MAD

PROJECT ID: 5958-00-72

WITH: N/A

COUNTY: IOWA

NOVEMBER 2024
ORDER OF SHEETS

TOTAL SHEETS = 62

DESIGN DESIGNATION 5958-00-02

A.A.D.T.	2025	=	400
A.A.D.T.	2045	=	592
D.H.V.		=	79
D.D.		=	62/38
T.		=	7.7%
DESIGN SPEED		=	60 MPH
ESALS		=	73,000

CONVENTIONAL SYMBOLS

PLAN
- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- 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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CTH E - CTH X (CTH G)

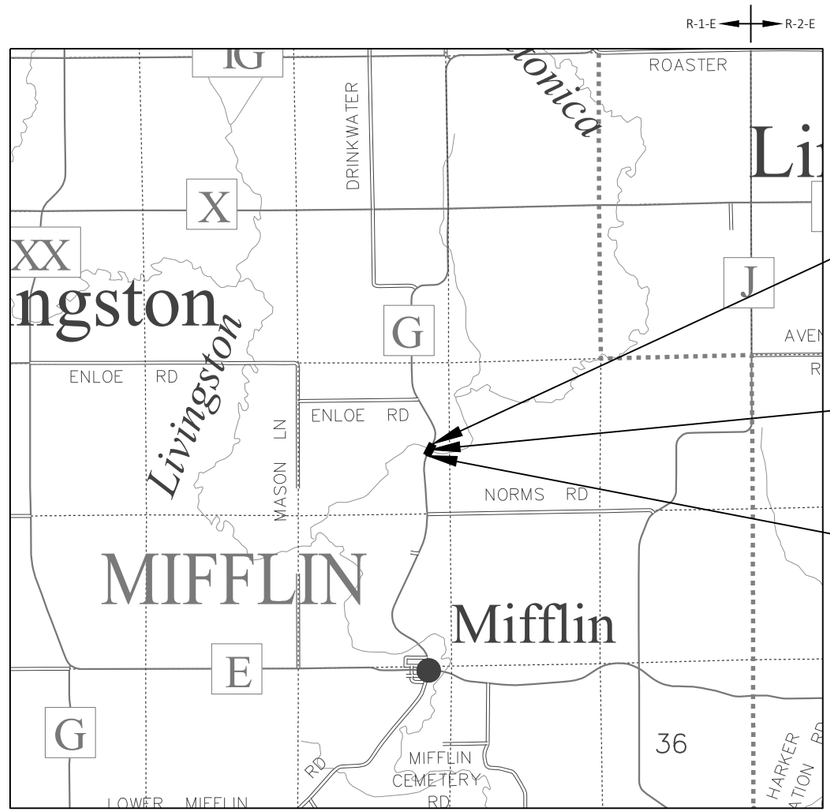
PECATONICA RIVER BRIDGE B-25-0201

CTH G

IOWA COUNTY

STATE PROJECT NUMBER
5958-00-72

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5958-00-72	WISC 2025079	1



END PROJECT
STA. 15+64

STRUCTURE
B-25-0201

BEGIN PROJECT
STA. 11+92
Y = 128 600.593
X = 319 864.539

LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.070 MI

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

ACCEPTED FOR
IOWA COUNTY
7/25/24 (Signature and Title of Official)
IOWA COUNTY HIGHWAY COMMISSIONER
Date

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: 7/25/24 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WESTBROOK ASSOICATED ENGINEERS, INC.
Designer	WESTBROOK ASSOCIATED ENGINEERS, INC.
Project Manager	CODY KAMMERZELT, P.E.
Regional Examiner	SW REGION
Regional Supervisor	KYLE HEMP, P.E.

APPROVED FOR THE DEPARTMENT

DATE: Digitally signed by Cody Kammerzelt Date: 2024.07.25 15:58:16 -05'00' (Signature)

E

STANDARD ABBREVIATIONS

ABUT	ABUTMENT	HE	HIGHWAY EASEMENT	SY	SQUARE YARD
AC	ACRE	CWT	HUNDRED WEIGHT	SDD	STANDARD DETAIL DRAWINGS
AGG	AGGREGATE	IN DIA	INCH DIAMETER	STH	STATE TRUNK HIGHWAY
AH	AHEAD	INL	INLET	STA	STATION
∠	ANGLE	ID	INSIDE DIAMETER	SE	SUPERELEVATION
AADT	ANNUAL AVERAGE DAILY TRAFFIC	INTERS	INTERSECTION	SL OR S/L	SURVEY LINE
AEW	APRON ENDWALL	IH	INTERSTATE HIGHWAY	TEMP	TEMPORARY
ASPH	ASPHALTIC	INV	INVERT	TI	TEMPORARY INTEREST
BK	BACK	JT	JOINT	TLE	TEMPORARY LIMITED EASEMENT
BC	BACK OF CURB	LT	LEFT	TC	TOP OF CURB
BAD	BASE AGGREGATE DENSE	LHF	LEFT HAND FORWARD	TL OR T/L	TRANSIT LINE
BL OR B/L	BASE LINE	L	LENGTH OF CURVE	T	TRUCKS (PERCENT OF)
BM	BENCH MARK	LF	LINEAR FOOT	TYP	TYPICAL
CB	CATCH BASIN	LC	LONG CHORD OF CURVE	USH	UNITED STATES HIGHWAY
CL OR C/L	CENTER LINE	LS	LUMP SUM	VAR	VARIABLE
Δ	CENTRAL ANGLE OR DELTA	MGAL	ONE THOUSAND GALLONS	VC	VERTICAL CURVE
CE	COMMERCIAL ENTRANCE	MH	MANHOLE	VPC	VERTICAL POINT OF CURVATURE
CONC	CONCRETE	ML OR M/L	MATCH LINE	VPI	VERTICAL POINT OF INTERSECTION
CSW	CONCRETE SIDEWALK	NOM	NOMINAL	VPT	VERTICAL POINT OF TANGENCY
CONST	CONSTRUCTION	NC	NORMAL CROWN	W	WEST
CP	CONTROL POINT	NB	NORTHBOUND	WB	WESTBOUND
CO	COUNTY	NO	NUMBER		
CTH	COUNTY TRUCK HIGHWAY	OD	OUTSIDE DIAMETER		
CY	CUBIC YARD	PAVT	PAVEMENT		
CP	CULVERT PIPE	PLE	PERMANENT LIMITED EASEMENT		
C & G	CURB AND GUTTER	PC	POINT OF CURVATURE		
D	DEGREE OF CURVE	PI	POINT OF INTERSECTION		
DHV	DESIGN HOUR VOLUME	PT	POINT OF TANGENCY		
DIA	DIAMETER	PCC	PORTLAND CEMENT CONCRETE		
DD	DIRECTIONAL DISTRIBUTION	LB	POUND		
DE	DRAINAGE EASEMENT	PSI	POUNDS PER SQUARE INCH		
DWY	DRIVEWAY	PE	PRIVATE ENTRANCE		
EA	EACH	PROJ	PROJECT		
EB	EASTBOUND	PL	PROPERTY LINE		
EL OR ELEV	ELEVATION	PRW	PROPOSED RIGHT OF WAY		
EMB	EMBANKMENT	R	RADIUS		
EW	ENDWALL	RL OR R/L	REFERENCE LINE		
EAT	ENERGY ABSORBING TERMINAL	REQD	REQUIRED		
ESALS	EQUIVALENT SINGLE AXLE LOADS	RT	RIGHT		
EXC	EXCAVATION	RHF	RIGHT HAND FORWARD		
EBS	EXCAVATION BELOW SUBGRADE	R/W	RIGHT OF WAY		
EXIST	EXISTING	RD	ROAD		
FERT	FERTILIZER	RDWY	ROADWAY		
FE	FIELD ENTRANCE	SHLDR	SHOULDER		
FL OR F/L	FLOW LINE	SW	SIDEWALK		
FT	FOOT	SB	SOUTHBOUND		
FTMS	FREE TRAFFIC MANAGEMENT SYSTEM	SPECS	SPECIFICATIONS		
HES	HIGH EARLY STRENGTH	SF	SQUARE FEET		

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 = 0.95 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.66 ACRES

WISCONSIN DNR LIAISON

ERIC HEGGELUND
DNR SOUTHWEST REGION
3911 FISH HATCHERY RD
FITCHBURG, WI 53711
PHONE: (608) 228-7927
EMAIL: ERIC.HEGGELUND@WISCONSIN.GOV

CONSULTANT LIAISON

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WESTBROOK ASSOCIATED ENGINEERS, INC.
619 EAST HOXIE ST, P.O. BOX 429
SPRING GREEN, WI 53588
PHONE: (608) 588-7866
EMAIL: APALMER@WESTBROOKENG.COM

COUNTY HIGHWAY COMMISSIONER

CRAIG HARDY, P.E.
IOWA COUNTY
1215 N BEQUETTE ST
DODGEVILLE, WI 53533
PHONE: (608) 935-3381
EMAIL: CRAIG.HARDY@IOWACOUNTY.ORG

WISDOT PROJECT MANAGER

CODY KAMMERZELT, P.E.
WISDOT LOCAL PROGRAM PROJECT MANAGER
2101 WRIGHT ST
MADISON, WI 53704
PHONE: (608) 243-5995
EMAIL: CODY.KAMMERZELT@DOT.WI.GOV

ORDER OF SECTION 2 DETAIL SHEETS

UTILITIES CONTACTS

BRIGHTSPEED
COMMUNICATIONS
DOUG MCGOWAN
135 NORTH BONSON ST
PLATTEVILLE, WI 53818
PHONE: (980) 376-1578
EMAIL: DOUG.MCGOWAN1@BRIGHTSPEED.COM

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

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.

THE 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 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, AS 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, SUBBASE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, 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 ADN WDNR FOR REVIEW AT LEAST 14 DAYS PRIOR TO THE PRECONSTRUCTION CONFERENCES.

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.

BIODEGRADABLE NON-NETTED MATTING SHALL BE USED ALONG STREAM CORRIDORS.

REMOVAL OF ASPHALTIC SURFACES WHERE AN ABUTTING ASPHALTIC SURFACE IS TO REMAIN IN PLACE SHALL REQUIRE A SAW CUT MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD.

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.

THE 4-INCH ASPHALTIC SURFACE SHALL BE CONSTRUCTED USING ONE (1) 2.25-INCH LAYER AND ONE (1) 1.75-INCH LAYER. THE PREFERRED LOWER LAYER IS 2.25-INCHES OF 3 LT 58-28 S. THE PREFERRED UPPER LAYER IS 1.75-INCHES OF 4 LT 58-28 S.

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

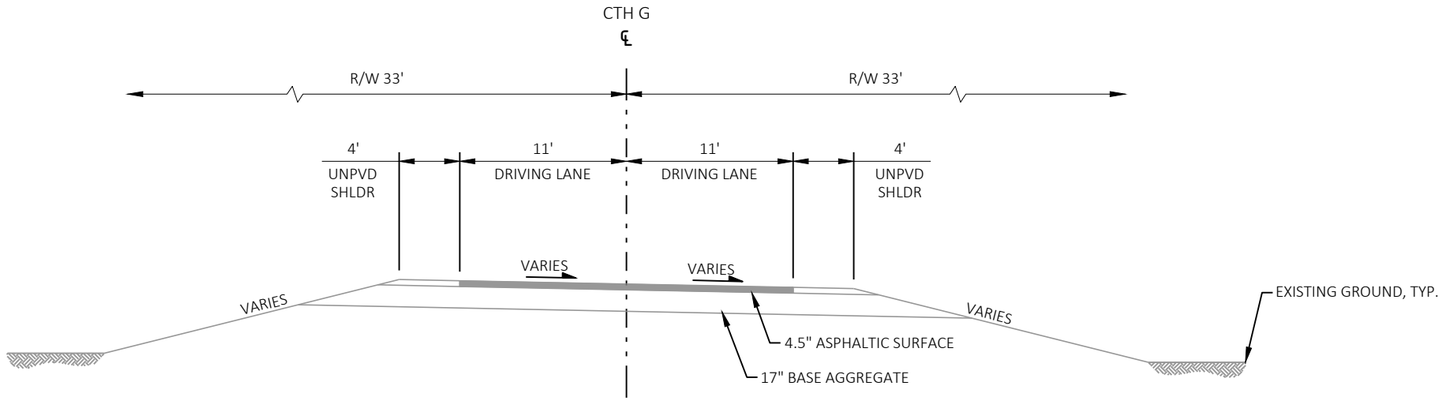
PRIOR TO PLACEMENT OF BEAM GUARD, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED.

THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES EXCEPT WHEN PAVING OPERATIONS REQUIRE THE DRIVEWAY TO BE CLOSED. ACCESS TO DRIVEWAYS SHALL BE RE-ESTABLISHED IMMEDIATELY AFTER OPERATIONS ARE COMPLETED. ACCESS SHALL BE PROVIDED DURING ALL NON-WORKING HOURS.

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

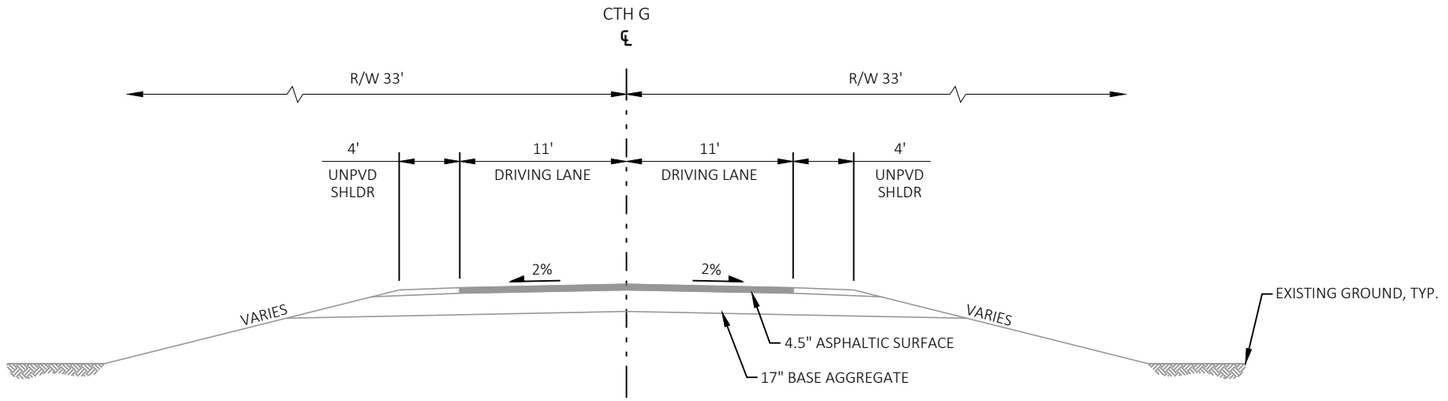
DO NOT DRIVE OR STORE EQUIPMENT, OR STORE CONSTRUCTION MATERIALS IN ENVIRONMENTALLY SENSITIVE AREAS, WETLANDS OR WATERWAYS.

2



EXISTING TYPICAL SUPERELEVATED SECTION

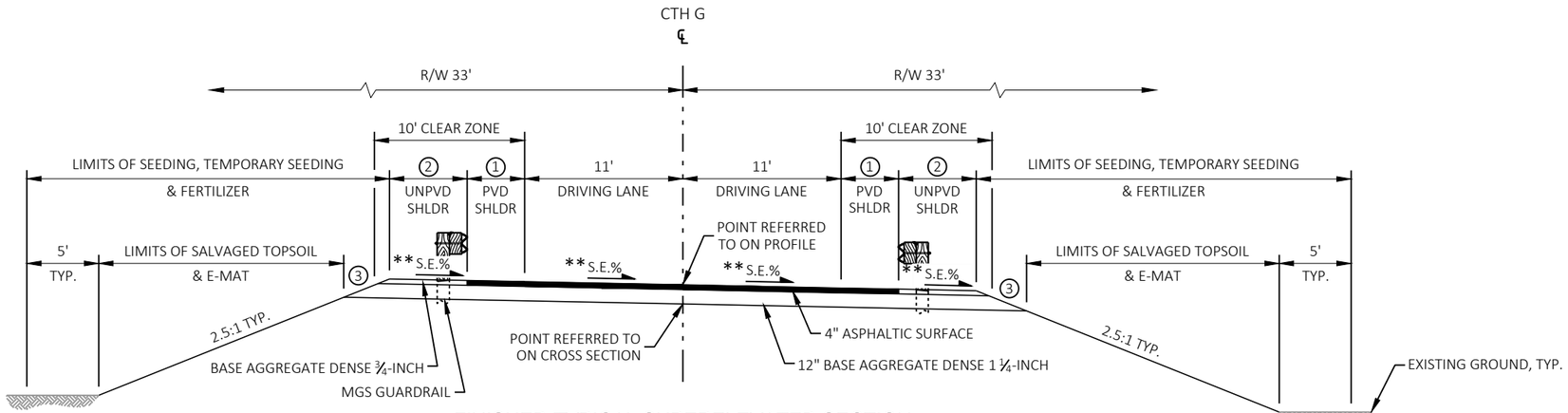
STA 11+92 - 13+41
STA 14+15 - 15+64



EXISTING TYPICAL SECTION

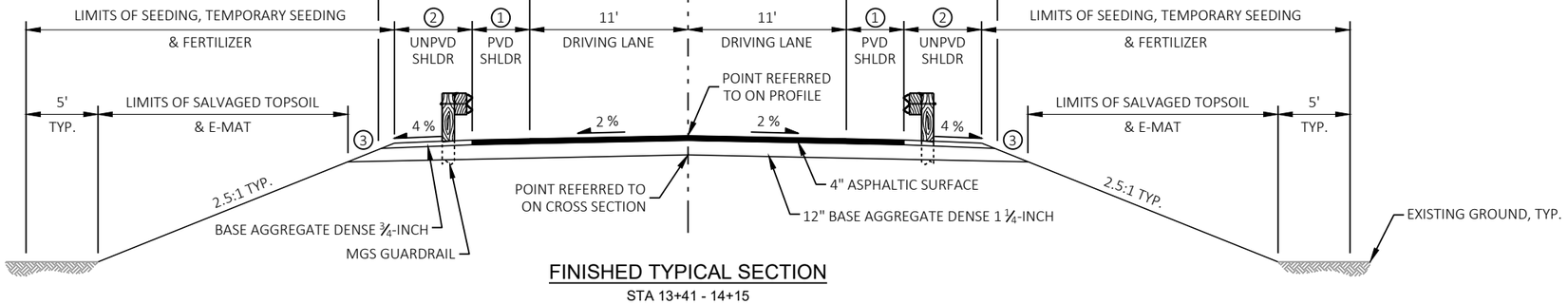
STA 13+41 - 14+15

PROJECT NO: 5958-00-72	HWY: CTH G	COUNTY: IOWA	TYPICAL SECTIONS	SHEET 3	E



FINISHED TYPICAL SUPERELEVATED SECTION

STA 11+92 - 13+41
STA 14+15 - 15+64



FINISHED TYPICAL SECTION

STA 13+41 - 14+15

SUPERELEVATION TABLE - CURVE 1				
STATION	LEFT UNPAVED SHOULDER	LEFT LANE	RIGHT LANE	RIGHT UNPAVED SHOULDER
11+92	1.9%	MATCH EXISTING	MATCH EXISTING	-4.7%
12+00	1.7%	1.7%	-4.4%	-4.4%
12+50	0.4%	0.4%	-2.5%	-4.0%
13+00	-1.0%	-1.0%	-2.0%	-4.0%
13+41	-4.0%	-2.0%	-2.0%	-4.0%

SUPERELEVATION TABLE - CURVE 2				
STATION	LEFT UNPAVED SHOULDER	LEFT LANE	RIGHT LANE	RIGHT UNPAVED SHOULDER
14+15	-4.0%	-2.0%	-2.0%	-4.0%
14+50	-4.0%	-2.0%	-1.1%	-1.1%
15+00	-4.0%	-2.2%	0.2%	0.2%
15+50	-4.0%	-3.6%	1.4%	-3.0%
15+64	-4.0%	MATCH EXISTING	MATCH EXISTING	-4.0%

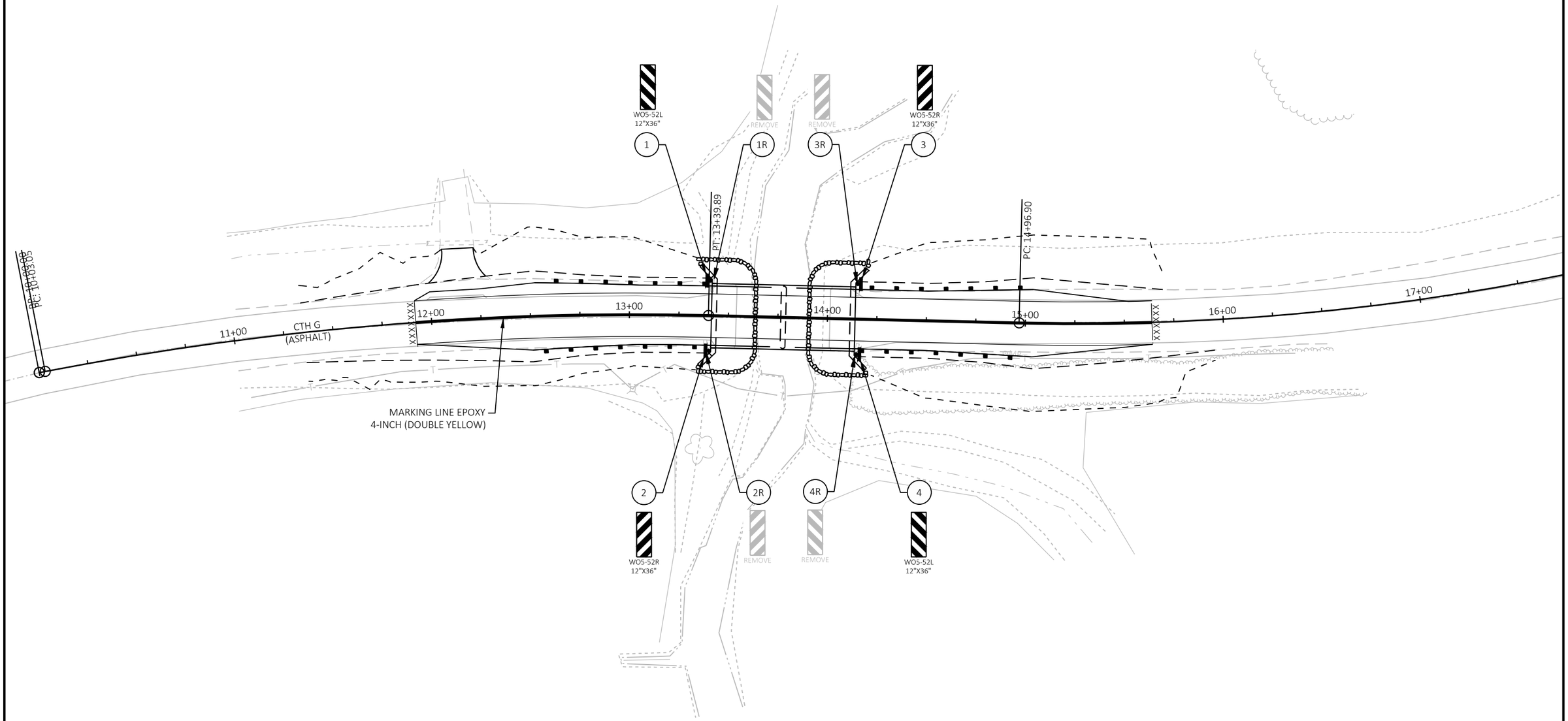
(1) PAVE TO FRONT FACE OF BEAM GUARD (4' TYP.). WIDTH VARIES AT GUARDRAIL FLARES.

(2) VARIES FROM 4' TO 5' 11" WITH BEAM GUARD GRADING TAPER.

(3) 4:1 TYP., 2.5:1 MAX. SEE CROSS SECTIONS FOR MORE DETAIL.

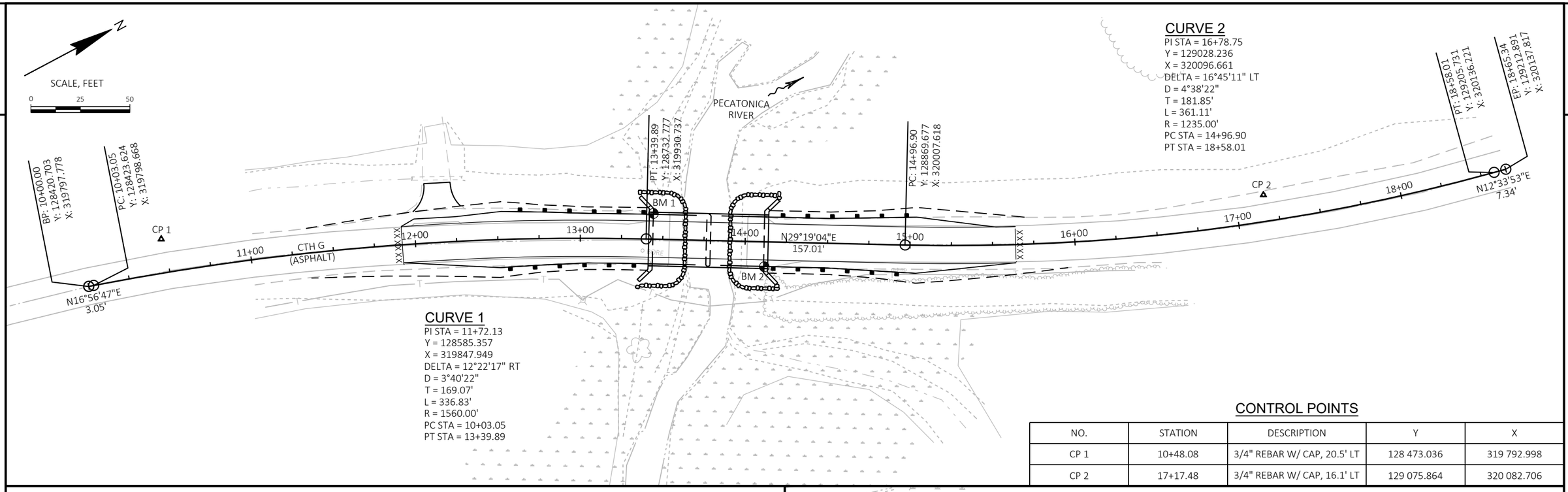
** SEE SUPERELEVATION TABLE.

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



PROJECT NO: 5958-00-72	HWY: CTH G	COUNTY: IOWA	PERMANENT SIGNING AND PAVEMENT MARKING	SHEET 5	E

FILE NAME : G:\00-PROJECT FILES\2023\23103 5958-00-02, CTH G, BRIDGE REHAB, IOWA COUNTY\0-CAD\SHEETS\023201_PS.DWG
LAYOUT NAME - 023201_ps
PLOT DATE : 7/12/2024 2:42 PM PLOT BY : GAVIN WIPPERFURTH PLOT NAME : PLOT SCALE : 1 IN:50 FT



CURVE 1

PI STA = 11+72.13
Y = 128585.357
X = 319847.949
DELTA = 12°22'17" RT
D = 3°40'22"
T = 169.07'
L = 336.83'
R = 1560.00'
PC STA = 10+03.05
PT STA = 13+39.89

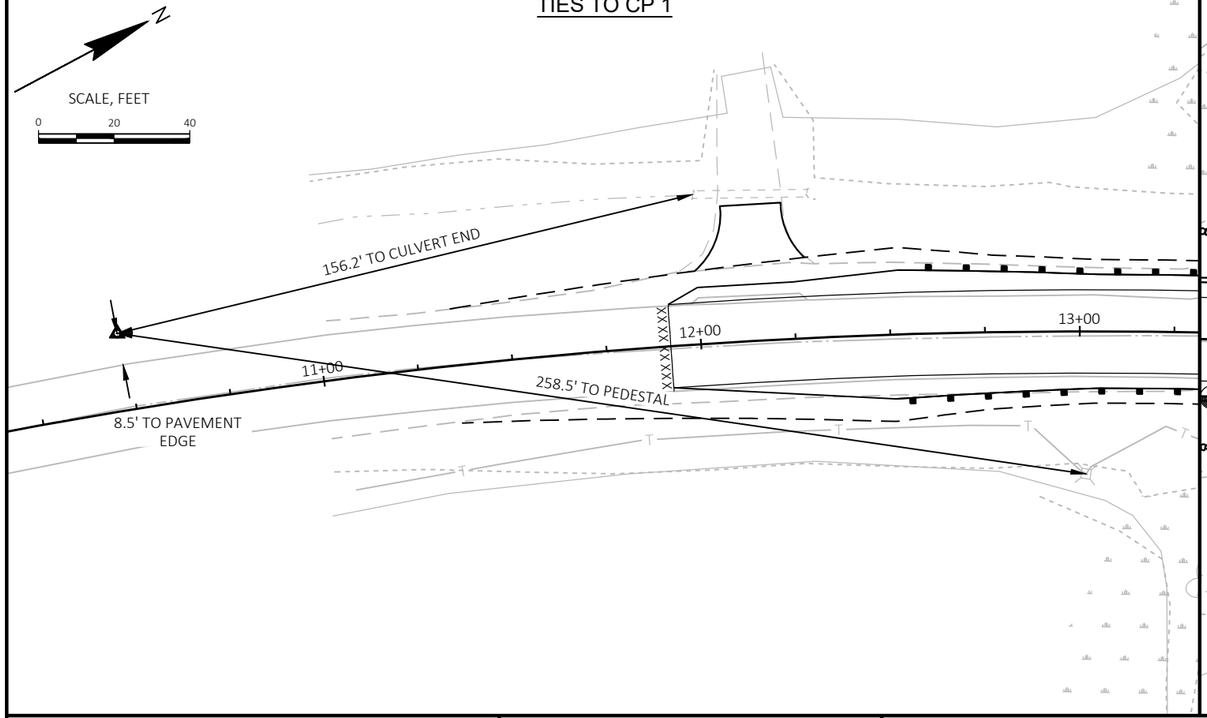
CURVE 2

PI STA = 16+78.75
Y = 129028.236
X = 320096.661
DELTA = 16°45'11" LT
D = 4°38'22"
T = 181.85'
L = 361.11'
R = 1235.00'
PC STA = 14+96.90
PT STA = 18+58.01

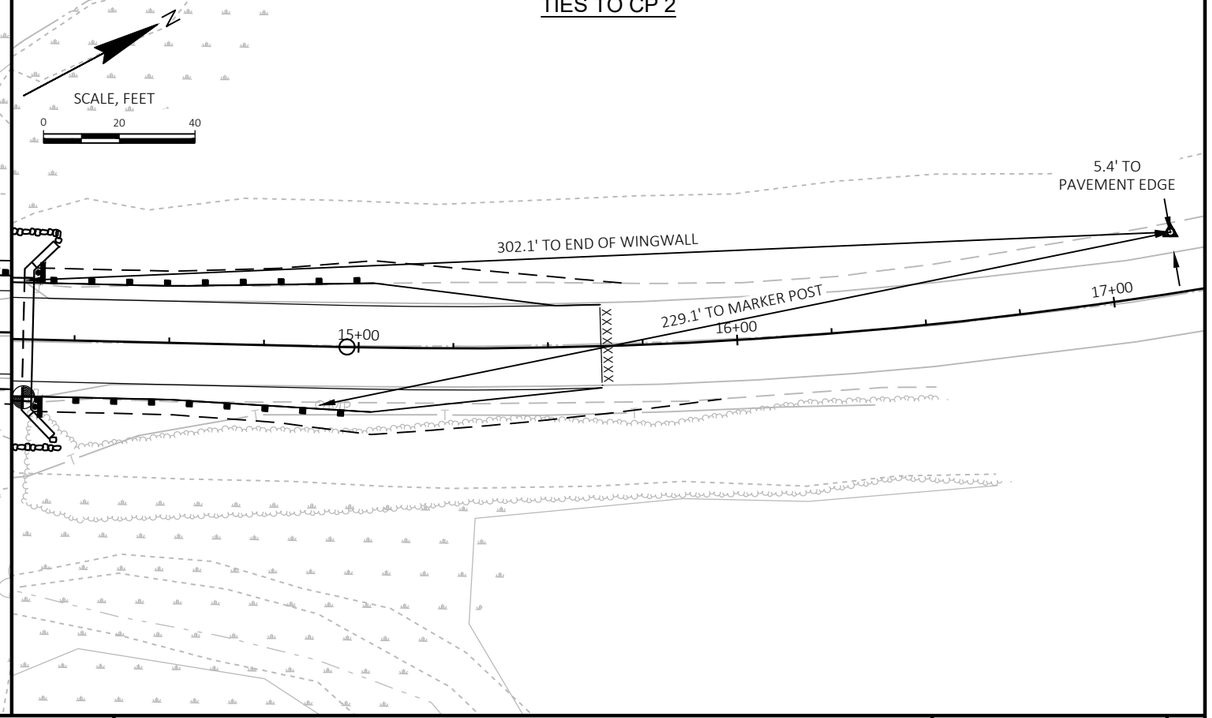
CONTROL POINTS

NO.	STATION	DESCRIPTION	Y	X
CP 1	10+48.08	3/4" REBAR W/ CAP, 20.5' LT	128 473.036	319 792.998
CP 2	17+17.48	3/4" REBAR W/ CAP, 16.1' LT	129 075.864	320 082.706

TIES TO CP 1



TIES TO CP 2



PROJECT NO: 5958-00-72	HWY: CTH G	COUNTY: IOWA	ALIGNMENT DETAILS AND CONTROL POINTS	SHEET 6	E

Estimate Of Quantities

5958-00-72

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	203.0250	Removing Structure Over Waterway Remove Debris (structure) 01. P-25-0037	EACH	1.000	1.000
0008	205.0100	Excavation Common	CY	525.000	525.000
0010	206.1001	Excavation for Structures Bridges (structure) 01. B-25-0201	EACH	1.000	1.000
0012	208.0100	Borrow	CY	179.000	179.000
0014	210.1500	Backfill Structure Type A	TON	300.000	300.000
0016	213.0100	Finishing Roadway (project) 01. 5958-00-72	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	130.000	130.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,082.000	1,082.000
0022	455.0605	Tack Coat	GAL	50.000	50.000
0024	465.0105	Asphaltic Surface	TON	220.000	220.000
0026	502.0100	Concrete Masonry Bridges	CY	237.000	237.000
0028	502.3200	Protective Surface Treatment	SY	330.000	330.000
0030	505.0400	Bar Steel Reinforcement HS Structures	LB	6,670.000	6,670.000
0032	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	35,390.000	35,390.000
0034	513.4061	Railing Tubular Type M	LF	150.000	150.000
0036	516.0500	Rubberized Membrane Waterproofing	SY	14.000	14.000
0038	550.0020	Pre-Boring Rock or Consolidated Materials	LF	70.000	70.000
0040	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	455.000	455.000
0042	606.0300	Riprap Heavy	CY	205.000	205.000
0044	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	170.000	170.000
0046	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0048	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0050	618.0100	Maintenance and Repair of Haul Roads (project) 01. 5958-00-72	EACH	1.000	1.000
0052	619.1000	Mobilization	EACH	1.000	1.000
0054	624.0100	Water	MGAL	12.300	12.300
0056	625.0500	Salvaged Topsoil	SY	1,180.000	1,180.000
0058	628.1504	Silt Fence	LF	1,120.000	1,120.000
0060	628.1520	Silt Fence Maintenance	LF	1,788.000	1,788.000
0062	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0064	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0066	628.2008	Erosion Mat Urban Class I Type B	SY	1,180.000	1,180.000
0068	628.6005	Turbidity Barriers	SY	280.000	280.000
0070	629.0210	Fertilizer Type B	CWT	1.300	1.300
0072	630.0130	Seeding Mixture No. 30	LB	36.000	36.000
0074	630.0200	Seeding Temporary	LB	56.000	56.000
0076	630.0500	Seed Water	MGAL	46.000	46.000
0078	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0080	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0082	638.2602	Removing Signs Type II	EACH	4.000	4.000
0084	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0086	642.5001	Field Office Type B	EACH	1.000	1.000
0088	643.0420	Traffic Control Barricades Type III	DAY	1,725.000	1,725.000
0090	643.0705	Traffic Control Warning Lights Type A	DAY	3,450.000	3,450.000
0092	643.0900	Traffic Control Signs	DAY	1,350.000	1,350.000
0094	643.5000	Traffic Control	EACH	1.000	1.000
0096	645.0111	Geotextile Type DF Schedule A	SY	70.000	70.000
0098	645.0120	Geotextile Type HR	SY	349.000	349.000

5958-00-72

Line	Item	Item Description	Unit	Total	Qty
0100	646.1020	Marking Line Epoxy 4-Inch	LF	744.000	744.000
0102	650.4500	Construction Staking Subgrade	LF	388.000	388.000
0104	650.5000	Construction Staking Base	LF	388.000	388.000
0106	650.6501	Construction Staking Structure Layout (structure) 01. B-25-0201	EACH	1.000	1.000
0108	650.9911	Construction Staking Supplemental Control (project) 01. 5958-00-72	EACH	1.000	1.000
0110	650.9920	Construction Staking Slope Stakes	LF	388.000	388.000
0112	690.0150	Sawing Asphalt	LF	44.000	44.000
0114	715.0502	Incentive Strength Concrete Structures	DOL	1,422.000	1,422.000
0116	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 13+75	EACH	1.000	1.000
0118	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000
0120	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	600.000	600.000

3

DIVISION	FROM/TO STATION	205.0100 EXCAVATION COMMON (1) CUT (2)	SALVAGED/UNUSABLE PAVEMENT MATERIAL (3)	AVAILABLE MATERIAL (4)	UNEXPANDED FILL	EXPANDED FILL (5) FACTOR 1.25	MASS ORDINATE +/- (6)	WASTE	208.0100 BORROW
DIVISION 1									
SOUTH APPROACH	11+35.00/13+41.45	297	53	244	115	144	100	100	0
DIVISION 1 SUBTOTAL		297	53	244	115	144	100	100	0
DIVISION 2									
NORTH APPROACH	14+13.95/15+95.00	228	49	179	366	458	-279	0	179
DIVISION 2 SUBTOTAL		228	49	179	366	458	-279	0	179
GRAND TOTAL		525	102	423	481	602	-179	100	179

NOTES:

(1) EXCAVATION COMMON IS THE SUM OF THE CUT COLUMN. ITEM NUMBER 205.0100

(2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.

