

PROJECT LOCATION PLAN  
1"=1000'

# TOWN OF MORRIS PLAN FOR THE REPLACEMENT OF BRIDGE NO. 086-007 JOHN WEIK ROAD OVER UNNAMED BROOK

FROM STATION 0+45.00 TO STATION 1+42.00  
LENGTH = 97'  
SCALES: AS NOTED  
TO BE MAINTAINED BY THE TOWN OF MORRIS

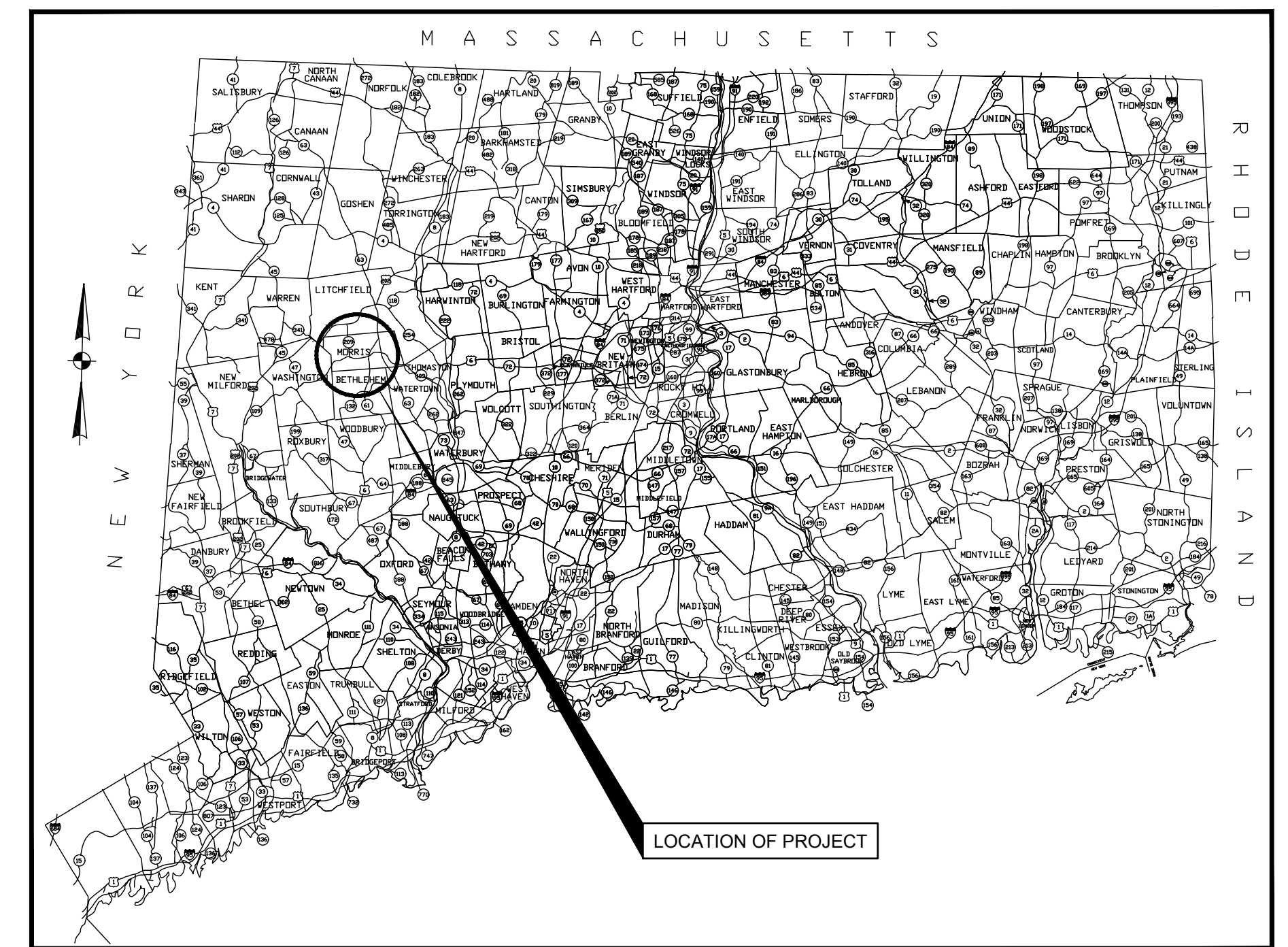
## FIRST SELECTMAN

Tom Weik

## DIRECTOR OF PUBLIC WORKS

Kyle Rosenbeck (Highway Department Foreman)

March 19, 2025



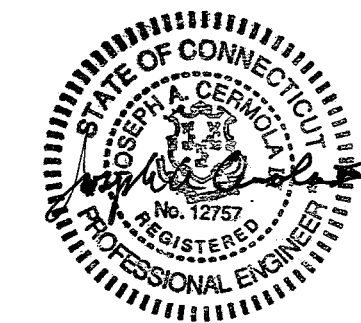
PROJECT VICINITY MAP  
NOT TO SCALE

DESIGN DATA  
FUNCTIONAL CLASSIFICATION: RURAL LOCAL ROAD  
DESIGN SPEED: 25 mph  
ADT (EST.): 200

CONSTRUCTION SPECIFICATIONS: STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, FACILITIES AND INCIDENTAL CONSTRUCTION FORM 819 (2024), SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

LIST OF DRAWING REVISIONS			
SHEET NO.	DESCRIPTION	DATE	BY

LIST OF DRAWINGS					
SHEET NO.	TITLE	DRAWING	SHEET NO.	STANDARD DRAWINGS	FHWA APPROVAL DATE
1	TITLE SHEET	TITLE	HW-822_01	TEMPORARY PRECAST CONCRETE BARRIER CURB	11-08-22
2	GENERAL NOTES AND TYPICAL SECTION	GEN-01	HW-910_01	W-BEAM METAL BEAM RAIL HARDWARE	11-08-22
3	EXISTING CONDITIONS PLAN	EXC-01	HW-910_02	METAL BEAM RAIL (TYPE R-B 350) GUIDERAIL	11-08-22
4	ROADWAY PLAN & PROFILE	PLA-01	HW-910_11	CURVED GUIDERAIL TREATMENT DETAIL	11-08-22
5	CULVERT PROFILE	PRO-01	HW-911_01	R-B END ANCHORAGE TYPE I AND II	10-17-24
6 - 8	CROSS SECTIONS	XSC-01 - XSC-03	HW-913_01a	CHAIN LINK FENCE	11-08-22
9	CULVERT GENERAL PLAN	STR-01	HW-913_01b	CHAIN LINK FENCE HARDWARE	11-08-22
10	CULVERT LAYOUT PLAN	STR-02	TR-1220_01	SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS	8/2018
11	CULVERT ELEVATION AND SECTIONS	STR-03	TR-1220_02	CONSTRUCTION SIGN SUPPORTS AND CHANNELIZING DEVICES	8/2018
12 - 13	CULVERT MISCELLANEOUS DETAILS	STR-04 - STR-05			
14	BORING LOGS	BOR-01			
15	WATER HANDLING PLAN	WTH-01			
16	SEDIMENT & EROSION CONTROL NOTES	SED-01			
17	SEDIMENT & EROSION CONTROL DETAILS	SED-02			
18	DETOUR PLAN	DET-01			



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JOSEPH A. CERMOLA III, P.E., LICENSE NO. 12757

TITLE  
1

**CARDINAL**  
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**GENERAL NOTES**

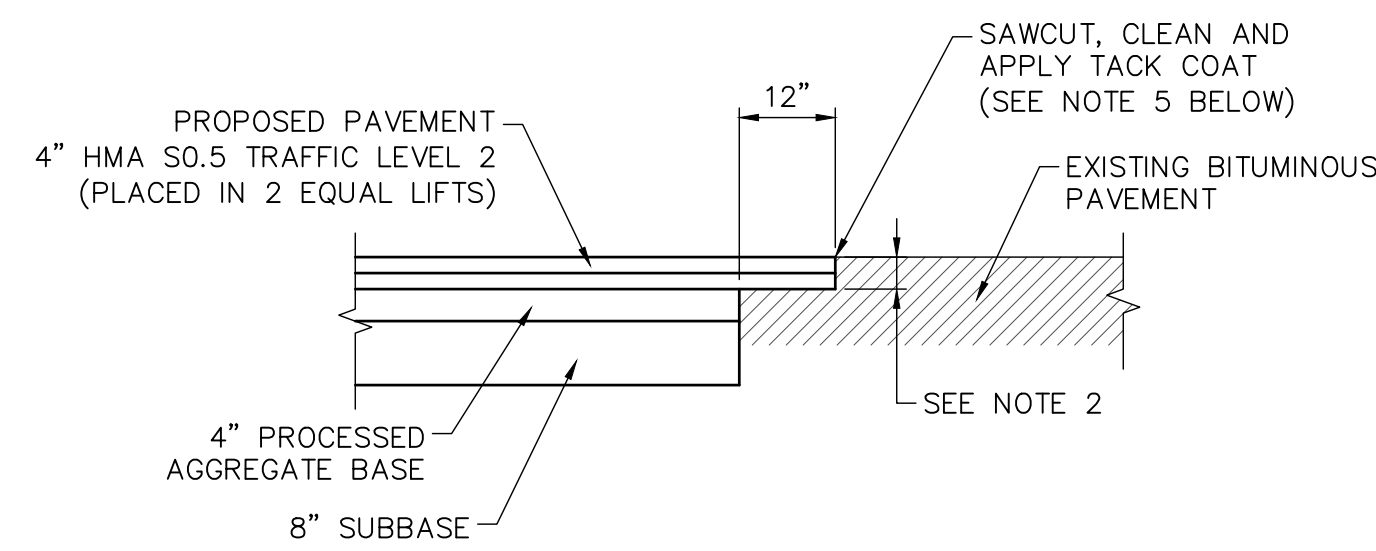
- ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO THE CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, FACILITIES AND INCIDENTAL CONSTRUCTION, FORM 818 (2020), SUPPLEMENTAL SPECIFICATIONS DATED 01/2023 AND SPECIAL PROVISIONS.
- THE PROJECT SITE SHALL CONSIST OF THE AREA WITHIN THE MUNICIPALLY-OWNED RIGHT OF WAY BETWEEN THE DESIGNATED BEGINNING AND END STATIONS FOR THE PROJECT AS SHOWN ON THE PLANS. IT SHALL ALSO INCLUDE ANY EASEMENTS TO PERFORM WORK ON PRIVATELY-OWNED PROPERTY AS DEPICTED ON THE PLANS. THE CONTRACTOR SHALL LIMIT HIS CONSTRUCTION ACTIVITIES TO THE AREA WITHIN THE PROJECT SITE.
- EROSION AND SEDIMENT CONTROL MEASURES WILL BE CONSTRUCTED IN ACCORDANCE WITH THE TOWN REGULATIONS, THE CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION, FORM 818, WITH LATEST REVISIONS, 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, DEP BULLETIN 34, UNLESS OTHERWISE SPECIFIED IN THE SPECIAL PROVISIONS.
- ALL DIMENSIONS ARE FEET UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL WALK THE PROJECT PRIOR TO CONSTRUCTION WITH A REPRESENTATIVE FROM THE TOWN AND THE ENGINEER. TREES TO BE REMOVED SHALL BE MARKED IN THE FIELD. NO TREES 3" IN DIAMETER OR GREATER SHALL BE CUT DOWN FROM APRIL 15 TO AUGUST 31. EXTREME CARE SHALL BE EXERCISED TO PROTECT ALL TREES NOT DESIGNATED FOR REMOVAL. NO TREES SHALL BE REMOVED UNTIL AUTHORIZATION IS GIVEN BY THE TOWN. COST IS INCLUDED IN THE ITEM "CLEARING AND GRUBBING".
- ANY PHYSICAL FEATURES DISTURBED BY THE CONTRACTOR SHALL BE REPLACED OR RECONSTRUCTED AS DIRECTED BY THE ENGINEER TO A CONDITION EQUAL TO OR BETTER THAN PRIOR TO CONSTRUCTION AT THE CONTRACTORS EXPENSE.
- ALL DIMENSIONS AND ELEVATIONS MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF MANUFACTURING AND CONSTRUCTION, AND NECESSARY ADJUSTMENTS MADE AS ORDERED BY THE ENGINEER.
- WORKING HOURS SHALL BE LIMITED TO THE HOURS BETWEEN 7:00 A.M. AND 5:00 P.M., MONDAY THRU FRIDAY. NO WORK WILL BE PERFORMED ON WEEKENDS, HOLIDAYS, OR SPECIAL DAYS AS DIRECTED BY THE ENGINEER. THE ONLY EXCEPTIONS TO THESE LIMITATIONS WILL BE AS DIRECTED BY THE ENGINEER TO CORRECT OR HANDLE EMERGENCY CONDITIONS, OR IF APPROVED BY THE ENGINEER IN WRITING.
- THE CONTRACTOR SHALL SUBMIT A DETAILED SCHEDULE FOR APPROVAL PRIOR TO COMMENCING CONSTRUCTION.
- THE CONTRACTOR SHALL PROVIDE ACCESS TO ALL PROPERTIES AT ALL TIMES DURING CONSTRUCTION. COORDINATE ACCESS WITH PAVING OPERATIONS SO THAT JOINTS ARE MINIMIZED (SEE MAINTENANCE AND PROTECTION OF TRAFFIC SPECIFICATIONS). NO TRANSVERSE JOINTS SHALL BE ALLOWED DURING THE PAVING OF THE WEARING COURSE.
- ALL DISTURBED AREAS THAT WILL NOT BE PAVED SHALL RECEIVE 4" OF TOPSOIL AND TURF ESTABLISHMENT UNLESS OTHERWISE NOTED.
- RCP SHALL BE CLASS IV UNLESS NOTED OTHERWISE.
- ALL SWALES AND DITCHES WILL HAVE TEMPORARY "U" SHAPED STONE DIKES PLACED PERPENDICULAR TO FLOW AT 30' SPACING DURING CONSTRUCTION TO PREVENT EROSION.
- ALL REQUIRED UTILITY RELOCATIONS SHALL BE PERFORMED BY THE RESPECTIVE UTILITY COMPANY UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES PRIOR TO ANY WORK AND COORDINATE HIS WORK WITH THE UTILITY COMPANY WORK. THE CONTRACTOR SHALL COORDINATE WITH THE RESPECTIVE UTILITY COMPANY FOR THE UTILITY COMPANY TO HOLD ANY POLES THAT NEED TO BE SUPPORTED DURING THE CONTRACTORS TRENCHING OPERATIONS. THE COST TO COORDINATE THIS WORK WITH THE UTILITY COMPANIES SHALL BE INCIDENTAL TO THE PROJECT UNLESS A SPECIFIC PAY ITEM IS INCLUDED.
- IF THE CONTRACTOR WILL BE REQUIRED TO WORK IN PROXIMITY OF AND BENEATH OVERHEAD POWER LINES AS WELL AS TELEPHONE, CABLE TV AND TELECOMMUNICATION LINES. THE OVERHEAD LINES ARE NOT ANTICIPATED TO BE DE-ENERGIZED DURING THE PROSECUTION OF THIS WORK. THE CONTRACTOR SHALL SPECIFICALLY COMPLY WITH THE REQUIREMENTS DETAILED IN OSHA REGULATIONS (STANDARDS 29 CFR) CRANES AND DERRICKS - 1926.550 AS WELL AS OTHER APPLICABLE OSHA STANDARDS. THE CONTRACTOR SHALL MAINTAIN A SAFE DISTANCE FROM ALL UTILITY POLES DURING CONSTRUCTION ACTIVITIES.
- THE INFORMATION SHOWN ON THESE PLANS IS BASED ON LIMITED INVESTIGATIONS AND IS IN NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OF WORK REQUIRED. LOCATIONS OF EXISTING UTILITIES AND UNDERGROUND STRUCTURES HAVE BEEN COMPILED FROM THE BEST AVAILABLE INFORMATION. THIS INFORMATION WAS COMPILED UTILIZING UTILITY COMPANY & TOWN RECORD MAPS AND FIELD SURVEY AND THEREFORE, IS CONSIDERED TO BE APPROXIMATE. ALL UTILITIES AND UNDERGROUND STRUCTURES MAY NOT BE SHOWN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING THE ACTUAL LOCATION OF ALL UTILITIES AND TO NOTIFY UTILITY COMPANIES OF NECESSARY RELOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK WITH THAT OF THE UTILITY COMPANIES. UTILITY LINES DAMAGED BY THE CONTRACTOR SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER AND THE UTILITY COMPANY AND THE COST OF REPAIR WORK SHALL BE BORNE BY THE CONTRACTOR. THE CONTRACTOR SHALL CONTACT CALL BEFORE-DIG AT 1-800-922-4455 FOR MARKING OF EXISTING UTILITIES AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF EXCAVATION (MONDAY THROUGH FRIDAY, EXCLUDING HOLIDAYS).
- CONTRACTOR TO SUPPLY UTILITY COMPANIES WITH SUFFICIENT VERTICAL AND HORIZONTAL STAKEOUT OF PROPOSED STORM DRAINAGE, PROPOSED ROADWAY, AND OTHER PROPOSED IMPROVEMENTS TO PERFORM UTILITY RELOCATIONS. THE COST OF THIS WORK SHALL BE INCLUDED IN THE ITEM "CONSTRUCTION STAKING."
- ANTICIPATED UTILITY POLE RELOCATIONS, IF ANY, ARE SHOWN ON THE PLANS. ADDITIONAL POLE RELOCATIONS MAY BE REQUIRED. CONTRACTOR TO PROVIDE STAKEOUT OF PROPOSED IMPROVEMENTS PRIOR TO COMMENCEMENT OF WORK TO DETERMINE IF ADDITIONAL POLE RELOCATIONS ARE REQUIRED. POLE RELOCATIONS MAY NOT BE COMPLETED PRIOR TO THE INSTALLATION OF STORM DRAINAGE AND ROADWAY IMPROVEMENTS. THE COST OF THIS WORK SHALL BE INCIDENTAL TO THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH THE UTILITY COMPANIES TO RESET ALL UTILITY BOXES TO FINISHED GRADE. THERE WILL BE NO SEPARATE PAYMENT TO COORDINATE THIS WORK OR CLAIM FOR TIME EXTENSION.
- THE CONTRACTOR SHALL RESET ALL WATER AND GAS CURB STOPS BOXES AND WATER AND GAS GATE VALVE BOXES TO FINISHED GRADE. THERE SHALL BE NO SEPARATE MEASUREMENT OR PAYMENT FOR THIS WORK AS IT IS INCIDENTAL TO CONSTRUCTION.
- EXISTING PAVEMENT SHALL BE REMOVED IN FILL AREAS PRIOR TO PLACING FILL. EXISTING PAVEMENT OUTSIDE OF THE CUT AND FILL LIMITS THAT WILL NOT BE USED IN THE PROPOSED CONDITIONS SHALL BE REMOVED. PAYMENT SHALL BE MADE UNDER THE ITEM "EARTH EXCAVATION."
- ALL EXISTING DRAINAGE PIPES AND CULVERTS WITHIN THE PROJECT SLOPE LIMITS THAT ARE DESIGNATED TO BE REMOVED SHALL BE REMOVED AND BACKFILLED AS SPECIFIED IN SECTION 2.05 "TRENCH EXCAVATION" UNLESS OTHERWISE SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. COORDINATE THIS WORK WITH THE RECONNECTION OF ANY EXISTING FOUNDATION AND OTHER DRAINS TO THE PROPOSED DRAINAGE SYSTEM.
- THE CONTRACTOR SHALL MAINTAIN ALL ROAD NAME SIGNS AS INDICATED ON THE PLANS AND SHALL MAINTAIN ALL TRAFFIC CONTROL SIGNS AS NEEDED DURING CONSTRUCTION AND AS DIRECTED BY THE ENGINEER. COST IS INCLUDED IN THE ITEM "MAINTENANCE AND PROTECTION OF TRAFFIC".
- PLANIMETRIC AND TOPOGRAPHIC FEATURES ARE BASED ON FIELD SURVEY PERFORMED BY CARDINAL ENGINEERING ASSOCIATES, IN AUGUST 2022. SURVEY BASELINE CONFORMS TO CLASS A-2 HORIZONTAL ACCURACY. STREETLINE AND PROPERTY LINE INFORMATION (IF SHOWN) ARE APPROXIMATE AND BASED ON LIMITED FIELD SURVEY. ALL ELEVATIONS AND HORIZONTAL COORDINATES ARE BASED ON AN ASSUMED DATUM. VERTICAL ACCURACY IS CLASS T-2.
- ALL TYPE 'C' CATCH BASIN TOP OF FRAME ELEVATIONS SHALL BE MEASURED IN THE CENTER OF THE GRATE AT THE GUTTER LINE AND REFLECT THE ELEVATION WITH THE STANDARD DEPRESSION AS SHOWN ON "DETAILS OF DEPRESSED GUTTER STRIP FOR TYPE 'C' CATCH BASIN" (SEE CTDOT STANDARD DETAIL SHEET NO. HW-507.01). ALL TYPE 'C-L' CATCH BASIN TOP OF FRAME ELEVATIONS SHALL BE MEASURED IN THE CENTER OF THE GRATE.
- ALL UNCONFINED INSTREAM WORK SHALL BE PERFORMED BETWEEN JUNE 1 AND SEPTEMBER 30.

**LIST OF ABBREVIATIONS**

AGGR	AGGREGATE	NOM	NOMINAL
AH	AHEAD	NO	NUMBER
A	ALGEBRAIC DIFFERENCE IN GRADES	PERF	PERFORATED
APPROX	APPROXIMATE	POB	POINT OF BEGINNING
ASPH	ASPHALT	PCC	POINT OF COMPOUND CURVATURE
BK	BACK	PC	POINT OF CURVATURE
B	BASELINE	POE	POINT OF ENDING
BM	BENCHMARK	PGA	POINT OF GRADE APPLICATION
BIT	BITUMINOUS	PI	POINT OF INTERSECTION
BCLC	BITUMINOUS CONCRETE LIP CURBING	PRC	POINT OF REVERSE CURVE
CGR	CABLE GUIDERAIL	PT	POINT OF TANGENCY
CI / CIP	CAST IRON PIPE	PVC	POINT OF VERTICAL CURVATURE
CB	CATCH BASIN	PVCC	POINT OF VERTICAL COMPOUND CURVATURE
C	CENTERLINE	PVI	POINT OF VERTICAL INTERSECTION
CC	CONCRETE CURBING	PVRC	POINT OF VERTICAL REVERSE CURVE
CL	CLASS	PVT	POINT OF VERTICAL TANGENCY
CONC	CONCRETE	POC	POINT ON CURVATURE
CP	CONTROL POINT	POT	POINT ON TANGENT
COR	CORNER	PVC	POLYVINYL CHLORIDE PIPE
CMP	CORRUGATED METAL PIPE	R	RADIUS
CPFE	CORRUGATED POLYETHYLENE FLARED END	RR	RAILROAD
CPP	CORRUGATED POLYETHYLENE PIPE	K	RATE OF VERTICAL CURVATURE
CY	CUBIC YARD	REINF	REINFORCED
DIA	DIAMETER	RCCE	REINFORCED CONCRETE CULVERT END
DBL	DOUBLE	RCP	REINFORCED CONCRETE PIPE
DRIVE	DRIVEWAY	REQD	REQUIRED
DI / DIP	DUCTILE IRON PIPE	RT	RIGHT
EA	EACH	ROW	RIGHT OF WAY
EP	EDGE OF PAVEMENT	RSC	RIGID STEEL CONDUIT
EL / ELEV	ELEVATION	RD	ROAD
EX / EXIST	EXISTING	SAN	SANITARY
FG	FINISHED GRADE	SS	SANITARY SEWER
FP	FLAGPOLE	SED	SEDIMENTATION
FE	FLAGGED END	SCB	SEDIMENT CONTROL BALES
FL	FLOW LINE	SCS	SEDIMENT CONTROL SYSTEM
FT	FOOT	SHLD	SHOULDER
FND	FOUND	SF	SQUARE FOOT
FOUND	FOUNDATION	SY	SQUARE YARD
G	GAS	STD	STANDARD
GV	GAS VALVE	STA	STATION
GSC / GC	GRANITE STONE CURBING	SSD	STOPPING SIGHT DISTANCE
HP	HIGH POINT	ST	STREET
HORIZ	HORIZONTAL	§	STREET LINE
HRS	HOURS	TBD	TO BE DETERMINED
HYD	HYDRANT	TOP OF FRAME	TOP OF FRAME
INV	INVERT	TF	TYPICAL
IE	INVERT ELEVATION	UD	UNDERDRAIN
IP	IRON PIN	VERT	VERTICAL
LT	LEFT	VC	VERTICAL CURVE
L	LENGTH	VF	VERTICAL FEET
LVC	LENGTH OF VERTICAL CURVE	VCP	VITRIFIED CLAY PIPE
LTP	LIGHT POLE	W	WATER
LF	LINEAR FEET	WV	WATER VALVE
LP	LOW POINT		
LS	LUMP SUM		
MB	MAILBOX		
MH	MANHOLE		
MAX	MAXIMUM		
MBR	METAL BEAM RAIL		
MCE	METAL CULVERT END		
MIN	MINIMUM		
MON	MONUMENT		
NTS	NOT TO SCALE		

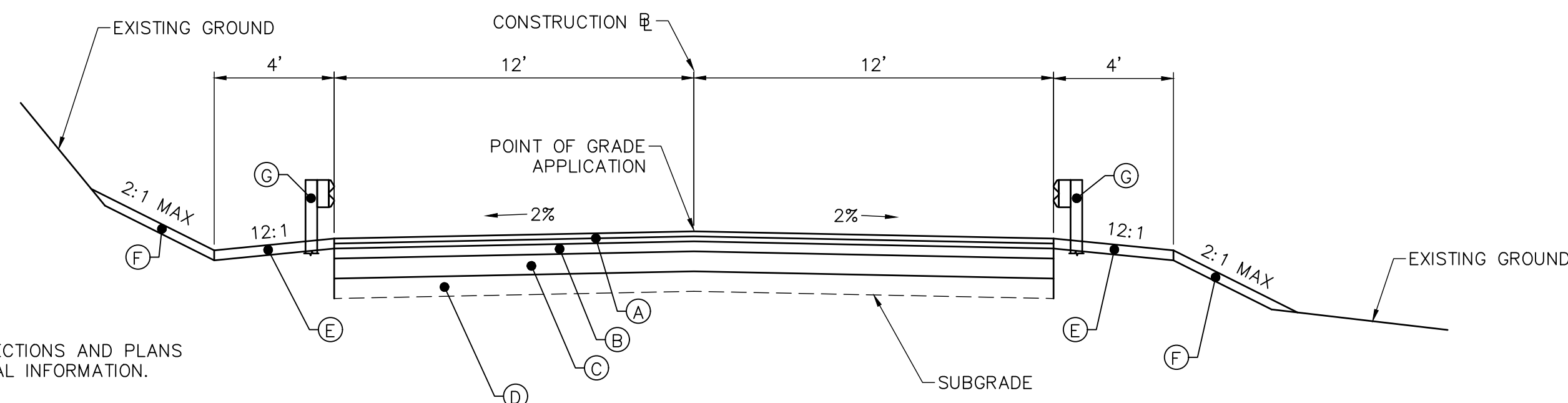
**STANDARD CONVENTIONS**

EXISTING		PROPOSED
	APPROXIMATE LIMIT OF CUT SLOPE	— C —
	APPROXIMATE LIMIT OF FILL SLOPE	— F —
---	APPROXIMATE PROPERTY LINE	---
---	APPROXIMATE STREET LINE	---
	BASELINE STATION	0+00
Bit	BITUMINOUS CONCRETE DRIVEWAY	Bit
	BORING NUMBER B10 (SEE BORING LOG SHEET)	B10
	CATCH BASIN	□
△	CONTROL POINT	△
Conc	CONCRETE DRIVEWAY/ CONCRETE DRIVEWAY RAMP	Conc
	CULVERT END	— —
Size & Type	DRAINAGE DITCH	Size & Type
Size & Type	DRAINAGE PIPE	Size & Type
---	EASEMENT LINE (PERMANENT)	---
---	EASEMENT LINE (TEMPORARY)	---
E	ELECTRIC LINE (OVERHEAD OR UNDERGROUND)	E
G	GAS LINE	G
	GAS TEST PIT	TP G1
⊗	GAS VALVE or WATER VALVE	⊗
— —	GUIDE RAIL	— —
— —	GUY WIRE	— —
— HV —	HIGH VOLTAGE OVERHEAD LINE	— HV —
Number or Name	HOUSE/ STRUCTURE	Number or Name
⊗	HYDRANT	⊗
CT WL	INLAND WETLAND LIMITS (CONNECTICUT)	CT WL
FED WL	INLAND WETLAND LIMITS (FEDERAL)	FED WL
⊗	MAILBOX	⊗
⊙	MANHOLE (STORM)	⊙
⊙	MANHOLE (SANITARY)	⊙
Mon	MONUMENT	■ MON
— —	NORTH ARROW	— —
OHW	ORDINARY HIGH WATER	OHW
OH	OVERHEAD UTILITY WIRES	OH
	RIPRAP APRON	▨
— SC —	SANITARY SERVICE CONNECTION	— SC —
Size & Type	SANITARY SEWER	Size & Type
	SEDIMENTATION CONTROL SYSTEM	□ □
○	SIGN	○
x 33.2	SPOT ELEVATION	x 33.2
○ ○ ○ ○	STONE WALL	○ ○ ○ ○
⊙	TELEPHONE LINE (OVERHEAD OR UNDERGROUND)	⊙
	TEST HOLE NUMBER 5 (SEE CONTRACT DOCUMENTS)	TH-5
⊙	TREE	⊙
⊙	TREE STUMP	⊙
— —	TREE LINE	— —
Size & Type	UNDERDRAIN	Size & Type
U	"U" SHAPED STONE DIKE	U
Number & Owner	UTILITY POLE	Number & Owner
— W —	WATER COURSE	— W —
— W —	WATER LINE	— W —
	WATER TEST PIT	TP W1
X X	WIRE FENCE	X X



- NOTES:
- THIS DETAIL IS TO BE USED WHERE "SAWCUT & MATCH EXISTING PAVEMENT" IS CALLED FOR ON THE PLANS.
  - OVERLAP BOTH BITUMINOUS CONCRETE COURSES OVER EXISTING SUBBASE.
  - MINIMUM THICKNESS TO BE SAME AS PROPOSED BITUMINOUS OR MATCH THICKNESS OF EXISTING PAVEMENT, WHICHEVER IS GREATER.
  - PAVEMENT MATCH TREATMENT WILL BE INCIDENTAL TO THE WORK.
  - TO BE PAID FOR UNDER THE ITEM "CUT BITUMINOUS CONCRETE PAVEMENT".

**PAVEMENT TRANSITION DETAIL**  
NOT TO SCALE



- LEGEND
- |  |   |
|--|---|
| (A) 2" HMA S0.375 WEARING SURFACE & 2" HMA S0.5 BINDER COURSE, TRAFFIC LEVEL 2 HMA | (E) 4" - PROCESSED AGGREGATE            |
| (B) 4" - PROCESSED AGGREGATE BASE  | (F) 4" - TOPSOIL AND TURF ESTABLISHMENT |
| (C) 10" - SUBBASE ON EARTH, 18" ON ROCK  | (G) METAL BEAM RAIL                     |
| (D) ADDITIONAL SUBBASE AS NEEDED   |   |

**ROADWAY TYPICAL SECTION**  
NOT TO SCALE

DATE: March 2025  
PROJECT NO.: 2436  
DESIGNED BY: ERN  
DRAWN BY: ERN  
CHECKED BY: GG  
APPROVED BY: JAC

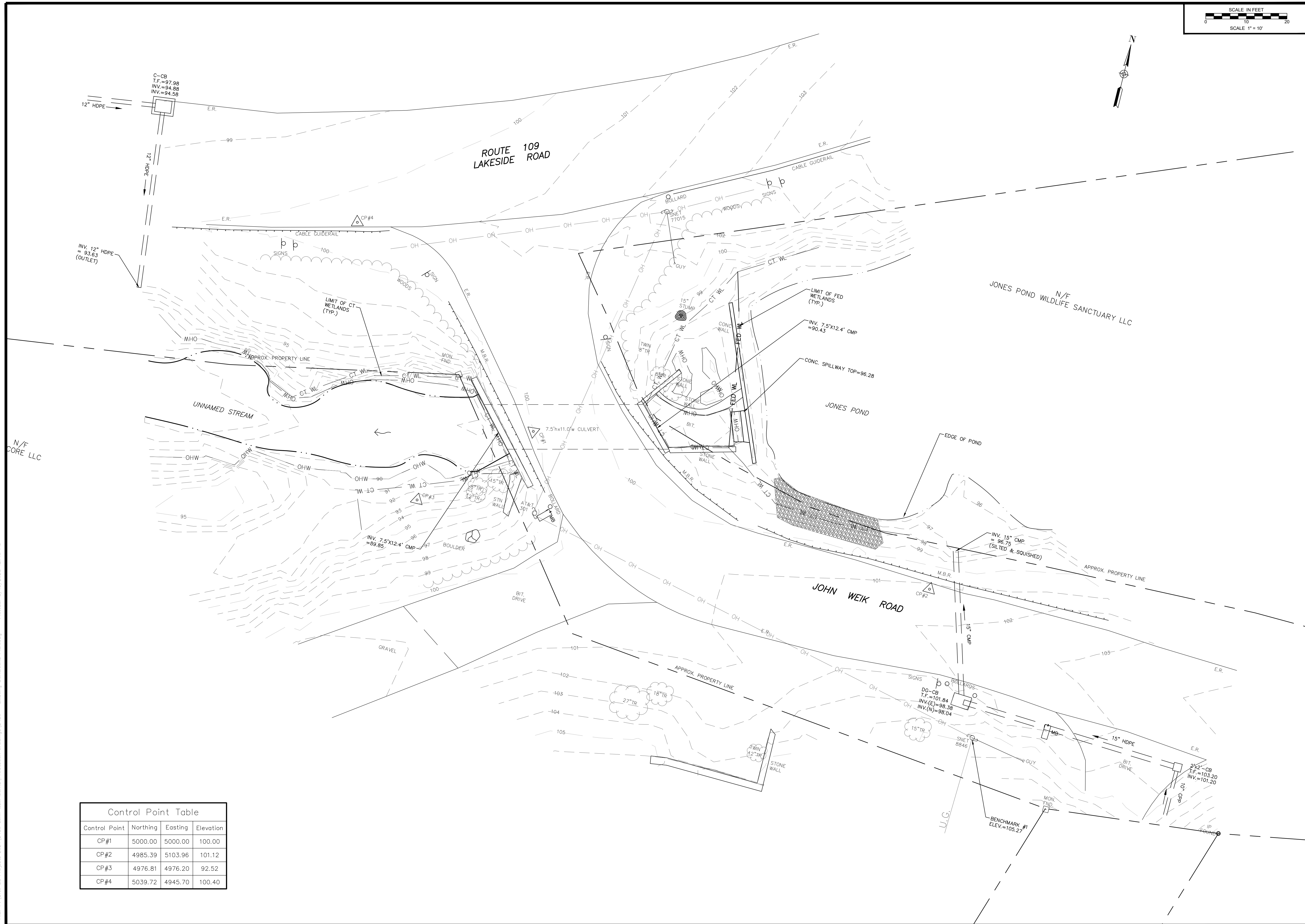
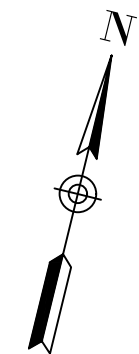
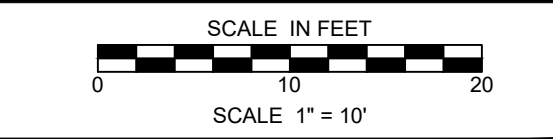
**CARDINAL ENGINEERING ASSOCIATES**  
180 BEECHER AVENUE, SUITE 100, BRIDGEVILLE, CT 06405-2988  
487 BANTAM RD | LITCHFIELD, CT 06751-6605-597-9106

REPLACEMENT OF BRIDGE NO. 086007  
JOHN WEIK ROAD OVER UNNAMED BROOK  
MORRIS, CONNECTICUT  
GENERAL NOTES & TYPICAL SECTION

GEN-01

2





Control Point Table			
Control Point	Northing	Easting	Elevation
CP#1	5000.00	5000.00	100.00
CP#2	4985.39	5103.96	101.12
CP#3	4976.81	4976.20	92.52
CP#4	5039.72	4945.70	100.40

NO.	REVISION	DATE	BY
1	LOWER PROFILE & SHORTEN ALIGNMENT, ADD ROCK WEIR	6/21/19	GG

DATE: March 2025  
 PROJECT NO.: 2436  
 DESIGNED BY: ERN  
 DRAWN BY: ERN  
 CHECKED BY: GG  
 APPROVED BY: JAC

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 ENGINEERING ASSOCIATES  
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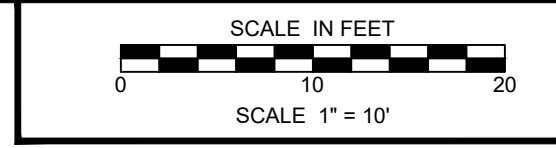
REPLACEMENT OF BRIDGE NO. 086007  
 JOHN WEIK ROAD OVER UNNAMED BROOK  
 MORRIS, CONNECTICUT  
 EXISTING CONDITIONS

Plot: D:\C:\314\_Rep\314\_2025\314\_2025\_1017\2025\_1017.dwg  
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**BEGIN PROJECT  
STA 0+45.00**

SAWCUT & MATCH EXISTING PAVEMENT  
BEGIN FULL DEPTH RECONSTRUCTION  
N 5029.15  
E 4993.77



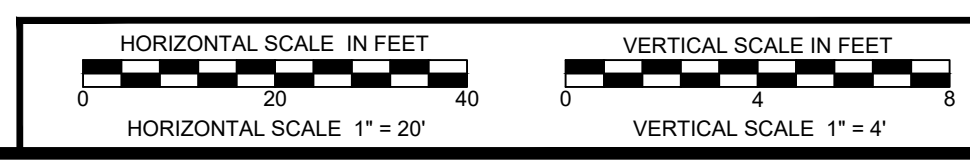
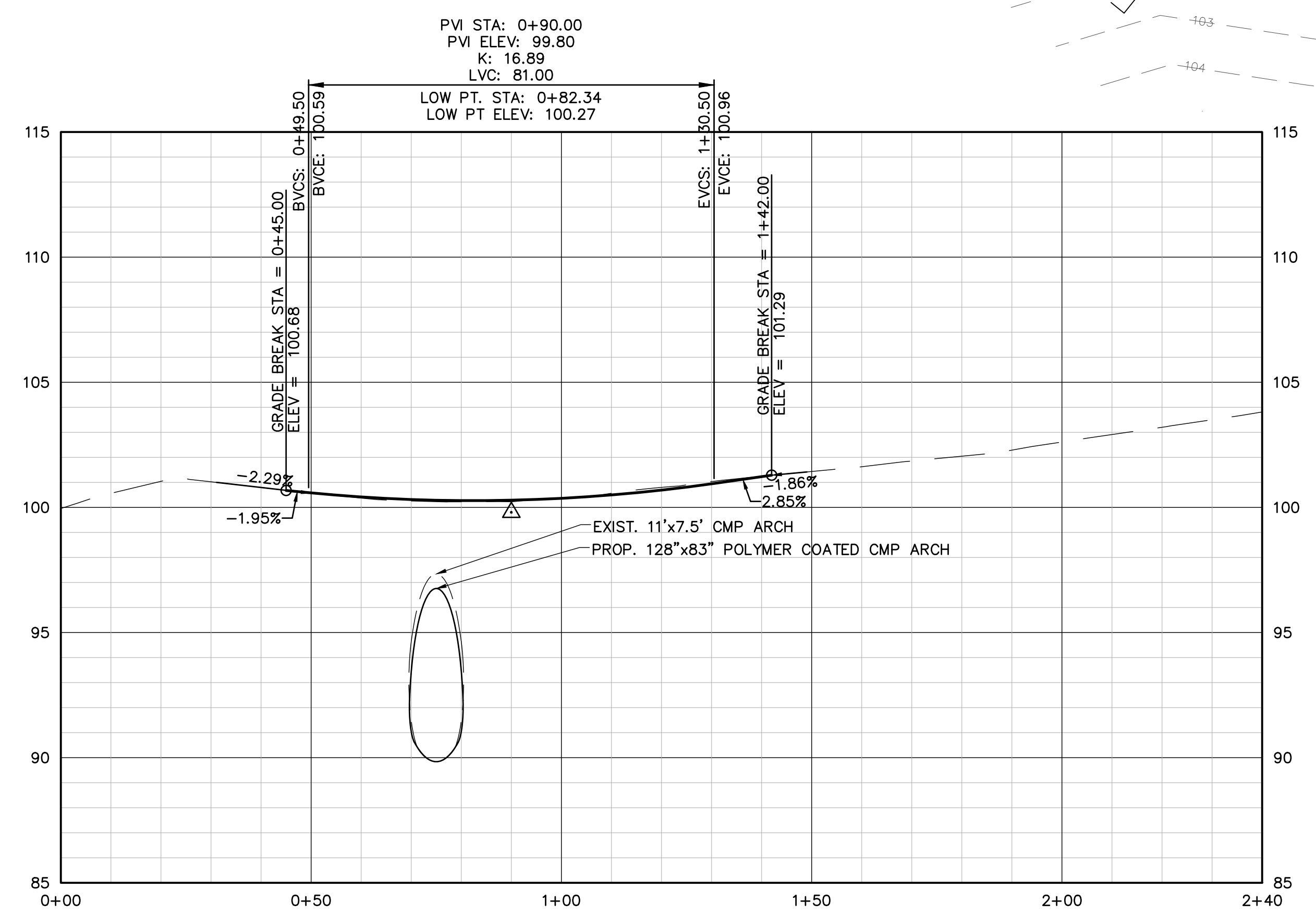
JONES POND W/LF  
N/F  
WILDLIFE SANCTUARY LLC

Curve Table: Alignments

Curve #	Radius	Length	Chord Direction	Start Point	End Point
C1	70.00	73.15	S58° 44' 56.10"E	(5002.78,5012.76)	(5062.51,4976.52)

**END PROJECT  
STA 1+42.00**

SAWCUT & MATCH EXISTING PAVEMENT  
END FULL DEPTH RECONSTRUCTION  
N 4976.40  
E 5067.64



NO.	REVISION	DATE	BY

DATE: March 2025  
PROJECT NO.: 2436  
DESIGNED BY: ERN  
DRAWN BY: ERN  
CHECKED BY: GG  
APPROVED BY: JAC

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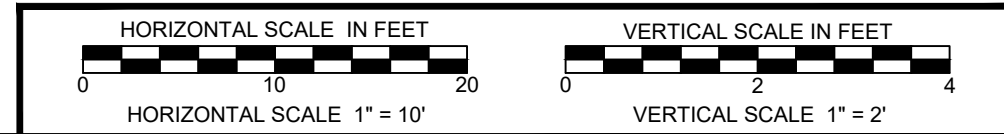


REPLACEMENT OF BRIDGE NO. 086007  
JOHN WEIK ROAD OVER UNNAMED BROOK  
MORRIS, CONNECTICUT  
ROADWAY PLAN & PROFILE

PLA-01



File: C:\GIS\14 Projects\2021\2426 - John Weik Road\Drawings\Drawings\2426 - Plan and Profile\Drawings - Profile - 11/07/2025 10:48 AM



REPLACEMENT OF BRIDGE NO. 086007  
 JOHN WEIK ROAD OVER UNNAMED BROOK  
 MORRIS, CONNECTICUT  
 CULVERT PROFILE

PRO-01

5



**CARDINAL**  
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 MERIDEN, CT 06450-1008-1019  
 487 BANTAM RD | LIC#FIELD CT 069371860-377-7106

