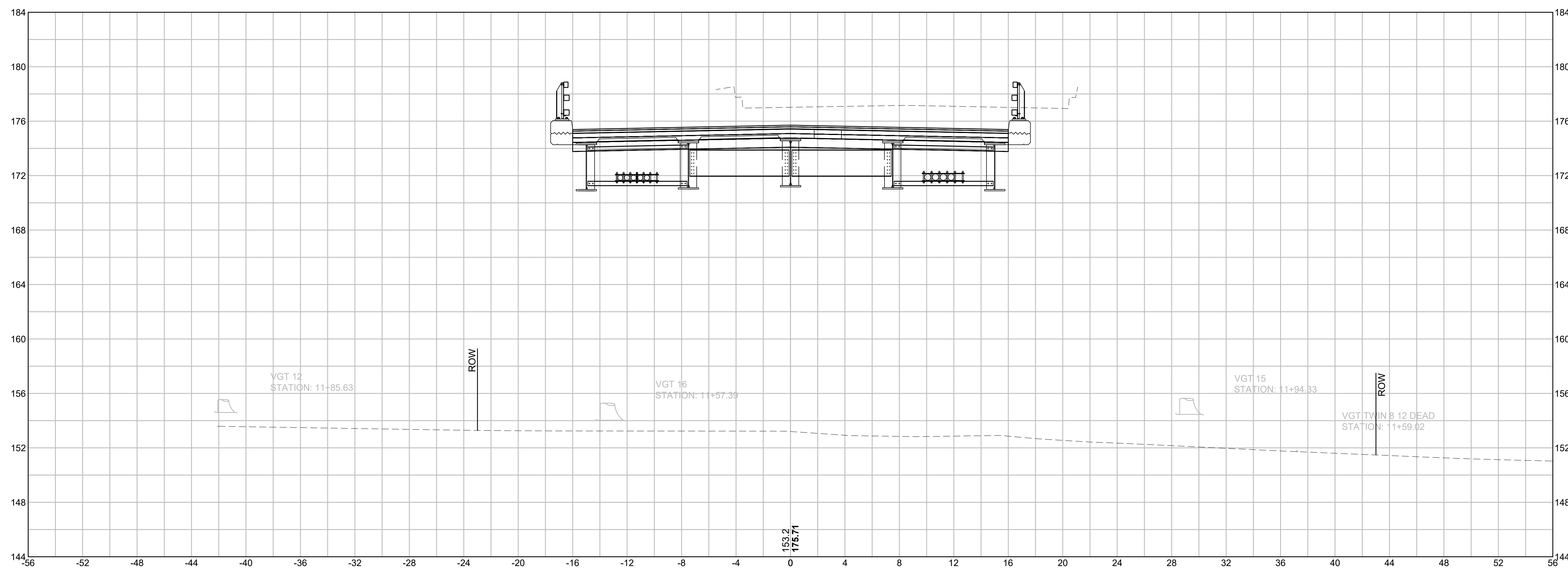
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MA	BFL(BR-OFF)-0032(052)X	79	92
PROJECT FILE NO.		608634	

CROSS SECTIONS - 2 OF 15

608634_HDXX(CROSS SECTIONS).DWG Plotted on 22-Apr-2026 10:58 AM

11+50

EARTHWORK 11+50	
CUT AREA	0.00 SF
FILL AREA	0.00 SF



DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

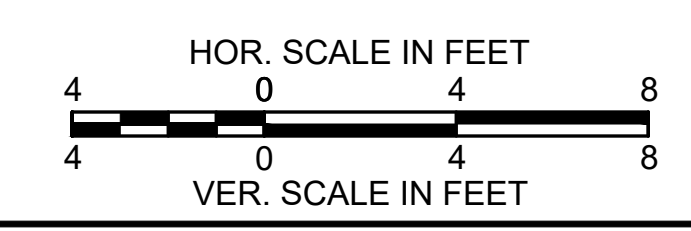
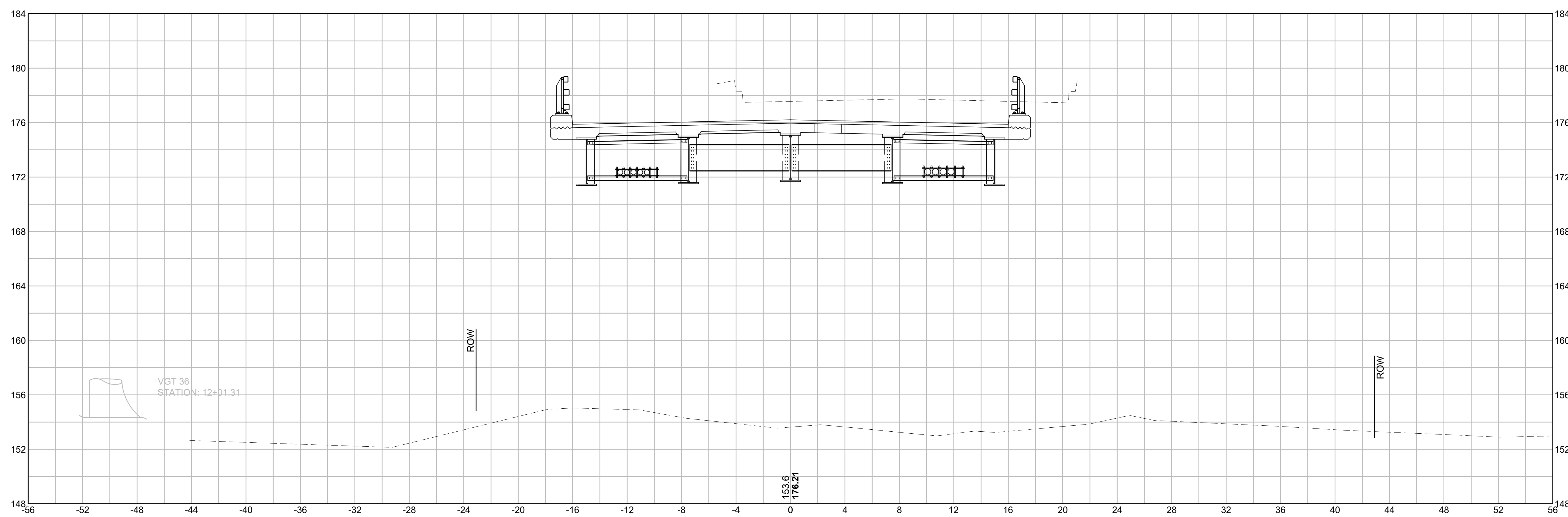
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	80	92
PROJECT FILE NO.		608634	