(3) SALVAGED/UNUSABLE PAVEMENT MATERIAL INCLUDES EXISTING ASPHALT.

(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.

ALL ITEMS CATEGORY 0010 UNLESS NOTED OTHERWISE

CLEARING & GRUBBING

STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
14+00	-	16+00	MAINLINE, RT	2	2
			TOTAL	2	2

3

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+35	-	13+41	MAINLINE	75	560	6.4
14+14	-	15+95	MAINLINE	55	510	5.7
			DRIVEWAYS	---	12	0.2
			TOTAL	130	1,082	12.3

ASPHALT ITEMS

STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
11+92	-	13+41	MAINLINE	25	110
14+14	-	15+64	MAINLINE	25	110
			TOTAL	50	220

MGS GUARDRAIL

STATION	TO	STATION	LOCATION	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
12+50.89	-	13+44.20	MAINLINE, RT	39.4	1
12+52.59	-	13+44.20	MAINLINE, LT	39.4	1
14+11.20	-	15+03.60	MAINLINE, LT	39.4	1
14+11.20	-	15+03.60	MAINLINE, RT	39.4	1
			TOTAL	157.6	4

SILT FENCE

STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
11+30	-	13+63	MAINLINE, LT	229	458
11+30	-	13+77	MAINLINE, RT	245	490
13+89	-	15+75	MAINLINE, LT	198	396
13+94	-	16+00	MAINLINE, RT	222	444
			UNDISTRIBUTED	226	---
			TOTAL	1,120	1,788

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+35	-	13+41	MAINLINE, LT	240	240	0.26	7	11	9.2
11+35	-	13+41	MAINLINE, RT	120	120	0.22	6	9	7.7
14+15	-	15+75	MAINLINE, LT	270	270	0.27	8	12	9.6
14+15	-	15+95	MAINLINE, RT	310	310	0.30	8	13	10.6
			UNDISTRIBUTED	240	240	0.25	7	11	8.9
			TOTAL	1,180	1,180	1.30	36	56	46.0

MOBILIZATIONS EROSION CONTROL

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
ID 5958-00-72	3	2
TOTAL	3	2

PROJECT NO: 5958-00-72	HWY: CTH G	COUNTY: IOWA	MISCELLANEOUS QUANTITIES	SHEET 9	E

ALL ITEMS CATEGORY 0010 UNLESS NOTED OTHERWISE

3

TURBIDITY BARRIERS

LOCATION	628.6005 SY
SOUTH ABUTMENT	110
NORTH ABUTMENT	114
UNDISTRIBUTED	56
TOTAL	280

PERMANENT SIGNING

STATION	LOCATION	SIGN NUMBER	SIGN CODE	634.0612 POSTS WOOD 4X6-INCH X 12-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
13+40	MAINLINE, LT	1	W5-52 L	1	3	---	---	BRIDGE HASH MARKS
13+40	MAINLINE, LT	1R	W5-52 L	---	---	1	1	BRIDGE HASH MARKS
13+40	MAINLINE, RT	2	W5-52 R	1	3	---	---	BRIDGE HASH MARKS
13+40	MAINLINE, RT	2R	W5-52 R	---	---	1	1	BRIDGE HASH MARKS
14+15	MAINLINE, LT	3	W5-52 R	1	3	---	---	BRIDGE HASH MARKS
14+15	MAINLINE, LT	3R	W5-52 R	---	---	1	1	BRIDGE HASH MARKS
14+15	MAINLINE, RT	4	W5-52 L	1	3	---	---	BRIDGE HASH MARKS
14+15	MAINLINE, RT	4R	W5-52 L	---	---	1	1	BRIDGE HASH MARKS
	TOTAL			4	12	4	4	

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
ID 5958-00-72	75	23	1,725	46	3,450	18	1,350	1
TOTAL			1,725		3,450		1,350	1

MARKING LINE EPOXY 4-INCH

STATION	TO	STATION	LOCATION	646.1020 LF	REMARKS
11+92	-	15+64	MAINLINE, CL	744	DOUBLE YELLOW
			TOTAL	744	

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-25-0201 EACH	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL 01. 5958-00-72 EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
11+35	-	13+42	MAINLINE	207	207	---	---	207
14+14	-	15+95	MAINLINE	181	181	---	---	181
			ID 5958-00-72	---	---	1	1	---
			TOTAL	388	388	1*	1	388

SAWING ASPHALT

STATION	LOCATION	690.0150 LF
11+92	MAINLINE	22
15+64	MAINLINE	22
	TOTAL	44

*CATEGORY 0020

PROJECT NO: 5958-00-72	HWY: CTH G	COUNTY: IOWA	MISCELLANEOUS QUANTITIES	SHEET 10	E

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

	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), IOWA 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.

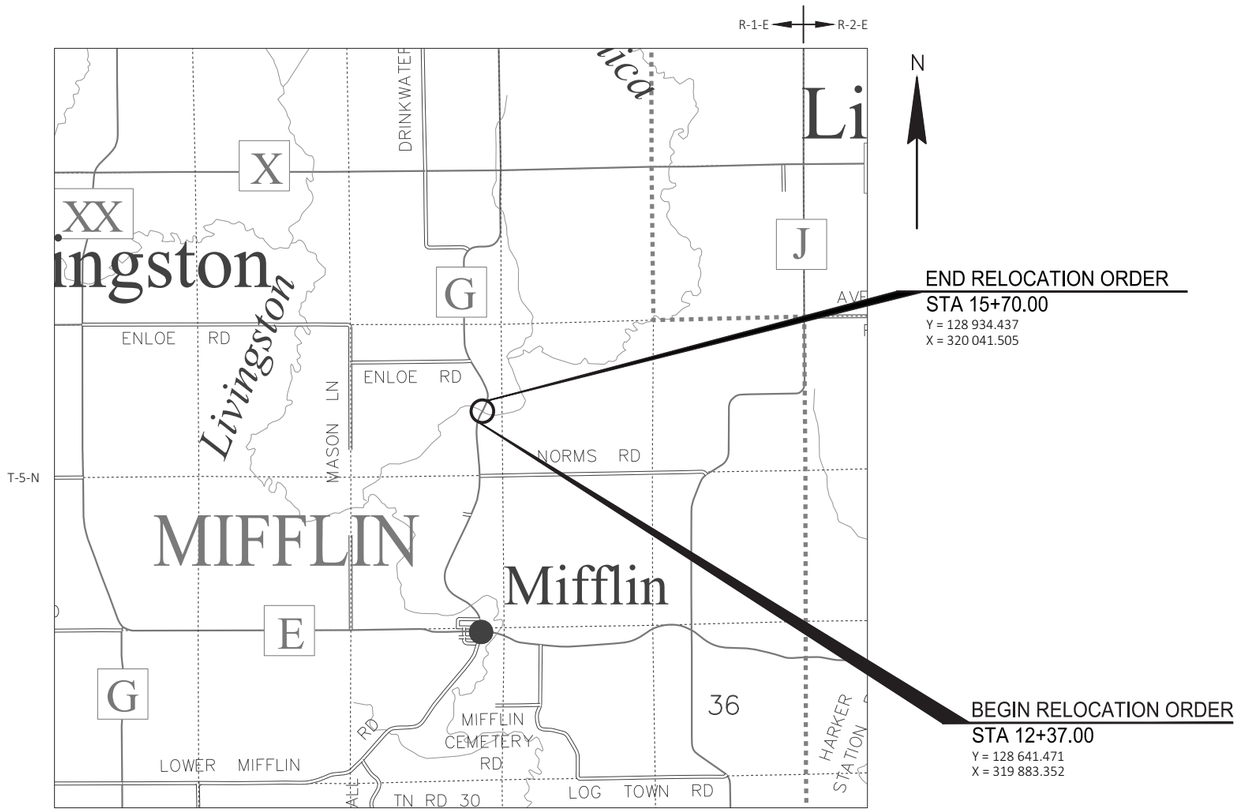
DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

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 THE IOWA COUNTY HIGHWAY DEPARTMENT.

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.



LAYOUT
SCALE 0 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.063 MILES

R/W PROJECT NUMBER 5958-00-02	SHEET NUMBER	TOTAL SHEETS
FEDERAL PROJECT NUMBER	4.01	2

PLAT OF RIGHT OF WAY REQUIRED FOR

CTH E - CTH X
PECATONICA RIVER BRIDGE B-25-0201

CTH G	IOWA COUNTY

CONSTRUCTION PROJECT NUMBER 5958-00-72

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 IOWA COUNTY
DATE: 3/5/24 (HIGHWAY COMMISSIONER)

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
LAVALLE
WISCONSIN
LAND SURVEYOR
03-01-2024

REVISION DATE

DATE 03-01-24 (Professional Land Surveyor Signature)

FILE NAME : G:\00-PROJECT FILES\2023\23103 5958-00-02, CTH G, BRIDGE REHAB, IOWA COUNTY\0-CAD\RW\DWG\040101_RP.DWG
PLOT DATE : 3/1/2024 9:34 AM
PLOT BY : ERICA BAUER
PLOT NAME :

EXISTING RIGHT-OF-WAY FOR CTH G IS BASED ON THE PLAT OF SURVEY FOR CHUCK JONES DATED DECEMBER 3, 2012 AND RECORDED IN VOLUME 19, PAGE 273 OF THE IOWA COUNTY REGISTER OF DEEDS. SAID PLAT OF SURVEY REFERENCES A CONVEYANCE OF LANDS FOR HIGHWAY PURPOSES DOCUMENT DATED APRIL 19, 1962 AND RECORDED IN VOLUME 202, PAGE 412-413 OF THE IOWA COUNTY REGISTER OF DEEDS.

SCHEDULE OF LANDS AND INTERESTS REQUIRED

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W REQUIRED ACRES		
			NEW	EXISTING	TOTAL
1	BRENDAN S. MONEYPENNY	HE	0.073	0.306	0.379
2	MONEYPENNY LAND, LLC	HE	0.035	0.122	0.157

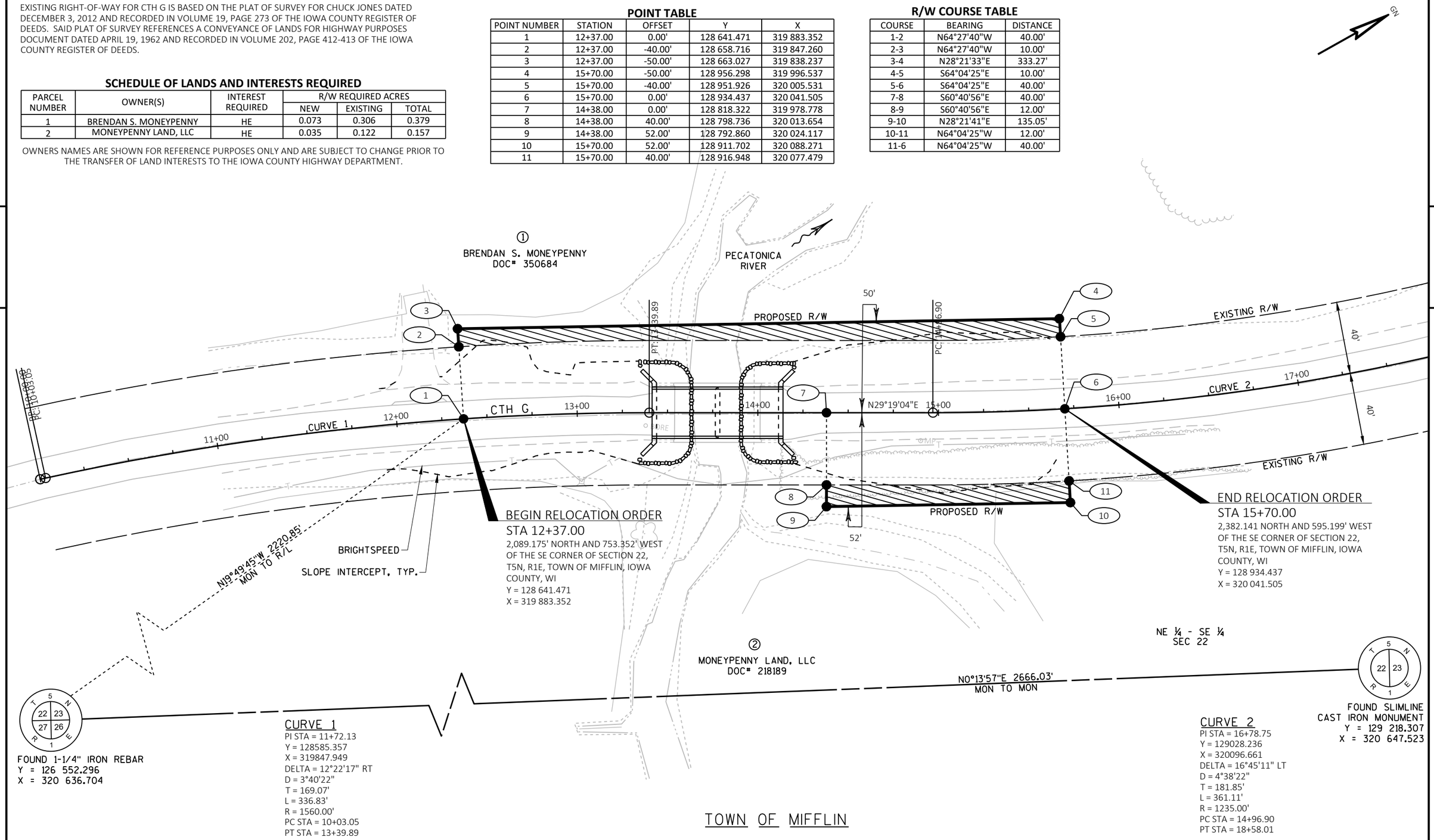
OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE IOWA COUNTY HIGHWAY DEPARTMENT.

POINT TABLE

POINT NUMBER	STATION	OFFSET	Y	X
1	12+37.00	0.00'	128 641.471	319 883.352
2	12+37.00	-40.00'	128 658.716	319 847.260
3	12+37.00	-50.00'	128 663.027	319 838.237
4	15+70.00	-50.00'	128 956.298	319 996.537
5	15+70.00	-40.00'	128 951.926	320 005.531
6	15+70.00	0.00'	128 934.437	320 041.505
7	14+38.00	0.00'	128 818.322	319 978.778
8	14+38.00	40.00'	128 798.736	320 013.654
9	14+38.00	52.00'	128 792.860	320 024.117
10	15+70.00	52.00'	128 911.702	320 088.271
11	15+70.00	40.00'	128 916.948	320 077.479

R/W COURSE TABLE

COURSE	BEARING	DISTANCE
1-2	N64°27'40"W	40.00'
2-3	N64°27'40"W	10.00'
3-4	N28°21'33"E	333.27'
4-5	S64°04'25"E	10.00'
5-6	S64°04'25"E	40.00'
7-8	S60°40'56"E	40.00'
8-9	S60°40'56"E	12.00'
9-10	N28°21'41"E	135.05'
10-11	N64°04'25"W	12.00'
11-6	N64°04'25"W	40.00'



REVISION DATE	DATE 03/01/2024	SCALE, FEET 0 25 50	HWY: CTH G	STATE R/W PROJECT NUMBER 5958-00-02
	GRID FACTOR N/A		COUNTY: IOWA	CONSTRUCTION PROJECT NUMBER 5958-00-72

PLAT SHEET 4.02

PS&E SHEET 12 E

FILE NAME : 040102_RP.DWG
LAYOUT NAME - 040102_rp

PLOT DATE : 3/1/2024 8:00 AM PLOT BY : ERICA BAUER PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 75

LEGEND

- SLOPE INTERCEPT
- SURFACE WATER FLOW
- STREAM EDGE
- DELINEATED WETLANDS
- SILT FENCE
- TURBIDITY BARRIER
- EXISTING SIGN
- PROPOSED SIGN

BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
BM 1	13+43.95	1000.58'	CHISELED X IN WINGWALL, 15.43' LT
BM 2	14+11.84	1000.64'	SURVEY MARKER IN WINGWALL, 15.28' RT

BRENDAN MONEYPENNY

BRENDAN MONEYPENNY

STREAM EDGE

PECATONICA RIVER

PROPOSED STRUCTURE B-25-0201

EXISTING STRUCTURE P-25-037

PROPOSED HIGHWAY EASEMENT

PT: 13+39.89

PC: 14+16.90

STA. 12+15
16' F.E. (B.A.D.)

EXISTING R/W

PC: 10+93.05

CP 1

CP 2

CTH G
(ASPHALT)

10+00

11+00

12+00

13+00

14+00

15+00

16+00

17+00

BM 1

BM 2

BEGIN PROJECT
STA 11+92
Y = 128 600.593
X = 319 864.539
MATCH EXISTING
SAW CUT REQ'D

PROPOSED HIGHWAY EASEMENT

SLOPE INTERCEPT, TYP.

BRIGHTSPEED

STREAM EDGE

END PROJECT
STA 15+64
MATCH EXISTING
SAW CUT REQ'D

MONEYPENNY LAND LLC

MONEYPENNY LAND LLC

VCL = 150.00
K = 37.11

VCL = 150.00
K = 52.78

STA 11+92.00
EL 1005.36

STA 15+64.00
EL 1002.80

-4.39%

-0.35%

2.49%

PROPOSED ℄ PROFILE

HIGH WATER$_{100}$
EL. = 1001.24'

LP STA 14+29.52
LP EL 1001.09

EXISTING ℄ PROFILE

VPC STA 12+02.97
VPC EL 1004.88

VPI STA 12+77.97
VPI EL 1001.58

VPT STA 13+52.97
VPT EL 1001.32

VPC STA 14+11.03
VPC EL 1001.12

VPI STA 14+86.03
VPI EL 1000.86

VPT STA 15+61.03
VPT EL 1002.72

OBSERVED WATER EL. = 988.35' (04-26-2023)

APPROX. STREAMBED EL. = 985.81'

EXISTING ℄ ELEVATION

PROPOSED ℄ ELEVATION

1005
1000
995
990
985

1015.47	1012.27	1009.54	1007.20	1005.00	1005.01	1003.34	1003.11	1002.02	1001.89	1001.00	1001.33	996.01	1001.16	1001.08	1001.13	1001.58	1001.56	1002.48	1002.46	1003.75	1005.69	1008.14	1010.95
EXISTING ℄				PROPOSED ℄																			

STA. 13+75.00
REMOVE EXISTING STRUCTURE P-25-037
48.7-FT OVERALL LENGTH AND
30.0-FT CLEAR ROADWAY WIDTH
SINGLE SPAN CONCRETE DECK GIRDER STRUCTURE

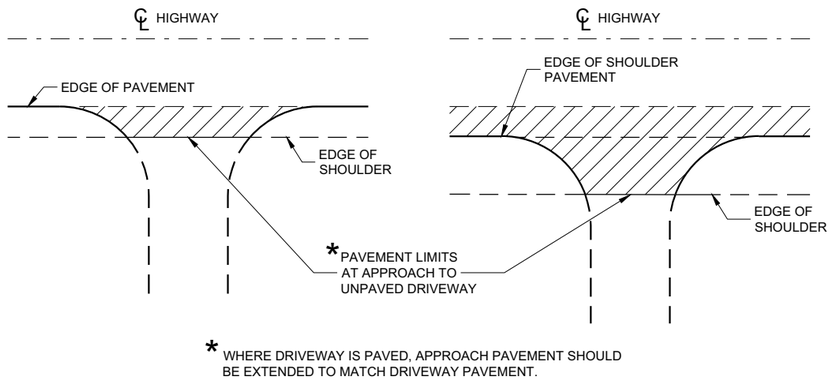
STA. 13+75.00
STRUCTURE B-25-0201
72.5-FT OVERALL LENGTH
30.0-FT CLEAR ROADWAY WIDTH
TWO SPAN CONCRETE FLAT SLAB STRUCTURE

PROJECT NO: 5958-00-72	HWY: CTH G	COUNTY: IOWA	PLAN & PROFILE	SHEET 13	E

FILE NAME : G:\00-PROJECT FILES\2023\23103 5958-00-02, CTH G, BRIDGE REHAB, IOWA COUNTY\0-CAD\SHEETS\050101_PP.DWG
LAYOUT NAME - 050101_pp
PLOT DATE : 7/12/2024 3:13 PM
PLOT BY : GAVIN WIPPERFURTH
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

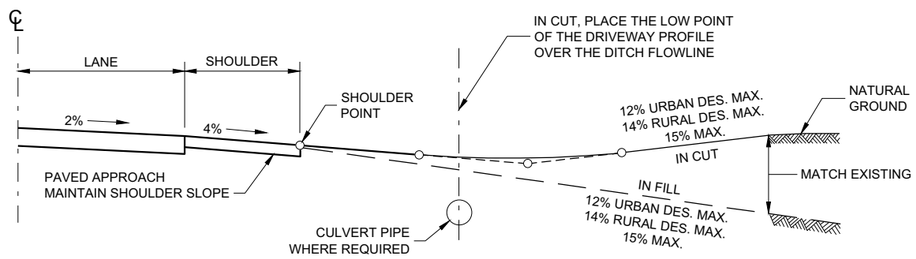
08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	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



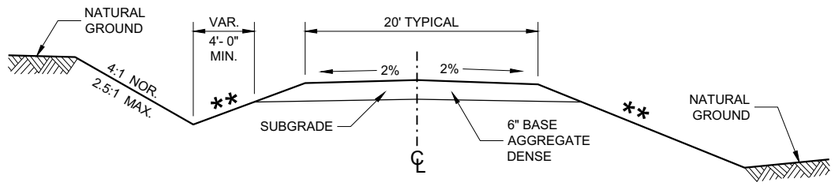
PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB AND GUTTER OR SIDEWALK)



TYPICAL DRIVEWAY PROFILES

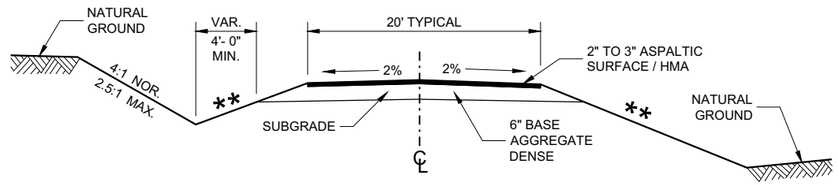


IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE AGGREGATE SURFACE

** SLOPE CAN VARY WITH SPEED. SEE 11-45-30.6.2

POSTED SPEED MPH	MAX. SLOPE
<35	4:1
≥ 35 TO < 60	6:1
≥60	10:1



IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE ASPHALTIC SURFACE

DRIVEWAYS WITHOUT CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR
FHWA

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SDD 08D21 - 01

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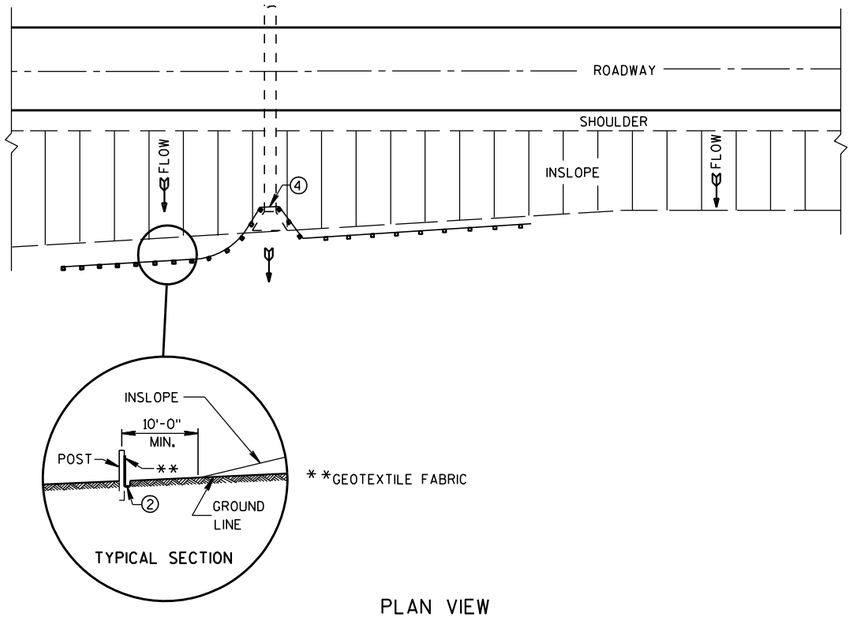
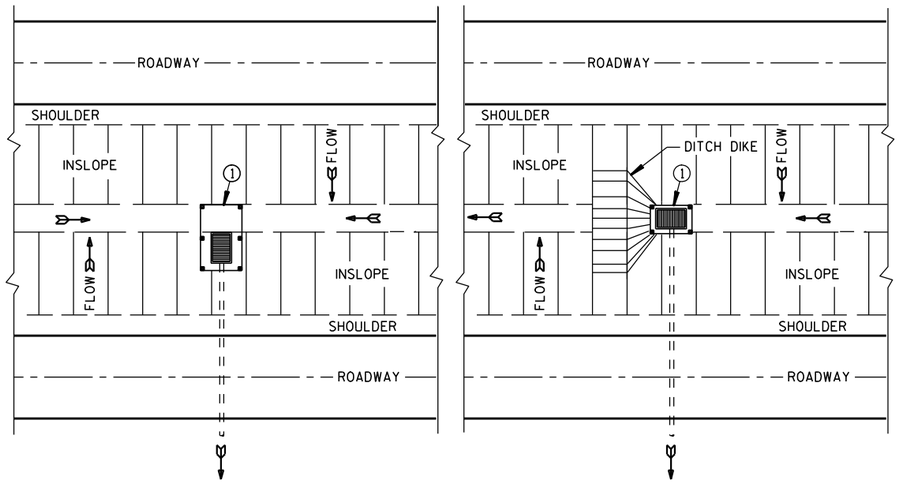
SDD 08D21 - 01



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



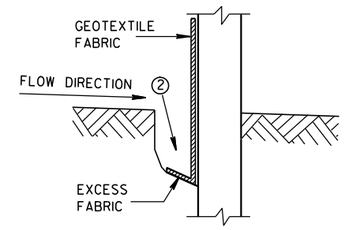
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

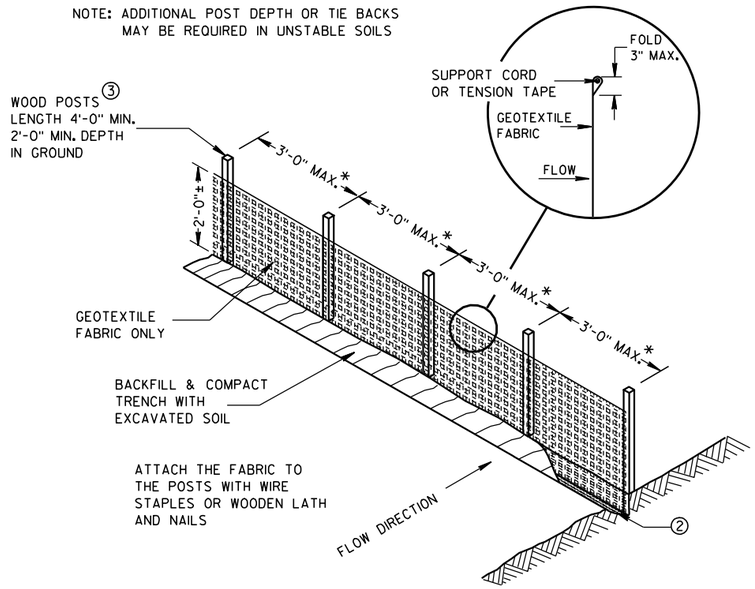
GENERAL NOTES

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.

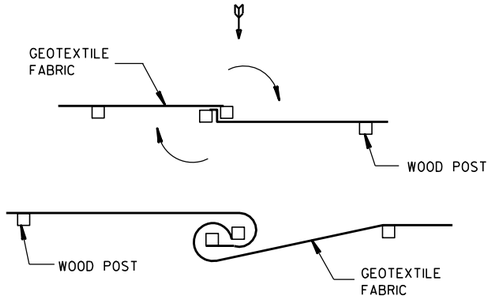


TRENCH DETAIL

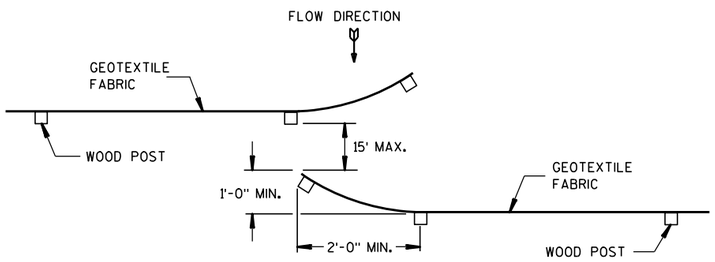


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

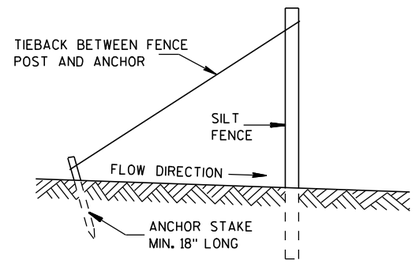


TWIST METHOD



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

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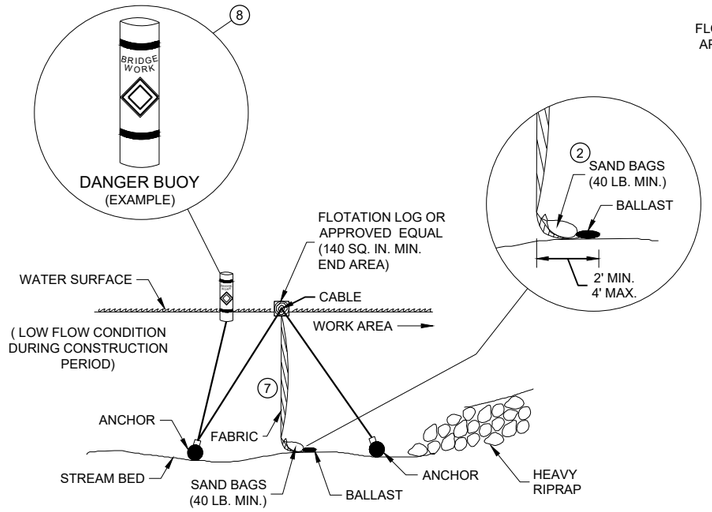
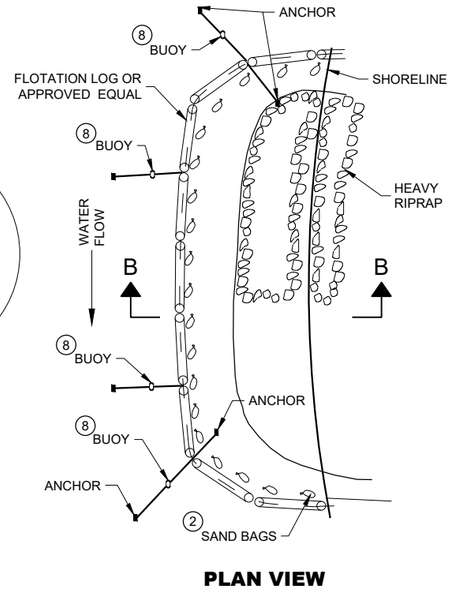
S.D.D. 8 E 9-6

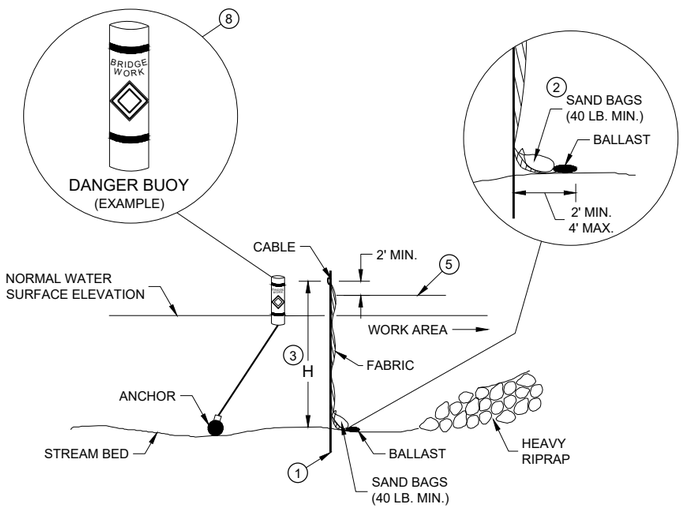


SECTION B - B

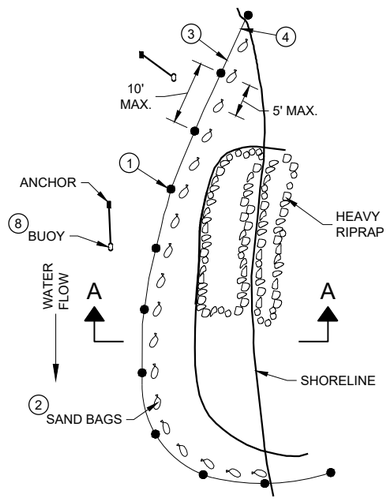


PLAN VIEW

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.

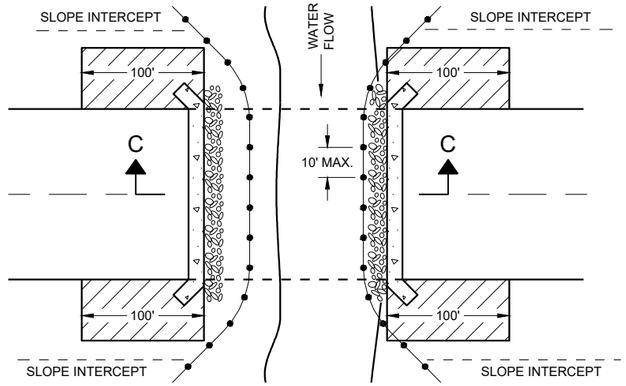
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

(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.

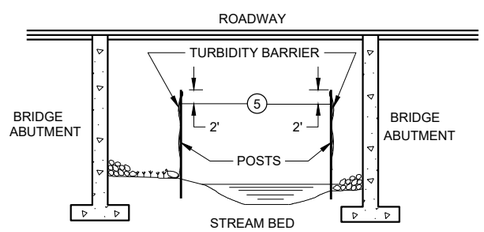
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

(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

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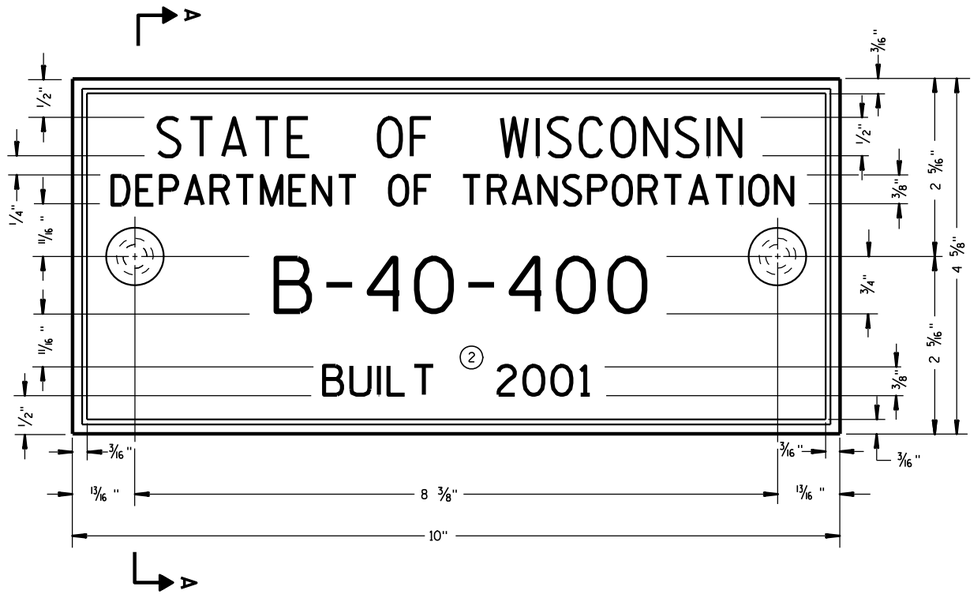
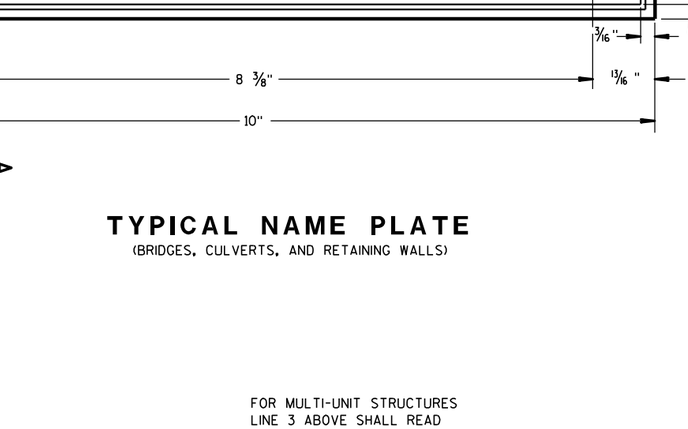
SDD 08E11 - 02



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION MULTI-UNIT STRUCTURES

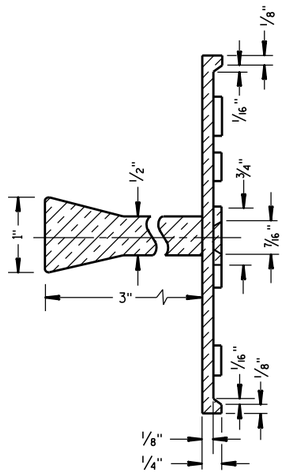
GENERAL NOTES

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

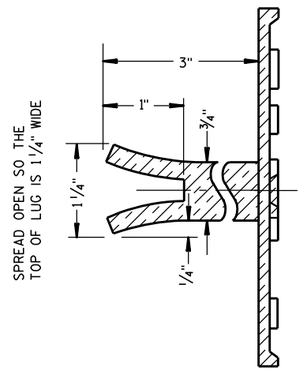
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

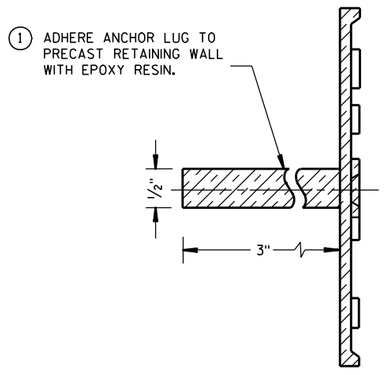
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



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

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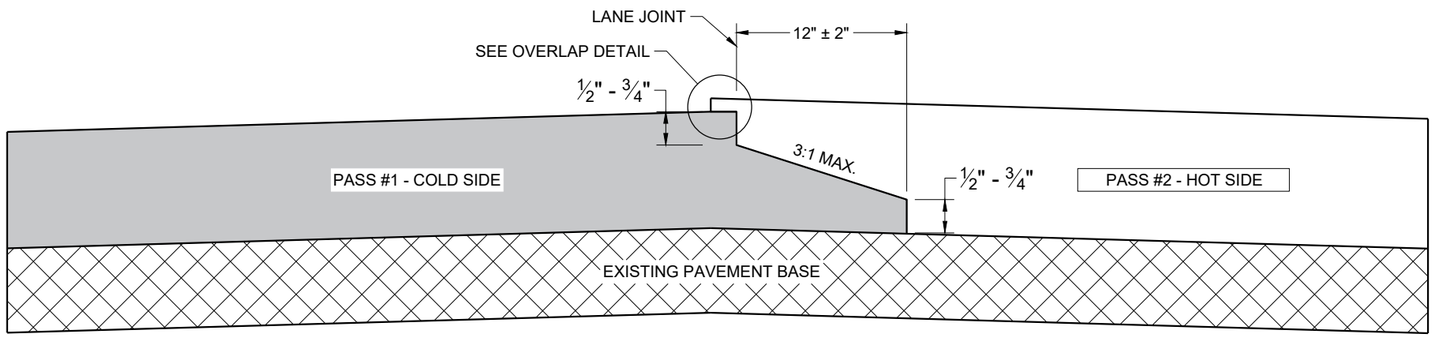
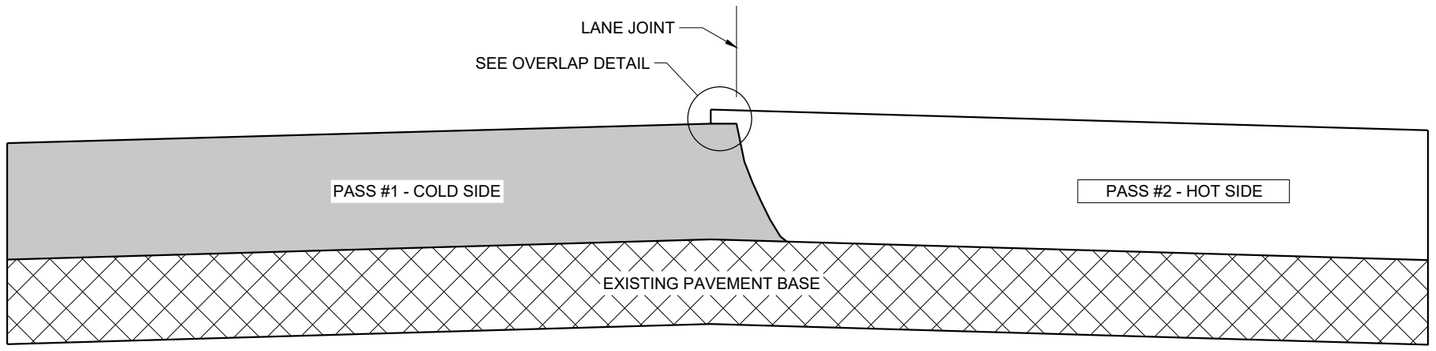
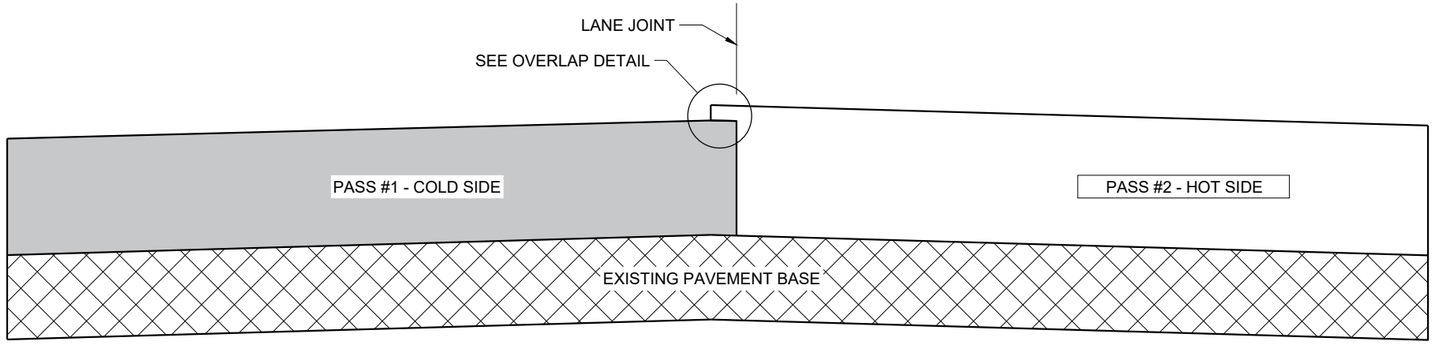
S.D.D. 12 A 3-10



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

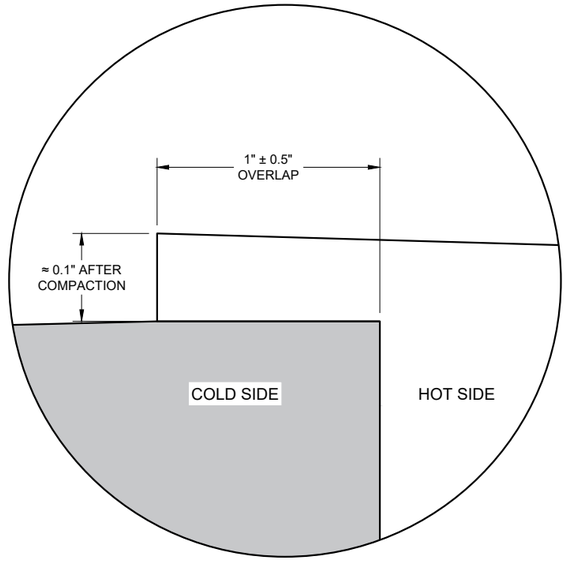
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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)

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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.

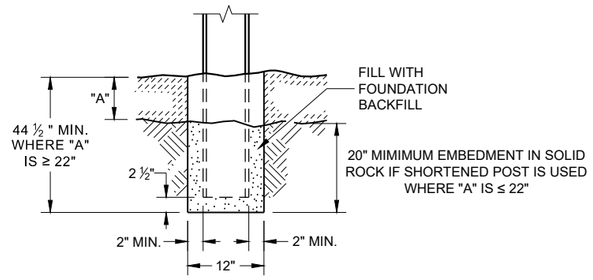
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

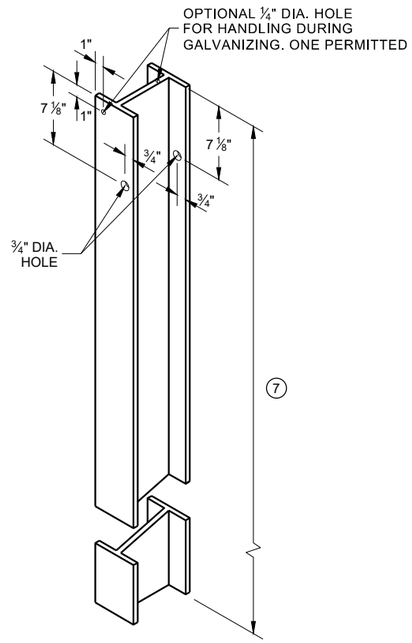
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

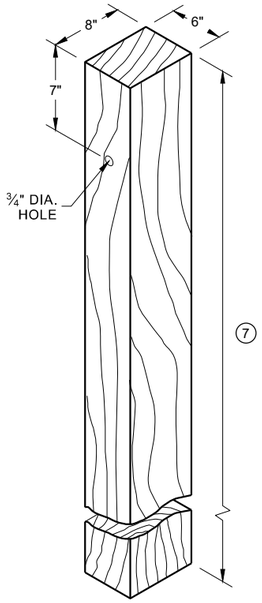
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



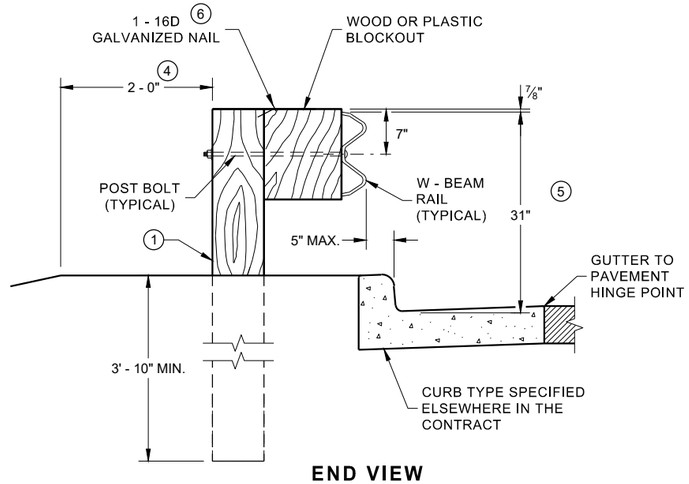
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



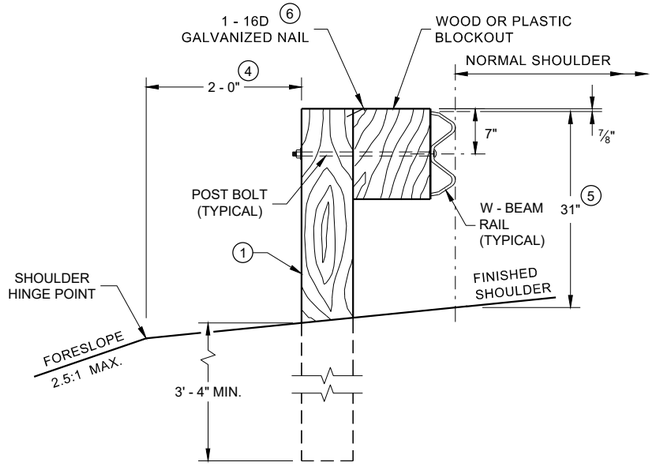
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



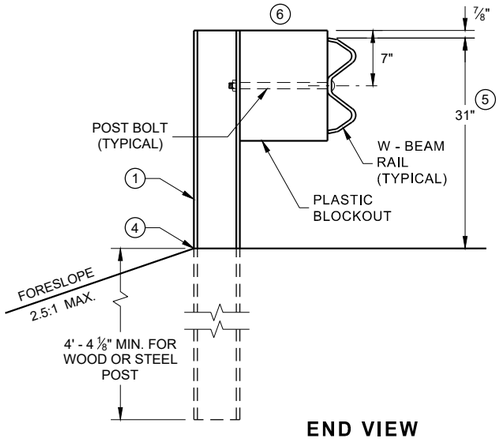
WOOD POST (6" X 8") NOMINAL (1)



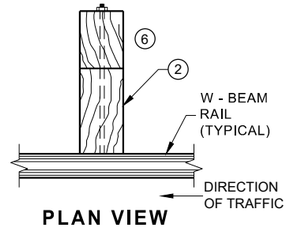
END VIEW
LOCATED ALONG A CURBED ROADWAY



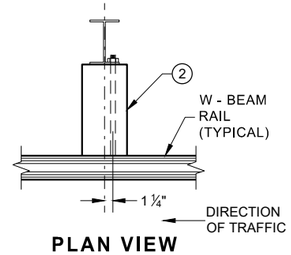
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



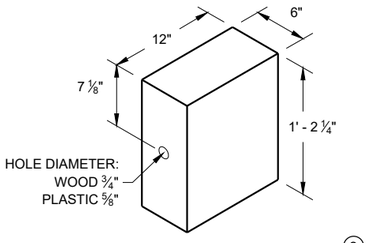
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM

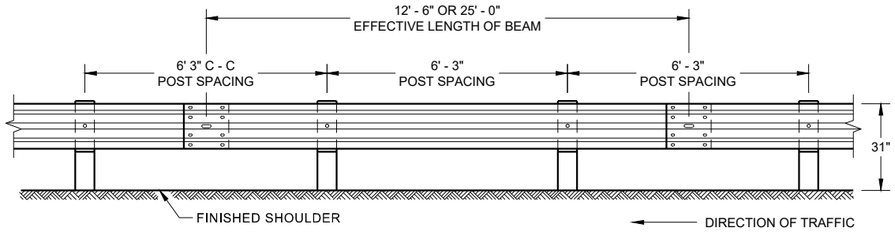


WOOD OR PLASTIC BLOCKOUT (2)

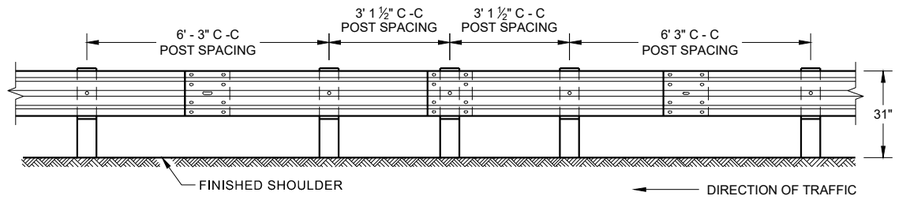
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

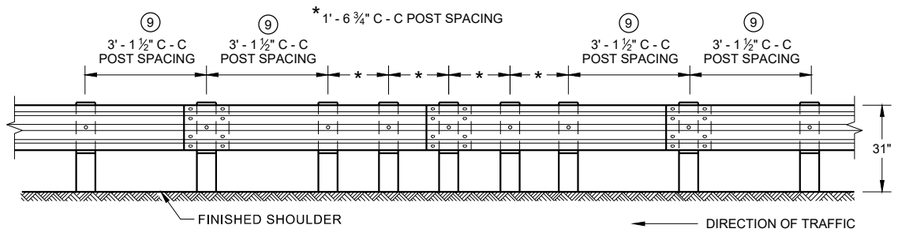
6
SDD 14B42 - 07a



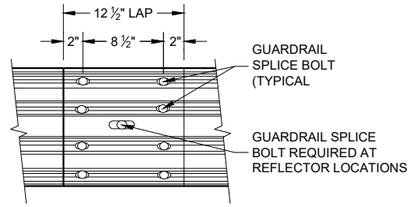
FRONT VIEW
POST SPACING STANDARD INSTALLATION



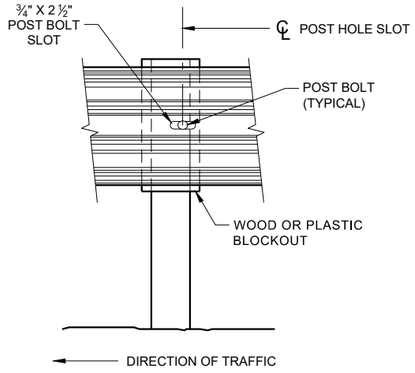
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



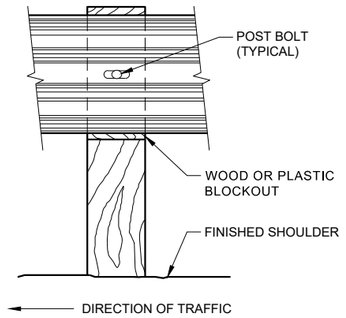
FRONT VIEW
QUARTER POST SPACING (QS)



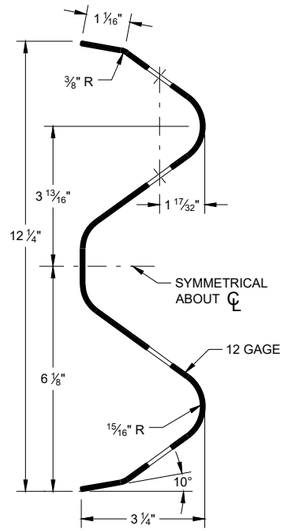
FRONT VIEW
MID-SPAN BEAM SPLICE



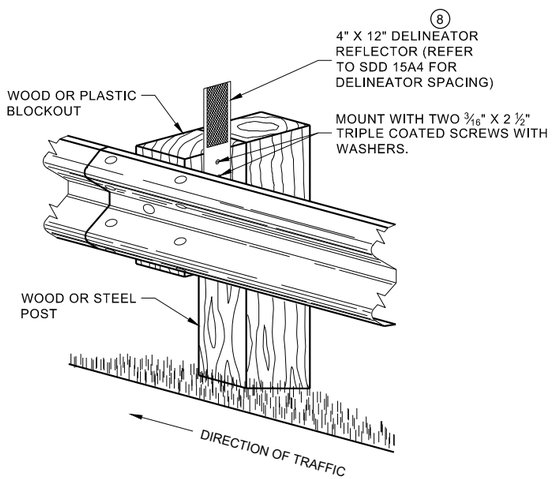
FRONT VIEW AT STEEL POST



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.

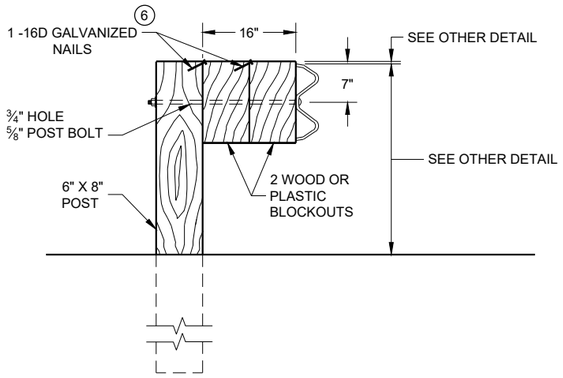
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

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

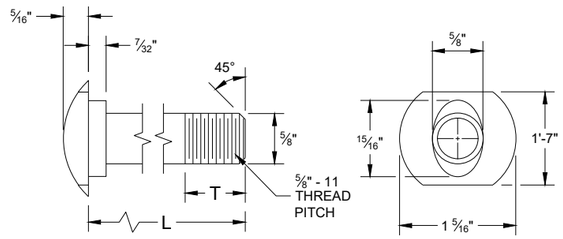


DETAIL FOR 16" BLOCKOUT DEPTH

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.

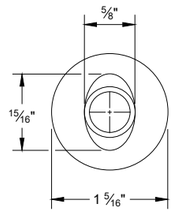
NOTE:

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.

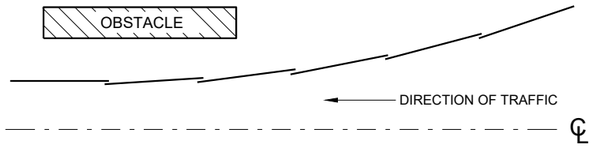


POST BOLT TABLE

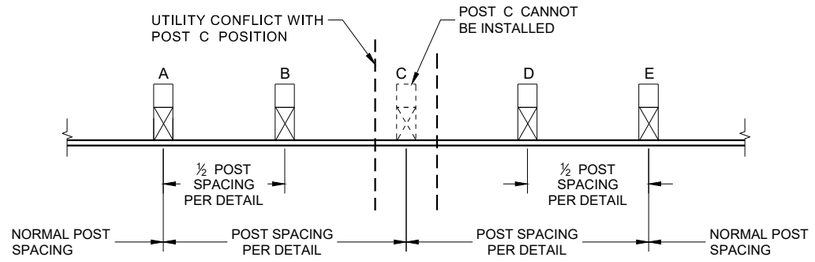
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



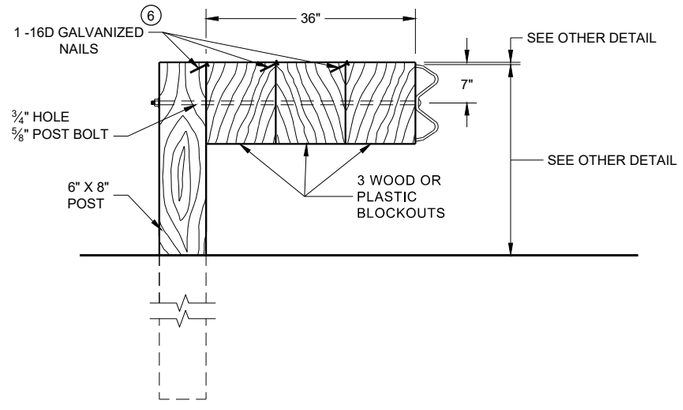
ALTERNATE BOLT HEAD



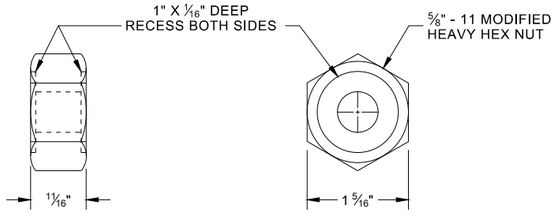
PLAN VIEW
BEAM LAPPING DETAIL



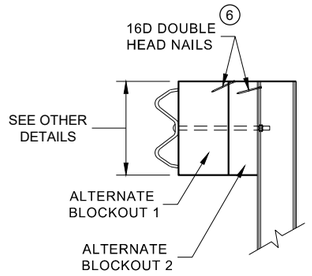
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



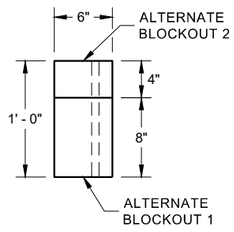
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

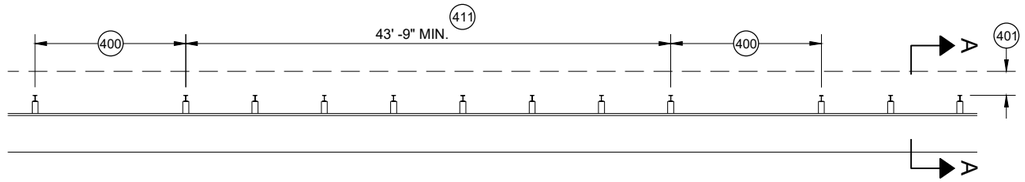
ALTERNATE WOOD BLOCKOUT DETAIL

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.

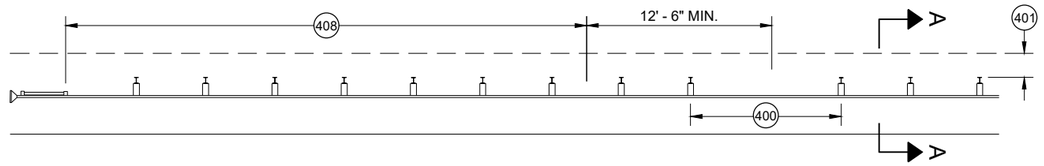
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(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.

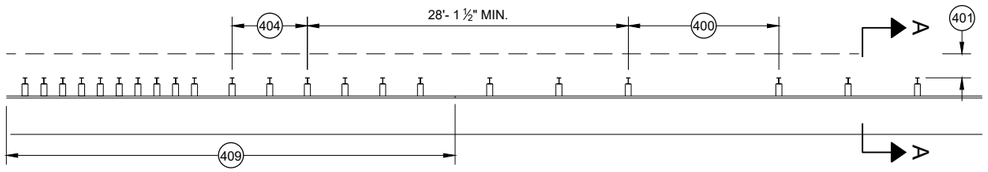
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL



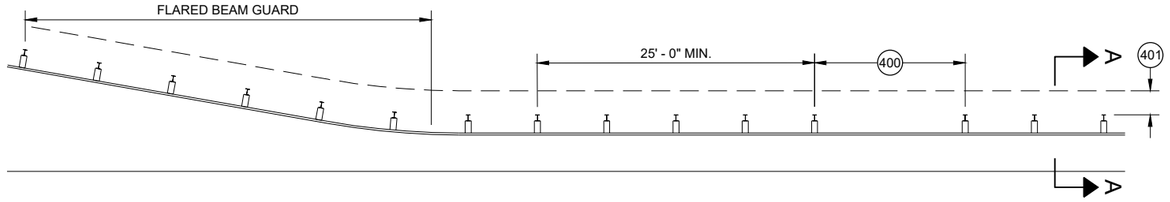
MISSING POST IN MGS GUARDRAIL



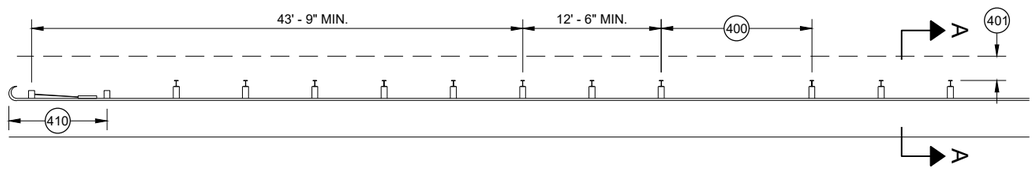
MISSING POST IN MGS GUARDRAIL NEAR EAT



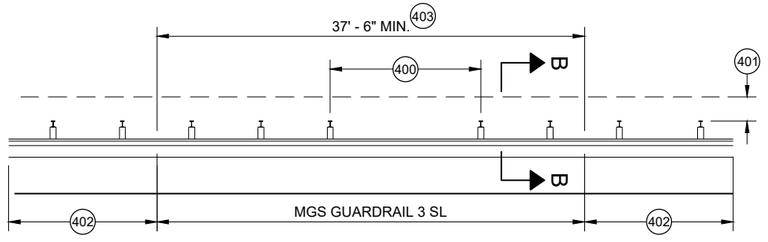
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

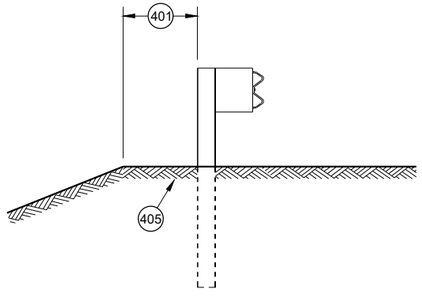


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

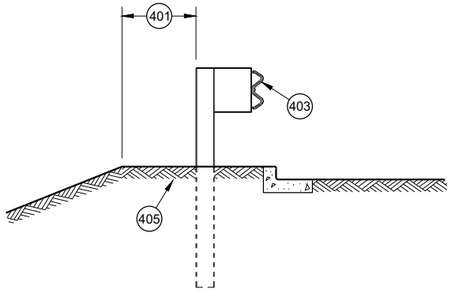


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

(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

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED

(C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

(D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

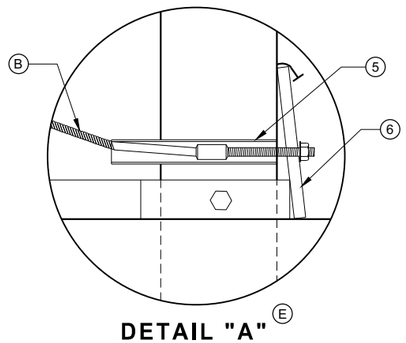
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

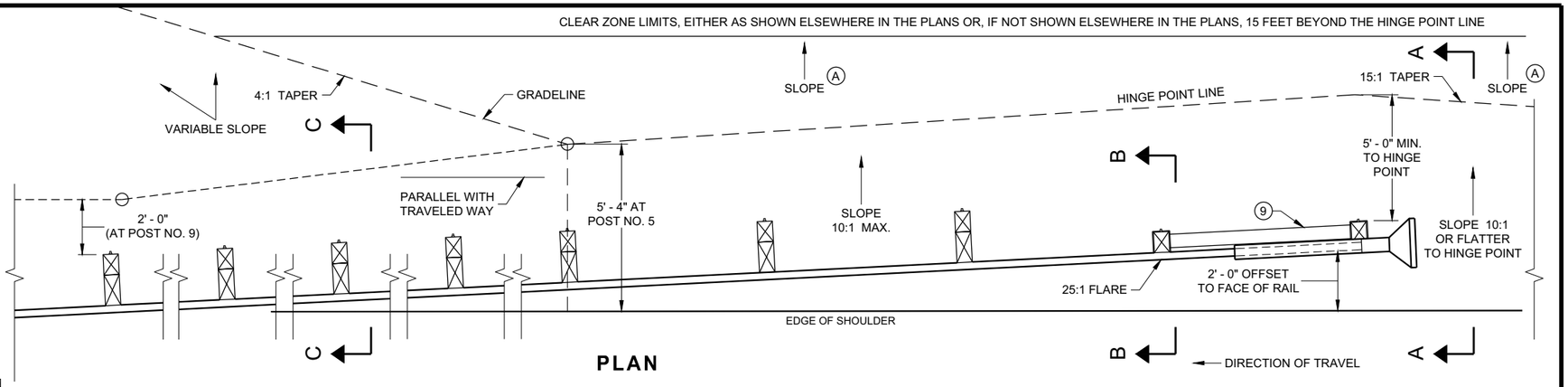
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

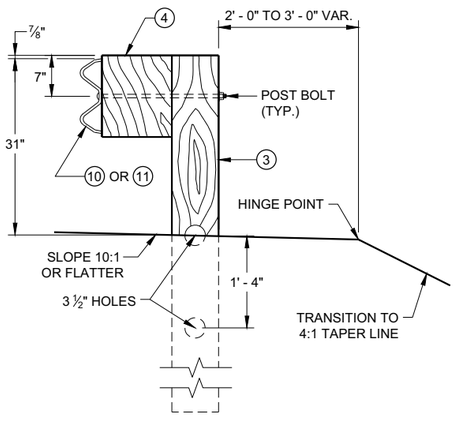
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.

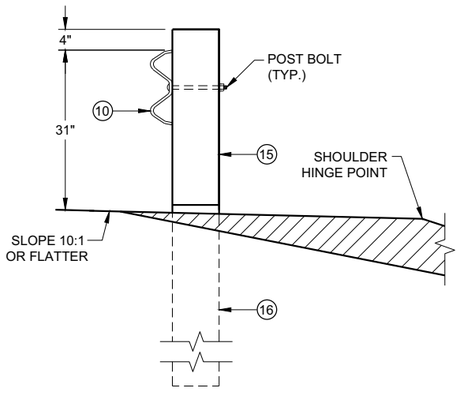


DETAIL "A" (E)

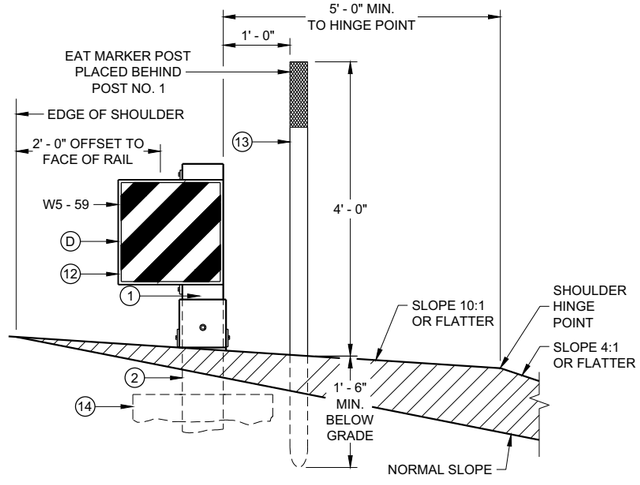




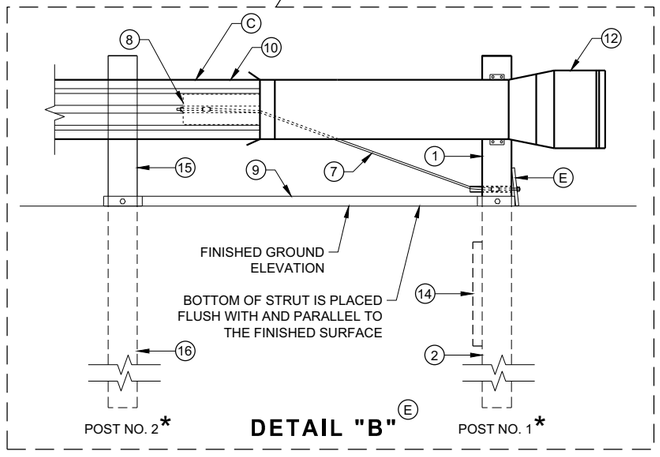
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



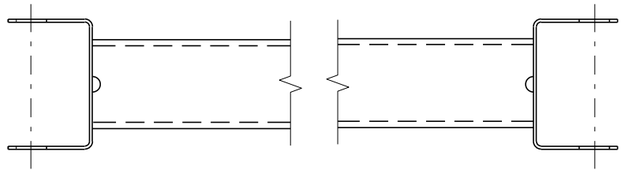
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

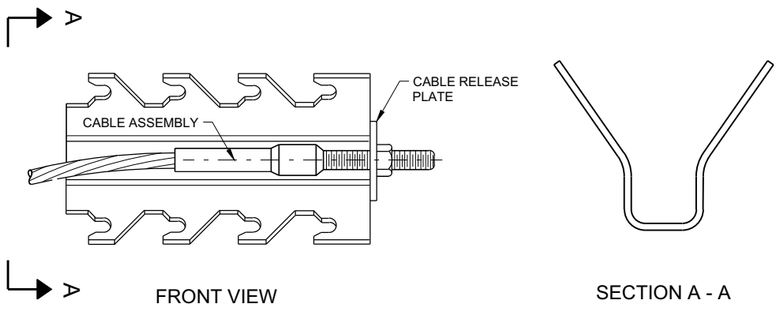
SDD 14B44 - 04a



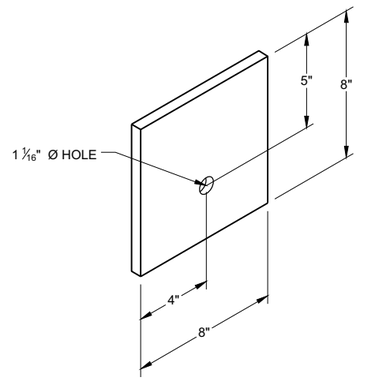
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

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



GENERIC ANCHOR CABLE BOX ⑨ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

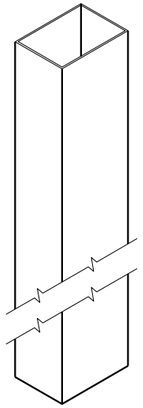
6

SDD 14B44 - 04b

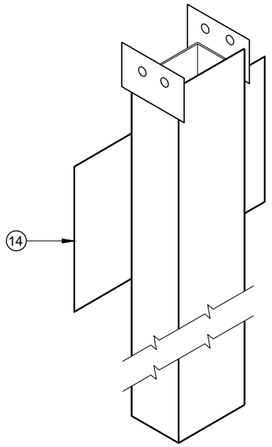
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

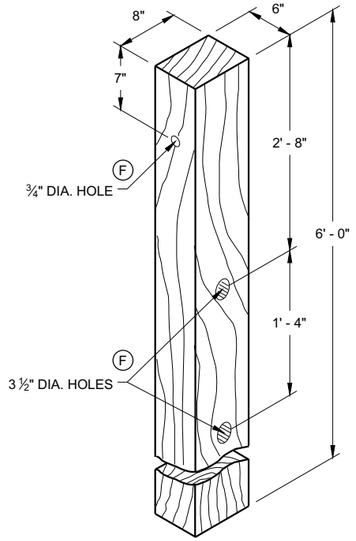
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



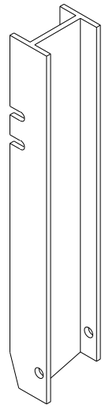
UPPER POST NO. 1 (1) (E)



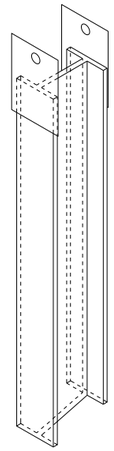
LOWER POST NO. 1 (2) (E)



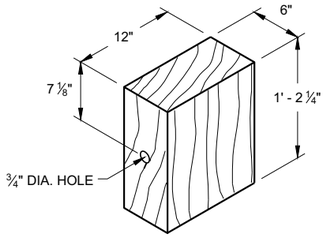
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



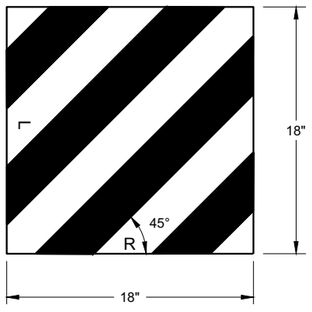
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

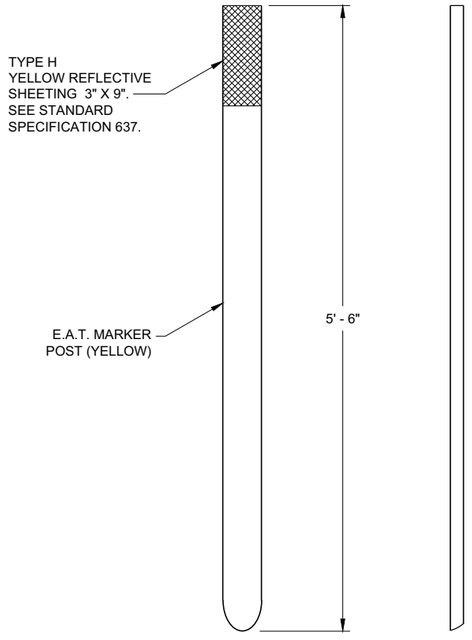


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



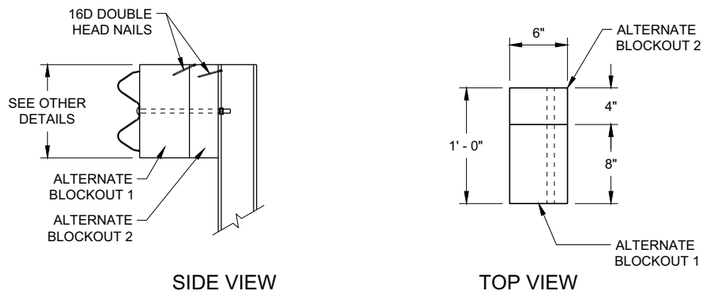
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

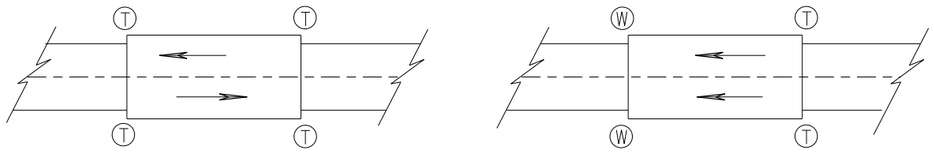
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

6

SDD 14B44 - 04c



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.

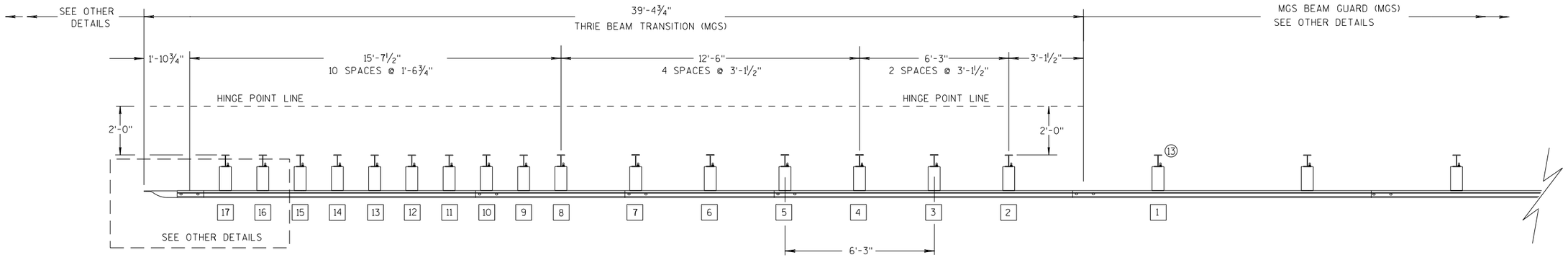
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

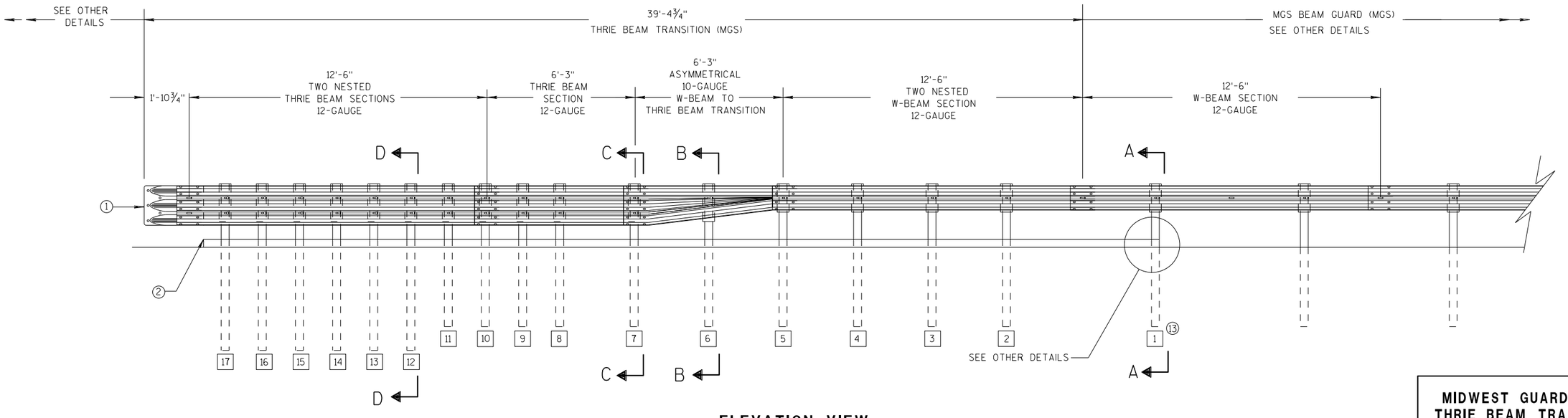
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(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

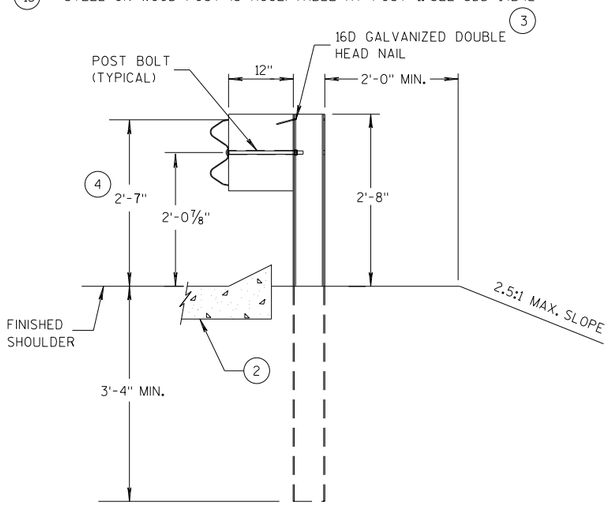
GENERAL NOTES

(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.

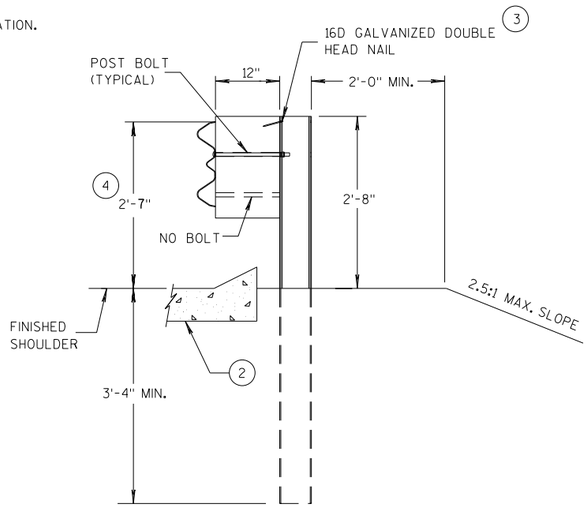
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



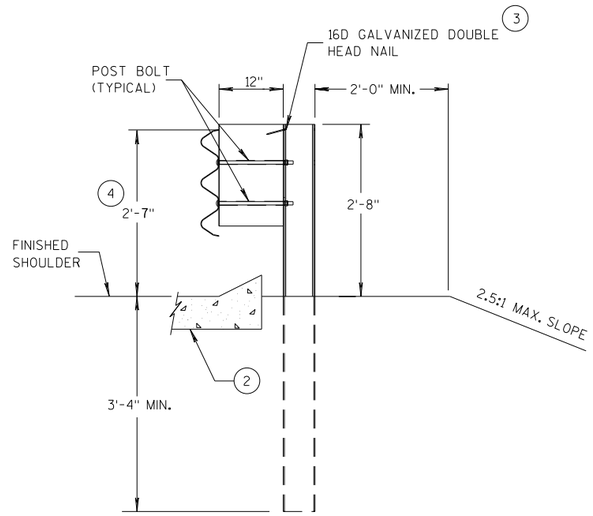
SECTION A-A (13)

POSTS 1-5



SECTION B-B

POST 6

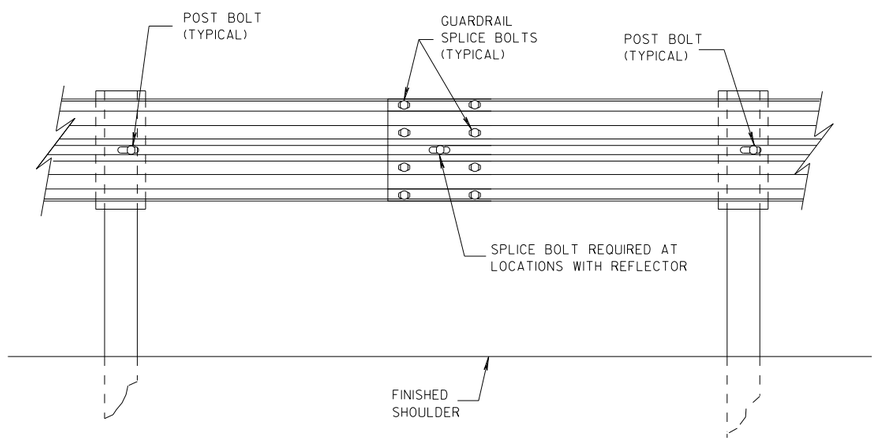


SECTION C-C

POSTS 7-11

SECTION D-D

POSTS 12-17



SPLICE DETAIL

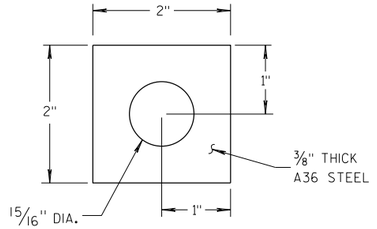
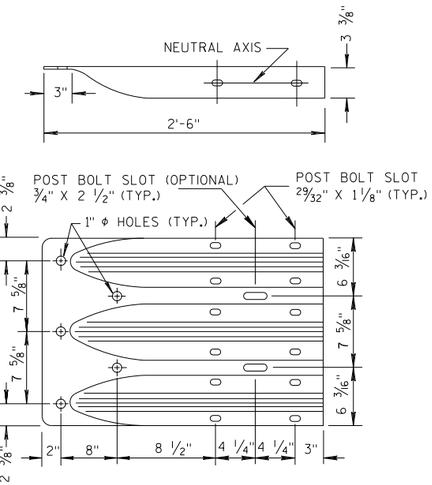
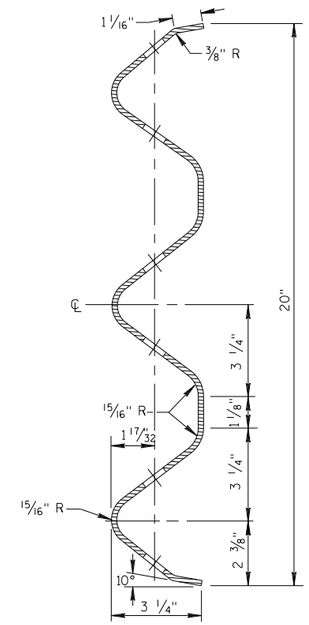


PLATE WASHER DETAIL



THRIE BEAM TERMINAL CONNECTOR



SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

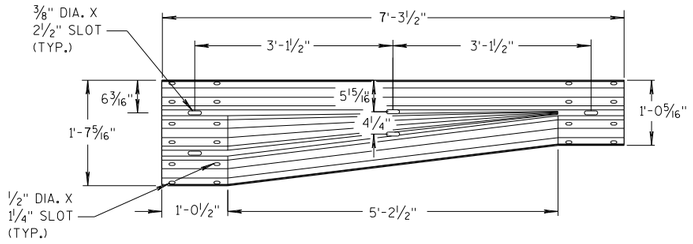
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 28

6

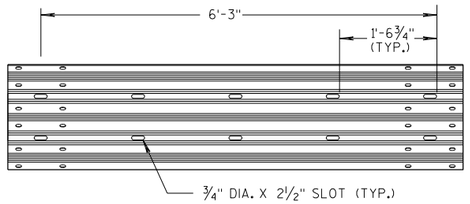
S.D.D. 14 B 45-5b

6

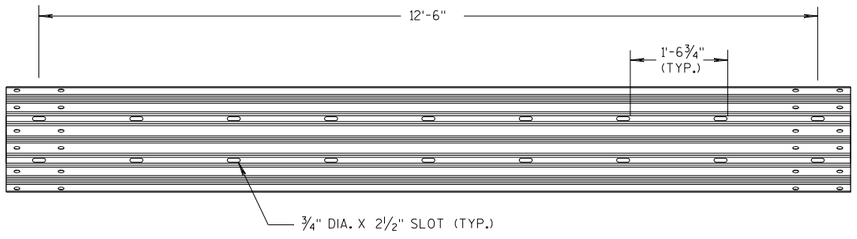
S.D.D. 14 B 45-5b



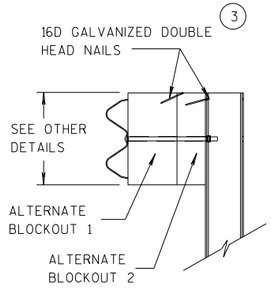
W-BEAM TO THRIE BEAM TRANSITION SECTION



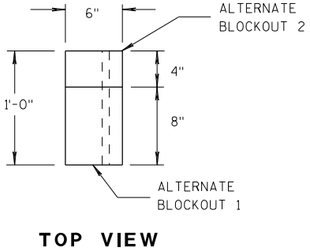
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

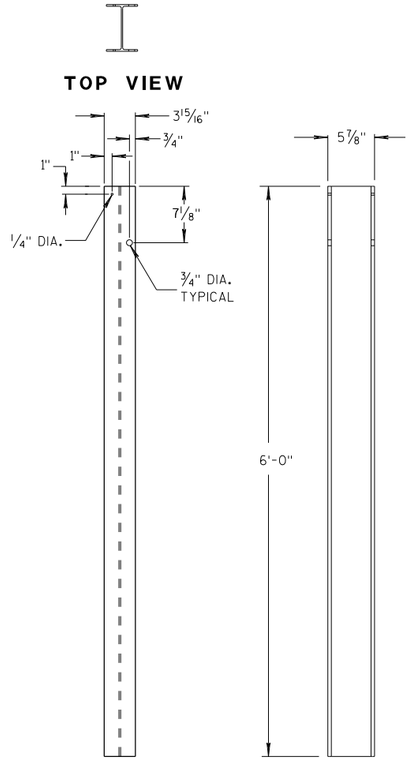


SIDE VIEW



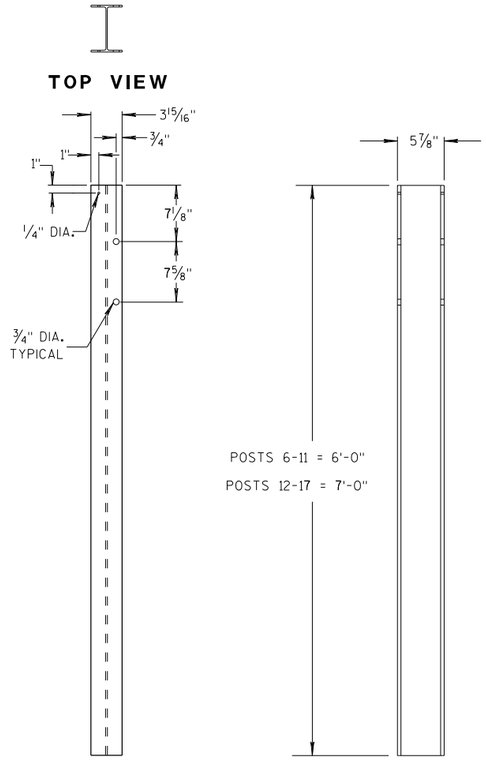
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



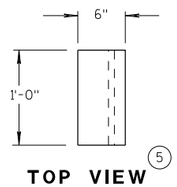
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

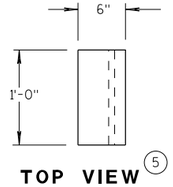


FRONT VIEW SIDE VIEW

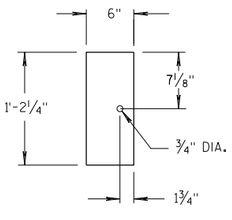
STEEL POSTS 6-17



TOP VIEW (5)

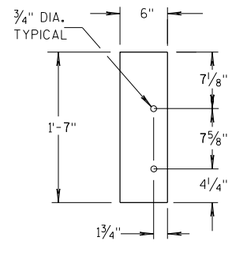


TOP VIEW (5)



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.

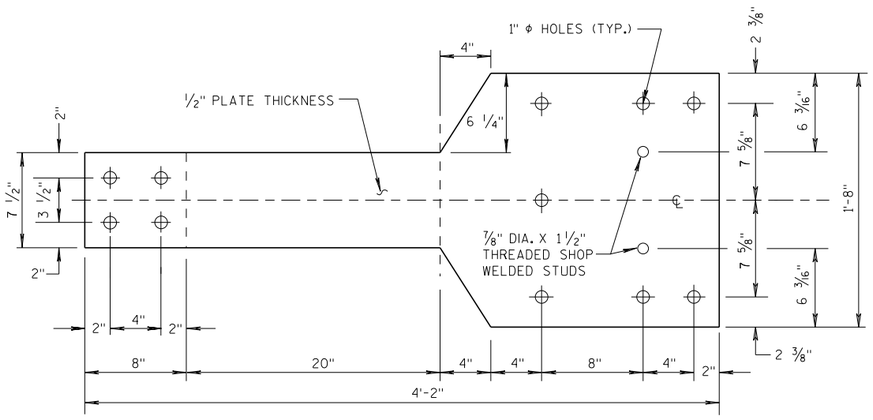
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

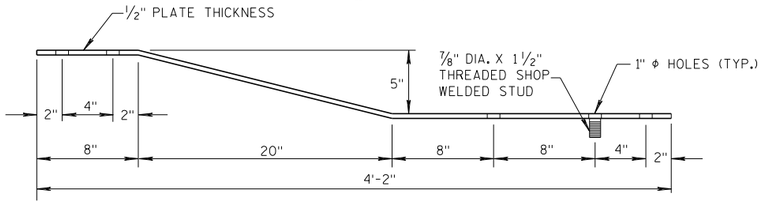
6
S.D.D. 14 B 45-5c

GENERAL NOTES

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

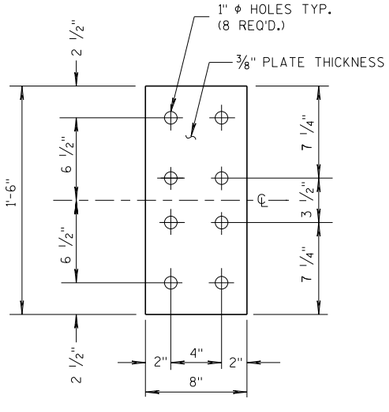


FRONT VIEW



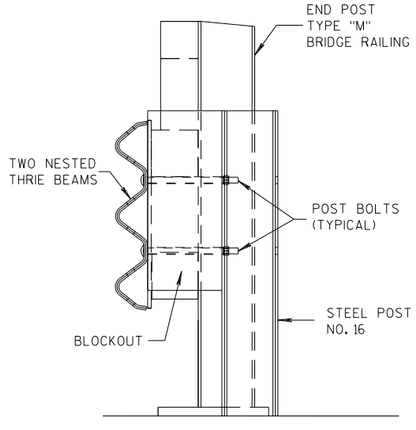
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

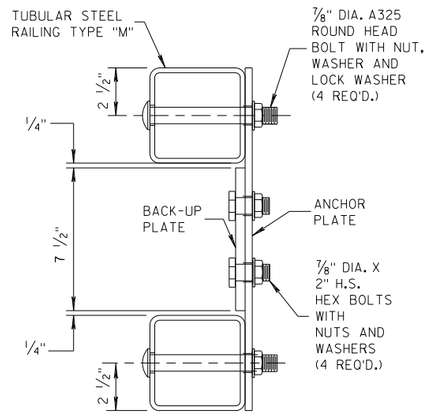


FRONT VIEW

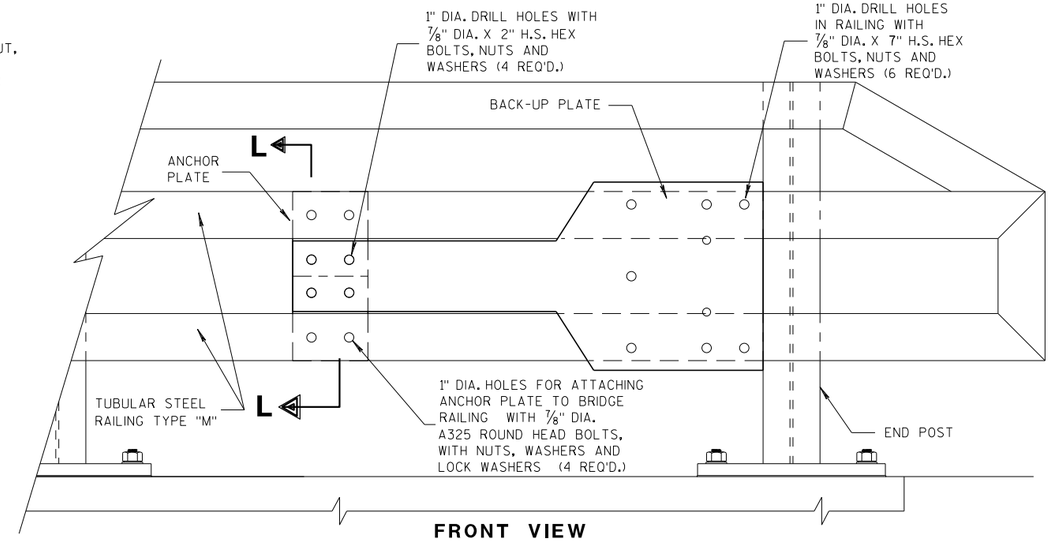
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

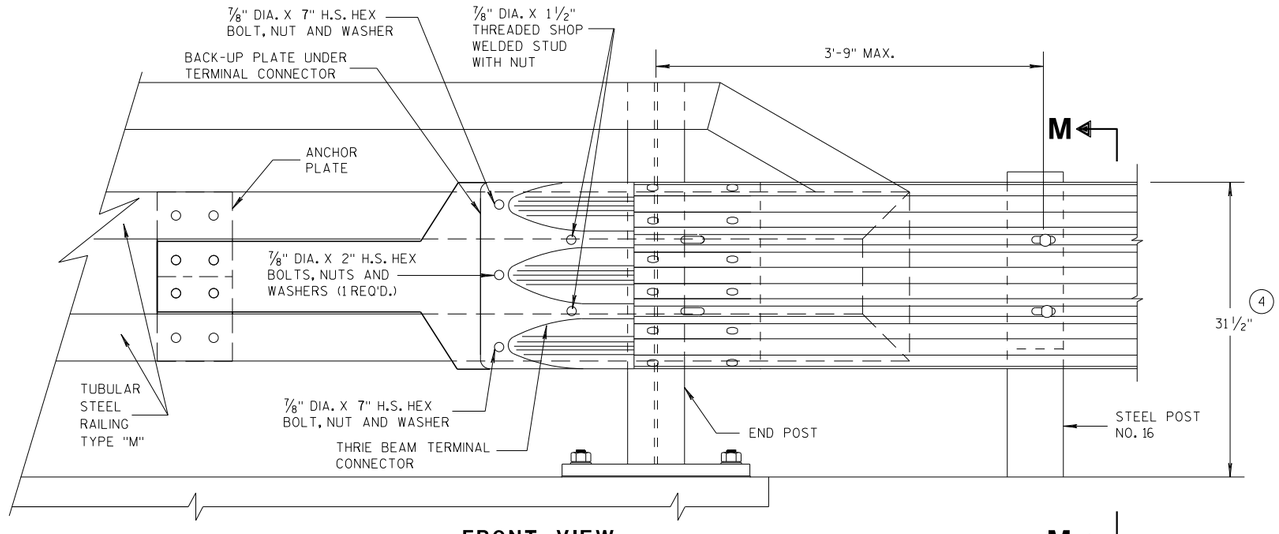


SECTION L-L

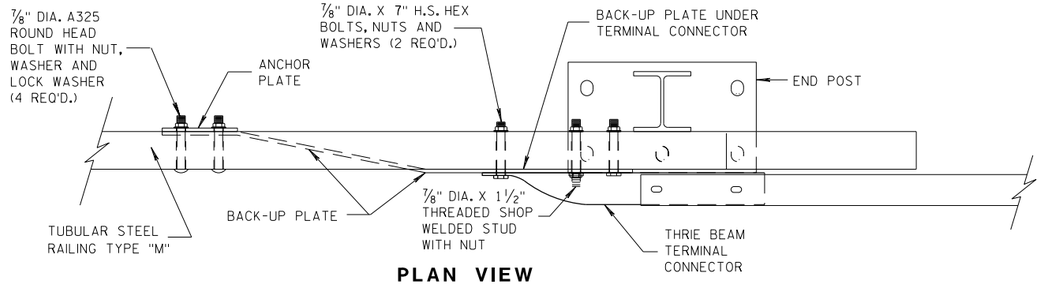


FRONT VIEW

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

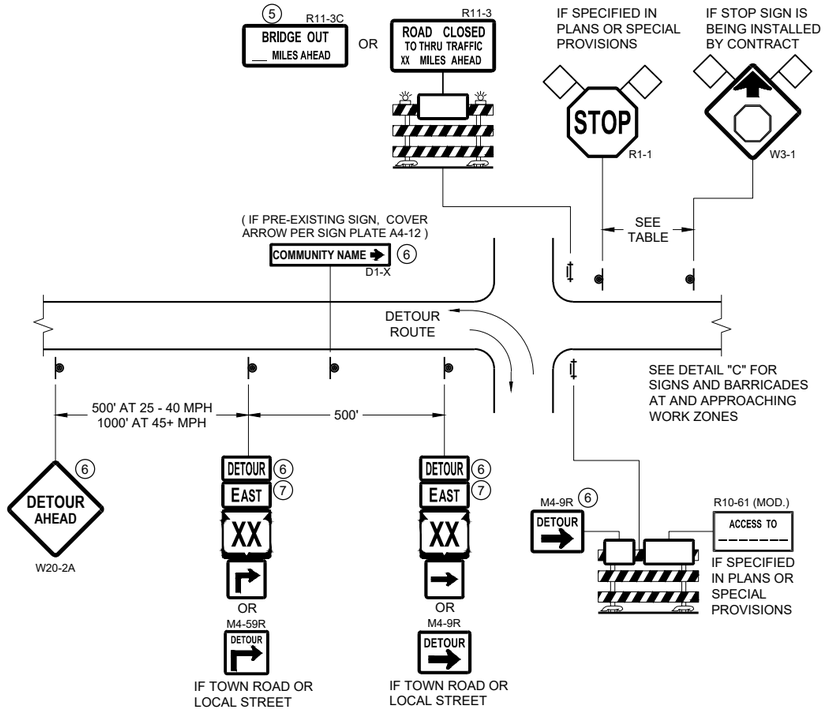
APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA

6

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

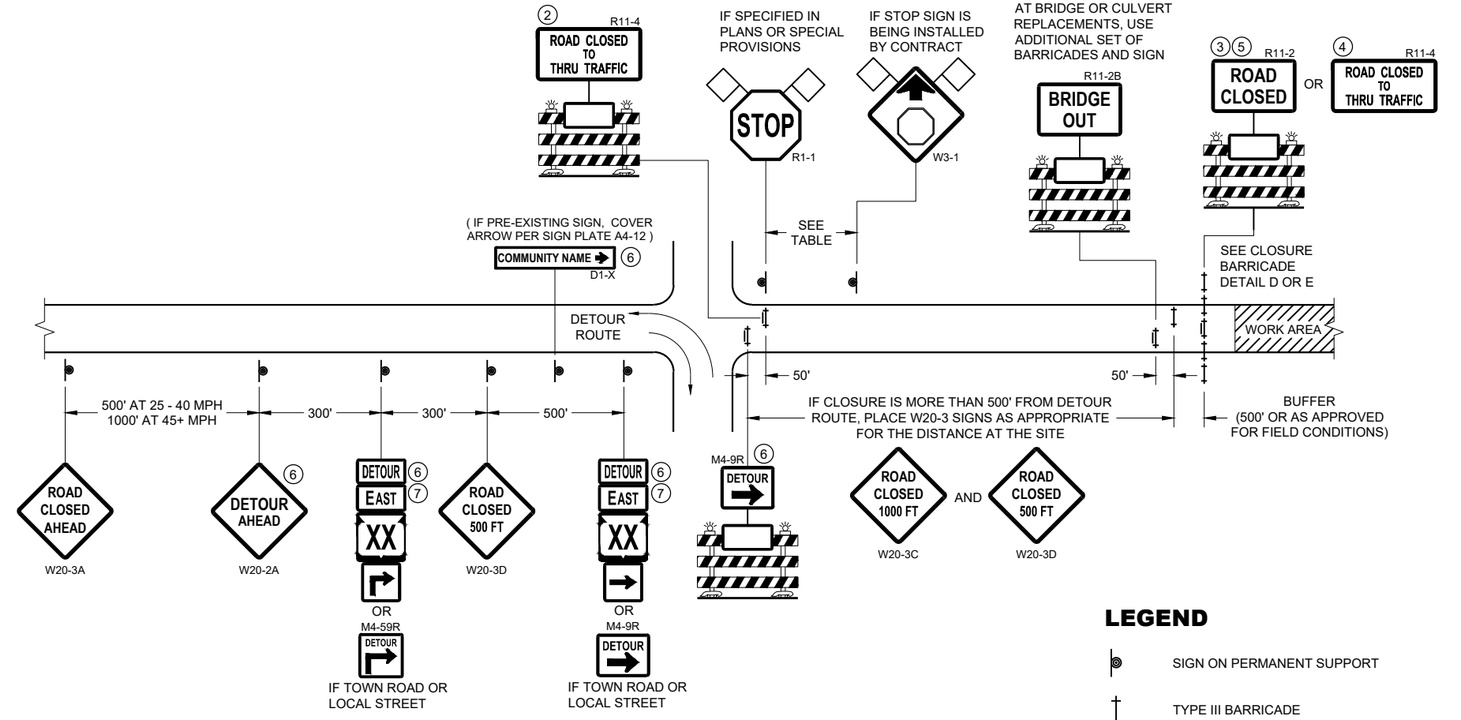
6

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)

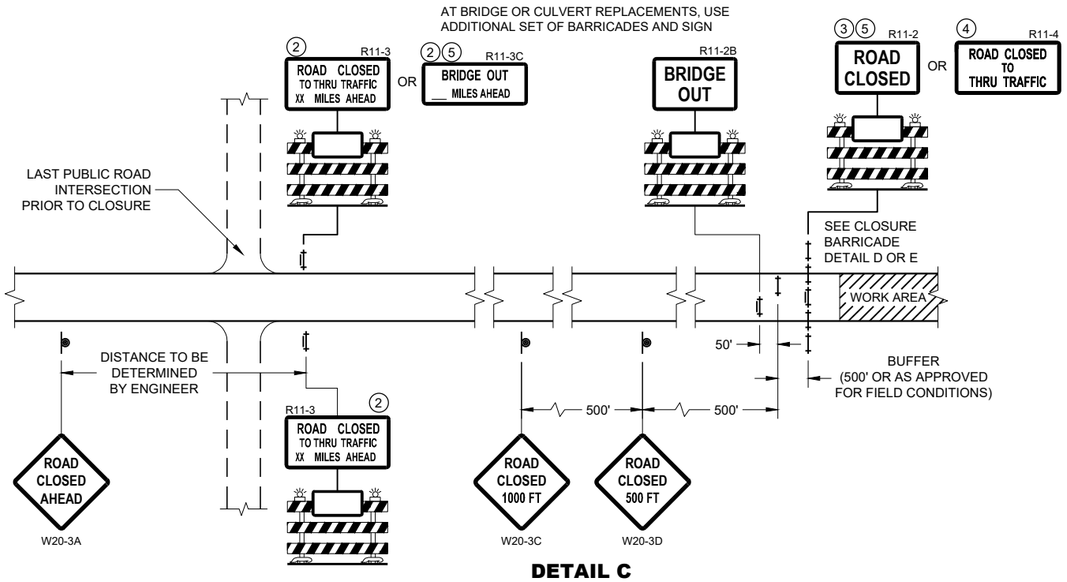
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

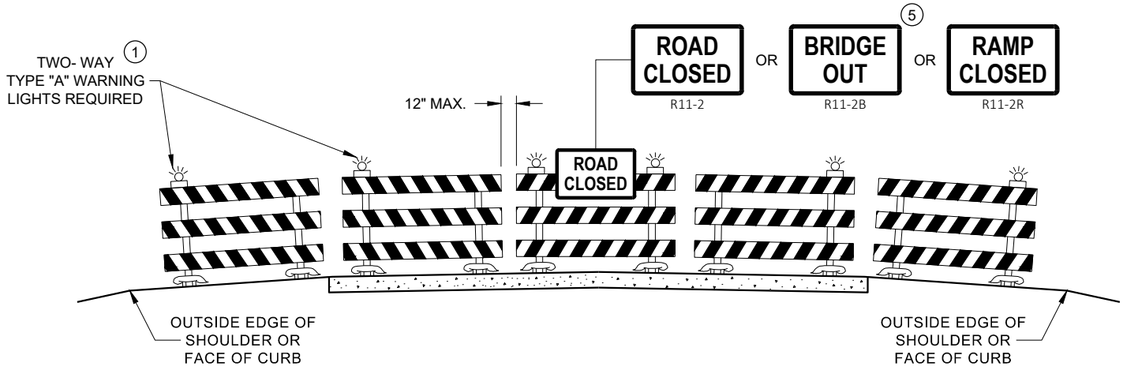
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

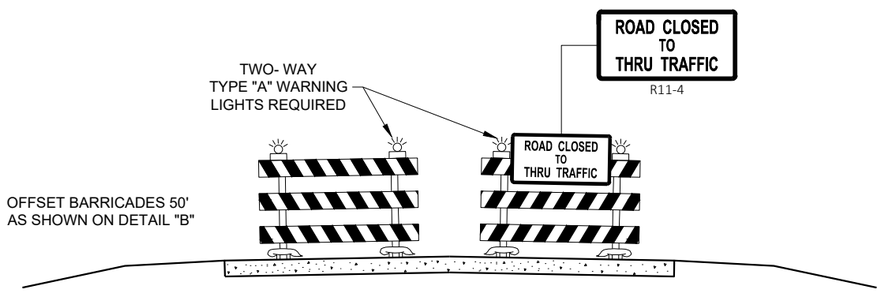
FHWA

6

SDD 15C02 - 09a



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.

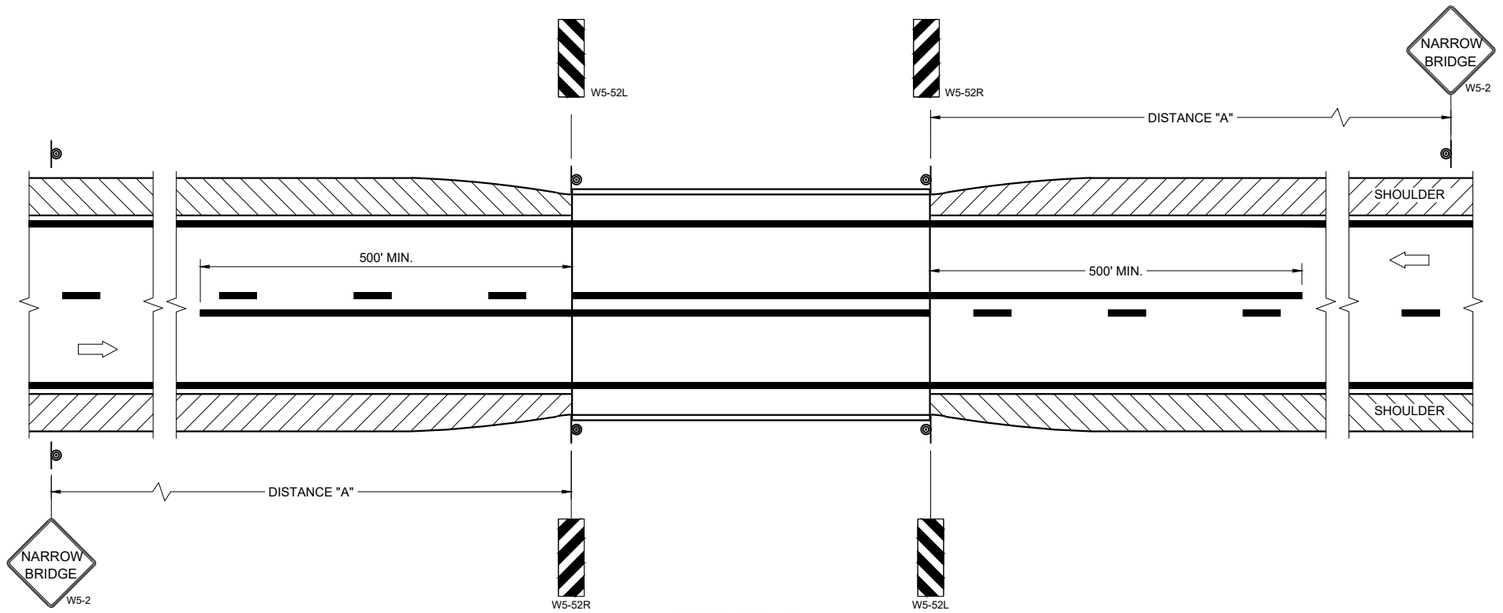
BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

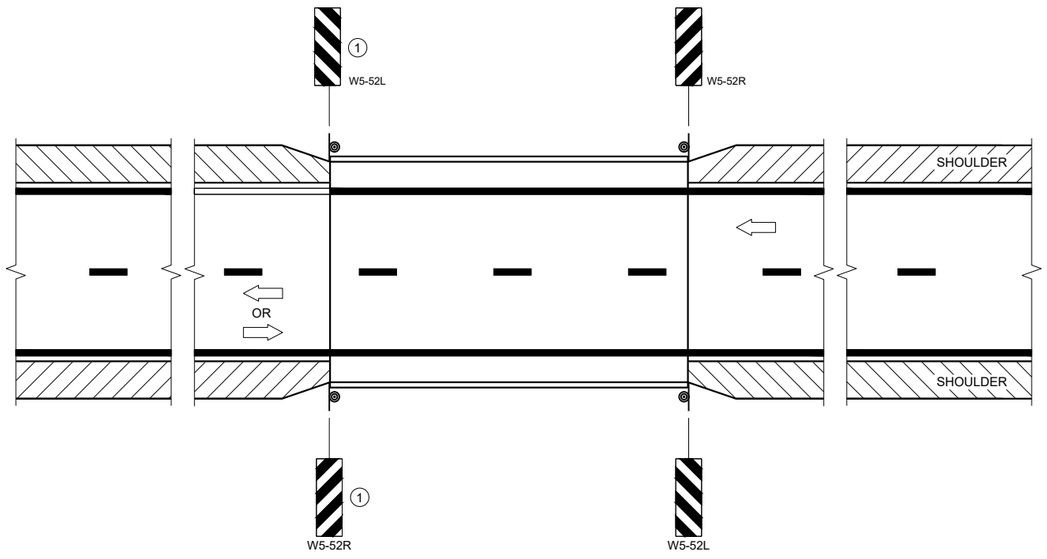
6

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

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

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

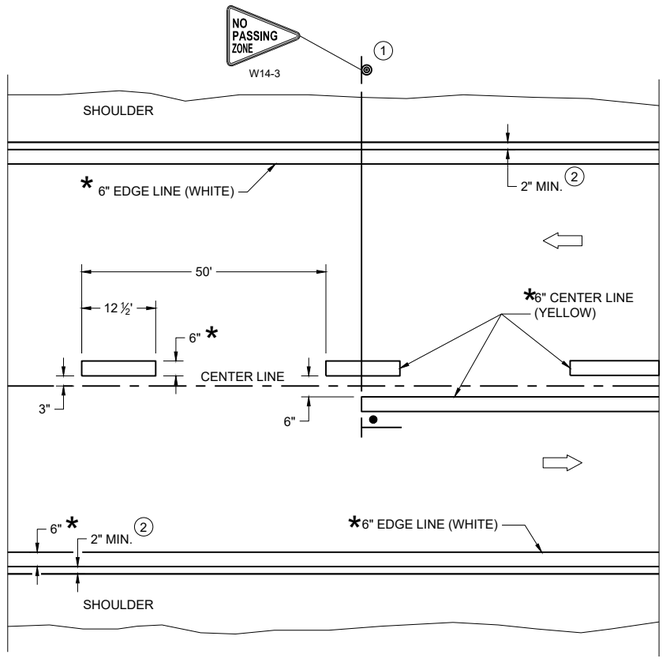
(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

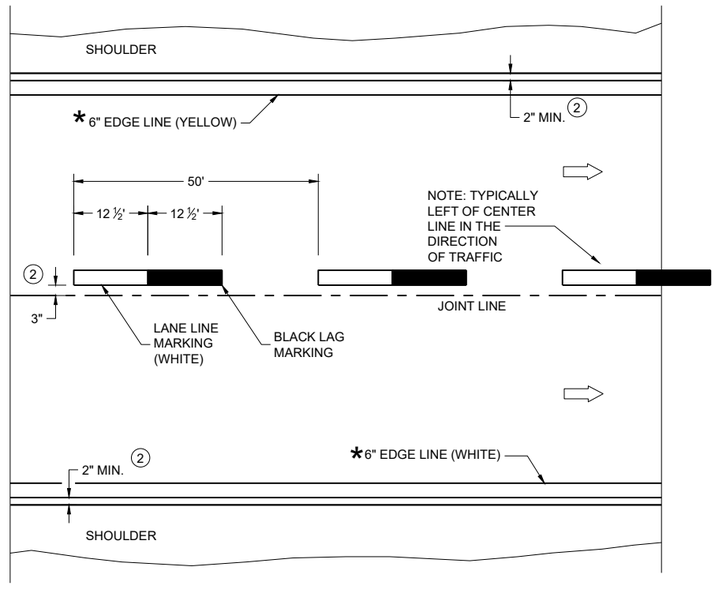
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

6

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

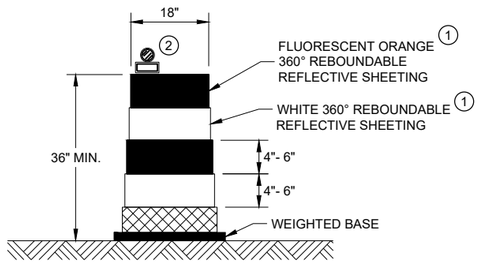
/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA

SDD 15C08-23a

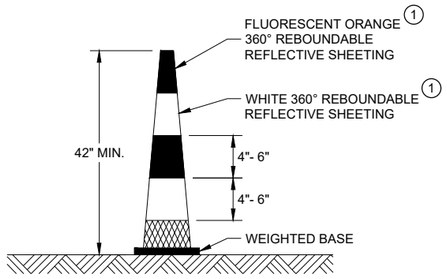
GENERAL NOTES

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

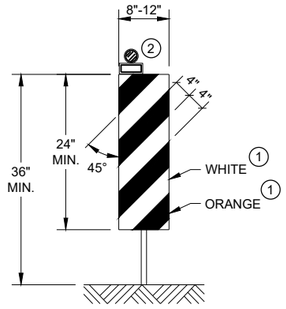
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

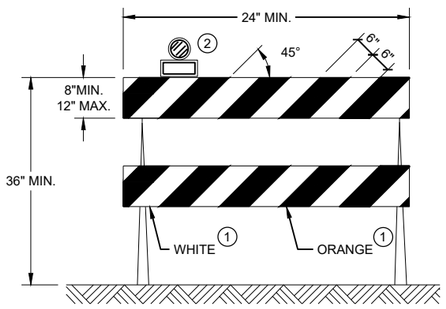
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



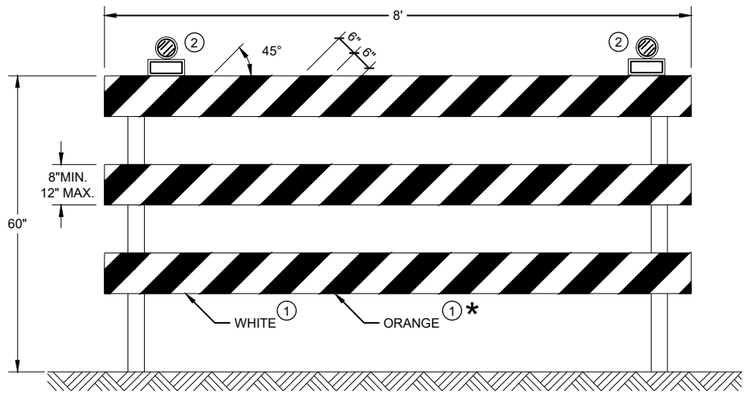
VERTICAL PANEL

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 ENGINEER

FHWA

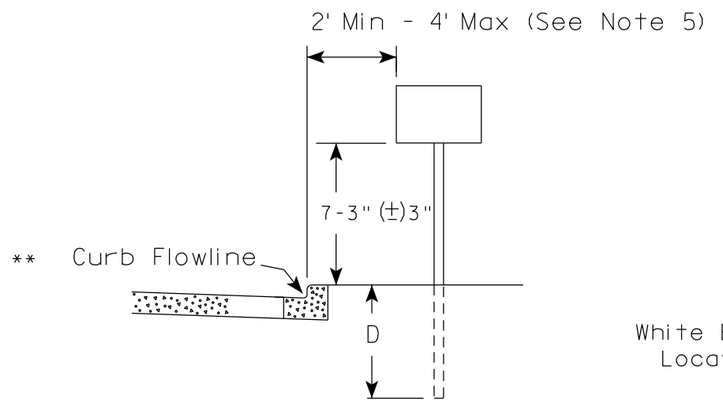
6

SDD 15C11 - 10b

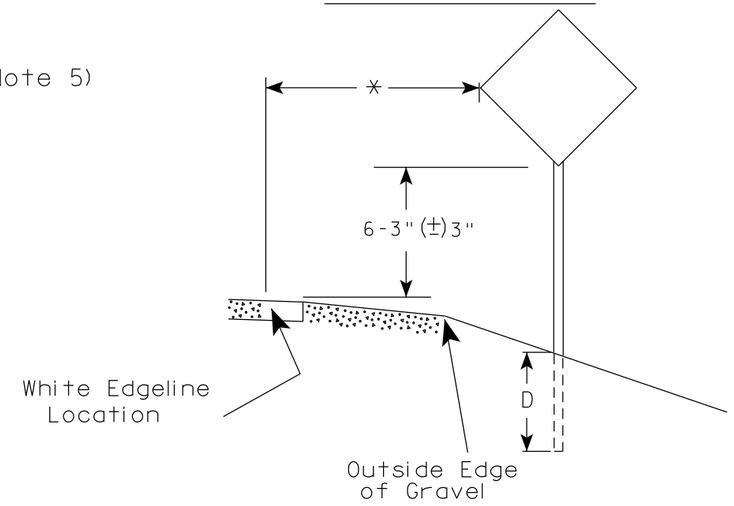
6

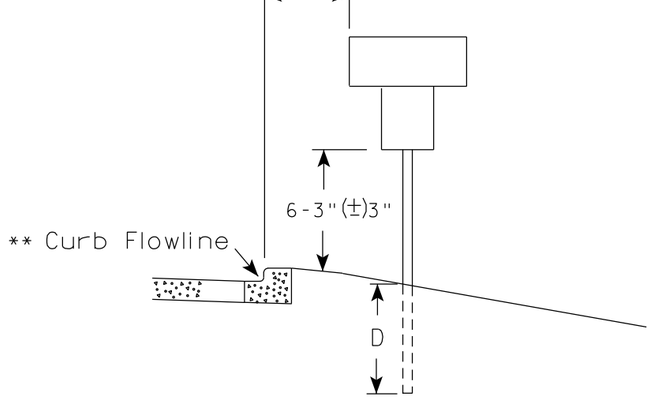
SDD 15C11 - 10b

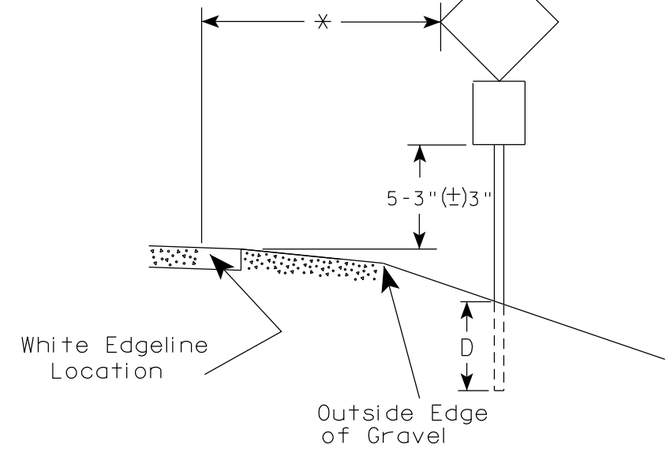
URBAN AREA



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.

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.

POST EMBEDMENT DEPTH

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

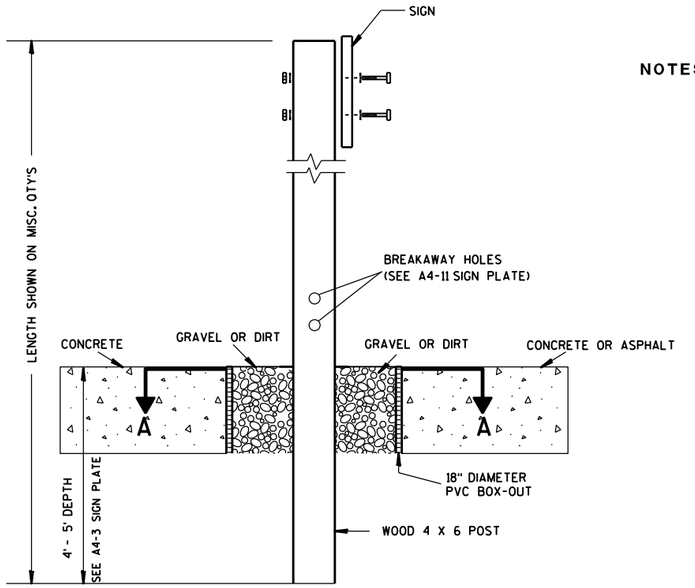
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

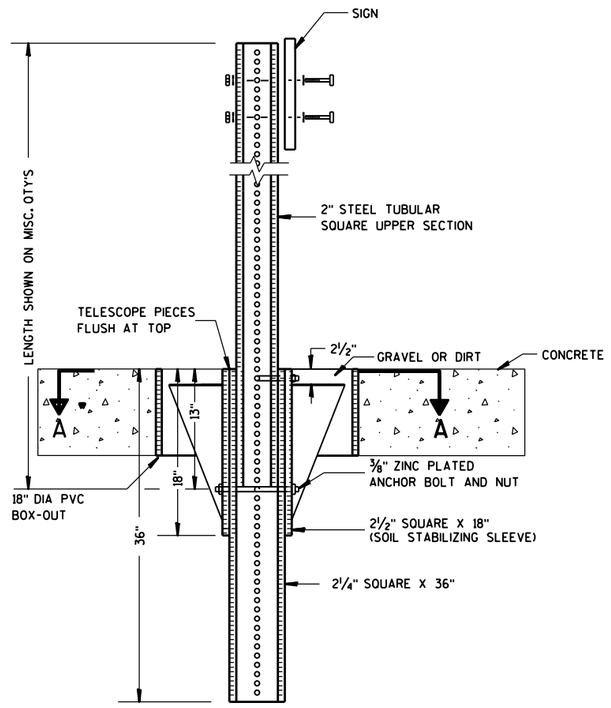
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 36	E



ELEVATION VIEW

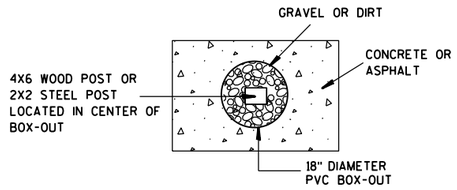
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

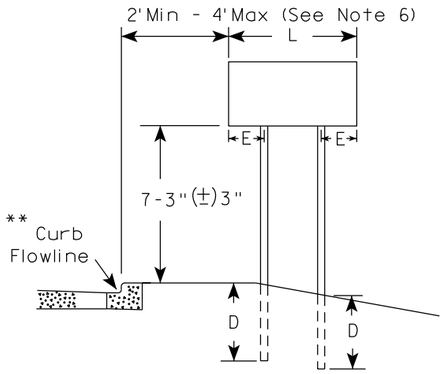
APPROVED Matthew R Rauch
for State Traffic Engineer

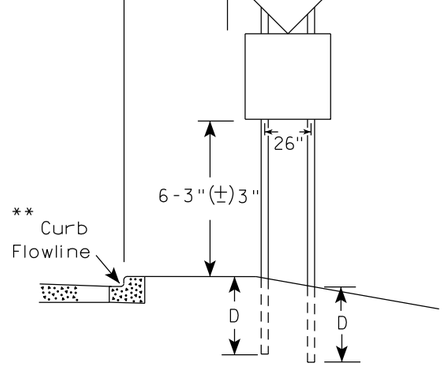
DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

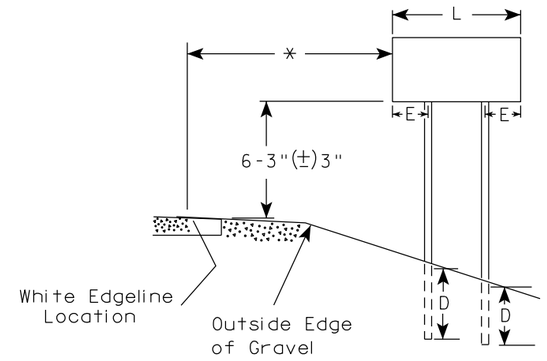
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

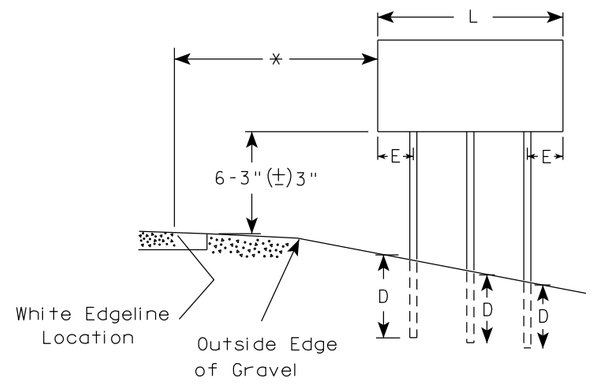
URBAN AREA

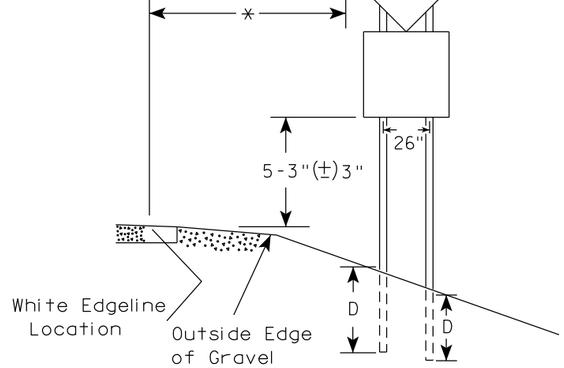




RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN

48" DIAMOND WARNING SIGN

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

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

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'

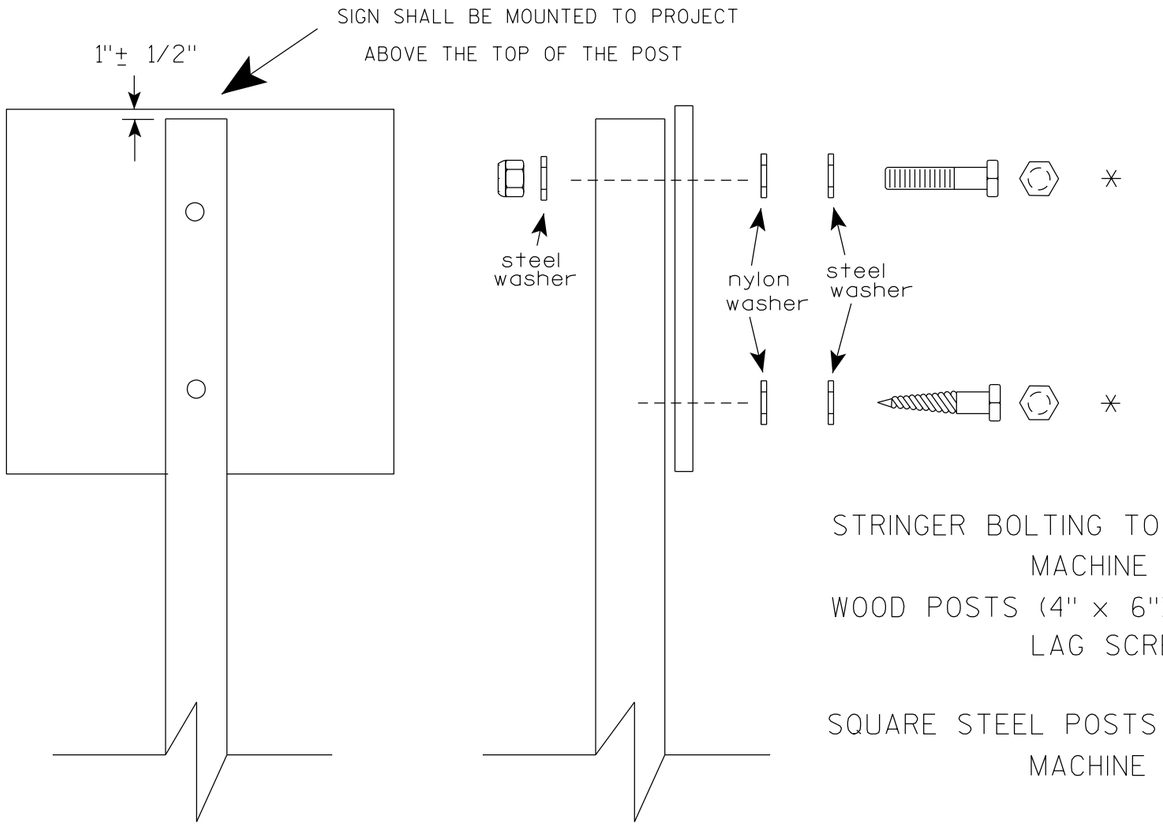
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

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: 38	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

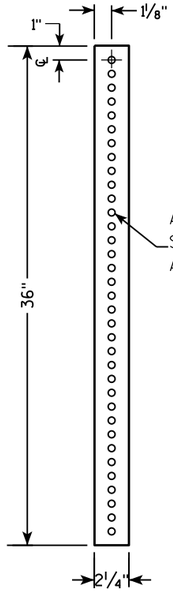
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

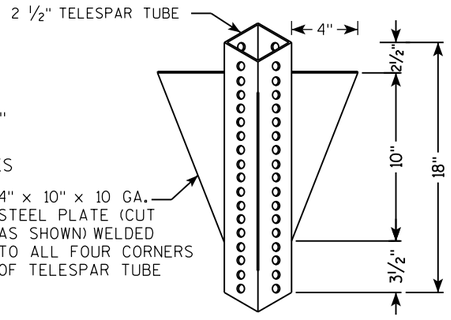
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

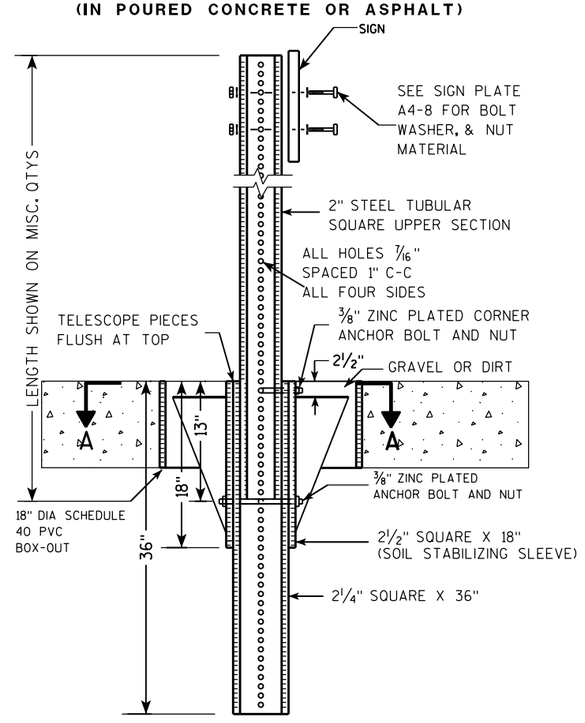
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



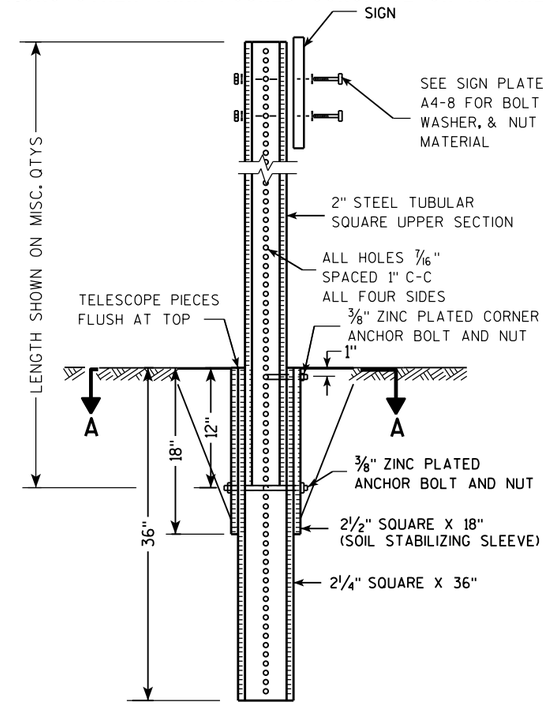
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

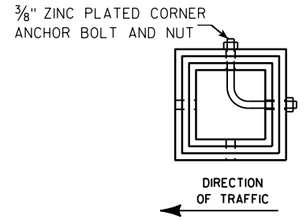


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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).

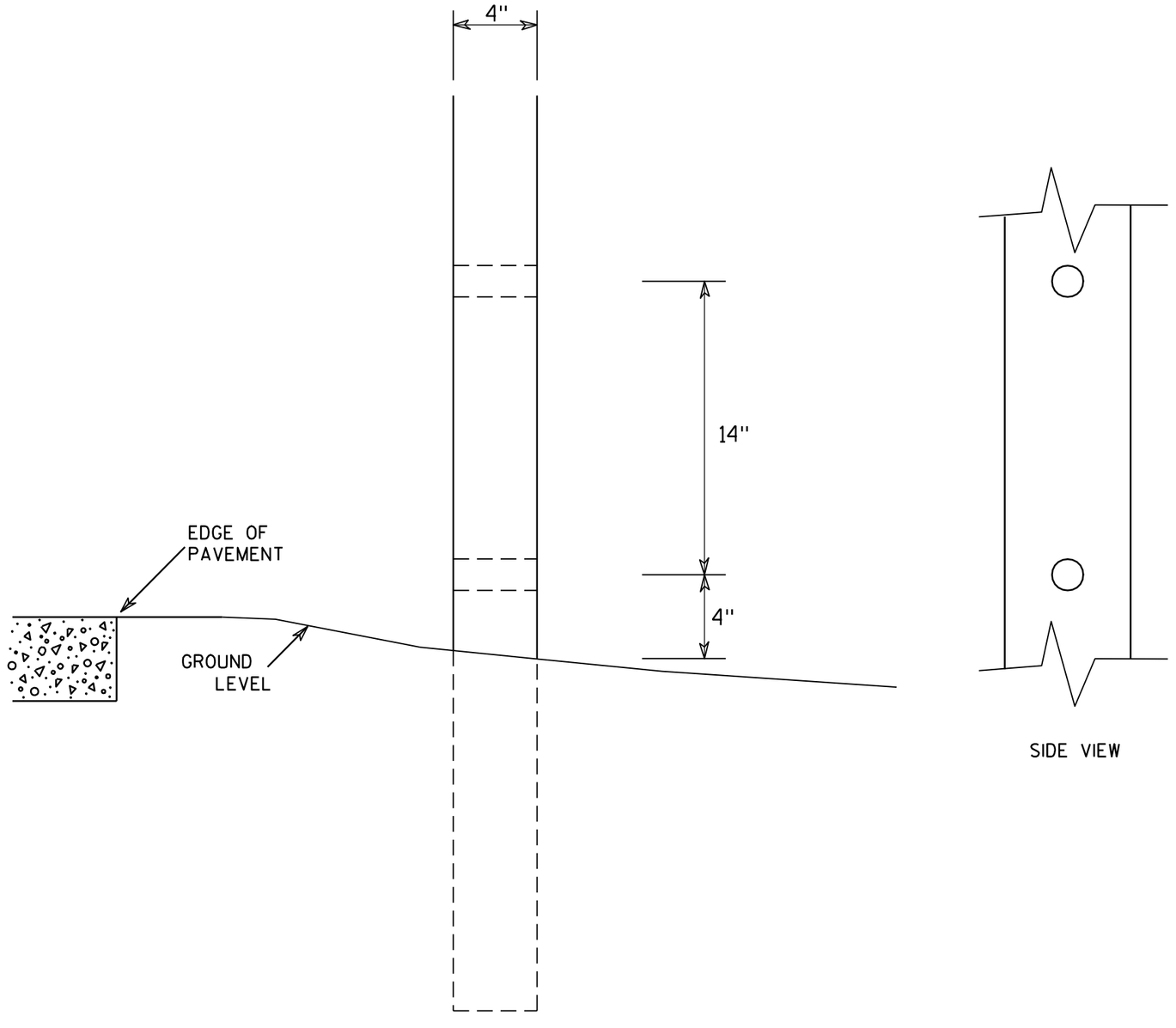
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 40 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



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

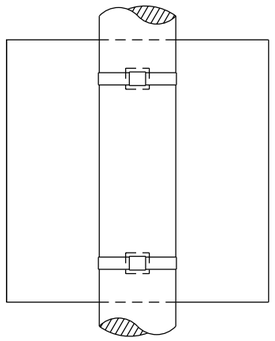
APPROVED Chester J Spang
for State Traffic Engineer

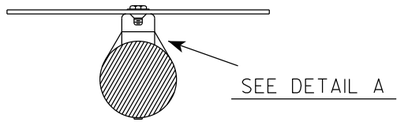
DATE 3/27/97 PLATE NO. A4-11.2

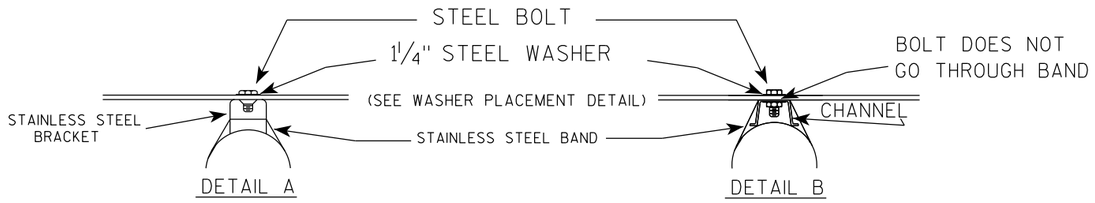
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 41	E

BANDING

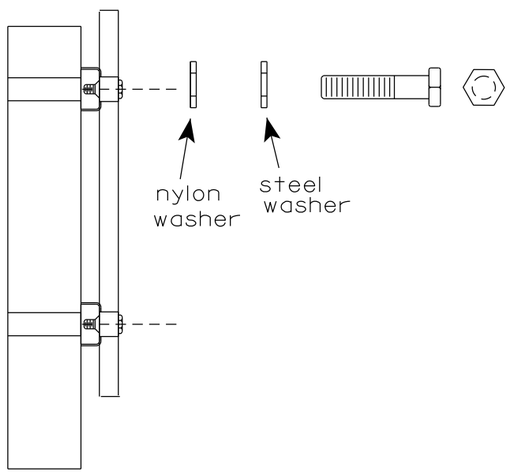
SINGLE SIGN







WASHER PLACEMENT

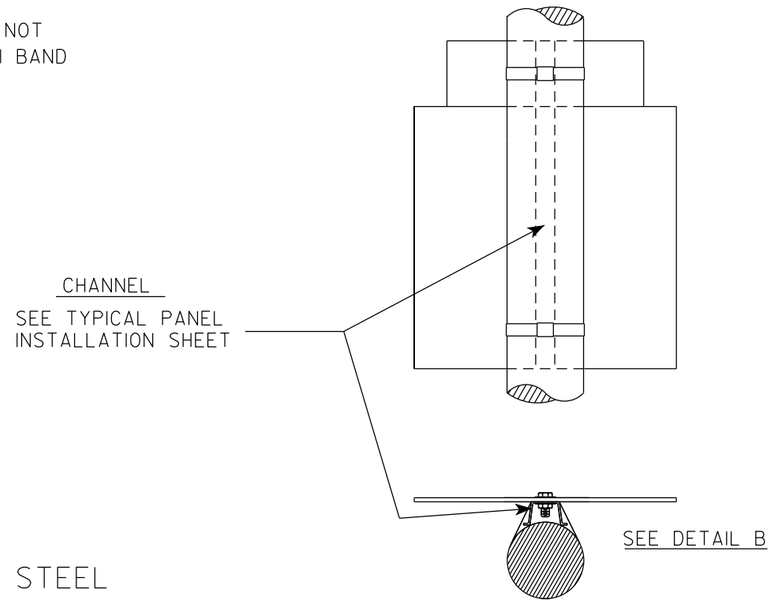


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 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



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

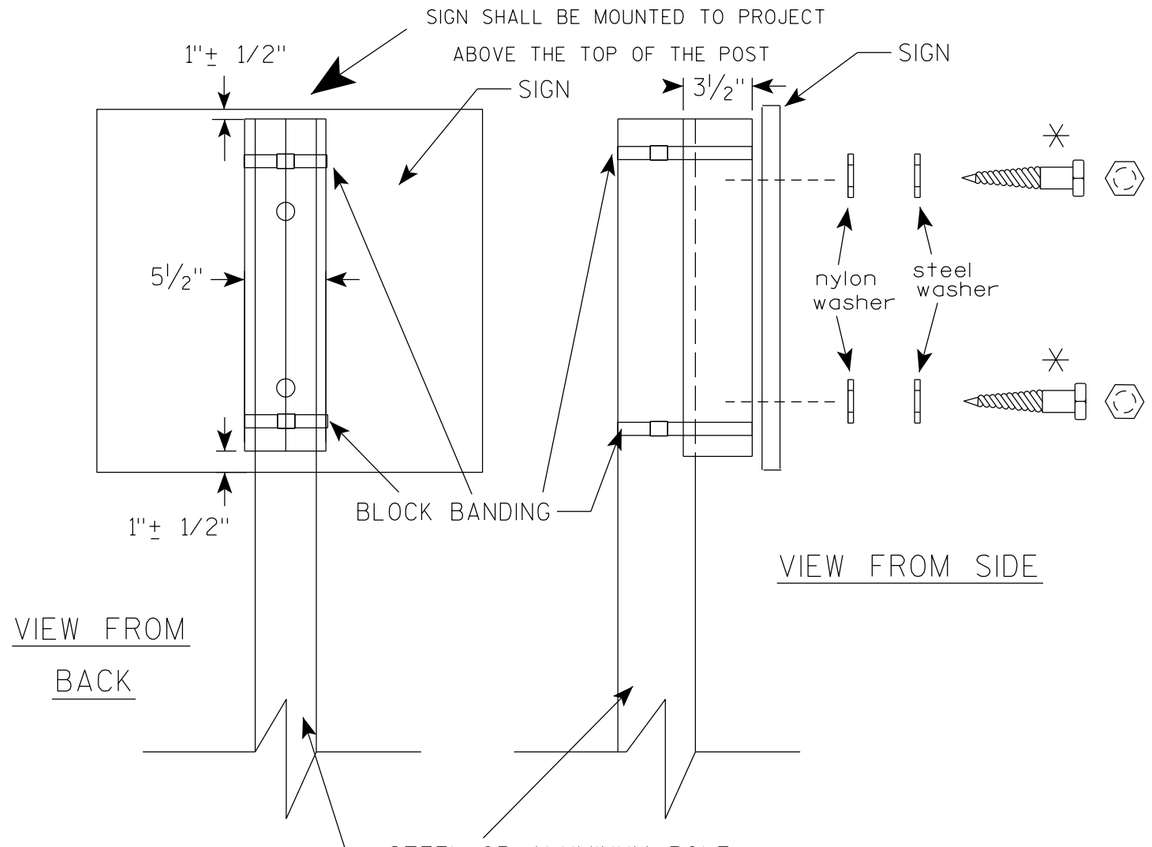
DATE 6/10/19 PLATE NO. A5-9.4

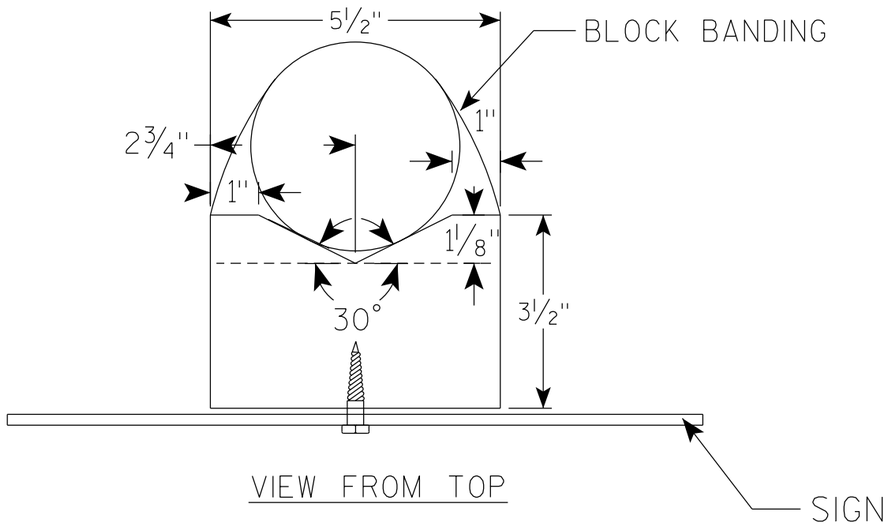
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 42	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7





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)

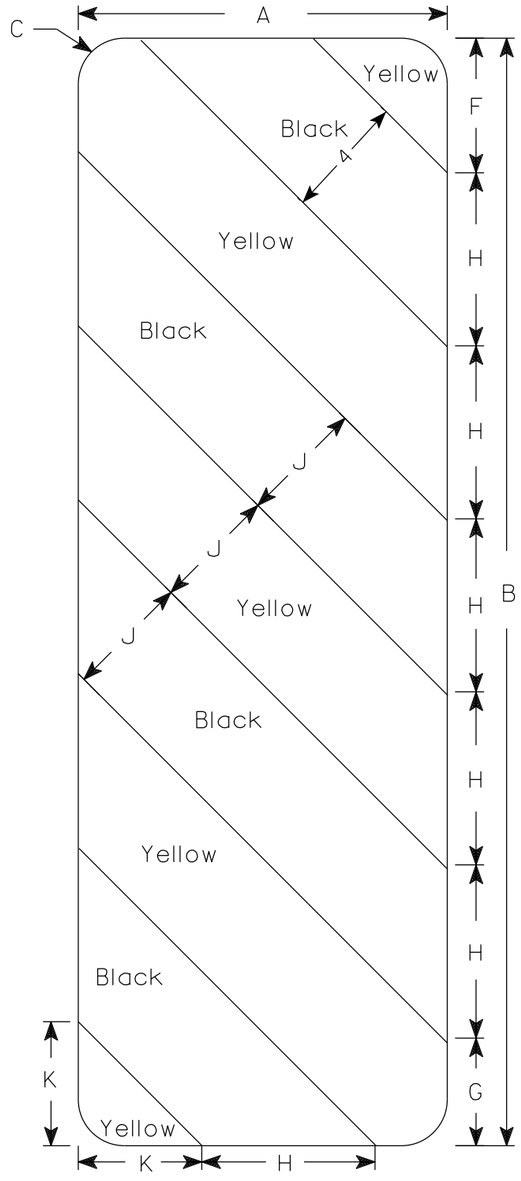
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

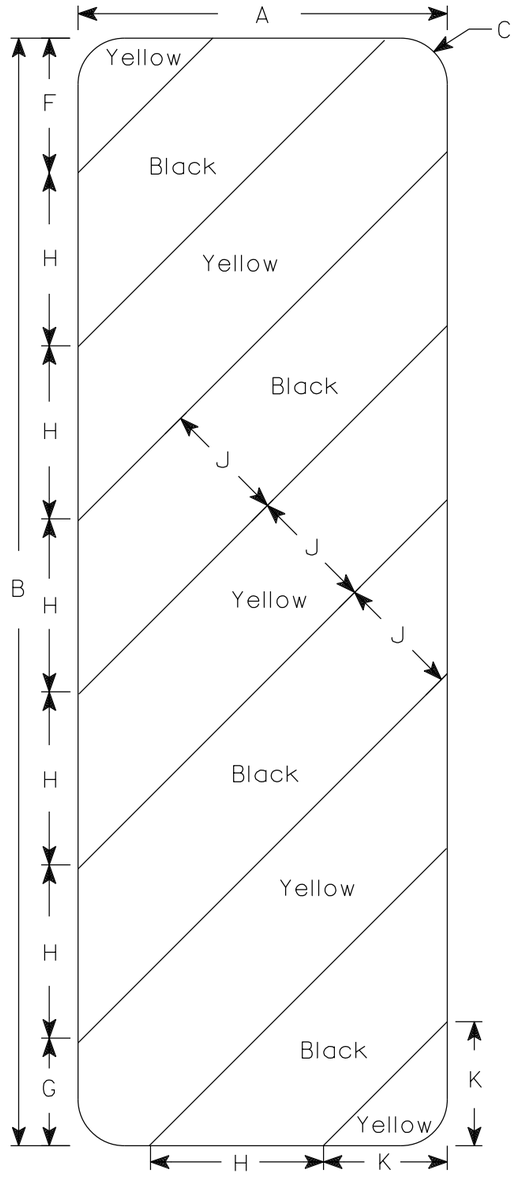
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 43 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

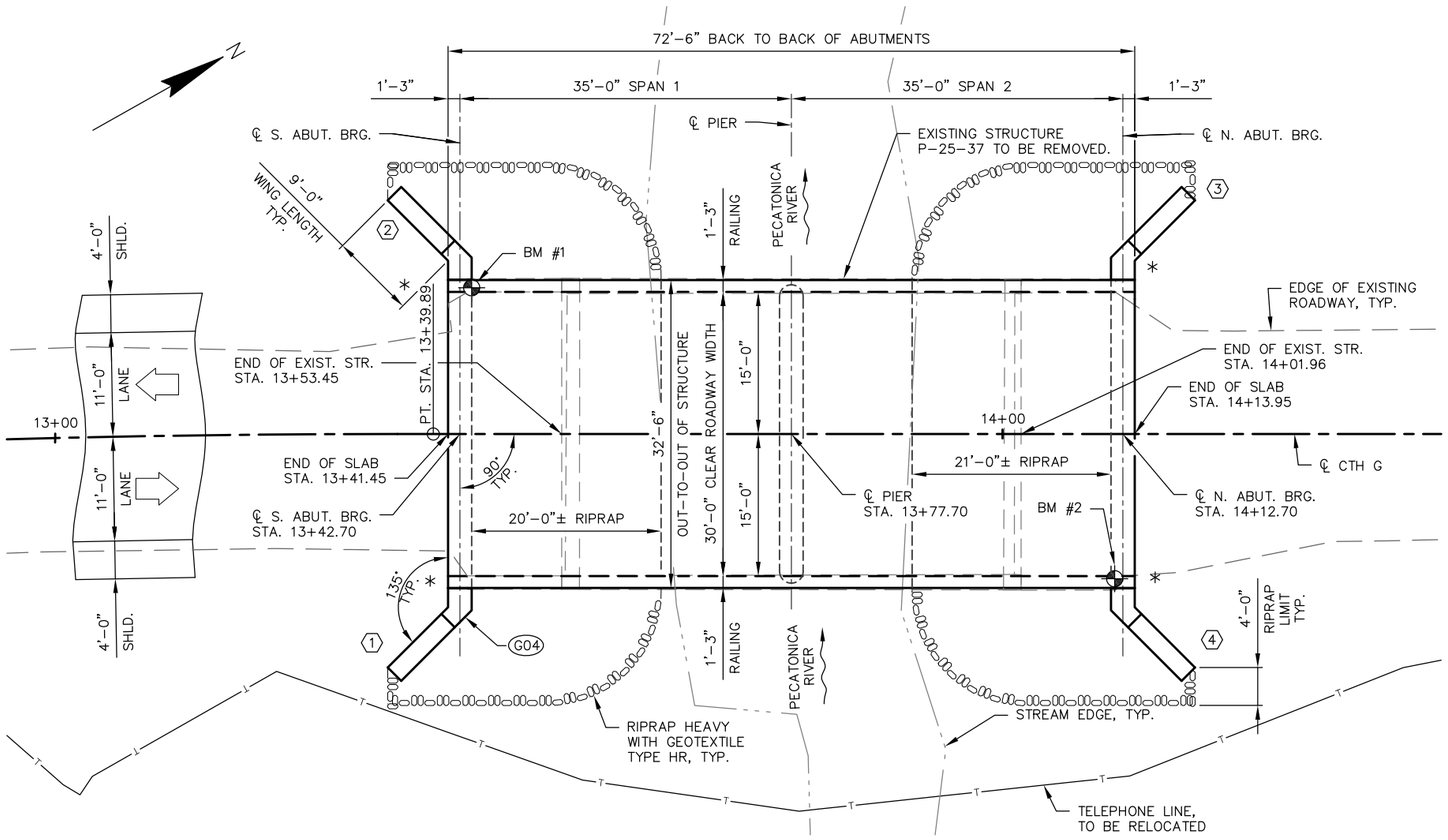
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 44 E

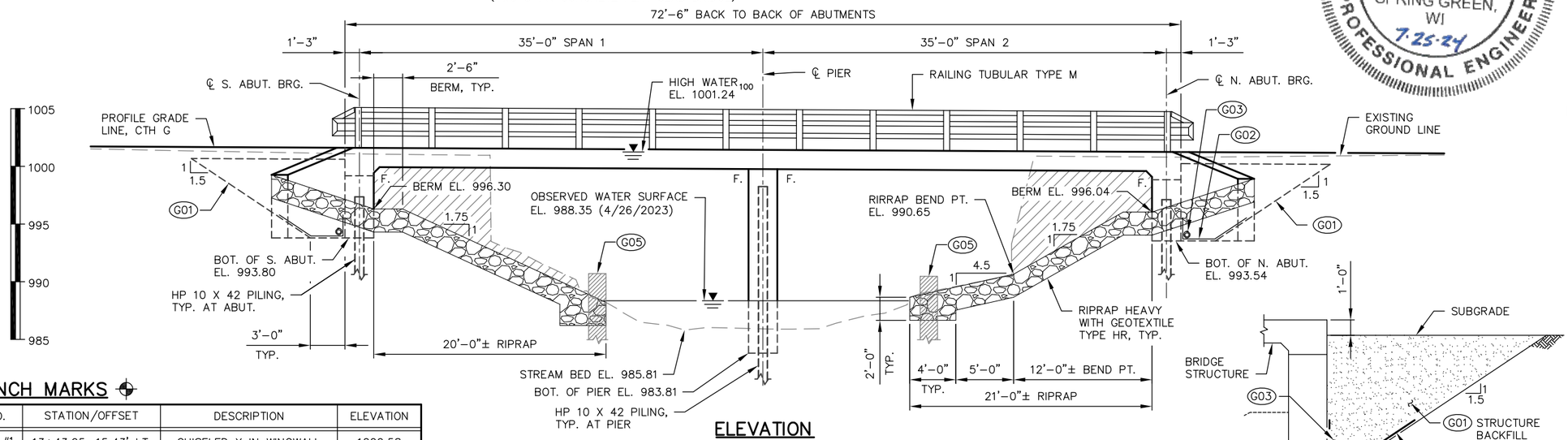
7

7



PLAN B-25-201

(TWO SPAN CONCRETE FLAT SLAB BRIDGE)



ELEVATION

(THRU PECATONICA RIVER, LOOKING WEST)

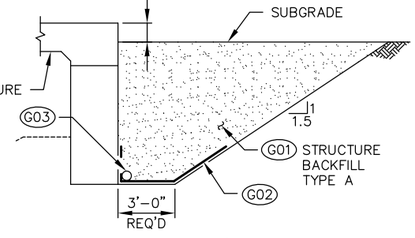
BENCH MARKS

NO.	STATION/OFFSET	DESCRIPTION	ELEVATION
BM #1	13+43.95, 15.43' LT.	CHISELED X IN WINGWALL	1000.58
BM #2	14+11.84, 15.28' RT.	SURVEY MARKER IN WING	1000.64

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

TRAFFIC DATA:

CTH G
A.A.D.T. (2024) ——— 400
A.A.D.T. (2044) ——— 592
DESIGN SPEED ——— 60 M.P.H.



ABUTMENT BACKFILL DETAIL

(TYPICAL AT BOTH ABUTMENTS)

NOTES

- EXCAVATION AS INDICATED IN THE HATCH AREAS TO BE INCLUDED IN THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGE B-25-201".
- (G01) BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCLUDED WITH BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-25-201". 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 "ABUTMENT" SHEET.
- (G05) OLD ABUTMENTS AND STEEL PILING TO BE REMOVED BELOW ELEVATION OF TOE OF RIPRAP PRIOR TO INSTALLATION OF RIPRAP. COST IS INCLUDED IN "REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS P-25-37." BID ITEM.
- ⬡ INDICATES WING NUMBER
- ∗ LOCATION OF BEAM GUARD ATTACHMENT

LIST OF DRAWINGS

STATE PROJECT NUMBER

5958-00-72

DESIGN DATA

LIVE LOAD:

DESIGN LOADING ——— HL-93
INVENTORY RATING FACTOR ——— RF=1.32
OPERATING RATING FACTOR ——— RF=1.71
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 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE** AT S. ABUT. AND 130 TONS PER PILE** AT N. ABUT. AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 20 FT PILE LENGTHS AT S. ABUT. AND 20 FT PILE LENGTHS AT N. ABUT.

PIER TO BE SUPPORTED ON HP 10 X 42 STEEL PILING SEATED IN PREBORED HOLES CORED 6 FEET MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 170 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 ESTIMATED 25 FT PILE LENGTHS AT PIER.

**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:

Q_{100} ——— 4,490 C.F.S.
Q_{100} (THRU BRIDGE) ——— 4,490 C.F.S.
Q_{100} (ROAD) ——— N/A
DRAINAGE AREA ——— 15.9 SQ. MI.
BRIDGE WATER AREA ——— 556 SQ. FT.
BRIDGE VELOCITY ——— 8.07 F.P.S.
HIGH WATER$_{100}$ EL. ——— 1001.24 FT.
OVERTOPPING Q FREQ. ——— N/A
SCOUR CRITICAL CODE ——— 5
Q_2 ——— 1,008 C.F.S.
Q_2 ELEVATION ——— 994.13 FT.
Q_2 VELOCITY ——— 5.95 F.P.S.

WISCONSIN
ANDREW C. KNUTSON
E-34662
SPRING GREEN, WI
7-25-24
PROFESSIONAL ENGINEER

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 SDR 08/06/24
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-25-201

CTH G OVER PECATONICA RIVER

COUNTY: IOWA
TOWN/~~CITY/VILLAGE~~: MIFFLIN
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

8

8

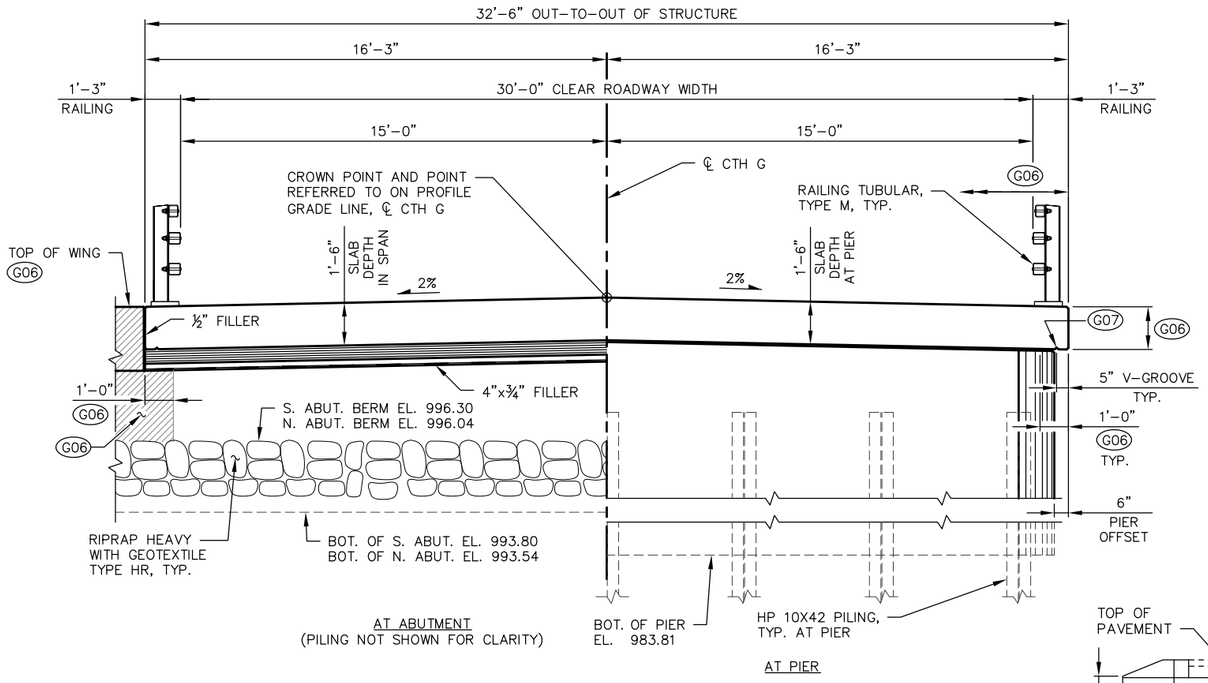
FILE: B250201_01_gen.dwg
PLOT SCALE:

I.D. 5958-00-72

PLOT DATE: Jul 24, 2024

STATE PROJECT NUMBER

5958-00-72



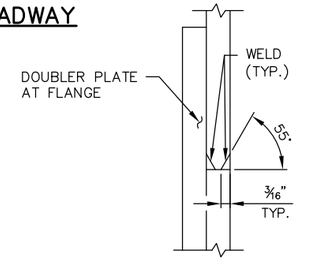
CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

NOTES

(G06) 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.

(G07) ¾" V-GROOVE REQ'D. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT BODY.



HP WELD DETAIL

(FLANGE SHOWN, WEB SIMILAR)

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	S. ABUT.	PIER	N. ABUT.	SUPER.	TOTALS
203.0250	REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS P-25-37	EACH	---	---	---	---	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-25-201	EACH	---	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	150	---	150	---	300
502.0100	CONCRETE MASONRY BRIDGES	CY	27.8	45.1	27.8	136.1	237
502.3200	PROTECTIVE SURFACE TREATMENT	SY	15	---	15	300	330
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2335	2000	2335	---	6670
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1400	70	1400	32520	35390
513.4061	RAILING TUBULAR TYPE M	LF	---	---	---	150	150
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	7	---	7	---	14
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	---	70	---	---	70
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	140	175	140	---	455
606.0300	RIPRAP HEAVY	CY	105	---	100	---	205
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	85	---	85	---	170
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	35	---	35	---	70
645.0120	GEOTEXTILE TYPE HR	SY	171	---	178	---	349
(NON-BID ITEM)	FILLER	SIZE					½" & ¾"

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 A FOUR DIGIT 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-25-201".

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.

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-25-201" SHALL BE THE EXISTING GROUND LINE.

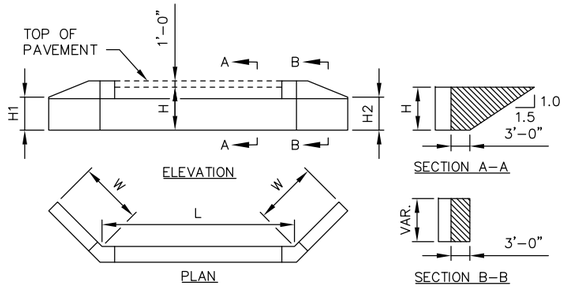
THE EXISTING STREAM BED SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIER.

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" SHEET.

SHALLOW BEDROCK (LESS THAN 10-FT BELOW PIER) WAS ENCOUNTERED IN THE PIER BORING. A MINIMUM OF 6-FEET OF PRE-BORE AT THE PIER INTO SUITABLE BEDROCK IS REQUIRED IF THE MINIMUM 10-FEET OF PILE PENETRATION INTO NATURAL GROUND CANNOT BE ACHIEVED. THE CONTRACTOR AND THE CONSTRUCTION ENGINEER SHOULD ANTICIPATE VARIABLE PILE PENETRATION AND POSSIBLE ADDITIONAL LOCATIONS OF PRE-BORING.

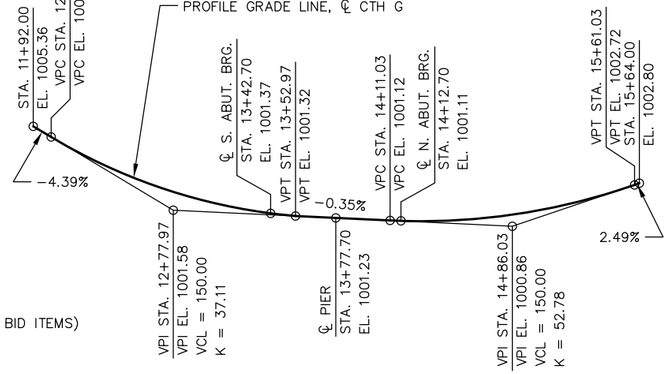
PILES PLACED IN PREBORED HOLES CORED INTO ROCK DO NOT REQUIRE DRIVING. PILES SHALL BE "FIRMLY SEATED" ON ROCK AFTER PLACEMENT IN PREBORED HOLES.

THE EXISTING STRUCTURE P-25-37 IS A SINGLE SPAN CONCRETE DECK GIRDER BRIDGE WITH AN OVERALL LENGTH OF 48'-6" AND A CLEAR ROADWAY WIDTH OF 30'-0". SUPERSTRUCTURE AND ABUTMENTS SHALL BE REMOVED IN ACCORDANCE WITH THE BID ITEM "REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS P-25-37".

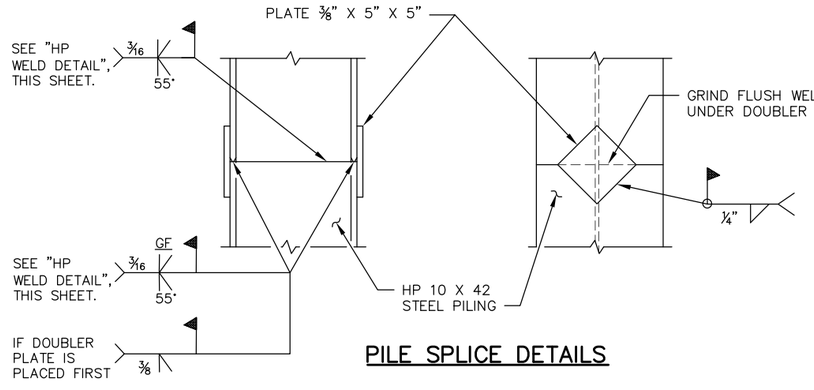


ABUTMENT BACKFILL DIAGRAM

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 G



PILE SPLICE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-25-201

DRAWN BY JDO | PLANS CK'D ACK

CROSS SECTION, GENERAL NOTES & QUANTITIES

SHEET 2 OF 9

8

8

FILE: B250201_02_crs.dwg
PLOT SCALE:

I.D. 5958-00-72

PLOT DATE: Jul 24, 2024

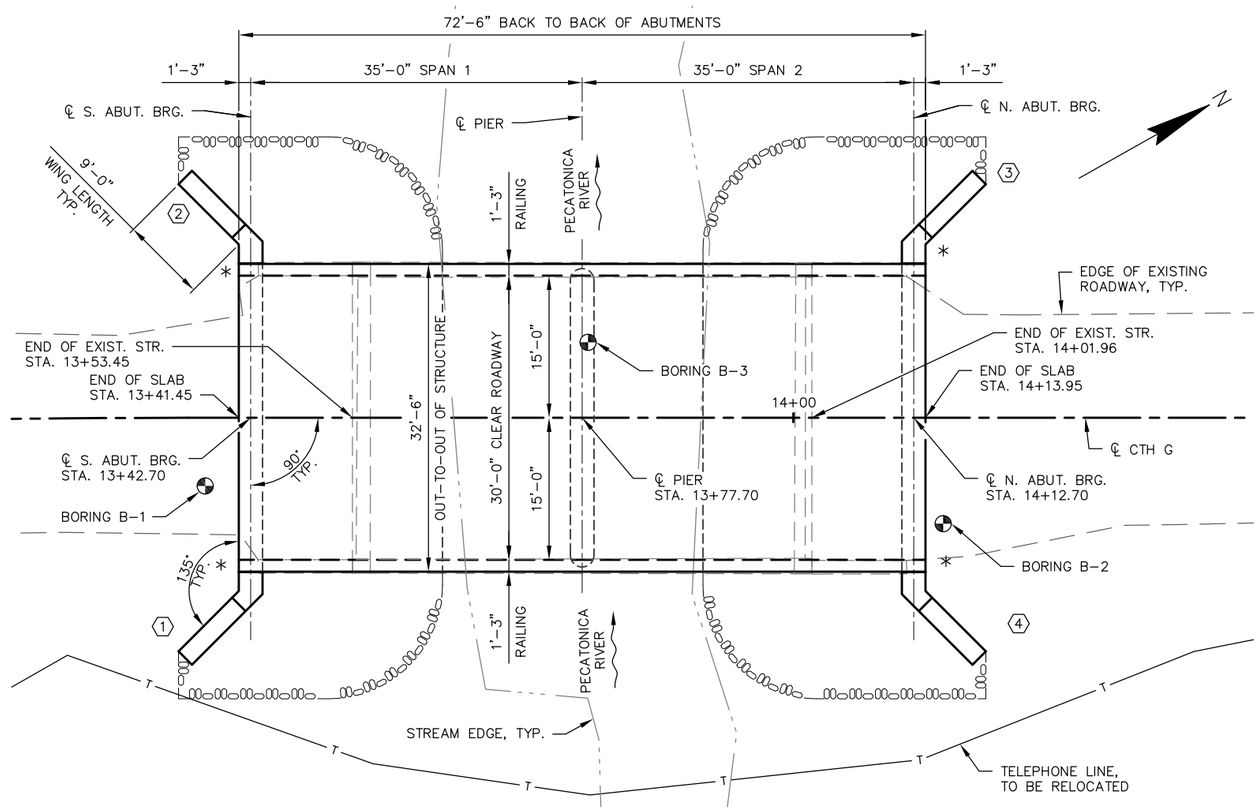
B-25-201 BORINGS

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
BORING B-1	4/10/2023	128727.5	319936.0
BORING B-2	10/16/2023	128793.5	319977.7
BORING B-3	10/16/2023	128770.2	319942.6
BORINGS COMPLETED BY: AMERICA'S DRILLING COMP./PSI, INC.			
SUBSURFACE INVESTIGATION REPORT: PROFESSIONAL SERVICE INDUSTRIES, INC.			
ALL COORDINATES REFERENCED TO WISCRS, IOWA COUNTY			

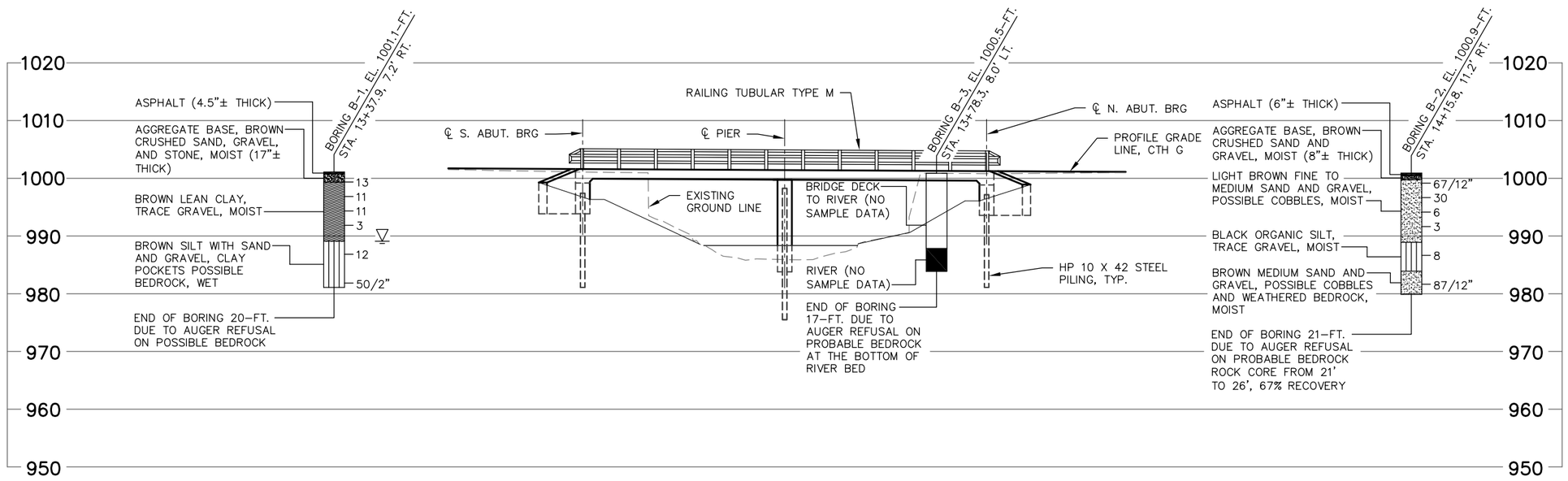
NOTES

⬡ INDICATES WING NUMBER

* LOCATION OF BEAM GUARD ATTACHMENT



PLAN B-25-201



PLAN B-25-201

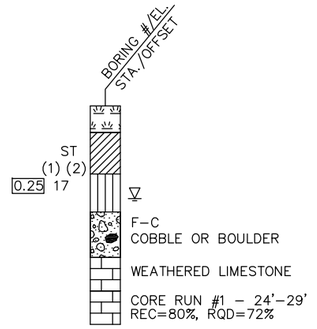
STATE PROJECT NUMBER

5958-00-72

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-25-201

DRAWN BY JDO | PLANS CK'D ACK

SUBSURFACE EXPLORATION

SHEET 3 OF 9

8

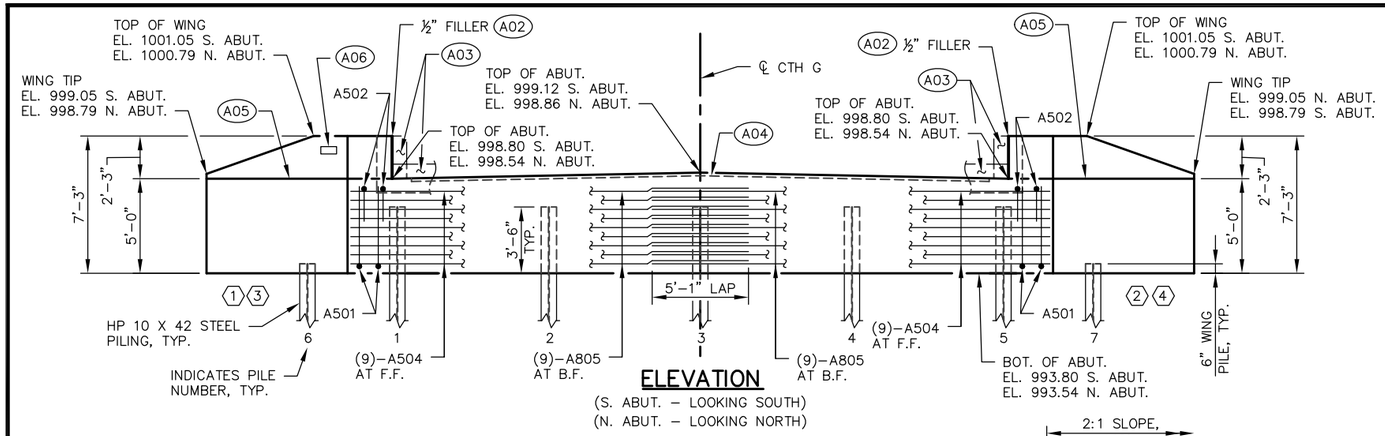
8

I.D. 5958-00-72 PLOT DATE: Jul 24, 2024

FILE: B250201_03_bor.dwg
PLOT SCALE:

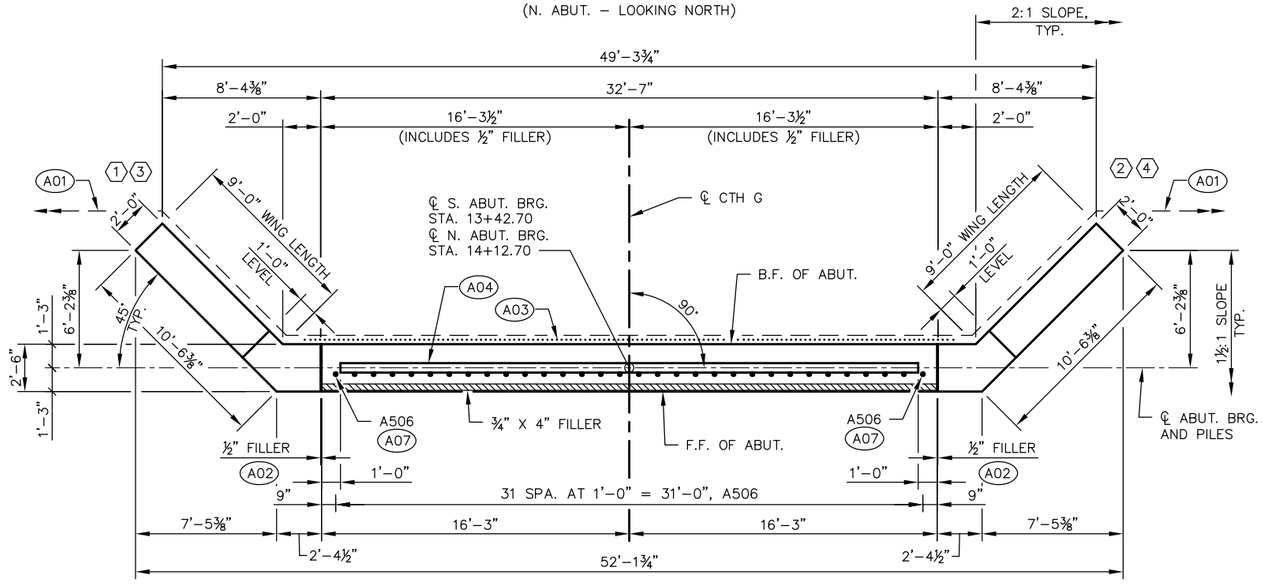
STATE PROJECT NUMBER

5958-00-72

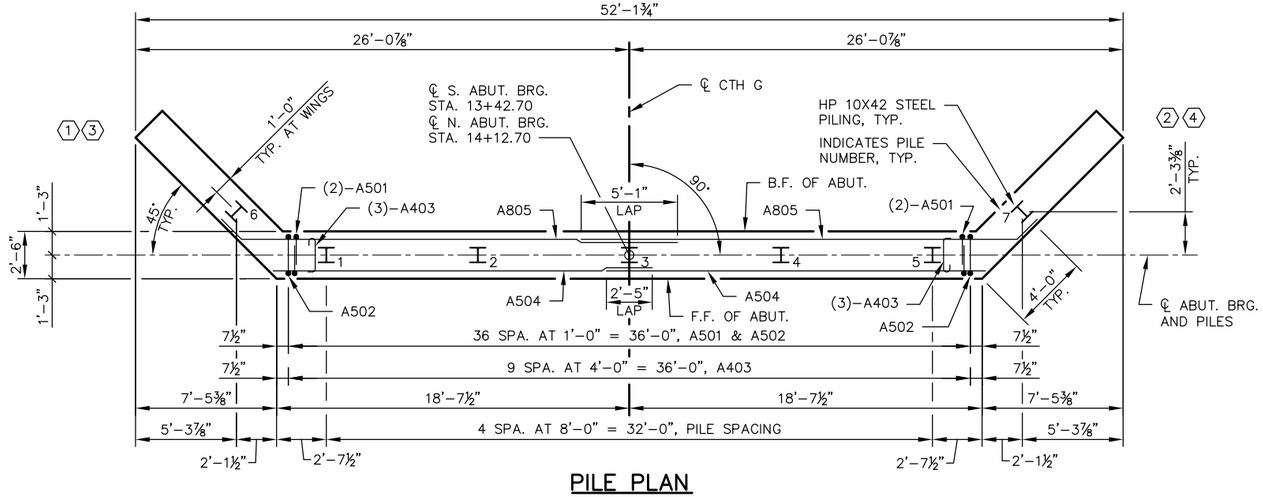


ELEVATION

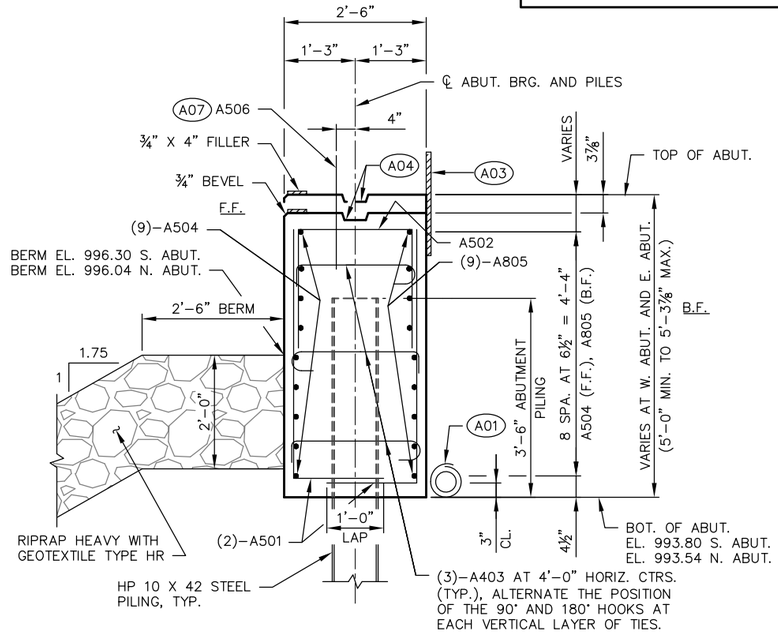
(S. ABUT. – LOOKING SOUTH)
(N. ABUT. – LOOKING NORTH)



PLAN



PILE PLAN



TYPICAL SECTION THRU ABUTMENT

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 130 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 20 FT PILE LENGTHS AT THE SOUTH ABUTMENT AND 20 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.

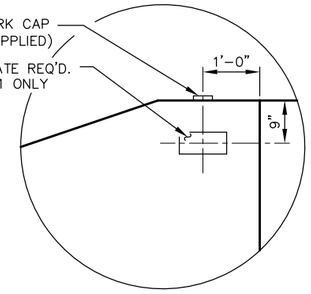
(A04) KEYED CONST. JT. FORMED BY BEVELED 2 X 6

(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 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 DETAIL

F.F. – FRONT FACE
B.F. – BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-25-201

DRAWN BY JDO | PLANS CK'D ACK

ABUTMENTS

SHEET 4 OF 9

8

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I.D. 5958-00-72

PLOT DATE: Jul 24, 2024

FILE: B250201_04_05_abut.dwg
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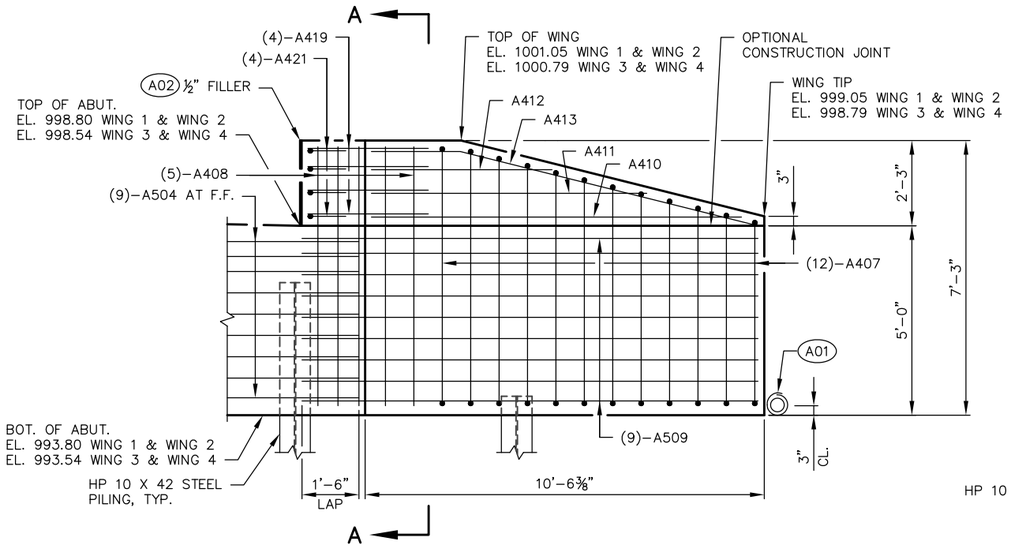
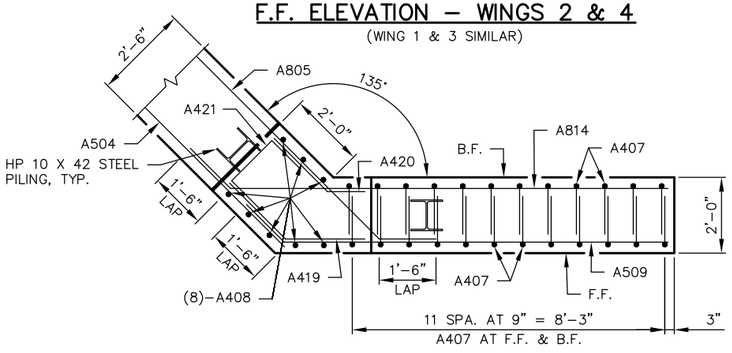


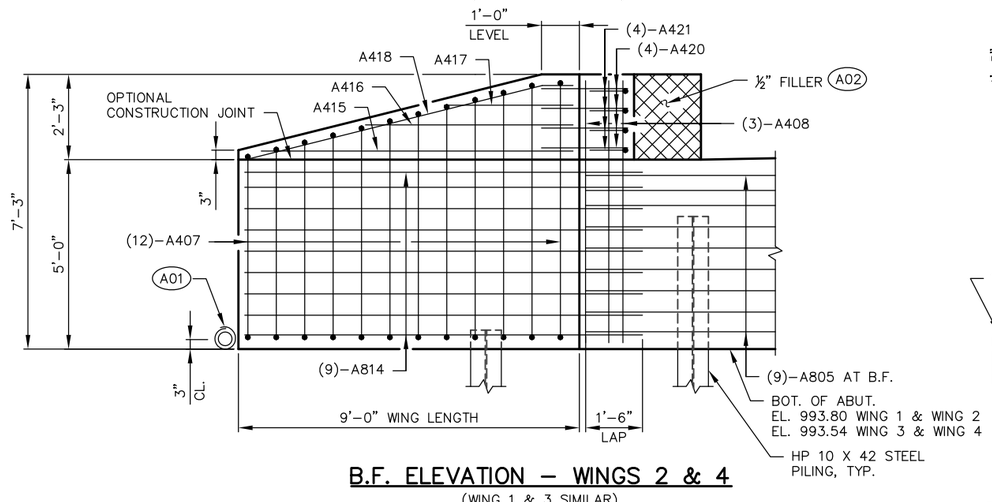
F.F. ELEVATION – WINGS 2 & 4

(WING 1 & 3 SIMILAR)



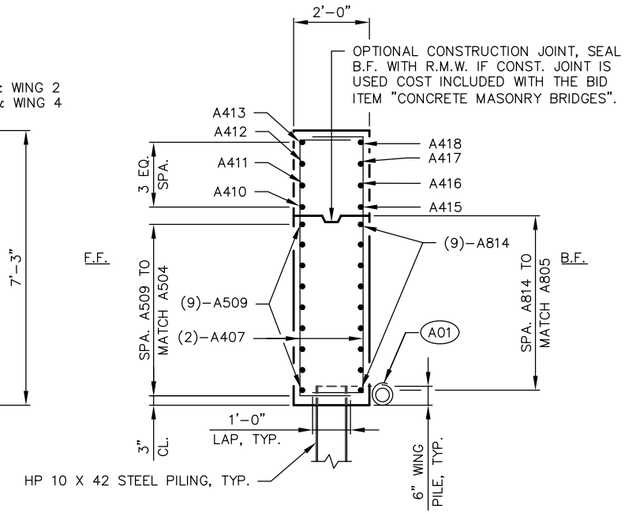
PLAN – WINGS 2 & 4

(WING 1 & 3 SIMILAR)

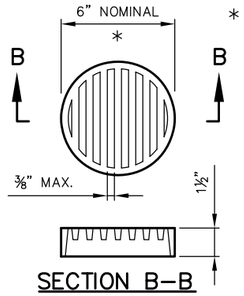


B.F. ELEVATION – WINGS 2 & 4

(WING 1 & 3 SIMILAR)



SECTION A–A



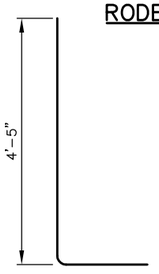
SECTION B–B

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

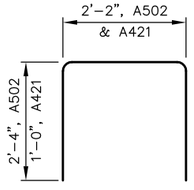
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X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

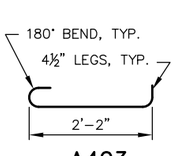
RODENT SHIELD DETAIL



A501



A502 & A421



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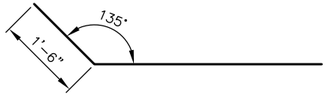
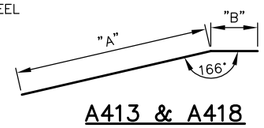


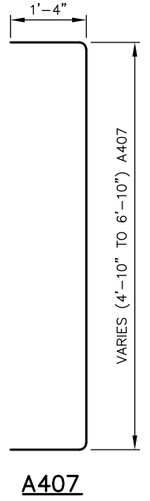
A805, A509 & A814



A413 & A418

BAR BEND DIMENSIONS

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



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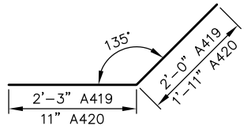

A419 & A420

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
A407	8 SERIES OF 12	7'–4" TO 9'–4"

BUNDLE AND TAG EACH SERIES SEPARATELY.

STATE PROJECT NUMBER

5958–00–72

BILL OF BARS
BOTH ABUTMENTS

COATED = 2,800 LBS.
UNCOATED = 4,670 LBS.

MARK	COATED	NUMBER W. ABUT.	NUMBER E. ABUT.	LENGTH	BENT	BAR SERIES	LOCATION	
A501		74	74	5'–11"	X		BODY – STIRRUP – F.F. & B.F.	VERT.
A502		37	37	6'–7"	X		BODY – STIRRUP – TOP	VERT.
A403		30	30	3'–1"	X		BODY – TIES	HORIZ.
A504		18	18	19'–10"			BODY – F.F.	HORIZ.
A805		18	18	24'–8"	X		BODY – B.F.	HORIZ.
A506	X	32	32	2'–0"			BODY – TOP DOWELS	VERT.
A407	X	48	48	8'–4"	X	⚠	WINGS 1 THRU 4 – STIRRUP – F.F. & B.F.	VERT.
A408	X	16	16	6'–10"			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'–9"			WINGS 1 THRU 4 – F.F.	HORIZ.
A411	X	2	2	7'–3"			WINGS 1 THRU 4 – F.F.	HORIZ.
A412	X	2	2	4'–9"			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'–5"			WINGS 1 THRU 4 – B.F.	HORIZ.
A417	X	2	2	3'–4"			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	4'–0"	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 130 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 20 FT PILE LENGTHS AT THE SOUTH ABUTMENT AND 20 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

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STATE OF WISCONSIN
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STRUCTURE B–25–201

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ABUTMENT DETAILS

SHEET 5 OF 9

8

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FILE: B250201_04_05_abut.dwg
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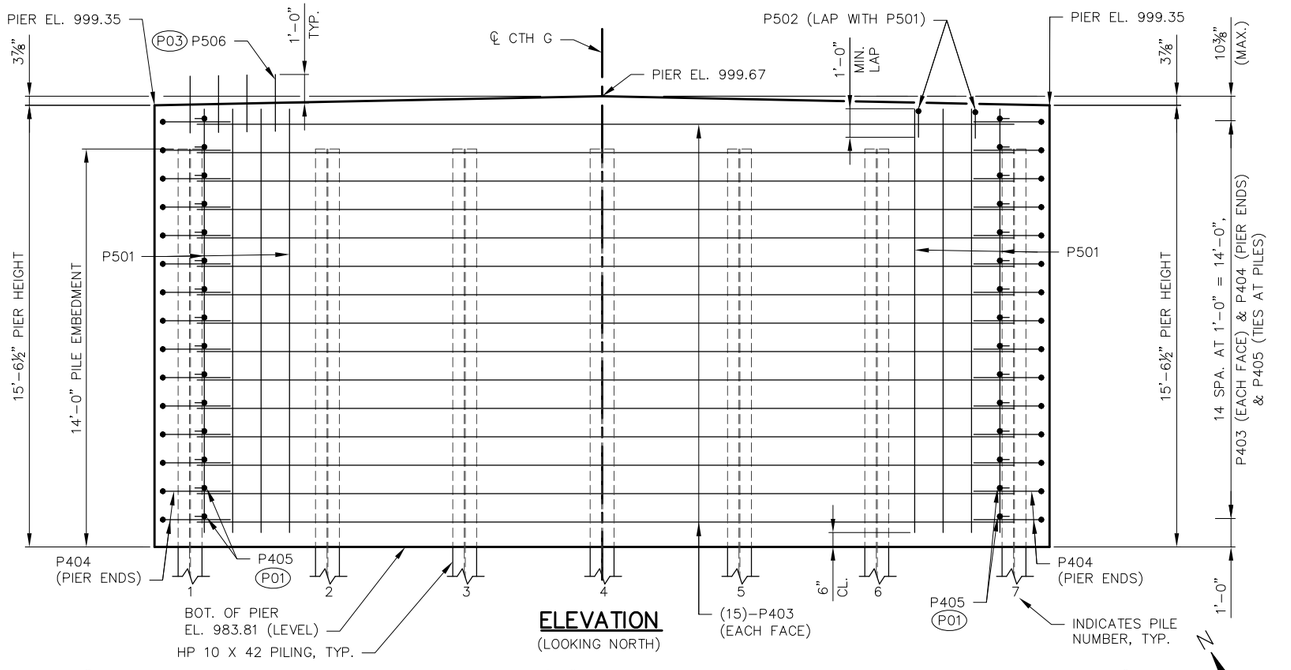
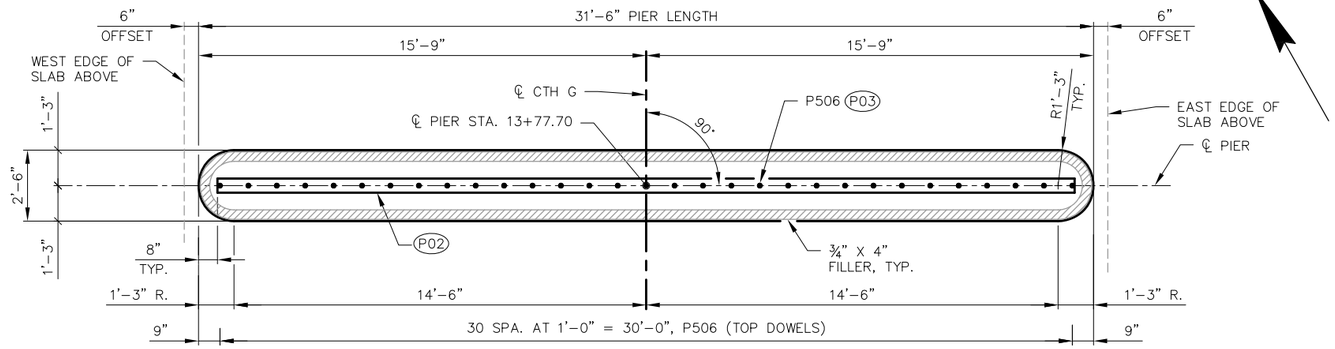
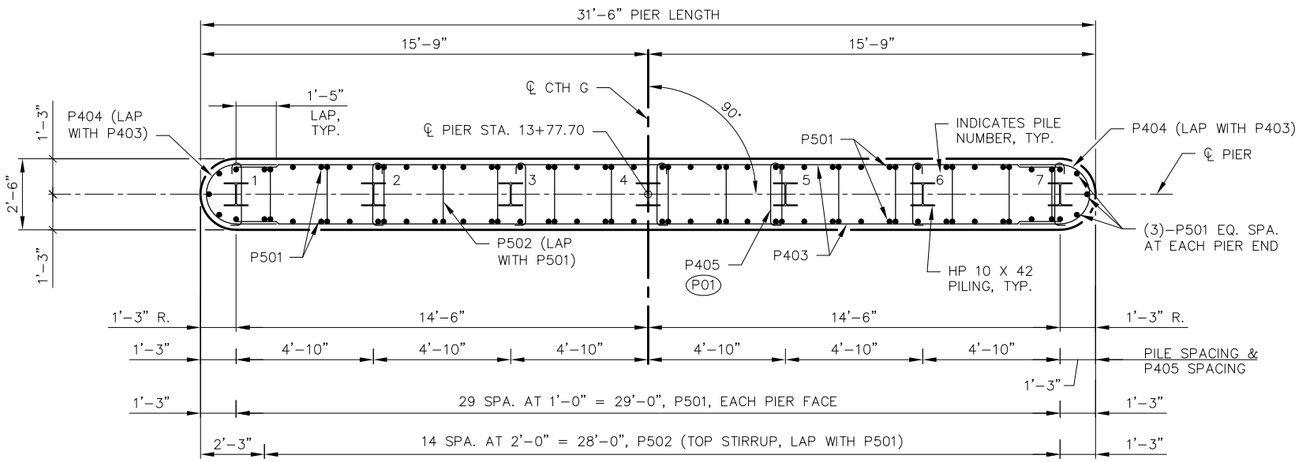


ELEVATION
(LOOKING NORTH)



TOP PLAN



PILE AND REINFORCEMENT PLAN

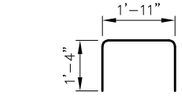
BILL OF BARS
PIER

COATED = 70 LBS.
UNCOATED = 2,000 LBS

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION	
P501		66	14'-9"			PIER – SIDES	VERT.
P502		15	4'-4"	X		PIER – TOP STIRRUP	VERT.
P403		30	29'-0"			PIER – SIDES	HORIZ.
P404		30	6'-2"	X		PIER – END STIRRUP	HORIZ.
P405		105	3'-0"	X		PIER – TIES	HORIZ.
P506	31		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.



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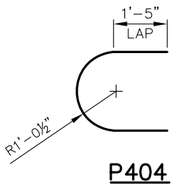
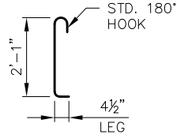


P404



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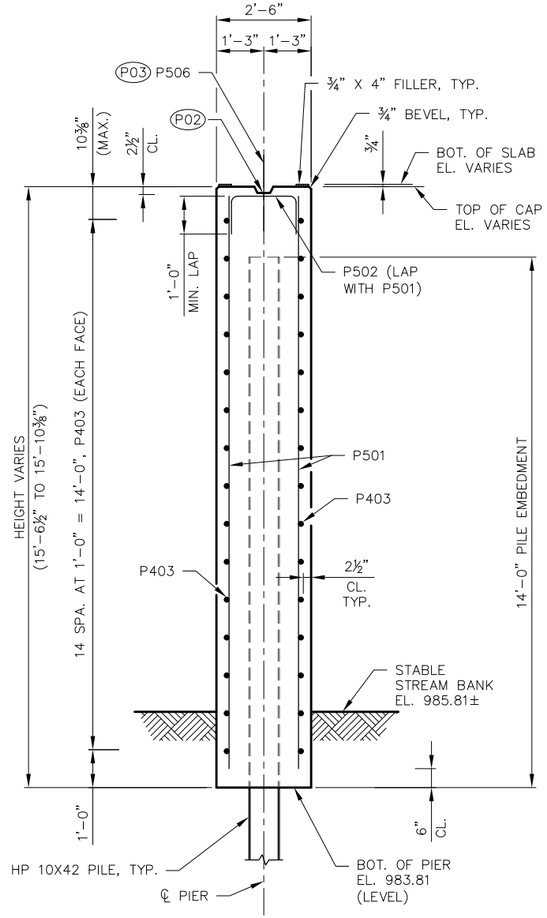

TYPICAL SECTION THRU PIER

NOTES

PIER TO BE SUPPORTED ON HP 10 X 42 PILING SEATED IN PREBORED HOLES CORED 6 FEET MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 170 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 ESTIMATED 25 FT PILE LENGTHS AT PIER.

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-25-201

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PIER DETAILS

SHEET 6 OF 9

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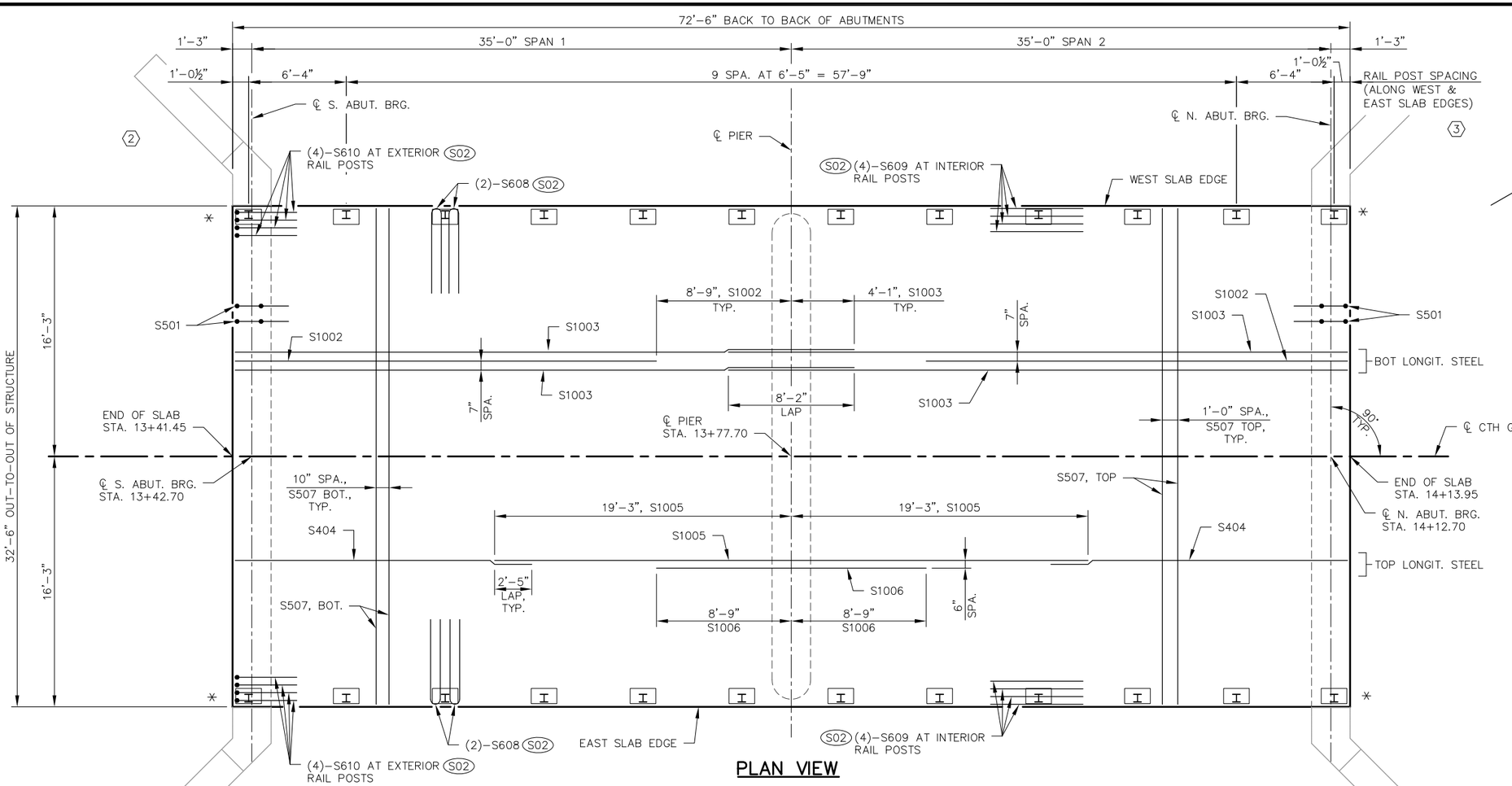


PLAN VIEW

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 (+).

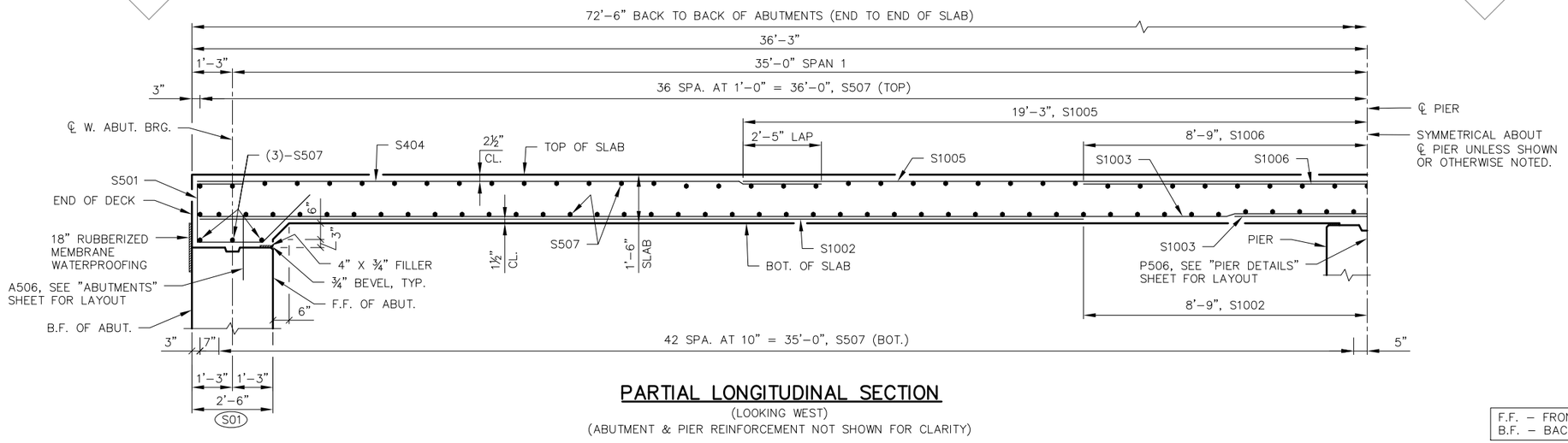
RAILING TO BE INSTALLED ON THE SLAB AFTER FALSEWORK HAS BEEN RELEASED.

(S01) DIMENSION IS TAKEN PARALLEL TO ℄ CTH G.

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

* LOCATION OF BEAM GUARD ATTACHMENT

⬡ INDICATES WING NUMBER



PARTIAL LONGITUDINAL SECTION

(LOOKING WEST)

(ABUTMENT & PIER REINFORCEMENT NOT SHOWN FOR CLARITY)

F.F. – FRONT FACE
B.F. – BACK FACE

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-25-201

DRAWN BY JDO | PLANS CK'D ACK

SUPERSTRUCTURE

SHEET 7 OF 9

I.D. 5958-00-72

PLOT DATE: Jul 24, 2024

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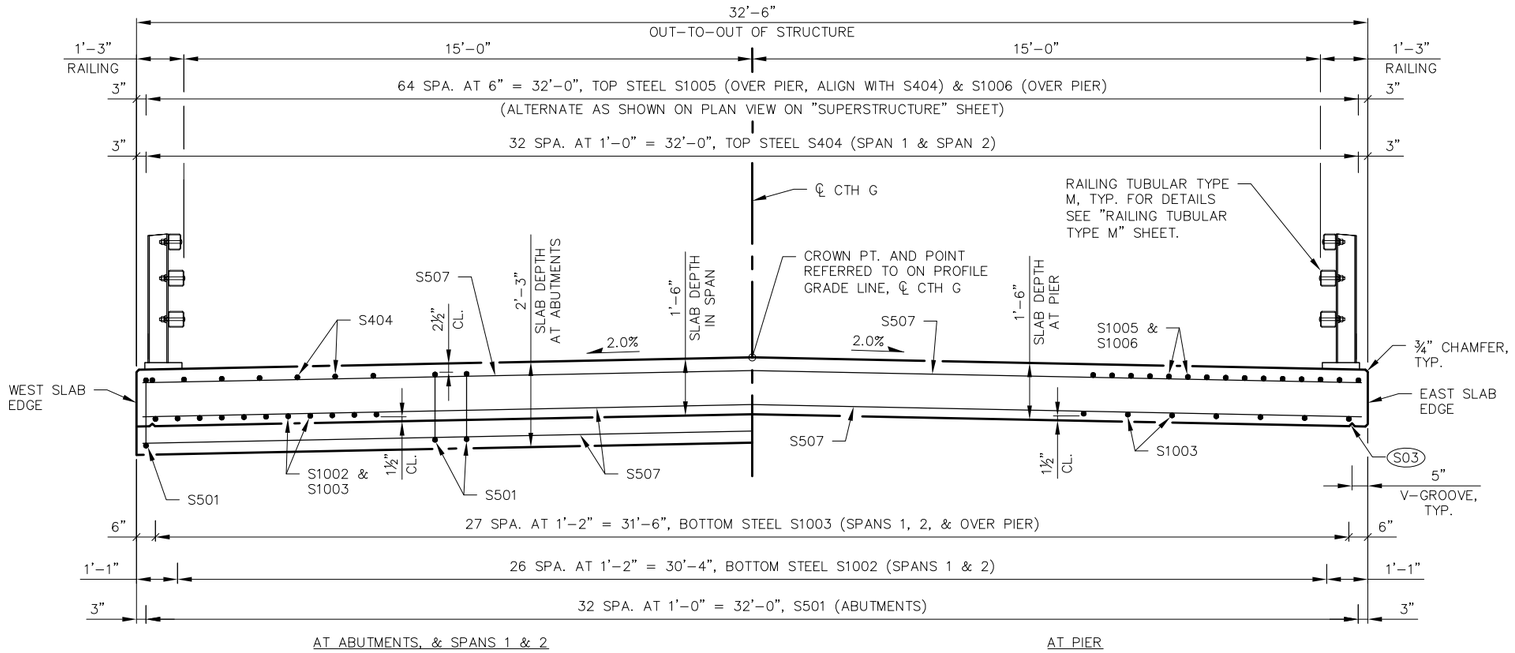


CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

BILL OF BARS
SUPERSTRUCTURE

COATED = 32,520 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION	
S501	66		7'-3"	X		SLAB AT ABUTMENT – STIRRUPS	VERT.
S1002	54		27'-4"			SLAB – BOTTOM SPAN 1 & 2 & OVER PIER	LONGIT.
S1003	56		40'-2"			SLAB – BOTTOM SPAN 1 & 2	LONGIT.
S404	66		19'-3"			SLAB – TOP SPAN 1 & 2	LONGIT.
S1005	33		38'-6"			SLAB – TOP OVER PIER	LONGIT.
S1006	32		17'-6"			SLAB – TOP OVER PIER	LONGIT.
S507	167		32'-2"			SLAB – TOP & BOTTOM	TRANS.
S608	48		11'-6"	X		SLAB – TOP AT RAIL POSTS	TRANS.
S609	80		6'-0"			SLAB – TOP AT INTERIOR RAIL POSTS	LONGIT.
S610	16		4'-8"	X		SLAB – TOP AT EXTERIOR RAIL POSTS	LONGIT.

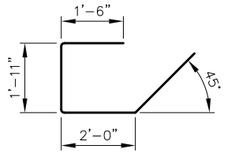
THE FIRST OR FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.

SURVEY TOP OF SLAB ELEVATIONS

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

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS, ℄ OF PIER 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.



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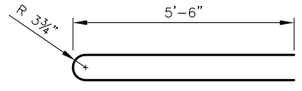
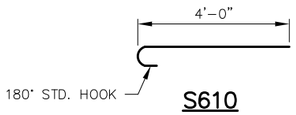


S608



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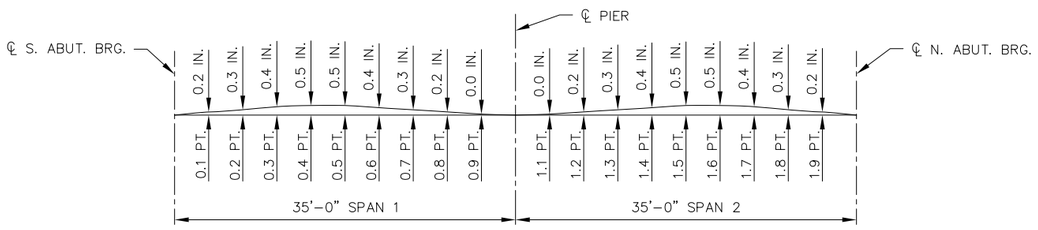

SLAB CAMBER DIAGRAM

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 G	EAST SLAB EDGE
℄ S. ABUT.	1001.05	1001.37	1001.05
0.1	1001.03	1001.35	1001.03
0.2	1001.01	1001.33	1001.01
0.3	1001.00	1001.32	1001.00
0.4	1000.99	1001.31	1000.99
0.5	1000.98	1001.30	1000.98
0.6	1000.96	1001.28	1000.96
0.7	1000.95	1001.27	1000.95
0.8	1000.94	1001.26	1000.94
0.9	1000.93	1001.25	1000.93
℄ PIER	1000.91	1001.23	1000.91
1.1	1000.90	1001.22	1000.90
1.2	1000.89	1001.21	1000.89
1.3	1000.88	1001.20	1000.88
1.4	1000.87	1001.19	1000.87
1.5	1000.85	1001.17	1000.85
1.6	1000.84	1001.16	1000.84
1.7	1000.83	1001.15	1000.83
1.8	1000.82	1001.14	1000.82
1.9	1000.81	1001.13	1000.81
℄ N. ABUT.	1000.79	1001.11	1000.79

NOTES

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

(S03) ¾" V-GROOVE. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT BODY. V-GROOVES ARE REQUIRED.

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STRUCTURE B-25-201

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SUPERSTRUCTURE DETAILS

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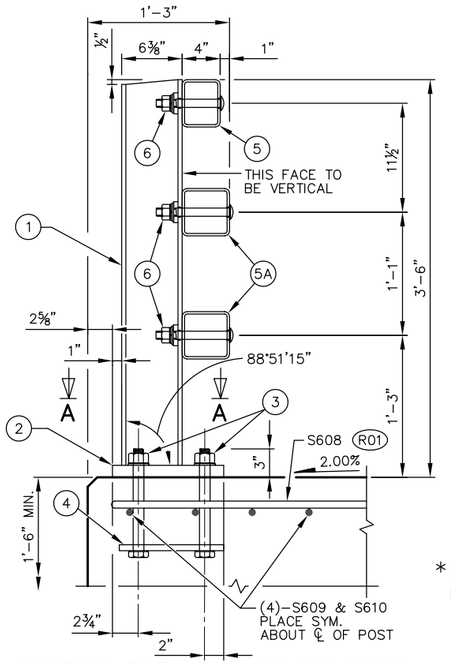
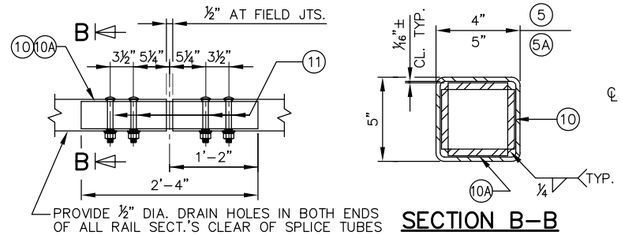
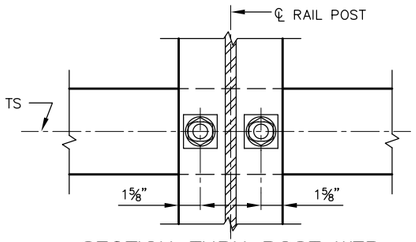


SECTION THRU RAILING ON DECK

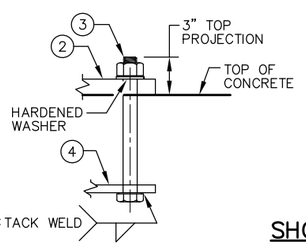


FIELD ERECTION JOINT DETAIL

SECTION B–B

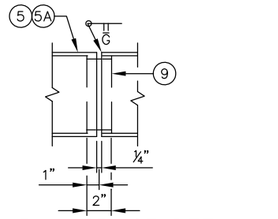


SECTION THRU POST WEB



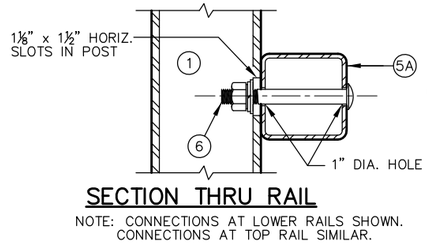
ANCHOR BOLTS

* 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

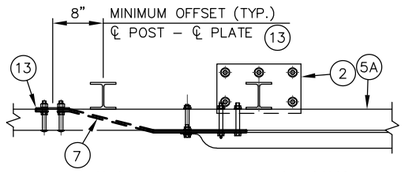
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



SECTION THRU RAIL

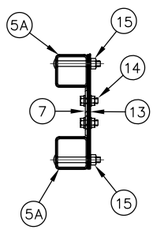
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

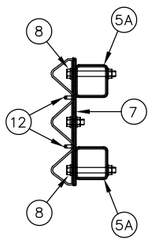


TOP VIEW AT END POST

(THRIE BEAM RAIL ATTACHMENT)



SECTION C–C



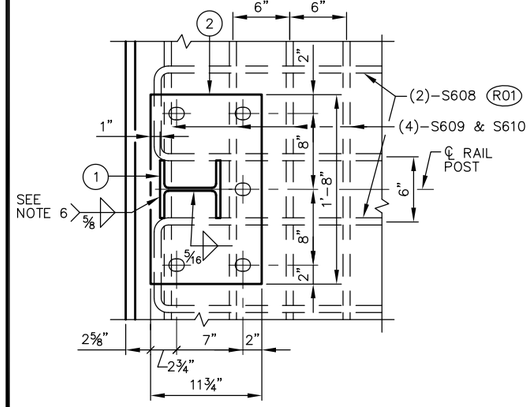
SECTION D–D

LEGEND

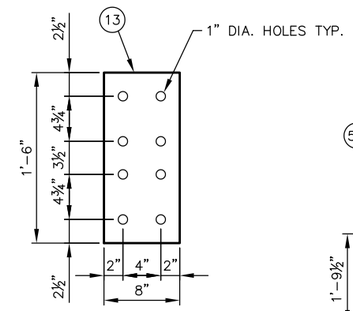
1. W6 x 25 WITH 1⅛" x 1½" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
2. PLATE 1¼" x 11¾" x 1'–8" WITH 1⁷⁄₁₆" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
3. ASTM A449 – 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.

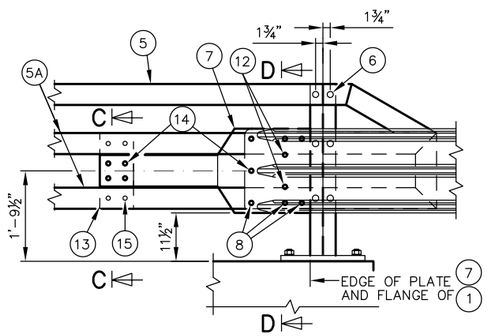


SECTION A–A



ANCHOR PLATE

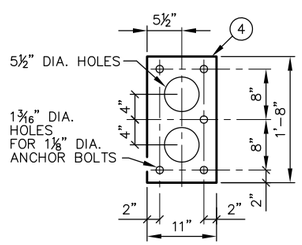
AT BEAM GUARD ATTACHMENT



DETAIL AT END POST

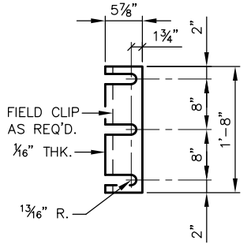
(THRIE BEAM RAIL ATTACHMENT)

(R01) TIE TO TOP MAT OF STEEL.

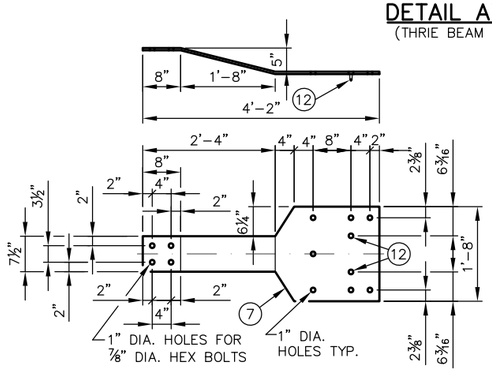


ANCHOR PLATE

AT RAIL TO DECK CONNECTION

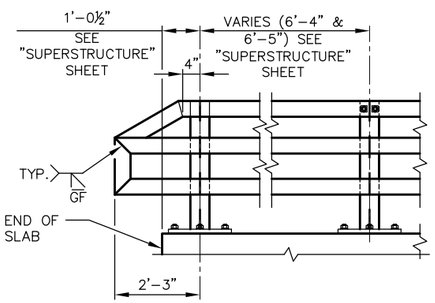


POST SHIM DETAIL



BACK–UP PLATE DETAIL

AT BEAM GUARD ATTACHMENTS



PART ELEVATION OF RAILING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–25–201

DRAWN BY JDO | PLANS CK'D ACK

RAILING TUBULAR TYPE M

SHEET 9 OF 9

I.D. 5958–00–72

PLOT DATE: Jul 24, 2024

FILE: B250201_09_mrail.dwg
PLOT SCALE:

8

8

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
					NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
11+35.00	0.00	21.92	0.00	0.00	0	0	0	0	0	0
11+50.00	15.00	18.70	0.00	0.39	11	0	0	11	0	11
11+92.00	42.00	14.46	8.48	9.19	26	7	7	37	9	21
12+00.00	8.00	45.75	8.45	5.42	9	3	2	46	11	25
12+50.89	50.89	54.16	8.18	45.26	94	16	48	140	71	43
12+52.59	1.70	54.11	8.19	45.64	3	1	3	143	75	41
12+76.18	23.59	53.74	8.06	15.24	47	7	27	190	109	47
12+77.38	1.20	53.79	8.05	13.48	2	0	1	192	110	48
13+01.39	24.01	52.33	8.07	14.37	47	7	12	239	125	73
13+02.12	0.73	52.12	8.08	14.14	1	0	0	240	125	74
13+41.45	39.33	26.80	8.66	6.37	57	12	15	297	144	100
STRUCTURE B-25-0201										
DIVISION 1 TOTAL					297	53	115			

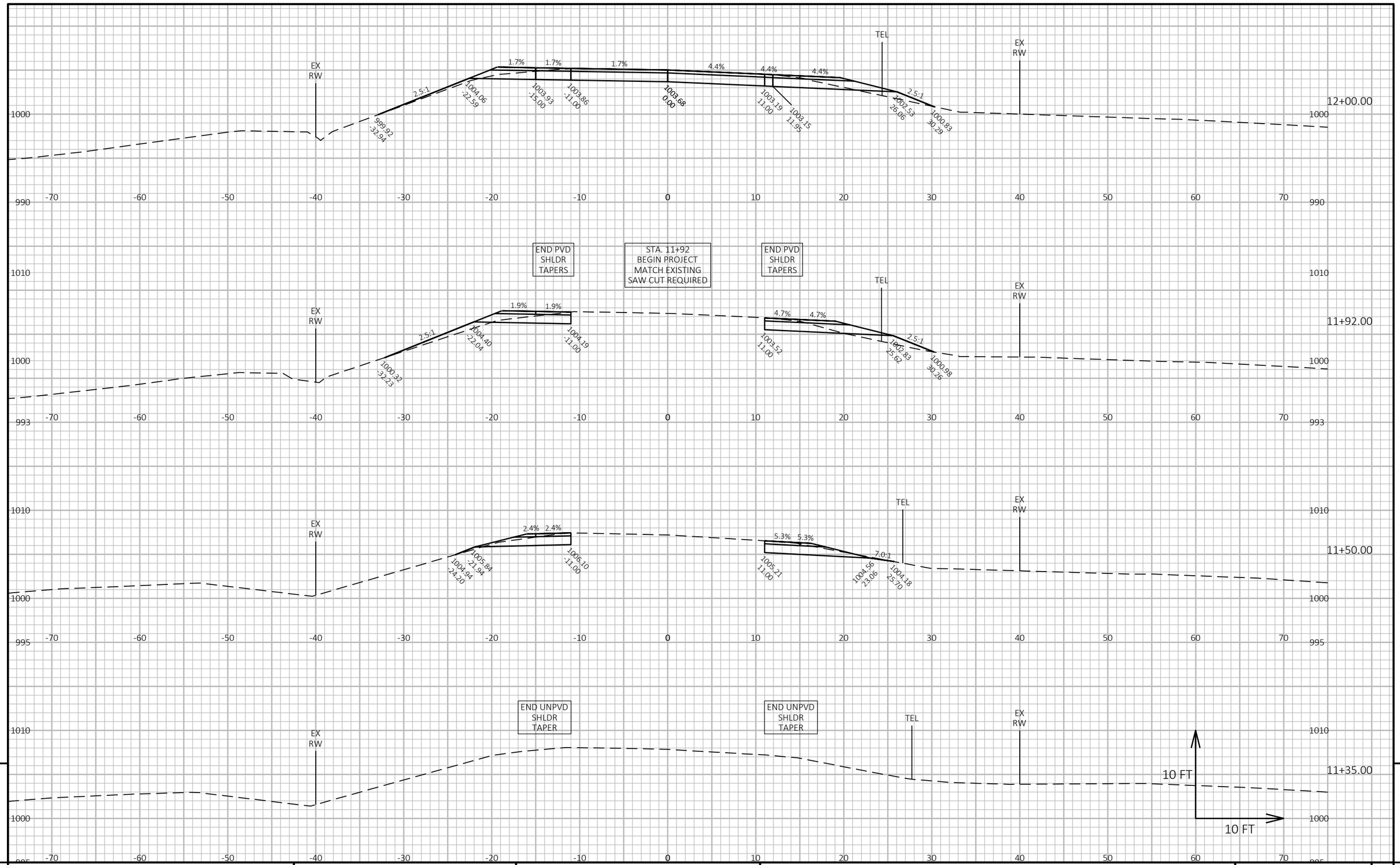
STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
					NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
STRUCTURE B-25-0201										
14+13.95	0.00	29.83	10.70	2.64	0	0	0	0	0	0
14+50.00	36.05	40.79	8.31	48.63	47	13	34	47	43	-9
14+53.65	3.65	41.47	8.30	49.12	6	1	7	53	51	-12
14+78.63	24.98	43.61	8.30	64.44	39	8	53	92	118	-48
15+00.00	21.37	43.39	8.29	96.67	34	7	64	126	198	-101
15+03.60	3.60	43.29	8.29	100.94	6	1	13	132	214	-112
15+50.00	46.40	41.69	8.15	71.48	73	14	148	205	399	-238
15+64.00	14.00	14.22	8.19	53.27	14	4	32	219	439	-268
15+70.00	6.00	7.05	0.00	16.11	2	1	8	221	449	-277
15+95.00	25.00	7.92	0.00	0.00	7	0	7	228	458	-279
DIVISION 2 TOTAL					228	49	366			
PROJECT TOTAL					525	102	481			

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) - (FILL*FILL FACTOR) - SALVAGED/UNUSABLE PAVEMENT MATERIAL)]
	PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

9

9



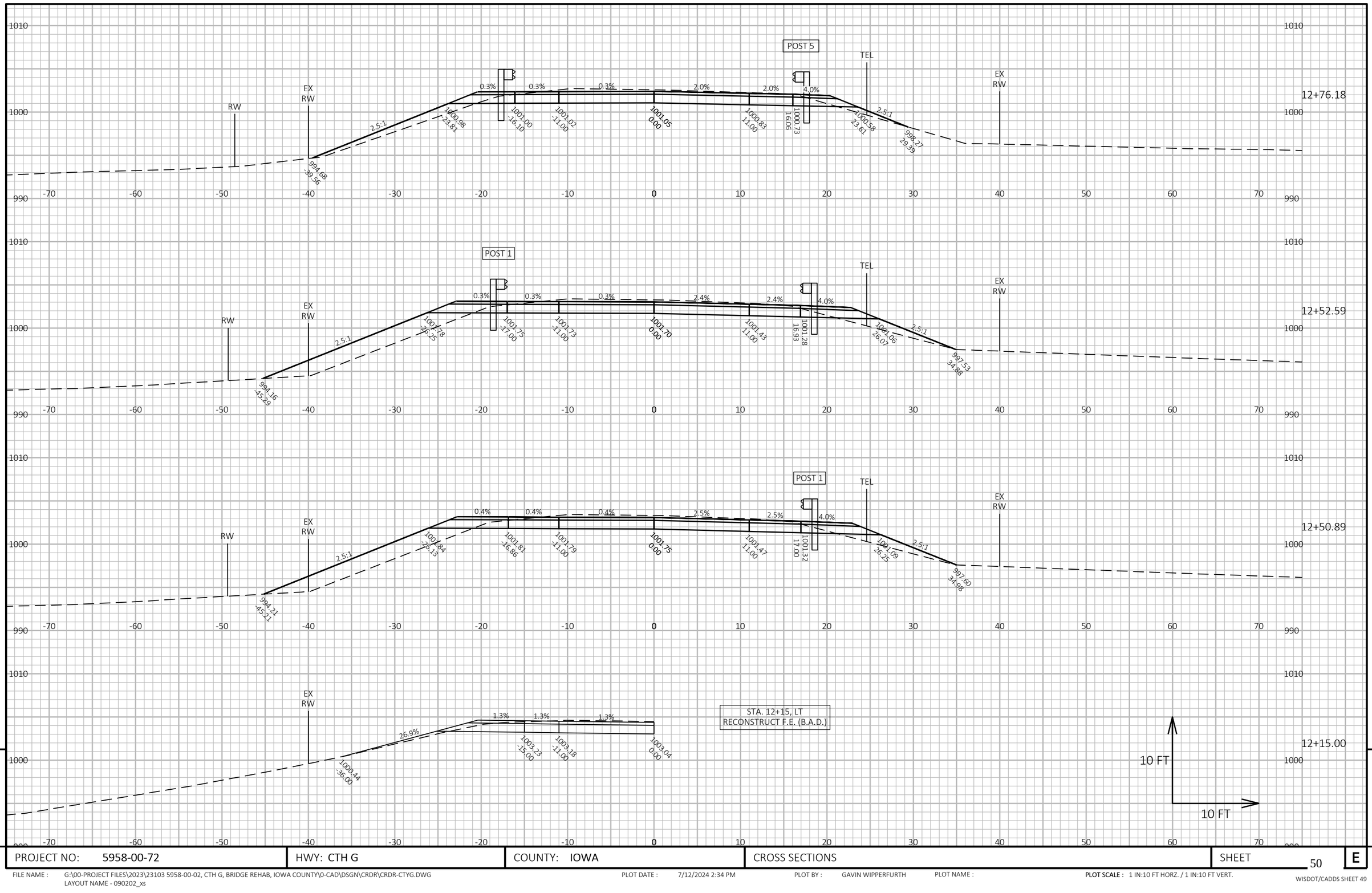
9 9

PROJECT NO: 5958-00-72	HWY: CTH G	COUNTY: IOWA	CROSS SECTIONS	SHEET 49	E

FILE NAME : G:\00-PROJECT FILES\2023\23103 5958-00-02, CTH G, BRIDGE REHAB, IOWA COUNTY\0-CAD\DSGN\CRDR\CRDR-CTYG.DWG
LAYOUT NAME - 090201_xs

PLOT DATE : 7/12/2024 2:34 PM PLOT BY : GAVIN WIPPERFURTH PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

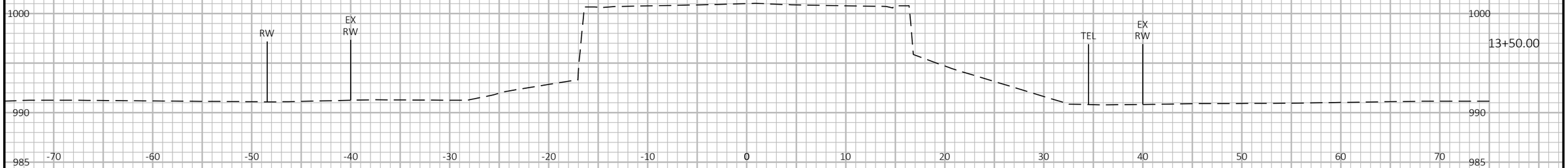
9

PROJECT NO: 5958-00-72	HWY: CTH G	COUNTY: IOWA	CROSS SECTIONS	SHEET 50	E

FILE NAME : G:\00-PROJECT FILES\2023\23103 5958-00-02, CTH G, BRIDGE REHAB, IOWA COUNTY\0-CAD\DSGN\CRDR\CRDR-CTYG.DWG
LAYOUT NAME - 090202_xs

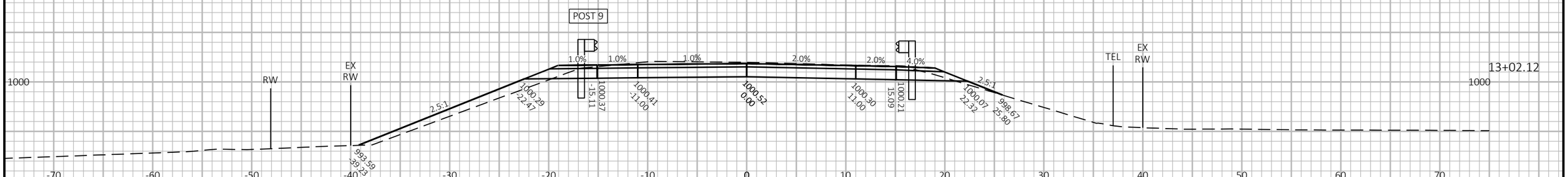
PLOT DATE : 7/12/2024 2:34 PM PLOT BY : GAVIN WIPPERFURTH PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

STRUCTURE B-25-0201



13+50.00

POST 9



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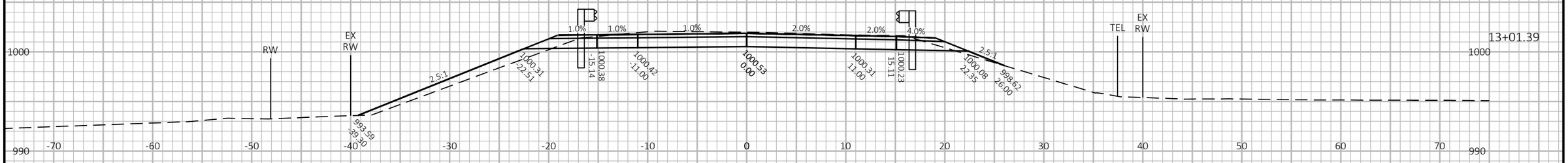
POST 9



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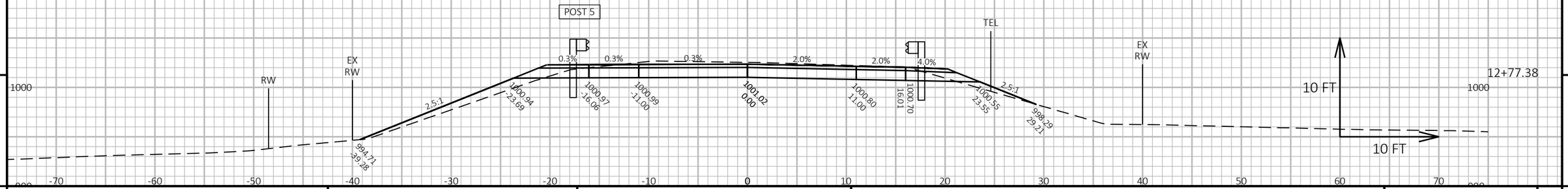
POST 5



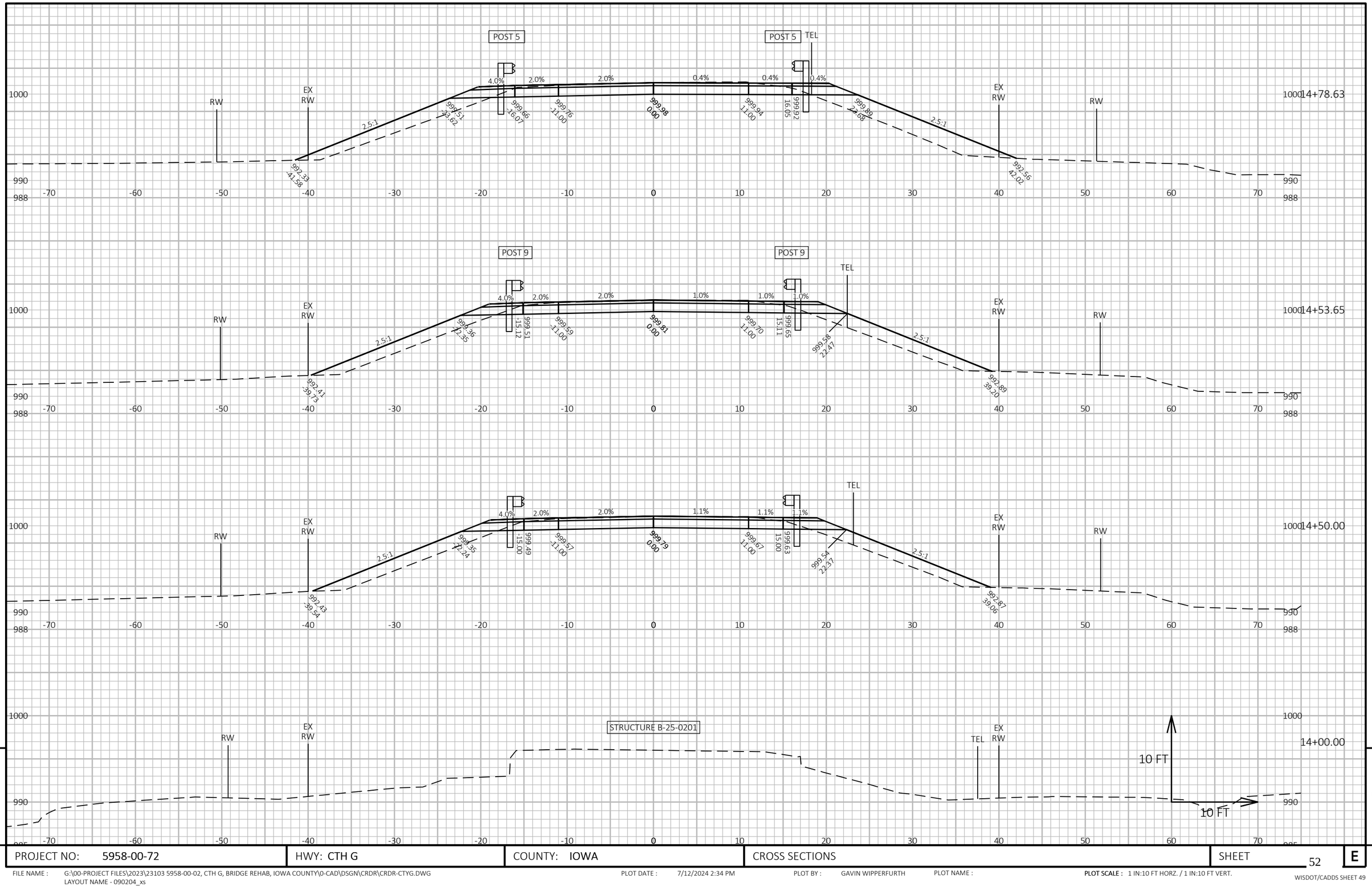
12+77.38

9 9

PROJECT NO: 5958-00-72	HWY: CTH G	COUNTY: IOWA	CROSS SECTIONS	SHEET 51	E

FILE NAME : G:\00-PROJECT FILES\2023\23103 5958-00-02, CTH G, BRIDGE REHAB, IOWA COUNTY\0-CAD\DSGN\CRDR\CRDR-CTYG.DWG
LAYOUT NAME - 090203_xs

PLOT DATE : 7/12/2024 2:34 PM PLOT BY : GAVIN WIPPERFURTH PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 5958-00-72	HWY: CTH G	COUNTY: IOWA	CROSS SECTIONS	SHEET 52	E

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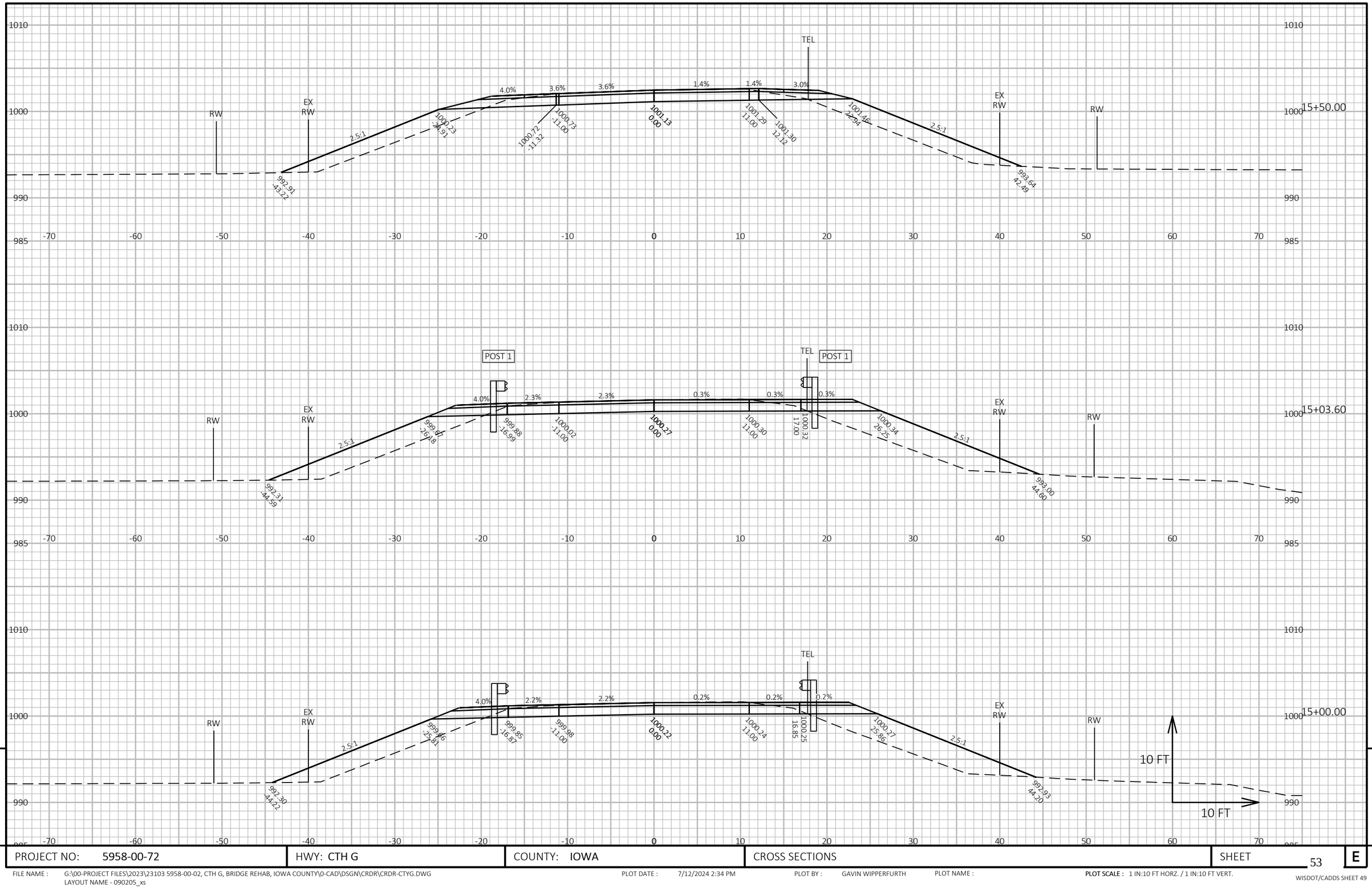
LAYOUT NAME - 090204_xs

PLOT DATE : 7/12/2024 2:34 PM PLOT BY : GAVIN WIPPERFURTH PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 5958-00-72	HWY: CTH G	COUNTY: IOWA	CROSS SECTIONS	SHEET 53	E

FILE NAME : G:\00-PROJECT FILES\2023\23103 5958-00-02, CTH G, BRIDGE REHAB, IOWA COUNTY\0-CAD\DSGN\CRDR\CRDR-CTYG.DWG
LAYOUT NAME - 090205_xs

PLOT DATE : 7/12/2024 2:34 PM PLOT BY : GAVIN WIPPERFURTH PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

END UNPVD SHLDR TAPER

15+95.00

END UNPVD SHLDR TAPER

TEL

4.3% 4.3%

1001.71 11.00

1001.27 21.13

2.5:1

994.31 38.94

RW

EX RW

RW

EX RW

15+70.00

END PVD SHLDR TAPER

STA. 15+64 END PROJECT MATCH EXISTING SAW CUT REQUIRED

END PVD SHLDR TAPER

TEL

4.0% 4.0%

1000.52 23.57

1001.03 11.00

2.5:1

993.11 42.11

4.0% 4.0%

1001.54 11.00

1001.01 24.24

2.5:1

994.06 41.61

RW

EX RW

RW

EX RW

15+64.00

10 FT

10 FT

1010

1000

990

985

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

9

PROJECT NO: 5958-00-72	HWY: CTH G	COUNTY: IOWA	CROSS SECTIONS	SHEET 54	E

FILE NAME : G:\00-PROJECT FILES\2023\23103 5958-00-02, CTH G, BRIDGE REHAB, IOWA COUNTY\0-CAD\DSGN\CRDR\CRDR-CTYG.DWG
LAYOUT NAME - 090206_xs

PLOT DATE : 7/12/2024 2:34 PM PLOT BY : GAVIN WIPPERFURTH PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov