

RHI
PROJECT ID: 9471-00-70
WITH: N/A
COUNTY: MARATHON

MARCH 2026
ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plat
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS = 100



DESIGN DESIGNATION 9471-00-00

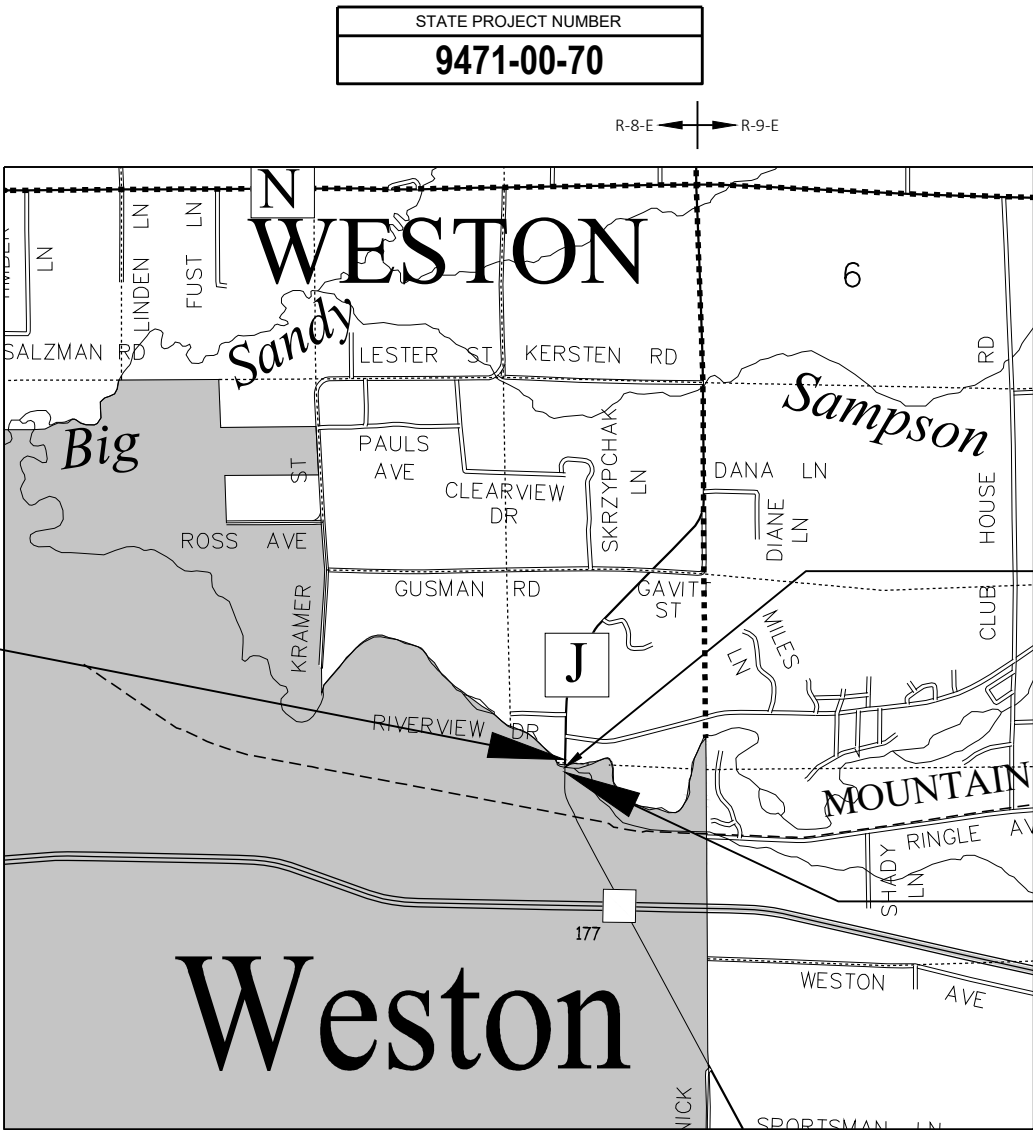
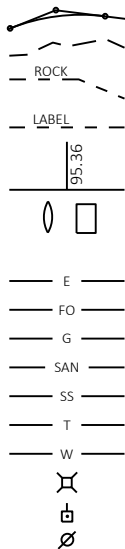
A.A.D.T. (2026)	=	3,200
A.A.D.T. (2046)	=	3,400
D.H.V.	=	320
D.D.	=	50/50
T.	=	5%
DESIGN SPEED	=	40 MPH
ESALS	=	750,000

CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

PROFILE	
GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

END PROJECT
STA 12+48.50
Y = 181315.30
X = 313441.28



LAYOUT
SCALE 0 1 MI
TOTAL NET LENGTH OF CENTERLINE = 0.075 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), MARATHON COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STH 29 - CTH N

EAU CLAIRE RIVER BRIDGE B-37-0495

CTH J

MARATHON COUNTY

STATE PROJECT NUMBER
9471-00-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9471-00-70	WISC 2026237	1

ACCEPTED FOR
COUNTY of MARATHON

10/9/2025 (Date) Kevin Lams (HIGHWAY COMMISSIONER)

ORIGINAL PLANS PREPARED BY
AYRES

WISCONSIN
STEFFANIE A. PEPIN
E-100708-6
MARQUETTE, MI
PROFESSIONAL ENGINEER
10/09/2025
(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor AYRES ASSOCIATES INC
Designer AYRES ASSOCIATES INC
Project Manager MICHAEL GRAGE, PE
Regional Examiner N/A
Regional Supervisor DANIEL ERVA, PE

APPROVED FOR THE DEPARTMENT
DATE: 10/28/2025 (Signature)

E

UTILITIES CONTACTS

FRONTIER COMMUNICATIONS
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GAS
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1700 SHERMAN STREET
WAUSAU, WI 54402
PHONE: 715-848-7387
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EMAIL: tyler.dahlstrom@wisconsinpublicservice.com



CTH J - 5" ASPHALTIC SURFACE		
LAYER	THICKNESS	TYPE
UPPER	2"	12.5 MM
LOWER	3"	12.5 MM

WISCONSIN DNR LIAISON

JAY SCHIEFELBEIN
WDNR
2984 SHAWANO AVENUE
GREEN BAY, WI 54313
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DESIGN PROJECT MANAGER

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DESIGN PROJECT LEADER

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AYRES ASSOCIATES
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GREEN BAY, WI 54304
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EMAIL: OlsonK@AyresAssociates.com

COUNTY HIGHWAY COMMISSIONER

KEVIN LANG, COMMISSIONER
MARATHON COUNTY
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WAUSAU, WI 54401
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EMAIL: kevin.lang@marathoncounty.gov

GENERAL NOTES

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

RIGHT OF WAY INFORMATION SHOWN ON THE PLANS IS APPROXIMATE.

ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 2" UPPER LAYER AND A 3" LOWER LAYER. ASPHALTIC SURFACE SHALL BE USED 12.5 mm NOMINAL AGGREGATE SIZE.

SAWCUTS, AS SHOWN ON THE PLANS, ARE SUGGESTED LOCATIONS AND MAY BE ADJUSTED AT THE DISCRETION OF THE ENGINEER TO BETTER SUIT FIELD CONDITIONS.

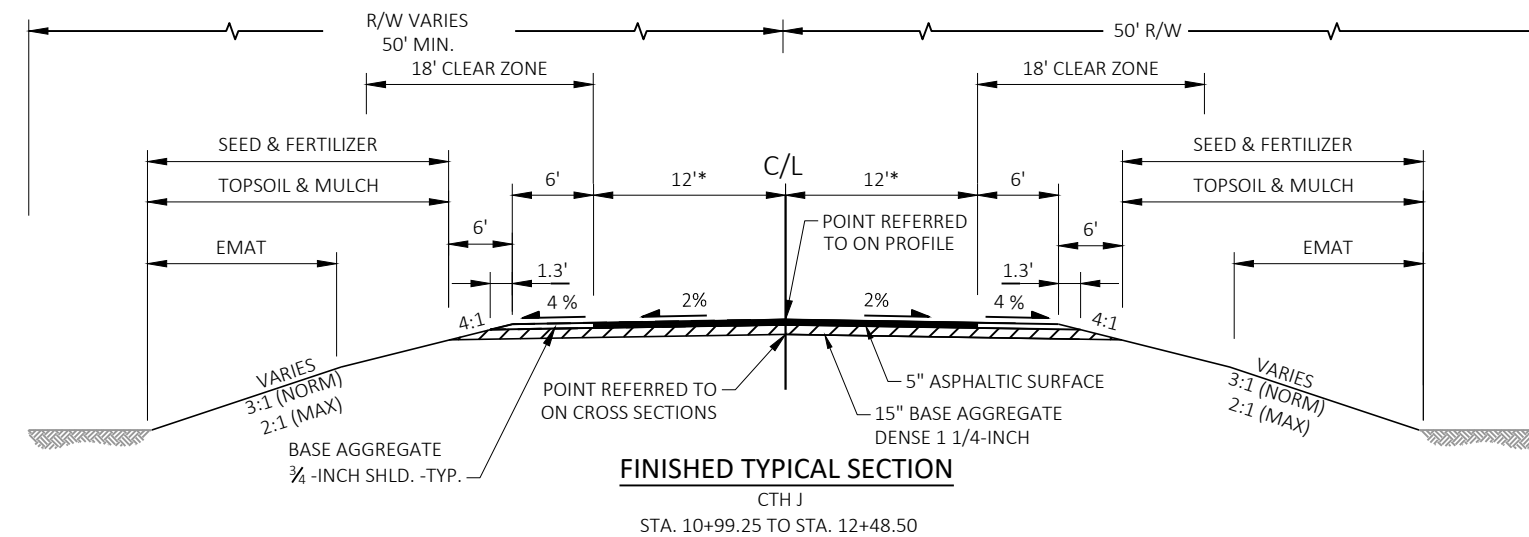
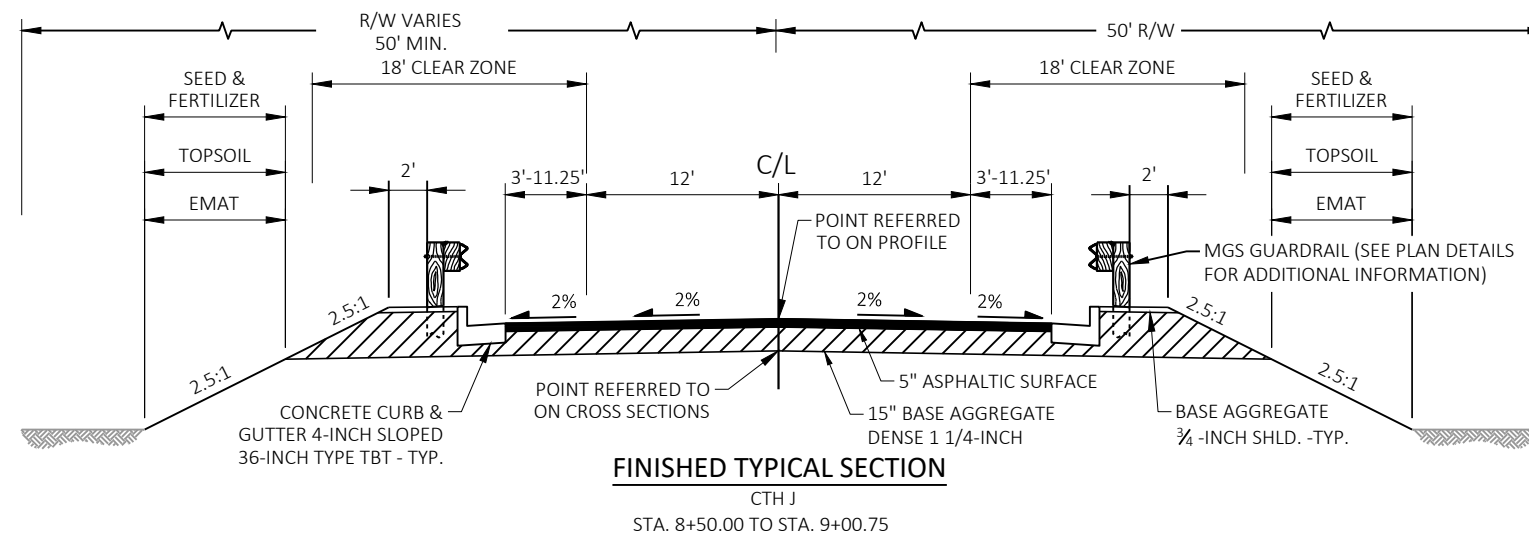
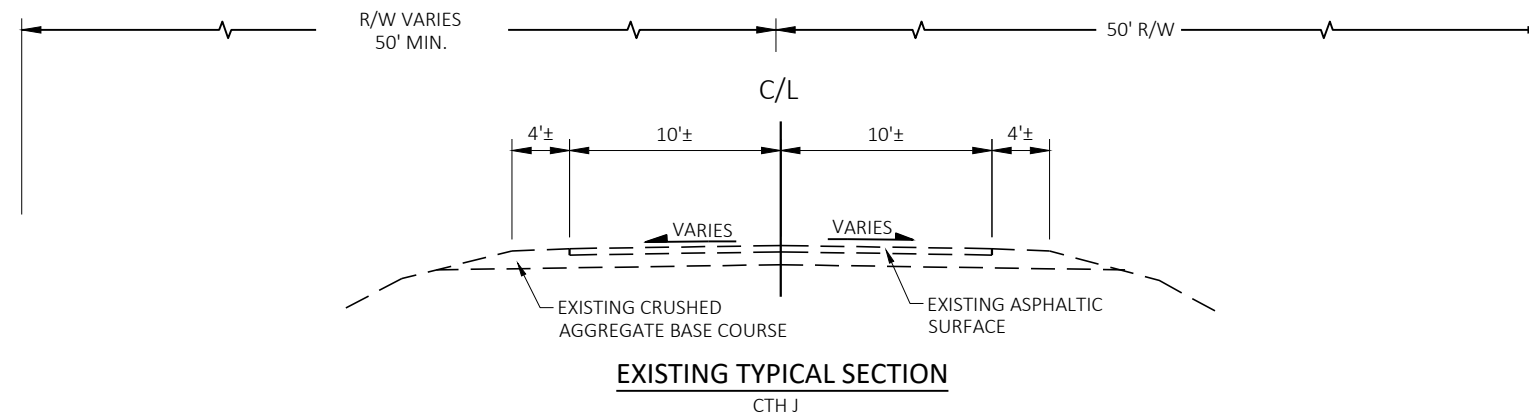
TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

THE DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR WITH A MONUMENT TO BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

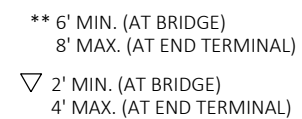
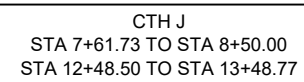
RUNOFF COEFFICIENT TABLE

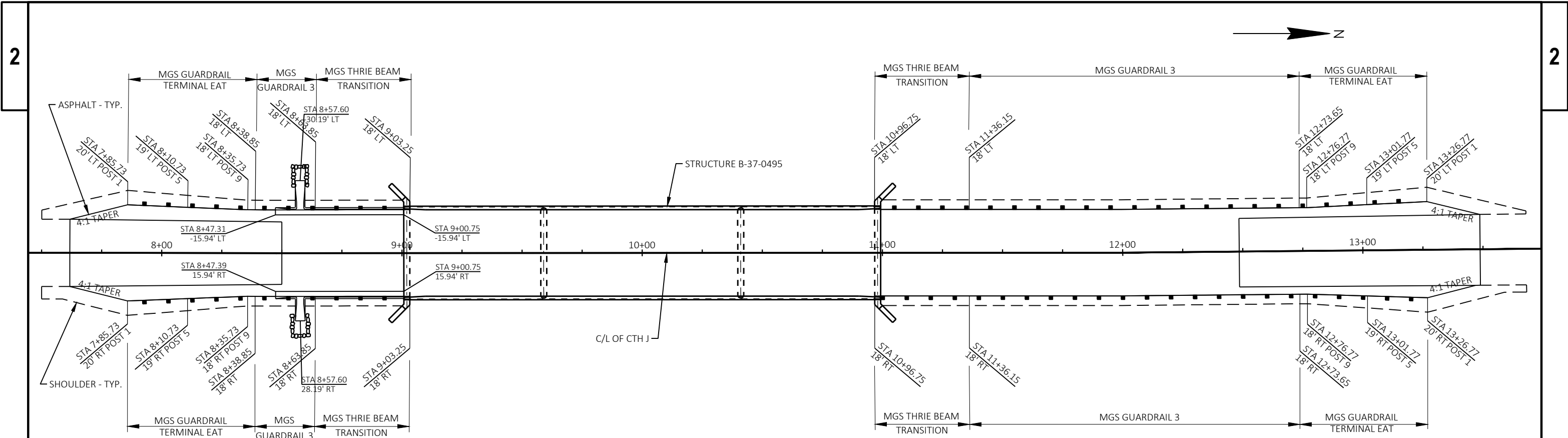
LAND USE:	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS:	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIPTURF:	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPETURF:			.25			.27			.28			.30
			.32			.34			.36			.38
PAVEMENT:												
ASPHALT:	.70 - .95											
CONCRETE:	.80 - .95											
BRICK:	.70 - .80											
DRIVES, WALKS:	.75 - .85											
ROOFS:	.75 - .95											
GRAVEL ROADS, SHOULDERS:	.40 - .60											

TOTAL PROJECT AREA = 1.651 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 1.055 ACRES

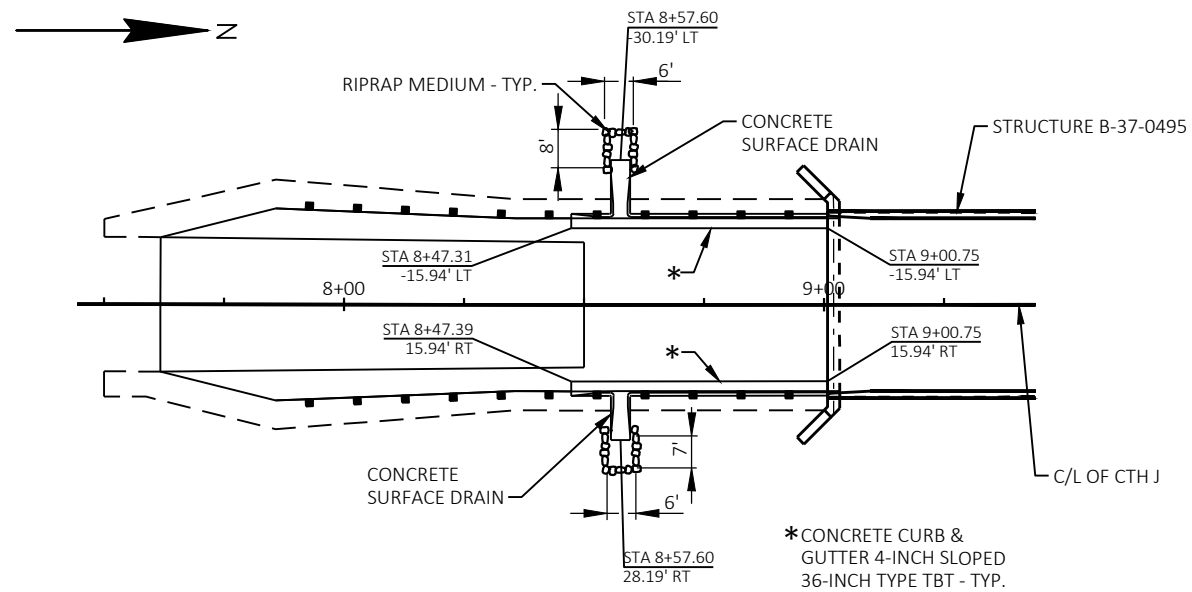


*THE ASPHALT SHALL BE PLACED 36'-0" WIDE AT THE ENDS OF THE BRIDGE AND FOLLOW THE FACE OF GUARDRAIL, AND TAPER TO MATCH EXISTING AT THE ENDS OF THE PROJECT.

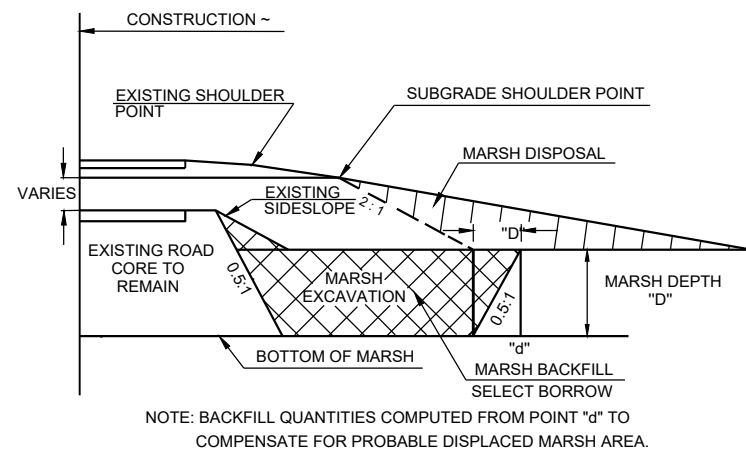




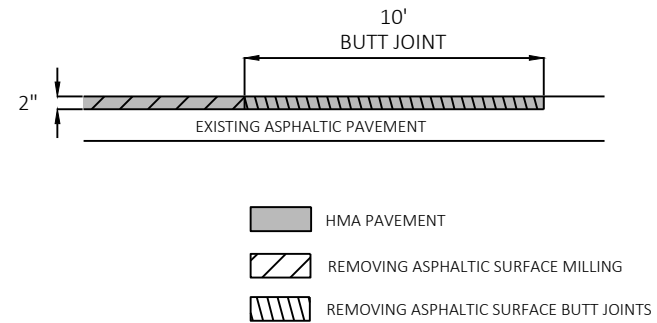
GUARDRAIL LAYOUT



CONCRETE SURFACE DRAIN DETAIL

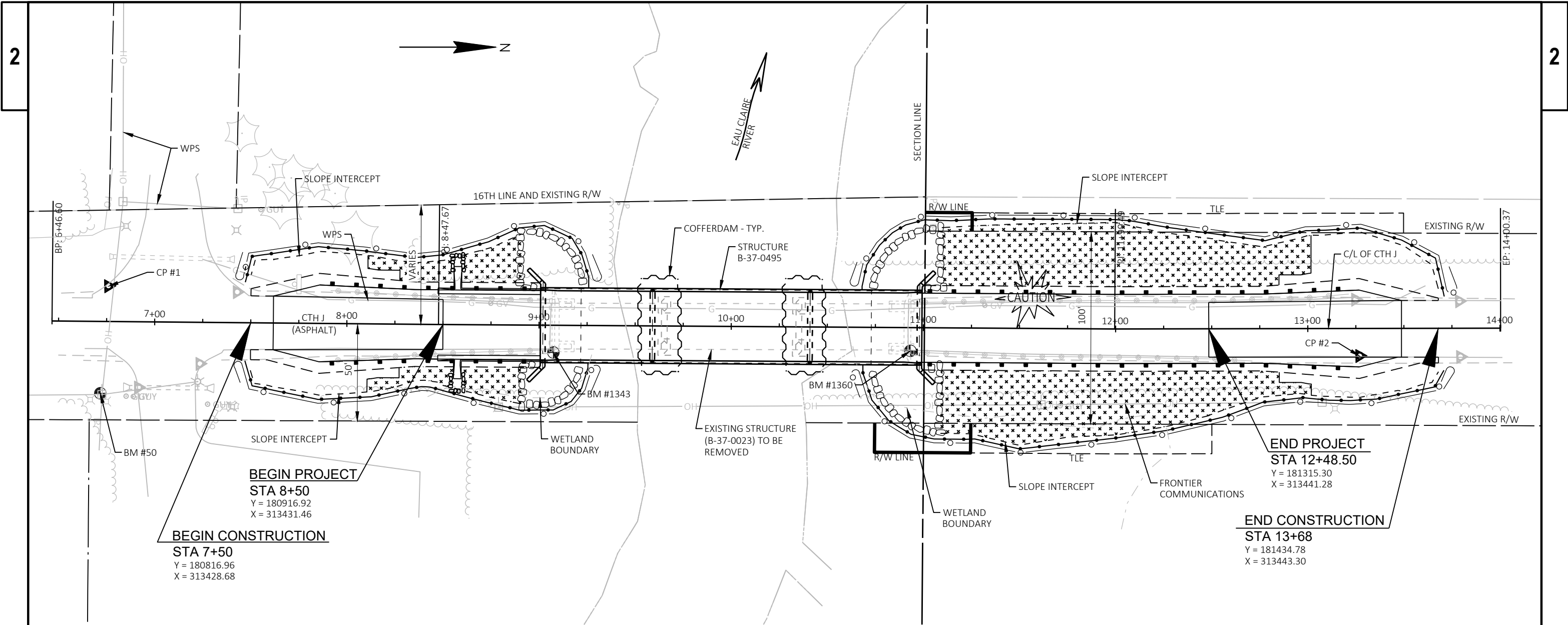


TYPICAL SECTION-MARSH EXCAVATION



BUTT JOINT

MAINLINE



NOTES:
NO DISTURBANCE OR TOPSOIL STOCKPILING IS
ALLOWED OUTSIDE OF THE SLOPE INTERCEPTS.

WETLANDS EXIST IN THE PROJECT AREA.

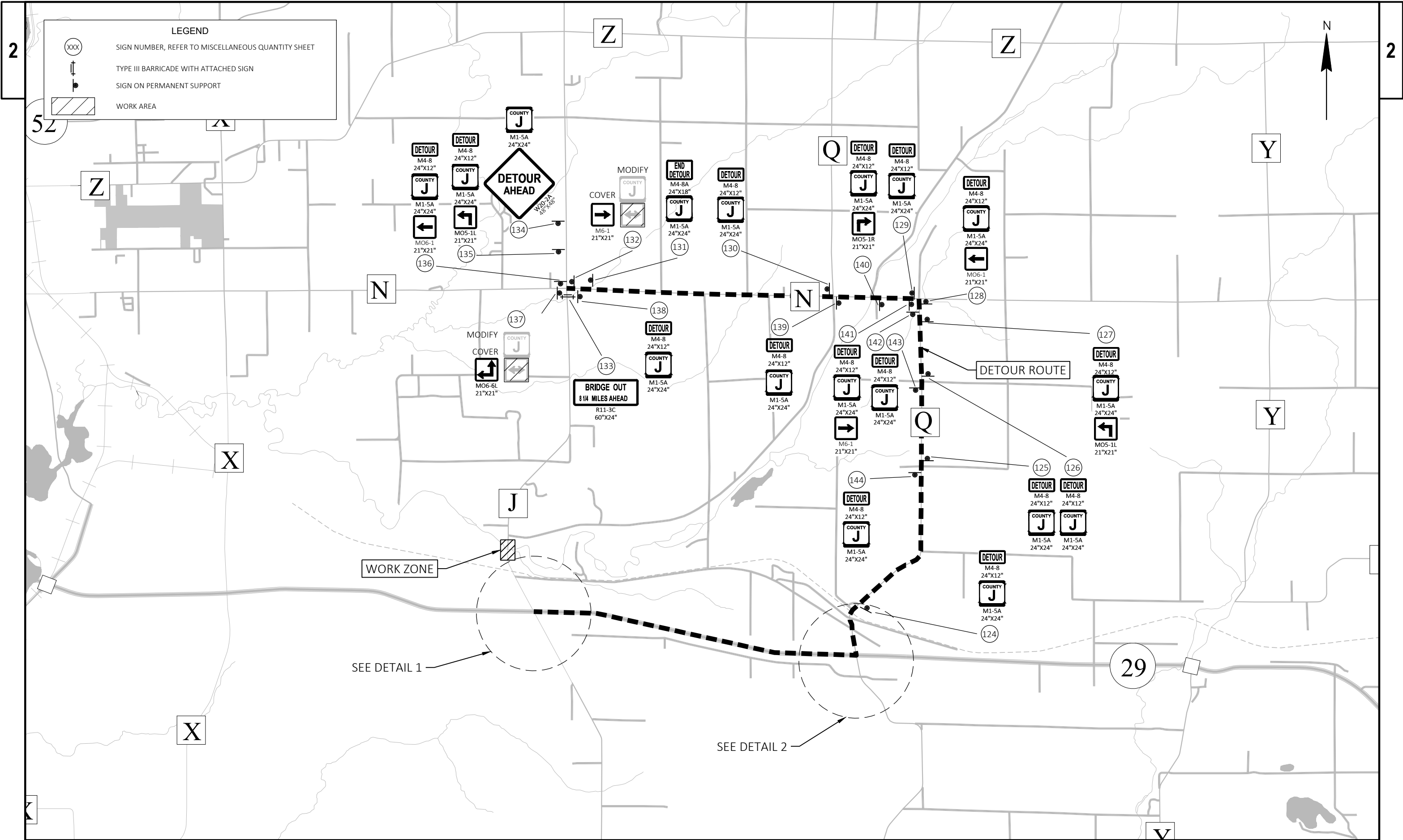
NO IN-STREAM WORK BETWEEN MARCH 1 TO JUNE 15,
WITH BOTH DATES INCLUSIVE OF THE TIMEOUT PERIOD.

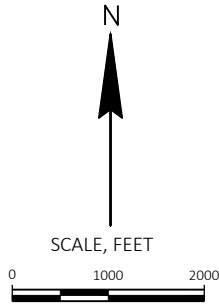
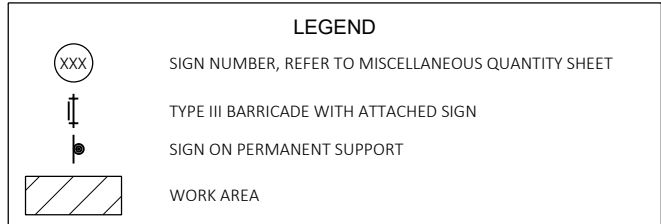
MULCH TO BE PLACED ON SIDE SLOPES NOT PROTECTED
BY EROSION MAT.

HIGHWATER ₂ EL. 1212.79

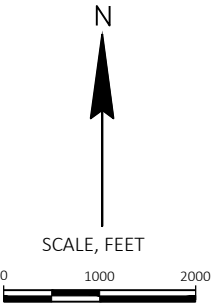
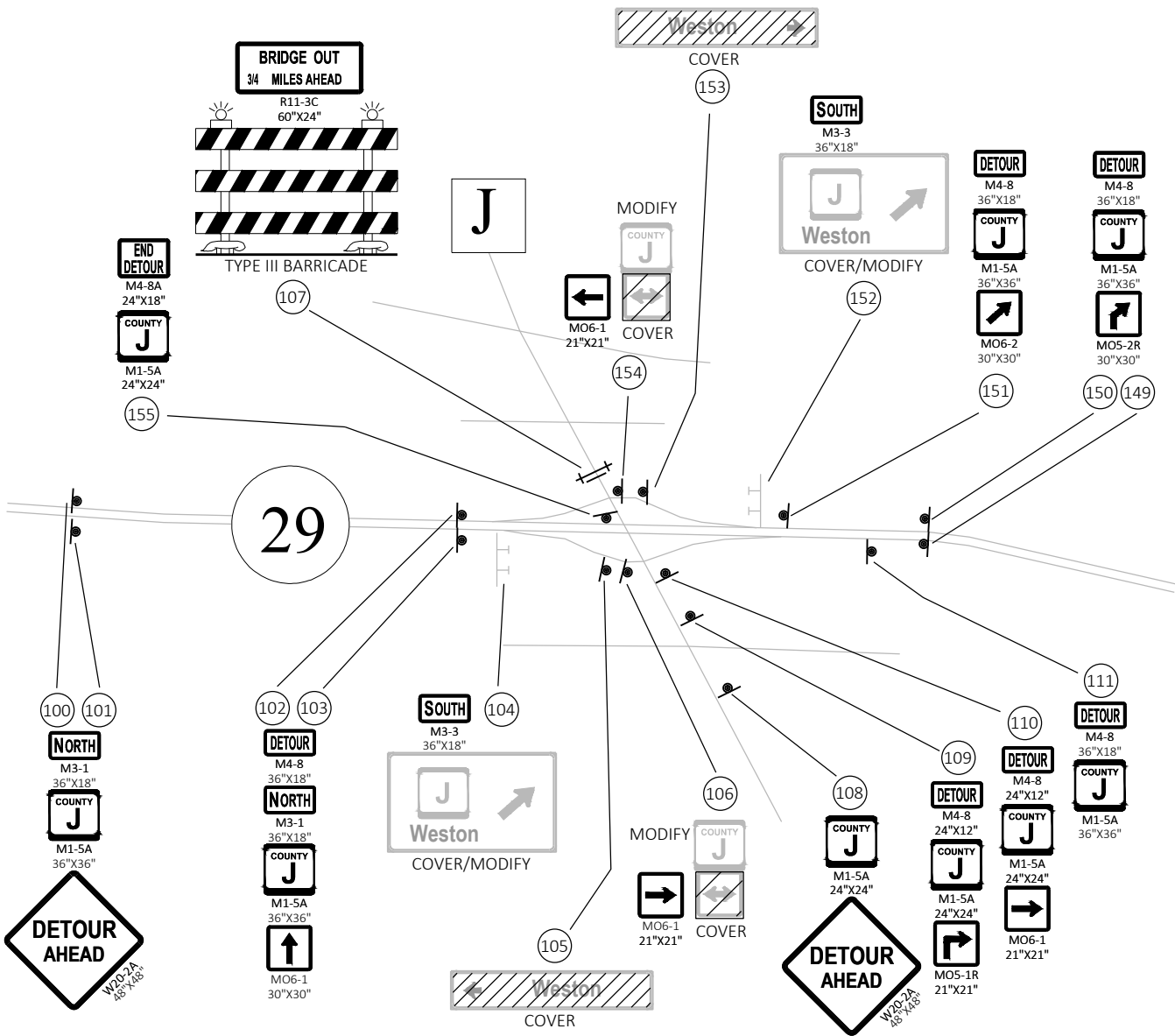
LEGEND

- EROSION MAT CLASS II (TYPE C)
- SILT FENCE
- RIP RAP
- SLOPE INTERCEPT
- TURBIDITY BARRIER (UNDISTRIBUTED)
- COFFERDAM
- TEMPORARY DITCH CHECK (UNDISTRIBUTED)
- CLIMBING TURTLE EXCLUSION FENCE

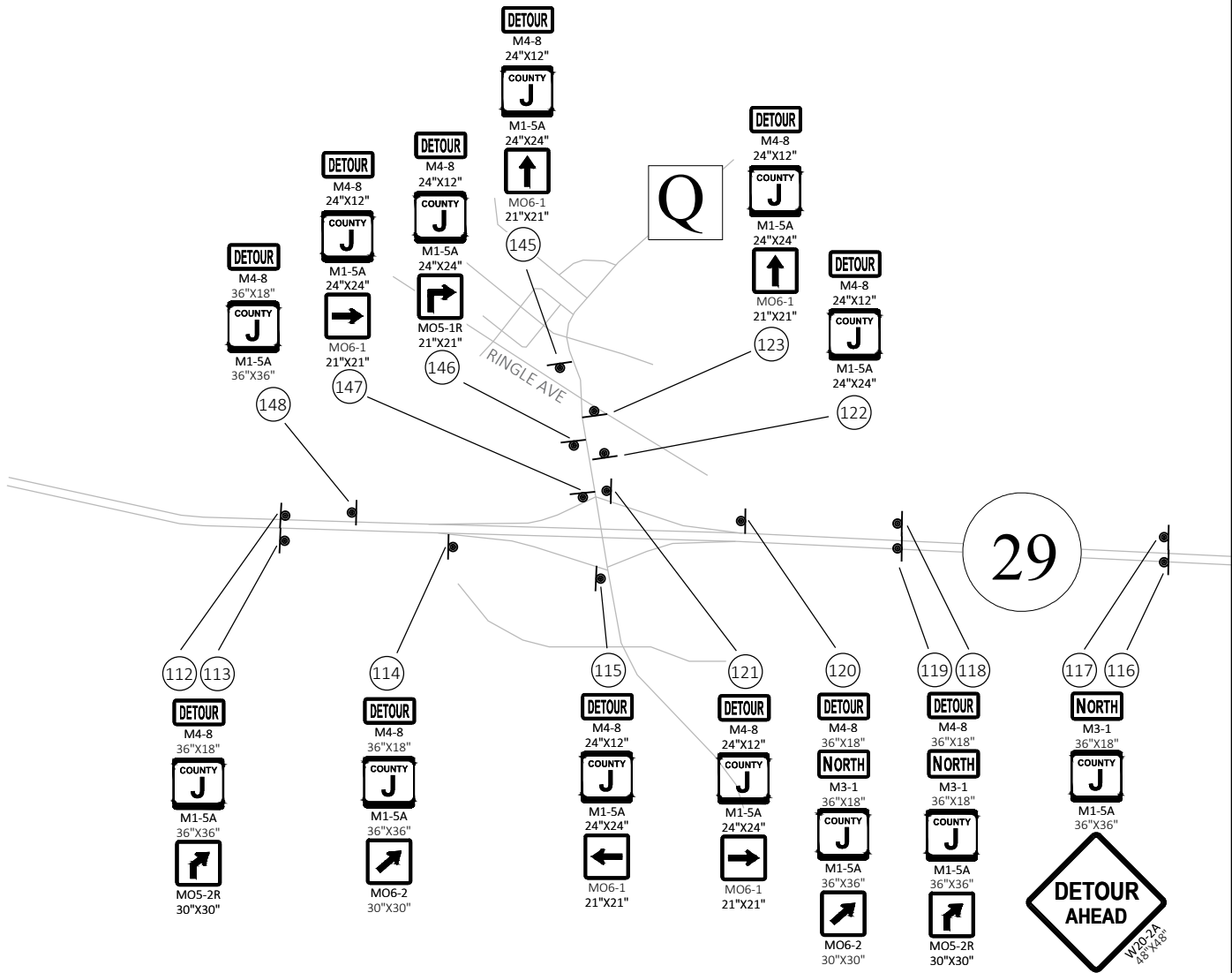


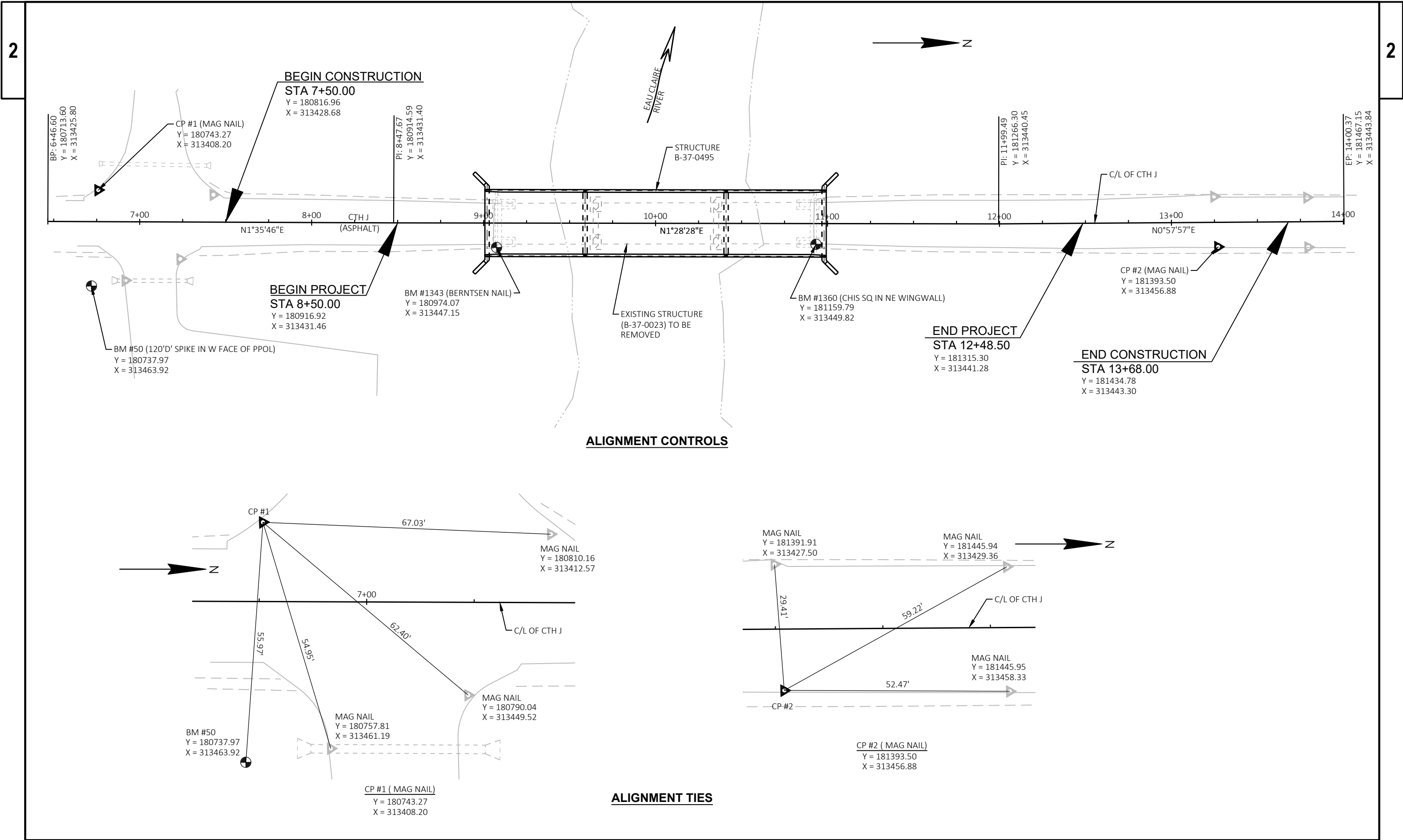


DETAIL 1



DETAIL 2





PROJECT NO: 9471-00-70	HWY: CTH J	COUNTY: MARATHON	ALIGNMENT CONTROLS	SHEET	E
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Estimate Of Quantities

9471-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	7.000	7.000
0004	201.0205	Grubbing	STA	7.000	7.000
0006	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. B-37-0023	EACH	1.000	1.000
0008	204.0115	Removing Asphaltic Surface Butt Joints	SY	65.000	65.000
0010	204.0120	Removing Asphaltic Surface Milling	SY	590.000	590.000
0012	204.0165	Removing Guardrail	LF	630.000	630.000
0014	205.0100	Excavation Common	CY	389.000	389.000
0016	205.0400	Excavation Marsh	CY	420.000	420.000
0018	206.1001	Excavation for Structures Bridges (structure) 01. B-37-0495	EACH	1.000	1.000
0020	206.5001	Cofferdams (structure) 01. B-37-0495	EACH	1.000	1.000
0022	208.0100	Borrow	CY	1,609.000	1,609.000
0024	208.1100	Select Borrow	CY	630.000	630.000
0026	210.1500	Backfill Structure Type A	TON	480.000	480.000
0028	213.0100	Finishing Roadway (project) 01. 9471-00-70	EACH	1.000	1.000
0030	305.0110	Base Aggregate Dense 3/4-Inch	TON	150.000	150.000
0032	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,550.000	1,550.000
0034	455.0605	Tack Coat	GAL	120.000	120.000
0036	465.0105	Asphaltic Surface	TON	360.000	360.000
0038	502.0100	Concrete Masonry Bridges	CY	515.000	515.000
0040	502.3200	Protective Surface Treatment	SY	800.000	800.000
0042	502.3210	Pigmented Surface Sealer	SY	200.000	200.000
0044	503.0137	Prestressed Girder Type I 36W-Inch	LF	786.000	786.000
0046	505.0400	Bar Steel Reinforcement HS Structures	LB	11,430.000	11,430.000
0048	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	63,430.000	63,430.000
0050	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	24.000	24.000
0052	506.4000	Steel Diaphragms (structure) 01. B-37-0495	EACH	12.000	12.000
0054	516.0500	Rubberized Membrane Waterproofing	SY	16.000	16.000
0056	550.0020	Pre-Boring Rock or Consolidated Materials	LF	843.000	843.000
0058	550.0500	Pile Points	EACH	26.000	26.000
0060	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	1,230.000	1,230.000
0062	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	108.000	108.000
0064	602.3010	Concrete Surface Drains	CY	2.000	2.000
0066	606.0200	Riprap Medium	CY	6.000	6.000
0068	606.0300	Riprap Heavy	CY	490.000	490.000
0070	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	170.000	170.000
0072	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0074	614.2300	MGS Guardrail 3	LF	325.000	325.000
0076	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0078	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0080	618.0100	Maintenance and Repair of Haul Roads (project) 01. 9471-00-70	EACH	1.000	1.000
0082	619.1000	Mobilization	EACH	1.000	1.000
0084	624.0100	Water	MGAL	50.000	50.000
0086	625.0100	Topsoil	SY	2,270.000	2,270.000
0088	627.0200	Mulching	SY	540.000	540.000
0090	628.1504	Silt Fence	LF	1,470.000	1,470.000
0092	628.1520	Silt Fence Maintenance	LF	2,940.000	2,940.000
0094	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0096	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0098	628.2027	Erosion Mat Class II Type C	SY	1,740.000	1,740.000

Estimate Of Quantities

9471-00-70

Line	Item	Item Description	Unit	Total	Qty
0100	628.6005	Turbidity Barriers	SY	50.000	50.000
0102	628.7504	Temporary Ditch Checks	LF	50.000	50.000
0104	629.0210	Fertilizer Type B	CWT	2.000	2.000
0106	630.0120	Seeding Mixture No. 20	LB	100.000	100.000
0108	630.0500	Seed Water	MGAL	50.000	50.000
0110	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0112	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0114	638.2602	Removing Signs Type II	EACH	4.000	4.000
0116	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0118	642.5001	Field Office Type B	EACH	1.000	1.000
0120	643.0420	Traffic Control Barricades Type III	DAY	1,644.000	1,644.000
0122	643.0705	Traffic Control Warning Lights Type A	DAY	2,192.000	2,192.000
0124	643.0900	Traffic Control Signs	DAY	18,495.000	18,495.000
0126	643.0920	Traffic Control Covering Signs Type II	EACH	5.000	5.000
0128	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0130	643.5000	Traffic Control	EACH	1.000	1.000
0132	645.0111	Geotextile Type DF Schedule A	SY	120.000	120.000
0134	645.0120	Geotextile Type HR	SY	860.000	860.000
0136	646.2020	Marking Line Epoxy 6-Inch	LF	2,010.000	2,010.000
0138	650.4500	Construction Staking Subgrade	LF	201.000	201.000
0140	650.5000	Construction Staking Base	LF	201.000	201.000
0142	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	108.000	108.000
0144	650.6501	Construction Staking Structure Layout (structure) 01. B-37-0495	EACH	1.000	1.000
0146	650.8000	Construction Staking Resurfacing Reference	LF	190.000	190.000
0148	650.9911	Construction Staking Supplemental Control (project) 01. 9471-00-70	EACH	1.000	1.000
0150	650.9920	Construction Staking Slope Stakes	LF	420.000	420.000
0152	690.0150	Sawing Asphalt	LF	55.000	55.000
0154	715.0502	Incentive Strength Concrete Structures	DOL	2,664.000	2,664.000
0156	999.2005.S	Maintaining Bird Deterrent System (station) 01. STA 10+00	EACH	1.000	1.000
0158	999.2100.S	Installing and Maintaining Climbing Turtle Exclusion Fence	LF	1,550.000	1,550.000
0160	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	2,000.000	2,000.000
0162	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	1,260.000	1,260.000
0164	SPV.0195	Special 01. Infill Riprap - B-37-0495	TON	125.000	125.000

CLEARING & GRUBBING

				201.0105	201.0205
				CLEARING	GRUBBING
STATION	TO	STATION	LOCATION	STA	STA
7+00	-	14+00	CTH J	7	7
TOTAL 0010				7	7

REMOVING ASPHALTIC SURFACE MILLING

				204.0115	204.0120
				REMOVING ASPHALTIC	REMOVING ASPHALTIC
				SURFACE BUTT JOINTS	SURFACE MILLING
STATION	TO	STATION	LOCATION	SY	SY
7+50	-	9+01	CTH J	32	265
10+99	-	13+68	CTH J	33	325
TOTAL 0010				65	590

REMOVING GUARDRAIL

				204.0165
				REMOVING
				GUARDRAIL
STATION	TO	STATION	LOCATION	LF
7+90	-	9+05	CTH J	230
10+95	-	13+22	CTH J	400
TOTAL 0010				630

From/To Station	Location	Excavation Common (1) 205.0100	Salvaged / Unuseable Pavement Material (5)	Unexpanded Fill	Expanded Fill (2)	Mass Ordinate +/- (3)	Waste	Borrow
		Cut			Factor 1.30			
7+50 - 9+00.75	CTH J	128	28	215	280	-180	0	180
10+99.25 - 13+68	CTH J	261	66	1,248	1,623	-1428	0	1,429
TOTAL		389	94	1,464	1,903			1,609

- 1) Excavation Common is the Cut. Item number 205.0100.
- 2) Expanded Fill. Factor = 1.30; Expanded Fill = Unexpanded Fill * Fill Factor
- 3) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material on the project.
- 4) All quantities shown in CY.
- 5) Salvaged/unuseable pavement material

EXCAVATION MARSH

		205.0400	208.1100
		EXCAVATION	SELECT BORROW
		MARSH	
LOCATION		CY	CY
UNDISTRIBUTED		420	630
TOTAL 0010		420	630

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

BASE AGGREGATE DENSE					
STATION	TO	STATION	LOCATION	305.0110	305.0120
				BASE AGGREGATE DENSE 3/4-INCH TON	BASE AGGREGATE DENSE 1 1/4-INCH TON
7+50	-	8+50	CTH J	40	265
8+50	-	9+01	CTH J	20	255
10+99	-	12+48	CTH J	46	745
12+48	-	13+68	CTH J	44	285
TOTAL 0010				150	1,550

ASPHALTIC SURFACE					
STATION	TO	STATION	LOCATION	455.0605	465.0105
				TACK COAT GAL	ASPHALTIC SURFACE TON
7+50	-	8+50	CTH J	28	60
8+50	-	9+01	CTH J	18	60
10+99	-	12+48	CTH J	44	175
12+48	-	13+68	CTH J	30	65
TOTAL 0010				120	360

CONCRETE CURB & GUTTER				
STATION	TO	STATION	LOCATION	601.0588
				CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT LF
8+47	-	9+01	CTH J, RT	54
8+47	-	9+01	CTH J, LT	54
TOTAL 0010				108

CONCRETE SURFACE DRAINS				
STATION	LOCATION	602.3010	606.0200	* 645.0120
		CONCRETE SURFACE DRAINS CY	RIPRAP MEDIUM CY	GEOTEXTILE TYPE HR SY
8+55	CTH J, RT	1	3	10
8+55	CTH J, LT	1	3	10
TOTAL 0010		2	6	20

GUARDRAIL						
STATION	TO	STATION	LOCATION	614.2300	614.2500	614.2610
				MGS GUARDRAIL 3 LF	MGS THRIE BEAM TRANSITION LF	MGS GUARDRAIL TERMINAL EAT EACH
7+50	-	9+01	CTH J	50	78.8	2
10+99	-	13+68	CTH J	275	78.8	2
TOTAL 0010				325	157.6	4

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

WATER	
LOCATION	624.0100 WATER MGAL
COMPACTION	24
DUST CONTROL	26
TOTAL 0010	50

EROSION CONTROL ITEMS								
STATION	TO	STATION	LOCATION	628.1504	628.1520	628.2027	628.6005	628.7504
				SILT FENCE LF	SILT FENCE MAINTENANCE LF	EROSION MAT CLASS II TYPE C SY	TURBIDITY BARRIERS SY	TEMPORARY DITCH CHECKS LF
7+50	-	13+68	CTH J	1,175	2,350	1,390	---	---
UNDISTRIBUTED				295	590	350	50	50
TOTAL 0010				1,470	2,940	1,740	50	50

MOBILIZATIONS EROSION CONTROL		
LOCATION	628.1905	628.1910
	MOBILIZATIONS EROSION CONTROL EACH	MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT LIMITS	5	3
TOTAL 0010	5	3

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

RESTORATION ITEMS

STATION	TO	STATION	LOCATION	625.0100	627.0200	629.0210	630.0120	630.0500
				TOPSOIL SY	MULCHING SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 20 LB	SEED WATER MGAL
7+50	-	13+68	MAINLINE	1,815	430	1.2	80	40
			UNDISTRIBUTED	455	110	0.8	20	10
			TOTAL 0010	2,270	540	2	100	50

SIGNS TYPE II

STATION	LOCATION	634.0614	637.2230	638.2602	638.3000	REMARKS
		POSTS WOOD 4X6-INCH X 14-FT EACH	SIGNS TYPE II REFLECTIVE F SF	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	
9+05	CTH J, LT	1	3	1	1	OM3-L
9+05	CTH J, RT	1	3	1	1	OM3-R
10+95	CTH J, LT	1	3	1	1	OM3-L
10+95	CTH J, RT	1	3	1	1	OM3-R
TOTAL 0010		4	12	4	4	

TRAFFIC CONTROL

* 643.0420643.0705643.0900								
TRAFFIC CONTROL TRAFFIC CONTROL TRAFFIC CONTROL								
APPROXIMATE BARRICADES TYPE III WARNING LIGHTS TYPE A SIGNS								
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TRAFFIC CONTROL DETOUR SIGN SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE	APPROX. SERVICE PERIOD 137 DAYS	NUMBER IN SERVICE	* 643.0900 TRAFFIC CONTROL SIGNS DAY	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	REMARKS
100	STH 29, PLACE 1500' W OF CTH J EXIT	M3-1	36"x18"	137	1	137		
	"	M1-5A	36"x36"	137	1	137		
	"	W20-2A	48"x48"	137	1	137		
101	STH 29, PLACE 1500' W OF CTH J EXIT	M3-1	36"x18"	137	1	137		
	"	M1-5A	36"x36"	137	1	137		
	"	W20-2A	48"x48"	137	1	137		
102	STH 29, PLACE 500' W OF CTH J EXIT	M4-8	36"x18"	137	1	137		
	"	M3-1	36"x18"	137	1	137		
	"	M1-5A	36"x36"	137	1	137		
	"	MO6-1	36"x36"	137	1	137		
103	STH 29, PLACE 500' W OF CTH J EXIT	M4-8	36"x18"	137	1	137		
	"	M3-1	36"x18"	137	1	137		
	"	M1-5A	36"x36"	137	1	137		
	"	MO6-1	36"x36"	137	1	137		
104	STH 29, W OF CTH J EXIT, MODIFY EXISTING SIGN	M3-3	36"x18"	137	1	137		
105	STH 29, W OF CTH J EXIT, COVER EXISTING SIGN						1	
106	STH 29 OFF RAMP, MODIFY/COVER EXISTING SIGN	MO6-1	21"x21"	137	1	137	1	
107	CTH J, PLACE N OF STH 29 INTERCHANGE	R11-3C	60"x24"	137	1	137		3/4 MILES AHEAD
108	CTH J, PLACE 1500' S OF STH 29 INTERCHANGE	M1-5A	24"x24"	137	1	137		
	"	W20-2A	48"x48"	137	1	137		
109	CTH J, PLACE 500' S OF STH 29 INTERCHANGE	M4-8	24"x12"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		
	"	MO5-1R	21"x21"	137	1	137		
110	CTH J, PLACE S OF STH 29 INTERCHANGE	M4-8	24"x12"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		
	"	MO6-1	21"x21"	137	1	137		
111	STH 29, PLACE E OF CTH J ON RAMP	M4-8	36"x18"	137	1	137		
	"	M1-5A	36"x36"	137	1	137		
112	STH 29, PLACE 1500' W OF CTH Q EXIT	M4-8	36"x18"	137	1	137		
		M1-5A	36"x36"	137	1	137		
		MO5-2R	30"x30"	137	1	137		
113	STH 29, PLACE 1500' W OF CTH Q EXIT	M4-8	36"x18"	137	1	137		
	"	M1-5A	36"x36"	137	1	137		
	"	MO5-2R	30"x30"	137	1	137		

PAGE SUBTOTALS

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*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

TRAFFIC CONTROL DETOUR SIGN SUMMARY CONTINUED

SIGN NO.	LOCATION	SIGN CODE	SIZE	APPROX. SERVICE PERIOD 110 DAYS	NUMBER IN SERVICE	* 643.0900 TRAFFIC CONTROL SIGNS DAY	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	REMARKS
114	STH 29, PLACE 500' W OF CTH Q EXIT	M4-8	36"X18"	137	1	137		
	"	M1-5A	36"X36"	137	1	137		
	"	MO6-2	30"X30"	137	1	137		
115	STH 29, PLACE W OF CTH Q INTERSECTION	M4-8	24"X12"	137	1	137		
	"	M1-5A	24"X24"	137	1	137		
	"	MO6-1	21"X21"	137	1	137		
116	STH 29, PLACE 1500' E OF CTH Q EXIT	M3-1	36"X18"	137	1	137		
	"	M1-5A	36"X36"	137	1	137		
	"	W20-2A	48"X48"	137	1	137		
117	STH 29, PLACE 1500' E OF CTH Q EXIT	M3-1	36"X18"	137	1	137		
	"	M1-5A	36"X36"	137	1	137		
	"	W20-2A	48"X48"	137	1	137		
118	STH 29, PLACE 500' E OF CTH Q EXIT	M4-8	36"X18"	137	1	137		
	"	M3-1	36"X18"	137	1	137		
	"	M1-5A	36"X36"	137	1	137		
	"	MO5-2R	30"X30"	137	1	137		
119	STH 29, PLACE 500' E OF CTH Q EXIT	M4-8	36"X18"	137	1	137		
	"	M3-1	36"X18"	137	1	137		
	"	M1-5A	36"X36"	137	1	137		
	"	MO5-2R	30"X30"	137	1	137		
120	STH 29, PLACE E OF CTH Q EXIT	M4-8	36"X18"	137	1	137		
	"	M3-1	36"X18"	137	1	137		
	"	M1-5A	36"X36"	137	1	137		
	"	MO6-2	30"X30"	137	1	137		
121	STH 29, PLACE E OF CTH Q INTERSECTION	M4-8	24"X12"	137	1	137		
	"	M1-5A	24"X24"	137	1	137		
	"	MO6-1	21"X21"	137	1	137		
122	CTH Q, PLACE N OF STH 29 INTERSECTION	M4-8	24"X12"	137	1	137		
	"	M1-5A	24"X24"	137	1	137		
123	CTH Q, PLACE S OF RINGLE AVE INTERSECTION	M4-8	24"X12"	137	1	137		
	"	M1-5A	24"X24"	137	1	137		
	"	MO6-1	21"X21"	137	1	137		
PAGE SUBTOTALS						4,247	0	0

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

TRAFFIC CONTROL DETOUR SIGN SUMMARY CONTINUED

SIGN NO.	LOCATION	SIGN CODE	SIZE	APPROX. SERVICE PERIOD 110 DAYS	NUMBER IN SERVICE	* 643.0900 TRAFFIC CONTROL SIGNS DAY	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	REMARKS
124	CTH Q, PLACE N OF 2ND AVE INTERSECTION	M4-8	24"x12"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		
125	CTH Q, PLACE N OF WOODSTOCK RD INTERSECTION	M4-8	24"x12"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		
126	CTH Q, PLACE N OF MOLE BROOK RD INTERSECTION	M4-8	24"x12"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		
127	CTH Q, PLACE 500' S OF CTH N INTERSECTION	M4-8	24"x12"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		
	"	MO5-1L	21"x21"	137	1	137		
128	CTH Q, PLACE S OF CTH N INTERSECTION	M4-8	24"x12"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		
	"	MO6-1	21"x21"	137	1	137		
129	CTH N, PLACE W OF CTH Q INTERSECTION	M4-8	24"x12"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		
130	CTH N, PLACE W OF CTH Q/RIVER RD INTERSECTION	M4-8	24"x12"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		
131	CTH N, PLACE 500' E OF CTH J INTERSECTION	M4-8A	24"x12"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		
132	CTH N, MODIFY/COVER EXISTING SIGN E OF CTH J INTERSECTION	M6-1	21"x21"	137	1	137	1	
133	CTH J, PLACE S OF CTH N INTERSECTION	R11-3C	60"x24"	137	1	137		8 1/4 MILES AHEAD
134	CTH J, PLACE 1500' N OF CTH N INTERSECTION	M1-5A	24"x24"	137	1	137		
	"	W20-2A	48"x48"	137	1	137		
135	CTH J, PLACE 500' N OF CTH N INTERSECTION	M4-8	24"x12"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		
	"	MO5-1L	21"x21"	137	1	137		
136	CTH J, PLACE N OF CTH N INTERSECTION	M4-8	24"x12"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		
	"	MO6-1	21"x21"	137	1	137		
137	CTH N, MODIFY/COVER EXISTING SIGE W OF CTH J INTERSECTION	MO6-6L	21"x21"	137	1	137	1	
138	CTH N, PLACE E OF CTH J INTERSECTION	M4-8	24"x12"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		
139	CTH N, PLACE E OF CTH Q/RIVER RD INTERSECTION	M4-8	24"x12"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		

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*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

TRAFFIC CONTROL DETOUR SIGN SUMMARY CONTINUED

SIGN NO.	LOCATION	SIGN CODE	SIZE	APPROX. SERVICE PERIOD 110 DAYS	NUMBER IN SERVICE	* 643.0900 TRAFFIC CONTROL SIGNS DAY	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	REMARKS
140	CTH N, PLACE 500' W OF CTH Q INTERSECTION	M4-8	24"x12"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		
	"	MO5-1R	21"x21"	137	1	137		
141	CTH N, PLACE W OF CTH Q INTERSECTION	M4-8	24"x12"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		
	"	MO6-1	21"x21"	137	1	137		
142	CTH Q, PLACE S OF CTH N INTERSECTION	M4-8	24"x12"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		
143	CTH Q, PLACE S OF MOLE BROOK RD INTERSECTION	M4-8	24"x12"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		
144	CTH Q, PLACE S OF WOODSTOCK RD INTERSECTION	M4-8	24"x12"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		
145	CTH Q, PLACE S OF 2ND AVE INTERSECTION	M4-8	24"x12"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		
	"	MO6-1	21"x21"	137	1	137		
146	CTH Q, PLACE 500' N OF STH 29 INTERCHANGE	M4-8	24"x12"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		
	"	MO6-1	21"x21"	137	1	137		
147	CTH Q, PLACE N OF STH 29 INTERCHANGE	M4-8	24"x12"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		
	"	MO6-1	21"x21"	137	1	137		
148	STH 29, PLACE W OF CTH Q ON RAMP	M4-8	36"x18"	137	1	137		
	"	M1-5A	36"x36"	137	1	137		
149	STH 29, PLACE W OF CTH Q ON RAMP	M4-8	36"x18"	137	1	137		
	"	M1-5A	36"x36"	137	1	137		
	"	MO5-2R	30"x30"	137	1	137		
150	STH 29, PLACE W OF CTH Q ON RAMP	M4-8	36"x18"	137	1	137		
	"	M1-5A	36"x36"	137	1	137		
	"	MO5-2R	30"x30"	137	1	137		
151	STH 29, PLACE W OF CTH Q ON RAMP	M4-8	36"x18"	137	1	137		
	"	M1-5A	36"x36"	137	1	137		
	"	MO6-2	30"x30"	137	1	137		
152	STH 29, E OF CTH J EXIT, MODIFY EXISTING SIGN	M3-3	36"x18"	137	1	137		
153	STH 29, E OF CTH J INTERSECTION, COVER EXISTING SIGN						1	
154	STH 29, MODIFY EXISTING SIGN E OF CTH J INTERSECTION	MO6-1	21"x21"	137	1	137		
155	CTH J, S OF STH 29 EXIT RAMP	M4-8A	24"x18"	137	1	137		
	"	M1-5A	24"x24"	137	1	137		

PAGE SUBTOTALS

4,932

1

TOTALS

18,221

5

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

CONSTRUCTION STAKING											
CATEGORY	STATION	TO	STATION	LOCATION	650.4500	650.5000	650.5500	650.6501.01	650.8000	650.9911.01	650.9920
					CONSTRUCTION	CONSTRUCTION	CONSTRUCTION	CONSTRUCTION	CONSTRUCTION	CONSTRUCTION STAKING	CONSTRUCTION
					STAKING	STAKING	STAKING CURB GUTTER	STAKING STRUCTURE	STAKING RESURFACING	SUPPLEMENTAL CONTROL	STAKING SLOPE
					SUBGRADE	BASE	AND CURB & GUTTER	LAYOUT 01. B-37-0495	REFERENCE	01. 9471-00-70	STAKES
					LF	LF	LF	EACH	LF	EACH	LF
0010	7+50	-	9+01	CTH J	51	51	108	-	89	1	151
0010	10+99	-	13+68	CTH J	150	150	-	-	101	-	269
TOTAL 0010					201	201	108	0	190	1	420
0020	10+00			CTH J	-	-	-	1	-	-	-
TOTAL 0020					0	0	0	1	0	0	0
TOTAL					201	201	108	1	190	1	420

SAWING ASPHALT			
STATION	LOCATION	690.0150	REMARKS
		SAWING ASPHALT LF	
8+50	CTH J	26	RECONSTRUCTION LIMITS
12+48	CTH J	29	RECONSTRUCTION LIMITS
TOTAL 0010		55	

MAINTAINING BIRD DETERRENT SYSTEM			
STATION	LOCATION	999.2005.S.01	REMARKS
		MAINTAINING BIRD DETERRENT SYSTEM 01. STA 10+00 EACH	
10+00	CTH J	1	B-37-0495
TOTAL 0010		1	

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

CONVENTIONAL ABBREVIATIONS

SECTION LINE		SECTION CORNER SYMBOL		R/W MONUMENT (TO BE SET)	
QUARTER LINE		SECTION CORNER MONUMENT		NON-MONUMENTED R/W POINT	
SIXTEENTH LINE		GEODETIC SURVEY MONUMENT		FOUND SURVEY MONUMENT (SEE FOUND MONUMENT TABLE)	
NEW REFERENCE LINE		SIGN		PERMITTED SIGN	
NEW R/W LINE		ACCESS RESTRICTED BY ACQUISITION		NO ACCESS (BY STATUTORY AUTHORITY)	
EXISTING R/W OR HE LINE		ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)		NO ACCESS (NEW HIGHWAY)	
PROPERTY LINE		PARCEL NUMBER		UTILITY NUMBER	
LOT, TIE & OTHER MINOR LINES		BUILDING		TO BE REMOVED	
EXISTING CENTERLINE		BRIDGE		CULVERT	
CORPORATE LIMITS		PARALLEL OFFSETS			
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)					
TEMPORARY LIMITED EASEMENT AREA					
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)					

WATER	—W
GAS	—G
TELEPHONE	—T
OVERHEAD TRANSMISSION LINES	—OH
ELECTRIC	—E
CABLE TELEVISION	—TV
FIBER OPTIC	—FO
SANITARY SEWER	—SAN
STORM SEWER	—SS
COMBINED SEWER	—SSS
ELECTRIC TOWER	
TRANSMISSION STRUCTURES	
	NON-
	<u>COMPENSABLE</u> <u>COMPENSABLE</u>
ELECTRIC POLE	
TELEPHONE POLE	
PEDESTAL (LABEL TYPE)	
(TV, TEL, ELEC, ETC.)	