CROSS SECTIONS - 3 OF 15

608634_H1DXX(CROSS SECTIONS).DWG Plotted on: 22-Apr-2026 10:58 AM

12+00

EARTHWORK 12+00	
CUT AREA	0.00 SF
FILL AREA	0.00 SF



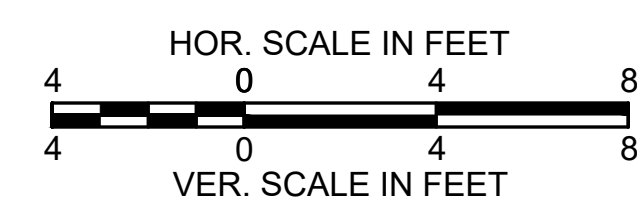
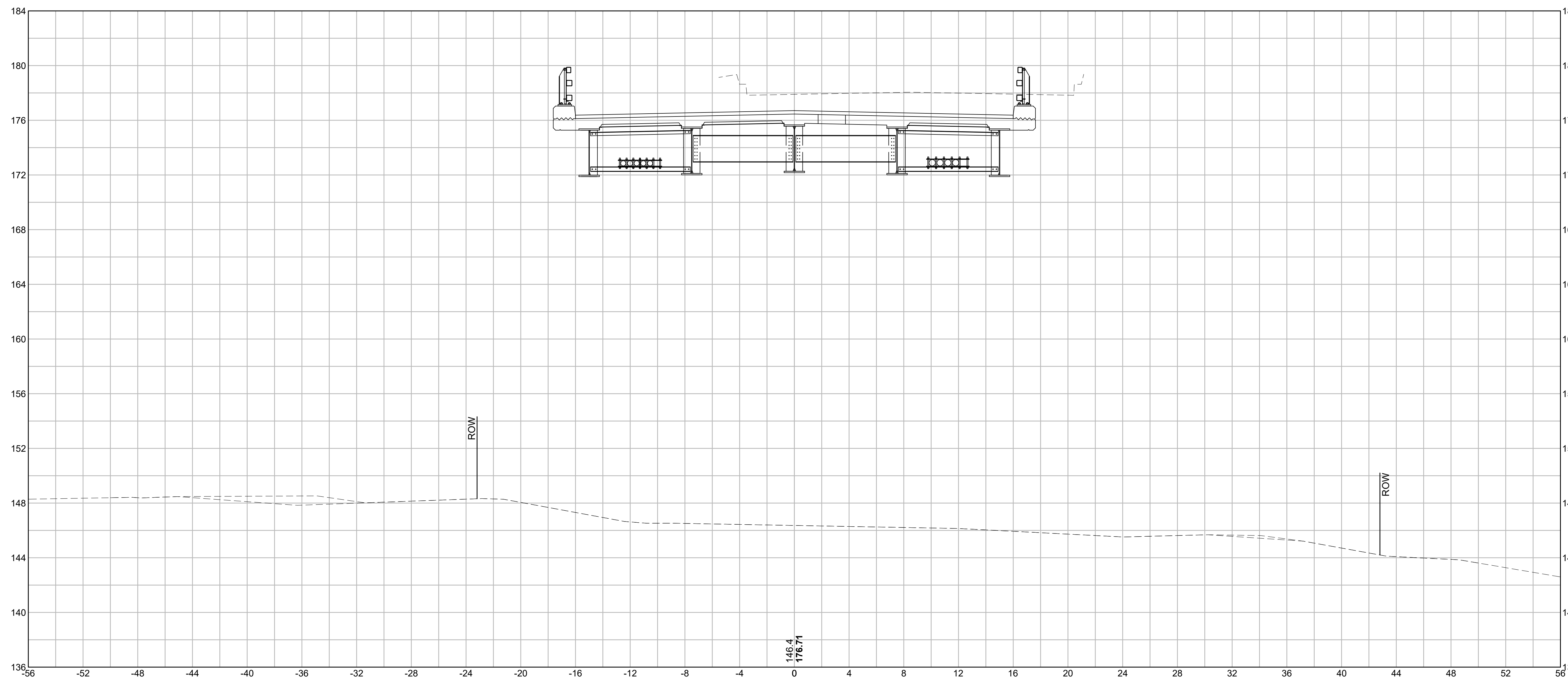
DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	81	92
PROJECT FILE NO.		608634	

CROSS SECTIONS - 4 OF 15

12+50

EARTHWORK 12+50	
CUT AREA	0.00 SF
FILL AREA	0.00 SF



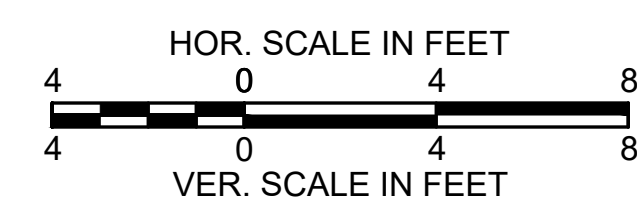
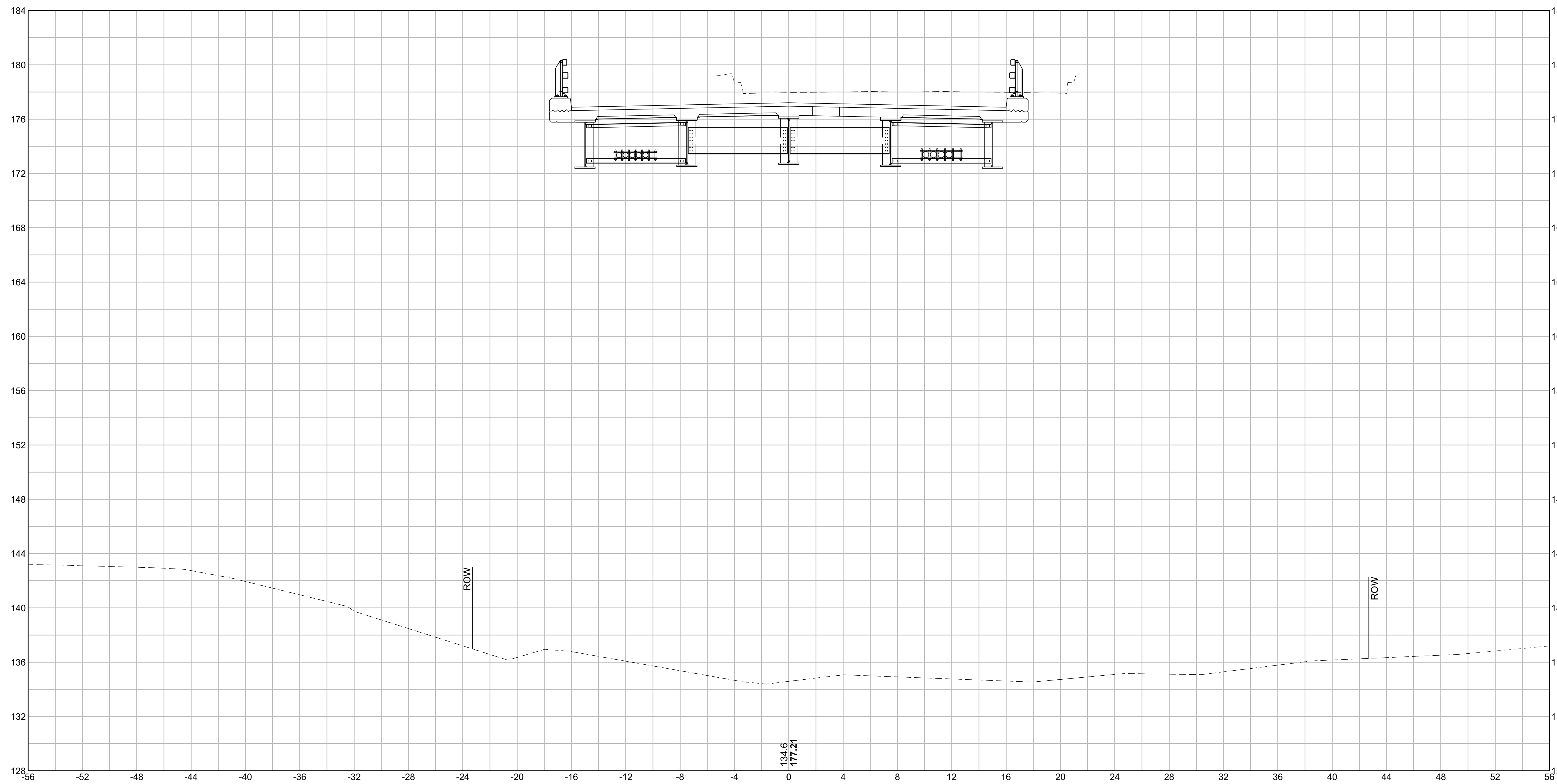
DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	82	92
PROJECT FILE NO.		608634	