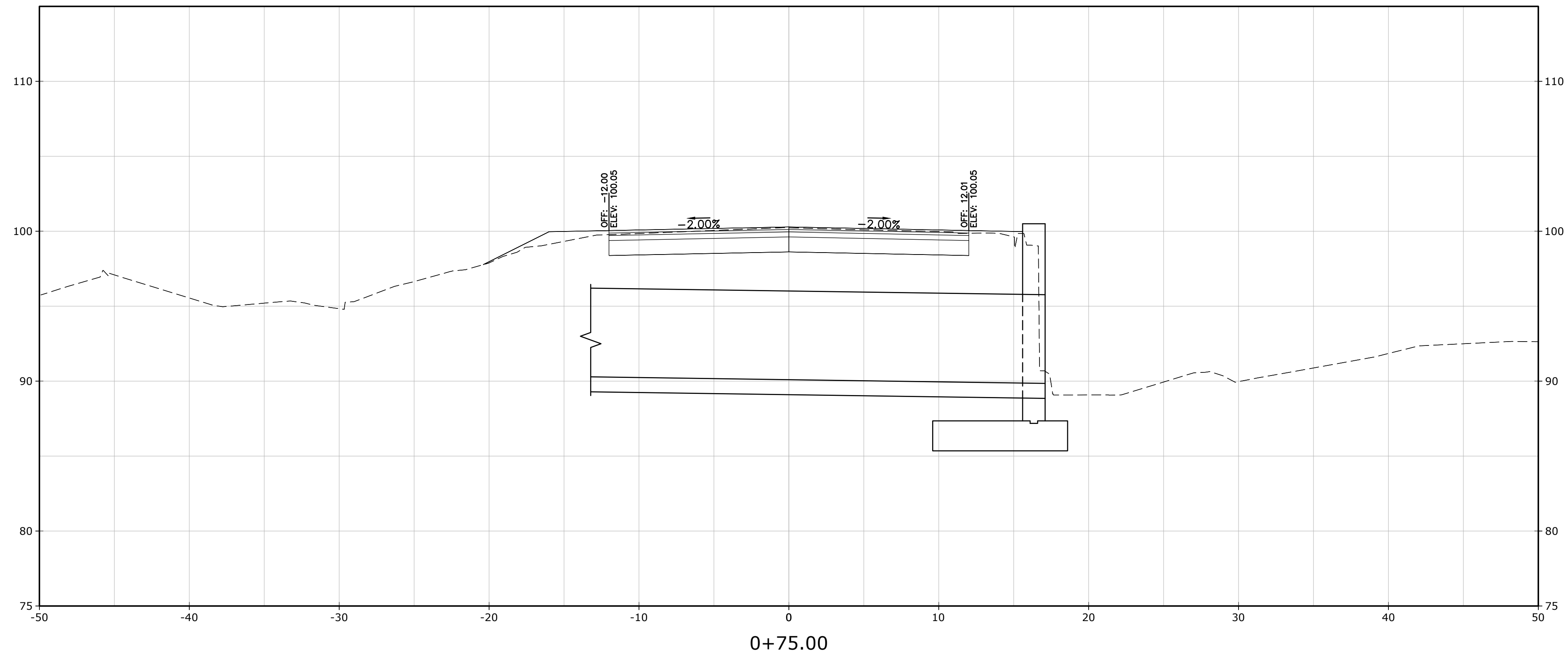
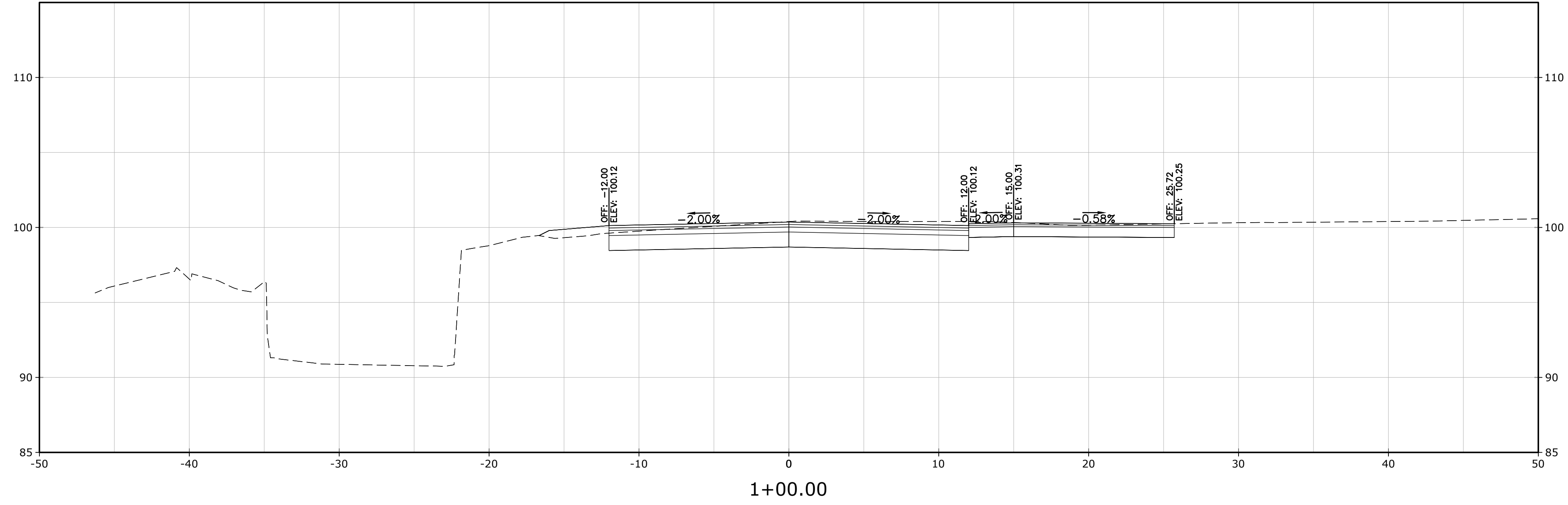
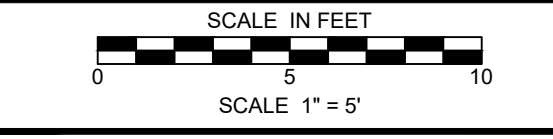
DATE: March 2025  
 PROJECT NO.: 2426  
 DESIGNED BY: ERN  
 DRAWN BY: ERN  
 CHECKED BY: GG  
 APPROVED BY: JAC

NO.	REVISION	DATE	BY









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NO.	REVISION	DATE	BY

DATE: March 2025  
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**CARDINAL**  
 ENGINEERING ASSOCIATES  
 480 RESEARCH PARKWAY  
 MERIDEN, CT 06460  
 487 BANTAM RD | LITCHFIELD, CT 06751  
 860-377-7106

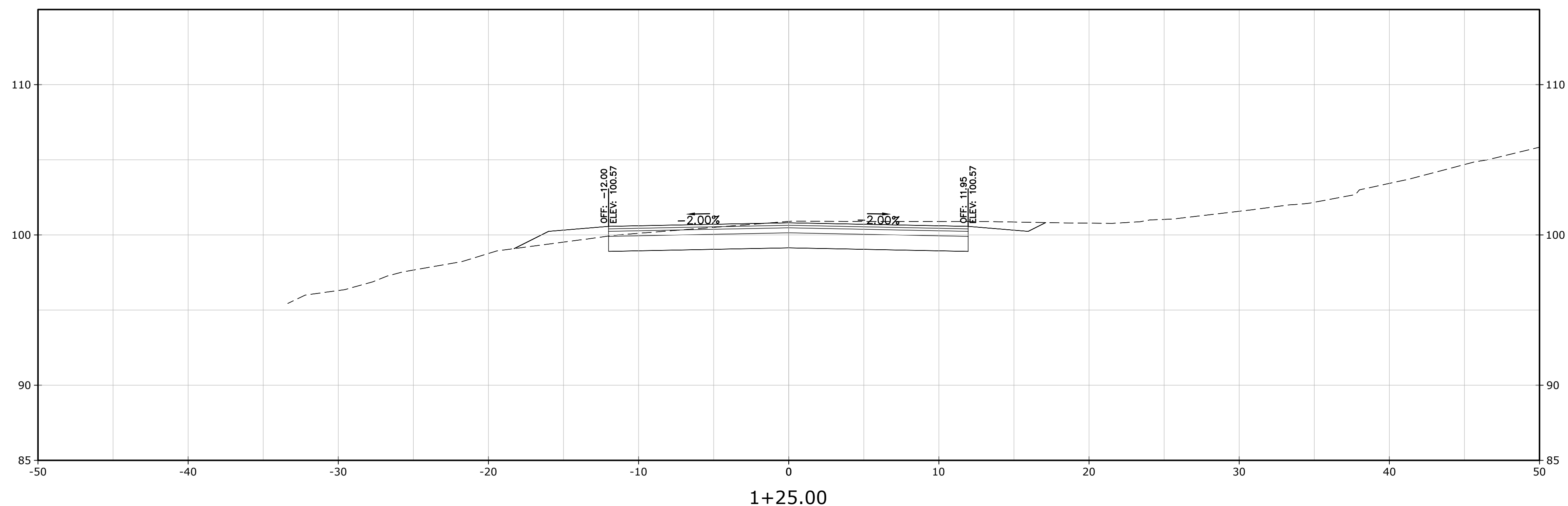
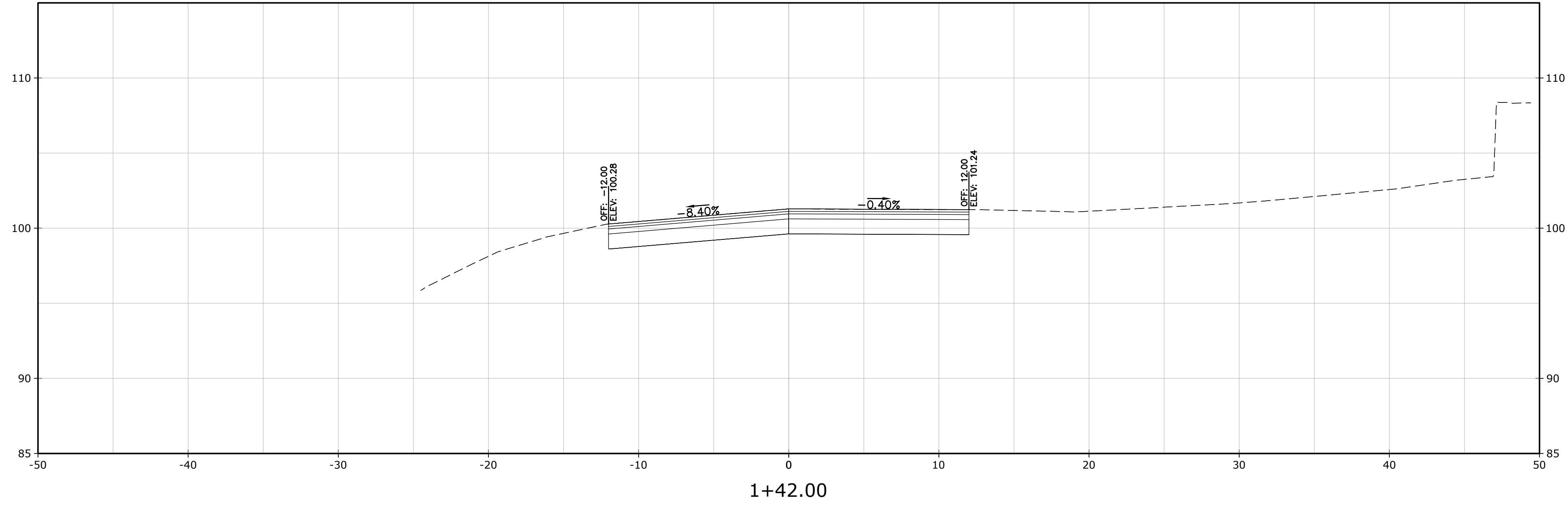
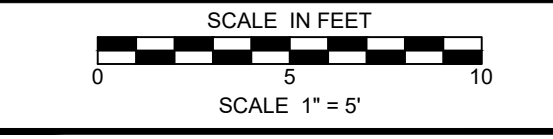


REPLACEMENT OF BRIDGE NO. 086007  
 JOHN WEIK ROAD OVER UNNAMED BROOK  
 MORRIS, CONNECTICUT  
 CROSS SECTIONS

XSC-02



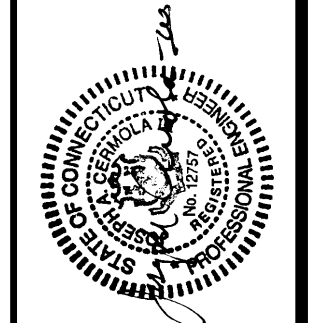
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NO.	REVISION	DATE	BY

DATE: March 2025  
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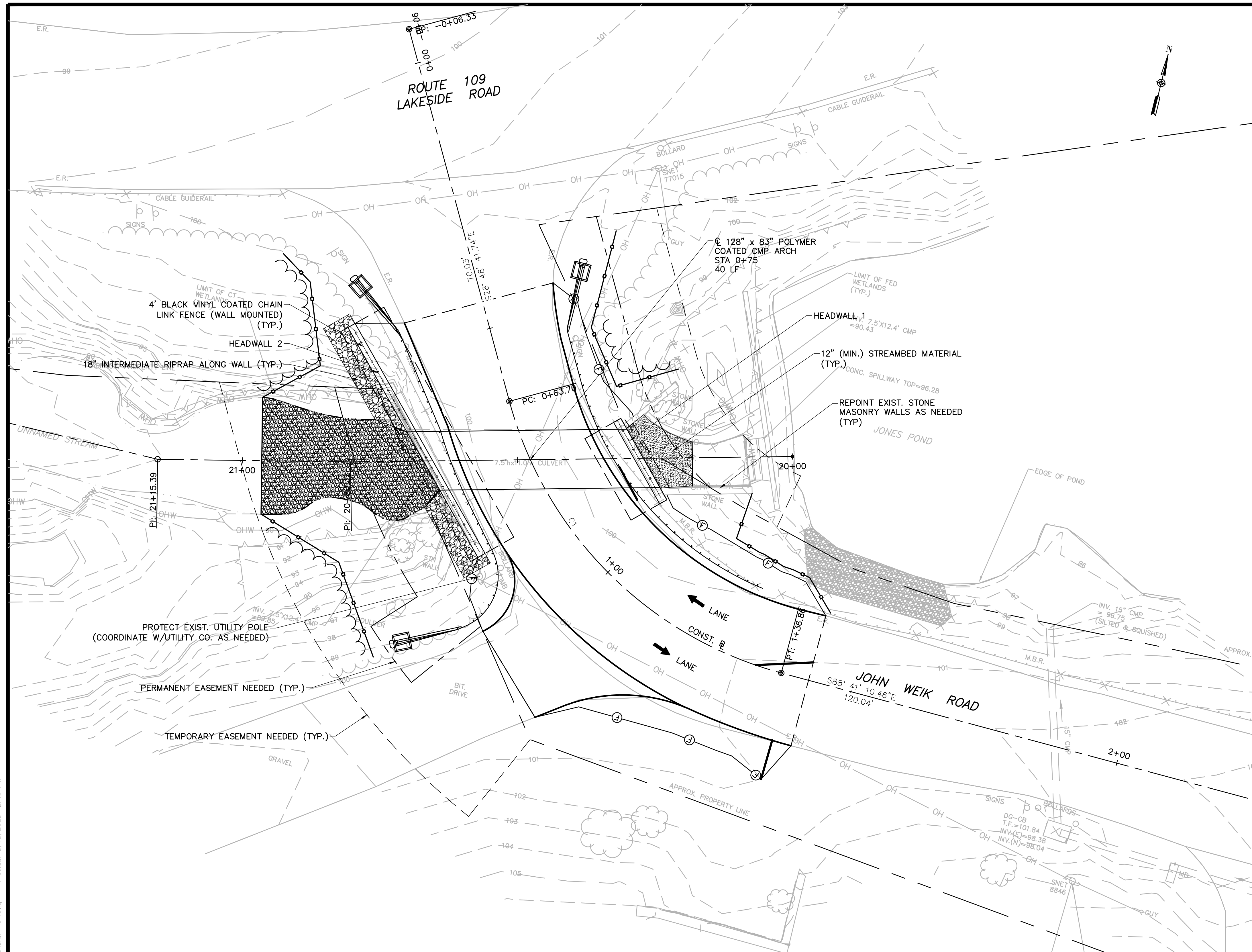
**CARDINAL**  
 ENGINEERING ASSOCIATES  
 480 RESEARCH PARKWAY MERIDEN, CT 06460 203-268-4169  
 457 BANTAM RD | LITCHFIELD, CT 06751 860-377-7106



REPLACEMENT OF BRIDGE NO. 086007  
 JOHN WEIK ROAD OVER UNNAMED BROOK  
 MORRIS, CONNECTICUT  
 CROSS SECTIONS

XSC-03





PLAN  
SCALE: 1"=10'

**GENERAL NOTES:**

**SPECIFICATIONS:** CONNECTICUT DEPARTMENT OF TRANSPORTATION FORM 819 (2024), SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

**DESIGN SPECIFICATIONS:** AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS EIGHTH EDITION, INCLUDING 2018 INTERIM REVISIONS AS SUPPLEMENTED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL (2003 EDITION), UP TO AND INCLUDING 2019 REVISIONS.

**MATERIAL STRENGTHS:**

**CONCRETE:**  
 CLASS PCC03340  $f'_c = 3,000$  PSI  
 CLASS PCC04462  $f'_c = 4,000$  PSI  
 CLASS PCC05562  $f'_c = 5,000$  PSI  
 THE CONCRETE STRENGTH,  $f'_c$ , USED IN DESIGN OF THE CONCRETE COMPONENTS IS NOTED ABOVE. THE COMPRESSIVE STRENGTH OF THE CONCRETE IN THE CONSTRUCTED COMPONENTS SHALL CONFORM TO THE REQUIREMENTS OF 6.01 - CONCRETE FOR STRUCTURES, AND M.03 - PORTLAND CEMENT CONCRETE.

**REINFORCEMENT (ASTM A615 GRADE 60):**  $F_y = 60$  KSI

**LIVE LOAD:** HL-93, LEGAL AND PERMIT VEHICLES

**FUTURE PAVING ALLOWANCE:** NONE

**DIMENSIONS:** WHEN DECIMAL DIMENSIONS ARE GIVEN TO LESS THAN THREE DECIMAL PLACES, THE OMITTED DIGITS SHALL BE ASSUMED TO BE ZEROS.

**EXISTING DIMENSIONS:** DIMENSIONS AND LOCATIONS OF THE EXISTING STRUCTURE SHOWN ON THESE PLANS ARE FOR GENERAL REFERENCE ONLY. THE CONTRACTOR SHALL TAKE ALL FIELD MEASUREMENTS NECESSARY TO ASSURE PROPER FIT OF THE FINISHED WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THEIR ACCURACY. WHEN SHOP DRAWINGS BASED ON FIELD MEASUREMENTS ARE SUBMITTED FOR APPROVAL, THE FIELD MEASUREMENTS SHALL ALSO BE SUBMITTED FOR REFERENCE BY THE REVIEWER.

**UTILITIES:** THE FOLLOWING UTILITIES ARE LOCATED WITHIN THE PROJECT LIMITS AND SHALL BE PROTECTED DURING CONSTRUCTION:

- ELECTRIC DISTRIBUTION      EVERSOURCE ENERGY
- COMMUNICATION              FRONTIER COMMUNICATIONS OF CONNECTICUT
- CABLE TV                        OPTIMUM

CONTRACTOR SHALL COORDINATE ALL WORK RELATED TO UTILITY RELOCATION WITH THE RESPECTIVE UTILITY COMPANIES.

**JOINT SEAL:** SEE SPECIAL PROVISIONS.

**EXPOSED EDGES:** EXPOSED EDGES OF CONCRETE SHALL BE BEVELED 1" X 1" UNLESS DIMENSIONED OTHERWISE.

**CONCRETE COVER:** ALL REINFORCEMENT SHALL HAVE TWO INCHES OF COVER UNLESS DIMENSIONED OTHERWISE.

**REINFORCEMENT:** ALL REINFORCEMENT SHALL BE GALVANIZED AFTER FABRICATION UNLESS NOTED OTHERWISE. ALL REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM A767, CLASS 1, INCLUDING SUPPLEMENTAL REQUIREMENTS. THE COST OF FURNISHING AND PLACING THIS REINFORCEMENT SHALL BE INCLUDED IN THE ITEM "DEFORMED STEEL BARS - GALVANIZED."

**CONSTRUCTION JOINTS:** CONSTRUCTION JOINTS, OTHER THAN THOSE SHOWN ON THE PLANS WILL NOT BE PERMITTED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.

CONCRETE COMPONENTS		
ITEM NAME	COMPONENT	MIX CLASSIFICATION
FOOTING CONCRETE	HEADWALL FOOTINGS	PCC03340
ABUTMENT AND WALL CONCRETE	HEADWALL STEMS	PCC03340

HYDRAULIC DATA	
DRAINAGE AREA	1.39 SQ. MILES
DESIGN FREQUENCY	100 YEARS
DESIGN DISCHARGE	470 C.F.S.
*AVERAGE DAILY FLOW ELEVATION (UPSTREAM)	95.18
*AVERAGE DAILY FLOW ELEVATION (DOWNSTREAM)	90.00
UPSTREAM DESIGN WATER SURFACE ELEVATION	98.50
DOWNSTREAM DESIGN WATER SURFACE ELEVATION	93.94
MAXIMUM SCOUR ELEVATION	NA
FREQUENCY	NA
DISCHARGE	NA
WORST CASE SCOUR SUB-STRUCTURE UNIT	NA

\*OBSERVED AUGUST 2022

NO.	REVISION	DATE	BY

DATE: March 2025  
 PROJECT NO.: 2436  
 DESIGNED BY: ERN  
 DRAWN BY: ERN  
 CHECKED BY: GG  
 APPROVED BY: JAC

**CARDINAL**  
 ENGINEERING ASSOCIATES  
 480 RESEARCHWAY/NEWBURY CT 06460/938-988-4869  
 487 BARTON RD | LITCHFIELD, CT 06759/860-597-9106



REPLACEMENT OF BRIDGE NO. 086007  
 JOHN WEIK ROAD OVER UNNAMED BROOK  
 MORRIS, CONNECTICUT  
 CULVERT GENERAL PLAN

STR-01

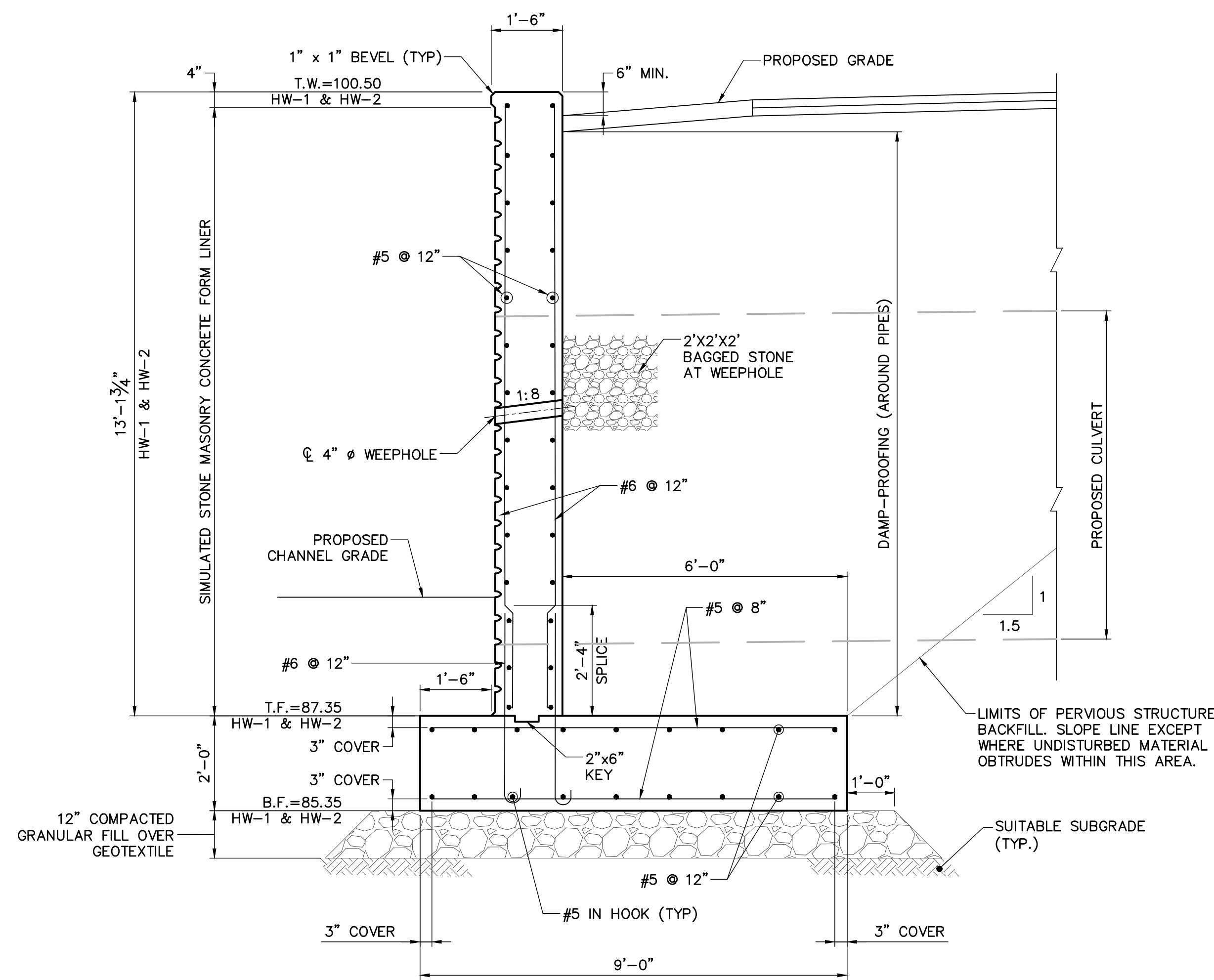




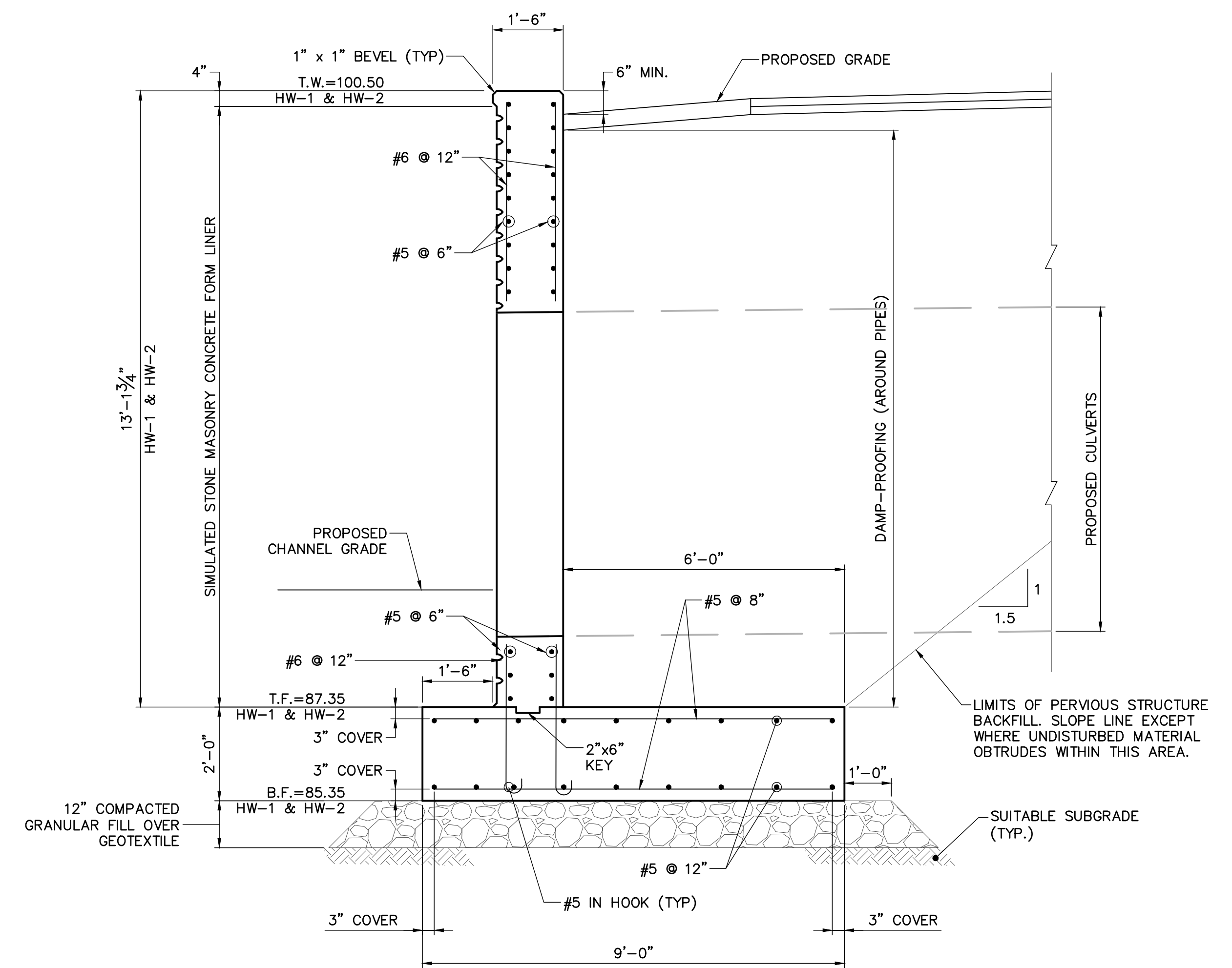






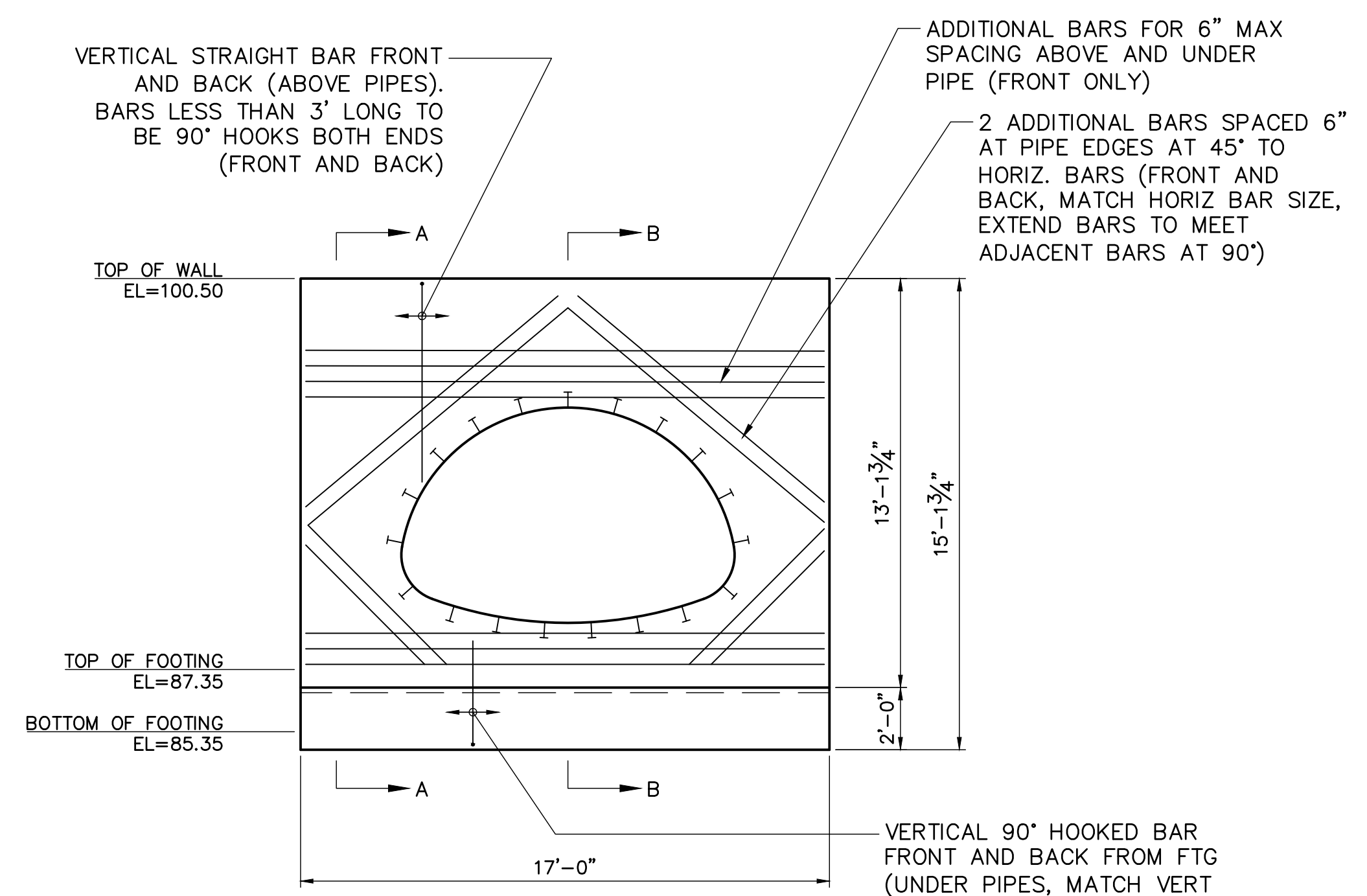


**HEADWALL SECTION A-A**  
(HW-2 SHOWN - HW-1 SIMILAR)  
SCALE: 1/2"=1'-0"

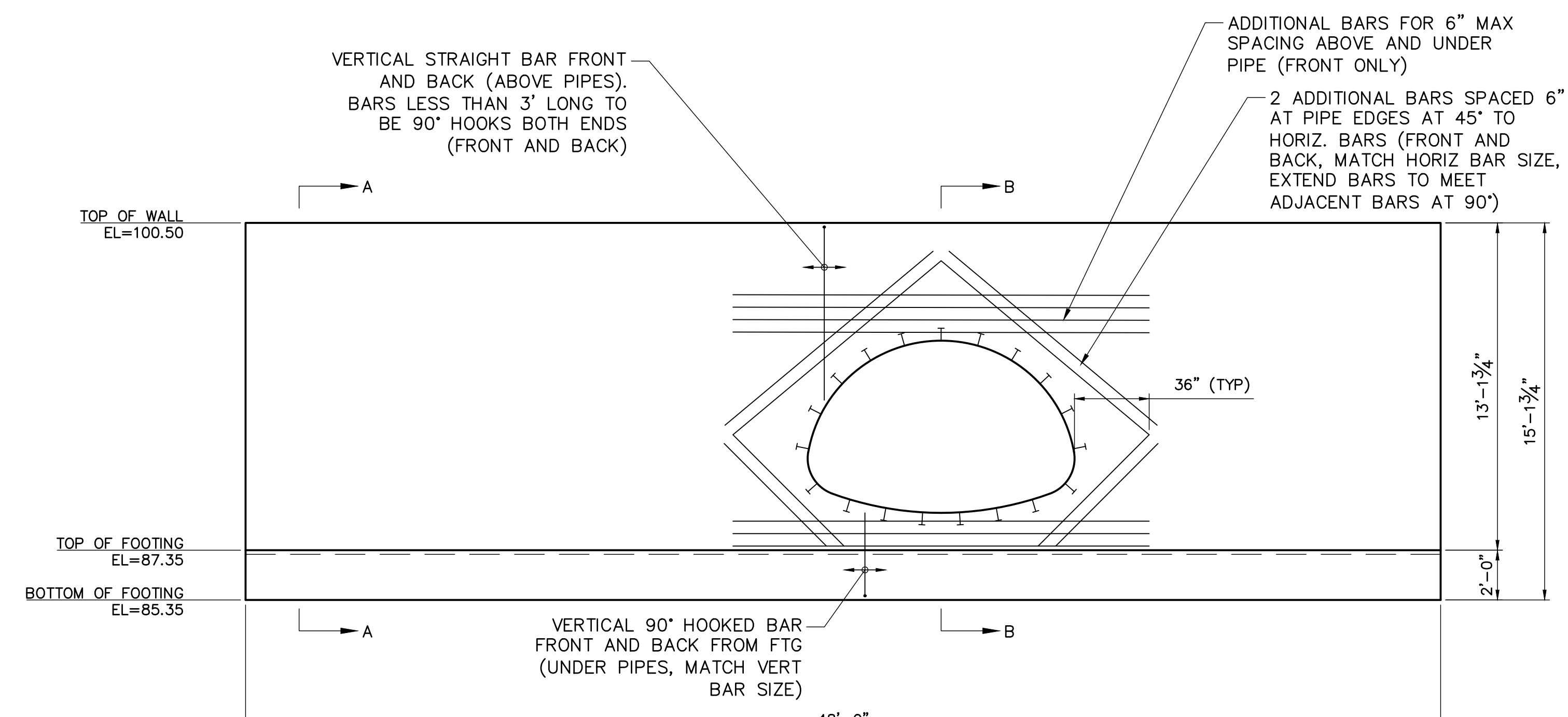


**HEADWALL SECTION B-B**  
(HW-2 SHOWN - HW-1 SIMILAR)  
SCALE: 1/2"=1'-0"

- NOTE:
1. ALL REINFORCEMENT TO HAVE 2" COVER UNLESS OTHERWISE NOTED.
  2. CHAIN LINK FENCE NOT SHOWN FOR CLARITY. SEE DETAIL THIS SHEET
  3. MAXIMUM DESIGN FOUNDATION PRESSURE UNDER CAST-IN-PLACE HEADWALL FOOTINGS IS:  
3.2 KSF (STRENGTH I)  
2.2 KSF (SERVICE I)
  4. MAXIMUM ALLOWABLE BEARING PRESSURE = 3 TONS PER SQ.FT.
  5. MAXIMUM ALLOWABLE BEARING PRESSURE IS BASED ON OVER EXCAVATED AND MODIFIED SUBGRADE PER THE CONTRACT REQUIREMENTS.



**HEADWALL 1 REINFORCEMENT DETAILS**  
SCALE: 1/4"=1'-0"



**HEADWALL 2 REINFORCEMENT DETAILS**  
SCALE: 1/4"=1'-0"

NO.	REVISION	DATE	BY

DATE: March 2025  
PROJECT NO.: 2436  
DESIGNED BY: ERN  
DRAWN BY: ERN  
CHECKED BY: GG  
APPROVED BY: JAC

**CARDINAL**  
ENGINEERING ASSOCIATES  
480 BEECHCLIFF ROAD, SUITE 100  
LITCHFIELD, CT 06409-3983



REPLACEMENT OF BRIDGE NO. 086007  
JOHN WEIK ROAD OVER UNNAMED BROOK  
MORRIS, CONNECTICUT  
CULVERT MISCELLANEOUS DETAILS





CLIENT:		General Borings, Inc.										SHEET 1 OF 1		
Cardinal Engineering Associates		P. O. BOX 7135 PROSPECT, CT 06712												
FOREMAN/DRILLER:		PROJECT NAME: John Weik Road over brook										SOIL ENGINEER		
Thomas McGovern		LOCATION: Morris, CT										DESIGN ENGINEER		
INSPECTOR:		GBI JOB NO. 214-22												
Surface Elevation:														
Date Started: 12/9/22		TYPE		S Auger		Casing		Sampler		Core Bar		Hole No. B-1		
Date Finished: 12/9/22		H Auger		HA		S. S.		Line & Station		Offset L R				
Groundwater Observations		Size I. D.		3-1/4"		1-3/8"		140 LBS.		Bit		N Coordinate		
AT		AFTER		0.0 HRS		Hammer		30"		E. Coordinate				
D E P T H	Casing blows per foot	SAMPLE				BLOWS PER 6 INCHES ON SAMPLER				STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)			
		DEPTH IN FEET FROM - TO	NO.	PEN IN	REC. IN	TYPE	0-6	6-12	12-18			18-24		
		1.0-3.0	1	24	12	SS	12	12	10	6	7	8" Blacktop		
5		3.0-4.4	2	17	7	SS	12	37	50/5	4.5'	1) Medium-Brown fine-medium SAND, little fine-medium gravel, little silt, moist. 2) Very dense-Brown silty fine SAND, trace fine-coarse gravel, trace medium sand, moist. Auger refused at 4.5' Cored 3 boulders to 7.5' END OF BORING 7.5'			
10											BOULDERS 7.5' EOB			
15														
20														
25														
30														
35														
40														
From Ground Surface to		Feet Used		in. Casing Then		in. Casing For		Feet						
Feet in Earth		7.5		Feet in Rock		0		No. of Samples		2		Hole No. B-1		
SAMPLE TYPE CODING:		SS = DRIVEN		C = CORE		A = AUGER		U = UNDISTURBED PISTON						
PROPORTIONS USED:		TRACE = 1-10%		LITTLE = 10-20%		SOME = 20-35%		AND = 35-50%						

CLIENT:		General Borings, Inc.										SHEET 1 OF 1	
Cardinal Engineering Associates		P. O. BOX 7135 PROSPECT, CT 06712											
FOREMAN/DRILLER:		PROJECT NAME: John Weik Road over brook										SOIL ENGINEER	
Thomas McGovern		LOCATION: Morris, CT										DESIGN ENGINEER	
INSPECTOR:		GBI JOB NO. 214-22											
Surface Elevation:													
Date Started: 12/9/22		TYPE		S Auger		Casing		Sampler		Core Bar		Hole No. B-2	
Date Finished: 12/9/22		H Auger		HA		S. S.		Line & Station		Offset L R			
Groundwater Observations		Size I. D.		3-1/4"		1-3/8"		140 LBS.		Bit		N Coordinate	
AT		AFTER		0.0 HRS		Hammer		30"		E. Coordinate			
D E P T H	Casing blows per foot	SAMPLE				BLOWS PER 6 INCHES ON SAMPLER				STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)		
		DEPTH IN FEET FROM - TO	NO.	PEN IN	REC. IN	TYPE	0-6	6-12	12-18			18-24	
		1.0-3.0	1	24	18	SS	6	9	9	10	9'	6" Blacktop	
5		3.0-4.6	2	19	12	SS	11	10	56	50/1	FILL	1) Medium-Brown fine SAND, little silt, trace medium sand, trace fine gravel, trace roots, moist. 2) Very dense-Same as above 3) Very dense-Brown fine-medium SAND, trace silt, little fine-coarse gravel, trace boulder fragments, moist. Auger refused at 6.0' END OF BORING 6.0'	
10		5.0-5.9	3	11	4	SS	48	50/5			6.0' EOB		
15													
20													
25													
30													
35													
40													
From Ground Surface to		Feet Used		in. Casing Then		in. Casing For		Feet					
Feet in Earth		6		Feet in Rock		0		No. of Samples		3		Hole No. B-2	
SAMPLE TYPE CODING:		SS = DRIVEN		C = CORE		A = AUGER		U = UNDISTURBED PISTON					
PROPORTIONS USED:		TRACE = 1-10%		LITTLE = 10-20%		SOME = 20-35%		AND = 35-50%					

CLIENT:		General Borings, Inc.										SHEET 1 OF 1	
Cardinal Engineering Associates		P. O. BOX 7135 PROSPECT, CT 06712											
FOREMAN/DRILLER:		PROJECT NAME: John Weik Road over brook										SOIL ENGINEER	
Thomas McGovern		LOCATION: Morris, CT										DESIGN ENGINEER	
INSPECTOR:		GBI JOB NO. 214-22											
Surface Elevation:													
Date Started: 12/9/22		TYPE		S Auger		Casing		Sampler		Core Bar		Hole No. B-3	
Date Finished: 12/9/22		H Auger		HA		S. S.		Line & Station		Offset L R			
Groundwater Observations		Size I. D.		3-1/4"		1-3/8"		140 LBS.		Bit		N Coordinate	
AT		AFTER		0.0 HRS		Hammer		30"		E. Coordinate			
D E P T H	Casing blows per foot	SAMPLE				BLOWS PER 6 INCHES ON SAMPLER				STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)		
		DEPTH IN FEET FROM - TO	NO.	PEN IN	REC. IN	TYPE	0-6	6-12	12-18			18-24	
		1.0-3.0	1	24	10	SS	11	16	10	13	9'	6" Blacktop	
5		3.0-5.0	2	24	12	SS	12	13	13	16	FILL	1) Medium-Brown fine-medium SAND, little silt, fine-coarse gravel. 2) Medium-Same as above 3) Medium-Same as above 4) No recovery	
10		5.0-7.0	3	24	2	SS	9	8	8	3			
		7.0-9.0	4	24	0	SS	2	2	2	7			
15		10.0-12.0	5	24	20	SS	14	26	23	18	FILL	5) Very dense-Brown fine-coarse SAND, little silt, little fine-coarse gravel. BOULDERS	
		15.0-15.8	6	10	2	SS	70	50/4			6) Very dense-Brown fine-coarse SAND and coarse-fine GRAVEL, trace silt.		
20		20.0-21.8	7	21	5	SS	13	31	35	50/3	SAND GRAVEL	7) Very dense-Same as above, very wet sample, boulder fragment stuck in tip.	
25		25.0-27.0	8	24	14	SS	14	22	33	32	TILL	8) Very dense-Gray-brown fine SAND, some silt, little fine-coarse gravel.	
30											29.0' EOB	Tight drilling to 29.0' Auger refused at 29.0' END OF BORING 29.0'	
35													
40													
From Ground Surface to		Feet Used		in. Casing Then		in. Casing For		Feet					
Feet in Earth		29		Feet in Rock		0		No. of Samples		8		Hole No. B-3	
SAMPLE TYPE CODING:		SS = DRIVEN		C = CORE		A = AUGER		U = UNDISTURBED PISTON					
PROPORTIONS USED:		TRACE = 1-10%		LITTLE = 10-20%		SOME = 20-35%		AND = 35-50%					

CLIENT:		General Borings, Inc.										SHEET 1 OF 1	
Cardinal Engineering Associates		P. O. BOX 7135 PROSPECT, CT 06712											
FOREMAN/DRILLER:		PROJECT NAME: John Weik Road over brook										SOIL ENGINEER	
Thomas McGovern		LOCATION: Morris, CT										DESIGN ENGINEER	
INSPECTOR:		GBI JOB NO. 214-22											
Surface Elevation:													
Date Started: 12/9/22		TYPE		S Auger		Casing		Sampler		Core Bar		Hole No. B-4	
Date Finished: 12/9/22		H Auger		HA		S. S.		Line & Station		Offset L R			
Groundwater Observations		Size I. D.		3-1/4"		1-3/8"		140 LBS.		Bit		N Coordinate	
AT		AFTER		0.0 HRS		Hammer		30"		E. Coordinate			
D E P T H	Casing blows per foot	SAMPLE				BLOWS PER 6 INCHES ON SAMPLER				STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)		
		DEPTH IN FEET FROM - TO	NO.	PEN IN	REC. IN	TYPE	0-6	6-12	12-18			18-24	
		1.0-3.0	1	24	20	SS	9	9	9	10	9'	6" Asphalt	
5		3.0-5.0	2	24	18	SS	10	11	9	12	FILL	1) Medium-Brown fine-coarse SAND, little fine-coarse gravel, trace silt. 2) Medium-Brown fine-medium SAND, little silt, trace fine-coarse gravel. 3) Medium-Same as above, trace roots, some silt. Boulders to 10.0'	
		5.0-7.0	3	24	16	SS	5	7	6	12			
10		10.0-12.0	4	24	5	SS	40	38	23	19	FILL	4) Very dense-Brown fine-coarse SAND, little fine-coarse gravel, silt, trace roots, weathered boulder in tip.	
15		15.0-16.3	5	16	16	SS	25	36	50/4		16.5' EOB	5) Very dense-Weathered ROCK (boulder), little brown fine-coarse sand, trace coarse-fine gravel, little silt. Auger refused at 16.5' END OF BORING 16.5'	
20													
25													
30													
35													
40													
From Ground Surface to		Feet Used		in. Casing Then		in. Casing For		Feet					
Feet in Earth		16.5		Feet in Rock		0		No. of Samples		5		Hole No. B-4	
SAMPLE TYPE CODING:		SS = DRIVEN		C = CORE		A = AUGER		U = UNDISTURBED PISTON					
PROPORTIONS USED:		TRACE = 1-10%		LITTLE = 10-20%		SOME = 20-35%		AND = 35-50%					

DATE: March 2025  
PROJECT NO.: 2436  
DESIGNED BY: ERN  
DRAWN BY: ERN  
CHECKED BY: GG  
APPROVED BY: JAC

**CARDINAL**  
ENGINEERING ASSOCIATES  
480 RESEARCHWAY/MEYDEN CT 06460/908-988-4816  
487 BANTAM RD | LITCHFIELD, CT 06751/860-397-9106

REPLACEMENT OF BRIDGE NO. 086007  
JOHN WEIK ROAD OVER UNNAMED BROOK  
MORRIS, CONNECTICUT  
BORING LOGS

NO. \_\_\_\_\_  
REVISION \_\_\_\_\_  
DATE \_\_\_\_\_

BOR-01

14







**RESPONSIBILITY AND AUTHORITY**

THE CITY/TOWN, OR ITS AUTHORIZED REPRESENTATIVE, HAS THE RESPONSIBILITY AND AUTHORITY FOR THE IMPLEMENTATION, OPERATION, MONITORING, AND MAINTENANCE OF THE SEDIMENT AND EROSION CONTROL MEASURES.

