LAX

PROJECT ID: 7382-00-71

WITH: N/A

COUNTY: JUNEAU

DECEMBER 2025

ORDER OF SHEETS

TOTAL SHEETS = 66

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

C NEW LISBON - IH 90

LTL LEMONWEIR RVR BRIDGE B-29-0168

CTH M

JUNEAU COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7382-00-71	NA	

STATE PROJECT NUMBER

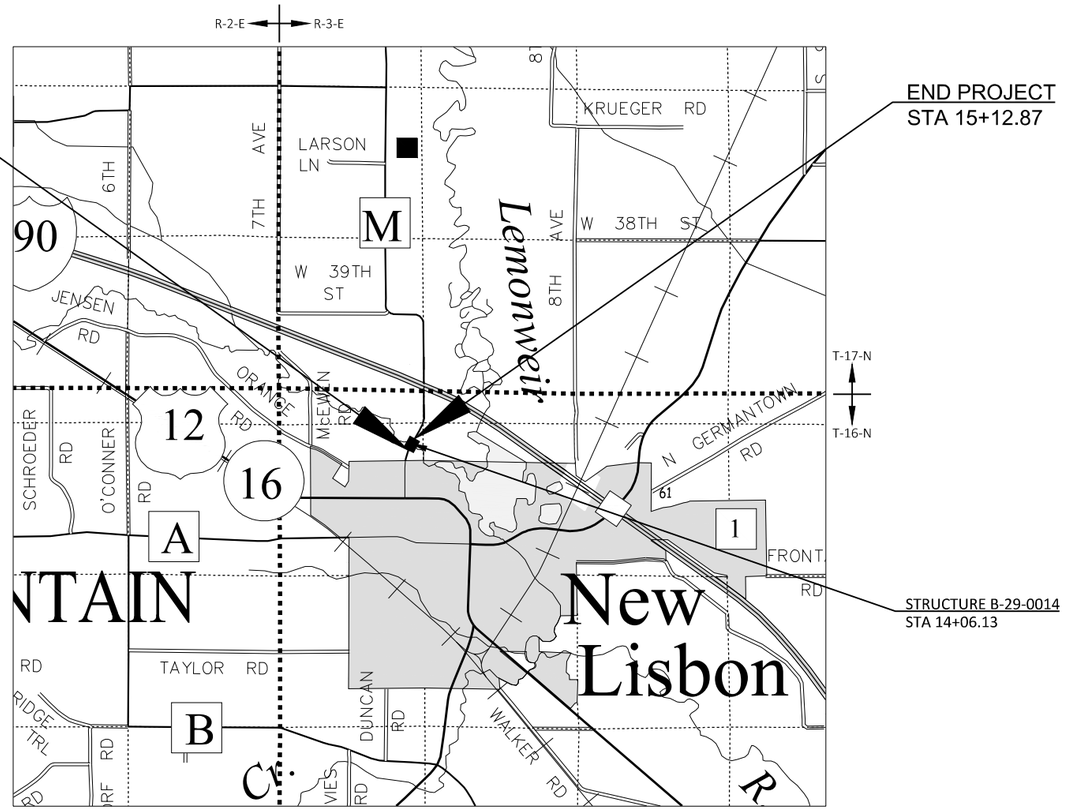
7382-00-71

DESIGN DESIGNATION 7382-00-01

A.A.D.T.	2026	=	490
A.A.D.T.	2046	=	547
D.H.V.		=	69
D.D.		=	62/38
T.		=	7.7
DESIGN SPEED		=	50 MPH
ESALS		=	88,000

BEGIN PROJECT
STA 12+99.37
Y = 190 454.414
X = 437 076.360

END PROJECT
STA 15+12.87



STRUCTURE B-29-0014
STA 14+06.13

LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.040 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), JUNEAU 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.

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 (300'ER')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

ACCEPTED FOR

JUNEAU COUNTY

7/8/25 (Date) *Travis Schultz* (Signature and Title of Official)

ORIGINAL PLANS PREPARED BY

WESTBROOK
Associated Engineers, Inc.
619 EAST HOXIE STREET
P.O. BOX 429
SPRING GREEN, WISCONSIN 53588
PHONE (608) 588-7866
FAX (608) 588-7954

WISCONSIN AARON B. PALMER E-35695 RICHLAND CENTER, WI PROFESSIONAL ENGINEER

DATE: 7/7/25 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WESTBROOK ASSOCIATED ENGINEERS, INC.
Designer	WESTBROOK ASSOCIATED ENGINEERS, INC.
Project Manager	DELLA KOENIG, P.E.
Regional Examiner	SW REGION
Regional Supervisor	KYLE HEMP, P.E.

APPROVED BY: Digitally signed by Della Koenig P.E. Date: 2025.07.16 09:45:22-05'00' (Signature)

DATE:

E

STANDARD ABBREVIATIONS

ABUT	ABUTMENT
AC	ACRE
AGG	AGGREGATE
AH	AHEAD
∠	ANGLE
AADT	ANNUAL AVERAGE DAILY TRAFFIC
AEW	APRON ENDWALL
ASPH	ASPHALTIC
BK	BACK
BAD	BASE AGGREGATE DENSE
BL OR B/L	BASE LINE
BM	BENCH MARK
CL OR C/L	CENTER LINE
Δ	CENTRAL ANGLE OR DELTA
CONC	CONCRETE
CONST	CONSTRUCTION
CP	CONTROL POINT
CO	COUNTY
CTH	COUNTY TRUNK HIGHWAY
CY	CUBIC YARD
D	DEGREE OF CURVE
DHV	DESIGN HOUR VOLUME
DIA	DIAMETER
DD	DIRECTIONAL DISTRIBUTION
DWY	DRIVEWAY
EA	EACH
EL OR ELEV	ELEVATION
EMB	EMBANKMENT
EAT	ENERGY ABSORBING TERMINAL
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC	EXCAVATION
EBS	EXCAVATION BELOW SUBGRADE
EXIST	EXISTING
FERT	FERTILIZER
FE	FIELD ENTRANCE
FL OR F/L	FLOW LINE
FT	FOOT
HE	HIGHWAY EASEMENT
CWT	HUNDRED WEIGHT
IN DIA	INCH DIAMETER
ID	INSIDE DIAMETER
INTERS	INTERSECTION
INV	INVERT
JT	JOINT
LT	LEFT
L	LENGTH OF CURVE
LF	LINEAR FOOT
LC	LONG CHORD OF CURVE
LS	LUMP SUM
MGAL	ONE THOUSAND GALLONS
ML OR M/L	MATCH LINE
NOM	NOMINAL
NC	NORMAL CROWN
NO	NUMBER
OD	OUTSIDE DIAMETER
PAVT	PAVEMENT
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
PCC	PORTLAND CEMENT CONCRETE
LB	POUND
PSI	POUNDS PER SQUARE INCH
PE	PRIVATE ENTRANCE
PROJ	PROJECT
PL	PROPERTY LINE
PRW	PROPOSED RIGHT OF WAY
R	RADIUS
RL OR R/L	REFERENCE LINE
REQD	REQUIRED
RT	RIGHT
R/W	RIGHT OF WAY
RD	ROAD
RDWY	ROADWAY
SHLDR	SHOULDER
SW	SIDEWALK
SPECS	SPECIFICATIONS
SF	SQUARE FEET
SY	SQUARE YARD
SDD	STANDARD DETAIL DRAWINGS
STA	STATION
SE	SUPERELEVATION
SL OR S/L	SURVEY LINE
TEMP	TEMPORARY
T	TRUCKS (PERCENT OF)
TYP	TYPICAL
VAR	VARIABLE
VC	VERTICAL CURVE
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
W	WEST

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	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 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIPTURF:	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPETURF:			.25 .32			.27 .34			.28 .36			.30 .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 = 0.87 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.76 ACRES

WISCONSIN DNR LIAISON

KAREN KALVELAGE
WISDOT SW REGION
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
PHONE: (608) 406-7880
EMAIL: karenkalvelage@wisconsin.gov

COUNTY HIGHWAY COMMISSIONER

TRAVIS SCHULTZ
JUNEAU COUNTY
930 EAST STATE STREET
MAUSTON, WI 53948
PHONE: (608) 847-9543
EMAIL: tschultz@juneaucountywi.gov

DESIGN PROJECT MANAGER

DELLA KOENIG, P.E.
SOUTHWEST REGION
2101 WRIGHT STREET
MADISON, WI 53704
PHONE: (608) 246-7963
EMAIL: della.koenig@dot.wi.gov

DESIGN LIAISON

AARON PALMER, P.E.
WESTBROOK ASSOCIATED ENGINEERS, INC.
619 EAST HOXIE STREET
SPRING GREEN, WI 53588
PHONE: (608) 588-7866
EMAIL: apalmer@westbrookeng.com

UTILITIES CONTACTS

LEMONWEIR VALLEY TELEPHONE COMPANY
COMMUNICATION LINE
BEN GRILLEY
127 US HWY 12/16
CAMP DOUGLAS, WI 54618
PHONE: (608) 427-4036
EMAIL: Ben.Grilley@getlynxx.com

OAKDALE ELECTRIC COOPERATIVE
ELECTRICITY-TRANSMISSION
DAN MCGARRY
PO BOX 40
OAKDALE, WI 54649
PHONE: (608) 372-8850
EMAIL: dmcgarry@oakdalerec.coop

DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

ORDER OF SECTION 2 DETAIL SHEETS

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.

CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY OPERATIONS, OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LBS/SY/IN.

APPLY TACK COAT BETWEEN LAYERS OF HMA PAVEMENT AT A RATE OF 0.05 GAL/SY.

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

RIGHT OF WAY INFORMATION SHOWN ON THE PLANS IS APPROXIMATE.

THE CONTRACTOR IS TO WORK WITH UTMOST CARE AND PROTECT ALL SURVEY MARKERS. REMOVAL OF ANY SURVEY MARKER IS TO BE WITH THE APPROVAL OF THE ENGINEER.

WHEN THE QUANTITY OF THE ITEMS OF BASE AGGREGATE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYERS SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL PREPARE AN EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND SUBMIT THE PLAN TO WISDOT AND WDNR FOR REVIEW AT LEAST 14 DAYS PRIOR TO THE PRECONSTRUCTION CONFERENCE.

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT APPROXIMATE LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S ECIP AND APPROVED BY THE ENGINEER. MAINTAIN EROSION CONTROL MEASURES UNTIL SUCH A TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

APPLY SEED, MULCH, OR EROSION MAT, AND FERTILIZER TO ALL DISTURBED AREAS WITHIN 7 WORKING DAYS AFTER GRADING WORK IS COMPLETE.

SLOPES STEEPER THAN 3:1 REQUIRE EROSION MAT.

THE PROPOSED SHOULDER WIDTH SHOWN IN THE TYPICAL SECTIONS ARE MINIMUM WIDTH. PERPETUATE EXISTING SHOULDERS THAT ARE WIDER THAN WHAT IS SHOWN IN THE TYPICAL SECTIONS.

THE CONTRACTOR'S PAVING OPERATION SHALL BE CONSISTENT WITH THE TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING, OR PARKING LANE.

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

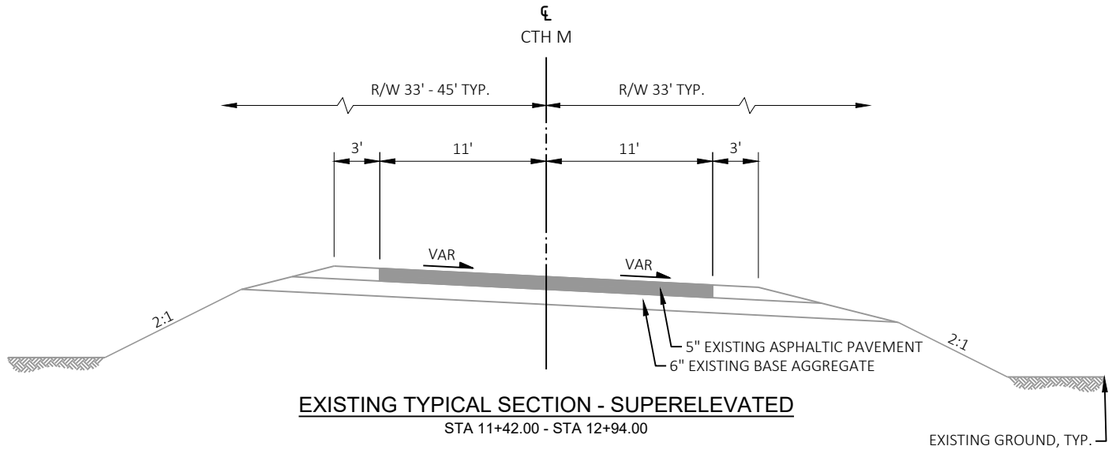
PRIOR TO PLACEMENT OF BEAM GUARD THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED.

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

DO NOT DRIVE OR STORE EQUIPMENT, OR STORE CONSTRUCTION MATERIALS IN ENVIRONMENTALLY SENSITIVE AREAS, WETLANDS OR WATERWAYS.

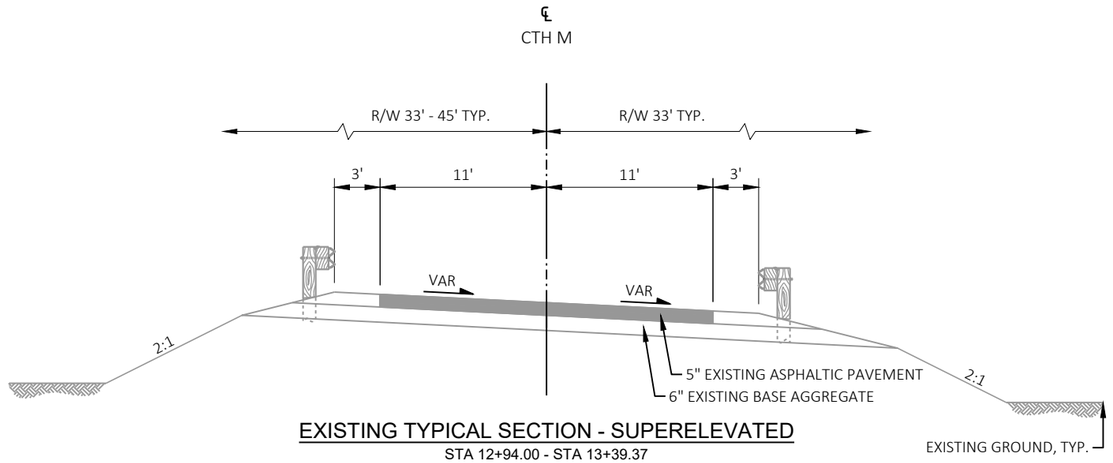
2

FILE NAME : G:\00-PROJECT FILES\2024\24161 ID 7382-00-01, CTH M, LITTLE LEMONWEIR RIVER, JUNEAU CO\0-CAD\SHEETS\020101_GN.DWG
LAYOUT NAME - 01
PLOT DATE : 5/30/2025 10:17 AM PLOT BY : ERICA BAUER PLOT NAME : PLOT SCALE : 1" = 1'
WISDOT/CADDS SHEET 42



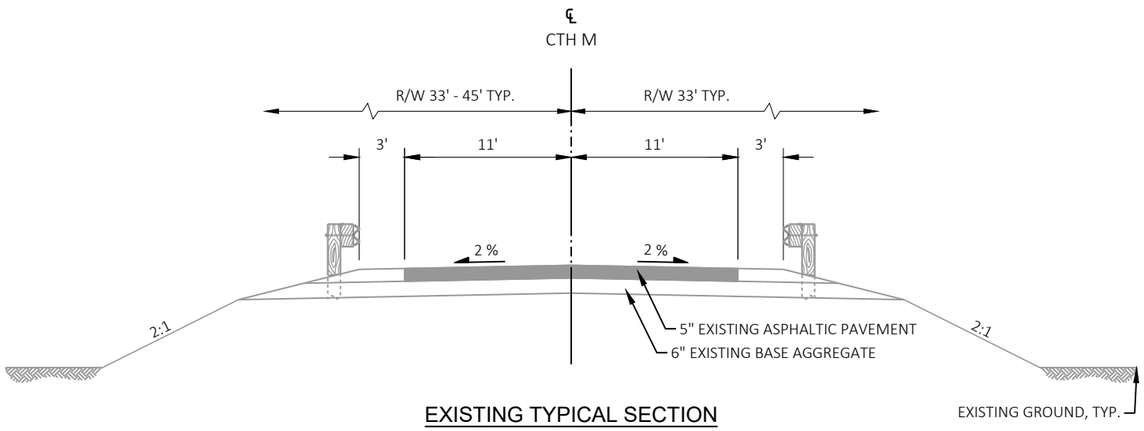
EXISTING TYPICAL SECTION - SUPERELEVATED

STA 11+42.00 - STA 12+94.00



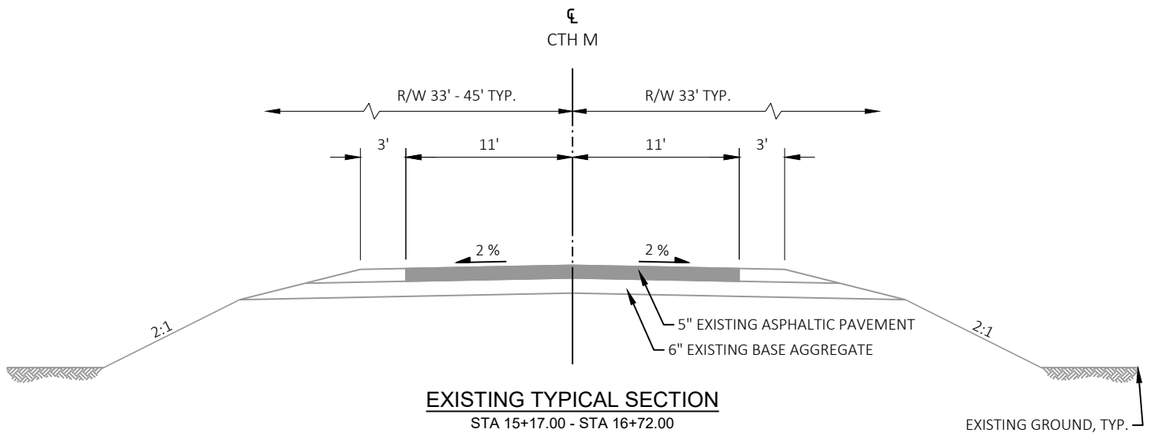
EXISTING TYPICAL SECTION - SUPERELEVATED

STA 12+94.00 - STA 13+39.37



EXISTING TYPICAL SECTION

STA 13+39.37 - STA 15+17.00



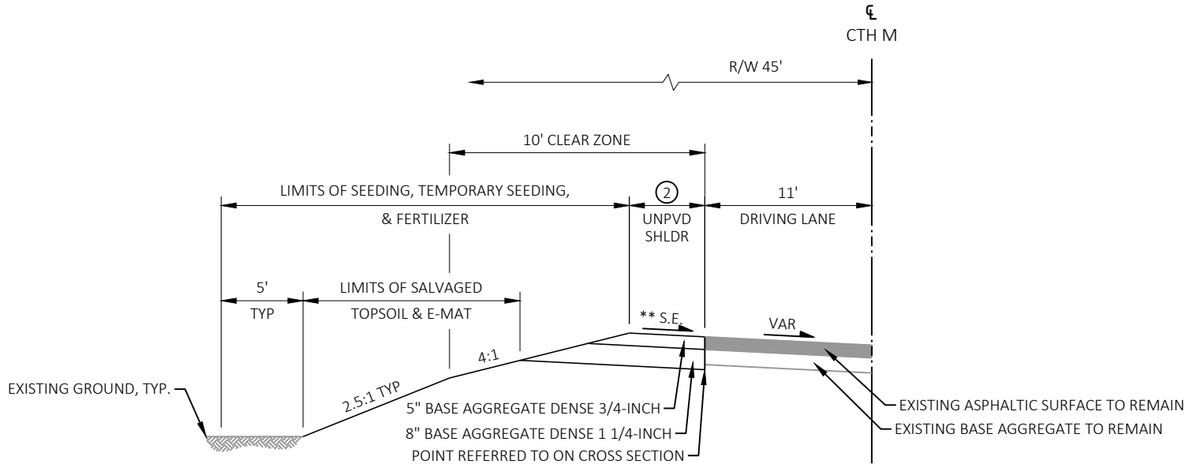
EXISTING TYPICAL SECTION

STA 15+17.00 - STA 16+72.00

PROJECT NO: 7382-00-71	HWY: CTH M	COUNTY: JUNEAU	TYPICAL SECTIONS	SHEET 3	E

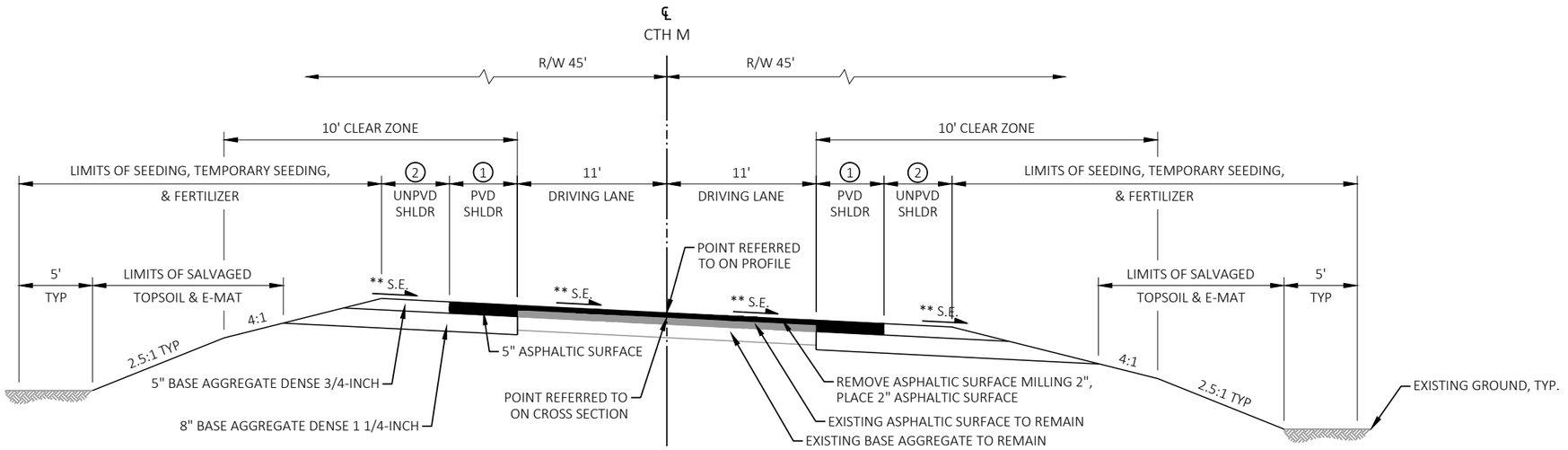
FILE NAME : G:\00-PROJECT FILES\2024\24161 ID 7382-00-01, CTH M, LITTLE LEMONWEIR RIVER, JUNEAU CO\0-CAD\SHEETS\020301_TS.DWG
LAYOUT NAME - 020301_ts
PLOT DATE : 10/17/2025 2:11 PM PLOT BY : ERIK MEYER PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2



FINISHED TYPICAL HALF SECTION - SUPERELEVATED SHOULDER ONLY

STA 11+42.00 - 12+10.00



FINISHED TYPICAL SECTION - SUPERELEVATED

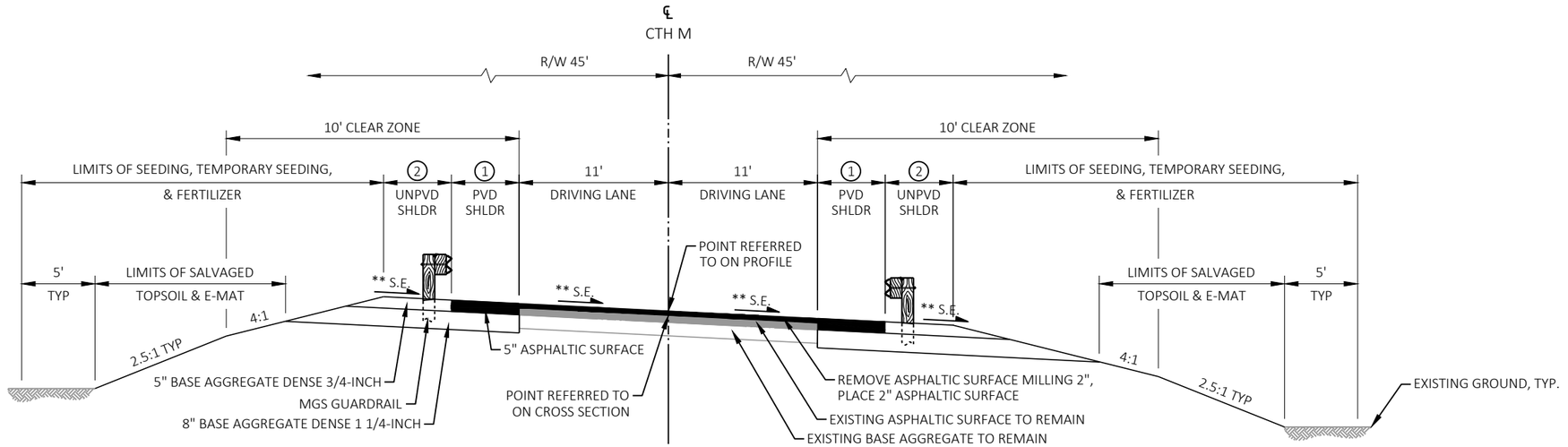
STA 12+10.00 - STA 12+59.98

(1) VARIES FROM 0' TO 5' WITH GUARDRAIL PAVING TAPER.

(2) VARIES FROM 3' TO 7'9" WITH GUARDRAIL TAPER.

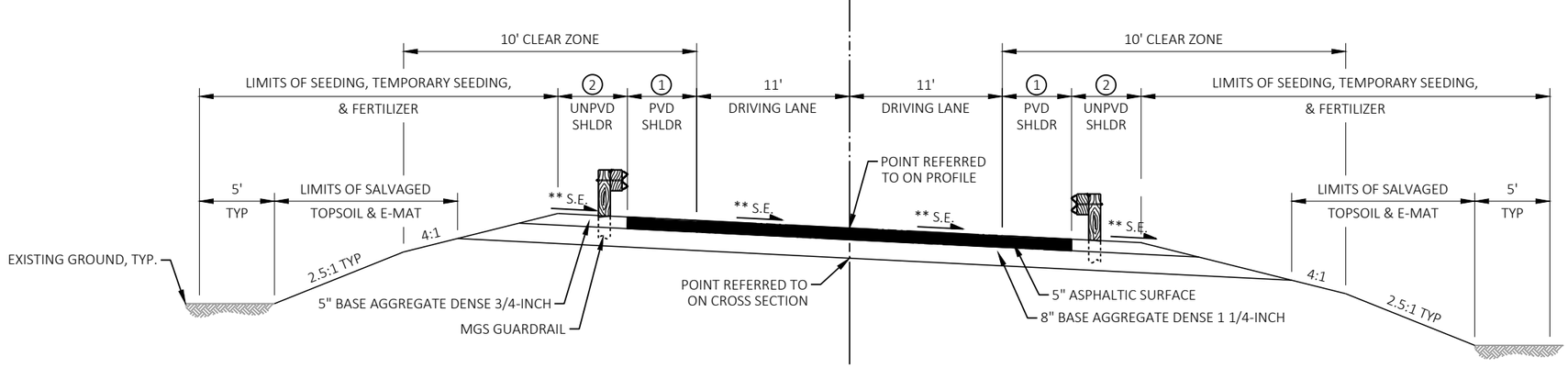
** SEE SUPER ELEVATION TABLE

PROJECT NO: 7382-00-71	HWY: CTH M	COUNTY: JUNEAU	TYPICAL SECTIONS	SHEET 4	E



FINISHED TYPICAL SECTION - SUPERELEVATED

STA 12+59.98 - STA 12+99.37



FINISHED TYPICAL SECTION - SUPERELEVATED

STA 12+99.37 - 13+39.37

SUPERELEVATION TABLE					
STATION	REMARK	LEFT UNPAVED SHOULDER	LEFT LANE	RIGHT LANE	RIGHT UNPAVED SHOULDER
11+42.00	BEGIN UNPAVED SHOULDER TAPER MATCH EXISTING	2.00%	2.00%	-7.50%	-7.50%
12+10.00	BEGIN MILL & OVERLAY MATCH EXISTING	1.00%	1.00%	-6.90%	-6.90%
12+99.37	BEGIN RECONSTRUCT MATCH EXISTING	0.00%	0.00%	-3.90%	-4.00%
13+39.37	NORMAL CROWN	-4.00%	-2.00%	-2.00%	-4.00%

(1) PAVE TO FACE OF GUARDRAIL. VARIES FROM 3' TO 5'.

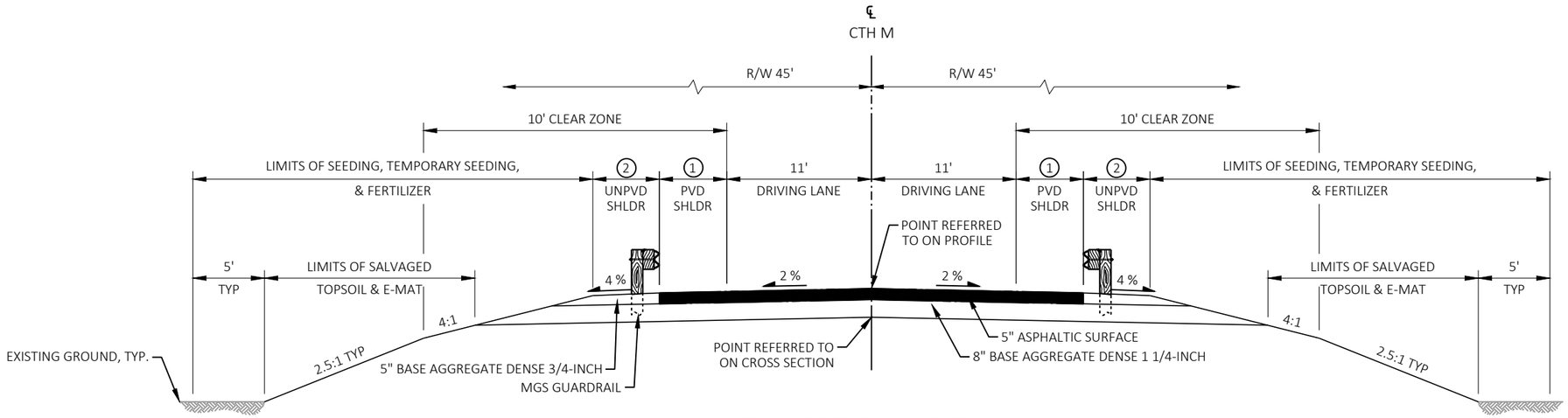
(2) VARIES FROM 3' TO 7'9" WITH GUARDRAIL TAPER.

** SEE SUPER ELEVATION TABLE

PROJECT NO: 7382-00-71	HWY: CTH M	COUNTY: JUNEAU	TYPICAL SECTIONS	SHEET 5	E

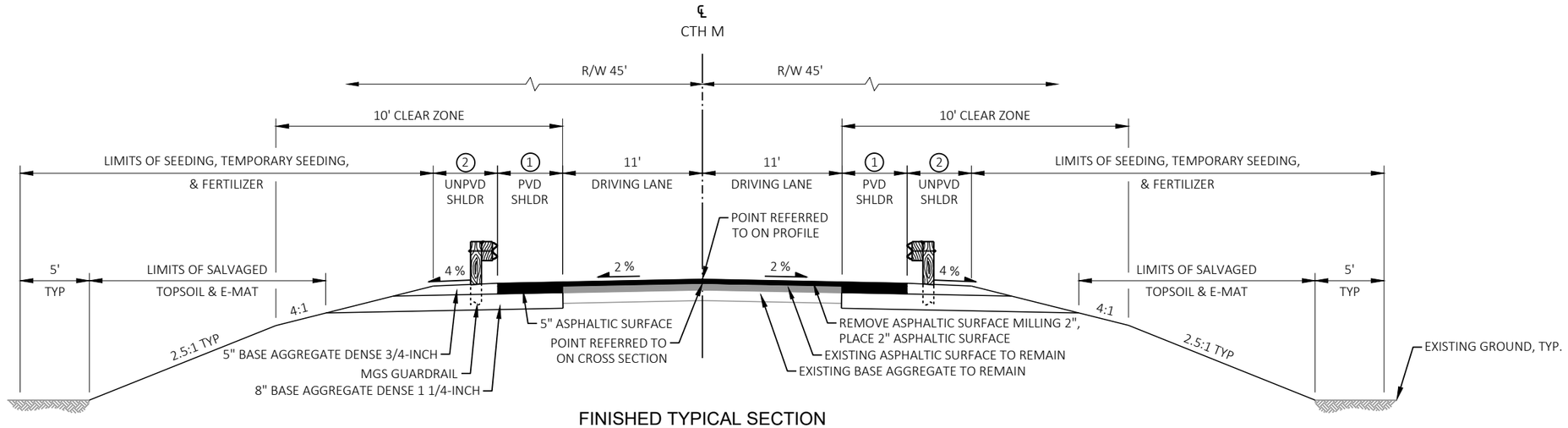
FILE NAME : G:\00-PROJECT FILES\2024\24161 ID 7382-00-01, CTH M, LITTLE LEMONWEIR RIVER, JUNEAU CO\0-CAD\SHEETS\020301_TS.DWG
LAYOUT NAME - 020303_ts
PLOT DATE : 10/17/2025 2:11 PM PLOT BY : ERIK MEYER PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2



FINISHED TYPICAL SECTION

STA 13+39.37 - STA 14+49.37
STA 14+62.87 - STA 15+12.87



FINISHED TYPICAL SECTION

STA 15+12.87 - STA 15+52.69

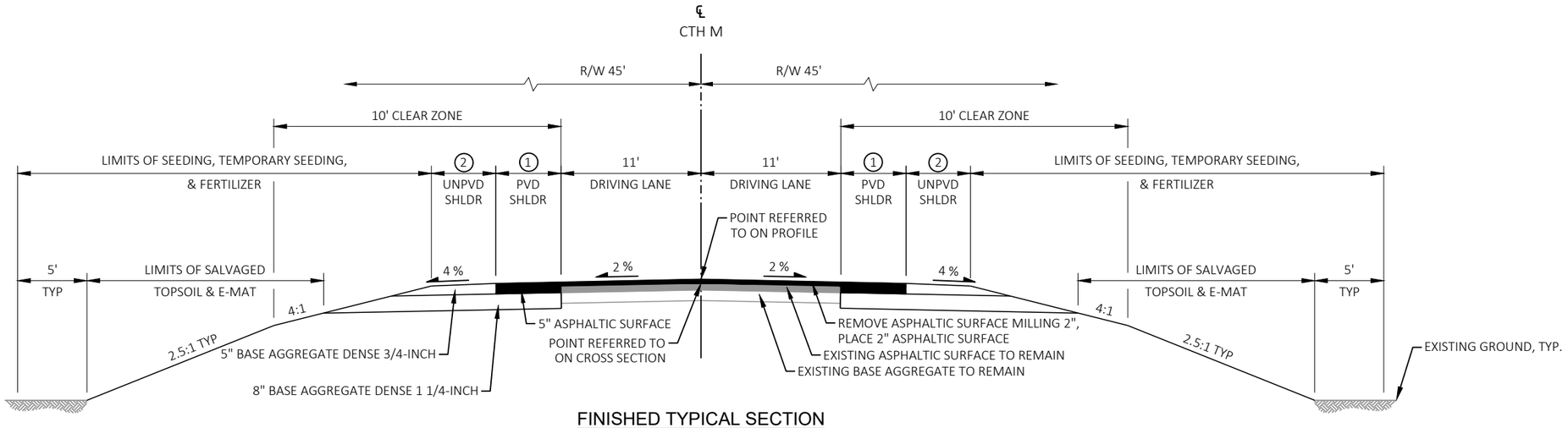
(1) PAVE TO FACE OF GUARDRAIL. VARIES FROM 3' TO 5'.

(2) VARIES FROM 3' TO 7'9" WITH GUARDRAIL TAPER.

PROJECT NO: 7382-00-71	HWY: CTH M	COUNTY: JUNEAU	TYPICAL SECTIONS	SHEET 6	E

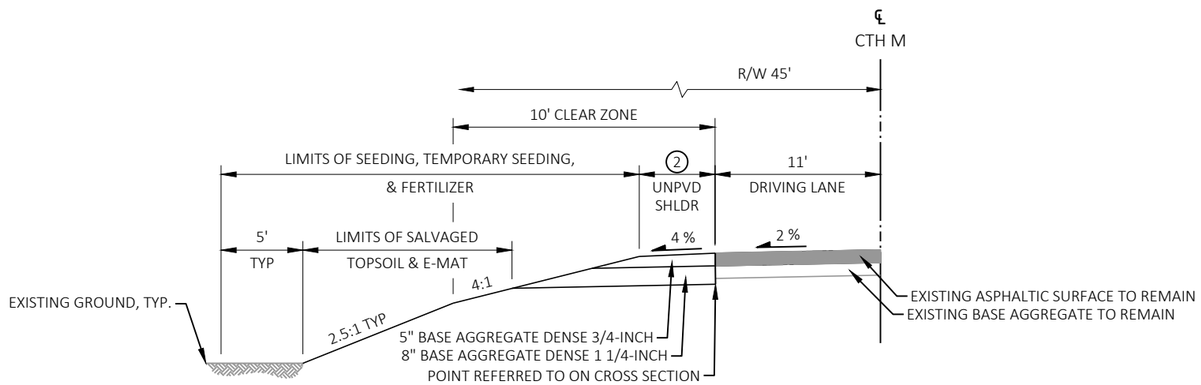
FILE NAME : G:\00-PROJECT FILES\2024\24161 ID 7382-00-01, CTH M, LITTLE LEMONWEIR RIVER, JUNEAU CO\0-CAD\SHEETS\020301_TS.DWG
LAYOUT NAME - 020304_ts
PLOT DATE : 10/17/2025 2:11 PM PLOT BY : ERIK MEYER PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2



FINISHED TYPICAL SECTION

STA 15+52.69 - STA 16+03.00



FINISHED TYPICAL HALF SECTION - SHOULDER ONLY

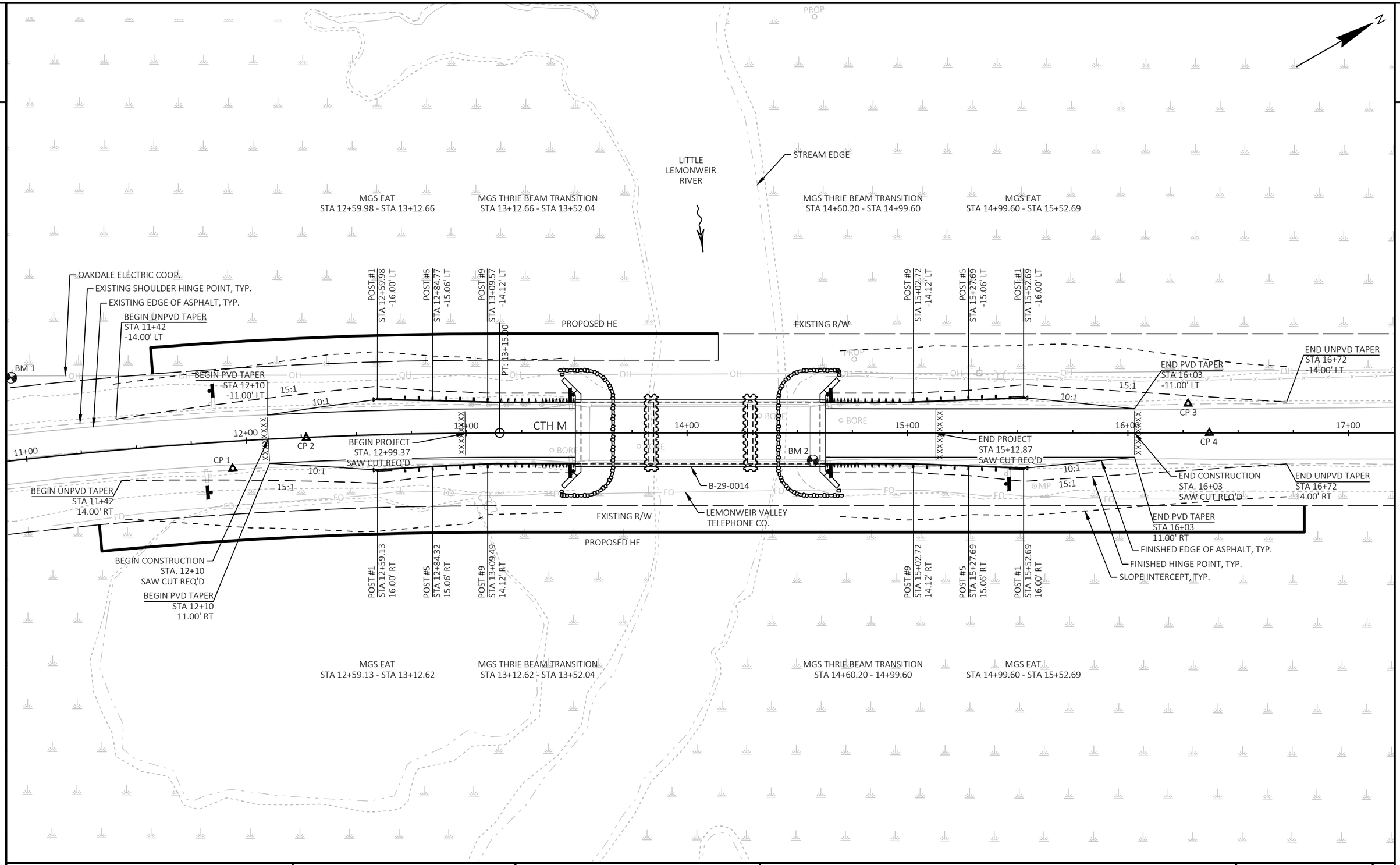
STA 16+03.00 - 16+72.00

(1) VARIES FROM 0' TO 5' WITH GUARDRAIL PAVING TAPER.

(2) VARIES FROM 3' TO 7'9" WITH GUARDRAIL TAPER.