CROSS SECTIONS - 5 OF 15

13+00

EARTHWORK 13+00	
CUT AREA	0.00 SF
FILL AREA	0.00 SF



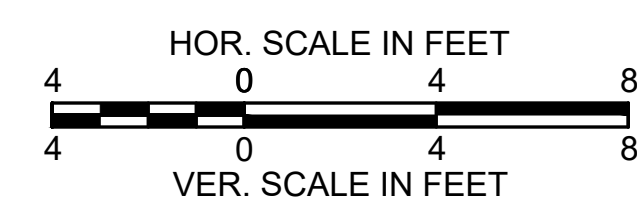
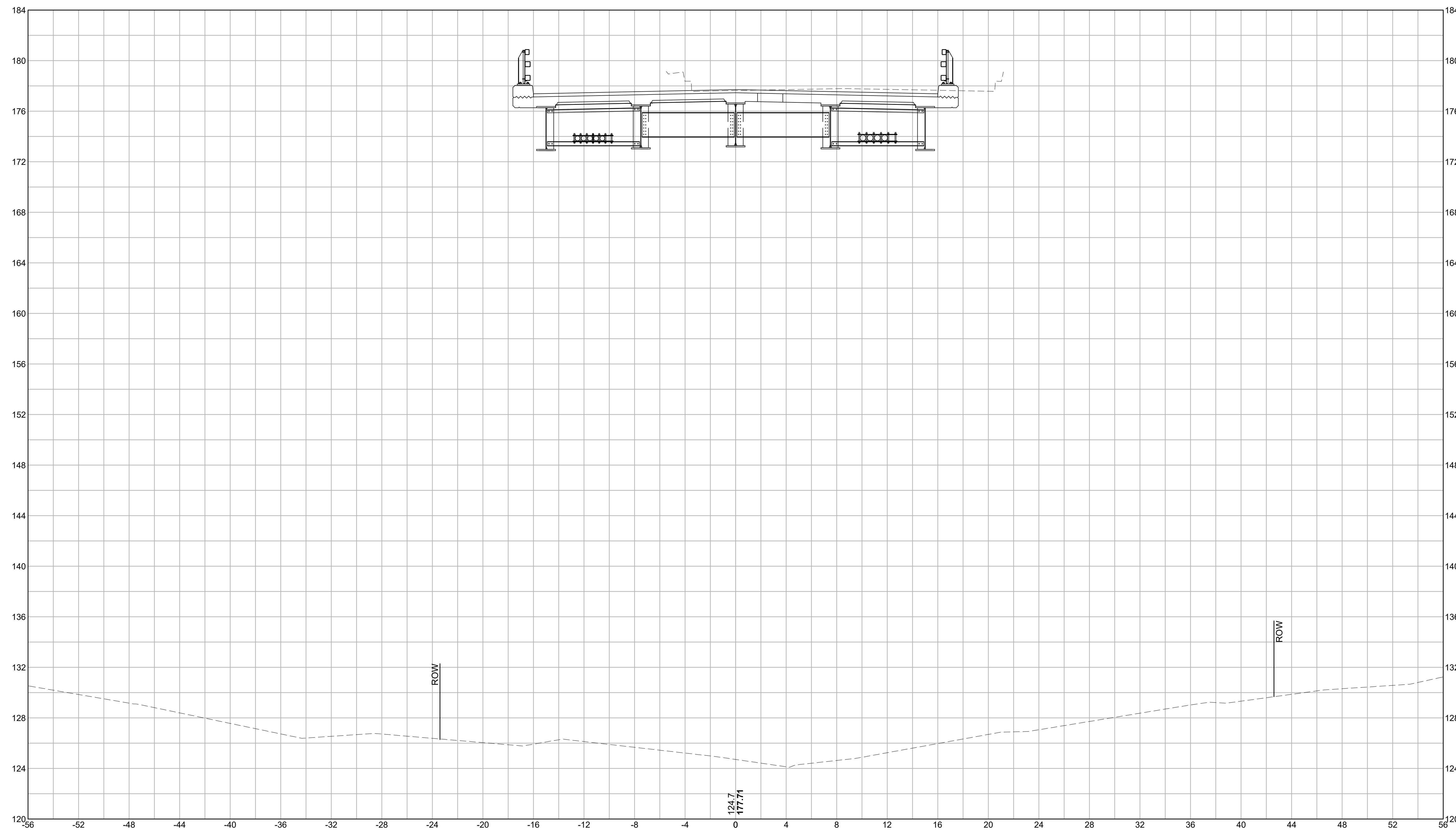
DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	83	92
PROJECT FILE NO.		608634	