**GENERAL**

- 1. EROSION AND SEDIMENT CONTROL MEASURES WILL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY/TOWN STANDARDS, THE CONNECTICUT DOT SPECIFICATIONS FOR ROADS, BRIDGES, FACILITIES AND INCIDENTAL CONSTRUCTION, FORM 818 (2020) JANUARY 2023 SUPPLEMENT, 2002 CONNECTICUT GUIDELINES FOR EROSION AND SEDIMENT CONTROL, DEP BULLETIN 34, AND THE PROJECT SPECIFICATIONS.
2. THESE GUIDELINES SHALL APPLY TO ALL WORK CONSISTING OF ANY AND ALL TEMPORARY AND/OR PERMANENT MEASURES TO CONTROL WATER POLLUTION AND SOIL EROSION, AS MAY BE REQUIRED, DURING THE CONSTRUCTION OF THE PROJECT.
3. IN GENERAL, ALL CONSTRUCTION ACTIVITIES SHALL PROCEED IN SUCH A MANNER SO AS NOT TO POLLUTE ANY WETLANDS, WATERCOURSE, WATERBODY, AND CONDUIT CARRYING WATER, ETC. THE CONTRACTOR SHALL LIMIT, INsofar AS POSSIBLE, THE SURFACE AREA OF EARTH MATERIALS EXPOSED BY CONSTRUCTION METHODS AND IMMEDIATELY PROVIDE PERMANENT AND TEMPORARY POLLUTION CONTROL MEASURES TO PREVENT CONTAMINATION OF ADJACENT WETLANDS, WATERCOURSES, AND WATERBODIES, AND TO PREVENT, INsofar AS POSSIBLE, EROSION ON THE SITE.
4. ALL EROSION CONTROL MATTING SHALL BE AS SPECIFIED ON THE PLANS OR AN APPROVED EQUAL. ALL EROSION CONTROL MATTING SHALL BE LISTED ON THE QUALIFIED PRODUCT LIST FOR CONNECTICUT DEPARTMENT OF TRANSPORTATION PROJECTS (REPORT NUMBER 211-12-04-4), DATED APRIL 2004 OR LATEST REVISION. THIS REPORT IS POSTED ON THE CONNECTICUT DEPARTMENT OF TRANSPORTATION WEB SITE. INSTALLATION SHALL CONFORM TO CONN DOT FORM 818, SECTION 7.55, GEOTEXTILE.
5. THE EROSION CONTROL PLAN PROPOSES EROSION CONTROL MEASURES TO HELP CONTROL ACCELERATED EROSION AND SEDIMENTATION AND THE DANGER FROM STORM WATER RUNOFF AT THE SITE. THE RUNOFF SHALL BE CONTROLLED BY THE INTERCEPTION, DIVERSION AND SAFE DISPOSAL OF PRECIPITATION. RUNOFF SHALL ALSO BE CONTROLLED BY STAGING CONSTRUCTION ACTIVITY AND PRESERVING NATURAL VEGETATION WHENEVER POSSIBLE.
6. EXISTING VEGETATION SHALL BE PROTECTED AND ONLY THAT CLEARING AND GRUBBING ABSOLUTELY NECESSARY FOR THE PROPOSED CONSTRUCTION SHALL BE PERFORMED. ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND CONTOUR UNLESS OTHERWISE INDICATED ON THE PLANS. THE CONTRACTOR SHALL TAKE SPECIAL CARE WITH HIS CONSTRUCTION METHODS AND SHALL COMPLY WITH THE FOLLOWING GUIDELINES:
7. ALL AREAS SHALL BE PROTECTED FROM SEDIMENTATION DURING AND AFTER CONSTRUCTION, PARTICULARLY THE STORAGE OF EXCAVATED OR STOCKPILED MATERIAL. THE CONTRACTOR SHALL CAREFULLY STRIP ALL TOPSOIL, LOAM OR ORGANIC MATTER PRIOR TO TRENCHING OR OTHER OPERATIONS AND SHALL STORE THEM SEPARATELY FROM ALL OTHER MATERIALS DURING EXCAVATION. EACH STOCKPILE MUST BE ADEQUATELY RINGED WITH SEDIMENT CONTROL MATERIAL (I.E. HAY BALES AND/OR GEOTEXTILE FENCE)
8. THE EXISTING NATURAL DRAINAGE PATTERNS AND VEGETATIVE COVER SHALL BE PRESERVED TO THE MAXIMUM POSSIBLE EXTENT.
9. CONSTRUCTION EQUIPMENT SHALL BE A TYPE THAT DOES NOT DAMAGE ADJACENT AREAS AND MINIMIZES THE NEED FOR AND SIZE OF ACCESS ROADWAYS.
10. CONSTRUCTION SHALL BE PERFORMED IN SUCH A MANNER SO AS TO KEEP LAND GRADING AND DISTURBANCES TO A MINIMUM.
11. WATERCOURSE ELEVATIONS WITHIN THE CONSTRUCTION SITE SHALL BE RESTORED. CHANNELS SHALL BE CLEANED AND CLEARED OF SEDIMENT AND DEBRIS.
12. EXCESS EXCAVATED MATERIAL AND OTHER DEBRIS SHALL NOT BE STORED OR DISPOSED OF WITHIN THE ADJACENT WATERCOURSES OR WETLAND AREAS.
13. ANY CONSTRUCTION ROADS BUILT DURING CONSTRUCTION SHALL BE REMOVED AND ALL GRADE ELEVATIONS SHALL BE RESTORED TO ORIGINAL CONDITION.
14. DEBRIS AND OTHER WASTE RESULTING FROM EQUIPMENT MAINTENANCE AND CONSTRUCTION SHALL NOT BE DISCARDED ON SITE.

**LAND GRADING**

**GENERAL:**

THE RESHAPING OF THE GROUND SURFACE BY EXCAVATION AND FILLING OR A COMBINATION OF BOTH, TO OBTAIN PLANNED GRADES, SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING CRITERIA:

- A. THE CUT FACE OF EARTH EXCAVATION SHALL NOT BE STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2:1).
B. THE PERMANENT EXPOSED FACES OF FILLS SHALL NOT BE STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2:1).
C. THE CUT FACE OF ROCK EXCAVATION SHALL NOT BE STEEPER THAN ONE HORIZONTAL TO FOUR VERTICAL (1:4).
D. PROVISION SHOULD BE MADE TO CONDUCT SURFACE WATER SAFELY TO STORM DRAINS TO PREVENT SURFACE RUNOFF FROM DAMAGING CUT FACES AND FILL SLOPES.
E. EXCAVATIONS SHOULD NOT BE MADE SO CLOSE TO PROPERTY LINES AS TO ENDANGER ADJOINING PROPERTY WITHOUT PROTECTING SUCH PROPERTY FROM EROSION, SLIDING, SETTILING, OR CRACKING.
F. NO FILL SHOULD BE PLACED WHERE IT WILL SLIDE OR WASH UPON THE PREMISES OF ANOTHER OWNER OR UPON ADJACENT WETLANDS, WATERCOURSES, OR WATERBODIES.
G. PRIOR TO ANY REGRADING, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE PLACED AT THE ENTRANCE TO THE WORK AREA IN ORDER TO REDUCE MUD AND OTHER SEDIMENTS FROM LEAVING THE SITE.

**TOPSOILING**

**GENERAL:**

- 1. TOPSOIL SHALL BE SPREAD OVER ALL EXPOSED AREAS IN ORDER TO PROVIDE A SOIL MEDIUM HAVING FAVORABLE CHARACTERISTICS FOR THE ESTABLISHMENT, GROWTH, AND MAINTENANCE OF VEGETATION.
2. UPON ATTAINING FINAL SUBGRADES, SCARIFY SURFACE TO PROVIDE A GOOD BOND WITH TOPSOIL.
3. REMOVE ALL LARGE STONES, TREE LIMBS, ROOTS AND CONSTRUCTION DEBRIS.
4. APPLY LIME ACCORDING TO SOIL TEST OR AT THE RATE OF 2 TON PER ACRE.

**MATERIAL:**

- 1. TOPSOIL SHOULD HAVE PHYSICAL, CHEMICAL, AND BIOLOGICAL CHARACTERISTICS FAVORABLE TO THE GROWTH OF PLANTS.
2. TOPSOIL SHOULD HAVE A SANDY OR LOAMY TEXTURE.
3. TOPSOIL SHOULD BE RELATIVELY FREE OF SUBSOIL MATERIAL AND MUST BE FREE OF STONES (OVER 1" IN DIAMETER), LUMPS OF SOIL, ROOTS, TREE LIMBS, TRASH, OR CONSTRUCTION DEBRIS. IT SHOULD BE FREE OF ROOTS OR RHIZOMES SUCH AS THISTLE, NUTGRASS, AND QUACKGRASS.
4. AN ORGANIC MATTER CONTENT OF SIX PERCENT (6%) IS REQUIRED. AVOID LIGHT COLORED SUBSOIL MATERIAL.
5. SOLUBLE SALT CONTENT OF OVER 500 PARTS PER MILLION (PPM) IS LESS SUITABLE. AVOID TIDAL MARSH SOILS BECAUSE OF HIGH SALT CONTENT AND SULFUR ACIDITY.
6. THE pH SHOULD BE MORE THAN 6.0. IF LESS, ADD LIME TO INCREASE pH TO AN ACCEPTABLE LEVEL.

**APPLICATION:**

- 1. AVOID SPREADING WHEN TOPSOIL IS WET OR FROZEN.
2. SPREAD TOPSOIL UNIFORMLY TO A DEPTH OF AT LEAST FOUR INCHES, OR TO THE DEPTH SHOWN ON THE PLANS.

**TEMPORARY VEGETATIVE COVER**

**GENERAL:**

- 1. TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED ON ALL UNPROTECTED AREAS THAT PRODUCE SEDIMENT, AREAS WHERE FINAL GRADING HAS BEEN COMPLETED, AND AREAS WHERE THE ESTIMATED PERIOD OF BARE SOIL EXPOSURE IS LESS THAN 12 MONTHS. TEMPORARY VEGETATIVE COVER SHALL BE APPLIED IF AREAS WILL NOT BE PERMANENTLY SEEDED BY OCTOBER 15.

**SITE PREPARATION:**

- 1. INSTALL REQUIRED SURFACE WATER CONTROL MEASURES.
2. REMOVE LOOSE ROCK, STONE, AND CONSTRUCTION DEBRIS FROM AREA.
3. APPLY LIME ACCORDING TO SOIL TEST OR AT A RATE OF 1 TON OF GROUND DOLOMITIC LIMESTONE PER ACRE.
4. APPLY FERTILIZER ACCORDING TO SOIL TEST OR AT THE RATE OF 330 LB OF 10-10-10 PER ACRE (7.5 LB PER 1000 SF) AND SECOND APPLICATION OF 240 LB OF 10-10-10 (5.5 LB PER 1000 SF) WHEN GRASS IS 4" TO 6" HIGH. APPLY ONLY WHEN GRASS IS DRY.
5. UNLESS HYDROSEEDED, WORK IN LIME AND FERTILIZER TO A DEPTH OF 4" USING A DISK OR ANY SUITABLE EQUIPMENT.
6. TILLAGE SHOULD ACHIEVE A REASONABLY UNIFORM LOOSE SEEDBED. WORK ON CONTOUR IF SITE IS SLOPING.

**ESTABLISHMENT:**

- 1. SELECT APPROPRIATE SPECIES FOR THE SITUATION. NOTE RATES AND SEEDING DATES (SEE VEGETATIVE COVER SELECTION & MULCHING SPECIFICATION BELOW).
2. APPLY SEED UNIFORMLY ACCORDING TO THE RATE INDICATED BY BROADCASTING, DRILLING, OR HYDRAULIC APPLICATION.
3. UNLESS HYDROSEEDED, COVER RYEGRASS SEEDS WITH NOT MORE THAN 2" OF SOIL USING SUITABLE EQUIPMENT.
4. MULCH IMMEDIATELY AFTER SEEDING IF REQUIRED. (SEE VEGETATIVE COVER SELECTION & MULCHING SPECIFICATION BELOW.) APPLY STRAW OR HAY MULCH AND ANCHOR TO SLOPES GREATER THAN 3% OR WHERE CONCENTRATED FLOW WILL OCCUR.

**PERMANENT VEGETATIVE COVER**

**GENERAL:**

- 1. PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED AS VARIOUS SECTIONS OF THE PROJECT ARE COMPLETED IN ORDER TO STABILIZE THE SOIL, REDUCE DOWNSTREAM DAMAGE FROM SEDIMENT AND RUNOFF, AND TO ENHANCE THE AESTHETIC NATURE OF THE SITE. IT WILL BE APPLIED TO ALL CONSTRUCTION AREAS SUBJECT TO EROSION WHERE FINAL GRADING HAS BEEN COMPLETED AND A PERMANENT COVER IS NEEDED.

**SITE PREPARATION:**

- 1. INSTALL REQUIRED SURFACE WATER CONTROL MEASURES.
2. REMOVE LOOSE ROCK, STONE, AND CONSTRUCTION DEBRIS FROM AREA.
3. PERFORM ALL PLANTING OPERATIONS PARALLEL TO THE CONTOURS OF THE SLOPE.
4. APPLY TOPSOIL AS INDICATED ELSEWHERE HEREIN.
5. APPLY FERTILIZER ACCORDING TO SOIL TEST OR SPREAD SEEDINGS. WORK DEEPLY IN SOIL, BEFORE SEEDING, 330 LB OF 10-10-10 FERTILIZER PER ACRE (7.5 LB PER 1000 SF); THEN SIX (6) TO EIGHT (8) WEEKS LATER, APPLY ON THE SURFACE AN ADDITIONAL 30 LB OF 10-10-10 FERTILIZER PER ACRE. AFTER SEPTEMBER 1, TEMPORARY VEGETATIVE COVER SHALL BE APPLIED, FALL SEEDING; WORK DEEPLY IN SOIL, BEFORE SEEDING, 240 LB OF 10-10-10 FERTILIZER PER ACRE (5.5 LB PER 1000 SF)

**VEGETATIVE COVER SELECTION & MULCHING**

**TEMPORARY VEGETATIVE COVER:**

PERENNIAL RYEGRASS 3 LB/1000 SF (LOLIUM PERENNE)

**PERMANENT VEGETATIVE COVER:**

CREeping RED FESCUE 2 LB/1000 SF (FESTUCA RUBRA)

REDTOP 1 LB/1000 SF (AGROSTIS ALBA)

TALL FESCUE 2 LB/1000 SF (FESTUCA ARUNDINACEA)

**TEMPORARY MULCHING:**

STRAY OR HAY 60-90 LB/1000 SF (TEMPORARY VEGETATIVE AREAS)

WOOD FIBER IN HYDROMULCH SLURRY 25-50 LB/1000 SF

**ESTABLISHMENT:**

- 1. SMOOTH AND FIRM SEEDBED WITH CULTIPACKER OR OTHER SIMILAR EQUIPMENT PRIOR TO SEEDING (EXCEPT WHEN HYDROSEEDING).
2. SELECT ADAPTED SEED MIXTURE FOR THE SPECIFIC SITUATION. NOTE RATES AND THE SEEDING DATES (SEE VEGETATIVE COVER SELECTION & MULCHING SPEC).
3. APPLY SEED UNIFORMLY ACCORDING TO RATE INDICATED, BY BROADCASTING, DRILLING, OR HYDRAULIC APPLICATION.
4. COVER GRASS AND LEGUME SEED WITH NOT MORE THAN 1/4" OF SOIL WITH SUITABLE EQUIPMENT (EXCEPT WHEN HYDROSEEDING).
5. MULCH IMMEDIATELY AFTER SEEDING, IF REQUIRED, ACCORDING TO TEMPORARY MULCHING SPECIFICATIONS. (SEE VEGETATIVE COVER SELECTION & MULCHING SPECIFICATION).
6. USE PROPER INOCULANT ON ALL LEGUME SEEDINGS. USE FOUR (4) TIMES NORMAL RATES WHEN HYDROSEEDING.
7. USE SOD WHERE THERE IS A HEAVY CONCENTRATION OF WATER AND IN CRITICAL AREAS WHERE IT IS IMPORTANT TO GET A QUICK VEGETATIVE COVER TO PREVENT EROSION.

**TEMPORARY EROSION / SEDIMENTATION CONTROL DEVICES**

THE FOLLOWING EROSION/SEDIMENTATION CONTROL DEVICES ARE PLANNED FOR THE SITE DURING THE CONSTRUCTION PERIOD. THESE DEVICES SHALL BE INSTALLED AS INDICATED ON THE PLANS OR AS DESCRIBED HEREWITHIN.

- 1. SYNTHETIC FILTER BARRIERS AND HAY BALES WILL BE INSTALLED DOWNGRADIENT OF DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTIL THE SITE IS REVEGETATED. INSTALLATION DETAILS ARE PROVIDED IN THE PLAN SET ON THE EROSION CONTROL DETAIL SHEETS.
2. STRAW OR HAY MULCH IS INTENDED TO PROVIDE COVER FOR DENUDED OR SEEDED AREAS UNTIL REVEGETATION IS ESTABLISHED. MULCH PLACED ON SLOPES OF LESS THAN 3 PERCENT SHALL BE ANCHORED BY APPLYING WATER; MULCH PLACED IN AREAS OF CONCENTRATED FLOW OR ON SLOPES STEEPER THAN 3 PERCENT SHALL BE COVERED WITH FABRIC NETTING OR EQUAL AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SLOPES STEEPER THAN 4:1 AND WHERE SHOWN ON THE PLANS, WHICH ARE TO BE REVEGETATED, SHALL RECEIVE CURLEX BLANKETS BY AMERICAN EXCELSIOR.
3. CONSTRUCTION ENTRANCES WILL BE INSTALLED AT ALL ACCESS POINTS OF THE SITE TO PREVENT THE TRACKING OF SOIL ONTO CITY STREETS AND STATE ROADS.
4. IF REQUIRED TEMPORARY SEDIMENTATION BASINS AND OR SEDIMENT TRAPS SHALL BE CONSTRUCTED IN THE LOCATIONS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN OR AT LOCATIONS SPECIFIED BY THE ENGINEER DURING CONSTRUCTION TO ALLOW SETTLEMENT OF FINE GRAIN PARTICLES FROM DEWATERING OPERATIONS AND SURFACE RUNOFF. THE REQUIRED VOLUME OF STORAGE IS 134 CUBIC YARDS FOR EVERY ACRE OF DISTURBED SITE ENTERING THE BASIN. A SEDIMENTATION BASIN WILL BE REQUIRED WHEN TWO ACRES ARE DISTURBED THAT DISCHARGE TO ANY POINT.
5. TEMPORARY STORAGE AND STOCKPILE AREAS SHALL BE SURROUNDED BY A SYNTHETIC FILTER BARRIER. TEMPORARY DRAINAGE SWALES SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS OR AS NECESSARY TO DIVERT RUNOFF INTO THE SEDIMENTATION BASINS.
6. SEDIMENT TRAPS WILL BE INSTALLED AROUND ALL CATCH BASINS. THE SEDIMENT TRAPS SHALL BE LEFT IN PLACE UNTIL THE TRIBUTARY AREA IS PAVED OR REVEGETATED.
7. WHERE CONSTRUCTION ACTIVITIES HAVE PERMANENTLY CEASED OR HAVE TEMPORARILY BEEN SUSPENDED FOR MORE THAN SEVEN DAYS OR WHEN FINAL GRADES ARE REACHED IN ANY PORTION OF THE SITE, STABILIZATION PRACTICES SHALL BE IMPLEMENTED WITHIN THREE DAYS. AREAS THAT WILL REMAIN DISTURBED BUT INACTIVE FOR AT LEAST THIRTY DAYS SHALL RECEIVE TEMPORARY SEEDING IN ACCORDANCE WITH THE GUIDELINES. AREAS THAT WILL REMAIN DISTURBED BEYOND THE PLANTING SEASON, SHALL RECEIVE LONG-TERM, NON-VEGETATIVE STABILIZATION SUFFICIENT TO PROTECT THE SITE THROUGH THE WINTER. IN ALL CASES, STABILIZATION MEASURES SHALL BE IMPLEMENTED AS SOON AS POSSIBLE IN ACCORDANCE WITH THE GUIDELINES.
8. IF WORK IS CONDUCTED BETWEEN SEPTEMBER 15TH AND APRIL 15TH OF ANY CALENDAR YEAR, ALL DENUDED AREAS WILL BE COVERED WITH HAY MULCH, APPLIED AT TWICE THE NORMAL APPLICATION RATE AND ANCHORED WITH FABRIC NETTING. THE PERIOD BETWEEN FINAL GRADING AND MULCHING SHALL BE REDUCED TO A 15 DAY MAXIMUM.
9. ALL STREETS SHALL BE SWEEP OR WASHED TO CONTROL MUD AND DUST AS NECESSARY AS DETERMINED BY THE TOWN AND/OR THE ENGINEER.
10. DURING GRUBBING OPERATIONS, CHECK DAMS WILL BE INSTALLED AT ANY EVIDENT CONCENTRATED FLOW DISCHARGE POINTS.
11. EFFLUENT FROM DEWATERED WORK AREAS SHALL NOT BE DISCHARGED DIRECTLY TO THE WATERCOURSE BUT BE PROCESSED THROUGH TREATMENT STRUCTURES. SUCH STRUCTURES ARE NOT TO BE LOCATED WITHIN THE WATERCOURSE CHANNEL OR ADJACENT WETLANDS.

**PERMANENT EROSION CONTROL MEASURES:**

THE FOLLOWING PERMANENT EROSION CONTROL MEASURES HAVE BEEN DESIGNED AS PART OF THE EROSION/SEDIMENTATION CONTROL PLAN:

- 1. ALL AREAS DISTURBED DURING CONSTRUCTION, BUT NOT SUBJECT TO OTHER RESTORATION (PAVING, RIP RAP, ETC.) WILL BE LOAMED, LIMED, FERTILIZED, MULCHED AND SEEDED. FABRIC NETTING ANCHORED WITH STAPLES SHALL BE PLACED OVER THE MULCH IN AREAS WHERE THE FINISH GRADE SLOPE IS GREATER THAN 3H:1V. ALL AREAS SHALL RECEIVE PROTECTION WITHIN 30 DAYS. NATIVE TOPSOIL SHALL BE STOCKPILED AND REUSED FOR FINAL RESTORATION WHEN IT IS OF SUFFICIENT QUALITY.
2. CATCH BASINS WILL BE PROVIDED WITH SEDIMENT SUMPS.

**GENERAL PHASING OF EROSION AND SEDIMENTATION CONTROL MEASURES:**

THE CONSTRUCTION OF THE TEMPORARY SEDIMENTATION BASINS IF REQUIRED MUST BE COMPLETED BEFORE OTHER WORK BEGINS AT THE SITE. EXTREME CAUTION MUST BE TAKEN TO LIMIT THE EXTENT OF DISTURBED AREAS. WORK SHALL BE CONDUCTED IN THE FOLLOWING ORDER (FOR ADDITIONAL INFORMATION SEE SEQUENCE OF CONSTRUCTION):

- A. INSTALL CRUSHED STONE CONSTRUCTION ENTRANCES.
B. AND STORAGE AREAS AND IN OTHER AREAS AS INDICATED ON THE PLANS OR DIRECTED BY THE ENGINEER. INSTALL HAY BALE SEDIMENT TRAPS AT ALL EXISTING CATCH BASINS AND DRAINS.
C. CONSTRUCT TEMPORARY SEDIMENTATION BASINS AND, IF REQUIRED, TEMPORARY SWALES TO DIRECT RUNOFF TO BASINS. INSTALL CHECK DAMS IN SWALES AND OTHER AREAS OF CONCENTRATED FLOW.
D. DISPOSE OF ANY UNUSABLE FILL MATERIAL OFF SITE. DISPOSAL OF MATERIALS SHALL BE CONDUCTED IN A MANNER CONSISTENT WITH THIS PLAN WHICH WILL AVOID EROSION AND SEDIMENTATION OFF SITE. PLACE FILL MATERIAL WHICH IS SUITABLE FOR REUSE WITHIN DESIGNATED STOCKPILE AREAS.
E. DURING GRUBBING OPERATIONS, INSTALL CHECK DAMS AT ANY EVIDENT CONCENTRATED FLOW DISCHARGE POINTS.
F. INSTALL PROPOSED STORM SEWER SYSTEM AND CATCH BASINS. PROTECT CATCH BASINS FROM SILTATION WITH APPROPRIATE CONTROLS AS SHOWN ON THE DETAIL SHEETS.
G. STABILIZE DISTURBED AREAS WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS.
H. RECONSTRUCT ROADWAYS.
I. RESTORE DISTURBED AREAS, COMPLETE SEEDING AND LANDSCAPING AND REMOVE EROSION CONTROL DEVICES.

**ADDITIONAL REQUIREMENTS**

IN ADDITION TO THE MEASURES LISTED ABOVE, THE FOLLOWING WORK WILL BE PERFORMED AS REQUIRED:

- 1. REMOVE ACCUMULATED SEDIMENT AHEAD OF ANY SILT BARRIERS (AS NECESSARY) AND DISPOSE OFF SITE.
2. DUST AND WIND EROSION SHALL BE CONTROLLED THROUGHOUT THE LIFE OF THE CONTRACT. DUST CONTROL SHALL INCLUDE, BUT IS NOT LIMITED TO, SPRINKLING OF WATER ON EXPOSED SOILS AND HAUL ROADS.
3. IF EXCAVATION IS INTERRUPTED BY HEAVY RAINS, ADDITIONAL MULCHING OR GRAVEL WORK MATS MAY BE REQUIRED ON AREAS OF EXPOSED SOILS. SOILS WHICH HAVE BECOME UNSUITABLE FOR USE DUE TO EXPOSURE TO HEAVY RAINS SHALL BE REMOVED FROM THE WORK AREA AND DRIED OR DISPOSED OF OFF SITE IN A MANNER CONSISTENT WITH THIS PLAN.
4. CLEAN OUT ALL CULVERTS, CATCH BASINS AND STORM SEWERS IN STREETS ADJACENT TO THE PROJECT AREA AFTER COMPLETION OF THE PROJECT.
5. CONSTRUCTION EQUIPMENT IS NOT TO ENTER ANY WATERCOURSE OR WETLAND.
6. EQUIPMENT IS NOT TO BE WASHED IN OR NEAR WETLANDS OR WATERCOURSES.
7. EQUIPMENT MAINTENANCE SHALL NOT BE CARRIED OUT WITHIN THE PROJECT SITE UNLESS APPROVED IN WRITING BY THE ENGINEER.
8. TRASH RECEPTACLES SHALL BE REQUIRED ON THE JOB SITE.
9. DUMPING OF OIL, CHEMICALS OR OTHER DELETERIOUS MATERIALS ON THE GROUND IS FORBIDDEN. THE CONTRACTOR SHALL PROVIDE A MEANS OF CATCHING, RETAINING AND PROPERLY DISPOSING OF DRAINED OIL, REMOVED OIL FILTERS OR OTHER DELETERIOUS MATERIAL. ALL SPILLS OF SUCH MATERIAL SHALL BE REPORTED IMMEDIATELY BY THE CONTRACTOR TO DEP. THE CONTRACTOR SHALL STORE OIL ABSORBENT MATERIALS ON SITE FOR THE CLEANUP OF SPILLS.

**SEDIMENTATION AND EROSION CONTROL MAINTENANCE PROCEDURES DURING CONSTRUCTION:**

ALL SEDIMENTATION AND EROSION CONTROL DEVICES SHALL BE INSPECTED DURING CONSTRUCTION BY THE CONTRACTOR ON A DAILY BASIS AND FOLLOWING ALL STORMS. THE CONTRACTOR SHALL MAINTAIN AND MAKE REPAIRS AND REMOVE SEDIMENT AS REQUIRED. THIS WORK SHALL BE PERFORMED WITHIN 24 HOURS FOLLOWING ALL STORM EVENTS. THERE SHALL BE NO SEPARATE PAYMENT FOR THIS WORK.

THE CONTRACTOR SHALL CLEAN SEDIMENT AND DEBRIS FROM ALL DRAINAGE STRUCTURES AND PIPES AT THE COMPLETION OF CONSTRUCTION AND AS REQUIRED TO KEEP THE SYSTEM FUNCTIONING PROPERLY DURING CONSTRUCTION.

FOLLOWING COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL REPAIR ALL ERODED AREAS AND ENSURE A GOOD STAND OF TURF IS ESTABLISHED THROUGHOUT. THE CONTRACTOR SHALL REPAIR ALL ERODED OR DISPLACED RIPRAP AND CLEAN SEDIMENT COVERED STONES.

SILT FENCES SHALL BE INSPECTED, REPAIRED AND CLEANED AS REQUIRED AND AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL REPAIR AND ADD STONE TO THE CONSTRUCTION ENTRANCES AS THEY BECOME SATURATED WITH MUD TO INSURE THAT THEY WORK AS PLANNED DURING THE CONSTRUCTION.

**POST CONSTRUCTION:**

- 1. THE MAINTENANCE SCHEDULE FOR THE CATCH BASIN SEDIMENT SUMPS IS AS FOLLOWS: THESE DEVICES SHALL BE INSPECTED IN APRIL OF EACH YEAR AT A MINIMUM. ACCUMULATED SEDIMENT SHALL BE REMOVED FROM THE CATCH BASINS WHEN THE DEPTH OF THE SEDIMENT IS WITHIN ONE FOOT OF THE OUTLET PIPE INVERT. THE SEDIMENT WILL BE REMOVED FROM THE SITE BY THE TOWN OR THE CATCH BASIN CLEANING CONTRACTOR AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
2. STREETS ARE TO BE CLEANED WITH STREET SWEEPERS ANNUALLY AT A MINIMUM.
3. THE SITE SHALL BE INSPECTED EVERY 6 MONTHS AND AFTER MAJOR STORMS FOR EVIDENCE OF EROSION ALL ERODED SURFACES ARE TO BE REPAIRED AND PERMANENTLY STABILIZED.

**INSPECTION:**

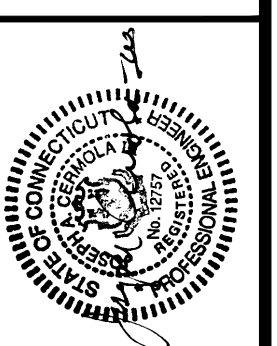
QUALIFIED PERSONNEL (PROVIDED BY THE CONTRACTOR) SHALL INSPECT DISTURBED AREAS OF THE CONSTRUCTION ACTIVITY THAT HAVE NOT BEEN FINALLY STABILIZED. STRUCTURAL CONTROL MEASURES AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE AT LEAST ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.1 INCHES OR GREATER. WHERE SITES HAVE BEEN TEMPORARILY OR FINALLY STABILIZED, SUCH INSPECTION SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH FOR 3 MONTHS. FULL TIME CONSTRUCTION INSPECTION WILL BE PROVIDED BY THE ENGINEER.

- 1. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ASSESSABLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFF SITE SEDIMENT TRACKING.
2. BASED ON THE RESULTS OF THE INSPECTION, THE DESCRIPTION OF POTENTIAL SOURCES AND POLLUTION PREVENTION MEASURES IDENTIFIED IN THE PLAN SHALL BE REVISED AS APPROPRIATE AS SOON AS PRACTICABLE AFTER SUCH INSPECTION. SUCH MODIFICATIONS SHALL PROVIDE FOR TIMELY IMPLEMENTATION OF ANY CHANGES TO THE SITE WITHIN 24 HOURS AND IMPLEMENTATION OF ANY CHANGES TO THE PLAN WITHIN 3 CALENDAR DAYS FOLLOWING THE INSPECTION. THE PLAN SHALL BE REVISED AND THE SITE CONTROLS UPDATED IN ACCORDANCE WITH SOUND ENGINEERING PRACTICES AND GUIDELINES. A REPORT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE STORM WATER POLLUTION CONTROL PLAN AND ACTIONS TAKEN SHALL BE MADE AND RETAINED AS PART OF THE PLAN FOR AT LEAST 3 YEARS AFTER THE DATE OF INSPECTION. THE REPORT SHALL BE SIGNED BY THE PERMITTED OR HIS AUTHORIZED REPRESENTATIVE.

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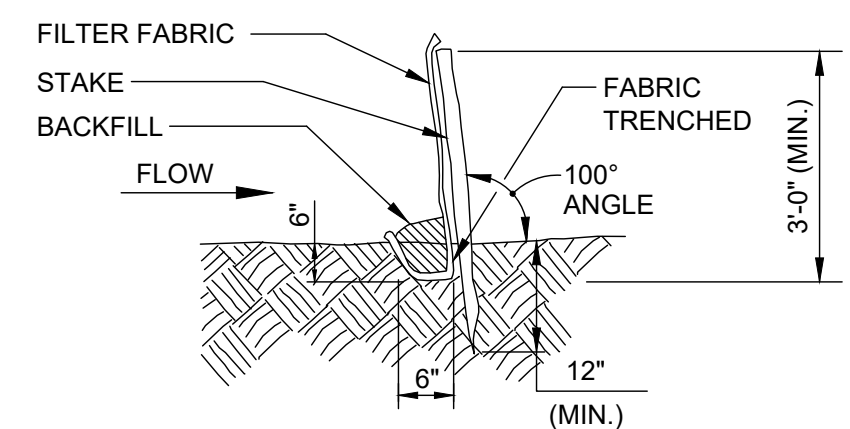
Table with columns for revision, date, and description.

DATE: March 2025
PROJECT NO.: 2436
DESIGNED BY: ERN
DRAWN BY: ERN
CHECKED BY: GG
APPROVED BY: JAC



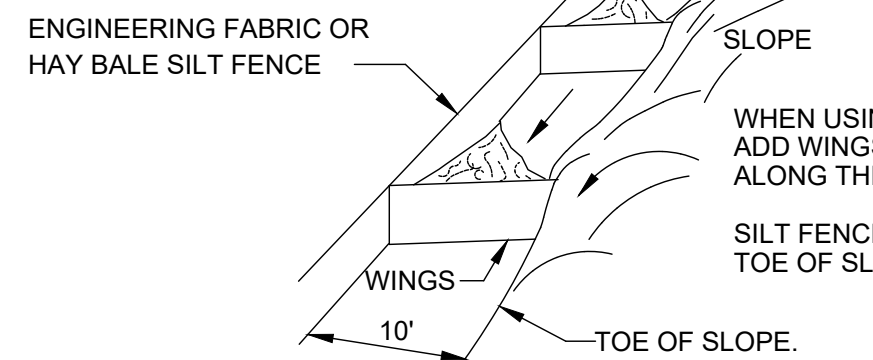
REPLACEMENT OF BRIDGE NO. 086007
JOHN WEIK ROAD OVER UNNAMED BROOK
MORRIS, CONNECTICUT
SEDIMENT & EROSION CONTROL NOTES





**SILT FENCE INSTALLATION**

- A) MINIMUM LENGTH OF SILT FENCE IS 15 L.F.
- B) MAXIMUM POST SPACING IS 10 L.F.
- C) JOINTS ONLY AT SUPPORT POST WITH MINIMUM 6" OVERLAP, SECURELY SEALED.
- D) SEDIMENTATION DEPOSITS SHALL BE REMOVED WHEN THEY REACH 1/2 THE HEIGHT OF THE SILT FENCE.
- E) SILT FENCE SHALL NOT BE USED IN A WATER COURSE.
- F) UPON ESTABLISHMENT OF GROUND COVER ON DISTURBED AREAS, AND WHEN DIRECTED BY THE ENGINEER, FENCE WILL BE REMOVED AND ANY SEDIMENTATION WILL BE THINLY SPREAD UPON EXISTING GROUND COVER.

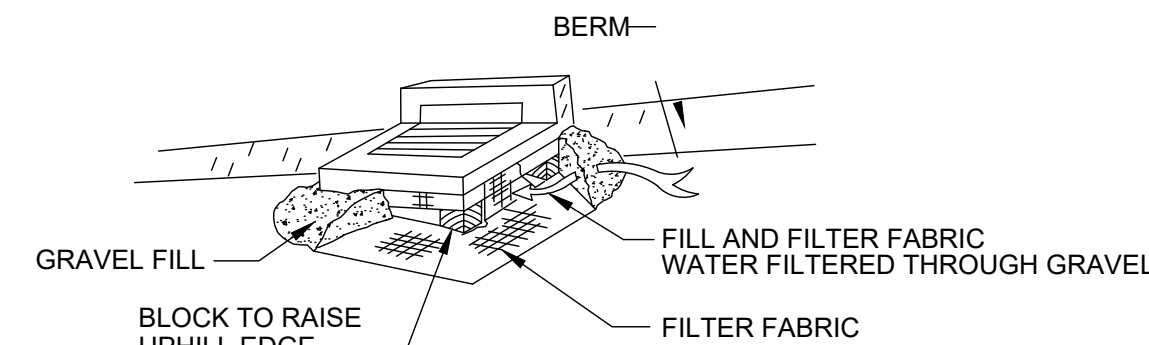


WHEN USING SILT FENCE ALONG TOE OF SLOPE, ADD WINGS TO PREVENT SEDIMENT FROM MOVING ALONG THE FENCE AND OFF THE SITE.  
SILT FENCE SHOULD BE LOCATED 10' FROM TOE OF SLOPE.

**SEDIMENTATION CONTROL SYSTEM**

**TOE OF SLOPE**

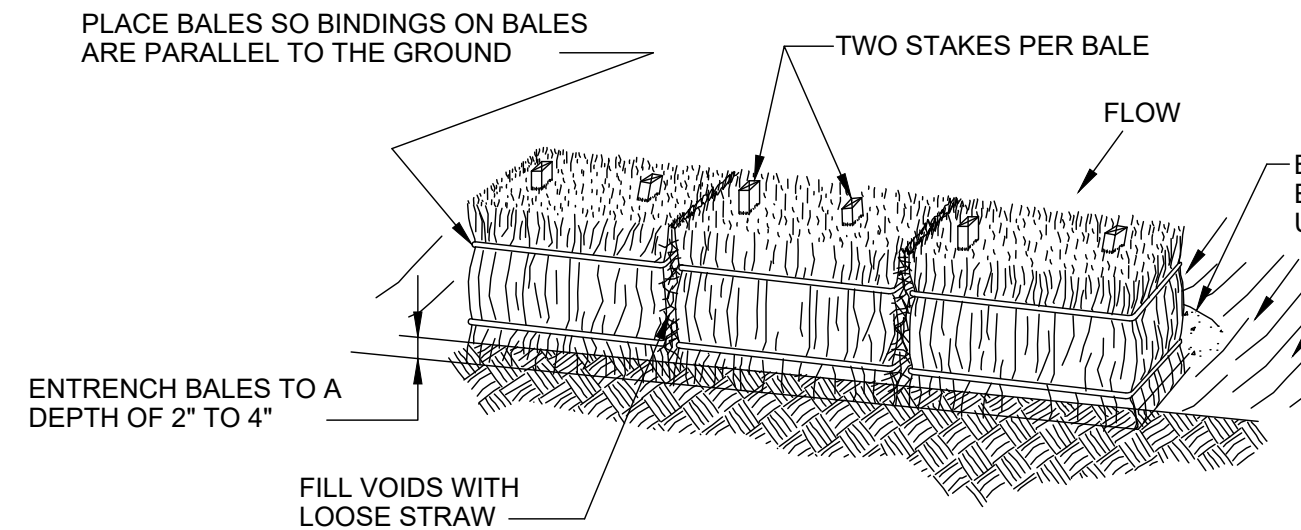
(WHERE DIRECTED BY ENGINEER)



WHERE DIRECTED BY ENGINEER, CONTRACTOR SHALL CONSTRUCT A STONE DIKE IN LIEU OF THE FILTER FABRIC CHECK DAM.

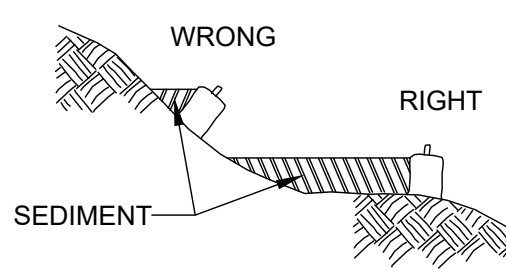
**SEDIMENTATION CONTROL SYSTEM FOR CATCH BASINS**

NOTE: RAISE AND PROTECT CATCH BASIN TOPS WITH CRUSHED STONE AS SOON AS POSSIBLE TO PERMIT DRAINAGE TO ENTER STORM SYSTEMS, WHEN ROADWAY IS BROUGHT UP TO SUBBASE BEFORE PAVING.



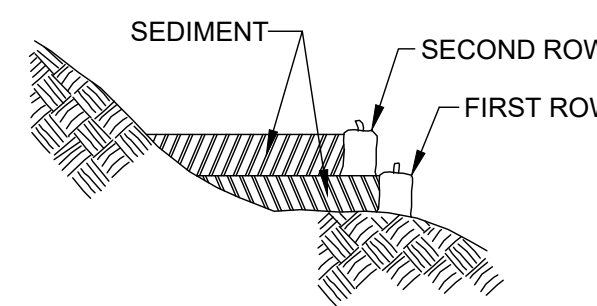
**INSTALLATION**

- A) IDEALLY, BALES SHOULD BE ENTRENCHED 2 TO 4 INCHES AND TIGHTLY BUTTED TOGETHER. BALES CAN BE SUCCESSFULLY PLACED WITHOUT A TRENCH IF GOOD GROUND CONTACT IS MADE. REMOVE HEAVY BRUSH AND FILL IN ALL VOIDS WITH LOOSE STRAW.
- B) BALES SHALL BE ONLY USED AS A TEMPORARY BARRIER AND FOR NO LONGER THAN 60 DAYS. THEY SHALL NOT BE USED ON A JOB ADJACENT TO A RESIDENTIAL NEIGHBORHOOD, RESIDENCES OR ADJACENT TO OR IN A WATERCOURSE.
- C) WHEN SEDIMENTATION DEPOSITS REACH WITHIN 3" OF THE TOP OF THE BALES, REMOVE SEDIMENTATION OR ADD ADDITIONAL BALES ON SEDIMENTATION DIRECTLY BEHIND THE FIRST ROW OF BALES AS DIRECTED BY THE ENGINEER.
- D) UPON ESTABLISHMENT OF GROUND COVER ON DISTURBED AREAS AND WHEN DIRECTED BY THE THE ENGINEER, HAY BALES WILL BE REMOVED AND USED AS MULCH. ANY SEDIMENTATION WILL BE THINLY SPREAD UPON ESTABLISHED GROUND COVER.



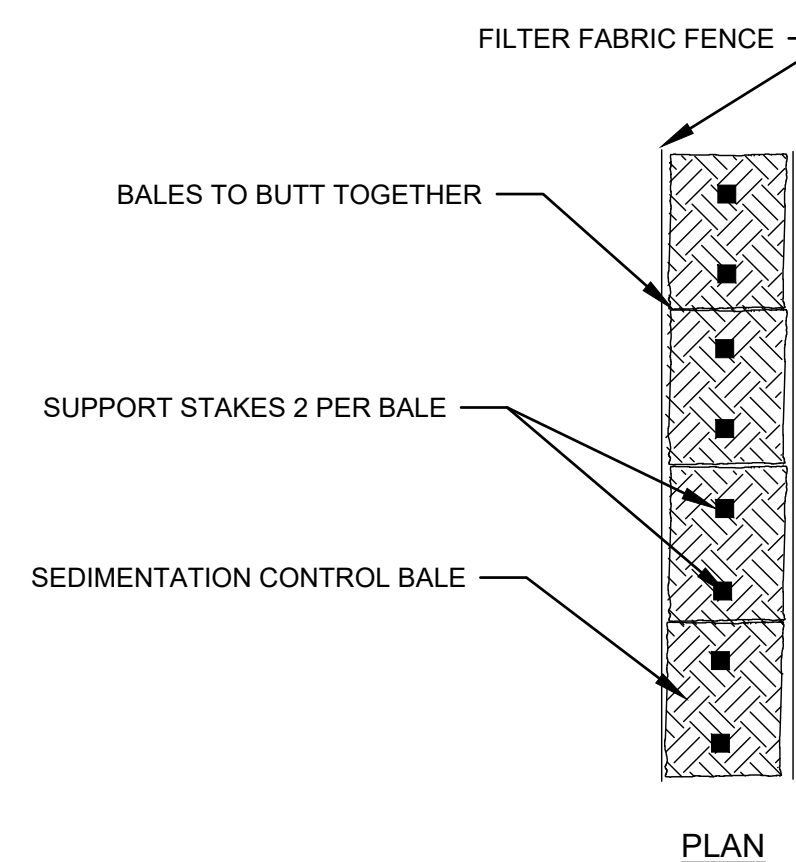
**BALE PLACEMENT**

BALES PLACED AWAY FROM TOE OF SLOPE HAVE A LARGER CONFINEMENT AREA. ADDITIONAL BALES SHOULD BE ADDED BEHIND ORIGINAL BALES BEFORE SEDIMENT TOPS THE FIRST BALE.



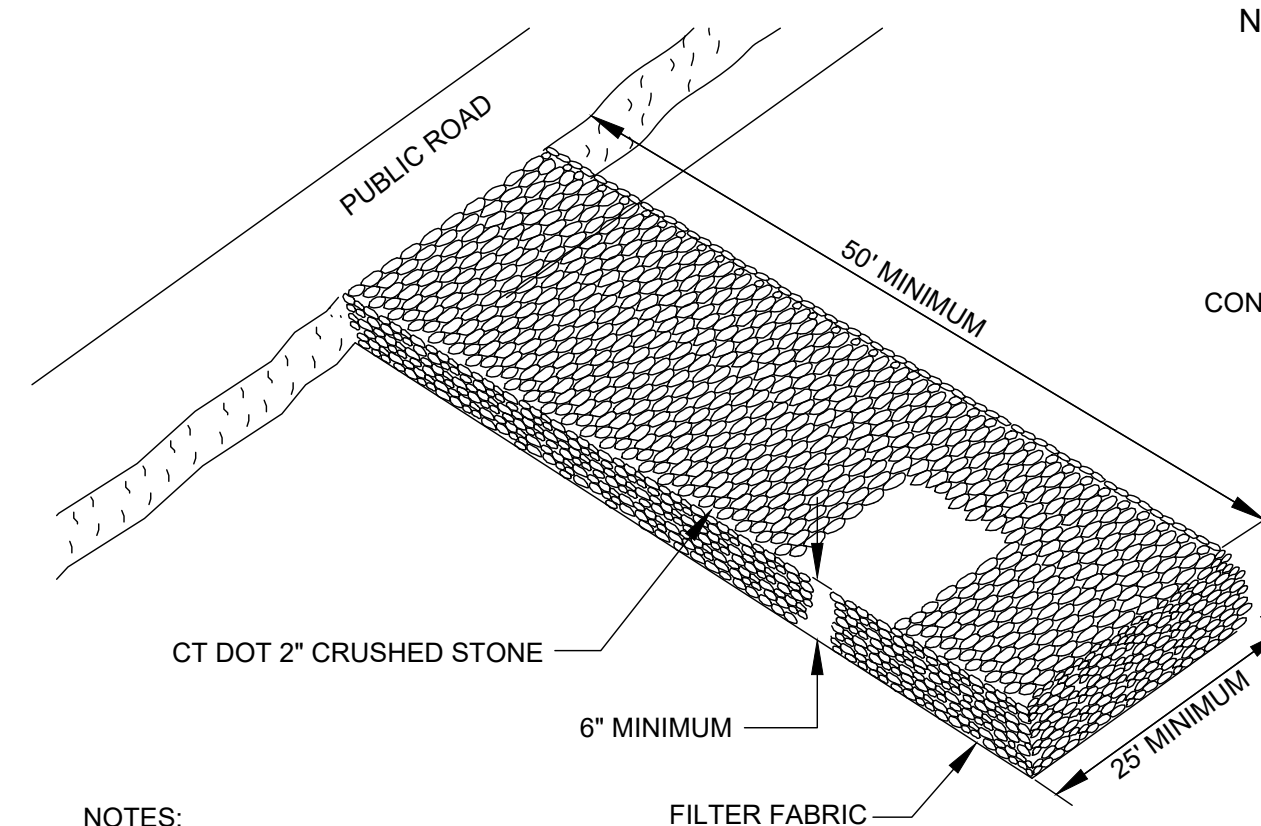
**PREFERRED PLACEMENT**

**DIKES HAY/STRAW BALES**



**PLAN**

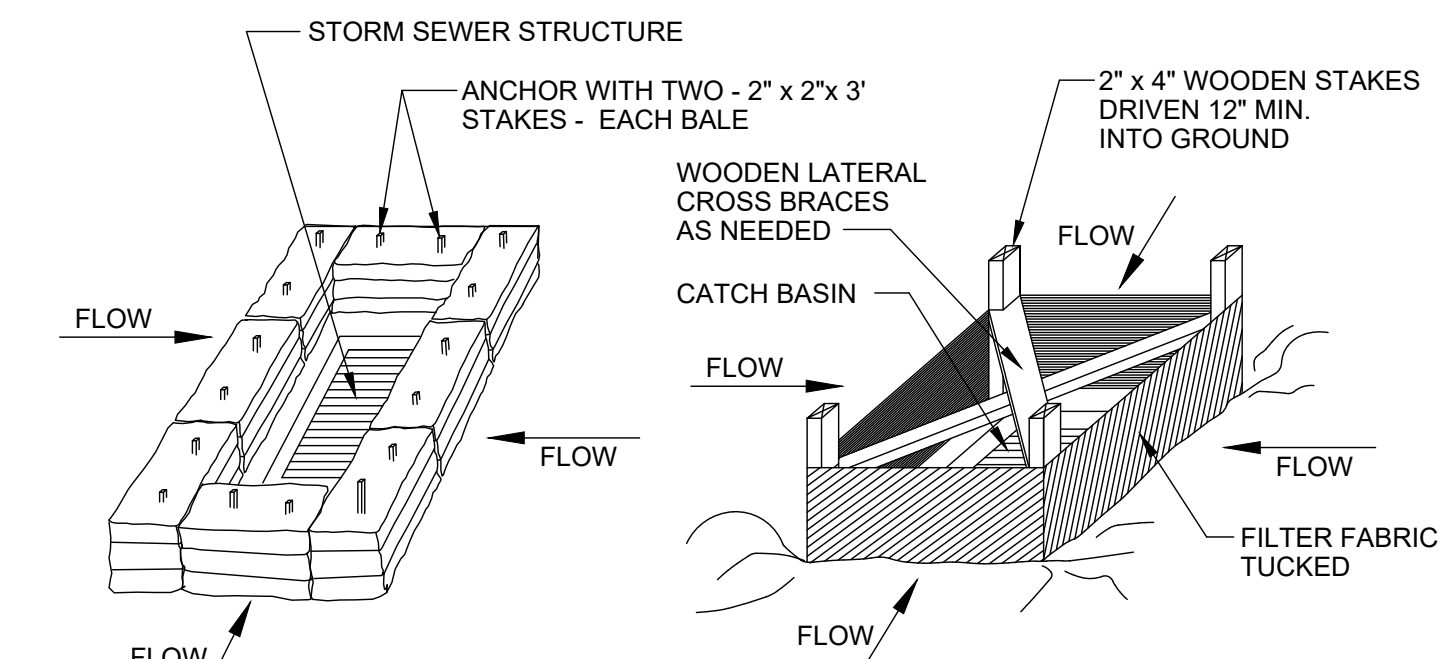
**SEDIMENTATION CONTROL SYSTEM DOUBLE SILT FENCE WITH HAYBALES**



**NOTES:**

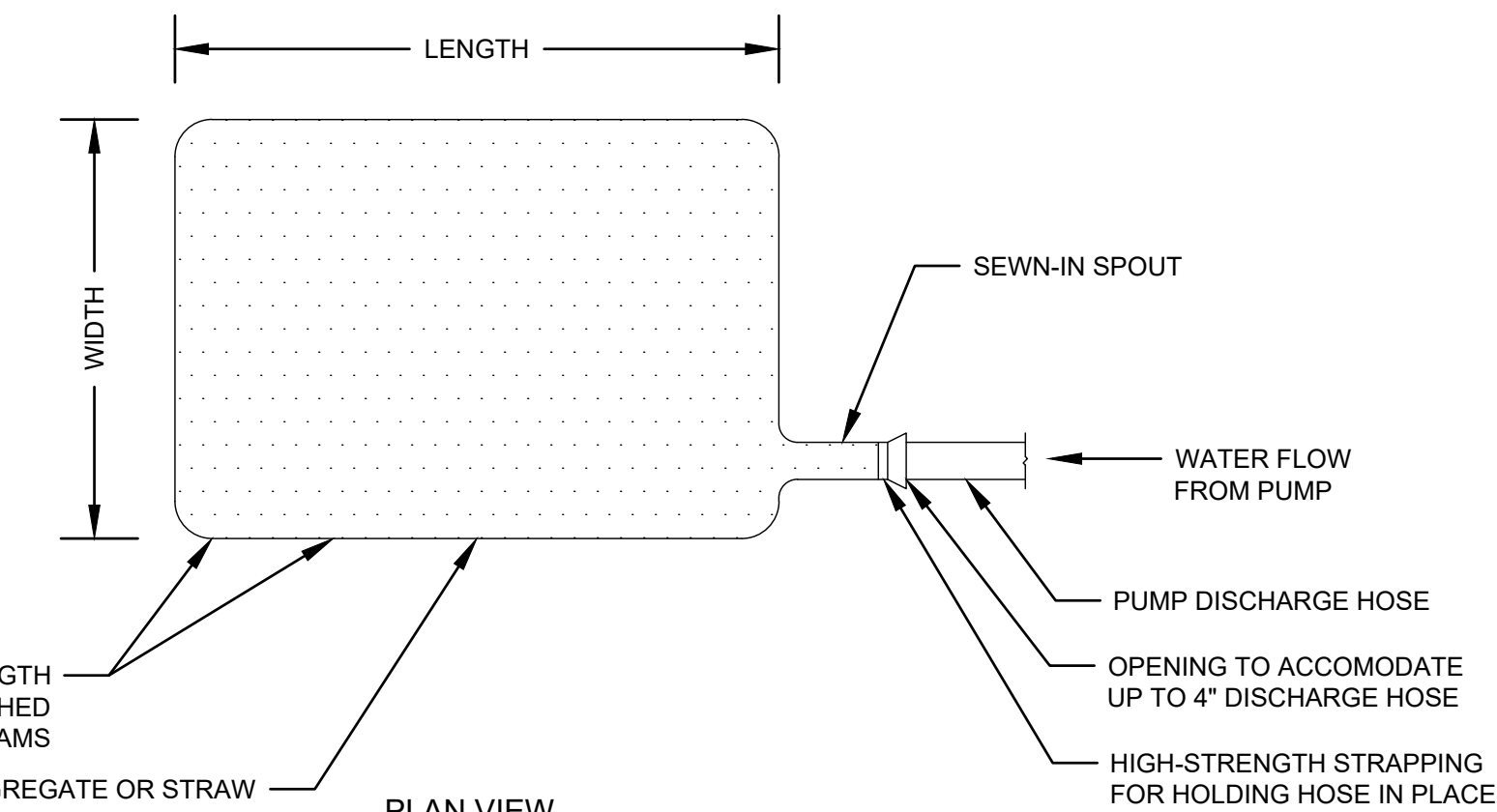
- 1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
- 2. ANTI-TRACKING PADS SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER.

**ANTI-TRACKING PAD**  
NOT TO SCALE

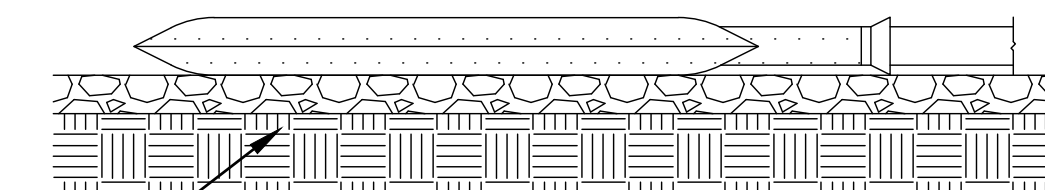


**HAY BALE INSTALLATION AT CATCH BASIN**

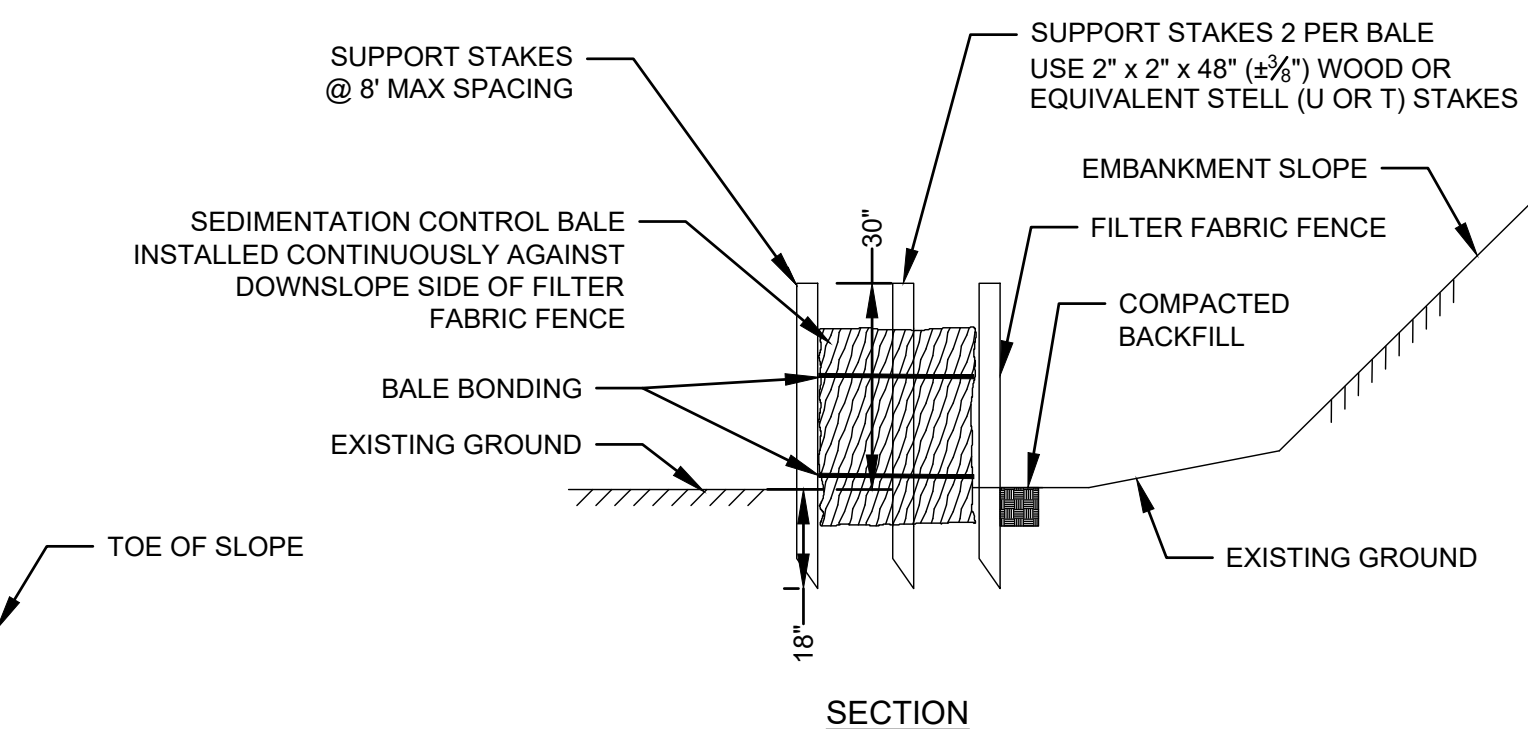
**SILT FENCE INSTALLATION AT CATCH BASIN**



**PLAN VIEW**

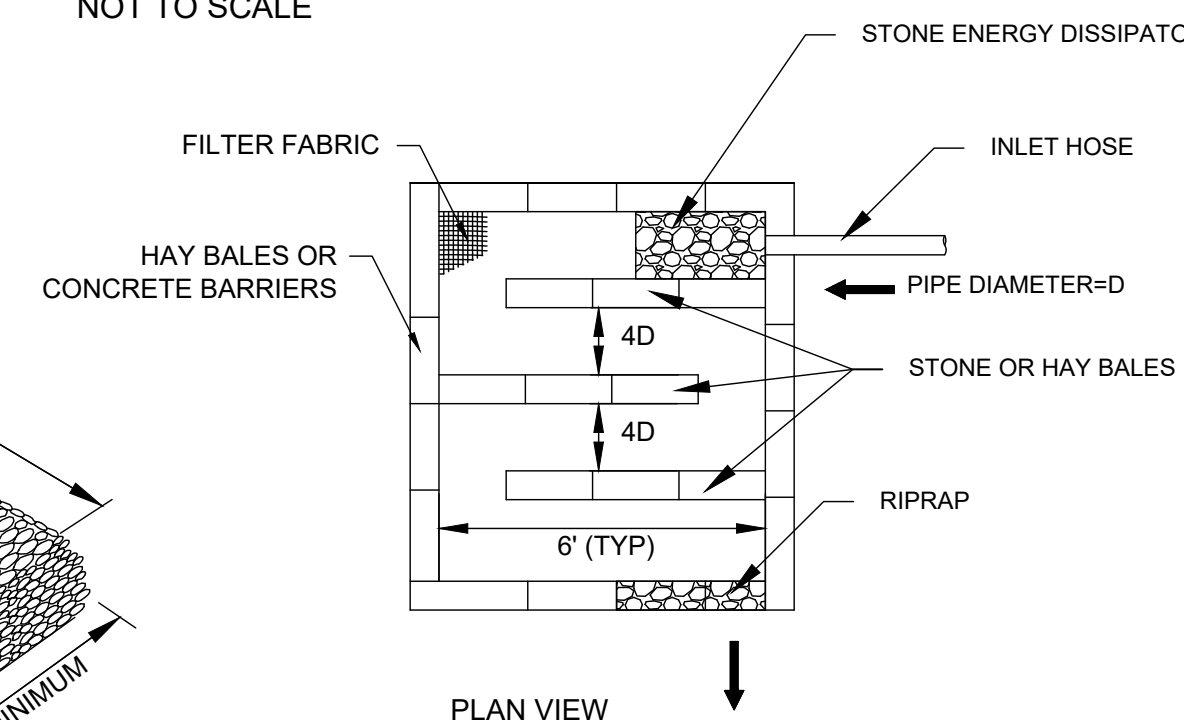


**SYNTHETIC FILTER BAG**

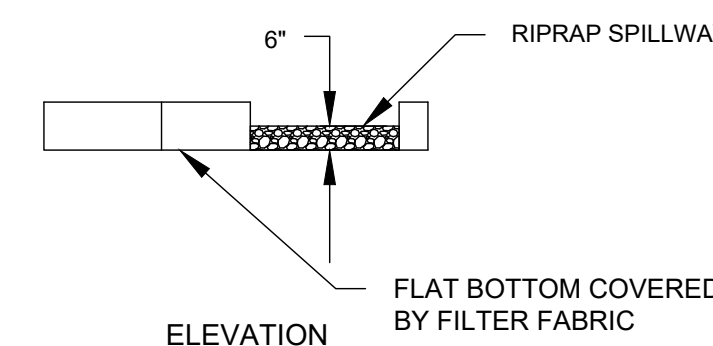


**SECTION**

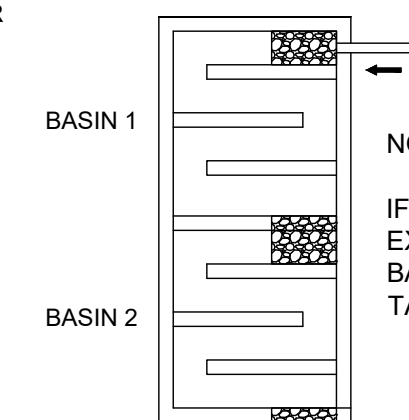
NOT TO SCALE



**PLAN VIEW**



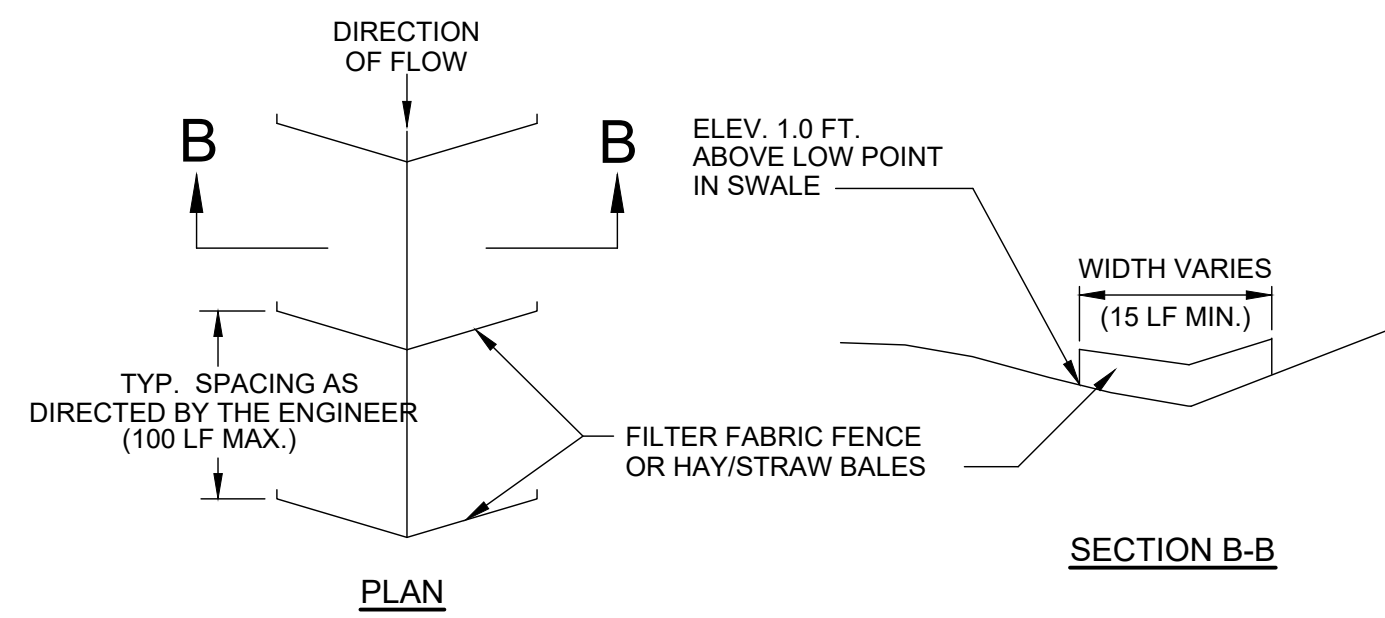
**DEWATERING BASIN**  
NOT TO SCALE



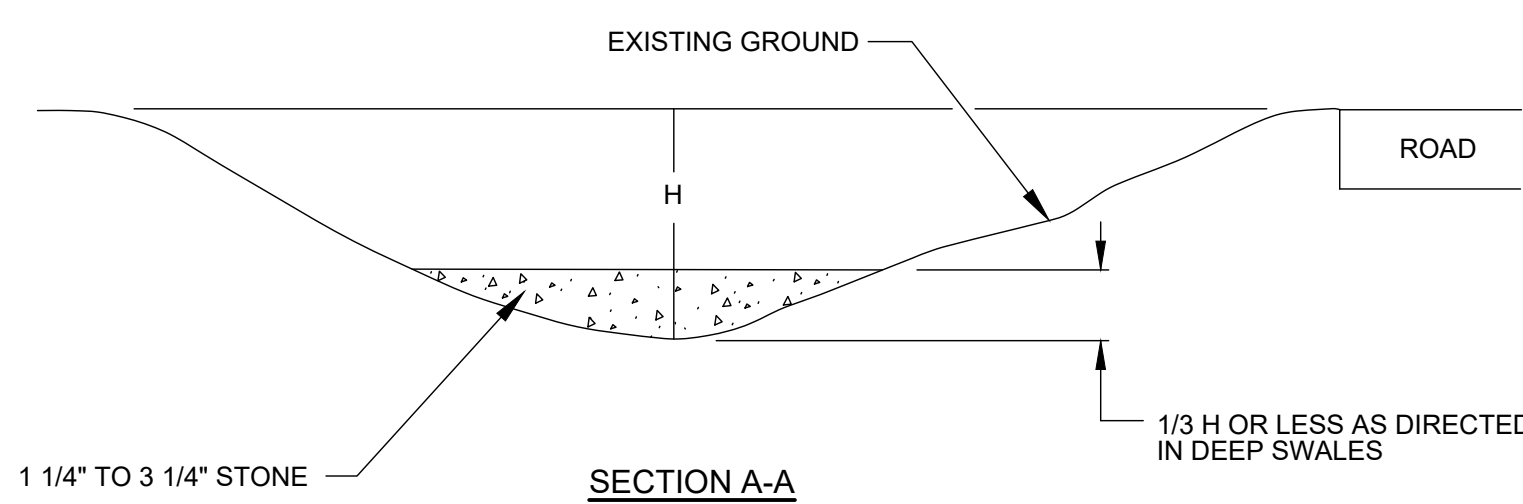
NOTE:  
IF PUMPING CAPACITY EXCEEDS BASIN CAPACITY, BASINS MAY BE USED IN TANDEM OR IN TIERS

**NOTES:**

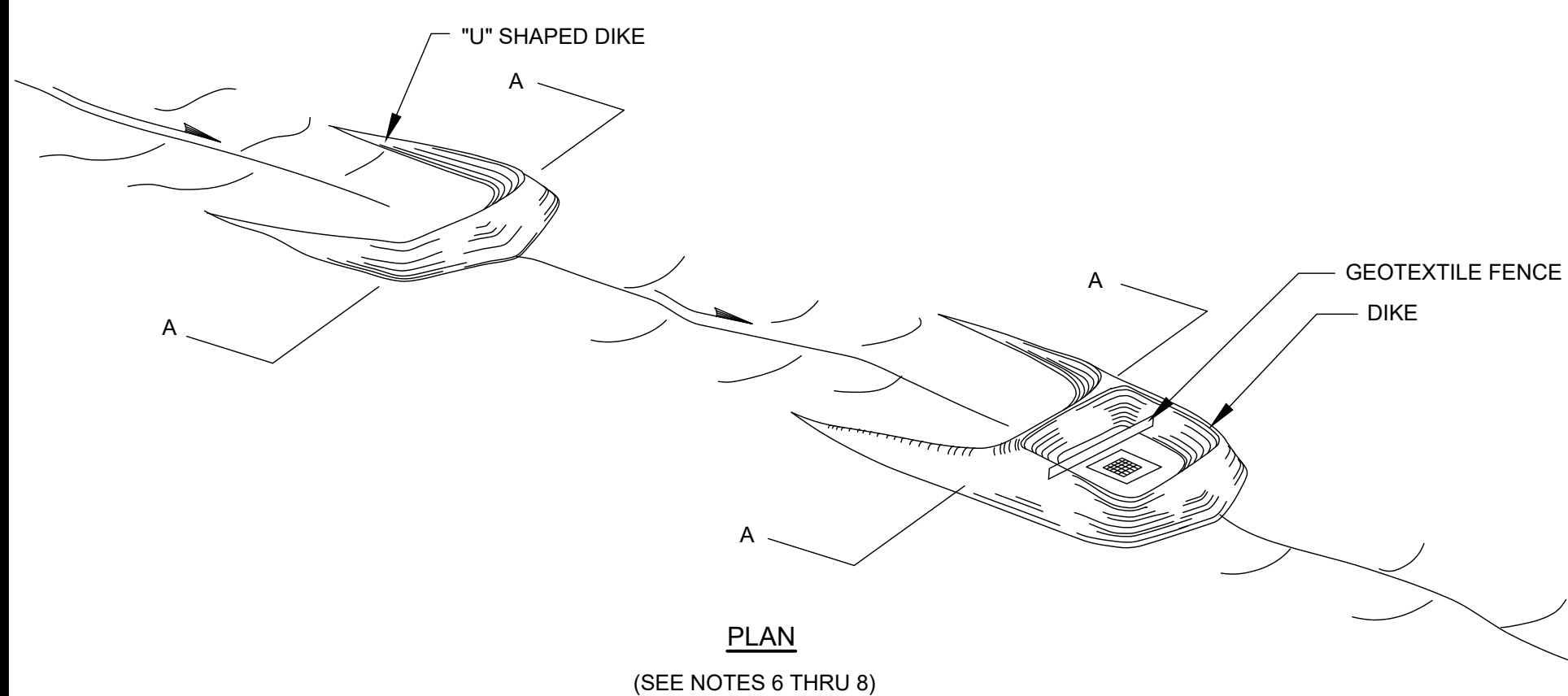
- 1. VOLUME OF BASIN IS EQUAL TO THE MAXIMUM VOLUME OF WATER CAPABLE OF BEING PUMPED OVER ONE HOUR. THIS VOLUME CAN BE DETERMINED BY THE CONTRACTOR USING THE PUMP MANUFACTURER'S SPECIFICATIONS.
- 2. CONTRACTOR TO SHOW APPROXIMATE LOCATION AND SIZE OF HIS PROPOSED DEWATERING BASIN(S) ON HIS EROSION AND SEDIMENTATION CONTROL PLANS. SEE SECTION 1.10, ENVIRONMENTAL COMPLIANCE.
- 3. DEWATERING BASIN(S) NOT TO BE LOCATED IN ANY WETLAND AREA.
- 4. THERE WILL BE NO SEPARATE PAYMENT FOR THE DEWATERING BASINS, BUT IT WILL BE INCLUDED IN THE COST OF THE RESPECTIVE ITEMS "COFFERDAM AND DEWATERING" AND SEDIMENT AND EROSION CONTROL.



**CHECK DAM FILTER FABRIC OR HAY/STRAW BALES**

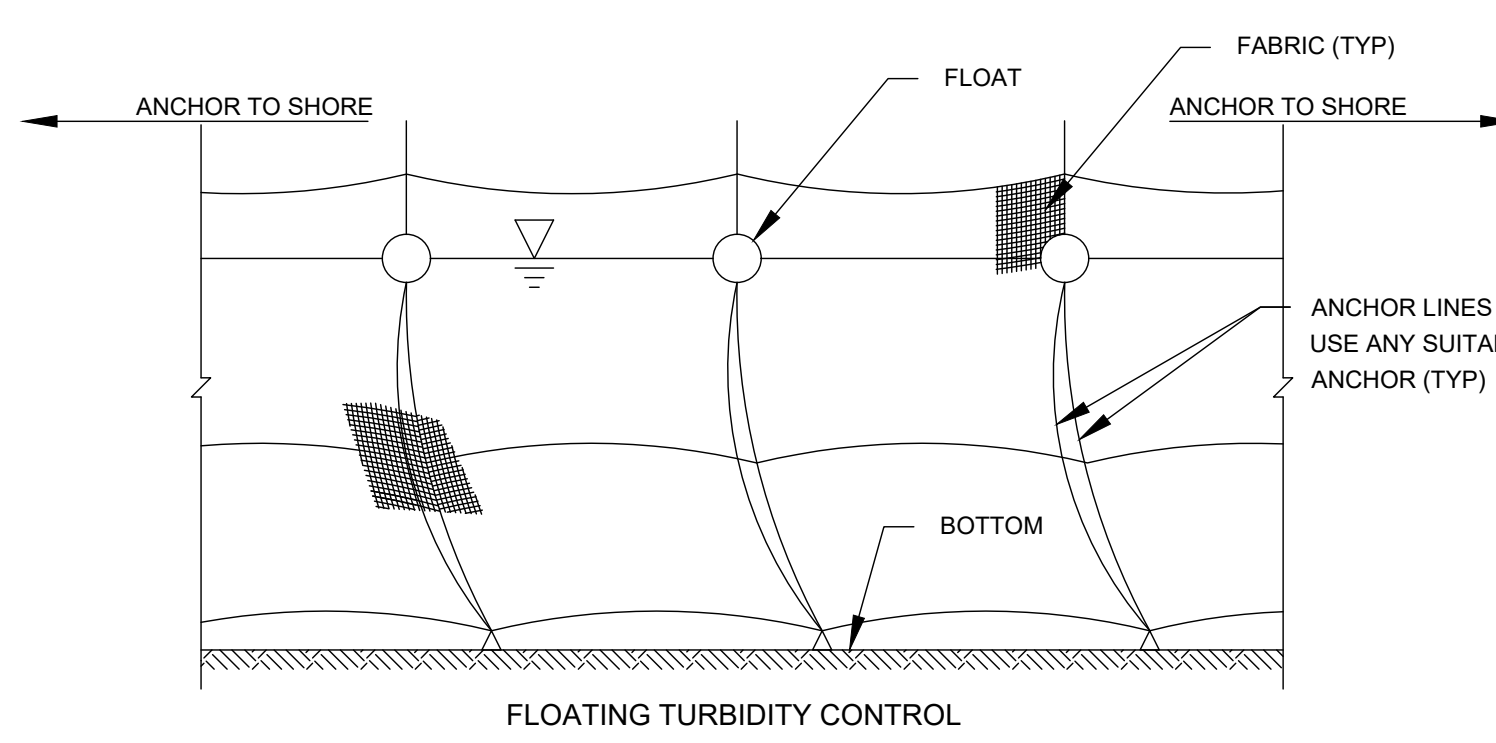


**SECTION A-A**



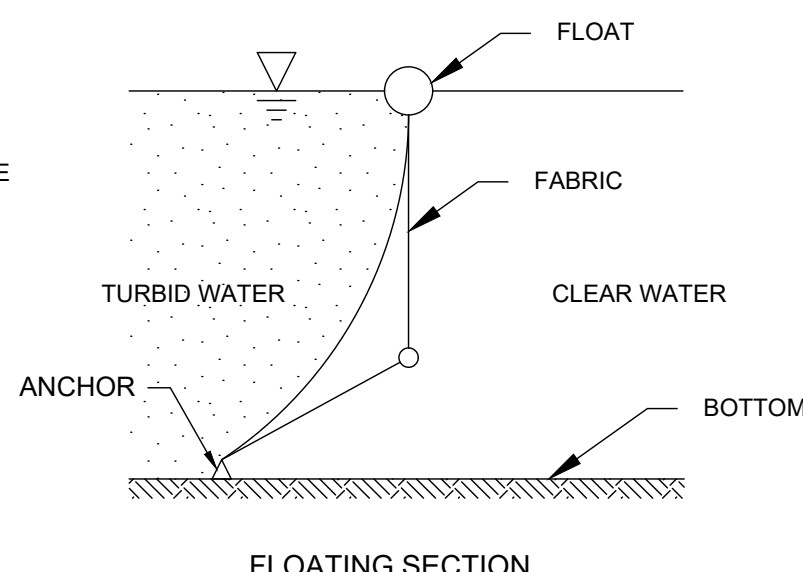
**PLAN**  
(SEE NOTES 6 THRU 8)

**"U" SHAPED STONE DIKE**



**TURBIDITY CONTROL CURTAIN**

NOT TO SCALE



**FLOATING SECTION**

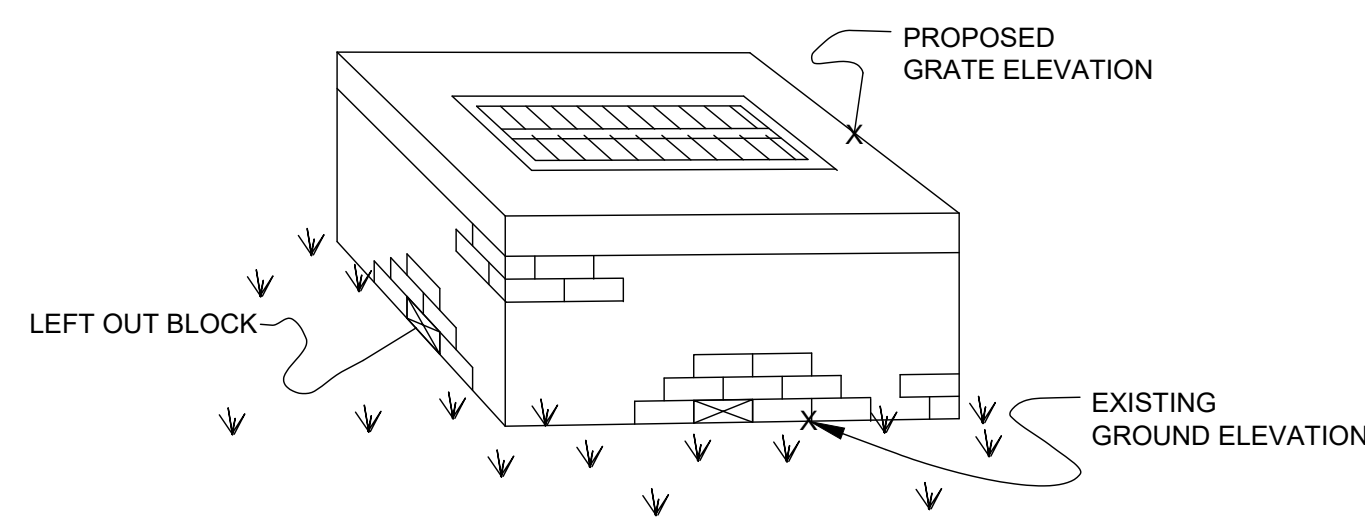
**NOTE:**

SEE PLANS AND SPECIAL PROVISIONS FOR LOCATION OF AND ADDITIONAL INFORMATION REGARDING TURBIDITY CONTROL CURTAIN.

**NOTES:**

- 1. ALL DIMENSIONS ARE IN INCHES (") EXCEPT AS NOTED.
- 2. CONSTRUCT CATCH BASINS LEAVING ONE (1) BLOCK OUT PER SIDE AT EXISTING GROUND ELEVATION TO ALLOW WATER TO ENTER.
- 3. IF GROUND WITHIN A CATCH BASIN'S WATERSHED BECOMES DISTURBED AND THE CATCH BASIN WILL NOT BE BACKFILLED TO TOP OF GRATE ELEVATION FOR AT LEAST EIGHT (8) HOURS, INSTALL SEDIMENTATION CONTROL SYSTEM FOR CATCH BASIN.
- 4. INSTALL LEFT OUT BLOCKS NOT SOONER THAN TWO (2) HOURS PRIOR TO BACKFILLING AROUND CATCH BASIN.
- 5. IMMEDIATELY AFTER PLACING FILL, INSTALL SEDIMENTATION CONTROL SYSTEMS.
- 6. THE ENDS OF THE DIKE SHALL BE THE SAME ELEVATION AS THE SPILLWAY OR GREATER.
- 7. MAXIMUM HEIGHT OF DIKE SHOULD NOT EXCEED 1/3 HEIGHT OF THE CHANNEL.
- 8. STONE DIKES SHALL BE PLACED AT 50' INTERVALS IN ALL TEMPORARY DITCHES AND CHANNELS.

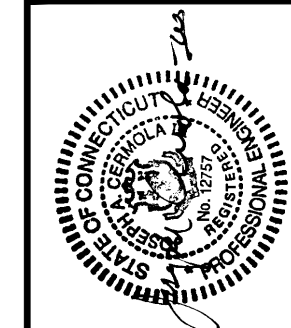
**SHORT TERM ALTERNATE**  
(SEE NOTES 2 THRU 5)



NO.	REVISION	DATE	BY

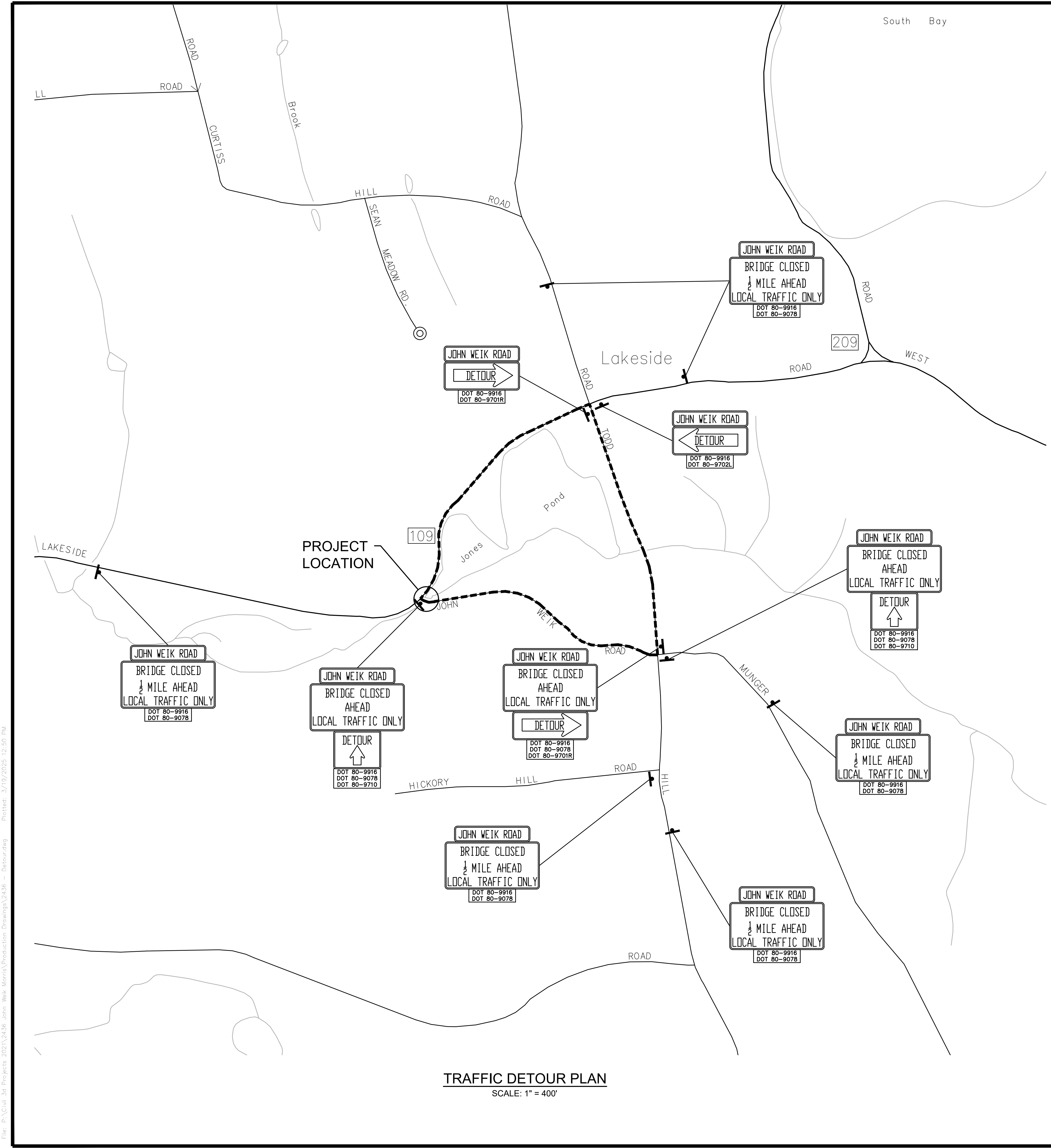
DATE: March 2025  
PROJECT NO.: 2436  
DESIGNED BY: ERN  
DRAWN BY: ERN  
CHECKED BY: GG  
APPROVED BY: JAC

**CARDINAL**  
ENGINEERING ASSOCIATES  
480 RESERVAIR RD | MIDDLETOWN, CT 06460 | 860.398.4819  
487 BANTAM RD | LITCHFIELD, CT 06751 | 860.597.9106

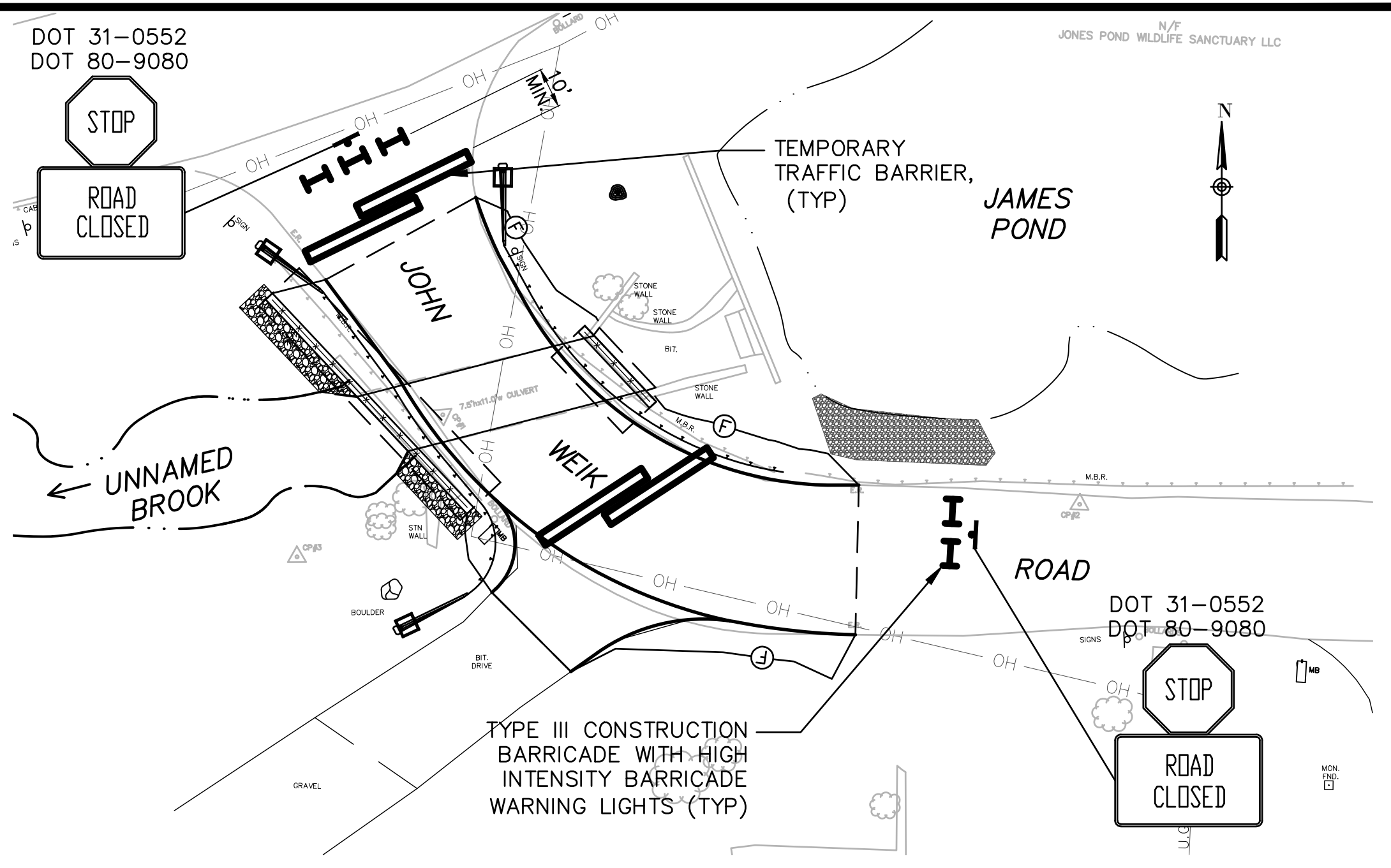


REPLACEMENT OF BRIDGE NO. 086007  
JOHN WEIK ROAD OVER UNNAMED BROOK  
MORRIS, CONNECTICUT  
SEDIMENT & EROSION CONTROL DETAILS





**TRAFFIC DETOUR PLAN**  
SCALE: 1" = 400'



**CONSTRUCTION AREA PLAN**  
SCALE: 1" = 20'

**GENERAL NOTES:**

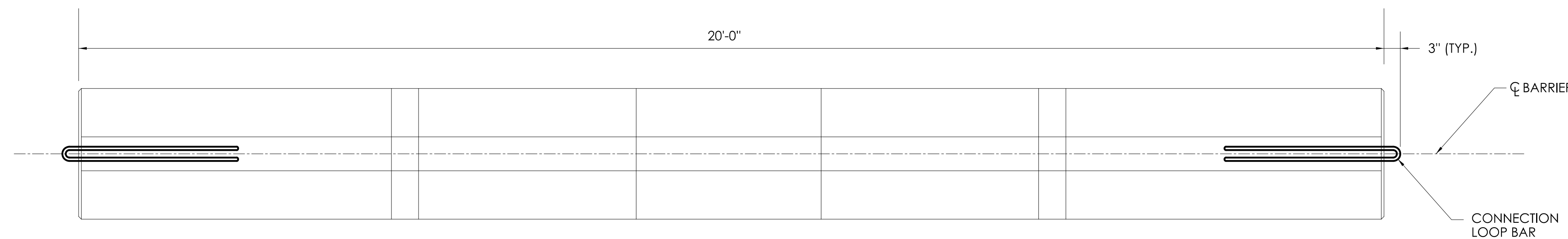
1. ALL TRAFFIC CONTROL DEVICES AND SIGNS SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION. ADJUST ALL SIGN LOCATIONS IN THE FIELD AS DIRECTED BY THE ENGINEER.
2. THE CONTRACTOR SHALL REMOVE OR COVER EXISTING SIGNS WHICH ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLAN, AS DIRECTED BY THE ENGINEER.
3. UPON COMPLETION OF THE PROJECT, ALL EXISTING SIGNS AND PAVEMENT MARKINGS WHICH ARE REMOVED IN ADVANCE OF STAGE CONSTRUCTION SHALL BE RE-ESTABLISHED AS DIRECTED BY THE ENGINEER.
4. TEMPORARY SIGNS AND OTHER TEMPORARY TRAFFIC PROTECTIVE DEVICES SHALL REMAIN IN PLACE AS SHOWN THROUGHOUT THE FULL DURATION OF EACH STAGE OF CONSTRUCTION. TRAFFICMEN SHALL BE REQUIRED WHEN DEVICES SHOWN ARE INSTALLED, RELOCATED, OR REMOVED.
5. ALL SIGNS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 2009 EDITION, LATEST REVISION.
6. TEMPORARY PRECAST CONCRETE BARRIER CURB SHALL BE IN PLACE WHENEVER WORK HAS BEGUN AND THE CONTRACTOR IS NOT ACTIVELY WORKING AT THE SITE. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY OF THE WORK SITE. SEE SPECIFICATIONS.

**LEGEND**

- DETOUR ROUTE
- CONSTRUCTION SIGN
- TRAFFIC BARRIER
- CONSTRUCTION BARRICADE

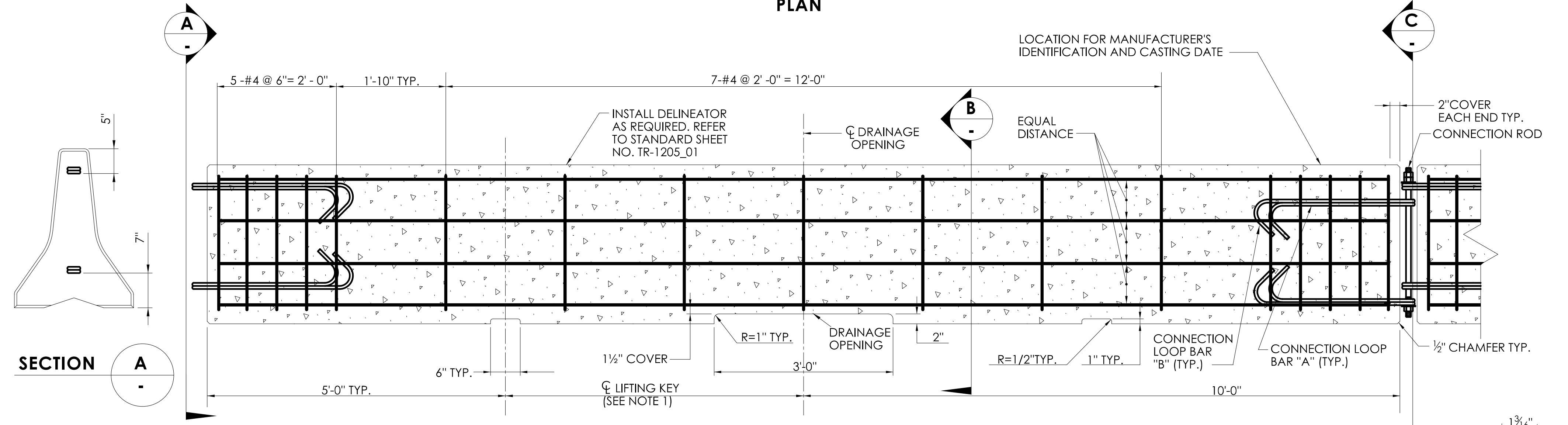
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 Date: 3/19/2025, 10:40 AM  
 User: jacob.morris

REVISIONS:	
NO.	DATE
1	6/21/19
1 LOWER PROFILE & SHORTEN ALIGNMENT, ADD ROCK WEIR	
CHECKED BY: GG DRAWN BY: ERN DESIGNED BY: ERN PROJECT NO.: 2436 DATE: March 2025	
APPROVED BY: JAC	
480 RESEARCH PKY MERIDEN, CT 06460 (203) 238-4169 487 BANTAM RD   LITCHFIELD, CT 06039-3774 (203) 238-4169	
DETOUR PLAN MORRIS, CONNECTICUT JOHN WEIK ROAD OVER UNNAMED BROOK BRIDGE NO. 086007	
DET-01	
18	

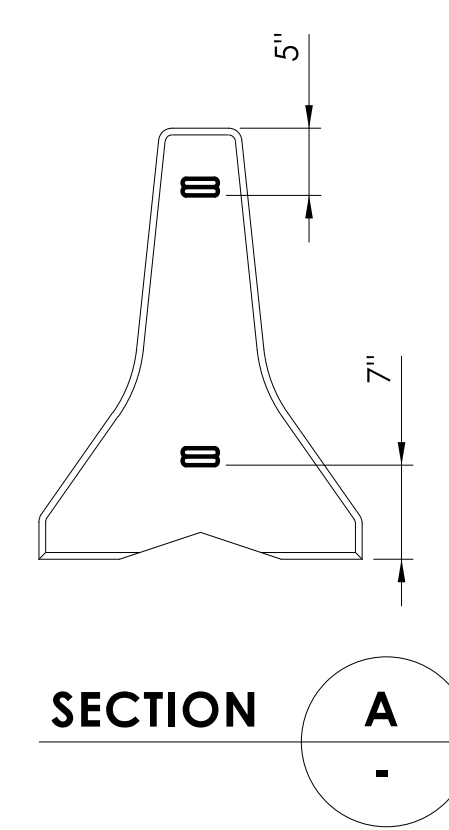


**GENERAL NOTES:**  
 1. ALTERNATE DESIGNS FOR LIFTING KEYS, HOLES OR OTHER HANDLING DEVICES MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL.  
 2. EXPECTED PERMANENT DYNAMIC DEFLECTION IS 3'-6" BASED ON TL-3 CRASH TESTS WITH 240' OF TPCBC.

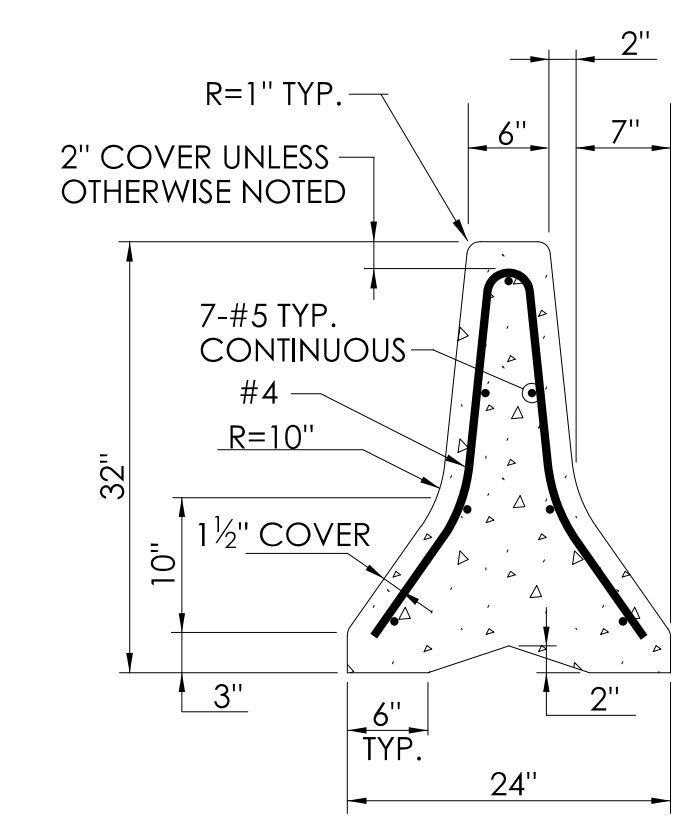
**PLAN**



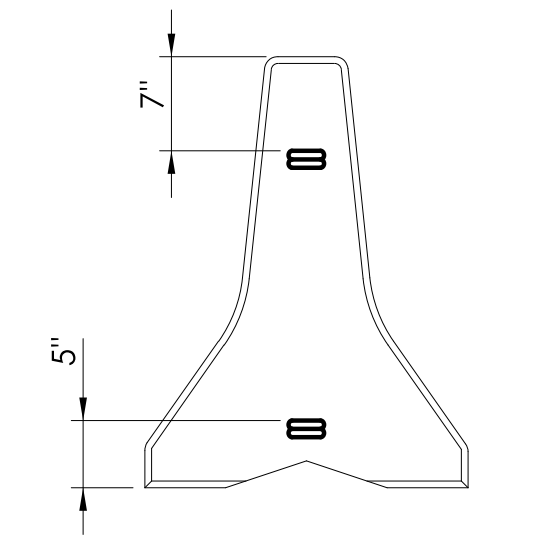
**ELEVATION**



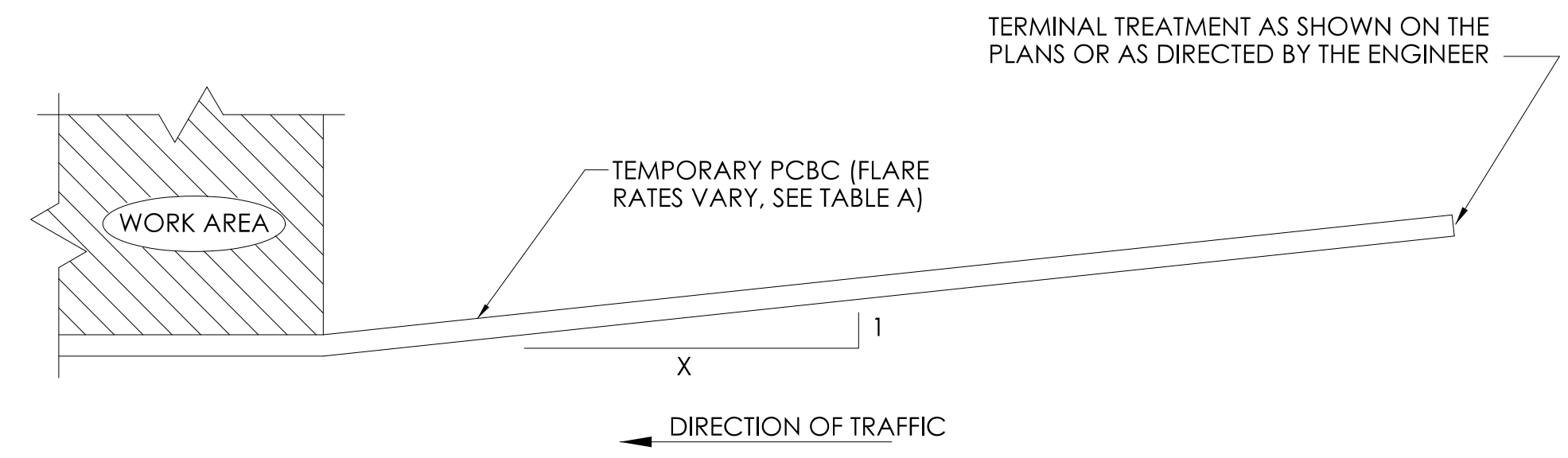
**SECTION A**



**SECTION B**



**END VIEW C**

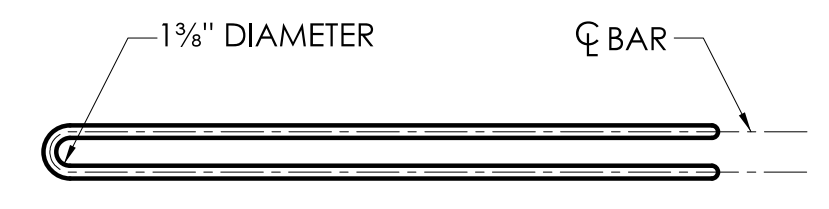


**PLAN - TYPICAL INSTALLATION**

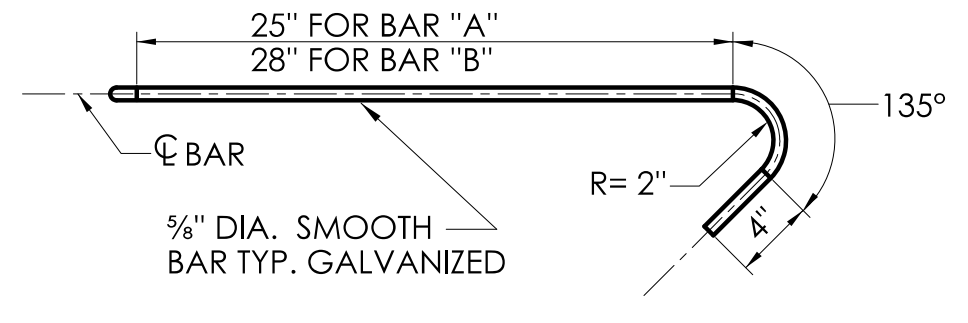
TABLE A FLARE RATES	
* SPEED	FLARE RATE (X : 1)
≤ 30MPH	4 : 1
> 30MPH BUT < 45MPH	6 : 1
≥ 45MPH NON-LIMITED ACCESS HIGHWAYS	8 : 1
ALL LIMITED ACCESS HIGHWAYS	10 : 1

\* DESIGN SPEED THROUGH THE WORK AREA.

**WASHER DETAIL**



**PLAN**



**ELEVATION**

BAR "A" = 6'-0" TOTAL  
 BAR "B" = 6'-6" TOTAL

**CONNECTION LOOP BAR**

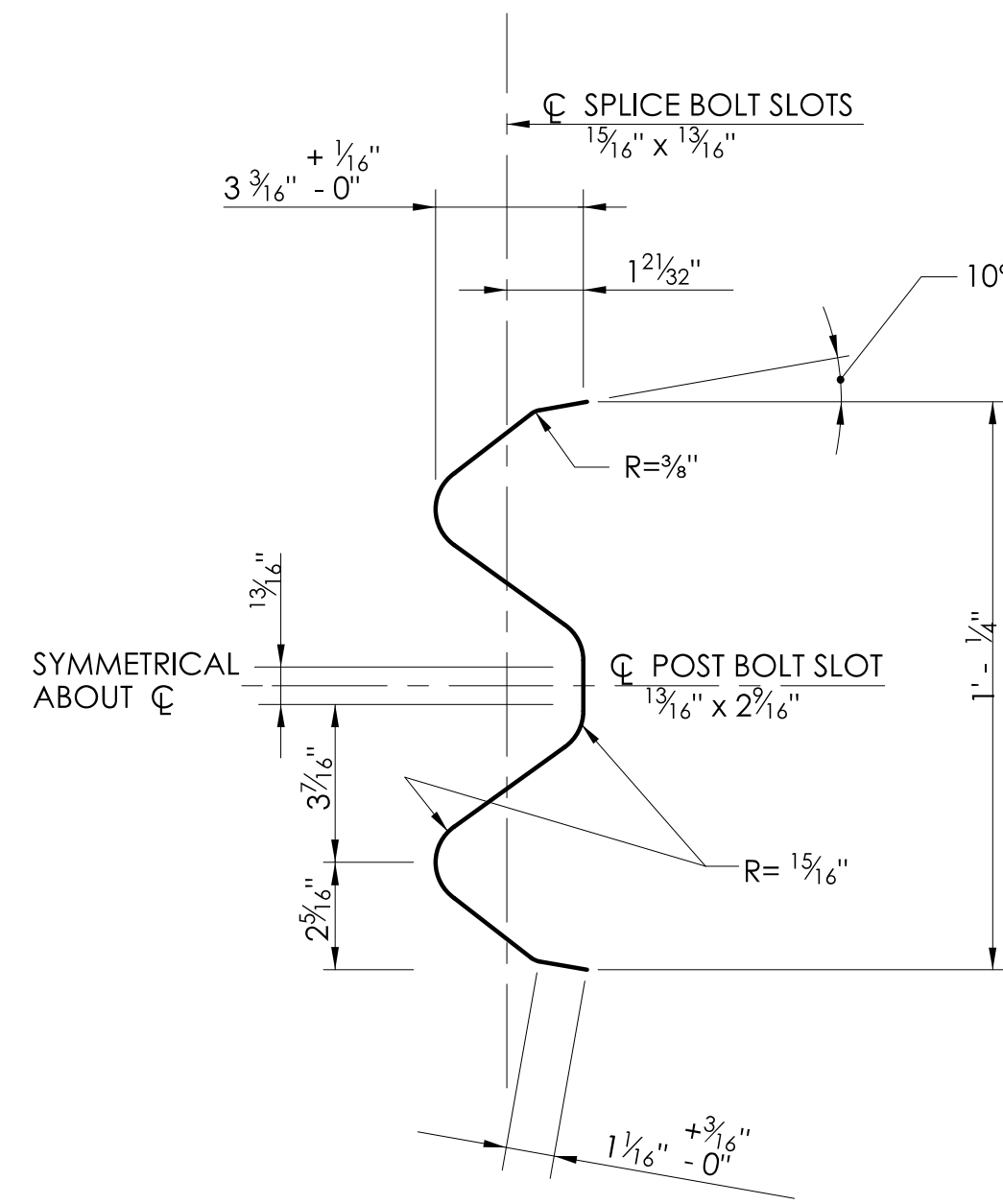
TWO HEAVY HEX NUTS AT TOP. ONE HEAVY HEX NUT AT BOTTOM. ONE STEEL FLAT WASHER TOP AND BOTTOM. SEE WASHER DETAIL. ALL GALVANIZED.

1" DIA. ROD GALVANIZED

THREAD CONNECTION ROD A MINIMUM OF 4" TYP.

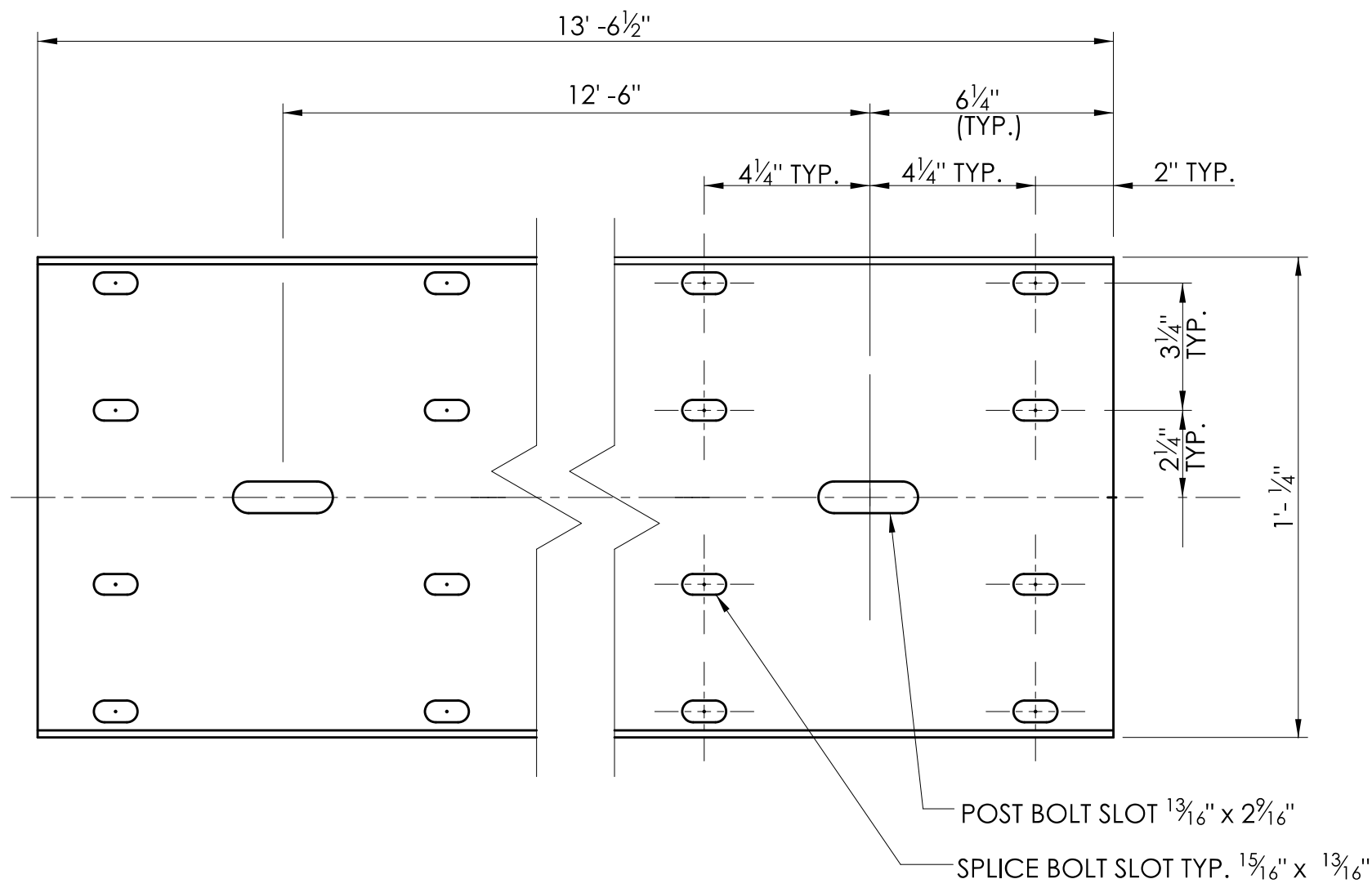
**CONNECTION ROD**



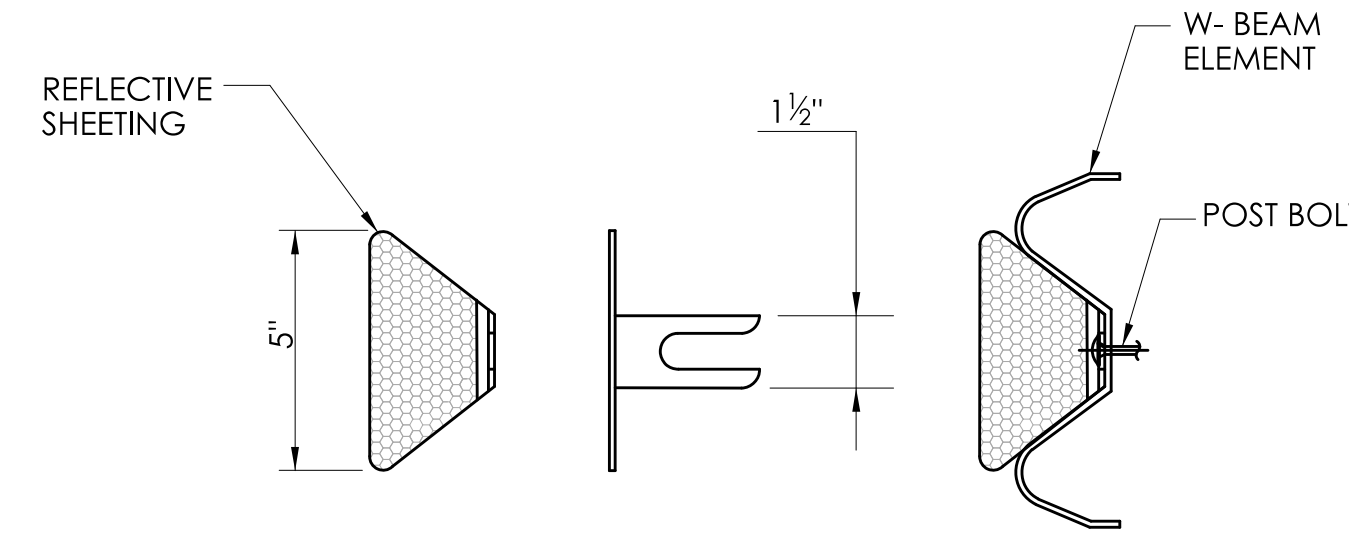


**SELECTION THRU RAIL ELEMENT  
END VIEW**

NOTE: ALL DIMENSIONS SUBJECT TO  
MANUFACTURING TOLERANCES



**TYPICAL W-BEAM RAIL ELEMENT  
CLASS A, TYPE II**



**DELINEATOR DETAIL**

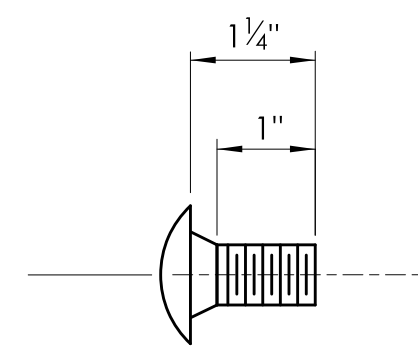
**GENERAL NOTES:**

1. NEW R-B 350 GUIDERAIL INCLUDING SYSTEMS, ANCHORS AND TRANSITIONS INSTALLED ON EXPRESSWAYS AND RAMPS SHALL USE CLASS B TYPE II (10 GAUGE) W-BEAM RAIL ELEMENTS.
2. W6 x 9 POSTS MAY BE USED IN PLACE OF W6 x 8.5 POSTS.
3. W8 x 13 POSTS, 7'-6" LONG, ARE USED WITH TRANSITIONS TO VERTICAL OR SAFETY SHAPE PARAPETS (POSTS 1 AND 2) AND SYSTEM 6.
4. W6 x 8.5 POSTS, 6'-0" LONG, ARE USED WITH TRANSITIONS TO VERTICAL OR SAFETY SHAPE PARAPETS (POSTS 3 THROUGH 6), MD-B 350, SYSTEM 5 & 5A, AND STANDARD R-B 350 GUIDERAIL.

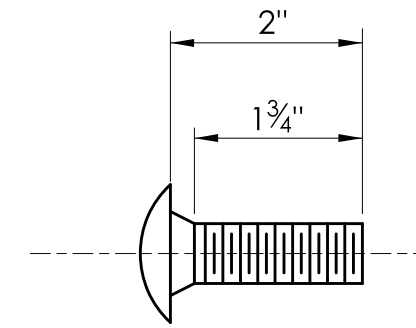
**DELINEATOR NOTES:**

1. DELINEATORS SHALL BE FORMED OF .080 POLY-CARBONATE OR .080 SHEET ALUMINUM IN ACCORDANCE WITH M.18.13.
2. REFLECTIVE SHEETING SHALL CONFORM TO M.18.09.2.
3. DELINEATORS SHALL BE INSTALLED ON THE POST CLOSEST TO THE DESIGNATED SPACING.
4. REFLECTIVE SHEETING SHALL BE WHITE EXCEPT ON THE LEFT SIDE OF DIVIDED STREETS, HIGHWAYS, RAMPS, AND ONE WAY ROADS IN THE DIRECTION OF TRAVEL WHERE IT SHALL BE YELLOW.
5. INSTALL DELINEATORS ON RAIL THAT IS PARALLEL TO AND NOT GREATER THAN 6' FROM THE EDGE OF THE ROADWAY. A MINIMUM OF THREE DELINEATORS MUST BE INSTALLED ON ANY RUN OF RAIL.

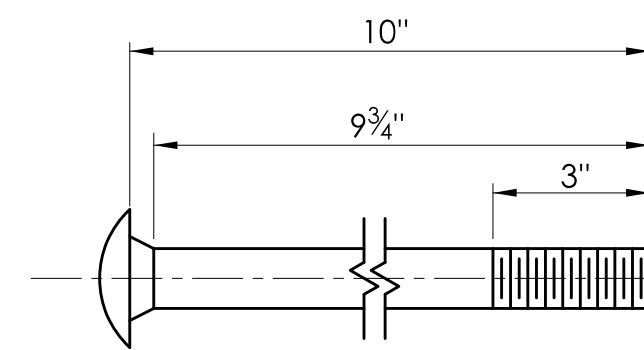
DELINEATOR SPACING:  
RADIUS ≥ 300' - SPACE EVERY 50'  
RADIUS < 300' - SPACE EVERY 25'



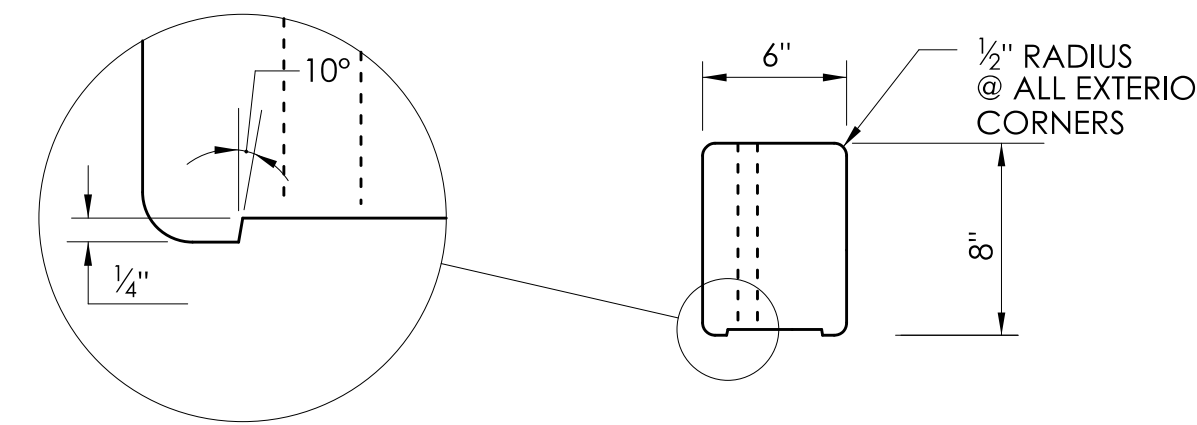
**W-BEAM SPLICE  
BOLT DETAIL**



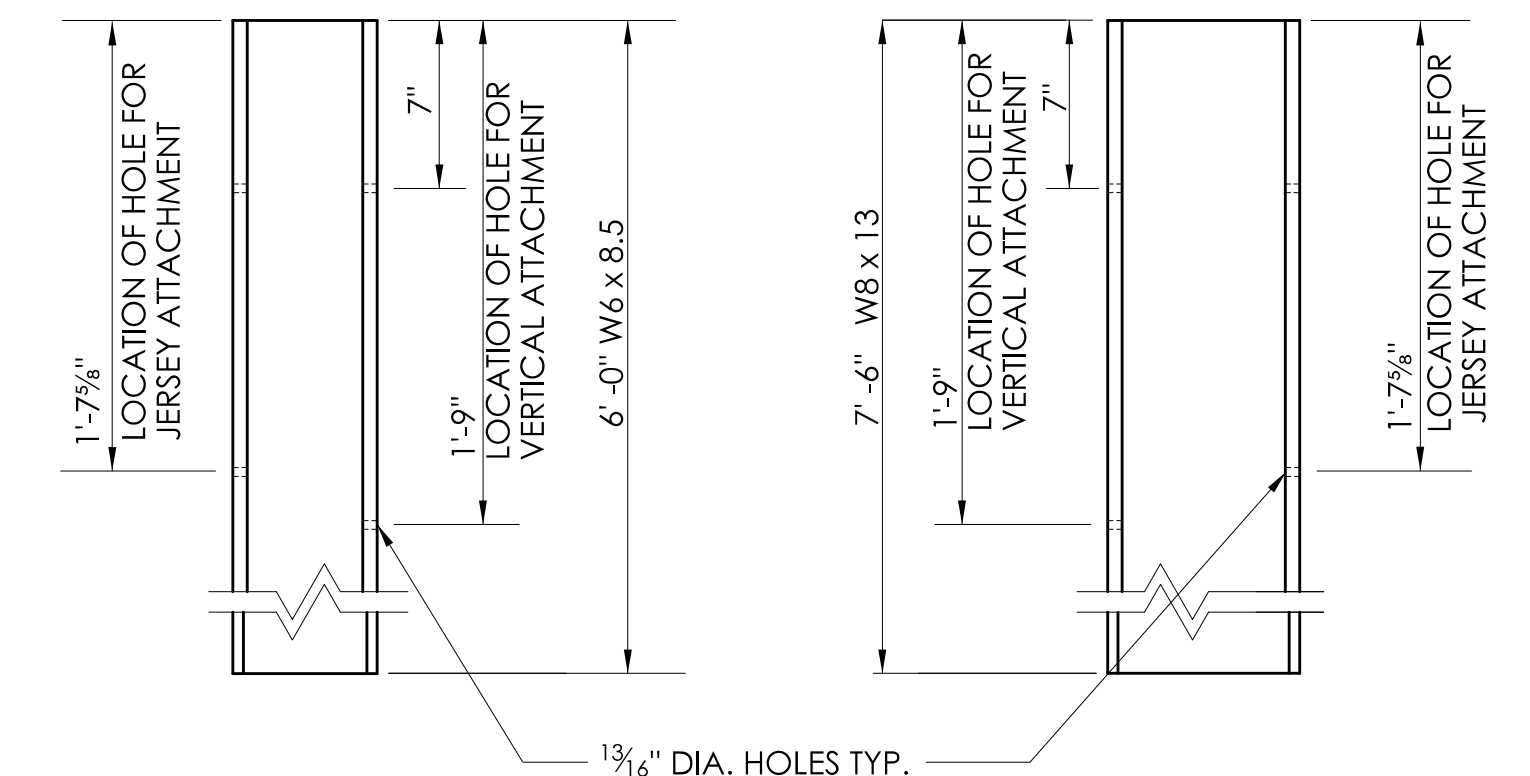
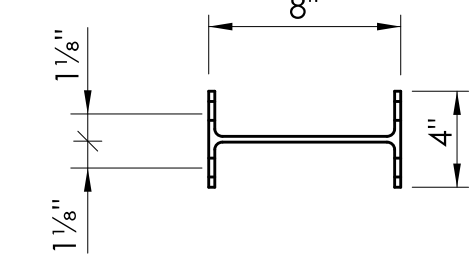
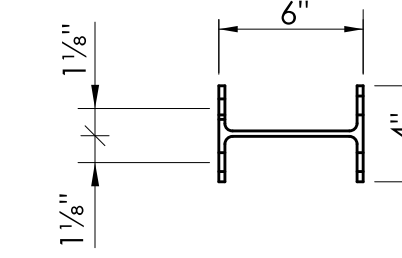
**POST BOLT DETAIL  
FOR R-B 350  
SYSTEM 6 RUBRAIL**



**POST BOLT DETAIL FOR R-B 350  
AND MD-B 350 GUIDERAIL**  
(UNTHREADED PORTION NOT TO EXCEED 6 3/4")



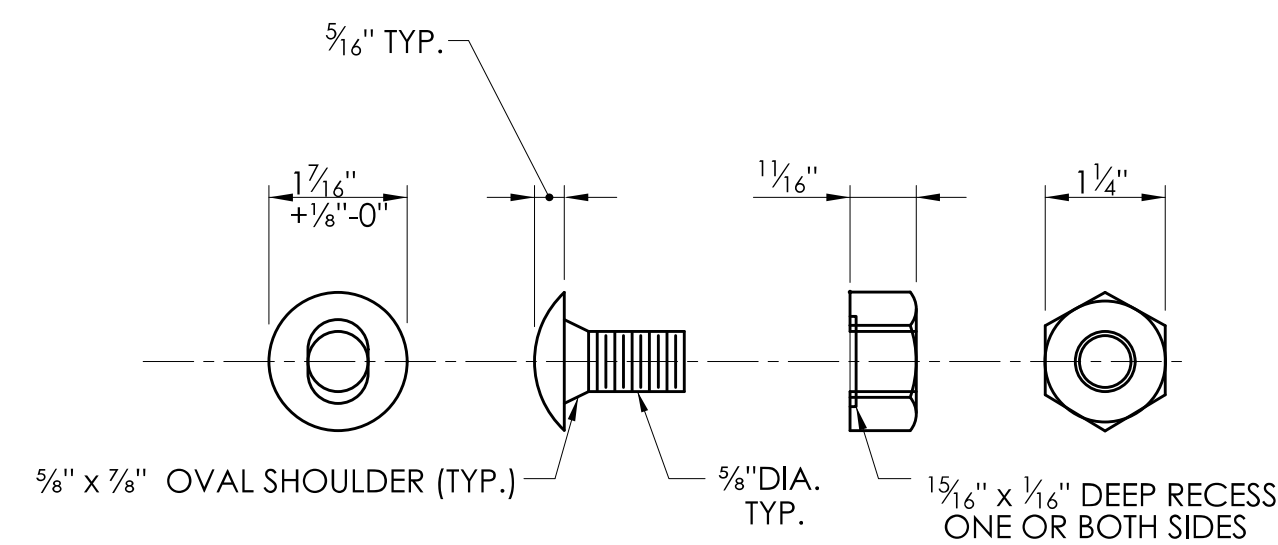
**PLAN**



**W6x8.5 POST  
6'-0" LONG**

**W8x13 POST  
7'-6" LONG**

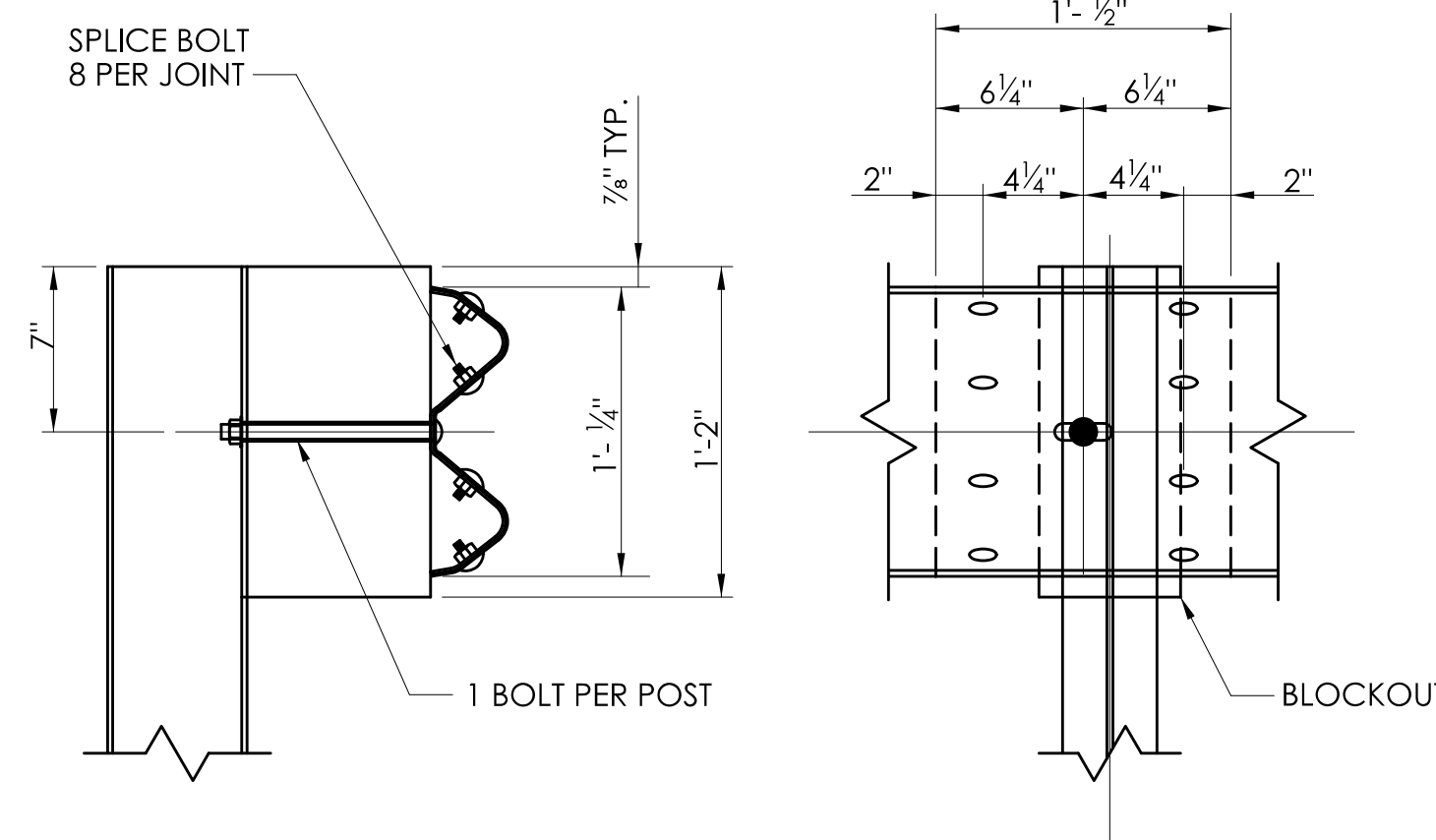
**BOLT HOLE LAYOUT FOR W8 x 13 AND W6 x 8.5 UNIFORM POST**  
(REFER TO GENERAL NOTES)



**BUTTONHEAD BOLT**

**HEX NUT**

NOTE: AFTER GALVANIZING, THE NUT SHALL BE FREE RUNNING ON THE BOLT. DIAMETER SHOWN IS TYPICAL FOR ALL GUIDERAIL BOLTS. SEE DETAILS ABOVE FOR SPECIFIC LENGTHS.

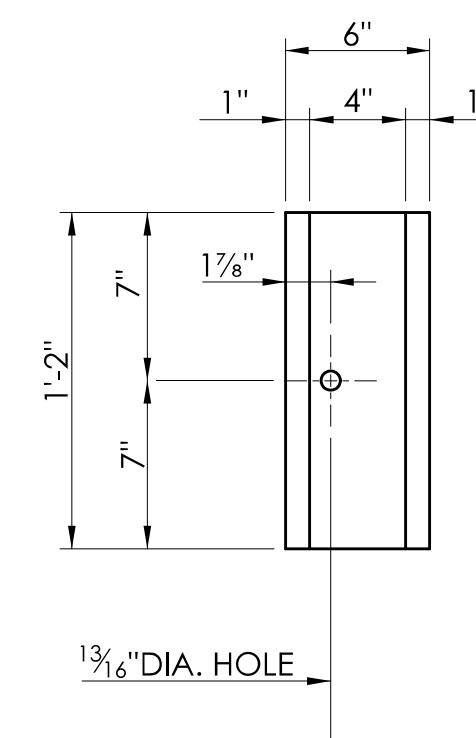


**SECTION**

**ELEVATION**

**LAP DETAIL**

NOTE: LAP RAIL SECTION IN DIRECTION OF TRAFFIC



**ELEVATION**

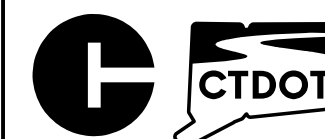
**R-B 350 PLASTIC  
BLOCKOUT DETAIL**

NOT TO SCALE

SIGNATURE BLOCK:  
OFFICE OF ENGINEERING  
2800 BERLIN TURNPIKE  
NEWINGTON, CT 06111

SUBMITTED BY:  
*Leo Fontaine*  
Digitally signed by  
Leo Fontaine, P.E.  
Date: 2024.12.16  
14:19:48-05'00'

APPROVED BY:  
*Michael N. Calabrese*  
Digitally signed by  
Michael N.  
Calabrese, P.E.  
Date: 2025.01.21  
13:44:33-05'00'



CONNECTICUT  
DEPARTMENT OF  
TRANSPORTATION

CTDOT  
STANDARD SHEET

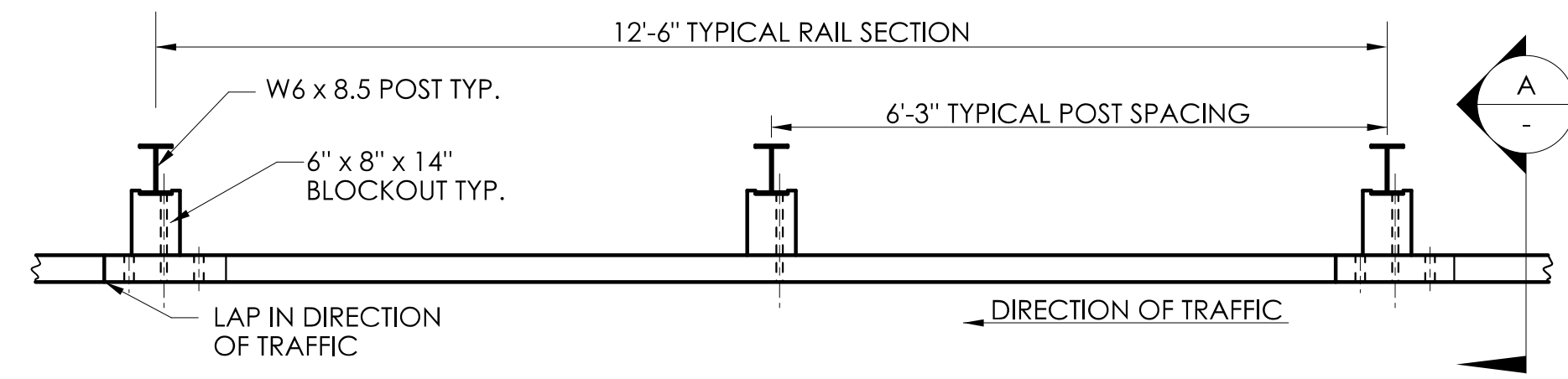
STANDARD SHEET TITLE:

W-BEAM METAL BEAM RAIL HARDWARE

STANDARD SHEET NO.:

HW-910\_01





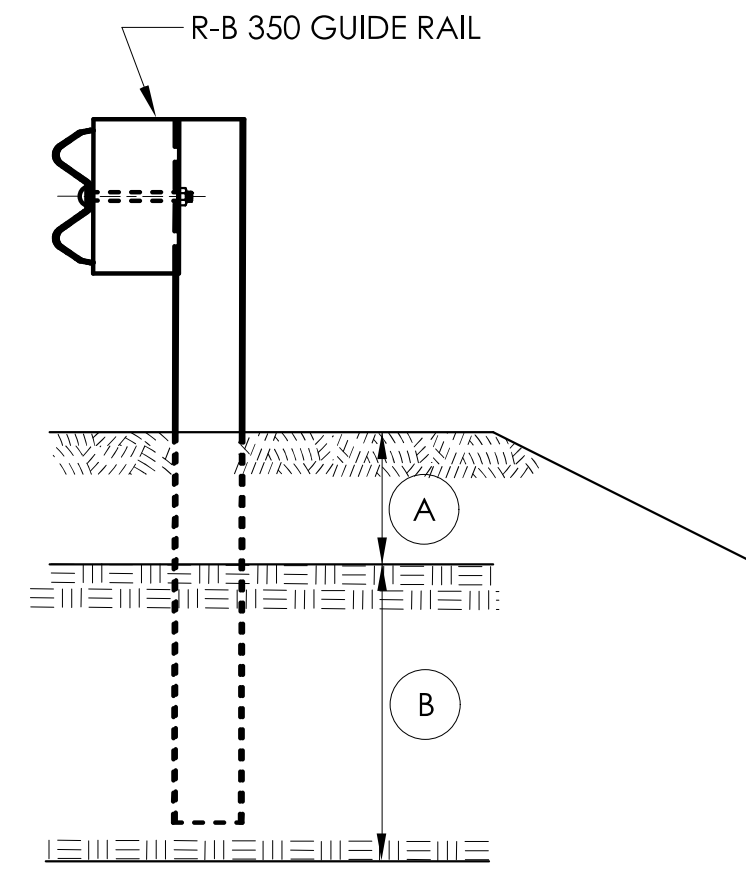
PLAN

**CONDITION 1 :**

IF SOIL DEPTH IS  $\leq$  18" DEEP (A)  
DRILL 20" DIA. HOLE 24" INTO LEDGE (B)

**CONDITION 2 :**

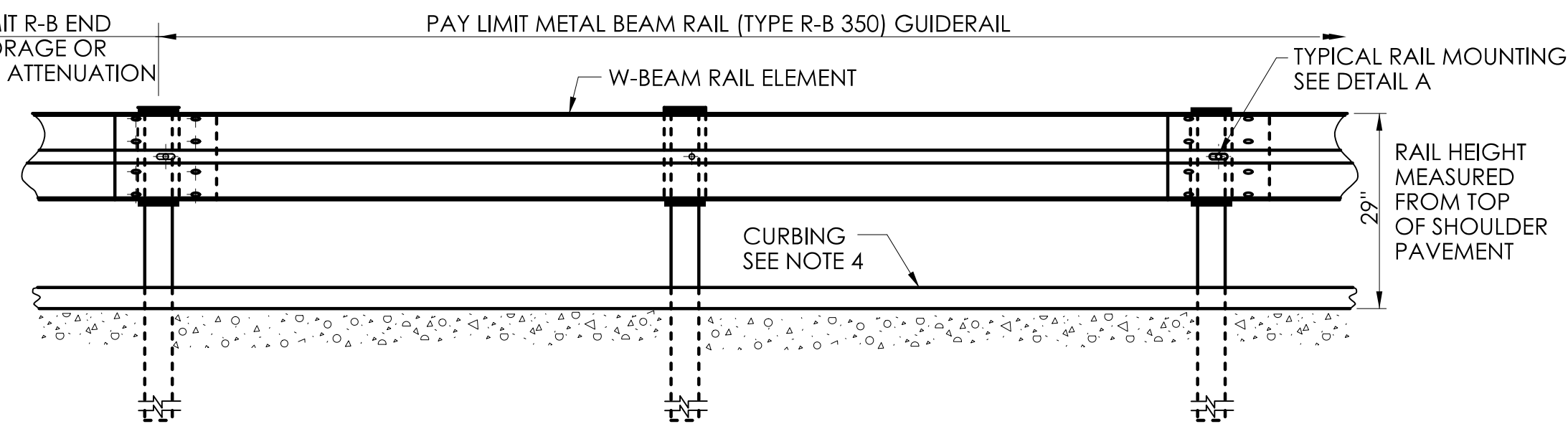
IF SOIL DEPTH IS  $>$  18" DEEP (A)  
DRILL 8" DIA. HOLE 1" INTO LEDGE (B) OR TO THE DEPTH OF FULL EMBEDMENT OF 42 1/2" WHICHEVER IS LESS.



ELEVATION  
(SEE NOTE 8)

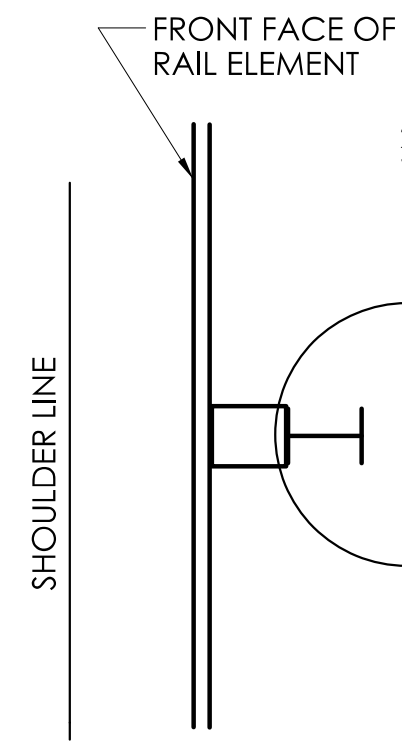
**GENERAL NOTES:**

- SEE SHEET HW-910\_01 FOR HARDWARE AND DELINEATOR DETAILS.
- MAXIMUM DESIGN DEFLECTION FOR R-B 350 GUIDERAIL AT THE STANDARD POST SPACING OF 6'-3" IS 4'-3". DEFLECTION REQUIREMENT IS MEASURED FROM THE BACK OF POST TO THE FACE OF OBJECT.
- FOR CURVES WITH RADII OF 150' OR LESS, ALL RAIL ELEMENTS SHALL BE SHOP FABRICATED TO THE PROPER RADIUS AND GALVANIZED AFTER FABRICATION. RADIUS RAIL WHEN REQUIRED AND NOTED ON THE PLANS, IS INCLUDED IN THE PAY ITEM FOR GUIDERAIL.
- RAIL HEIGHT WITH CURBING SHALL BE MEASURED FROM THE TOP OF PAVEMENT. ON HIGH SPEED ROADWAYS ( $>$ 45mph), 4" CURBING MAY BE USED IN CONJUNCTION WITH GUIDERAIL AND THE RAIL ELEMENT SHALL BE PLACED FLUSH WITH THE FACE OF CURB. ON LOW SPEED ROADWAYS ( $<$ 45mph), 6" CURBING MAY BE USED IN CONJUNCTION WITH GUIDERAIL AND THE RAIL ELEMENT SHALL BE PLACED A MAXIMUM OF 9" BEHIND THE FACE OF CURB.
- THREE BLOCKOUTS MAY BE USED FOR ONE POST ONLY. TWO BLOCKOUTS MAY BE USED FOR A SERIES OF POSTS. THE COST OF ADDITIONAL BLOCKOUTS AND LONGER BOLTS SHALL BE INCLUDED IN THE BID PRICE PER FOOT OF GUIDERAIL. EXTRA BLOCKOUTS AT TRANSITION TO BRIDGE PARAPETS SHOULD BE AVOIDED.
- W-BEAM GUIDERAIL MAY BE PLACED 1' OR MORE FROM THE EDGE OF PAVEMENT ONLY ON SLOPES 10:1 OR FLATTER AND WITHOUT CURBING. IF THE RAIL IS INSTALLED WITHIN 2' OF THE EDGE OF PAVEMENT, THE RAIL HEIGHT IS MEASURED FROM THE SHOULDER SLOPE EXTENDED TO THE RAIL. IF THE RAIL IS INSTALLED BEYOND 2' FROM THE EDGE OF PAVEMENT, THE RAIL HEIGHT IS MEASURED FROM THE GROUND DIRECTLY BELOW THE RAIL.
- ALL R-B 350 GUIDERAIL TYPES INSTALLED ON EXPRESSWAYS AND RAMPS SHALL USE CLASS B, TYPE-II (10 GAUGE) W-BEAM RAIL ELEMENTS.
- 20" DIA. EXCAVATED HOLE SHALL BE BACKFILLED WITH SUITABLE MATERIAL, OR GRANULAR FILL COMPACTED IN 6" LIFTS BEFORE DRIVING POST OR POSTS MAY BE SET IN EXCAVATED HOLE AND BACKFILLED WITH CONTROLLED LOW STRENGTH MATERIAL (CLSM). 8" DIA. HOLE SHALL BE BACKFILLED WITH SUITABLE MATERIAL.
- AS DIRECTED BY THE ENGINEER AND WHERE PAVEMENT FOR RAILING IS NOT BEING INSTALLED, A MIN. 6" DEPTH OF PROCESSED AGGREGATE SHALL BE INSTALLED FROM THE PAVEMENT EDGE OR BACK OF CURB TO A MINIMUM OF 2' BEHIND THE GUIDERAIL POST AND COMPACTED IN 6" LIFTS.
- MINIMUM RAIL HEIGHT FOR NEW CONSTRUCTION SHALL BE 29"  $\pm$  1".

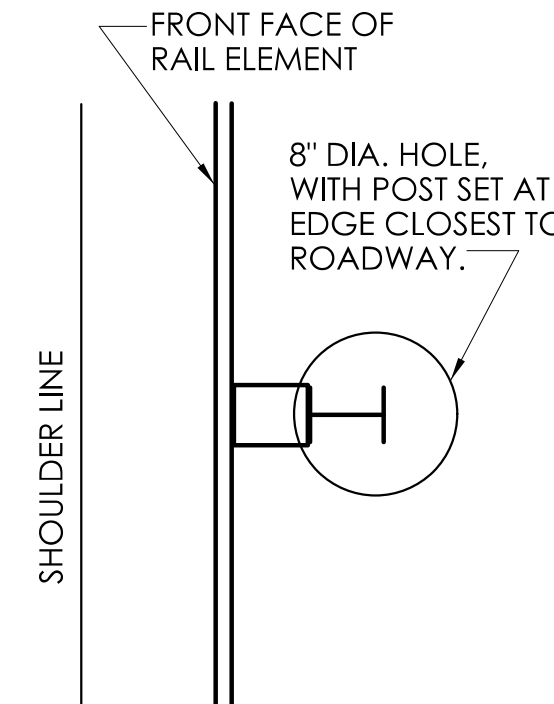


ELEVATION

METAL BEAM RAIL (TYPE R-B 350)

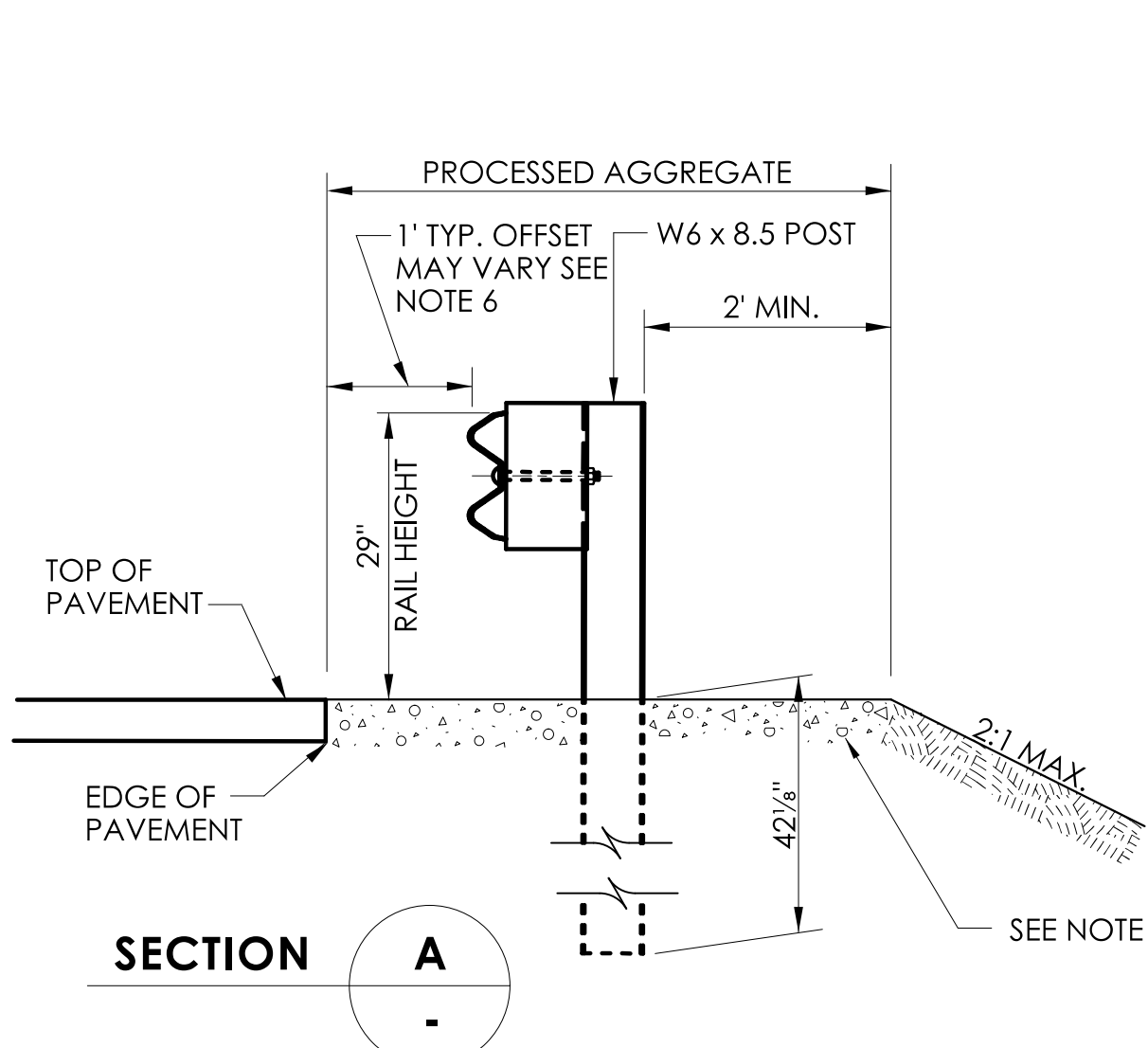


PLAN  
CONDITION 1  
(SEE NOTE 8)



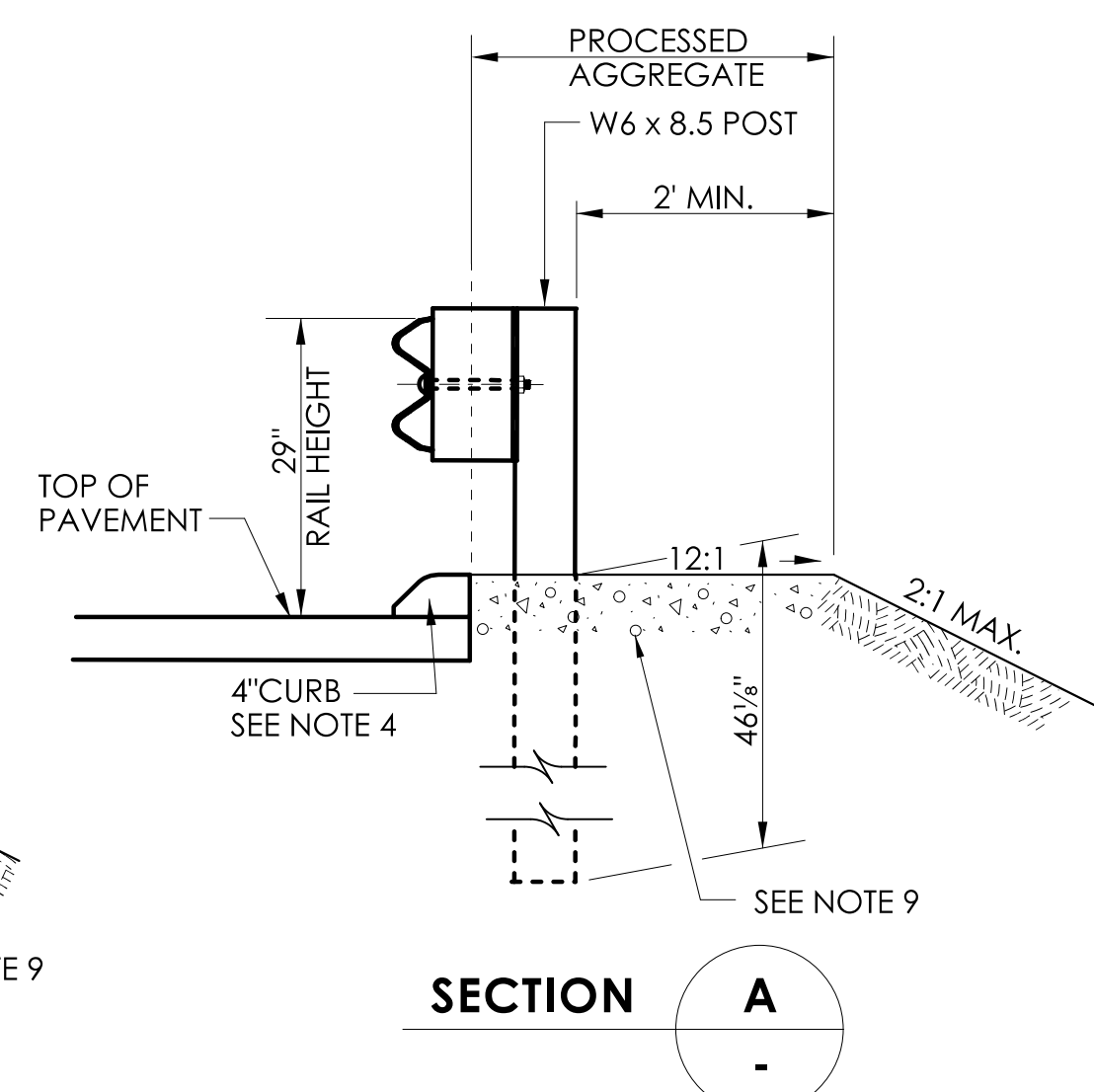
PLAN  
CONDITION 2  
(SEE NOTE 8)

**DRILLING IN ROCK FOR GUIDERAIL POSTS**



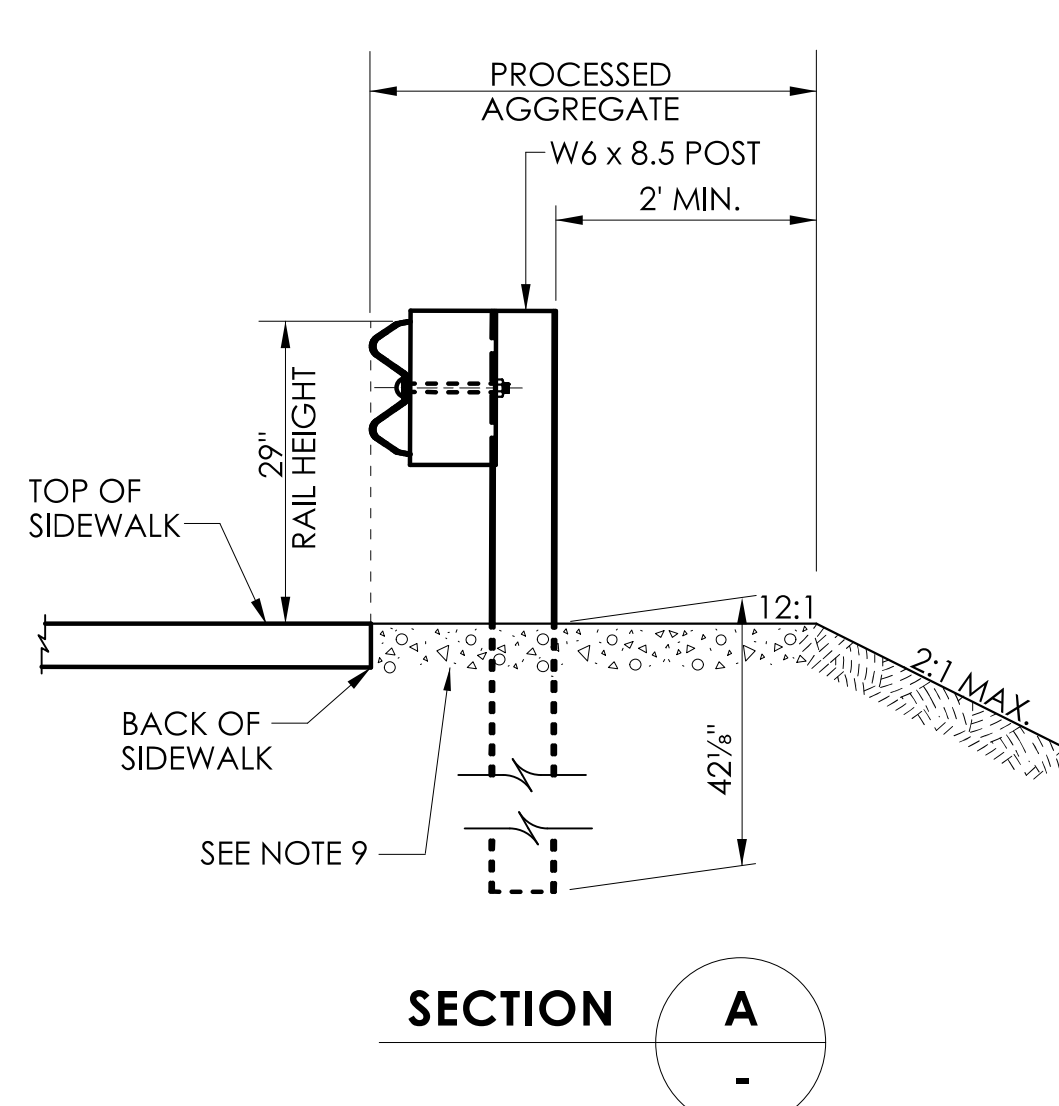
SECTION A

NO CURB APPLICATION



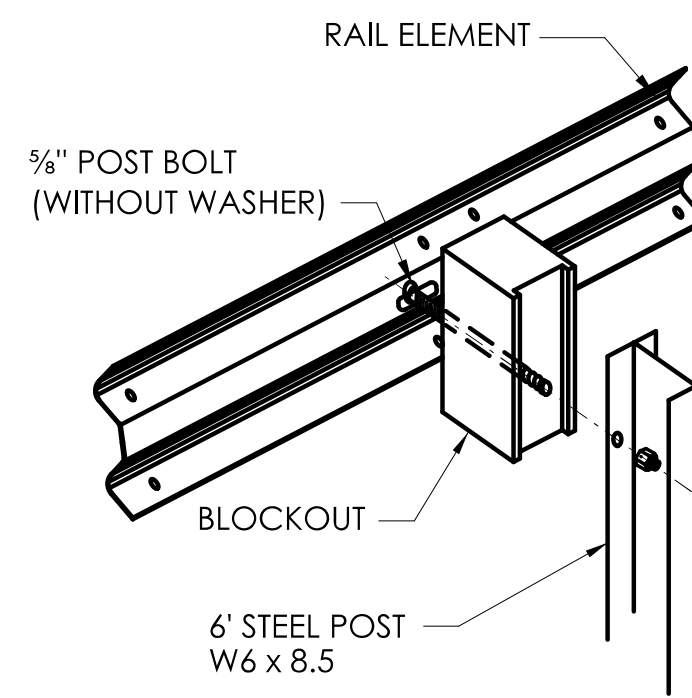
SECTION A

CURB APPLICATION

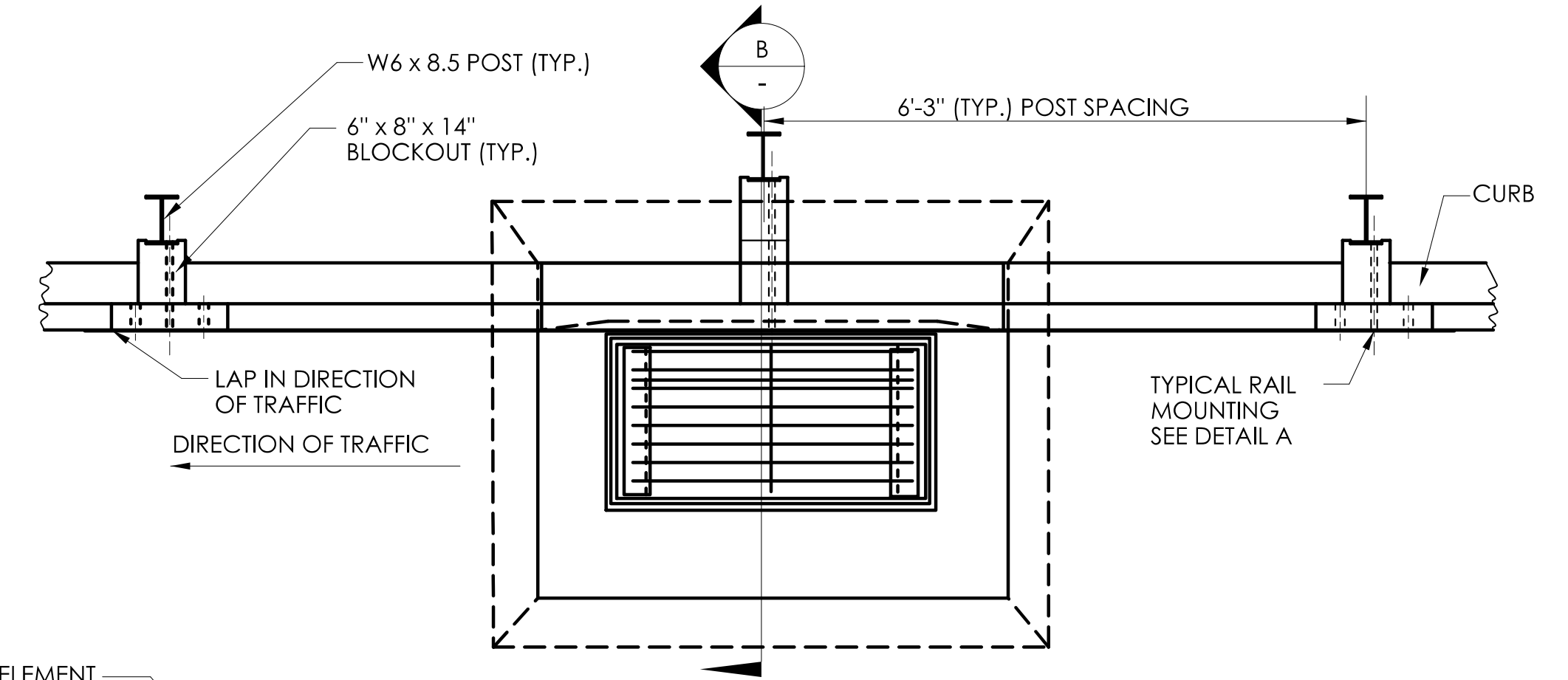


SECTION A

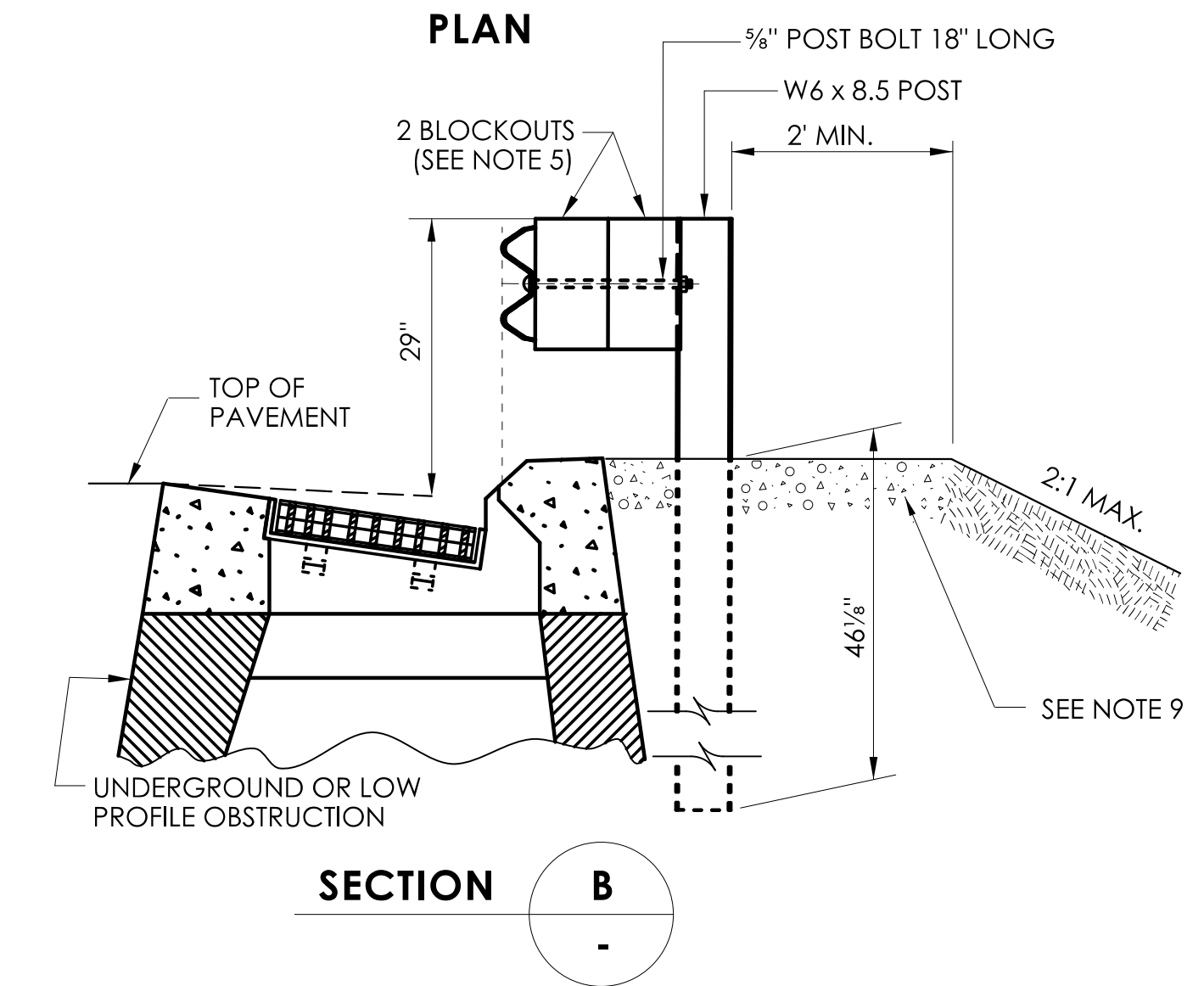
SIDEWALK APPLICATION



DETAIL A  
RAIL MOUNTING



PLAN



SECTION B

MULTIPLE BLOCKOUT APPLICATION (MAY BE USED TO AVOID UNDERGROUND OR LOW PROFILE OBSTRUCTION)

NOT TO SCALE

SIGNATURE BLOCK:  
OFFICE OF ENGINEERING  
2800 BERLIN TURNPIKE  
NEWINGTON, CT 06111

SUBMITTED BY:  
*Leo Fontaine*  
Digitally signed by  
Leo Fontaine, P.E.  
Date: 2024.12.16  
14:18:32-05'00'

APPROVED BY:  
*Michael N. Calabrese*  
Digitally signed by  
Michael N.  
Calabrese, P.E.  
Date: 2025.01.21  
13:48:55-05'00'



CONNECTICUT  
DEPARTMENT OF  
TRANSPORTATION

CTDOT  
STANDARD SHEET

STANDARD SHEET TITLE:

METAL BEAM RAIL (TYPE R-B 350) GUIDERAIL

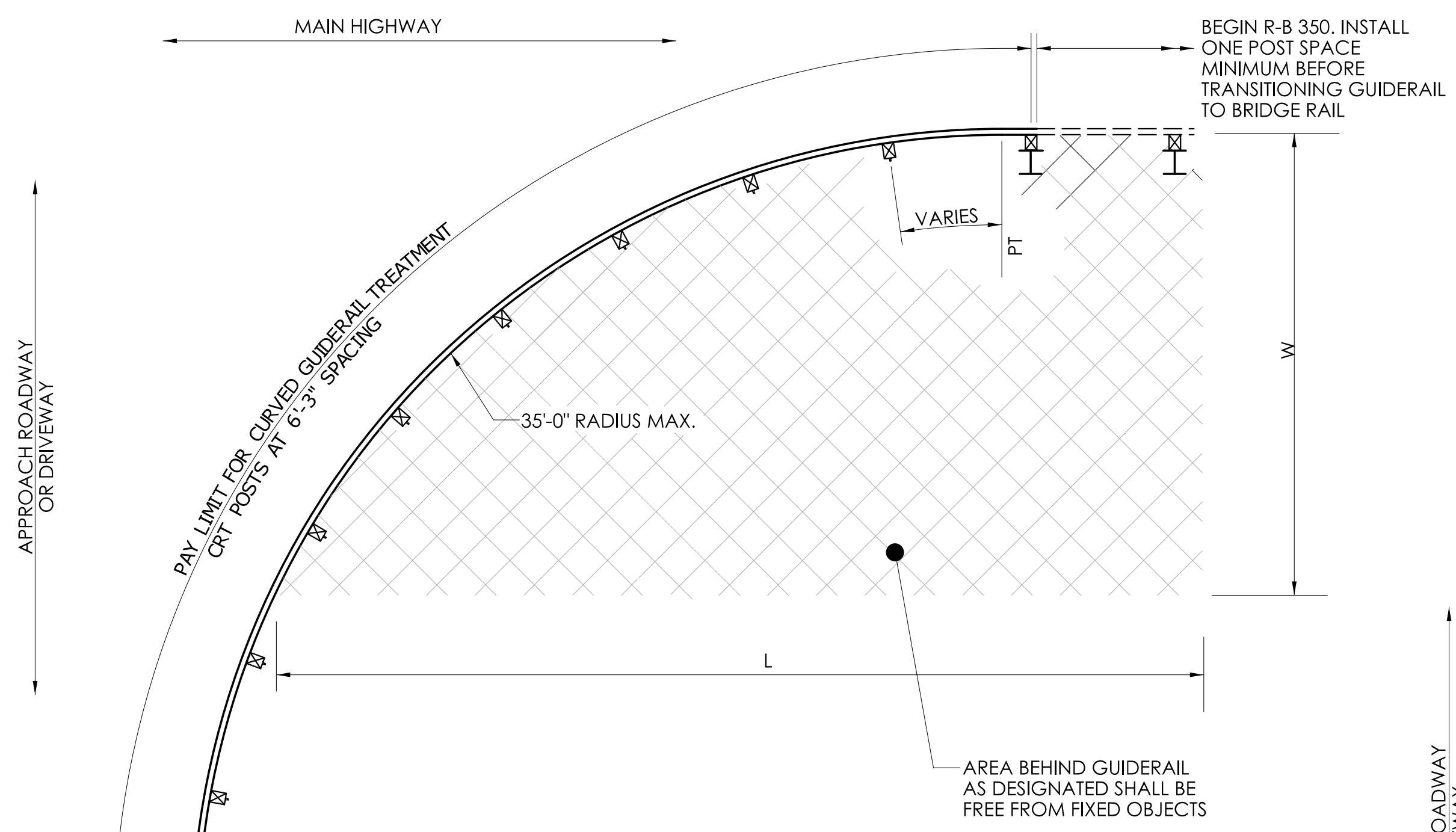
STANDARD SHEET NO.:

HW-910\_02



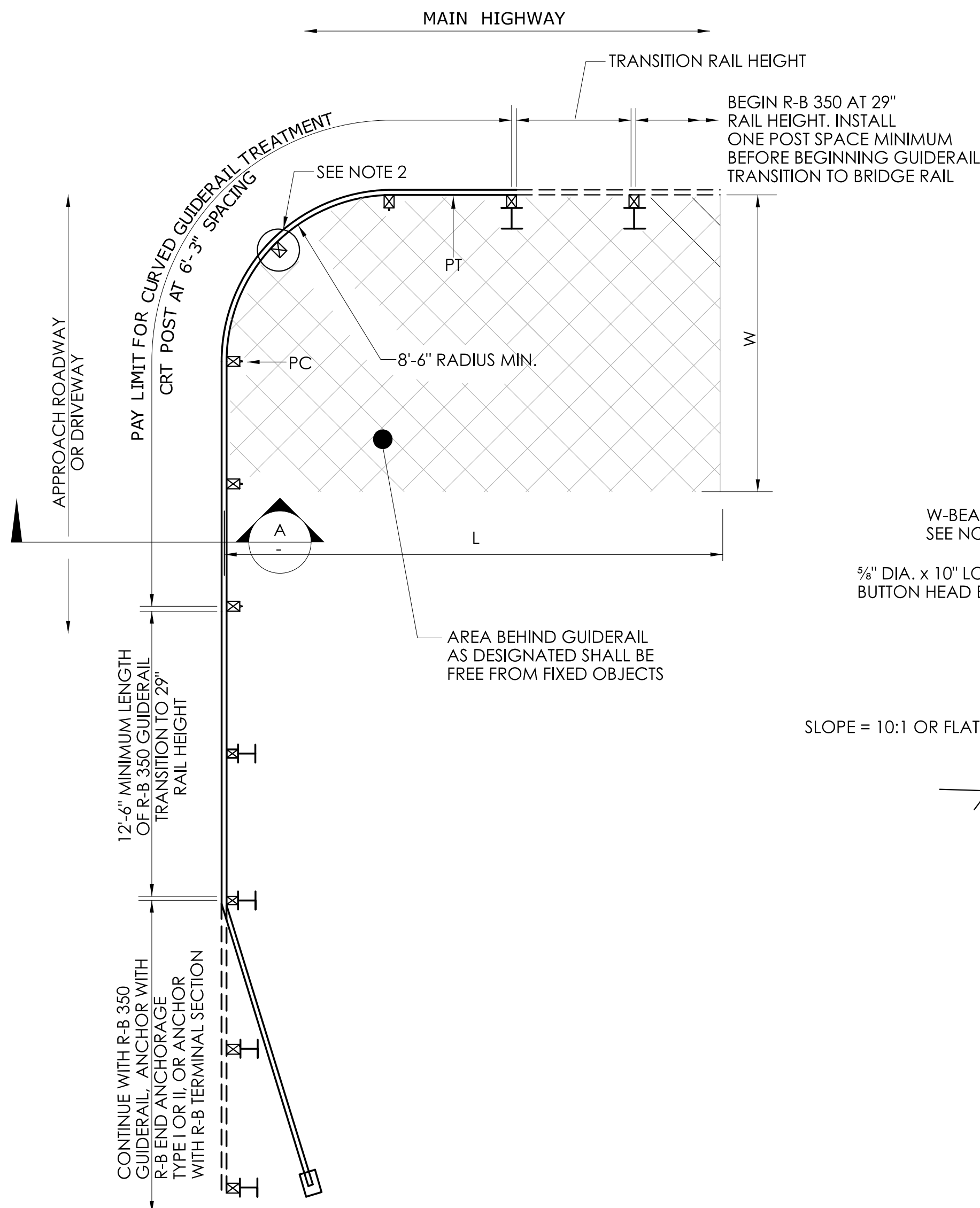
**GENERAL NOTES:**

1. NO WASHERS ARE USED ON THE 3/4" DIA. BUTTON HEAD BOLTS CONNECTING THE RAIL TO THE CONTROLLED RELEASING TERMINAL (CRT) POSTS.
2. THE RAIL IS NOT BOLTED TO THE CRT POST AT THE CENTER OF THE NOSE AS SHOWN FOR THE 8'-6" RADIUS CURVED GUIDERAIL TREATMENT ONLY.
3. THE CURVED GUIDERAIL SECTION SHALL BE SHOP BENT.
4. THE SLOPE FROM THE EDGE OF THE SHOULDER TO THE FACE OF THE RAIL SHALL BE 10:1 OR FLATTER, NO CURBING SHALL BE INSTALLED WITHIN THE PAY LIMIT OF THE CURVED GUIDERAIL TREATMENT.
5. THIS SYSTEM SHALL BE USED ONLY ON ROADS WITH DESIGN SPEEDS ≤ 50 mph.
6. MAINTAIN MINIMUM 27 3/4" RAIL HEIGHT THROUGH RADIUS.

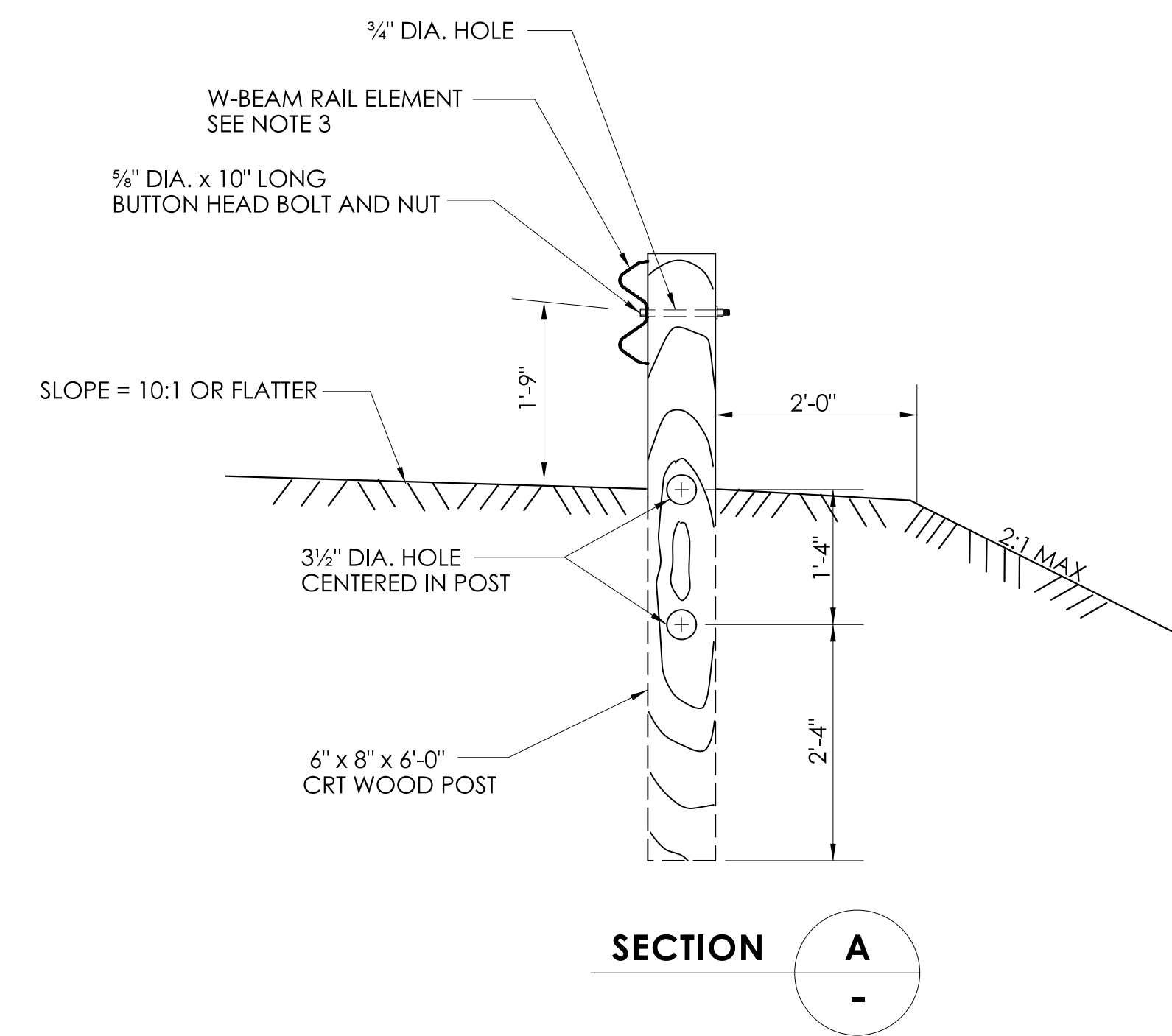


RADIUS	NO. OF CRT POSTS	REQUIRED AREA FREE OF FIXED OBJECTS	
		L	W
8'-6"	5	25'	15'
17'-0"	6	30'	15'
25'-6"	8	40'	20'
35'-0"	11	50'	20'

**CURVED GUIDERAIL DETAIL  
(35'-0" RADIUS MAX.)**



**CURVED GUIDERAIL DETAIL  
(8'-6" RADIUS MIN.)**

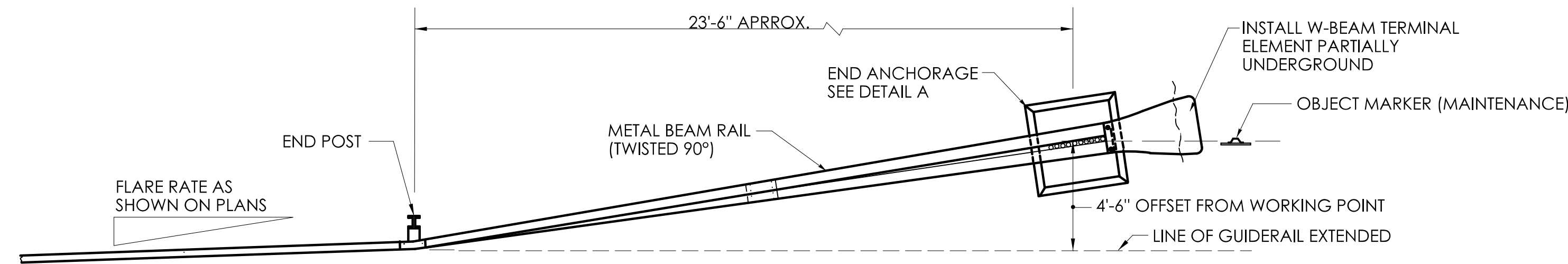


**SECTION A**

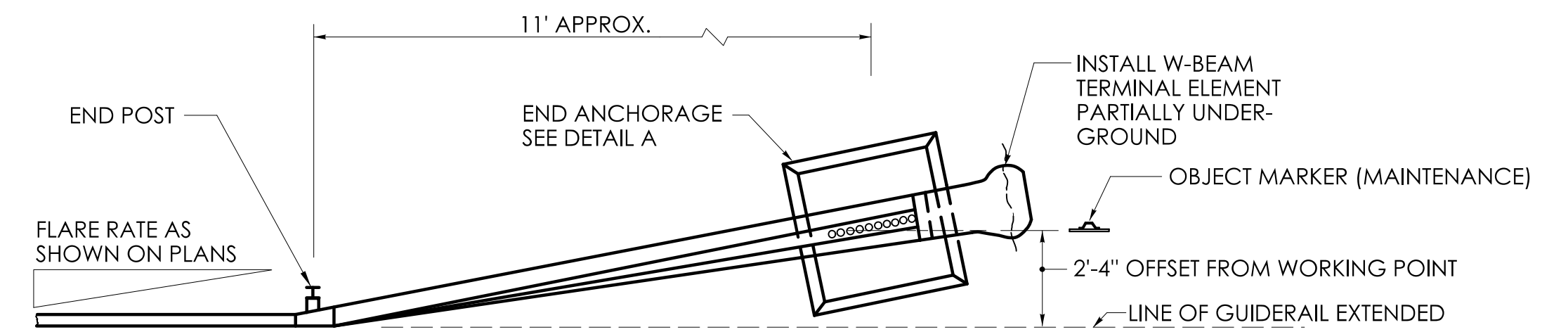


**GENERAL NOTES:**

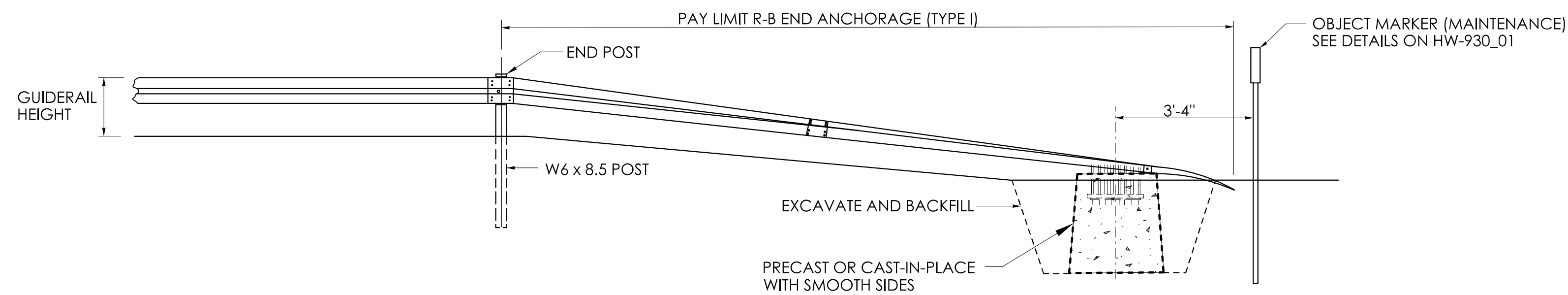
1. J-HOOK BOLTS MAY BE SUBSTITUTED FOR BOTTOM PLATE ANCHORAGE IN CONCRETE END ANCHORS USING THE SAME SIZE, STRENGTH, AND LENGTH AS NOTED ON THE PLANS.
2. INSTALLATION OF RADII DIFFERENT THAN WHAT IS SHOWN IN DETAIL "C" FOR R-B END ANCHORAGE TYPE II MUST BE APPROVED BY THE ENGINEER.



**PLAN**

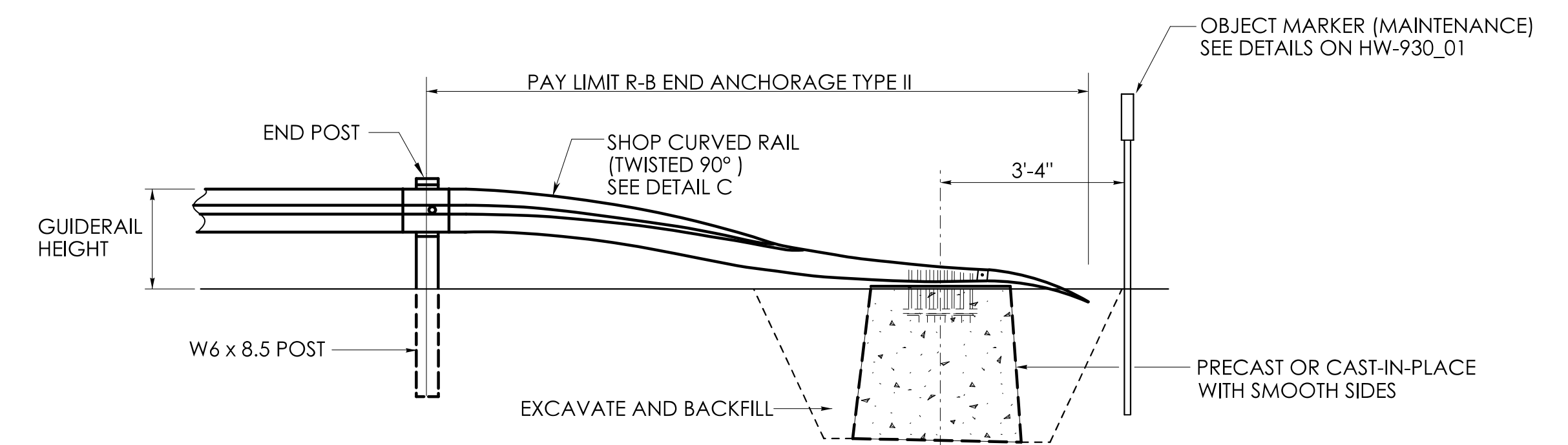


**PLAN**

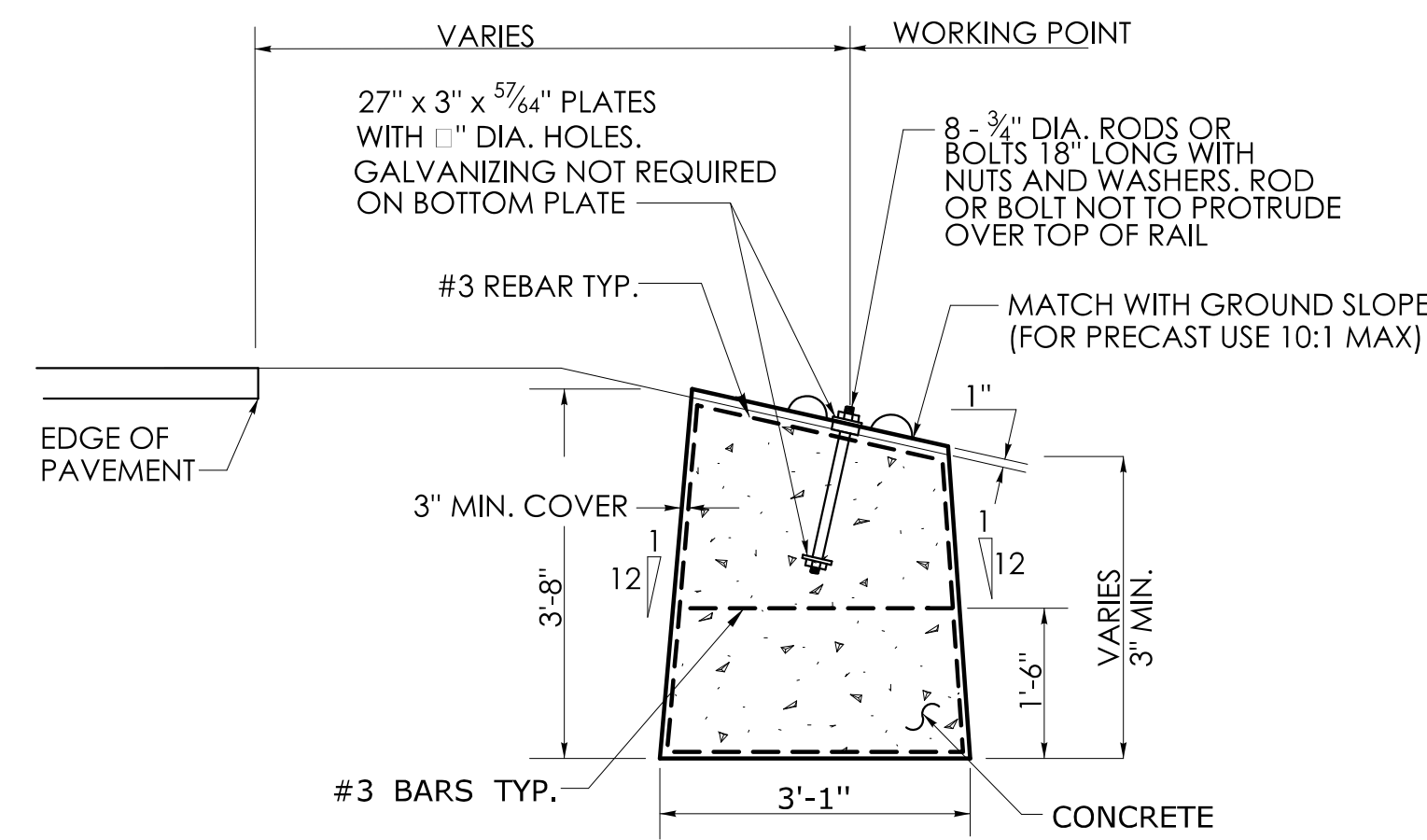


**ELEVATION**

**R-B END ANCHORAGE TYPE I**

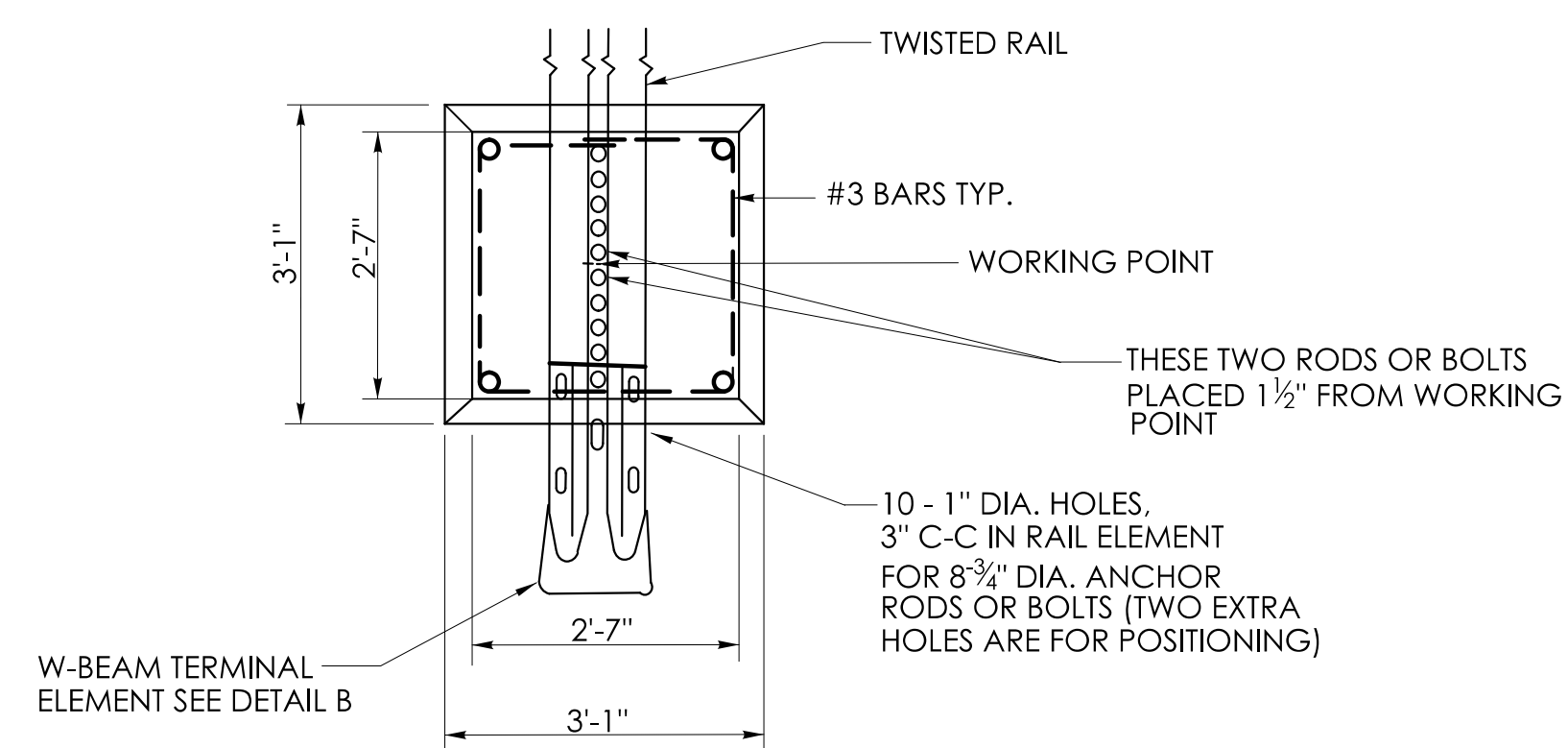


**ELEVATION**  
**R-B END ANCHORAGE TYPE II**

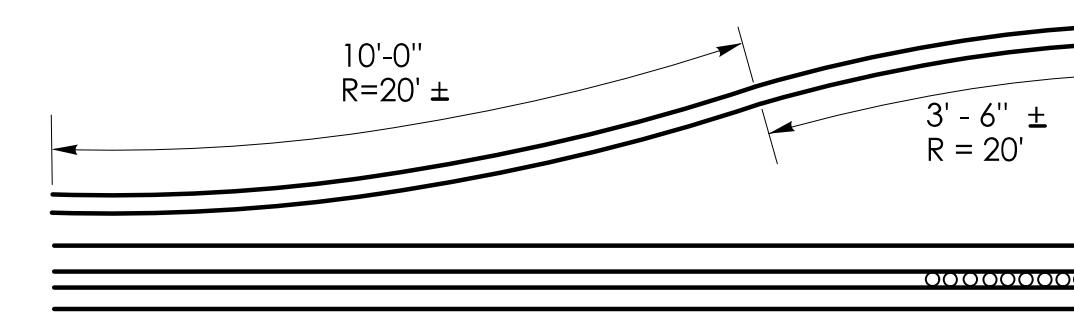


**ELEVATION**

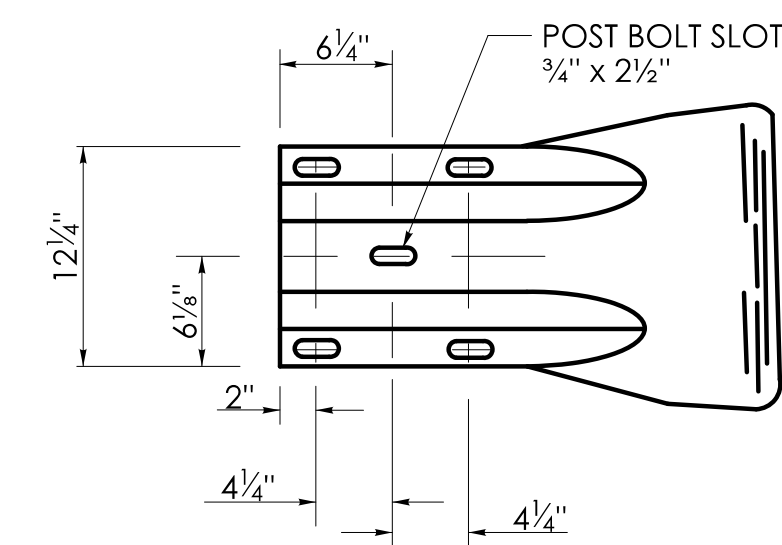
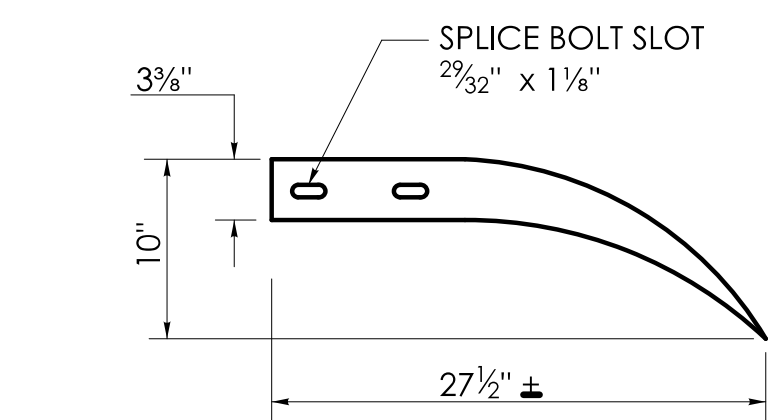
**DETAIL A**  
**ROADSIDE CONCRETE END ANCHOR**  
SEE NOTE 2



**PLAN**



**DETAIL C**  
**SHOP CURVED RAIL**  
SEE NOTE 2



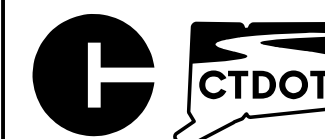
**DETAIL B**  
**W-BEAM TERMINAL ELEMENT**

NOT TO SCALE

SIGNATURE BLOCK:  
OFFICE OF ENGINEERING  
2800 BERLIN TURNPIKE  
NEWINGTON, CT 06111

SUBMITTED BY:  
*Leo Fontaine*  
Digitally signed by  
Leo Fontaine, P.E.  
Date: 2024.12.19  
15:05:33-05'00'

APPROVED BY:  
*Michael N. Calabrese*  
Digitally signed by  
Michael N.  
Calabrese, P.E.  
Date: 2025.01.29  
12:39:13-05'00'



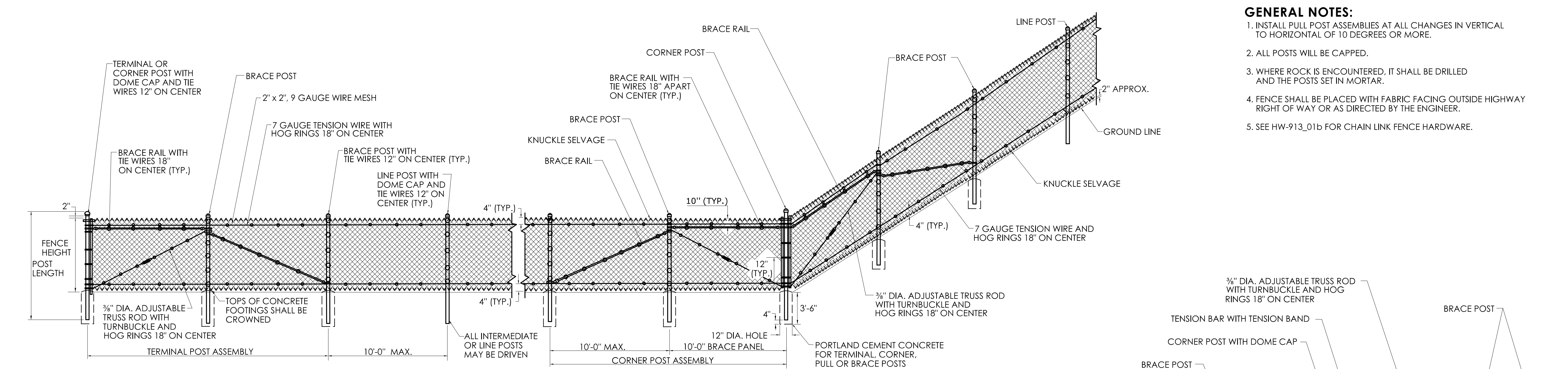
CONNECTICUT  
DEPARTMENT OF  
TRANSPORTATION

CTDOT  
STANDARD SHEET

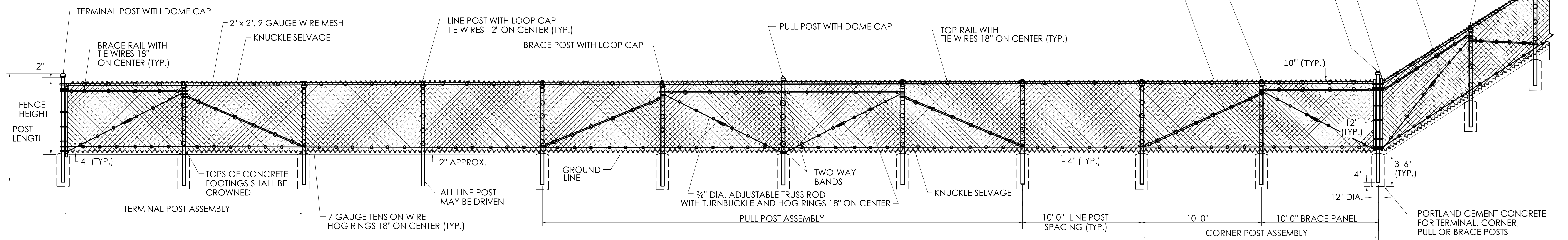
STANDARD SHEET TITLE:  
**R-B END ANCHORAGE TYPE I AND II**

STANDARD SHEET NO.:  
**HW-911\_01**

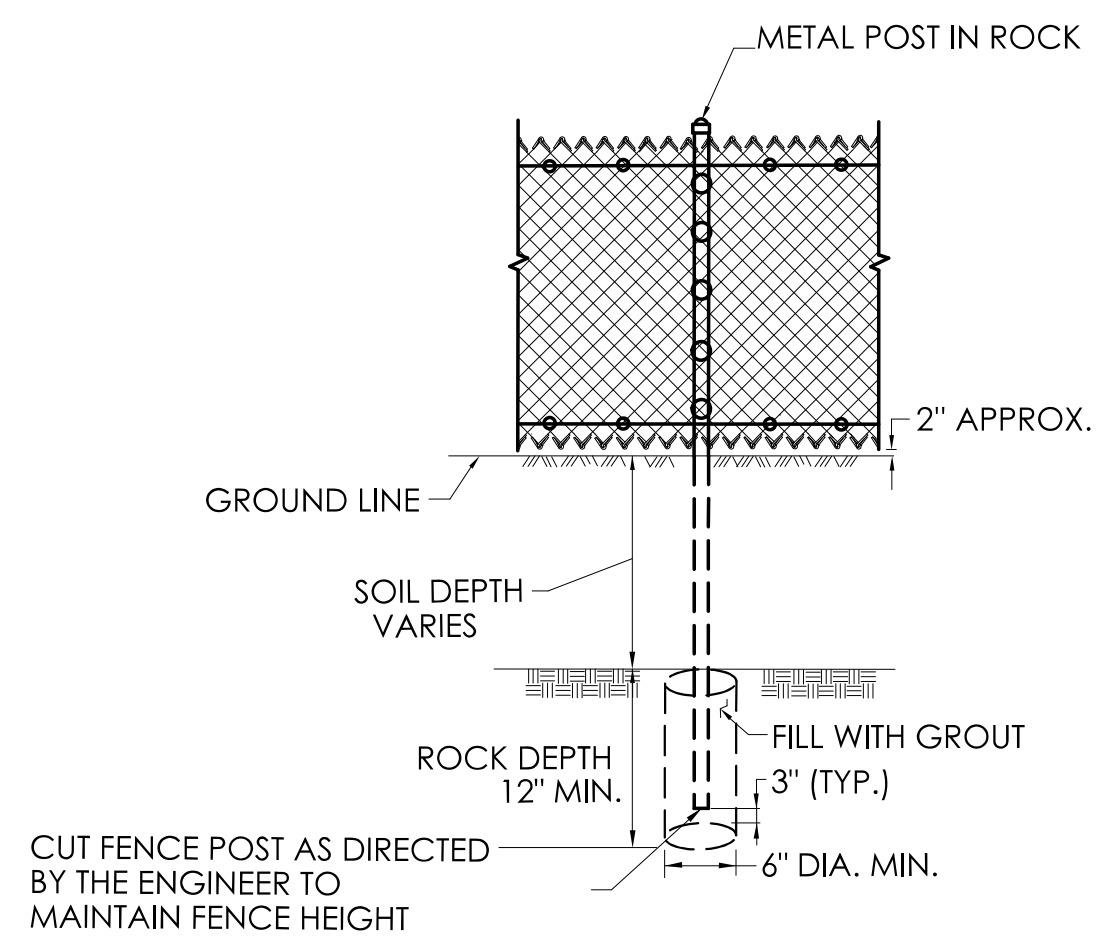




**CHAIN LINK FENCE WITH TOP TENSION WIRE**



**CHAIN LINK FENCE WITH TOP BRACE RAIL AND INTERMEDIATE OR BOTTOM TENSION WIRE**

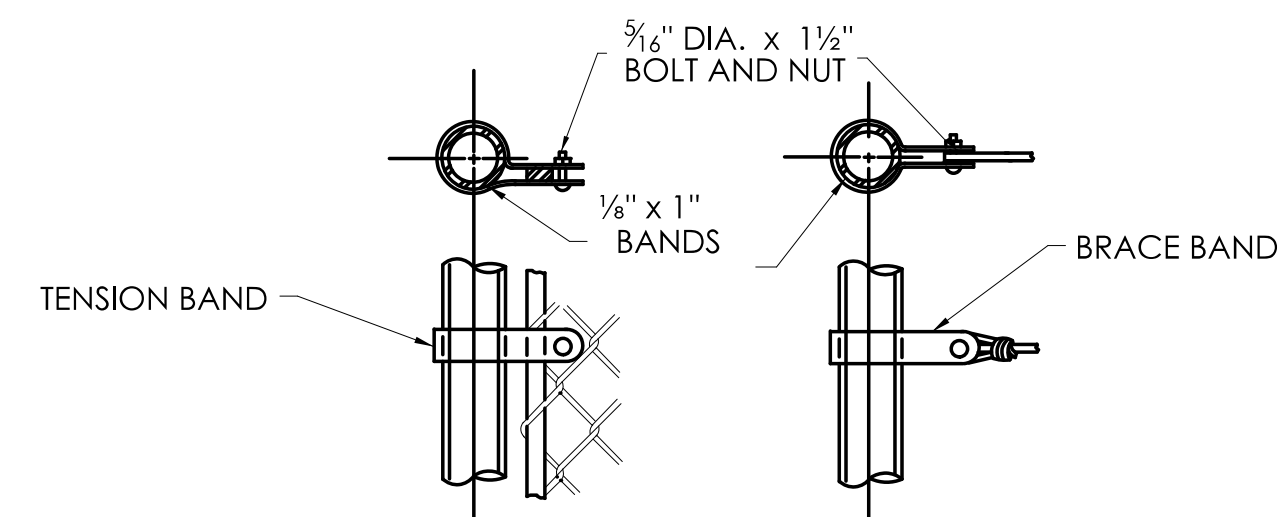


**METAL POST IN ROCK**

- GENERAL NOTES:**
1. INSTALL PULL POST ASSEMBLIES AT ALL CHANGES IN VERTICAL TO HORIZONTAL OF 10 DEGREES OR MORE.
  2. ALL POSTS WILL BE CAPPED.
  3. WHERE ROCK IS ENCOUNTERED, IT SHALL BE DRILLED AND THE POSTS SET IN MORTAR.
  4. FENCE SHALL BE PLACED WITH FABRIC FACING OUTSIDE HIGHWAY RIGHT OF WAY OR AS DIRECTED BY THE ENGINEER.
  5. SEE HW-913\_01b FOR CHAIN LINK FENCE HARDWARE.

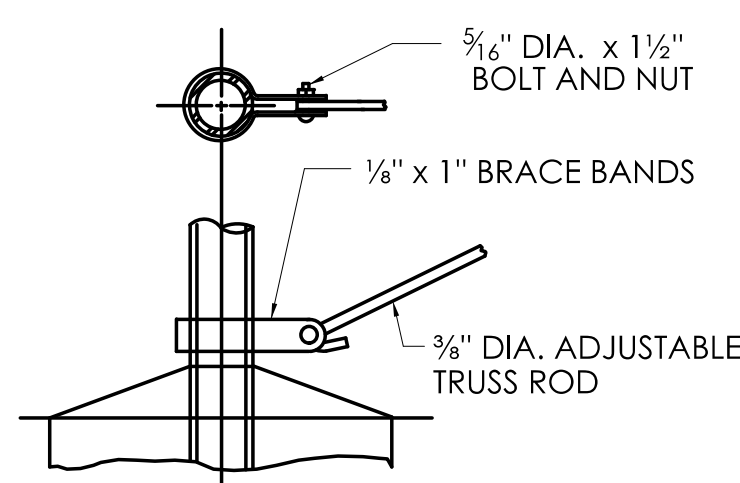
FENCE FABRIC HEIGHT	GROUP 1A ASTM F1003 SCH. 40 PIPE 50,000 PSI DIAMETER	GROUP 1C ASTM F1043 ELEC. RESISTANCE WELDED PIPE 50,000 PSI DIAMETER
LINE OR INTERMEDIATE POST		
UP TO 5'-0"	1 1/8"	1 1/8"
6'-0" TO 7'-0"	2 3/8"	2 3/8"
8'-0" TO 9'-0"	2 7/8"	2 7/8"
10'-0"	3 1/2"	3 1/2"
12'-0" OR HIGHER	4"	4"
TERMINAL, CORNER OR PULL POST		
UP TO 5'-0"	2 3/4"	2 3/4"
6'-0" TO 7'-0"	2 7/8"	2 7/8"
8'-0" TO 9'-0"	3 1/2"	3 1/2"
10'-0" OR HIGHER	4"	4"
TOP OR BRACE RAIL POSTS UP TO 6'-0"	1 3/8"	1 3/8"
POSTS HIGHER THAN 6'-0"	1 7/8"	1 7/8"



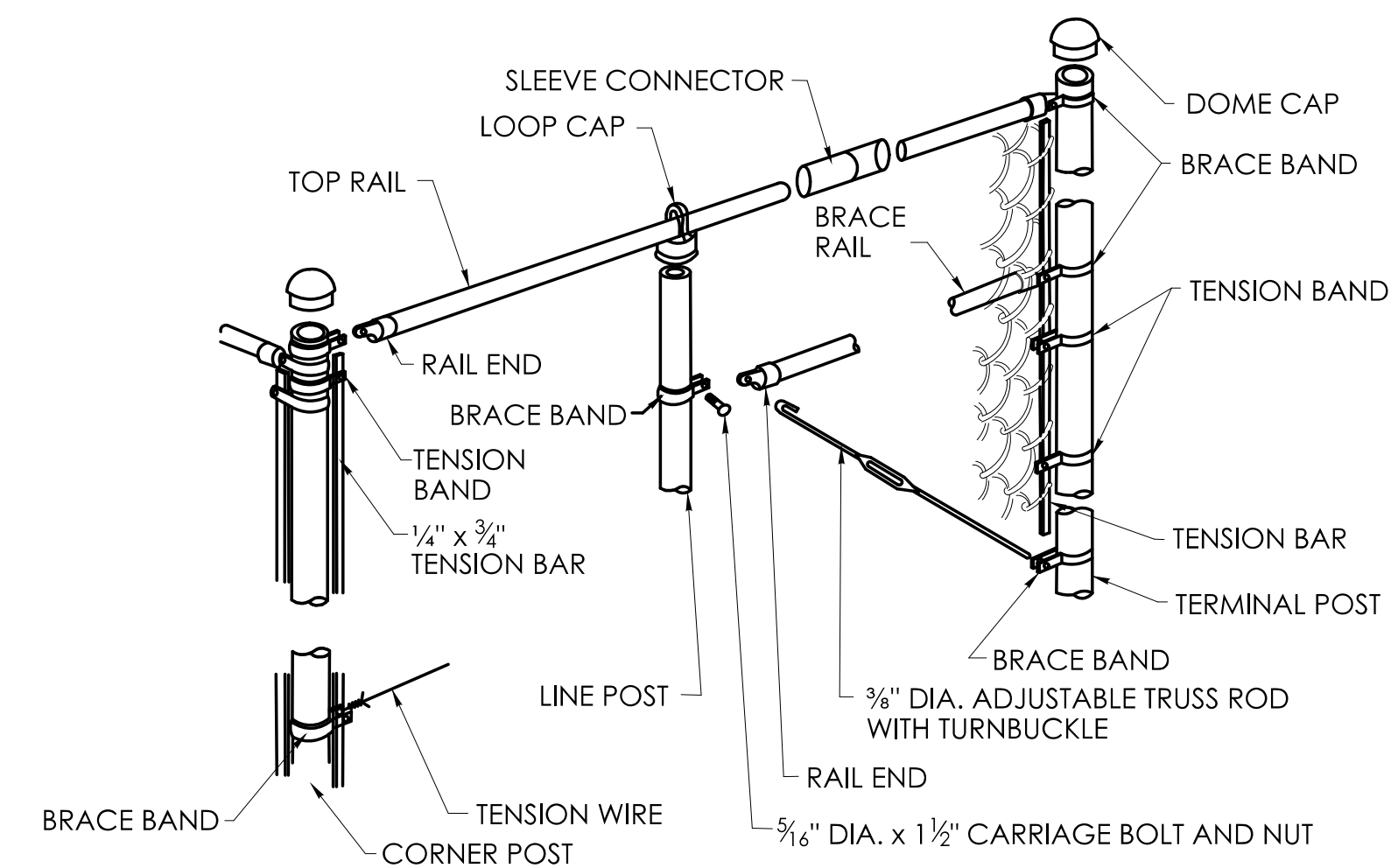


TENSION BAR

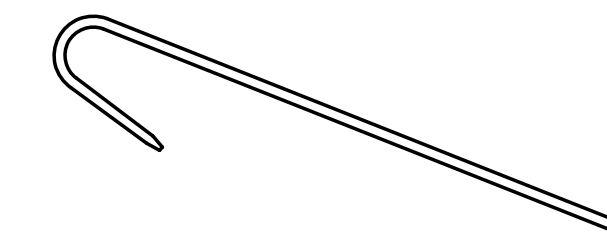
TENSION WIRE



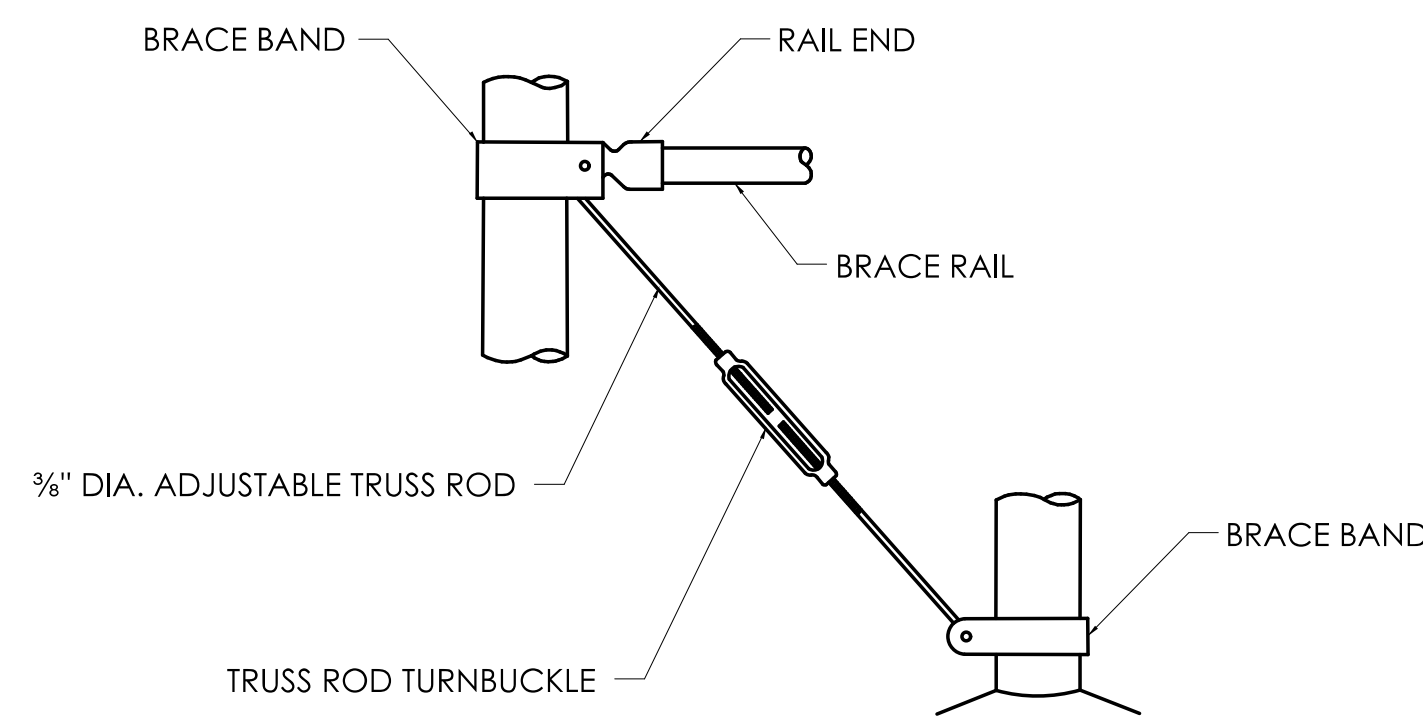
ADJUSTABLE TRUSS ROD



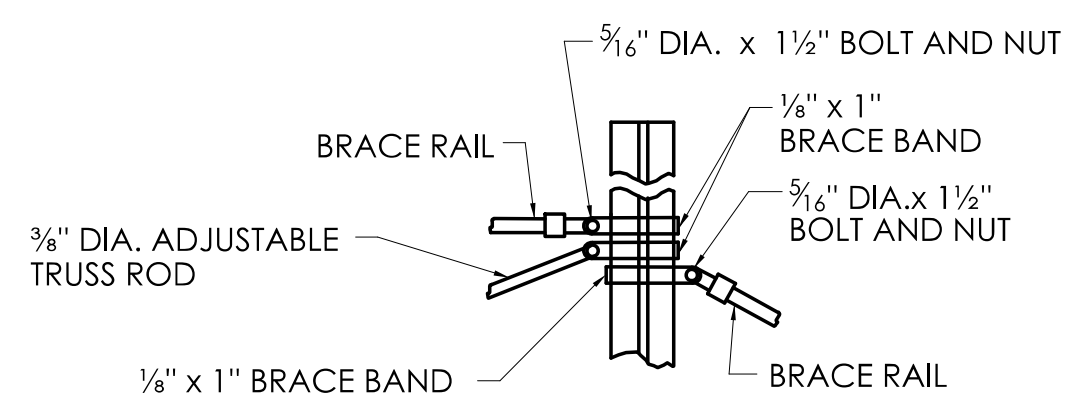
TOP RAIL / TRUSSED BRACE RAIL WITH BOTTOM TENSION WIRE



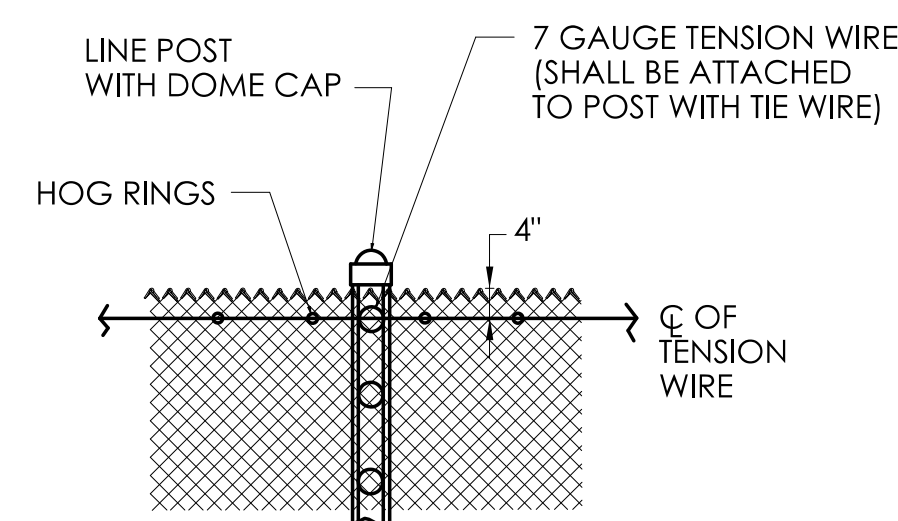
TIE WIRE



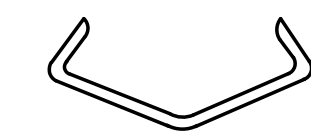
BRACE & TRUSS CONNECTIONS



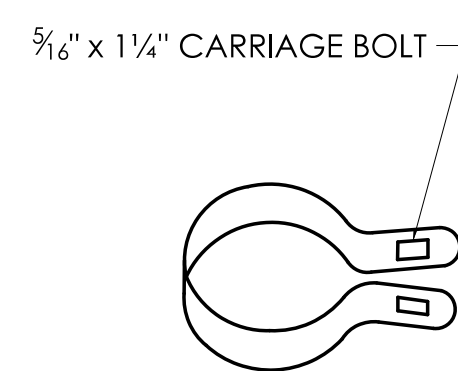
BRACE RAILS ATTACHMENT TO LINE POSTS



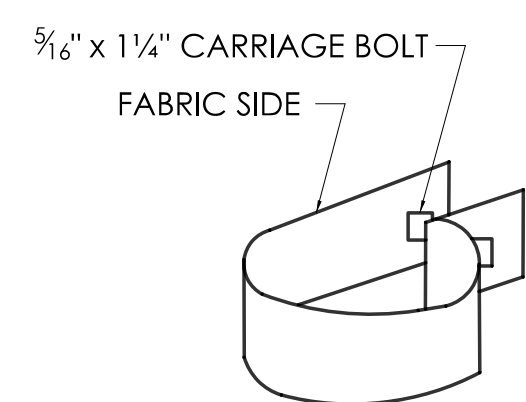
TENSION WIRE



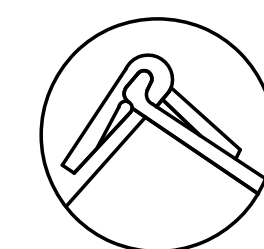
HOG RING



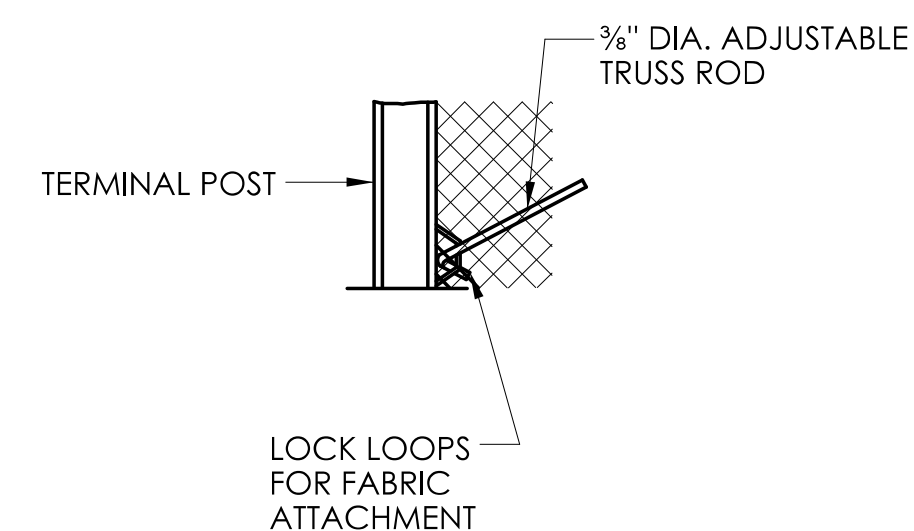
1/8" x 1" CARRIAGE BOLT



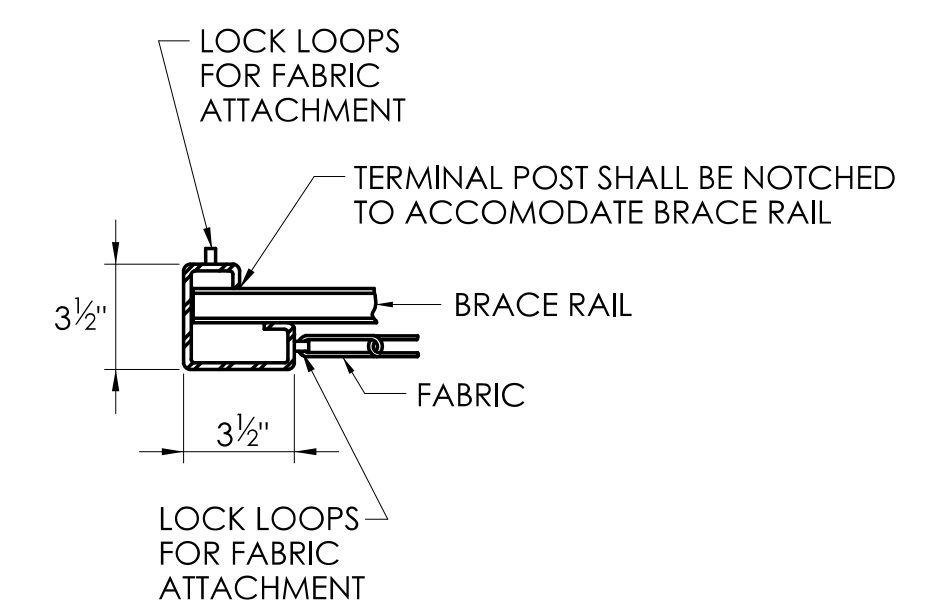
1/8" x 1" TENSION BAND



KNUCKLE SELVAGE



TRUSS ROD ATTACHMENT



FABRIC AND BRACE RAIL ATTACHMENT

NOT TO SCALE

SIGNATURE BLOCK:  
OFFICE OF ENGINEERING  
2800 BERLIN TURNPIKE  
NEWINGTON, CT 06111

SUBMITTED BY:  
*Leo Fontaine*  
Digitally signed by  
Leo Fontaine, P.E.  
Date: 2024.12.19  
15:13:04-05'00'

APPROVED BY:  
*Michael N. Calabrese*  
Digitally signed by  
Michael N.  
Calabrese, P.E.  
Date: 2025.01.29  
12:43:33-05'00'



CONNECTICUT  
DEPARTMENT OF  
TRANSPORTATION

CTDOT  
STANDARD SHEET

STANDARD SHEET TITLE:

CHAIN LINK FENCE HARDWARE

STANDARD SHEET NO.:

HW-913\_01b



E5 - SERIES				G20 - SERIES				M4 - SERIES				R1 - SERIES				R9 & R11 - SERIES				W1 - SERIES				W3 - SERIES															
<p>AREA (SQ. FT.) 16.0, SIZE (INCHES) 48, CONN. D.O.T. # 51-6147, POSTS 2</p>				<p>AREA (SQ. FT.) 8.0, SIZE (INCHES) 48X24, CONN. D.O.T. # 80-9612, POSTS 2</p>				<p>AREA (SQ. FT.) 90.0, SIZE (INCHES) 120X108, CONN. D.O.T. # 80-9728</p>				<p>AREA (SQ. FT.) 2.0, SIZE (INCHES) 24X12, CONN. D.O.T. # 80-9707, POSTS 1</p>				<p>AREA (SQ. FT.) 5.0, SIZE (INCHES) 30X24, CONN. D.O.T. # 80-9703, POSTS 1</p>				<p>AREA (SQ. FT.) 13.30, SIZE (INCHES) 30, CONN. D.O.T. # 31-0557, POSTS 1</p>				<p>AREA (SQ. FT.) 3.75, SIZE (INCHES) 30X18, CONN. D.O.T. # 80-9076, POSTS 1</p>				<p>AREA (SQ. FT.) 12.5, SIZE (INCHES) 60X30, CONN. D.O.T. # 80-9077, POSTS 2</p>				<p>AREA (SQ. FT.) 9.0, SIZE (INCHES) 36, CONN. D.O.T. # 80-9432L, POSTS 1</p>				<p>AREA (SQ. FT.) 9.0, SIZE (INCHES) 36, CONN. D.O.T. # 80-9051, POSTS 1</p>			
<p>AREA (SQ. FT.) 9.0, SIZE (INCHES) 36, CONN. D.O.T. # 80-9711, POSTS 1</p>				<p>AREA (SQ. FT.) 16.0, SIZE (INCHES) 48, CONN. D.O.T. # 80-9712, POSTS 2</p>				<p>AREA (SQ. FT.) 3.0, SIZE (INCHES) 24X18, CONN. D.O.T. # 80-9708, POSTS 1</p>				<p>AREA (SQ. FT.) 6.25, SIZE (INCHES) 30X30, CONN. D.O.T. # 80-9706, POSTS 1</p>				<p>AREA (SQ. FT.) 3.90, SIZE (INCHES) 36, CONN. D.O.T. # 31-0523, POSTS 1</p>				<p>AREA (SQ. FT.) 3.0, SIZE (INCHES) 24X18, CONN. D.O.T. # 80-9074, POSTS 1</p>				<p>AREA (SQ. FT.) 12.5, SIZE (INCHES) 60X30, CONN. D.O.T. # 80-9078, POSTS 2</p>				<p>AREA (SQ. FT.) 8.0, SIZE (INCHES) 48X24, CONN. D.O.T. # 80-9424, POSTS 2</p>				<p>AREA (SQ. FT.) 16.0, SIZE (INCHES) 48, CONN. D.O.T. # 80-9055, POSTS 2</p>							
<p>AREA (SQ. FT.) 16-M: 5.0, 16-H: 17.5, 16-E: 35.0, SIZE (INCHES) 30X24, 60X42, 84X60, CONN. D.O.T. # 80-1613, 80-1608, 80-1605, POSTS 1, 2, 2</p>				<p>AREA (SQ. FT.) 9.0, SIZE (INCHES) 36, CONN. D.O.T. # 50-5934, POSTS 2</p>				<p>AREA (SQ. FT.) 6.0, SIZE (INCHES) 48X18, CONN. D.O.T. # 80-9701R, POSTS 2</p>				<p>AREA (SQ. FT.) 5.0, SIZE (INCHES) 24X30, CONN. D.O.T. # 31-1517, POSTS 1</p>				<p>AREA (SQ. FT.) 2.0, SIZE (INCHES) 24X12, CONN. D.O.T. # 80-9075, POSTS 1</p>				<p>AREA (SQ. FT.) 10.0, SIZE (INCHES) 48X30, CONN. D.O.T. # 80-9080, POSTS 2</p>				<p>AREA (SQ. FT.) 7.5, SIZE (INCHES) 30X36, CONN. D.O.T. # 80-9404, POSTS 1</p>				<p>AREA (SQ. FT.) 16.0, SIZE (INCHES) 48, CONN. D.O.T. # 80-9053, POSTS 2</p>											
<p>AREA (SQ. FT.) 16-S: 10.0, SIZE (INCHES) 48X30, CONN. D.O.T. # 80-1619, POSTS 2</p>				<p>AREA (SQ. FT.) 5.0, SIZE (INCHES) 30X24, CONN. D.O.T. # 80-9710, POSTS 1</p>				<p>AREA (SQ. FT.) 5.0, SIZE (INCHES) 24X30, CONN. D.O.T. # 31-1526, POSTS 1</p>				<p>AREA (SQ. FT.) 12.0, SIZE (INCHES) 36X48, CONN. D.O.T. # 31-1518, POSTS 1</p>				<p>AREA (SQ. FT.) 20.0, SIZE (INCHES) 48X60, CONN. D.O.T. # 31-1519, POSTS 2</p>				<p>AREA (SQ. FT.) 25.0, SIZE (INCHES) 60, CONN. D.O.T. # 80-9444L, POSTS 2</p>				<p>AREA (SQ. FT.) 16.0, SIZE (INCHES) 48, CONN. D.O.T. # 80-9053, POSTS 2</p>															
<p>AREA (SQ. FT.) 16.0, SIZE (INCHES) 48, CONN. D.O.T. # 80-9918L, POSTS 2</p>				<p>AREA (SQ. FT.) 9.0, SIZE (INCHES) 36, CONN. D.O.T. # 80-9901, POSTS 1</p>				<p>AREA (SQ. FT.) 4.0, SIZE (INCHES) 24, CONN. D.O.T. # 80-9569, POSTS 1</p>				<p>AREA (SQ. FT.) 6.25, SIZE (INCHES) 30, CONN. D.O.T. # 80-9602, POSTS 1</p>				<p>AREA (SQ. FT.) 16.0, SIZE (INCHES) 48, CONN. D.O.T. # 80-9836, POSTS 2</p>				<p>AREA (SQ. FT.) 9.0, SIZE (INCHES) 36, CONN. D.O.T. # 80-9803, POSTS 1</p>				<p>AREA (SQ. FT.) 4.17, SIZE (INCHES) 60X10, CONN. D.O.T. # 80-9913, POSTS 2</p>				<p>AREA (SQ. FT.) 2.25, SIZE (INCHES) 18, CONN. D.O.T. # 80-9950, PADDLE</p>											
<p>AREA (SQ. FT.) 16.0, SIZE (INCHES) 48, CONN. D.O.T. # 80-9945, POSTS 2</p>				<p>AREA (SQ. FT.) 16.0, SIZE (INCHES) 48, CONN. D.O.T. # 80-9902, POSTS 2</p>				<p>AREA (SQ. FT.) 6.25, SIZE (INCHES) 30, CONN. D.O.T. # 80-9567, POSTS 1</p>				<p>AREA (SQ. FT.) 9.0, SIZE (INCHES) 36, CONN. D.O.T. # 80-9603, POSTS 1</p>				<p>AREA (SQ. FT.) 16.0, SIZE (INCHES) 48, CONN. D.O.T. # 80-9832, POSTS 2</p>				<p>AREA (SQ. FT.) 16.0, SIZE (INCHES) 48, CONN. D.O.T. # 80-9804, POSTS 2</p>				<p>AREA (SQ. FT.) 10.5, SIZE (INCHES) 42X36, CONN. D.O.T. # 80-9623, POSTS 2</p>				<p>AREA (SQ. FT.) 16.0, SIZE (INCHES) 48, CONN. D.O.T. # 80-9933, POSTS 1</p>				<p>AREA (SQ. FT.) 12.5, SIZE (INCHES) 60X30, CONN. D.O.T. # 80-9928, POSTS 2</p>							
<p>AREA (SQ. FT.) 16.0, SIZE (INCHES) 48, CONN. D.O.T. # 80-9910L, POSTS 2</p>				<p>AREA (SQ. FT.) 16.0, SIZE (INCHES) 48, CONN. D.O.T. # 80-9911R, POSTS 2</p>				<p>AREA (SQ. FT.) 9.0, SIZE (INCHES) 36, CONN. D.O.T. # 80-9520, POSTS 1</p>				<p>AREA (SQ. FT.) 9.0, SIZE (INCHES) 36, CONN. D.O.T. # 80-9805, POSTS 1</p>				<p>AREA (SQ. FT.) 16.0, SIZE (INCHES) 48, CONN. D.O.T. # 80-9847, POSTS 2</p>				<p>AREA (SQ. FT.) 32.0, SIZE (INCHES) 96X48, CONN. D.O.T. # 80-9815, POSTS 2</p>				<p>AREA (SQ. FT.) 10.5, SIZE (INCHES) 42X36, CONN. D.O.T. # 80-9621, POSTS 2</p>				<p>AREA (SQ. FT.) 16.0, SIZE (INCHES) 48, CONN. D.O.T. # 80-9956, POSTS 2</p>											
<p>AREA (SQ. FT.) 2.0, SIZE (INCHES) 24X12, CONN. D.O.T. # 80-9049</p>				<p>AREA (SQ. FT.) 9.0, SIZE (INCHES) 36, CONN. D.O.T. # 80-9834, POSTS 1</p>				<p>AREA (SQ. FT.) 16.0, SIZE (INCHES) 48, CONN. D.O.T. # 80-9848, POSTS 2</p>				<p>AREA (SQ. FT.) 16.0, SIZE (INCHES) 48, CONN. D.O.T. # 80-9849, POSTS 2</p>				<p>AREA (SQ. FT.) 4.5, SIZE (INCHES) 36X18, CONN. D.O.T. # 80-9873, POSTS 2</p>				<p>AREA (SQ. FT.) 16.0, SIZE (INCHES) 48, CONN. D.O.T. # 80-9958, POSTS 1</p>				<p>AREA (SQ. FT.) 16.0, SIZE (INCHES) 48, CONN. D.O.T. # 80-9959, POSTS 2</p>															

NOTES:

- R1-SERIES SIGN THE LEGEND "O.S.T.A." SHALL APPEAR.
- POSTS - SEE STANDARD SHEET TR-1208-02 - "METAL SIGN POSTS AND SIGN MOUNTING DETAILS".
- POSTS SHALL BE 4 LBS./FT.
- ALL POSTS NOTED ARE FOR LONG TERM INSTALLATION. SEE STANDARD SHEET TR-1208-02.
- FOR TEMPORARY SUPPORTS SEE STANDARD SHEET TR-1220-02 - "CONSTRUCTION SIGN SUPPORTS AND CHANNELIZING DEVICES".
- FOR SPECIFIC SIGN DESIGN, CONTACT CONN. D.O.T., DIVISION OF TRAFFIC ENGINEERING. FOR BOLT HOLE PATTERN REFER TO FHWA PUBLICATION "STANDARD HIGHWAY SIGNS". SIGNS OF DIFFERENT DIMENSIONS TO BE ERRECTED ON THE SAME POSTS, OR SPAN/MAST ARM MOUNTED, MAY REQUIRE SPECIAL BOLT HOLE PATTERNS.
- ALL CONSTRUCTION SIGNS TO BE PAID FOR UNDER THE CONSTRUCTION SIGNS ITEM IN THE CONTRACT.
- MATERIALS & COLORS SHALL CONFORM TO STATE SPECIFICATIONS.

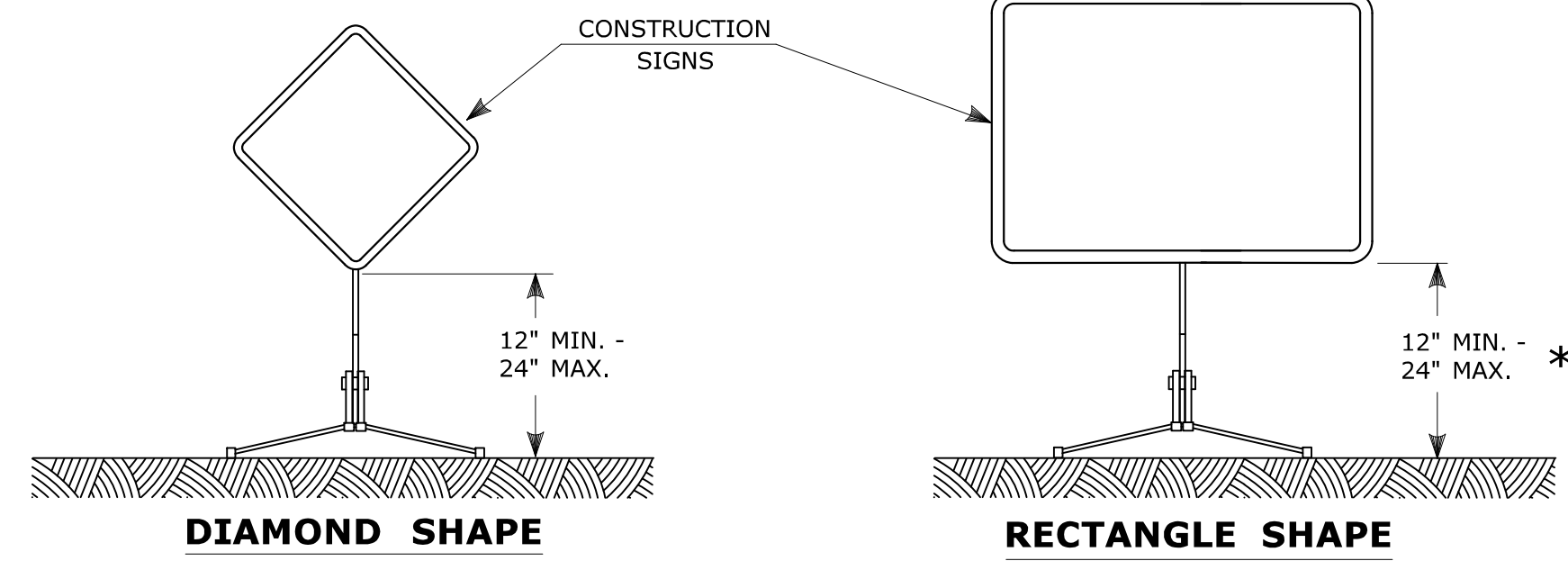
MATERIALS:

SIGNS AND THEIR PORTABLE SUPPORTS SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 2 DEVICES. ALUMINUM THICKNESS FOR POST MOUNTED SIGNS SHALL BE .100" EXCEPT SIGN #s. 80-1605, 80-9914, 80-9815, 80-9728, 80-9519, & 51-6147 (L OR R) WHICH SHALL BE .125", PLYWOOD THICKNESS FOR POST MOUNTED SIGNS SHALL BE 1/2" EXTERIOR GRADE A-C OR BETTER. SIGN BLANKS SHALL HAVE ONE COAT OF PRIMER PAINT PRIOR TO APPLICATION OF RETROREFLECTIVE SHEETING & COPY.

COLORS:

BACKGROUND - FLUORESCENT ORANGE - EXCEPT AS NOTED.  
 LEGEND - BLACK - EXCEPT AS NOTED.  
 ALL SIGNS WITH FLUORESCENT ORANGE BACKGROUND TO USE TYPE VIII RETROREFLECTIVE SHEETING.  
 ALL OTHER SIGNS TO USE TYPE IX RETROREFLECTIVE SHEETING.



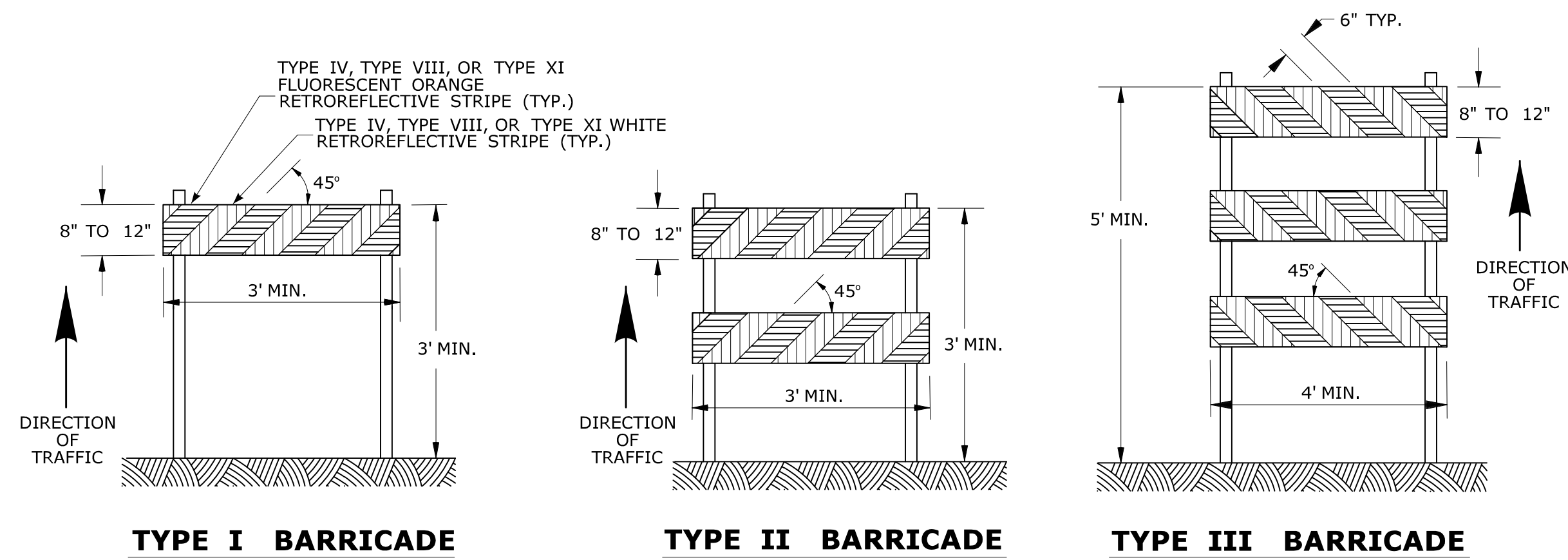


**PORTABLE CONSTRUCTION SIGNS**

NOTES FOR PORTABLE SIGN SUPPORTS:

- SIGNS AND THEIR PORTABLE SUPPORTS SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 2 DEVICES AND THE LATEST EDITION OF THE MUTCD.
- MOUNTING HEIGHT OF SIGNS SHALL BE A MINIMUM OF 12" AND A MAXIMUM OF 24". SIGNS SHALL BE MOUNTED HIGHER AS NEEDED TO MEET FIELD CONDITIONS OR AS DIRECTED BY THE ENGINEER.
- THE ENGINEER RESERVES THE RIGHT TO REJECT ANY SUPPORT DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
- PORTABLE SIGN SUPPORTS SHALL BE STABILIZED IN A MANNER THAT WILL NOT AFFECT THEIR COMPLIANCE WITH NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 2 DEVICES.
- PORTABLE CONSTRUCTION SIGN SUPPORTS SHOULD NOT BE USED FOR DURATION OF MORE THAN 3 DAYS EXCEPT FOR R9-8 THROUGH R9-11a SERIES, R11 SERIES, W1-6 THROUGH W1-8 SERIES, M4-10, AND E5-1. SEE STANDARD SHEET TR-1220.01 - "SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS" FOR SIGN DETAILS.

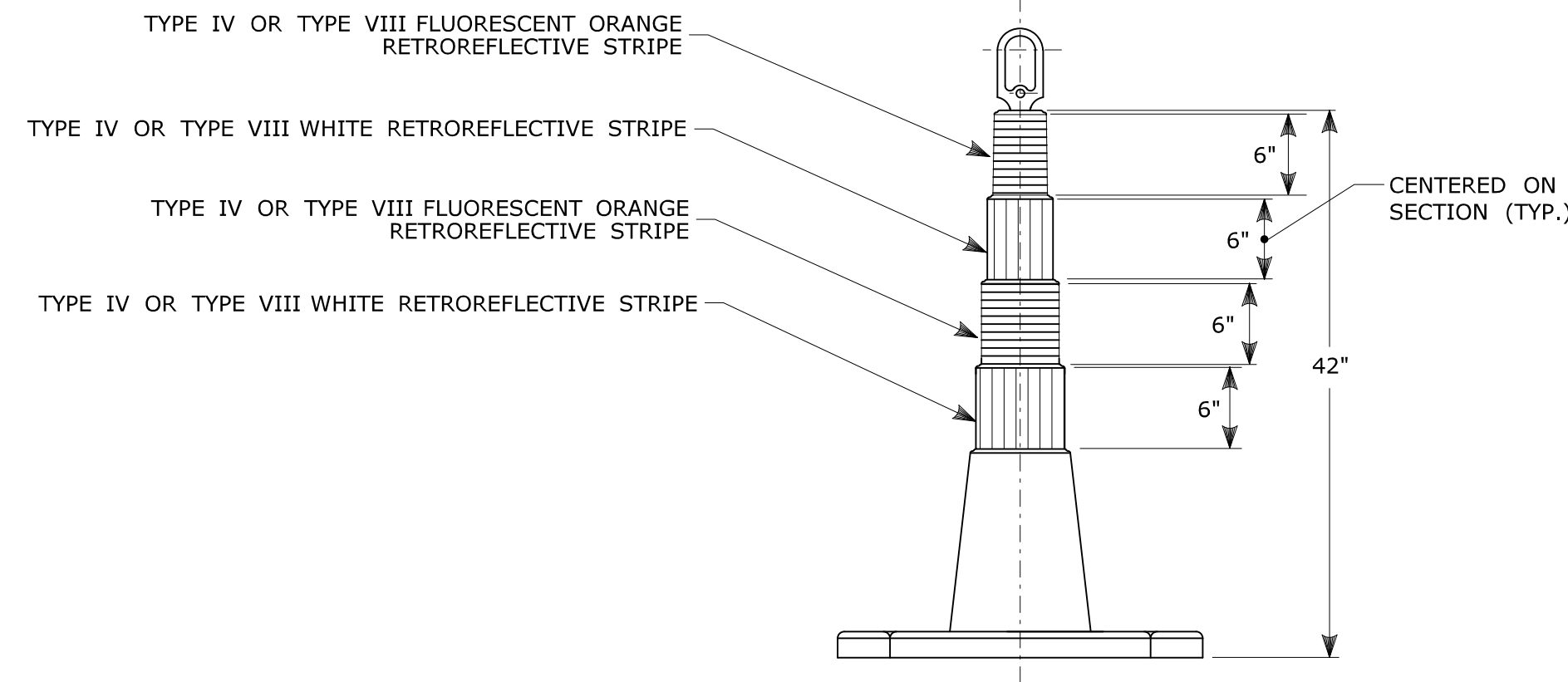
\* FOR E5-1 (EXIT SIGNS) USE MIN 48".



**CONSTRUCTION BARRICADES**

NOTES:

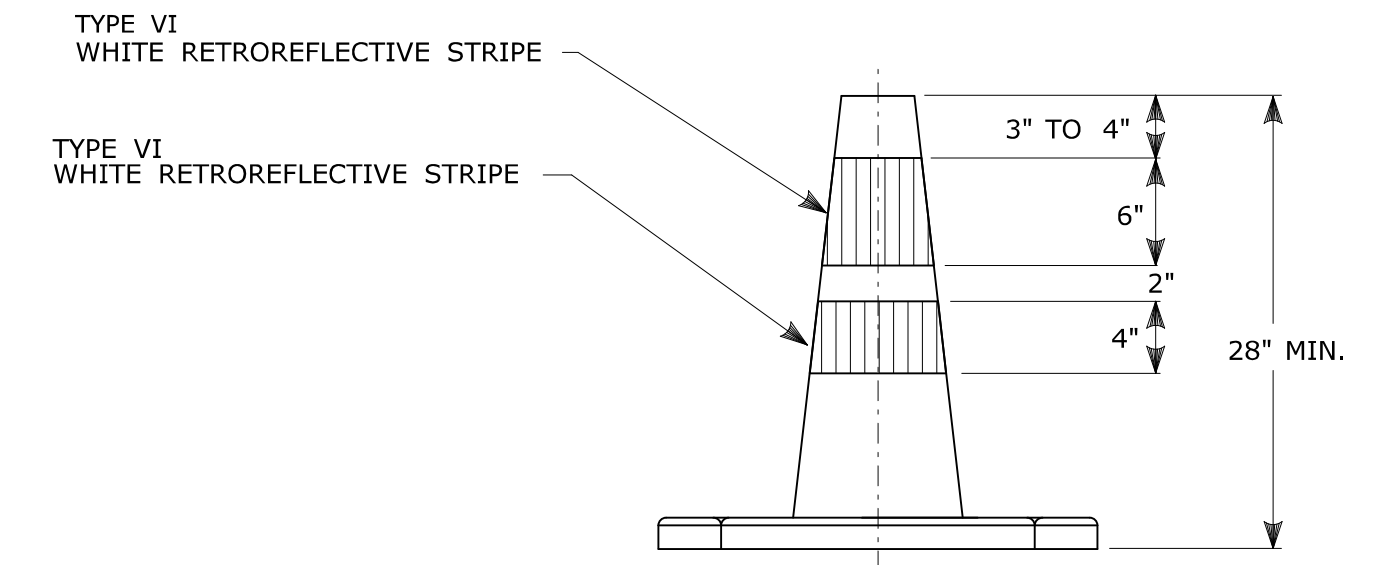
- CONSTRUCTION BARRICADES SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH AND THE LATEST EDITION OF THE MUTCD.
- MARKINGS FOR BARRICADE RAILS SHALL BE ALTERNATE FLUORESCENT ORANGE AND WHITE STRIPES SLOPING DOWNWARD IN THE DIRECTION TRAFFIC IS TO PASS. 6" WIDE STRIPES SHALL BE USED.
- THE ENTIRE AREA OF FLUORESCENT ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS. THE SIDES OF BARRICADES FACING TRAFFIC SHALL HAVE RETROREFLECTIVE RAIL FACES.
- THE ENGINEER RESERVES THE RIGHT TO REJECT ANY BARRICADE DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
- CORNERS OF BARRICADE RAILS SHALL BE ROUNDED.
- SIGNS MAY ONLY BE INSTALLED ON TYPE III BARRICADES AND SHALL BE PLACED SO AS TO COVER NO MORE THAN ONE BARRICADE RAIL.



**42" TRAFFIC CONE**

NOTES:

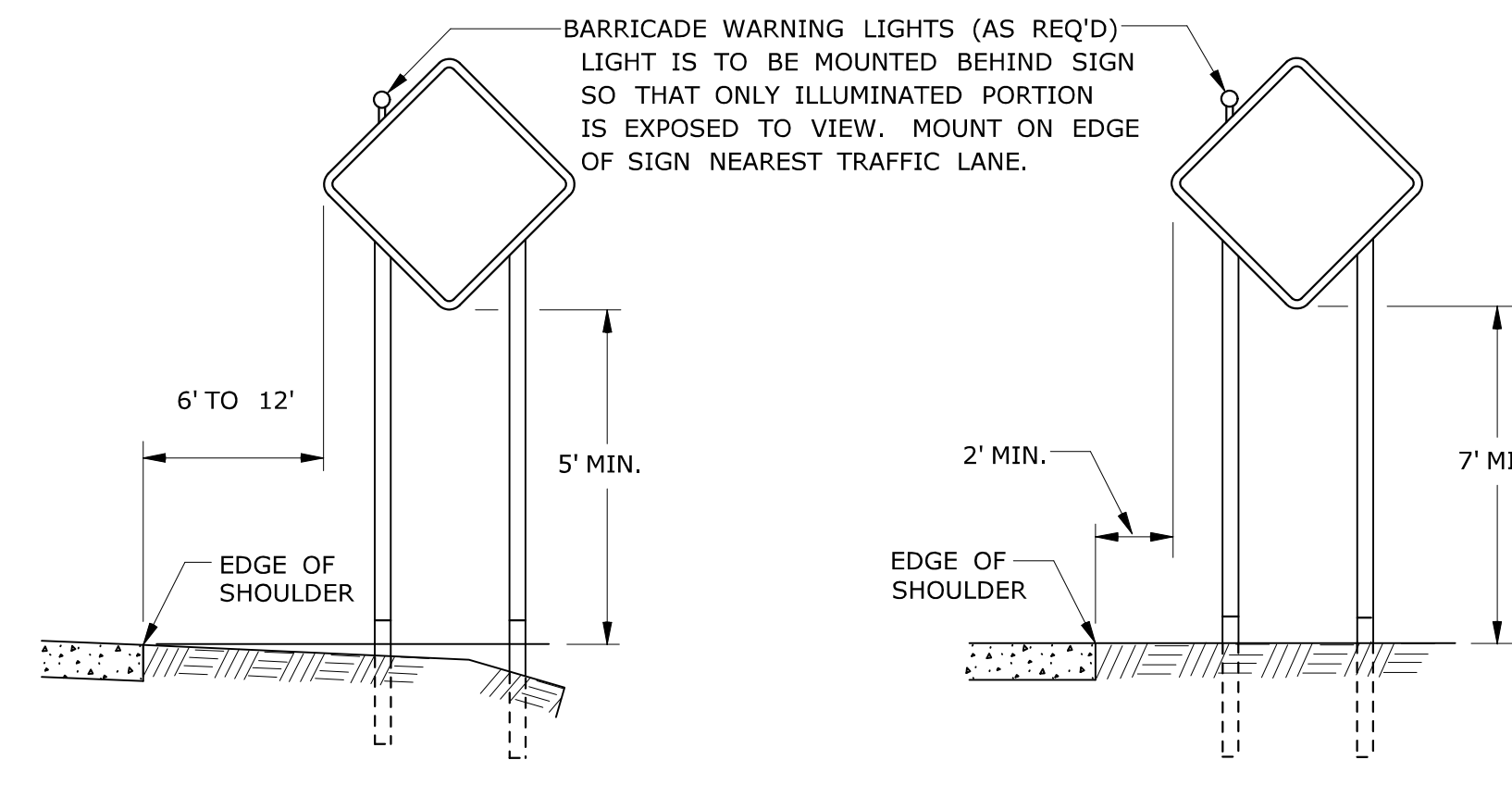
- TRAFFIC CONES SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 1 DEVICES AND THE LATEST EDITION OF THE MUTCD.
- IF RUBBER CONES ARE USED, THEY SHALL HAVE INTERIOR RIBS FOR RIGIDITY.
- IF PLASTIC CONES ARE USED, THEY SHALL BE COLOR IMPREGNATED.
- THE ENGINEER RESERVES THE RIGHT TO REJECT ANY CONE DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
- THE ENTIRE AREA OF FLUORESCENT ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.
- THE SECTIONS OF CONES NOT COVERED WITH RETROREFLECTIVE STRIPES SHALL BE ORANGE.



**TRAFFIC CONE**

NOTES:

- TRAFFIC CONES SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 1 DEVICES AND THE LATEST EDITION OF THE MUTCD.
- IF RUBBER CONES ARE USED, THEY SHALL HAVE INTERIOR RIBS FOR RIGIDITY.
- IF PLASTIC CONES ARE USED, THEY SHALL BE COLOR IMPREGNATED.
- THE ENGINEER RESERVES THE RIGHT TO REJECT ANY CONE DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
- THE ENTIRE AREA OF WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.
- TRAFFIC CONES NOT USED AT NIGHT MAY UTILIZE TYPE III SHEETING.
- THE SECTIONS OF CONES NOT COVERED WITH RETROREFLECTIVE STRIPES SHALL BE ORANGE.



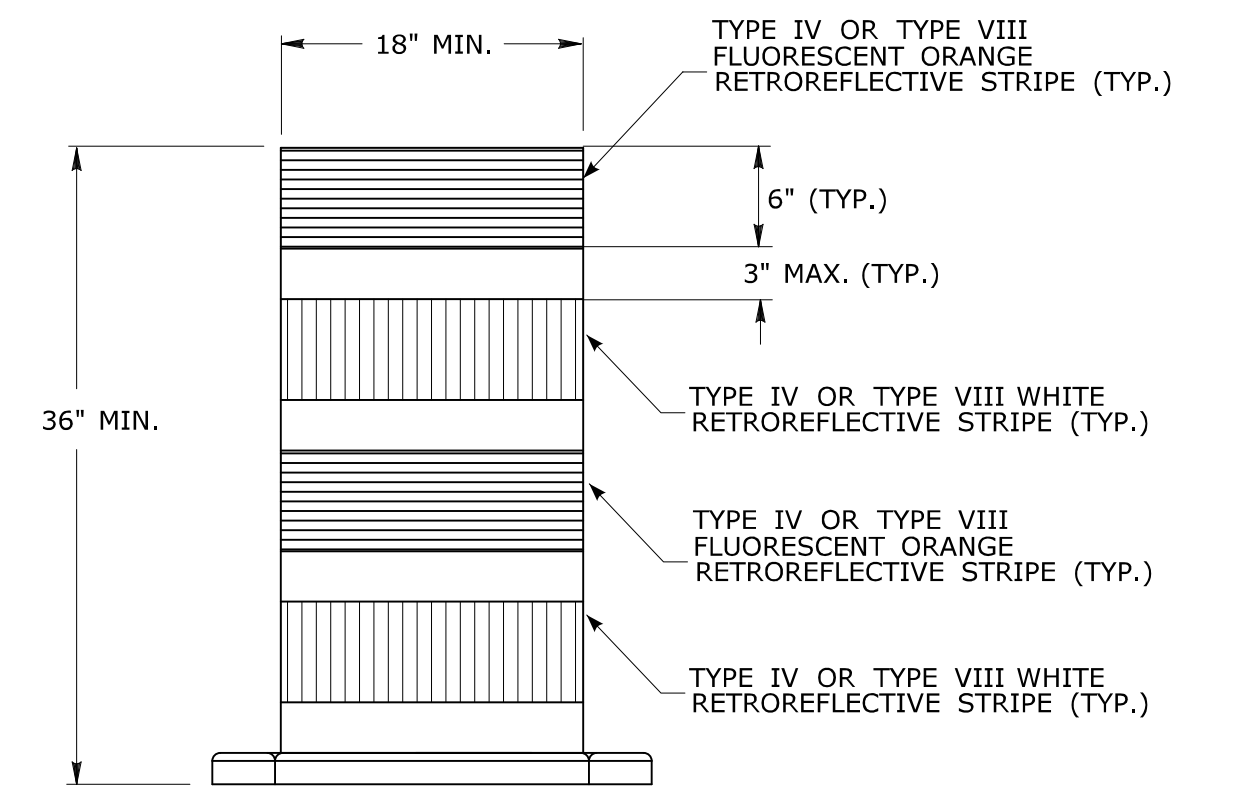
**RURAL AREA**

**URBAN AREA**

**PLACEMENT OF CONSTRUCTION SIGNS  
TYPICAL LONG TERM INSTALLATION**

NOTES:

- SUPPORTS SHALL BE METAL SIGN POSTS AND HAVE BREAK-AWAY FEATURES.  
REFER TO STANDARD SHEETS:  
TR-1208.01 - "SIGN PLACEMENT AND RETROREFLECTIVE STRIP DETAILS."  
TR-1208.02 - "METAL SIGN POSTS AND SIGN MOUNTING DETAILS."



**TRAFFIC DRUM  
FRONT VIEW**

NOTES:

- TRAFFIC DRUM SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 1 DEVICES AND THE LATEST EDITION OF THE MUTCD.
- THE ENGINEER RESERVES THE RIGHT TO REJECT ANY DRUM DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
- THE ENTIRE AREA OF FLUORESCENT ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.
- THE SECTIONS OF DRUMS NOT COVERED WITH RETROREFLECTIVE STRIPES SHALL BE ORANGE.

<p>THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.</p>			<p><b>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</b></p>		<p>SUBMITTED BY: <i>Mark F. Makuch</i> NAME/DATE/TIME: Mark F. Makuch, P.E. 2018.08.17 09:12:43-04'00'</p> <p>APPROVED BY: <i>Mark F. Carlino</i> NAME/DATE/TIME: Mark F. Carlino, P.E. 2018.08.21 07:49:51-04'00'</p>	<p>STANDARD SHEET TITLE: <b>CDOT STANDARD SHEET OFFICE OF ENGINEERING</b></p>	<p>STANDARD SHEET NO.: <b>CONSTRUCTION SIGN SUPPORTS AND CHANNELIZING DEVICES TR-1220_02</b></p>
3	8-2018	UPDATED SHEETING TYPE AND COLOR.	NOT TO SCALE				
2	8-2015	UPDATED PER MUTCD AND FORM 816 JAN 2015 REVISION.					
1	2-2011	MINOR REVISIONS.					
REV. DATE	REVISION DESCRIPTION		Plotted Date: 8/10/2018		Filename: TR-1220_02_3_2018.dgn Model: TR-1220_02		