PROJECT NO: 7382-00-71	HWY: CTH M	COUNTY: JUNEAU	TYPICAL SECTIONS	SHEET 7	E

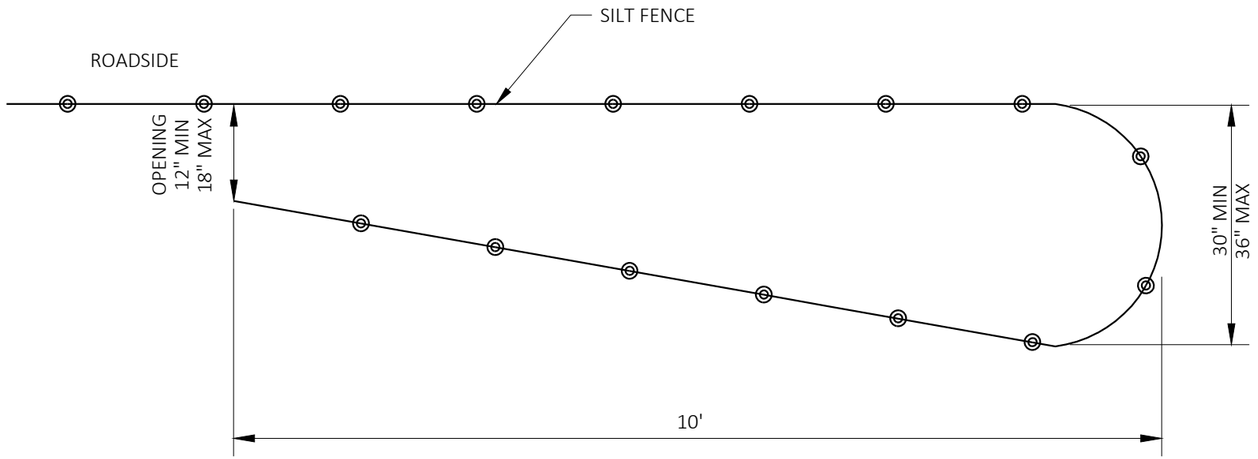
FILE NAME : G:\00-PROJECT FILES\2024\24161 ID 7382-00-01, CTH M, LITTLE LEMONWEIR RIVER, JUNEAU CO\0-CAD\SHEETS\020301_TS.DWG
LAYOUT NAME - 020305_ts
PLOT DATE : 10/17/2025 2:11 PM PLOT BY : ERIK MEYER PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



PROJECT NO: 7382-00-71	HWY: CTH M	COUNTY: JUNEAU	GUARDRAIL DETAILS	SHEET 8	E

FILE NAME : G:\00-PROJECT FILES\2024\24161 ID 7382-00-01, CTH M, LITTLE LEMONWEIR RIVER, JUNEAU CO\0-CAD\SHEETS\021001_BG.DWG
LAYOUT NAME - 021001_bg
PLOT DATE : 5/30/2025 10:56 AM
PLOT BY : ERICA BAUER
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

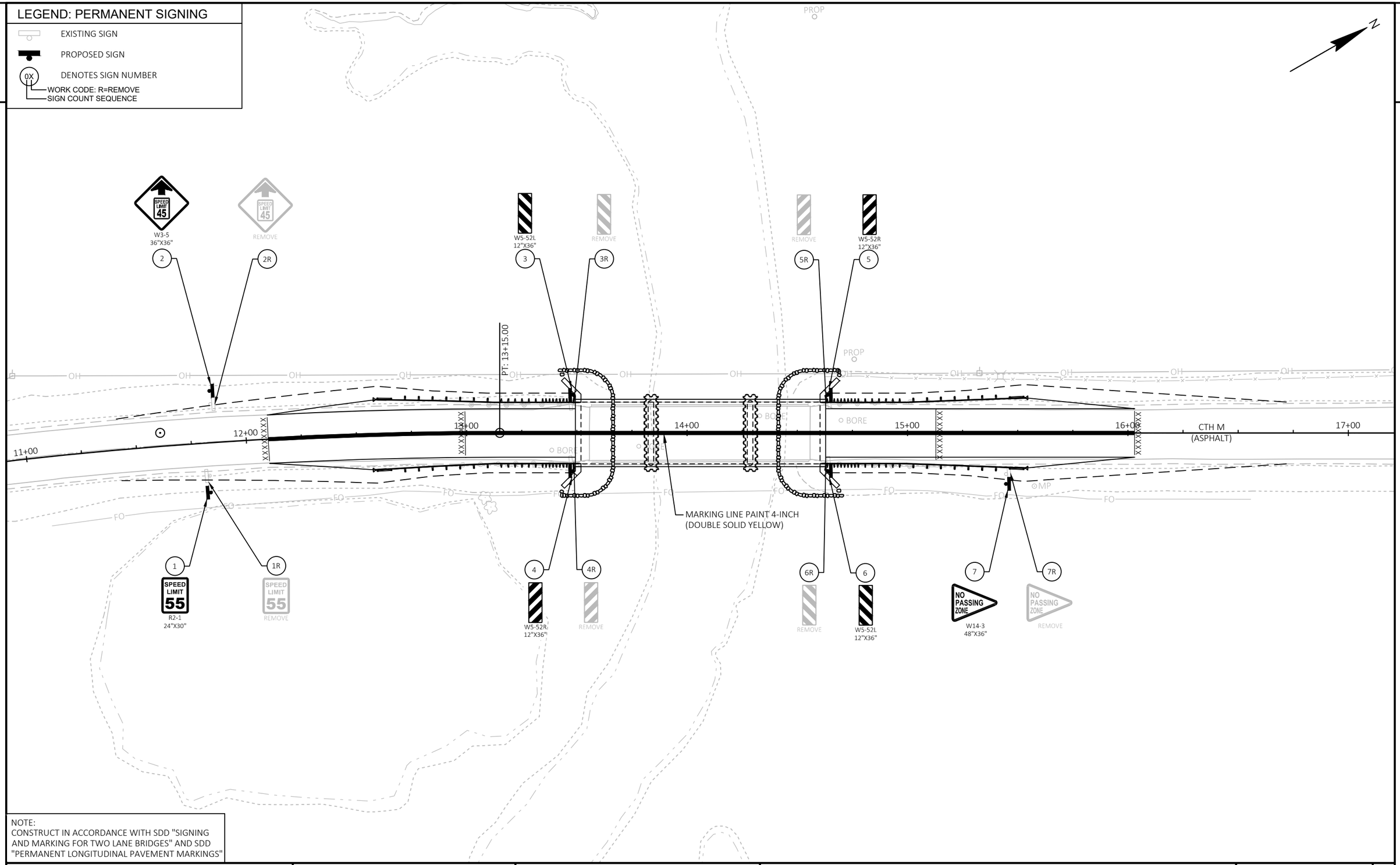


NOTES:
SILT FENCE POSTS SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND AND TRENCHED IN ACCORDING TO SILT FENCE REQUIREMENTS.

ANIMAL EXCLUSION FENCING TURN-AROUND

LEGEND: PERMANENT SIGNING

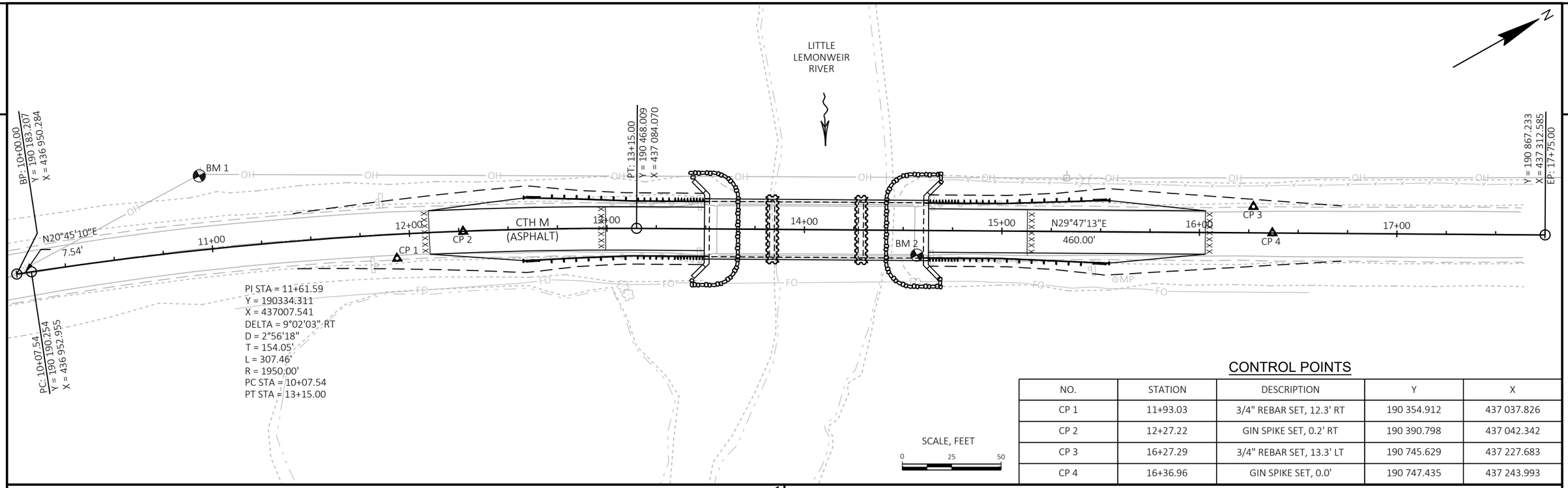
- EXISTING SIGN
- PROPOSED SIGN
- 0X — DENOTES SIGN NUMBER
  - WORK CODE: R=REMOVE
  - SIGN COUNT SEQUENCE



NOTE:
CONSTRUCT IN ACCORDANCE WITH SDD "SIGNING AND MARKING FOR TWO LANE BRIDGES" AND SDD "PERMANENT LONGITUDINAL PAVEMENT MARKINGS"

PROJECT NO: 7382-00-71	HWY: CTH M	COUNTY: JUNEAU	PERMANENT SIGNING AND PAVEMENT MARKING	SHEET 10	E

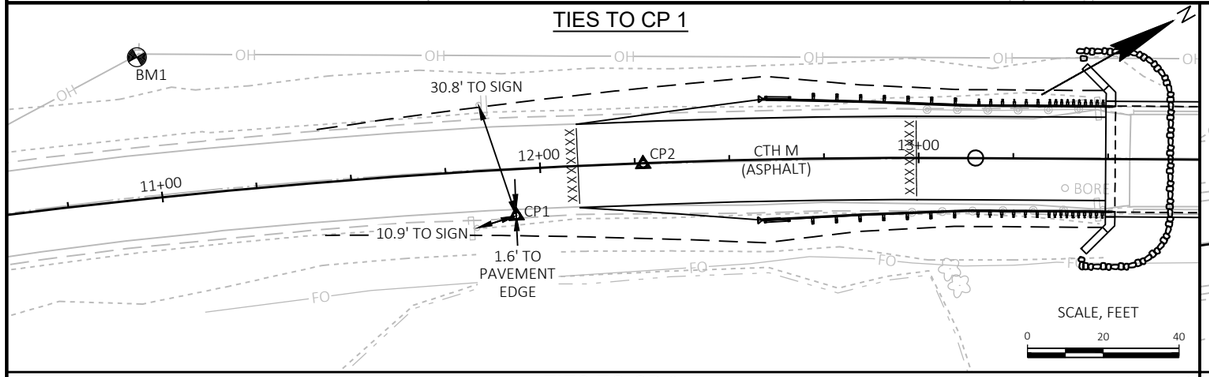
FILE NAME : G:\00-PROJECT FILES\2024\24161 ID 7382-00-01, CTH M, LITTLE LEMONWEIR RIVER, JUNEAU CO\0-CAD\SHEETS\023201_PS.DWG
LAYOUT NAME - 023201_ps
PLOT DATE : 6/13/2025 9:36 AM PLOT BY : ERIK MEYER PLOT NAME : PLOT SCALE : 1 IN:40 FT



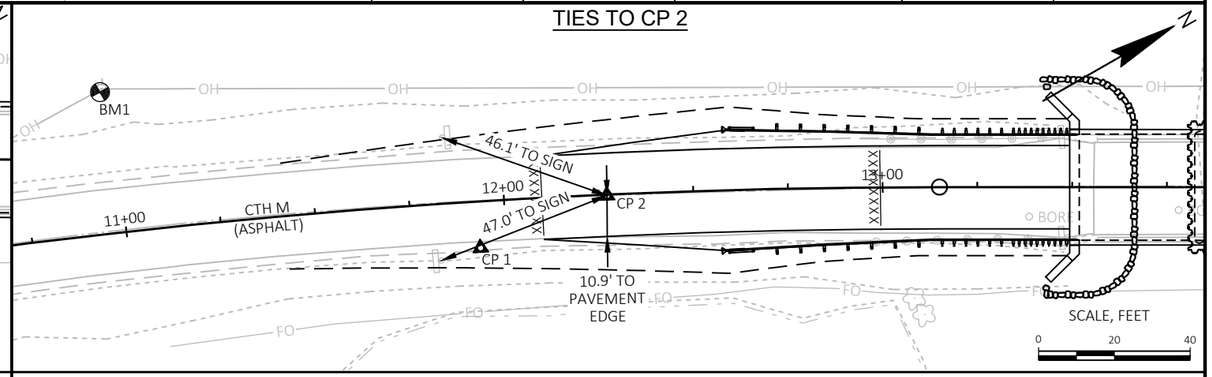
CONTROL POINTS

NO.	STATION	DESCRIPTION	Y	X
CP 1	11+93.03	3/4" REBAR SET, 12.3' RT	190 354.912	437 037.826
CP 2	12+27.22	GIN SPIKE SET, 0.2' RT	190 390.798	437 042.342
CP 3	16+27.29	3/4" REBAR SET, 13.3' LT	190 745.629	437 227.683
CP 4	16+36.96	GIN SPIKE SET, 0.0'	190 747.435	437 243.993

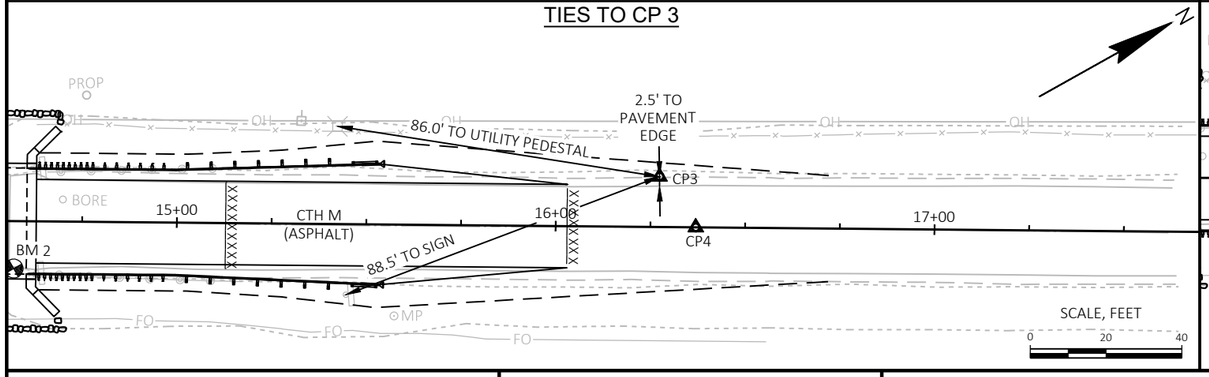
TIES TO CP 1



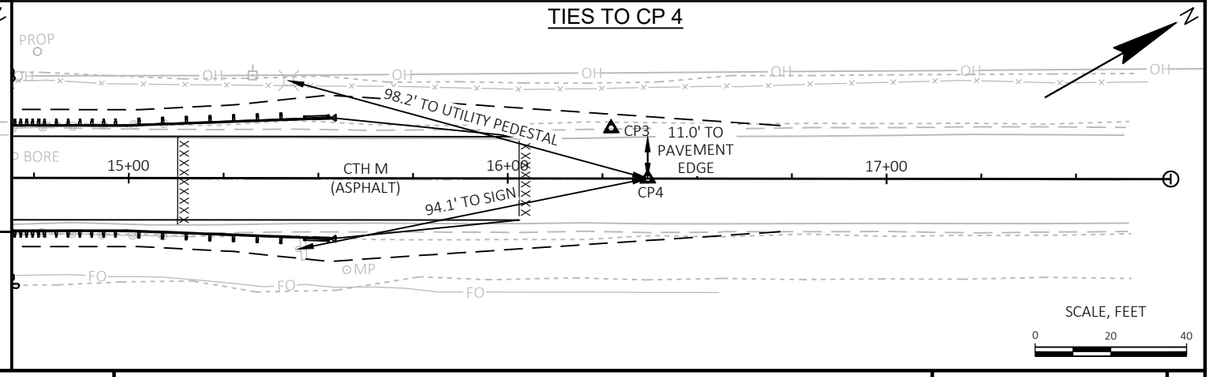
TIES TO CP 2



TIES TO CP 3



TIES TO CP 4



PROJECT NO: 7382-00-71	HWY: CTH M	COUNTY: JUNEAU	ALIGNMENT DETAILS AND CONTROL POINT TIES	SHEET 11	E

FILE NAME : G:\00-PROJECT FILES\2024\24161 ID 7382-00-01, CTH M, LITTLE LEMONWEIR RIVER, JUNEAU CO\0-CAD\SHEETS\027201_AD.DWG
LAYOUT NAME - 027201_ad

PLOT DATE : 5/30/2025 10:58 AM PLOT BY : ERICA BAUER PLOT NAME : PLOT SCALE : VARIES

WISDOT/CADDS SHEET 44

Estimate Of Quantities

7382-00-71

Line	Item	Item Description	Unit	Total	Qty
0002	203.0250	Removing Structure Over Waterway Remove Debris (structure) .01 B-29-14	EACH	1.000	1.000
0004	204.0120	Removing Asphaltic Surface Milling	SY	460.000	460.000
0006	204.0165	Removing Guardrail	LF	210.000	210.000
0008	205.0100	Excavation Common	CY	184.000	184.000
0010	206.1001	Excavation for Structures Bridges (structure) .01 B-29-168	EACH	1.000	1.000
0012	206.5001	Cofferdams (structure) .01 B-29-168	EACH	1.000	1.000
0014	208.0100	Borrow	CY	1,436.000	1,436.000
0016	210.1500	Backfill Structure Type A	TON	440.000	440.000
0018	213.0100	Finishing Roadway (project) .01 7382-00-71	EACH	1.000	1.000
0020	305.0110	Base Aggregate Dense 3/4-Inch	TON	163.000	163.000
0022	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	580.000	580.000
0024	455.0605	Tack Coat	GAL	46.000	46.000
0026	465.0105	Asphaltic Surface	TON	176.000	176.000
0028	502.0100	Concrete Masonry Bridges	CY	353.000	353.000
0030	502.3200	Protective Surface Treatment	SY	483.000	483.000
0032	502.9000.S	Underwater Substructure Inspection (structure) .01 B-29-168	EACH	1.000	1.000
0034	505.0400	Bar Steel Reinforcement HS Structures	LB	8,690.000	8,690.000
0036	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	49,570.000	49,570.000
0038	513.4061	Railing Tubular Type M	LF	233.000	233.000
0040	516.0500	Rubberized Membrane Waterproofing	SY	12.000	12.000
0042	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	1,295.000	1,295.000
0044	606.0300	Riprap Heavy	CY	160.000	160.000
0046	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	160.000	160.000
0048	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0050	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0052	618.0100	Maintenance and Repair of Haul Roads (project) .01 7382-00-71	EACH	1.000	1.000
0054	619.1000	Mobilization	EACH	1.000	1.000
0056	624.0100	Water	MGAL	7.600	7.600
0058	625.0500	Salvaged Topsoil	SY	1,550.000	1,550.000
0060	628.1504	Silt Fence	LF	1,200.000	1,200.000
0062	628.1520	Silt Fence Maintenance	LF	1,854.000	1,854.000
0064	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0066	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0068	628.2008	Erosion Mat Urban Class I Type B	SY	1,550.000	1,550.000
0070	628.6005	Turbidity Barriers	SY	325.000	325.000
0072	629.0210	Fertilizer Type B	CWT	2.500	2.500
0074	630.0130	Seeding Mixture No. 30	LB	125.000	125.000
0076	630.0200	Seeding Temporary	LB	75.000	75.000
0078	630.0500	Seed Water	MGAL	60.000	60.000
0080	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0082	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	3.000	3.000
0084	637.2230	Signs Type II Reflective F	SF	31.560	31.560
0086	638.2602	Removing Signs Type II	EACH	7.000	7.000
0088	638.3000	Removing Small Sign Supports	EACH	7.000	7.000
0090	642.5001	Field Office Type B	EACH	1.000	1.000
0092	643.0420	Traffic Control Barricades Type III	DAY	2,599.000	2,599.000
0094	643.0705	Traffic Control Warning Lights Type A	DAY	5,198.000	5,198.000
0096	643.0900	Traffic Control Signs	DAY	2,260.000	2,260.000
0098	643.5000	Traffic Control	EACH	1.000	1.000

Estimate Of Quantities

7382-00-71

Line	Item	Item Description	Unit	Total	Qty
0100	645.0111	Geotextile Type DF Schedule A	SY	68.000	68.000
0102	645.0120	Geotextile Type HR	SY	302.000	302.000
0104	646.1005	Marking Line Paint 4-Inch	LF	786.000	786.000
0106	650.4500	Construction Staking Subgrade	LF	280.000	280.000
0108	650.5000	Construction Staking Base	LF	280.000	280.000
0110	650.6501	Construction Staking Structure Layout (structure) .01 B-29-0168	EACH	1.000	1.000
0112	650.9911	Construction Staking Supplemental Control (project) .01 7382-00-71	EACH	1.000	1.000
0114	650.9920	Construction Staking Slope Stakes	LF	280.000	280.000
0116	690.0150	Sawing Asphalt	LF	90.000	90.000
0118	715.0502	Incentive Strength Concrete Structures	DOL	2,118.000	2,118.000
0120	999.2000.S	Installing and Maintaining Bird Deterrent System (station) .01 14+00	EACH	1.000	1.000
0122	SPV.0090	Special .01 Flashing Stainless Steel	LF	217.000	217.000

NOTE:
ALL ITEMS CATEGORY 0010 UNLESS NOTED OTHERWISE

3

'REMOVING ASPHALTIC SURFACE MILLING

STATION	TO	STATION	LOCATION	204.0120 SY
12+10	-	13+00	SOUTH APPROACH	230
15+13	-	16+03	NORTH APPROACH	230
			TOTAL	460

REMOVING GUARDRAIL

STATION	TO	STATION	LOCATION	204.0165 LF
12+94	-	13+46	SOUTH APPROACH, RT	52
12+94	-	13+46	SOUTH APPROACH, LT	53
14+65	-	15+17	NORTH APPROACH, RT	53
14+65	-	15+17	NORTH APPROACH, LT	52
			TOTAL	210

BASE AGGREGATE DENSE

STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL
11+42	-	13+00	SOUTH APPROACH	66	180	2.5
13+00	-	13+48	SOUTH APPROACH	16	110	1.3
14+63	-	15+13	NORTH APPROACH	16	110	1.3
14+64	-	16+72	NORTH APPROACH	65	180	2.5
			TOTAL	163	580	7.6

DIVISION	FROM/TO STATION	205.0100 EXCAVATION COMMON (CY) (1) CUT (CY) (2)	SALVAGED/UNUSABLE PAVEMENT MATERIAL (CY) (3)	AVAILABLE MATERIAL (CY) (4)	UNEXPANDED FILL (CY)	EXPANDED FILL (CY) (5) FACTOR 1.25	MASS ORDINATE +/- (CY) (6)	WASTE (CY) (7)	208.0100 BORROW (CY)
DIVISION 1									
SOUTH APPROACH	11+42.00/13+49.38	96	33	63	649	811	-748	0	748
DIVISION 1 SUBTOTAL		96	33	63	649	811	-748	0	748
DIVISION 2									
NORTH APPROACH	14+62.87/16+72.00	88	37	51	591	739	-688	0	688
DIVISION 2 SUBTOTAL		88	37	51	591	739	-688	0	688
GRAND TOTAL		184	70	114	1,240	1,550	-1,436	0	1,436

NOTES:
(1) EXCAVATION COMMON IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
(2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(3) SALVAGED/UNUSABLE PAVEMENT MATERIAL
(4) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL
(5) EXPANDED FILL FACTOR = 1.25
(6) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
(7) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

ASPHALTIC PAVEMENT

STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON	REMARKS
12+10	-	13+00	SOUTH APPROACH	11	25	MILLING
13+00	-	13+48	SOUTH APPROACH	12	63	RECONSTRUCT
14+63	-	15+13	NORTH APPROACH	12	63	RECONSTRUCT
15+13	-	16+03	NORTH APPROACH	11	25	MILLING
			TOTAL	46	176	

MOBILIZATION EROSION CONTROL

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT	5	4
TOTAL	5	4

MGS GUARDRAIL

STATION	TO	STATION	LOCATION	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
12+60	-	13+52	SOUTH APPROACH, RT	39.4	1
12+60	-	13+52	SOUTH APPROACH, LT	39.4	1
14+60	-	15+53	NORTH APPROACH, RT	39.4	1
14+60	-	15+53	NORTH APPROACH, LT	39.4	1
			TOTAL	157.6	4

FINISHING ITEMS

STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
11+42	-	13+49	SOUTH APPROACH, RT	360	360	0.5	27	16	14
11+42	-	13+49	SOUTH APPROACH, LT	265	265	0.5	21	13	11
14+63	-	16+72	NORTH APPROACH, RT	285	285	0.5	23	14	12
14+63	-	16+72	NORTH APPROACH, LT	330	330	0.5	25	15	13
			UNDISTRIBUTED	310	310	0.5	29	17	10
			TOTAL	1,550	1,550	2.5	125	75	60

TURBIDITY BARRIER

LOCATION	628.6005 SY
SOUTH ABUTMENT	120
NORTH ABUTMENT	140
UNDISTRIBUTED	65
TOTAL	325

SILT FENCE

STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
11+23	-	11+59	SOUTH APPROACH, RT	52	104
13+08	-	13+87	SOUTH APPROACH, RT	82	164
11+24	-	13+84	SOUTH APPROACH, LT	259	518
14+37	-	16+90	NORTH APPROACH, RT	271	542
14+44	-	16+89	NORTH APPROACH, LT	263	526
			UNDISTRIBUTED	273	---
			TOTAL	1,200	1,854

3

PERMANENT SIGNING

STATION	LOCATION	SIGN NUMBER	SIGN CODE	634.0612 POSTS WOOD 4X6-INCH X 12-FT EACH	634.0614 POSTS WOOD 4X6-INCH X 14-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
11+81	SOUTH APPROACH, RT	1	R2-1	---	1	5.00	---	---	SPEED LIMIT 55 MPH
11+81	SOUTH APPROACH, RT	1R	R2-1	---	---	---	1	1	SPEED LIMIT 55 MPH
11+86	SOUTH APPROACH, LT	2	W3-5	---	1	9.00	---	---	SPEED LIMIT AHEAD 45 MPH
11+86	SOUTH APPROACH, LT	2R	W3-5	---	---	---	1	1	SPEED LIMIT AHEAD 45 MPH
13+49	SOUTH APPROACH, RT	4	W5-52R	1	---	3.00	---	---	BRIDGE HASH MARKS
13+49	SOUTH APPROACH, RT	4R	W5-52R	---	---	---	1	1	BRIDGE HASH MARKS
13+49	SOUTH APPROACH, LT	3	W5-52L	1	---	3.00	---	---	BRIDGE HASH MARKS
13+49	SOUTH APPROACH, LT	3R	W5-52L	---	---	---	1	1	BRIDGE HASH MARKS
14+64	NORTH APPROACH, RT	6	W5-52L	1	---	3.00	---	---	BRIDGE HASH MARKS
14+64	NORTH APPROACH, RT	6R	W5-52L	---	---	---	1	1	BRIDGE HASH MARKS
14+65	NORTH APPROACH, LT	5	W5-52R	1	---	3.00	---	---	BRIDGE HASH MARKS
14+65	NORTH APPROACH, LT	5R	W5-52R	---	---	---	1	1	BRIDGE HASH MARKS
15+46	NORTH APPROACH, RT	7	W14-3	---	1	5.56	---	---	NO PASSING ZONE
15+46	NORTH APPROACH, RT	7R	W14-3	---	---	---	1	1	NO PASSING ZONE
			TOTAL	4	3	31.56	7	7	

TRAFFIC CONTROL

LOCATION	DURATION DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III NO	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A NO	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0900 TRAFFIC CONTROL SIGNS NO	643.0900 TRAFFIC CONTROL SIGNS DAY	643.5000 TRAFFIC CONTROL EACH
SOUTH APPROACH	113	9	1017	18	2034	8	904	---
NORTH APPROACH	113	9	1017	18	2034	8	904	----
UNDISTRIBUTED	113	5	565	10	1130	4	452	---
PROJECT	---	---	---	---	---	---	---	1
TOTAL		23	2,599	46	5,198	20	2,260	1

PLACE TRAFFIC CONTROL IN ACCORDANCE WITH SDD 12C2 "BARRICADES AND SIGNS FOR MAINLINE, DETOUR, ON RAMP CLOSURES AND ADVANCED WIDTH RESTRICTIONS."

PLACEMENT SUBJECT TO ENGINEER APPROVAL.

3

MARKING LINE PAINT 4-INCH

STATION	TO	STATION	646.1005 LF	REMARKS
12+10	-	16+03	786	DOUBLE YELLOW, CENTERLINE
		TOTAL	786	

CONSTRUCTION STAKING

STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	* 650.6501.01 CONSTRUCTION STAKING STRUCTURE LAYOUT 01. B-29-0168 EACH	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL 01. 7382-00-71 EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
12+10	-	13+50	SOUTH APPROACH	140	140	---	---	140
14+63	-	16+03	NORTH APPROACH	140	140	---	---	140
	-		PROJECT	---	---	1	1	---
			TOTAL	280	280	1	1	280

* CATEGORY 0020

SAWING ASPHALT

STATION	LOCATION	690.0150 LF
12+10	SOUTH APPROACH	22
12+99	SOUTH APPROACH	23
15+13	NORTH APPROACH	23
16+03	NORTH APPROACH	22
	TOTAL	90

CONVENTIONAL SYMBOLS

SECTION LINE
QUARTER LINE
SIXTEENTH LINE
NEW REFERENCE LINE
NEW R/W LINE
EXISTING R/W OR HE LINE
PROPERTY LINE
LOT, TIE & OTHER MINOR LINES
SLOPE INTERCEPT
CORPORATE LIMITS
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)
TEMPORARY LIMITED EASEMENT AREA
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)
TRANSMISSION STRUCTURES
BUILDING
TO BE REMOVED
BRIDGE
CULVERT

SECTION CORNER SYMBOL
SECTION CORNER MONUMENT
GEODETIC SURVEY MONUMENT
SIXTEENTH CORNER MONUMENT
SIGN
OFF-PREMISE SIGN
R/W MONUMENT (TO BE SET)
NON-MONUMENTED R/W POINT
FOUND IRON PIN (1-INCH UNLESS NOTED)

	COMPENSABLE	NON-COMPENSABLE
ELECTRIC POLE		
TELEPHONE POLE		
PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.)		

ACCESS RESTRICTED BY ACQUISITION
NO ACCESS (BY STATUTORY AUTHORITY)
ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)
NO ACCESS (NEW HIGHWAY)

PARCEL NUMBER 25
UTILITY NUMBER 40
PARALLEL OFFSETS

CONVENTIONAL UTILITY SYMBOLS

WATER	W
GAS	G
TELEPHONE	T
OVERHEAD TRANSMISSION LINES	OH
ELECTRIC	E
CABLE TELEVISION	TV
FIBER OPTIC	FO
SANITARY SEWER	SAN
STORM SEWER	SS
ELECTRIC TOWER	

CONVENTIONAL ABBREVIATIONS

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

CURVE DATA ABBREVIATIONS

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

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), JUNEAU 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 ¾" 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.

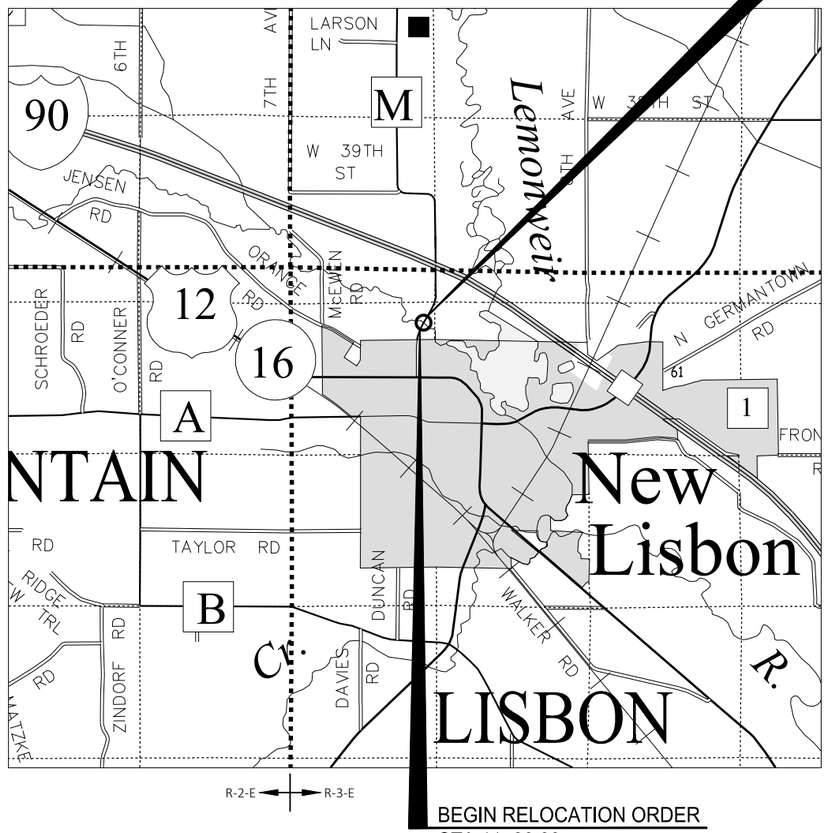
FOR THE CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF JUNEAU COUNTY.

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

INFORMATION FOR THE BASIS OF EXISTING HIGHWAY RIGHT-OF-WAY POINTS OF REFERENCE AND ACCESS CONTROL ARE LISTED ON THE DETAIL PAGES.

AN EASEMENT FOR HIGHWAY PURPOSES (HE), AS LONG AS SO USED, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE.

END RELOCATION ORDER
STA 16+80.00
Y = 190 784.784
X = 437 265.392



BEGIN RELOCATION ORDER
STA 11+30.00
Y = 190 303.335
X = 436 999.914

LAYOUT
SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.104 MI

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
7382-00-01		
FEDERAL PROJECT NUMBER	4.01	2

PLAT OF RIGHT OF WAY REQUIRED FOR

C NEW LISBON - IH 90
LTL LEMONWEIR RVR BRIDGE B-29-0168

CTH M	JUNEAU COUNTY

CONSTRUCTION PROJECT NUMBER
7382-00-71

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

ACCEPTED FOR JUNEAU COUNTY

DATE 5-15-25 [SIGNATURE AND TITLE OF OFFICIAL]

ORIGINAL PLANS PREPARED BY

WESTBROOK
Associated Engineers, Inc.
619 East Hoxie St. | P.O. Box 429 | Spring Green, WI 53588
P: (608) 588-7866 | F: (608) 588-7954 | www.westbrookeng.com

WISCONSIN
NICHOLAS J. BREY
S-3145
LA VALLE
WI
LAND SURVEYOR

DATE 05-15-2025 (Professional Land Surveyor Signature)

REVISION DATE

R/W COURSE TABLE

COURSE	BEARING	DISTANCE
100-101	SEE CURVE TABLE	
101-102	N64° 46' 03"W	33.00'
102-103	N64° 46' 03"W	12.00'
103-104	SEE CURVE TABLE	
104-105	N29° 47' 13"E	99.30'
105-106	S60° 12' 47"E	12.00'
106-107	S29°47'13"W	99.30'
107-102	SEE CURVE TABLE	
100-108	S65° 38' 56"E	33.00'
108-109	S65° 38' 56"E	12.00'
109-110	SEE CURVE TABLE	
110-111	N29° 47' 13"E	365.00'
111-112	N60° 12' 47"W	12.00'
112-113	S29° 47' 13"W	365.00'
113-108	SEE CURVE TABLE	

CURVE TABLE

COURSE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
100-101	30.00'	1950.00'	N24° 47' 30"E	30.00'
103-104	158.58'	1995.00'	N27° 30' 35"E	158.54'
107-102	157.62'	1983.00'	S27° 30' 35"W	157.58'
109-110	180.73'	1905.00'	N27° 04' 08"E	180.66'
113-108	181.87'	1917.00'	S27° 04' 08"W	181.80'

POINT TABLE

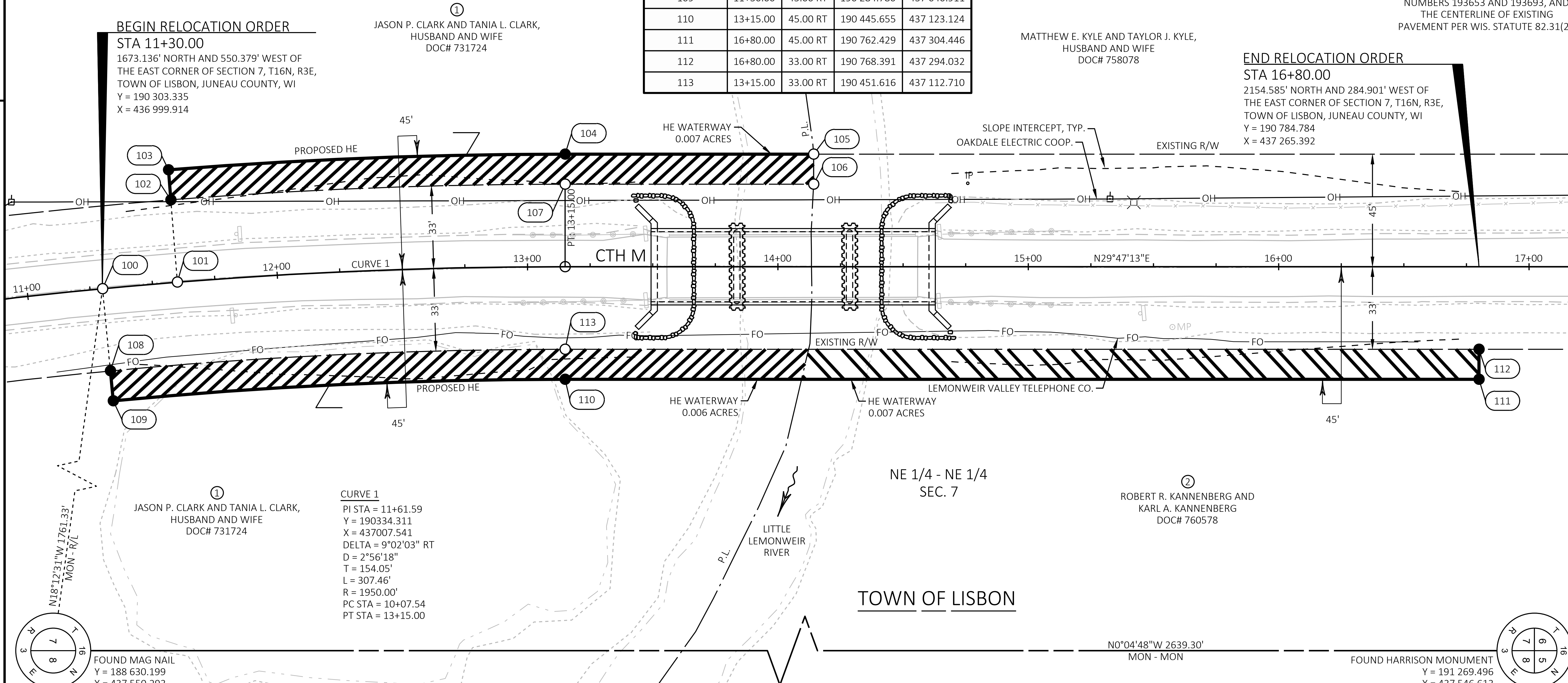
POINT NUMBER	STATION	OFFSET	Y	X
100	11+30.00	0.00 RT	190 303.335	436 999.914
101	11+60.00	0.00 RT	190 330.570	437 012.494
102	11+60.00	33.00 LT	190 344.637	436 982.642
103	11+60.00	45.00 LT	190 349.753	436 971.787
104	13+15.00	45.00 LT	190 490.364	437 045.015
105	14+14.30	45.00 LT	190 576.542	437 094.344
106	14+14.30	33.00 LT	190 570.581	437 104.758
107	13+15.00	33.00 LT	190 484.403	437 055.430
108	11+30.00	33.00 RT	190 289.728	437 029.978
109	11+30.00	45.00 RT	190 284.780	437 040.911
110	13+15.00	45.00 RT	190 445.655	437 123.124
111	16+80.00	45.00 RT	190 762.429	437 304.446
112	16+80.00	33.00 RT	190 768.391	437 294.032
113	13+15.00	33.00 RT	190 451.616	437 112.710

SCHEDULE OF LANDS AND INTERESTS REQUIRED

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W REQUIRED ACRES NEW	EXISTING	TOTAL
1	JASON P. CLARK AND TANIA L. CLARK, HUSBAND AND WIFE	HE	0.147	---	0.147
2	ROBERT R. KANNENBERG AND KARL A. KANNENBERG	HE	0.074	---	0.074

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE JUNEAU COUNTY HIGHWAY DEPARTMENT.

EXISTING RIGHT-OF-WAY FOR CTH M IS BASED ON CSM 5076, THE CONVEYANCE OF LANDS FOR HIGHWAY PURPOSES RECORDED ON 12/05/1956 IN VOLUME 156 ON PAGES 405 AND 407 RECORDED AS DOCUMENT NUMBERS 193653 AND 193693, AND THE CENTERLINE OF EXISTING PAVEMENT PER WIS. STATUTE 82.31(2).