CROSS SECTIONS - 6 OF 15

13+50

EARTHWORK 13+50	
CUT AREA	0.00 SF
FILL AREA	0.00 SF

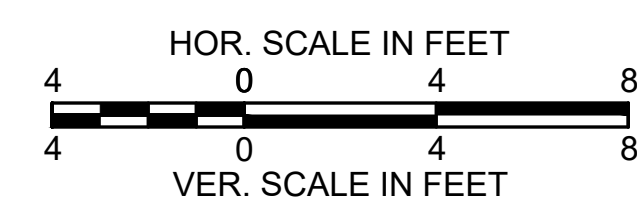
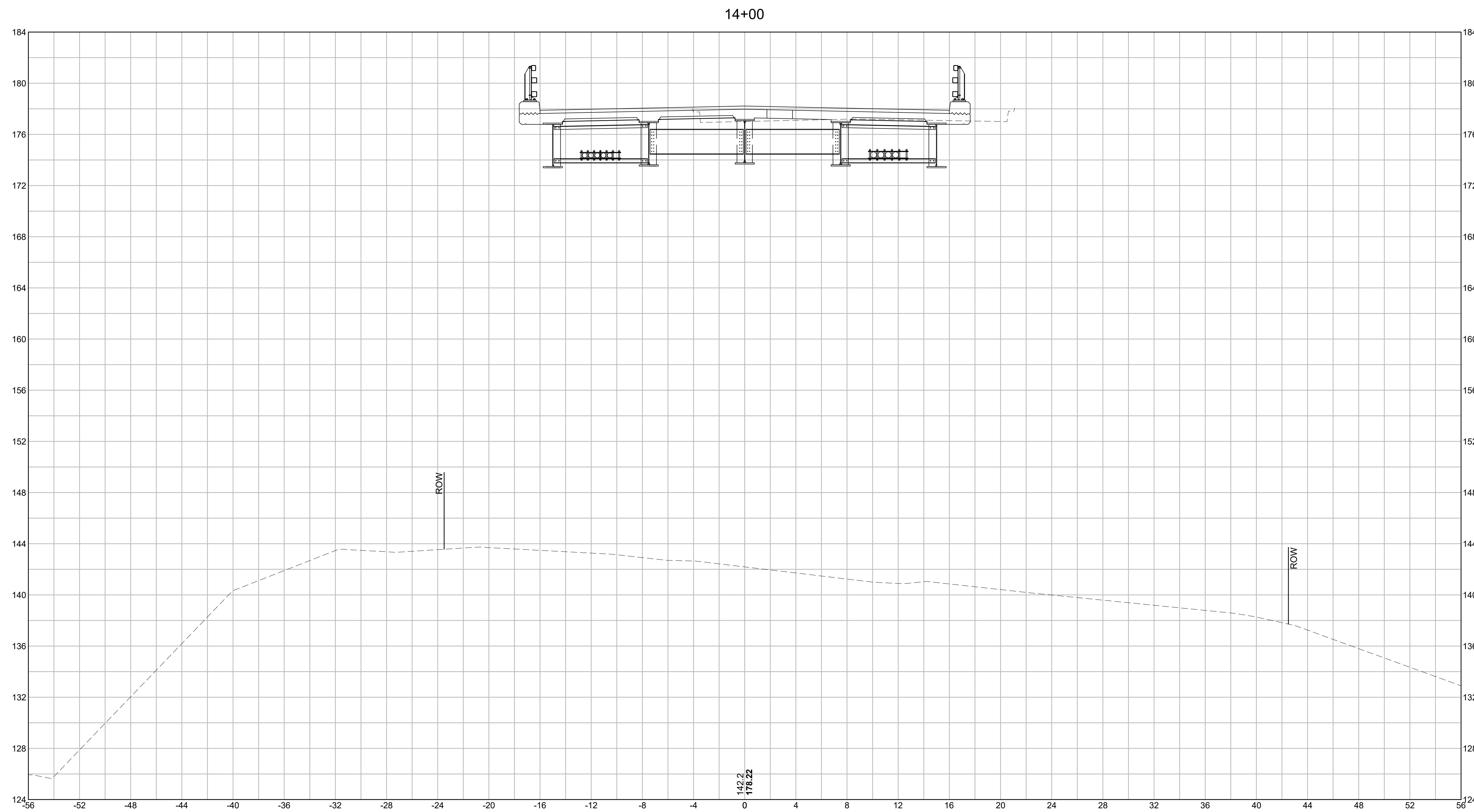


DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	84	92
PROJECT FILE NO.		608634	

CROSS SECTIONS - 7 OF 15

EARTHWORK 14+00	
CUT AREA	0.00 SF
FILL AREA	0.00 SF

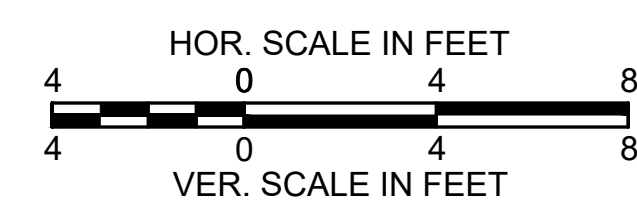
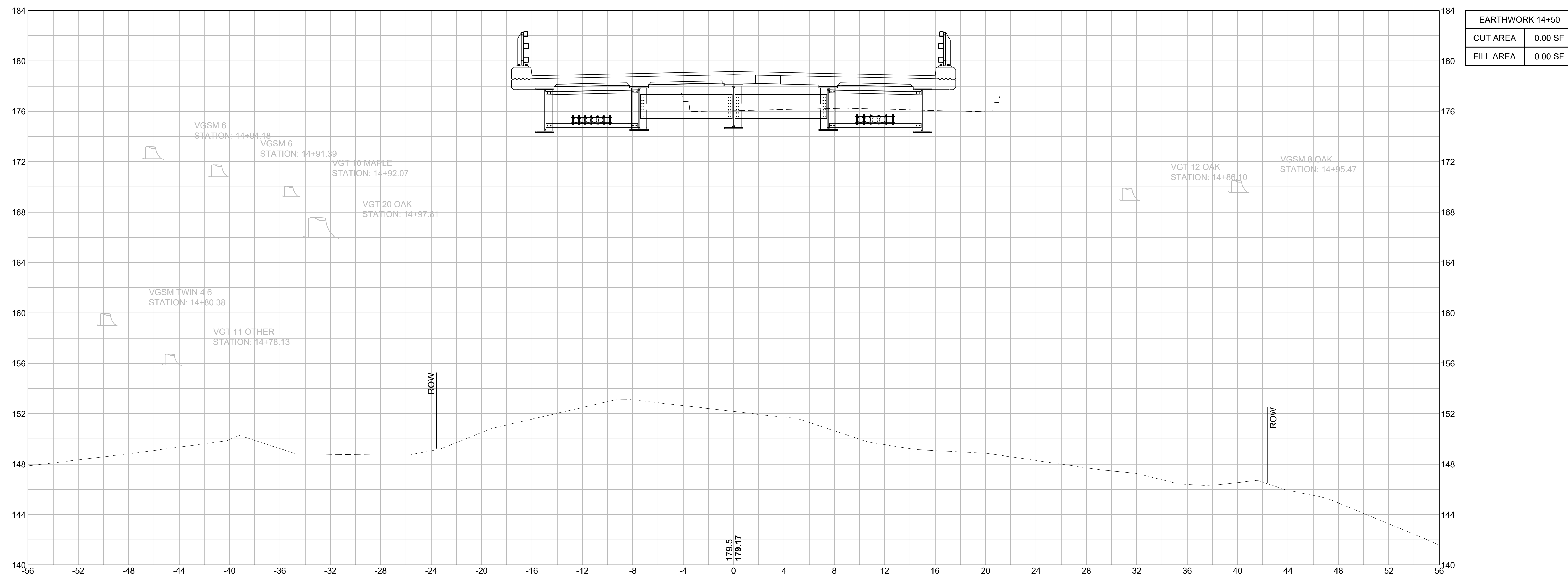


DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	85	92
PROJECT FILE NO.		608634	

CROSS SECTIONS - 8 OF 15

14+50



DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

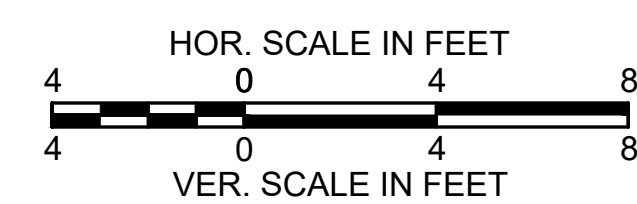
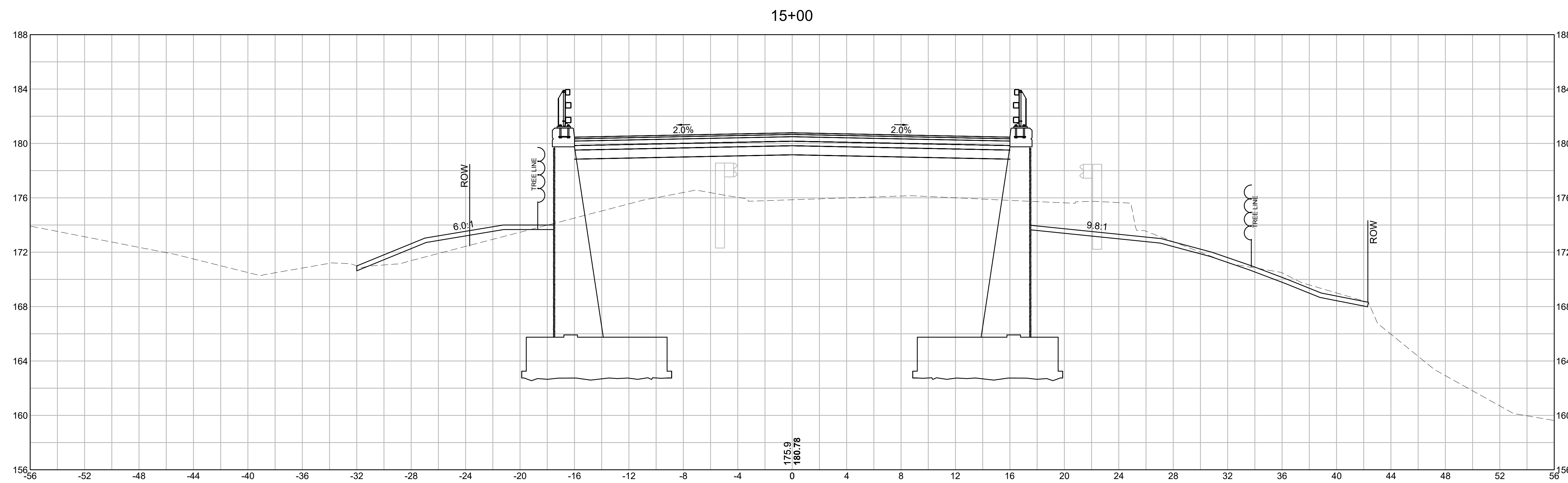
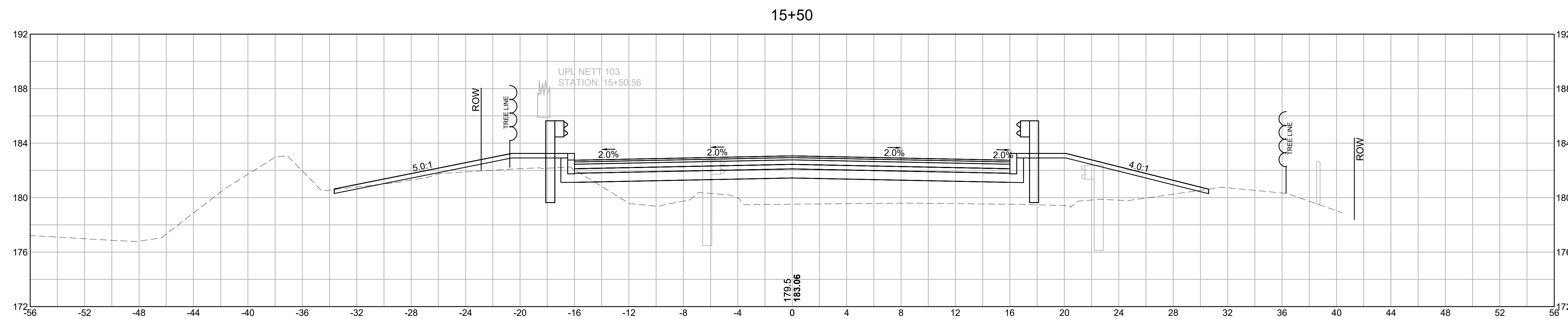
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	86	92
PROJECT FILE NO.		608634	

CROSS SECTIONS - 9 OF 15

608634_HDX\CROSS SECTIONS.DWG Plotted on 22-Apr-2026 10:59 AM

EARTHWORK 15+50	
CUT AREA	2.38 SF
FILL AREA	83.46 SF

EARTHWORK 15+00	
CUT AREA	25.75 SF
FILL AREA	103.87 SF



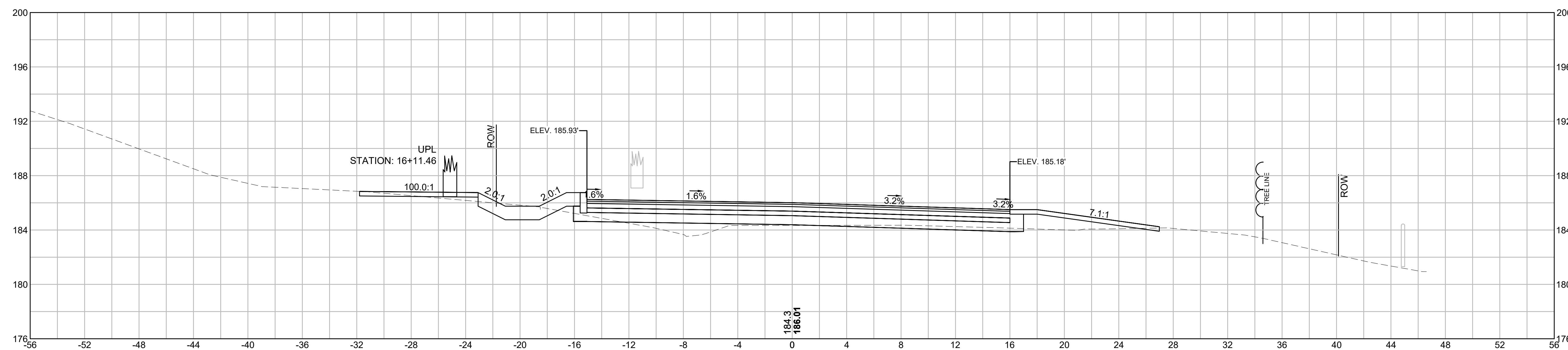
DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	87	92
PROJECT FILE NO.		608634	

CROSS SECTIONS - 10 OF 15

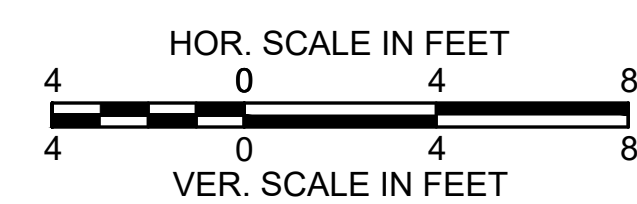
608634_HDXX(CROSS SECTIONS)DWG Plotted on: 22-Apr-2026 10:59 AM

16+00



EARTHWORK 16+00	
CUT AREA	4.98 SF
FILL AREA	10.59 SF

SUPERELEVATION
PC STA 16+14.71
R = 700.00'
BANK = 4.0%

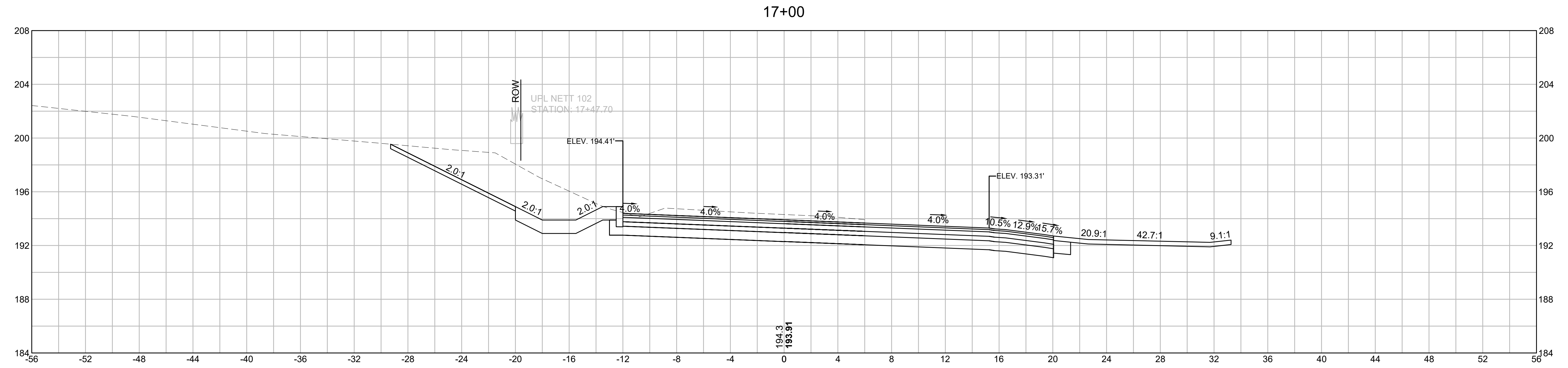


DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

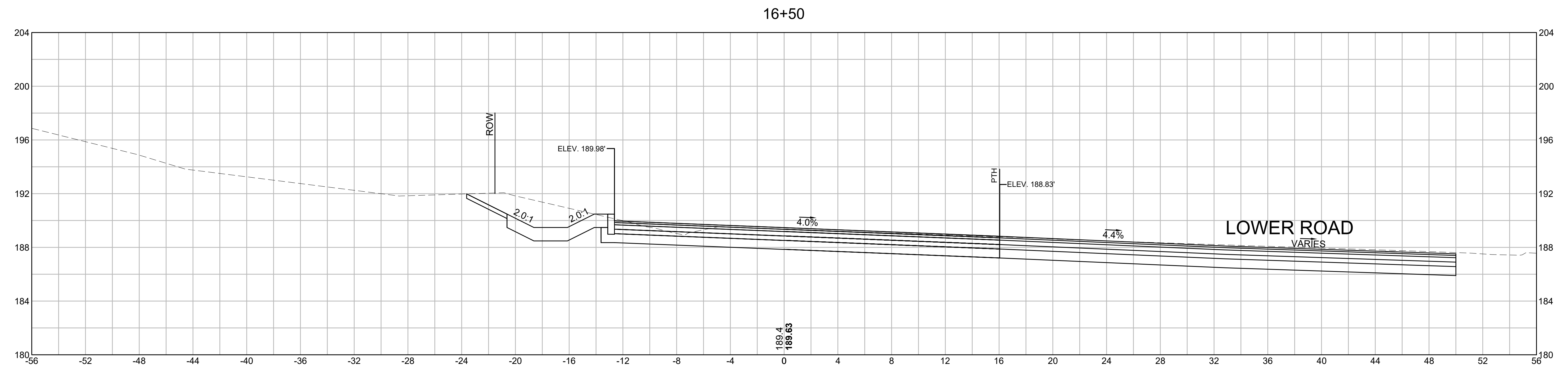
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	88	92
PROJECT FILE NO.		608634	

CROSS SECTIONS - 11 OF 15

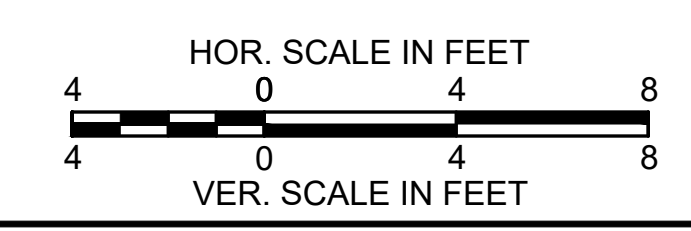
608634_HDXX(CROSS SECTIONS).DWG Plotted on: 22-Apr-2026 10:59 AM



EARTHWORK 17+00	
CUT AREA	90.38 SF
FILL AREA	0.00 SF



EARTHWORK 16+50	
CUT AREA	47.25 SF
FILL AREA	0.00 SF



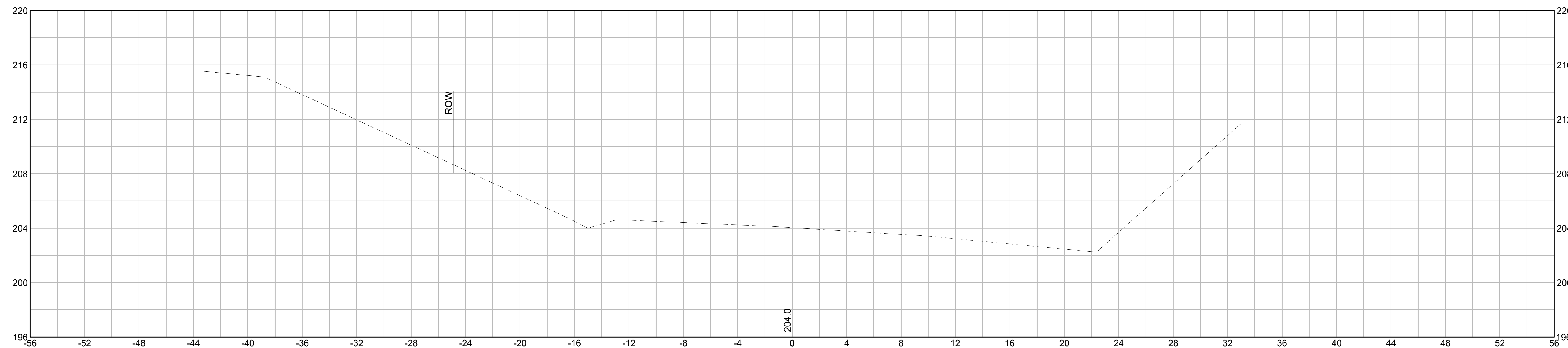
DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	89	92
PROJECT FILE NO.		608634	

CROSS SECTIONS - 12 OF 15

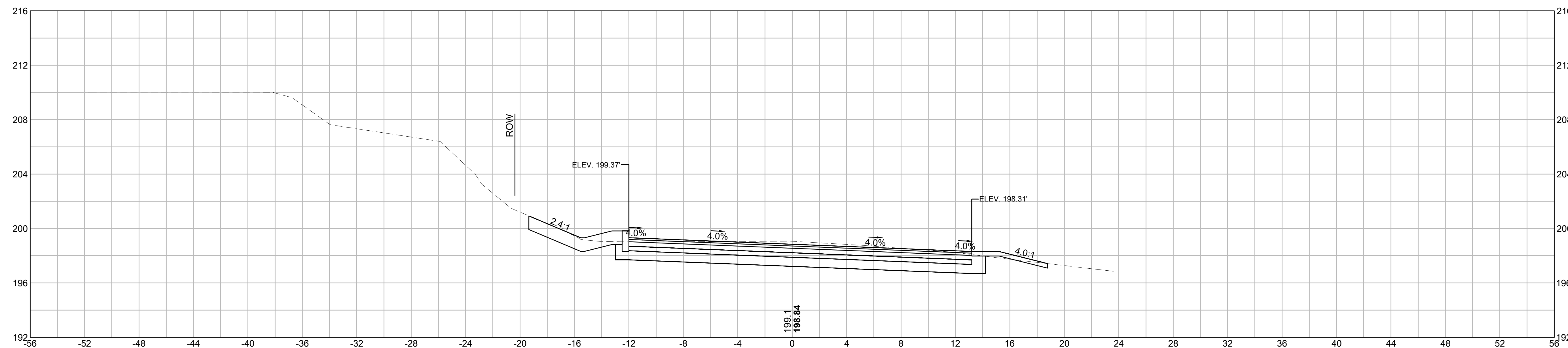
608634_HDXX(CROSS SECTIONS).DWG Plotted on: 22-Apr-2026 10:59 AM

18+00

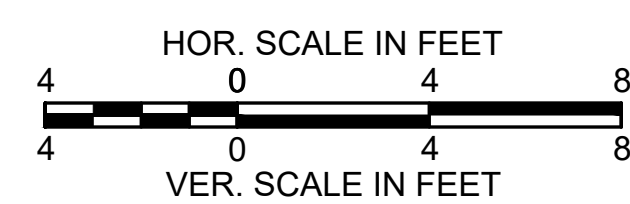


EARTHWORK 18+00	
CUT AREA	0.00 SF
FILL AREA	0.00 SF

17+50



EARTHWORK 17+50	
CUT AREA	44.19 SF
FILL AREA	0.15 SF



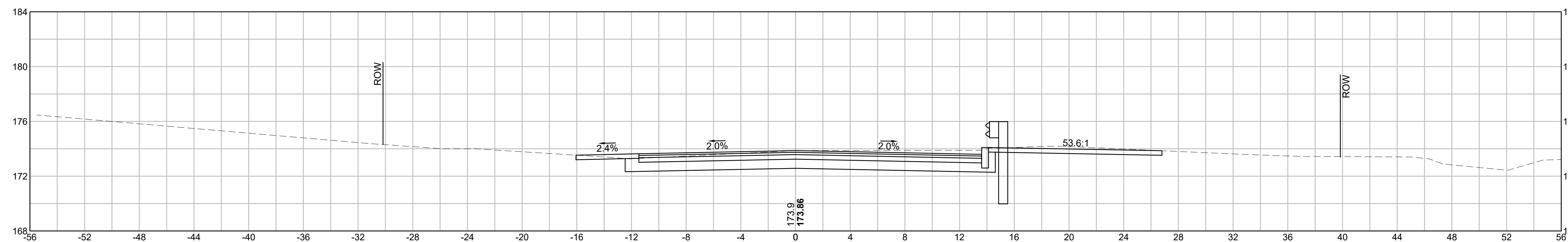
DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	90	92
PROJECT FILE NO.		608634	

CROSS SECTIONS - 13 OF 15

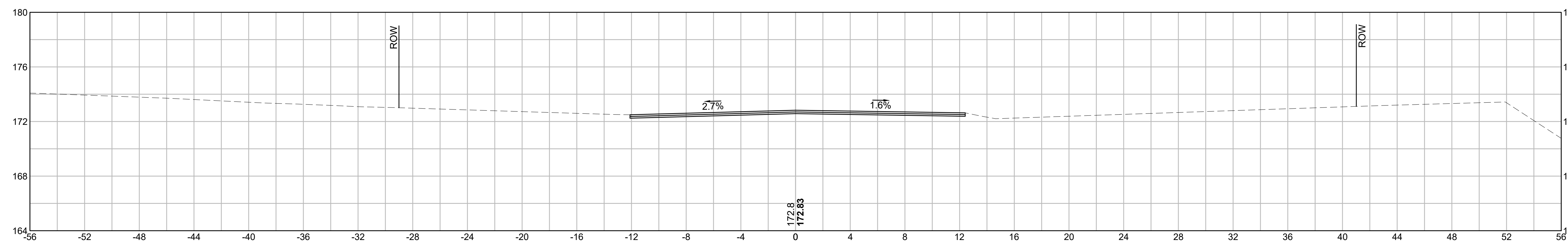
STILLWATER ROAD

101+00



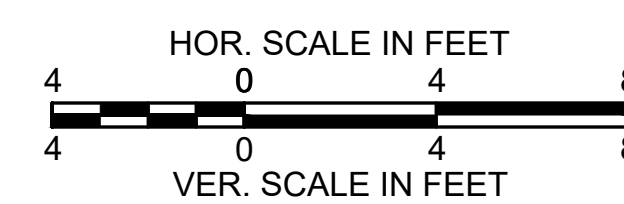
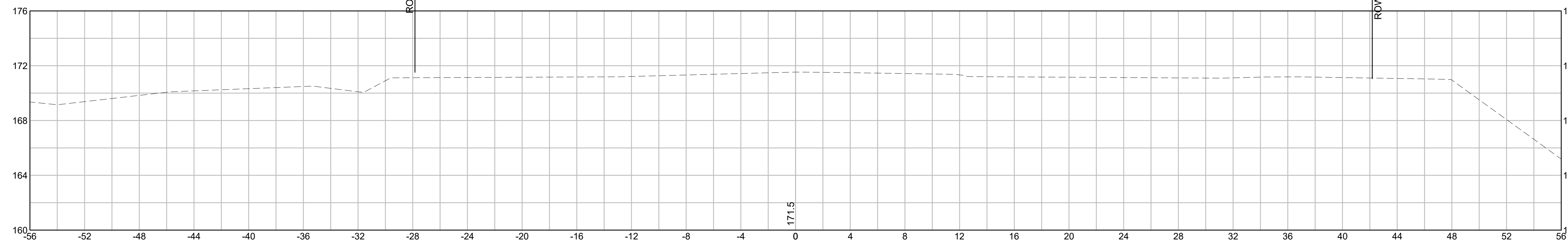
EARTHWORK 16+00	
CUT AREA	40.25 SF
FILL AREA	0.00 SF

100+50



EARTHWORK 16+00	
CUT AREA	0.00 SF
FILL AREA	0.00 SF

100+00

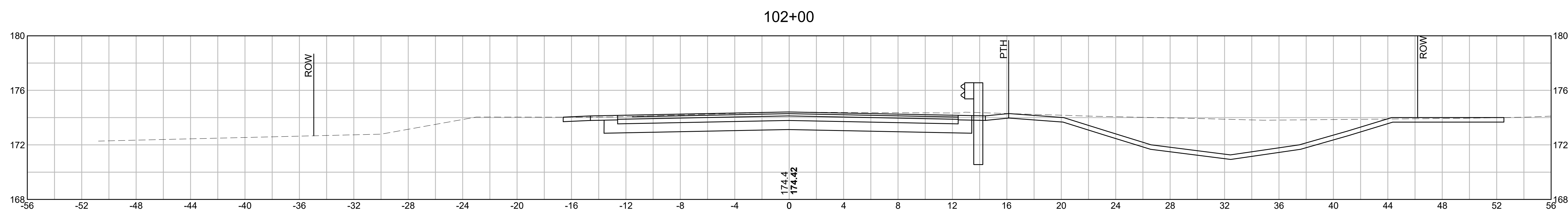
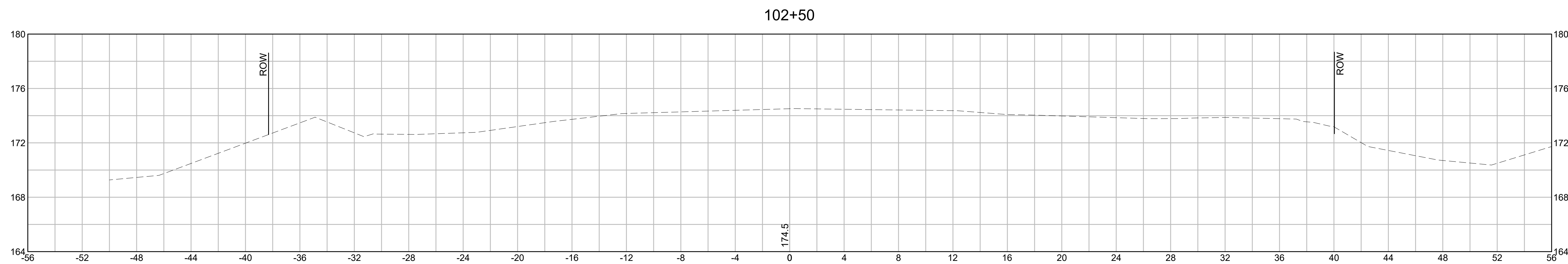


DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	91	92
PROJECT FILE NO.		608634	

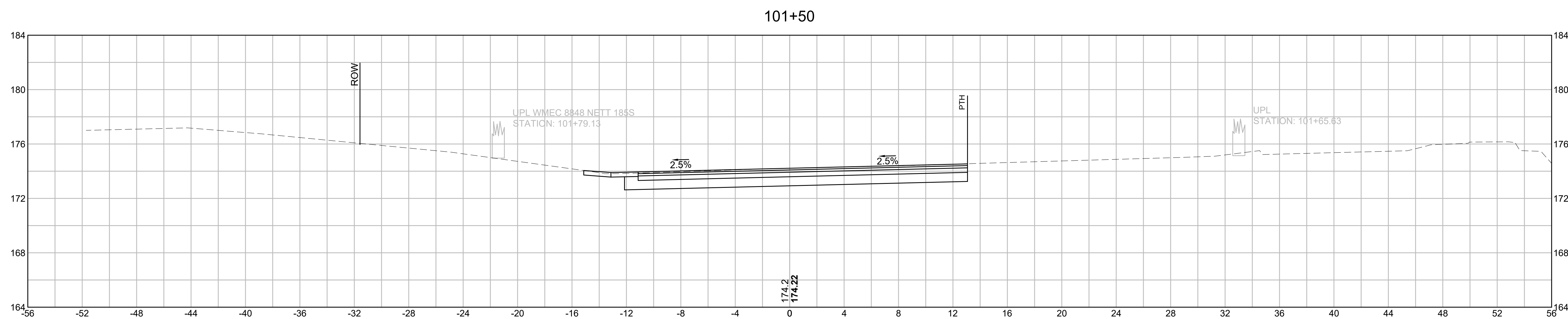
CROSS SECTIONS - 14 OF 15

608634_IDXX(CROSS SECTIONS).DWG Plotted on: 22-Apr-2026 10:59 AM

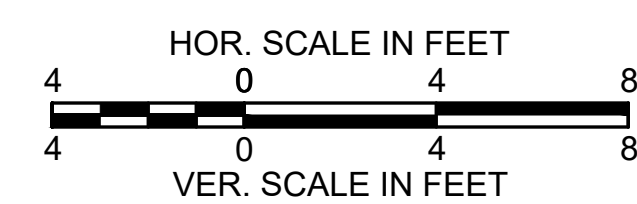


EARTHWORK 16+00	
CUT AREA	37.49 SF
FILL AREA	0.00 SF

* BASIN CUT AREA
COUNTED SEPARATELY



EARTHWORK 16+00	
CUT AREA	32.52 SF
FILL AREA	0.00 SF

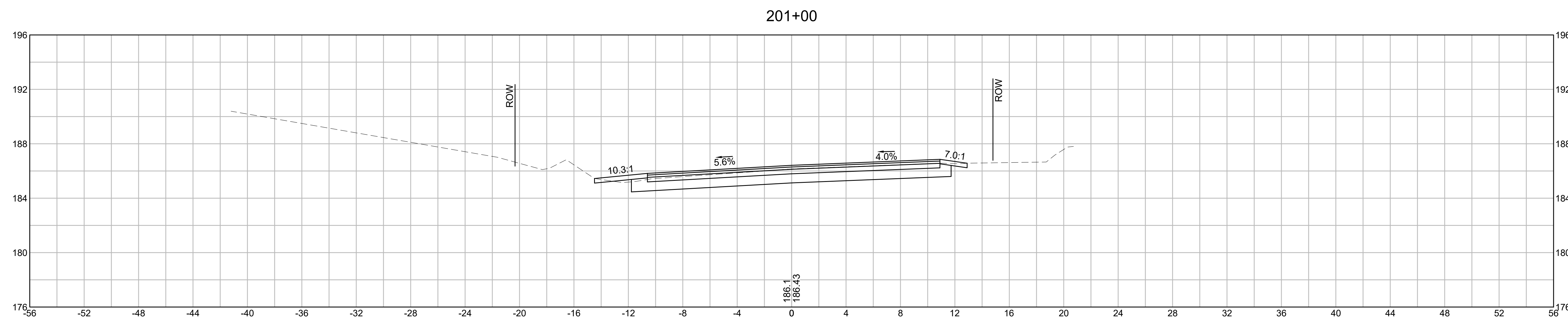


DEERFIELD
UPPER ROAD OVER DEERFIELD RIVER

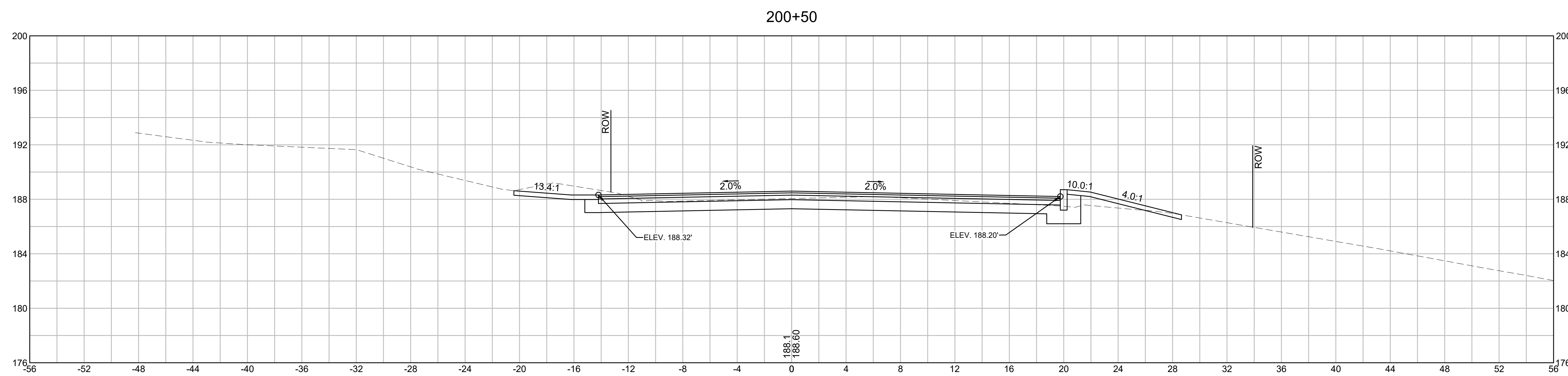
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	BFL(BR-OFF)-0032(052)X	92	92
PROJECT FILE NO.		608634	

CROSS SECTIONS - 15 OF 15

LOWER ROAD



EARTHWORK 201+00	
CUT AREA	23.30 SF
FILL AREA	0.17 SF



EARTHWORK 200+50	
CUT AREA	38.08 SF
FILL AREA	1.74 SF