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), MARATHON COUNTY, NAD83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS" OF PUBLIC RECORD.

PARCEL AND UTILITY IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE DETAIL PAGES.

FOR CURRENT ACCESS/DRIVEWAY INFORMATION CONTACT THE MARATHON COUNTY HIGHWAY DEPARTMENT.

EXISTING ROAD RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINT OF REFERENCE:
CTH J WAS ESTABLISHED FROM PREVIOUS PROJECT S0531(3).

CALLON AVENUE WAS ESTABLISHED FROM PREVIOUS PROJECT S0531(3).

THIS PLAT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSE ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES AND ACCESS RIGHTS.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON, THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE. ALL (TLEs) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

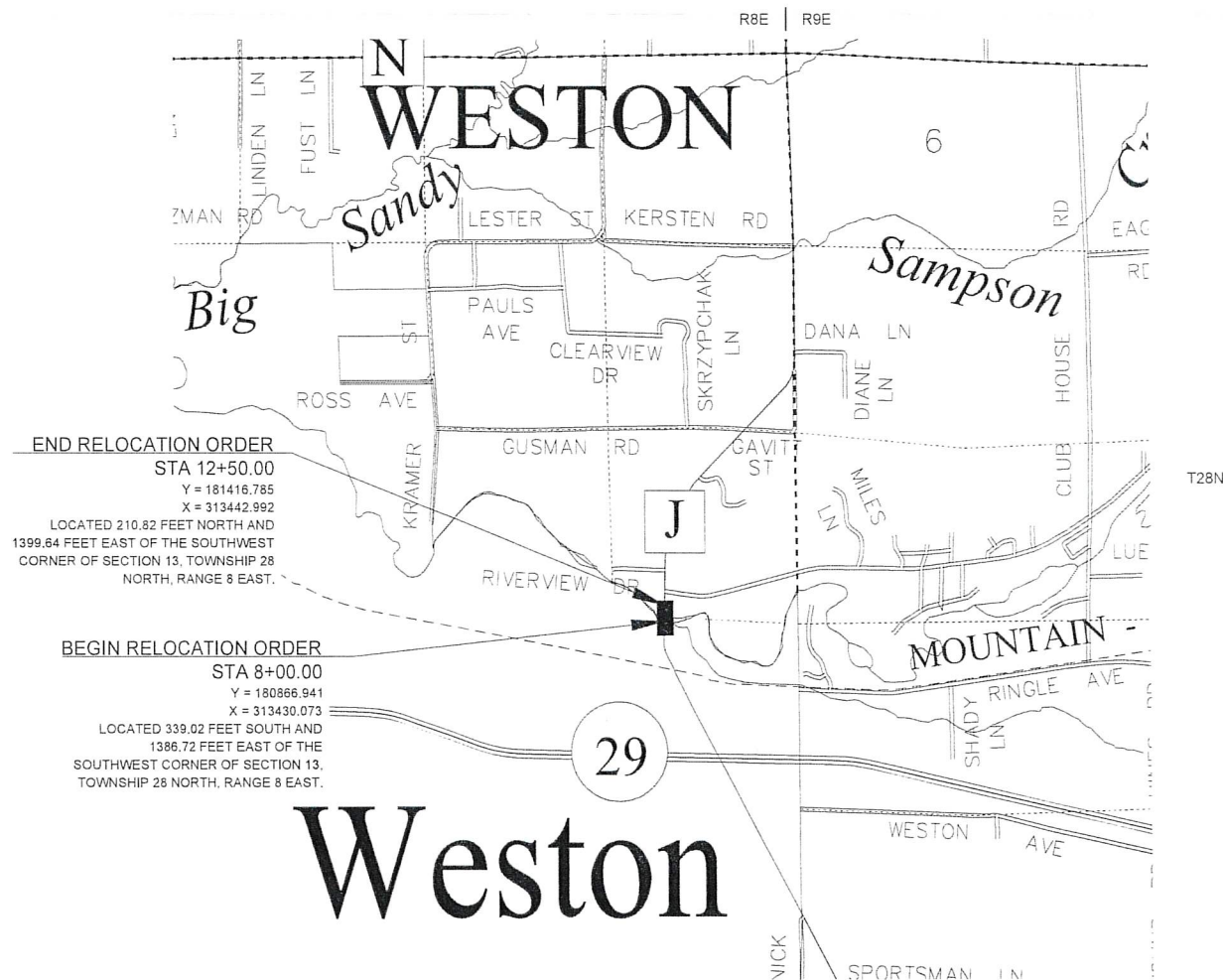
ACCESS RIGHTS	AR	RECORDED AS	(100)
ACRES	AC	REEL / IMAGE	R/I
ALUMINUM	ALUM	REFERENCE LINE	R/L
AND OTHERS	ET AL	REMAINING	REM
BLOCK	BLK	RESTRICTIVE DEVELOPMENT	RDE
CENTERLINE	C/L	EASEMENT	
CERTIFIED SURVEY MAP	CSM	RIGHT	RT
CONCRETE	CONC	RIGHT OF WAY	R/W
COUNTY TRUNK HIGHWAY	CTH	SECTION	SEC
CORNER	COR	SEPTIC VENT	SEP/V
DOCUMENT NUMBER	DOC	SQUARE FEET	SF
EASEMENT	EASE	STATE TRUNK HIGHWAY	STH
EXISTING	EX	STATION	STA
GAS VALVE	GV	TELEPHONE PEDESTAL	TP
GRID NORTH	GN	TRANSPORTATION PROJECT PLAT	TPP
IDENTIFICATION	ID	UNITED STATES HIGHWAY	USH
LEFT	LT	VOLUME	V
MONUMENT	MON		
NATIONAL GEODETIC SURVEY	NGS		
NUMBER	NO		
OUTLOT	OL		
PAGE	P		
POINT OF TANGENCY	PT		
POINT OF BEGINNING	POB		
POINT OF CURVATURE	PC		
POINT OF COMPOUND CURVE	PCC		
POINT OF INTERSECTION	PI		
PROPERTY LINE	PL		

<u>CURVE DATA ABBREVIATION</u>			
	LONG CHORD	LCH	
	LONG CHORD BEARING	LCB	
	RADIUS	R	
	DEGREE OF CURVE	D	
	DELTA ANGLE	Δ/DE	
	LENGTH OF CURVE	L	
	TANGENT	T	
	DIRECTION AHEAD	DA	
	DIRECTION BACK	DB	

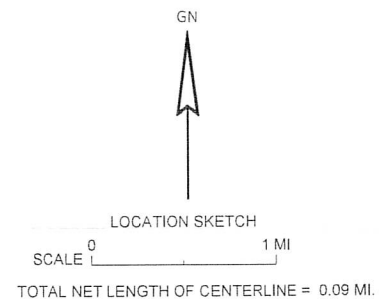
CURVE DATA ABBREVIATIONS

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
DELTA ANGLE	Δ /DELTA
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB

**MARATHON COUNTY
CLERKS OFFICE**



R/W PROJECT NUMBER 9471-00-00	SHEET NUMBER	TOTAL SHEETS
CONSTRUCTION PROJECT NUMBER 9471-00-70	4.01	2
PLAT OF RIGHT OF WAY REQUIRED FOR STH 29 - CTH N EAU CLAIRE RIVER BRIDGE B-37-0495		
CTH J	MARATHON COUNTY	



T28N

REVISION DATE

APPROVED
FOR
COUNTY OF MARATHON

8/26/2025
DATE

HIGHWAY COMMISSIONER

PLAT PREPARED BY

AVRES

THE SURVEY IS PREPARED AT THE REQUEST OF
MARATHON COUNTY.

THE FIELD SURVEY WAS PERFORMED IN NOVEMBER 2023.

THIS SURVEY IS ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.



CHRISTOPHER R. BADTKE, P.L.S.
S-3150

08/22/2025

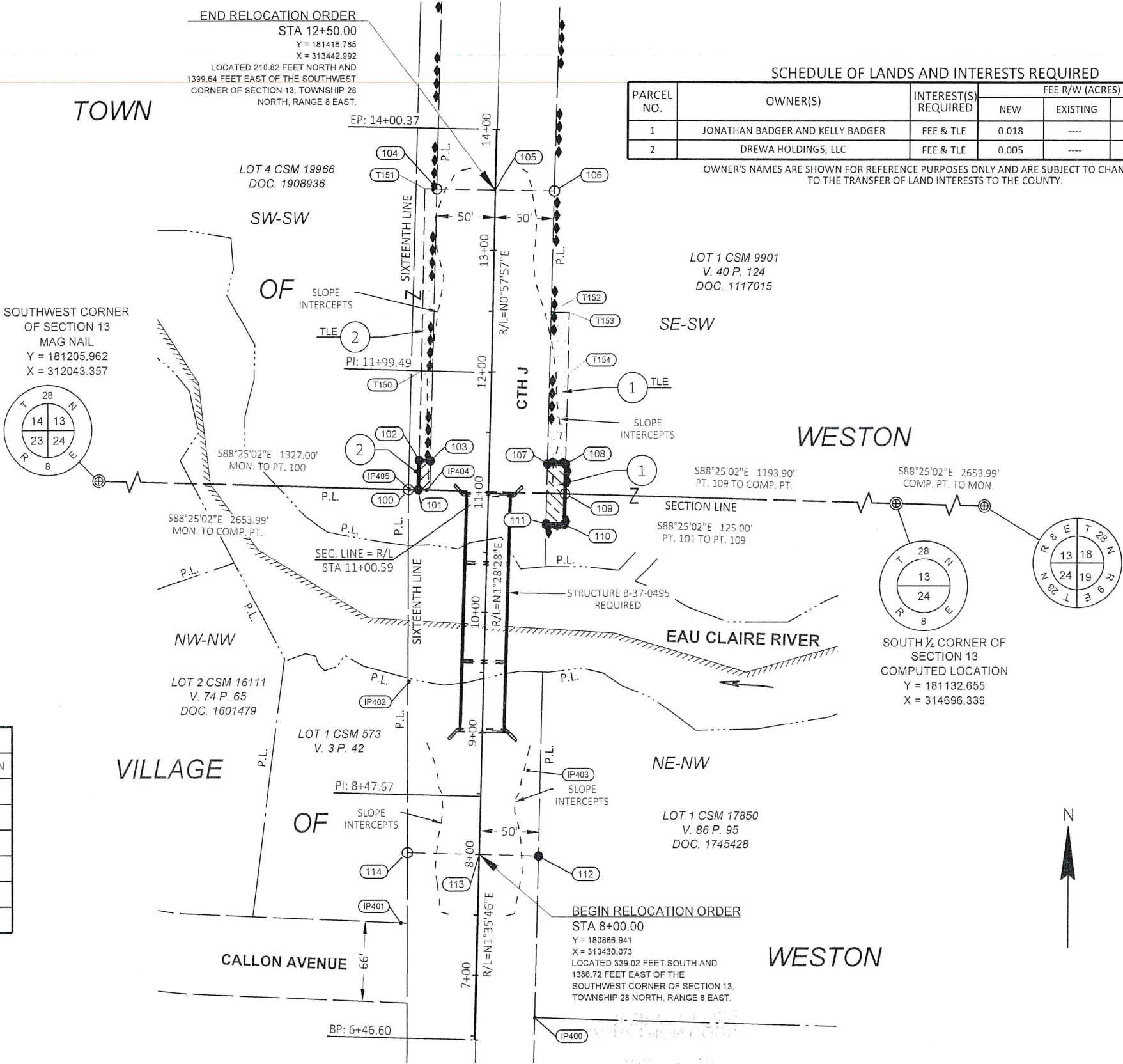
DATE _____

R/W COURSE TABLE					
COURSE	BEARING	DISTANCE	COURSE	BEARING	DISTANCE
100-101	S88°25'02"E	8.09'	108-109	S01°28'28"W	24.53'
101-102	N01°28'28"E	24.33'	109-110	S01°28'28"W	25.47'
102-103	S88°31'32"E	9.63'	110-111	N88°31'32"W	15.24'
103-104	N01°19'34"E	224.52'	111-112	S01°19'34"W	275.11'
104-105	S89°02'03"E	49.61'	112-113	N88°24'14"W	50.58'
105-106	S89°02'03"E	50.39'	113-114	N88°24'14"W	61.09'
106-107	S01°19'34"W	225.44'	114-100	N00°09'36"E	300.67'
107-108	S88°31'32"E	15.37'			

R/W STATION & OFFSET TABLE		
POINT	STATION	OFFSET
100	11+00.72	68.09' LT
101	11+00.70	60.00' LT
102	11+25.04	60.00' LT
103	11+25.04	50.37' LT
104	13+50.00	49.61' LT
105	13+50.00	0.00'
106	13+50.00	50.39' RT
107	11+25.00	49.63' RT
108	11+25.00	65.00' RT
109	11+00.47	65.00' RT
110	10+75.00	65.00' RT
111	10+75.00	49.76' RT
112	8+00.00	50.58' RT
113	8+00.00	0.00'
114	8+00.00	61.09' LT

TLE STATION & OFFSET TABLE		
POINT	STATION	OFFSET
T150	11+99.76	60.00' LT
T151	13+50.00	60.00' LT
T152	12+50.00	49.76' RT
T153	12+50.00	65.00' RT
T154	11+99.78	65.00' RT

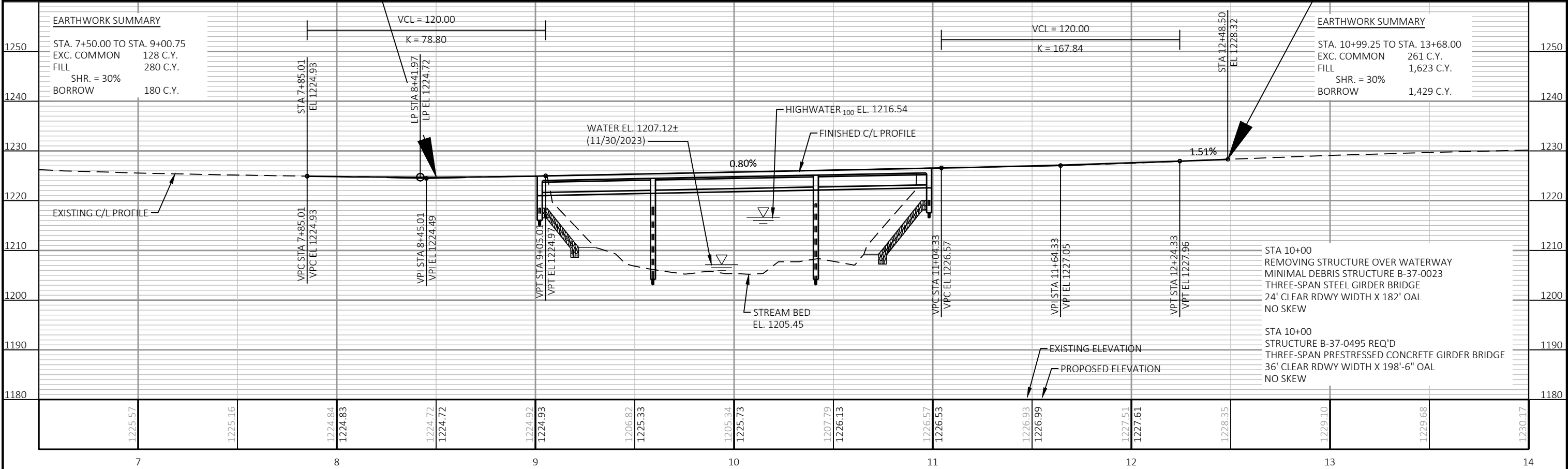
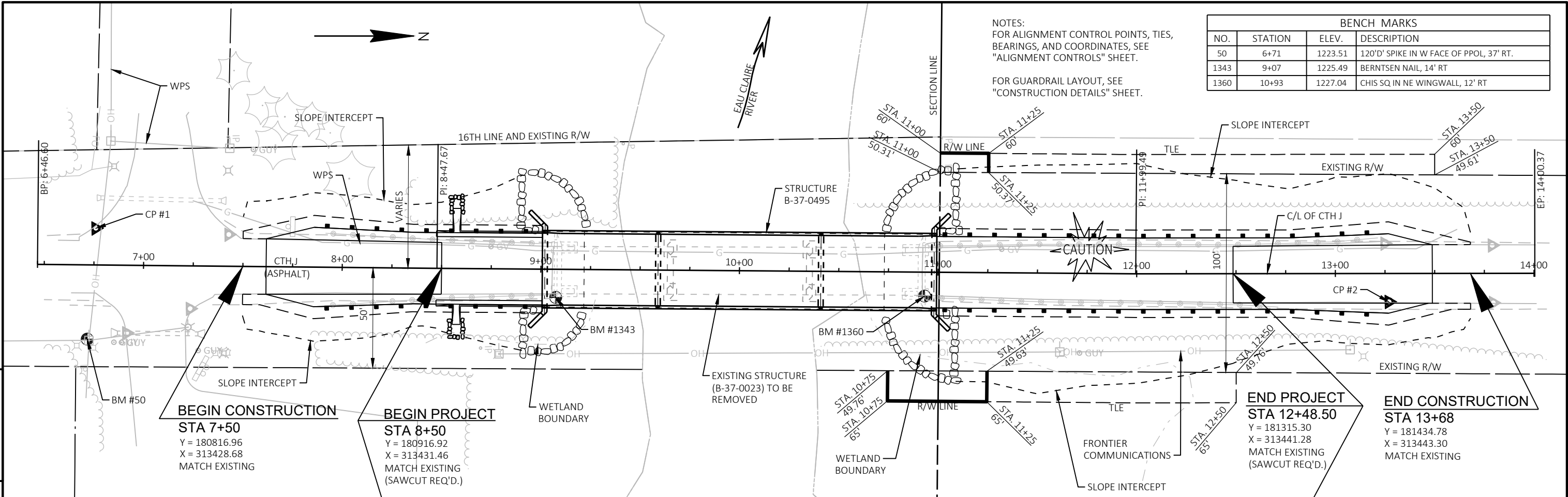
FOUND MONUMENT TABLE			
POINT	Y	X	DESCRIPTION
IP400	180731.966	313477.609	1" IP
IP401	180810.718	313363.581	1" IP
IP402	181009.513	313370.365	1.25" IP
IP403	180935.794	313471.935	1" IP
IP404	181168.980	313384.860	1.25" IP
IP405	181169.487	313370.618	1.25" IP



SCHEDULE OF LANDS AND INTERESTS REQUIRED						
PARCEL NO.	OWNER(S)	INTEREST(S) REQUIRED	FEE R/W (ACRES)			TLE AC.
			NEW	EXISTING	TOTAL	
1	JONATHAN BADGER AND KELLY BADGER	FEE & TLE	0.018	----	0.018	0.044
2	DREWA HOLDINGS, LLC	FEE & TLE	0.005	----	0.005	0.050

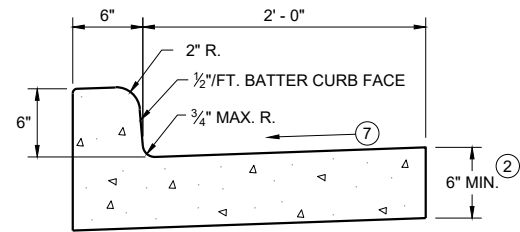
OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE COUNTY.

REVISION DATE	DATE 08/22/2025	SCALE, FEET 0 50 100	HWY: CTH J	STATE R/W PROJECT NUMBER 9471-00-00	PLAT SHEET 4.02	E
	GRID FACTOR		COUNTY: MARATHON	CONSTRUCTION PROJECT NUMBER 9471-00-70	PS&E SHEET	

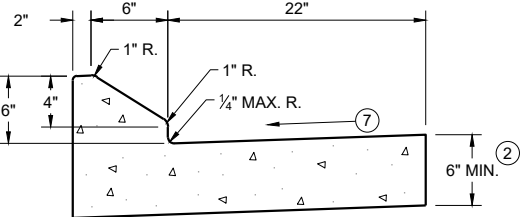


Standard Detail Drawing List

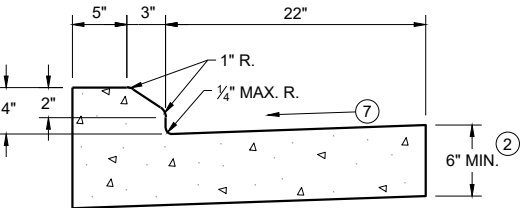
08D01-24A	CONCRETE CURB & GUTTER
08D01-24B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-08A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14D01-01	TURTLE EXCLUSION FENCE CLIMBING TURTLE
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-24A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS



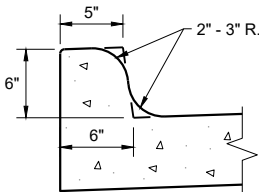
TYPES A^① & D



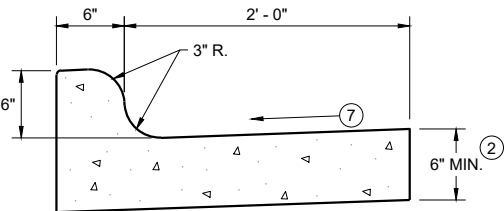
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

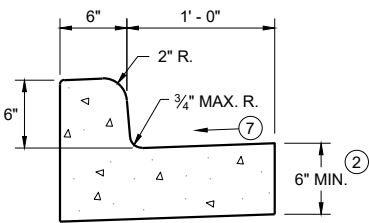


TYPES K^① & L
(OPTIONAL CURB SHAPE)



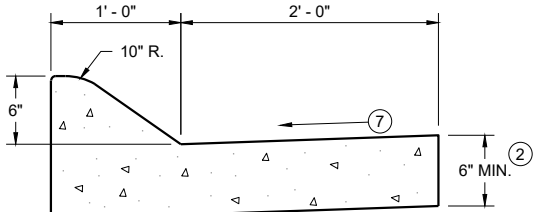
TYPES K^① & L

CONCRETE CURB AND GUTTER 30"

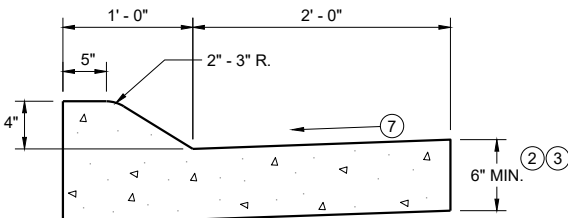


TYPES A^① & D

CONCRETE CURB AND GUTTER 18"

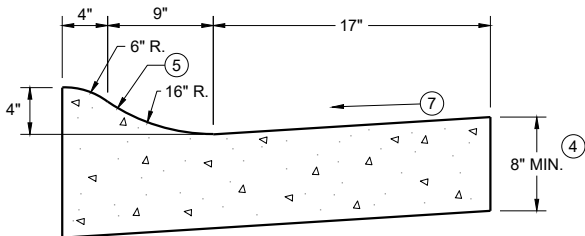


6" SLOPED CURB TYPES A^① & D



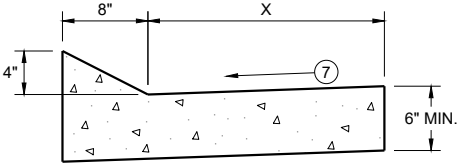
4" SLOPED CURB TYPES A^① & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R^① & T
CONCRETE CURB AND GUTTER 30"

TBT & TBTT	X
30"	22"
36"	28"

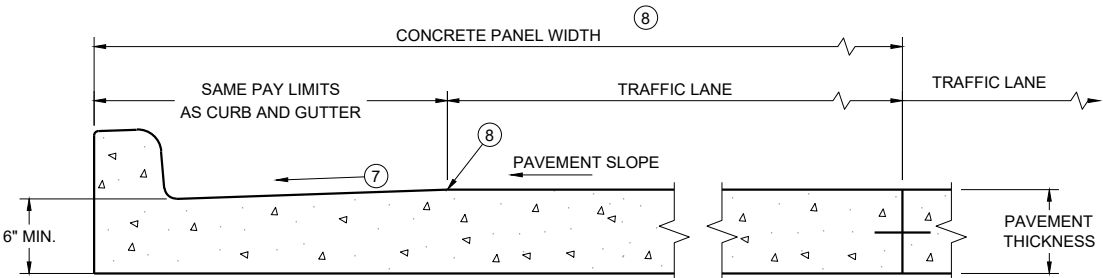


TYPES TBT & TBTT^①

CONCRETE CURB AND GUTTER

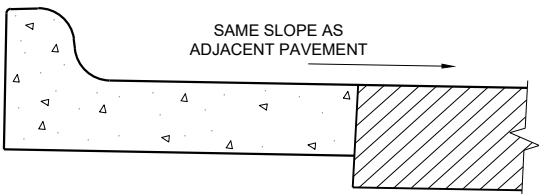
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'

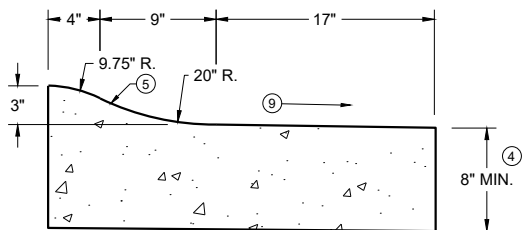


PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER^⑥
(TYPICAL FOR ALL CURB & GUTTER TYPES)



3" SLOPED CURB TYPES R^① & T

CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

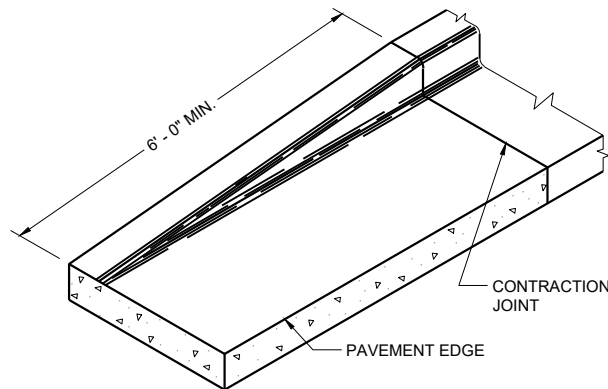
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

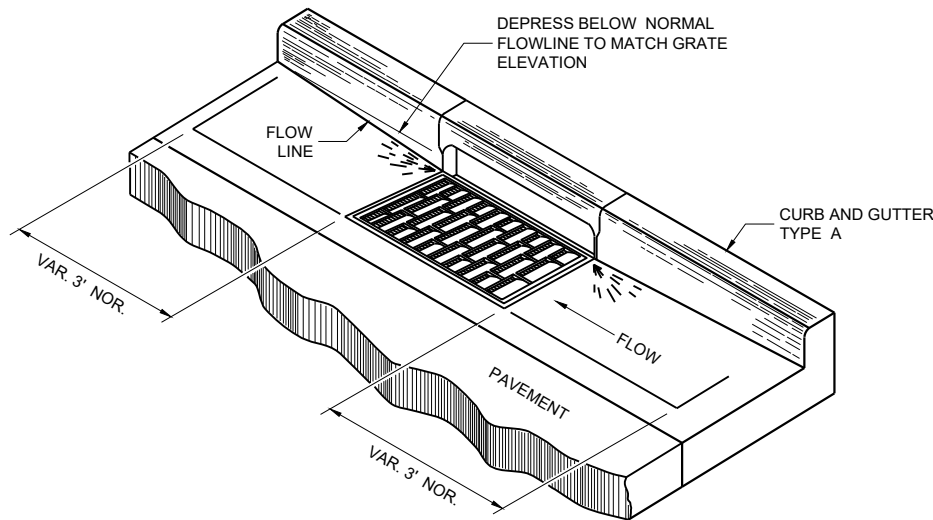
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
- ⑨ SLOPE TO BE REVERSE SLOPE MATCHING THE SLOPE OF THE PAVEMENT AND THE CIRCULATORY ROADWAY

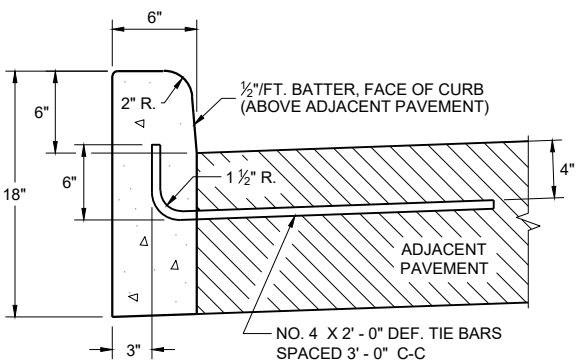


END SECTION CURB AND GUTTER

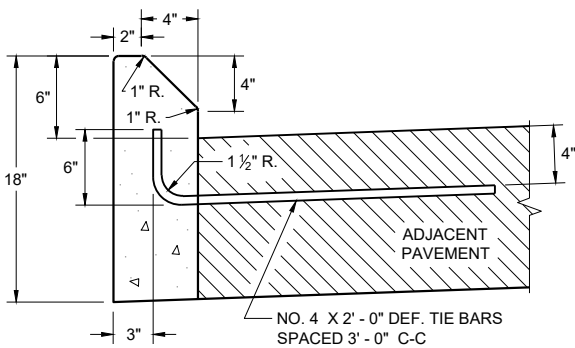


DETAIL OF CURB AND GUTTER AT INLETS

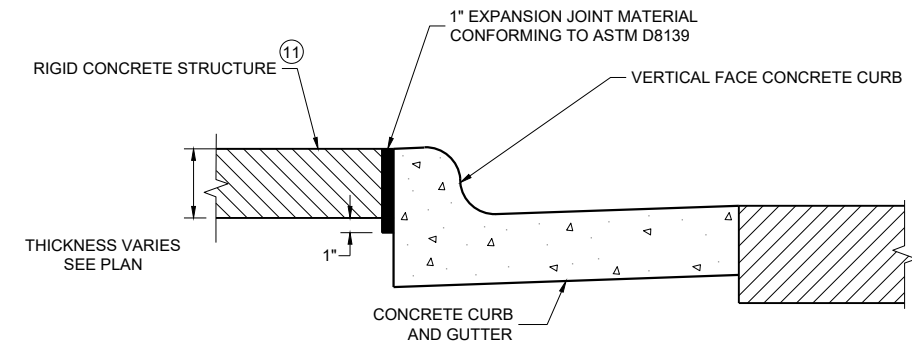
(TYPICAL H INLET COVER SHOWN)



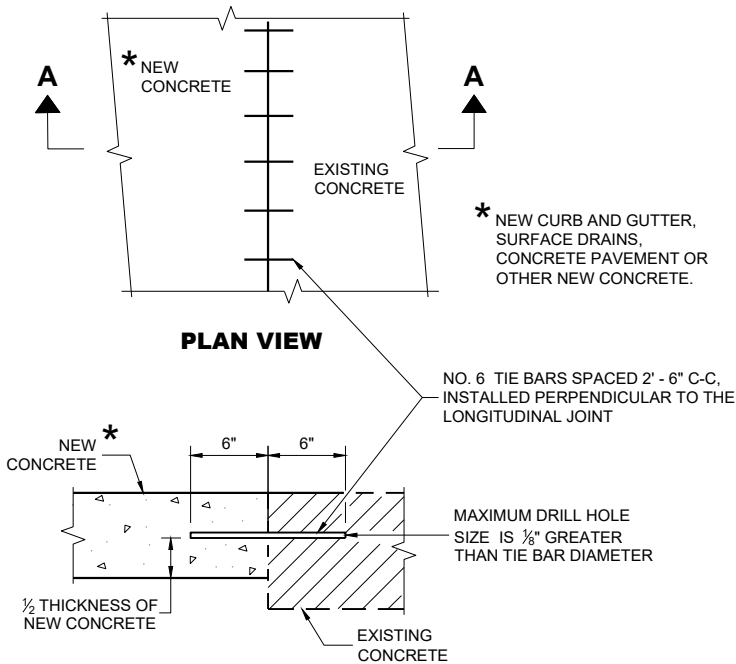
TYPES A^① & D



TYPES G^① & J
CONCRETE CURB



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE^⑪



SECTION A - A
TIE BARS DRILLED INTO EXISTING PAVEMENT

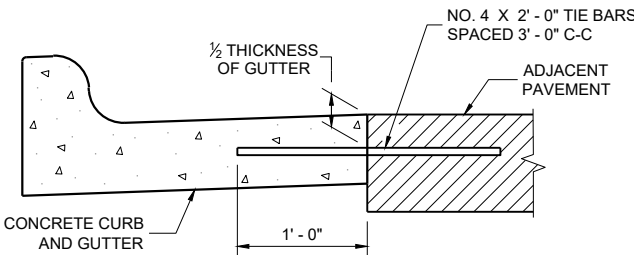
GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

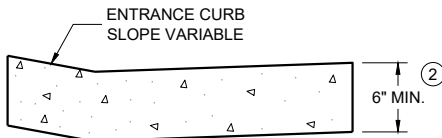
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑩ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.
- ⑪ PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.



TYPICAL TIE BAR LOCATION^①



DRIVEWAY ENTRANCE CURB^⑩
(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES
AND CURB AND GUTTER
APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2025 DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

FHWA

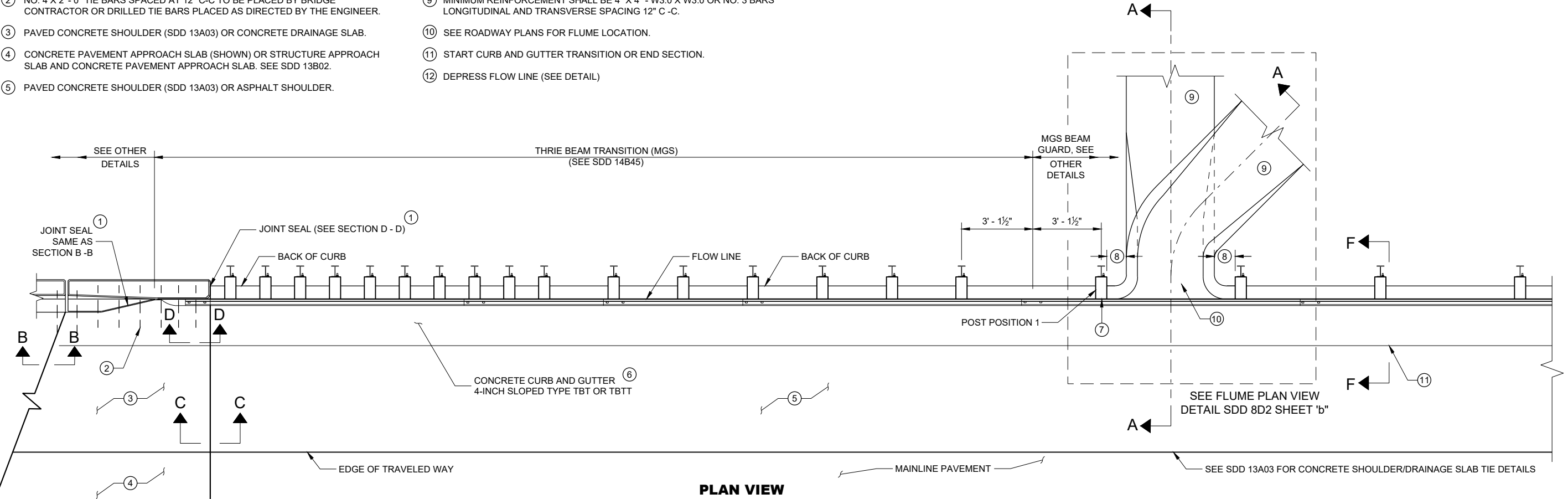
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

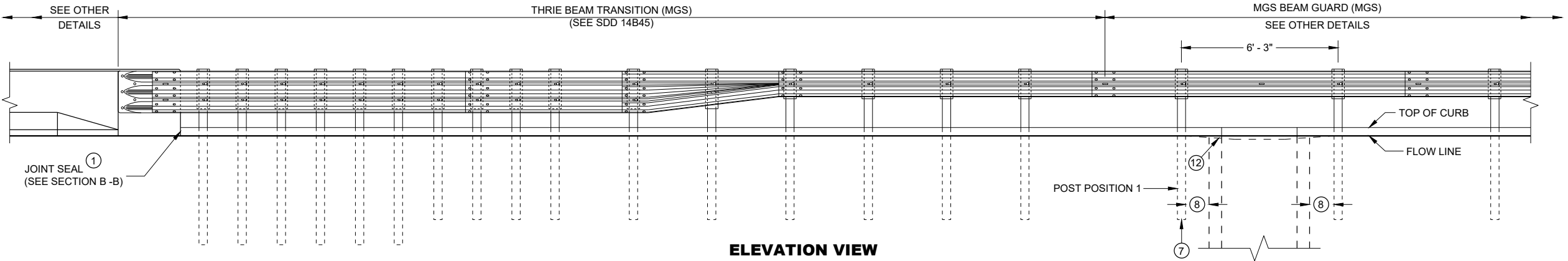
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

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- ④ CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.
- ⑤ PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

- ⑥ CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
- ⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- ⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑩ SEE ROADWAY PLANS FOR FLUME LOCATION.
- ⑪ START CURB AND GUTTER TRANSITION OR END SECTION.
- ⑫ DEPRESS FLOW LINE (SEE DETAIL)



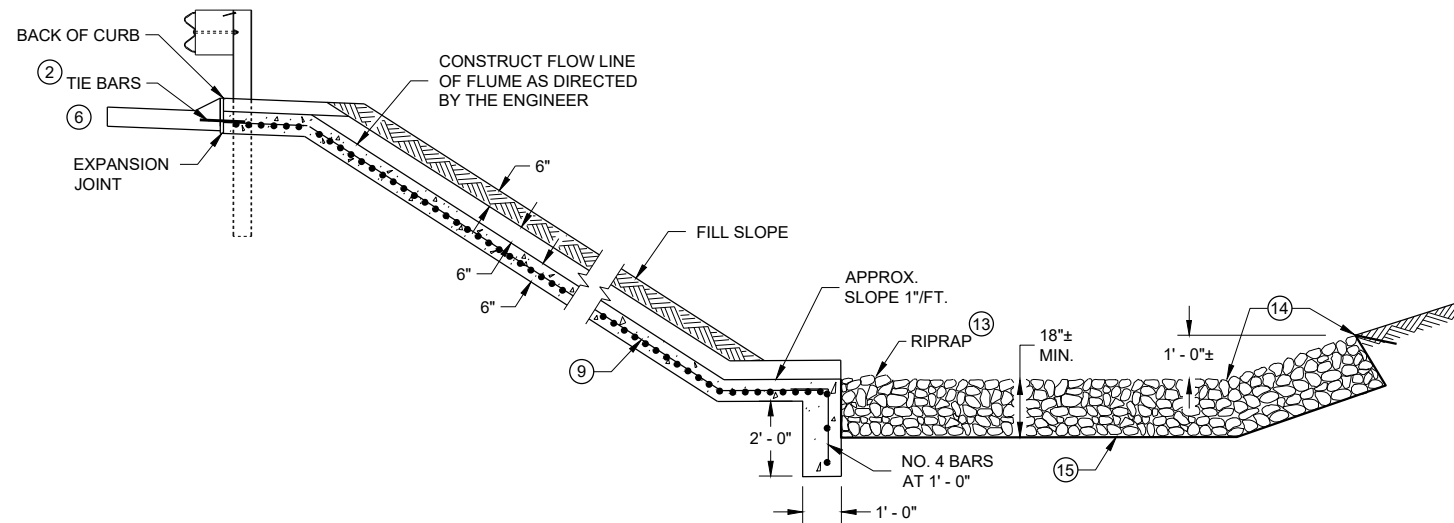
PLAN VIEW



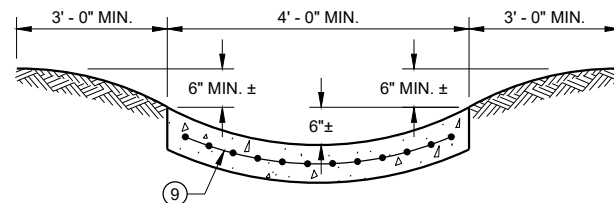
ELEVATION VIEW

CONCRETE SURFACE
DRAINS FLUME TYPE
AT STRUCTURES

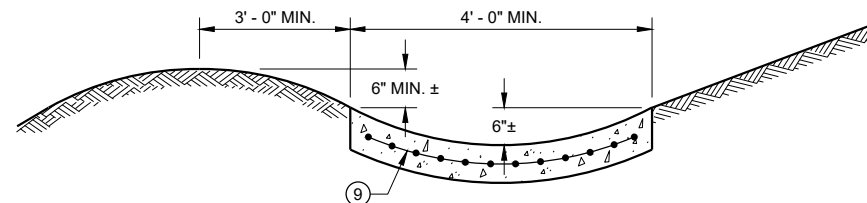
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



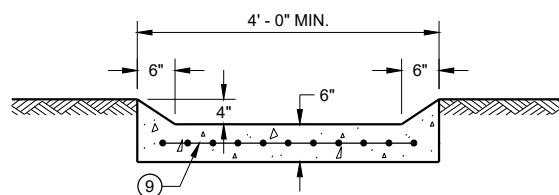
SECTION A - A



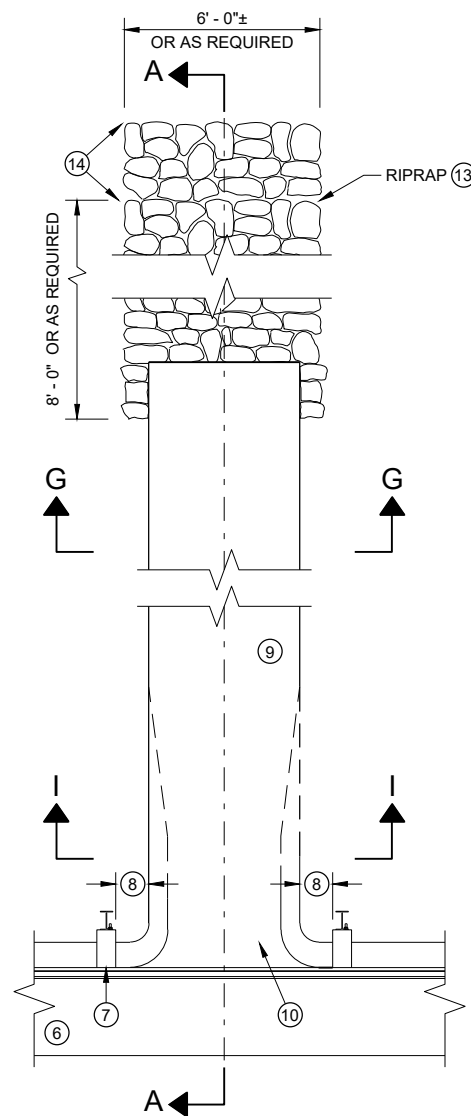
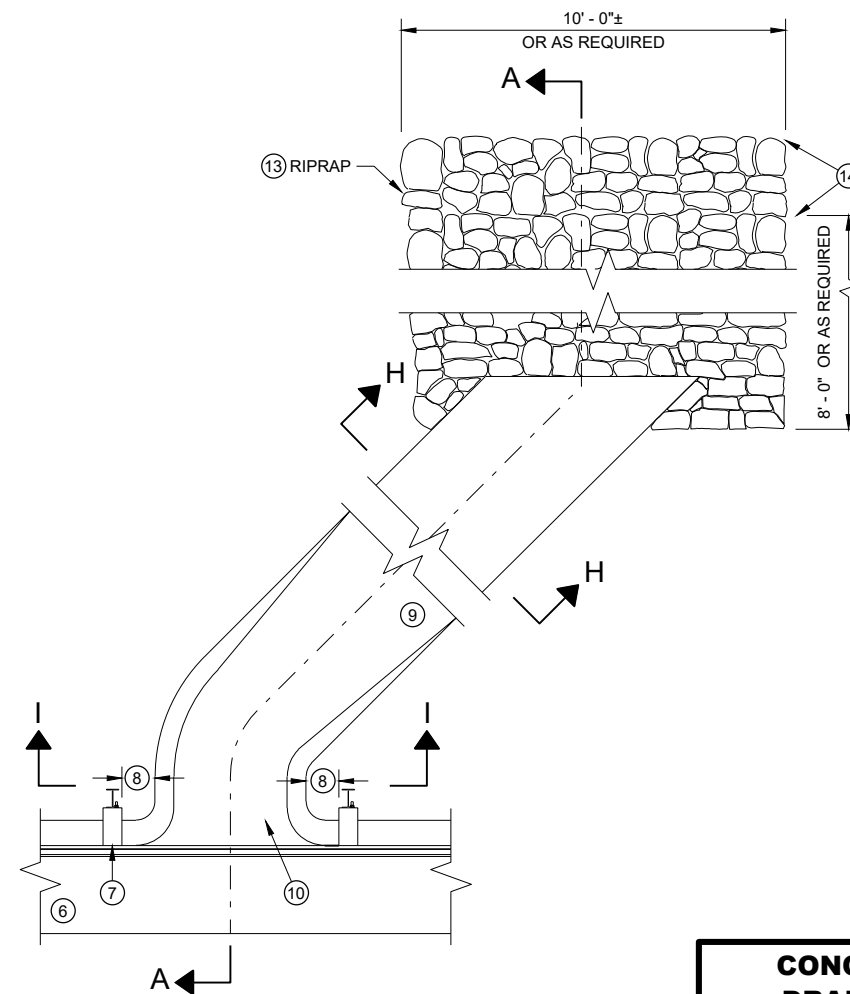
SECTION G - G



SECTION H - H



SECTION I - I

PLAN VIEW
PERPENDICULAR FLUMEPLAN VIEW
SKEWED FLUME

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

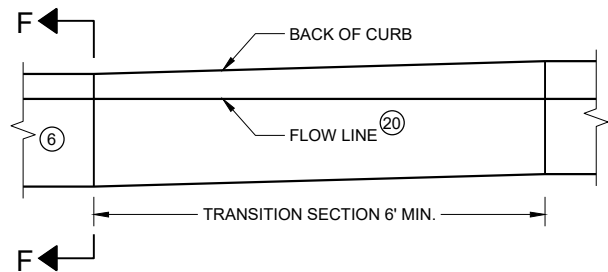
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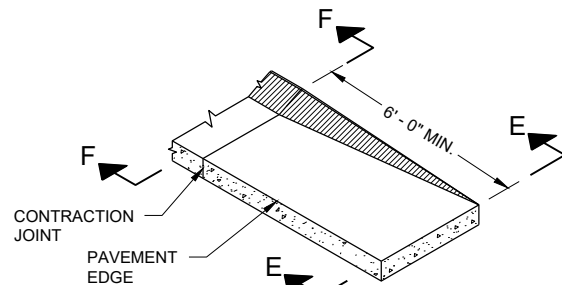
- ⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
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- ⑪ START CURB AND GUTTER TRANSITION OR END SECTION.
- ⑫ DEPRESS FLOW LINE (SEE DETAIL)
- ⑬ MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
- ⑭ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH AS REQUIRED.
- ⑮ GEOTEXTILE TYPE HR.

**CONCRETE SURFACE
DRAINS FLUME TYPE
AT STRUCTURES**

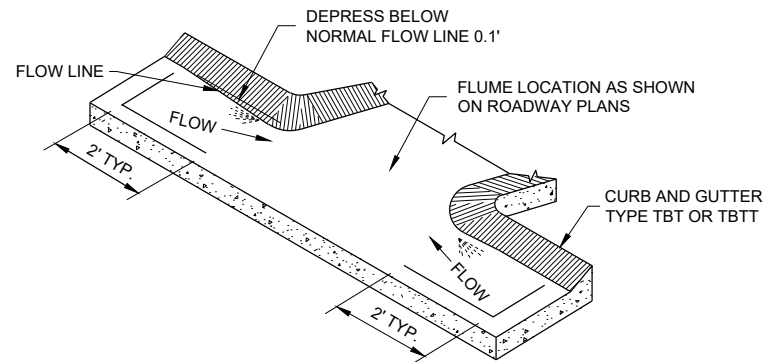
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



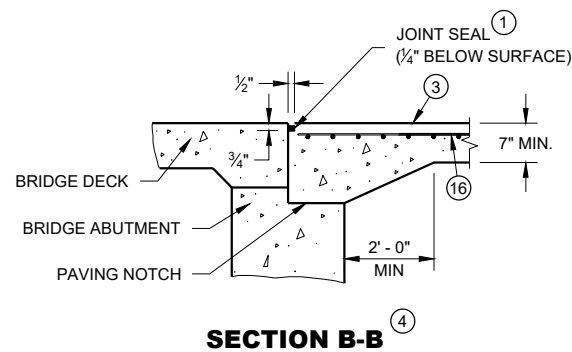
**CURB AND GUTTER TRANSITION SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT**



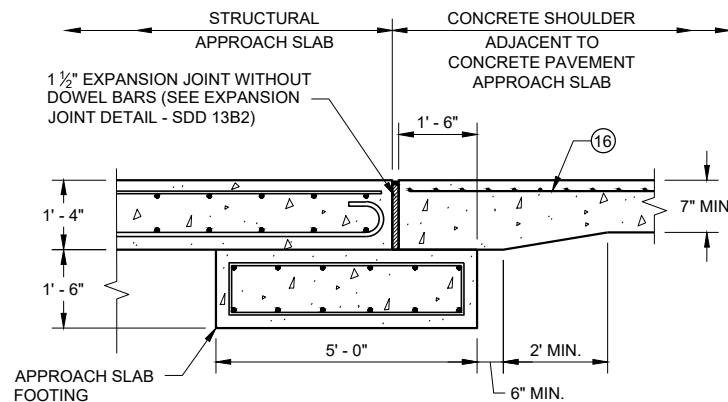
**CURB AND GUTTER END SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT**



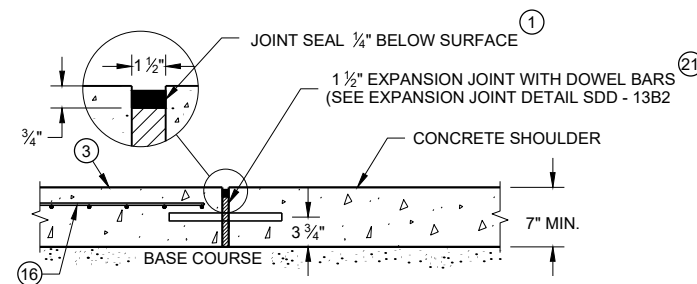
**CURB AND GUTTER FLOW LINE DEPRESSION
AT FLUMES CONCRETE CURB AND GUTTER
4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**



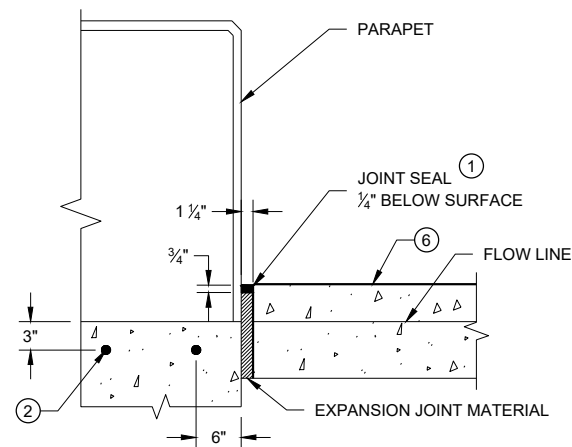
SECTION B-B



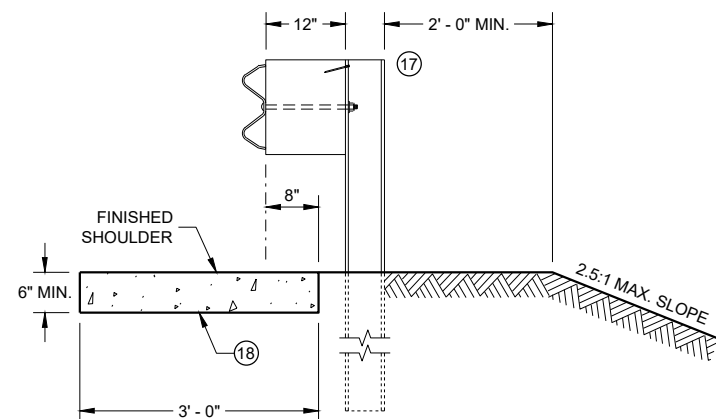
**SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL
APPROACH SLAB AND CONCRETE APPROACH SLAB**



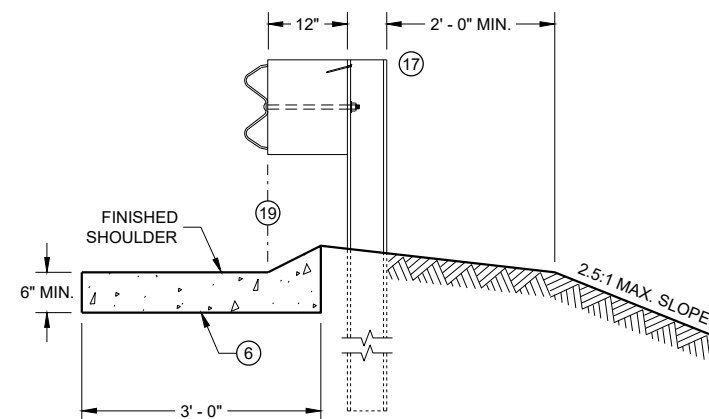
**SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH
WITH CONCRETE SHOULDERS**



SECTION D - D



SECTION E - E



SECTION F - F

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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- ⑬ MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
- ⑭ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.
- ⑮ GEOTEXTILE TYPE HR.
- ⑯ MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.
- ⑰ MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.
- ⑱ MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.
- ⑲ ALIGN FACE OF POST BLOCK WITH FLOW LINE.
- ⑳ MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.
- ㉑ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023

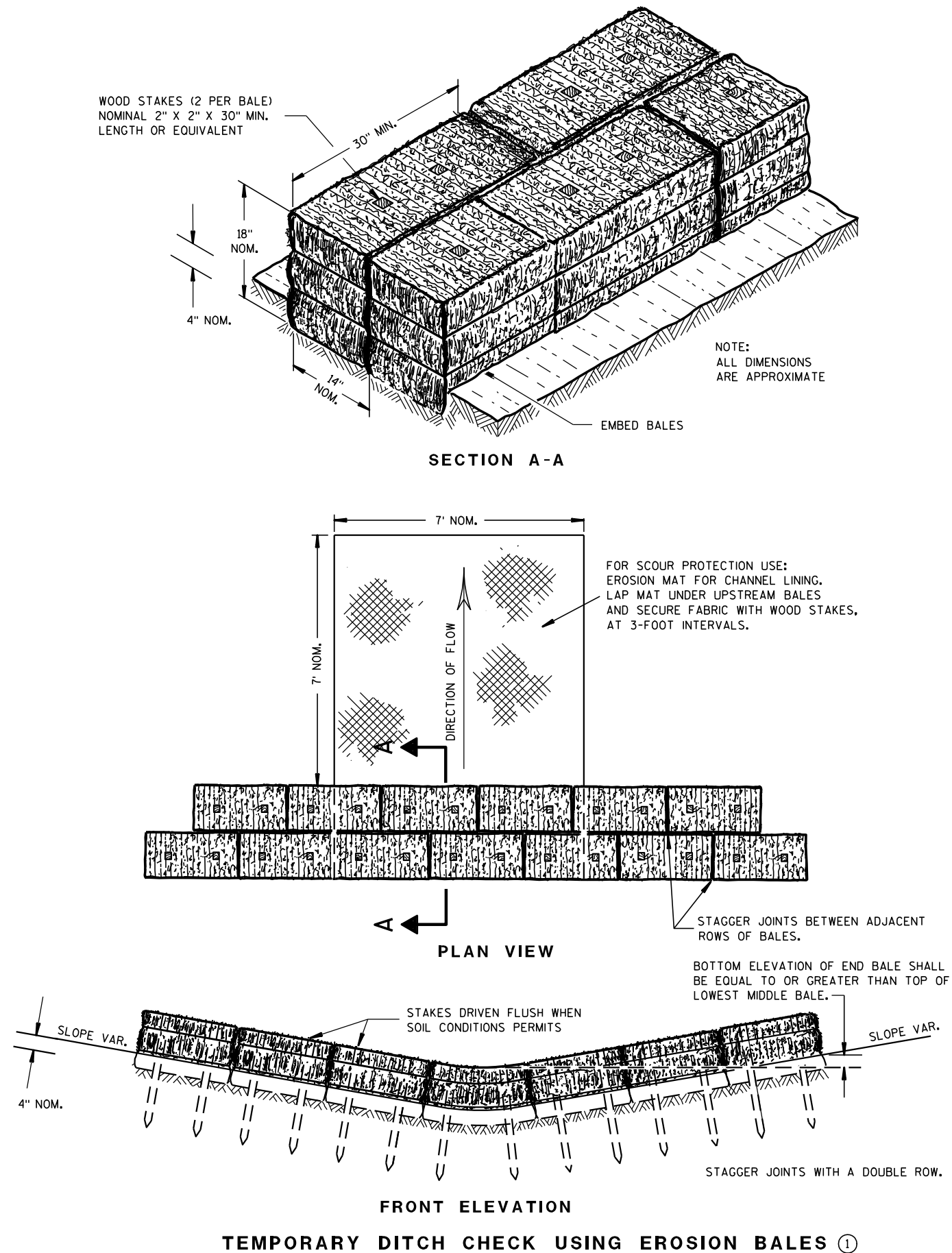
DATE

FHWA

/S/ Rodney Taylor

ROADWAY STANDARDS DEVELOPMENT

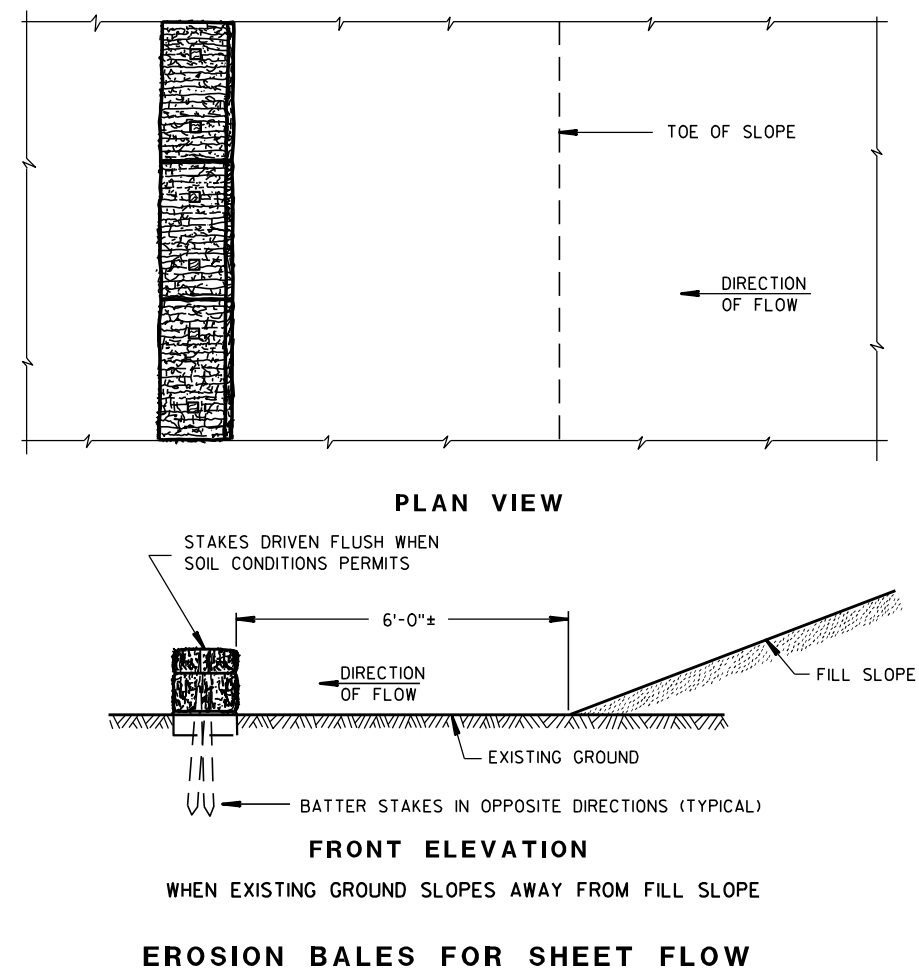
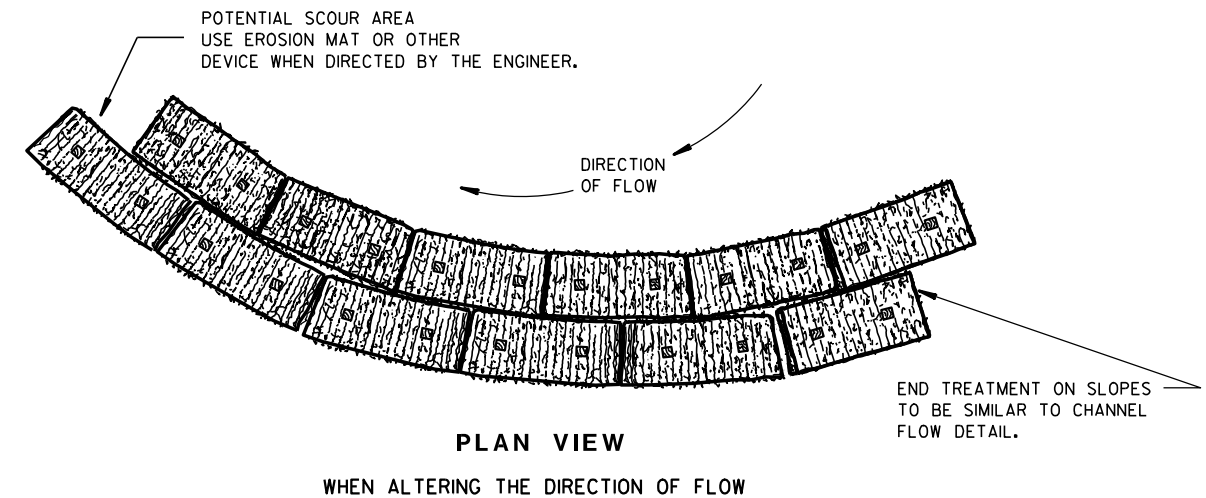
ENGINEER



GENERAL NOTES

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- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

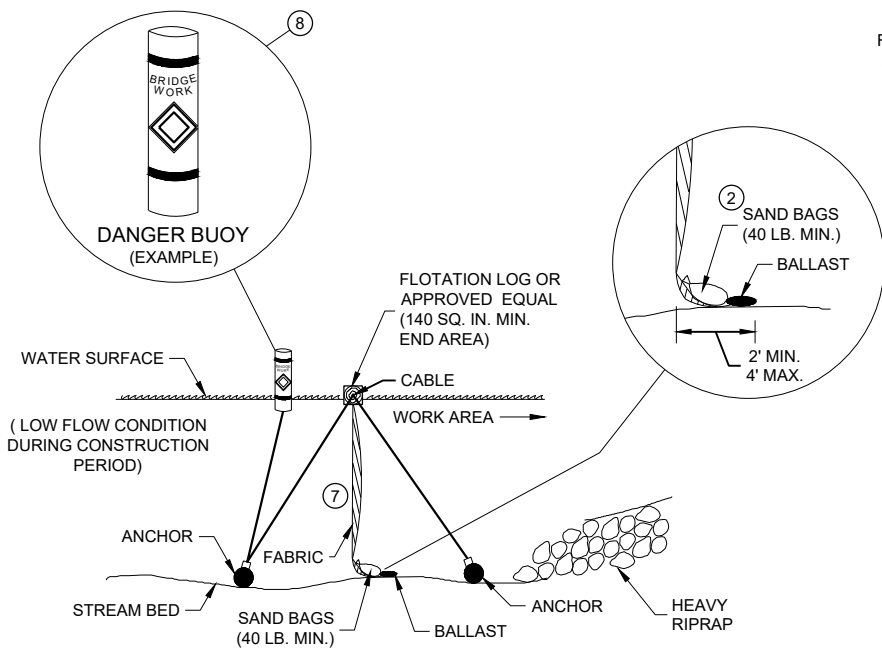
FHWA



- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

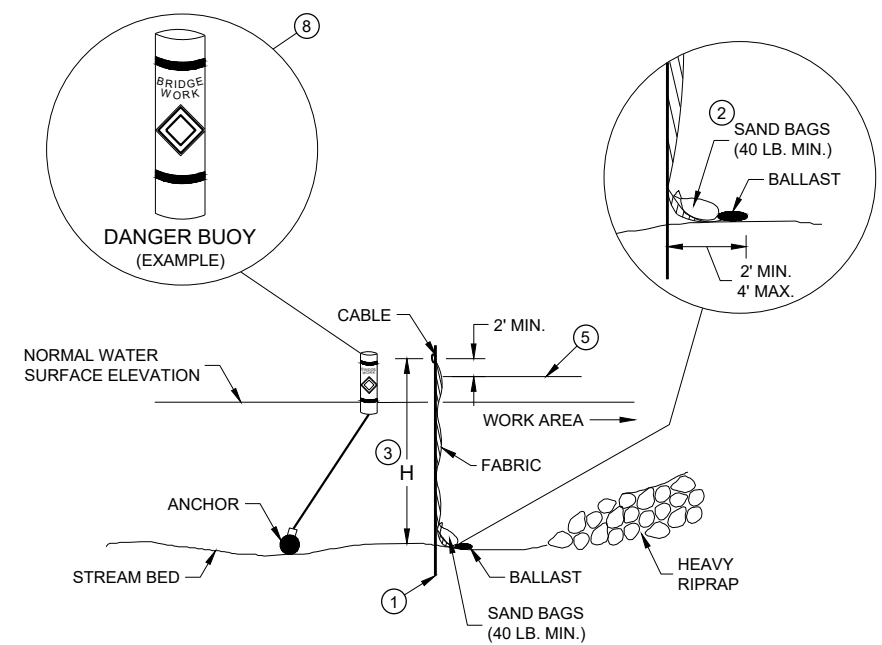


SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/s/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	



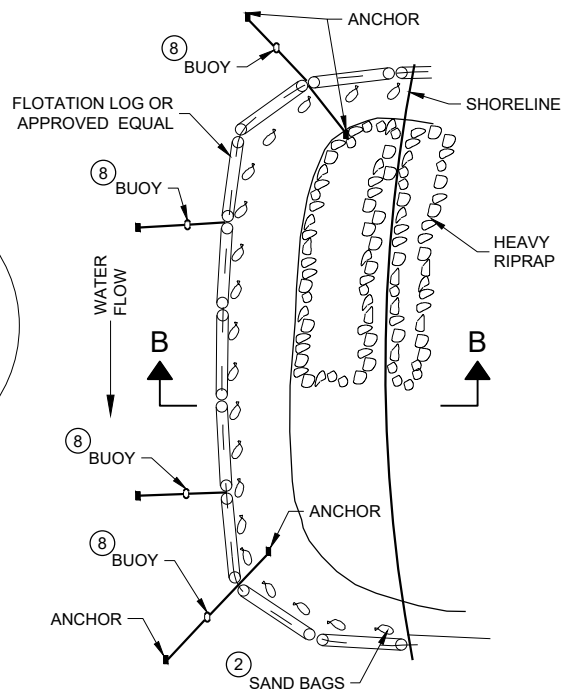
SECTION B - B

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6

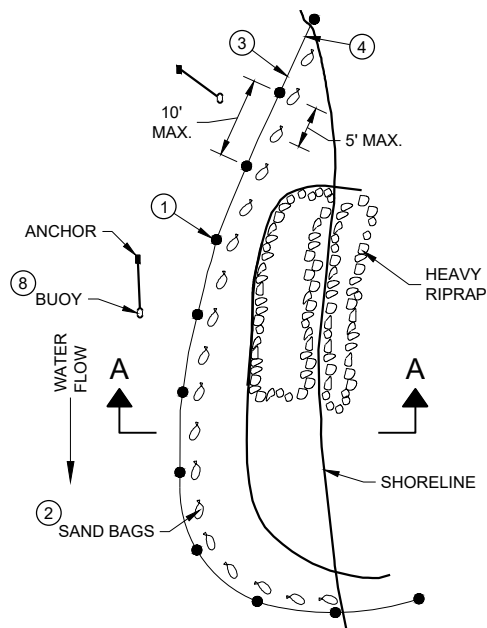


SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION



PLAN VIEW



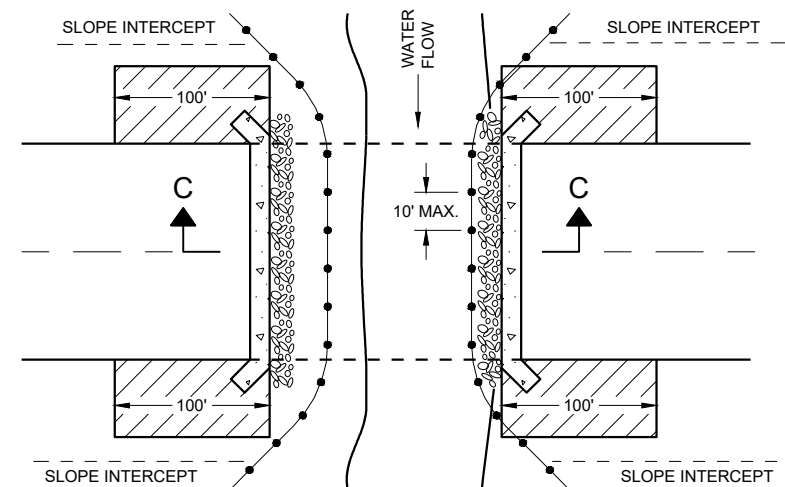
PLAN VIEW

GENERAL NOTES

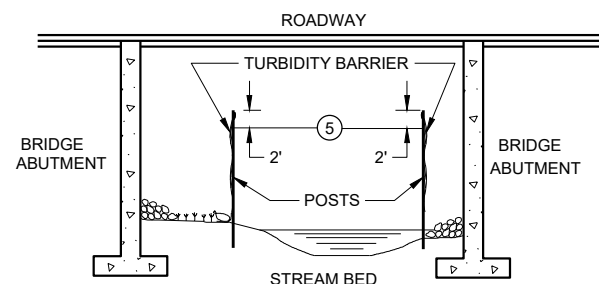
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

- 1 DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- 2 SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- 3 WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.
- 4 IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- 5 ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- 6 FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.
- 7 ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- 8 USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



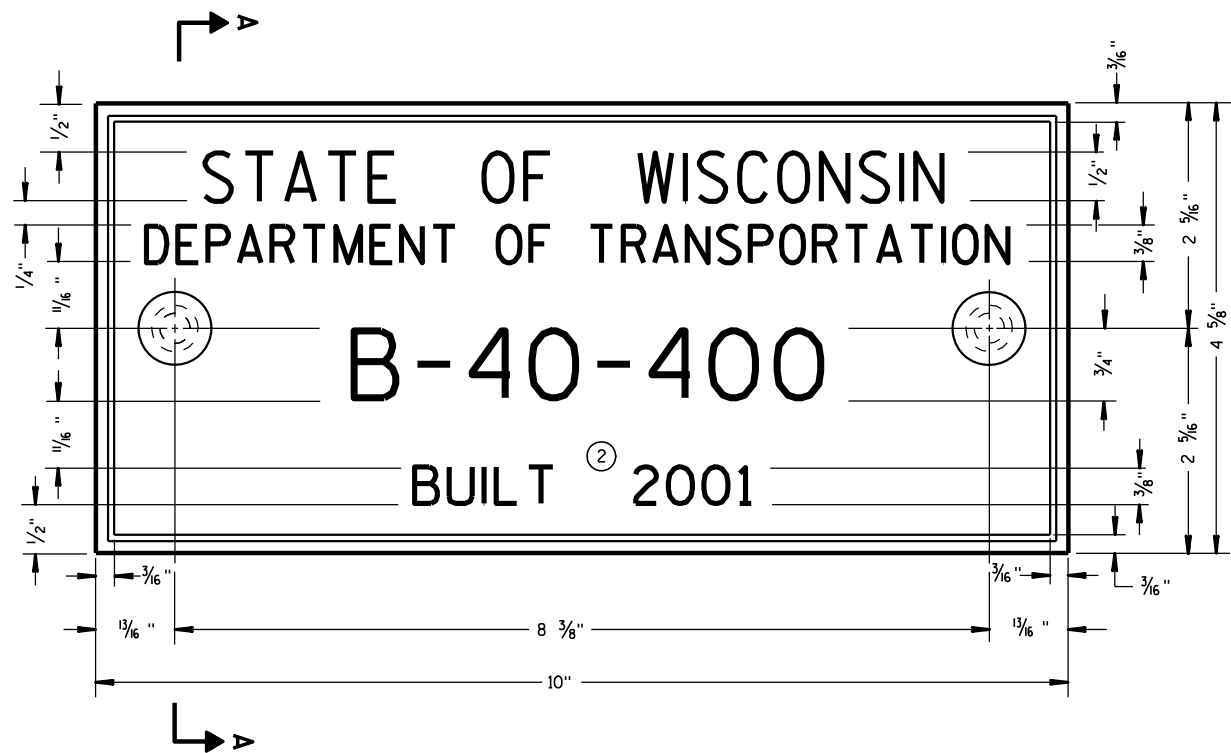
SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING
TYPICAL PLACEMENT AT STRUCTURES

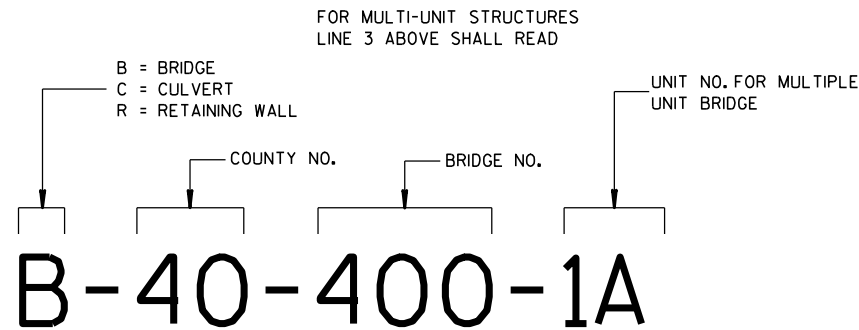
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/4/02 DATE /S/ Beth Cannestra
DATE CHIEF ROADWAY DEVELOPMENT
ENGINEER
FHWA



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)



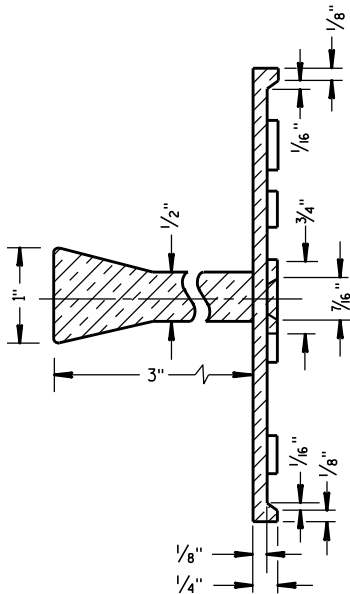
NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

GENERAL NOTES

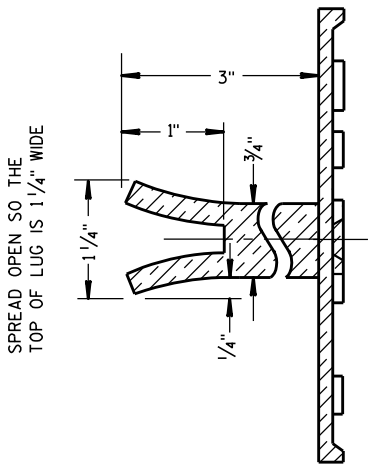
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.

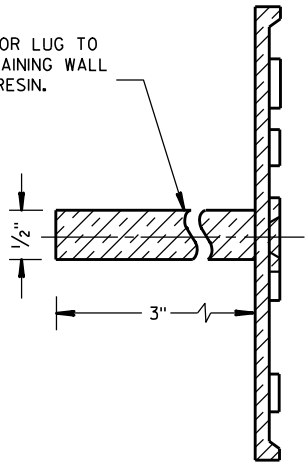


SECTION A-A



ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.

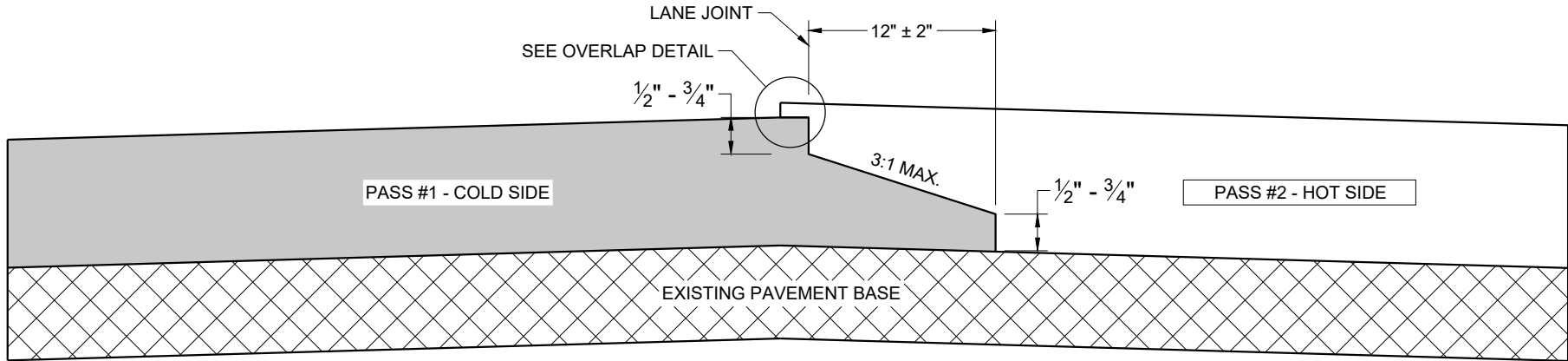


ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

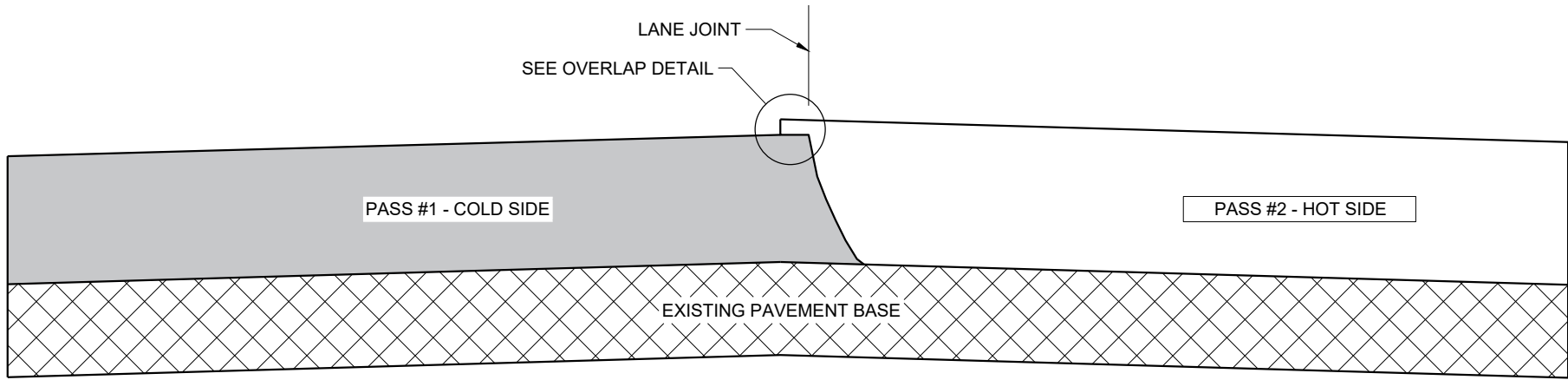
NAME PLATE
(STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

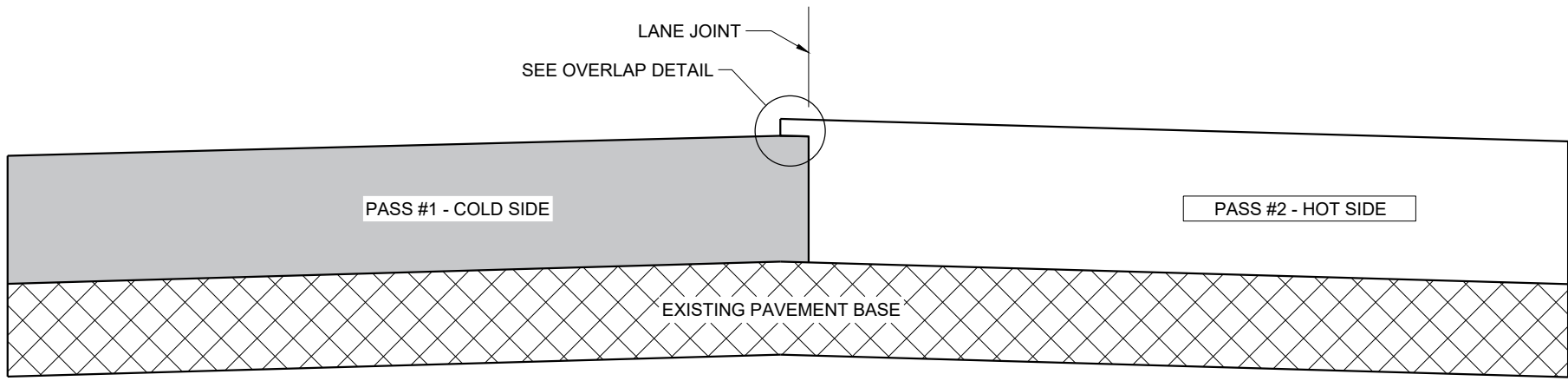
APPROVED
3/26/10
DATE
/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER
FHWA



**TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)**

GENERAL NOTES

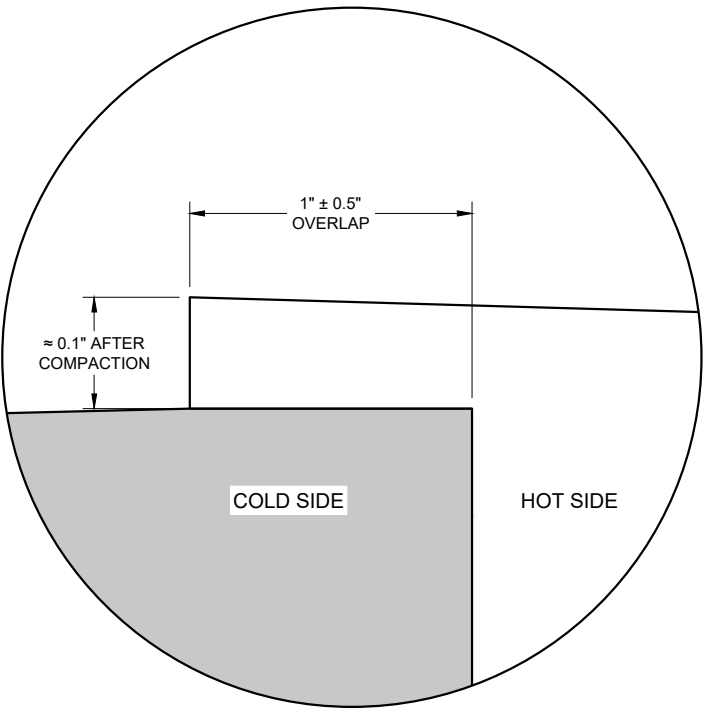
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY 1" ± 0.5" AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO 2" FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.



OVERLAP DETAIL (TYPICAL)

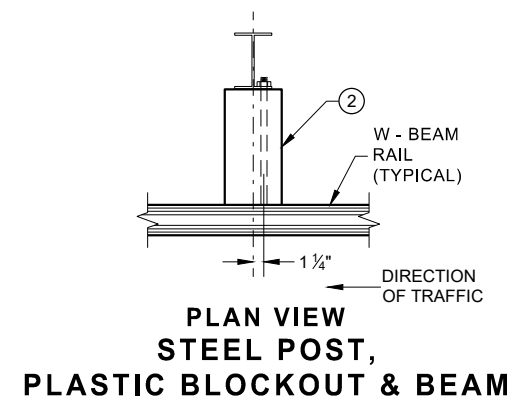
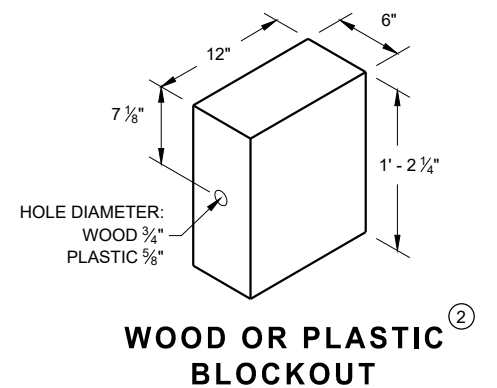
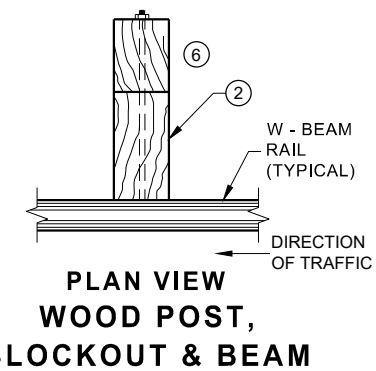
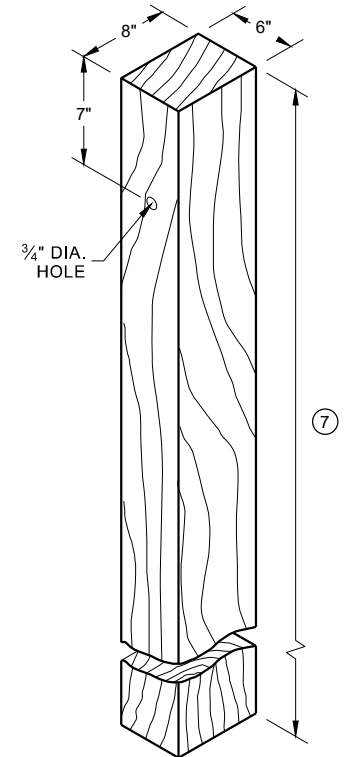
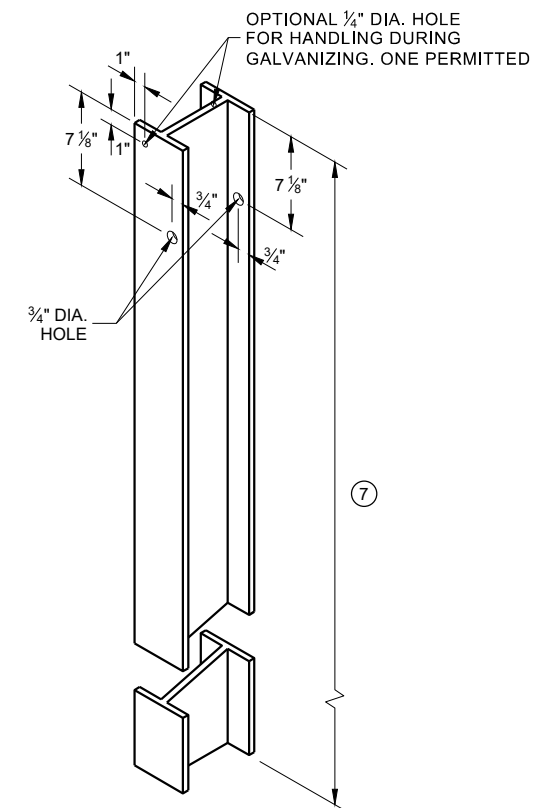
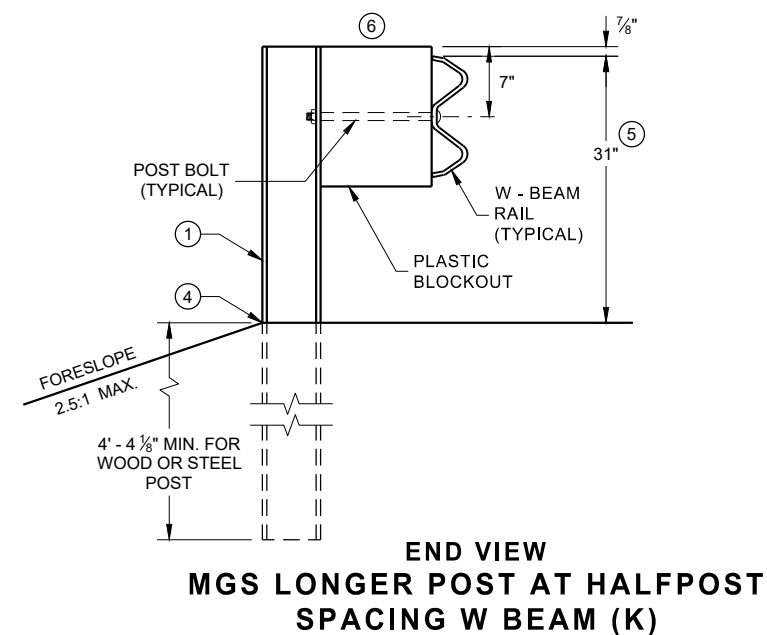
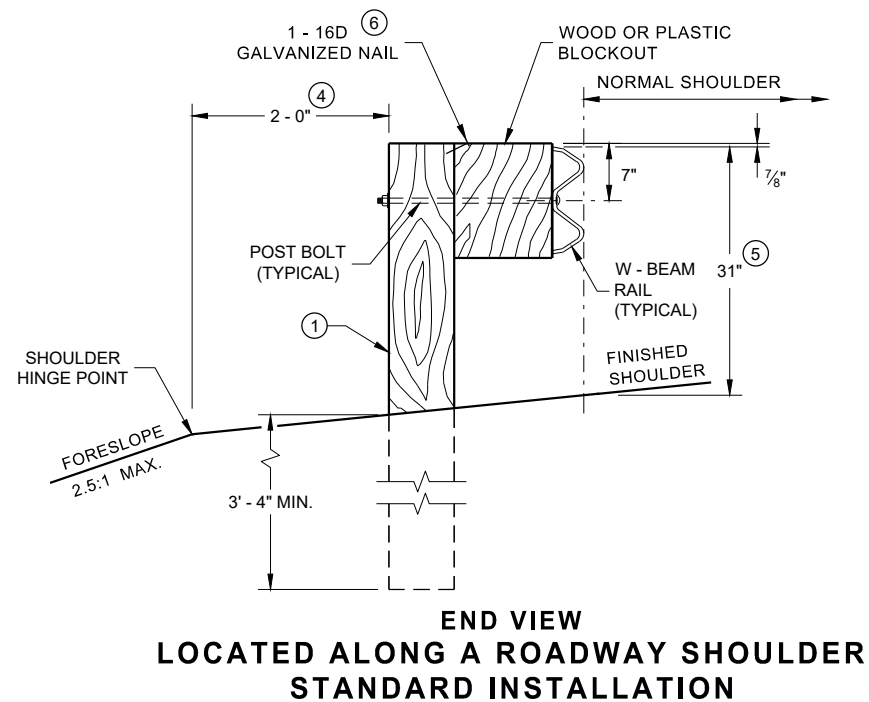
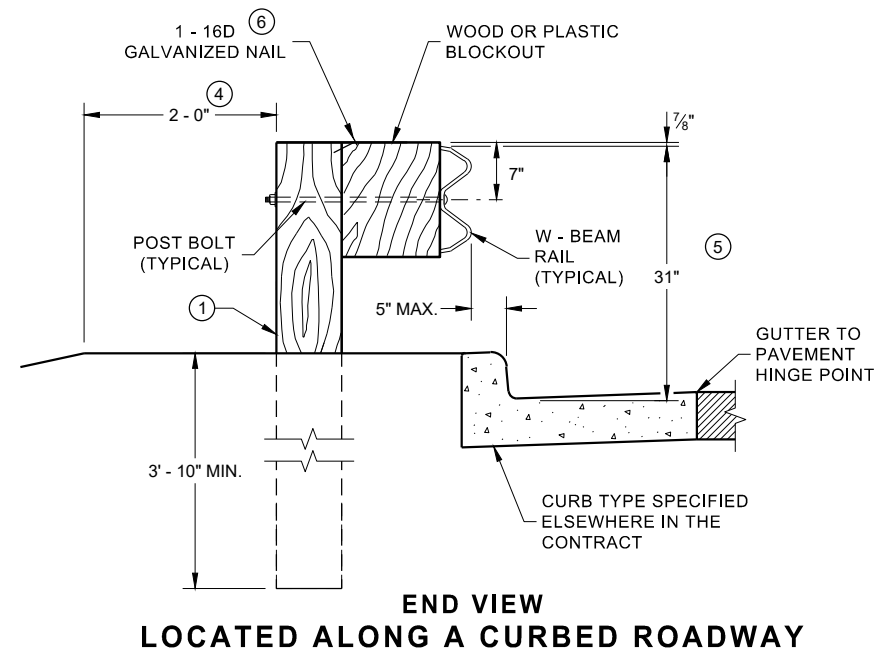
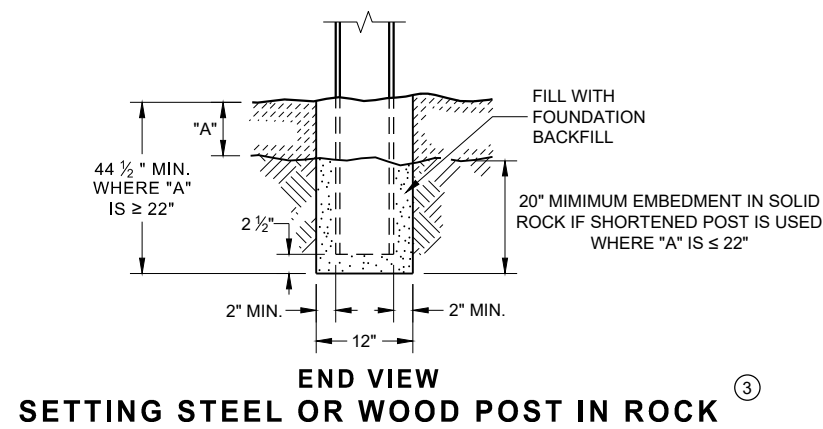
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE /S/ Steven Hefel
HMA PAVEMENT ENGINEER

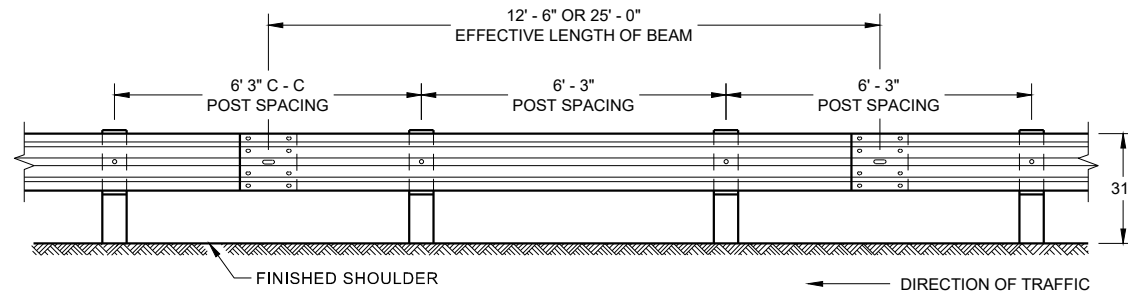
FHWA

- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AND INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS $\pm 1"$. FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" TO 32".
- ⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ⑦ TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".

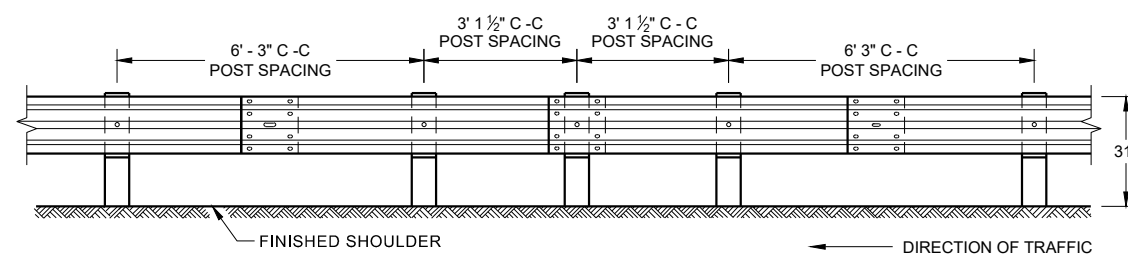


**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

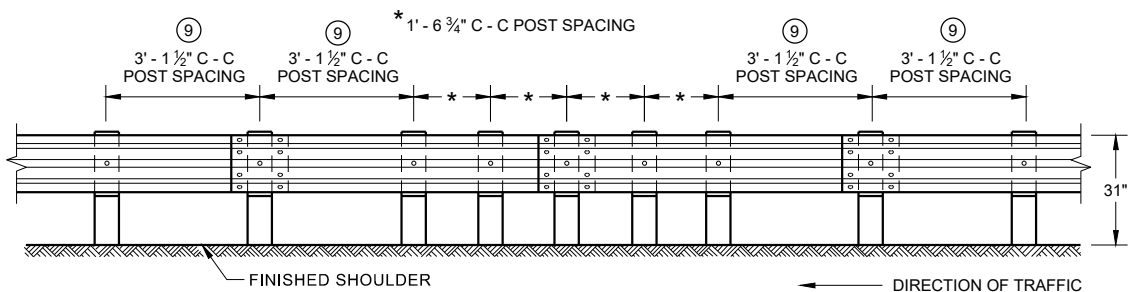
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



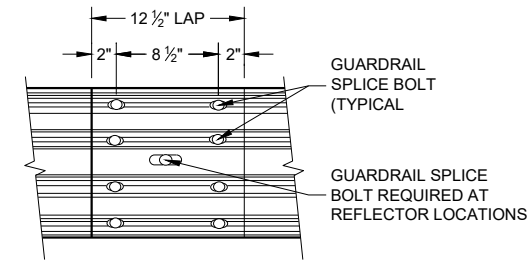
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



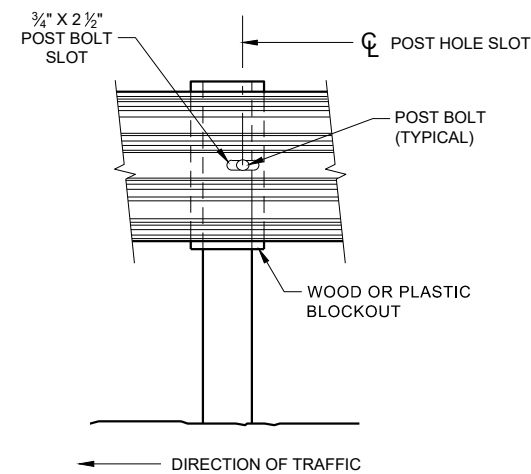
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



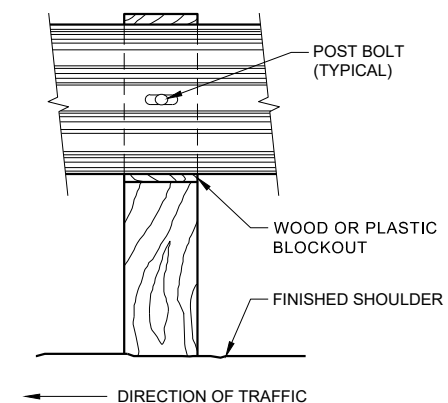
**FRONT VIEW
QUARTER POST SPACING (QS)**



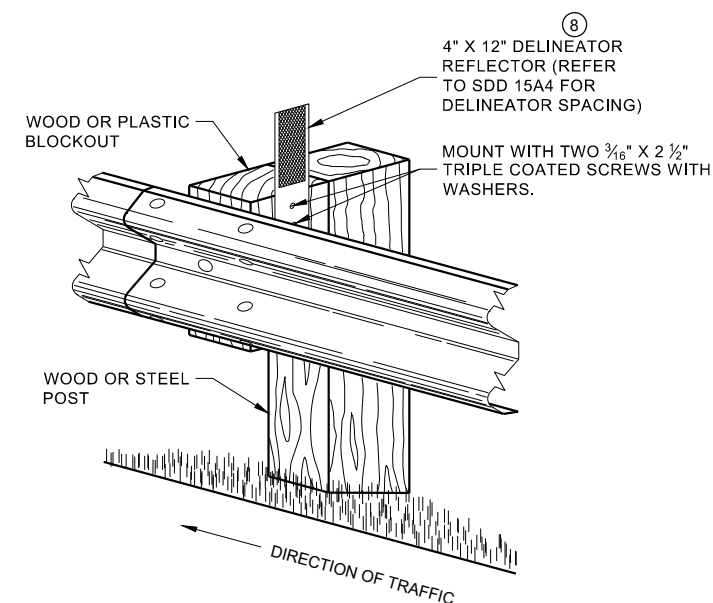
**FRONT VIEW
MID-SPAN BEAM SPLICE**



FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



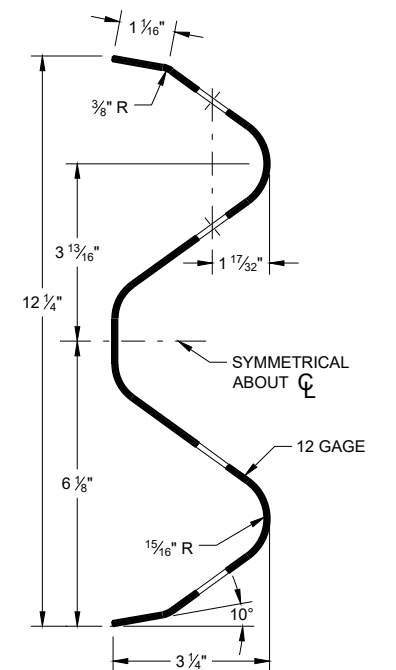
**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

GENERAL NOTES

- 8 DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
- 9 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

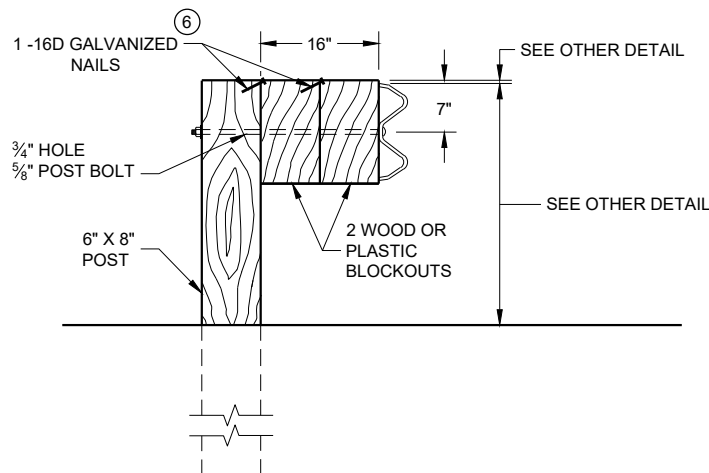
GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



SECTION THRU W-BEAM RAIL

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

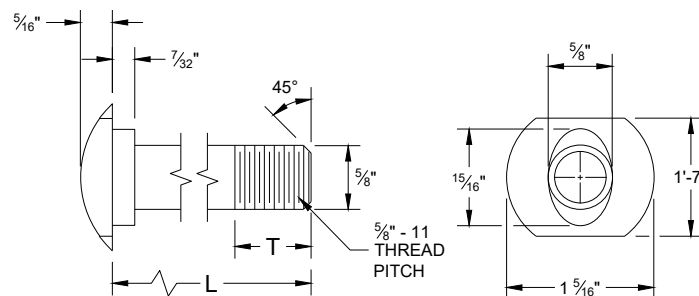
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

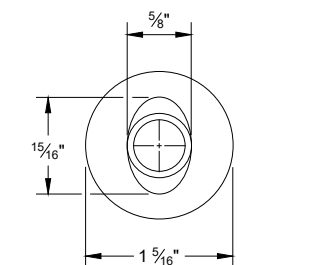
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

- NOTE:
1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF $\frac{3}{16}$ ".
 2. IF THE BOLT EXTENDS MORE THAN $\frac{1}{4}$ " FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

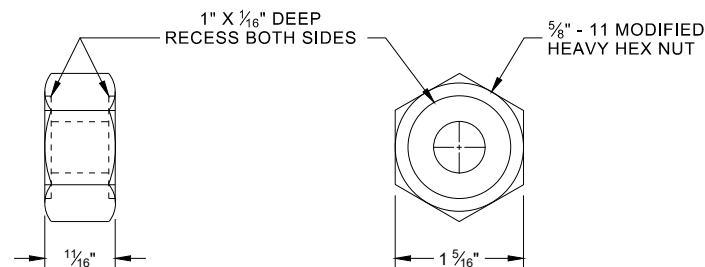


POST BOLT TABLE

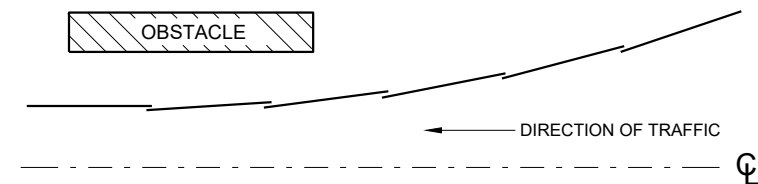
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



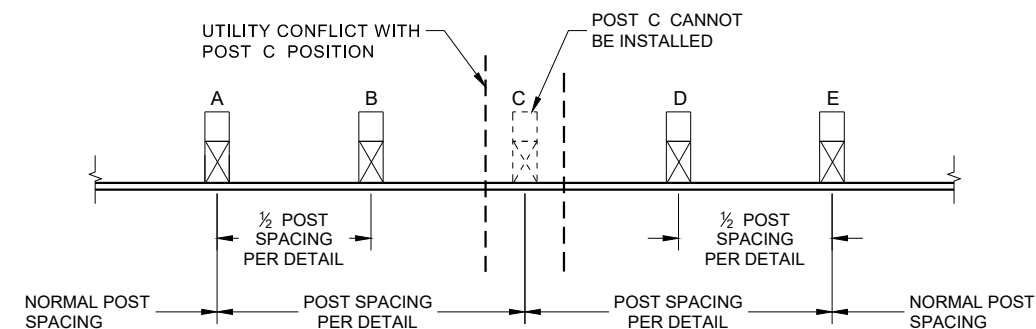
ALTERNATE BOLT HEAD



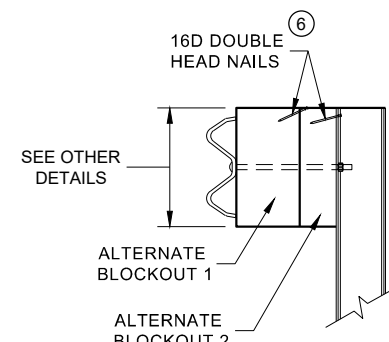
POST BOLT, SPLICE BOLT AND RECESS NUT



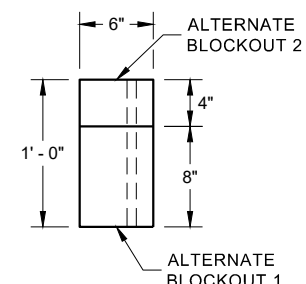
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



PLAN VIEW

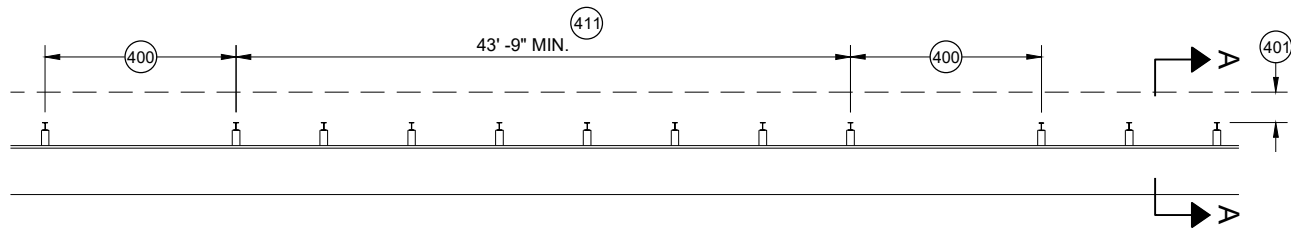
ALTERNATE WOOD
BLOCKOUT DETAIL

- NOTES:
- UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.
 - DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

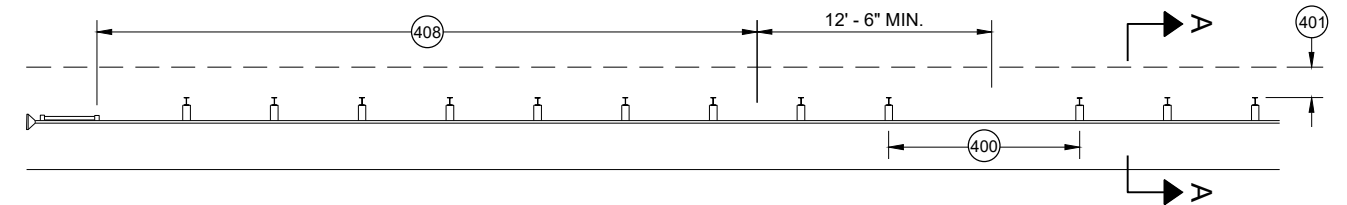
- 6 WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

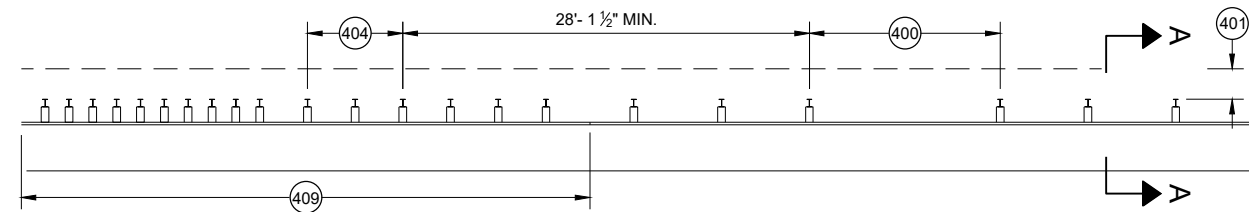
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



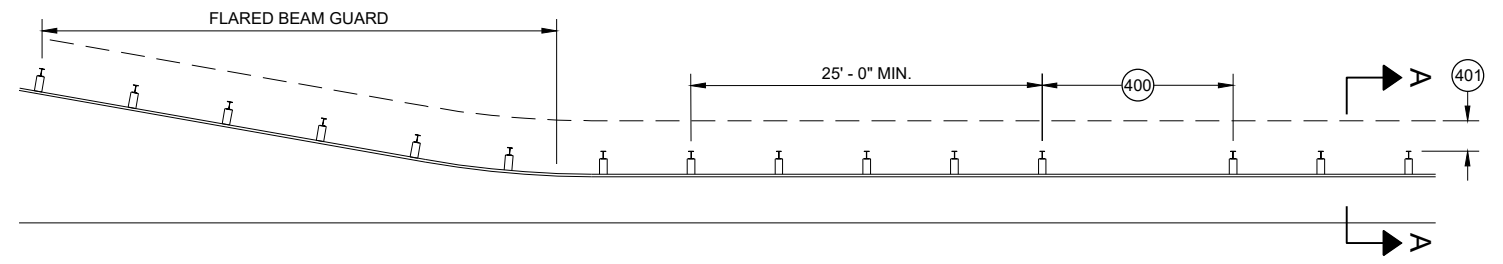
MISSING POST IN MGS GUARDRAIL



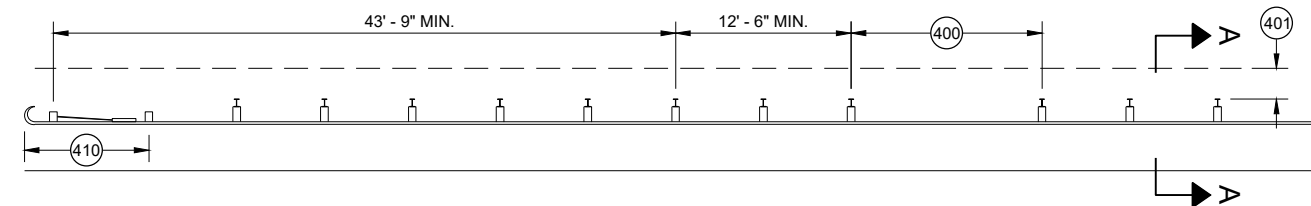
MISSING POST IN MGS GUARDRAIL NEAR EAT



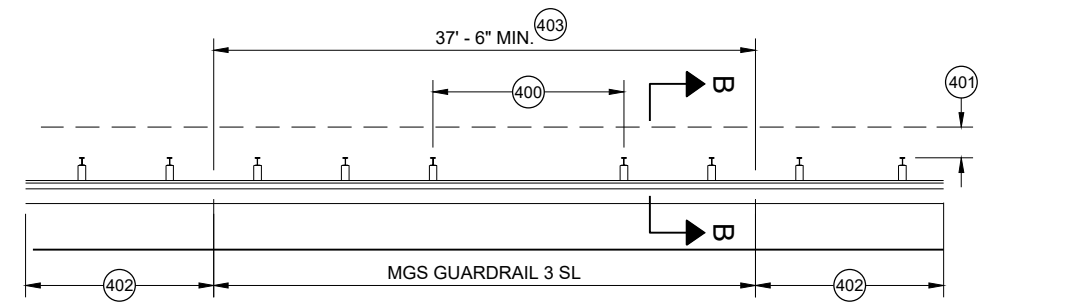
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

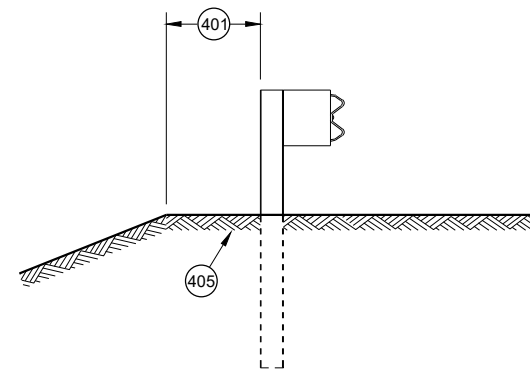


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

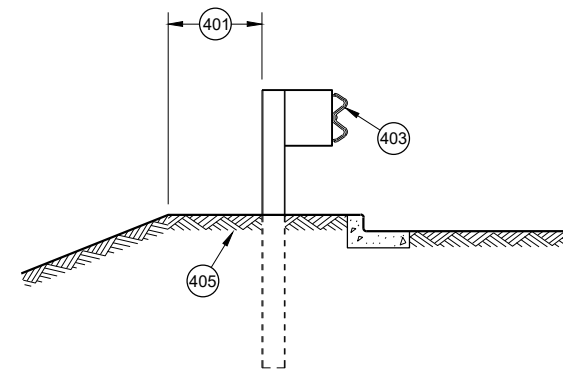


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)

- (400) MAX SPAN 12' - 6"
- (401) 2' MIN.
- (402) MGS GUARDRAIL 3
- (403) NESTING BEAM GUARD
- (404) ASYMMETRIC TRANSITION
- (405) SOIL WELL DRAINED AND COMPACTED
- (406) SEE OTHER DRAWINGS IN THIS SDD
- (407) SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
- (408) SEE SDD 14B44
- (409) SEE SDD 14B45
- (410) SEE SDD 14B47
- (411) MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



SECTION A - A



SECTION B - B

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

FHWA

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
 - (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED
 - (C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.
 - (D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.
 - (E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.
- DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

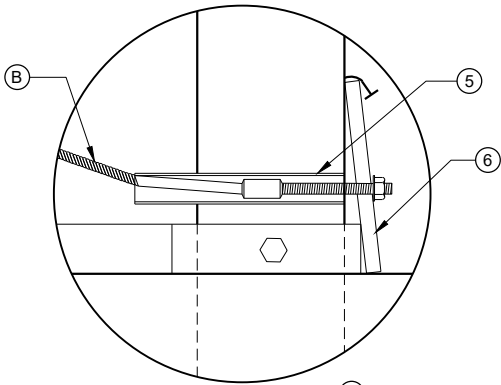
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

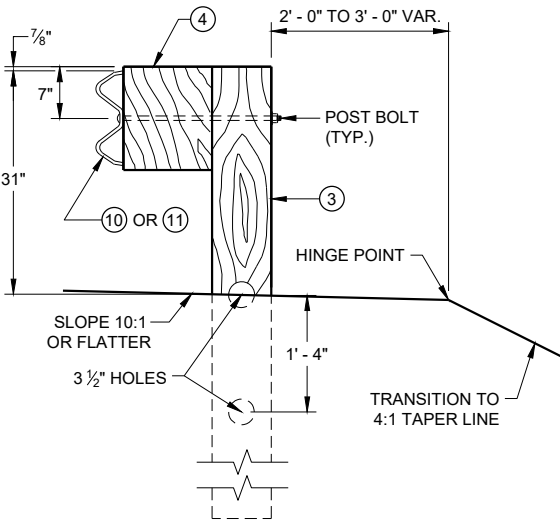
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

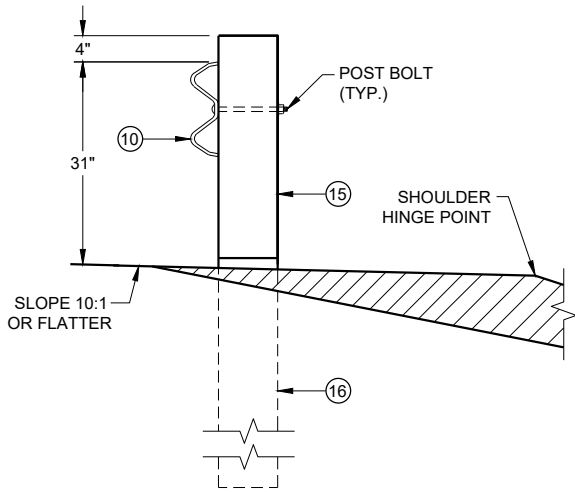
THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



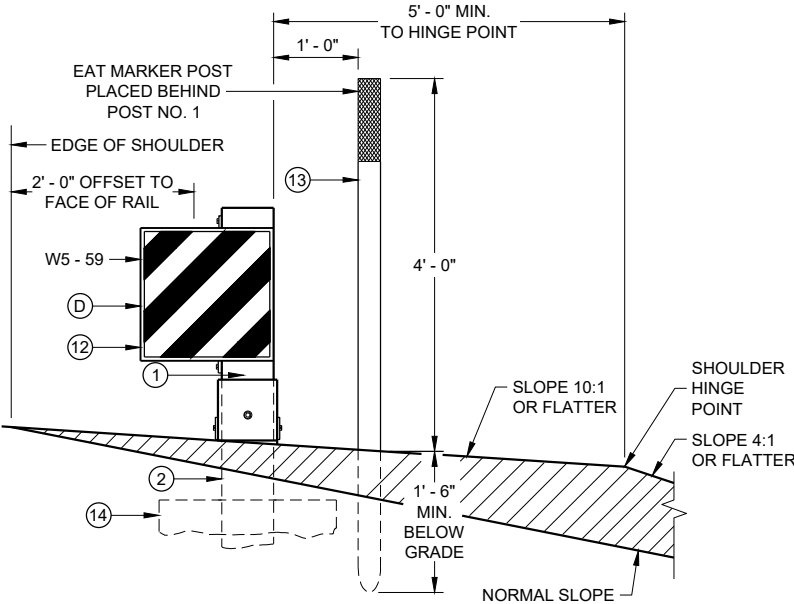
DETAIL "A"



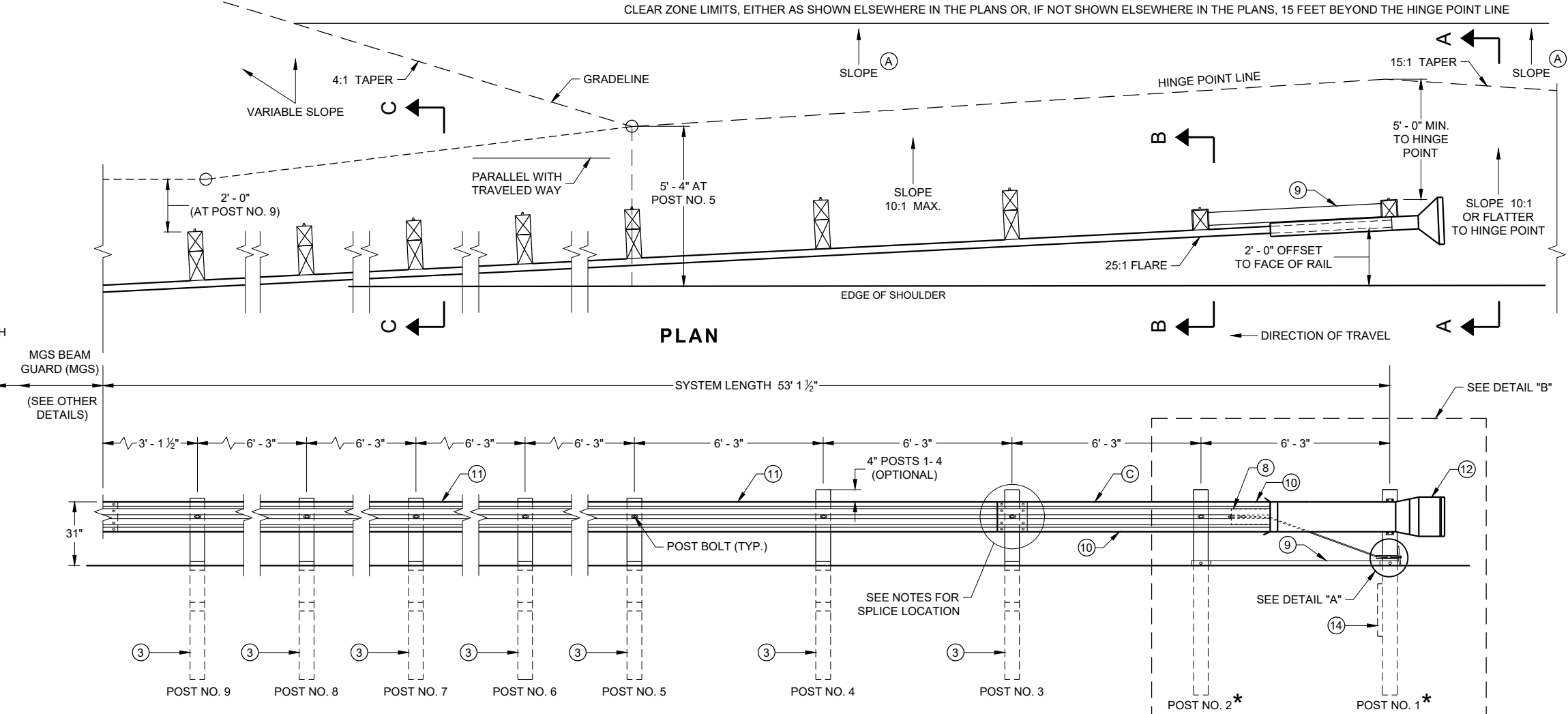
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*

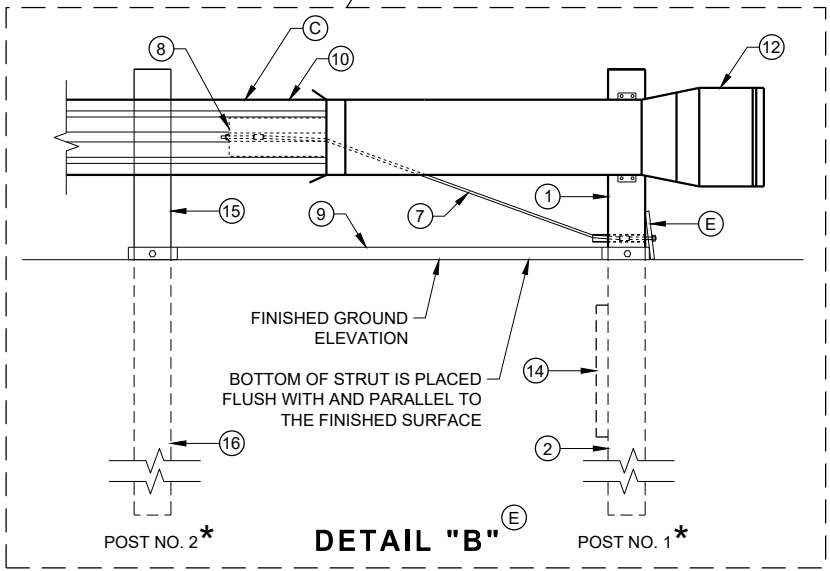


SECTION A - A
TYPICAL AT POST NO. 1*



PLAN

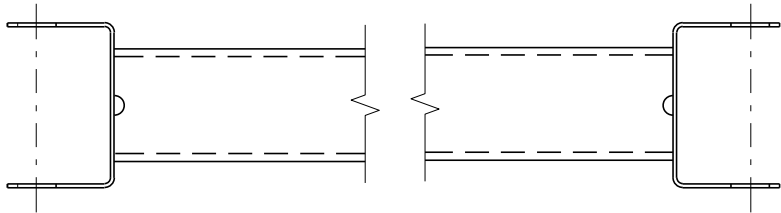
ELEVATION



DETAIL "B"

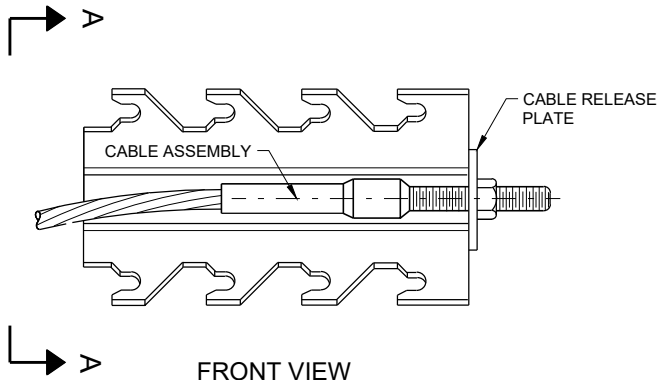
**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

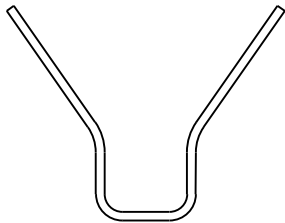


GENERIC GROUND STRUT^⑨ [Ⓔ]

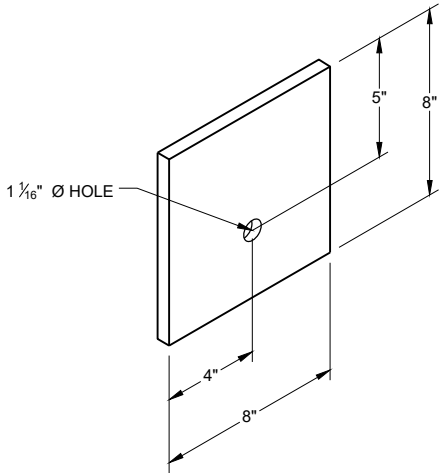
BILL OF MATERIALS	
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



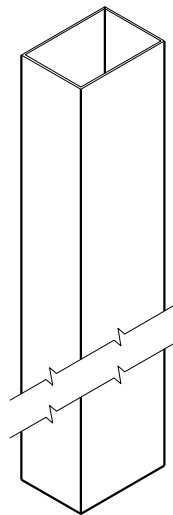
GENERIC ANCHOR CABLE BOX^⑨ [Ⓔ]



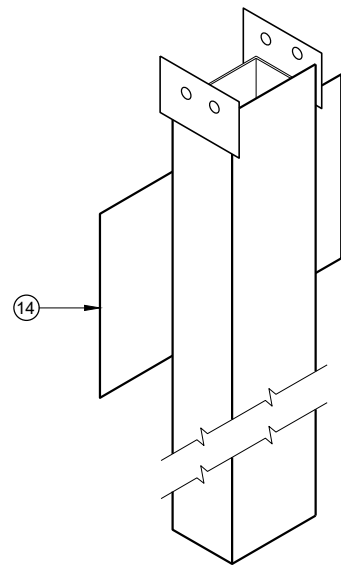
SECTION A - A



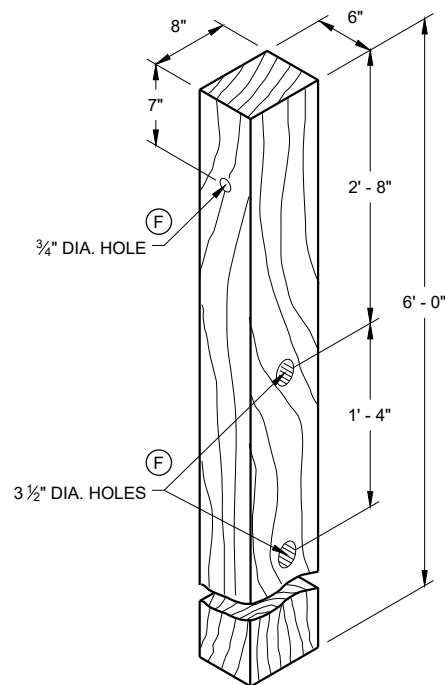
BEARING PLATE^⑥ [Ⓔ]



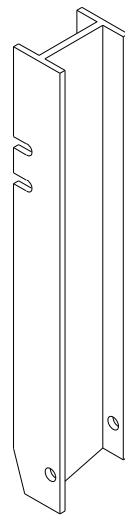
UPPER POST NO. 1 ⁽¹⁾ (E)



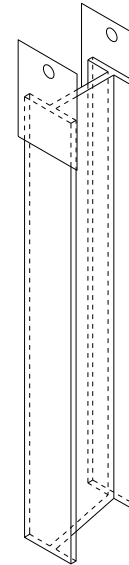
LOWER POST NO. 1 ⁽²⁾ (E)



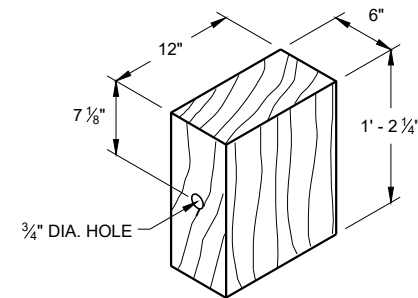
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



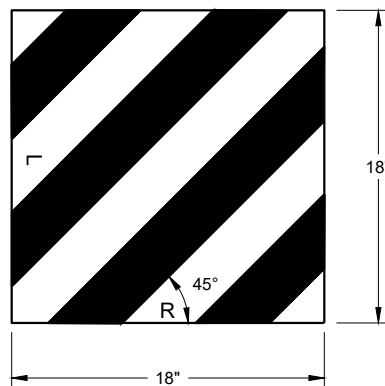
UPPER POST NO. 2 ⁽¹⁵⁾ (E)



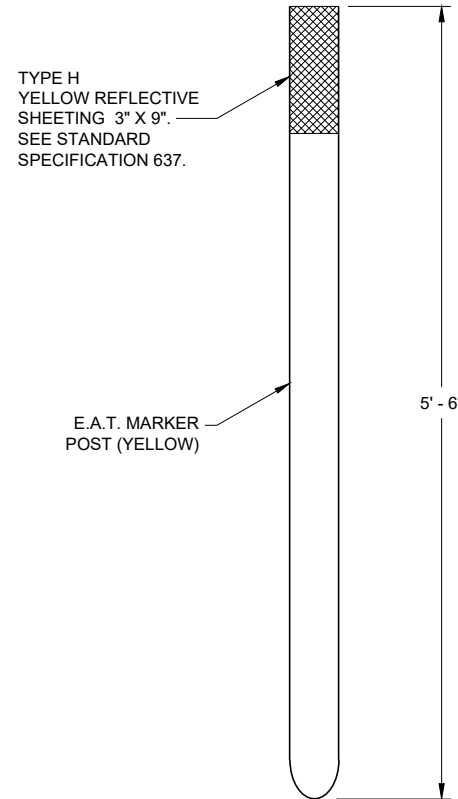
LOWER POST NO. 2 ⁽¹⁶⁾ (E)



WOOD BLOCKOUT ⁽⁴⁾
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



REFLECTIVE SHEETING DETAIL ^(E)

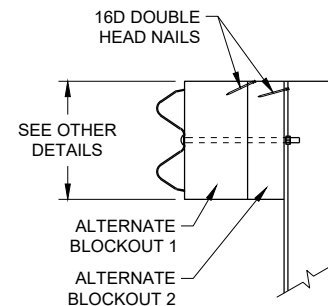


FRONT VIEW

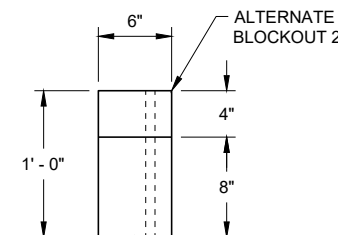


SIDE VIEW

E.A.T. MARKER POST ⁽¹³⁾



SIDE VIEW



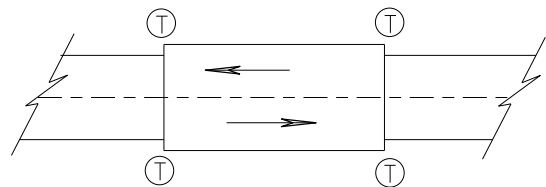
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

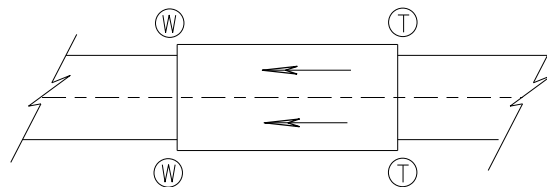
**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

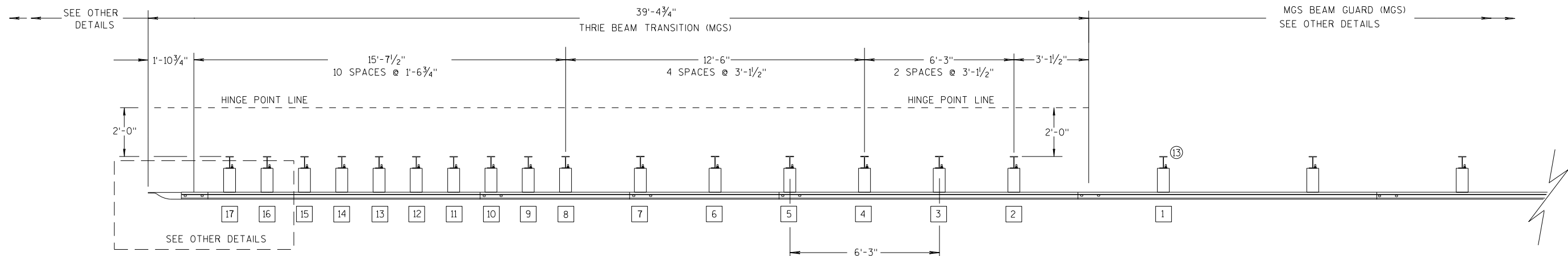
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

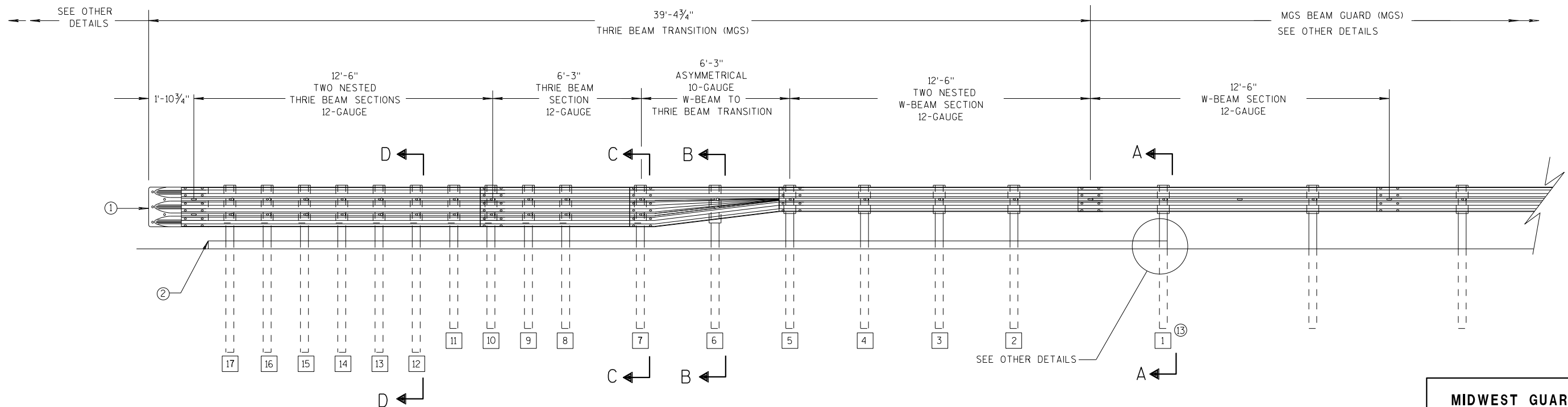
① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

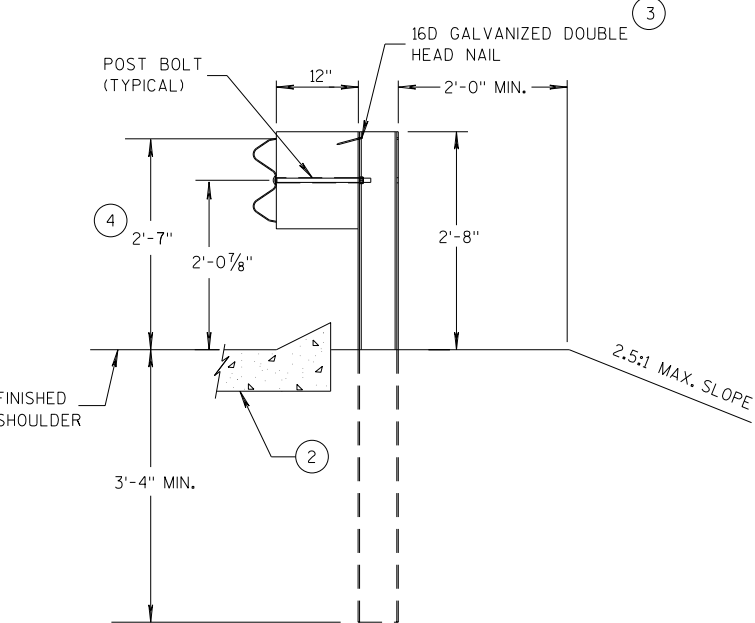
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

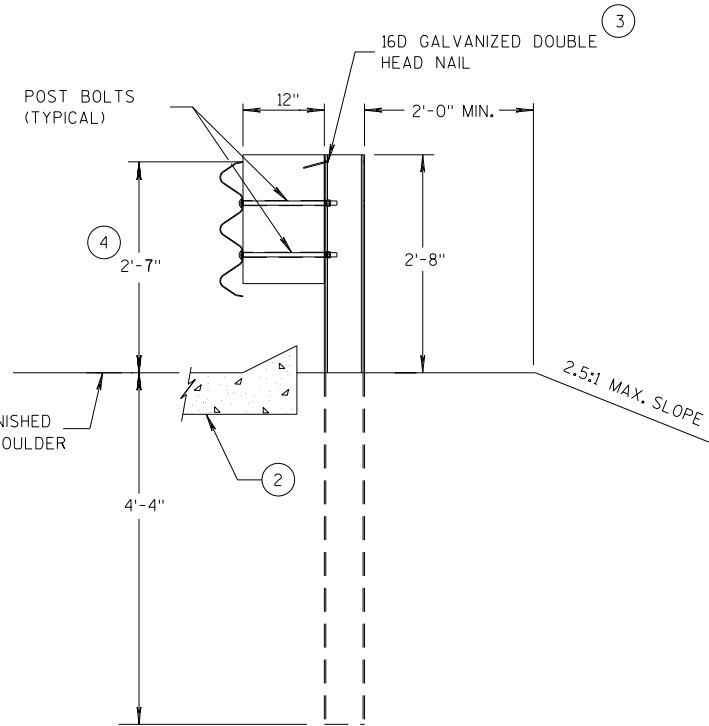
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

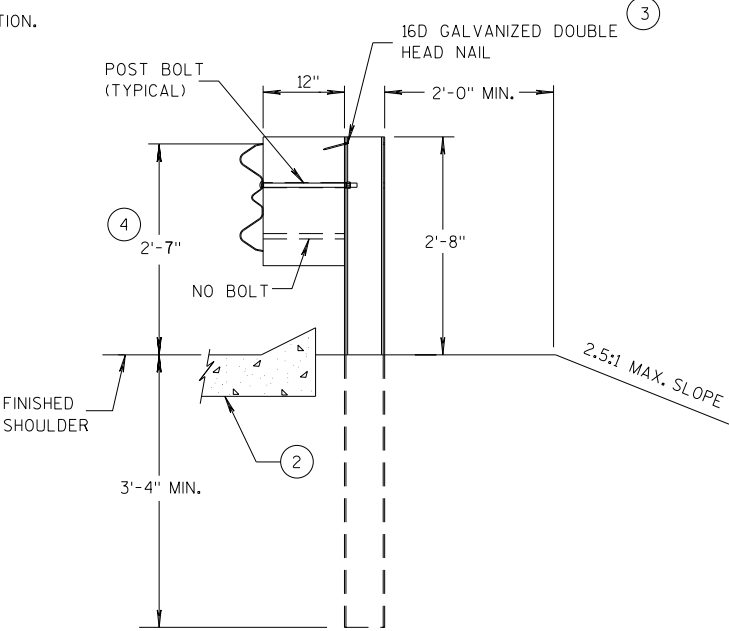
- 2 OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- 3 WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- 4 TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.
- 13 STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



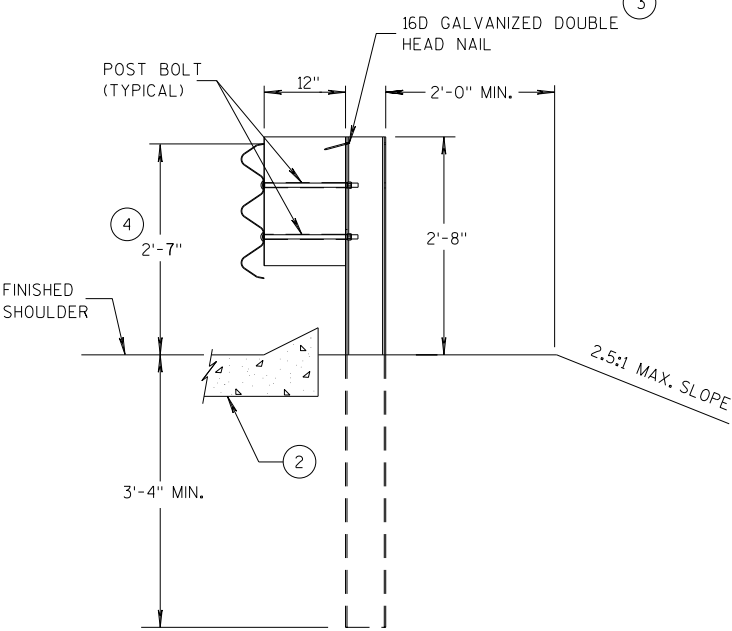
SECTION A-A
POSTS 1-5



SECTION D-D
POSTS 12-17



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11

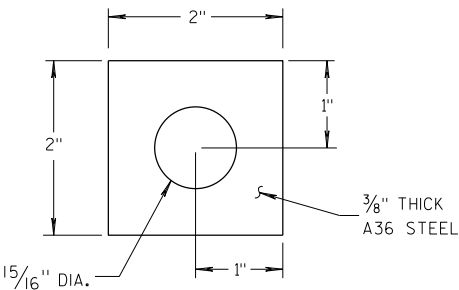
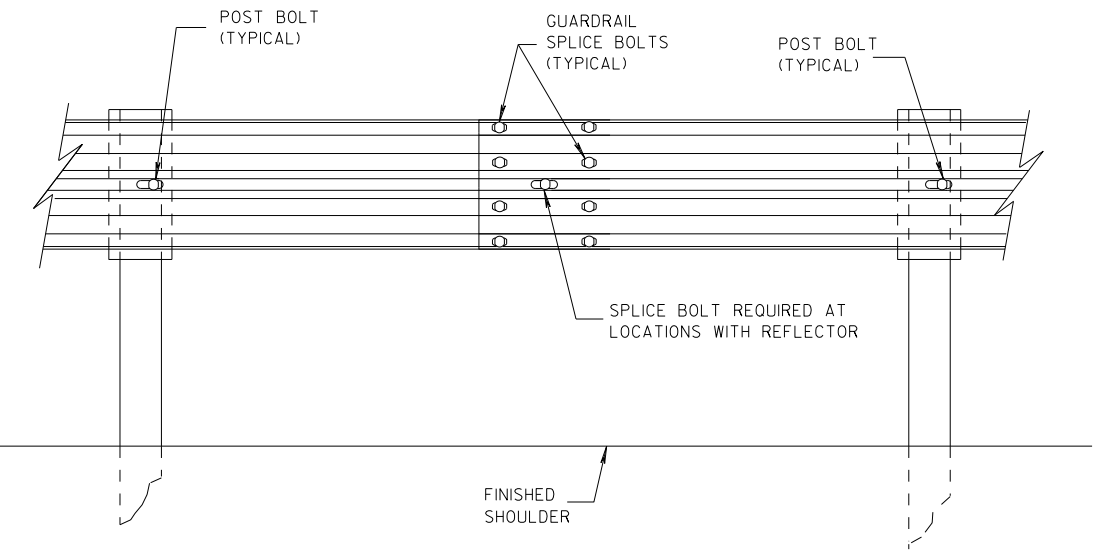
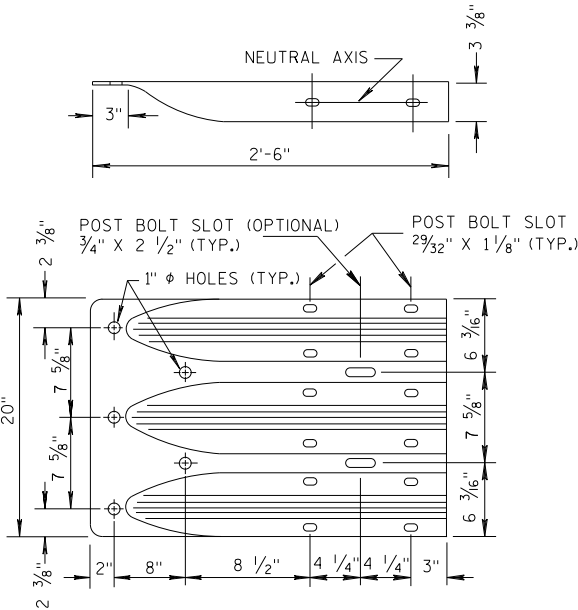


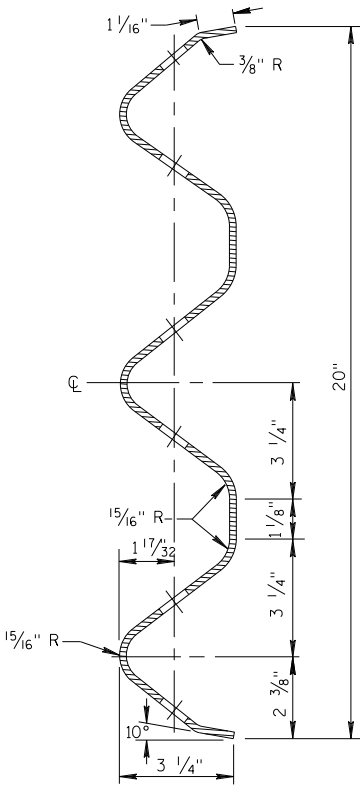
PLATE WASHER DETAIL



SPLICE DETAIL



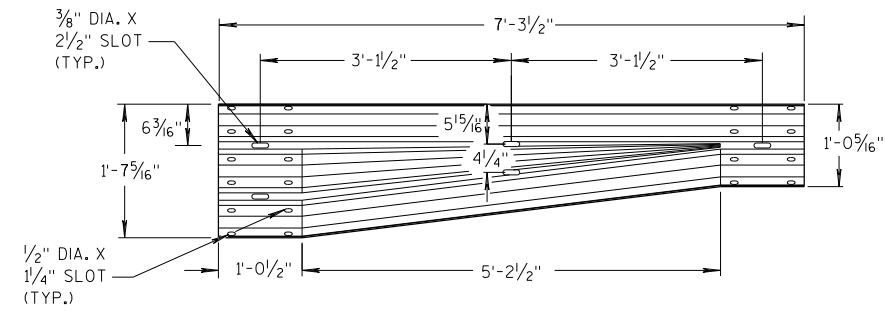
THRIE BEAM
TERMINAL CONNECTOR



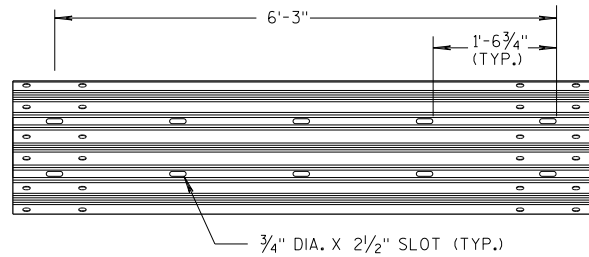
SECTION THRU THRIE
BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

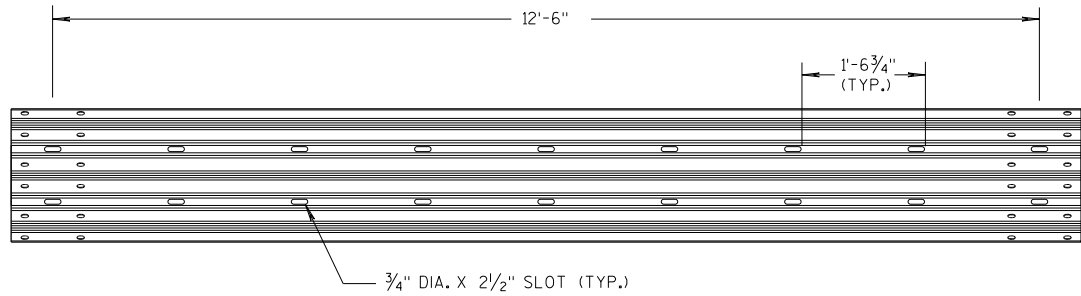
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



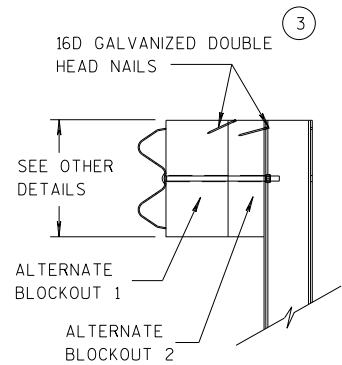
W-BEAM TO THRIE BEAM TRANSITION SECTION



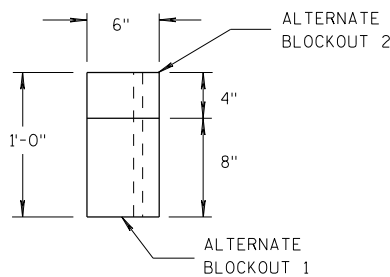
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

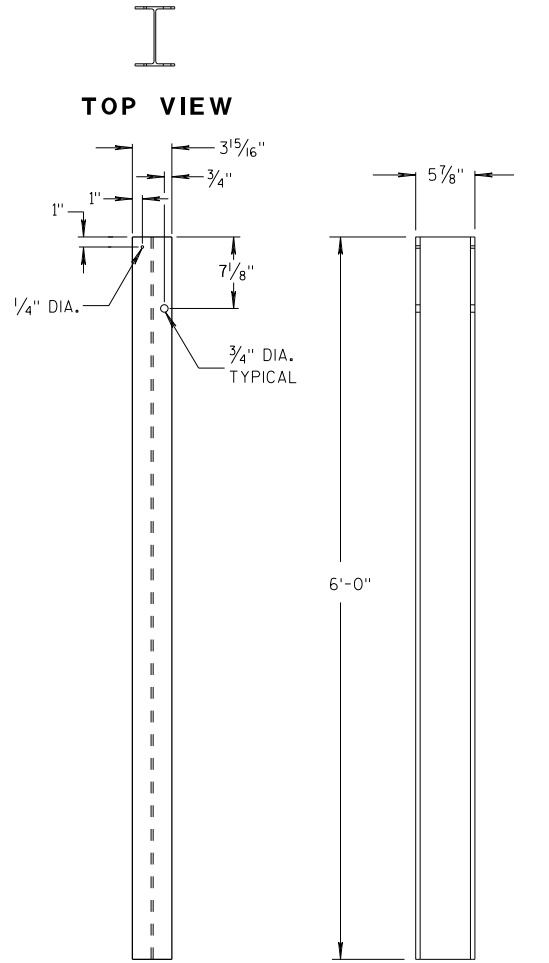


SIDE VIEW



TOP VIEW

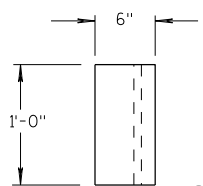
ALTERNATE WOOD BLOCKOUT DETAIL



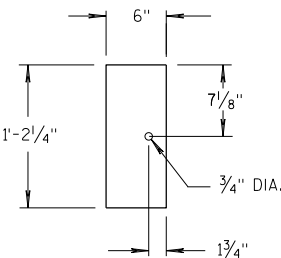
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

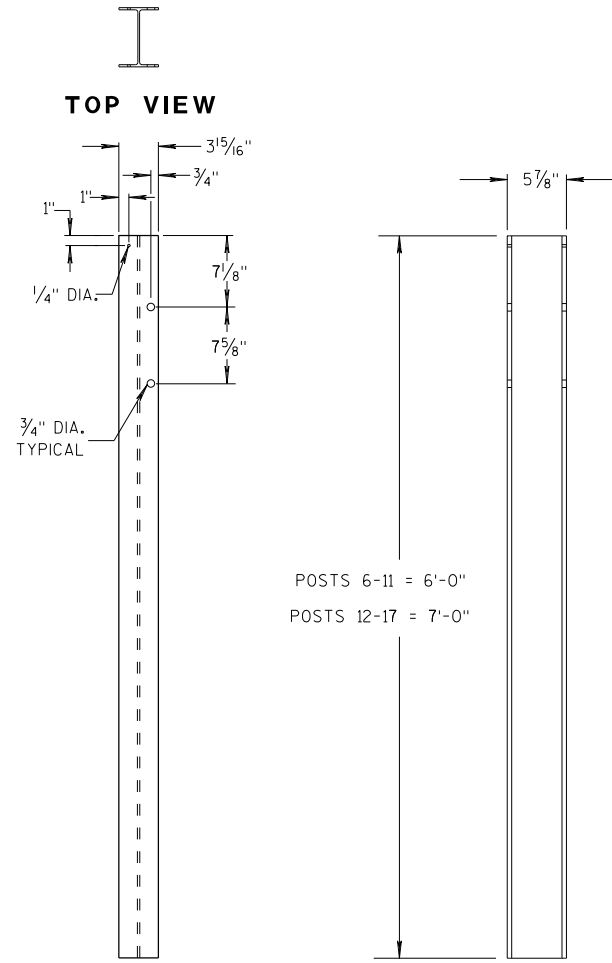


TOP VIEW



FRONT VIEW

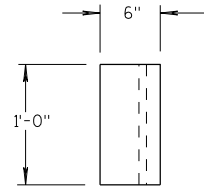
BLOCKOUT POSTS 1-5



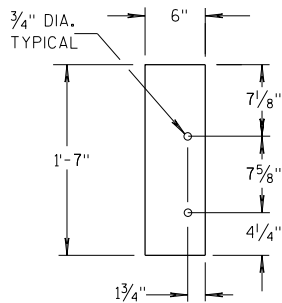
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-17



TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

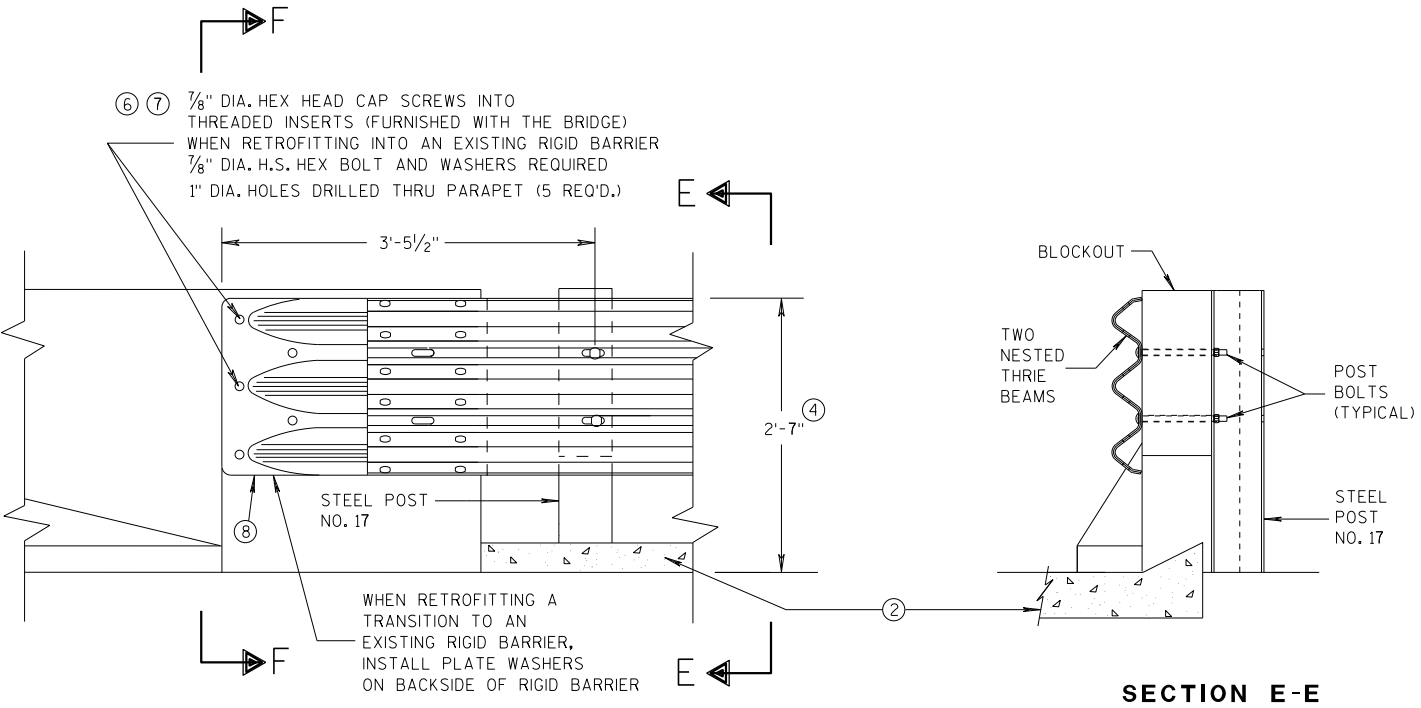
③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

⑤ WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

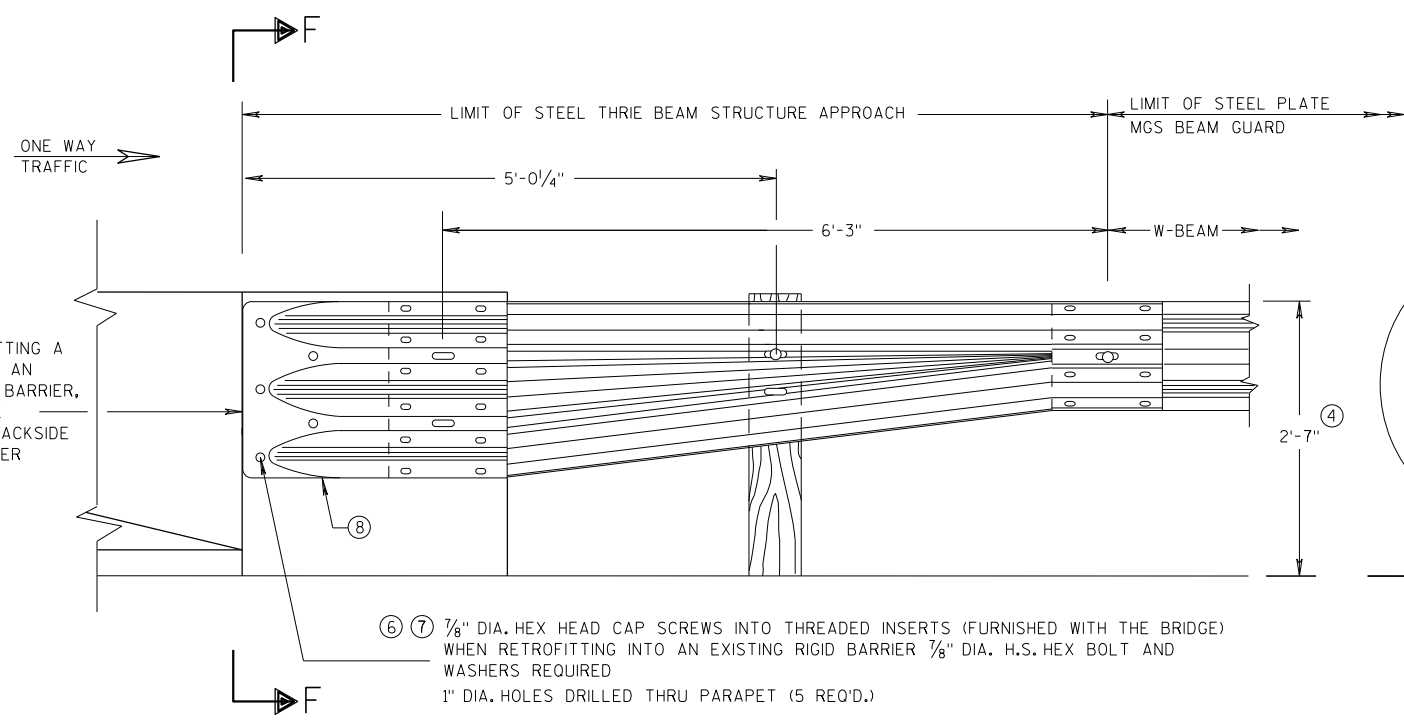
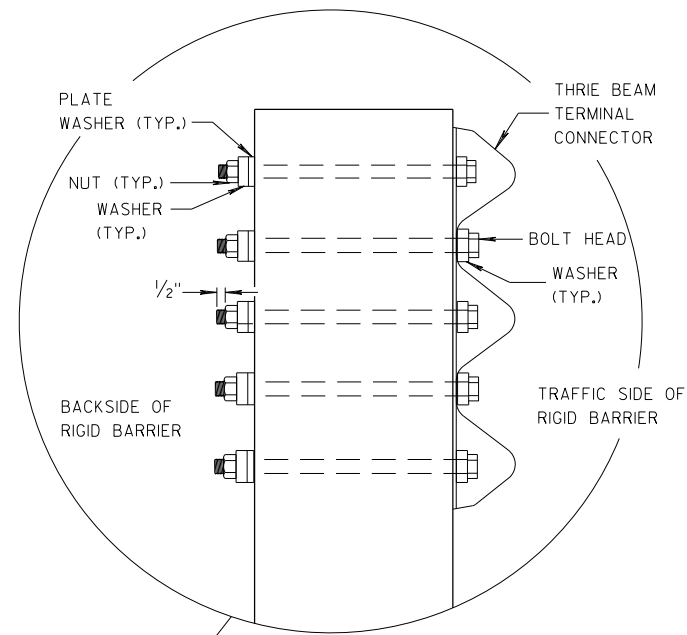
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

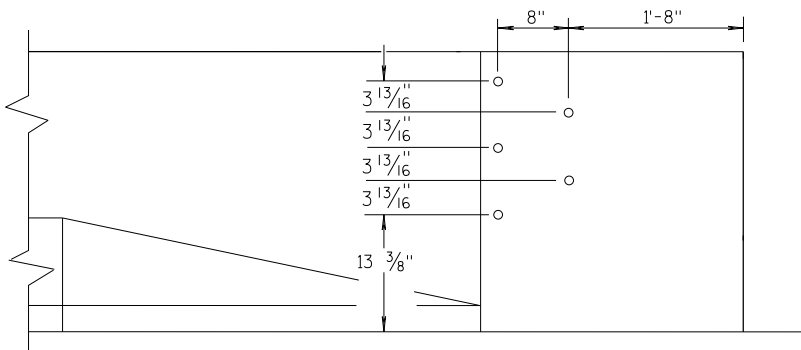


GENERAL NOTES

- THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".



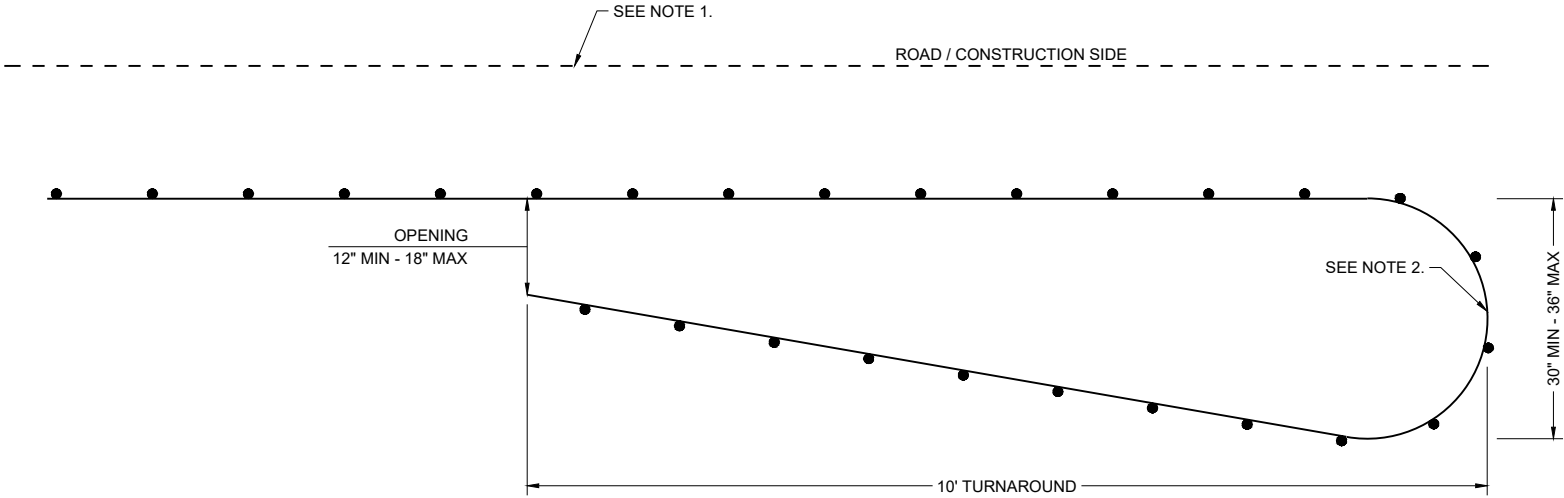
SECTION F-F



MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 07/2018 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	

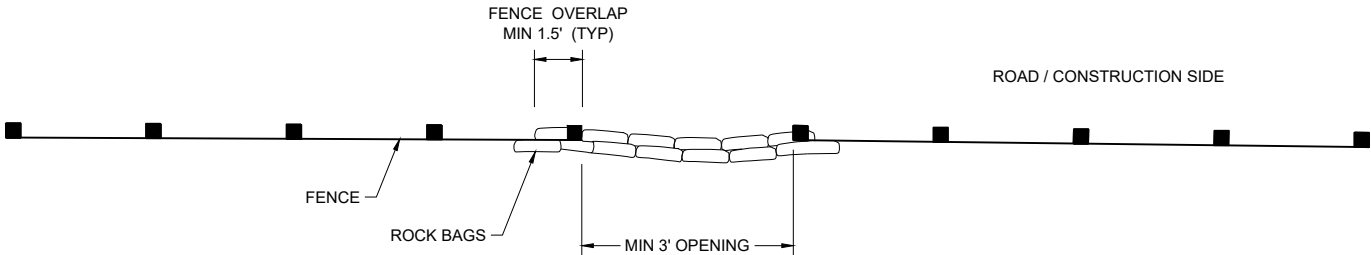
GENERAL NOTES:

- 1. WHERE SILT FENCE IS REQUIRED, IT SHALL BE PLACED ON THE CONSTRUCTION SIDE OF THE EXCLUSION FENCING, OR COMBINED WITH THE EXCLUSION FENCING AS ALLOWED IN THE SPECIFICATIONS. STAKES ON THIS DETAIL ARE OPPOSITE OF STANDARD SILT FENCE FOR SEDIMENT CONTROL.
 - 2. PLACE TURNAROUNDS AT ALL TERMINI ENDS OF THE EXCLUSION FENCING.
 - 3. IF TEMPORARY ACCESS POINTS ARE NEEDED DURING CONSTRUCTION THAT REQUIRE OPENINGS IN THE EXCLUSION FENCING, ACCESS OPENINGS SHOULD BE TIGHTLY SECURED WITH BALES OF HAY OR STRAW WHENEVER CONSTRUCTION RELATED ACTIVITIES ARE NOT OCCURRING. REINSTALL EXCLUSION FENCING WHEN THE WORK REQUIRING THE TEMPORARY ACCESS OPENING IS COMPLETED.
 - 4. THE FENCE CAP MAY BE A 6" UNDER DRAIN PIPE, SLIT DOWN THE CENTER AND PLACED OVER THE FENCE. COMMERCIALY AVAILABLE SAFETY CAPS WITH A LIP MAY BE USED. OTHER DNR APPROVED METHODS TO PREVENT TURTLES FROM PASSING OVER THE TOP OF THE FENCE MAY BE USED.
- SECURELY FASTEN THE CAP TO PREVENT IT FROM BEING DISLODGED.

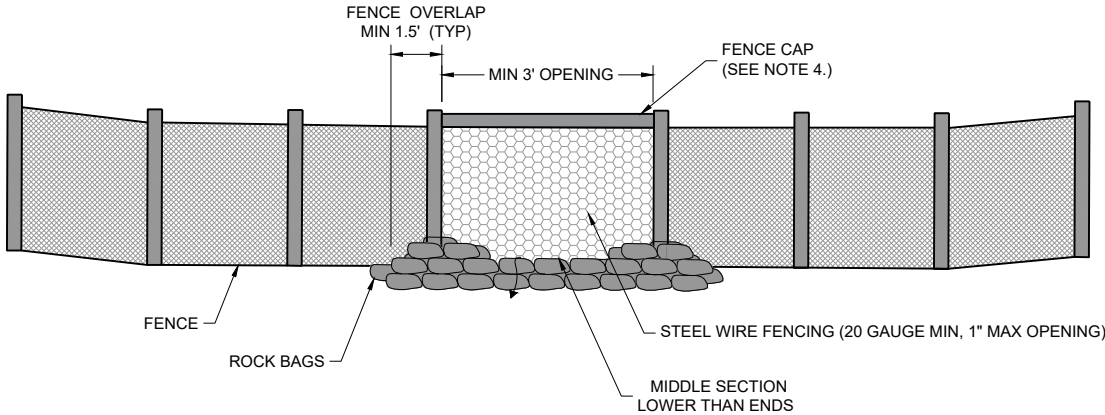


PLAN VIEW

CLIMBING TURTLE EXCLUSION FENCE DETAIL



PLAN VIEW



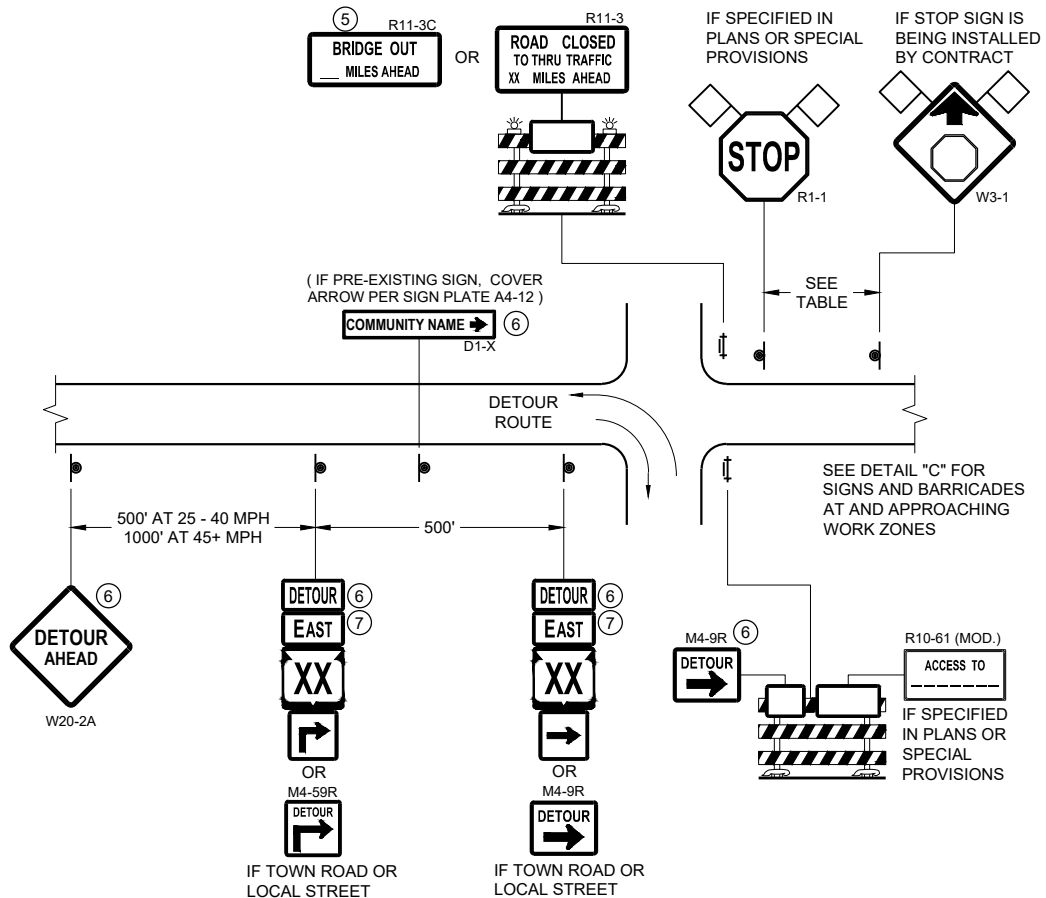
FRONT VIEW

CLIMBING TURTLE FENCE RELIEF DETAIL

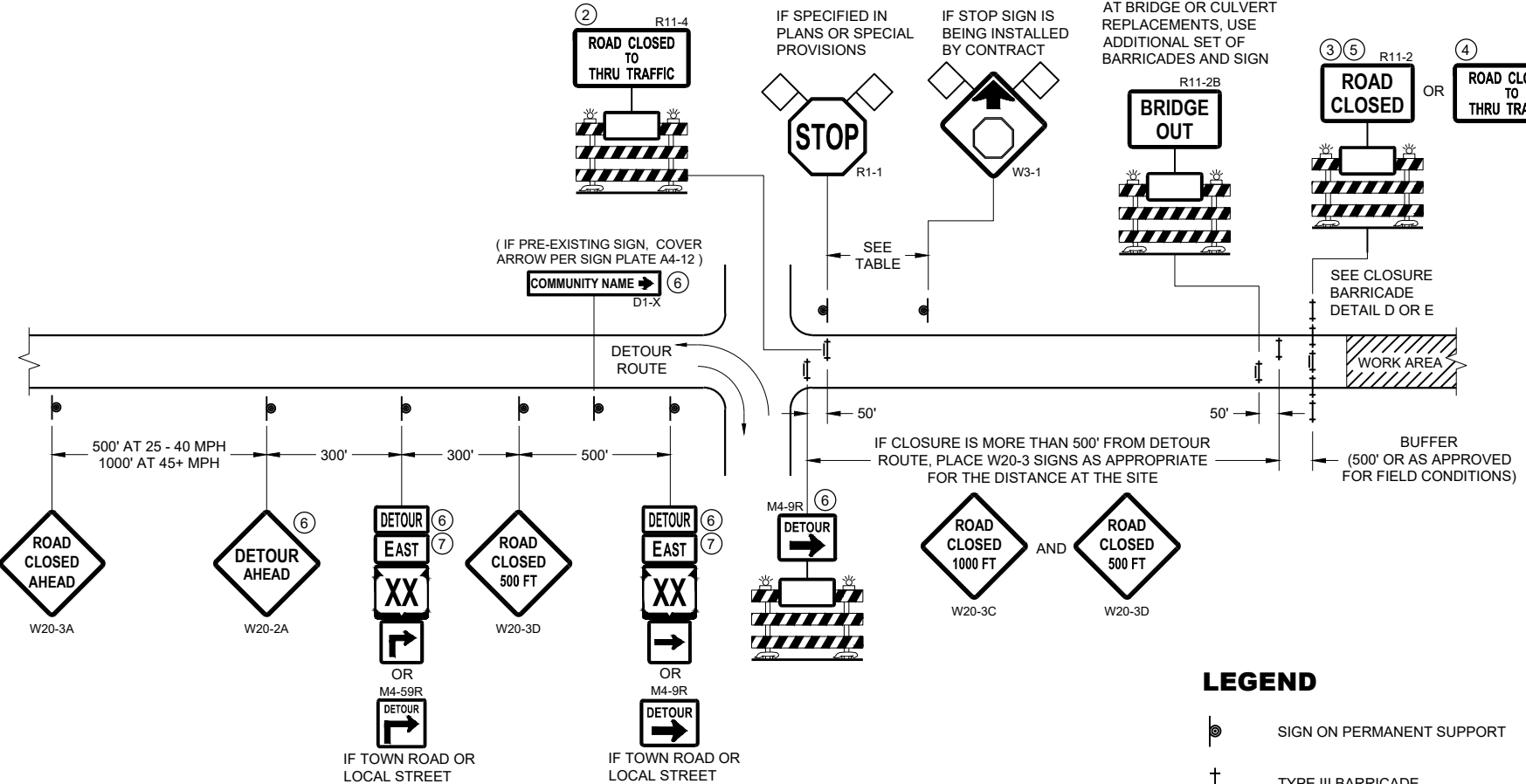
TURTLE EXCLUSION FENCE
CLIMBING TURTLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
AUGUST 2025 /S/ ALYSSA BARRETTE
DATE CHIEF STATEWIDE ENVIRONMENTAL SERVICES
FHWA BUREAU OF TECHNICAL SERVICES



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)



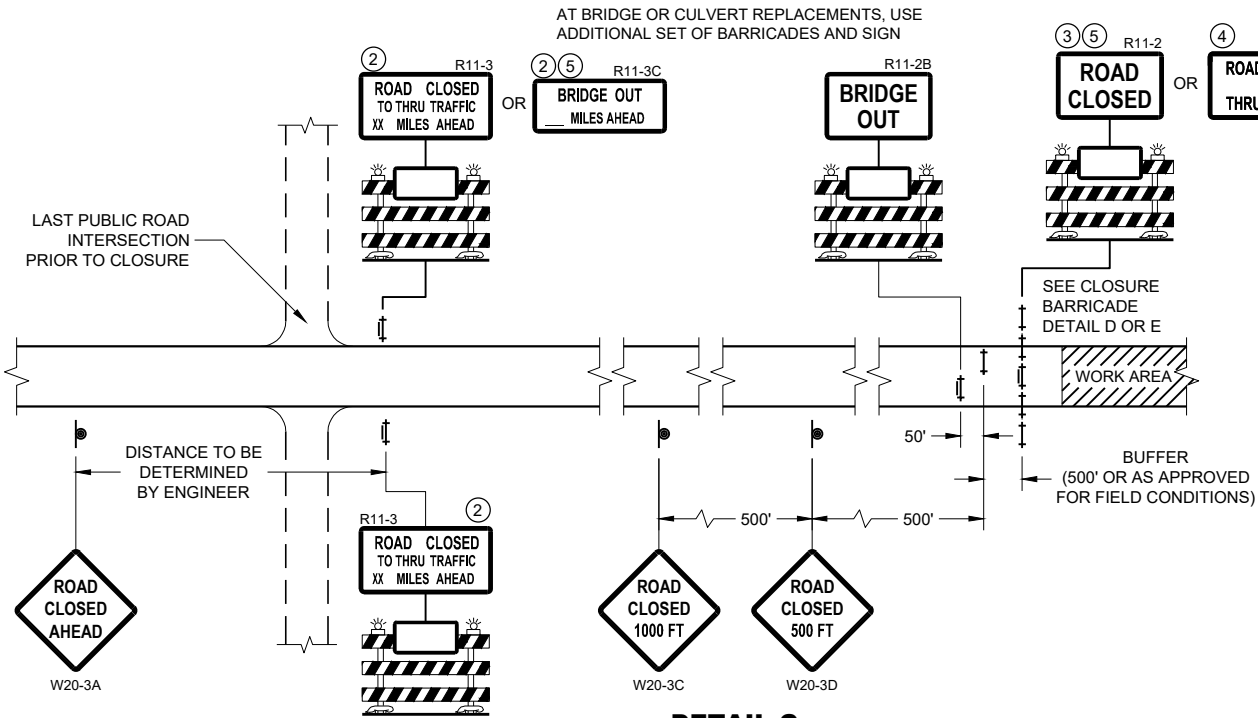
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

- LEGEND**
- SIGN ON PERMANENT SUPPORT
 - TYPE III BARRICADE
 - TYPE III BARRICADE WITH ATTACHED SIGN
 - TYPE "A" WARNING LIGHT (FLASHING)
 - WORK AREA
 - FLAGS, 16" X 16" MIN. (ORANGE)

- DETOUR M4 - 8
- EAST M3 - X
- XX M1 - 4 OR XX M1 - 6 OR COUNTY M1 - 5A
- OR M05 - 1 OR M06 - 1

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



SEE SDD 15C2 - SHEET "a" FOR LEGEND

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

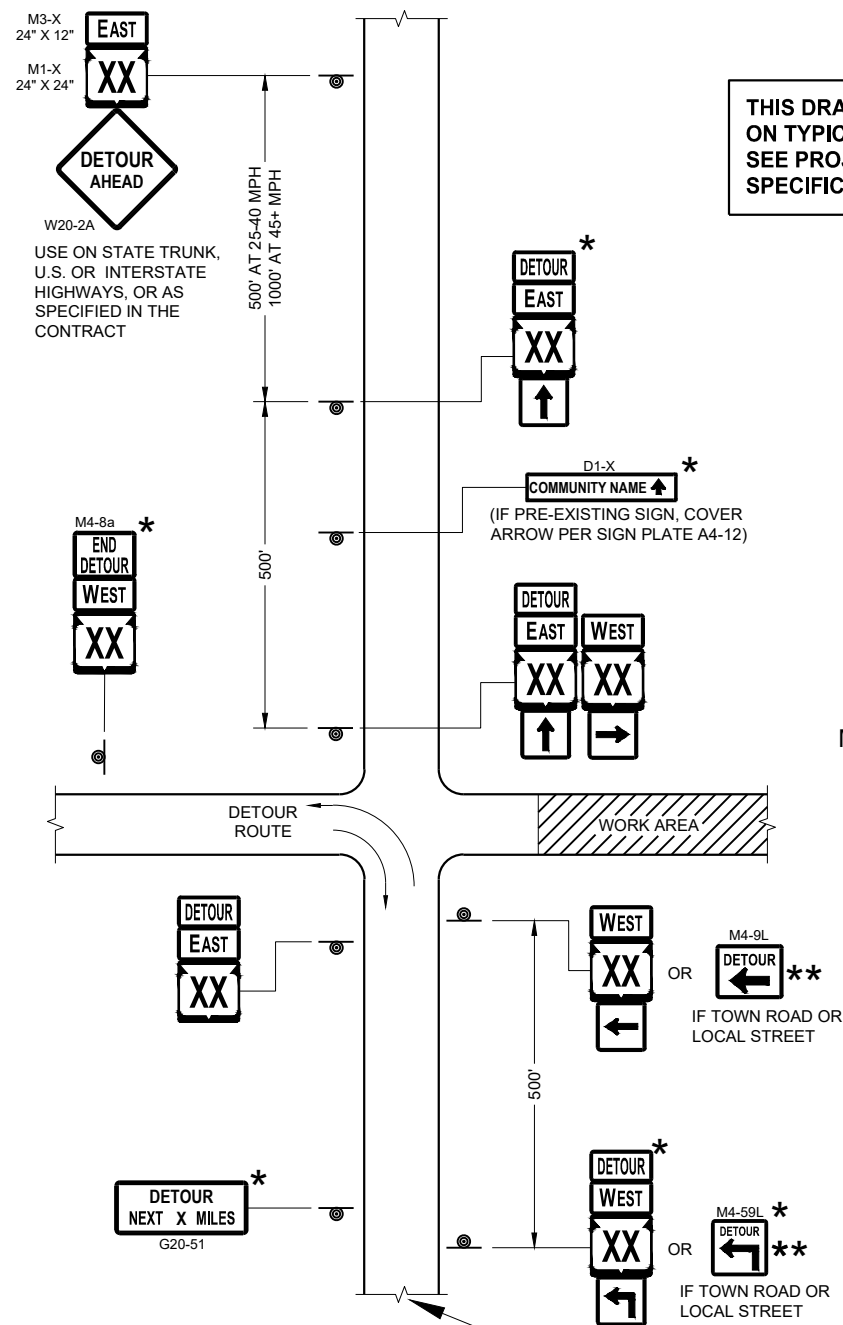
THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

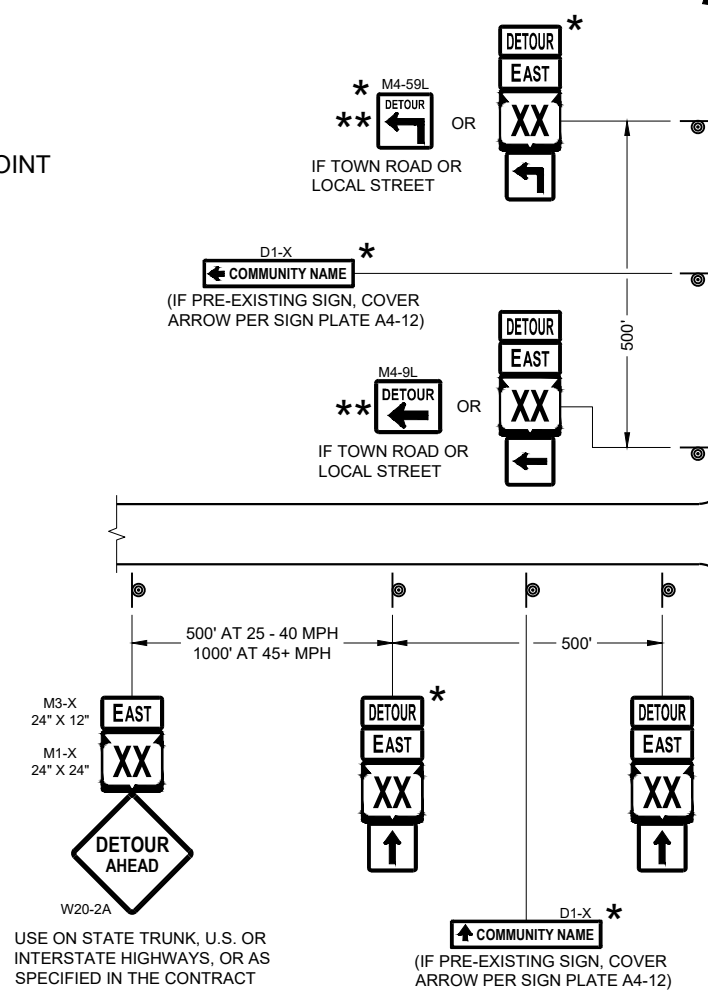
ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

R11 - 2 SHALL BE 48" X 30"
R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
M4 - 9 SHALL BE 30" X 24"
M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
R1 - 1 SHALL BE 36" X 36"

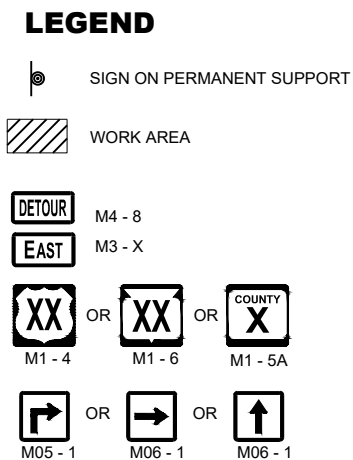
- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- ③ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- ④ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- ⑤ FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- ⑥ INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- ⑦ "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.



**THIS DRAWING PROVIDES GENERAL GUIDANCE
ON TYPICAL DETOUR SIGN LAYOUT AND SPACING.
SEE PROJECT DETOUR SIGNING SHEETS FOR
SPECIFIC DETAILS FOR EACH PROJECT.**



DETAIL F DETOUR SIGNING



GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

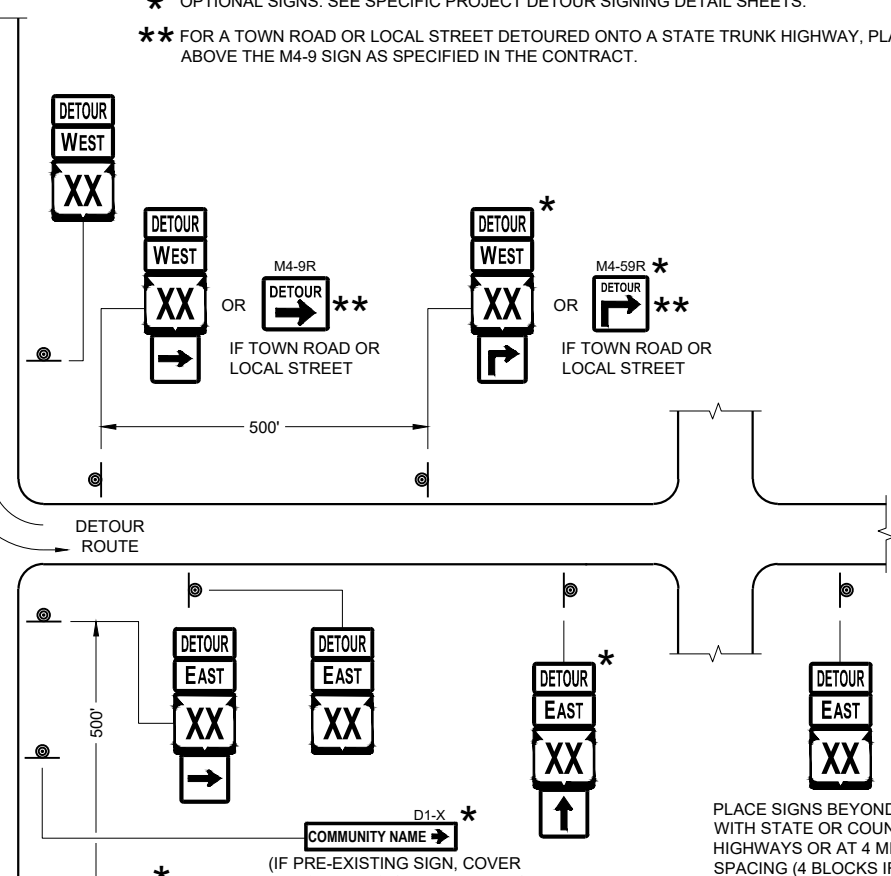
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
M4-9 AND M4-59 SHALL BE 30" X 24"
M4-8a SHALL BE 24" X 18"
G20-51 SHALL BE 60" X 24"
W20-2A SHALL BE 48" X 48"
D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

**** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.**



PLACE SIGNS BEYOND INTERSECTIONS
WITH STATE OR COUNTY TRUNK
HIGHWAYS OR AT 4 MILE MAXIMUM
SPACING (4 BLOCKS IF URBAN AREA)

DETOUR SIGNING FOR MAINLINE CLOSURES

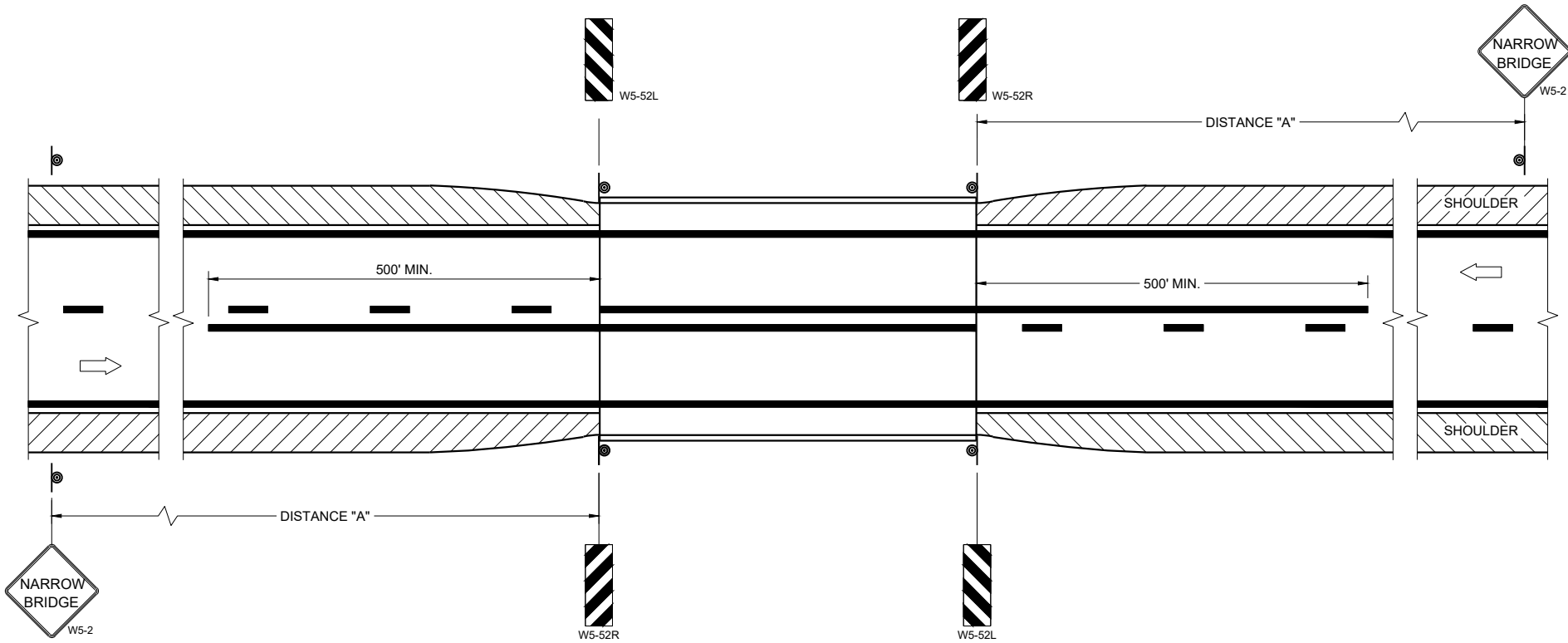
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

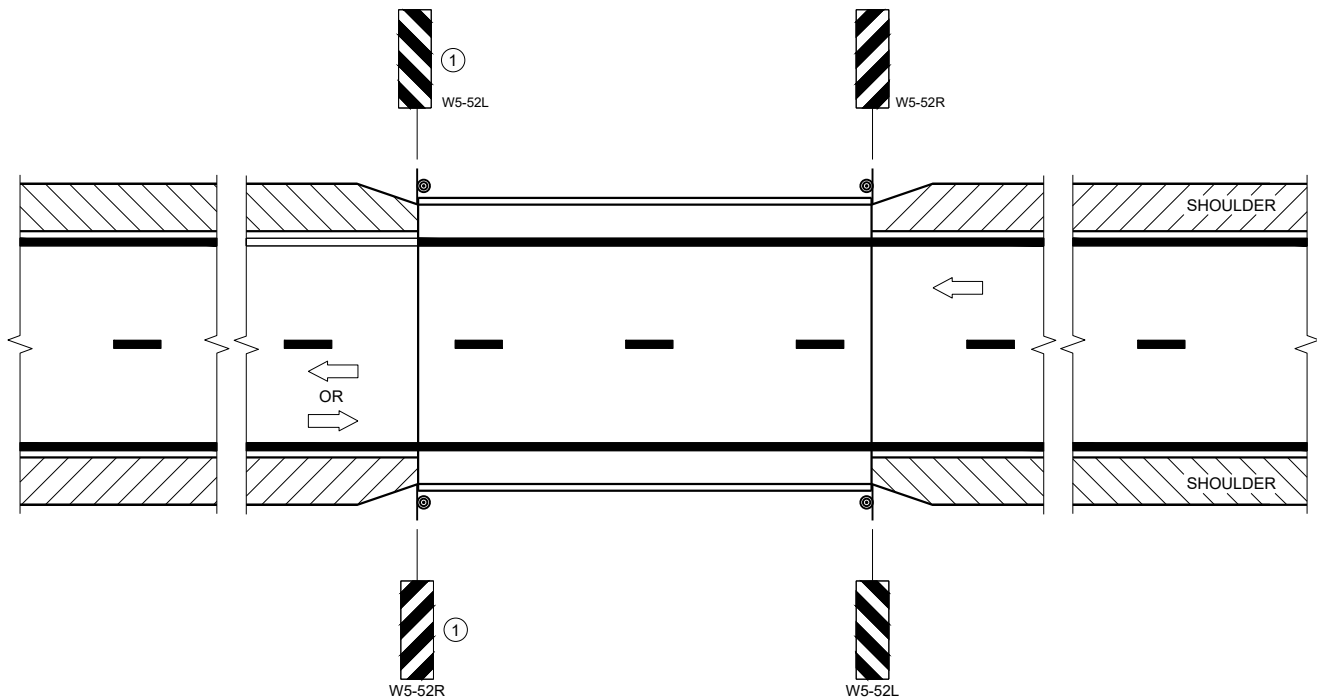
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SEE SPECIFIC PROJECT DETOUR
SIGNING DETAIL SHEETS AND
DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"



SITUATION 1
WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.



SITUATION 2
WARRANTING CRITERIA:
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THE DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

① OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

⊙ SIGN ON PERMANENT SUPPORT

➡ DIRECTION OF TRAFFIC

DISTANCE TABLE

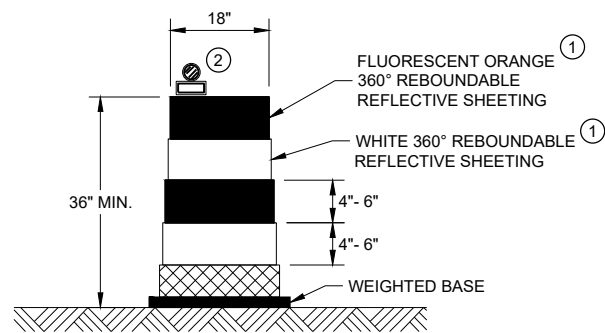
POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

**SIGNING AND MARKING
FOR TWO LANE BRIDGES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

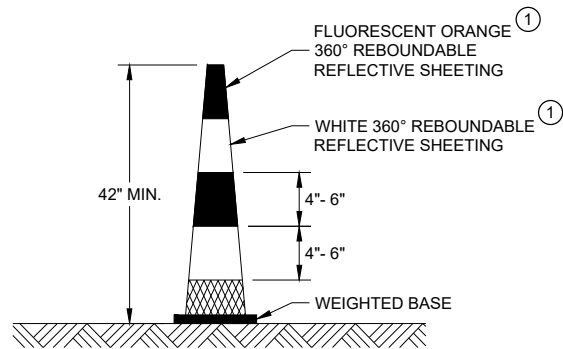
APPROVED
May 2023 /S/ Jeannie Silver
DATE Statewide Pavement Marking Engineer
FHWA





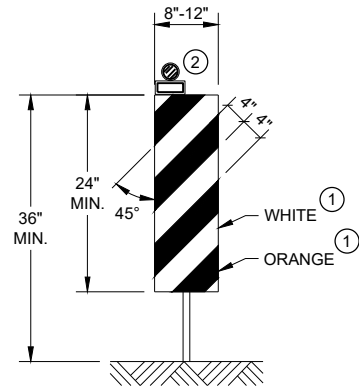
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



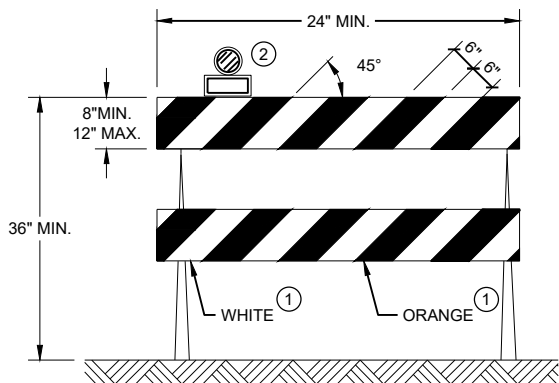
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS
BALLAST WIDTHS
RANGE FROM 14"-20"



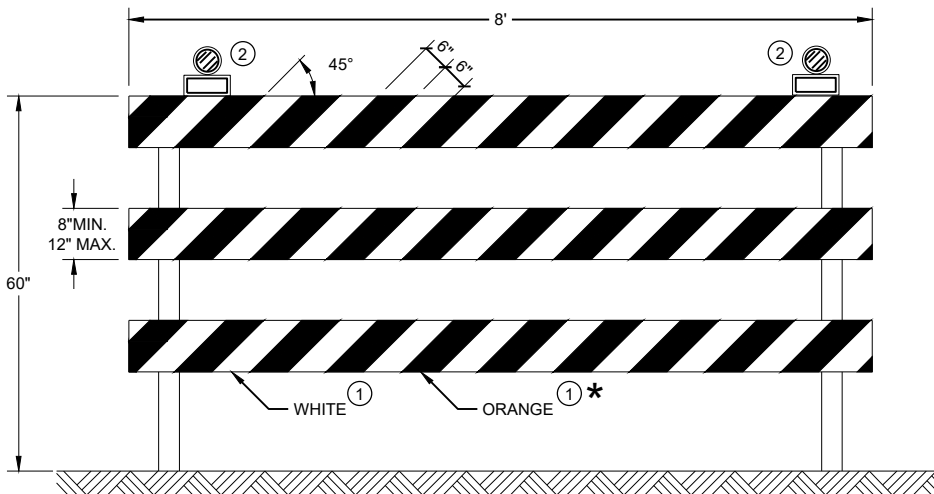
VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

GENERAL NOTES

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

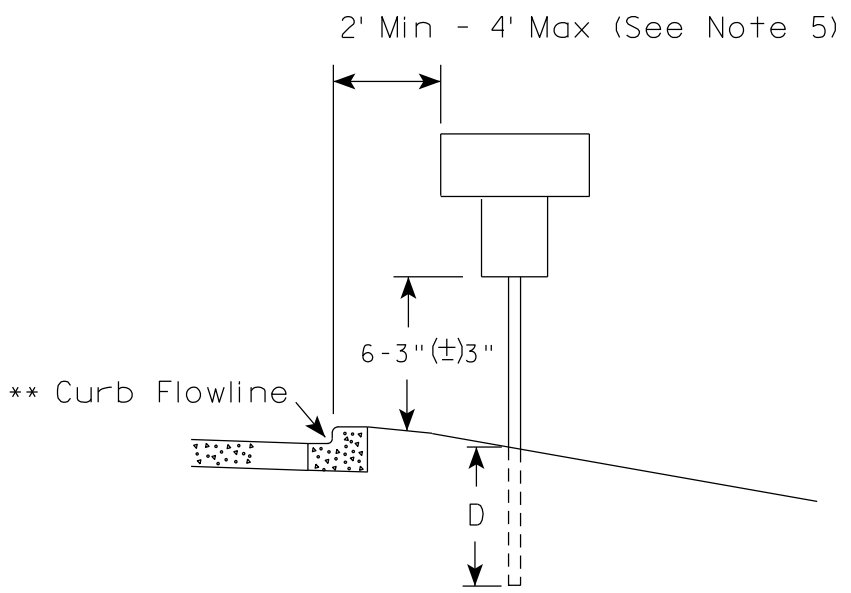
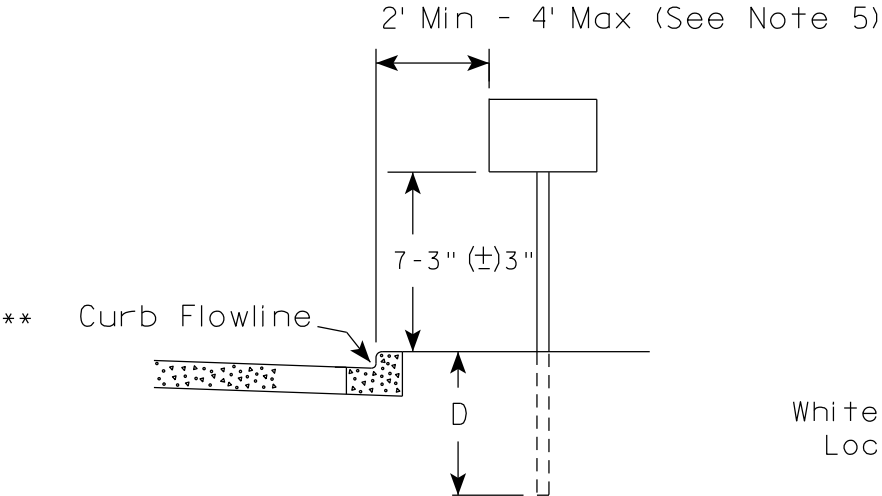
**CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

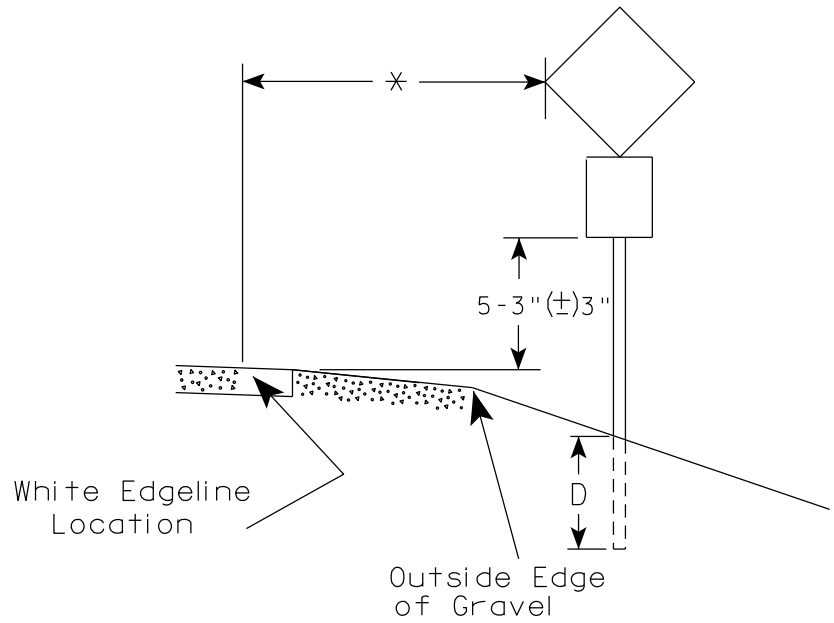
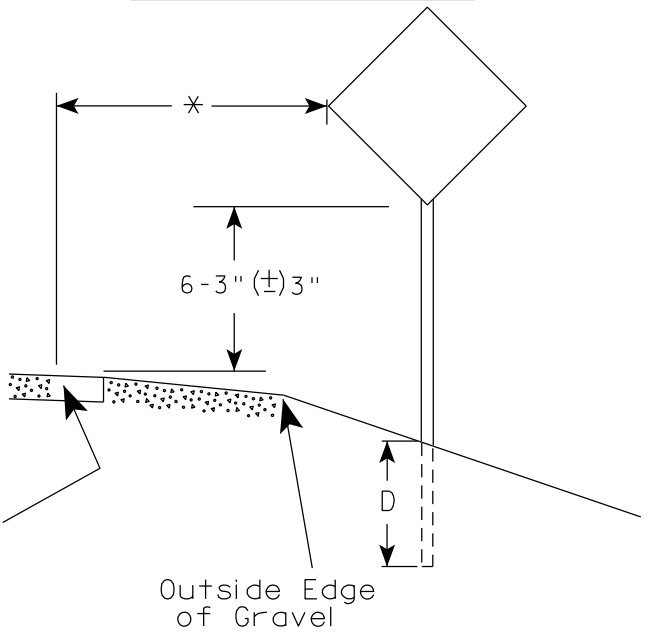
APPROVED
November 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

URBAN AREA



RURAL AREA (See Note 2)



POST EMBEDMENT DEPTH	
Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±) 3".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the Engineer.

* * The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

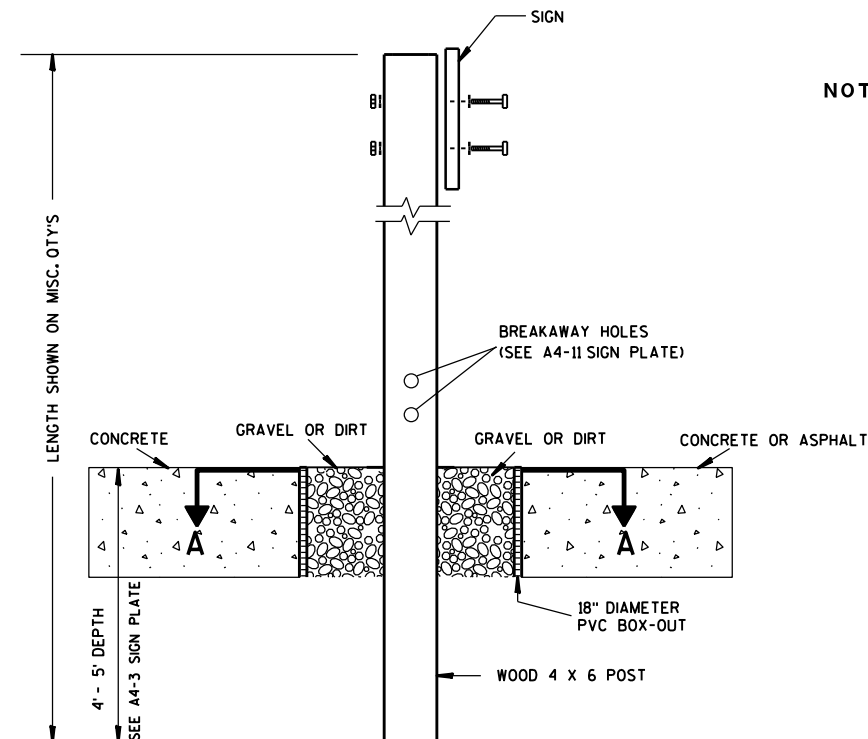
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED 
for State Traffic Engineer

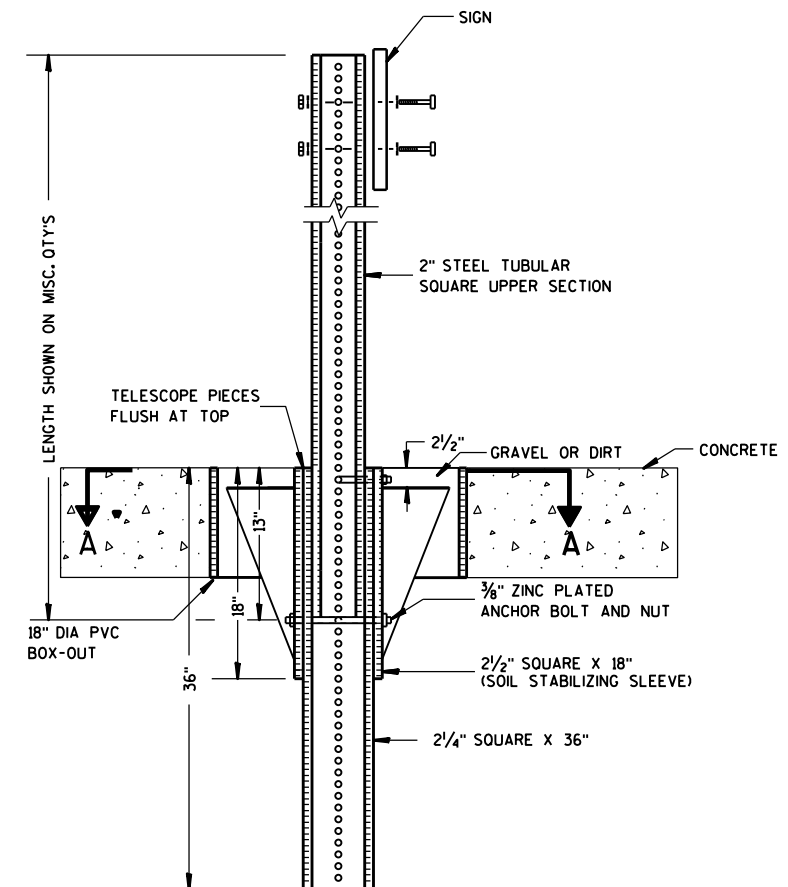
DATE 12/6/23 PLATE NO. A4-3.23



ELEVATION VIEW

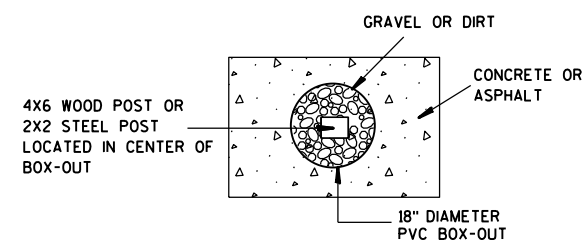
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- NOTES: 1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:

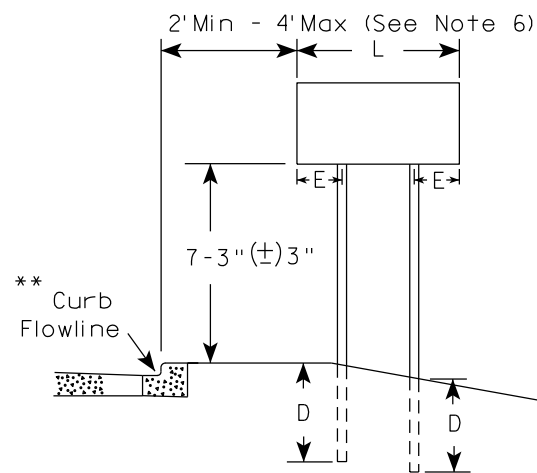
HWY:

COUNTY:

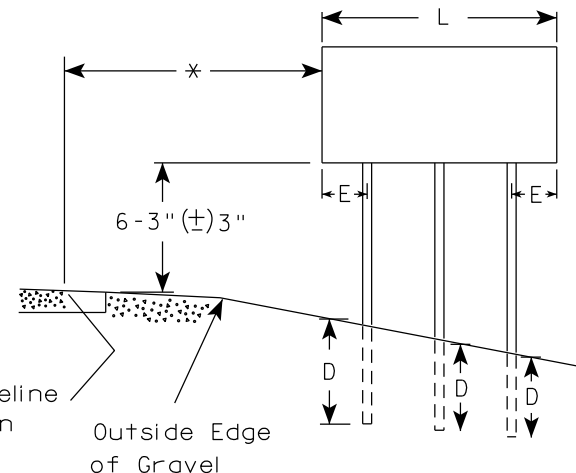
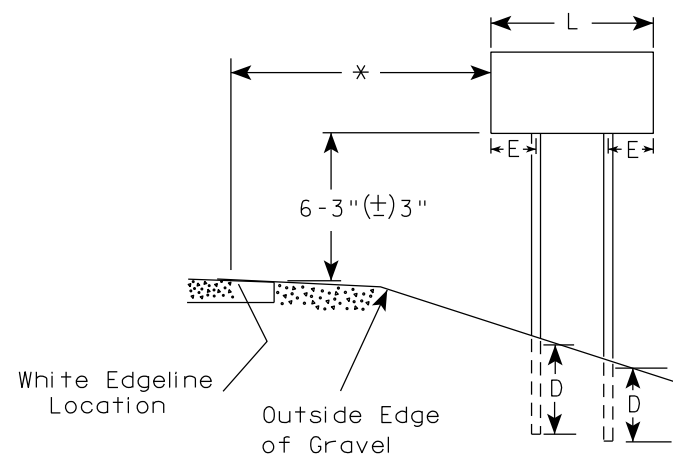
SHEET NO:

E

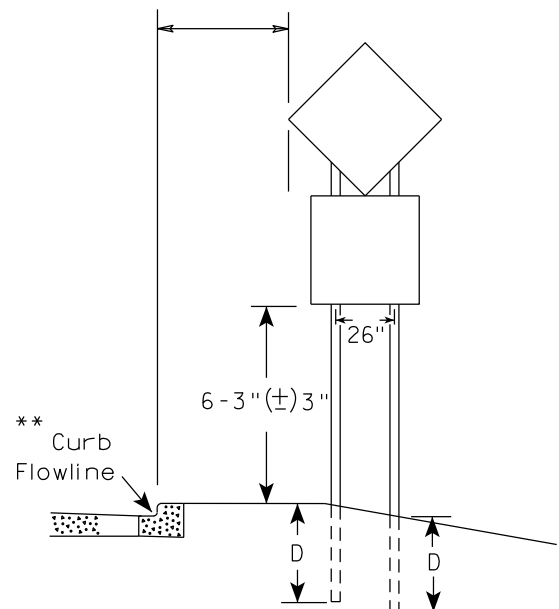
URBAN AREA



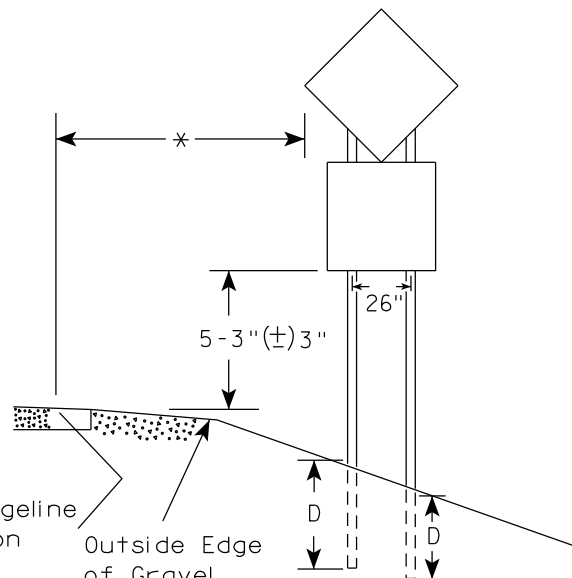
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq.Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 12/6/23 PLATE NO. A4-4.16

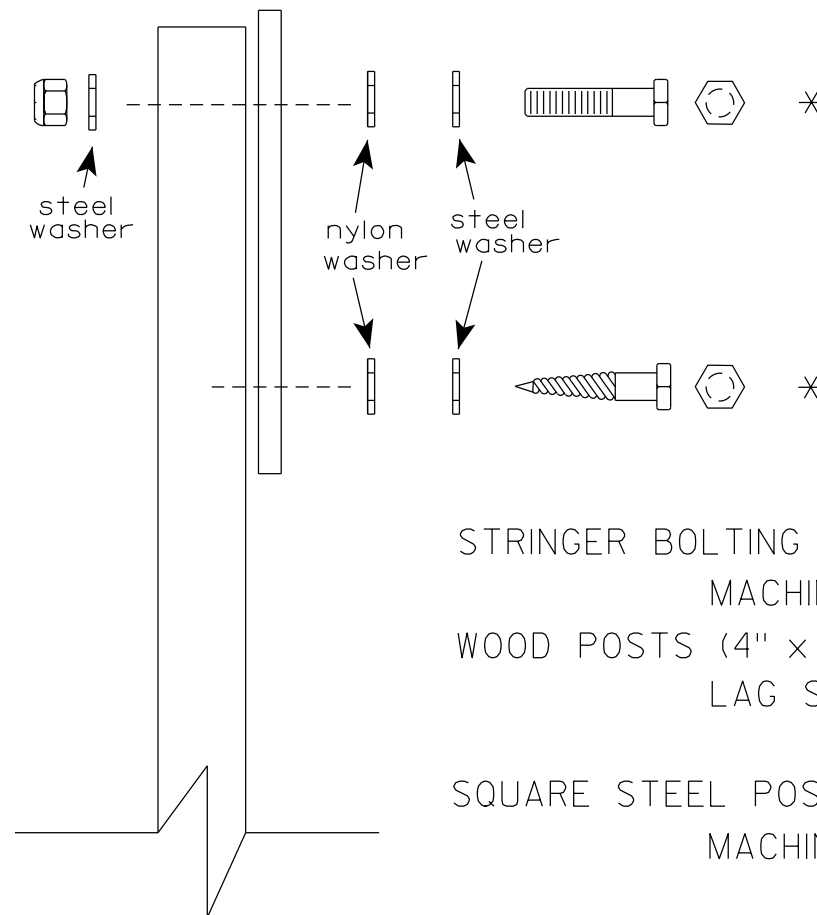
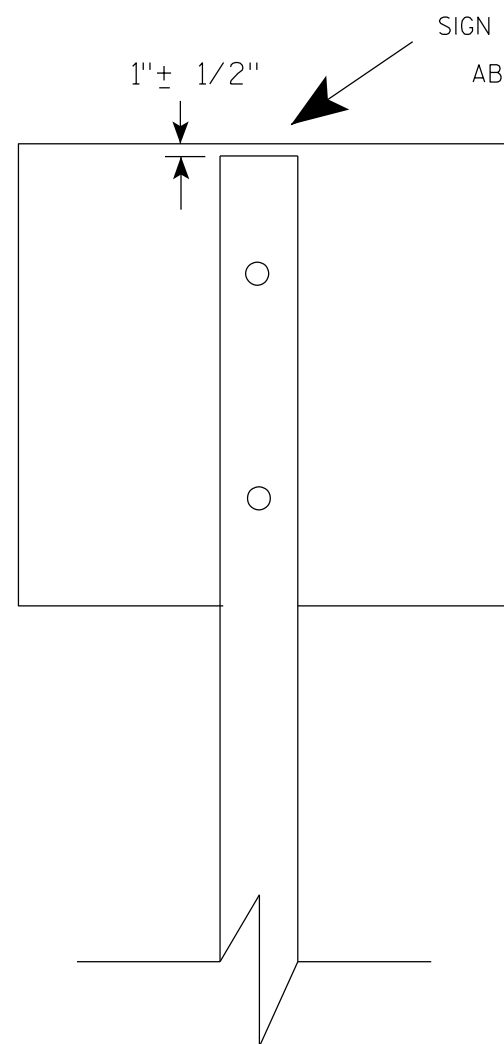
GENERAL NOTES

- For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
- See tables below for required number of posts.
- For expressways and freeways, mounting height is 7'-3" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
- The (±) tolerance for mounting height is 3 inches.
- J-Assemblies are considered to be one sign for mounting height.
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the engineer.
- The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±) 3".

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

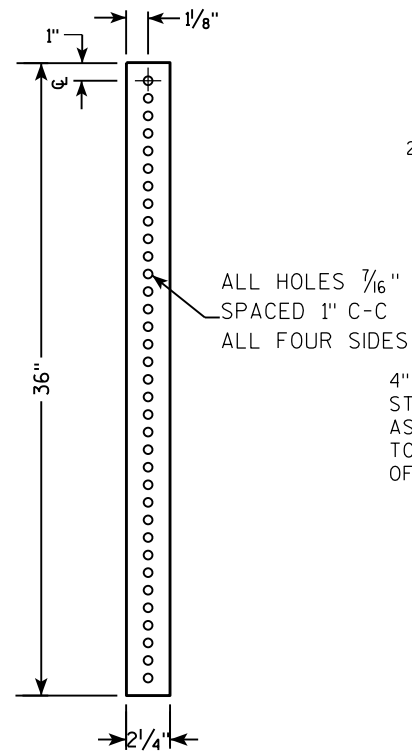
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



LENGTH SHOWN ON MISC. QTY'S

18" DIA SCHEDULE 40 PVC BOX-OUT

TELESCOPE PIECES FLUSH AT TOP

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES

$\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT

2 1/2" GRAVEL OR DIRT

$\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT

2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)

2 1/4" SQUARE X 36"

SIGN

SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

36"

18"

13"

18"

LENGTH SHOWN ON MISC. QTY'S

TELESCOPE PIECES FLUSH AT TOP

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES

$\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT

1"

$\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT

2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)

2 1/4" SQUARE X 36"

SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

SIGN

DIRECTION
OF TRAFFIC

SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9

PROJECT NO:

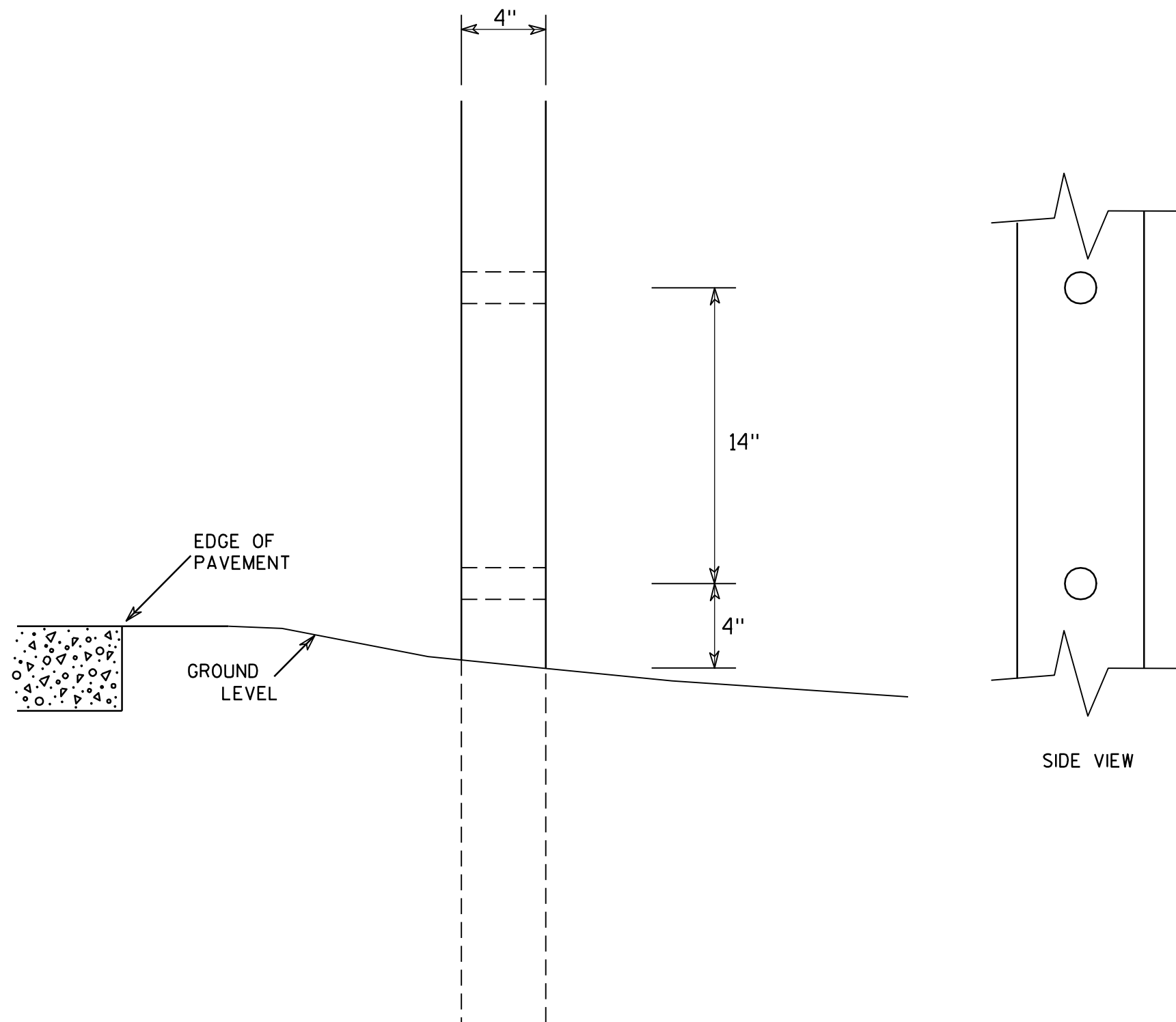
HWY:

COUNTY:

SHEET NO:

11

7



GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

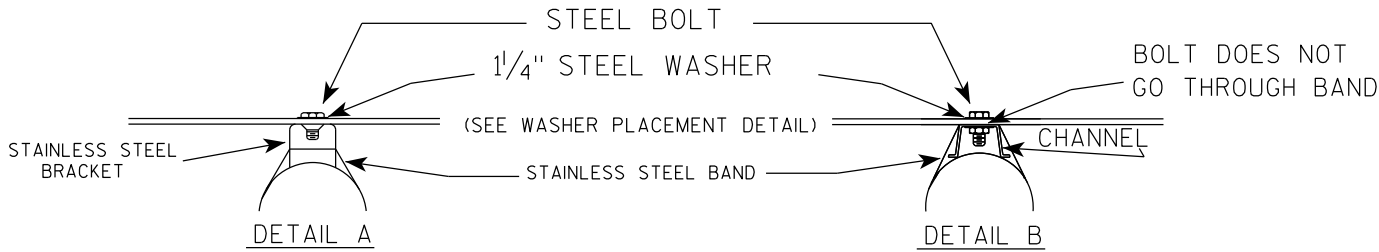
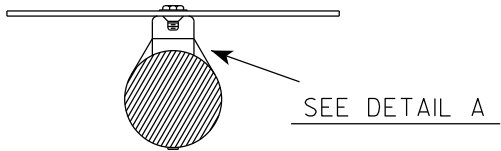
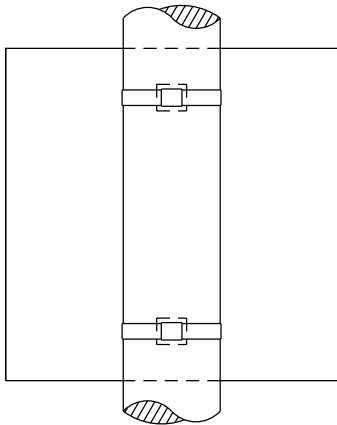
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SHEET NO:

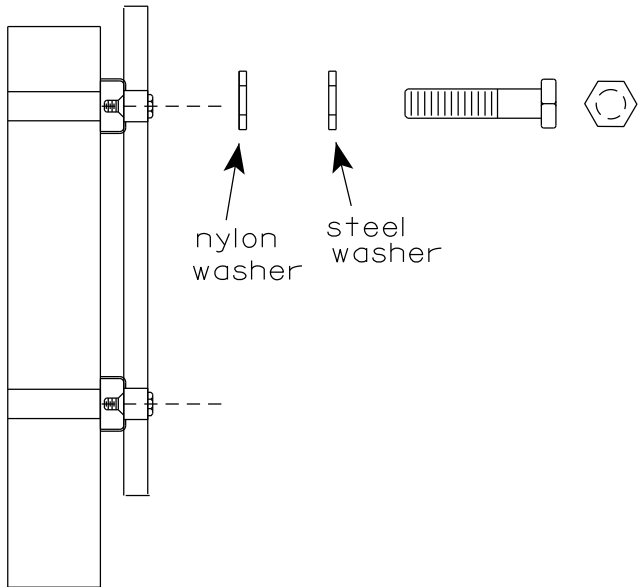
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

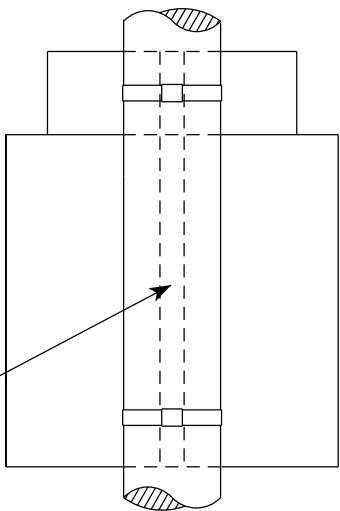


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

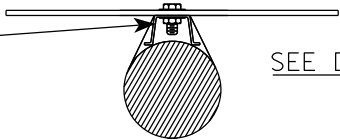
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



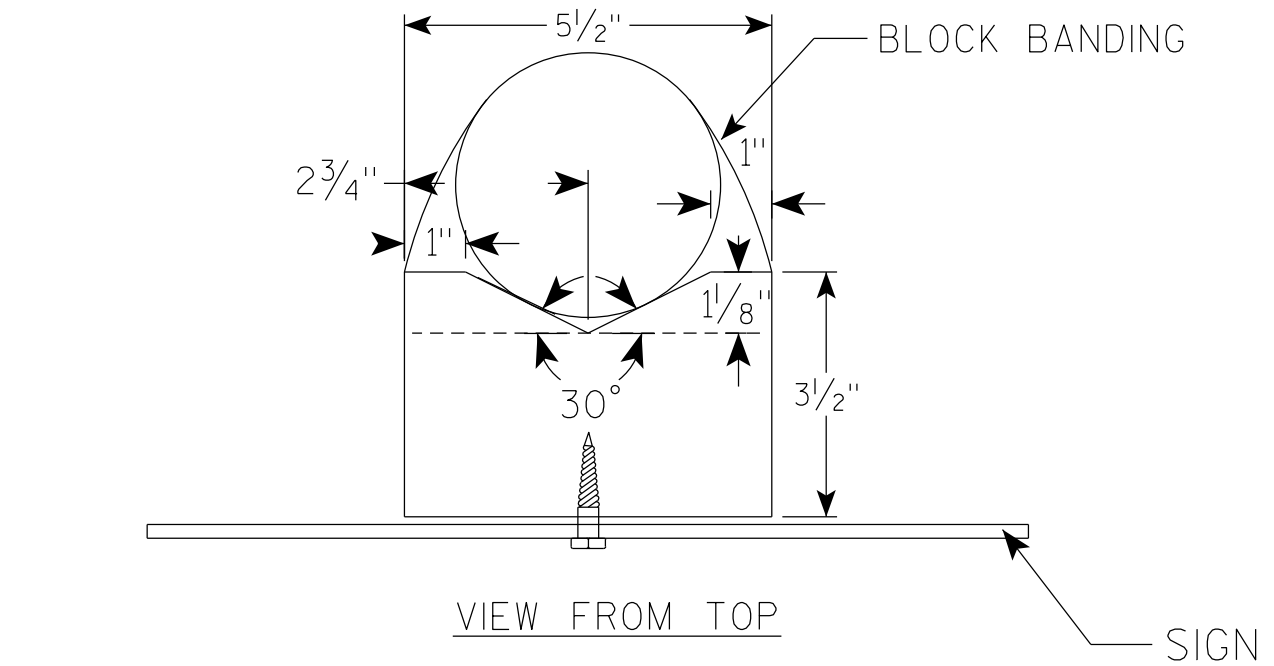
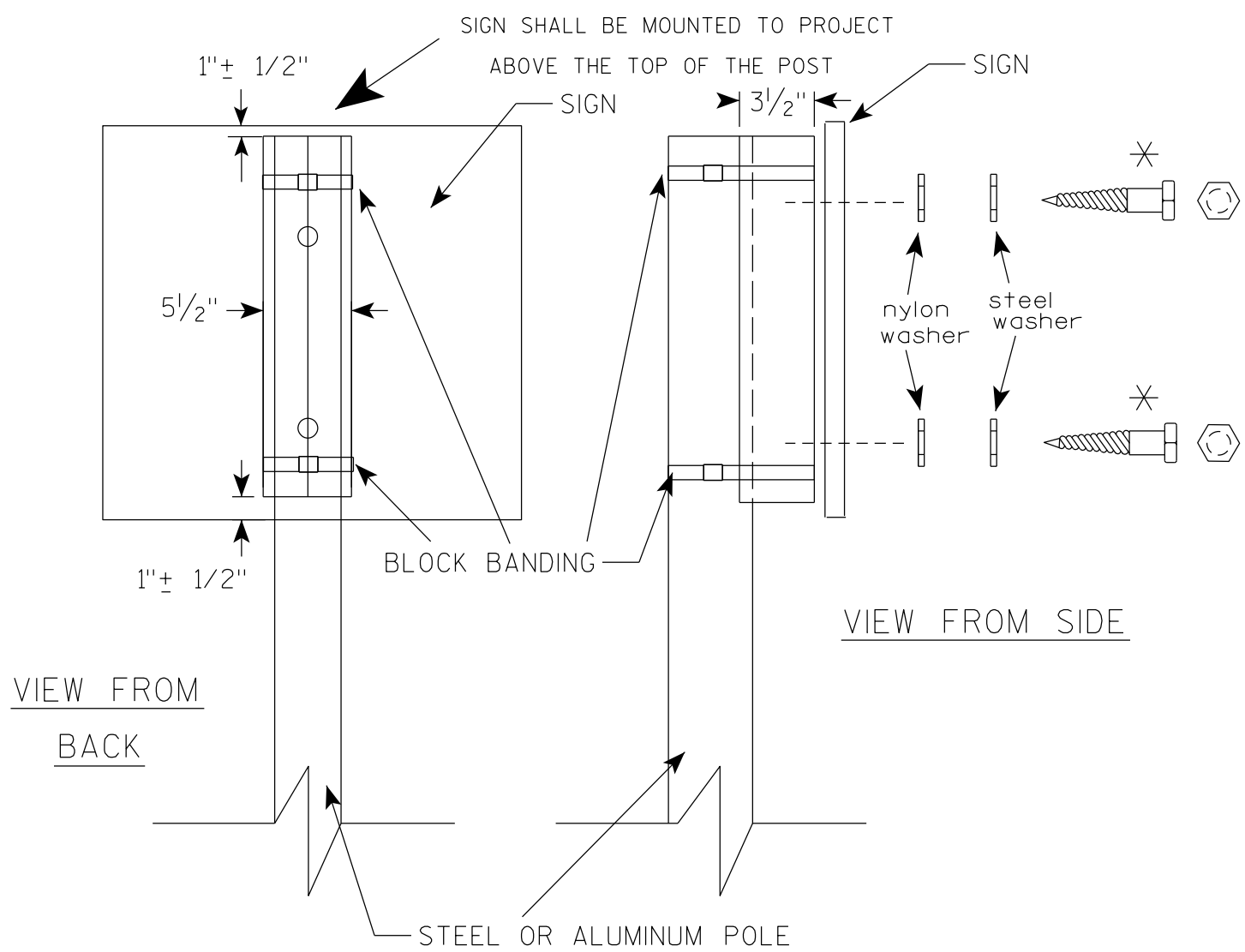
CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/10/19 PLATE NO. A5-9.4



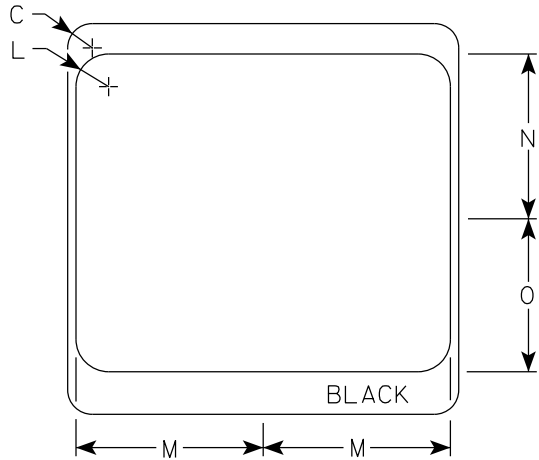
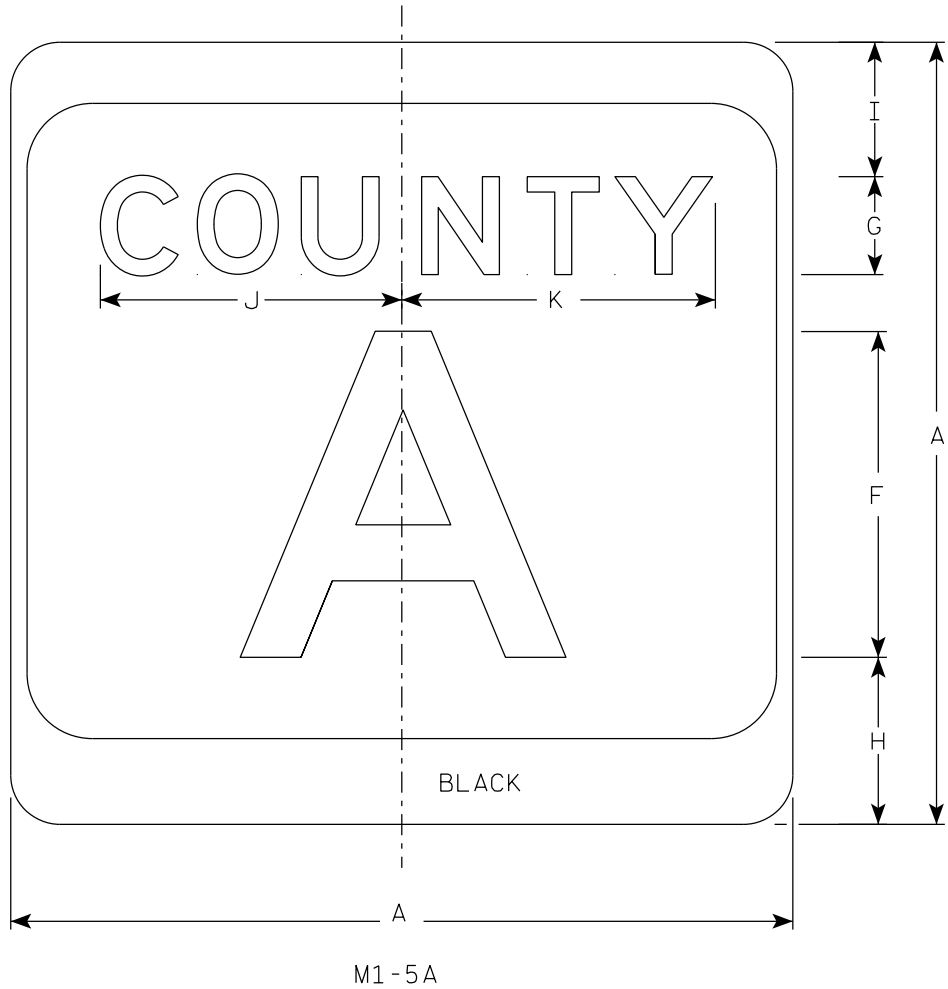
GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

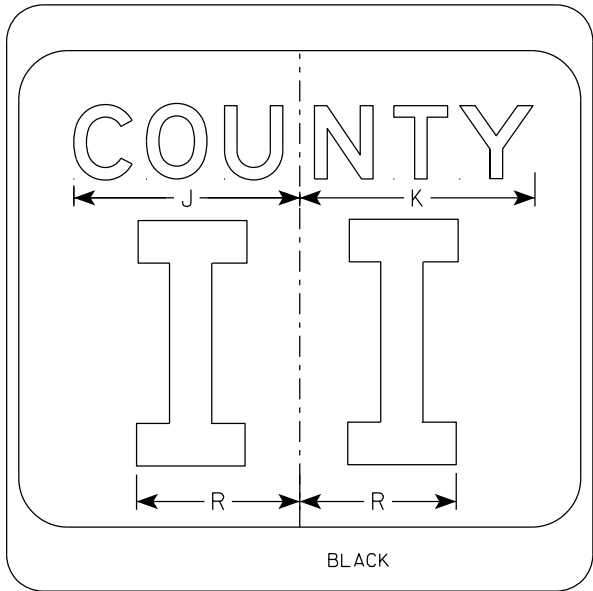
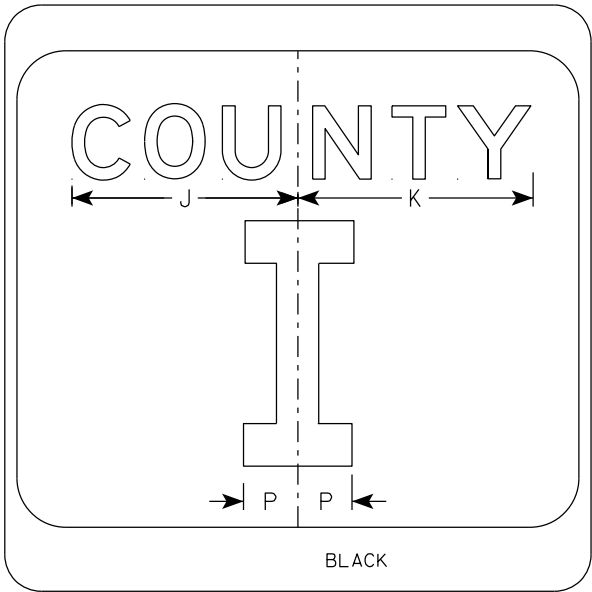
BLOCK BANDING DETAIL (V-BLOCK OPTION)	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 4/19/2022	PLATE NO. A5-10.3

7



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White & Black
Message - Black
3. Message Series - see Note 4
4. Message Series E for 1 letter.
Message Series D for 2 letters unless
message is too big then Series C.
Message Series C for 3 letters unless
message is too big then Series B.
5. Substitute appropriate letters & optically
center to achieve proper balance.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
2M	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/8/2022 PLATE NO. M1-5A.9

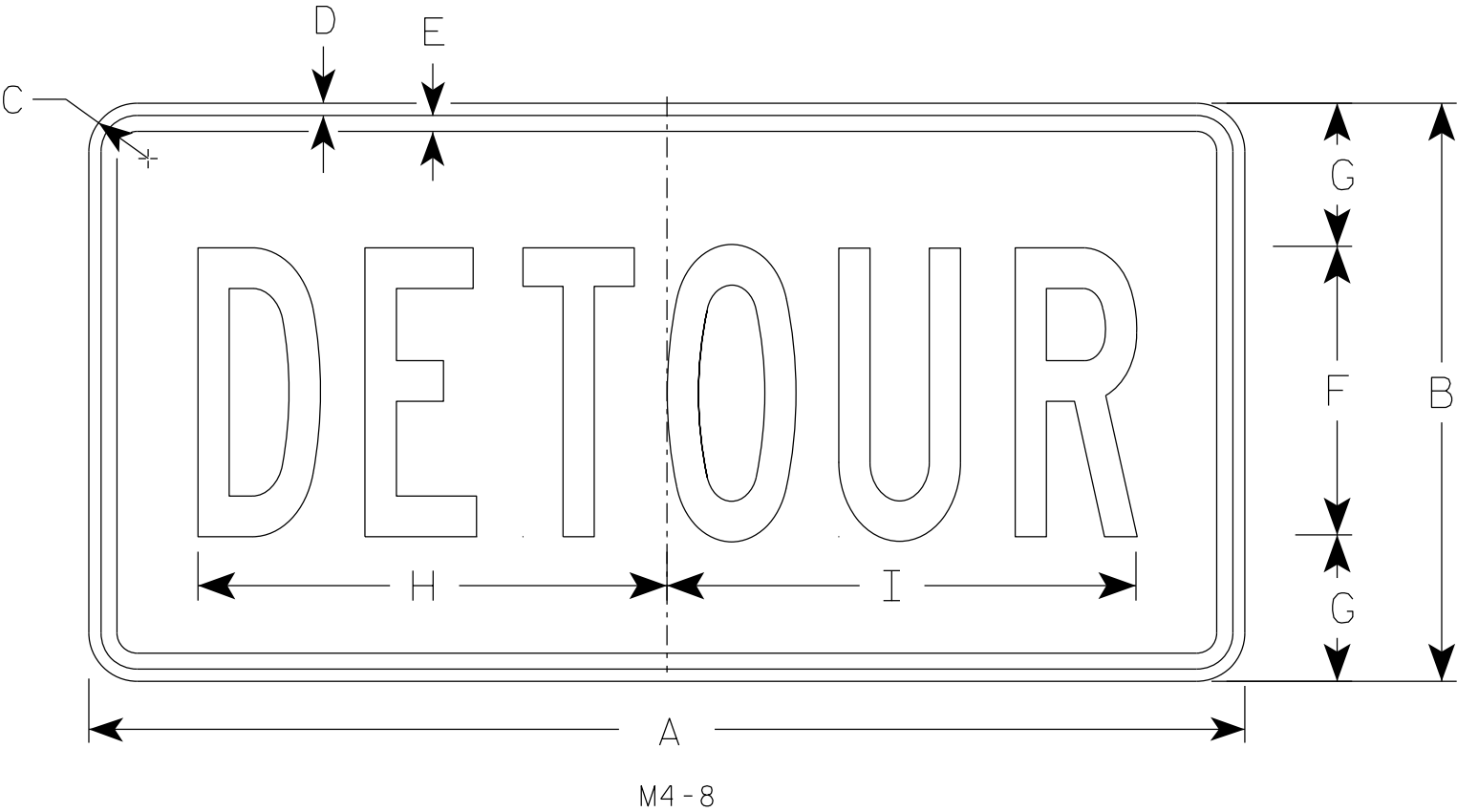
7

7

7

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - B
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
2M	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
5	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5

STANDARD SIGN

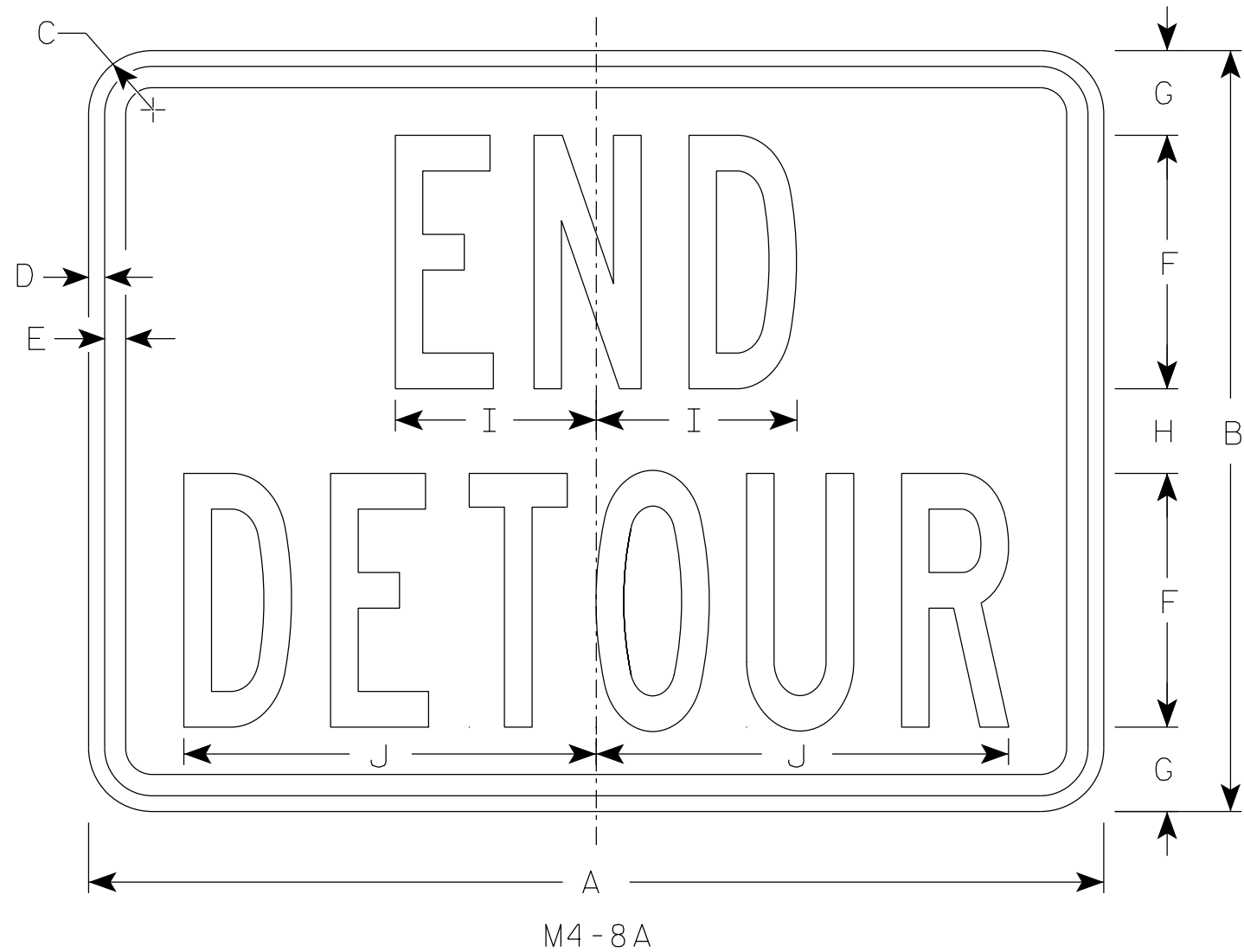
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8.4

7



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/2	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
2M	24	18	1 1/2	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
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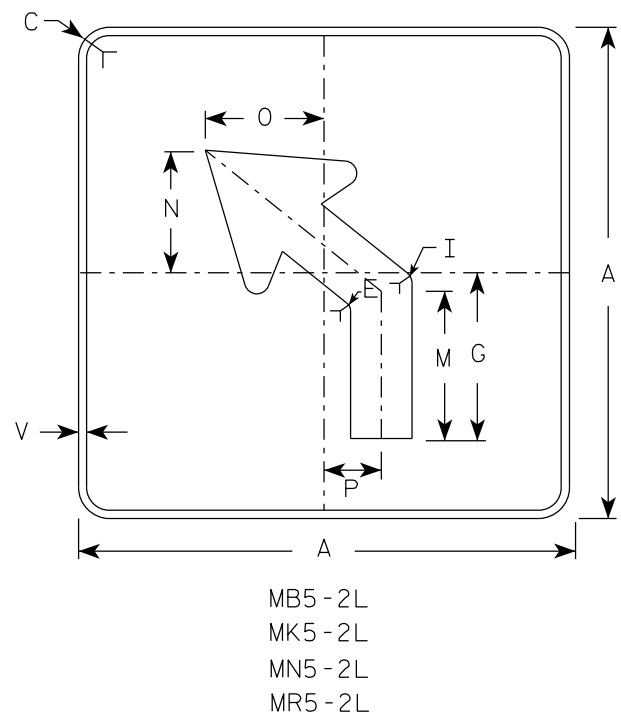
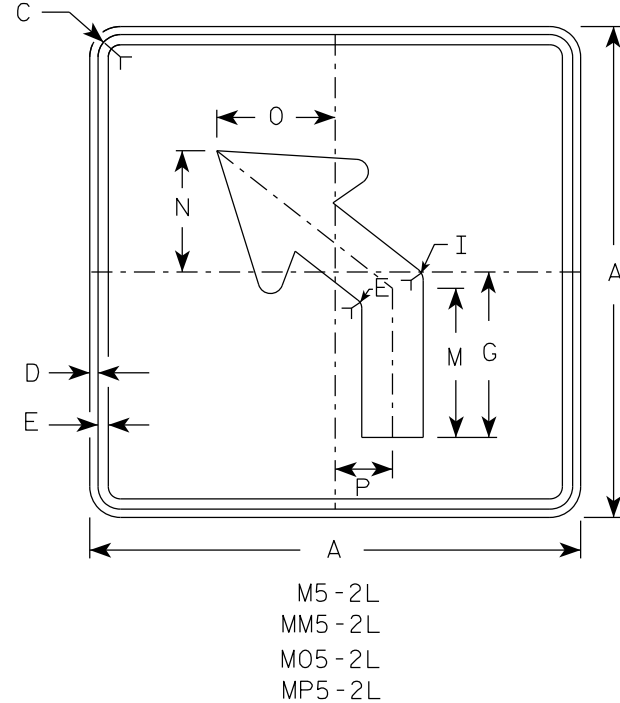
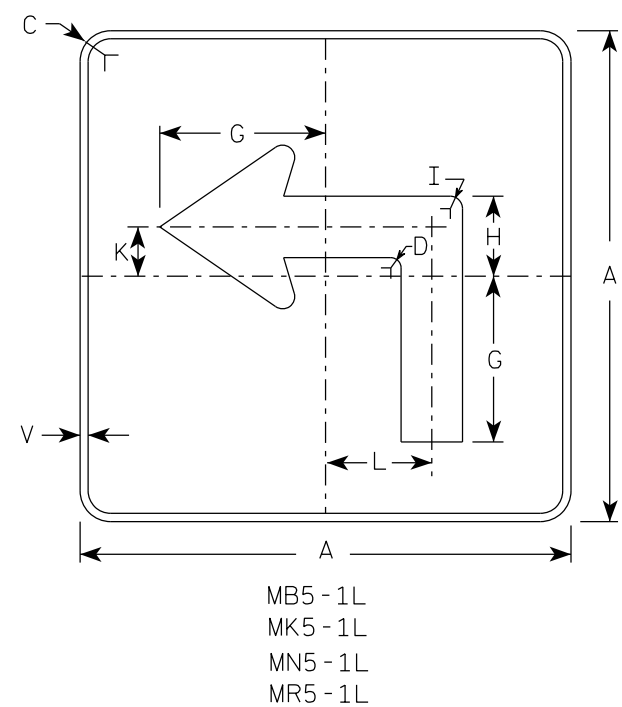
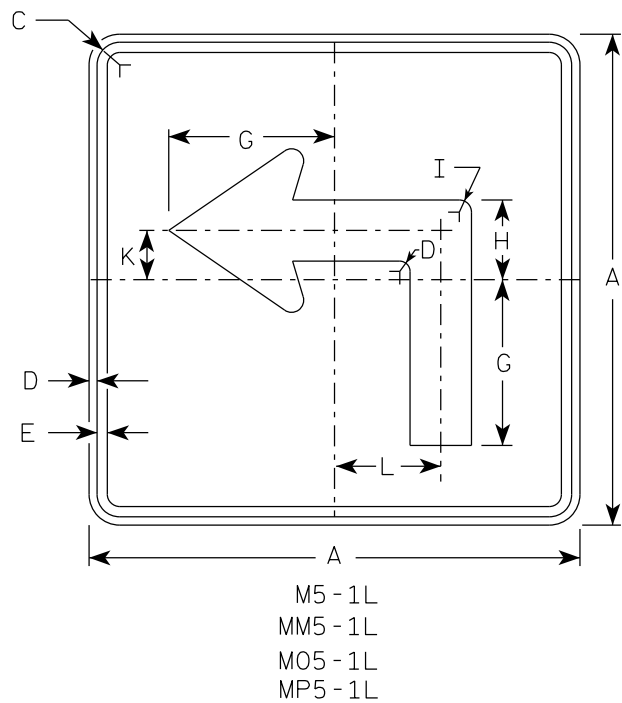
STANDARD SIGN

M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

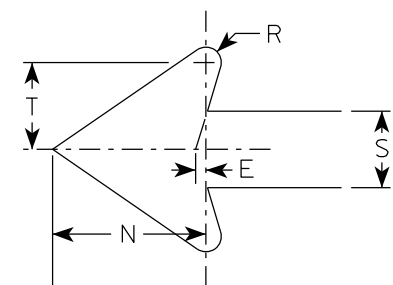
DATE 2/9/2023 PLATE NO. M4-8A.4



NOTES

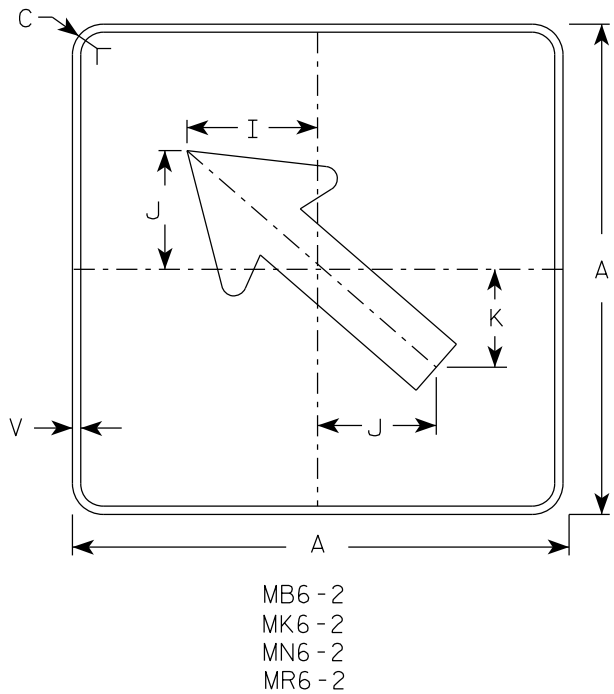
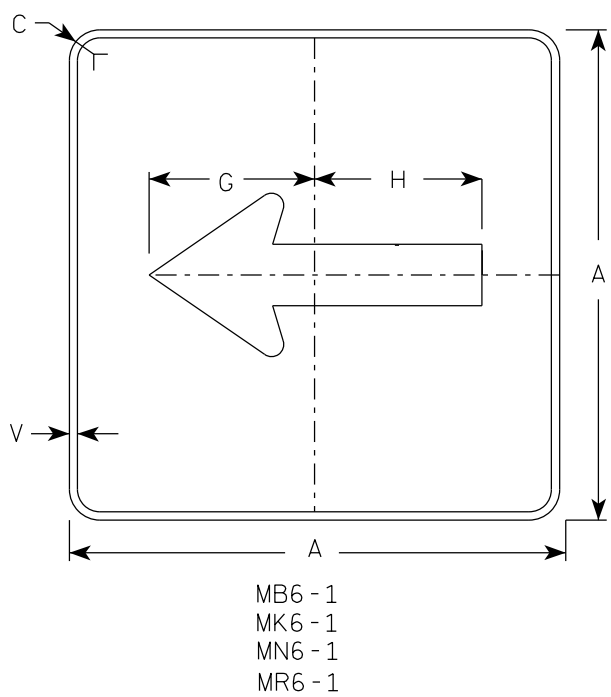
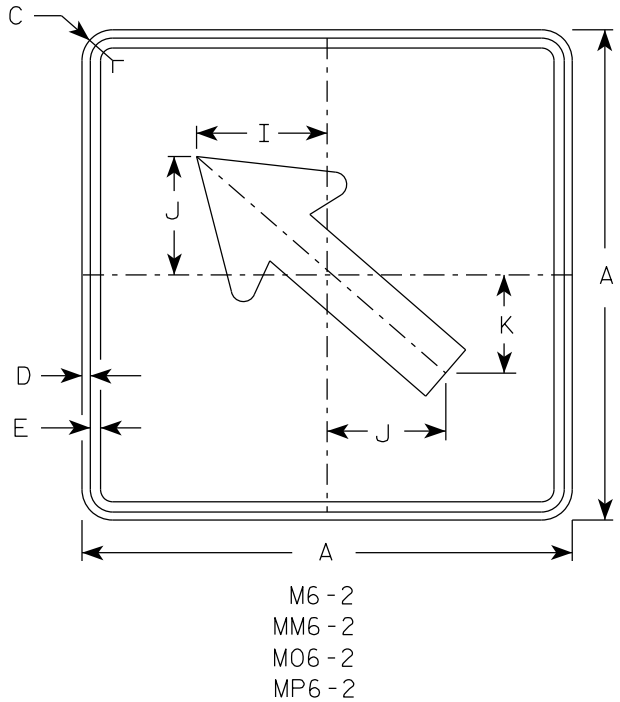
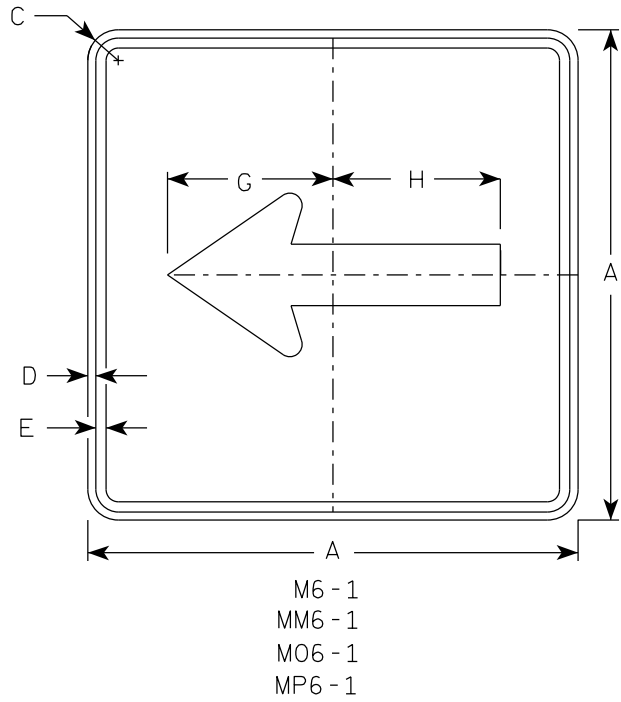
- Signs are Type II - Type H reflective except as shown
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- | | | |
|-----------|-------|---|
| M5-1 and | M5-2 | Background - White |
| | | Message - Black |
| MB5-1 and | MB5-2 | Background - Blue |
| | | Message - White |
| MK5-1 and | MK5-2 | Background - Green |
| | | Message - White |
| MM5-1 and | MM5-2 | Background - White |
| | | Message - Green |
| MN5-1 and | MN5-2 | Background - Brown |
| | | Message - White |
| M05-1 and | M05-2 | Background - Orange - Type F Reflective |
| | | Message - Black |
| MP5-1 and | MP5-2 | Background - White |
| | | Message - Blue |
| MR5-1 and | MR5-2 | Background - Brown |
| | | Message - Yellow |
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

ARROW DETAIL

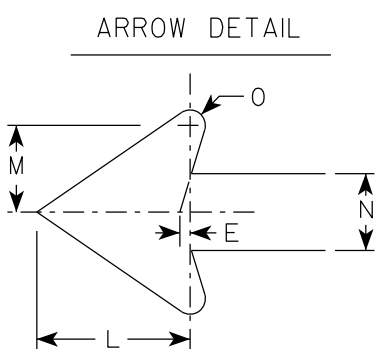


SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
2M	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
3	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
4	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
5	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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- NOTES**
- Signs are Type II - Type H Reflective except as Shown
 - Color:
Background - See note 4
Message - See note 4
 - Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
 - M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2					3.06
2M	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2					3.06
3	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25
4	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25
5	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

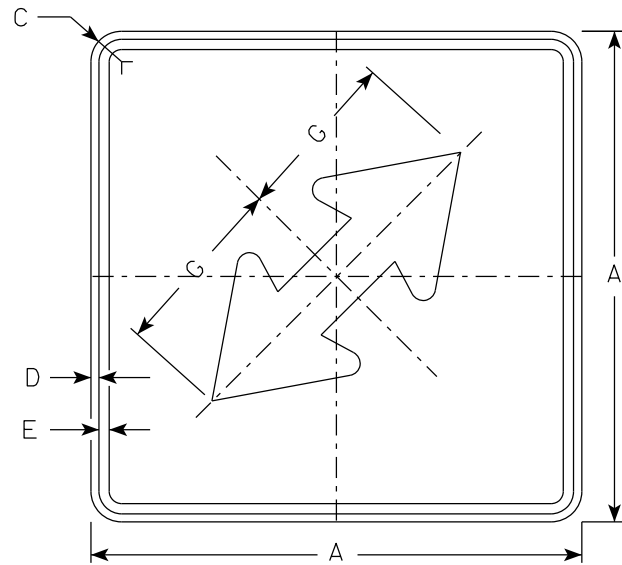
E

STANDARD SIGN
M6-1 & M6-2
SERIES

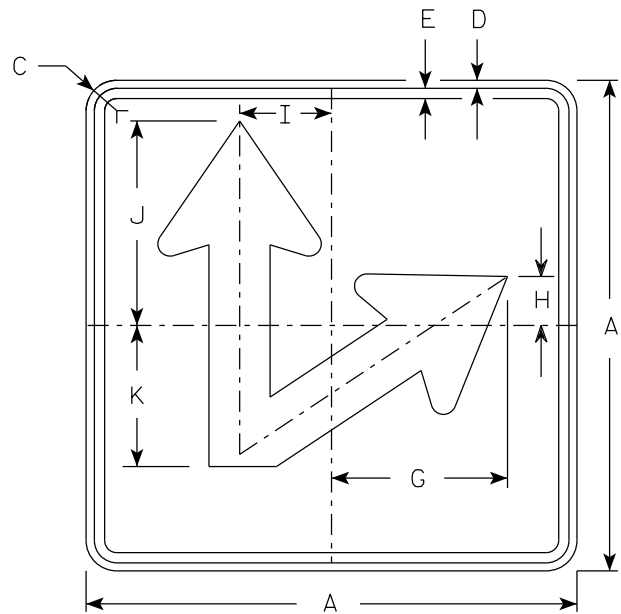
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

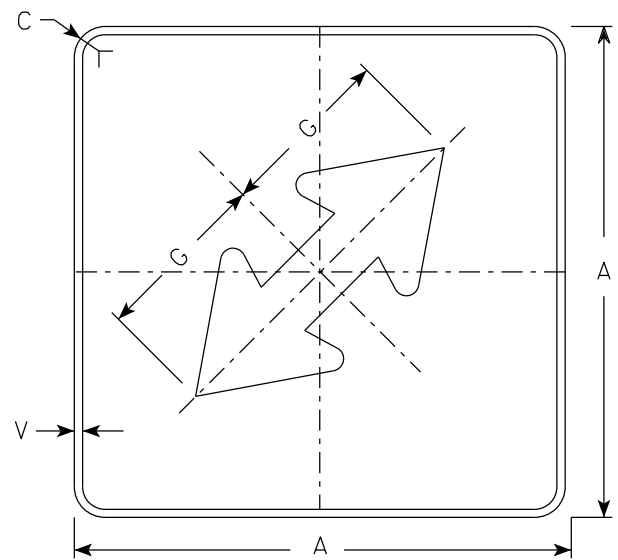
DATE 2/13/2023 PLATE NO. M6-1.16



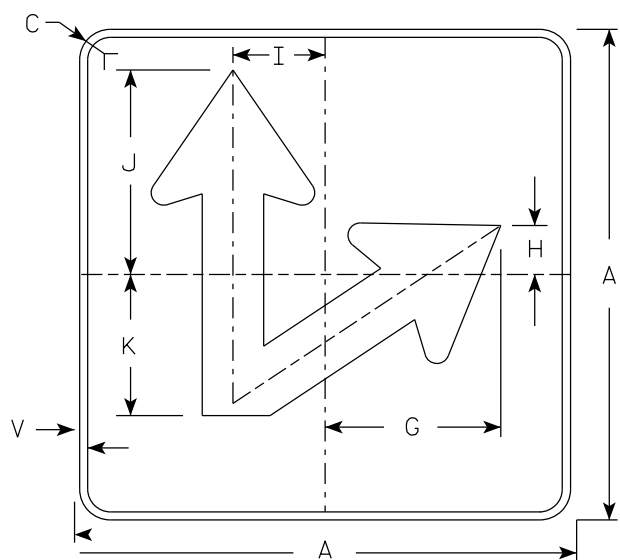
M6 -5
MM6 -5
M06 -5
MP6 -5



M6 -7R
MM6 -7R
M06 -7R
MP6 -7R



MB6 -5
MK6 -5
MN6 -5
MR6 -5

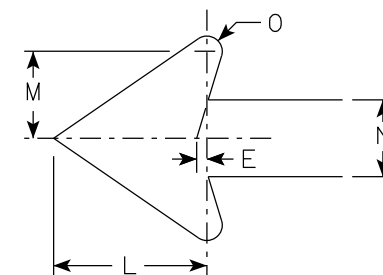


MB6 -7R
MK6 -7R
MN6 -7R
MR6 -7R

NOTES

- Sign is Type II - Type H Reflective except as Shown
- Color:
 - M6-5 and M6-7 Background - White
Message - Black
 - MB6-5 and MB6-7 Background - Blue
Message - White
 - MK6-5 and MK6-7 Background - Green
Message - White
 - MM6-5 and MM6-7 Background - White
Message - Green
 - MN6-5 and MN6-7 Background - Brown
Message - White
 - M06-5 and M06-7 Background - Orange - Type F Reflective
Message - Black
 - MP6-5 and MP6-7 Background - White
Message - Blue
 - MR6-5 and MR6-7 Background - Brown
Message - Yellow
- M6-7L same as M6-7R except arrow points ahead and left.

ARROW DETAIL



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	3/8	3/8		7 1/2	2 1/8	4 1/4	8 3/4	6	5 1/4	3	2 5/8	1/2							1/2					3.06
2M	21		1 1/2	3/8	3/8		7 1/2	2 1/8	4 1/4	8 3/4	6	5 1/4	3	2 5/8	1/2							1/2					3.06
3	30		1 7/8	1/2	5/8		10 3/4	3	6 3/4	12 1/2	8 5/8	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25
4	30		1 7/8	1/2	5/8		10 3/4	3	6 3/4	12 1/2	8 5/8	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25
5	30		1 7/8	1/2	5/8		10 3/4	3	6 3/4	12 1/2	8 5/8	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25

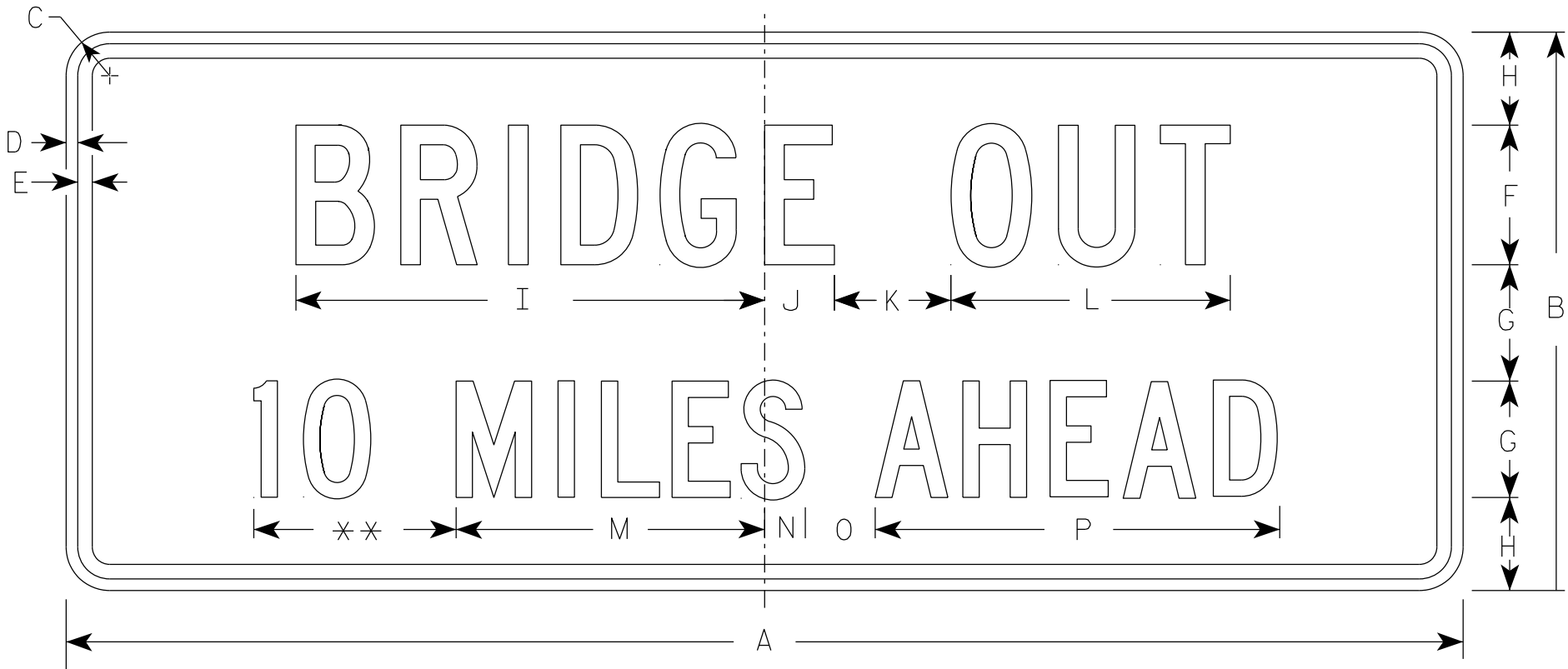
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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NOTES

1. Sign is Type II - Type H Reflective
2. Color:

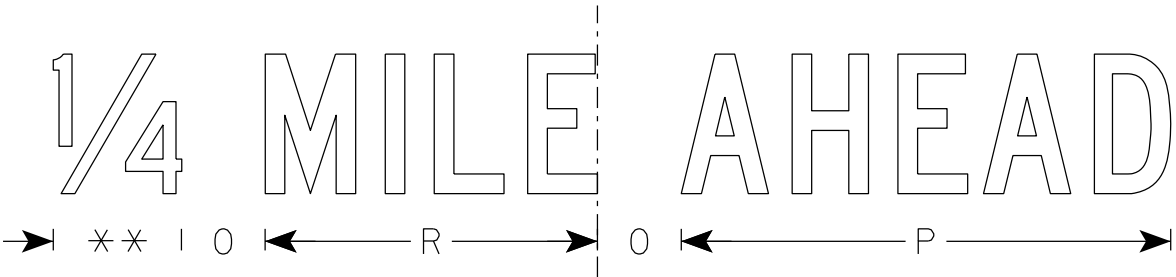
Background - White

Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3C

** See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	15	1 1/2	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4		7 1/8									3.75
2S	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
2M	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

WISCONSIN DEPT OF TRANSPORTATION

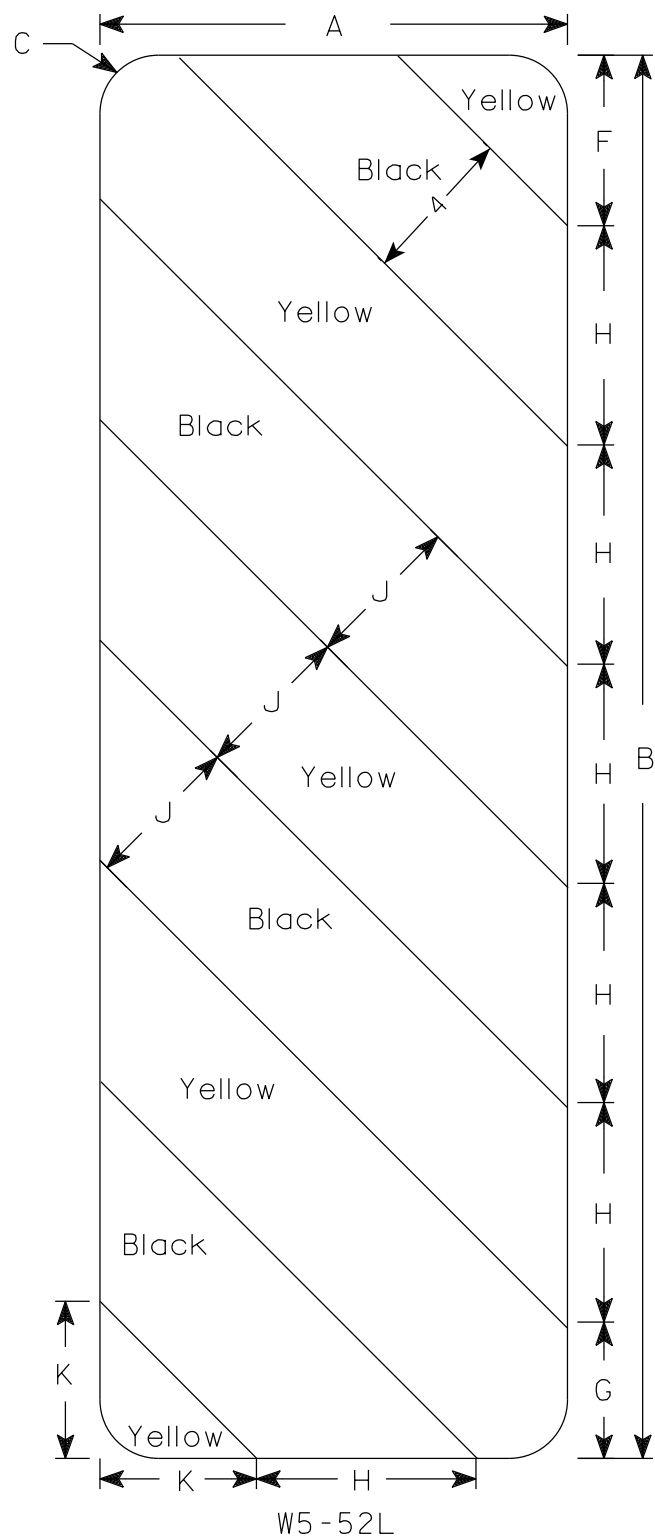
APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-3C.4

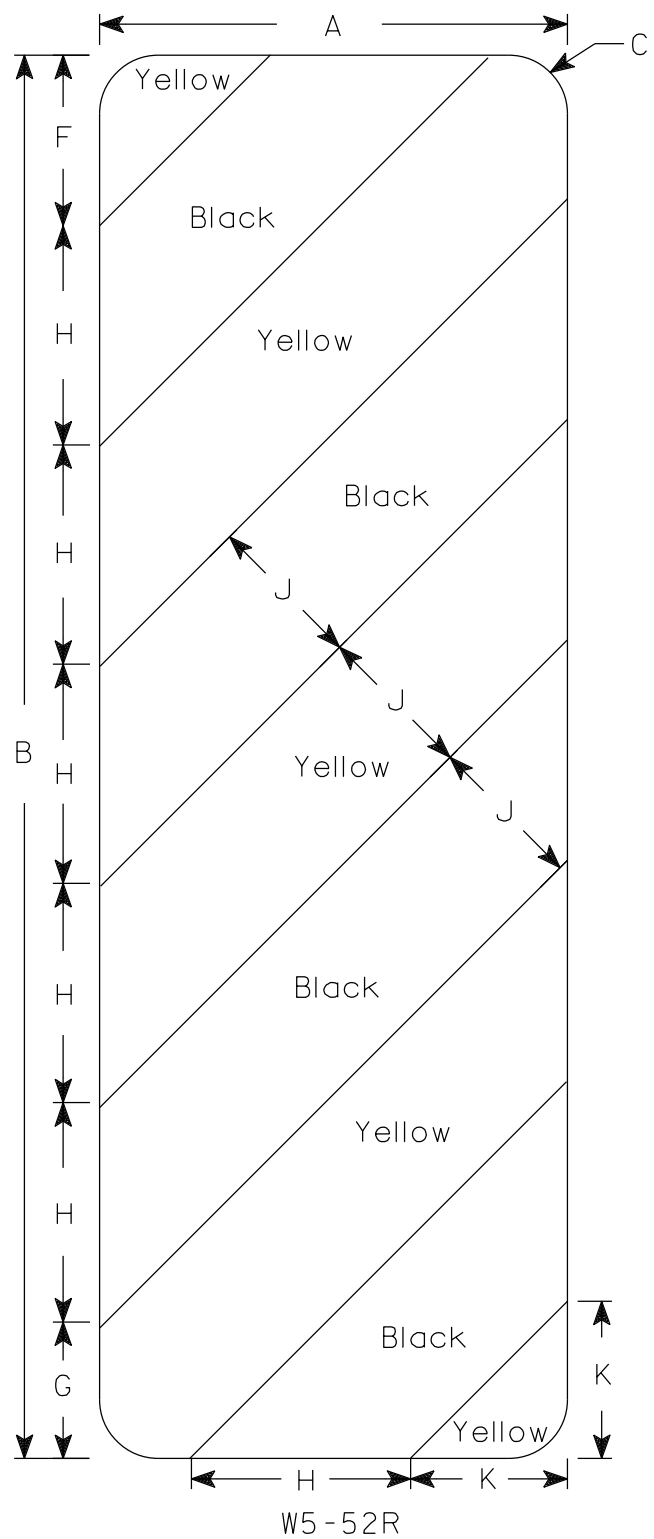
PROJECT NO:

SHEET NO:

E



W5-52L



W5-52R

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
 - Background - Yellow
 - Message - Black
- 3. Alternate colors of stripes as shown.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54	1 1/2			6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

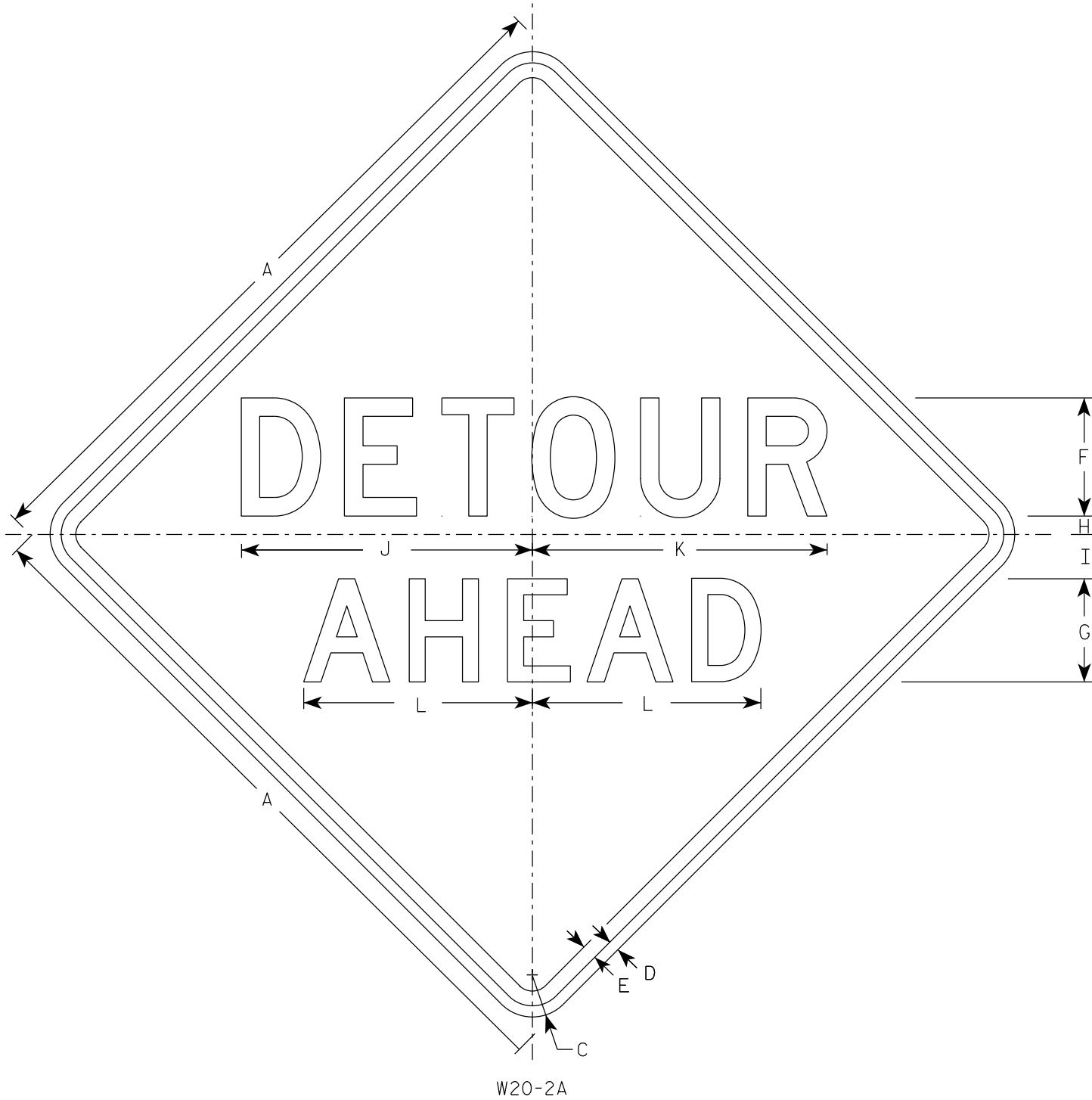
STANDARD SIGN

W5-52L & W5-52R

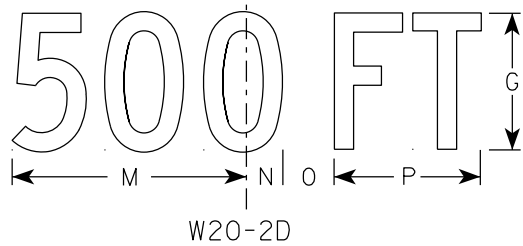
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

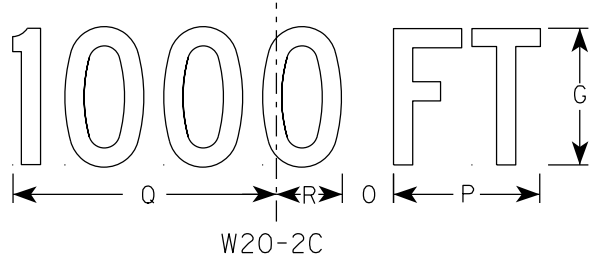
DATE 3/4/2024 PLATE NO. W5-52.10



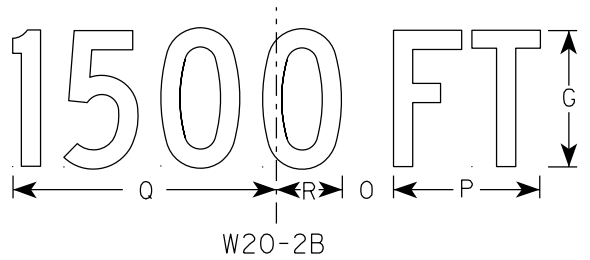
W20-2A



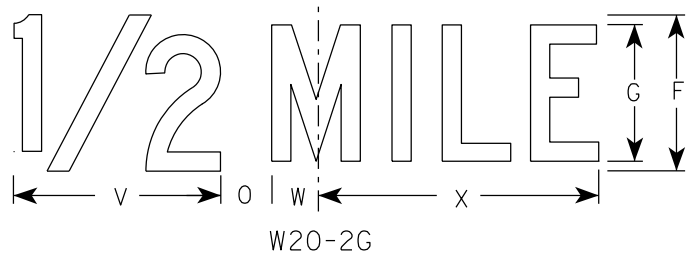
W20-2D



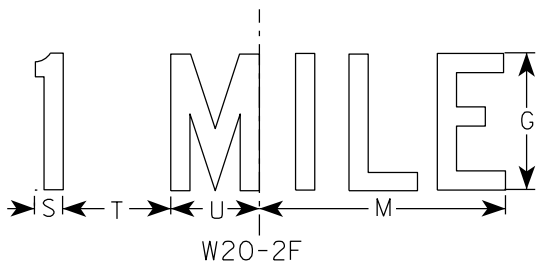
W20-2C



W20-2B



W20-2G



W20-2F

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
Line 2 is Series D for AHEAD and Series C for all other distances.

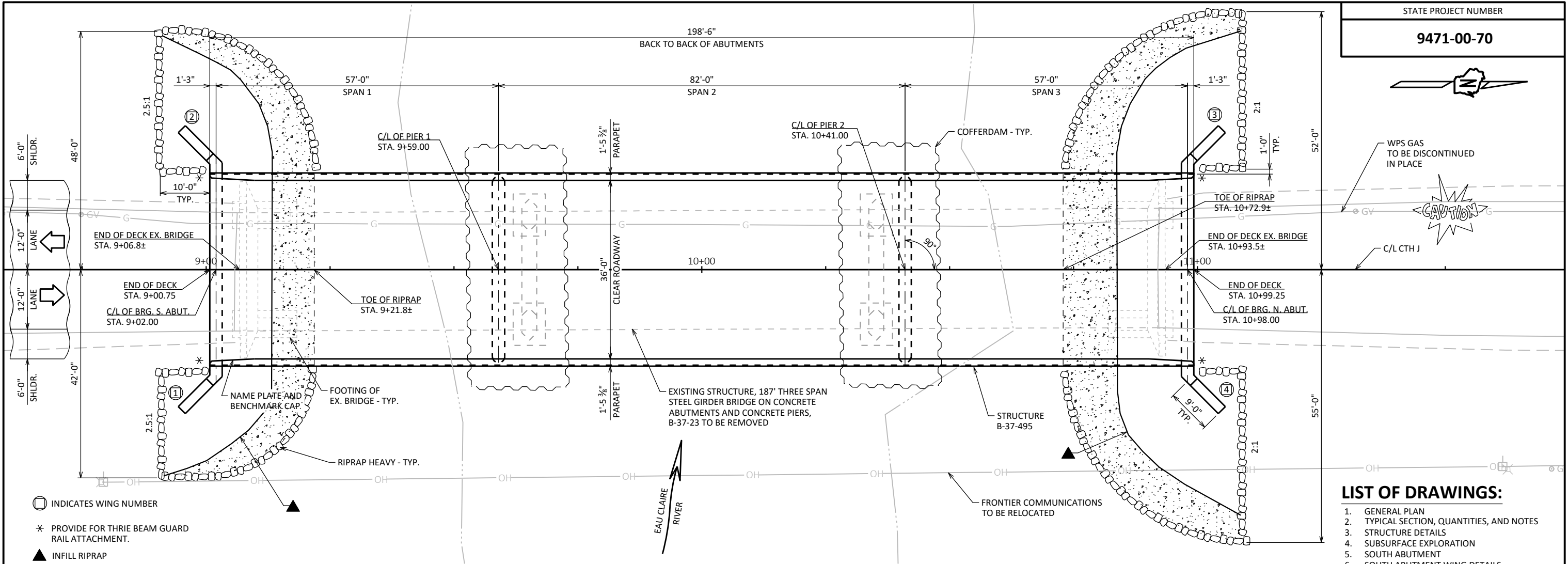
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

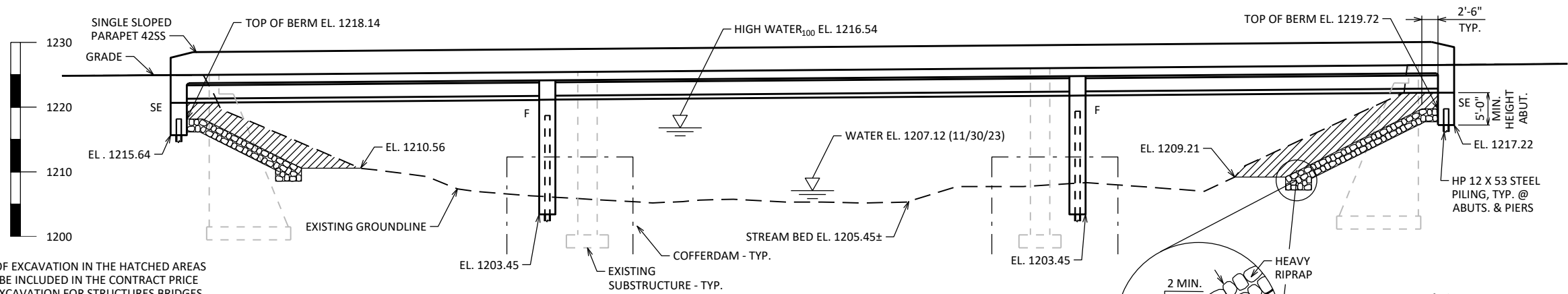
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-2.7



PLAN
THREE-SPAN 36W" PRESTRESSED CONCRETE GIRDER BRIDGE



ELEVATION
(NORMAL TO C/L OF WATERWAY)

BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
50	6+71	120'D SPIKE IN W FACE OF PPOL, 37' RT.	1223.51
1343	9+07	BERNTSEN NAIL, 14' RT	1225.49
1360	10+93	CHIS SQ IN NE WINGWALL, 12' RT	1227.04

STATE PROJECT NUMBER
9471-00-70



WPS GAS TO BE DISCONTINUED IN PLACE
CAUTION
C/L CTH J

LIST OF DRAWINGS:

- 1. GENERAL PLAN
- 2. TYPICAL SECTION, QUANTITIES, AND NOTES
- 3. STRUCTURE DETAILS
- 4. SUBSURFACE EXPLORATION
- 5. SOUTH ABUTMENT
- 6. SOUTH ABUTMENT WING DETAILS
- 7. SOUTH ABUTMENT BILL OF BARS
- 8. NORTH ABUTMENT
- 9. NORTH ABUTMENT WING DETAILS
- 10. NORTH ABUTMENT BILL OF BARS
- 11. PIER 1
- 12. PIER 2
- 13. STEEL DIAPHRAGM
- 14. 36W" PRESTRESSED GIRDER DETAILS 1
- 15. 36W" PRESTRESSED GIRDER DETAILS 2
- 16. SUPERSTRUCTURE
- 17. SUPERSTRUCTURE PLAN
- 18. SUPERSTRUCTURE DETAILS
- 19. SINGLE SLOPE PARAPET 42SS

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY AYRES 700 Pilgrim Way, Suite 180 Green Bay, WI 54304 www.AyresAssociates.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	JLR CHIEF STRUCTURES DESIGN ENGINEER		12/12/25 DATE
STRUCTURE B-37-495			
CTH J OVER EAU CLAIRE RIVER			
COUNTY	MARATHON	VILLAGE	WESTON
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATION			
DESIGNED BY	LMP	DESIGN CK'D JMC	DRAWN BY CLP PLANS CK'D KRO
GENERAL PLAN			SHEET 1 OF 19

WISCONSIN PROFESSIONAL ENGINEER
KRISTOFER R. OLSON
E-35236
APPLETON, WI
12/10/2025
STRUCTURE DESIGN CONTACTS:
AARON BONK 608-261-0261
KRISTOFER OLSON 920-498-1200

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.19
OPERATING RATING: RF = 1.56
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY:
SUPERSTRUCTURE $f'_c = 4,000$ PSI
ALL OTHER $f'_c = 3,500$ PSI

BAR STEEL REINFORCEMENT
GRADE 60 $f_y = 60,000$ PSI

36-W" PRESTRESSED GIRDERS:
CONCRETE MASONRY $F'_c = 8,000$ PSI
STRANDS: 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 12 x 53 STEEL PILING. PRE-BORE ALL PILES TO EL. 1190.4 AND THEN DRIVE TO A REQUIRED DRIVING RESISTANCE OF 130 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. PILING SHALL BE FITTED WITH PILE POINTS. ESTIMATED 30'-0" LONG AT SOUTH ABUTMENT.
ESTIMATED 30'-0" LONG AT NORTH ABUTMENT.

PIER 1 TO BE SUPPORTED ON HP 12 X 53 STEEL PILING. PRE-BORE ALL PILES TO EL. 1180.2 AND THEN DRIVE TO A REQUIRED DRIVING RESISTANCE OF 220 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. PILING SHALL BE FITTED WITH PILE POINTS. ESTIMATED 40'-0" LONG.

PIER 2 TO BE SUPPORTED ON HP 12 X 53 STEEL PILING SEATED IN PRE-BORED HOLES CORED 3-FEET MINIMUM INTO SOLID ROCK OR 10-FEET INTO WEATHERED ROCK. PILE DRIVING IS NOT REQUIRED. ESTIMATED 35'-0" LONG.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE PILE CAPACITY.

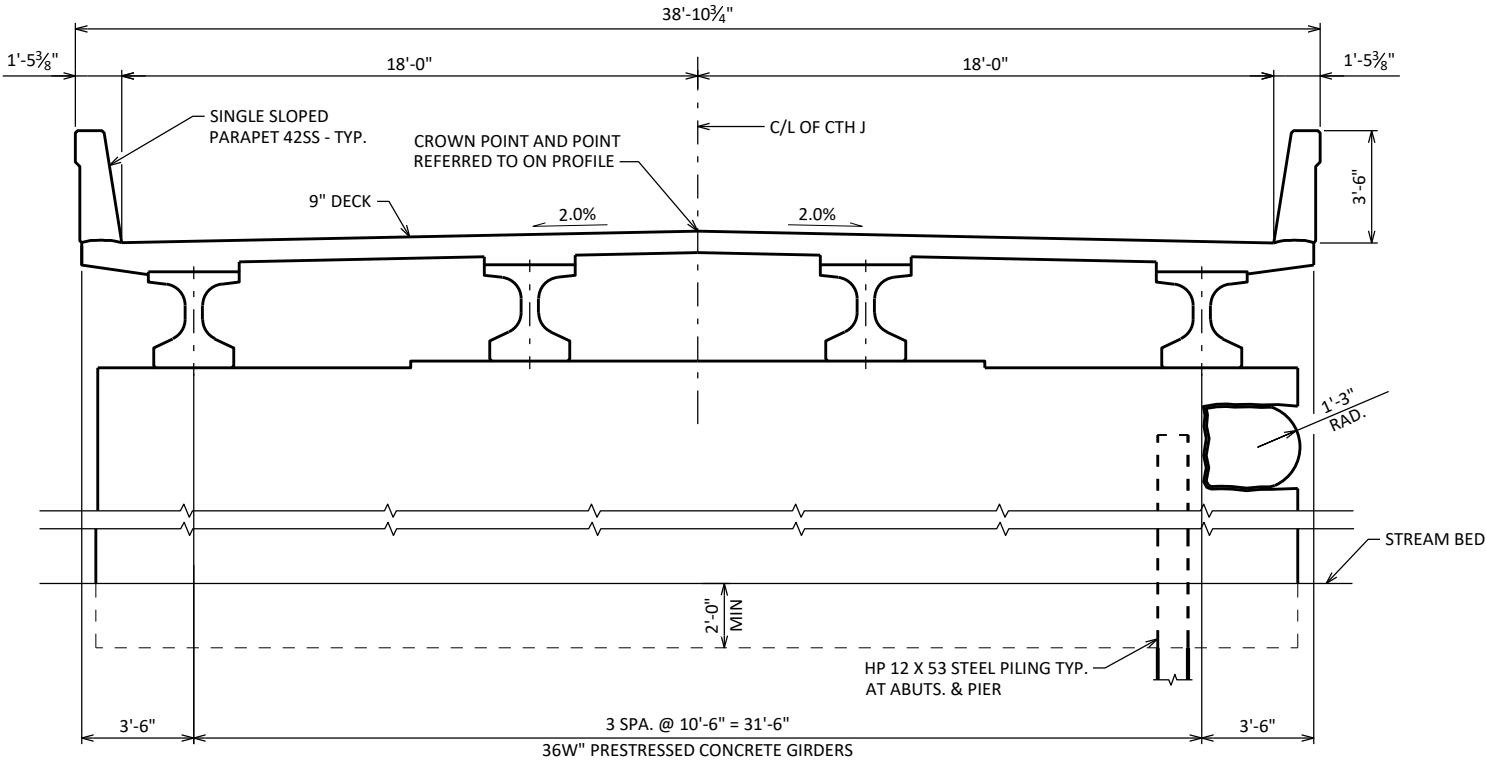
HYDRAULIC DATA

100-YEAR FREQUENCY:
 $Q_{100} = 9,900$ C.F.S.
 $V_{100} = 9.1$ F.P.S.
 $HW_{100} = EL. 1216.54$
WATERWAY AREA = 1,090 SQ. FT.
DRAINAGE AREA = 342 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 5

TRAFFIC DATA

FEATURE ON: CTH J
ADT = 3,200 (2026)
ADT = 3,400 (2046)
R.D.S. = 40 MPH

2-YEAR FREQUENCY:
 $Q_2 = 4,010$ C.F.S.
 $V_2 = 7.2$ F.P.S.
 $HW_2 = EL. 1211.69$



TYPICAL SECTION THRU BRIDGE

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE TYPE "HR" TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-37-495" SHALL BE THE EXISTING GROUNDLINE.

AT THE BACK FACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED AS SHOWN IN DETAIL ON SHEET 3 AND APPLY TO THE TOP OF DECK.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE "36W PRESTRESSED GIRDER DETAILS 2" SHEET.

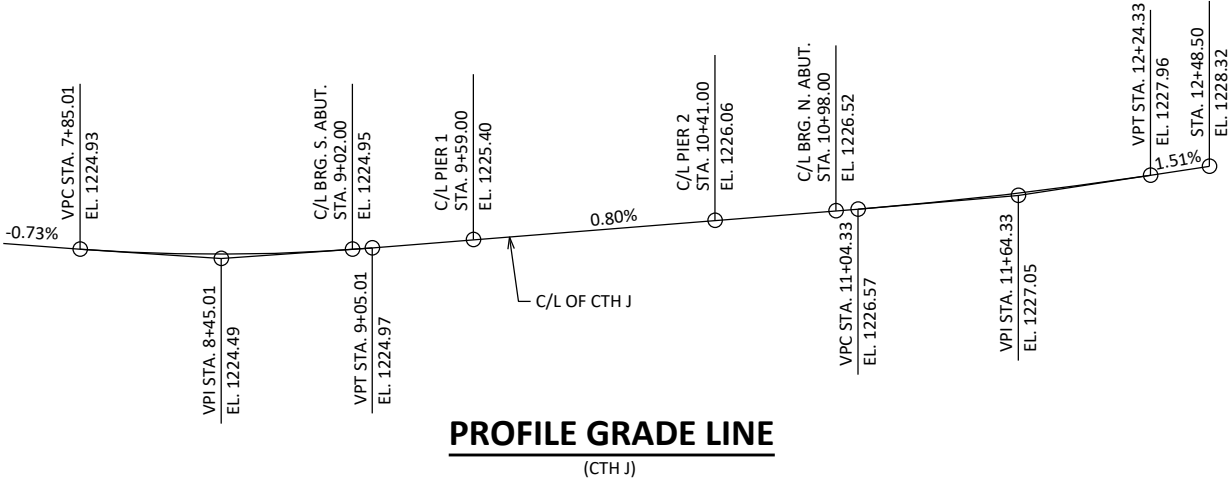
THE EXISTING STREAM BED SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS.

EXISTING SUBSTRUCTURE LOCATIONS ARE BASED ON SURVEY. EXTENT OF BELOW GRADE SUBSTRUCTURE ARE NOT KNOWN. REMOVE EXISTING SUBSTRUCTURE AS NEEDED TO BUILD NEW SUBSTRUCTURE. COST OF SUBSTRUCTURE REMOVAL IS CONSIDERED INCIDENTAL TO "REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS" BID ITEM.

AT PIERS, CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

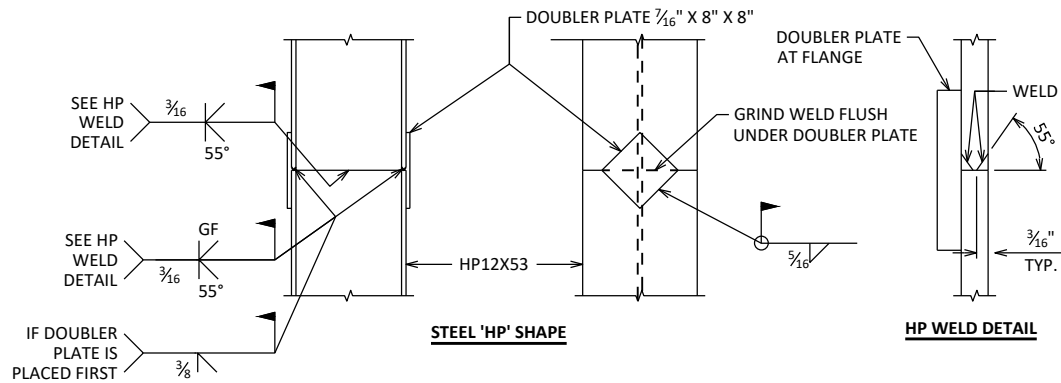
TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER	S ABUT.	PIER 1	PIER 2	N ABUT.	TOTALS
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS B-37-23	EACH	---	---	---	---	---	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-37-495	EACH	---	---	---	---	---	1
206.5001	COFFERDAMS (B-37-495)	EACH	---	---	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	---	240	---	---	240	480
502.0100	CONCRETE MASONRY BRIDGES	CY	321.3	35.1	60.4	62.7	35.1	515
502.3200	PROTECTIVE SURFACE TREATMENT	SY	800	---	---	---	---	800
502.3210	PIGMENTED SURFACE SEALER	SY	200	---	---	---	---	200
503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH	LF	786	---	---	---	---	786
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	---	2,870	2,780	2,910	2,870	11,430
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	60,430	1,460	40	40	1,460	63,430
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	---	4	8	8	4	24
506.4000	STEEL DIAPHRAGMS B-37-495	EACH	12	---	---	---	---	12
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	---	8	---	---	8	16
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	---	202	233	195	215	843
550.0500	PILE POINTS	EACH	---	8	10	---	8	26
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	---	240	400	350	240	1,230
606.0300	RIPRAP HEAVY	CY	---	195	---	---	295	490
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	---	85	---	---	85	170
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	4	---	---	---	---	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	---	60	---	---	60	120
645.0120	GEOTEXTILE TYPE HR	SY	---	340	---	---	500	840
SPV.0195	INFILL RIPRAP B-37-495	TON	---	55	---	---	70	125
	NON-BID ITEMS							
	FILLER	SIZE	---	---	---	---	---	1 1/2", 3/4"

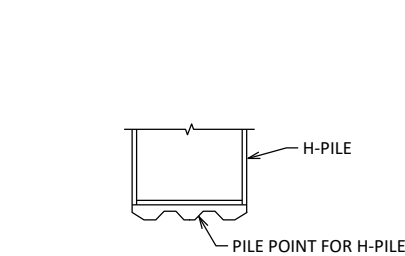


PROFILE GRADE LINE
(CTH J)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-37-495			
DRAWN BY		CLP	PLANS CK'D KRO
TYPICAL SECTION, QUANTITIES, AND NOTES		SHEET 2 OF 19	

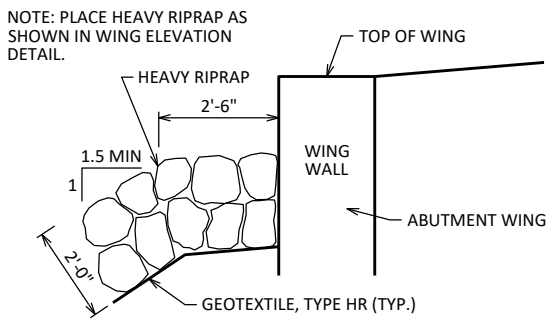


'HP' PILE DETAILS

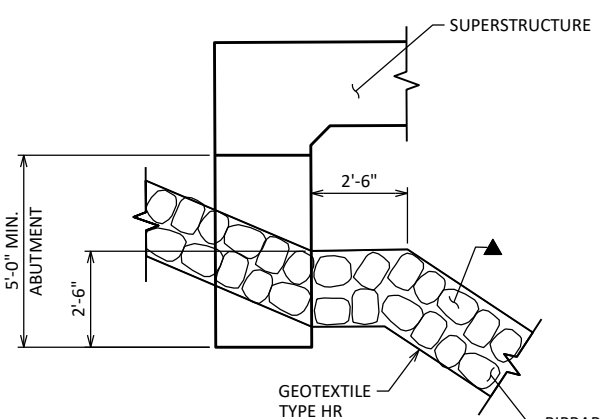


PILE POINT FOR H-PILE

PILE POINT SHALL BE INSTALLED ACCORDING TO THE PILE POINT MANUFACTURE'S INSTRUCTIONS

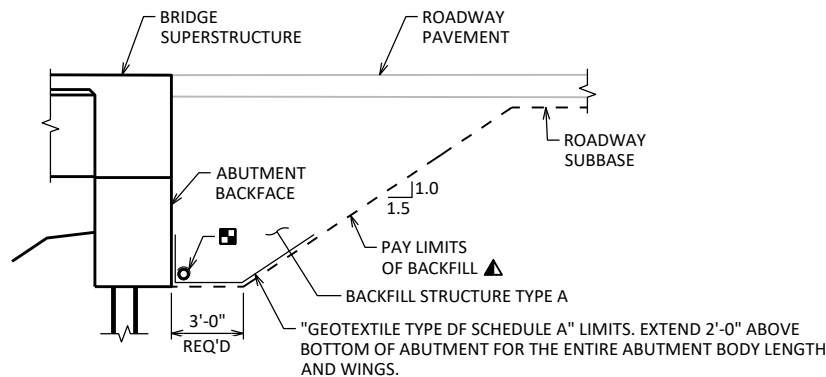


TYPICAL FILL SECTION AT WING



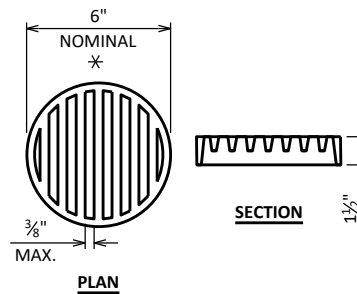
INFILL RIIPRAP DETAIL

▲ FILL VOIDS IN RIPRAP HEAVY UP TO 2 FEET ABOVE THE Q2 ELEVATION WITH TRAFFIC BOND LIMESTONE SCREENINGS 3/8-INCH TO FULLY FILL ALL VOIDS AND LEAVE, ON AVERAGE, TWO INCHES ABOVE THE LOWEST ROCK POINTS WHERE THEY ABUT EACH OTHER. TRAFFIC BOND LIMESTONE SHALL BE COMPACTED ONCE IN PLACE. "INFILL RIPRAP (B-37-495)".



TYPICAL SECTION THRU ABUTMENT

- ▲ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

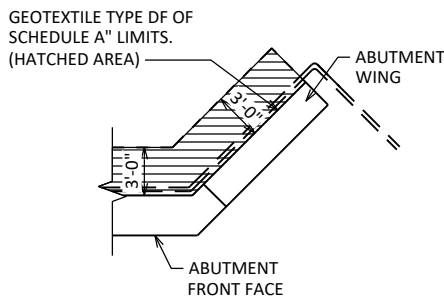


RODENT SHIELD DETAIL

※ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

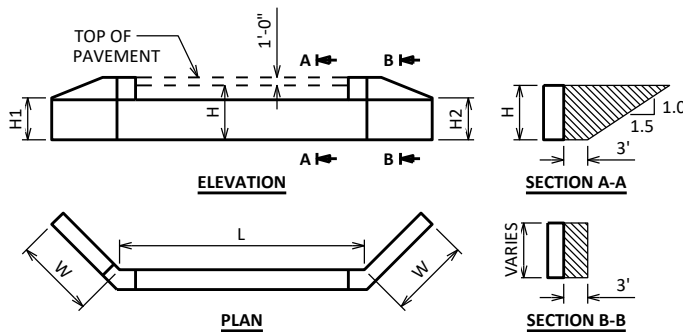
THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



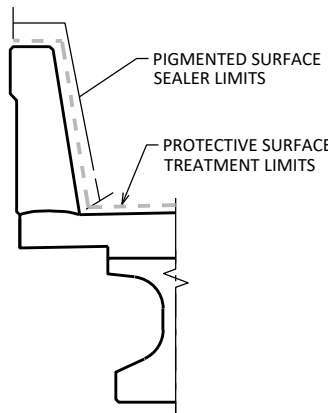
BACKFILL STRUCTURE LIMITS

ABUTMENT PLAN WITH WING



ABUTMENT BACKFILL DIAGRAM

- L = ABUTMENT BODY LENGTH AT BACKFACE (FT)
- H = AVERAGE ABUTMENT FILL HEIGHT (FT)
- H1 = WING 1 HEIGHT AT TIP (FT)
- H2 = WING 2 HEIGHT AT TIP (FT)
- W = WING LENGTH (FT)
- EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
- $V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H) + (3')(0.5)(H1+H2+H+H)(W)$
- $V_{CY} = V_{CF}(EF)/27$
- $V_{TON} = V_{CY}(2.0)$

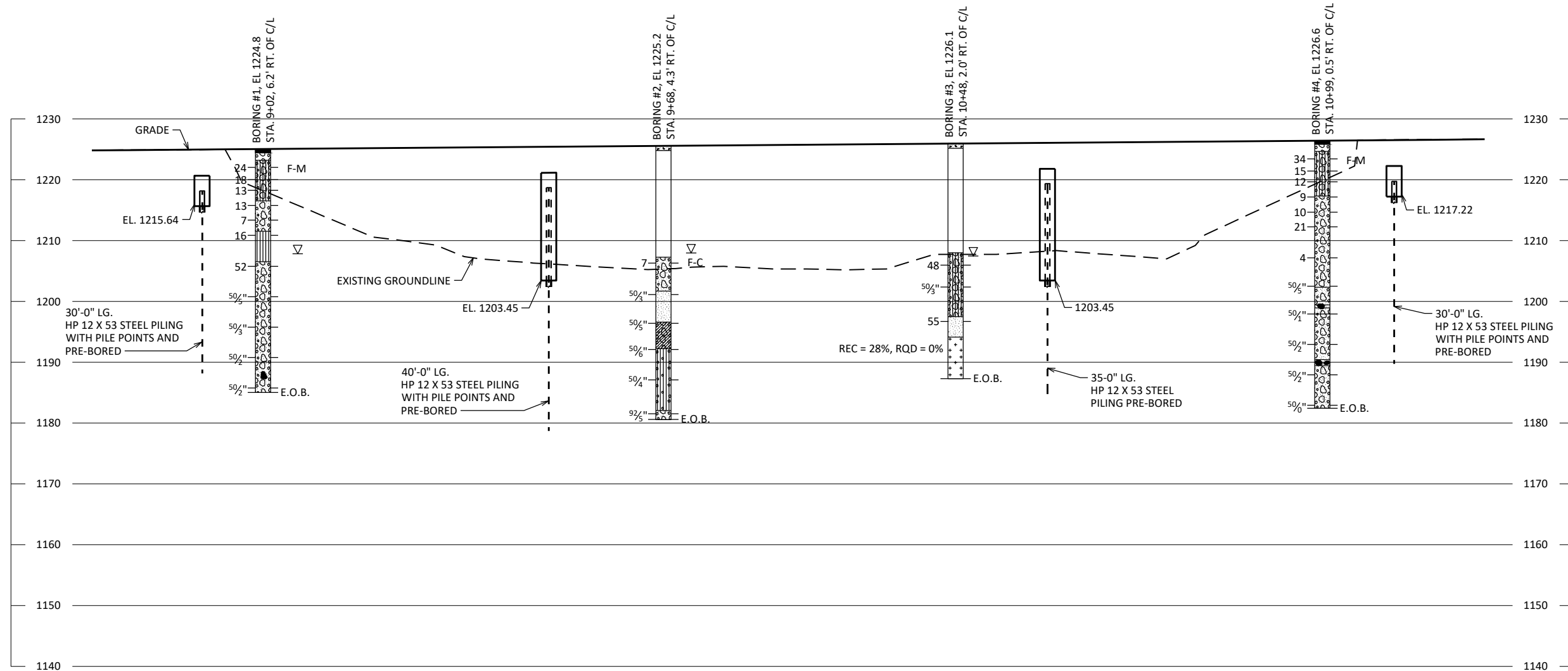
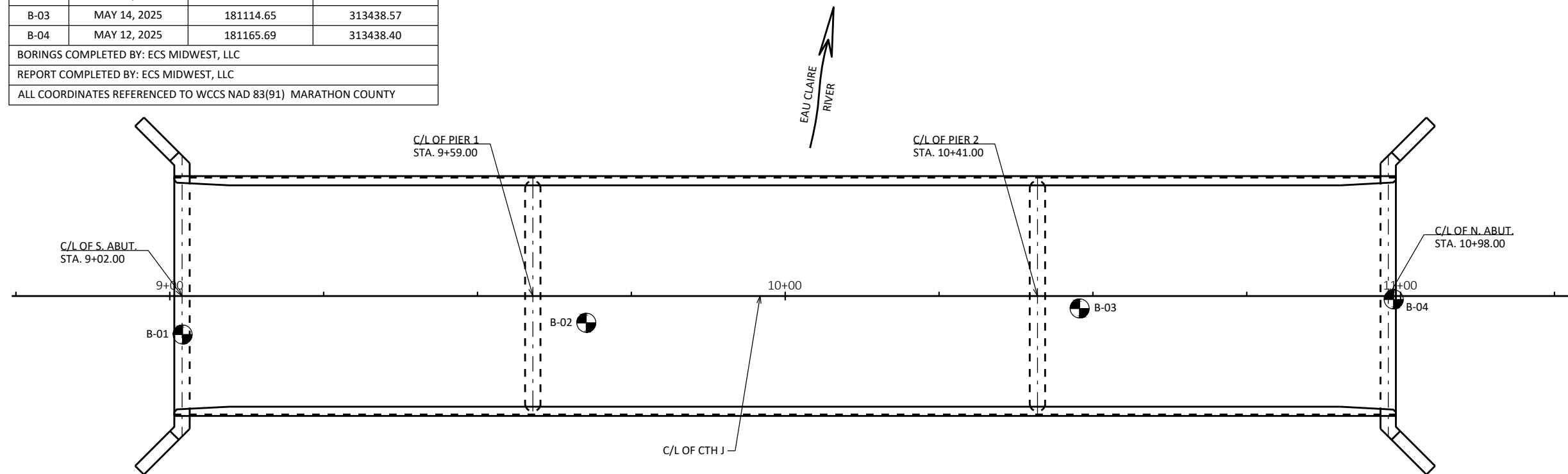


PROTECTIVE SURFACE TREATMENT AND

PIGMENTED SURFACE SEALER DETAIL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-37-495			
DRAWN BY		CLP	PLANS CK'D JMC
STRUCTURE DETAILS		SHEET 3 OF 19	

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-01	MAY 12, 2025	180968.80	313439.04
B-02	MAY 14, 2025	181034.43	313438.83
B-03	MAY 14, 2025	181114.65	313438.57
B-04	MAY 12, 2025	181165.69	313438.40
BORINGS COMPLETED BY: ECS MIDWEST, LLC			
REPORT COMPLETED BY: ECS MIDWEST, LLC			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) MARATHON COUNTY			

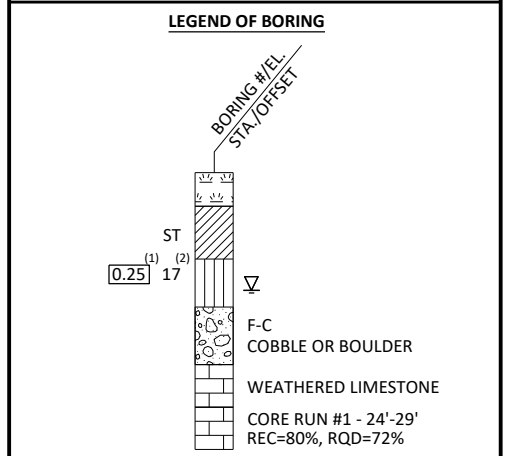


STATE PROJECT NUMBER

9471-00-70

MATERIAL SYMBOLS

	ASPHALT		TOPSOIL		PEAT
	CONCRETE		FILL		GRAVEL
	SAND		CLAY		SILT
	BOULDERS OR COBBLES		LIMESTONE		BEDROCK (UNKNOWN)
	SHALE		SANDSTONE		IGNEOUS/ META



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

⁽²⁾ UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

-  AT TIME OF DRILLING
 END OF DRILLING
 AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

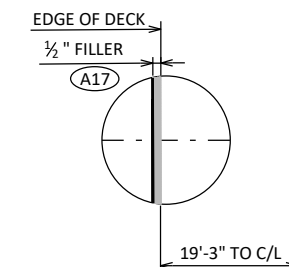
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-37-495

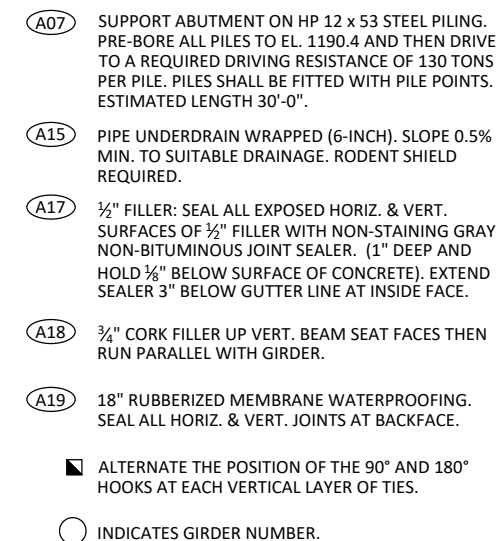
	DRAWN BY JMC/CLP	PLANS CK'D KRO
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SUBSURFACE EXPLORATION

SHEET 4 OF 19



DETAIL A

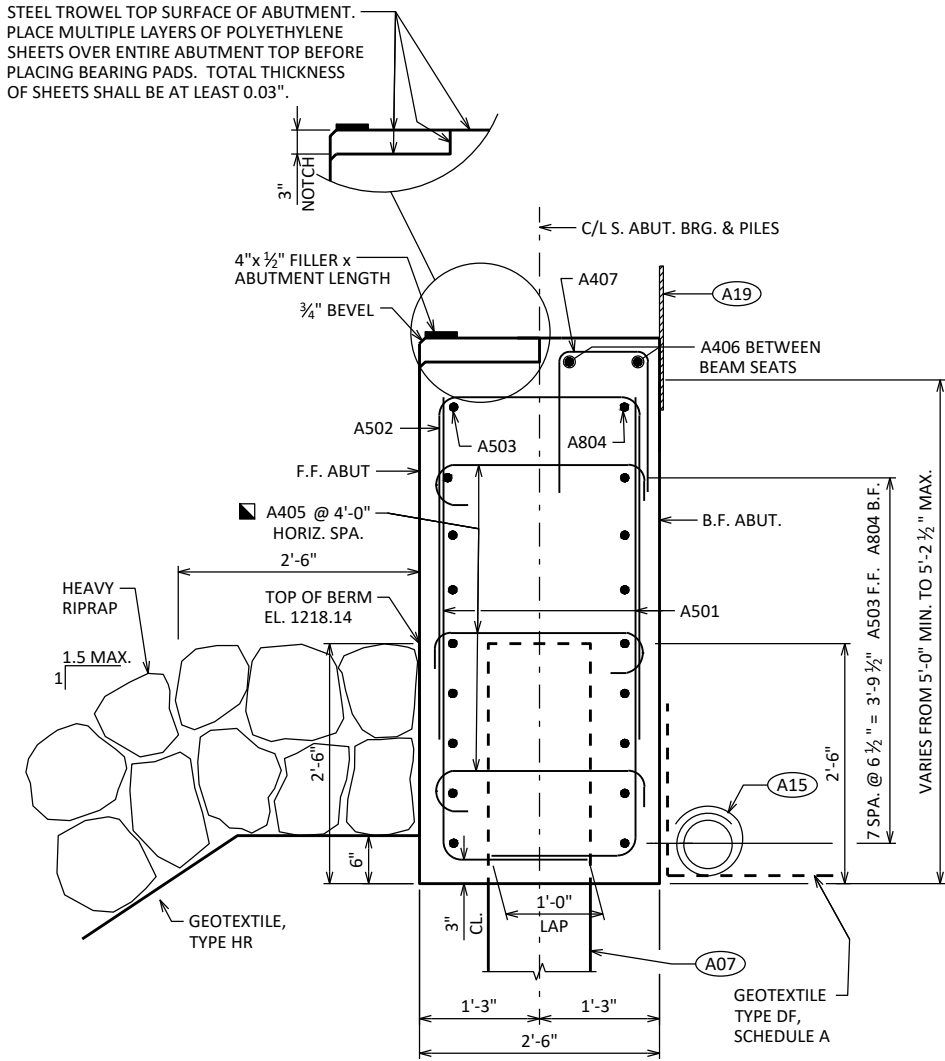


PLAN



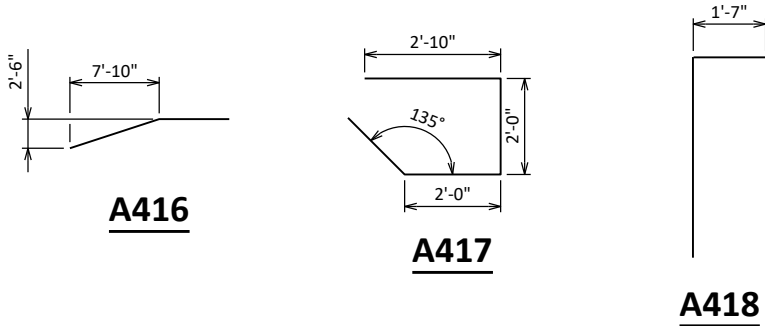
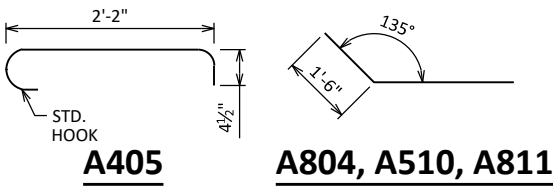
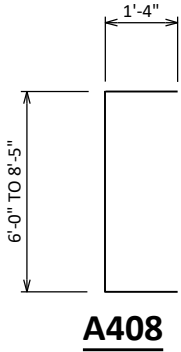
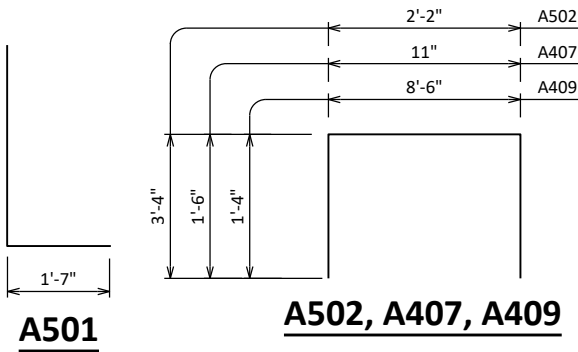
NO.	DATE	REVISION	B
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-37-495	
		DRAWN BY	PLANS CK'D JMC
SOUTH ABUTMENT		SHEET 5 OF 19	

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-37-495	
		DRAWN BY	PLANS CK'D JMC
SOUTH ABUTMENT WING DETAILS		SHEET 6 OF 19	



SECTION THRU BODY

- (A07) SUPPORT ABUTMENT ON HP 12 x 53 STEEL PILING. PRE-BORE ALL PILES TO EL. 1190.4 AND THEN DRIVE TO A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE. PILES SHALL BE FITTED WITH PILE POINTS. ESTIMATED LENGTH 30'-0".
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A19) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.



BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501		88	6'-0"	X		ABUT BODY STIRRUPS
A502		44	8'-6"	X		ABUT BODY STIRRUPS - TOP U-BAR
A503		9	43'-0"			ABUT BODY HORIZ. - F.F.
A804		18	27'-8"	X		ABUT BODY HORIZ. - B.F.
A405		33	3'-0"	X		ABUT BODY TIE BARS
A406		2	42'-10"			ABUT BODY HORIZ. TOP @ NOTCH HORIZ.
A407		29	3'-9"	X		ABUT BODY VERT. TOP @ NOTCH VERT.
A408	X	44	9'-9"	X	▲	WINGS 1 & 2 STIRRUPS
A409	X	8	11'-0"	X		WINGS 1 & 2 STIRRUPS
A510	X	18	11'-9"	X		WINGS 1 & 2 LOWER HORIZ - F.F.
A811	X	18	13'-5"	X		WINGS 1 & 2 LOWER HORIZ. - B.F.
A412	X	8	10'-2"			WINGS 1 & 2 UPPER HORIZ.
A413	X	4	9'-0"			WINGS 1 & 2 UPPER HORIZ.
A414	X	4	6'-10"			WINGS 1 & 2 UPPER HORIZ.
A415	X	4	4'-9"			WINGS 1 & 2 UPPER HORIZ.
A416	X	4	10'-6"	X		WINGS 1 & 2 UPPER DIAG.
A417	X	12	8'-2"	X		WINGS 1 & 2 TOP HORIZ. CORNER
A418	X	12	6'-3"	X		WINGS 1 & 2 TOP VERT. CORNER

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

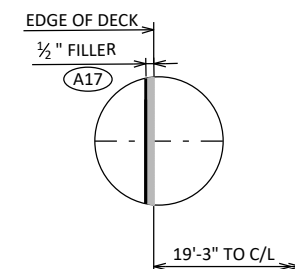
▲ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

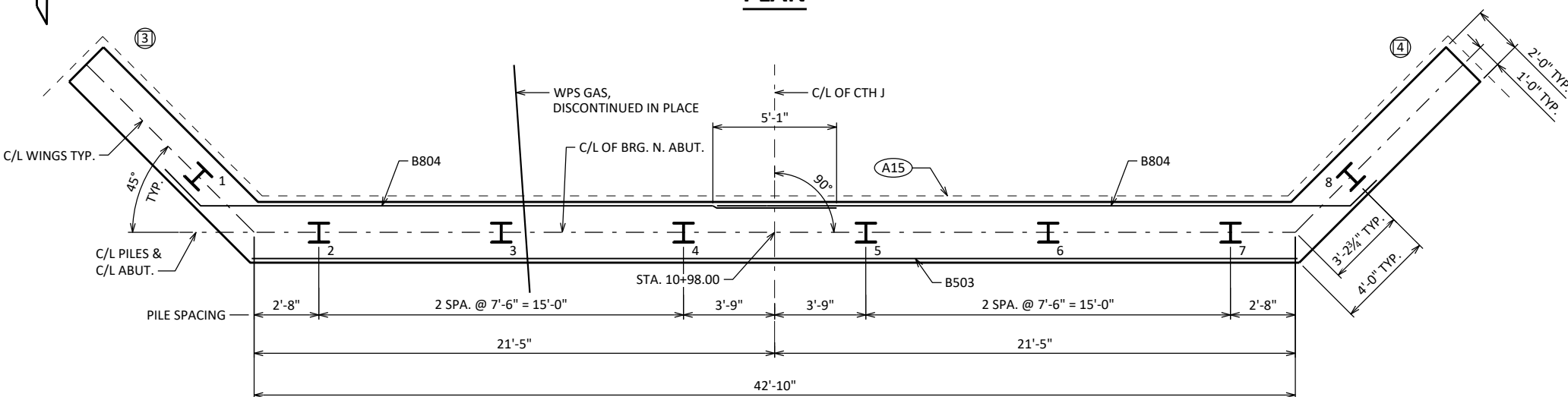
BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
A408	4 SERIES OF 11	8'-6" TO 10'-11"

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-37-495			
		DRAWN BY CLP	PLANS CK'D JMC
SOUTH ABUTMENT BILL OF BARS		SHEET 7 OF 19	



DETAIL A



PILE PLAN

- A07** SUPPORT ABUTMENT ON HP 12 x 53 STEEL PILING. PRE-BORE ALL PILES TO EL. 1190.4 AND THEN DRIVE TO A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE. PILES SHALL BE FITTED WITH PILE POINTS. ESTIMATED LENGTH 30'-0".
- A15** PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- A17** ½" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ¾" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- A18** ¾" CORK FILLER UP VERT. BEAM SEAT FACES THEN RUN PARALLEL WITH GIRDER.
- A19** 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.
- INDICATES GIRDER NUMBER.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-37-495			
	DRAWN BY	CLP	PLANS CK'D JMC
NORTH ABUTMENT		SHEET 8 OF 19	

WING 3 SHOWN, WING 4 SIMILAR
SHOWING F.F. WING

WING 3 SHOWN, WING 4 SIMILAR
SHOWING UPPER WING REINFORCEMENT

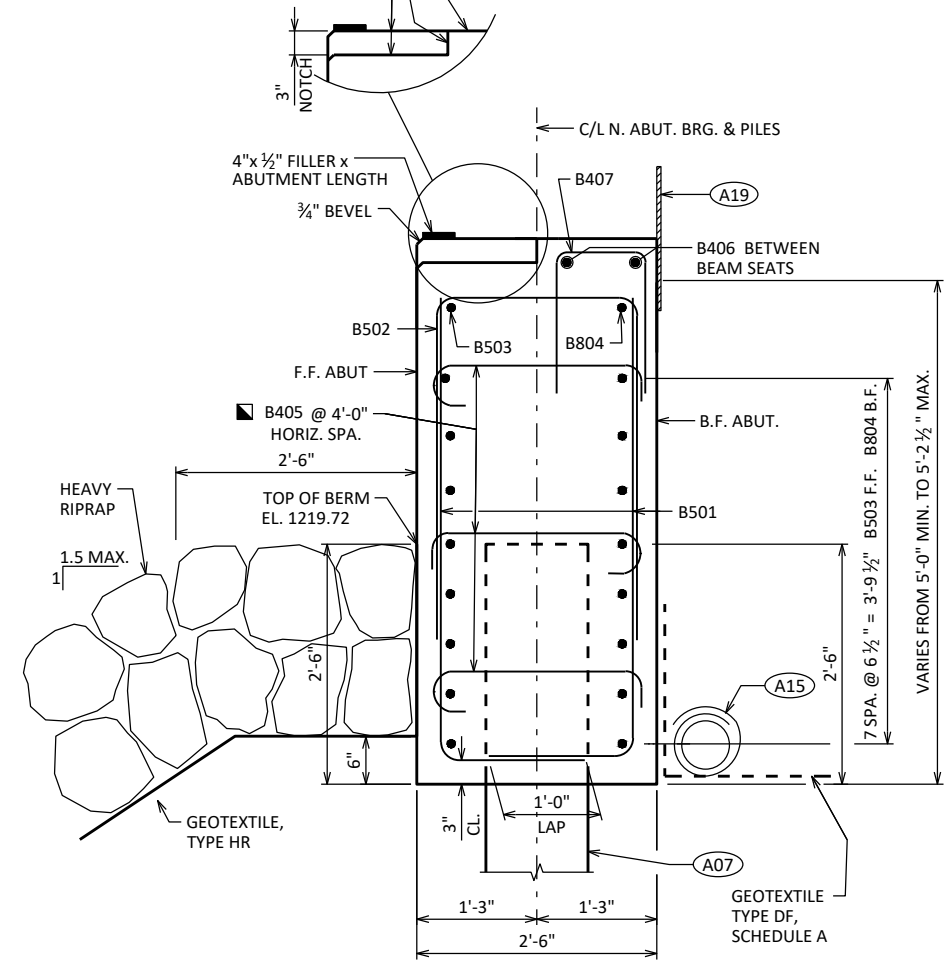
WING 3 SHOWN, WING 4 SIMILAR
SHOWING LOWER WING REINFORCEMENT

SECTION THRU WING 3

- A01** OPTIONAL CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6. PROVIDE ¾" "V" GROOVE ON F.F. OF WINGWALL IF JOINT IS USED.
- A07** SUPPORT ABUTMENT ON HP 12 x 53 STEEL PILING. PRE-BORE ALL PILES TO EL. 1190.4 AND THEN DRIVE TO A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE. PILES SHALL BE FITTED WITH PILE POINTS. ESTIMATED LENGTH 30'-0".
- A15** PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- A17** ½" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ¾" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- A19** 18" RUBBERIZED MEMBRANE WATERPROOFING, ONLY IF OPTIONAL CONSTRUCTION JOINT IS USED. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY STRUCTURES".

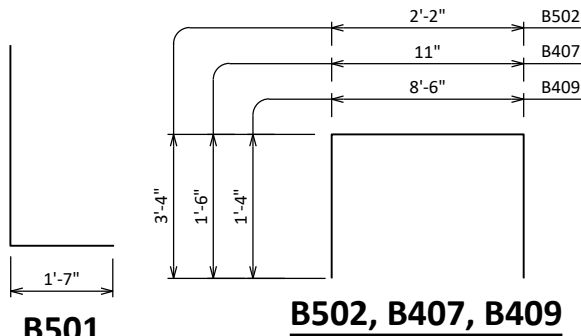
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-37-495	
		DRAWN BY	PLANS CK'D JMC
NORTH ABUTMENT WING DETAILS		SHEET 9 OF 19	

STEEL TROWEL TOP SURFACE OF ABUTMENT.
PLACE MULTIPLE LAYERS OF POLYETHYLENE
SHEETS OVER ENTIRE ABUTMENT TOP BEFORE
PLACING BEARING PADS. TOTAL THICKNESS
OF SHEETS SHALL BE AT LEAST 0.03".



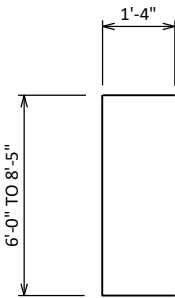
SECTION THRU BODY

- A07** SUPPORT ABUTMENT ON HP 12 x 53 STEEL PILING. PRE-BORE ALL PILES TO EL. 1190.4 AND THEN DRIVE TO A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE. PILES SHALL BE FITTED WITH PILE POINTS. ESTIMATED LENGTH 30'-0".
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- A19** 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

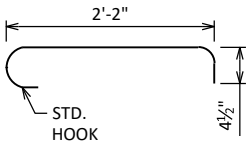


B501

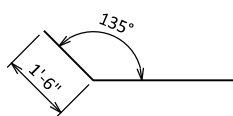
B502, B407, B409



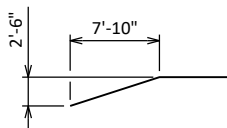
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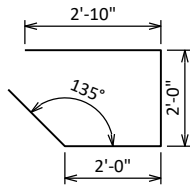
B405



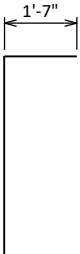
B804, B510, B811



B416



B417



B418

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B501		88	6'-0"	X		ABUT BODY STIRRUPS
B502		44	8'-6"	X		ABUT BODY STIRRUPS - TOP U-BAR
B503		9	43'-0"			ABUT BODY HORIZ. - F.F.
B804		18	27'-8"	X		ABUT BODY HORIZ. - B.F.
B405		33	3'-0"	X		ABUT BODY TIE BARS
B406		2	42'-10"			ABUT BODY HORIZ. TOP @ NOTCH HORIZ.
B407		29	3'-9"	X		ABUT BODY VERT. TOP @ NOTCH VERT.
B408	X	44	9'-9"	X	▲	WINGS 3 & 4 STIRRUPS
B409	X	8	11'-0"	X		WINGS 3 & 4 STIRRUPS
B510	X	18	11'-9"	X		WINGS 3 & 4 LOWER HORIZ - F.F.
B811	X	18	13'-5"	X		WINGS 3 & 4 LOWER HORIZ. - B.F.
B412	X	8	10'-2"			WINGS 3 & 4 UPPER HORIZ.
B413	X	4	9'-0"			WINGS 3 & 4 UPPER HORIZ.
B414	X	4	6'-10"			WINGS 3 & 4 UPPER HORIZ.
B415	X	4	4'-9"			WINGS 3 & 4 UPPER HORIZ.
B416	X	4	10'-6"	X		WINGS 3 & 4 UPPER DIAG.
B417	X	12	8'-2"	X		WINGS 3 & 4 TOP HORIZ. CORNER
B418	X	12	6'-3"	X		WINGS 3 & 4 TOP VERT. CORNER

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
B408	4 SERIES OF 11	8'-6" TO 10'-11"

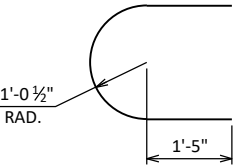
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-37-495			
		DRAWN BY CLP	PLANS CK'D JMC
NORTH ABUTMENT BILL OF BARS		SHEET 10 OF 19	

BILL OF BARS

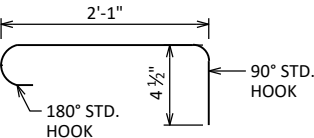
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
P501		78	16'-10"			COLUMN VERT.
P402		36	35'-0"			COLUMN HORIZ.
P403		36	6'-1"	X		COLUMN HORIZ.
P404		170	2'-11"	X		COLUMN TIES
P505		19	4'-7"	X		COLUMN TOP
P506	x	21	2'-0"			COLUMN DOWELS

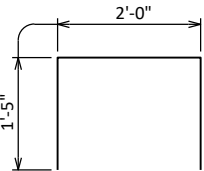
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



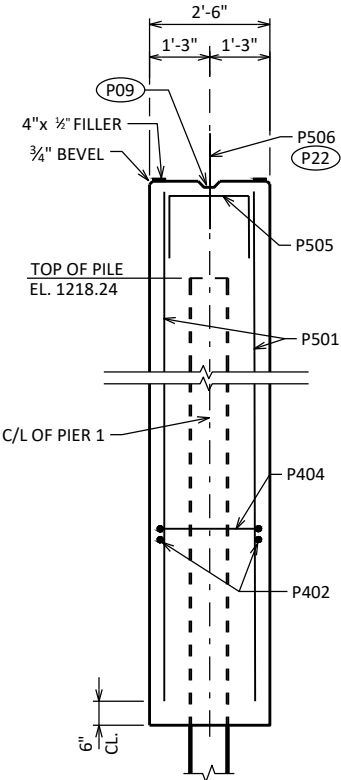
P403



P404



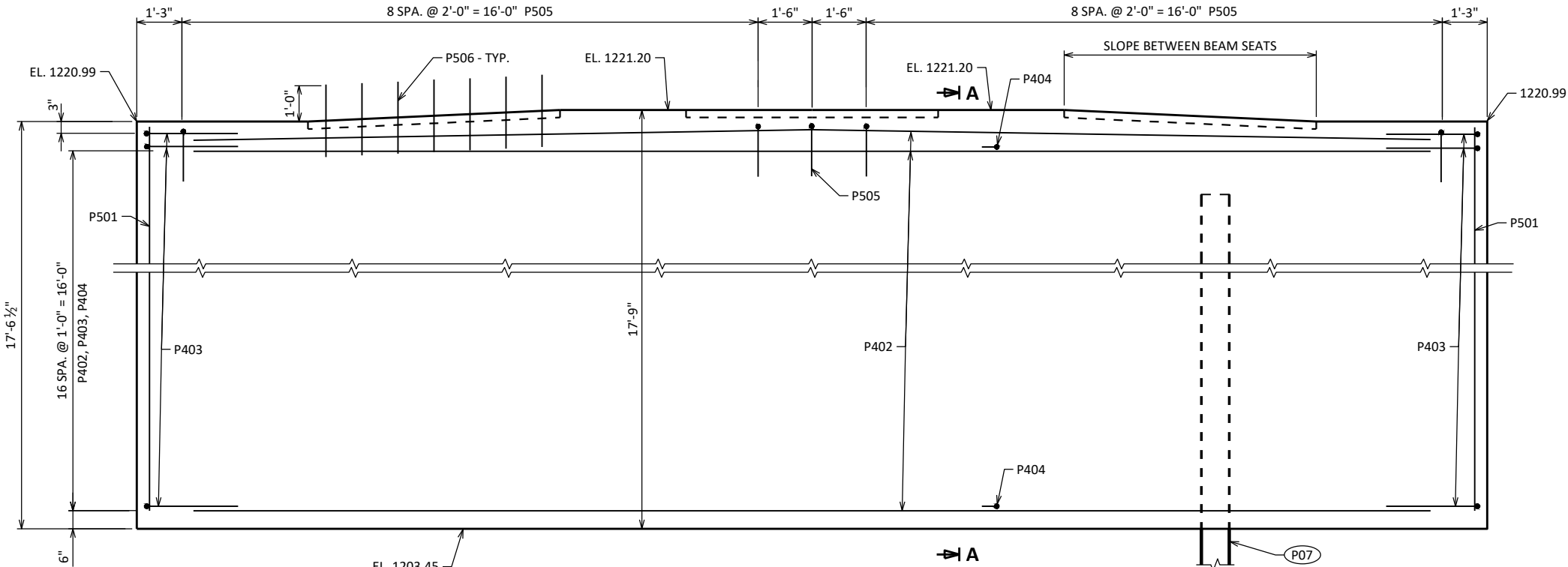
P505



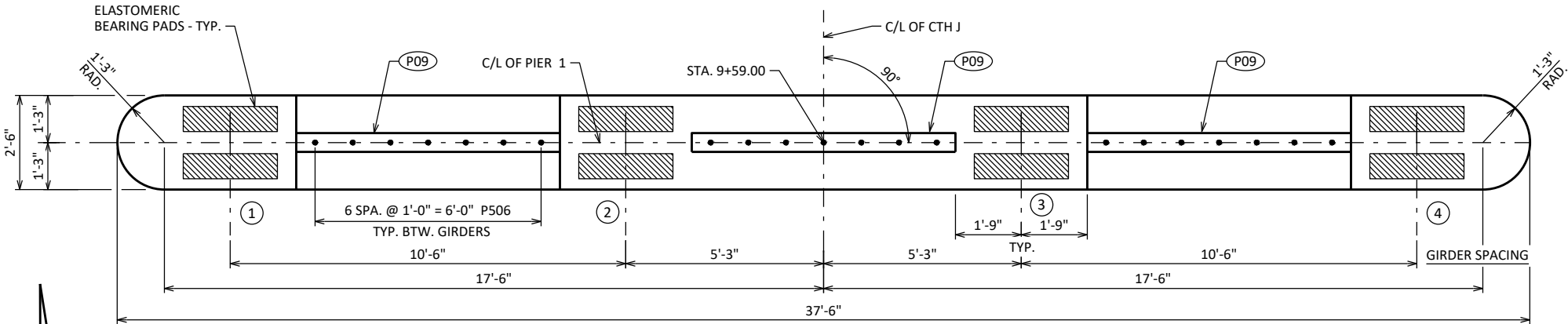
SECTION A

- P09** KEYWAY CONST. JOINT FORMED BY BEVELED 2 X 6 BETWEEN BEAM SEATS.
- P07** SUPPORT PIER ON HP 12 X 53 STEEL PILING. PRE-BORE ALL PILES TO EL. 1180.2 AND THEN DRIVE TO A REQ'D. DRIVING RESISTANCE OF 220 TONS PER PILE. PILE POINTS REQ'D. ESTIMATED LENGTH 40'-0.
- P22** BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)
- ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.
- INDICATES GIRDER NUMBER.

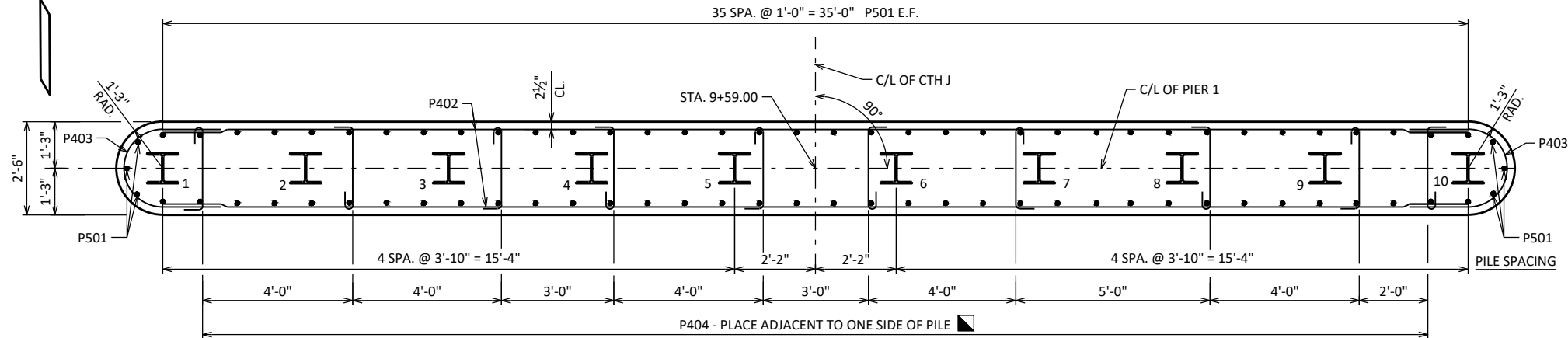
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-37-495			
DRAWN BY		CLP	PLANS CK'D JMC
PIER 1		SHEET 11 OF 19	



ELEVATION
LOOKING NORTH



PLAN



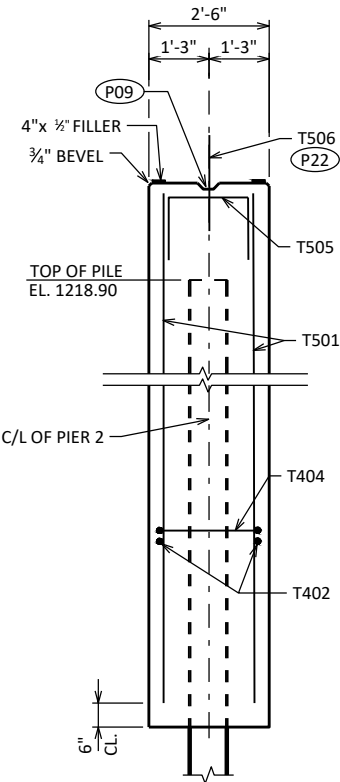
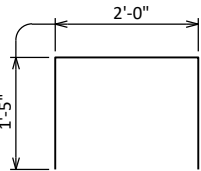
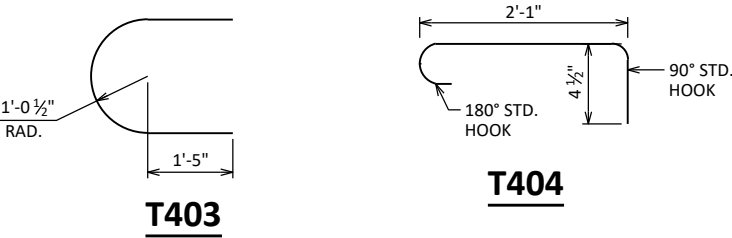
PILE LAYOUT

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

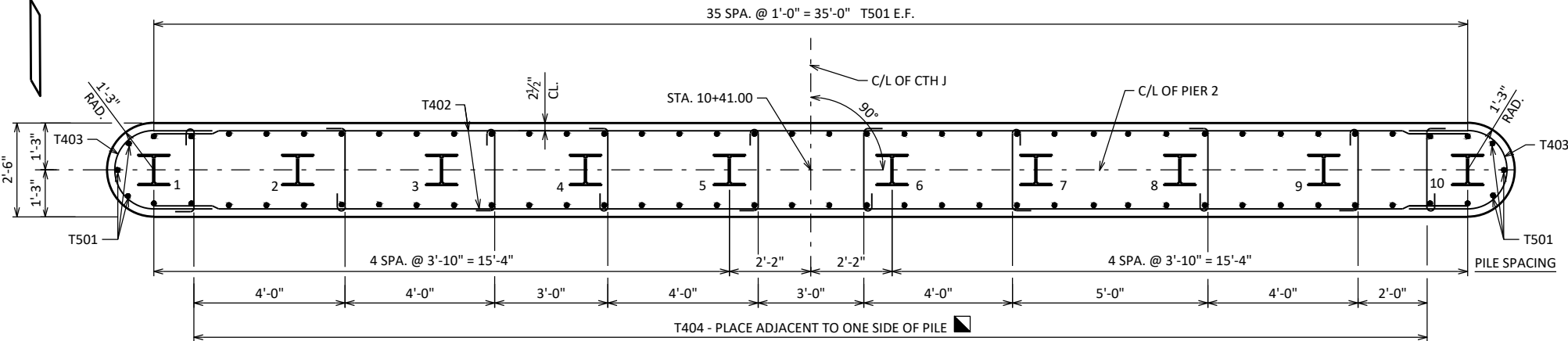
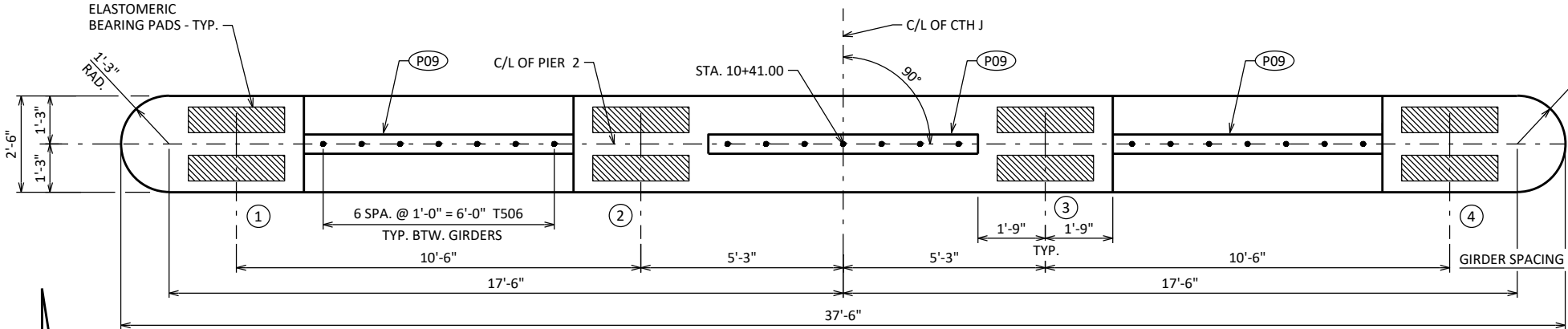
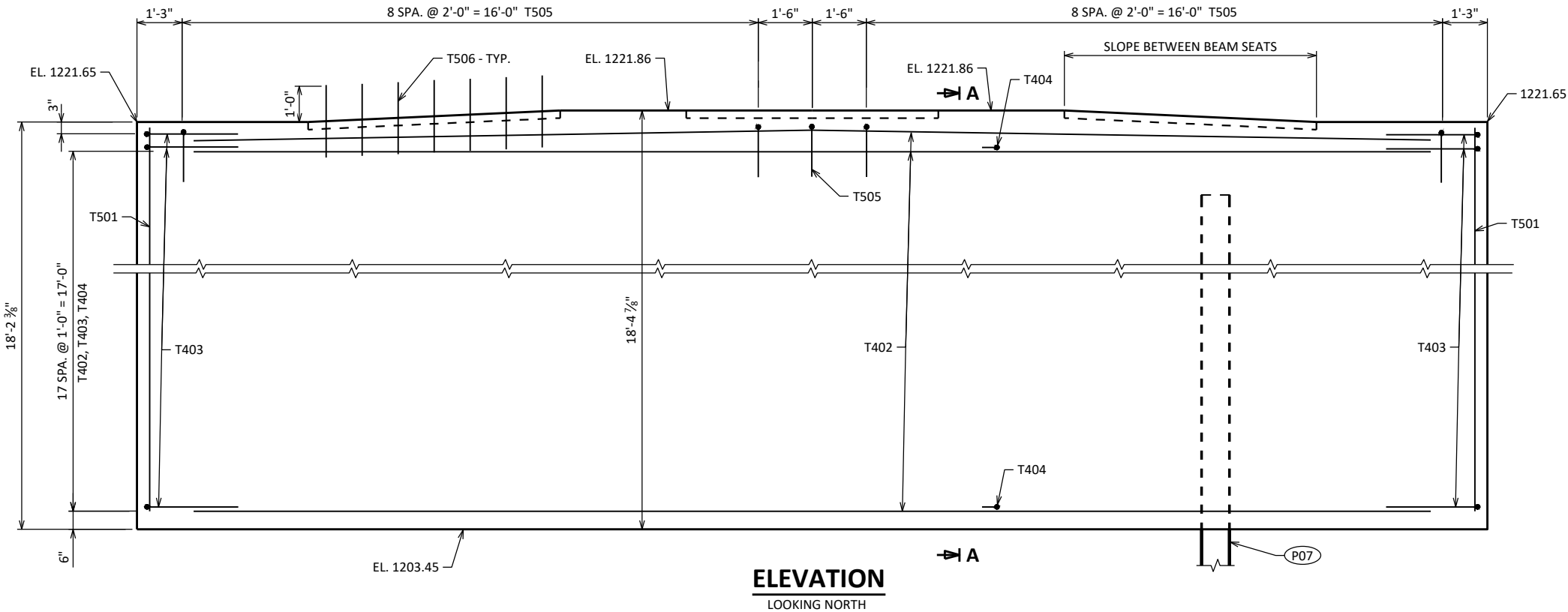
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
T501		78	17'-6"			COLUMN VERT.
T402		38	35'-0"			COLUMN HORIZ.
T403		38	6'-1"	X		COLUMN HORIZ.
T404		180	2'-11"	X		COLUMN TIES
T505		19	4'-7"	X		COLUMN TOP
T506	x	21	2'-0"			COLUMN DOWELS

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



- P09** KEYWAY CONST. JOINT FORMED BY BEVELED 2 X 6 BETWEEN BEAM SEATS.
- P07** SUPPORT PIER ON HP 12 X 53 STEEL PILING SEATED IN PRE-BORED HOLES CORED 3-FEET MIN. INTO SOLID ROCK OR 10-FEET INTO WEATHERED ROCK. PILE DRIVING IS NOT REQ'D. ESTIMATED LENGTH 35'-0.
- P22** BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)
- ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.
- INDICATES GIRDER NUMBER.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-37-495			
DRAWN BY		CLP	PLANS CK'D JMC
PIER 2		SHEET 12 OF 19	



NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-37-495", EACH.

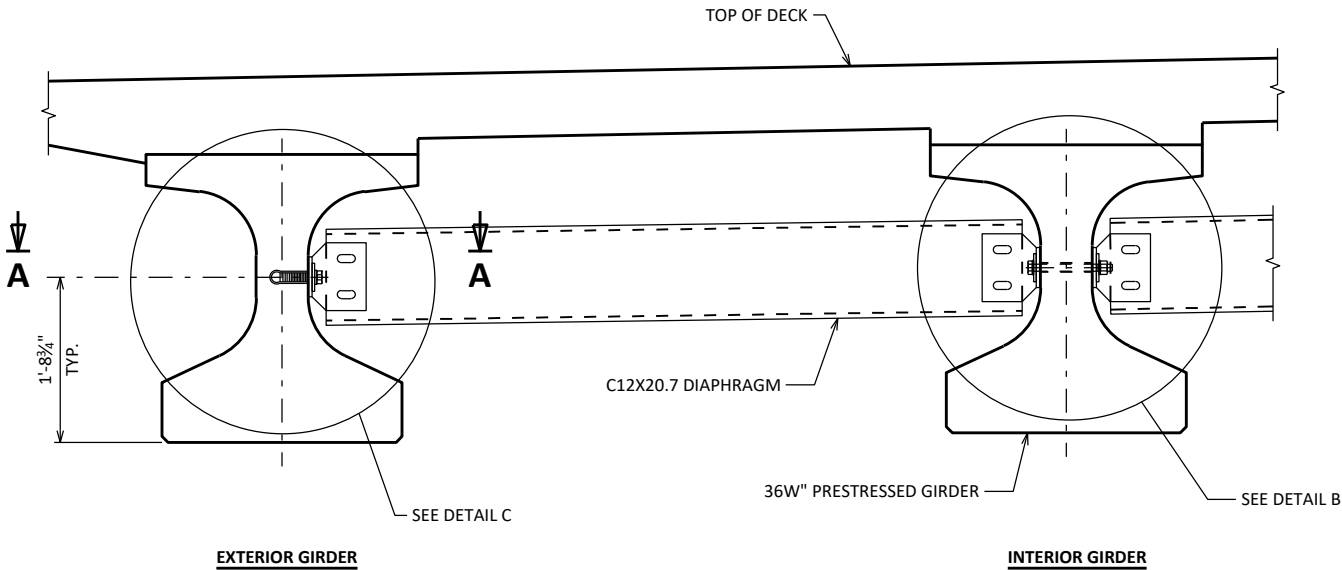
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

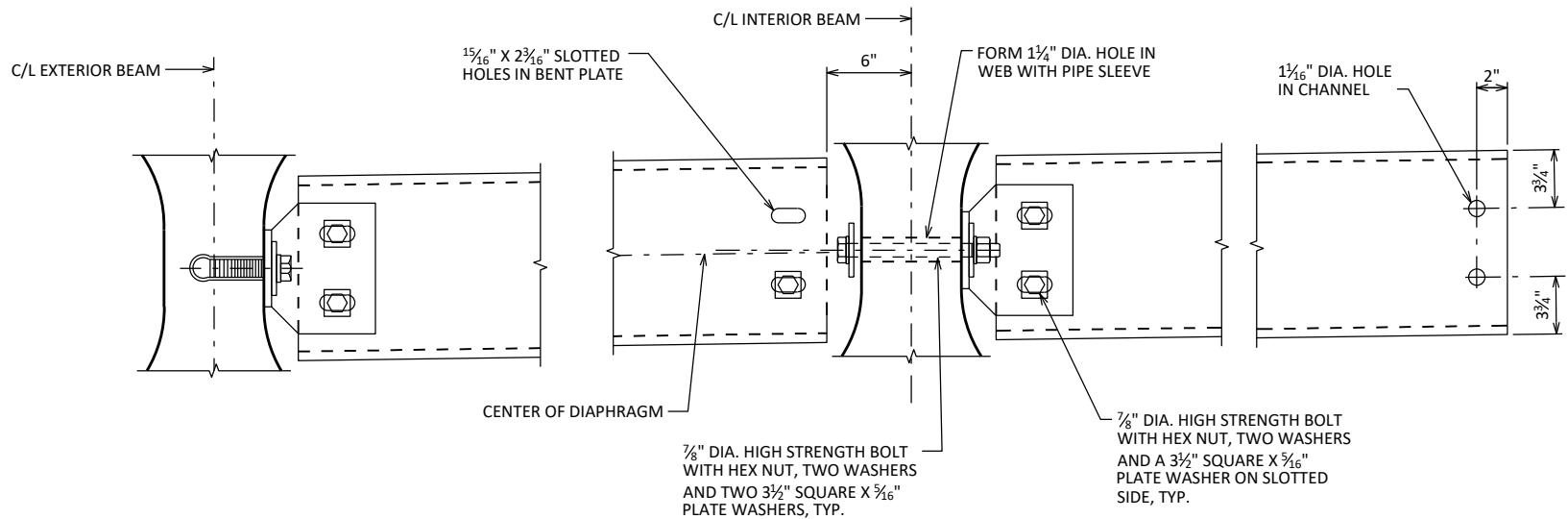
ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS ¼ TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.

FOR DIAPHRAGM SPACING SEE SHEET 17.

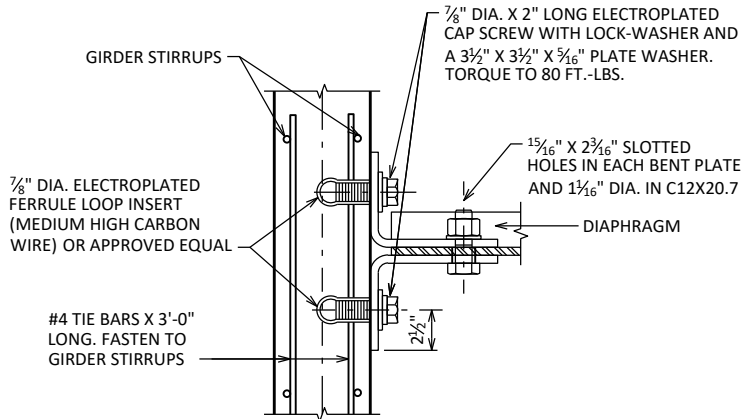


PART TRANSVERSE SECTION AT DIAPHRAGM



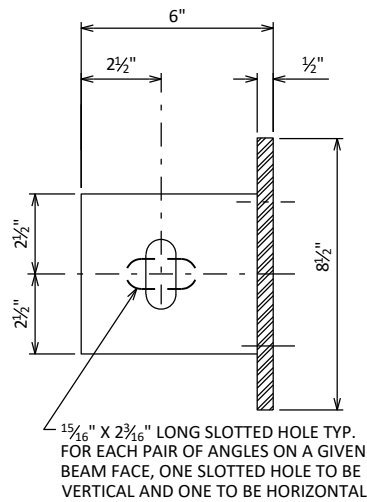
DETAIL C

DETAIL B

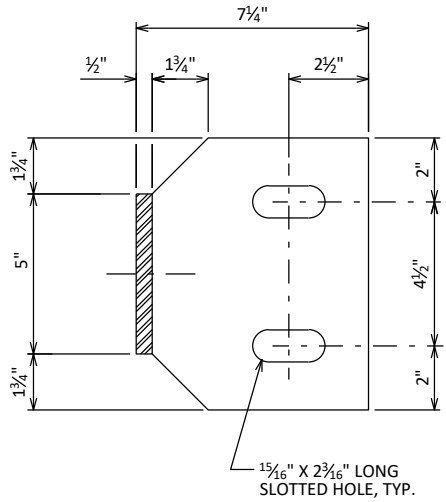


SECTION A-A

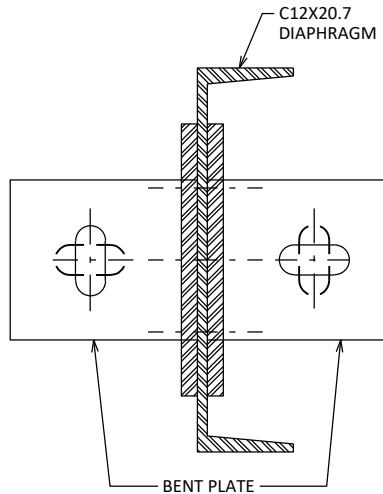
(FOR EXTERIOR ATTACHMENT)



BEAM FACE

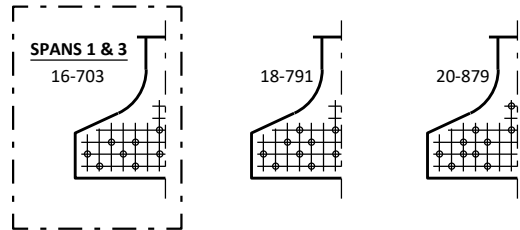


DIAPHRAGM FACE



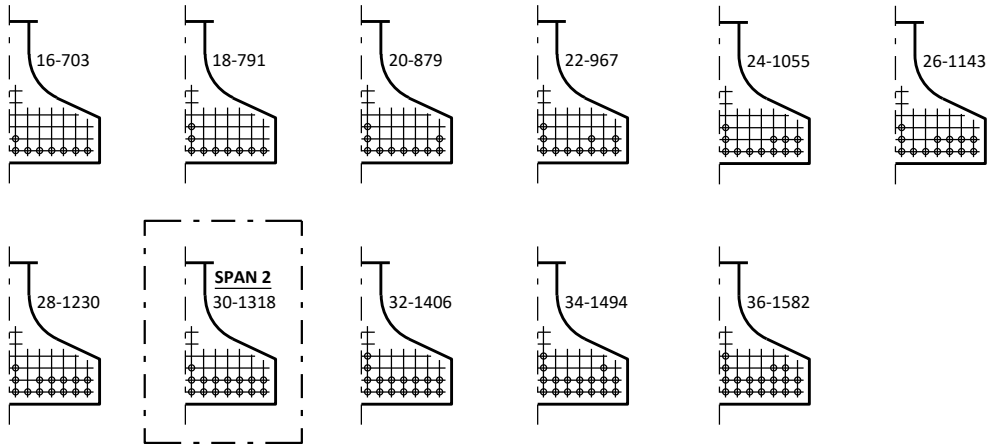
ATTACHMENT TO CHANNEL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-37-495			
DRAWN BY		CLP	PLANS CK'D KRO
STEEL DIAPHRAGM		SHEET 13 OF 19	



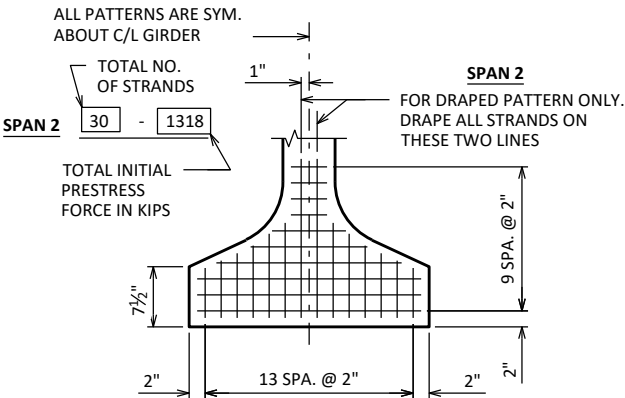
STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY
TO AVOID DRAPING OF STRANDS

0.6" DIA. STRANDS

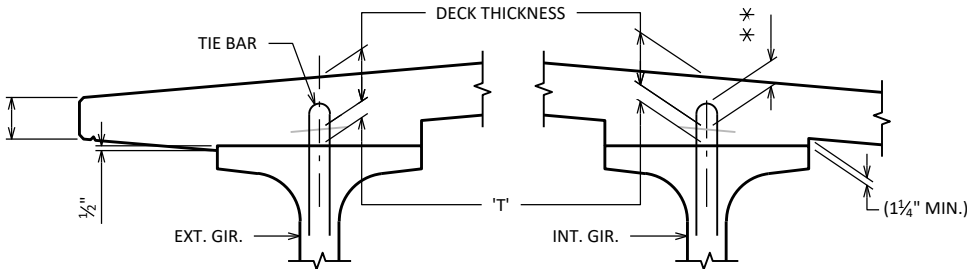


ARRANGEMENT AT C/L SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6" DIA. STRANDS



TYP. STRAND PATTERN



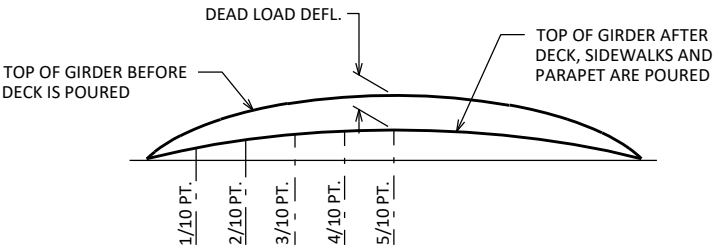
DECK HAUNCH DETAIL

IF 1 1/4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2" OR, IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT C/L OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

- TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
- + DEAD LOAD DEFLECTION
- DECK THICKNESS
- = HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



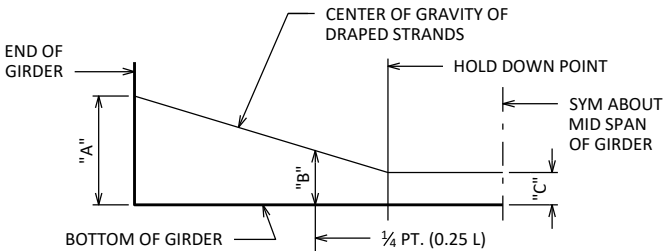
DEAD LOAD DEFLECTION DIAGRAM

* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1, 3	0.9
2	3.2

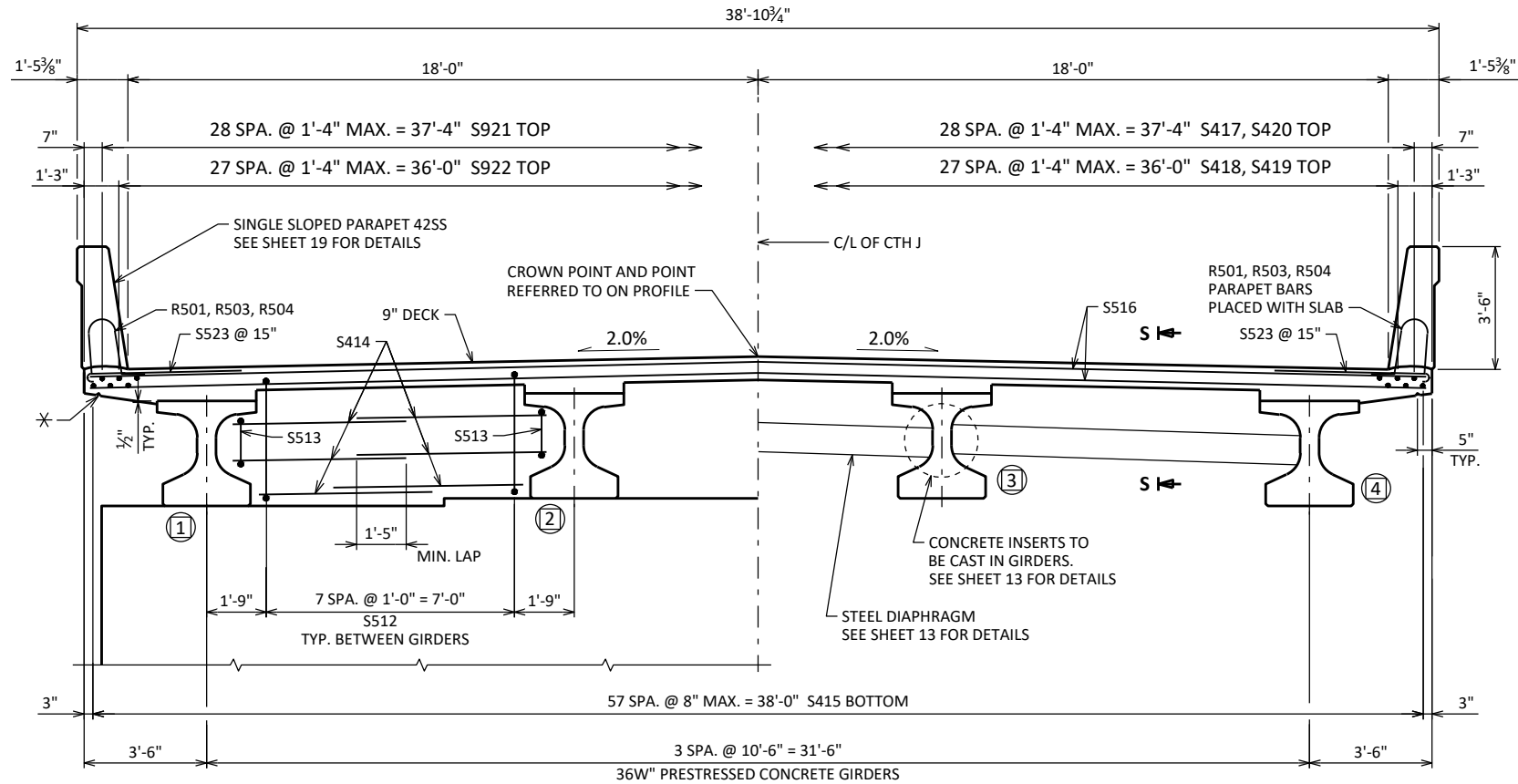
THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



DRAPED STRAND PROFILE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-37-495			
	DRAWN BY	CLP	PLANS CK'D KRO
36W" PRESTRESSED GIRDER DETAILS 2		SHEET 15 OF 19	



TYPICAL SECTION THRU BRIDGE

* 3/4" V-GROOVE. EXTEND V-GROOVE TO 6" FROM F.F. OF ABUTMENT DIAPHRAGMS - TYP.

TOP OF DECK ELEVATIONS

LOCATION	C/L S. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	C/L PIER 1
W. EDGE OF DECK	1224.59	1224.63	1224.68	1224.72	1224.77	1224.81	1224.86	1224.91	1224.95	1225.00	1225.04
GIRDER 1	1224.63	1224.68	1224.72	1224.77	1224.81	1224.86	1224.91	1224.95	1225.00	1225.04	1225.09
GIRDER 2	1224.84	1224.89	1224.93	1224.98	1225.02	1225.07	1225.12	1225.16	1225.21	1225.25	1225.30
C/L OF CTH J	1224.95	1224.99	1225.04	1225.08	1225.13	1225.17	1225.22	1225.27	1225.31	1225.36	1225.40
GIRDER 3	1224.84	1224.89	1224.93	1224.98	1225.02	1225.07	1225.12	1225.16	1225.21	1225.25	1225.30
GIRDER 4	1224.63	1224.68	1224.72	1224.77	1224.81	1224.86	1224.91	1224.95	1225.00	1225.04	1225.09
E. EDGE OF DECK	1224.59	1224.63	1224.68	1224.72	1224.77	1224.81	1224.86	1224.91	1224.95	1225.00	1225.04

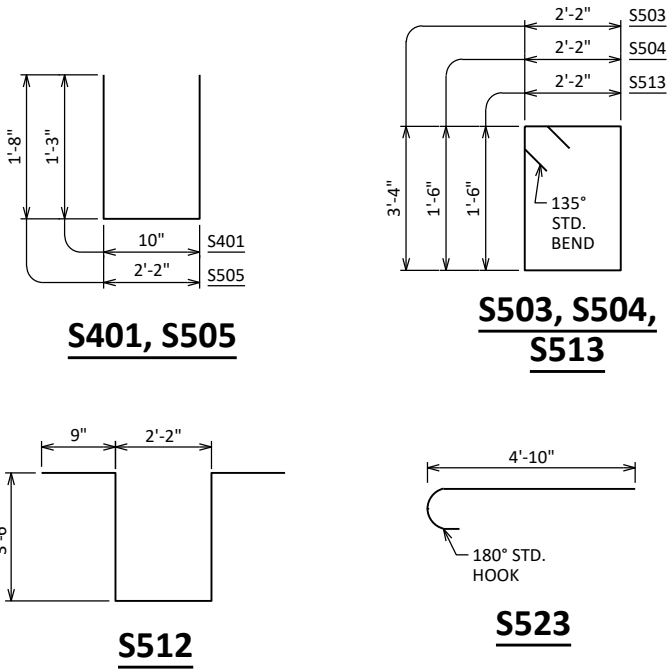
LOCATION	C/L PIER 1	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	C/L PIER 2	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	C/L N. ABUT.
W. EDGE OF DECK	1225.04	1225.11	1225.18	1225.24	1225.31	1225.37	1225.44	1225.50	1225.57	1225.64	1225.70	1225.75	1225.79	1225.84	1225.88	1225.93	1225.98	1226.02	1226.07	1226.11	1226.16
GIRDER 1	1225.09	1225.15	1225.22	1225.29	1225.35	1225.42	1225.48	1225.55	1225.61	1225.68	1225.75	1225.79	1225.84	1225.88	1225.93	1225.98	1226.02	1226.07	1226.11	1226.16	1226.20
GIRDER 2	1225.30	1225.36	1225.43	1225.50	1225.56	1225.63	1225.69	1225.76	1225.82	1225.89	1225.96	1226.00	1226.05	1226.09	1226.14	1226.19	1226.23	1226.28	1226.32	1226.37	1226.41
C/L OF CTH J	1225.40	1225.47	1225.54	1225.60	1225.67	1225.73	1225.80	1225.86	1225.93	1226.00	1226.06	1226.11	1226.15	1226.20	1226.24	1226.29	1226.34	1226.38	1226.43	1226.47	1226.52
GIRDER 3	1225.30	1225.36	1225.43	1225.50	1225.56	1225.63	1225.69	1225.76	1225.82	1225.89	1225.96	1226.00	1226.05	1226.09	1226.14	1226.19	1226.23	1226.28	1226.32	1226.37	1226.41
GIRDER 4	1225.09	1225.15	1225.22	1225.29	1225.35	1225.42	1225.48	1225.55	1225.61	1225.68	1225.75	1225.79	1225.84	1225.88	1225.93	1225.98	1226.02	1226.07	1226.11	1226.16	1226.20
E. EDGE OF DECK	1225.04	1225.11	1225.18	1225.24	1225.31	1225.37	1225.44	1225.50	1225.57	1225.64	1225.70	1225.75	1225.79	1225.84	1225.88	1225.93	1225.98	1226.02	1226.07	1226.11	1226.16

BILL OF BARS

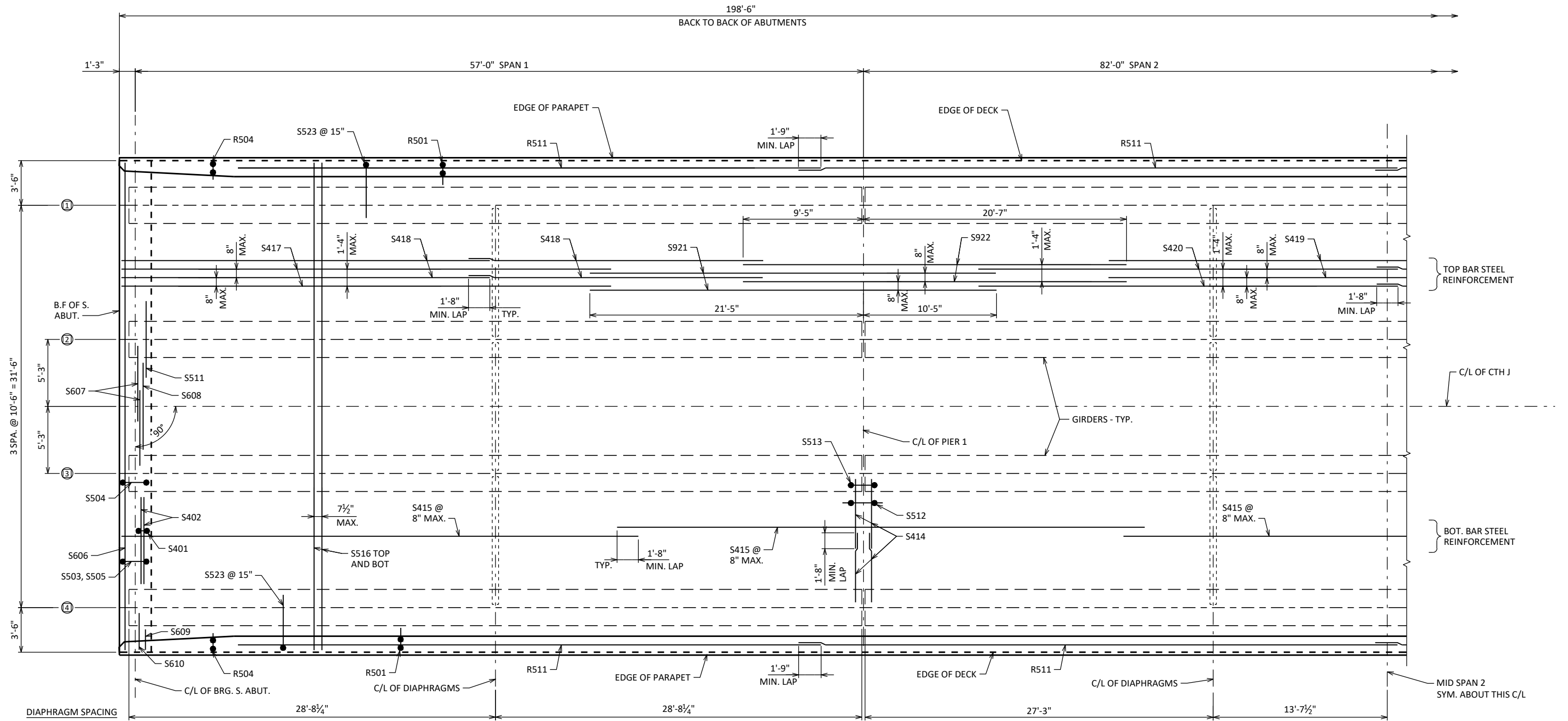
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	48	3'-2"	X		DIAPH. @ ABUT. NOTCH VERT.
S402	X	12	6'-7"			DIAPH. @ ABUT. NOTCH HORIZ.
S503	X	78	11'-8"	X		DIAPH. @ ABUT. VERT.
S504	X	16	8'-0"	X		DIAPH. @ ABUT. VERT.
S505	X	78	5'-3"	X		DIAPH. @ ABUT. VERT.
S606	X	10	38'-2"			DIAPH. @ ABUT. HORIZ.
S607	X	24	5'-9"			DIAPH. @ ABUT. BTW. GIRDERS HORIZ.
S608	X	6	7'-8"			DIAPH. @ ABUT. BTW. GIRDERS HORIZ.
S609	X	4	1'-11"			DIAPH. @ ABUT. EXT. GIRDERS HORIZ.
S610	X	8	2'-10"			DIAPH. @ ABUT. EXT. GIRDERS HORIZ.
S511	X	16	6'-0"			DIAPH. @ ABUT. THRU GIRDERS HORIZ.
S512	X	48	10'-2"	X		DIAPH. @ PIER VERT.
S513	X	12	8'-0"	X		DIAPH. @ PIER @ GIRDERS VERT.
S414	X	72	5'-11"			DIAPH. @ PIER HORIZ.
S415	X	290	41'-0"			DECK LONG. BOTTOM
S516	X	635	38'-2"			DECK TRANS. TOP & BOTTOM
S417	X	58	38'-4"			DECK LONG. TOP SPANS 1 & 3
S418	X	112	26'-0"			DECK LONG. TOP SPANS 1 & 3
S419	X	28	44'-2"			DECK LONG. TOP SPAN 2
S420	X	58	33'-2"			DECK LONG. TOP SPAN 2
S921	X	58	31'-10"			DECK LONG. TOP @ PIER
S922	X	56	30'-0"			DECK LONG. TOP @ PIER
S523	X	316	5'-5"	X		DECK TRANS. TOP @ EDGE

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

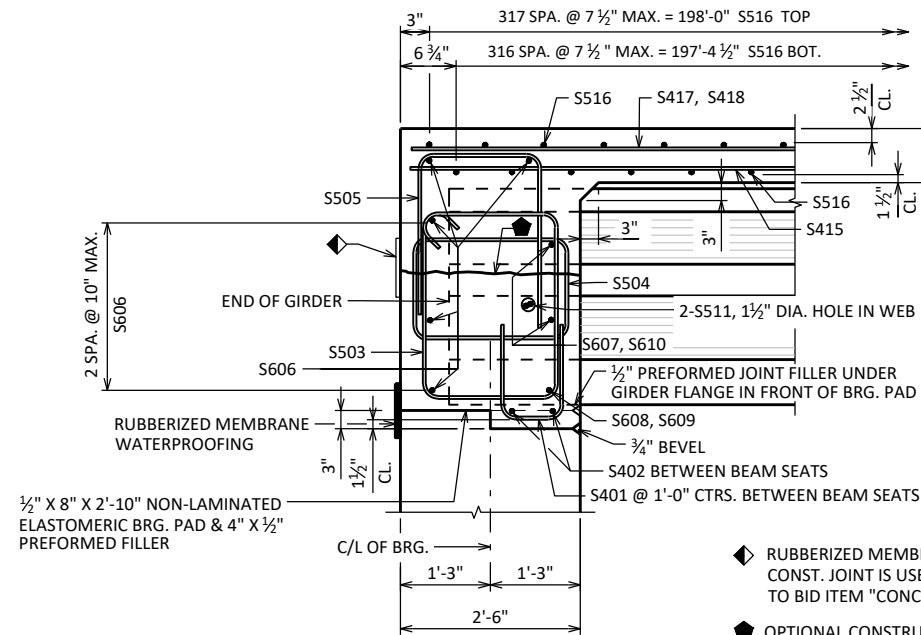


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-37-495			
DRAWN BY		CLP	PLANS CK'D KRO
SUPERSTRUCTURE			SHEET 16 OF 19



PART PLAN

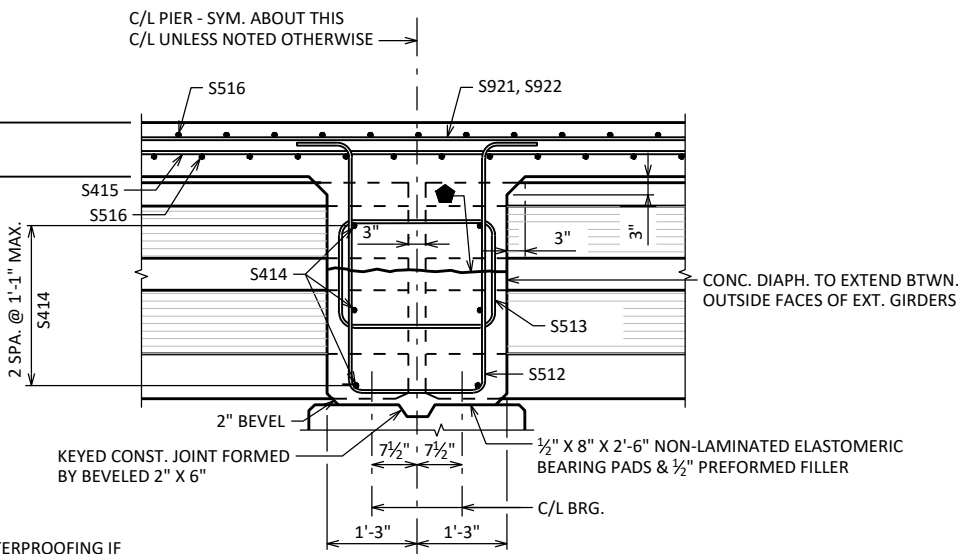
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-37-495			
		DRAWN BY	CLP
		PLANS CK'D	KRO
SUPERSTRUCTURE PLAN		SHEET 17 OF 19	



PART LONGIT. SECTION

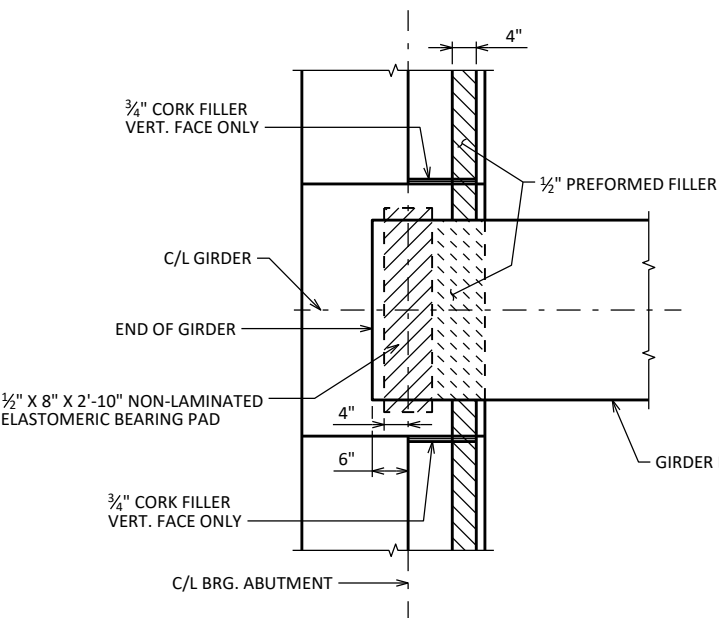
AT ABUTMENTS

- ◆ RUBBERIZED MEMBRANE WATERPROOFING IF CONST. JOINT IS USED (COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES)
- ◆ OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR



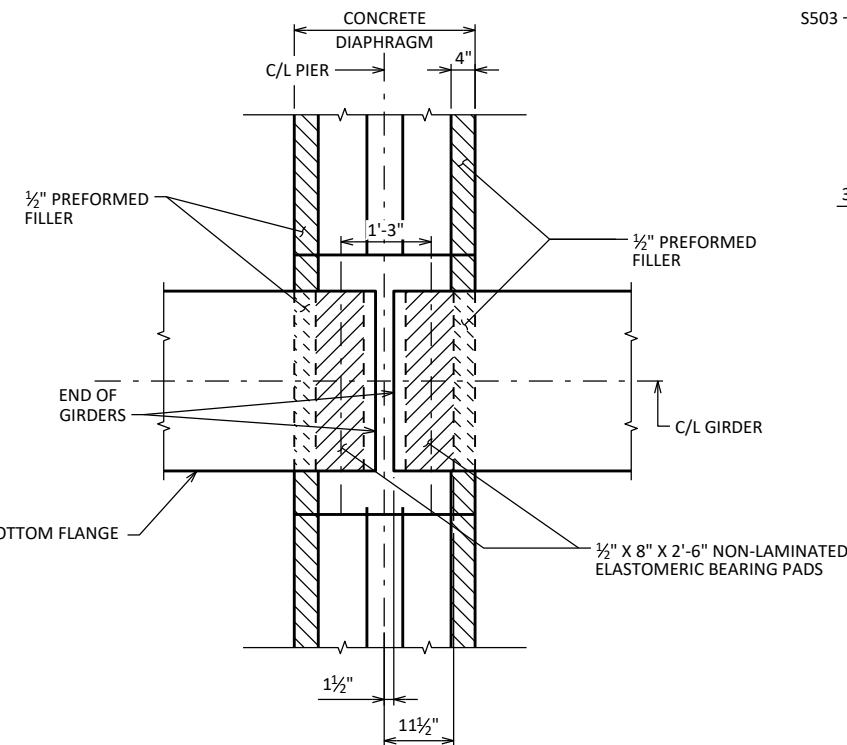
PART LONGIT. SECTION

AT PIER



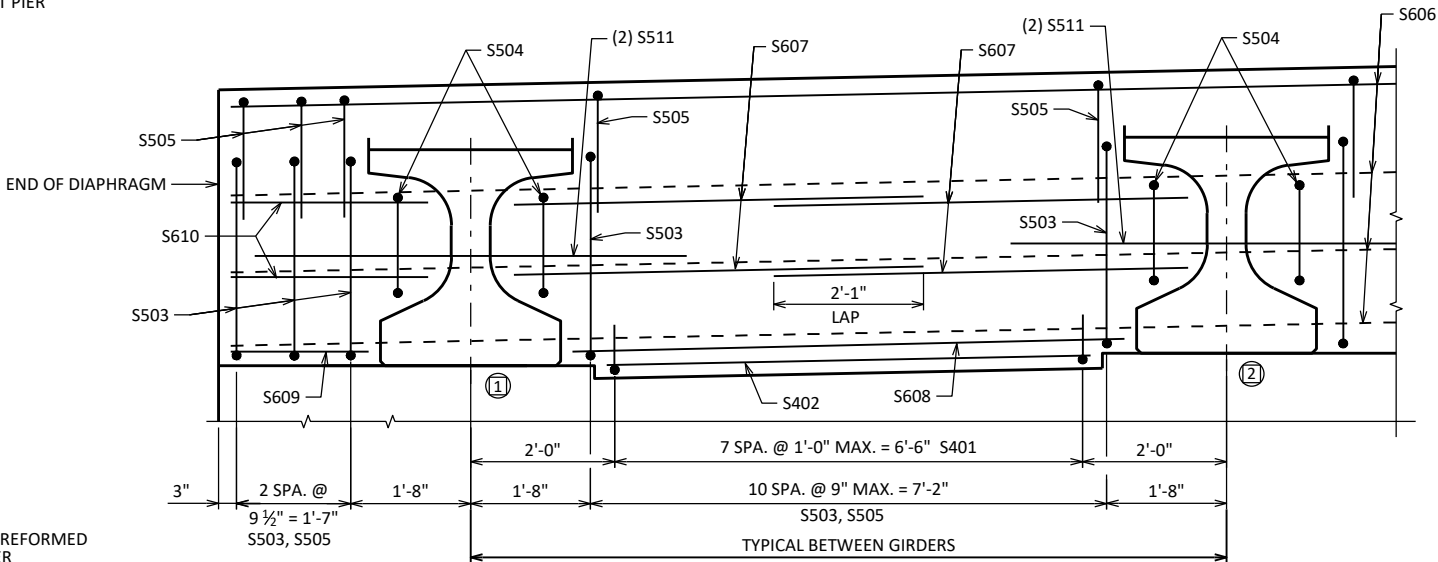
BEARING PAD DETAIL

AT ABUTMENTS



BEARING PAD DETAIL

AT PIER



PART. SECTION AT ABUTMENT

GIRDERS 1 AND 2 SHOWN, REST ARE THE SAME

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-37-495			
DRAWN BY		CLP	PLANS CK'D KRO
SUPERSTRUCTURE DETAILS		SHEET 18 OF 19	

BILL OF BARS

FOR DECK PARAPETS

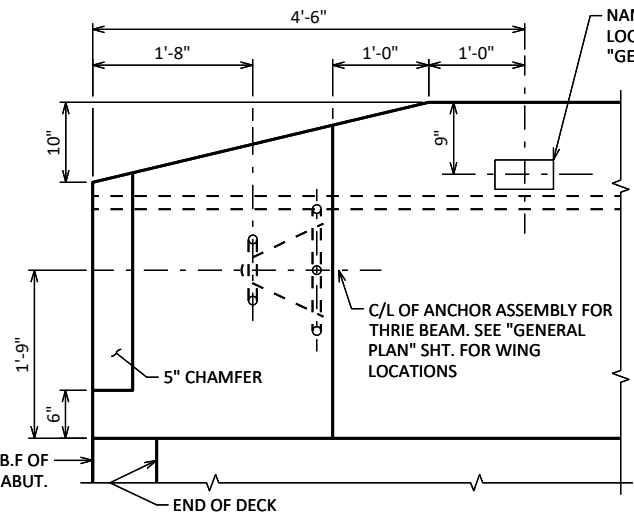
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	544	4'-5"	X		PARAPET VERT.
R502	X	544	6'-8"	X		PARAPET VERT.
R503	X	48	2'-9"	X		PARAPET VERT.
R504	X	68	4'-4"	X		PARAPET VERT.
R505	X	20	6'-5"	X		PARAPET VERT.
R506	X	24	6'-6"	X		PARAPET VERT.
R507	X	4	23'-6"	X		PARAPET HORIZ.
R508	X	20	23'-6"			PARAPET HORIZ.
R509	X	24	5'-5"	X	▲	PARAPET VERT.
R510	X	8	23'-8"	X		PARAPET HORIZ.
R511	X	64	40'-0"			PARAPET HORIZ.

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

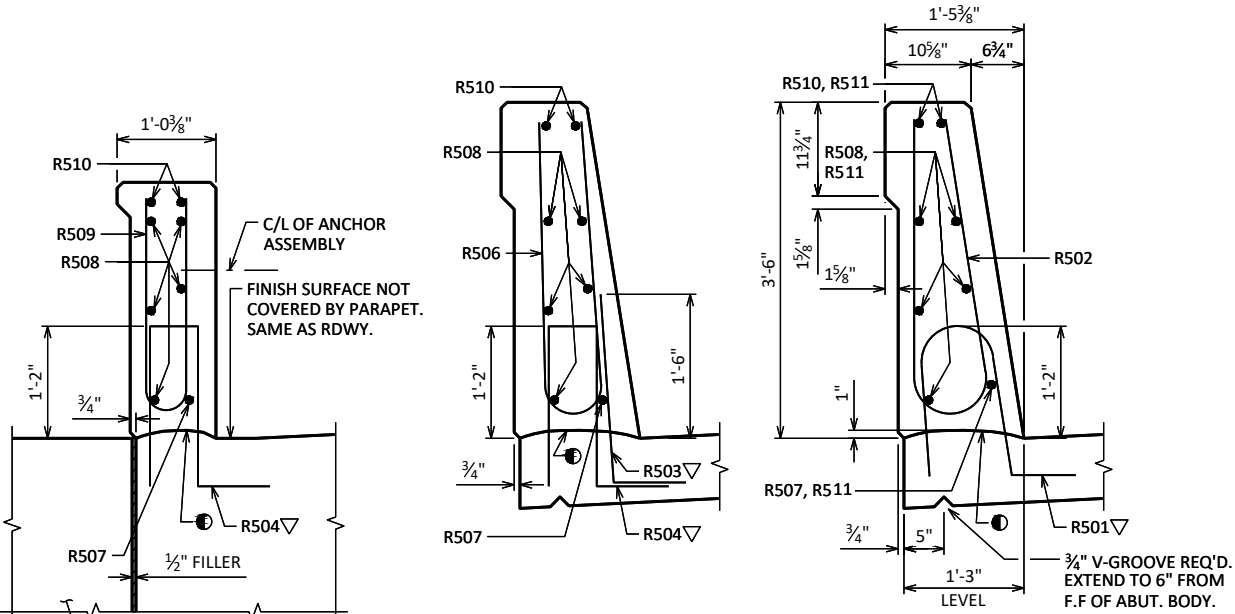
BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
R509	4 SERIES OF 6	4'-9" TO 6'-1"



PARAPET END TREATMENT DETAIL

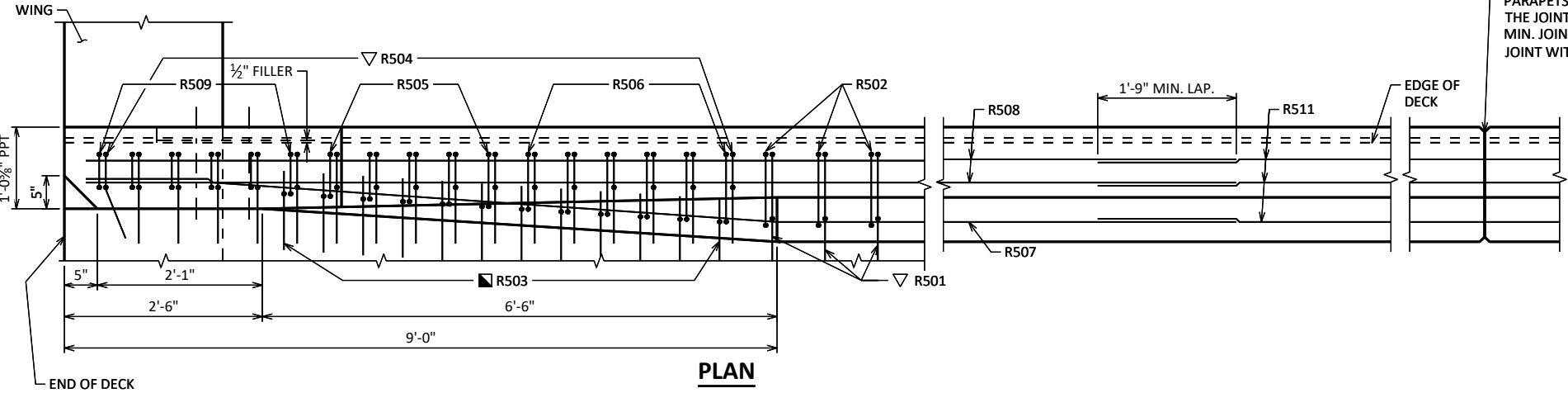
LOOKING AT INSIDE FACE OF PARAPET



SECTION A-A

SECTION B-B

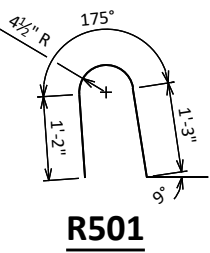
SECTION C-C



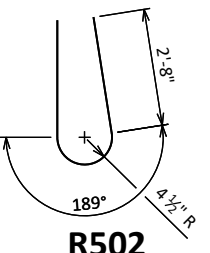
PLAN

SW CORNER SHOWN, OTHERS SIMILAR

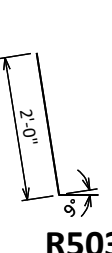
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A 3/4" - 'V' GROOVE



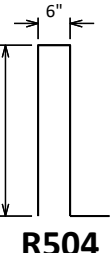
R501



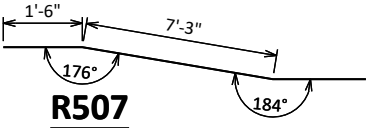
R502



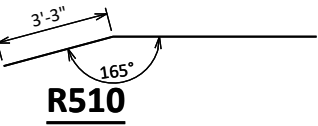
R503



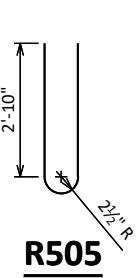
R504



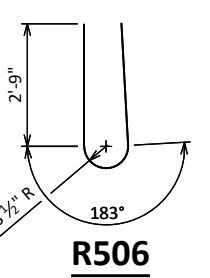
R507



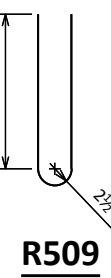
R510



R505

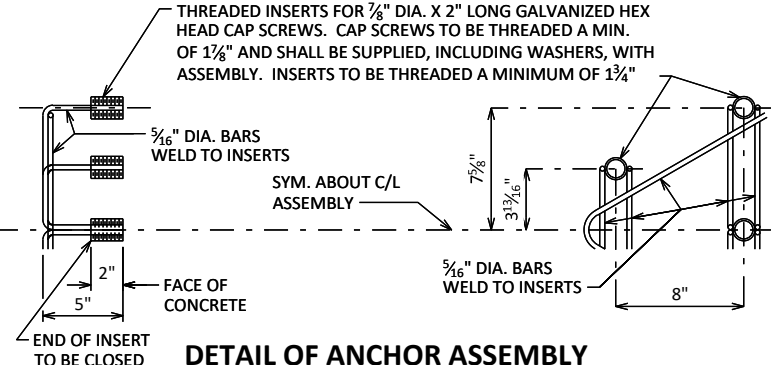


R506



R509

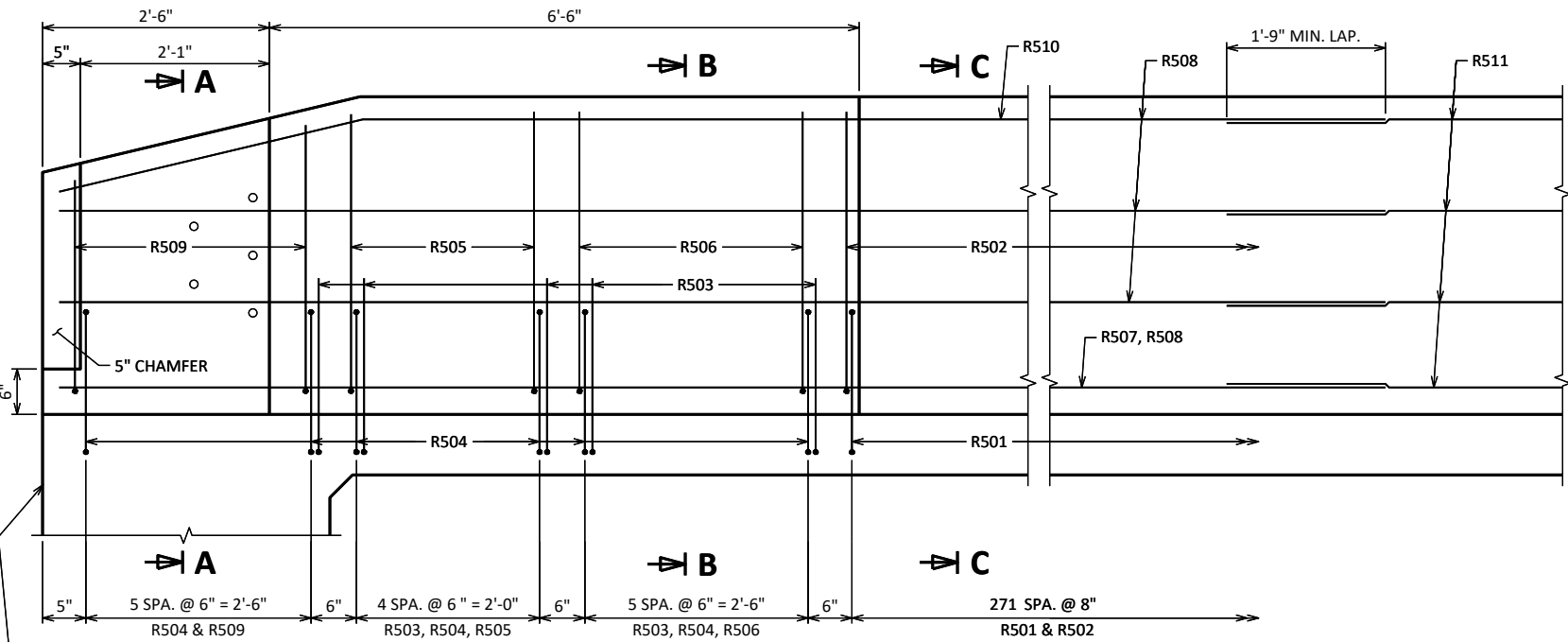
- CONST. JOINT - STRIKE OFF AS SHOWN
- USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ▽ R501 AND R504 BARS TO BE TIED TO SUPERSTRUCTURE STEEL BEFORE SUPERSTRUCTURE IS POURED.



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH ASTM F2329.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

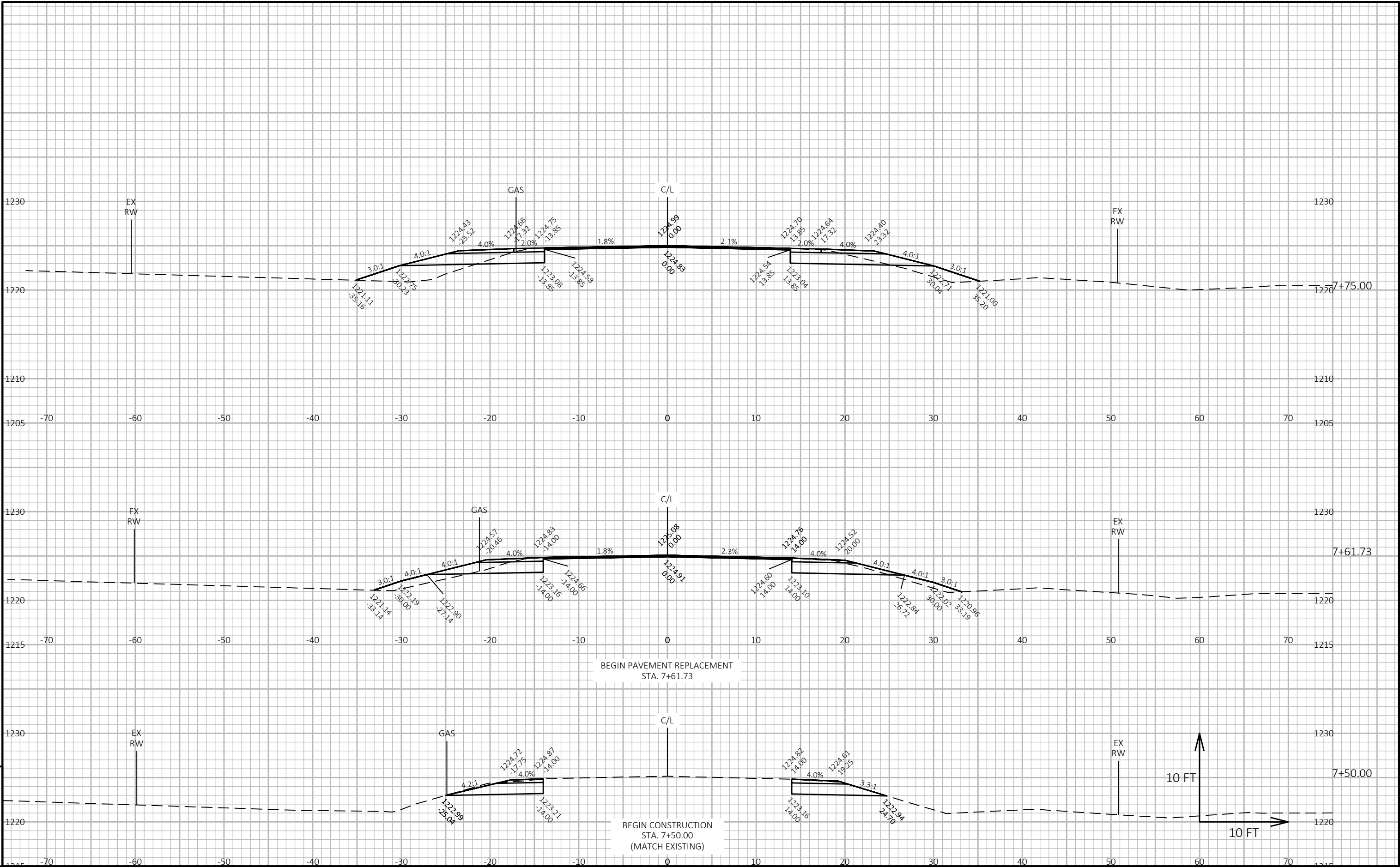


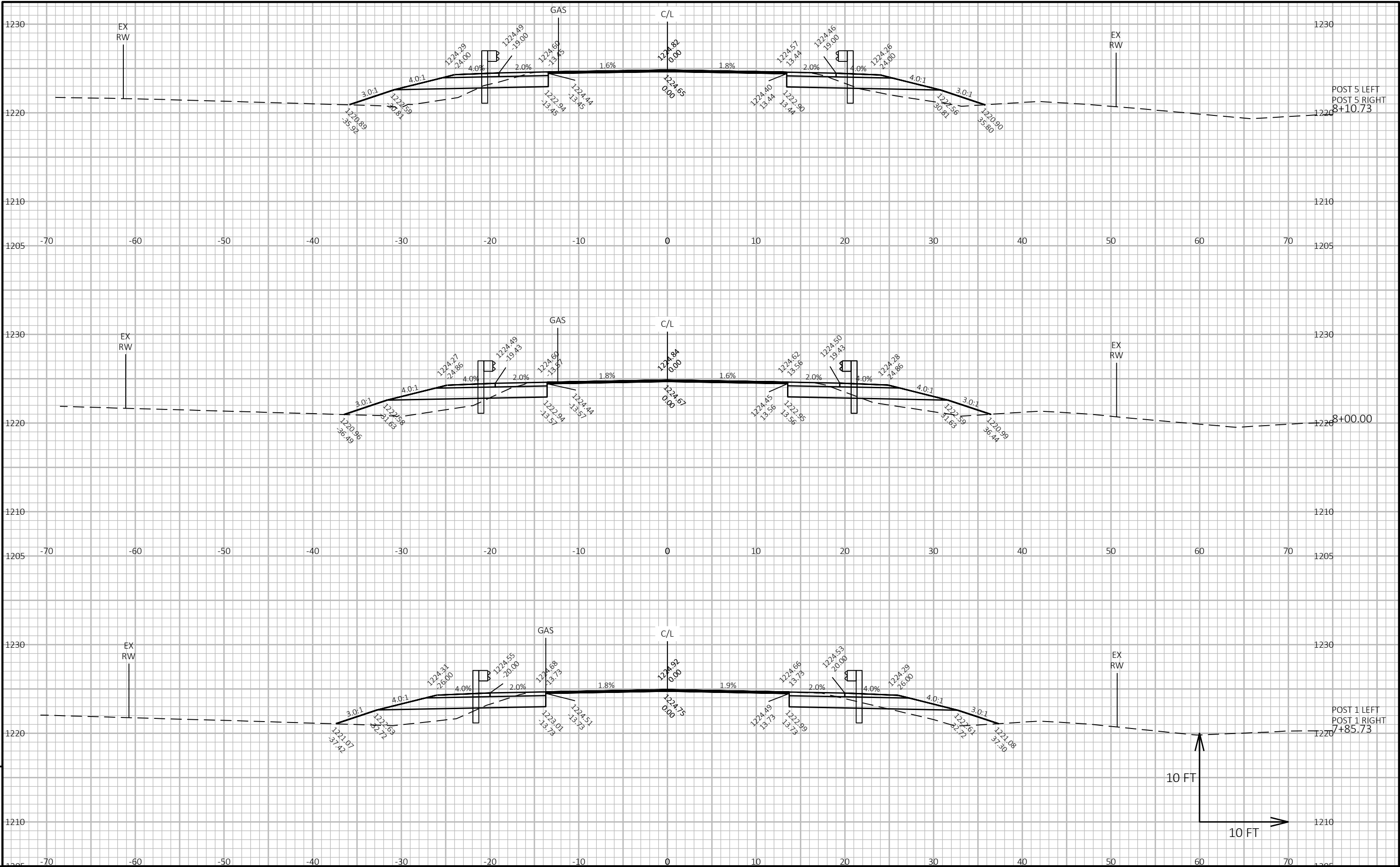
INSIDE ELEVATION

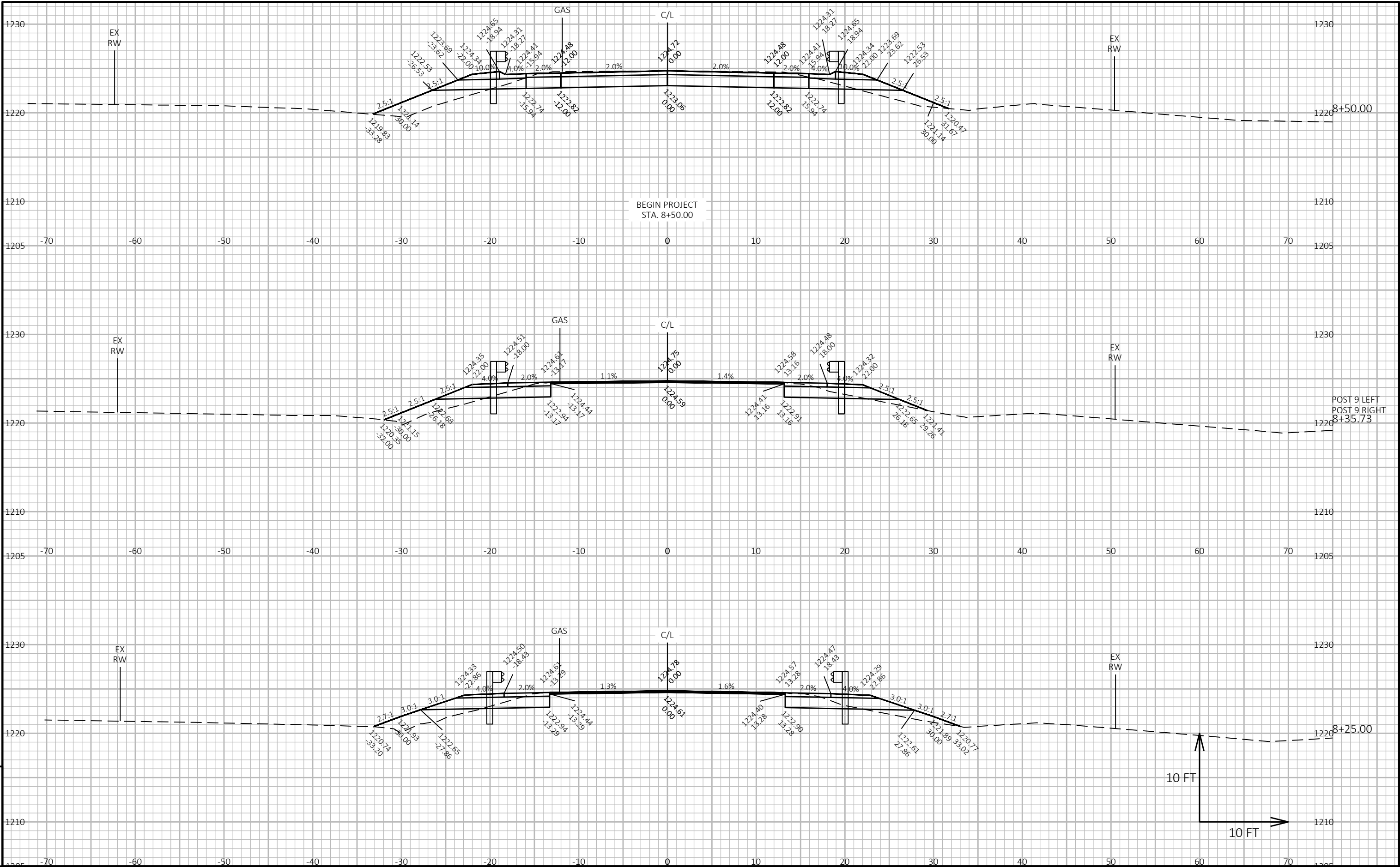
SW CORNER SHOWN, OTHERS SIMILAR

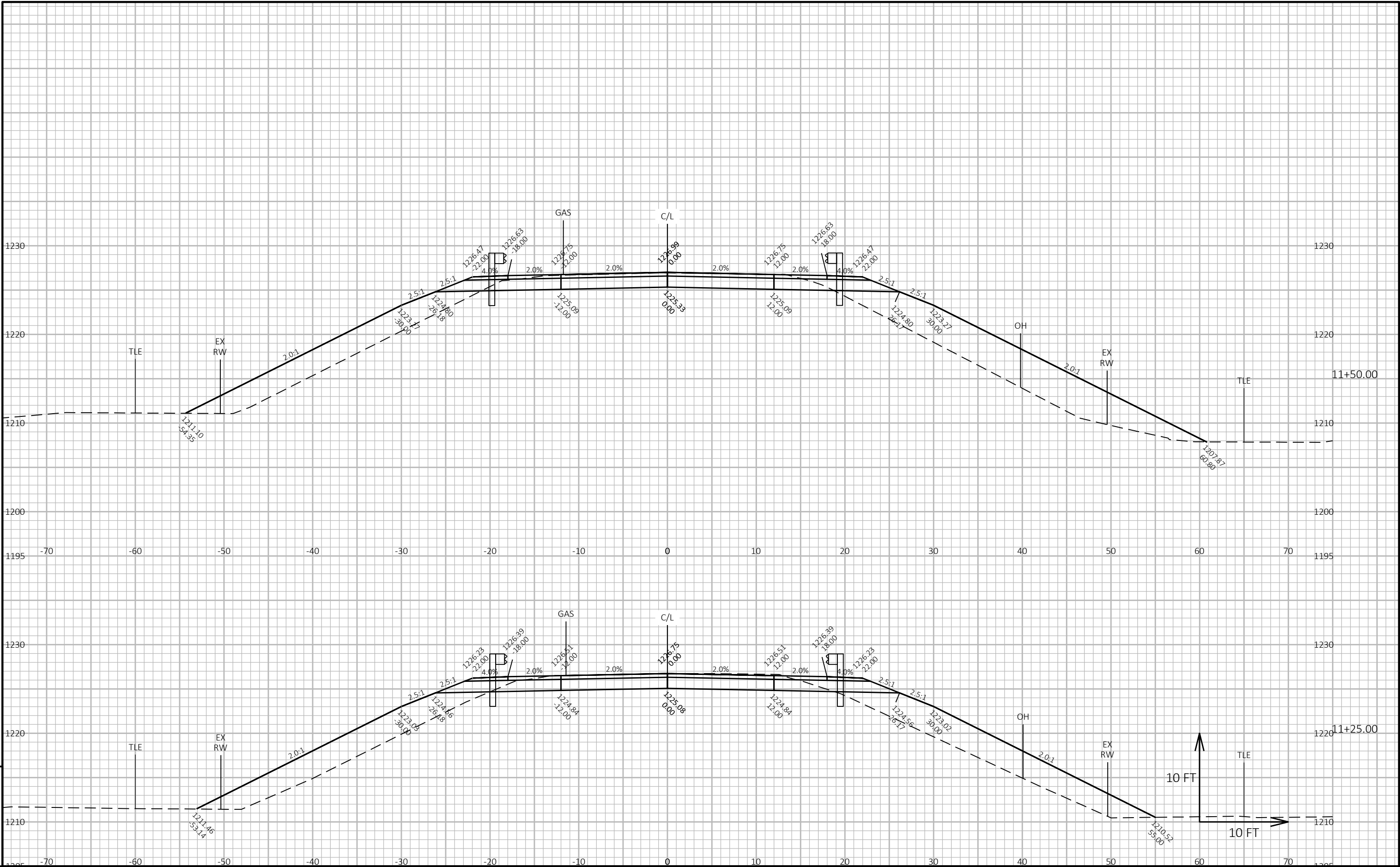
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-37-495			
DRAWN BY		CLP	PLANS CK'D KRO
SINGLE SLOPE PARAPET 42SS		SHEET 19 OF 19	

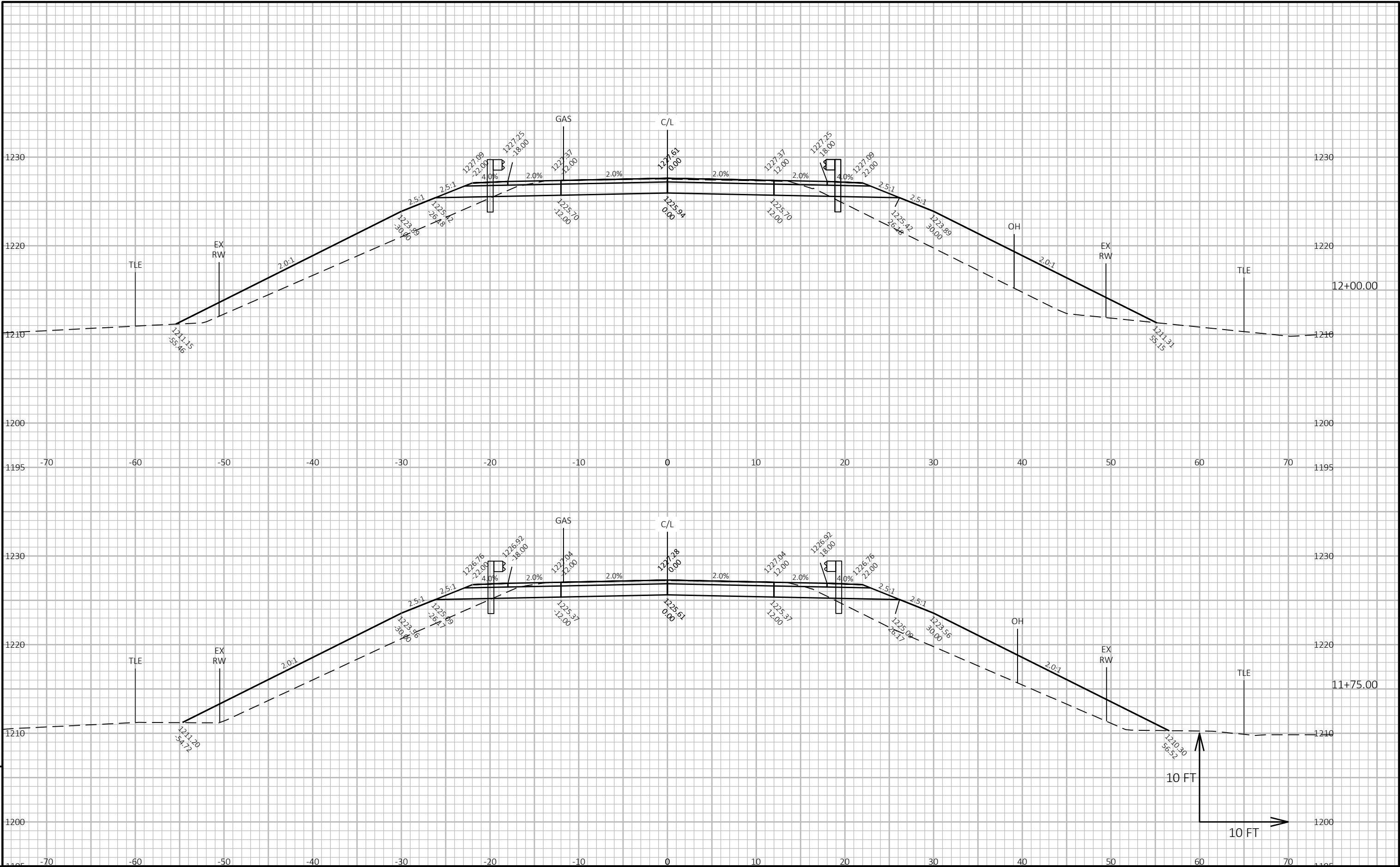
CTH J COMPUTER EARTHWORK									
Station	Area (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
	Cut	Unuseable Pavement Material	Fill	Salvaged /			Expanded		
				Cut	Unuseable Pavement Material	Fill	Cut 1.00	Fill 1.30	
Note 1	Note 4	Note 2	Note 5	Note 3					
7+50	16	0	0						
7+62	13	0	12	6	0	3	6	3	3
7+75	13	0	26	7	0	9	13	15	-3
7+86	13	0	37	5	0	12	18	32	-14
8+00	12	0	39	6	0	20	24	57	-33
8+10.73	11	0	34	5	0	14	29	76	-47
8+25	10	0	23	6	0	15	35	96	-61
8+35.73	9	0	16	4	0	8	39	106	-67
8+50.	41	12	29	13	3	12	49	121	-73
8+75	42	14	65	38	12	43	75	178	-103
8+90.75	37	12	121	23	8	54	90	248	-158
9+00.75	37	12	10	14	5	24	100	280	-180
BRIDGE	0	0	0	0	0	0	0	0	0
10+99.25	41	14	5	0	0	0	0	0	0
11+09.25	41	14	163	15	5	31	110	320	-211
11+25	41	13	167	24	8	96	126	445	-319
11+50	41	11	209	38	11	174	153	671	-519
11+75	40	12	171	38	11	176	180	900	-720
12+00	39	10	178	37	10	162	206	1110	-904
12+25	40	12	141	36	10	148	232	1302	-1070
12+49	42	13	127	36	11	116	257	1454	-1197
12+50.	6	0	116	1	0	7	258	1462	-1204
12+75.	7	0	58	6	0	81	264	1567	-1303
12+76.77	7	0	55	0	0	4	265	1572	-1308
13+00.	8	0	108	7	0	70	271	1663	-1392
13+02	8	0	112	1	0	7	272	1673	-1401
13+25.	10	0	96	8	0	90	279	1789	-1510
13+27	9	0	97	1	0	6	280	1798	-1517
13+49	9	0	54	8	0	62	288	1878	-1590
13+50	9	0	51	0	0	2	288	1881	-1593
13+68	9	0	0	6	0	17	294	1903	-1609
				389	94	1464			

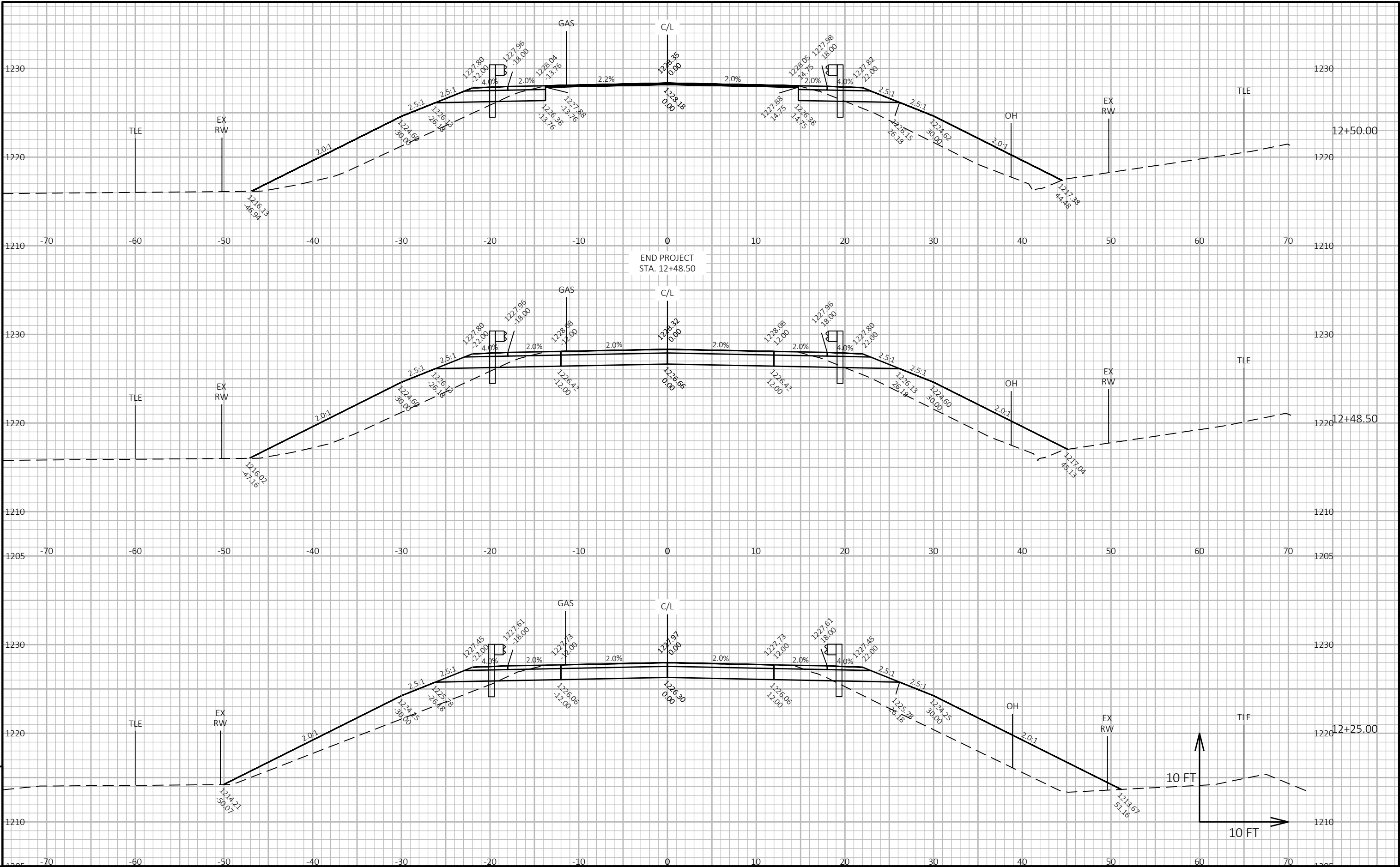


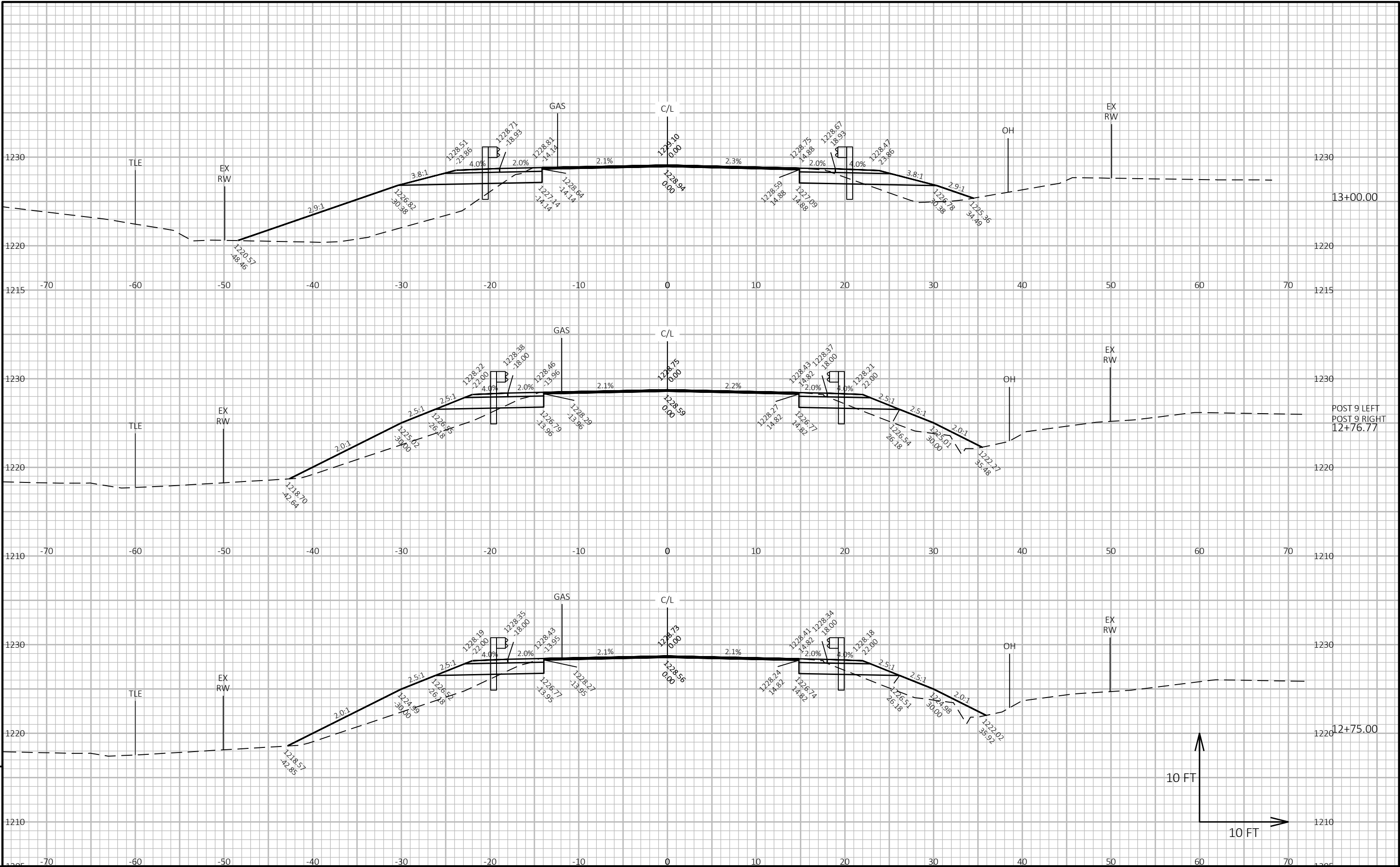


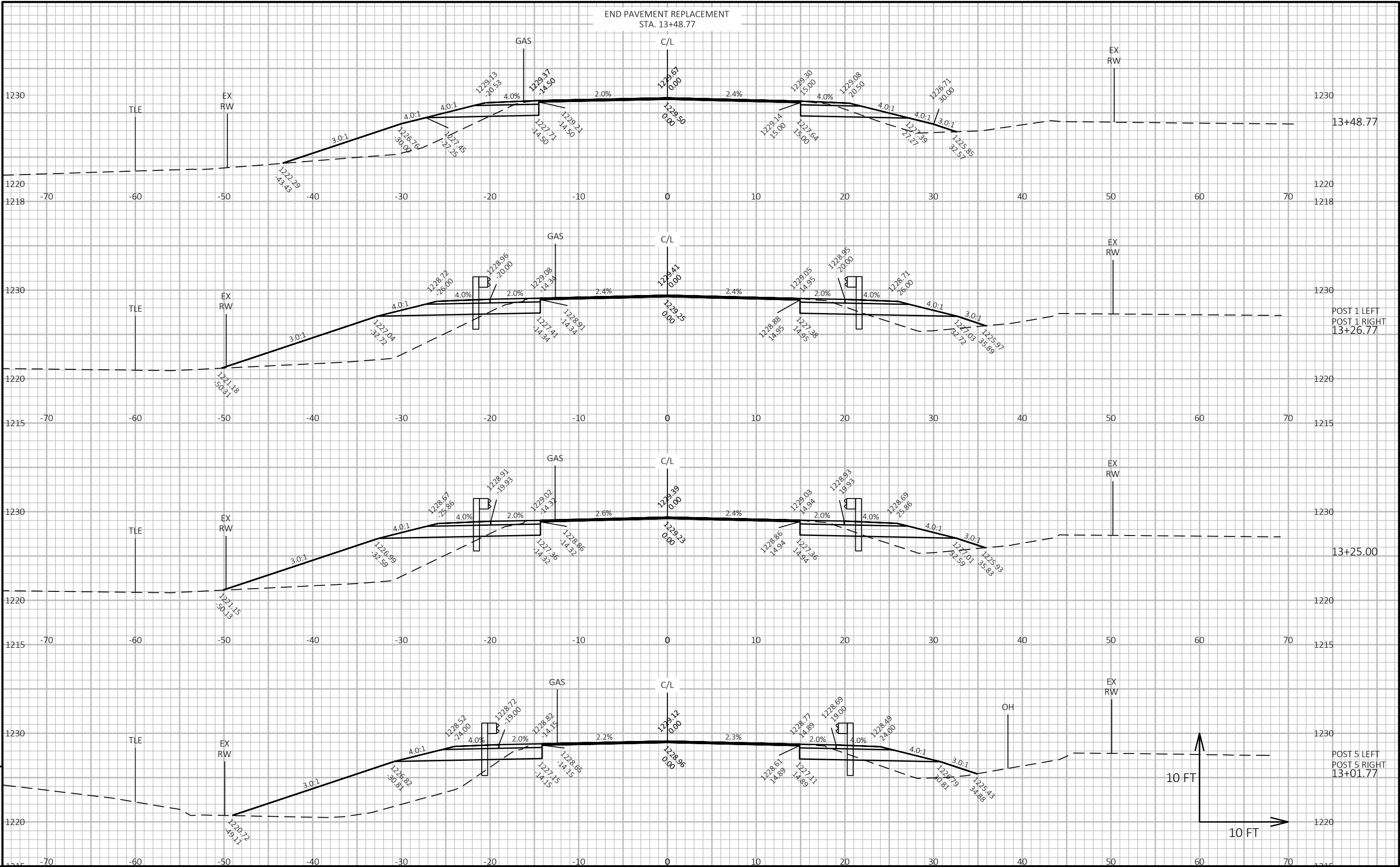












PROJECT NO: 9471-00-70

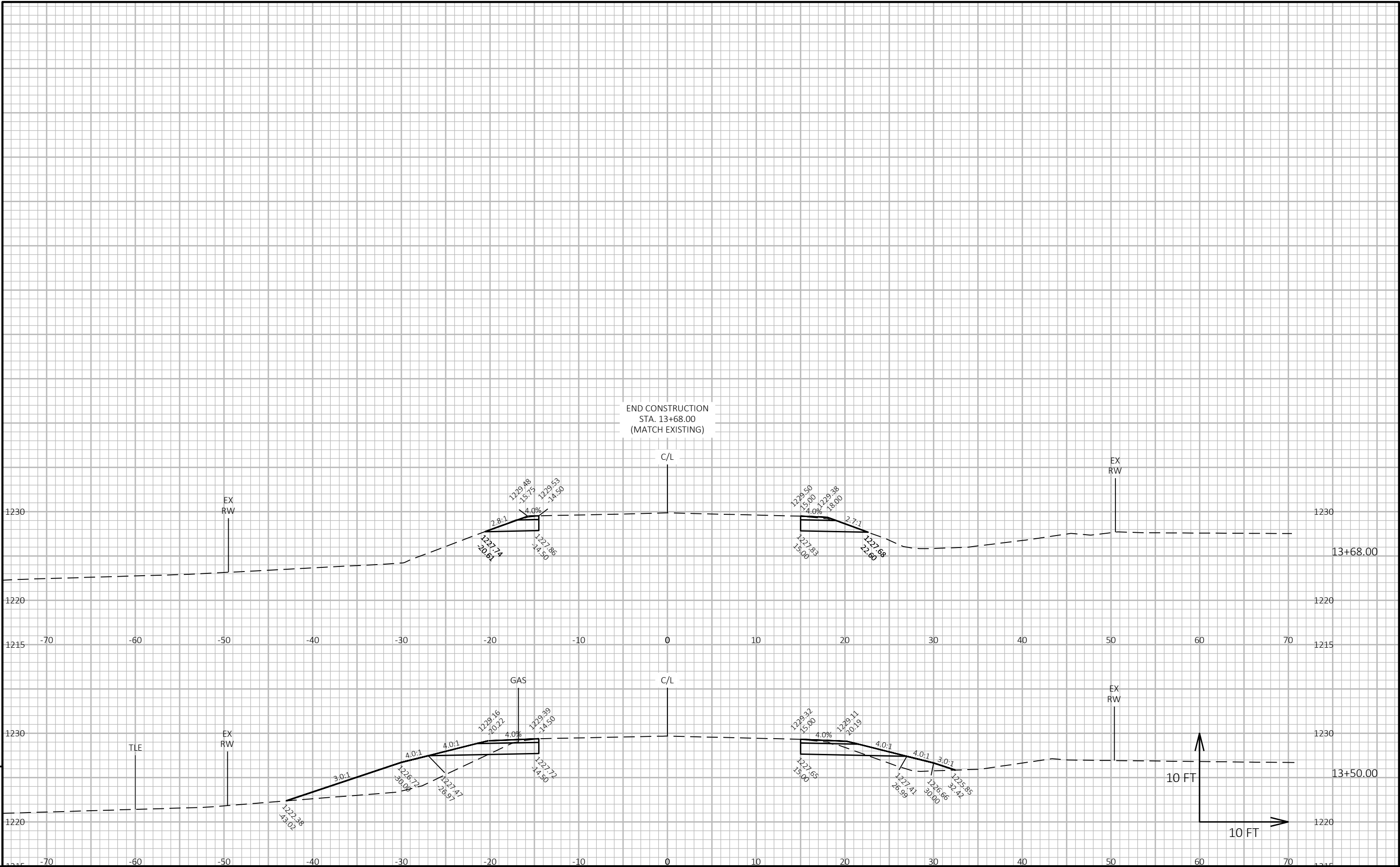
HWY: CTH J

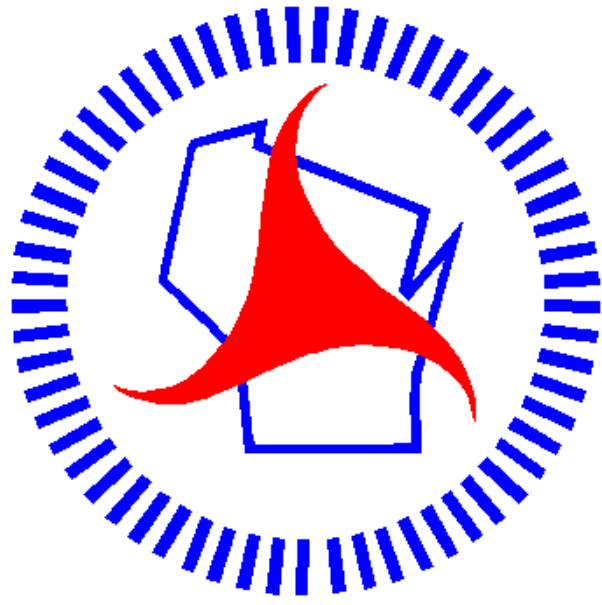
COUNTY: MARATHON

CROSS SECTIONS: CTH J

SHEET

E





Wisconsin Department of Transportation

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through innovation and exceptional service.

<http://www.dot.wisconsin.gov>