REVISION DATE	DATE 05/15/2025	SCALE, FEET 0 20 40	HWY: CTH M	STATE R/W PROJECT NUMBER 7382-00-01	PLAT SHEET 4.02	E
	GRID FACTOR N/A		COUNTY: JUNEAU	CONSTRUCTION PROJECT NUMBER 7382-00-71	PS&E SHEET 17	

FILE NAME : 040102_RP.DWG
LAYOUT NAME - 040102_rp
PLOT DATE : 5/23/2025 12:13 PM
PLOT BY : ERICA BAUER
PLOT NAME :
PLOT SCALE :
WISDOT/CADDS SHEET 75

LEGEND
SLOPE INTERCEPT
SURFACE WATER FLOW
STREAM EDGE
SILT FENCE
TURBIDITY BARRIER
EXISTING SIGN
PROPOSED SIGN
SAW CUT
STEEL SHEET PILE COFFERDAM

JASON & TANIA CLARK
MATTHEW & TAYLOR KYLE
LITTLE LEMONWEIR RIVER
STREAM EDGE, TYP.
PROPOSED HE
SLOPE INTERCEPT, TYP.
PT: 13+15.00
EXISTING R/W
FENCE TO BE REMOVED BY OTHERS
OAKDALE ELECTRIC COOP.
BM 1
CP 1
CP 2
CP 3
CP 4
BM 2
11+00
12+00
13+00
14+00
15+00
16+00
17+00
TREE REMOVAL, CLEARING BY OTHERS
PROPOSED HE
LEMONWEIR VALLEY TELEPHONE CO.
ROBERT & KARLA KANNENBERG
JASON & TANIA CLARK

BEGIN CONSTRUCTION
STA 12+10.00
MATCH EXISTING
SAW CUT REQ'D

BEGIN PROJECT
STA 12+99.37
MATCH EXISTING
SAW CUT REQ'D
Y = 190 454.414
X = 437 076.360

END PROJECT
STA 15+12.87
MATCH EXISTING
SAW CUT REQ'D

END CONSTRUCTION
STA 16+03.00
MATCH EXISTING
SAW CUT REQ'D

BENCH MARKS

NO.	STATION	ELEV.	DESCRIPTION
BM 1	10+97.12	879.888	RAILROAD SPIKE SET IN POWER POLE, 37.41' LT
BM 2	14+57.04	885.064	WISDOT BRONZE DISK MONUMENT, 12.52' RT

STA 12+99.37 EL 884.30
VPC STA 13+30.95 VPC EL 884.37
VPI STA 14+13.45 VPI EL 884.55
VPT STA 14+95.95 VPT EL 884.26
STA 15+12.87 EL 884.21
PROPOSED ℄ PROFILE
0.22%
-0.34%
EXISTING ℄ PROFILE
HIGH WATER 100 EL. = 883.09
HP STA 13+95.61 HP EL 884.44
OBSERVED WATER EL. = 875.73' (09-19-2024)
VCL = 165.00
K = 292.85
PROPOSED ℄ ELEVATION
EXISTING ℄ ELEVATION
APPROX. STREAMBED EL. = 867.93'

895 890 885 880 875 870 867

884.06 884.32 884.47 884.46 884.29 884.30 884.33 884.40 869.32 884.44 878.32 884.39 884.22 884.25 884.25 884.33 884.35 884.08

STA. 14+05.77
REMOVE EXISTING STRUCTURE B-29-0014
100-FT OVERALL LENGTH AND
24-FT CLEAR ROADWAY WIDTH
THREE-SPAN REINFORCED CONCRETE HAUNCH SLAB BRIDGE

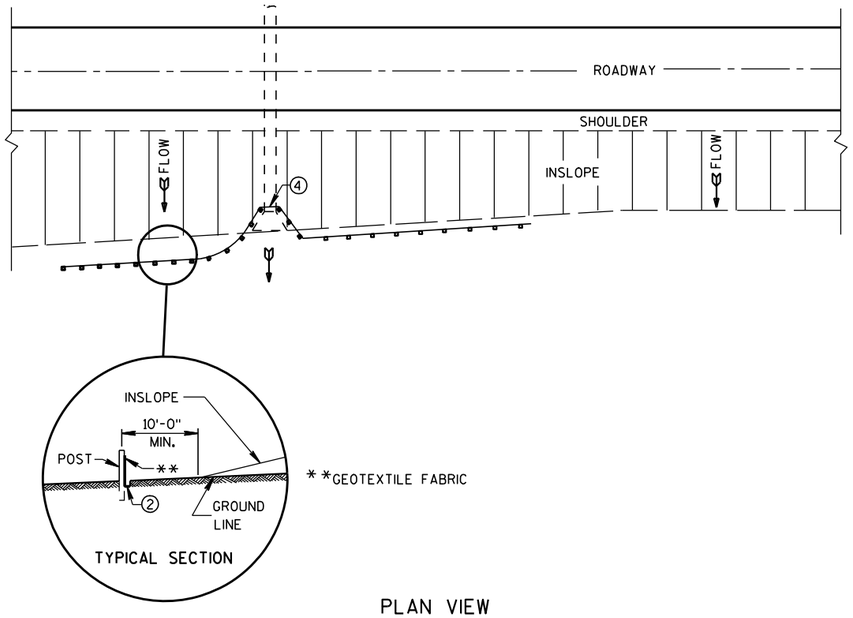
STA 14+06.13
STRUCTURE B-29-0168 REQUIRED
113.5-FT OVERALL LENGTH AND
28.00-FT CLEAR ROADWAY WIDTH
THREE-SPAN REINFORCED CONCRETE HAUNCH SLAB BRIDGE

PROJECT NO: 7382-00-71	HWY: CTH M	COUNTY: JUNEAU	PLAN AND PROFILE	SHEET 18	E

FILE NAME : G:\00-PROJECT FILES\2024\24161 ID 7382-00-01, CTH M, LITTLE LEMONWEIR RIVER, JUNEAU CO\0-CAD\SHEETS\050101_PP.DWG
LAYOUT NAME - 50101_pp
PLOT DATE : 5/30/2025 11:29 AM PLOT BY : ERICA BAUER PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44

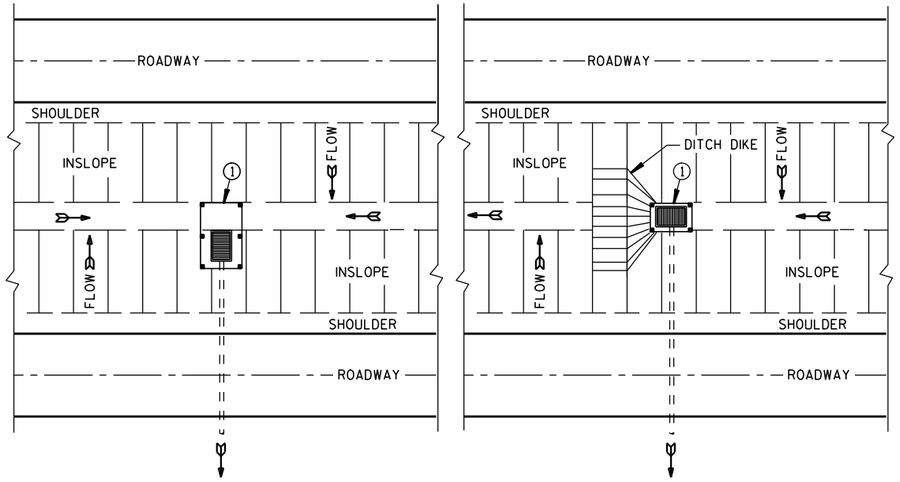
Standard Detail Drawing List

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
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)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

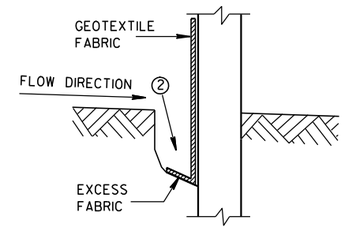
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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.

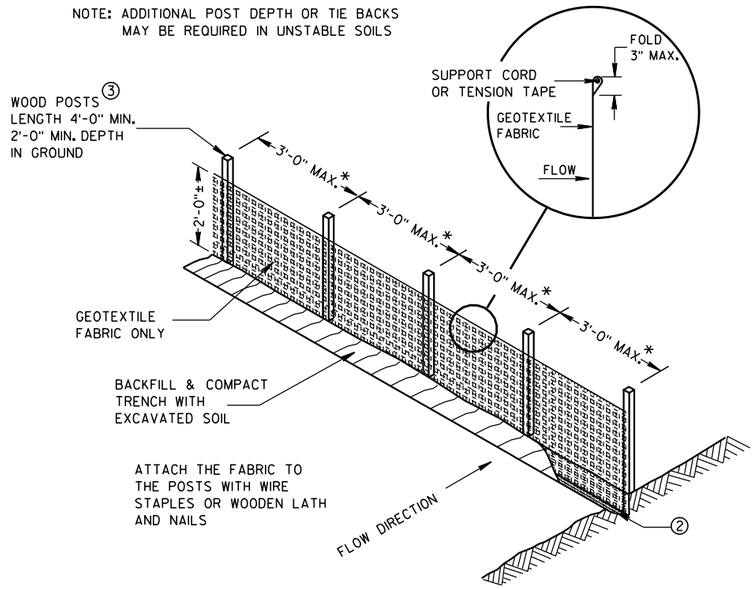
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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.

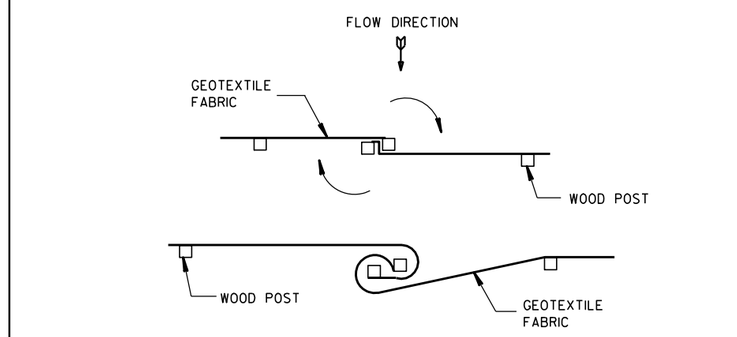


TRENCH DETAIL

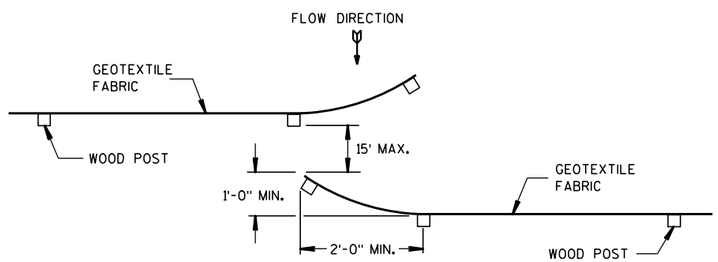


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

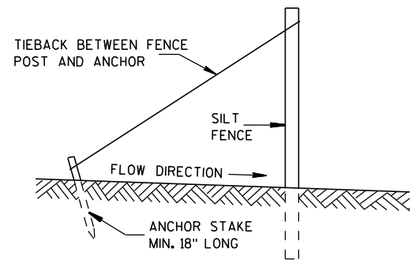


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

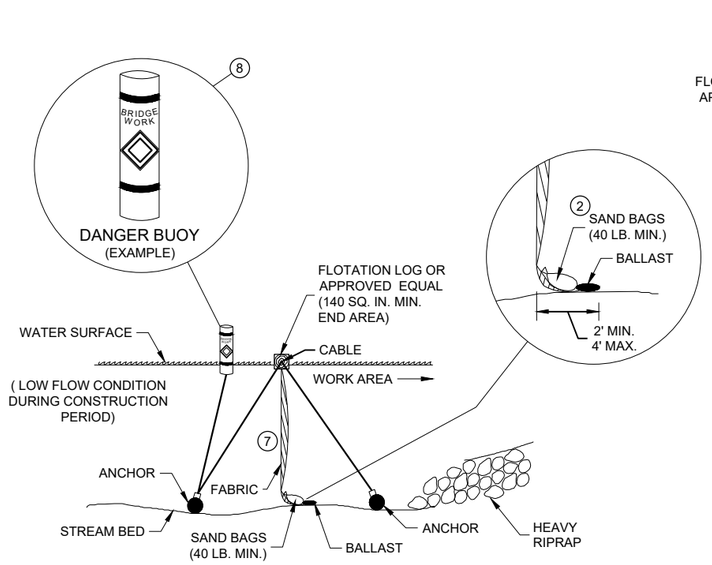
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

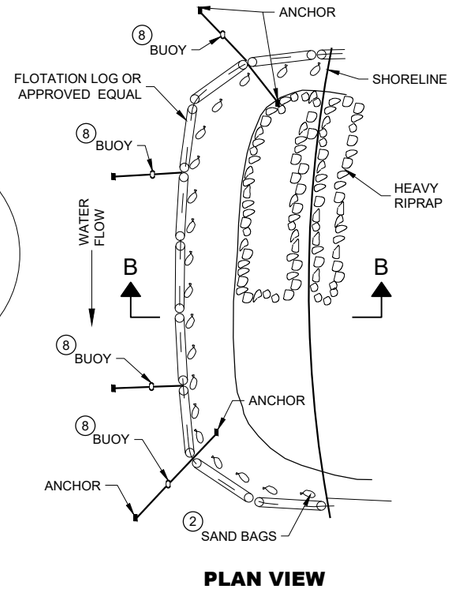
S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

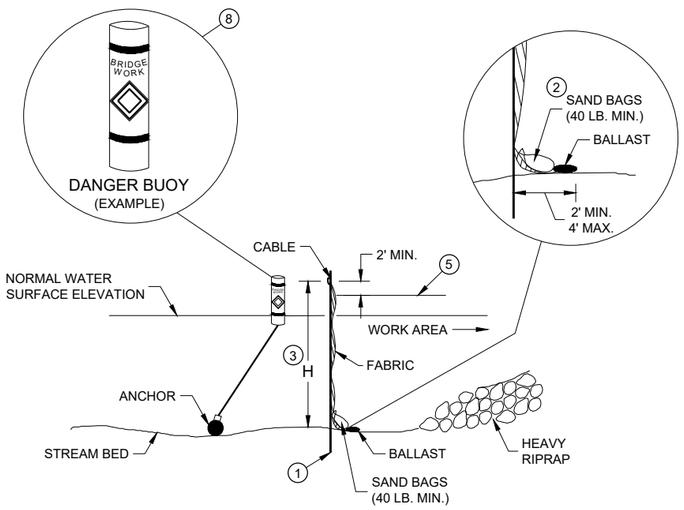


SECTION B - B

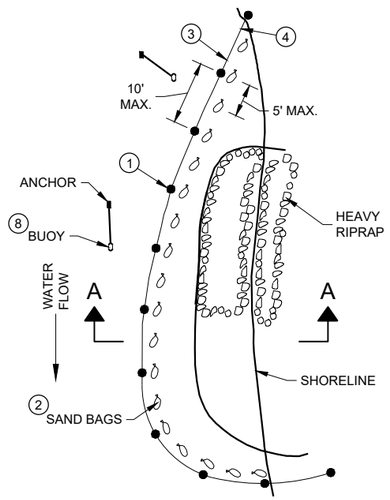


PLAN VIEW

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A - A



PLAN VIEW

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

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.

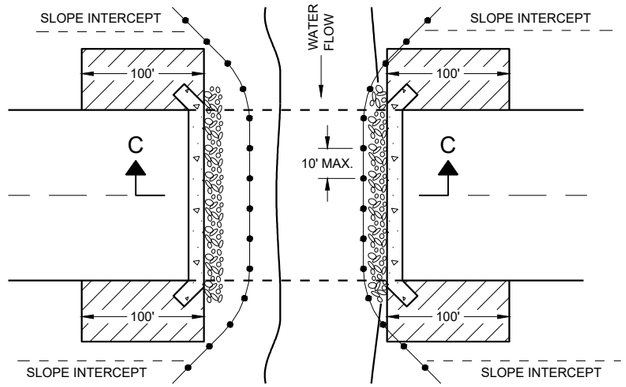
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

(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.

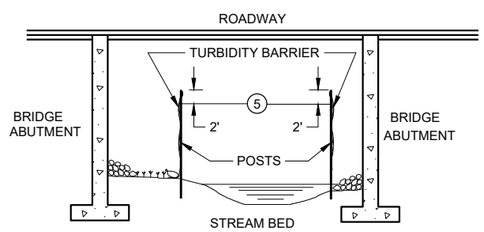
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

(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

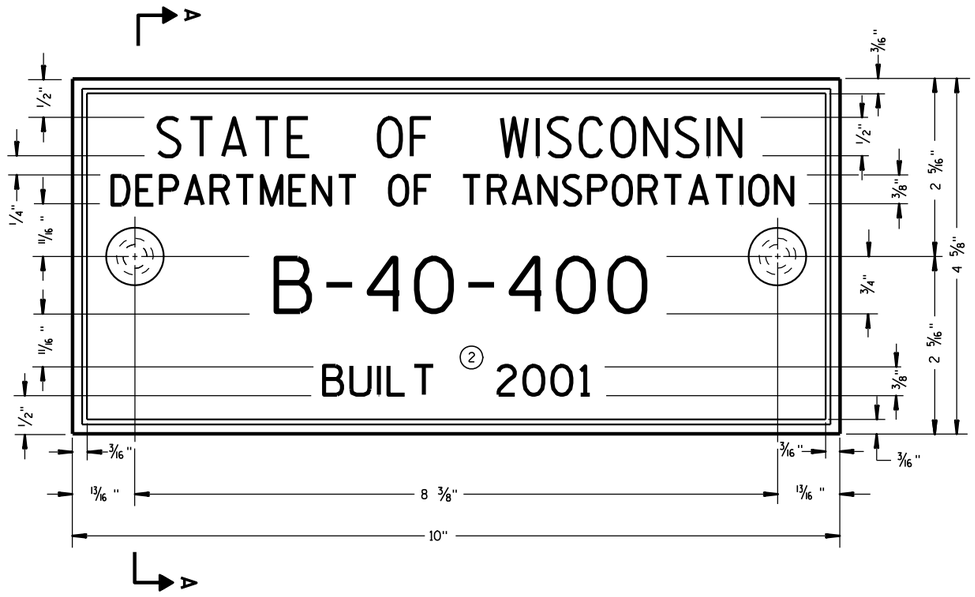
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6
SDD 08E11 - 02



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)

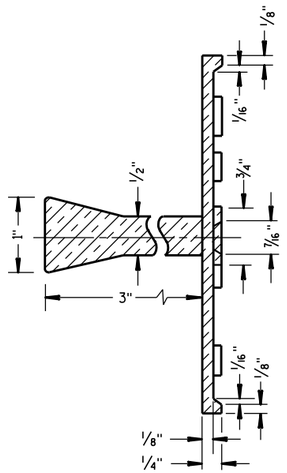
GENERAL NOTES

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.

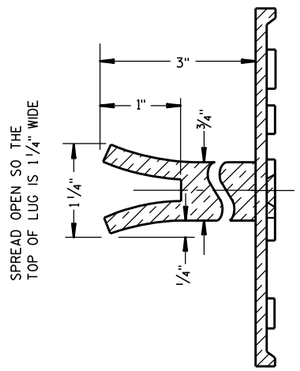
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(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

FOR MULTI-UNIT STRUCTURES LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

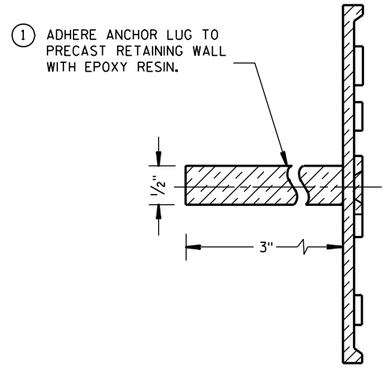
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION MULTI-UNIT STRUCTURES



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

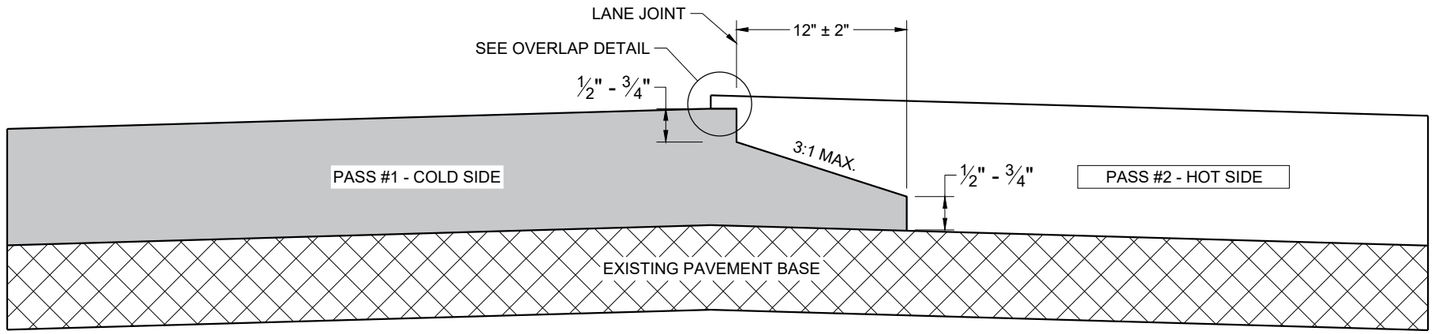
3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

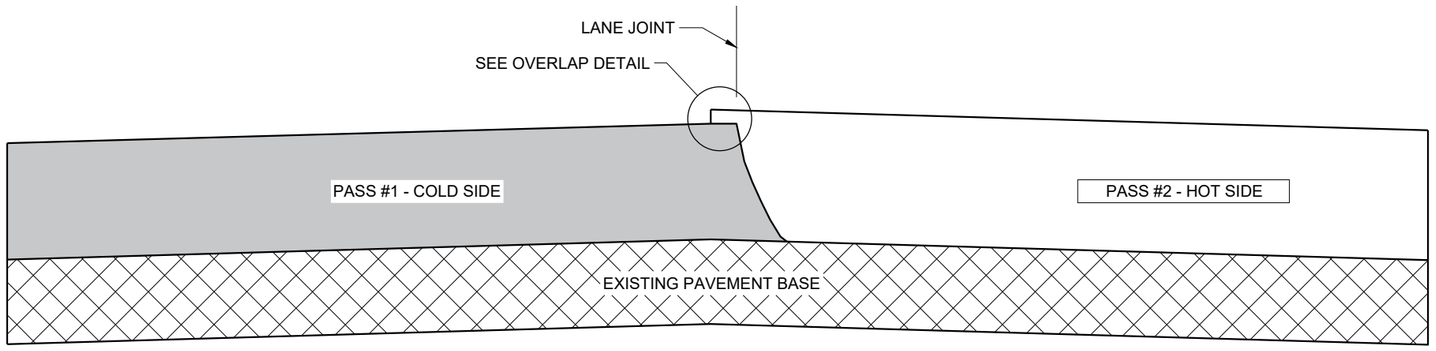
FHWA

6

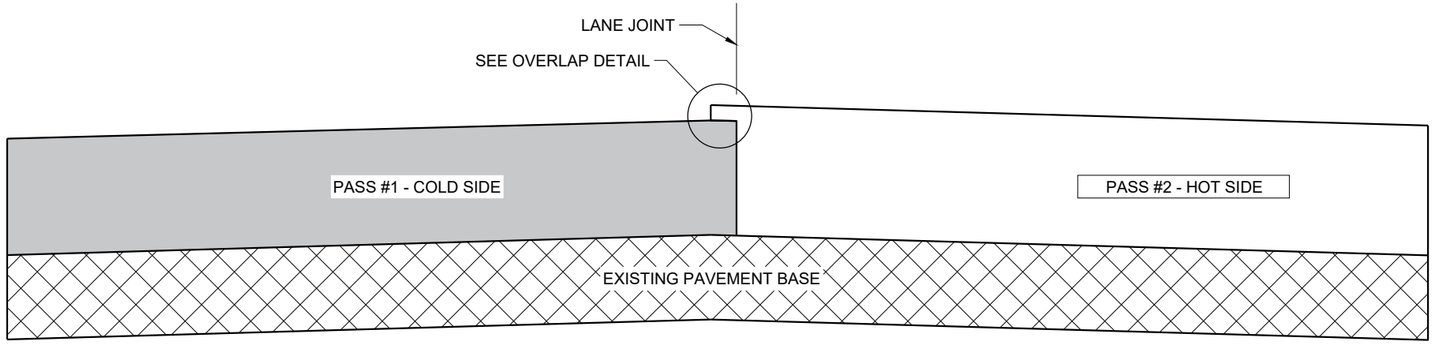
S.D.D. 12 A 3-10



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

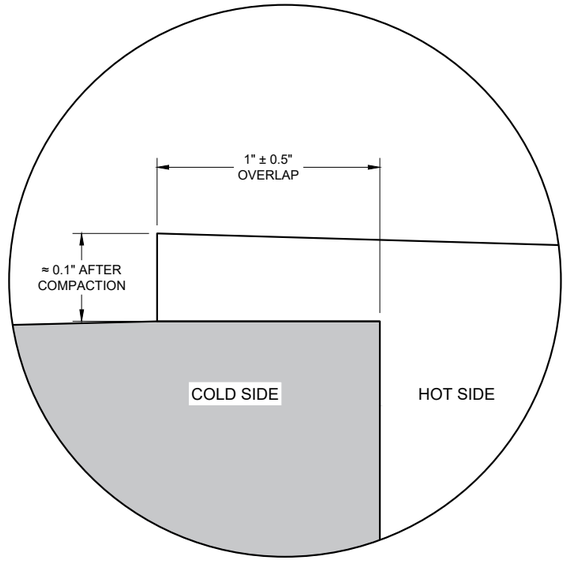
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

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.

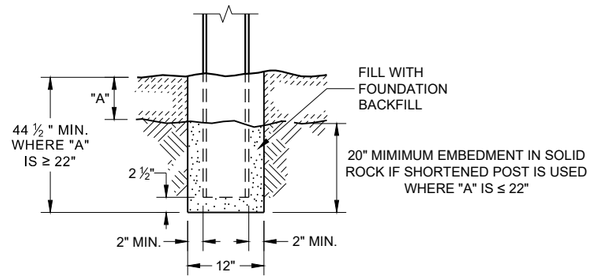
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL 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).

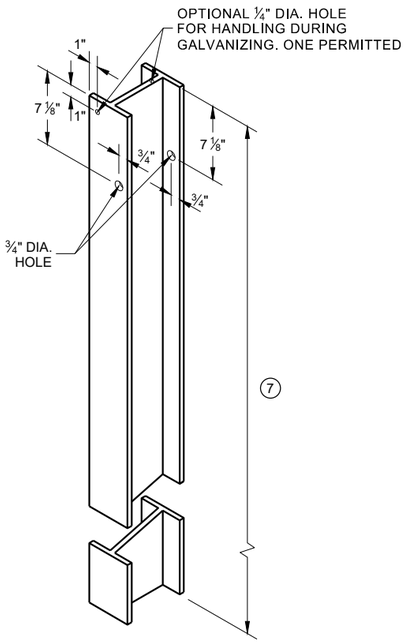
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

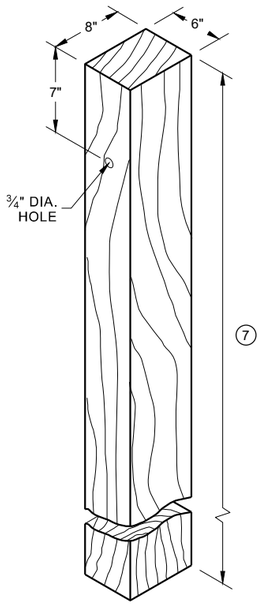
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



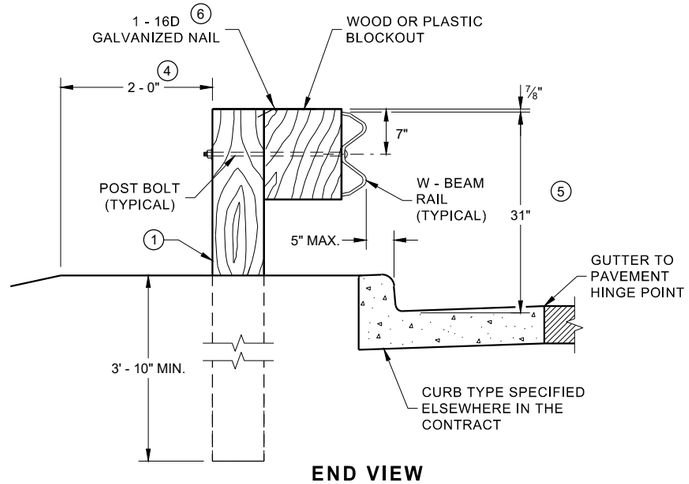
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



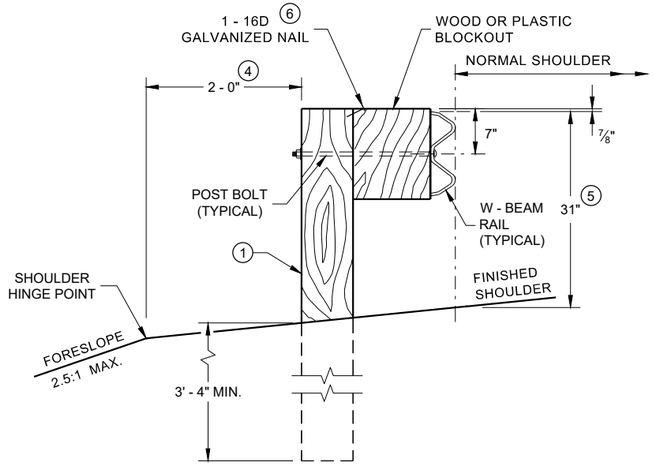
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



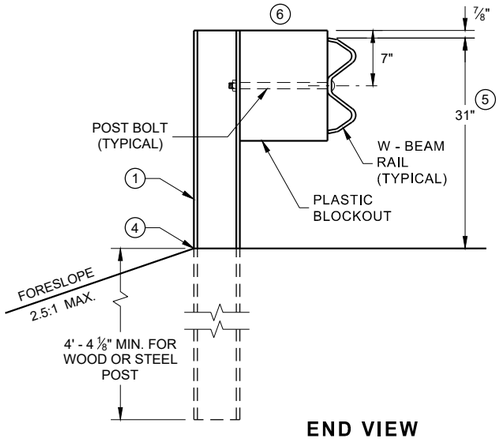
WOOD POST (6" X 8") NOMINAL (1)



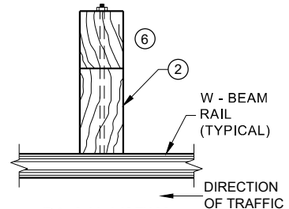
END VIEW
LOCATED ALONG A CURBED ROADWAY



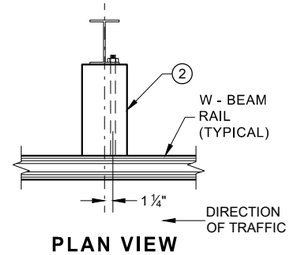
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



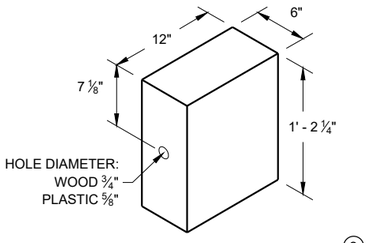
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



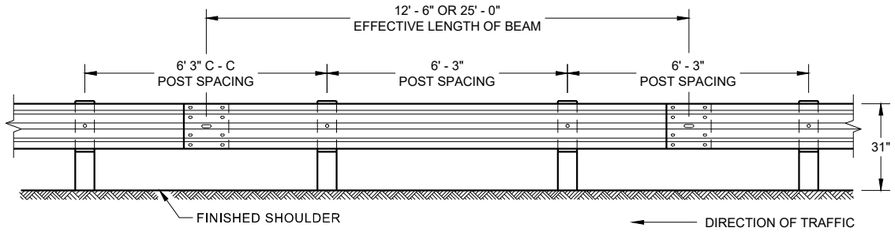
WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

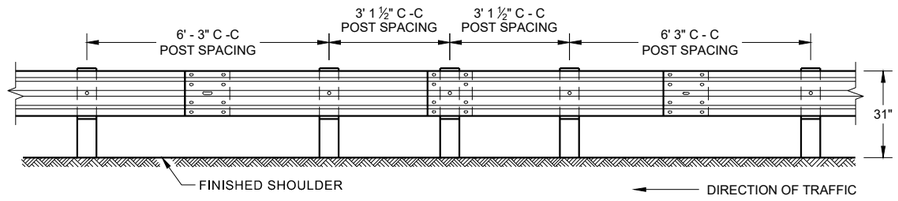
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B42 - 07a

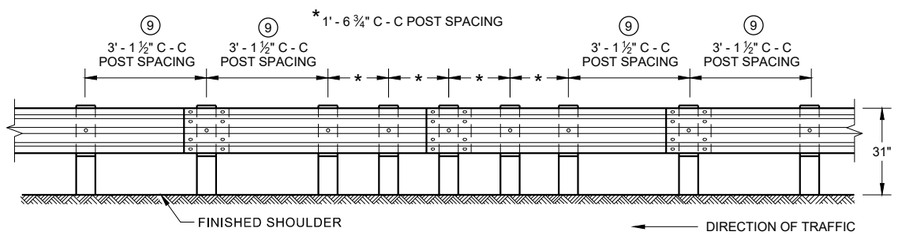
SDD 14B42 - 07a



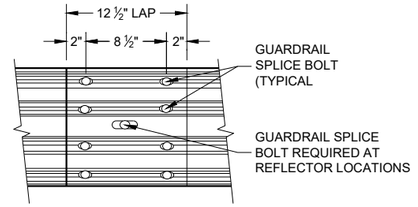
FRONT VIEW
POST SPACING STANDARD INSTALLATION



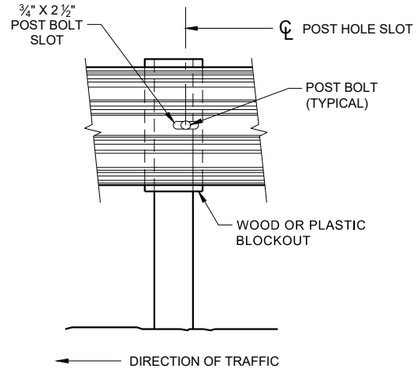
FRONT VIEW
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



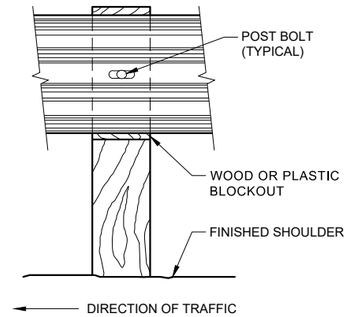
FRONT VIEW
QUARTER POST SPACING (QS)



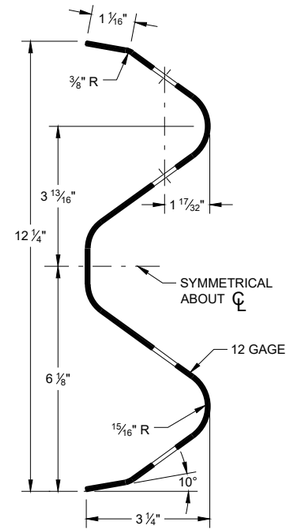
FRONT VIEW
MID-SPAN BEAM SPLICE



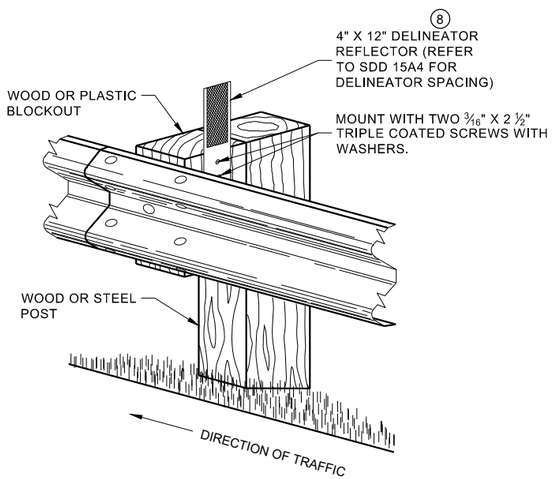
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



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.

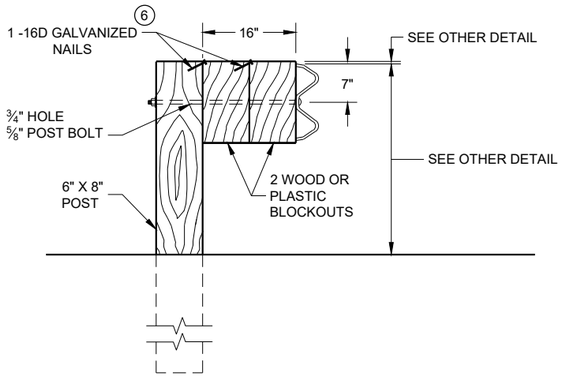
POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 14B42 - 07b

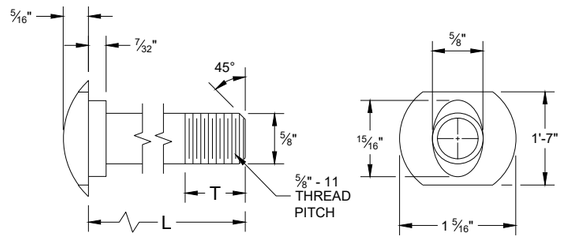


DETAIL FOR 16" BLOCKOUT DEPTH

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.

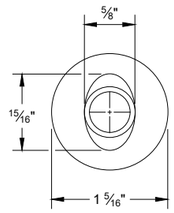
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3⁄16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

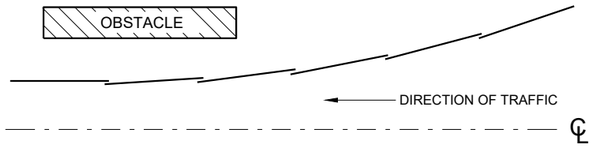


POST BOLT TABLE

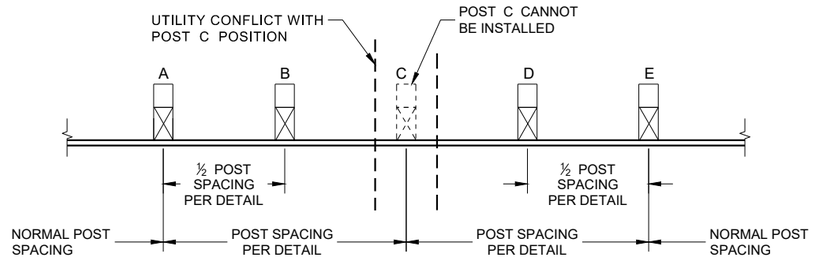
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



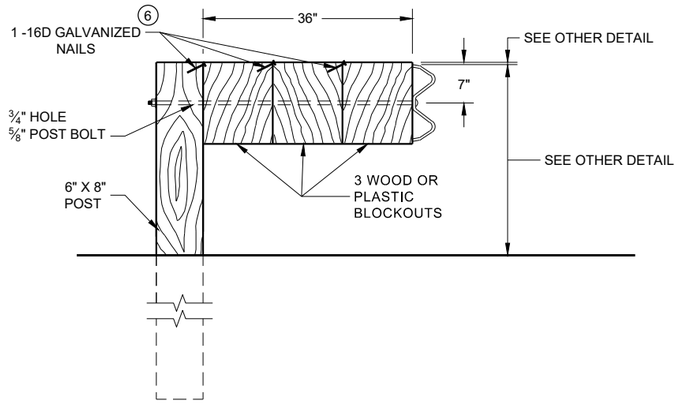
ALTERNATE BOLT HEAD



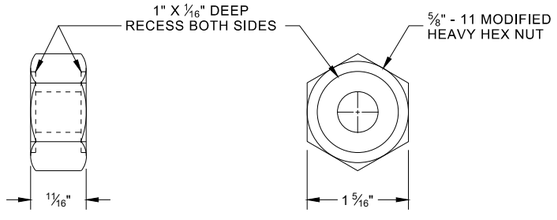
PLAN VIEW
BEAM LAPPING DETAIL



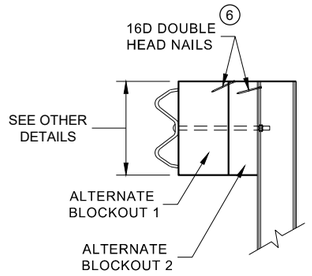
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



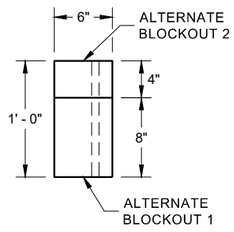
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



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.

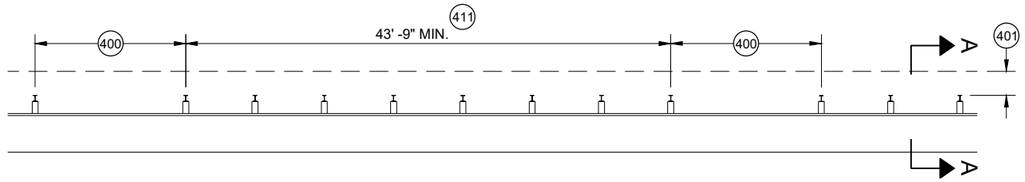
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(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.

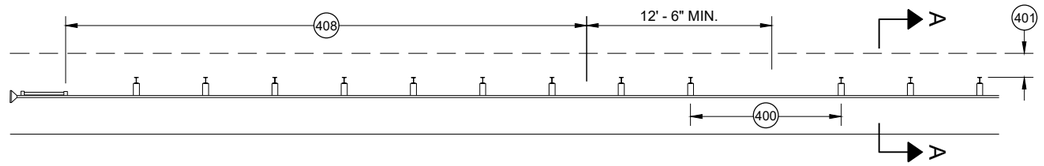
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

6

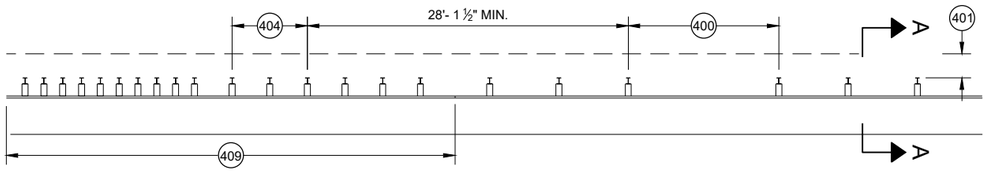
SDD 14B42 - 07c



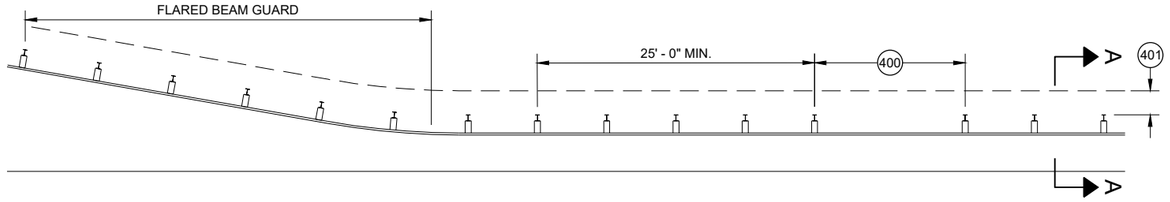
MISSING POST IN MGS GUARDRAIL



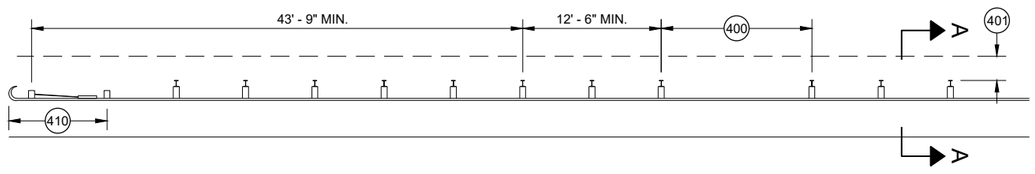
MISSING POST IN MGS GUARDRAIL NEAR EAT



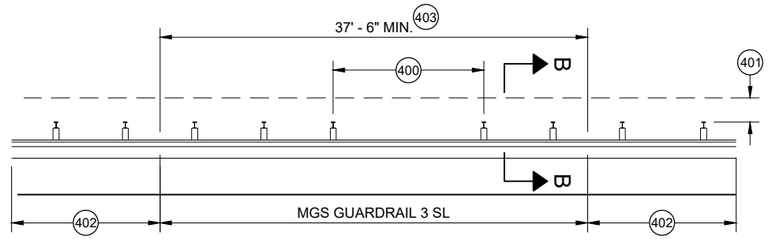
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

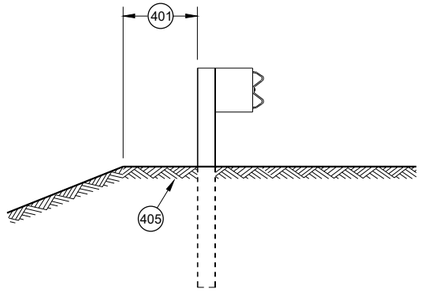


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

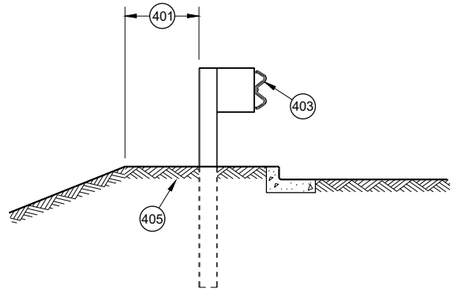


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

(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 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

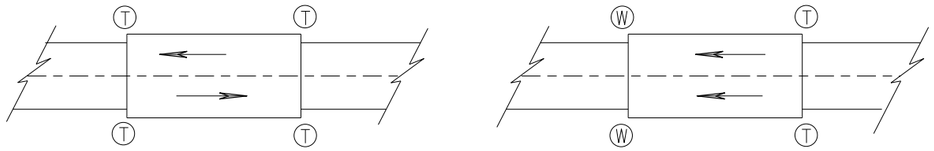
APPROVED
May 2021 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

6

SDD 14B42 - 07d

SDD 14B42 - 07d



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 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

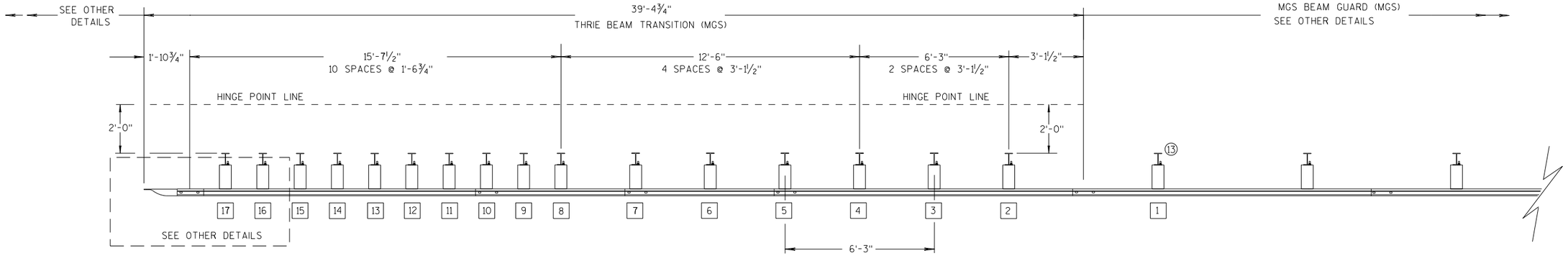
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

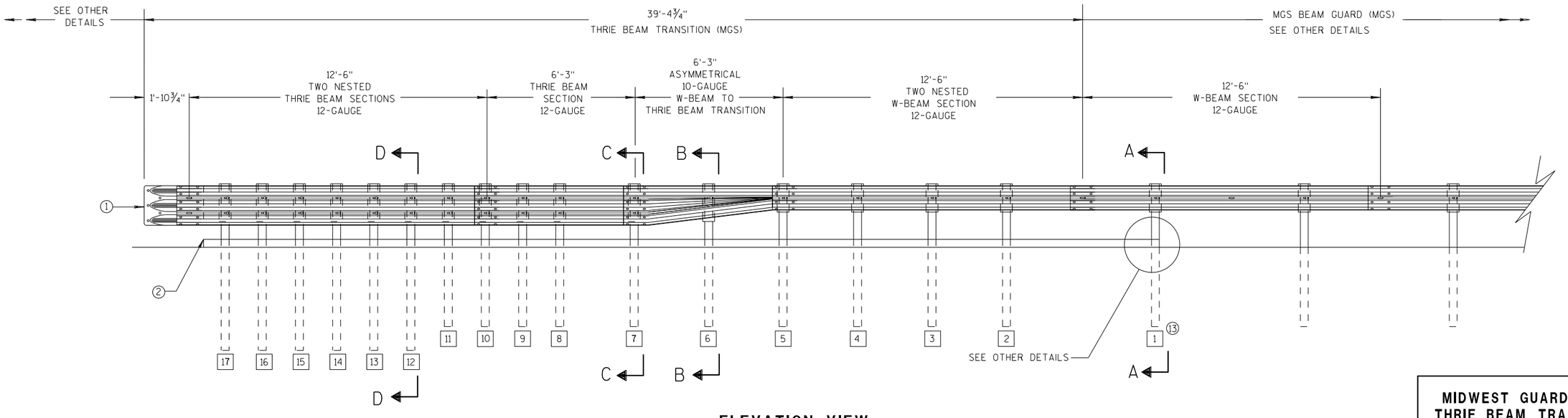
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(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 TRANSPOR

6

S.D.D. 14 B 45-5a

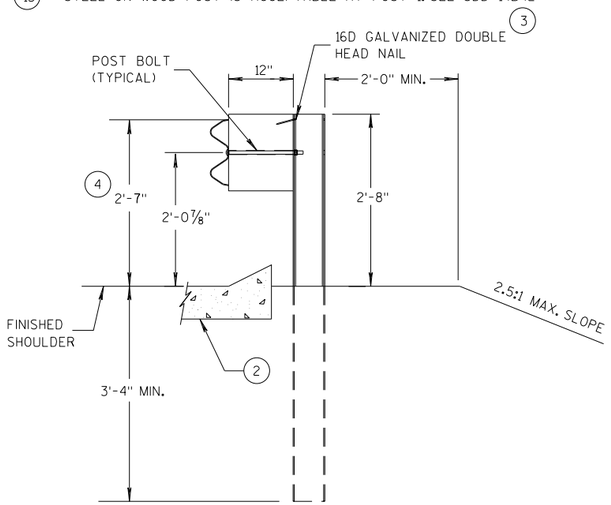
GENERAL NOTES

(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.

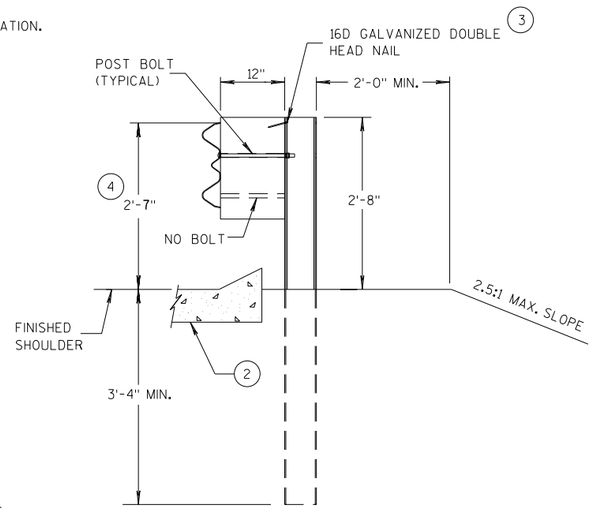
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



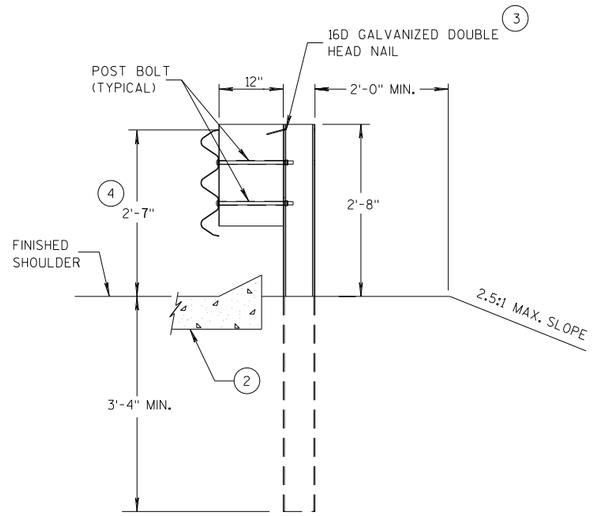
SECTION A-A (13)

POSTS 1-5



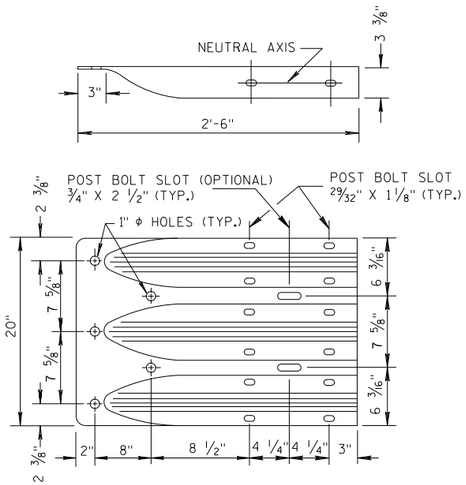
SECTION B-B

POST 6

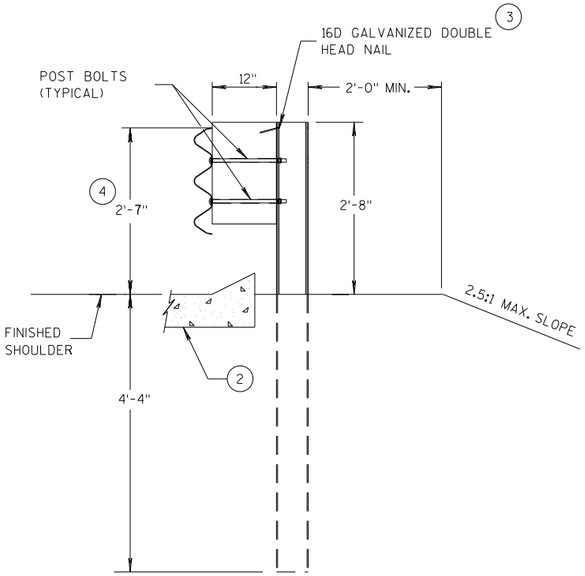


SECTION C-C

POSTS 7-11

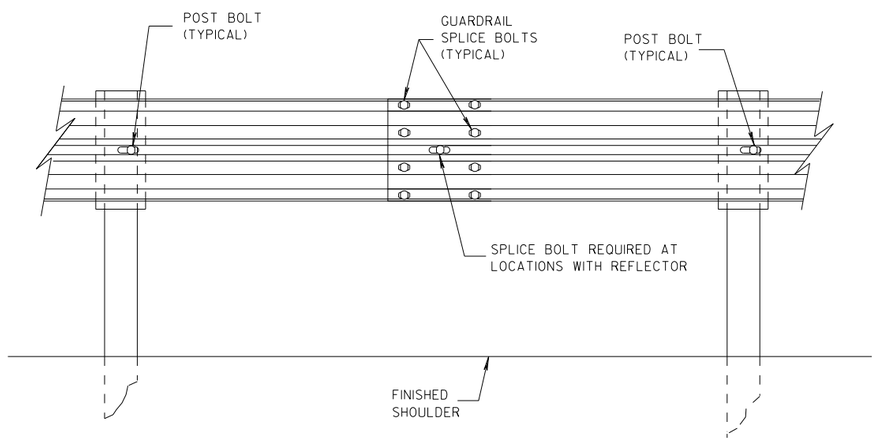


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

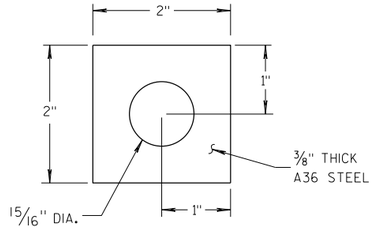
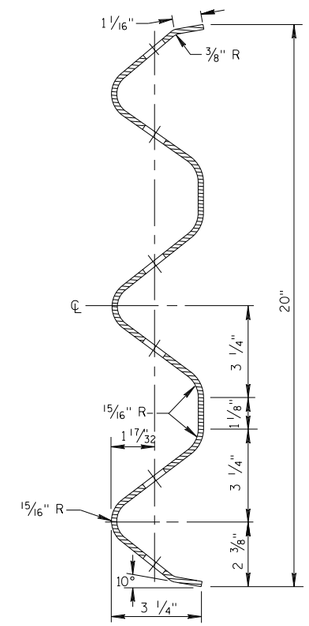


PLATE WASHER DETAIL



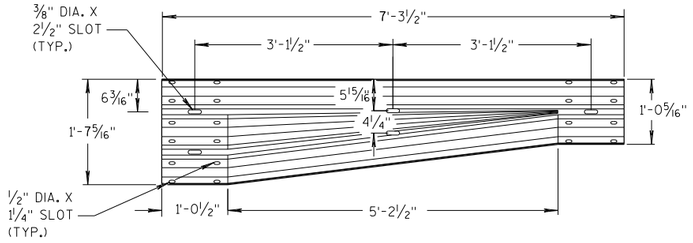
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

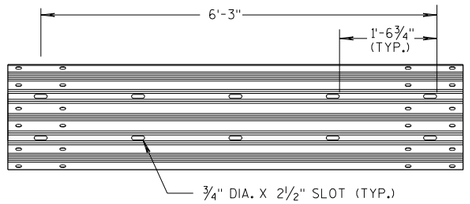
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

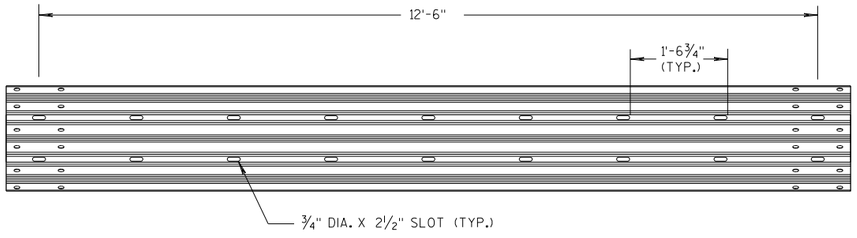
S.D.D. 14 B 45-5b



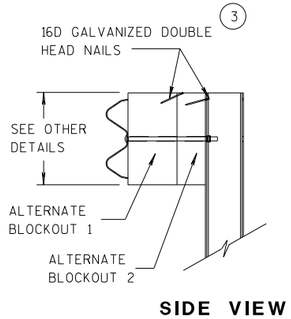
W-BEAM TO THRIE BEAM TRANSITION SECTION



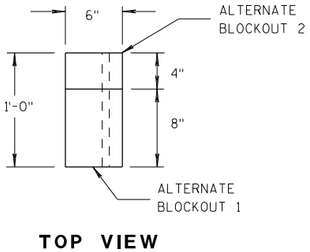
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

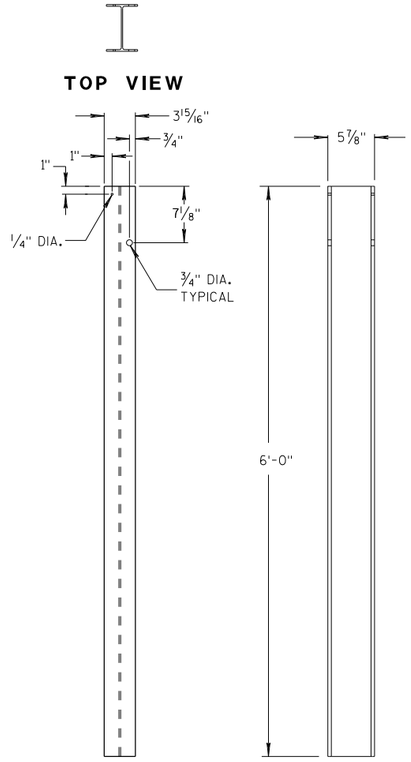


SIDE VIEW



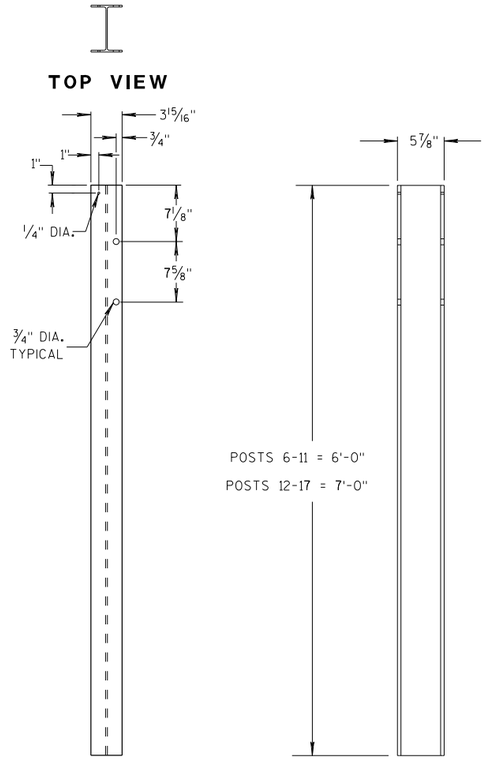
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



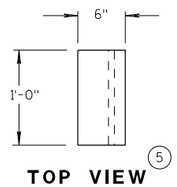
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

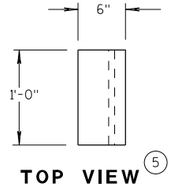


FRONT VIEW SIDE VIEW

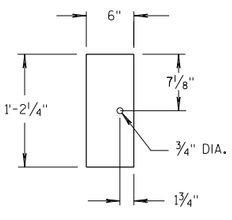
STEEL POSTS 6-17



TOP VIEW (5)

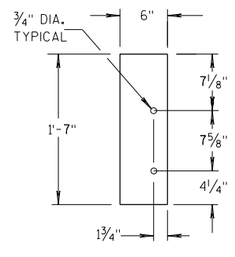


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



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)

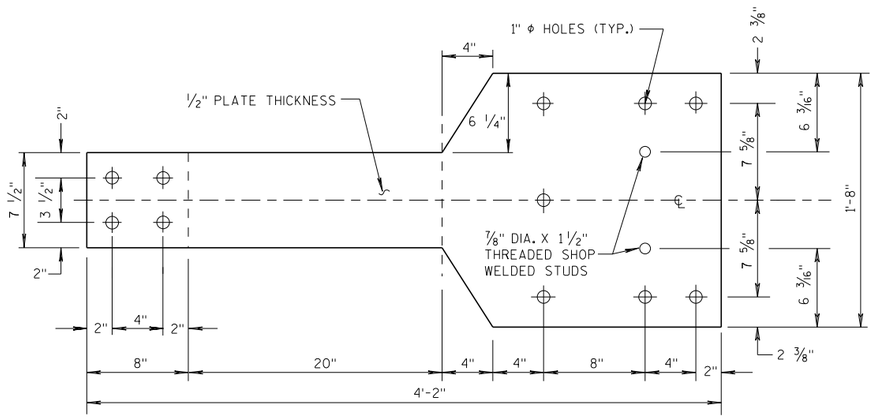
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

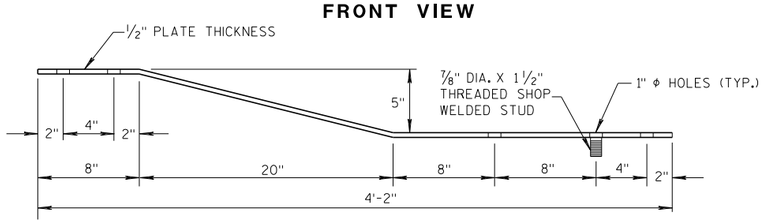
S.D.D. 14 B 45-5c

GENERAL NOTES

(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

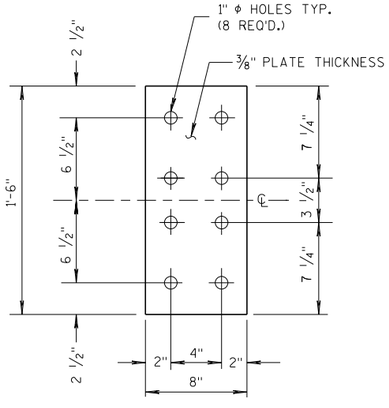


FRONT VIEW



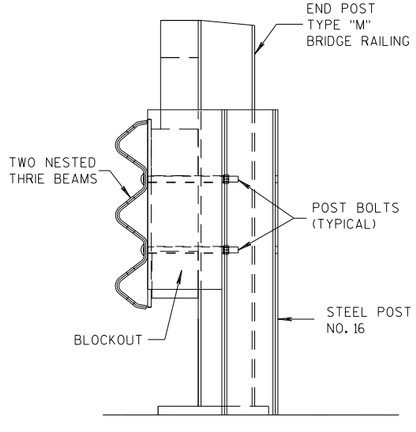
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

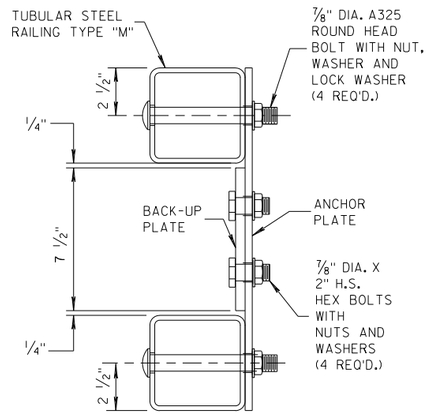


FRONT VIEW

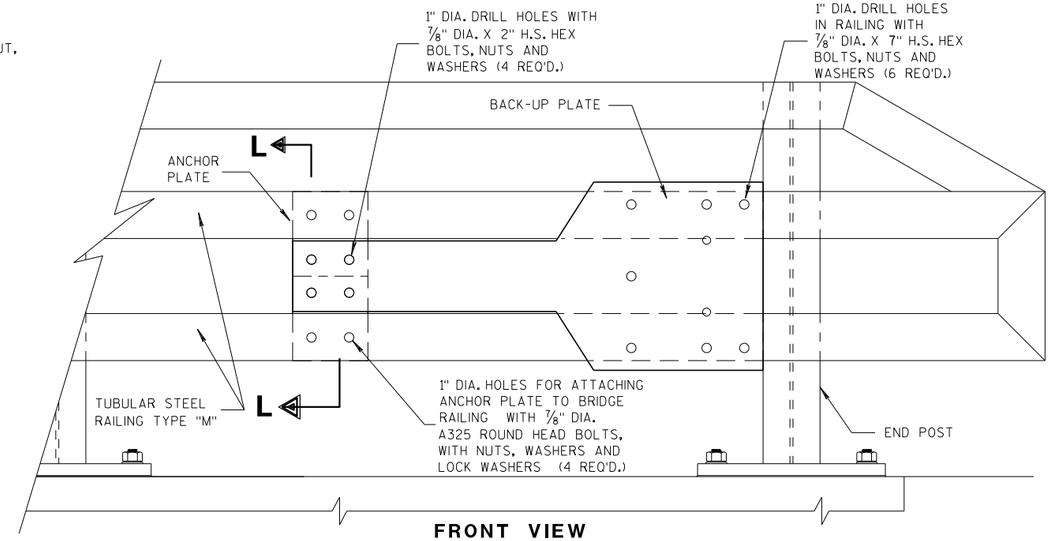
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

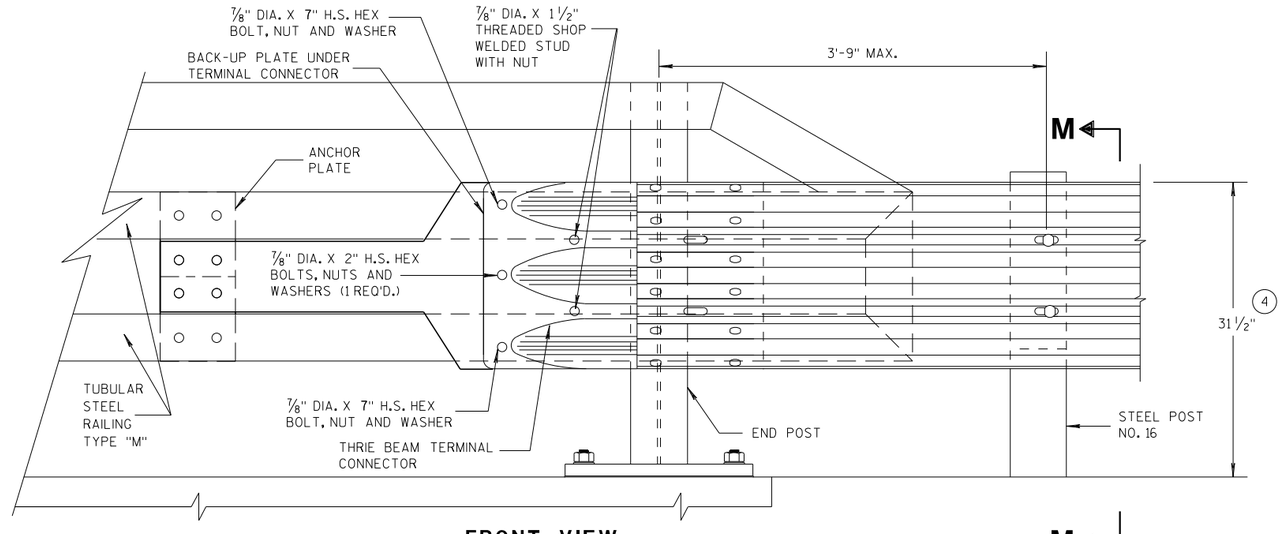


SECTION L-L

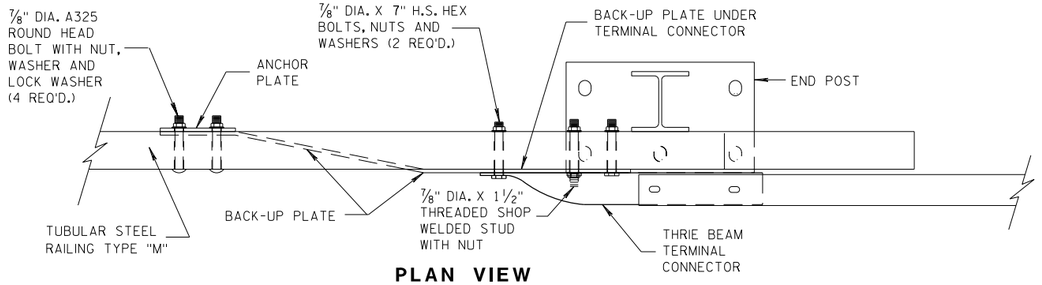


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

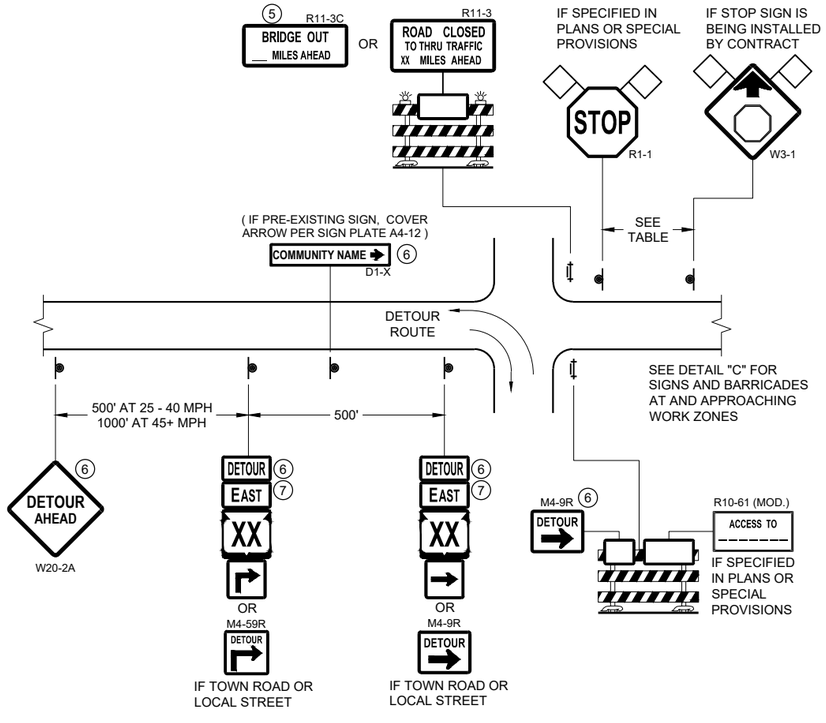
APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

6

S.D.D. 14 B 45-5h

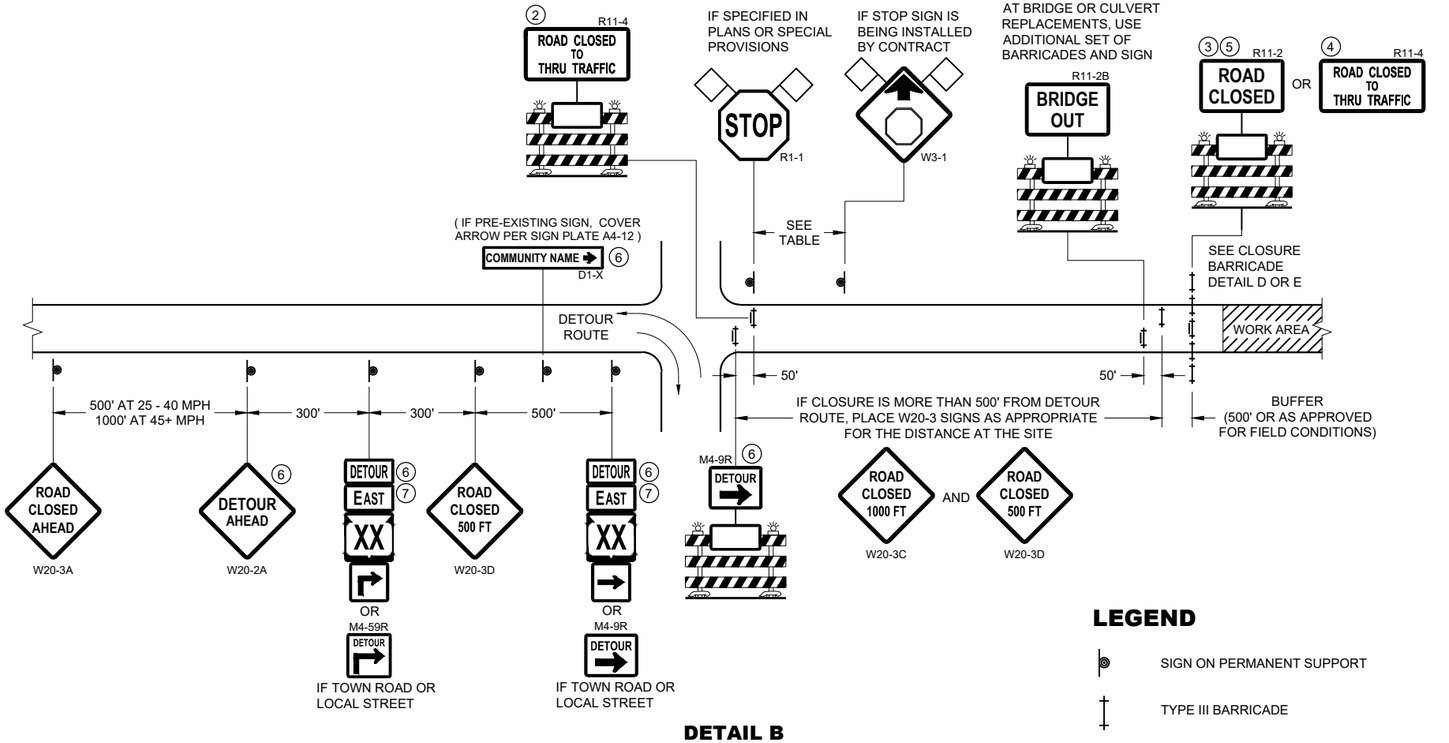
6

S.D.D. 14 B 45-5h



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



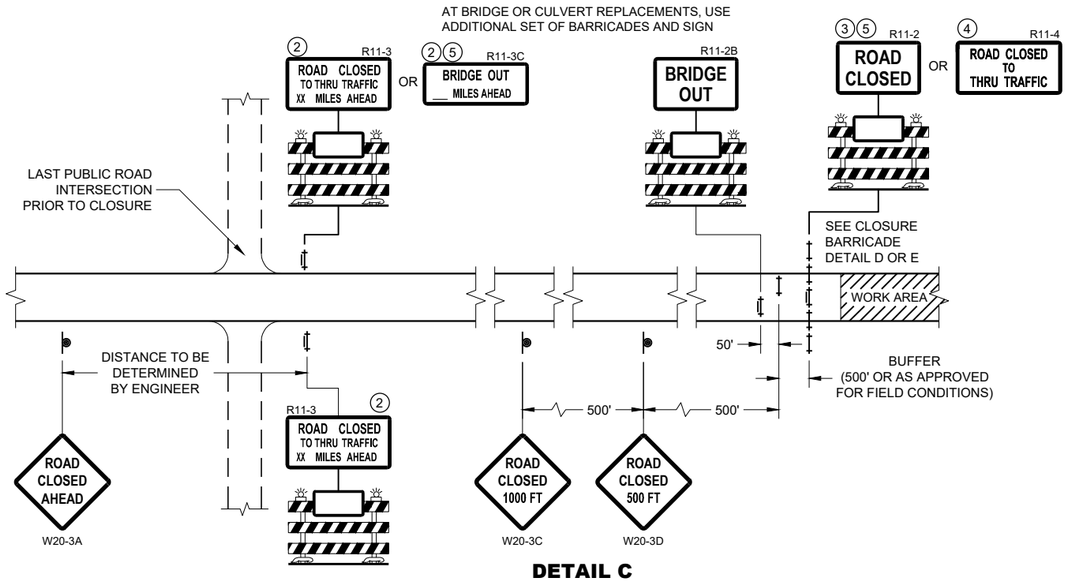
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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 X M1 - 5A
M05 - 1 OR M06 - 1



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

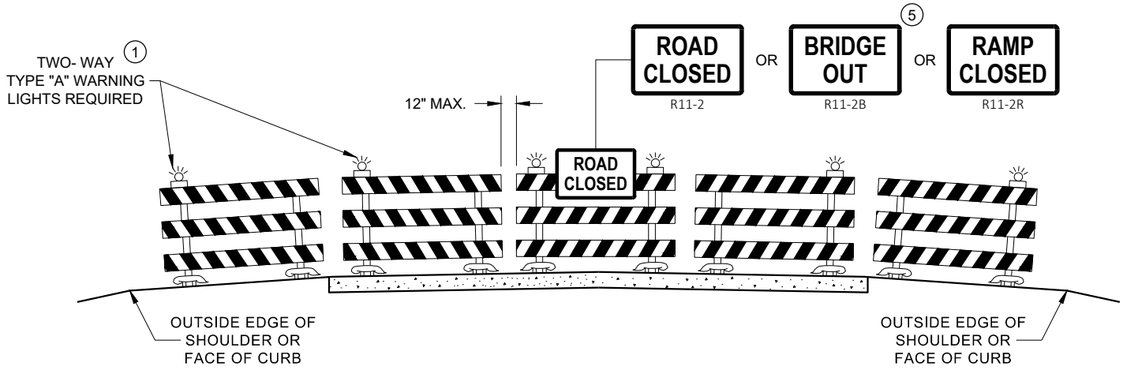
FHWA

6

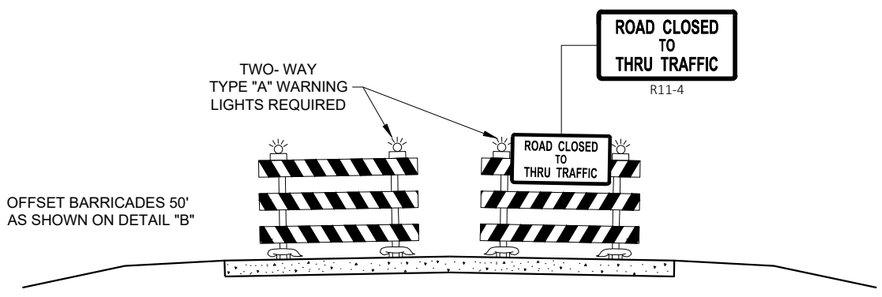
SDD 15C02 - 09a

6

SDD 15C02 - 09a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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.

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

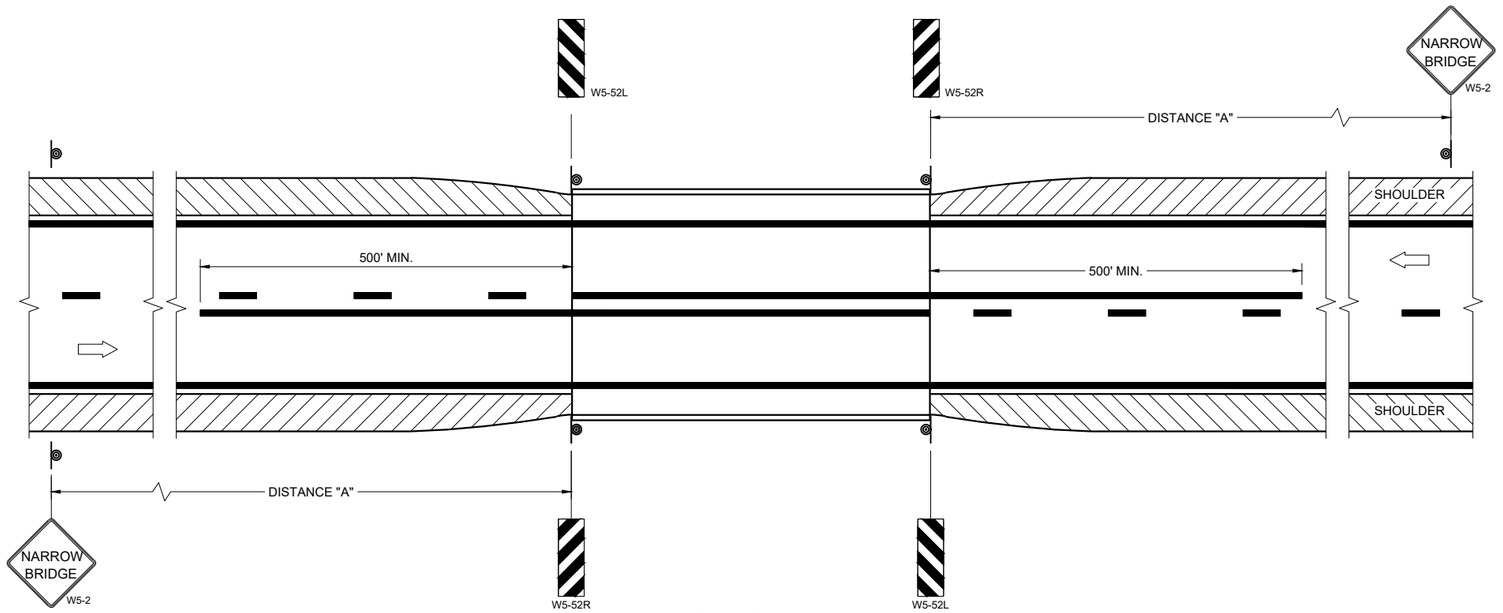
APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

6

SDD 15C02 - 09b

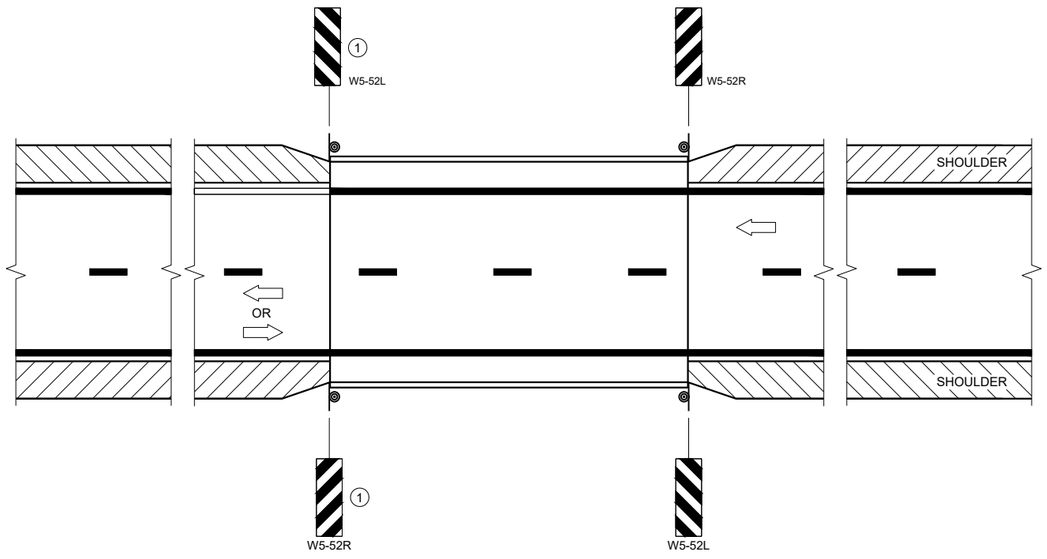
6

SDD 15C02 - 09b



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
DATE
/S/ Jeannie Silver
Statewide Pavement Marking Engineer
FHWA

6
SDD 15C06-12

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING

(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

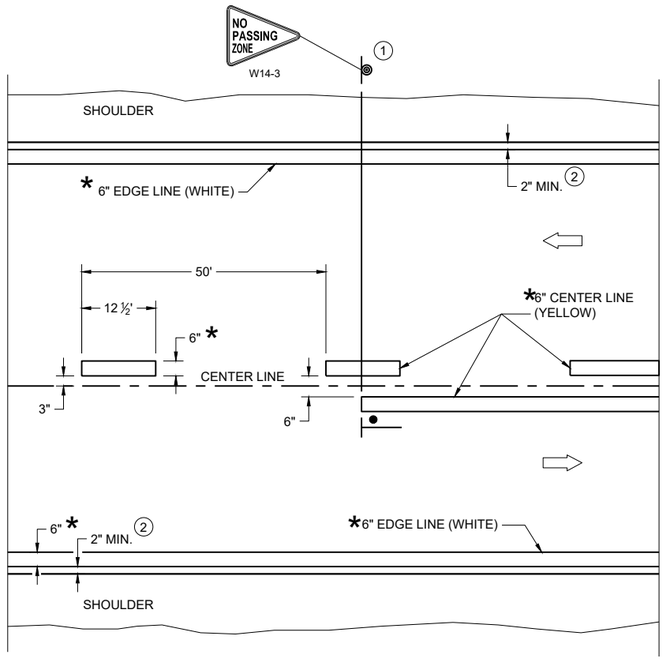
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

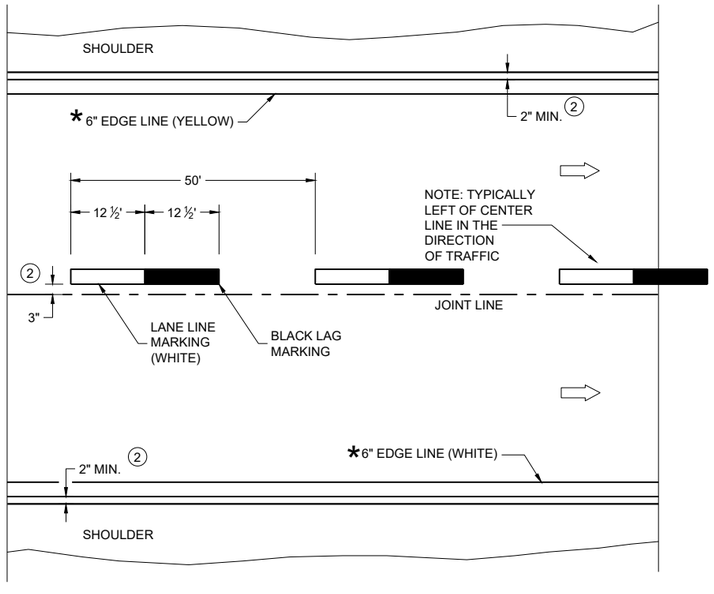
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

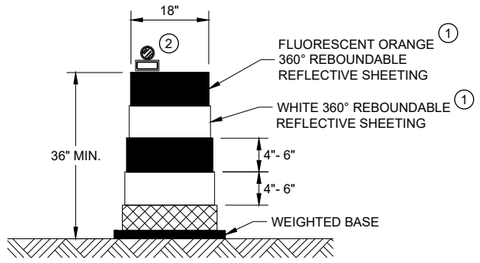
APPROVED
May 2023 — DATE
/S/ Jeannie Silver — Statewide Pavement Marking Engineer
FHWA

6

SDD 15C08-23a

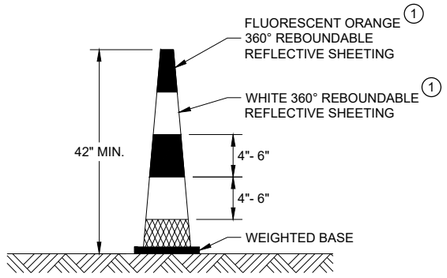
GENERAL NOTES

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.



DRUM

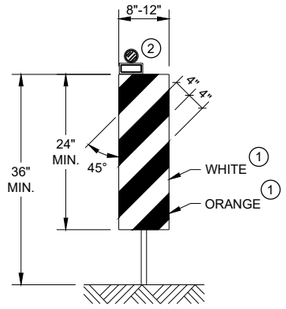
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

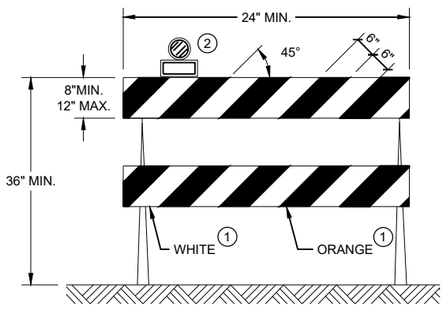
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



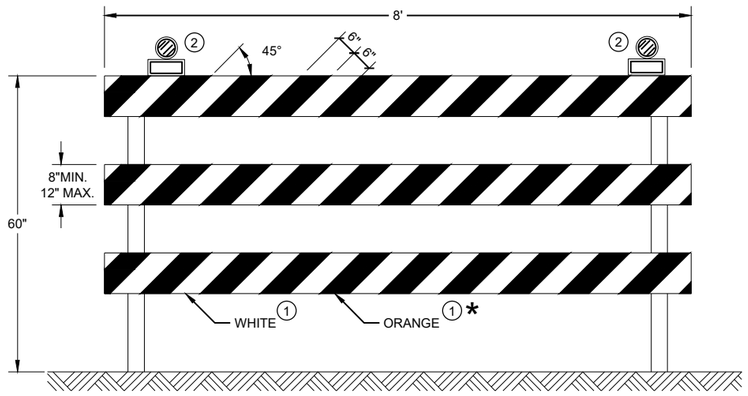
VERTICAL PANEL

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.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

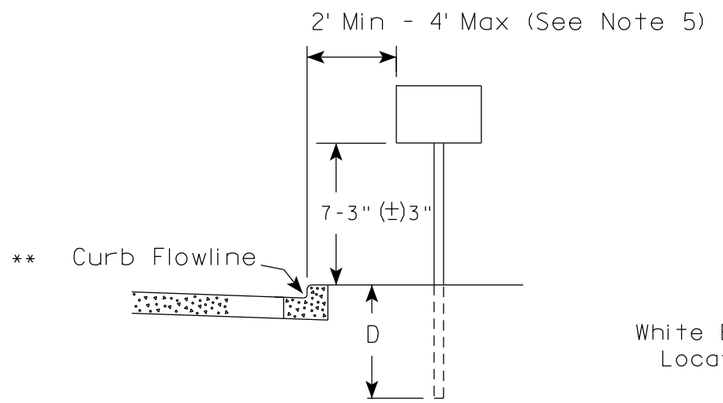
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

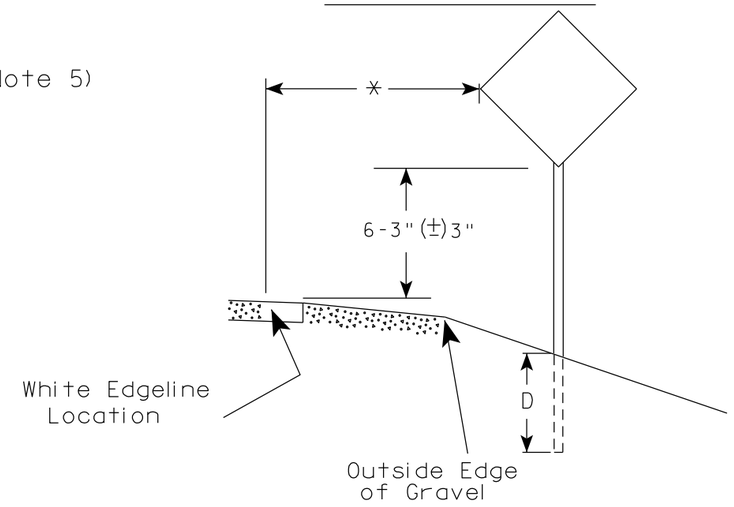
6

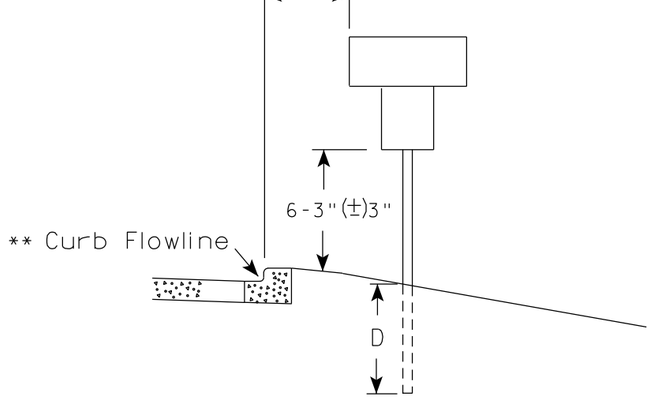
SDD 15C11 - 10b
SDD 15C11 - 10b

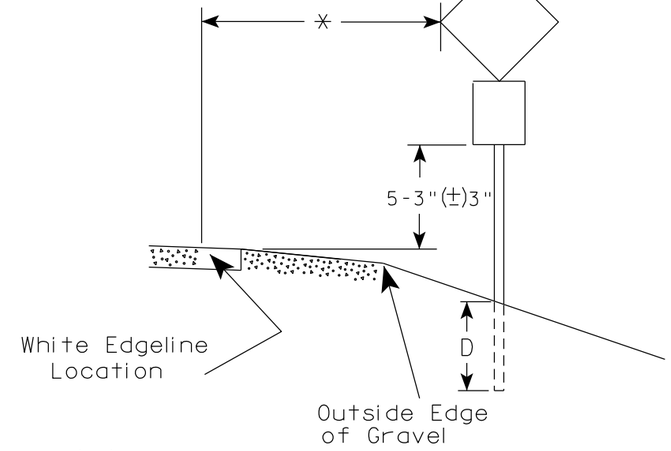
URBAN AREA



RURAL AREA (See Note 2)







** 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.

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 directd by the Engineer.

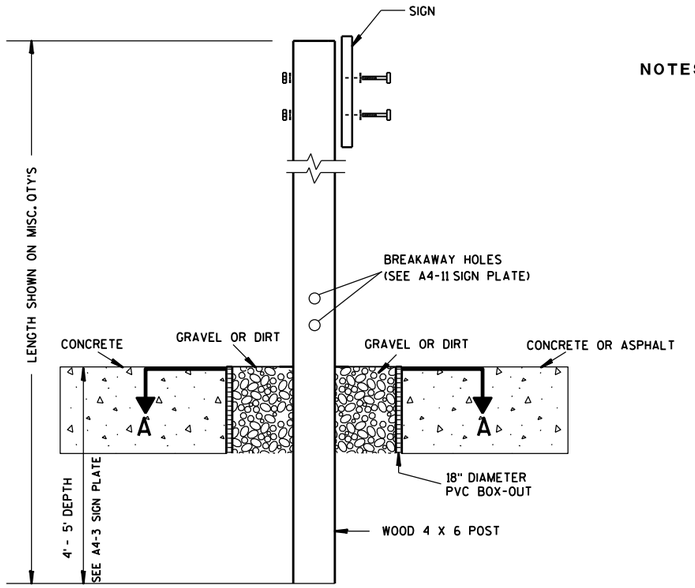
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

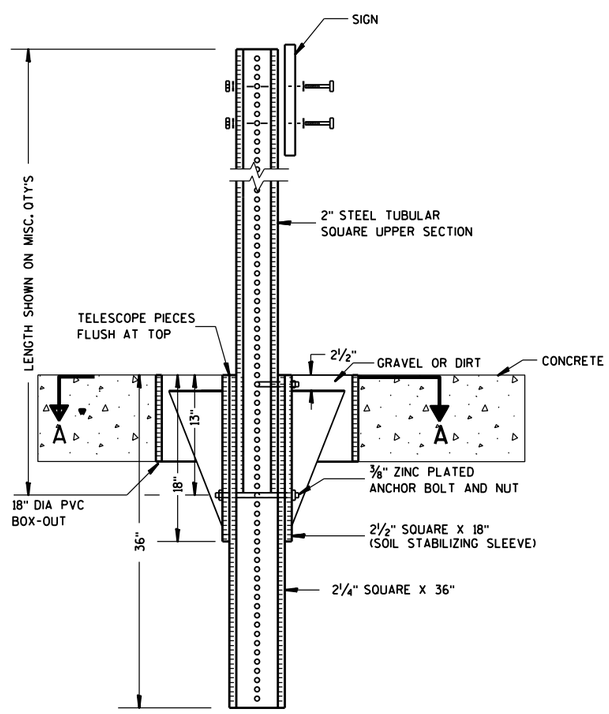
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 37	E



ELEVATION VIEW

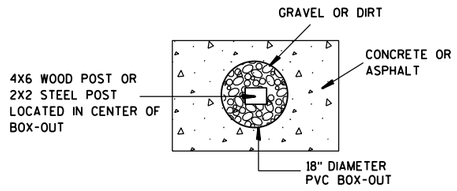
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

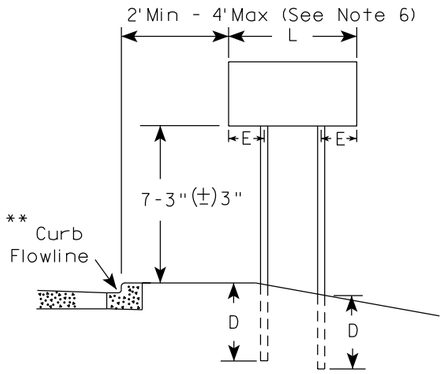
APPROVED Matthew R Rauch
for State Traffic Engineer

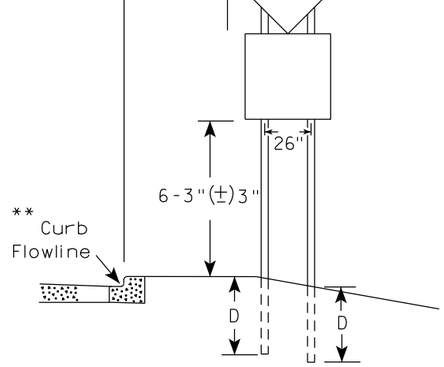
DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

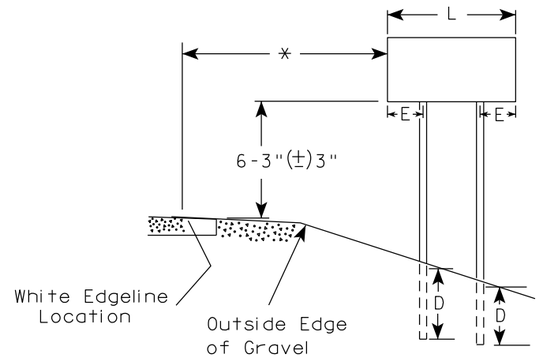
URBAN AREA

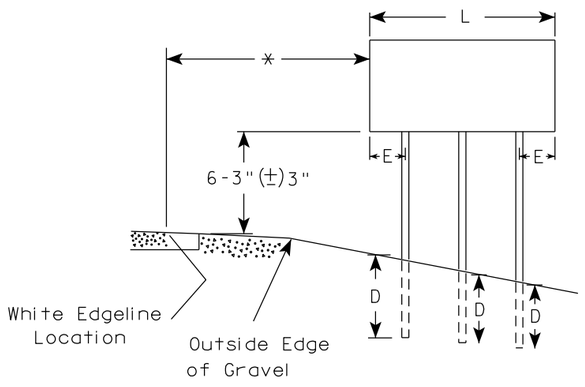


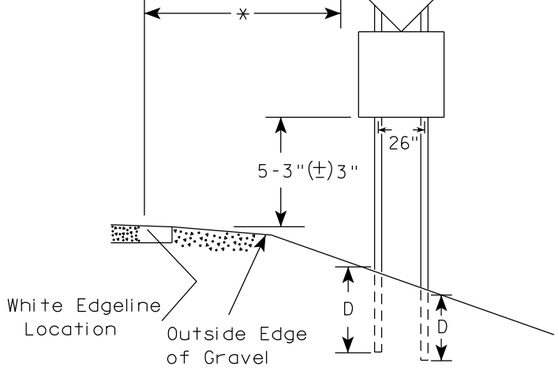


48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)







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"

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the engineer.
8. 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.

POST EMBEDMENT DEPTH

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

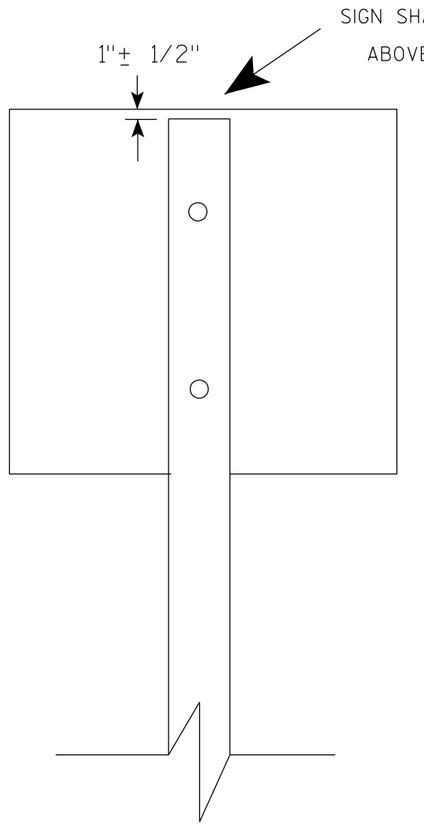
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

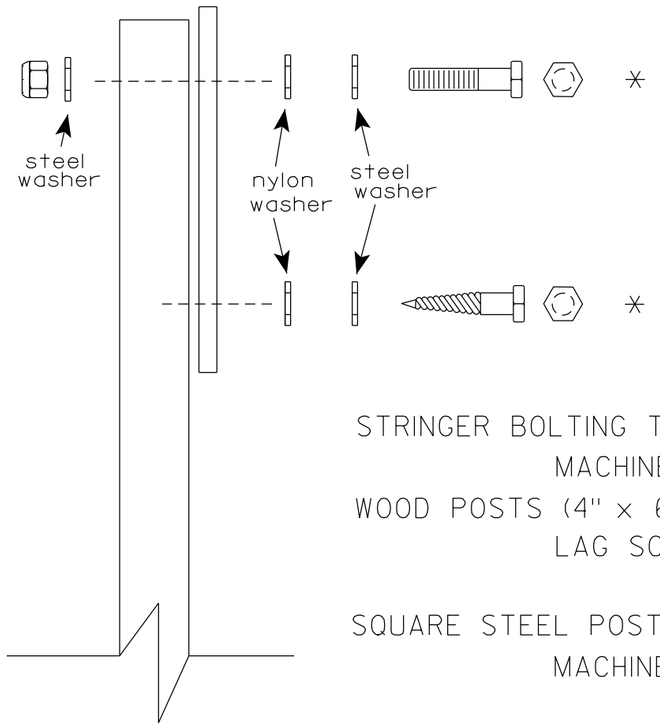
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 39	E





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 - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 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 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 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

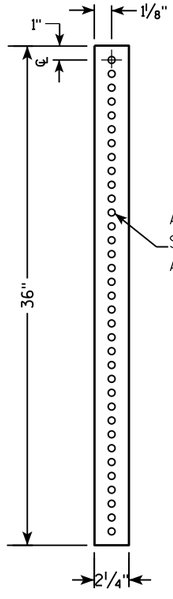
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

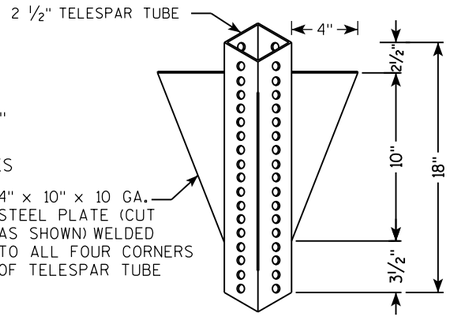
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

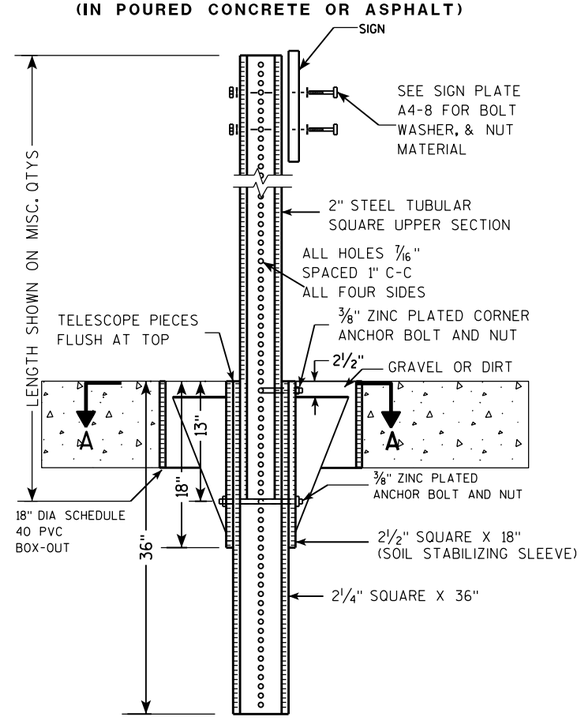
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



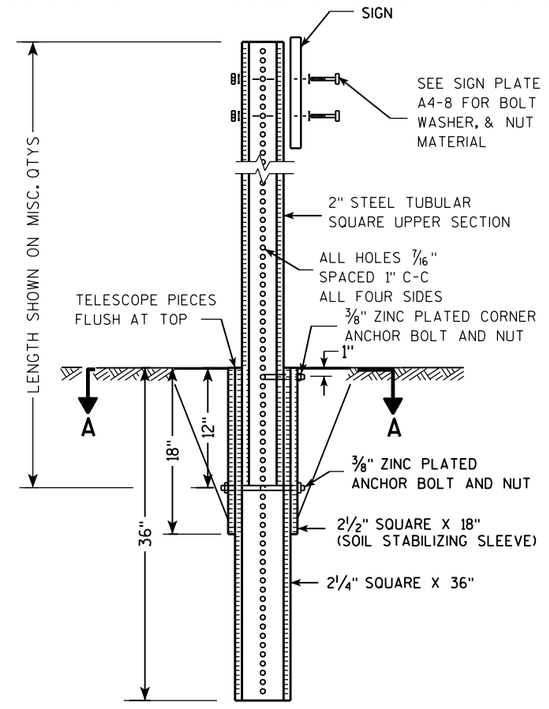
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

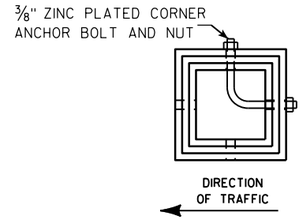


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)





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

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL
SIGN POST
A4-9

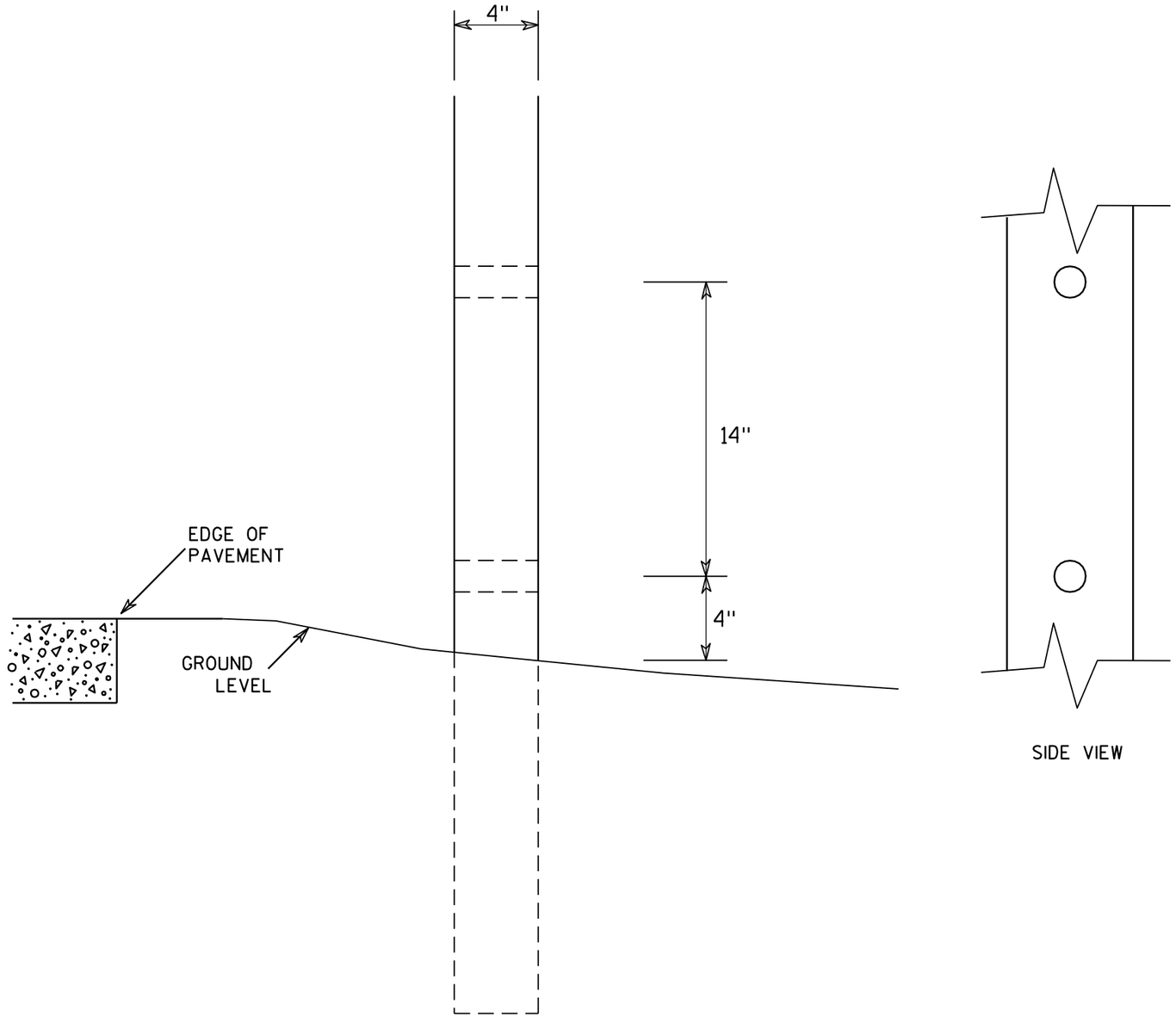
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000
WISDOT/CADDS SHEET 42



SIDE VIEW

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

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

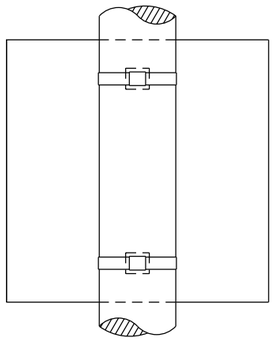
APPROVED Chester J Spang for State Traffic Engineer

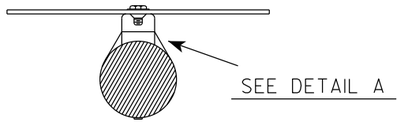
DATE 3/27/97 PLATE NO. A4-11.2

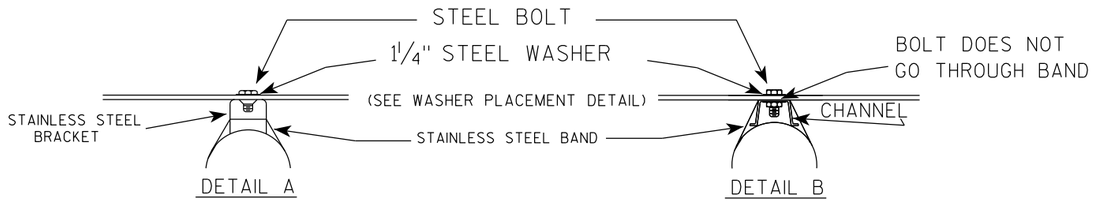
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 42	E

BANDING

SINGLE SIGN



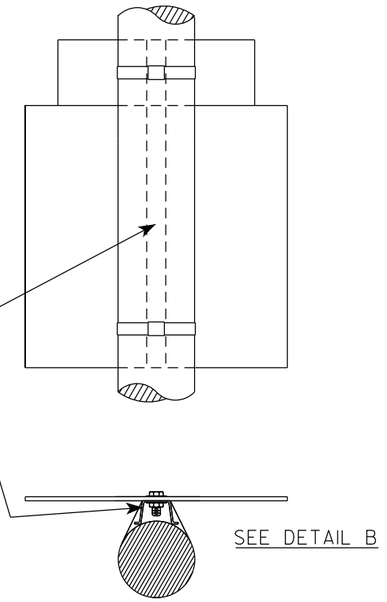




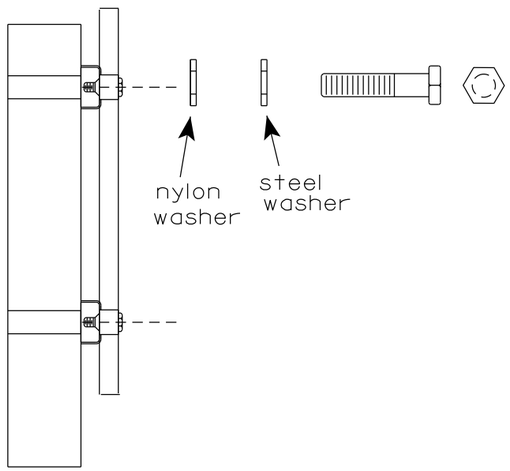
GENERAL NOTES

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 ¾" 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



WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X ⅜" I.D. X 1/16" STEEL
1-1/4" O.D. X ⅜" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

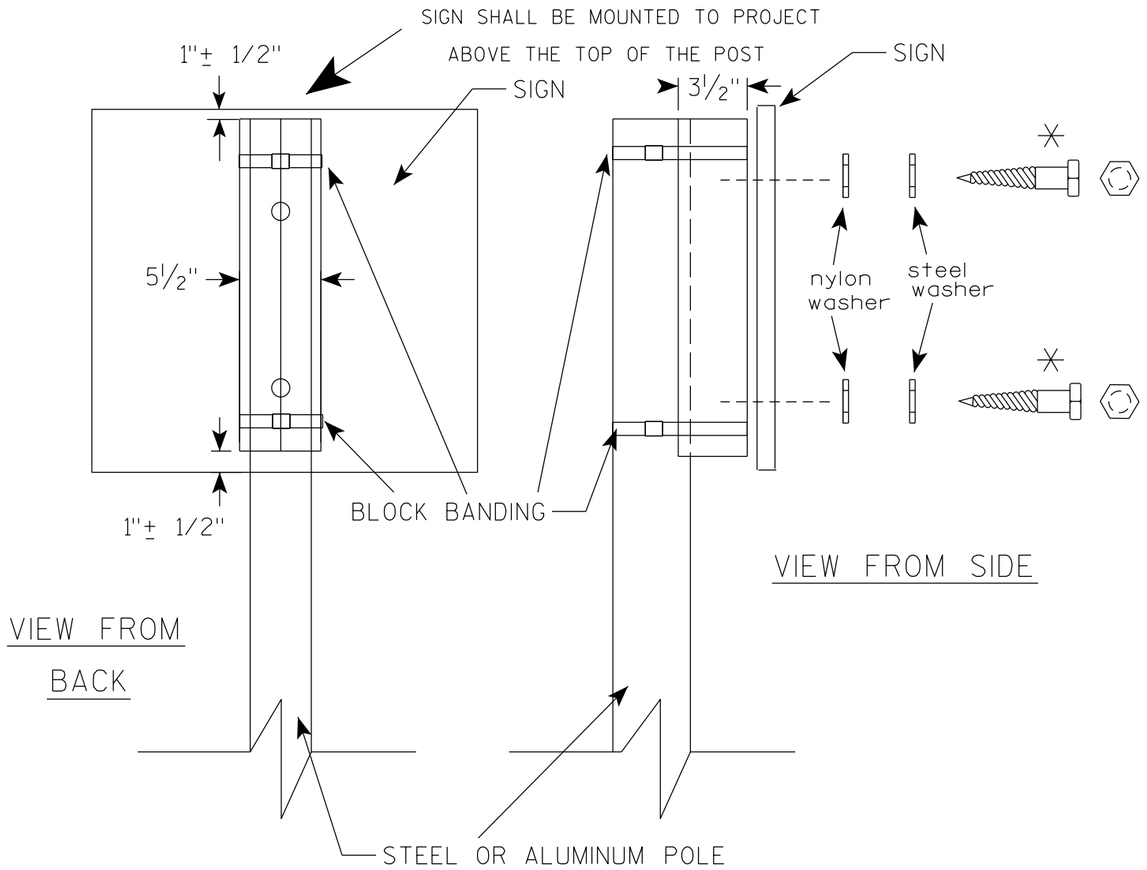
WISCONSIN DEPT OF TRANSPORTATION

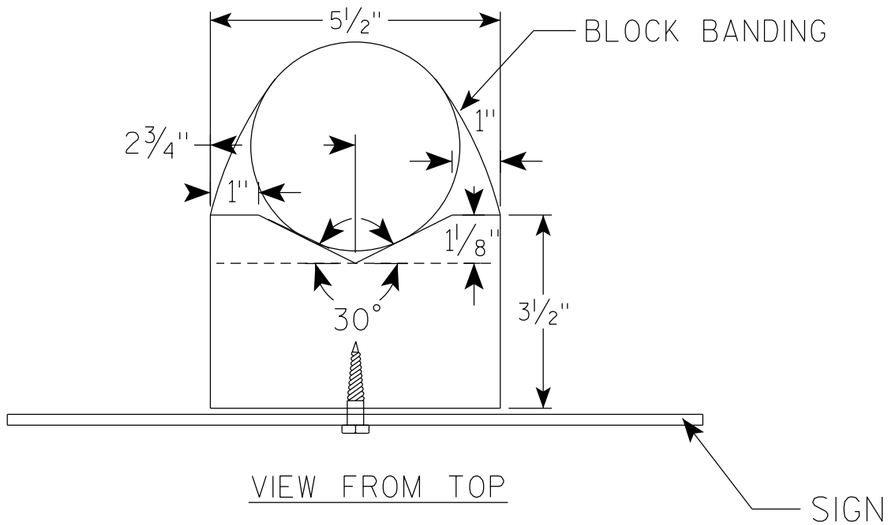
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-9.4

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 43	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$





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, ¾" 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 NORNALLY 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 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

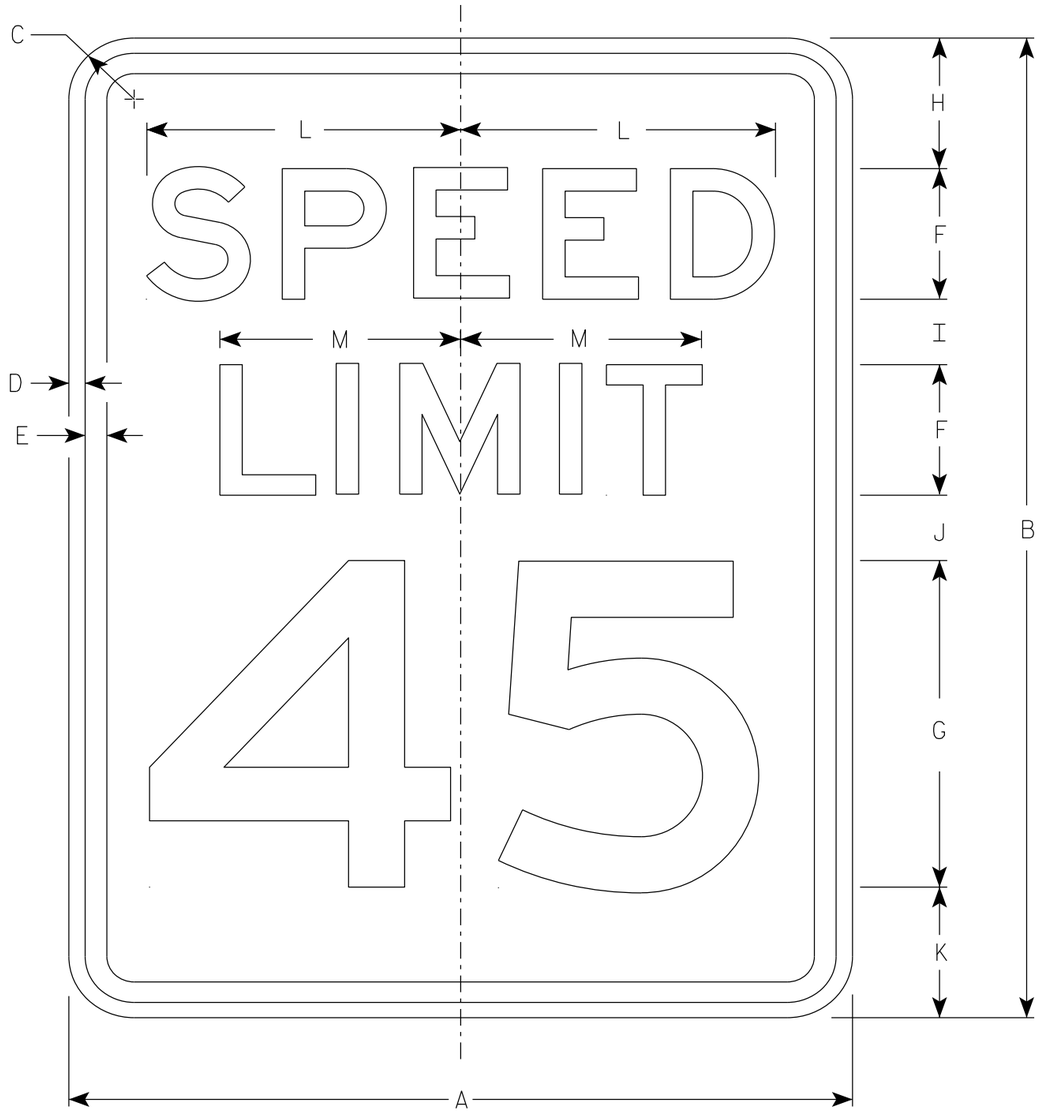
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 44 E



R2-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Substitute appropriate numerals and optically adjust spacing 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	18	24	1 1/2	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/2	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 7/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 7/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 7/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	3	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

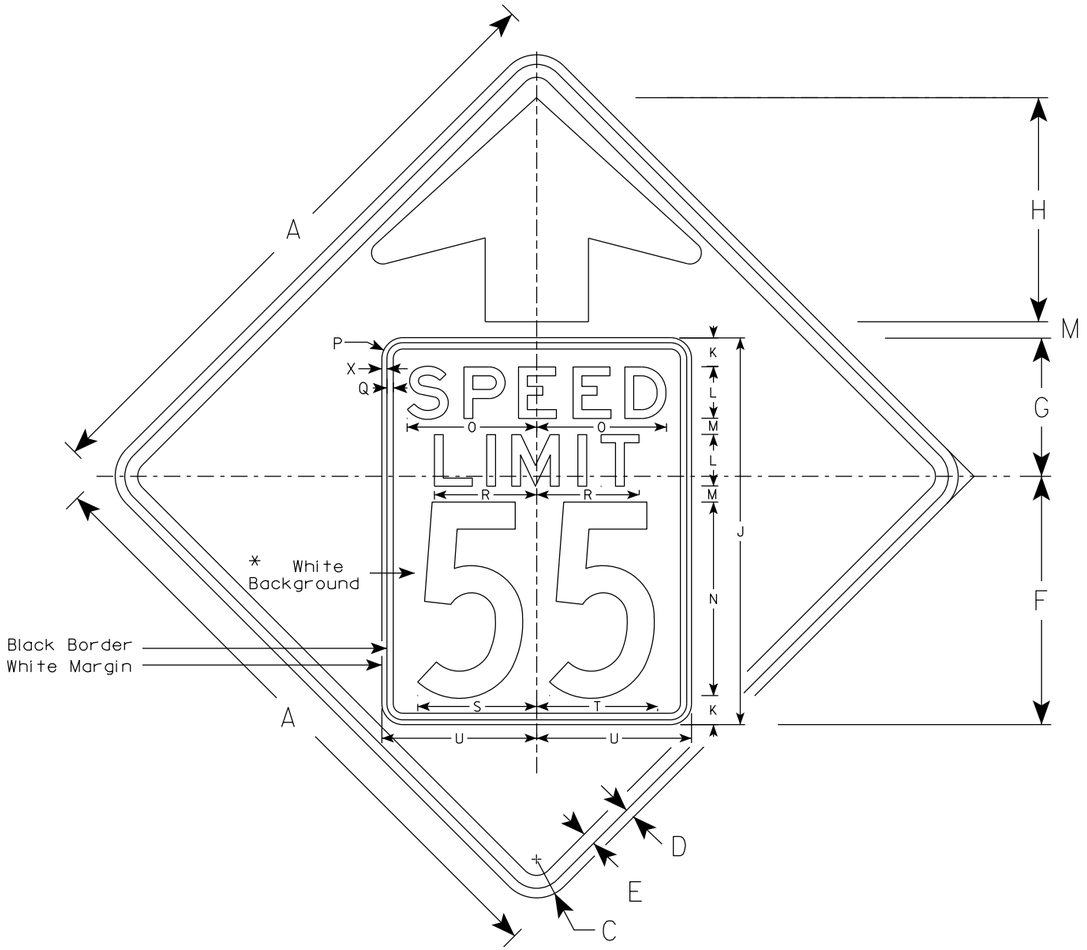
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/1/23 PLATE NO. R2-1.14

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 45 | E

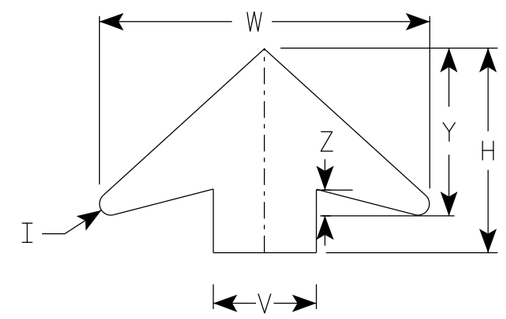


W3-5

NOTES

1. Sign is Type II - See Note 2 for Sheeting Type
2. Color: *
   Background - Yellow* (Type F Reflective)
   Message - Black
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background with black message (Type SH Reflective)



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	36		2 1/4	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2M	36		2 1/4	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
3	36		2 1/4	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
4	48		3	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		3	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN

W3-5

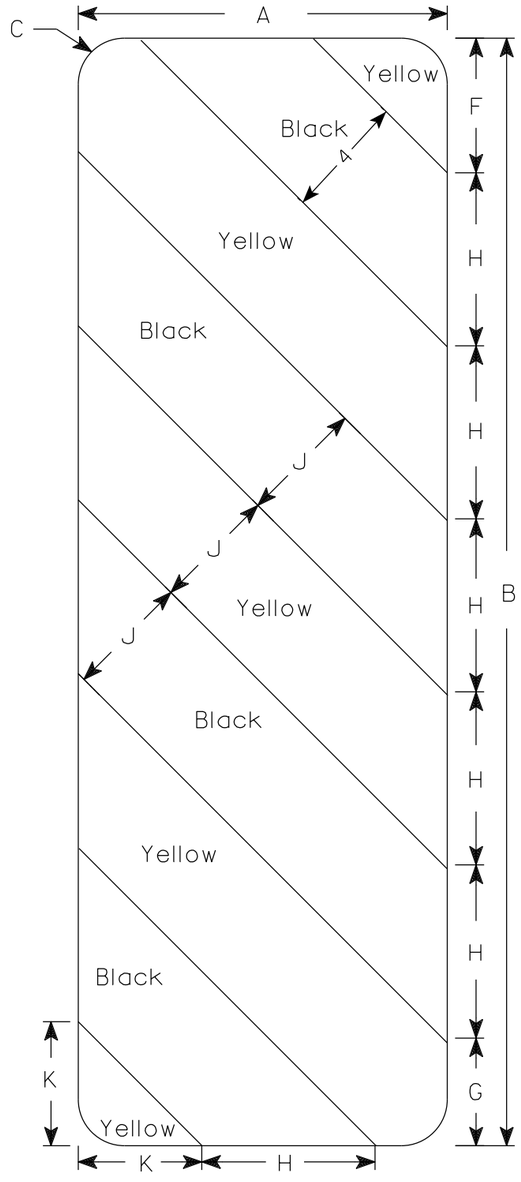
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

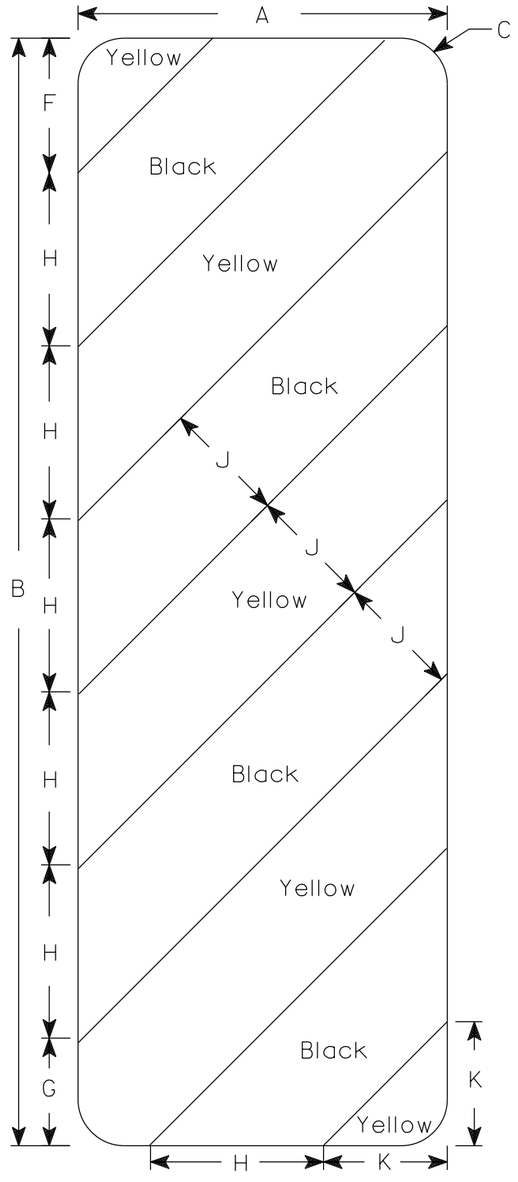
DATE 8/30/2023 PLATE NO. W3-5.7

PROJECT NO:

SHEET NO: 46 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

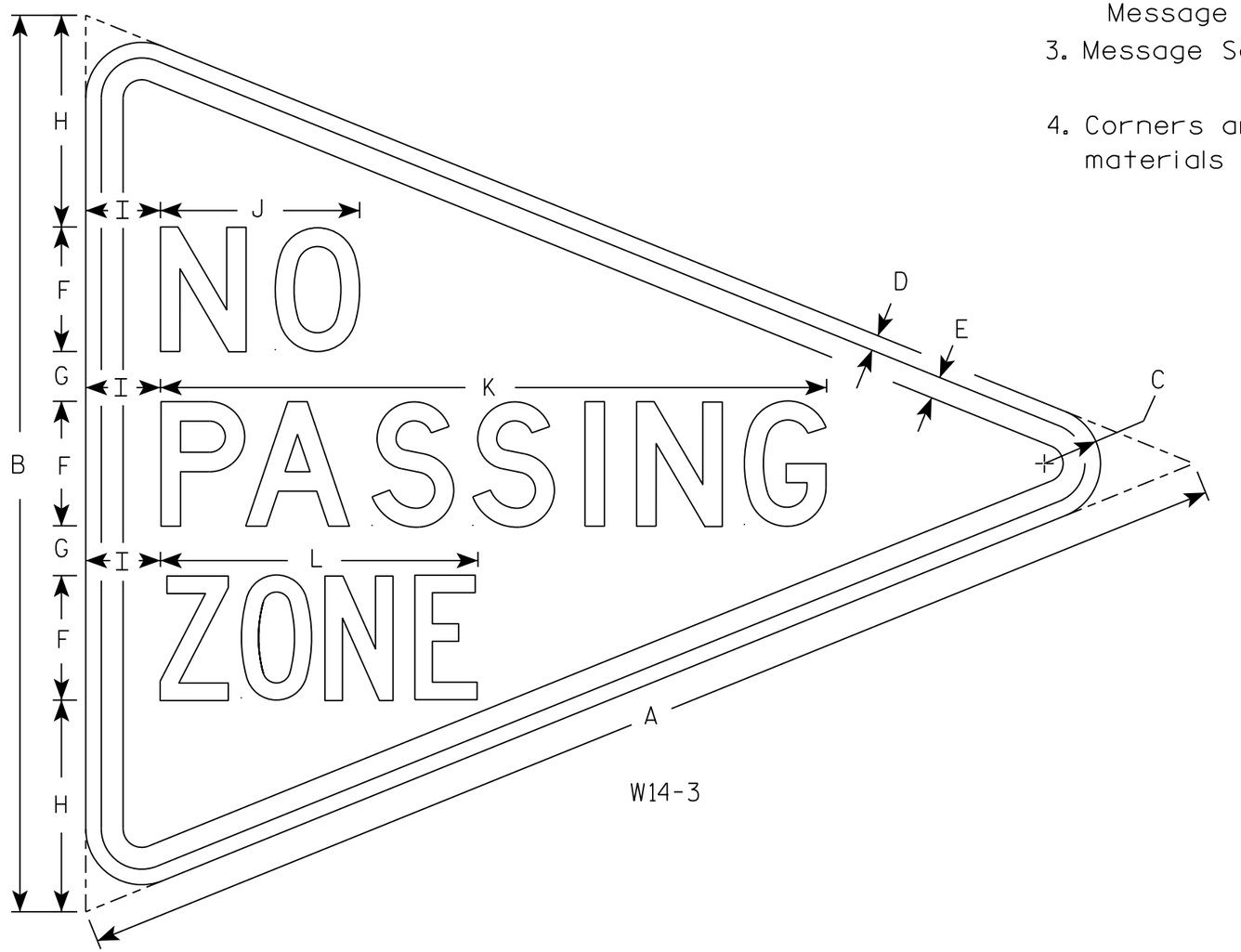
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 47 | E

NOTES

1. Sign is Type II- Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - Lines 1 and 2 are Series D.
   Line 3 is series C.
4. Corners and borders shall be rounded on all base materials for this sign.



W14-3

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	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															5.56
2M																											
3																											
4																											
5																											

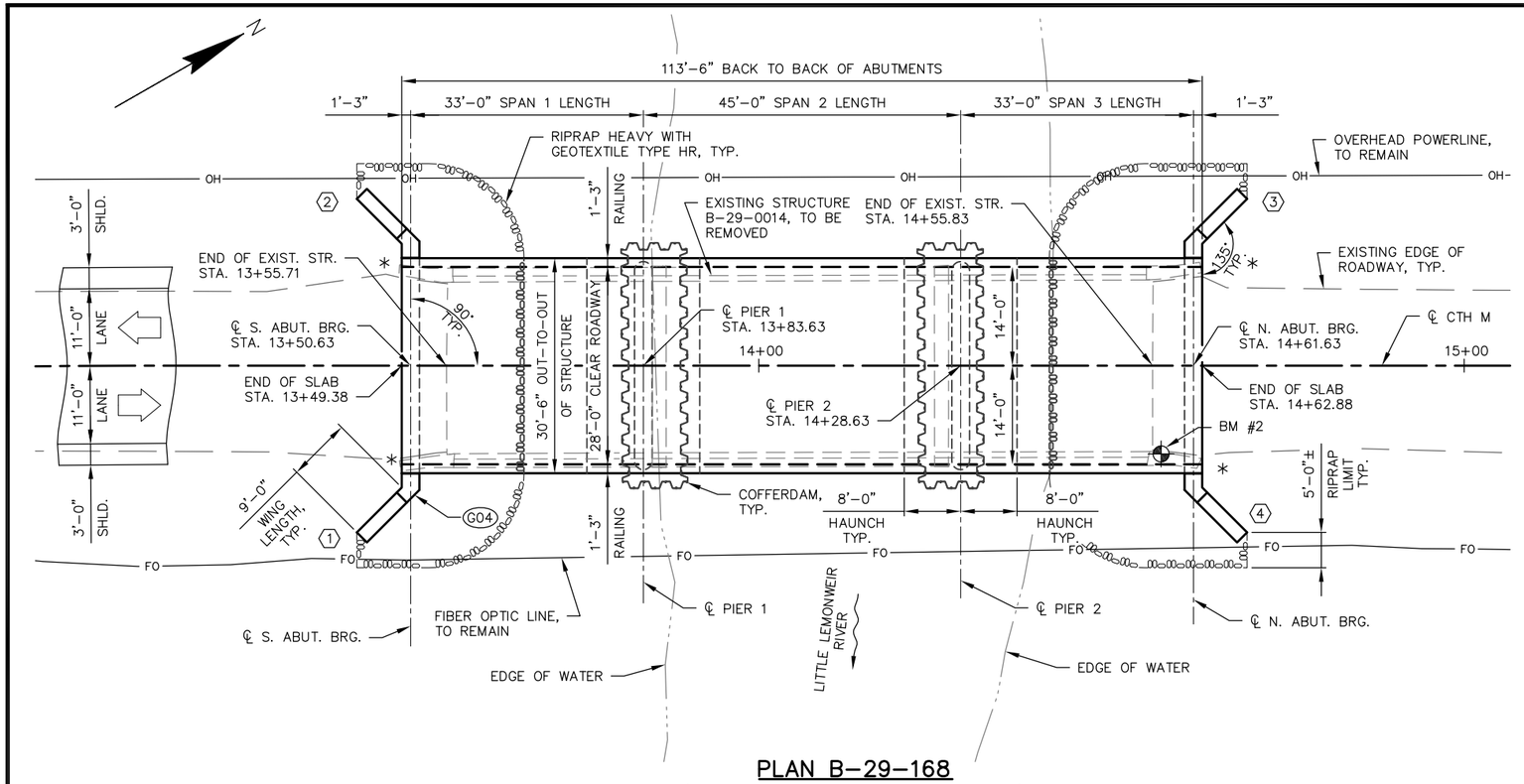
STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

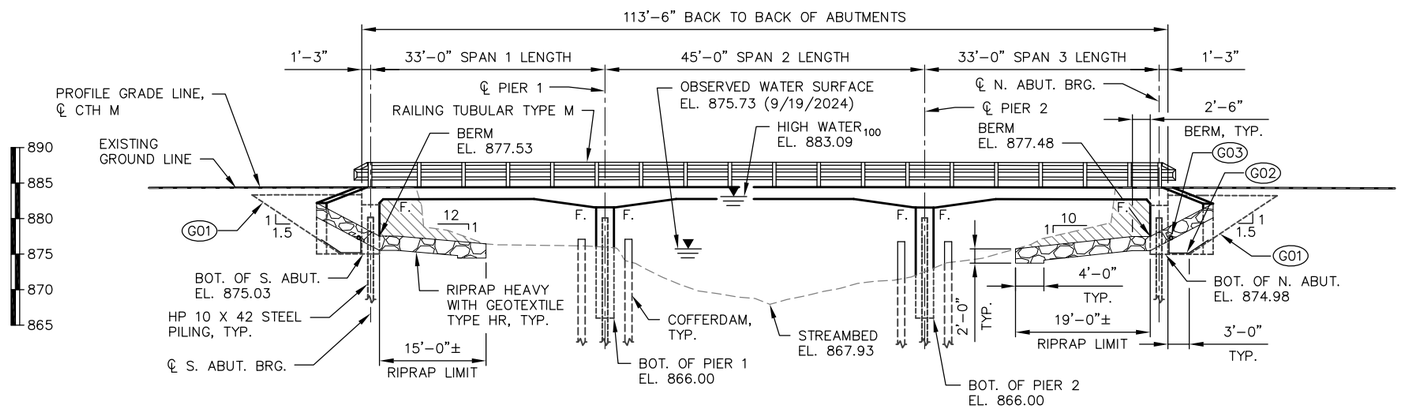
DATE 3/21/17 PLATE NO. W14-3.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 48 | E



PLAN B-29-168

(THREE SPAN CONCRETE HAUNCH SLAB BRIDGE)



ELEVATION

(THRU LITTLE LEMONWEIR RIVER, LOOKING WEST)

BENCH MARKS

NO.	STATION/OFFSET	DESCRIPTION	ELEVATION
BM #1	10+97.12, 37.41' LT.	RAILROAD SPIKE SET IN POWER POLE	879.89
BM #2	14+57.04, 12.52' RT.	WISDOT BRONZE DISK MONUMENT	885.06

HORIZONTAL DATUM AND ADJUSTMENT: NAD 83 (2011)
VERTICAL DATUM AND ADJUSTMENT: NAVD 88 (2012)
COORDINATE REFERENCE SYSTEM: WISCRS JUNEAU CO.

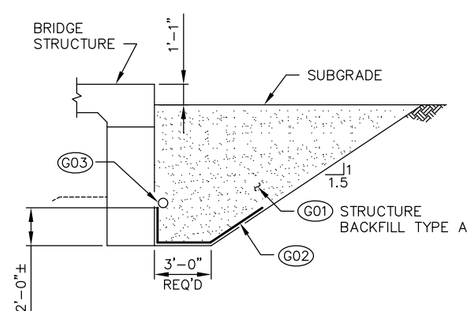
TRAFFIC DATA:

CTH M
A.A.D.T. (2026) ——— 490
A.A.D.T. (2046) ——— 547
DESIGN SPEED ——— 50 M.P.H.

NOTES

- EXCAVATION AS INDICATED IN THE HATCH AREAS, TO BE INCLUDED IN THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-29-168".
- (G01) BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCLUDED WITH BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-29-168". LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- (G02) "GEOTEXTILE TYPE DF SCHEDULE A" LIMITS. EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT FOR THE ENTIRE ABUTMENT BODY LENGTH.
- (G03) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED IN "ABUTMENT DETAILS" SHEET.
- (G04) NAME PLATE REQUIRED AND BENCH MARK CAP (WHEN SUPPLIED). FOR LOCATION SEE "ABUTMENTS" SHEET.
- ⬡ INDICATES WING NUMBER
- ∗ LOCATION OF BEAM GUARD ATTACHMENT

LIST OF DRAWINGS



ABUTMENT BACKFILL DETAIL

(TYPICAL AT BOTH ABUTMENTS)

STATE PROJECT NUMBER

7382-00-71

DESIGN DATA

LIVE LOAD:

DESIGN LOADING ——— HL-93
INVENTORY RATING FACTOR ——— RF=1.15
OPERATING RATING FACTOR ——— RF=1.48
WISCONSIN STANDARD PERMIT VEHICLE RATING (WIS.-SPV): ——— 250 KIPS

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

MATERIAL PROPERTIES:

CONCRETE MASONRY, SLAB ——— $f'c$ = 4,000 P.S.I.
ALL OTHER ——— $f'c$ = 3,500 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT ——— fy = 60,000 P.S.I.

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON HP 10 X 42 PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE** AT S. ABUT. AND 130 TONS PER PILE** AT N. ABUT. AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 50 FT PILE LENGTHS AT S. ABUT. AND 45 FT PILE LENGTHS AT N. ABUT.

PIERS TO BE SUPPORTED ON HP 10 X 42 PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE** AT PIERS 1 AND 2 AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 45 FT PILE LENGTHS AT PIER 1 AND PIER 2.

**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 DYNAMIC FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

HYDRAULIC DATA:

100 YEAR DESIGN FREQUENCY:
Q_{100} ——— 5,060 C.F.S.
Q_{100} (THRU BRIDGE) ——— 5,060 C.F.S.
DRAINAGE AREA ——— 62.7 SQ. MI.
BRIDGE WATER AREA ——— 776 SQ. FT.
BRIDGE VELOCITY ——— 6.52 F.P.S.
HIGH WATER$_{100}$ EL. ——— 883.09 FT.
SCOUR CRITICAL CODE ——— 5
Q_2 ——— 1,050 C.F.S.
Q_2 ELEVATION ——— 878.04 FT.
Q_2 VELOCITY ——— 2.94 F.P.S.

BRIDGE OFFICE CONTACT
AARON BONK, P.E.
(608) 261-0261

CONSULTANT CONTACT
ANDY KNUTSON, P.E., S.E.
(608) 588-7866

NO.	DATE	REVISION	BY

WESTBROOK Associated Engineers, Inc.
619 EAST HOXIE STREET
P.O. BOX 429
SPRING GREEN, WI 53588
PHONE (608) 588-7866
FAX (608) 588-7954

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED JLR 07/11/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-29-168

CTH M OVER LITTLE LEMONWEIR RIVER

COUNTY	TOWN/~~CITY/VILLAGE~~
JUNEAU	LISBON

DESIGN SPEC. AASHTO LRFD DESIGN SPEC.

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JDO	CDS	JDO	ACK

GENERAL PLAN

SHEET 1 OF 9

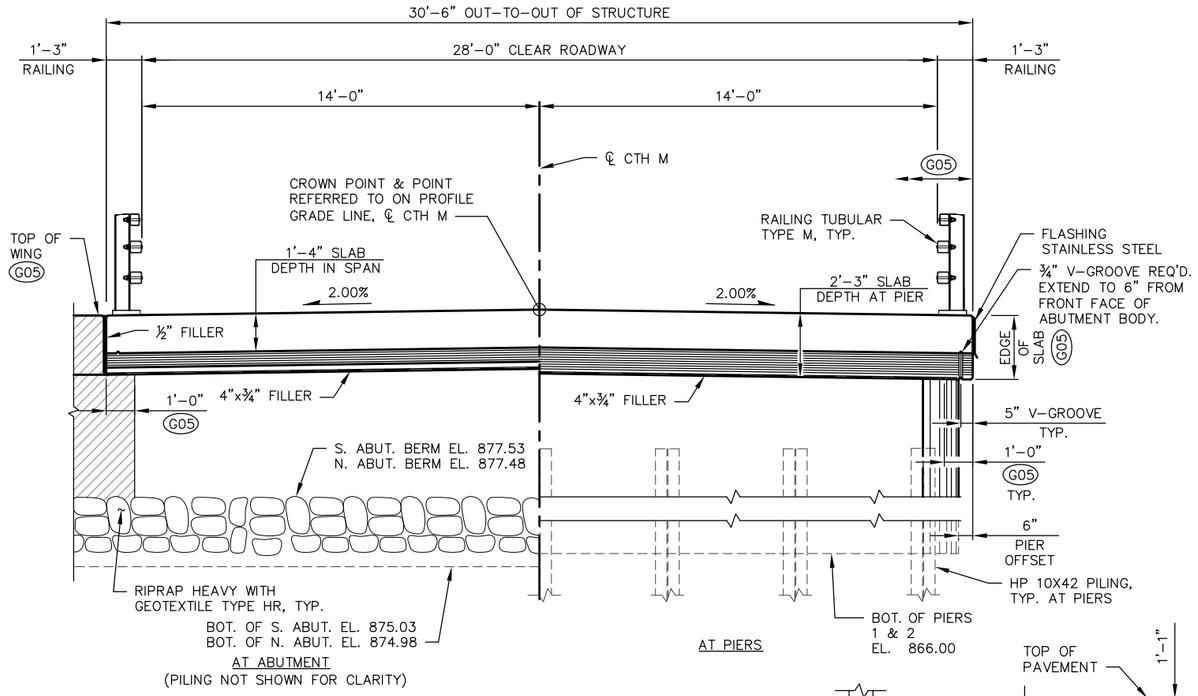
49

8

8

FILE: B290168_01_gen.dwg
PLOT SCALE:

I.D. 7382-00-71 PLOT DATE: May 22, 2025

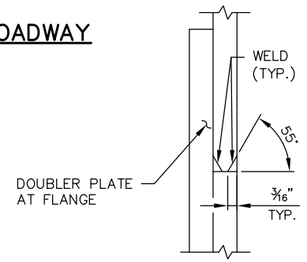


CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

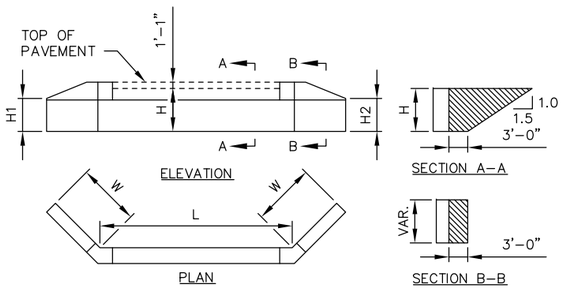
NOTE

(G05) COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS. PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO ENTIRE EXPOSED TOP OF SLAB INCLUDING THE SLAB EDGES AND 1'-0" UNDER THE SLAB, THE TOP AND EXTERIOR EXPOSED FACE OF WINGS, AND THE FRONT FACE OF WINGS, AND THE FRONT FACE OF THE ABUTMENTS TO 1'-0" PAST THE EDGE OF SLAB.



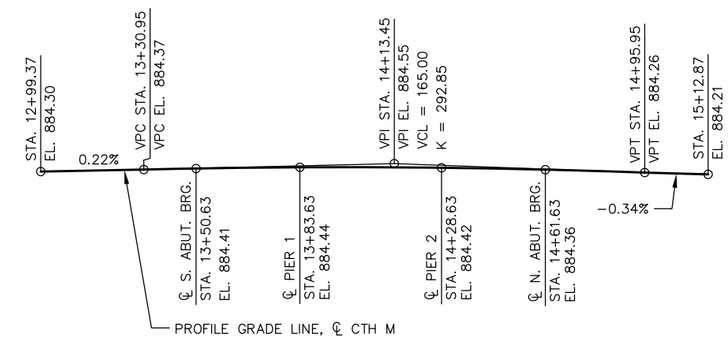
HP WELD DETAIL

(FLANGE SHOWN, WEB SIMILAR)



ABUTMENT BACKFILL DIAGRAM

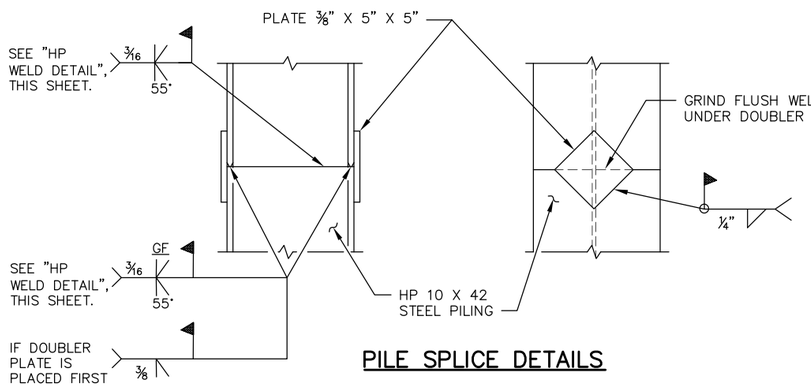
L = ABUTMENT BODY LENGTH AT BACKFACE (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
H1 = WING 1 HEIGHT AT TIP (FT)
H2 = WING 2 HEIGHT AT TIP (FT)
W = WING LENGTH (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H) + (3')(0.5)(H1+H2+H+H)(W)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



PROFILE GRADE LINE, ℄ CTH M

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	S. ABUT.	PIER 1	PIER 2	N. ABUT.	SUPER.	TOTALS
203.0250	REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS B-29-14	EACH	---	---	---	---	---	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-29-168	EACH	---	---	---	---	---	1
206.5001	COFFERDAMS B-29-168	EACH	---	---	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	220	---	---	220	---	440
502.0100	CONCRETE MASONRY BRIDGES	CY	36.0	42.8	42.7	36.0	195.2	353
502.3200	PROTECTIVE SURFACE TREATMENT	SY	19	---	---	19	445	483
502.9000.S	UNDERWATER SUBSTRUCTURE INSPECTION B-29-168	EACH	---	---	---	---	---	1
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2365	1980	1980	2365	---	8690
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1480	70	70	1480	46470	49570
513.4061	RAILING TUBULAR TYPE M	LF	---	---	---	---	233	233
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6	---	---	6	---	12
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	350	315	315	315	---	1295
606.0300	RIPRAP HEAVY	CY	70	---	---	90	---	160
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	80	---	---	80	---	160
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	34	---	---	34	---	68
645.0120	GEOTEXTILE TYPE HR	SY	136	---	---	166	---	302
SPV.0090.01	FLASHING STAINLESS STEEL	LF	---	---	---	---	217	217
(NON-BID ITEM)	FILLER	SIZE						½" & ¾"



PILE SPLICE DETAILS

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 ¾" UNLESS OTHERWISE NOTED.

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

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCLUDED WITH BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-29-168".

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.

DO NOT PLACE FILL ABOVE 3'-0" FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

COFFERDAM IS REQUIRED AT THE PIERS FOR CONSTRUCTION. CONTRACTOR SHALL BE AWARE OF EXISTING BRIDGE PIER PILES ARE ADJACENT TO NEW PIERS. COFFERDAM SHALL BE SIZED TO AVOID CONFLICT WITH EXISTING PILES OR EXISTING PILES SHALL BE REMOVED. NO ADDITIONAL COMPENSATION FOR CONTRACTOR PREFERENCE FOR INSTALLATION OF THE PROPOSED COFFERDAM.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

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

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-29-168" SHALL BE THE EXISTING GROUND LINE.

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

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON THE "GENERAL PLAN" AND "ABUTMENTS" SHEETS.

THE EXISTING STRUCTURE B-29-14 IS A THREE SPAN CONCRETE HAUNCH SLAB BRIDGE WITH AN OVERALL LENGTH OF 101'-6" AND A CLEAR ROADWAY WIDTH OF 24'-0". SUPERSTRUCTURE, PIERS, AND ABUTMENTS SHALL BE REMOVED IN ACCORDANCE WITH THE BID ITEM "REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS B-29-14".

STATE PROJECT NUMBER

7382-00-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-29-168

DRAWN BY JDO | PLANS CK'D ACK

CROSS SECTION, GENERAL NOTES & QUANTITIES

SHEET 2 OF 9

50

8

8

I.D. 7382-00-71

PLOT DATE: May 22, 2025

FILE: B290168_02_crs.dwg
PLOT SCALE:

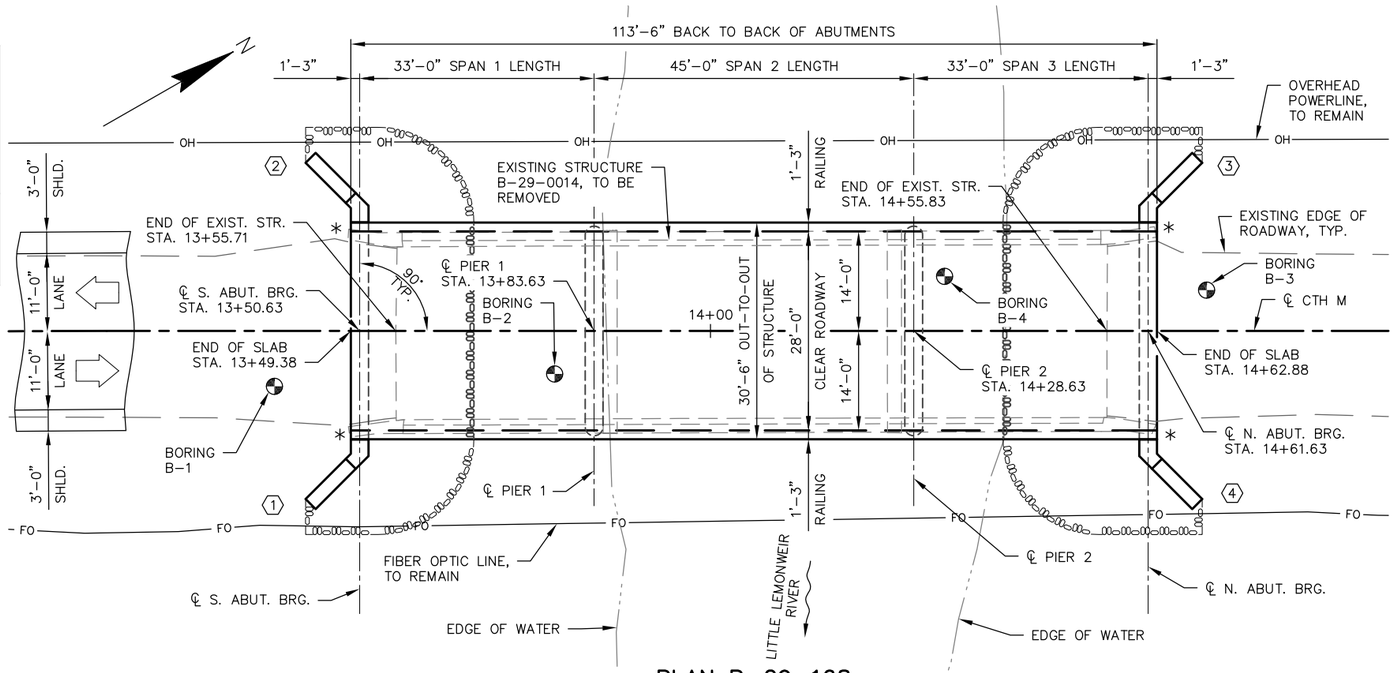
B-29-168 BORINGS

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
BORING B-1	9/17/2024	190484.6	437102.6
BORING B-2	9/17/2024	190519.7	437120.7
BORING B-3	9/17/2024	190605.3	437156.0
BORING B-4	9/17/2024	190574.2	437136.0
BORINGS COMPLETED BY: CHOSEN VALLEY TESTING, INC.			
SUBSURFACE INVESTIGATION REPORT: CHOSEN VALLEY TESTING, INC.			
ALL COORDINATES REFERENCED TO WISCRS, JUNEAU COUNTY			

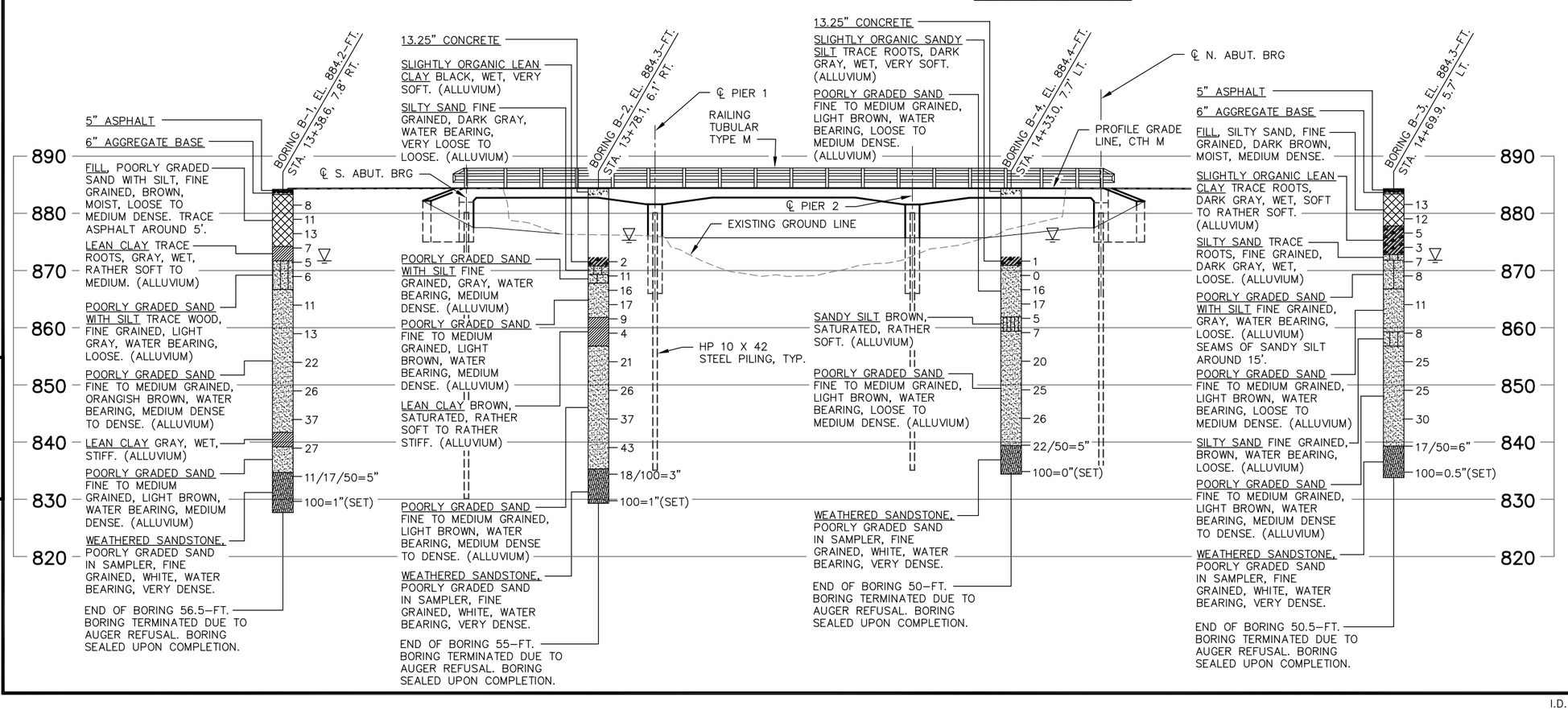
NOTES

⬡ INDICATES WING NUMBER

* LOCATION OF BEAM GUARD ATTACHMENT



PLAN B-29-168



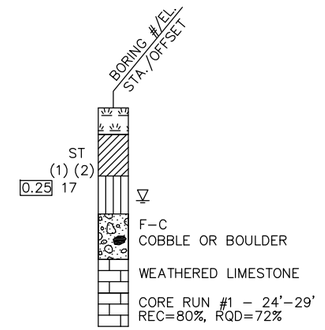
STATE PROJECT NUMBER

7382-00-71

MATERIAL SYMBOLS

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

LEGEND OF BORING



(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-29-168

DRAWN BY JDO | PLANS CK'D ACK

SUBSURFACE EXPLORATION

SHEET 3 OF 9

51

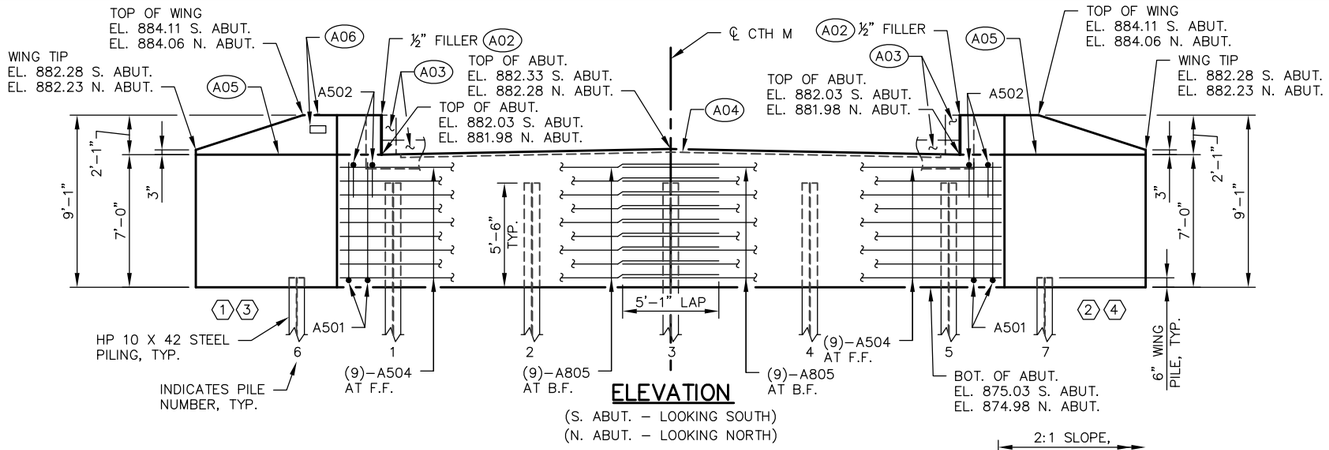
8

8

I.D. 7382-00-71

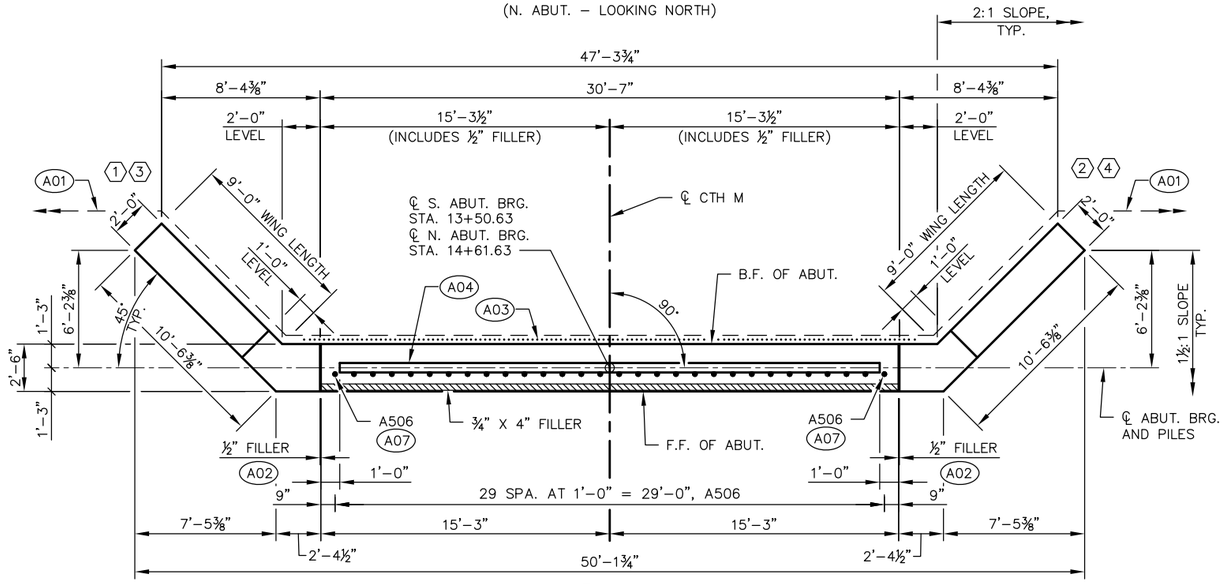
PLOT DATE: May 22, 2025

FILE: B290168_03_bor.dwg
PLOT SCALE:

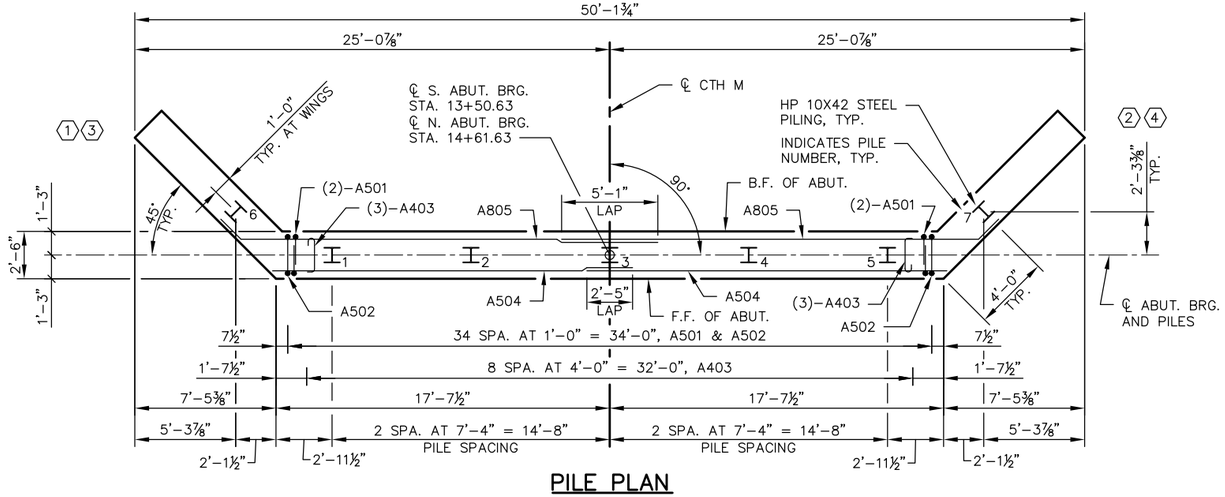


ELEVATION

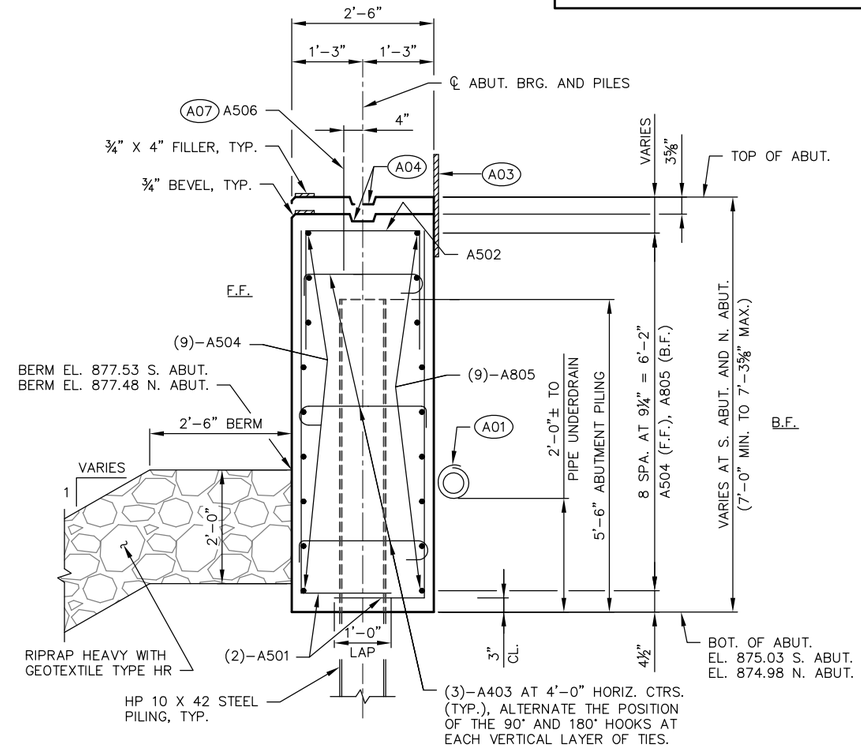
(S. ABUT. – LOOKING SOUTH)
(N. ABUT. – LOOKING NORTH)



PLAN



PILE PLAN



NOTES

DO NOT PLACE FILL ABOVE 3'-0" FROM THE BOTTOM OF THE ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SOUTH AND NORTH ABUTMENTS TO BE SUPPORTED ON HP 10 X 42 PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS AT THE SOUTH ABUTMENT AND 130 TONS AT THE NORTH ABUTMENT PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 50 FT PILE LENGTHS AT THE SOUTH ABUTMENT AND 45 FT PILE LENGTHS AT THE NORTH ABUTMENT.

SEE "CROSS SECTION, GENERAL NOTES & QUANTITIES" SHEET FOR PILE SPLICE DETAILS.

(A01) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON "ABUTMENT DETAILS" SHEET. RODENT SHIELD SHALL BE INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

(A02) SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). ½" FILLER TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.

(A03) 18" RUBBERIZED MEMBRANE WATERPROOFING (R.M.W.), SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

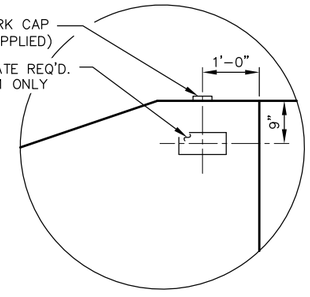
(A04) KEYED CONST. JT. FORMED BY BEVELED 2 X 6

(A05) OPTIONAL KEYED CONST. JT. FORMED BY BEVELED 2 X 6, TYP.

(A06) NAME PLATE & BENCHMARK CAP (WHEN SUPPLIED) AT WING 1 ONLY. SEE "NAME PLATE & BENCHMARK CAP DETAIL", THIS SHEET.

(A07) A506 BARS MAY BE PLACED AFTER CONCRETE HAS BEEN POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. EMBED 1'-0" INTO ABUTMENT BODY.

⬡ INDICATES WING NUMBER



NAME PLATE & BENCHMARK CAP DETAIL

F.F. – FRONT FACE
B.F. – BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-29-168

DRAWN BY JDO | PLANS CK'D ACK

ABUTMENTS

SHEET 4 OF 9

52

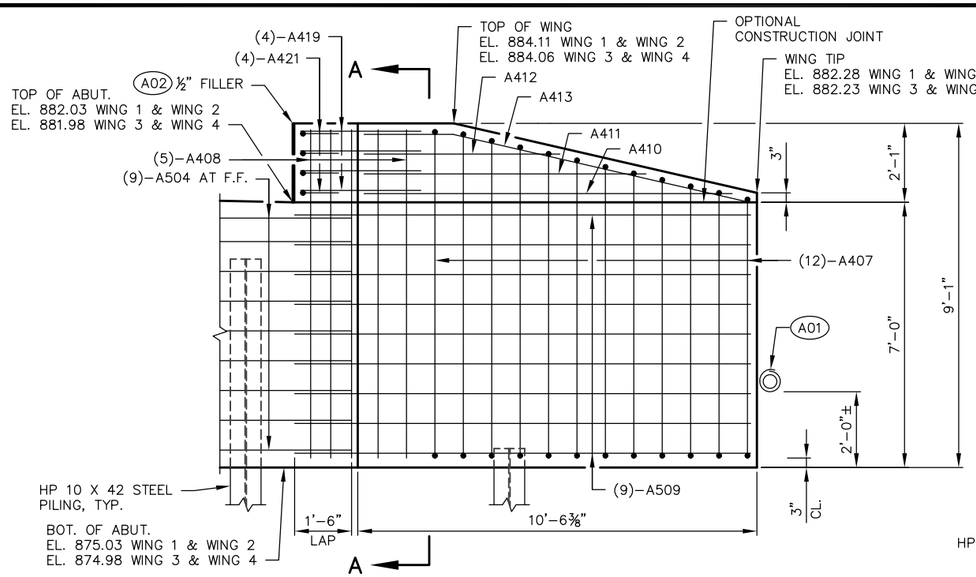
8

8

I.D. 7382-00-71

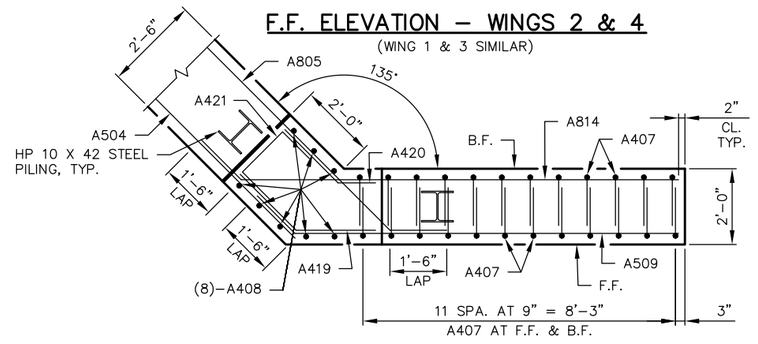
PLOT DATE: May 22, 2025

FILE: B290168_04_05_abut.dwg
PLOT SCALE:



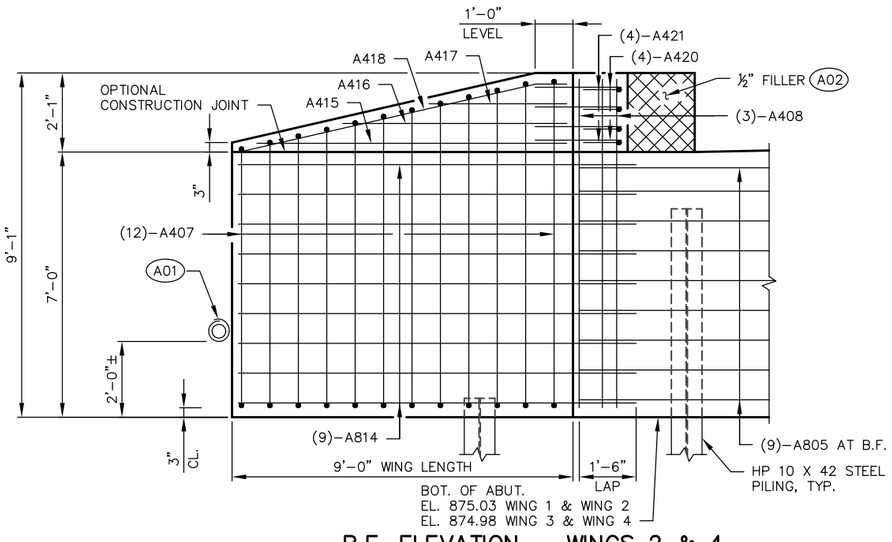
F.F. ELEVATION – WINGS 2 & 4

(WING 1 & 3 SIMILAR)



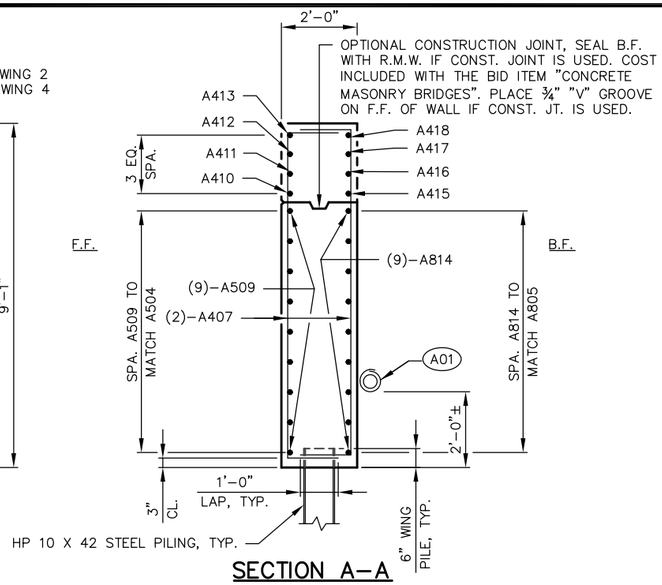
PLAN – WINGS 2 & 4

(WING 1 & 3 SIMILAR)

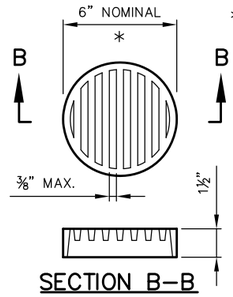


B.F. ELEVATION – WINGS 2 & 4

(WING 1 & 3 SIMILAR)



SECTION A–A



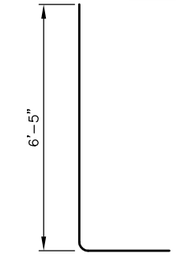
SECTION B–B

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

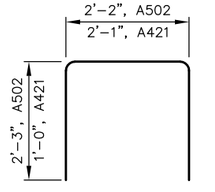
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X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

THE RODENT SHIELD. PIPE COUPLING AND SCREWS SHALL BE INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6–INCH".

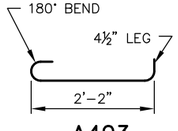
RODENT SHIELD DETAIL



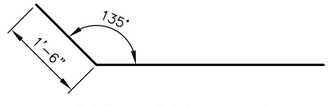
A501



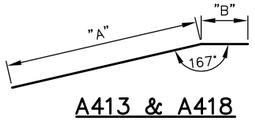
A502 & A421



A403



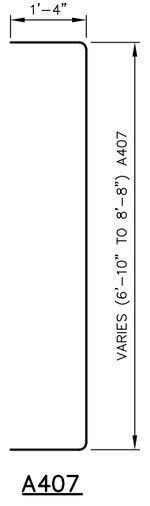
A805, A509 & A814



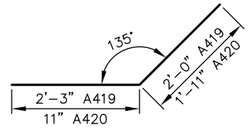
A413 & A418

BAR BEND DIMENSIONS

MARK	"A"	"B"
A413	8'–0"	2'–4"
A418	8'–0"	0'–9"



A407



A419 & A420

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
A407	8 SERIES OF 12	9'–4" TO 11'–2"

BUNDLE AND TAG EACH SERIES SEPARATELY.

STATE PROJECT NUMBER

7382–00–71

BILL OF BARS BOTH ABUTMENTS

COATED = 2,960 LBS.
UNCOATED = 4,730 LBS.

MARK	COATED	NUMBER S. ABUT.	NUMBER N. ABUT.	LENGTH	BENT	BAR SERIES	LOCATION	
A501		70	70	7'–11"	X		BODY – STIRRUP – F.F. & B.F.	VERT.
A502		35	35	6'–5"	X		BODY – STIRRUP – TOP	VERT.
A403		27	27	3'–1"	X		BODY – TIES	HORIZ.
A504		18	18	18'–11"			BODY – F.F.	HORIZ.
A805		18	18	23'–8"	X		BODY – B.F.	HORIZ.
A506	X	30	30	2'–0"			BODY – TOP DOWELS	VERT.
A407	X	48	48	10'–3"	X	⚠	WINGS 1 THRU 4 – STIRRUP – F.F. & B.F.	VERT.
A408	X	16	16	8'–8"			WINGS 1 THRU 4 – F.F. & B.F.	VERT.
A509	X	18	18	11'–9"	X		WINGS 1 THRU 4 – F.F.	HORIZ.
A410	X	2	2	9'–8"			WINGS 1 THRU 4 – F.F.	HORIZ.
A411	X	2	2	7'–5"			WINGS 1 THRU 4 – F.F.	HORIZ.
A412	X	2	2	5'–2"			WINGS 1 THRU 4 – F.F.	HORIZ.
A413	X	2	2	10'–4"	X		WINGS 1 THRU 4 – F.F. – TOP	HORIZ.
A814	X	18	18	13'–3"	X		WINGS 1 THRU 4 – B.F.	HORIZ.
A415	X	2	2	8'–2"			WINGS 1 THRU 4 – B.F.	HORIZ.
A416	X	2	2	5'–10"			WINGS 1 THRU 4 – B.F.	HORIZ.
A417	X	2	2	3'–7"			WINGS 1 THRU 4 – B.F.	HORIZ.
A418	X	2	2	8'–9"	X		WINGS 1 THRU 4 – B.F. – TOP	HORIZ.
A419	X	8	8	4'–2"	X		WINGS 1 THRU 4 – F.F. CORNER	HORIZ.
A420	X	8	8	2'–9"	X		WINGS 1 THRU 4 – B.F. CORNER	HORIZ.
A421	X	8	8	3'–11"	X		WINGS 1 THRU 4 – TOP CORNER	HORIZ.

THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.

BUNDLE EACH ABUTMENT BARS SEPARATELY

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

NOTES

DO NOT PLACE FILL ABOVE 3'–0" FROM THE BOTTOM OF THE ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SOUTH AND NORTH ABUTMENT TO BE SUPPORTED ON HP 10 X 42 PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS AT THE SOUTH ABUTMENT AND 130 TONS AT THE NORTH ABUTMENT PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 50 FT PILE LENGTHS AT THE SOUTH ABUTMENT AND 45 FT PILE LENGTHS AT THE NORTH ABUTMENT.

SEE "CROSS SECTION, GENERAL NOTES & QUANTITIES" SHEET FOR PILE SPLICE DETAILS.

(A01) PIPE UNDERDRAIN WRAPPED (6–INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET. RODENT SHIELD SHALL BE INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6–INCH".

(A02) SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON–STAINING GRAY NON–BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.) ½" FILLER TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.

F.F. – FRONT FACE
B.F. – BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–29–168

DRAWN BY JDO | PLANS CK'D ACK

ABUTMENT DETAILS

SHEET 5 OF 9

53

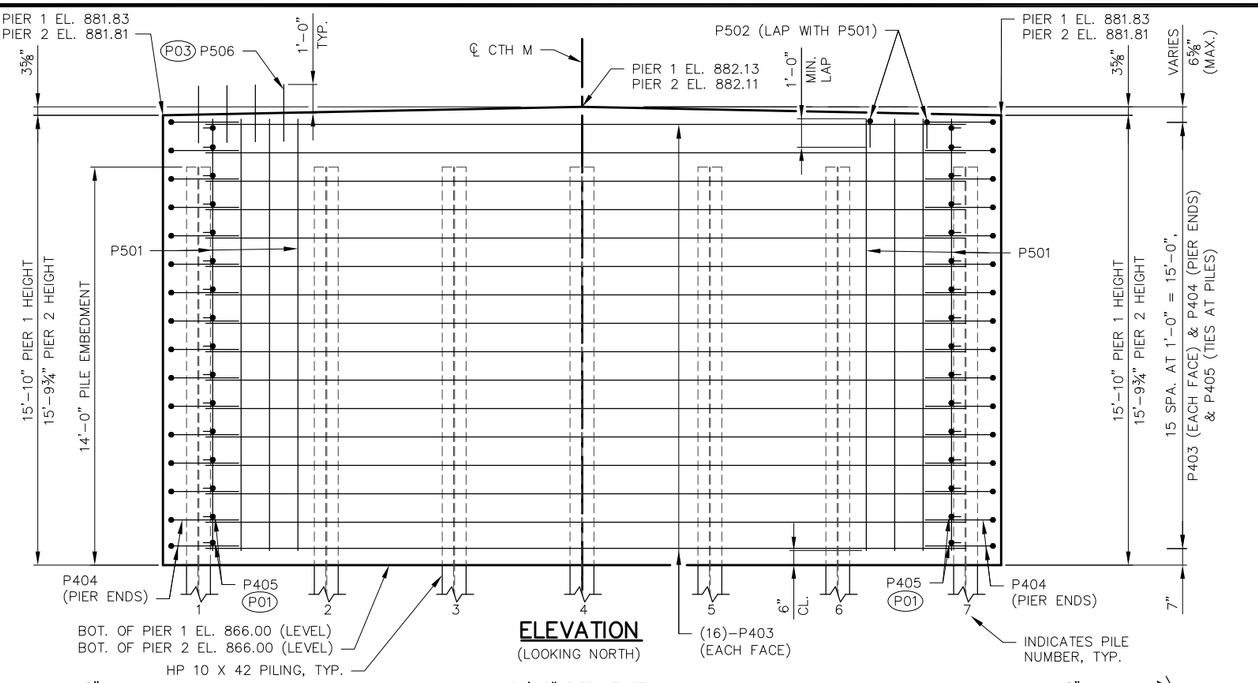
8

8

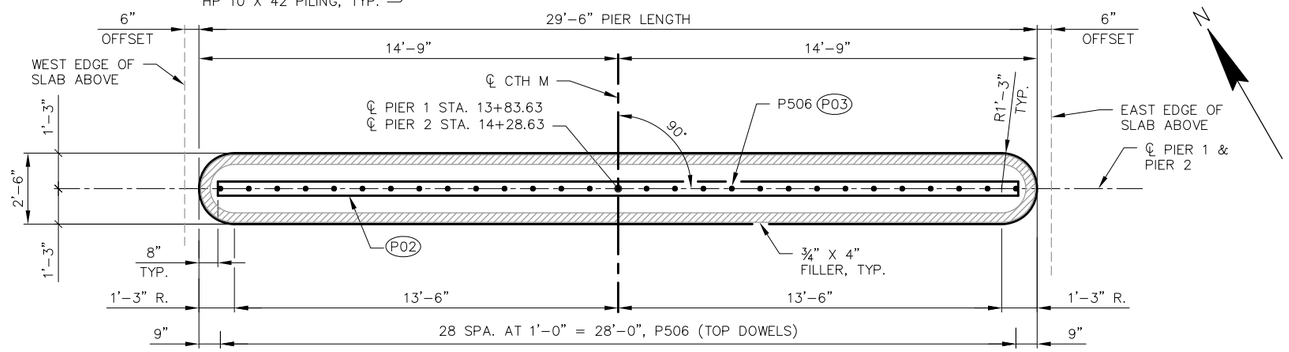
FILE: B290168_04_05_abut.dwg
PLOT SCALE:

I.D. 7382–00–71

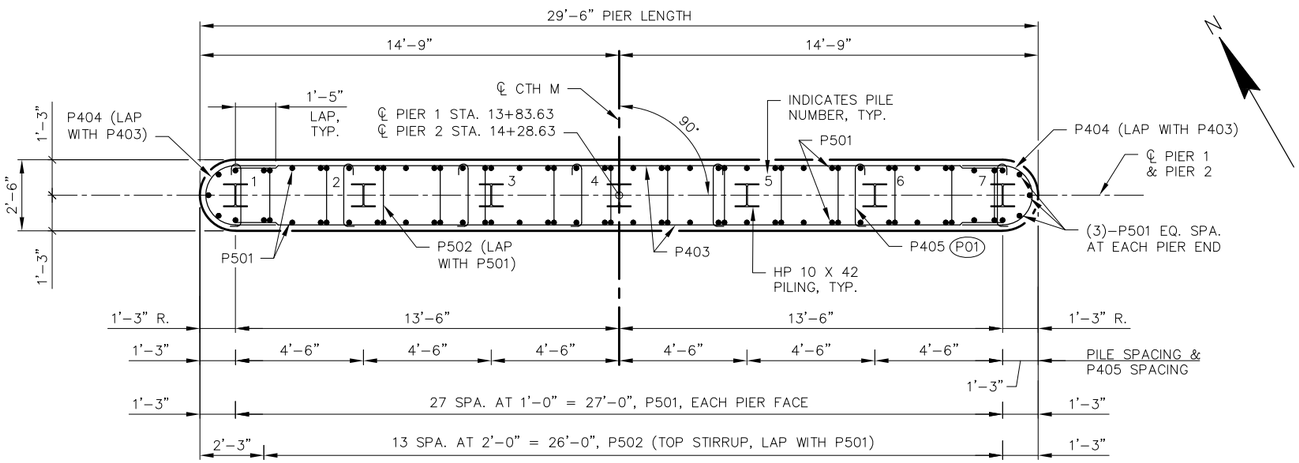
PLOT DATE: May 22, 2025



ELEVATION
(LOOKING NORTH)



TOP PLAN



PILE AND REINFORCEMENT PLAN

BILL OF BARS
PIER 1 & PIER 2

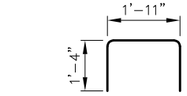
COATED = 140 LBS.
UNCOATED = 3,960 LBS

MARK	COATED	NUMBER PIER 1	NUMBER PIER 2	LENGTH	BENT	BAR SERIES	LOCATION	
P501		62	62	15'-1"			PIER – SIDES	VERT.
P502		14	14	4'-4"	X		PIER – TOP STIRRUP	VERT.
P403		32	32	27'-0"			PIER – SIDES	HORIZ.
P404		32	32	6'-2"	X		PIER – END STIRRUP	HORIZ.
P405		112	112	3'-0"	X		PIER – TIES	HORIZ.
P506	X	29	29	2'-0"			PIER – TOP DOWELS	VERT.

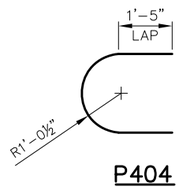
THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.

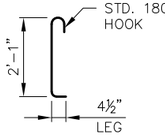
BUNDLE EACH PIER BARS SEPARATELY.



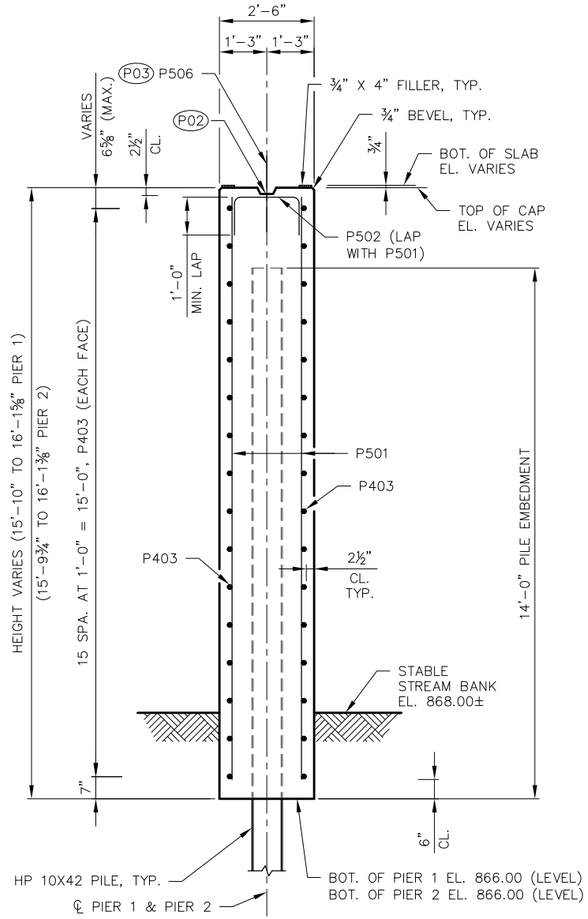
P502



P404



P405



TYPICAL SECTION THRU PIER

NOTES

PIER 1 & 2 TO BE SUPPORTED ON HP 10 X 42 PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 45 FT PILE LENGTHS AT PIER 1 AND PIER 2.

AT PIER 1 & 2, COFFERDAMS ARE REQUIRED. CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH STANDARD SPECIFICATION 502.3.5.3. CONCRETE POURED UNDERWATER SHALL NOT EXCEED 10.0 FEET IN DEPTH, UNLESS APPROVED OTHERWISE.

FOLLOWING PLACEMENT OF CONCRETE, AN UNDERWATER INSPECTION IS REQUIRED PER BID ITEM "UNDERWATER SUBSTRUCTURE INSPECTION B-29-168".

FOR PILE SPLICE DETAILS SEE "CROSS SECTION, GENERAL NOTES & QUANTITIES" SHEET.

(P01) PLACE P405 BARS ADJACENT TO EACH PILE ONLY. TIE TO NEAREST VERT. P501 BAR. VERTICAL SPA. AT 1'-0" TO MATCH P403 OUTSIDE BARS. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

(P02) KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6".

(P03) P506 BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INITIAL SET HAS TAKEN PLACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-29-168

DRAWN BY JDO | PLANS CK'D ACK

PIER DETAILS

SHEET 6 OF 9

54

STATE PROJECT NUMBER
7382-00-71

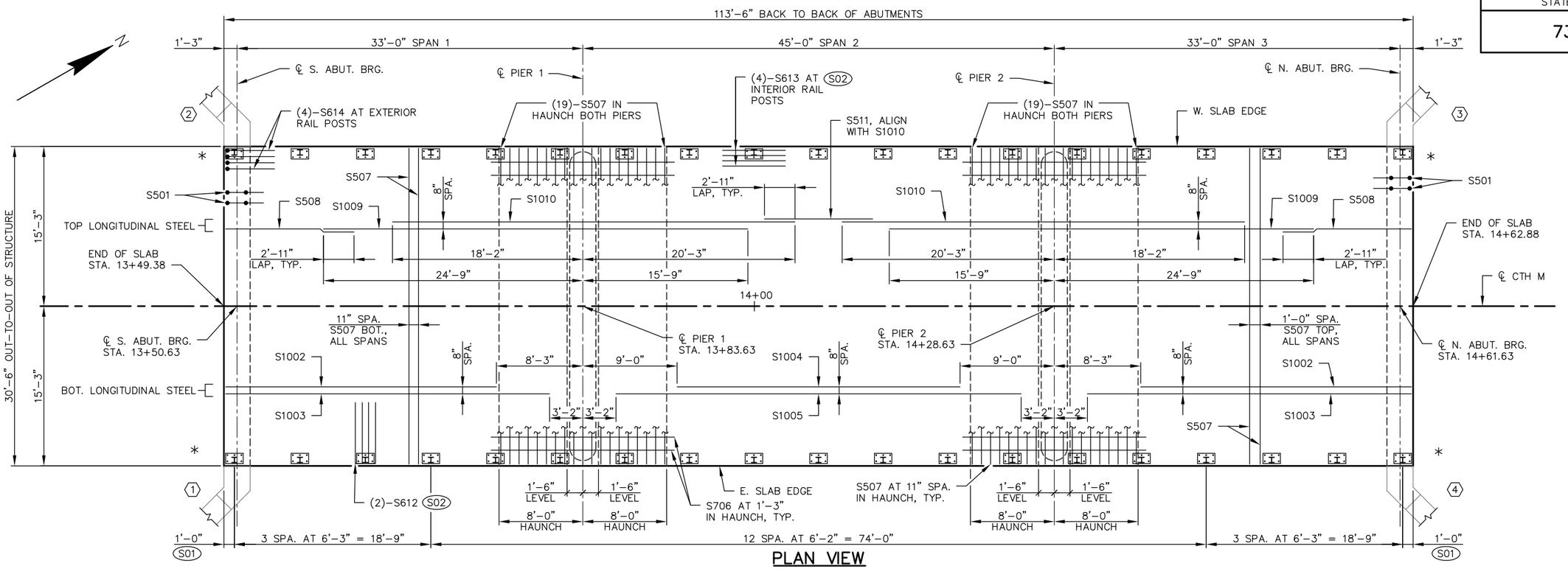
8

8

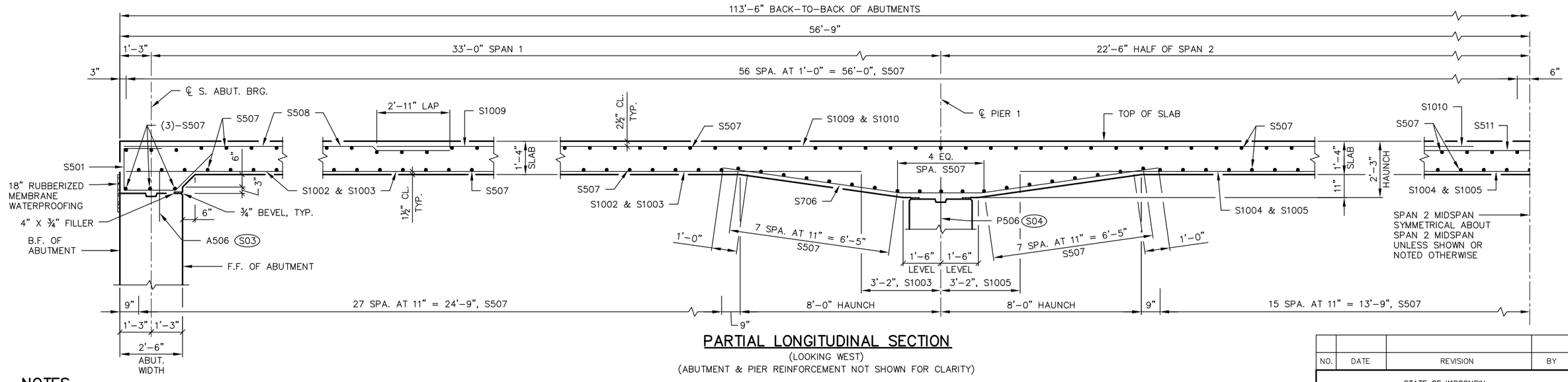
I.D. 7382-00-71 PLOT DATE: May 22, 2025

FILE: B290168_06_pier.dwg
PLOT SCALE:

STATE PROJECT NUMBER
7382-00-71



PLAN VIEW



PARTIAL LONGITUDINAL SECTION

(LOOKING WEST)
(ABUTMENT & PIER REINFORCEMENT NOT SHOWN FOR CLARITY)

NOTES

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY.

BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

RAILING TO BE INSTALLED ON THE SLAB AFTER FALSEWORK HAS BEEN RELEASED.

(S01) RAIL POST SPACING REQUIRED ALONG BOTH SLAB EDGES.

(S02) SEE "RAILING TUBULAR TYPE M" SHEET FOR PLACEMENT OF INTERIOR RAIL POST REINFORCEMENT.

(S03) SEE "ABUTMENTS" SHEET FOR PLACEMENT OF A506 BARS.

(S04) SEE "PIER DETAILS" SHEET FOR PLACEMENT OF P506 BARS.

⬡ INDICATES WING NUMBER

* LOCATION OF BEAM GUARD ATTACHMENT

F.F. – FRONT FACE
B.F. – BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-29-168

DRAWN BY JDO | PLANS CK'D ACK

SUPERSTRUCTURE

SHEET 7 OF 9

55

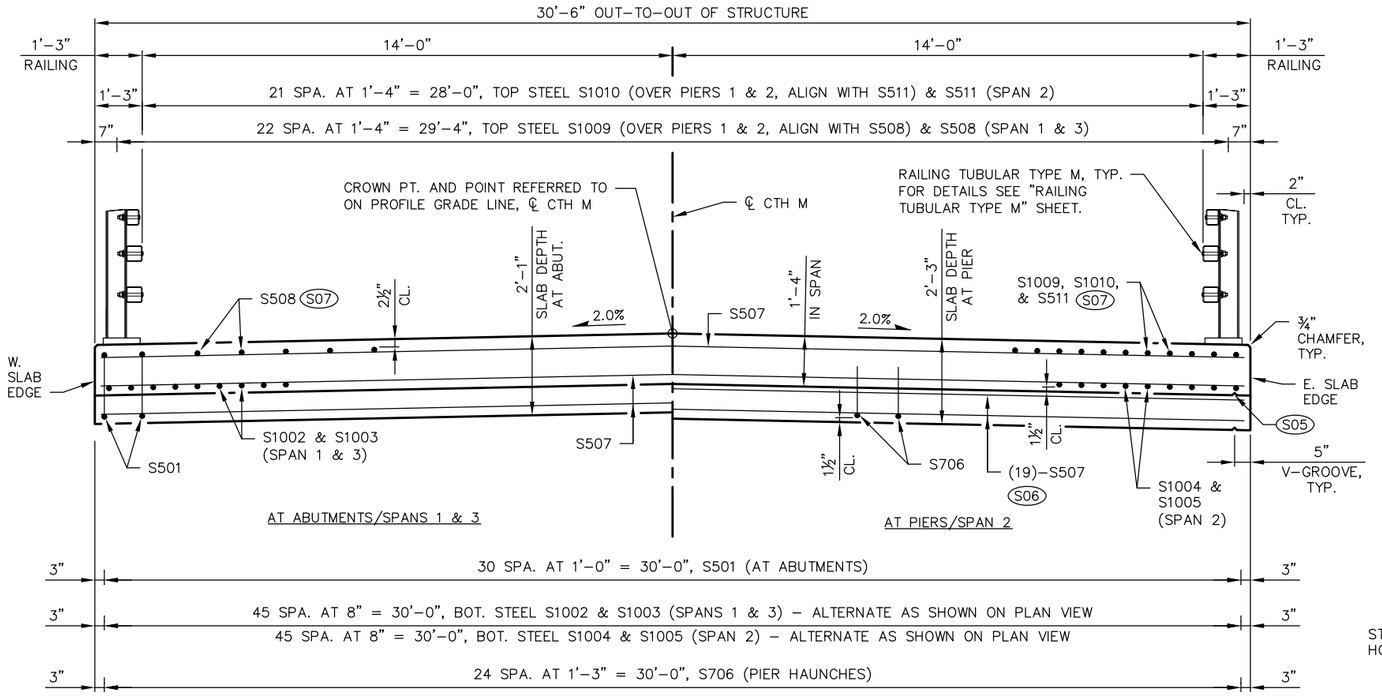
I.D. 7382-00-71

PLOT DATE: May 22, 2025

FILE: B290168_07-08_super.dwg
PLOT SCALE:

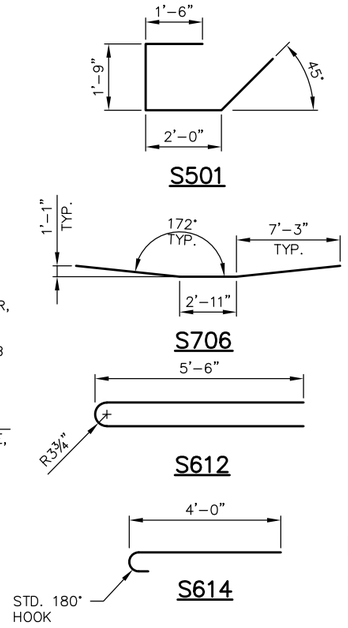
8

8



CROSS SECTION THRU ROADWAY

(LOOKING NORTH)



STATE PROJECT NUMBER

7382-00-71

BILL OF BARS SUPERSTRUCTURE

COATED = 46,470 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION	
S501	62		7'-1"	X		SLAB AT ABUTMENT - TIES	LONGIT.
S1002	46		25'-10"			SLAB - BOTTOM - SPAN 1 & 3	LONGIT.
S1003	46		30'-11"			SLAB - BOTTOM - SPAN 1 & 3	LONGIT.
S1004	23		27'-0"			SLAB - BOTTOM - SPAN 2	LONGIT.
S1005	23		38'-8"			SLAB - BOTTOM - SPAN 2	LONGIT.
S706	50		17'-7"	X		SLAB - BOTTOM IN PIER HAUNCHES	LONGIT.
S507	245		30'-2"			SLAB - TOP & BOTTOM	TRANS.
S508	46		12'-3"			SLAB - TOP - SPAN 1 & 3	LONGIT.
S1009	46		40'-6"			SLAB - TOP - OVER PIERS	LONGIT.
S1010	44		38'-5"			SLAB - TOP - OVER PIERS	LONGIT.
S511	22		10'-4"			SLAB - TOP - SPAN 2	LONGIT.
S612	76		11'-6"	X		SLAB - TOP AT RAIL POSTS	TRANS.
S613	136		6'-0"			SLAB - TOP AT INTERIOR RAIL POSTS	LONGIT.
S614	16		4'-8"	X		SLAB - TOP AT END RAIL POSTS	LONGIT.

THE FIRST OR FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.

NOTES

CAMBER SPAN AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

THE BID ITEM "FLASHING STAINLESS STEEL" SHALL INCLUDE PROVIDING AND INSTALLING THE STAINLESS STEEL FLASHING, CAULK, CONCRETE SCREWS AND CLEANING THE EDGE OF THE SLAB PRIOR TO ATTACHMENT OF THE FLASHING.

FLASHING TO BE INSTALLED AFTER PROTECTIVE SURFACE TREATMENT APPLICATION.

CONCRETE SCREWS SHALL BE 410 STAINLESS STEEL.

EXTEND FLASHING TO F.F. OF ABUTMENTS.

TOP OF FLASHING TO BEGIN APPROX. 1-INCH BELOW TOP OF SLAB SURFACE.

THE FLASHING IS TO BE A CONSTANT HEIGHT BASED ON THE THINNEST SLAB DEPTH OVER THE BRIDGE LENGTH.

PROVIDE 2" MINIMUM FLASHING OVERLAP, FASTEN WITH 3/16" X 2" (MIN.) CONCRETE SCREWS.

CAULK SHALL BE NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER.

(S05) ¾" V-GROOVE. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT BODY. V-GROOVES ARE REQUIRED.

(S06) SEE "SUPERSTRUCTURE" SHEET FOR PIER HAUNCH S507 BAR LAYOUT.

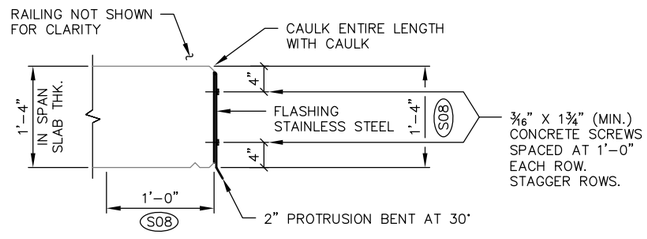
(S07) ALIGN S508 & S511 BARS WITH S1009 & S1010 RESPECTIVELY.

(S08) COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS. PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE EDGE OF SLAB AND 1'-0" UNDER SLAB BETWEEN F.F. OF ABUTMENTS.

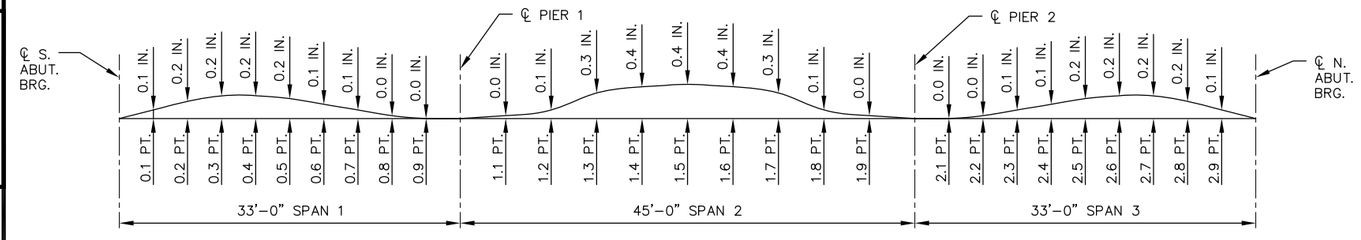
SURVEY TOP OF SLAB ELEVATIONS

	℄ S. ABUT. BRG.	5/10 PT.	℄ PIER 1	5/10 PT.	℄ PIER 2	5/10 PT.	℄ N. ABUT. BRG.
WEST SLAB EDGE							
℄ CTH M							
EAST SLAB EDGE							

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF DECK ELEVATIONS AT THE ℄ OF ABUTMENTS, ℄ OF PIERS AND AT 5/10 POINTS TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND REFERENCE LINE. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.



FLASHING DETAIL



SLAB CAMBER DIAGRAM

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR REFERENCE LINE FOLLOW THIS PROCEDURE:

	TOP OF SLAB ELEVATION AT FINAL GRADE
LESS	SLAB THICKNESS
PLUS	CAMBER
PLUS	FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
EQUALS	TOP OF SLAB FALSEWORK ELEVATION.

TOP OF SLAB ELEVATIONS

SPAN PT	WEST SLAB EDGE	℄ CTH M	EAST SLAB EDGE
℄ S. ABUT.	884.11	884.41	884.11
0.1	884.11	884.41	884.11
0.2	884.12	884.42	884.12
0.3	884.12	884.42	884.12
0.4	884.12	884.42	884.12
0.5	884.13	884.43	884.13
0.6	884.13	884.43	884.13
0.7	884.13	884.43	884.13
0.8	884.13	884.43	884.13
0.9	884.14	884.44	884.14
℄ PIER 1	884.14	884.44	884.14
1.1	884.14	884.44	884.14
1.2	884.14	884.44	884.14
1.3	884.14	884.44	884.14
1.4	884.14	884.44	884.14
1.5	884.14	884.44	884.14
1.6	884.13	884.43	884.13
1.7	884.13	884.43	884.13
1.8	884.13	884.43	884.13
1.9	884.12	884.42	884.12
℄ PIER 2	884.12	884.42	884.12
2.1	884.11	884.41	884.11
2.2	884.11	884.41	884.11
2.3	884.10	884.40	884.10
2.4	884.10	884.40	884.10
2.5	884.09	884.39	884.09
2.6	884.09	884.39	884.09
2.7	884.08	884.38	884.08
2.8	884.07	884.37	884.07
2.9	884.07	884.37	884.07
℄ N. ABUT.	884.06	884.36	884.06

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-29-168

DRAWN BY JDO | PLANS CK'D ACK

SUPERSTRUCTURE DETAILS

SHEET 8 OF 9

56

8

8

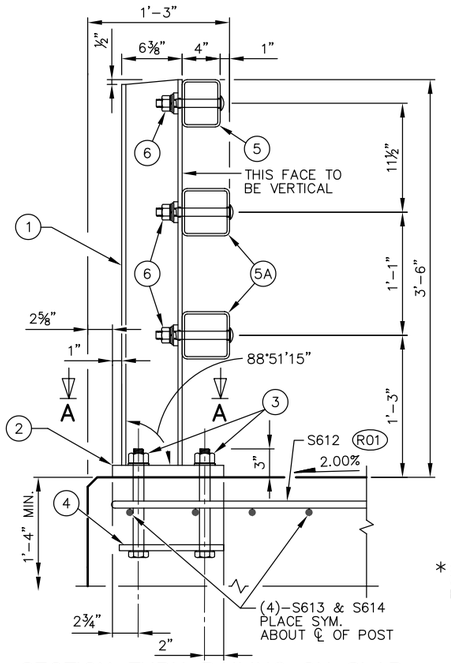
I.D. 7382-00-71

PLOT DATE: May 22, 2025

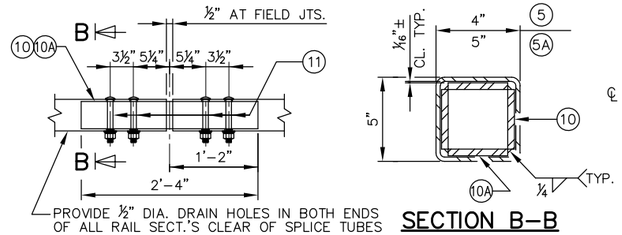
FILE: B290168_07-08_super.dwg
PLOT SCALE:

STATE PROJECT NUMBER

7382-00-71

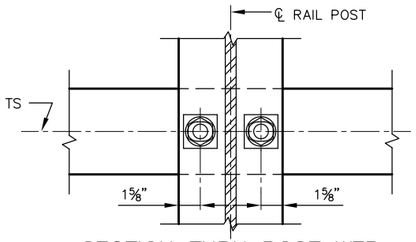


SECTION THRU RAILING ON SLAB

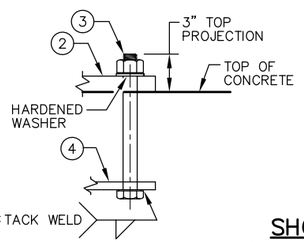


FIELD ERECTION JOINT DETAIL

SECTION B-B

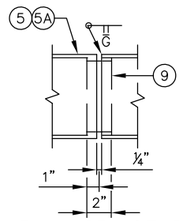


SECTION THRU POST WEB



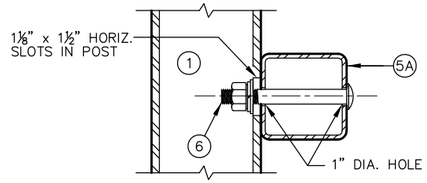
ANCHOR BOLTS

* ANCHOR BOLT ASSEMBLY MAY BE TACK WELDED, EITHER IN THE SHOP, OR IN THE FIELD AFTER THE ANCHOR PLATE IS PLACED.



SHOP RAIL SPLICE DETAIL

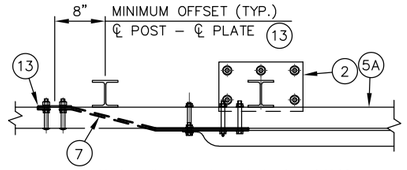
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



SECTION THRU RAIL

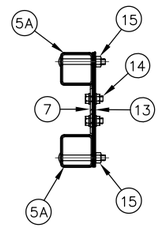
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

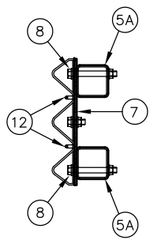


TOP VIEW AT END POST

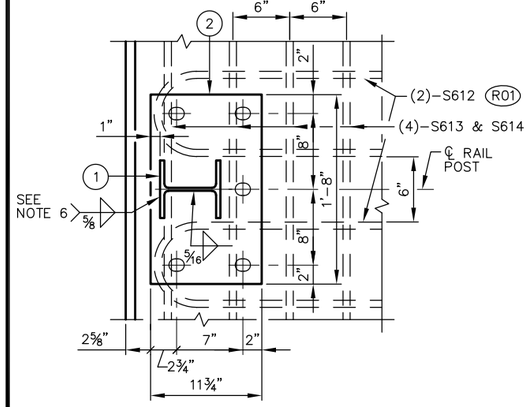
(THRIE BEAM RAIL ATTACHMENT)



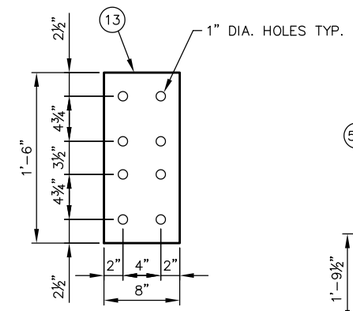
SECTION C-C



SECTION D-D

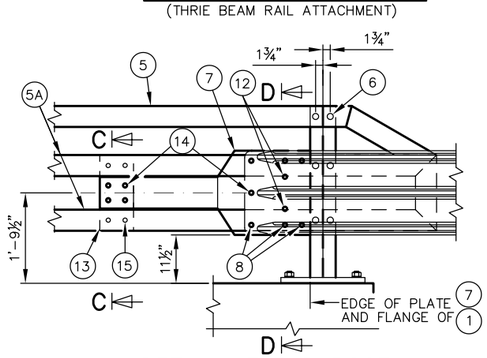


SECTION A-A



ANCHOR PLATE

AT BEAM GUARD ATTACHMENT



DETAIL AT END POST

(THRIE BEAM RAIL ATTACHMENT)

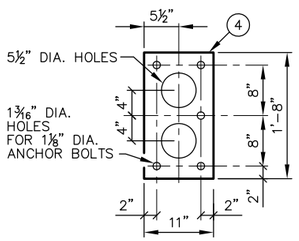
LEGEND

1. W6 x 25 WITH 1⅛" x 1½" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
2. PLATE 1¼" x 11¾" x 1'-8" WITH 1⁷⁄₁₆" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
3. ASTM A449 - 1⅛" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10¾" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTABILITY.)
4. ⅝" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1³⁄₁₆" DIA. HOLES FOR ANCHOR BOLTS NO. 3
5. TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
5A. TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
6. ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3⁄₁₆" x 1⅝" x 1⅝" MIN. WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
7. ½" THK. BACK-UP PLATE WITH 2 - ⅞" x 1½" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
8. 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR ⅞" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
9. SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".
10. ⅜" x 3⅝" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
10A. ⅜" x 2⅝" x 2'-4" PLATE USED IN NO. 5, ⅜" x 3⅝" x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
11. ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER. USE 15⁄16" x 1¼" LONGIT. SLOTTED HOLES IN PLATE NO. 10A. AT FIELD JOINTS AND 15⁄16" x 2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A. PROVIDE 15⁄16" DIA. ROUND HOLES IN TUBES NO. 5 AND NO. 5A.
12. ⅞" DIA. x 1½" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
13. ⅜" x 8" x 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
14. ⅞" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
15. 1" DIA. HOLES IN TUBES NO. 5A FOR ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

NOTES

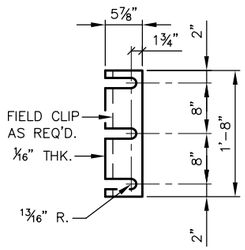
1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.

(R01) TIE TO TOP MAT OF STEEL.

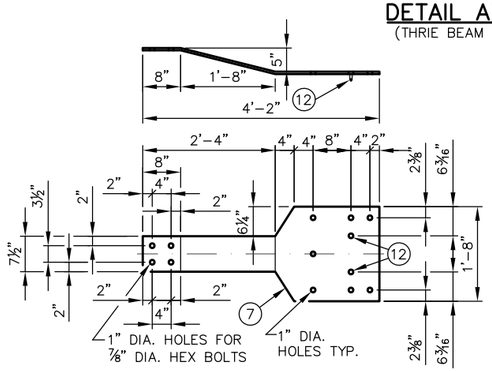


ANCHOR PLATE

AT RAIL TO DECK CONNECTION

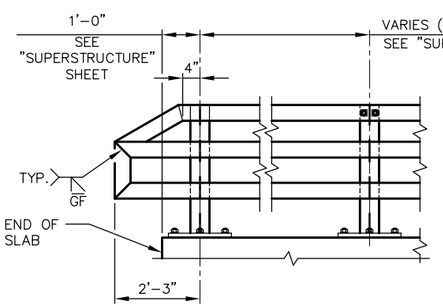


POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENTS



PART ELEVATION OF RAILING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-29-168

DRAWN BY JDO | PLANS CK'D ACK

RAILING TUBULAR TYPE M

SHEET 9 OF 9

57

I.D. 7382-00-71

PLOT DATE: May 22, 2025

FILE: B290168_09_mrail.dwg
PLOT SCALE:

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT NOTE 1	SALVAGED/UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
11+42.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0
11+50.00	8.00	7.71	0.00	32.02	1	0	5	1	6	-5
12+00.00	50.00	7.31	0.00	85.72	14	0	109	15	143	-128
12+10.00	10.00	7.69	3.67	88.90	3	1	32	18	183	-166
12+59.13	49.13	6.57	3.67	131.61	13	7	201	31	434	-411
12+84.32	25.19	7.45	3.67	103.16	7	3	110	38	571	-544
12+99.37	15.05	7.37	3.67	87.23	4	2	53	42	638	-609
13+09.57	10.20	29.91	11.67	74.00	7	3	30	49	675	-642
13+49.38	39.81	33.69	11.67	73.76	47	17	109	96	811	-748
STRUCTURE B-29-0168										
			SOUTH APPROACH TOTALS		96	33	649			

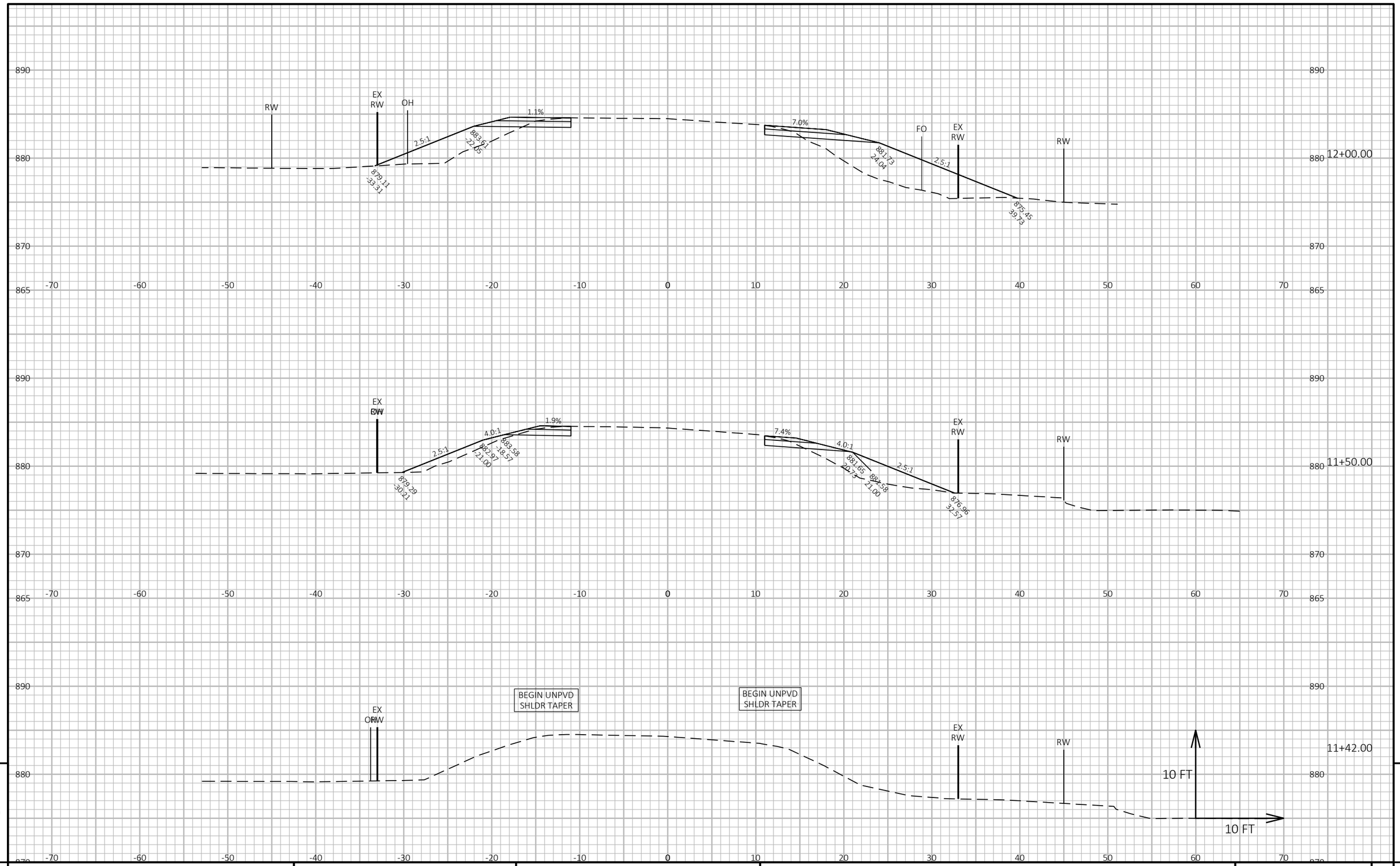
STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT NOTE 1	SALVAGED/UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
STRUCTURE B-29-0168										
14+62.87	0.00	31.86	11.67	84.00	0	0	0	0	0	0
15+02.72	39.85	27.12	11.67	104.01	44	17	139	0	174	-147
15+12.87	10.15	5.44	11.67	115.15	6	4	41	0	225	-196
15+27.69	14.82	6.19	3.67	96.37	3	4	58	0	298	-270
15+50.00	22.31	7.75	3.67	93.50	6	3	78	0	395	-364
15+52.69	2.69	7.53	3.67	97.21	1	0	10	0	408	-376
16+00.00	47.31	5.42	3.67	78.83	11	6	154	0	600	-563
16+03.00	3.00	7.18	3.67	67.45	1	0	8	0	610	-572
16+50.00	47.00	7.24	0.00	34.46	13	3	89	0	721	-673
16+72.00	22.00	0.00	0.00	0.00	3	0	14	0	739	-688
			NORTH APPROACH TOTALS		88	37	591			
			PROJECT TOTALS		184	70	1,240			

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
4 - MASS ORDINATE	CUT - SALVAGED PAVT - (FILL * FILL FACTOR)
	PLUS QUANTITY INDICATES AN EXCESS MATERIAL WITHIN THE DIVISION. MINUS QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

9

9

PROJECT NO: 7382-00-71 | HWY: CTH M | COUNTY: JUNEAU | EARTHWORK DATA | SHEET 58 | E



9

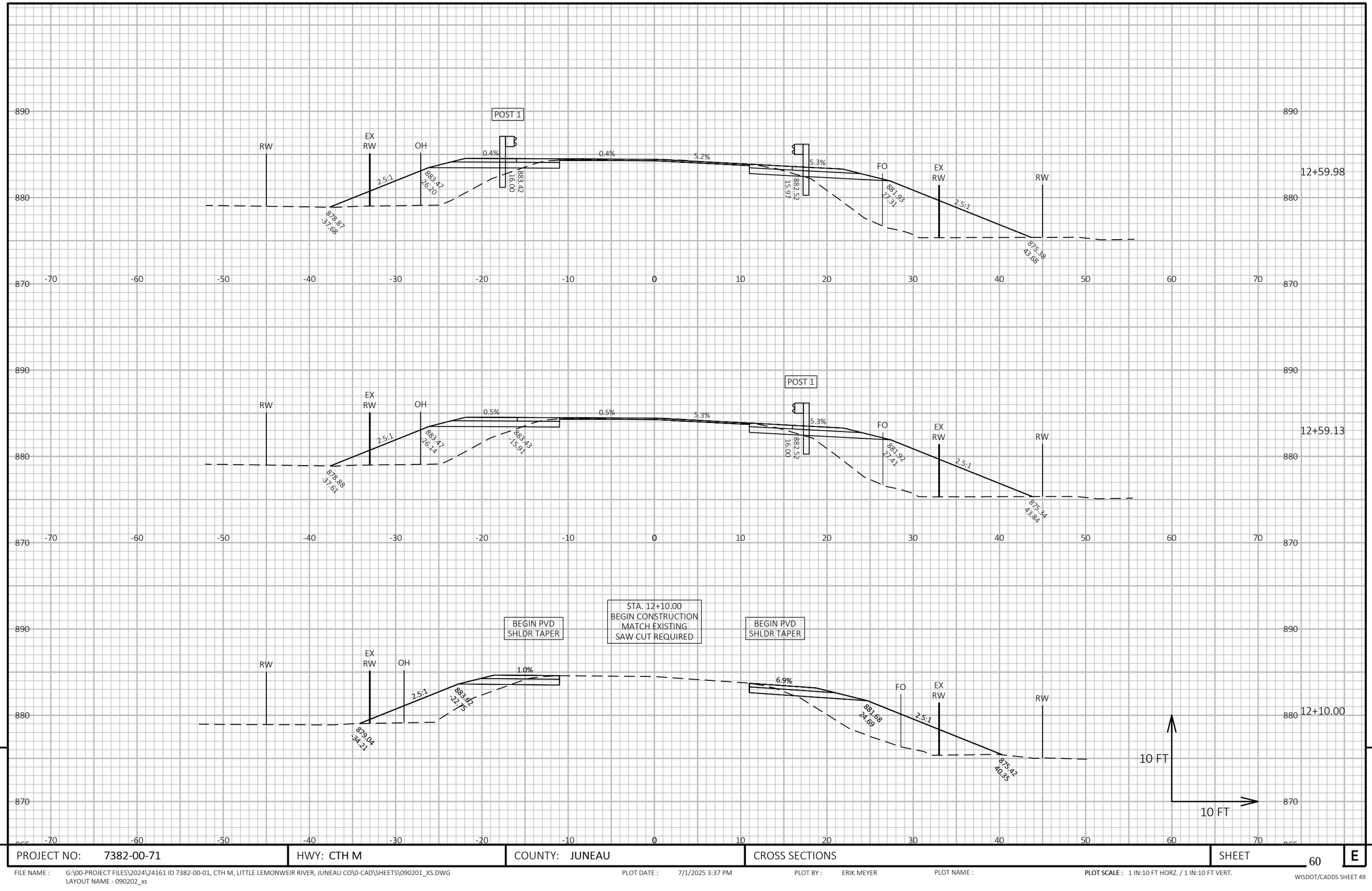
9

PROJECT NO: 7382-00-71	HWY: CTH M	COUNTY: JUNEAU	CROSS SECTIONS	SHEET 59	E

FILE NAME : G:\00-PROJECT FILES\2024\24161 ID 7382-00-01, CTH M, LITTLE LEMONWEIR RIVER, JUNEAU CO\0-CAD\SHEETS\090201_XS.DWG
LAYOUT NAME - 090201_xs

PLOT DATE : 7/1/2025 3:37 PM PLOT BY : ERIK MEYER PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

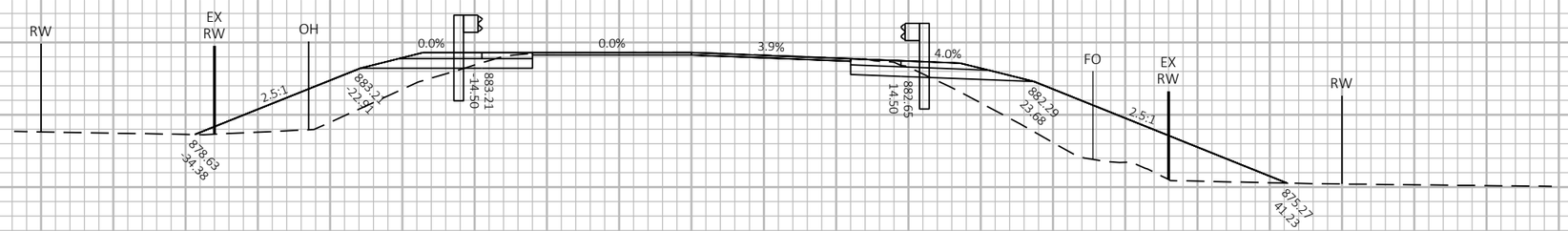
PROJECT NO: 7382-00-71	HWY: CTH M	COUNTY: JUNEAU	CROSS SECTIONS	SHEET 60	E

FILE NAME : G:\00-PROJECT FILES\2024\24161 ID 7382-00-01, CTH M, LITTLE LEMONWEIR RIVER, JUNEAU CO\0-CAD\SHEETS\090201_XS.DWG
LAYOUT NAME - 090202_xs

PLOT DATE : 7/1/2025 3:37 PM PLOT BY : ERIK MEYER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

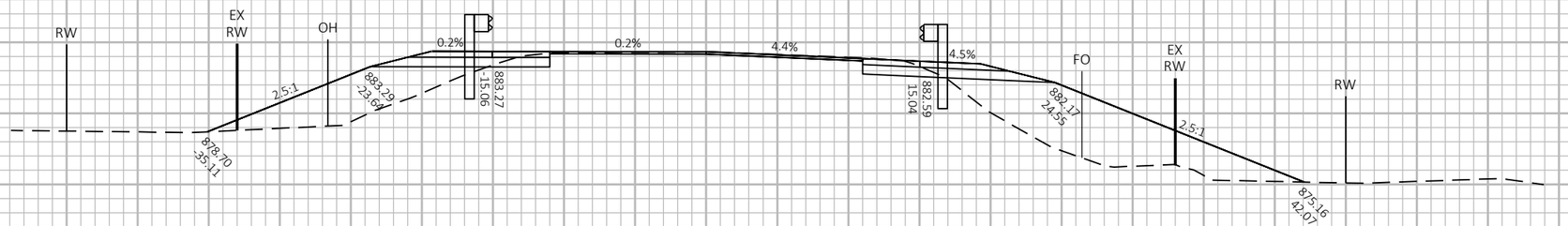
WISDOT/CADDS SHEET 49

STA. 12+99.37
BEGIN PROJECT
MATCH EXISTING
SAW CUT REQUIRED



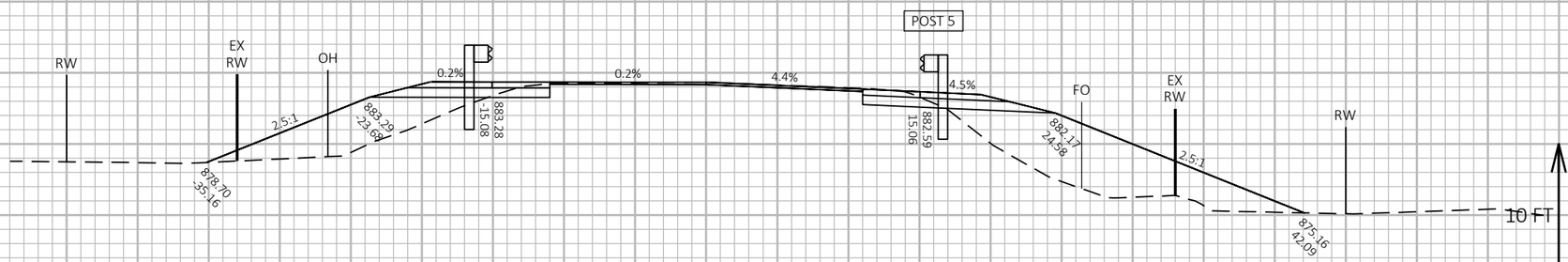
12+99.37

POST 5



12+84.77

POST 5

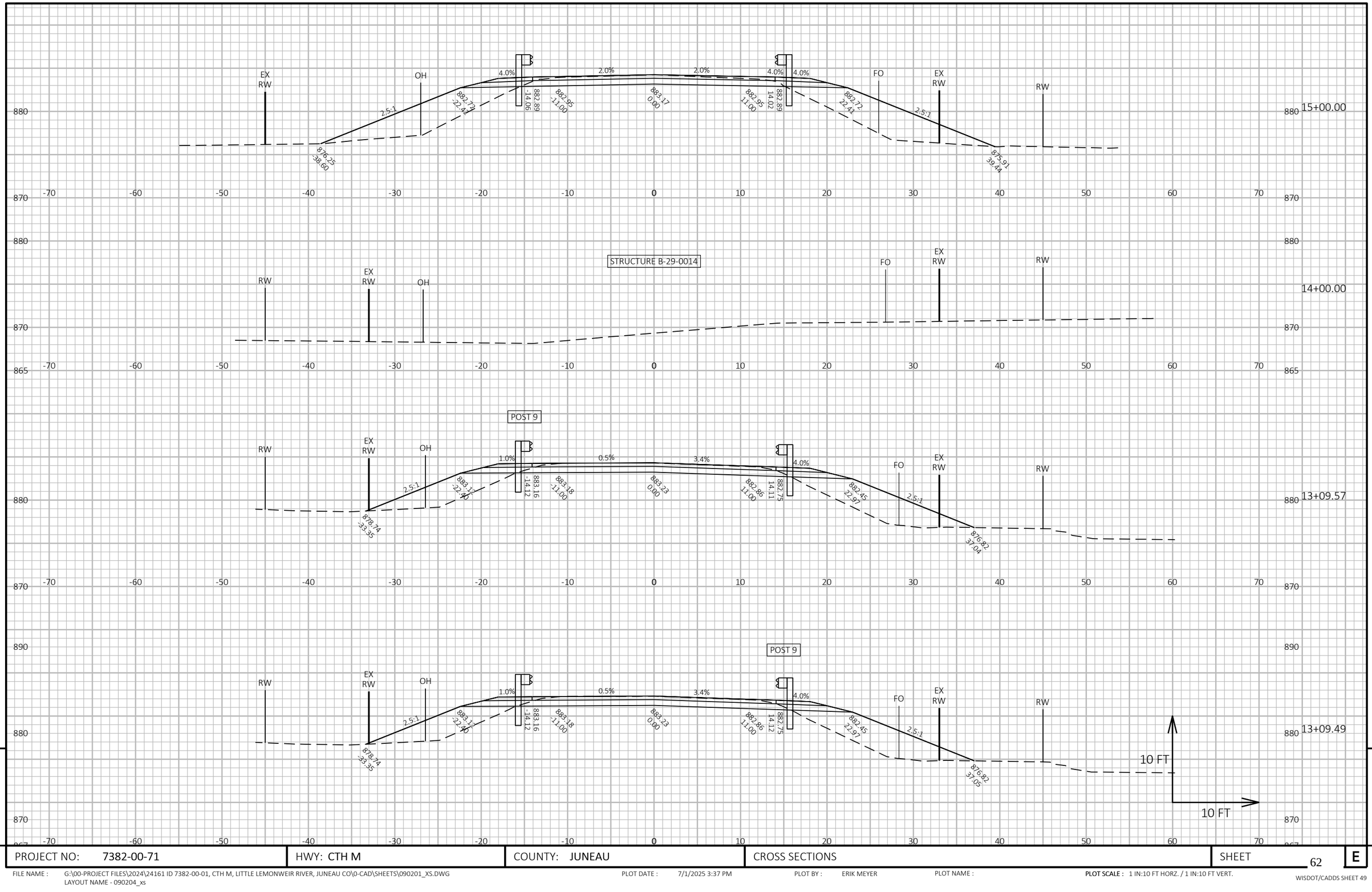


12+84.32

9 9

PROJECT NO: 7382-00-71	HWY: CTH M	COUNTY: JUNEAU	CROSS SECTIONS	SHEET 61	E

FILE NAME : G:\00-PROJECT FILES\2024\24161 ID 7382-00-01, CTH M, LITTLE LEMONWEIR RIVER, JUNEAU CO\0-CAD\SHEETS\090201_XS.DWG
LAYOUT NAME - 090203_xs
PLOT DATE : 7/1/2025 3:37 PM
PLOT BY : ERIK MEYER
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 7382-00-71	HWY: CTH M	COUNTY: JUNEAU	CROSS SECTIONS	SHEET 62	E

FILE NAME : G:\00-PROJECT FILES\2024\24161 ID 7382-00-01, CTH M, LITTLE LEMONWEIR RIVER, JUNEAU CO\0-CAD\SHEETS\090201_XS.DWG
LAYOUT NAME - 090204_xs

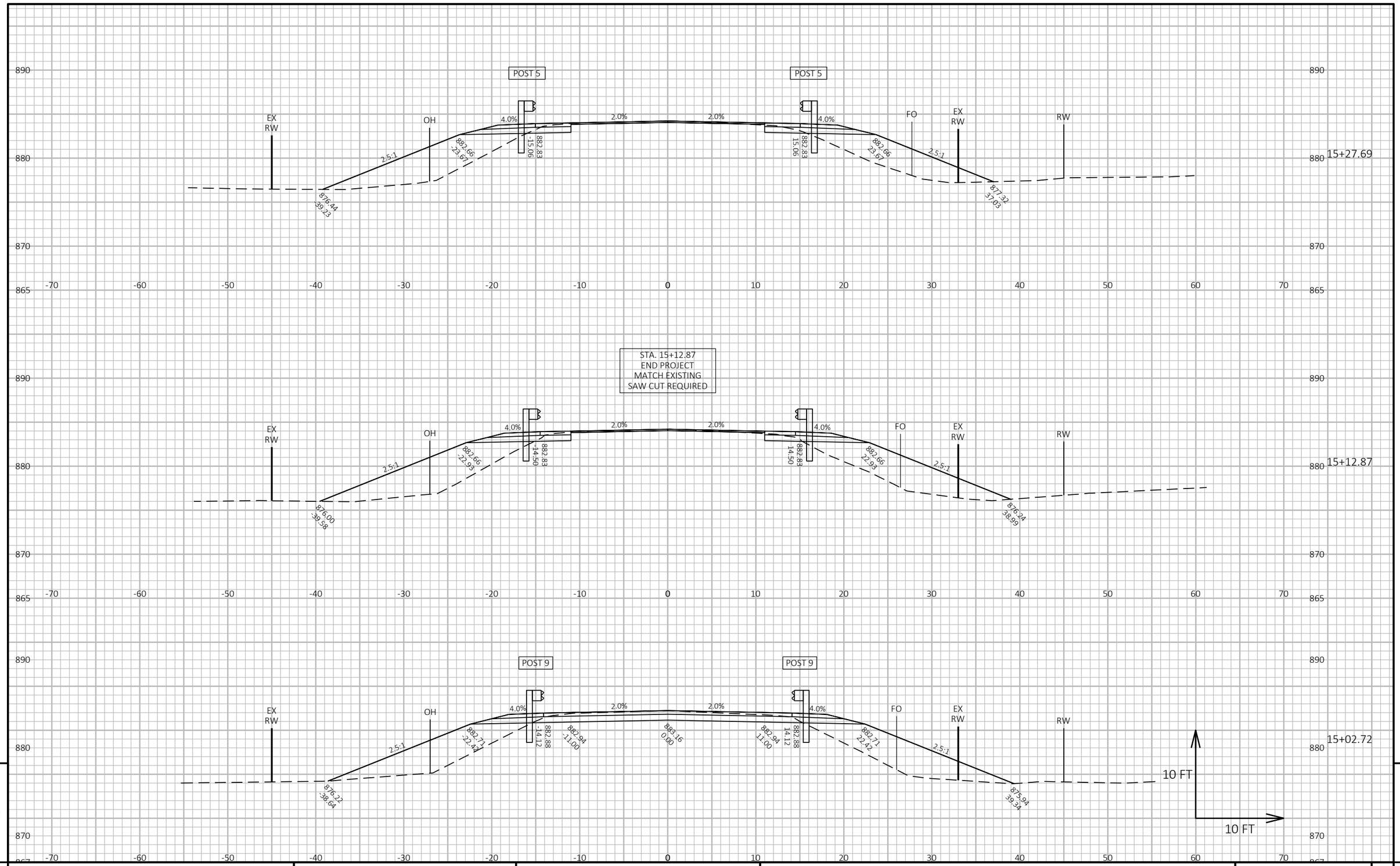
PLOT DATE : 7/1/2025 3:37 PM

PLOT BY : ERIK MEYER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

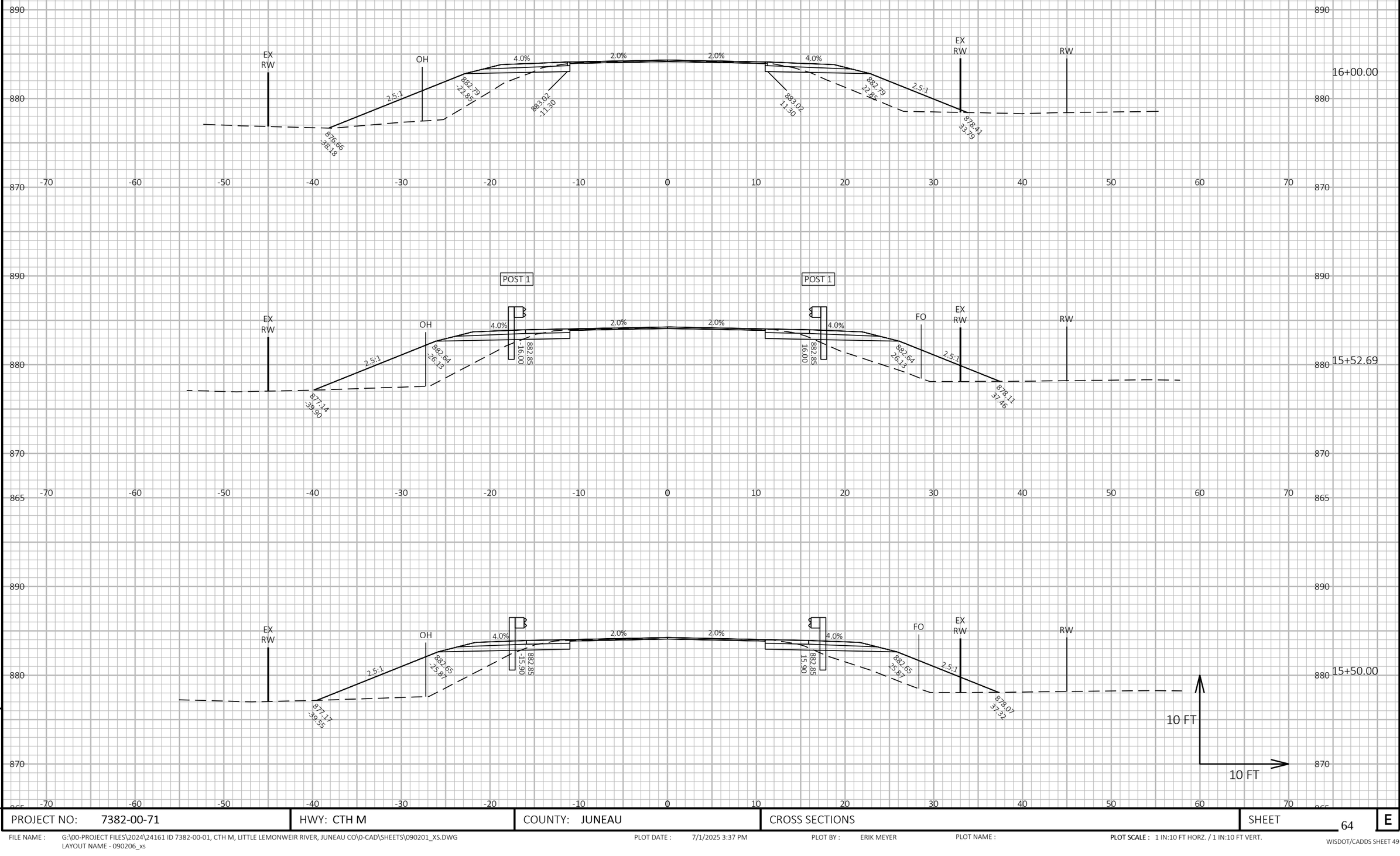


PROJECT NO: 7382-00-71	HWY: CTH M	COUNTY: JUNEAU	CROSS SECTIONS	SHEET 63	E

FILE NAME : G:\00-PROJECT FILES\2024\24161 ID 7382-00-01, CTH M, LITTLE LEMONWEIR RIVER, JUNEAU CO\0-CAD\SHEETS\090201_XS.DWG
LAYOUT NAME - 090205_xs

PLOT DATE : 7/1/2025 3:37 PM PLOT BY : ERIK MEYER PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

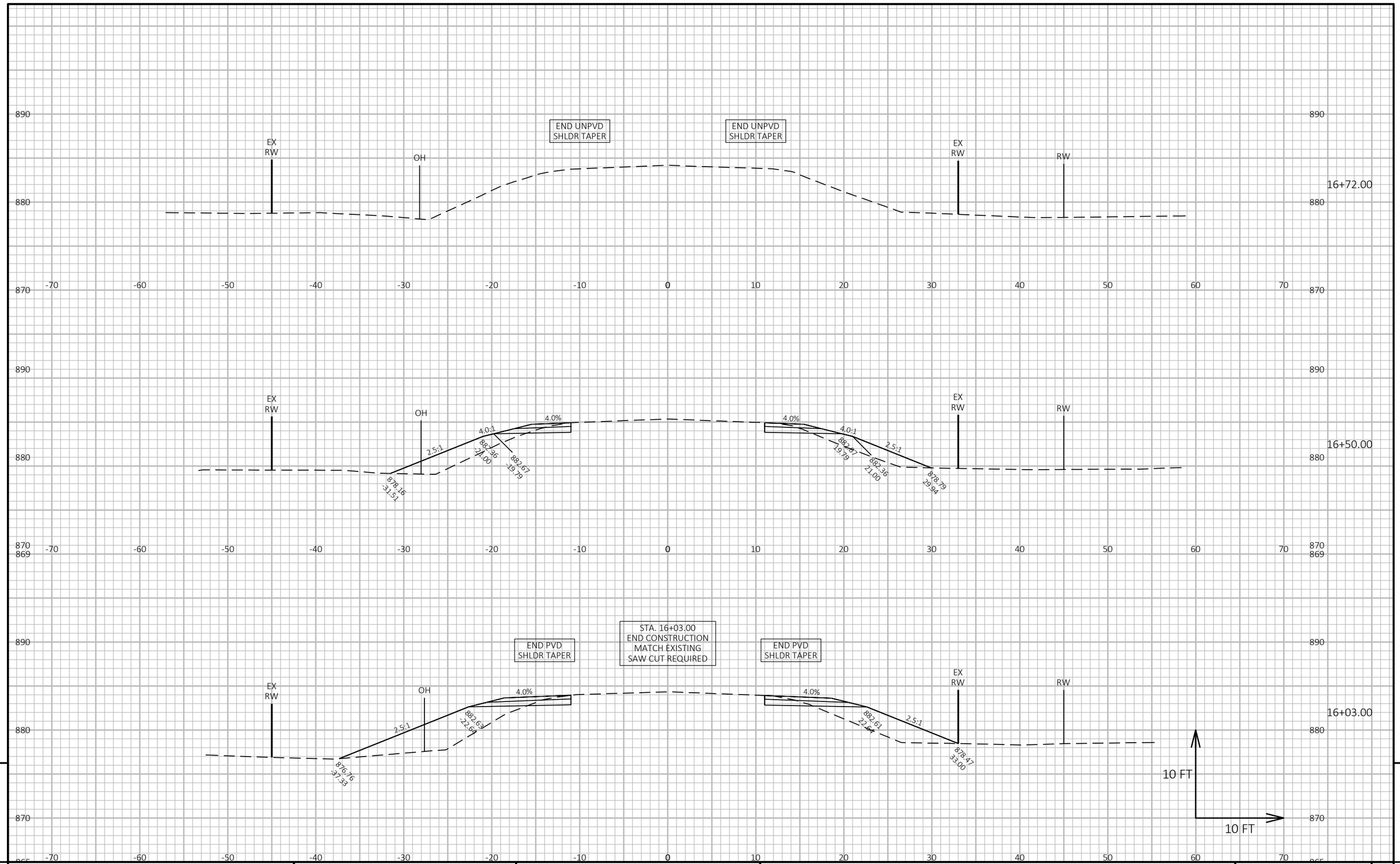
9

PROJECT NO: 7382-00-71	HWY: CTH M	COUNTY: JUNEAU	CROSS SECTIONS	SHEET 64	E

FILE NAME : G:\00-PROJECT FILES\2024\24161 ID 7382-00-01, CTH M, LITTLE LEMONWEIR RIVER, JUNEAU CO\0-CAD\SHEETS\090201_XS.DWG
LAYOUT NAME - 090206_xs

PLOT DATE : 7/1/2025 3:37 PM PLOT BY : ERIK MEYER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 7382-00-71	HWY: CTH M	COUNTY: JUNEAU	CROSS SECTIONS	SHEET 65	E

FILE NAME : G:\00-PROJECT FILES\2024\24161 ID 7382-00-01, CTH M, LITTLE LEMONWEIR RIVER, JUNEAU CO\0-CAD\SHEETS\090201_XS.DWG
LAYOUT NAME - 090207_xs

PLOT DATE : 7/1/2025 3:37 PM PLOT BY : ERIK MEYER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov