

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
6040-00-75	WISC 2024046	1

ORDER OF SHEETS

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

TOTAL SHEETS = 46

PROJECT ID: 6040-00-75

COUNTY: COLUMBIA

# STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

## TOWN OF SCOTT, KOWALD ROAD

FOX RIVER BRIDGE, B-11-0181

LOC STR  
COLUMBIA COUNTY

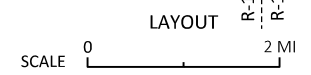
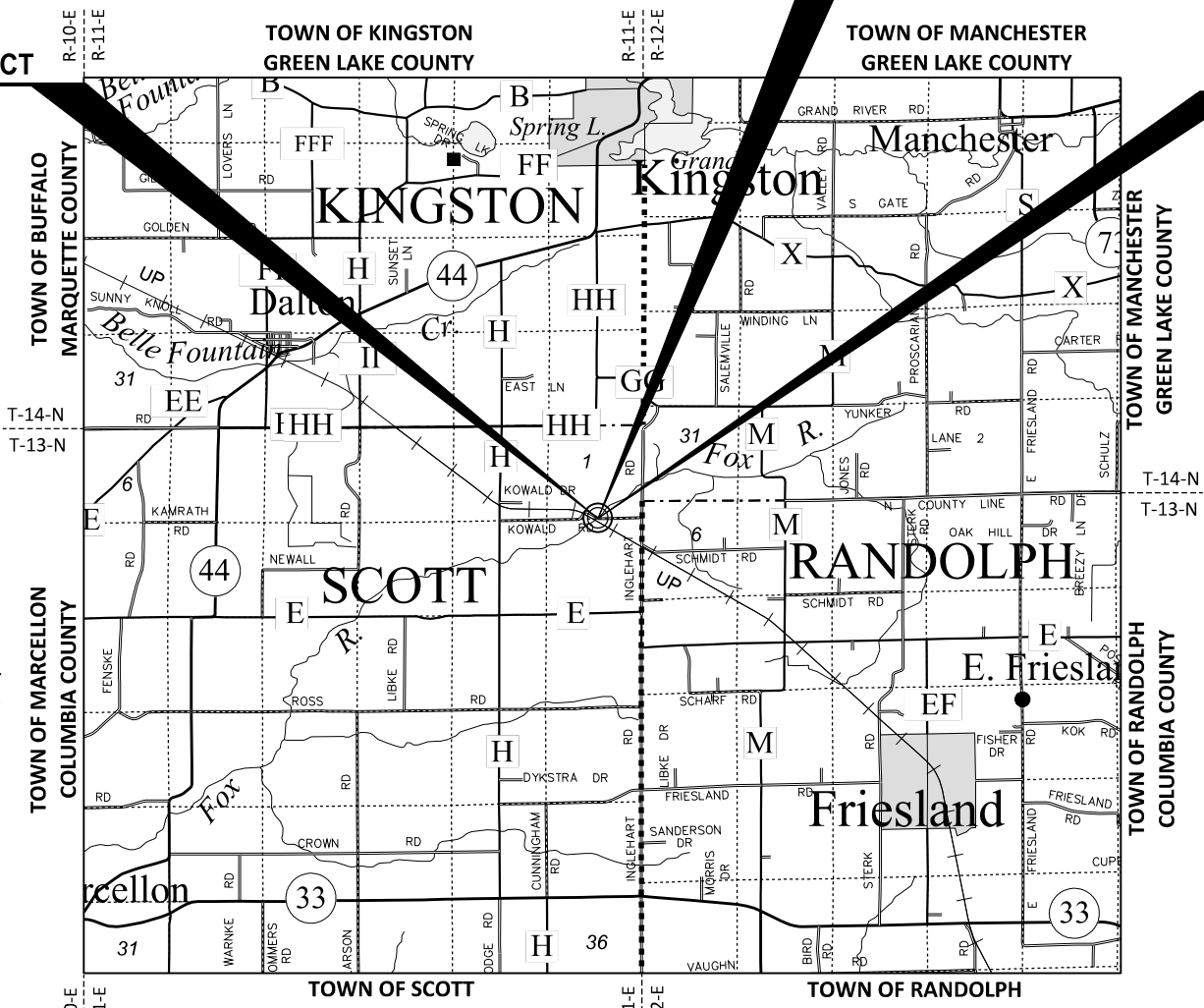
STATE PROJECT NUMBER  
**6040-00-75**

STRUCTURE B-11-0181

BEGIN PROJECT  
STA. 11+25

Y = 426,974.40  
X = 623,202.84

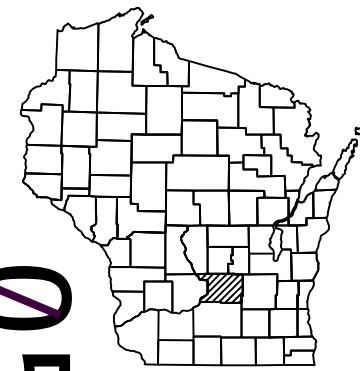
END PROJECT  
STA. 13+75



TOTAL NET LENGTH OF CENTERLINE = 0.047 MILES

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

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



05

DESIGN DESIGNATION 6040-00-75

A.A.D.T. (2024)	=	40
A.A.D.T. (2044)	=	60
D.H.V.	=	5.4
D.D.	=	60/40
T.	=	10% (ASSUMED)
DESIGN SPEED	=	25 M.P.H.
ESALS	=	11,000

CONVENTIONAL SYMBOLS

PLAN	PROFILE
CORPORATE LIMITS	GRADE LINE
PROPERTY LINE	ORIGINAL GROUND
LOT LINE	MARSH OR ROCK PROFILE (To be noted as such)
LIMITED HIGHWAY EASEMENT	SPECIAL DITCH
EXISTING RIGHT OF WAY	GRADE ELEVATION
PROPOSED OR NEW R/W LINE	CULVERT (Profile View)
SLOPE INTERCEPT	UTILITIES
REFERENCE LINE	ELECTRIC
EXISTING CULVERT	FIBER OPTIC
PROPOSED CULVERT (Box or Pipe)	GAS
COMBUSTIBLE FLUIDS	SANITARY SEWER
MARSH AREA	STORM SEWER
WOODED OR SHRUB AREA	TELEPHONE
	WATER
	UTILITY PEDESTAL
	POWER POLE
	TELEPHONE POLE

ACCEPTED FOR  
COUNTY of COLUMBIA  
10-26-2023  
(Date) (Highway Commissioner)

ACCEPTED FOR  
TOWN of SCOTT  
7-21-23  
(Date) (Town Chairman)

ORIGINAL PLANS PREPARED BY  
**JEWELL**  
associates engineers, inc  
Engineers - Architects - Surveyors



STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	JEWELL ASSOCIATES ENGINEERS, INC.
Designer	JEWELL ASSOCIATES ENGINEERS, INC.
Project Manager	VALERIE GUIDER, P.E.
Regional Examiner	SW REGION
Regional Supervisor	KYLE HEMP, P.E.

APPROVED FOR THE DEPARTMENT  
DATE: Valerie Guider, P.E. Digitally signed by Valerie Guider, P.E. Date: 2023.07.27 15:53:04-05'00'  
(Signature)

E

**GENERAL NOTES**

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

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE, AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS COMMON EXCAVATION. EXACT LOCATIONS OF EBS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

UNLESS SHOWN OTHERWISE, DISTURBED AREAS SHOWN WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS ARE TO BE FERTILIZED (TYPE B), SEEDED (USE SEED MIX NO. 20), AND MULCHED AS DIRECTED BY THE ENGINEER. ALL POST CONSTRUCTION WET AREAS SHALL BE SEEDED WITH SEEDING MIXTURE NO. 60. DO NOT FERTILIZE WETLAND AREAS.

WHEN THE QUANTITY OF THE ITEM OF BASE AGGREGATE DENSE OR ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLANS IS APPROXIMATE, AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.

SILT FENCE AND TURBIDITY BARRIER SHALL BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD. SILT FENCE AND TURBIDITY BARRIER SHALL BE PLACED PRIOR TO CONSTRUCTION AND SHALL BE IN PLACE PRIOR TO STRUCTURE REMOVAL.

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

THE LOCATION OF ALL PERMANENT SIGNING SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD PRIOR TO PLACEMENT.

4-INCHES OF ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 2¼-INCH LOWER LAYER AND A 1¾-INCH UPPER LAYER.

APPLY TACK COAT AT A RATE OF 0.05 GAL/SY BETWEEN LAYERS OF ASPHALTIC SURFACE.

ADJUST DITCH GRADING AS NECESSARY TO FIT FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER IN THE FIELD.

ASPHALTIC SURFACE QUANTITIES WERE CALCULATED USING 115 LB/SY/IN.

CURVE DATA IS BASED ON THE ARC DEFINITIONS

WETLANDS ARE PRESENT IN THE PROJECT LIMITS. THE CONTRACTOR SHALL NOT OPERATE EQUIPMENT OR STOCKPILE MATERIALS BEYOND THE EXISTING STREAM BANK FROM STA. 11+25 - 12+84, RT; STA 11+44 - 11+96, LT; STA. 12+02 - 13+15, RT; STA. 12+14 - 13+12, LT.

**CONTACTS**

**COLUMBIA COUNTY HIGHWAY DEPARTMENT:**

HIGHWAY DEPARTMENT COMMISSIONER  
338 W OLD HIGHWAY 16  
WYOCENA, WI 53969  
ATTN: CHRIS HARDY, P.E.  
PH: (608) 429-2136  
EMAIL: chris.hardy@co.columbia.wi.us

**DESIGN CONSULTANT:**

JEWELL ASSOCIATES ENGINEERS, INC.  
560 SUNRISE DRIVE  
SPRING GREEN, WI 53588  
ATTN: ROBERT HANOLD, P.E.  
PH: (608) 459-6027  
CELL: (608) 341-8159  
EMAIL: robert.hanold@jewellassoc.com

**TOWN OF SCOTT:**

TOWN OF SCOTT CHAIRPERSON  
N8101 HWY 44  
PARDEEVILLE, WI 53954  
ATTN: JAMES NELSON  
PH: (608) 429-3703

**WDNR LIAISON:**

STATE OF WISCONSIN  
DNR SOUTH CENTRAL REGION HQ  
3911 FISH HATCHERY ROAD  
FITCHBURG, WI 53711  
ATTN: ERIC HEGGELUND  
PH: (608) 228-7927  
EMAIL: eric.heggelund@wisconsin.gov

**UTILITIES**

**ELECTRICITY**

ADAMS-COLUMBIA ELECTRIC COOPERATIVE  
ATTN: SHAWN PIETRZAK  
401 E. LAKE ST. / P.O. Box 70  
FRIENDSHIP, WI 53934  
OFFICE: (800) 831-8629 EXT. 323  
EMAIL: spietrzak@acecwi.com

**COMMUNICATION**

BRIGHTSPEED  
ATTN: SCOTT HEINZELMAN  
144 N. PEARL ST.  
BERLIN, WI 54923  
OFFICE: (608) 716-5964  
CELL: (920) 757-4802  
EMAIL: scott.heinzelman@brightspeed.com  
EMAIL: relocations@brightspeed.com

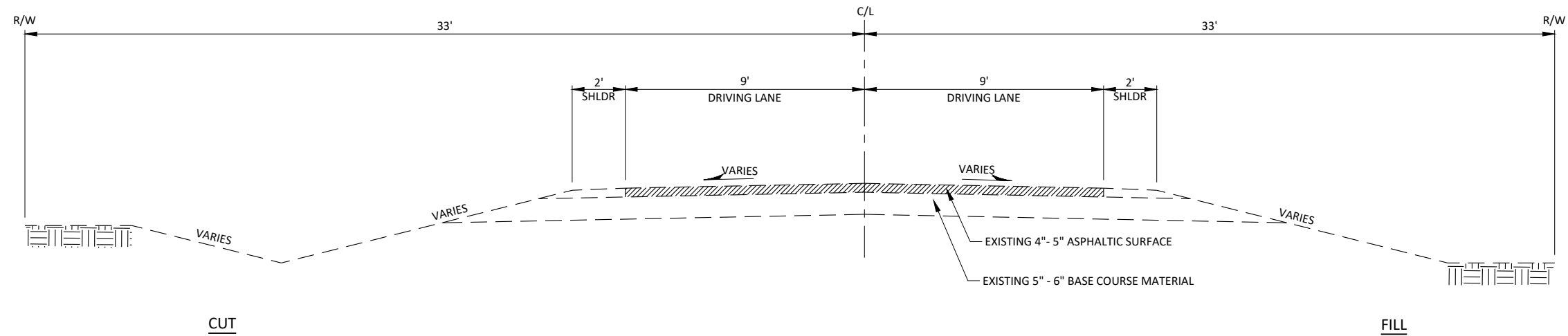
**LIST OF STANDARD ABBREVIATIONS**

ABUT	Abutment	INV	Invert	RDWY	Roadway
AC	Acre	IP	Iron Pipe or Pin	SALV	Salvaged
AGG	Aggregate	IRS	Iron Rod Set	SAN S	Sanitary Sewer
AH	Ahead	JT	Joint	SEC	Section
<	Angle	JCT	Junction	SHLDR	Shoulder
ASPH	Asphaltic	LHF	Left-Hand Forward	SHR	Shrinkage
AVG	Average	L	Length of Curve	SW	Sidewalk
ADT	Average Daily Traffic	LIN FT	Linear Foot	S	South
BAD	Base Aggregate Dense	or LF		SQ	Square
BK	Back	LC	Long Chord of Curve	SF or SQ FT	Square Feet
BF	Back Face	MH	Manhole	SV or SQ YD	Square Yard
BM	Bench Mark	MB	Mailbox	STD	Standard
BR	Bridge	ML or M/L	Match Line	SDD	Standard Detail Drawings
C. or C/L	Center Line	N	North	STH	State Trunk Highways
CC	Center to Center	Y	North Grid Coordinate	STA	Station
C.E.	Commercial Entrance	OD	Outside Diameter	SS	Storm Sewer
CTH	County Trunk Highway	PLE	Permanent Limited Easement	SG	Subgrade
CR	Creek	PT	Point	SE	Superelevation
CR	Crushed	PC	Point of Curvature	SL or S/L	Survey Line
CY or CU YD	Cubic Yard	PI	Point of Intersection	SV	Septic Vent
CP	Culvert Pipe	PRC	Point of Reverse Curvature	T	Tangent
C & G	Curb and Gutter	PT	Point of Tangency	TEL	Telephone
D	Degree of Curve	POC	Point On Curve	TEMP	Temporary
DHV	Design Hour Volume	POT	Point on Tangent	TI	Temporary Interest
DIA	Diameter	PVC	Polyvinyl Chloride	TLE	Temporary Limited Easement
E	East	PCC	Portland Cement Concrete	t	Ton
X	East Grid Coordinate	LB	Pound	T or TN	Town
ELEC	Electric (al)	PSI	Pounds Per Square Inch	TRANS	Transition
EL or ELEV	Elevation	P.E.	Private Entrance	TL or T/L	Transit Line
ESALS	Equivalent Single Axle Loads	R	Radius	T	Trucks (percent of)
EBS	Excavation Below Subgrade	RR	Railroad	TYP	Typical
FF	Face to Face	R	Range	UNCL	Unclassified
F.E.	Field Entrance	RL or R/L	Reference Line	UG	Underground Cable
F	Fill	RP	Reference Point	USH	United States Highway
FG	Finished Grade	RCCP	Reinforced Concrete Culvert Pipe	VAR	Variable
FL or F/L	Flow Line	REQD	Required	V	Velocity or Design Speed
FT	Foot	RES	Residence or Residential	VERT	Vertical
FTG	Footing	RW	Retaining Wall	VC	Vertical Curve
GN	Grid North	RT	Right	VOL	Volume
HT	Height	RHF	Right-Hand Forward	WM	Water Main
CWT	Hundredweight	R/W	Right-of-Way	WV	Water Valve
HYD	Hydrant	RD	Road	W	West
INL	Inlet	R	River	WB	Westbound
ID	Inside Diameter			YD	Yard

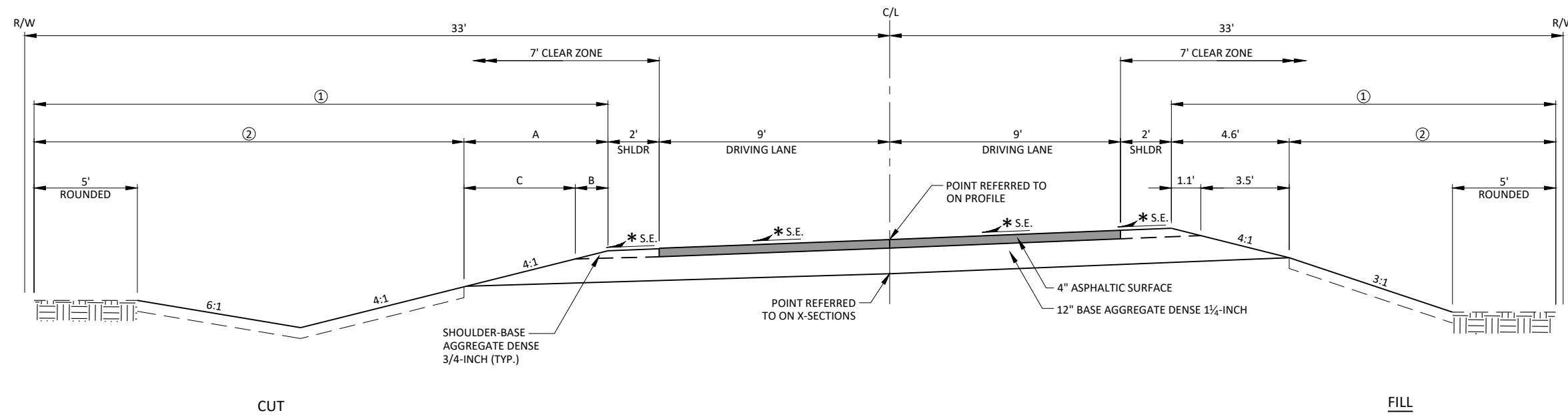
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP TURF	.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 SLOPE TURF			.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= 0.32 ACRES  
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.24 ACRES





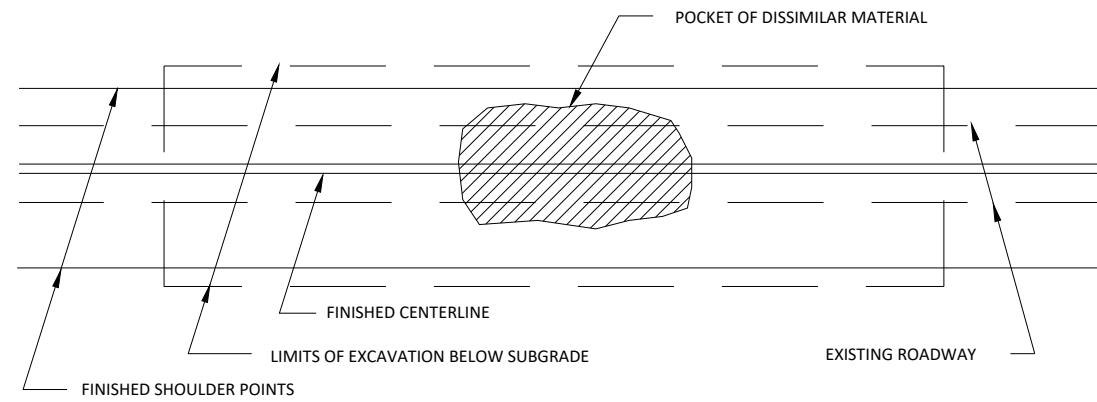
**TYPICAL EXISTING SECTION**  
KOWALD ROAD



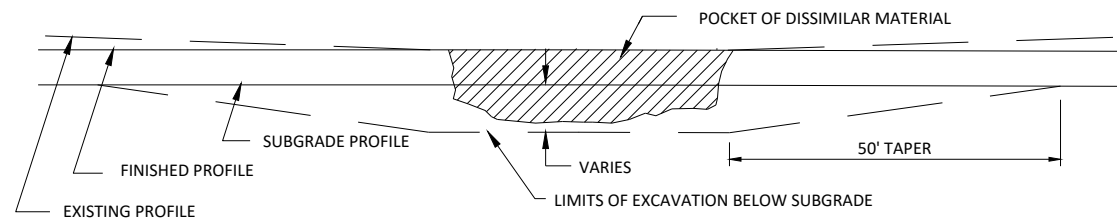
**TYPICAL FINISHED SECTION**  
KOWALD ROAD

\* SEE SUPERELEVATION TABLE  
THE LOW SIDE SHOULDER SLOPE ON SUPERELEVATED SECTIONS EQUALS THE SUPERELEVATION WHEN THE SUPERELEVATION IS GREATER THAN 0.04 FT./FT. IF THE SUPERELEVATION IS LESS THAN OR EQUALS 0.04 FT./FT., THEN THE LOW SIDE SHOULDER SLOPE IS 0.04 FT./FT. THE HIGH SIDE SHOULDER SLOPE ON THE SUPERELEVATED SECTIONS EQUALS THE SUPERELEVATION.

- ① LIMITS OF SEEDING MIXTURE NO. 20 OR SEEDING MIXTURE NO. 60 & FERTILIZER TYPE B (AS DIRECTED BY THE ENGINEER)
- ② LIMITS OF SALVAGED TOPSOIL & MULCH (AS DIRECTED BY THE ENGINEER)

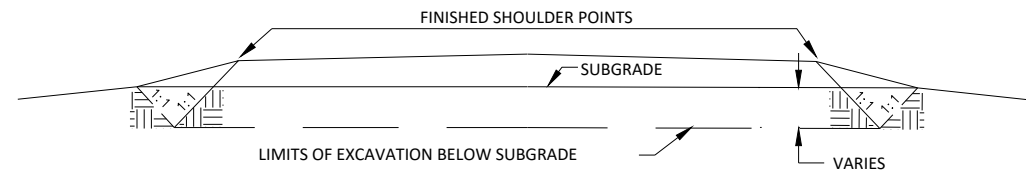


PLAN VIEW



PROFILE VIEW

**RURAL EXCAVATION BELOW SUBGRADE (E.B.S.)**

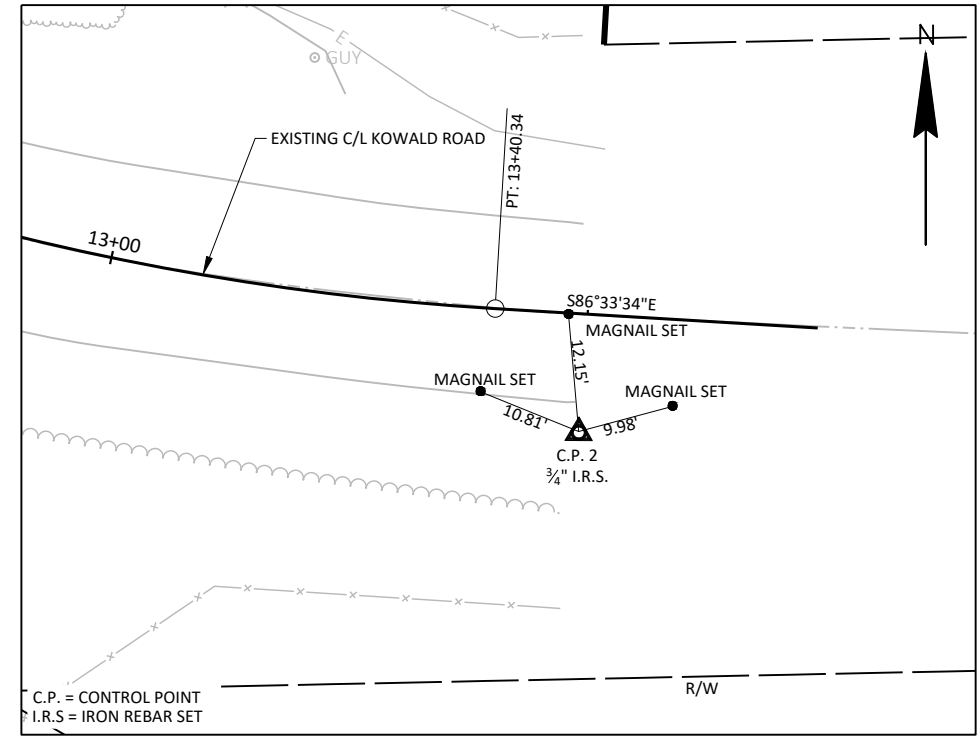
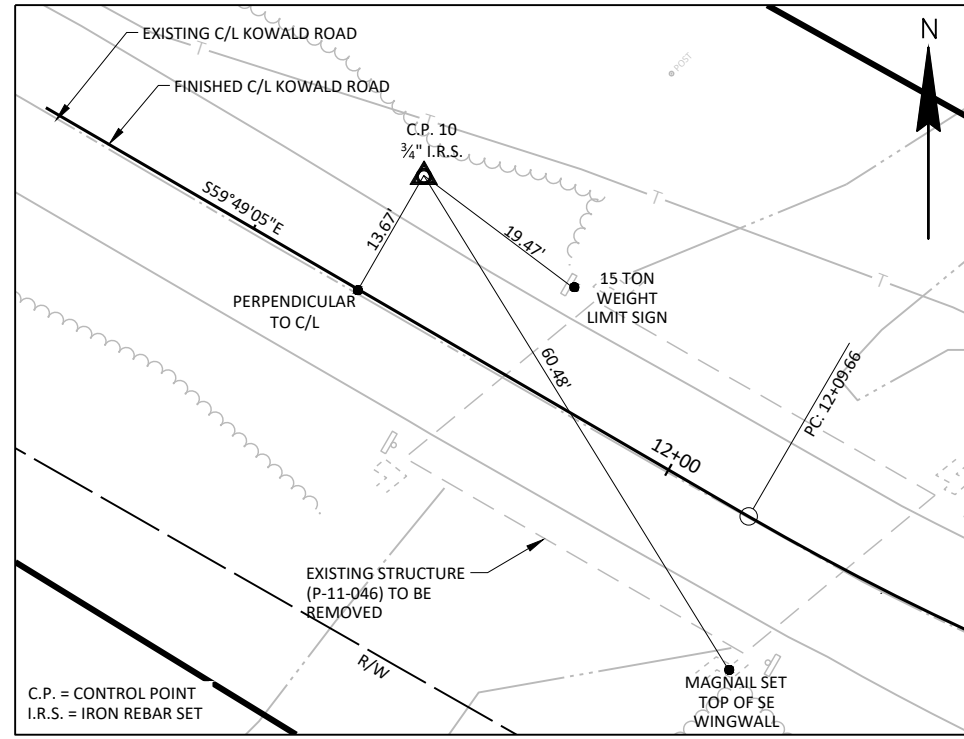
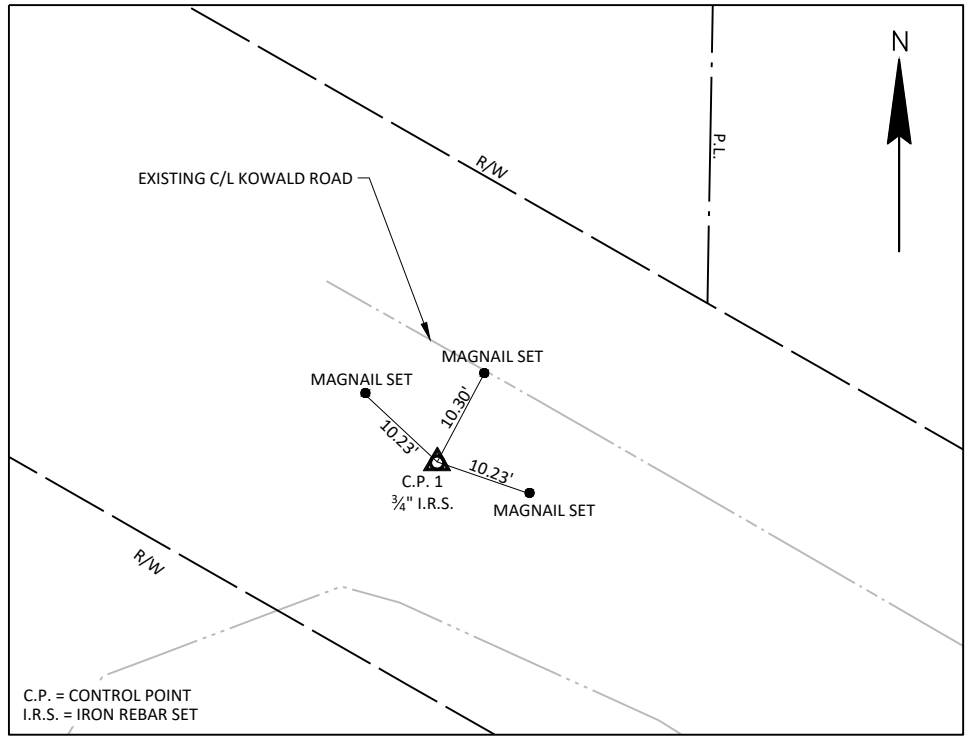
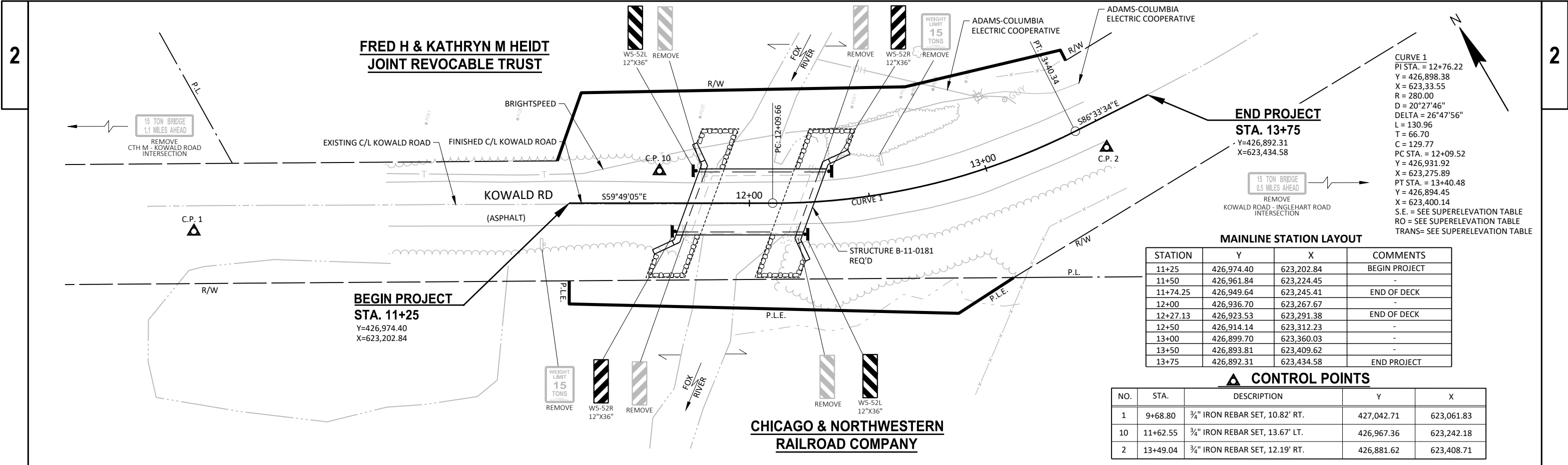


**CROSS SECTION VIEW**

1. EXACT LOCATION OF E.B.S. (EXCAVATION BELOW SUBGRADE) SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. E.B.S. AREA TO BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE ENGINEER. BACKFILL MUST BE HOMOGENEOUS WITH ADJOINING FILL MATERIAL.
3. THE FILL SECTION WITHIN 100' OF THE MOUTH OF THE CUT MUST BE KEPT 2' BELOW SUBGRADE UNTIL E.B.S. IS COMPLETED. LATERAL LIMITS OF EXCAVATION SHALL BE THE SUBGRADE SHOULDER POINTS.

**SUPERELEVATION MAINLINE - KOWALD ROAD**

STATION	LEFT(%)	RIGHT(%)	A (FT)	B (FT)	C (FT)
11+25	MATCH EXISTING	MATCH EXISTING	--	--	--
11+50	2.0	2.0	5.63	1.28	4.35
11+75	2.0	2.0	5.63	1.28	4.35
12+00	2.0	2.0	--	--	--
12+25	2.0	2.0	--	--	--
12+27.24	2.0	2.0	--	--	--
12+50	2.0	0.7	5.63	1.28	4.35
12+75	2.0	0.8	5.63	1.28	4.35
13+00	2.3	2.3	5.71	1.31	4.40
13+25	3.8	2.7	6.25	1.54	4.71
13+50	5.2	1.2	6.73	1.69	5.04
13+75	MATCH EXISTING	MATCH EXISTING	--	--	--



Estimate Of Quantities

6040-00-75

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	3.000	3.000
0004	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. P-11-46	EACH	1.000	1.000
0006	205.0100	Excavation Common	CY	200.000	200.000
0008	206.1001	Excavation for Structures Bridges (structure) 01. B-11-0181	EACH	1.000	1.000
0010	208.0100	Borrow	CY	220.000	220.000
0012	210.1500	Backfill Structure Type A	TON	500.000	500.000
0014	213.0100	Finishing Roadway (project) 01. 6040-00-75	EACH	1.000	1.000
0016	305.0110	Base Aggregate Dense 3/4-Inch	TON	30.000	30.000
0018	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	470.000	470.000
0020	455.0605	Tack Coat	GAL	25.000	25.000
0022	465.0105	Asphaltic Surface	TON	110.000	110.000
0024	502.0100	Concrete Masonry Bridges	CY	201.000	201.000
0026	502.3200	Protective Surface Treatment	SY	240.000	240.000
0028	505.0400	Bar Steel Reinforcement HS Structures	LB	4,590.000	4,590.000
0030	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	24,560.000	24,560.000
0032	513.4061	Railing Tubular Type M	LF	109.000	109.000
0034	516.0500	Rubberized Membrane Waterproofing	SY	12.000	12.000
0036	550.2104	Piling CIP Concrete 10 3/4 X 0.25-Inch	LF	450.000	450.000
0038	606.0300	Riprap Heavy	CY	150.000	150.000
0040	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	150.000	150.000
0042	618.0100	Maintenance and Repair of Haul Roads (project) 01. 6040-00-75	EACH	1.000	1.000
0044	619.1000	Mobilization	EACH	1.000	1.000
0046	624.0100	Water	MGAL	8.000	8.000
0048	625.0500	Salvaged Topsoil	SY	1,200.000	1,200.000
0050	627.0200	Mulching	SY	1,200.000	1,200.000
0052	628.1504	Silt Fence	LF	610.000	610.000
0054	628.1520	Silt Fence Maintenance	LF	1,220.000	1,220.000
0056	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0058	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0060	628.6005	Turbidity Barriers	SY	135.000	135.000
0062	629.0210	Fertilizer Type B	CWT	1.000	1.000
0064	630.0120	Seeding Mixture No. 20	LB	31.000	31.000
0066	630.0160	Seeding Mixture No. 60	LB	6.000	6.000
0068	630.0200	Seeding Temporary	LB	40.000	40.000
0070	630.0300	Seeding Borrow Pit	LB	4.000	4.000
0072	630.0500	Seed Water	MGAL	36.000	36.000
0074	633.5100	Markers ROW	EACH	5.000	5.000
0076	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0078	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0080	638.2602	Removing Signs Type II	EACH	8.000	8.000
0082	638.3000	Removing Small Sign Supports	EACH	8.000	8.000
0084	642.5001	Field Office Type B	EACH	1.000	1.000
0086	643.0420	Traffic Control Barricades Type III	DAY	1,210.000	1,210.000
0088	643.0705	Traffic Control Warning Lights Type A	DAY	1,880.000	1,880.000
0090	643.0900	Traffic Control Signs	DAY	940.000	940.000
0092	643.5000	Traffic Control	EACH	1.000	1.000
0094	645.0111	Geotextile Type DF Schedule A	SY	100.000	100.000
0096	645.0120	Geotextile Type HR 01. B-11-0181	SY	250.000	250.000
0098	650.4500	Construction Staking Subgrade	LF	197.000	197.000
0100	650.5000	Construction Staking Base	LF	197.000	197.000

Estimate Of Quantities

6040-00-75

Line	Item	Item Description	Unit	Total	Qty
0102	650.6501	Construction Staking Structure Layout (structure) 01. B-11-0181	EACH	1.000	1.000
0104	650.9911	Construction Staking Supplemental Control (project) 01. 6040-00-75	EACH	1.000	1.000
0106	650.9920	Construction Staking Slope Stakes	LF	197.000	197.000
0108	690.0150	Sawing Asphalt	LF	36.000	36.000
0110	715.0502	Incentive Strength Concrete Structures	DOL	1,206.000	1,206.000
0112	999.2005.S	Maintaining Bird Deterrent System (station) 01. 12+00	EACH	1.000	1.000
0114	SPV.0090	Special 01. Flashing Stainless Steel	LF	95.000	95.000



3

GRUBBING

STATION-STATION	LOCATION	201.0205 GRUBBING (STA)
11+00 - 14+00	MAINLINE	3
TOTALS =		3

EARTHWORK SUMMARY

CATEGORY	FROM TO STA	LOCATION	205.0100 COMMON EXCAVATION CUT (2) (CY)	AVAILABLE MATERIAL (CY) (1)	UNEXPANDED FILL (CY)	EXPANDED FILL (CY) FACTOR 1.25 (2)	MASS ORDINATE +/- (CY) (3)	208.0100 BORROW (CY)
			010	11+25 - 13+75	MAINLINE	200	200	336
TOTALS =			200	200	336	420	-220	220

NOTES:  
 1.) AVAILABLE MATERIAL=CUT  
 2.) EXPANDED FILL FACTOR 1.25: EXPANDED FILL = (UNEXPANDED FILL)\*1.25  
 3.) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE CATEGORY. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE CATEGORY.

WATER

PROJECT	624.0100 (MGAL)
6040-00-75	8
TOTAL =	8

3

BASE AGGREGATE DENSE

CATEGORY	STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH (TON)	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH (TON)
			010	11+25 - 11+74
010	12+27 - 13+75	MAINLINE	22	343
TOTALS =			30	470

ASPHALTIC SURFACE

CATEGORY	STATION - STATION	LOCATION	455.0605 TACK COAT (GAL)	465.0105 ASPHALTIC SURFACE (TON)
			010	11+25 - 11+74
010	12+27 - 13+75	MAINLINE	18	81
TOTALS =			25	110

SILT FENCE

STATION - STATION	LOCATION	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)
		11+26 - 12+00	MAINLINE, LT.
11+20 - 11+78	MAINLINE, RT.	60	120
12+16 - 13+75	MAINLINE, LT.	144	288
11+94 - 13+75	MAINLINE, RT.	204	408
-	UNDISTRIBUTED	120	240
TOTALS =		610	1,220

FINISHING ITEMS

STATION - STATION	LOCATION	625.0500 SALVAGED TOPSOIL (SY)	627.0200 MULCHING (SY)	629.0210 FERTILIZER TYPE B (CWT)	630.0120 SEEDING MIXTURE NO. 20 (LB)	630.0160 SEEDING MIXTURE NO. 60 (LB)	630.0200 SEEDING TEMPORARY (LB)	630.0300 SEEDING BORROW PIT (LB)	630.0500 SEED WATER (MGAL)
		11+25 - 11+74	MAINLINE	240	240	0.14	6	2	8
12+27 - 13+75	MAINLINE	720	720	0.42	19	3	24	-	19
-	BORROW PIT	-	-	0.08	-	-	-	4	3
-	UNDISTRIBUTED	240	240	0.32	6	1	8	-	7
TOTALS =		1,200	1,200	1.0	31	6	40	4	36

MOBILIZATION EROSION CONTROL

PROJECT	628.1905 MOBILIZATION EROSION CONTROL (EACH)	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL (EACH)
	6040-00-75	3
TOTALS =	3	2

TURBIDITY BARRIER

LOCATION	628.6005 (SY)
SOUTH RIVER BANK	55
NORTH RIVER BANK	53
UNDISTRIBUTED	27
TOTALS =	135

MARKERS ROW

PT #	STATION	LOCATION	633.5100 OFFSET FROM MARKERS FINISHED C/L FT	ROW (EACH)
			3	11+20
4	11+30	LEFT	46.00	1
5	12+75	LEFT	42.00	1
6	13+50	LEFT	33.00	1
7	13+50	LEFT	28.12	1
TOTAL =				5

SAWING ASPHALT

STATION	LOCATION	690.0150 (LF)
11+25	MAINLINE	18
13+75	MAINLINE	18
TOTAL =		36



PERMANENT SIGNING

APPROX. STATION	POSITION	LOCATION	SIGN CODE	SIGN DESCRIPTION	ORDER LINES	SIGN SIZE	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)
-	RIGHT	AT CTH H	R12-55	XX TON BRDGE XX MILES AHEAD	15 TON / 1.1 MILES	48X18	—	—	1	1
11+14	LEFT	MAINLINE	R12-1	BRIDGE WEIGHT LIMIT	15 TONS	24X30	—	—	1	1
11+69	LEFT	MAINLINE	W5-52R	BRIDGE HASH MARKS		12X36	1	3.00	1	1
11+78	RIGHT	MAINLINE	W5-52L	BRIDGE HASH MARKS		12X36	1	3.00	1	1
12+22	RIGHT	MAINLINE	W5-52L	BRIDGE HASH MARKS		12X36	1	3.00	1	1
12+34	RIGHT	MAINLINE	W5-52R	BRIDGE HASH MARKS		12X36	1	3.00	1	1
12+56	LEFT	MAINLINE	R12-1	BRIDGE WEIGHT LIMIT	15 TONS	24X30	—	—	1	1
-	RIGHT	AT INGLEHART RD	R12-55	XX TON BRDGE XX MILES AHEAD	15 TON / 0.5 MILES	48X18	—	—	1	1
TOTALS =							4	12.00	8	8

CONSTRUCTION STAKING

STATION-STATION	LOCATION	650.4500 SUBGRADE (L.F.)	650.5000 BASE (L.F.)	*650.6501 STRUCTURE LAYOUT (B-11-0181) (EACH)	650.9911 SUPPLEMENTAL CONTROL (6040-00-75) (EACH)	650.9920 SLOPES STAKES (L.F.)
11+25 - 11+74	MAINLINE	49	49	-	-	49
12+27 - 13+75	MAINLINE	148	148	-	-	148
6040-00-75	PROJECT	-	-	1	1	-
TOTAL =		197	197	1	1	197

\*CATEGORY 020

TRAFFIC CONTROL

LOCATION	643.0420 BARRICADES TYPE III (DAY)	643.0705 WARNING LIGHTS TYPE A (DAY)	643.0900 SIGNS (DAY)	643.5000 TRAFFIC CONTROL (EACH)	
PROJECT	1,210	1,880	940	1	
TOTALS =		1,210	1,880	940	1

**CONVENTIONAL ABBREVIATIONS**

ACCESS RIGHTS	AR	POINT OF INTERSECTION	PI
ACRES	AC	PROPERTY LINE	PL
AHEAD	AH	RECORDED AS	(100')
ALUMINUM	ALUM	REEL / IMAGE	R/I
AND OTHERS	ET AL	REFERENCE LINE	R/L
BACK	BK	REMAINING	REM
BLOCK	BLK	RESTRICTIVE DEVELOPMENT	RDE
CENTERLINE	C/L	EASEMENT	
CERTIFIED SURVEY MAP	CSM	RIGHT	RT
CONCRETE	CONC	RIGHT OF WAY	R/W
COUNTY	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	TLE
GAS VALVE	GV	EASEMENT	
GRID NORTH	GN	TRANSPORTATION PROJECT	TPP
HIGHWAY EASEMENT	HE	PLAT	
IDENTIFICATION	ID	UNITED STATES HIGHWAY	USH
LAND CONTRACT	LC	VOLUME	V
LEFT	LT		
MONUMENT	MON		
NATIONAL GEODETIC SURVEY	NGS		
NUMBER	NO		
OUTLOT	OL		
PAGE	P		
POINT OF TANGENCY	PT		
PERMANENT LIMITED	PLE		
EASEMENT			
POINT OF BEGINNING	POB		
POINT OF CURVATURE	PC		
POINT OF COMPOUND CURVE	PCC		

**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	⊠

**CURVE DATA**

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

**CONVENTIONAL SYMBOLS**

SECTION LINE	---	SECTION CORNER SYMBOL	⊙	R/W MONUMENT (TO BE SET)	●
QUARTER LINE	---	SECTION CORNER MONUMENT	⊙	NON-MONUMENTED R/W POINT	○
SIXTEENTH LINE	---	GEODETIC SURVEY MONUMENT	⊙	FOUND IRON PIN (3-INCH UNLESS NOTED)	⊙
NEW REFERENCE LINE	---	SIXTEENTH CORNER MONUMENT	⊙	OFF-PREMISE SIGN	⊙
NEW R/W LINE	---	SIGN	⊙	NON-COMPENSABLE SIGN	⊙
EXISTING R/W OR HE LINE	---	ELECTRIC POLE	⊙	COMPENSABLE	⊙
PROPERTY LINE	---	TELEPHONE POLE	⊙	NON-COMPENSABLE	⊙
LOT, TIE & OTHER MINOR LINES	---	PEDESTAL (LABEL TYPE)	⊙		
SLOPE INTERCEPT	---	(TV, TEL, ELEC, ETC.)	⊙		
CORPORATE LIMITS	---	ACCESS RESTRICTED BY ACQUISITION	---		
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC.)	---	NO ACCESS (BY STATUTORY AUTHORITY)	---		
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)	---	ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)	---		
TEMPORARY LIMITED EASEMENT AREA	---	NO ACCESS (NEW HIGHWAY)	---		
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)	---	PARCEL NUMBER	⊙	UTILITY NUMBER	⊙
TRANSMISSION STRUCTURES	---	PARALLEL OFFSETS	---		
BUILDING TO BE REMOVED	---				
BRIDGE	---				
CULVERT	---				

**NOTES:**

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

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

ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, OR FROM CENTERLINE OF EXISTING PAVEMENTS.

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.

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

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

A PERMANENT LIMITED EASEMENT (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE, BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHTS TO MAKE OR CONSTRUCT IMPROVEMENTS ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

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

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

FOR CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE TOWN OF SCOTT.

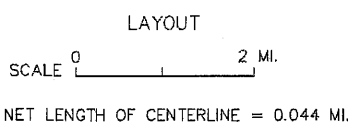
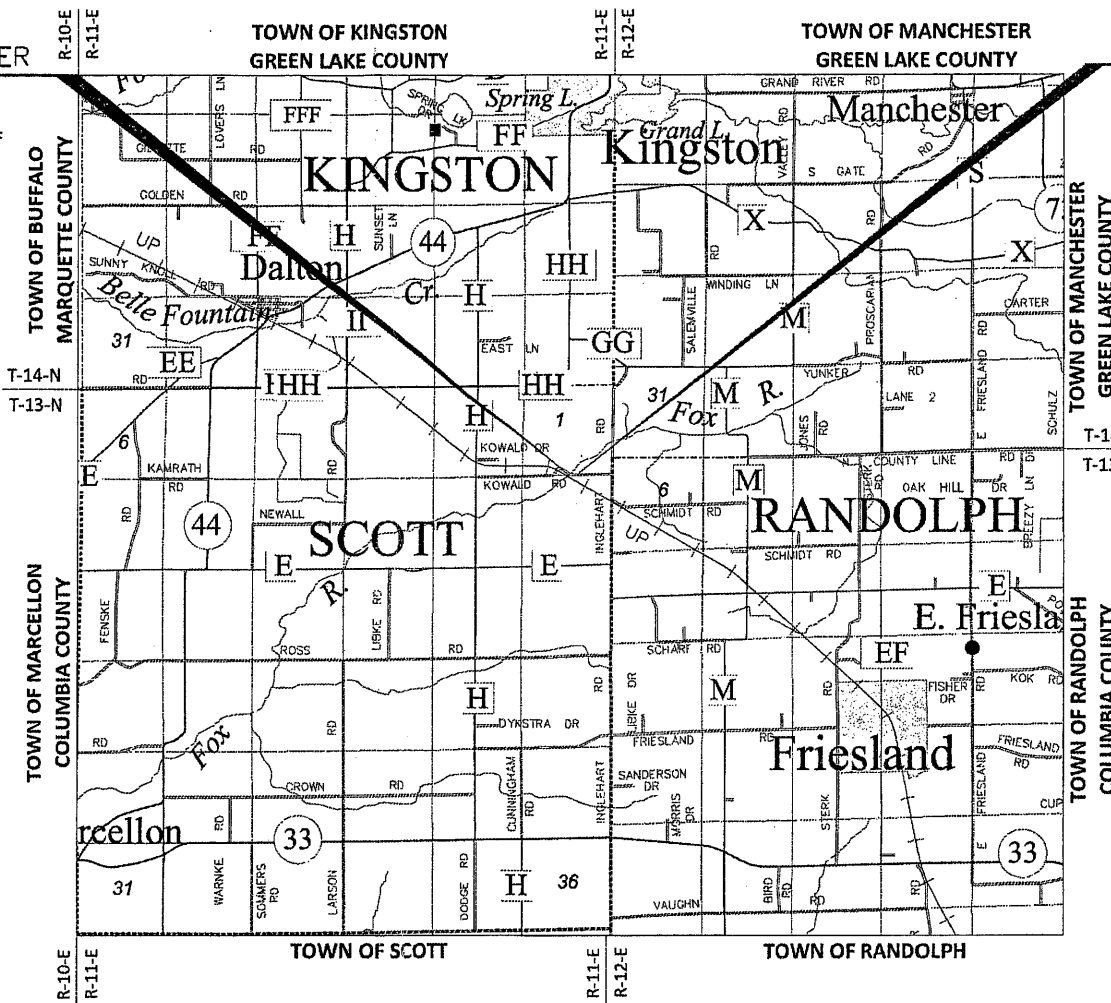
THIS PLAT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSE ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES AND ACCESS RIGHTS.

**BEGIN RELOCATION ORDER**

STA. 11+20.00  
 94.76' NORTH AND 111.74' EAST OF THE 3/4" CORNER OF SECTION 1, T.13N., R.11E., TOWN OF SCOTT, COLUMBIA COUNTY, WI  
 Y = 426976.918  
 X = 623198.514

**END RELOCATION ORDER**

STA. 13+50.00  
 11.65' NORTH AND 322.85' EAST OF THE 3/4" CORNER OF SECTION 1, T.13N., R.11E., TOWN OF SCOTT, COLUMBIA COUNTY, WI  
 Y = 426893.808  
 X = 623409.626

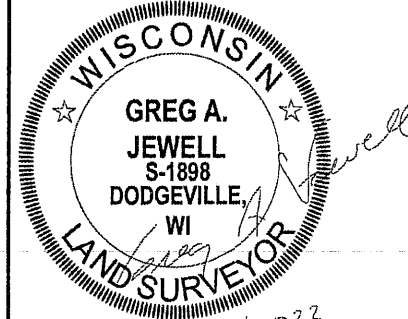


R/W PROJECT NUMBER	6040-00-05	SHEET NUMBER	4.01	TOTAL SHEETS	2
FEDERAL PROJECT NUMBER					
PLAT OF RIGHT-OF-WAY REQUIRED FOR TOWN OF SCOTT, KOWALD ROAD (FOX RIVER BRIDGE, B-11-0181)					
KOWALD ROAD		COLUMBIA COUNTY			
CONSTRUCTION PROJECT NUMBER	6040-00-75				

**JEWELL**  
 associates engineers, inc.  
 Engineers - Architects - Surveyors

560 SUNRISE DRIVE  
 SPRING GREEN, WI 53588  
 PHONE : 608.588.7484  
 FAX : 608.588.9322

I HEREBY CERTIFY THAT THIS PLAT WAS MADE FOR TOWN OF SCOTT, WISCONSIN AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



REVISION DATE  
 10/02/2023 N.C.  
 [Signature]  
 10/11/2023

APPROVED FOR TOWN OF SCOTT  
 DATE: 9-18-22 [Signature]  
 (NAME/TITLE)

E

**BEGIN RELOCATION ORDER**

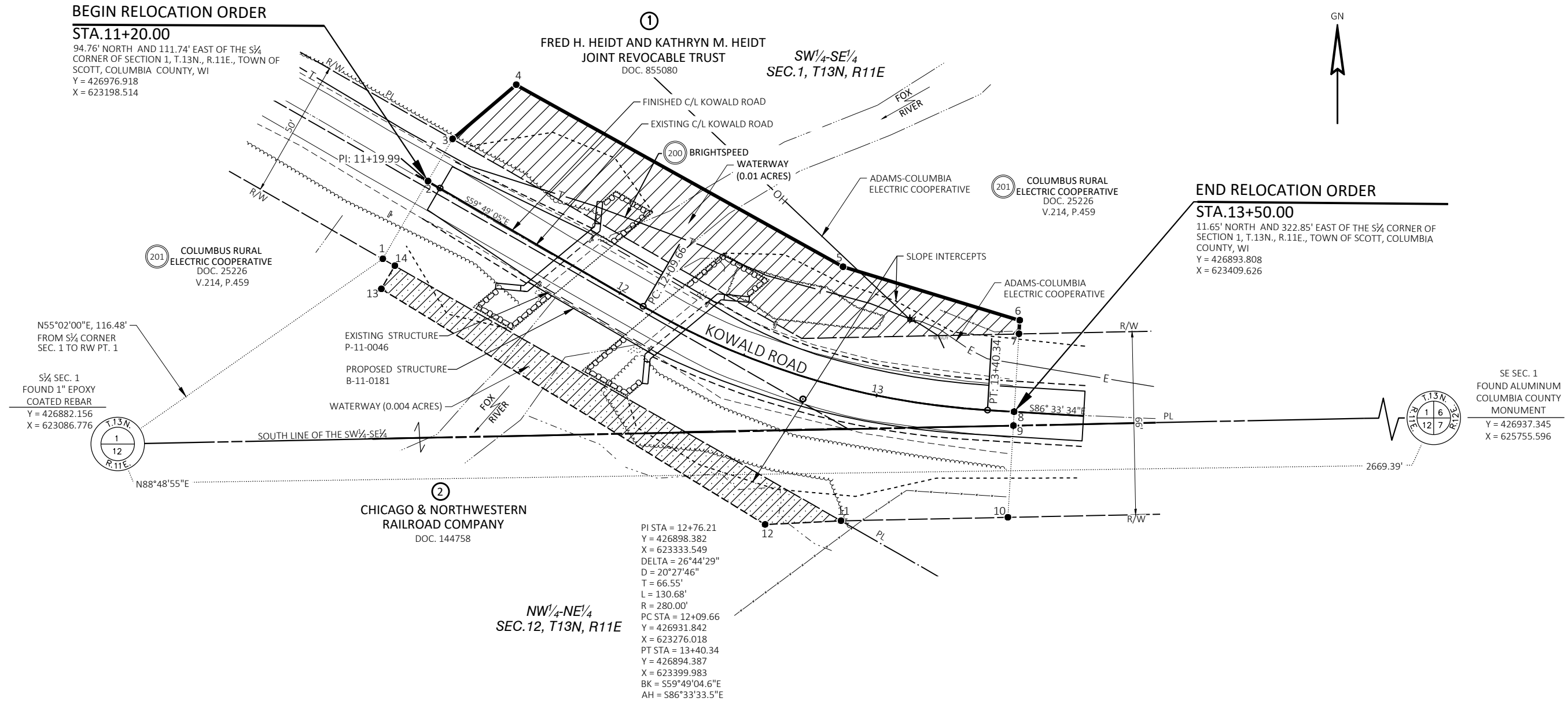
**STA.11+20.00**

94.76' NORTH AND 111.74' EAST OF THE S¼ CORNER OF SECTION 1, T.13N., R.11E., TOWN OF SCOTT, COLUMBIA COUNTY, WI  
Y = 426976.918  
X = 623198.514

**END RELOCATION ORDER**

**STA.13+50.00**

11.65' NORTH AND 322.85' EAST OF THE S¼ CORNER OF SECTION 1, T.13N., R.11E., TOWN OF SCOTT, COLUMBIA COUNTY, WI  
Y = 426893.808  
X = 623409.626



SCHEDULE OF LANDS AND INTERESTS REQUIRED						
PARCEL NUMBER	OWNER (S)	INTERESTS REQUIRED	R/W ACRES REQUIRED			PLE ACRES REQUIRED
			NEW	EXISTING	TOTAL	
1	FRED H. HEIDT AND KATHRYN M. HEIDT JOINT REVOCABLE TRUST	FEE	0.12	-	0.12	0.00
2	CHICAGO & NORTHWESTERN RAILROAD COMPANY	PLE	-	-	-	0.05
200	BRIGHTSPEED	RELEASE OF RIGHTS				
201	ADAMS-COLUMBIA ELECTRIC COOPERATIVE	RELEASE OF RIGHTS				

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

EASEMENT TABLE			
OWNER	RECORDING INFORMATION	LOCATED IN PARCEL #	REMARKS
ADAMS-COLUMBIA ELECTRIC COOPERATIVE (FORMERLY COLUMBUS RURAL ELECTRIC COOPERATIVE)	DOC. 252526, V. 214, P. 459	1, 2	30 ACRE BLANKET EASEMENT IN (SE1/4-SW1/4), (W1/2-S1/2-E1/4-SW1/4), (S1/2-SW1/4-SE1/4)

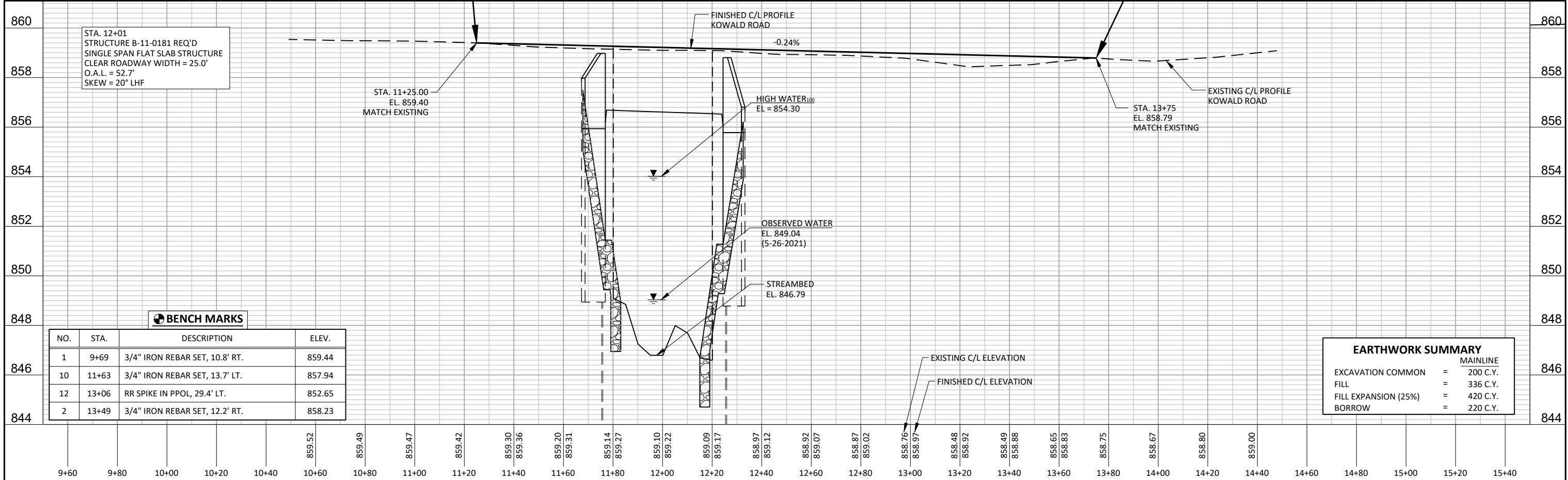
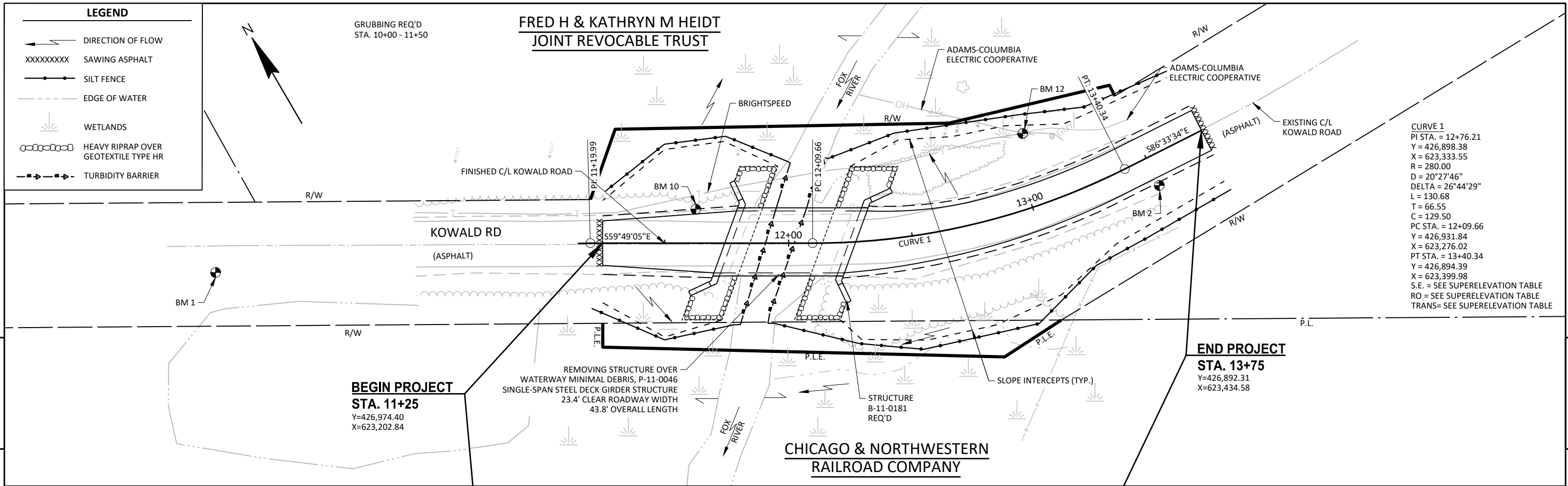
RIGHT OF WAY POINTS TABLE				
POINT NUMBER	STATION	OFFSET	Y	X
1	11+20.00	32.40 R	426948.908	623182.226
2	11+20.00	0.00 L	426976.918	623198.514
3	11+20.00	17.60 L	426992.132	623207.362
4	11+30.00	46.00 L	427011.654	623230.285
5	12+75.00	42.00 L	426946.054	623347.953
6	13+50.00	33.00 L	426926.748	623411.605
7	13+50.00	28.12 L	426921.874	623411.312
8	13+50.00	0.00 R	426893.808	623409.626
9	13+50.00	4.99 R	426888.826	623409.327
10	13+50.01	38.10 R	426855.778	623407.333
11	12+97.12	46.83 R	426854.535	623347.240
12	11+25.00	32.36 R	426946.427	623186.565
13	12+75.00	55.00 R	426853.200	623319.898
14	11+25.00	42.00 R	426938.098	623181.721

RIGHT OF WAY LINE TABLE		
POINT TO POINT	BEARING	DISTANCE
1 TO 2	N30° 10' 44"E	32.40'
2 TO 3	N30° 10' 55"E	17.60'
3 TO 4	N49° 34' 47"E	30.11'
4 TO 5	S60° 51' 38"E	134.72'
5 TO 6	S73° 07' 38"E	66.52'
6 TO 7	S03° 26' 26"W	4.88'
7 TO 8	S03° 26' 12"W	28.12'
8 TO 9	S03° 26' 12"W	4.99'
9 TO 10	S03° 27' 13"W	33.11'
10 TO 11	S88° 48' 55"W	60.10'
11 TO 12	S87° 12' 16"W	27.37'
12 TO 13	N58° 25' 59"W	162.17'
13 TO 14	N30° 10' 55"E	9.64'
14 TO 1	N60° 14' 21"W	5.00'

NOTE: EXISTING C/L OF KOWALD ROAD BASED ON CENTERLINE OF EXISTING PAVEMENT.

EXISTING RIGHT-OF-WAY FOR KOWALD ROAD BASED ON THE CENTERLINE OF EXISTING PAVEMENT, CHICAGO AND NORTHWESTERN RAILWAY RIGHT OF WAY MAP CLYMAN JCT. WIS. TO WYEVILLE, WIS., COLUMBIA COUNTY REGISTER TOWN OF SCOTT V.3, P.245 TOWN CLERK RECORDS AND WIS. STATUTE 82.31(2).

REVISION DATE 10/02/2023	DATE 10/2/2023	SCALE. FEET 0 20 40	HWY: KOWALD ROAD	RW PROJECT NUMBER 6040-00-05	PLAT SHEET 4.02
			COUNTY: COLUMBIA	CONSTRUCTION PROJECT NUMBER 6040-00-75	PS&E SHEET -----



## Standard Detail Drawing List

08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
15A01-13A	MARKER POST FOR RIGHT-OF-WAY
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS



PLAN VIEW  
TYPICAL APPLICATION OF SILT FENCE

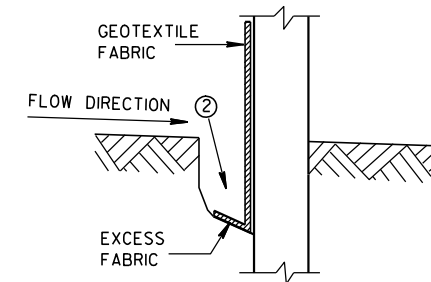


SITUATION 1 SITUATION 2  
PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

**GENERAL NOTES**

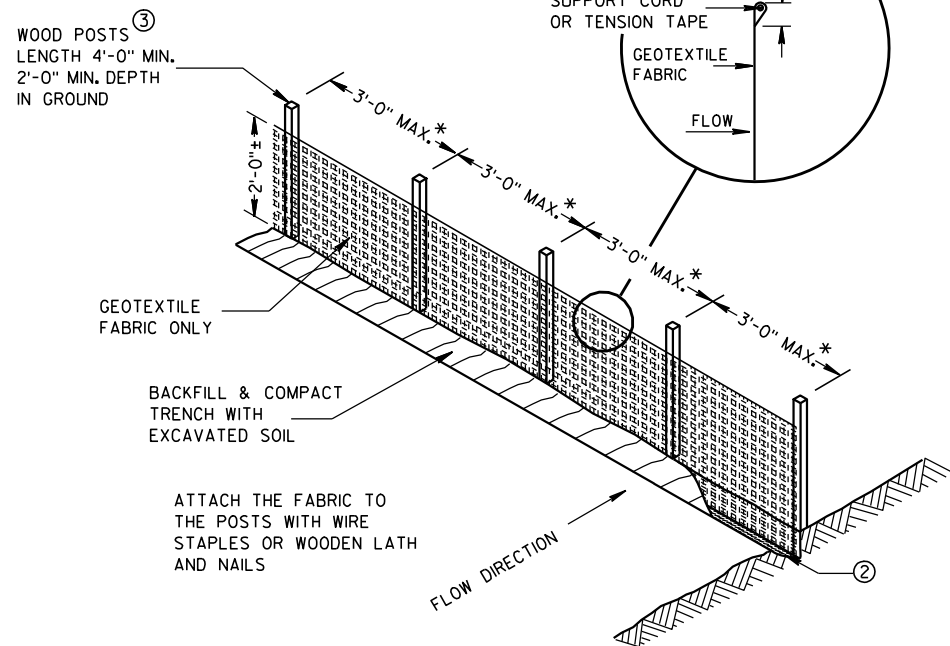
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- 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 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



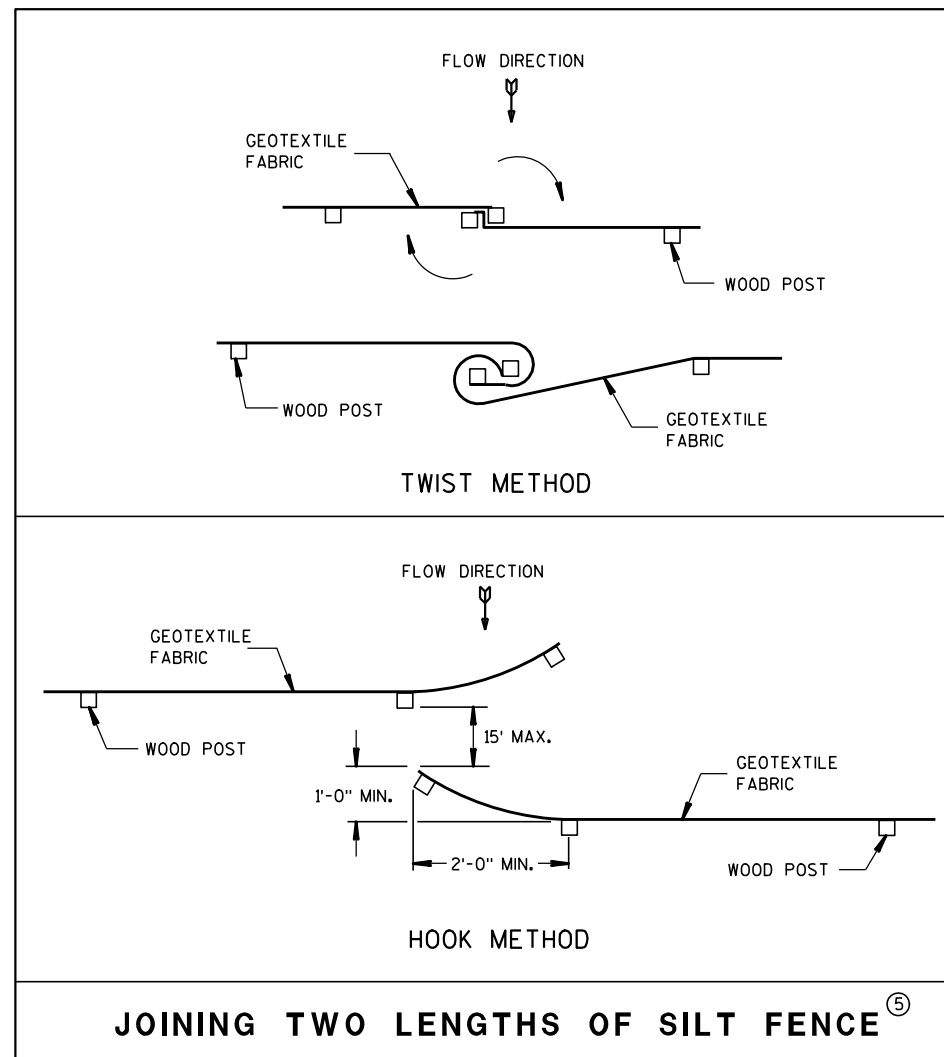
TRENCH DETAIL

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

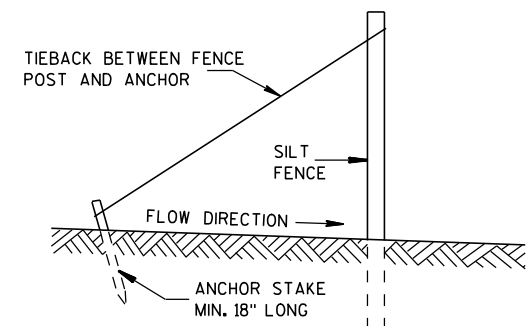


SILT FENCE

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



JOINING TWO LENGTHS OF SILT FENCE ⑤

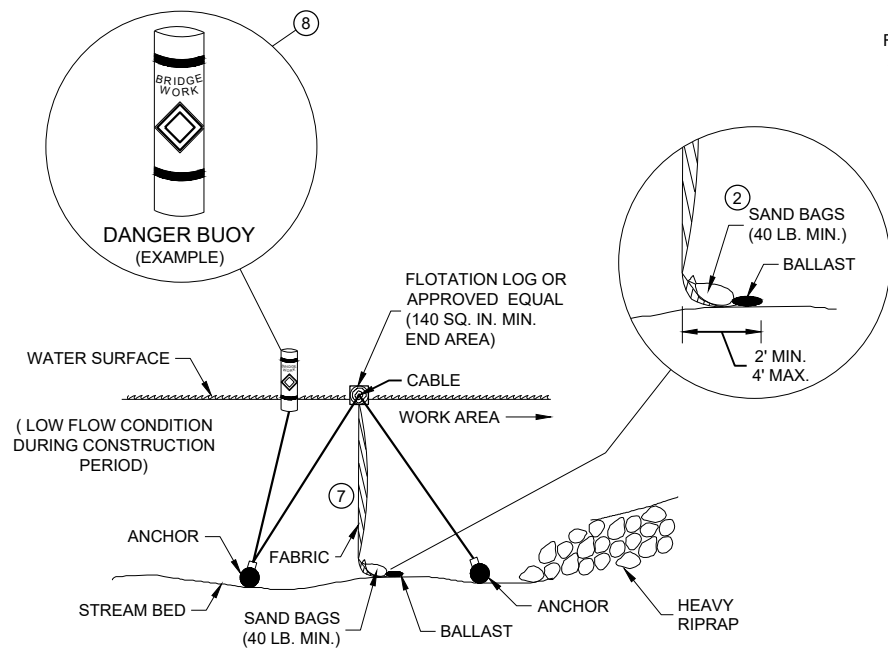


SILT FENCE TIE BACK  
(WHEN REQUIRED BY THE ENGINEER)

**SILT FENCE**

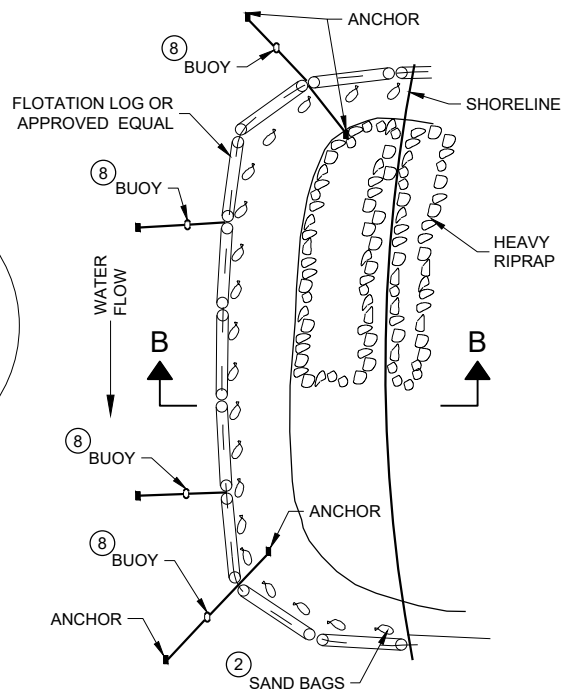
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

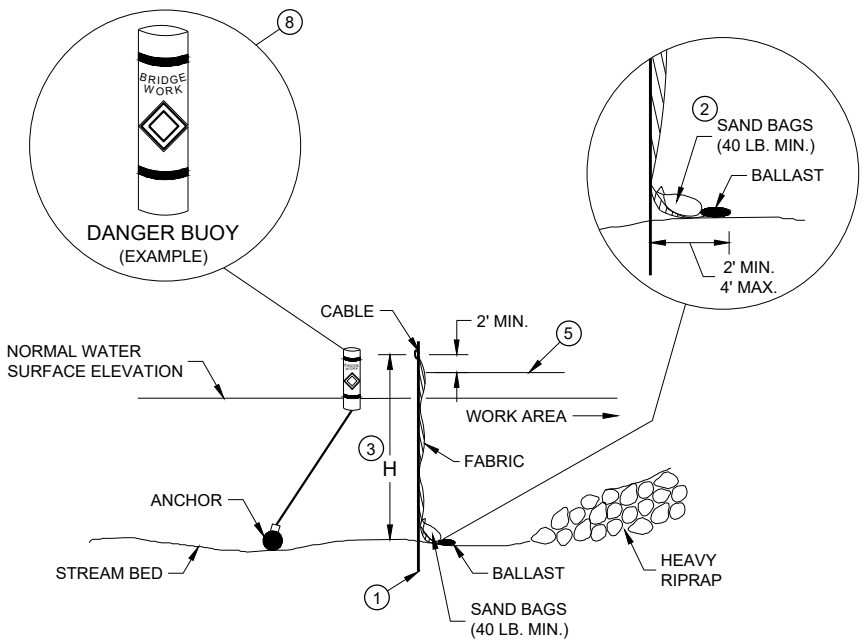


**SECTION B - B**

**TURBIDITY BARRIER - FLOAT ALTERNATIVE  
CAUTION - SEE NOTE 6**

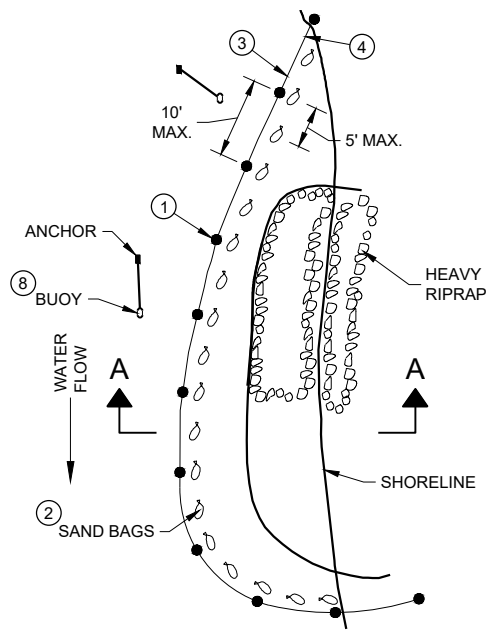


**PLAN VIEW**



**SECTION A - A**

**TURBIDITY BARRIER - STANDARD POST INSTALLATION**



**PLAN VIEW**

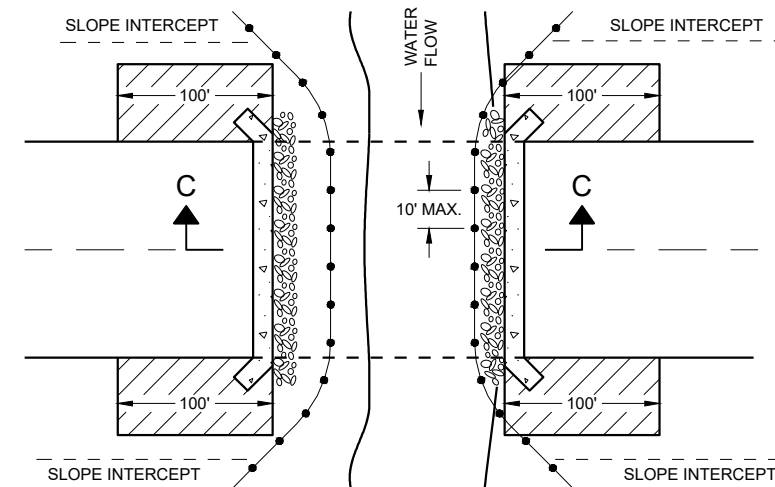
**TURBIDITY BARRIER PLACEMENT DETAILS**

**GENERAL NOTES**

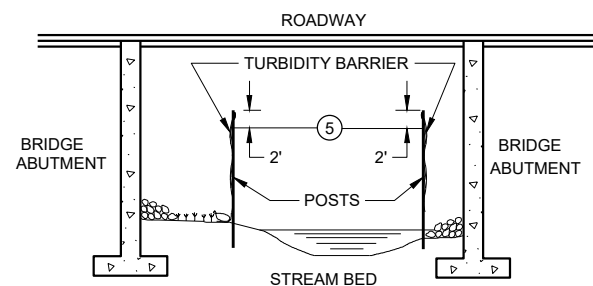
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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**

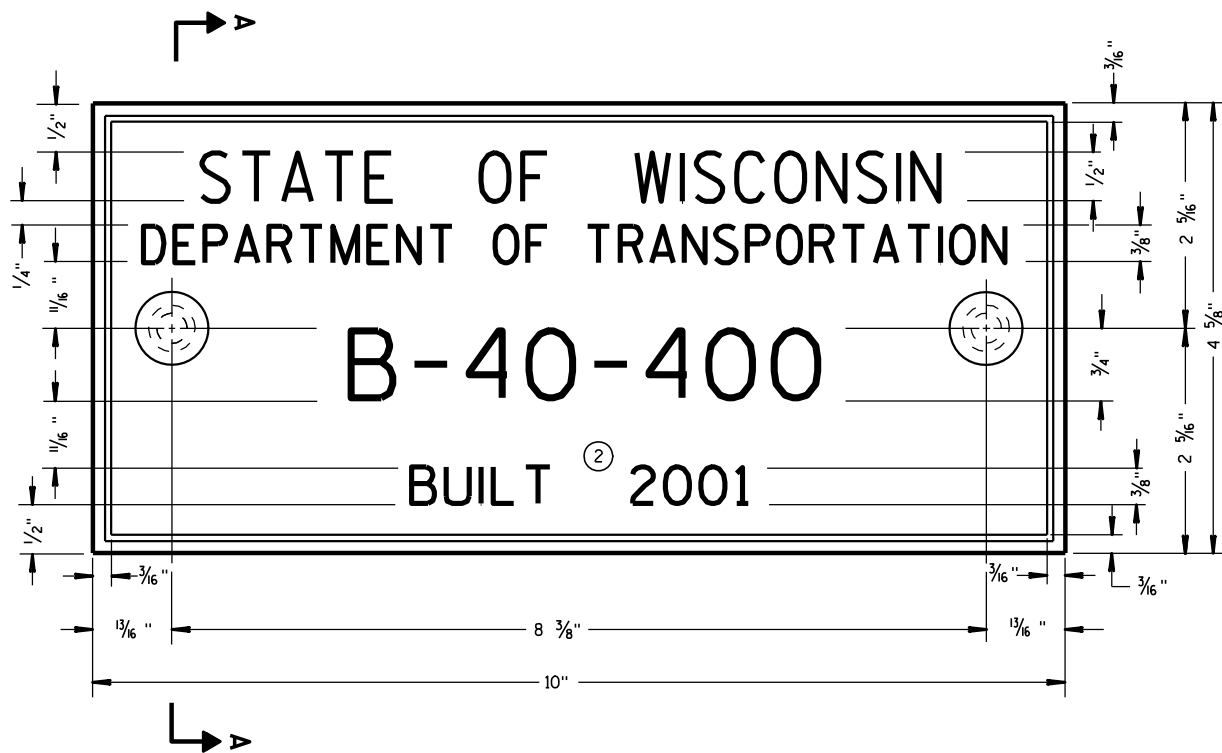
**TURBIDITY BARRIER**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA





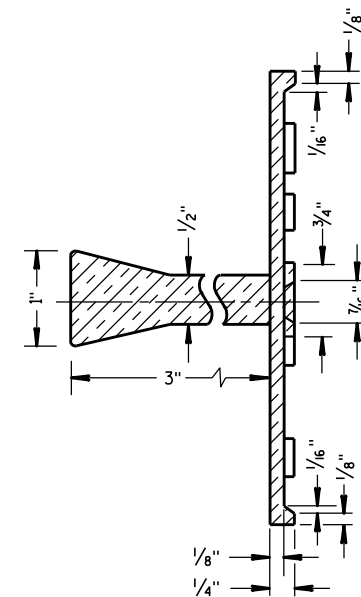
**TYPICAL NAME PLATE**  
(BRIDGES, CULVERTS, AND RETAINING WALLS)

**GENERAL NOTES**

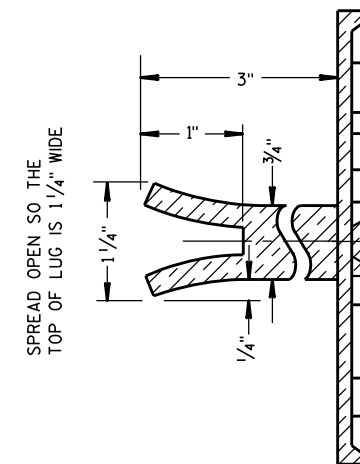
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

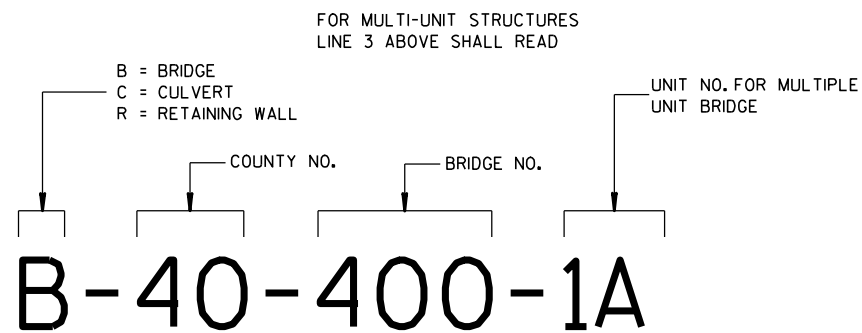
- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



**SECTION A-A**

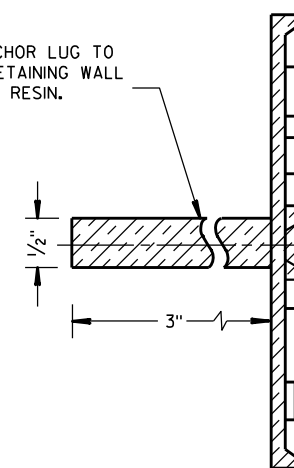


**ALTERNATE LUG**



**NUMBERING DESIGNATION  
MULTI-UNIT STRUCTURES**

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

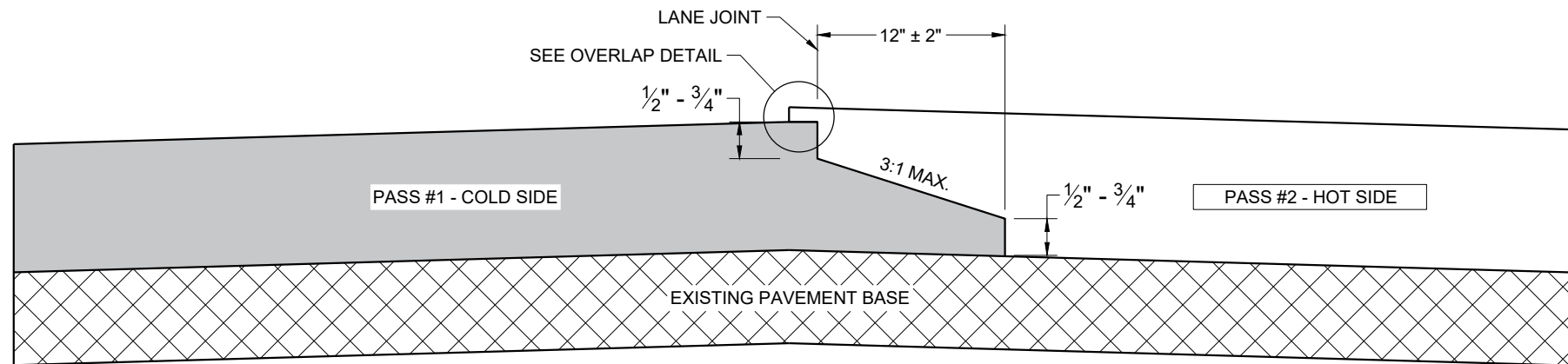


**ALTERNATE LUG**  
(FOR ATTACHMENT TO PRECAST STRUCTURES)

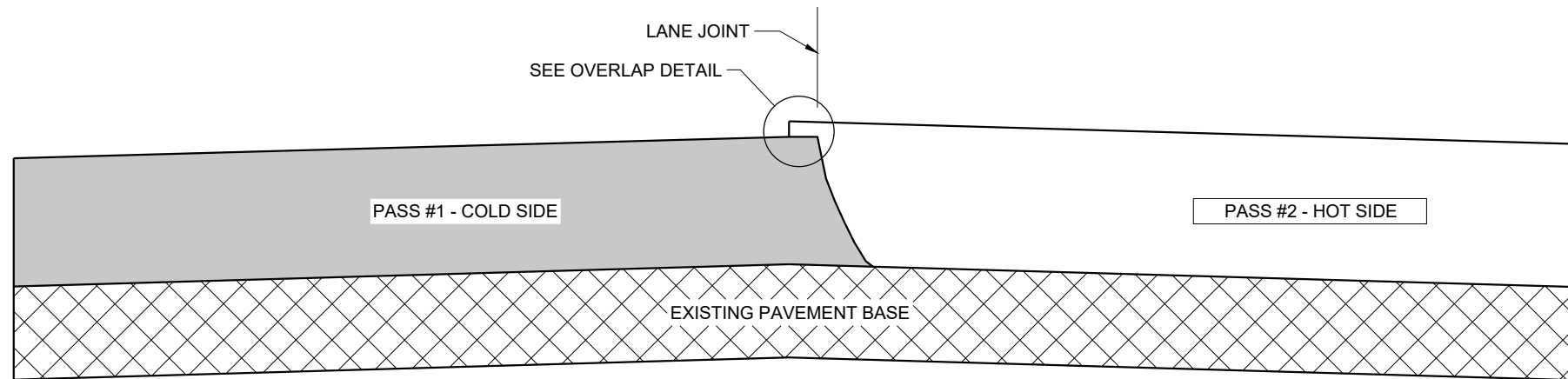
**NAME PLATE  
(STRUCTURES)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

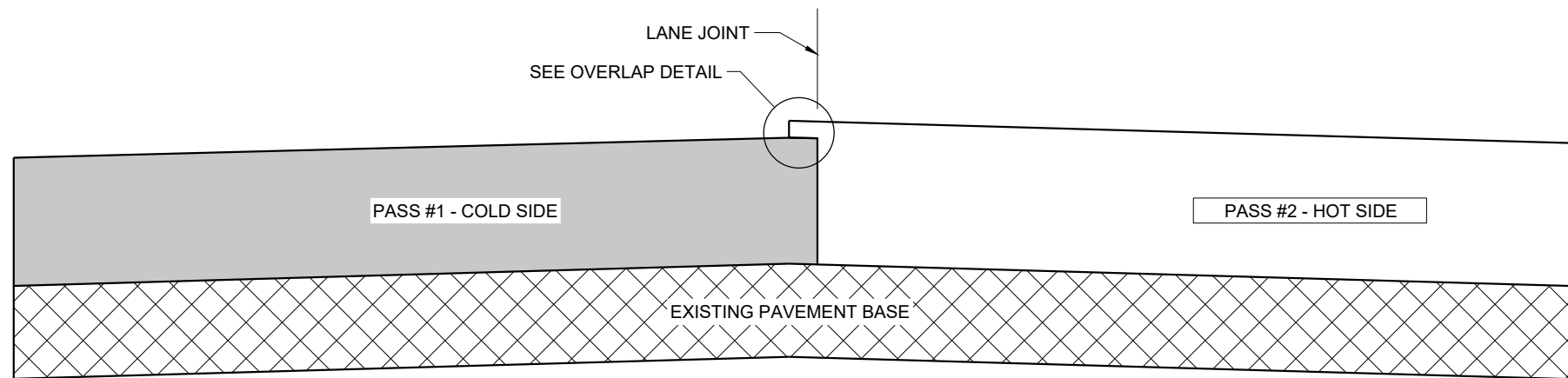
APPROVED  
DATE 3/26/10 /S/ Scot Becker  
CHIEF STRUCTURAL DEVELOPMENT ENGINEER  
FHWA



**TYPICAL PAVEMENT CROSS SECTION  
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION  
VERTICAL JOINT**



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

**GENERAL NOTES**

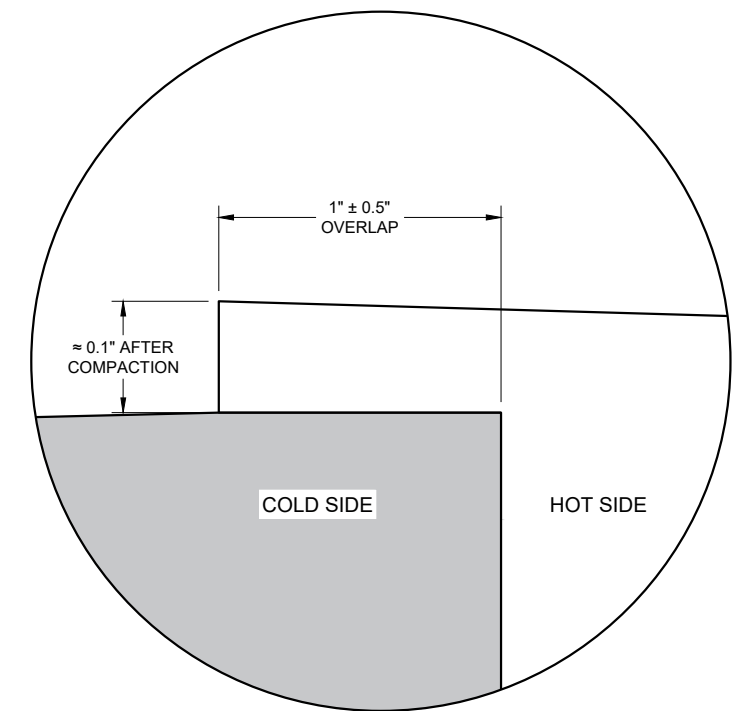
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



**OVERLAP DETAIL (TYPICAL)**

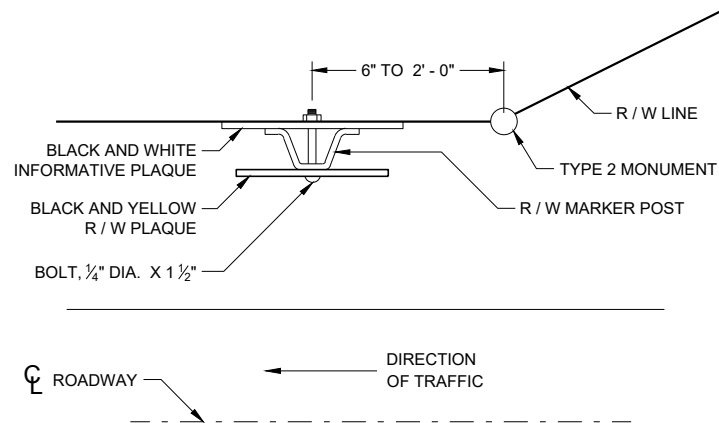
6

6

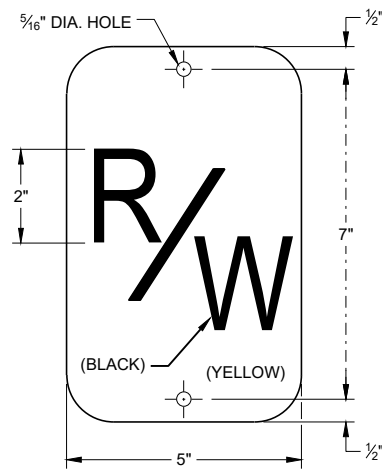
SDD 13C19 - 03

SDD 13C19 - 03

<b>HMA LONGITUDINAL JOINTS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2020 DATE	/S/ Steven Hefel HMA PAVEMENT ENGINEER
FHWA	

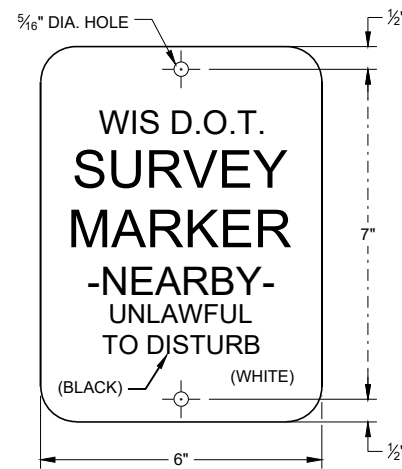


**PLAN VIEW  
STEEL MARKER POST**



**R / W PLAQUE**

THE RIGHT-OF-WAY PLAQUE AND INFORMATIVE PLAQUE WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.



**INFORMATIVE PLAQUE**

**GENERAL NOTES**

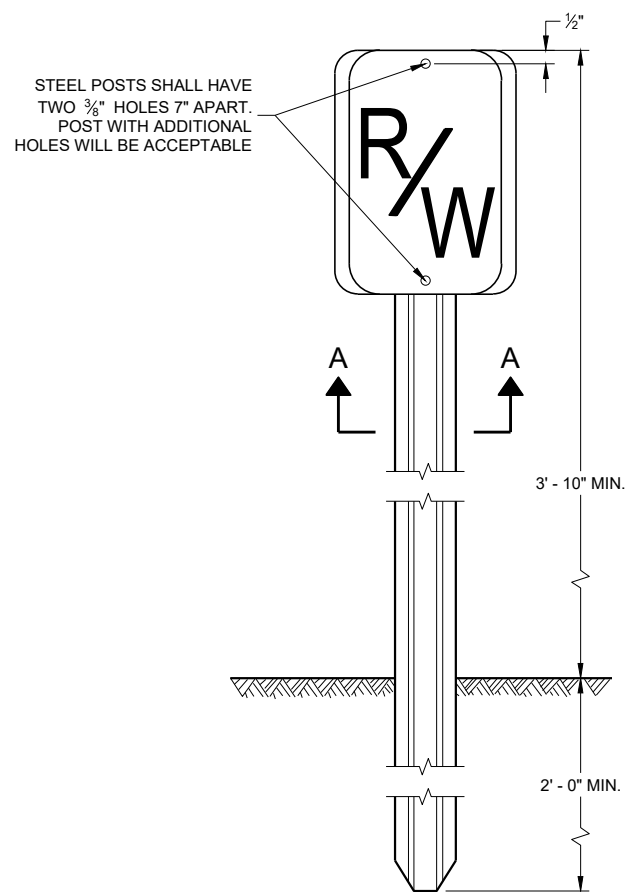
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

A STEEL MARKER POST FOR RIGHT -OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

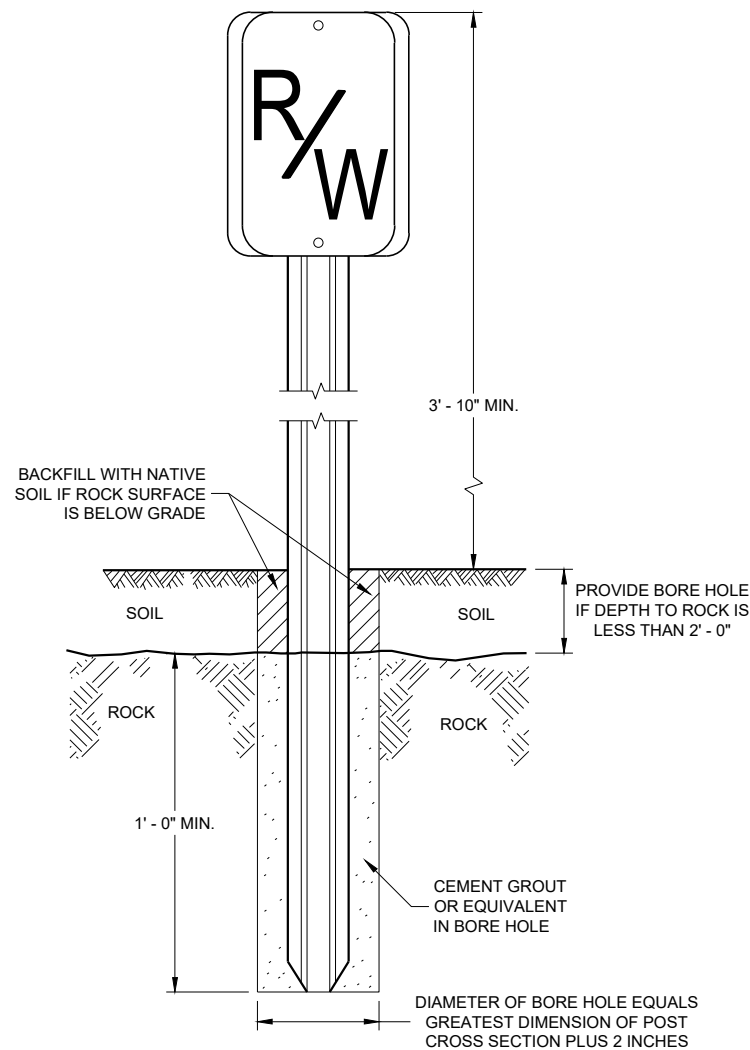
THE "R/W" PLAQUE SHALL FACE THE ROADWAY AND THE INFORMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. "R/W" AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

STEEL MARKER POSTS SHALL MEET THE MINIMUM MATERIAL REQUIREMENTS FOR STEEL DELINEATOR POSTS; EXCEPT POSTS PAINTED WITH FEDERAL YELLOW ENAMEL NEED NOT BE ZINC COATED.

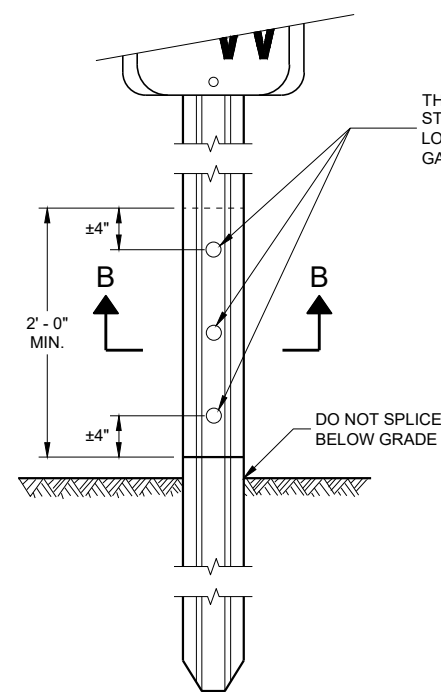
- ① IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3' - 10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR. FILL THE BORE HOLE WITH CEMENT GROUT OR EQUIVALENT, DEPENDING ON THE STABILITY OF THE ROCK.



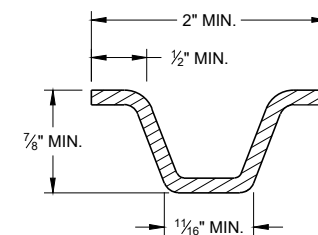
**FRONT VIEW  
STEEL MARKER POST**



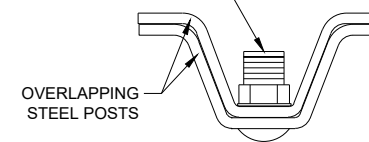
**FRONT VIEW  
ROCK INSTALLATION** ①



**FRONT VIEW  
SPLICE DETAIL**



MIN. WEIGHT 1.12 LB./FT.  
**SECTION A - A**



**SECTION B - B**

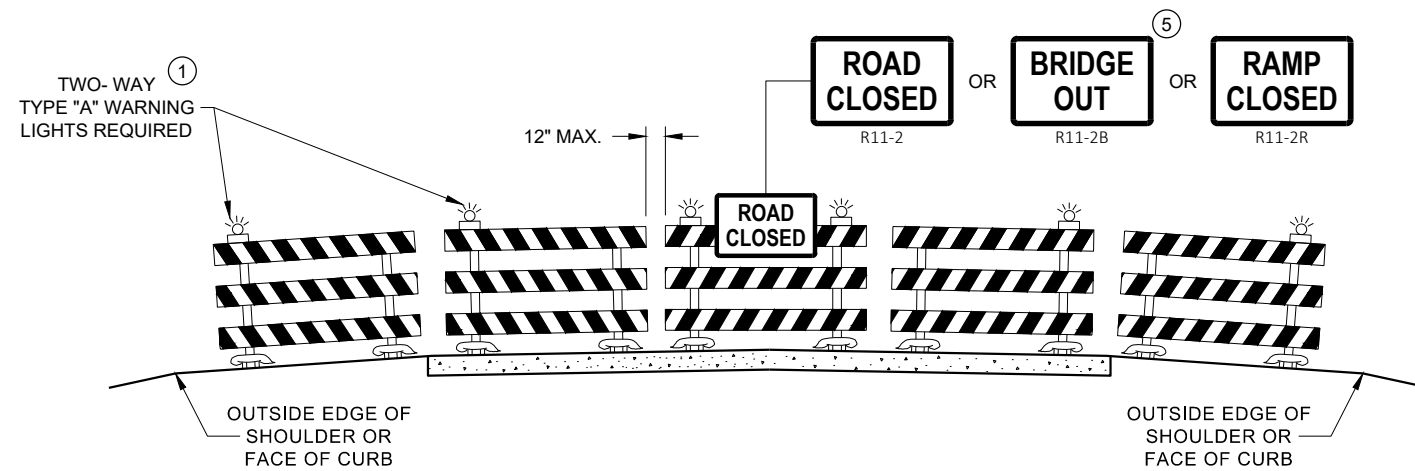
**MARKER POST  
FOR RIGHT - OF - WAY**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

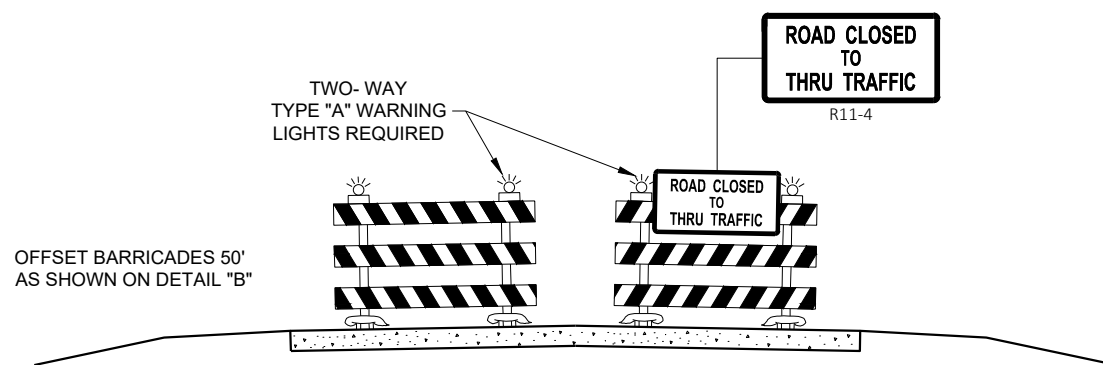
APPROVED  
2/18/2016 DATE /S/ Ray Kumapayi  
DATE CHIEF SURVEYING AND MAPPING ENGINEER

FHWA





**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:

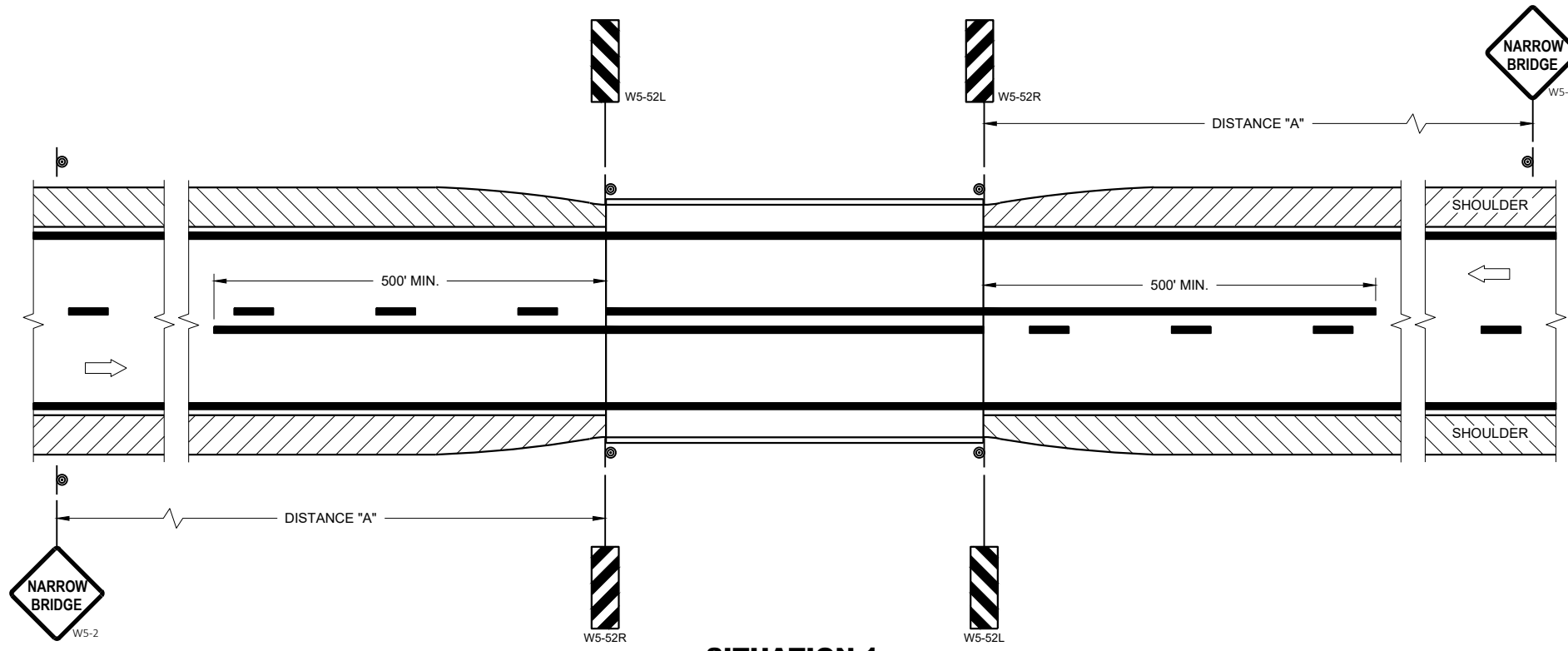
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" 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.

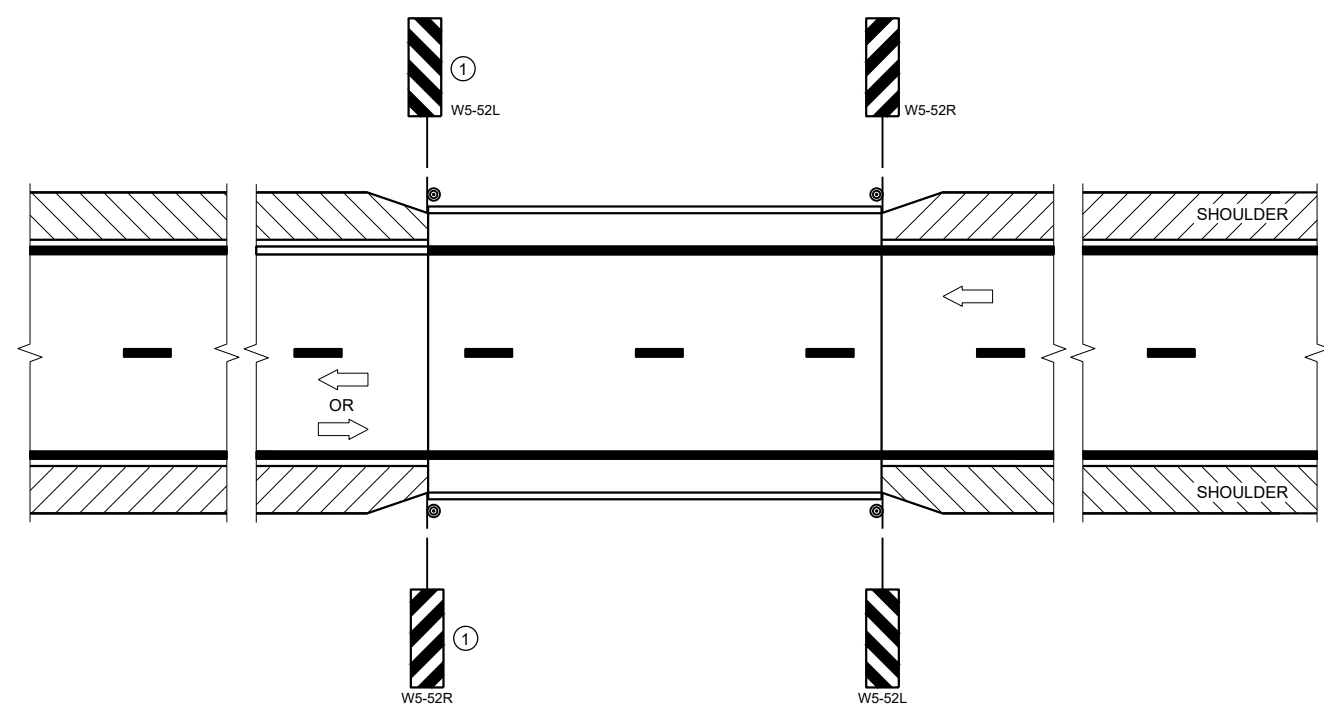
**BARRICADES AND SIGNS  
FOR  
VARIOUS CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



**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'

6

6

SDD 15C06-12

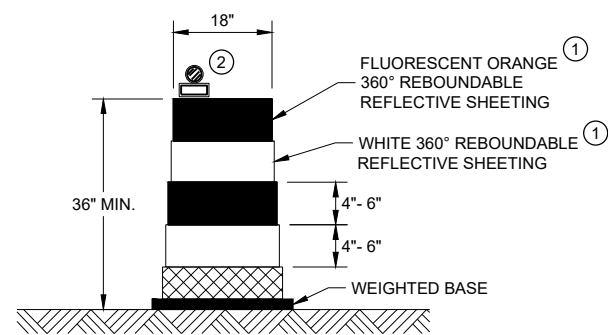
SDD 15C06-12

**SIGNING AND MARKING FOR TWO LANE BRIDGES**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

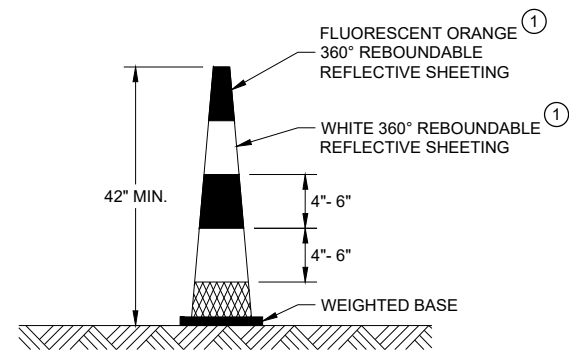
APPROVED  
 May 2023 /S/ Jeannie Silver  
 DATE STATE SIGNING AND MARKING ENGINEER

FHWA



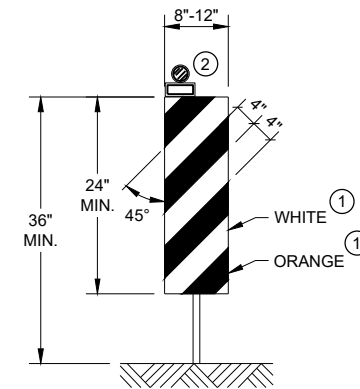
**DRUM**

BALLAST WIDTHS  
RANGE FROM 24"-36"



**42" CONE**

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

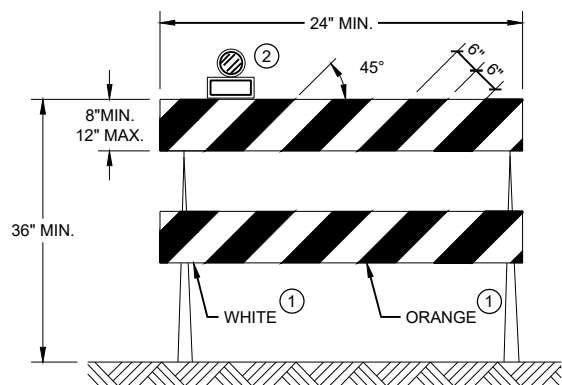


**VERTICAL PANEL**

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

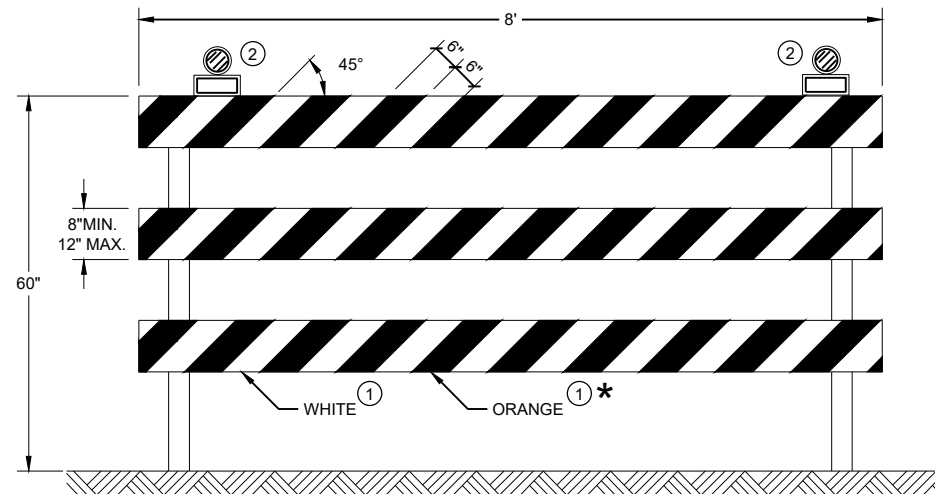
**GENERAL NOTES**

- 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.



**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.

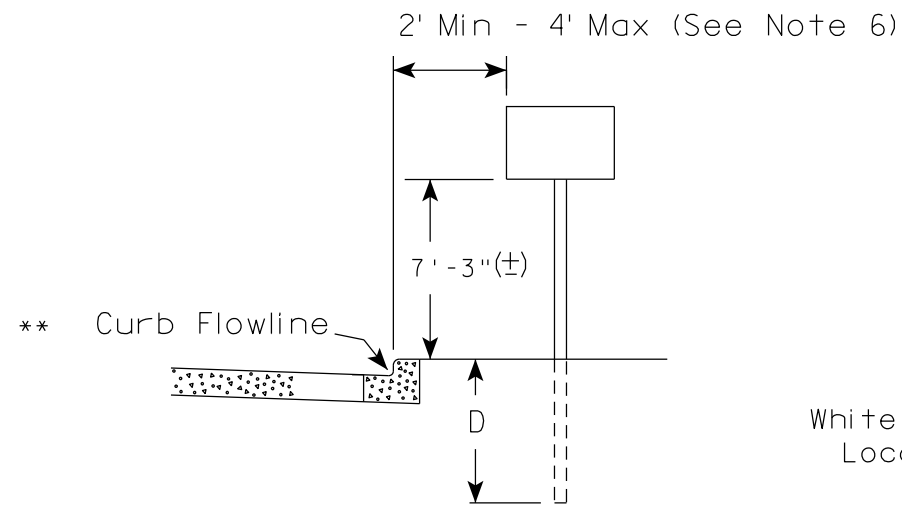
**CHANNELIZING DEVICES  
DRUMS, CONES, BARRICADES  
AND VERTICAL PANELS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

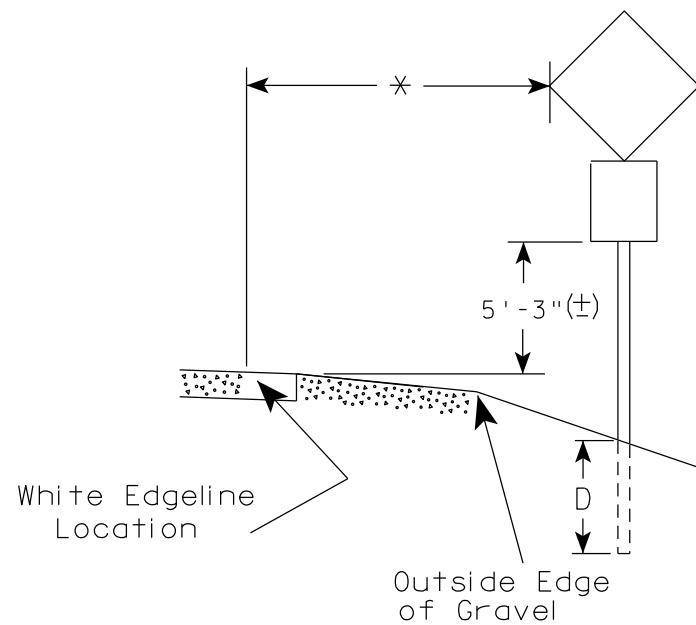
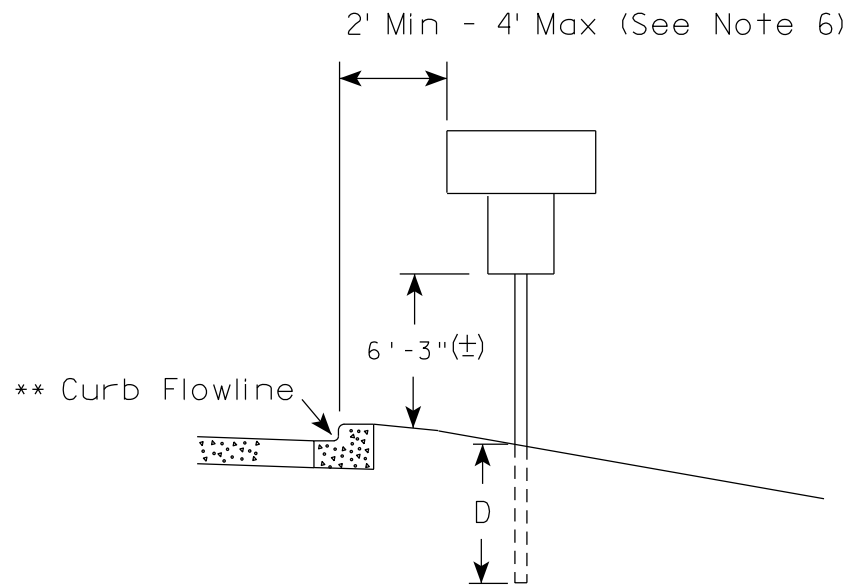
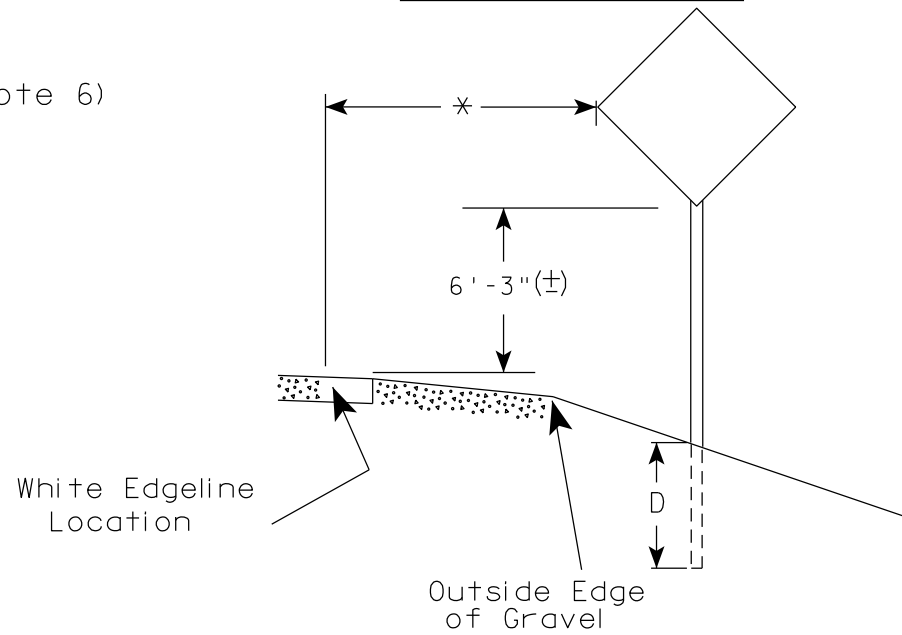
APPROVED	/S/ Andrew Heidtke
November 2022	DATE
	WORK ZONE ENGINEER



URBAN AREA



RURAL AREA (See Note 2)



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" (±). 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. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.

POST EMBEDMENT DEPTH

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

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

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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/13/2020 PLATE NO. A4-3.22



**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**

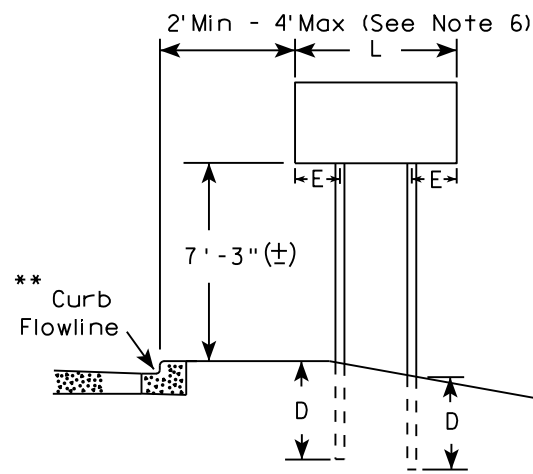
**FOR NEW CONCRETE/ ASPHALT INSTALLATIONS**

<b>SIGN POST BOX-OUTS A4-3B</b>	
<small>WISCONSIN DEPT OF TRANSPORTATION</small>	
APPROVED <i>Matthew R. Rauch</i> <small>for State Traffic Engineer</small>	
<small>DATE 1/27/14</small>	<small>PLATE NO. A4-3B.1</small>

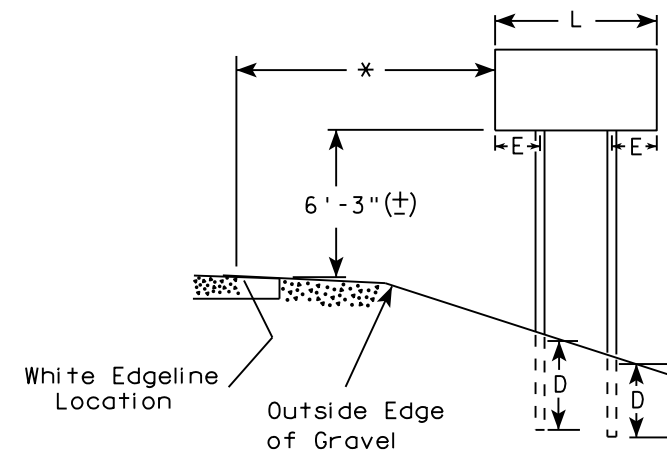
GENERAL NOTES

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" (±) or 6'-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" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-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" (±).

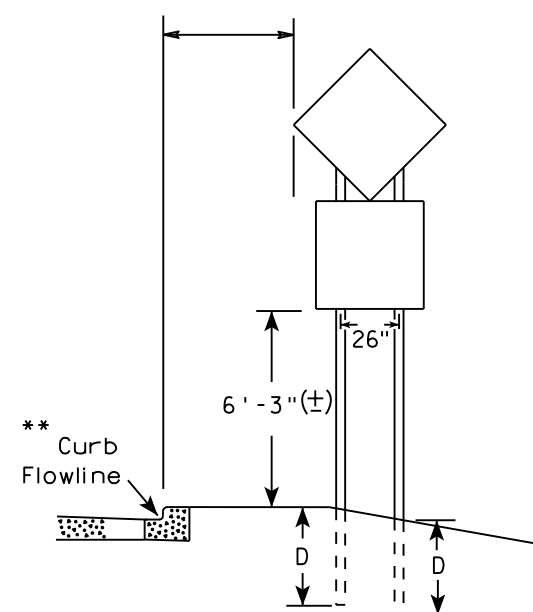
URBAN AREA



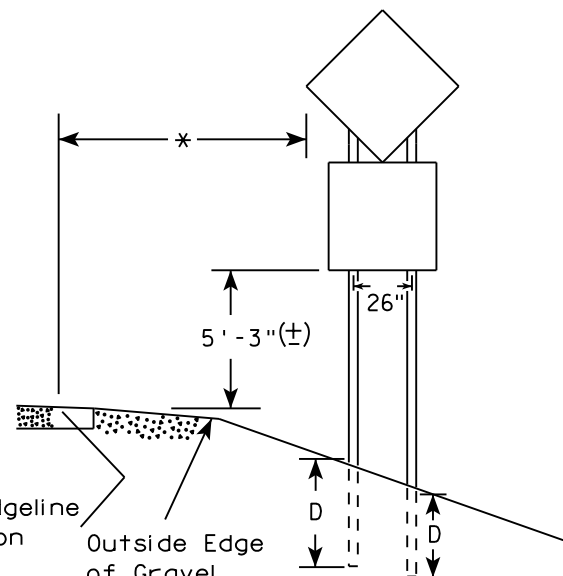
RURAL AREA (See Note 3)



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



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

\* 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.

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

\*\*\*

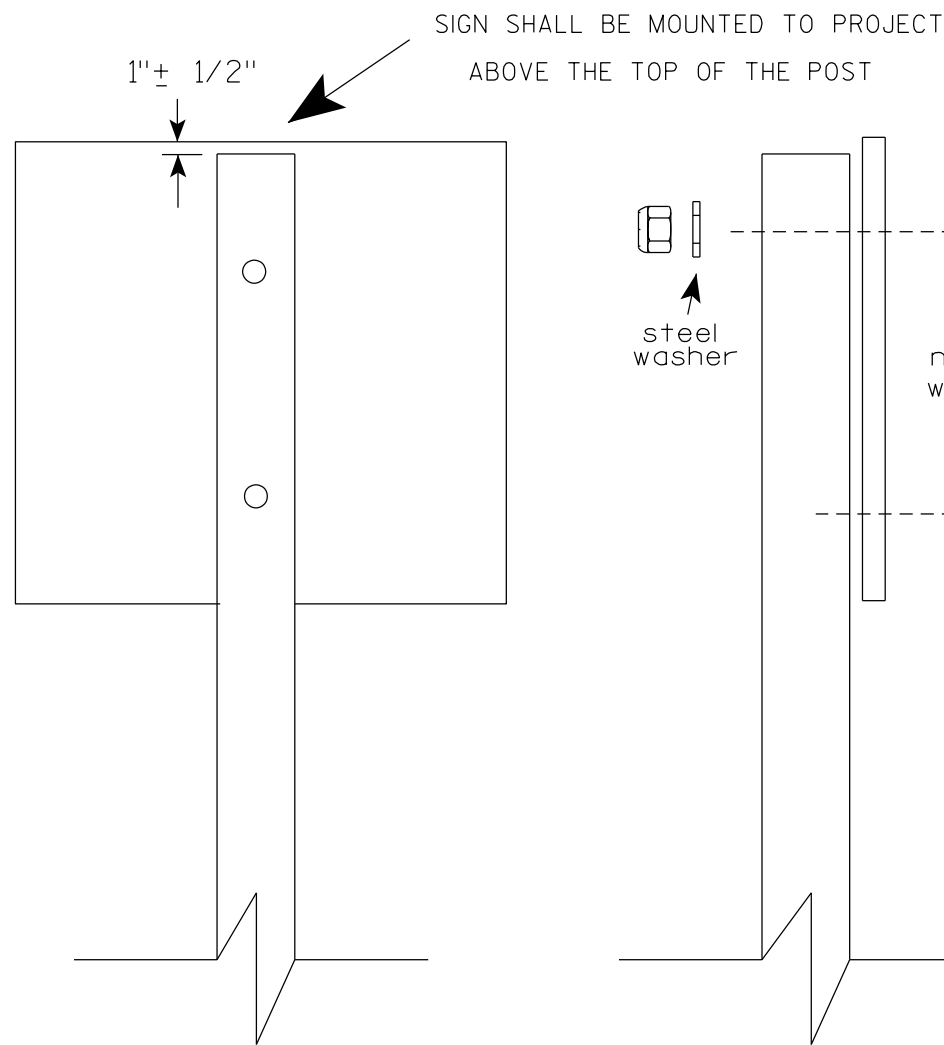
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION  
 APPROVED *Matthew R. Rauch*  
 For State Traffic Engineer  
 DATE 8/21/17 PLATE NO. A4-4.15



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

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

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

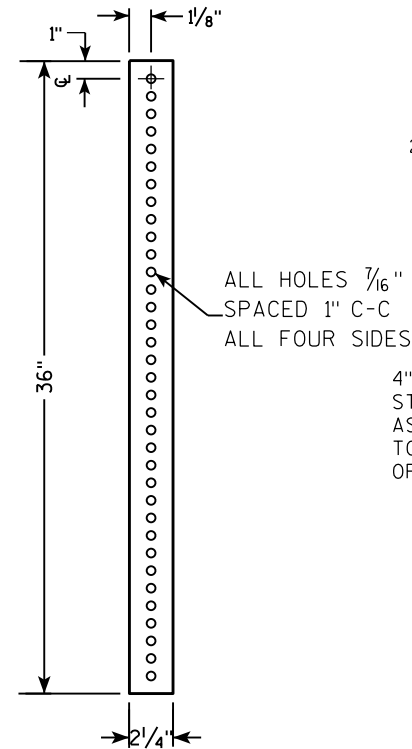
- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS -  $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS -  $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
  - $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
-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

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

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

**TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM**

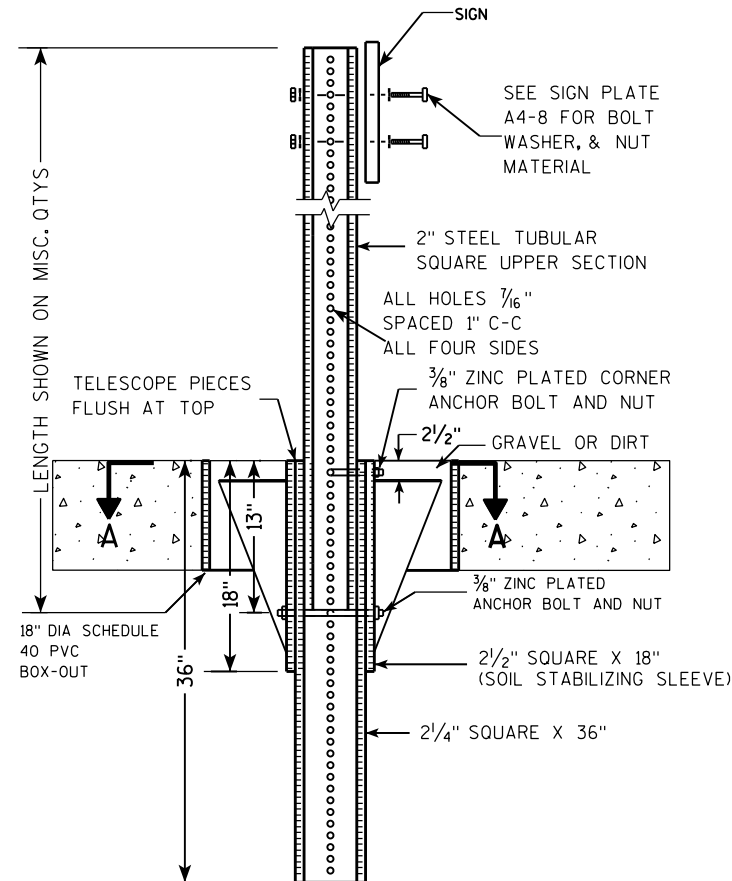
**2 1/4" SQUARE  
12 GAUGE  
PERFORATED  
GALVANIZED FINISH**



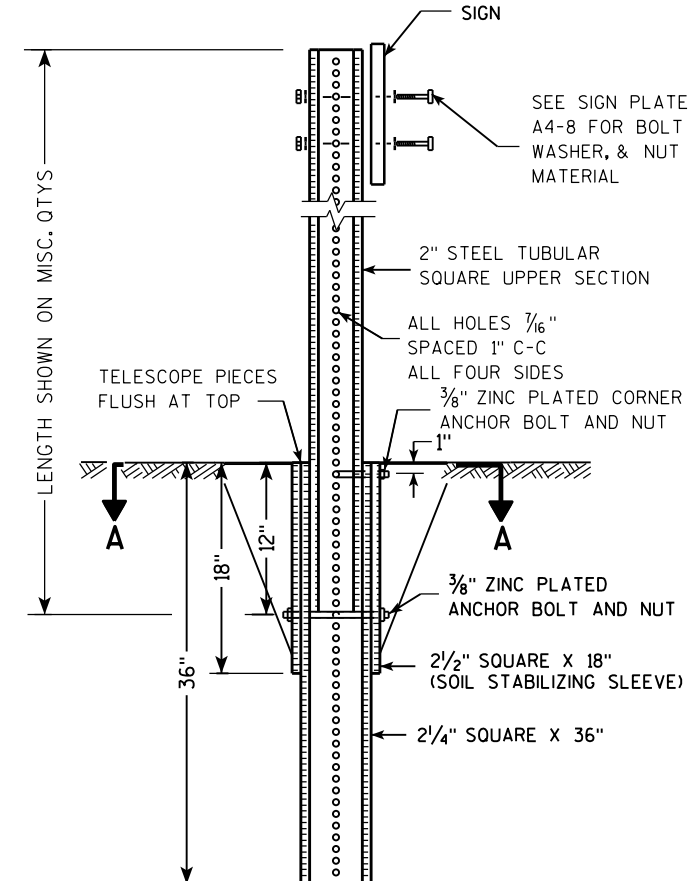
**2 1/2" SQUARE  
12 GAUGE  
OMNI-DIRECTIONAL  
PERFORATED  
SOIL STABILIZING SLEEVE  
GALVANIZED FINISH**



**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)**



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

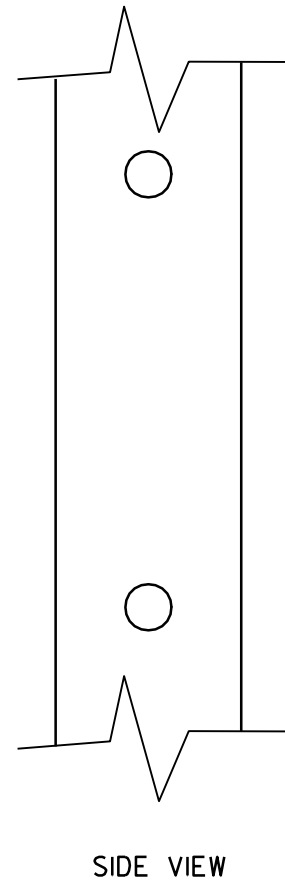
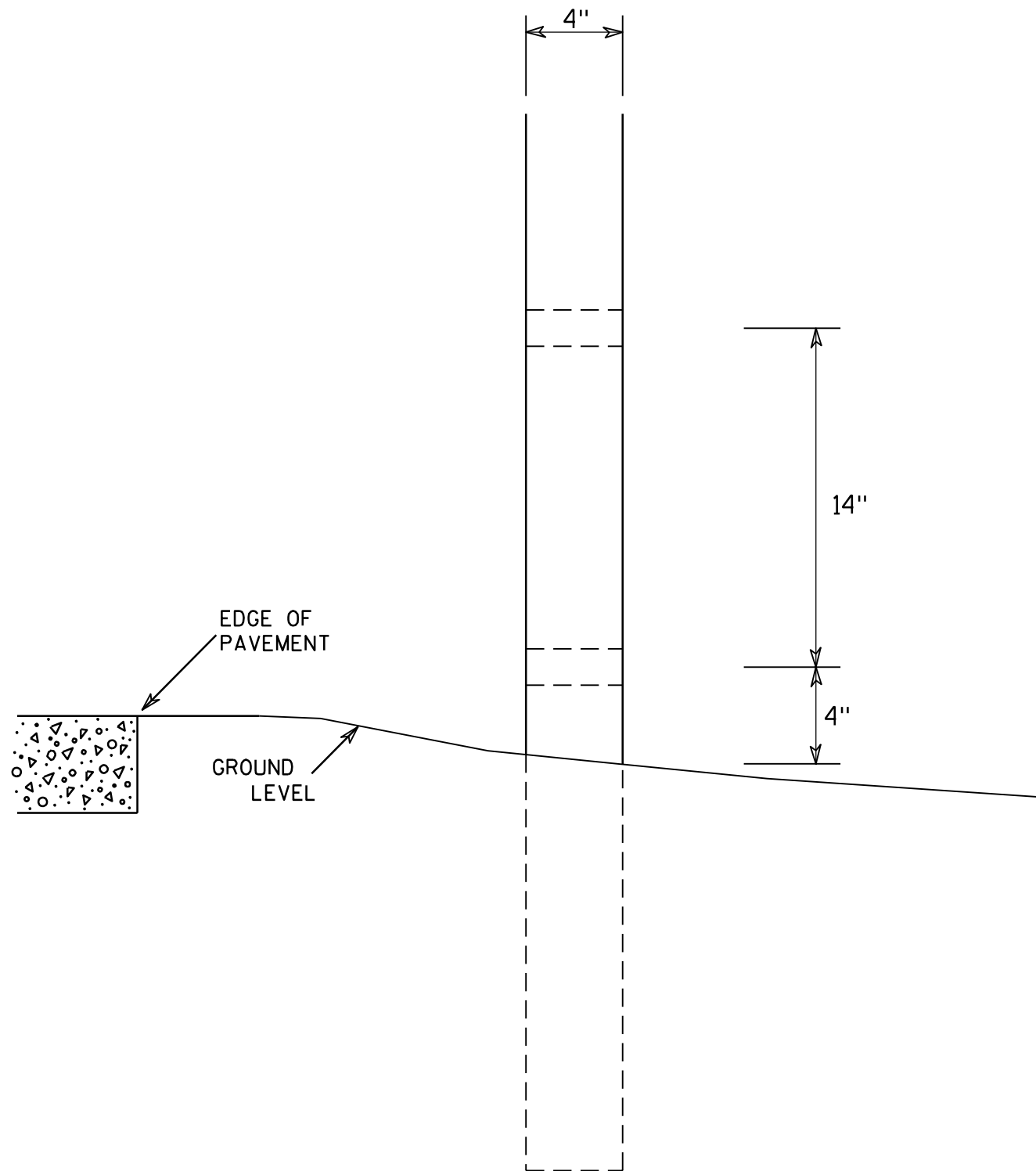
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

**TUBULAR STEEL  
SIGN POST  
A4-9**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

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



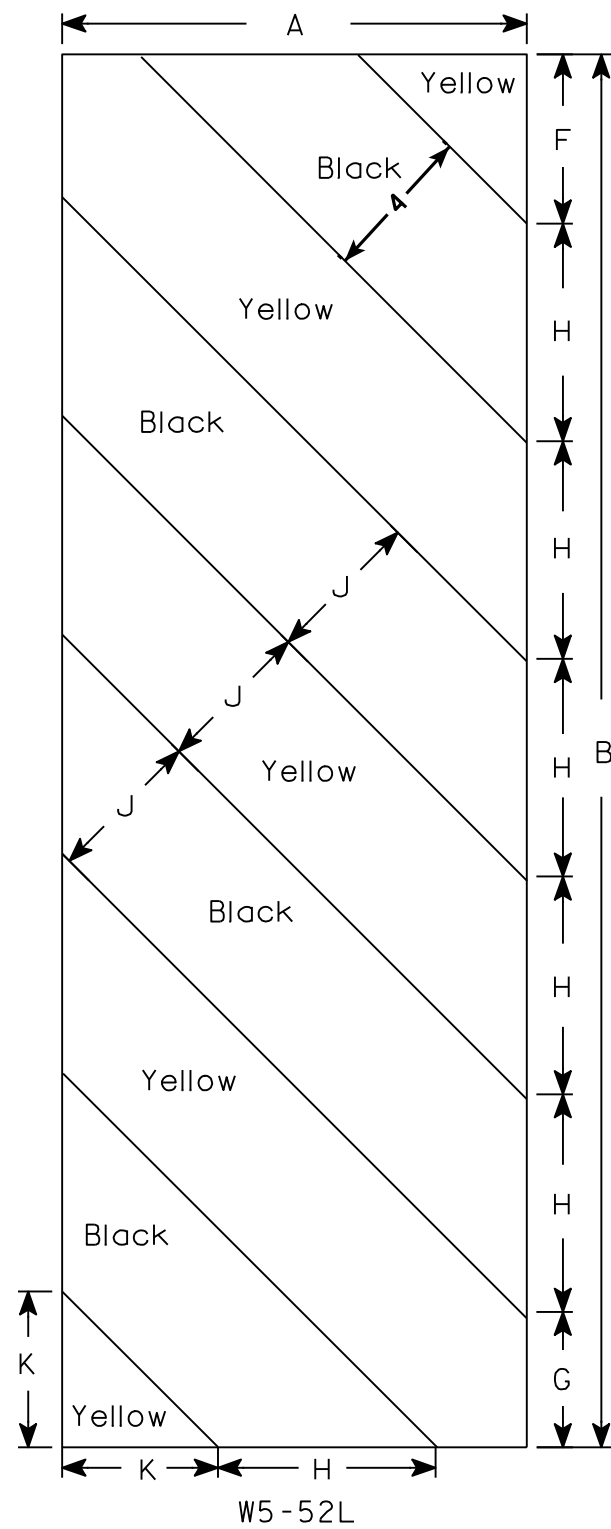
GENERAL NOTES

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

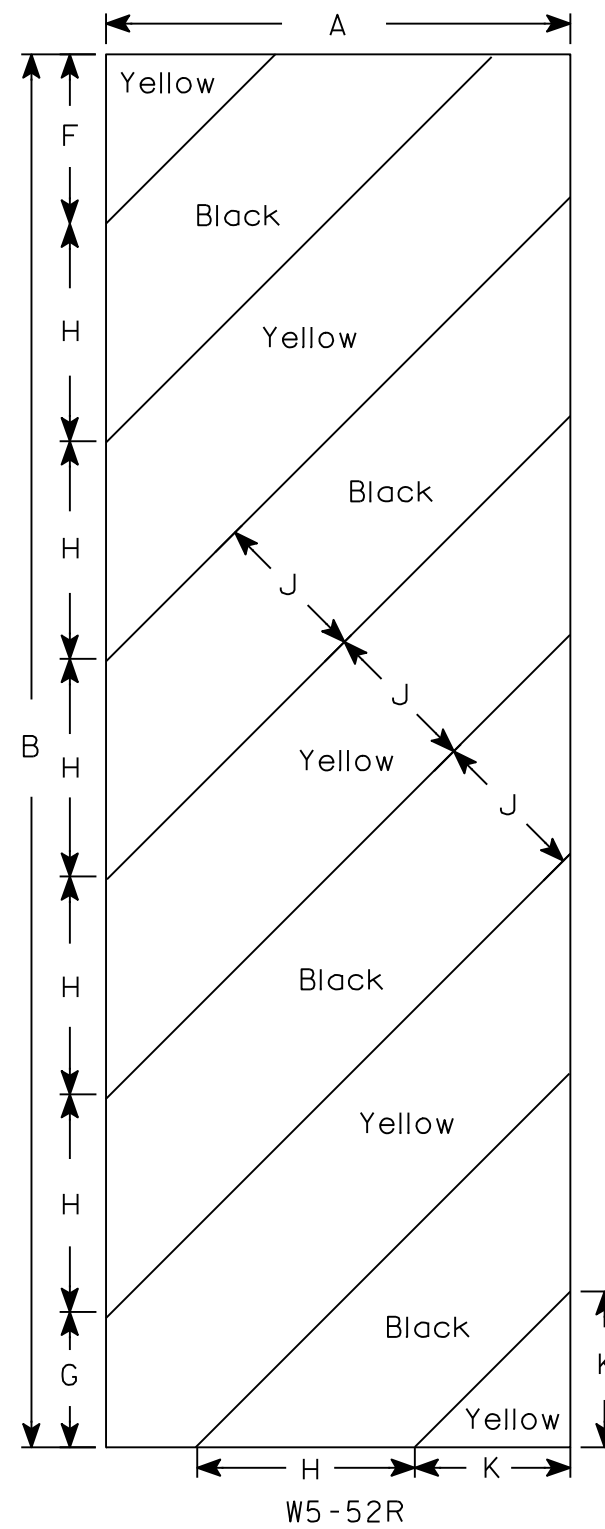
7

7

<b>4 X 6 WOOD POST MODIFICATIONS</b>	
<i>WISCONSIN DEPT OF TRANSPORTATION</i>	
APPROVED	<i>Chester J Spang</i> for State Traffic Engineer
DATE <u>3/27/97</u>	PLATE NO. <u>A4-11.2</u>



W5-52L



W5-52R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Alternate colors of stripes as shown.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				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 5/29/12 PLATE NO. W5-52.9

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



**DESIGN DATA**

**LIVE LOAD:**

DESIGN LOADING \_\_\_\_\_ HL-93  
 INVENTORY RATING FACTOR \_\_\_\_\_ RF=1.10  
 OPERATING RATING FACTOR \_\_\_\_\_ RF=1.43  
 WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) \_\_\_\_\_ 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 P.S.F.

**MATERIAL PROPERTIES:**

CONCRETE MASONRY, SUPERSTRUCTURE \_\_\_\_\_ f'c = 4,000 P.S.I.  
 ALL OTHER \_\_\_\_\_ f'c = 3,500 P.S.I.  
 HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 \_\_\_\_\_ fy = 60,000 P.S.I.

**FOUNDATION DATA**

ABUTMENTS TO BE SUPPORTED ON PILING CIP CONCRETE 10 3/4 X 0.25-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 120 TONS\*\* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 25 FT PILE LENGTHS AT BOTH ABUTMENTS.

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

**TRAFFIC DATA**

A.D.T. (2024) \_\_\_\_\_ 40  
 A.D.T. (2044) \_\_\_\_\_ 60  
 DESIGN SPEED \_\_\_\_\_ 25 M.P.H.

**HYDRAULIC DATA**

100 YEAR FREQUENCY \_\_\_\_\_  
 DRAINAGE AREA \_\_\_\_\_ 16.1 SQ. MI.  
 Q<sub>100</sub> TOTAL \_\_\_\_\_ 880 C.F.S.  
 THROUGH STRUCTURE \_\_\_\_\_ 880 C.F.S.  
 OVERTOPPING ROADWAY \_\_\_\_\_ N/A  
 VELOCITY - THROUGH STRUCTURE \_\_\_\_\_ 3.7 F.P.S.  
 WATERWAY AREA - THROUGH STRUCTURE \_\_\_\_\_ 239 SQ. FT.  
 HIGH WATER<sub>100</sub> ELEVATION \_\_\_\_\_ 854.30  
 SCOUR CRITICAL CODE \_\_\_\_\_ 5

**EROSION CONTROL**

Q<sub>2</sub> \_\_\_\_\_ 235 C.F.S.  
 VELOCITY<sub>2</sub> \_\_\_\_\_ 1.9 F.P.S.  
 HIGH WATER<sub>2</sub> ELEVATION \_\_\_\_\_ 851.52

**LIST OF DRAWINGS**

- GENERAL PLAN \_\_\_\_\_ 1.
- CROSS SECTION AND QUANTITIES \_\_\_\_\_ 2.
- SUBSURFACE EXPLORATION \_\_\_\_\_ 3.
- WEST ABUTMENT \_\_\_\_\_ 4.
- WEST ABUTMENT DETAILS \_\_\_\_\_ 5.
- EAST ABUTMENT \_\_\_\_\_ 6.
- EAST ABUTMENT DETAILS \_\_\_\_\_ 7.
- SUPERSTRUCTURE \_\_\_\_\_ 8.
- SUPERSTRUCTURE DETAILS \_\_\_\_\_ 9.
- TUBULAR RAILING TYPE M \_\_\_\_\_ 10.

⬡ INDICATES WING NUMBER  
 ▽ SEE SHEET 6 FOR OFFSET DETAIL

**RIPRAP HEAVY LAYOUT**

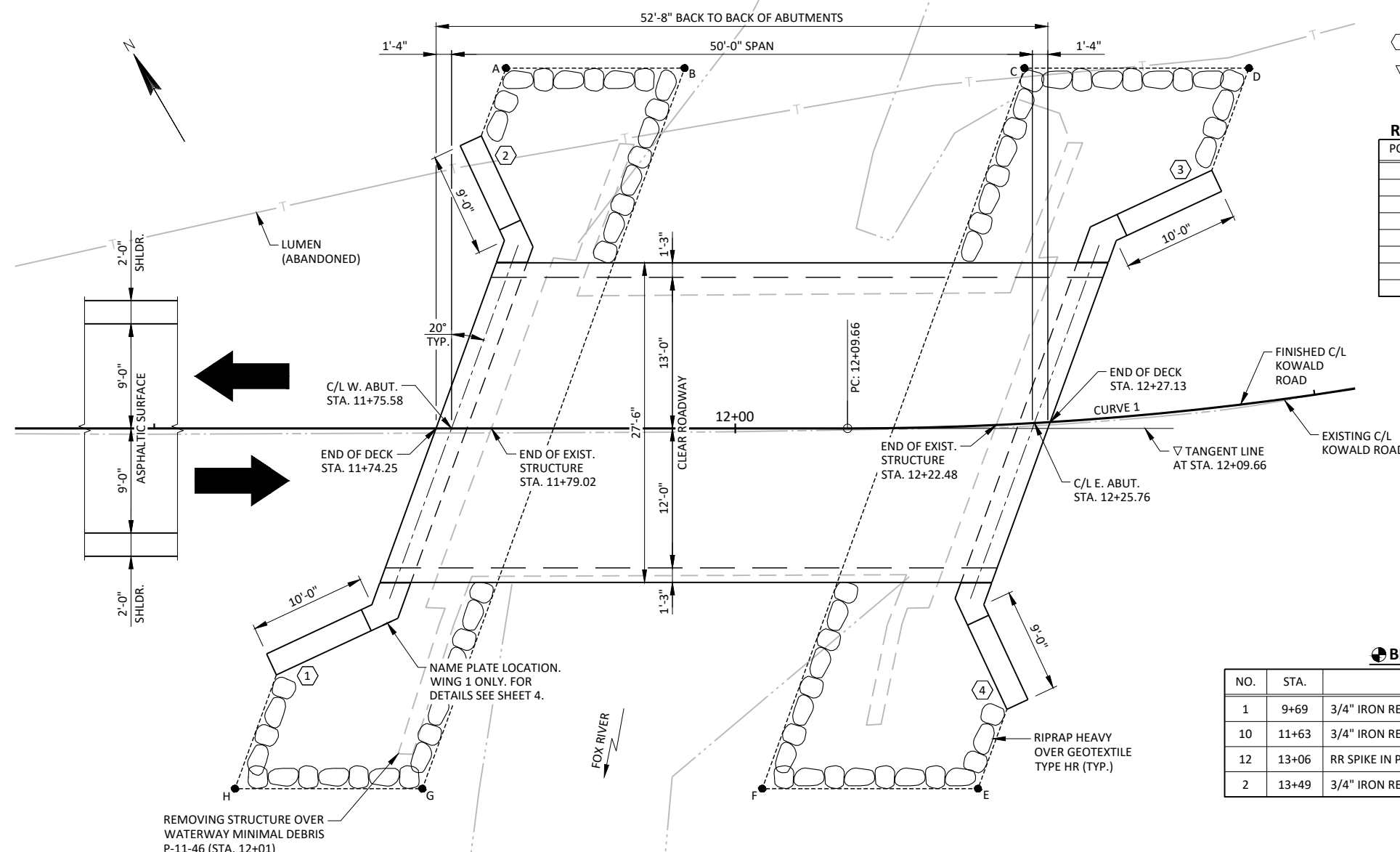
POINT	STATION	OFFSET
A	11+80	31' LT.
B	11+96	31' LT.
C	12+27	31' LT.
D	12+48	29' LT.
E	12+20	31' RT.
F	12+02	31' RT.
G	11+73	31' RT.
H	11+57	31' RT.

**CURVE 1 DATA**

PI STA. = 12+76.21  
 Y = 426,898.38  
 X = 623,333.55  
 R = 280.00  
 D = 20°27'46"  
 DELTA = 26°44'29"  
 L = 130.68  
 T = 66.55  
 C = 129.50  
 PC STA. = 12+09.66  
 Y = 426,931.84  
 X = 623,276.02  
 PT STA. = 13+40.34  
 Y = 426,894.39  
 X = 623,399.98

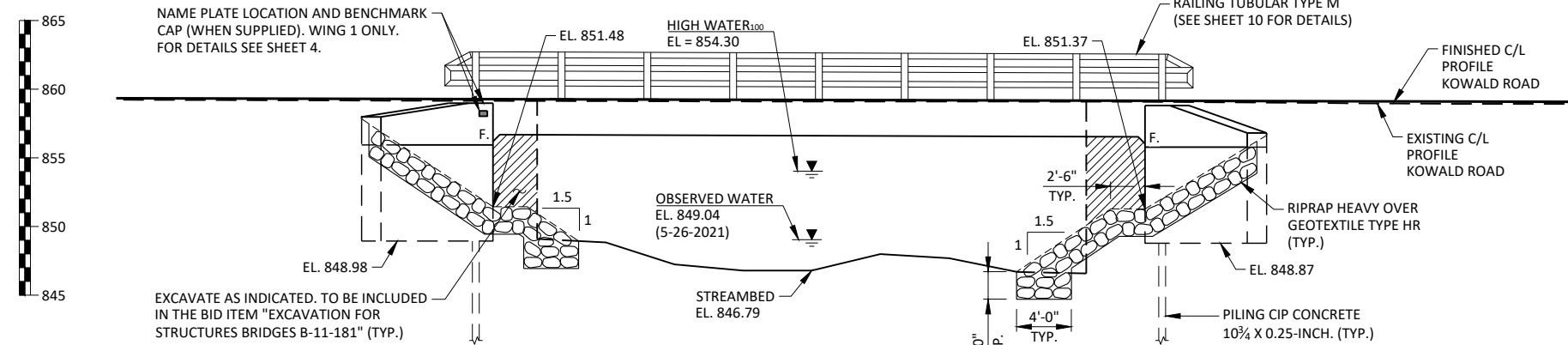
**BENCH MARKS**

NO.	STA.	DESCRIPTION	ELEV.
1	9+69	3/4" IRON REBAR SET, 10.8' RT.	859.44
10	11+63	3/4" IRON REBAR SET, 13.7' LT.	857.94
12	13+06	RR SPIKE IN PPOL, 29.4' LT.	852.65
2	13+49	3/4" IRON REBAR SET, 12.2' RT.	858.23



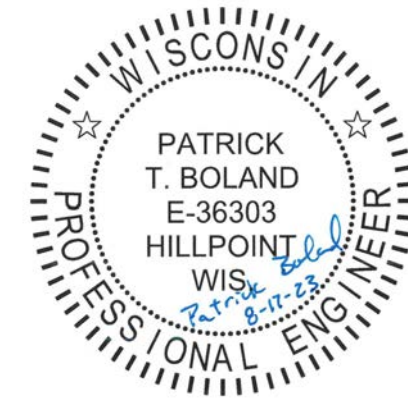
**PLAN B-11-181**

(SINGLE-SPAN REINFORCED CONCRETE FLAT SLAB)



**ELEVATION**

(NORMAL TO FOX RIVER)



**DESIGN CONSULTANT**  
 PATRICK BOLAND, PE  
 (608) 588-7484

**BRIDGE OFFICE CONTACT**  
 AARON BONK, PE  
 (608) 261-0261

NO.	DATE	REVISION	BY

**JEWELL** 560 SUNRISE DRIVE  
 SPRING GREEN, WI 53588  
 OFFICE: (608) 588-7484  
 www.JewellAssoc.com

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

ACCEPTED *[Signature]* SDR **08/18/23**  
 CHIEF STRUCTURES DESIGN ENGINEER DATE

**STRUCTURE B-11-181**

KOWALD ROAD OVER FOX RIVER

COUNTY COLUMBIA TOWN/CITY/VILLAGE SCOTT

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY PTB DESIGN CK'D. PMF DRAWN BY PTB PLANS CK'D. PMF

**GENERAL PLAN**

SHEET 1 OF 10

**GENERAL NOTES**

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS SHOWN ARE IN FEET.

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD 88).

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

JOINT FILLER SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION M153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M213.

THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS, OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

AT THE BACK FACE OF ABUTMENTS, 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. SEE THIS SHEET FOR DETAIL.

ANY EXCAVATION BELOW THE ABUTMENT AND ASSOCIATED ABUTMENT BEDDING MATERIALS REQUIRE THE APPROVAL OF THE ENGINEER IN THE FIELD.

AT THE DECK, APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF THE DECK (CONCRETE MATERIAL ONLY), THE SIDES OF THE DECK, AND THE EXTERIOR 12" OF THE UNDERSIDE OF THE DECK. AT THE ABUTMENTS, APPLY TO THE TOP AND EXTERIOR EXPOSED FACES OF WINGS AND THE FRONT FACE OF ABUTMENTS TO 12" PAST THE EDGE OF SLAB. SEE THIS SHEET FOR DETAIL.

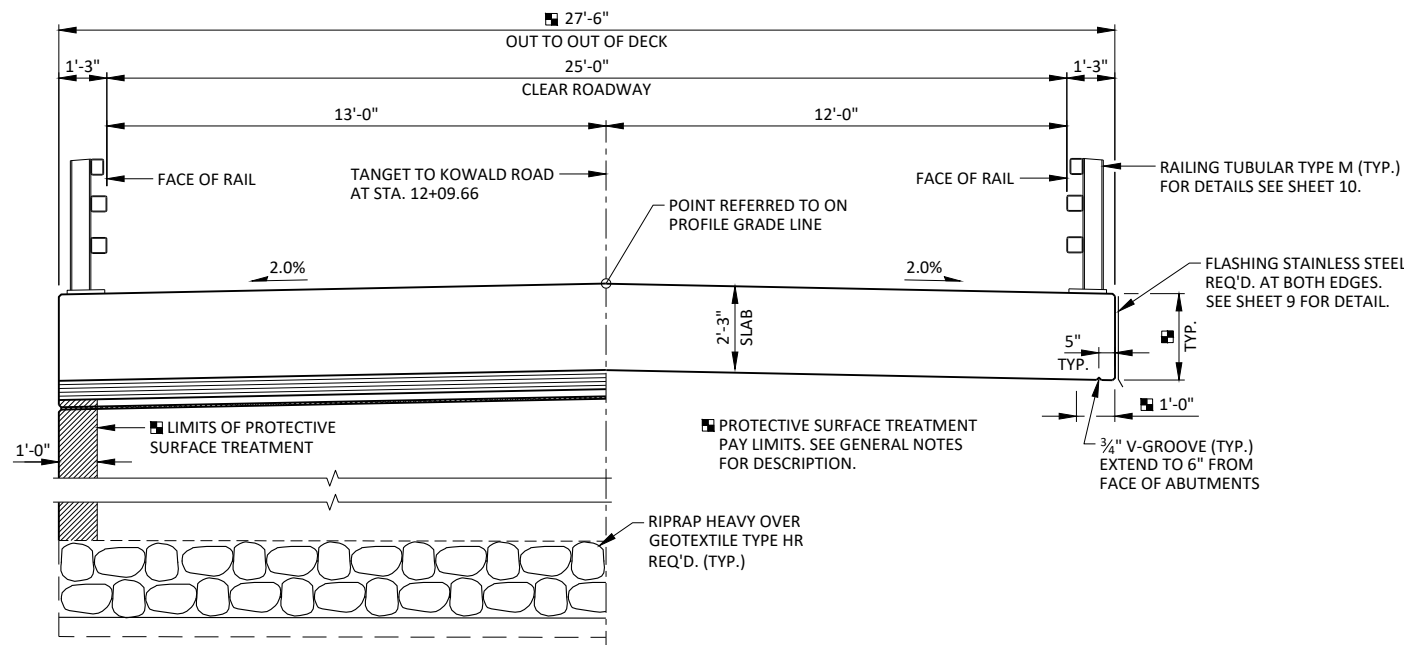
THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATIVE METHOD IS APPROVED BY THE ENGINEER IN THE FIELD.

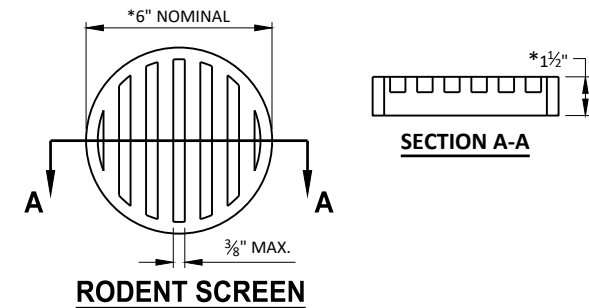
CONCRETE PLACED UNDER WATER WILL BE ALLOWED; PLACE THE CONCRETE CONFORMING TO STANDARD SPECIFICATION 502.3.5.3. ENSURE THE FORMS ARE TIGHT TO PREVENT LEAKAGE OF CONCRETE INTO THE STREAM. TREAT ALL DISPLACED WATER BY FILTRATION, SETTLING BASIN, OR OTHER MEANS SUFFICIENT TO REDUCE THE CEMENT CONTENT BEFORE DISCHARGING THE WATER INTO THE STREAM.

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

THE EXISTING STRUCTURE (P-11-0046) IS A SINGLE SPAN CONCRETE DECK STEEL GIRDER STRUCTURE SUPPORTED ON CONCRETE ABUTMENTS. THE STRUCTURE HAS A OVERALL WIDTH OF 26.4' AND AN OVERALL LENGTH OF 43.8', AND SHALL BE REMOVED.



**AT ABUTMENT IN SPAN**  
**PROPOSED CROSS-SECTION THROUGH ROADWAY**  
LOOKING EAST

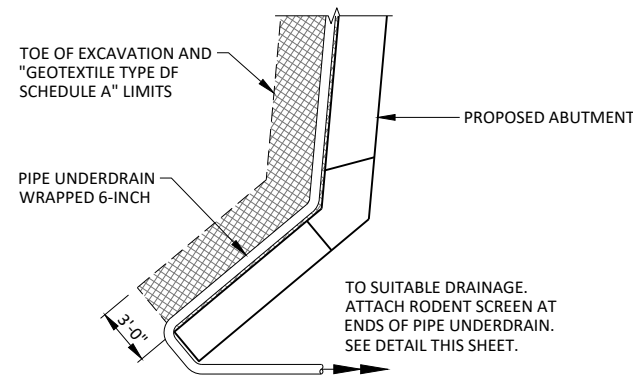


NOTES:  
\* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

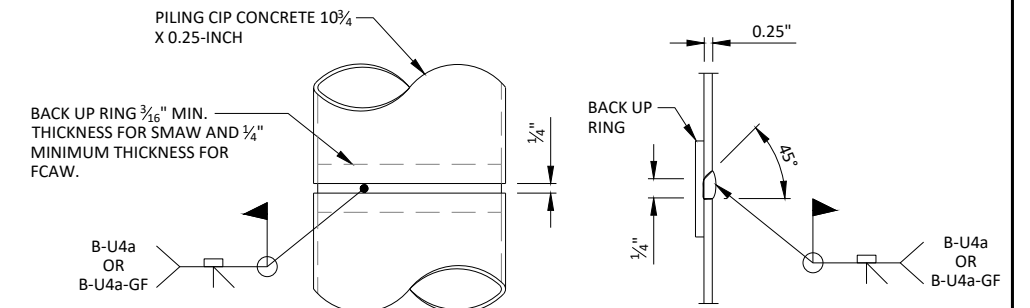
ORIENT SHIELD SO SLOTS ARE VERTICAL.

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

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



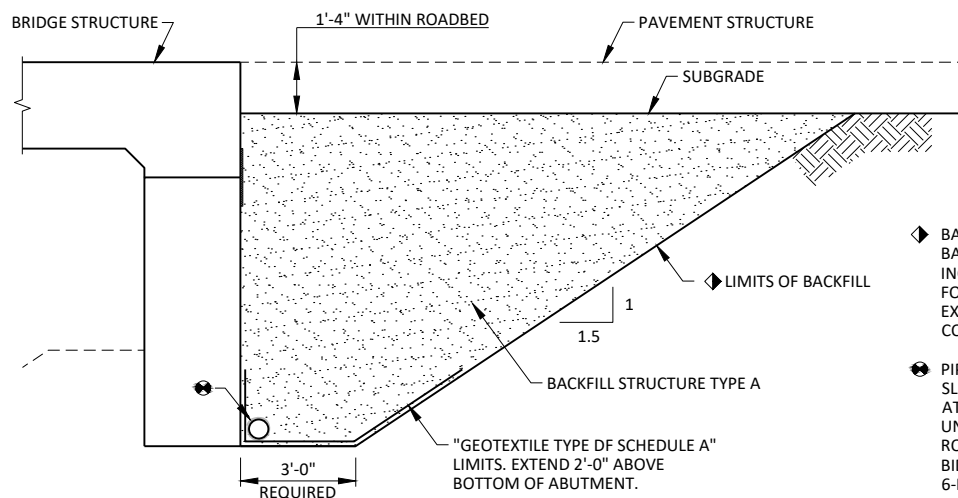
**PIPE UNDERDRAIN DETAIL**



**CAST-IN-PLACE 'PIPE PILE' C.I.P. PILE WELD DETAIL**

**NOTES:**

CAST-IN-PLACE PILE SHELL MATERIAL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS



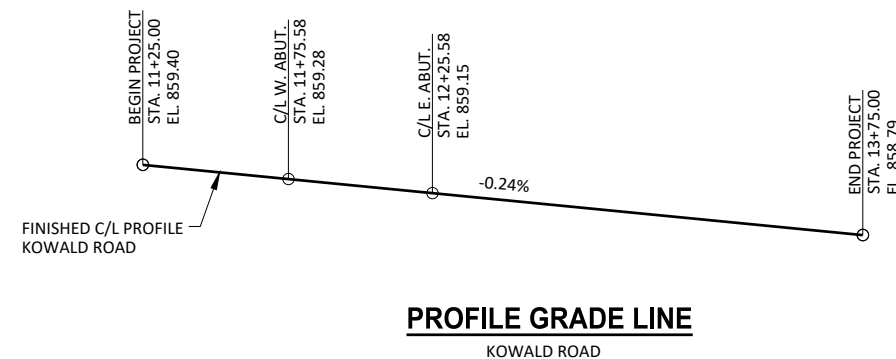
**BACKFILL STRUCTURE DETAIL**  
(TYPICAL AT ABUTMENTS. ABUTMENT BODY SHOWN - WING WALLS SIMILAR)

BACKFILL STRUCTURE TYPE A PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO THE BID ITEM "EXCAVATION FOR STRUCTURES B-11-181". LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."

**TOTAL ESTIMATED QUANTITIES**

ITEM NUMBER	ITEM DESCRIPTION	UNIT	W. ABUT.	SUPER	E. ABUT.	TOTALS
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS P-11-46	EACH	--	--	--	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-11-181	EACH	--	--	--	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	250	--	250	500
502.0100	CONCRETE MASONRY BRIDGES	CY	37.9	125.3	37.8	201
502.3200	PROTECTIVE SURFACE TREATMENT	SY	22	196	22	240
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,300	--	2,290	4,590
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,580	21,400	1,580	24,560
513.4061	RAILING TUBULAR TYPE M	LF	--	109	--	109
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6	--	6	12
550.2104	PILING CIP CONCRETE 10 3/4" X 0.25-INCH	LF	225	--	225	450
606.0300	RIPRAP HEAVY	CY	65	--	85	150
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	75	--	75	150
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	50	--	50	100
645.0120	GEOTEXTILE TYPE HR	SY	110	--	140	250
SPV.0090.01	FLASHING STAINLESS STEEL	LF	--	95	--	95
NON-BID ITEMS						
	FILLER	SIZE				1/2" & 3/4"
	NAME PLATE					



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-11-181</b>			
DRAWN BY		PTB	PLANS CK'D. PMF
<b>CROSS SECTION AND QUANTITIES</b>			SHEET 2 OF 10



**SOIL BORINGS**

BORING NUMBER	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	10/19/20	426,946.0	623,243.1
2	10/19/20	426,930.1	623,297.4

BORINGS & REPORT COMPLETED BY: AMERICAN ENGINEERING TESTING, INC. 4203 SCHOFIELD AVE. SUITE 1 SCHOFIELD, WI 54476

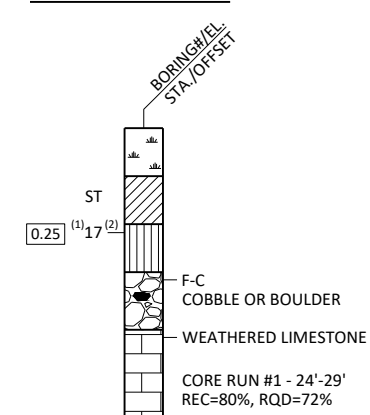
STATE PROJECT NUMBER

**6040-00-75**

**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 ELEVATIONS**

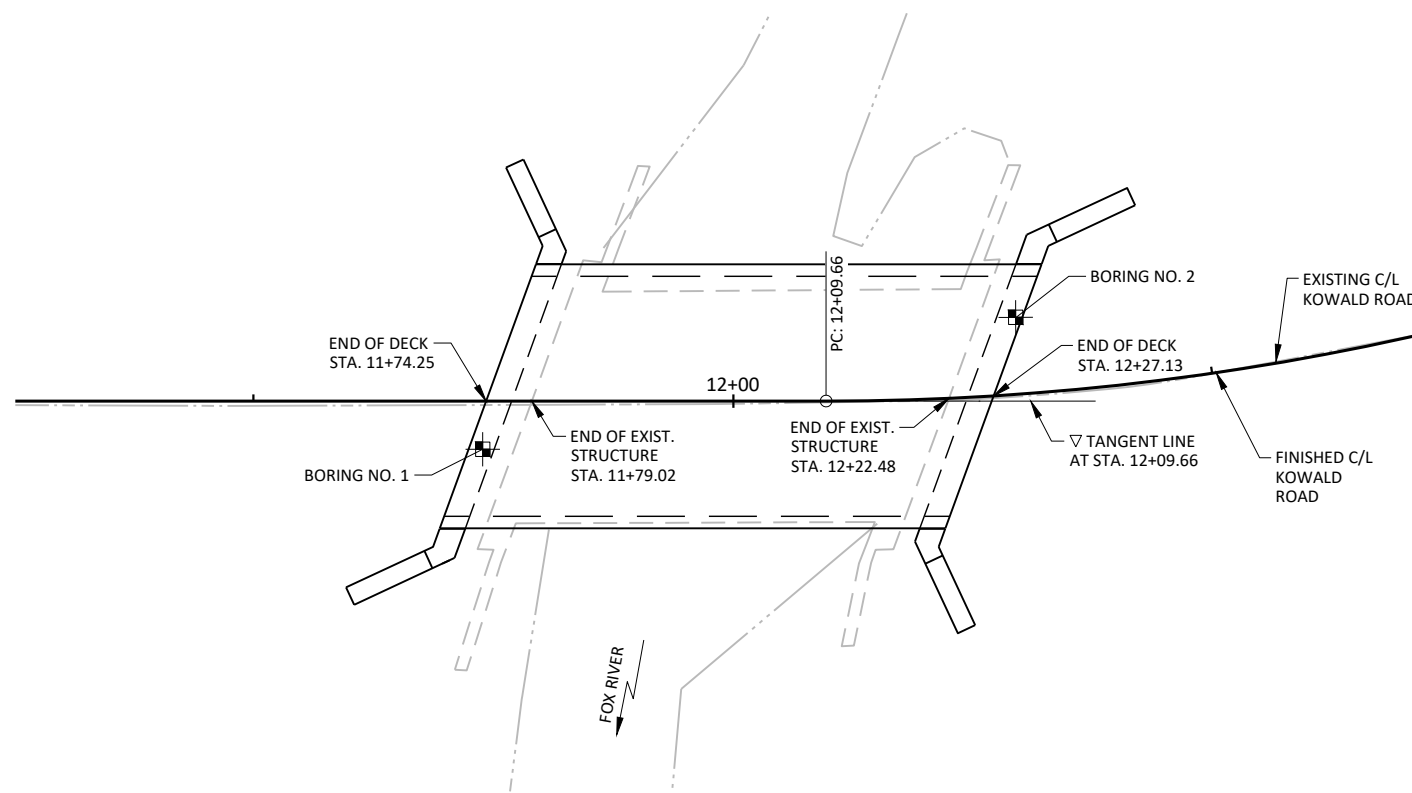
	AT TIME OF DRILLING
	END OF DRILLING
	AFTER DRILLING

**ABBREVIATIONS**

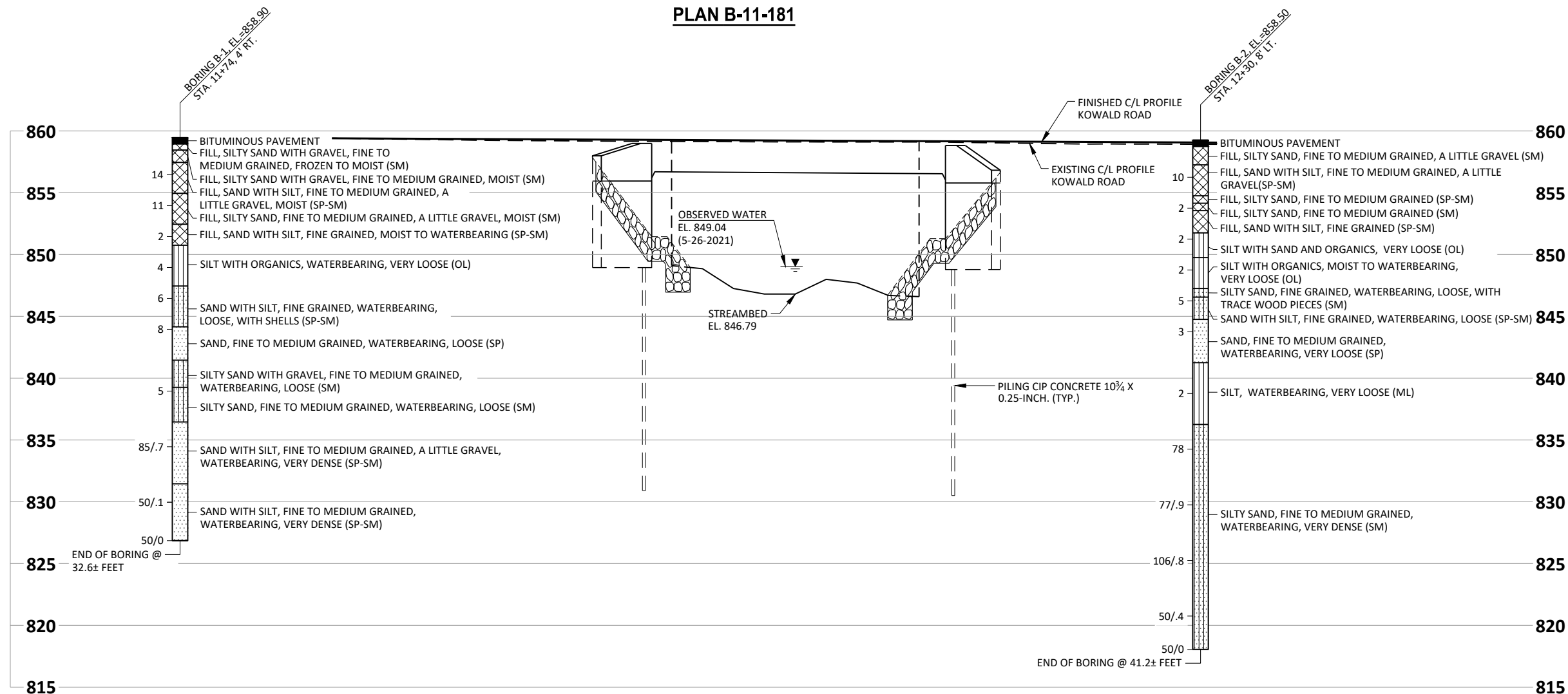
F-FINE M-MEDIUM C-COURSE ST-SHELBY TUBE

**SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION**

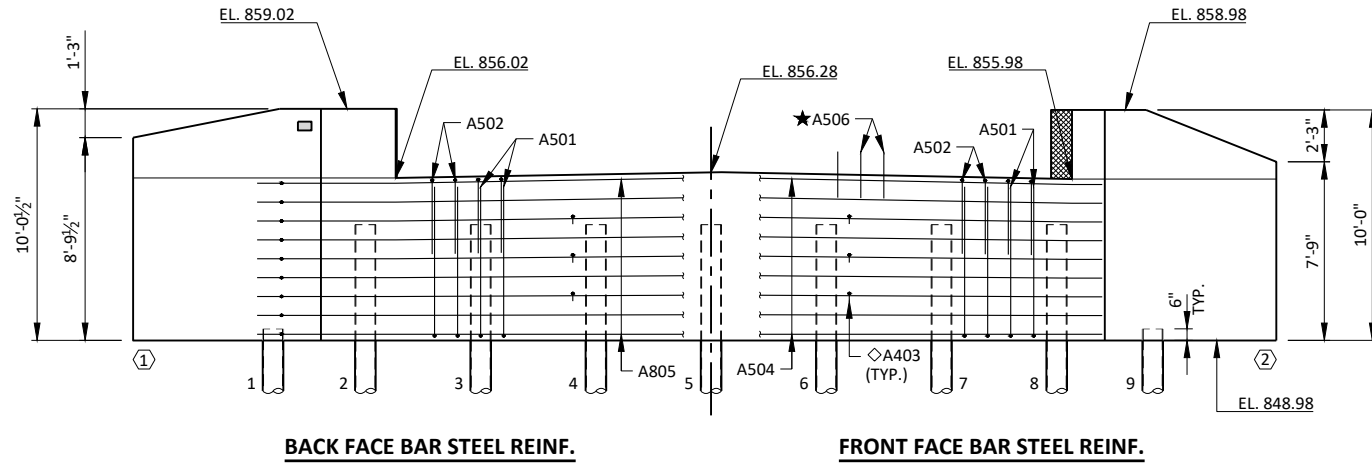
BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT 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.



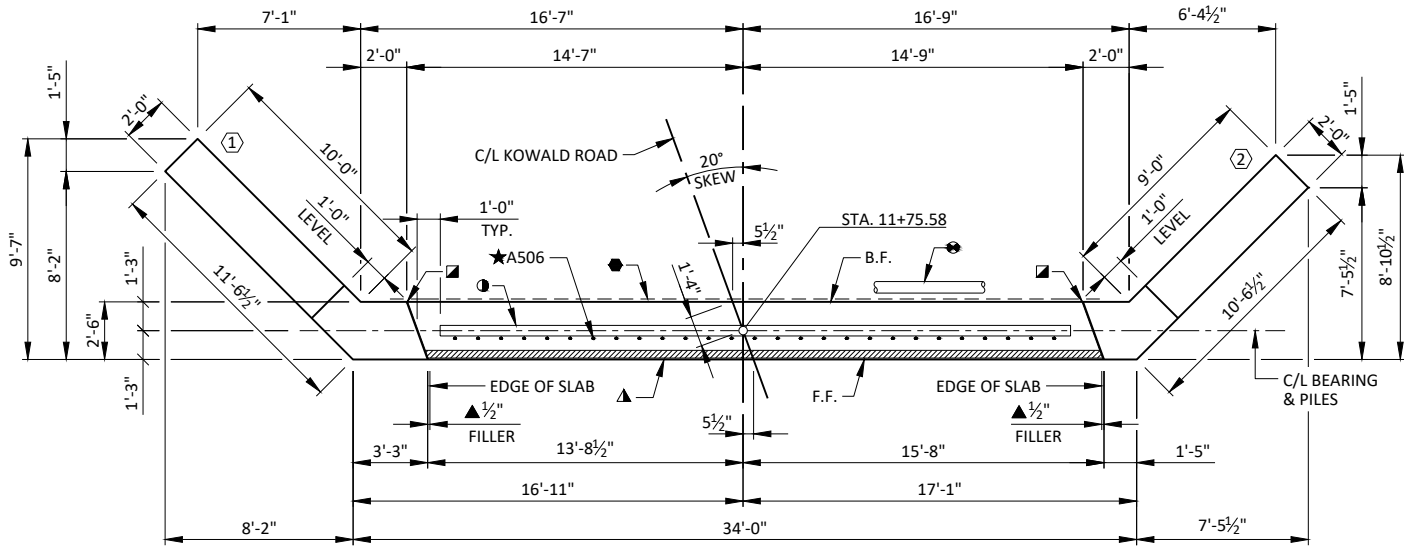
**PLAN B-11-181**



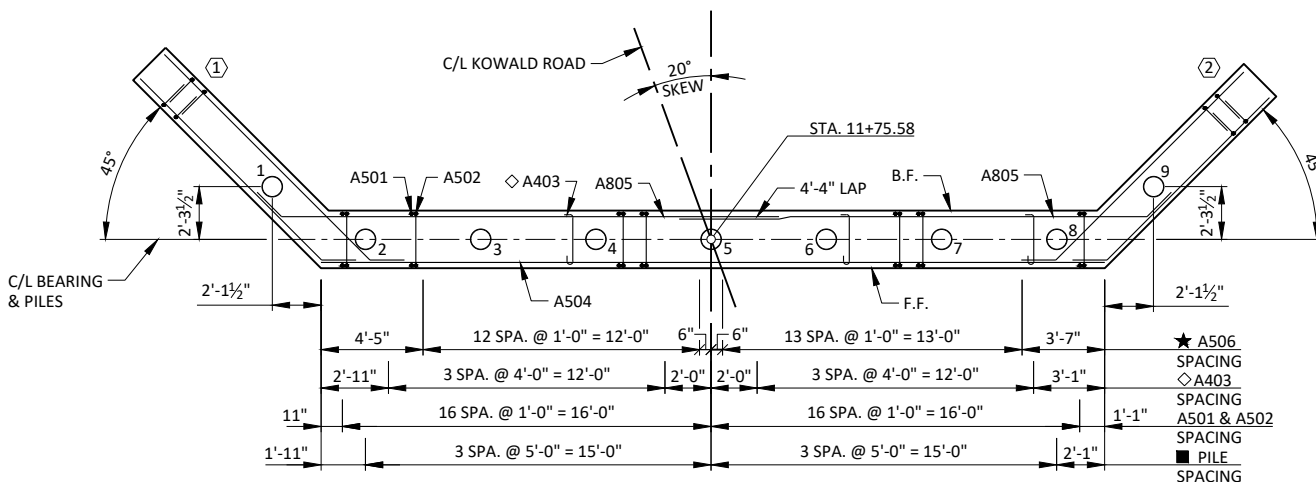
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-11-181</b>			
DRAWN BY: PTB		PLANS CK'D: PMF	
<b>SUBSURFACE EXPLORATION</b>		SHEET 3 OF 10	



ELEVATION

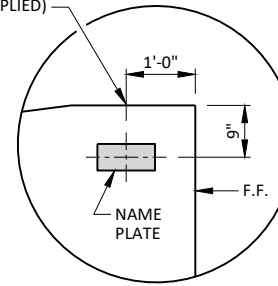


PLAN

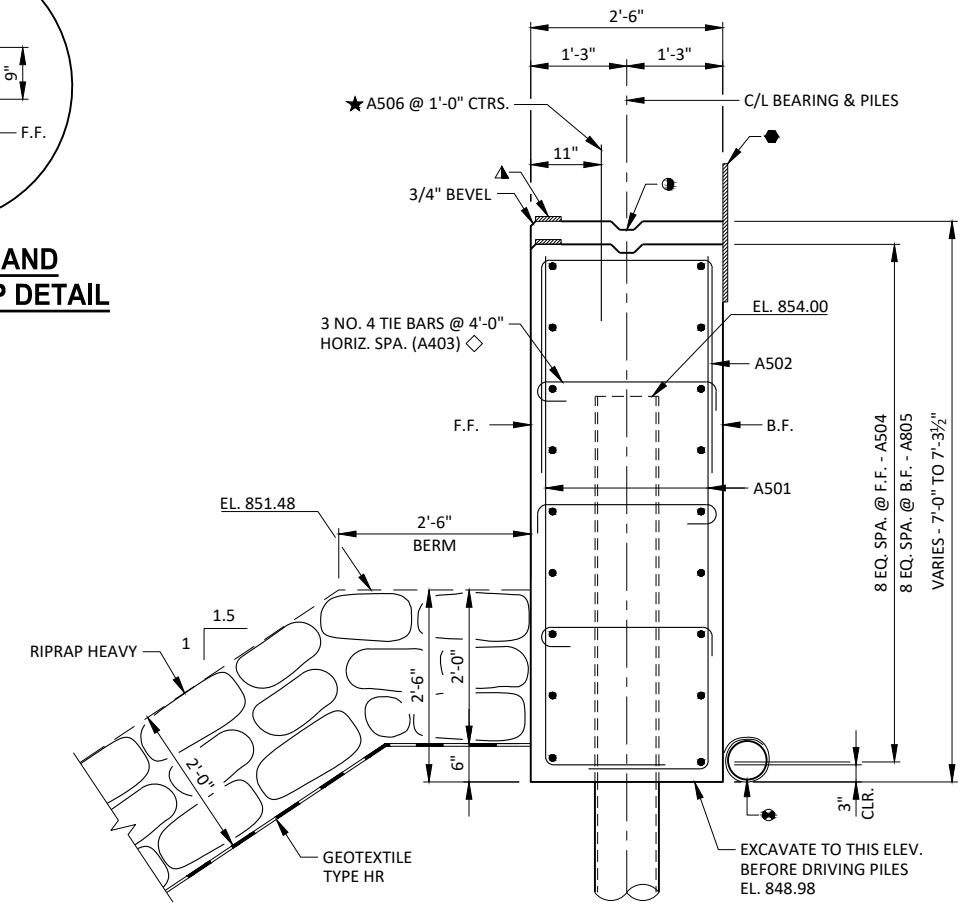


LAYOUT

BENCHMARK CAP (WHEN SUPPLIED)



NAME PLATE AND BENCHMARK CAP DETAIL (WING 1 ONLY)



TYPICAL SECTION THROUGH ABUTMENT BODY

ABUTMENTS TO BE SUPPORTED ON PILING CIP CONCRETE 10 3/4 X 0.25-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 120 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 25 FT PILE LENGTHS AT WEST ABUTMENT.

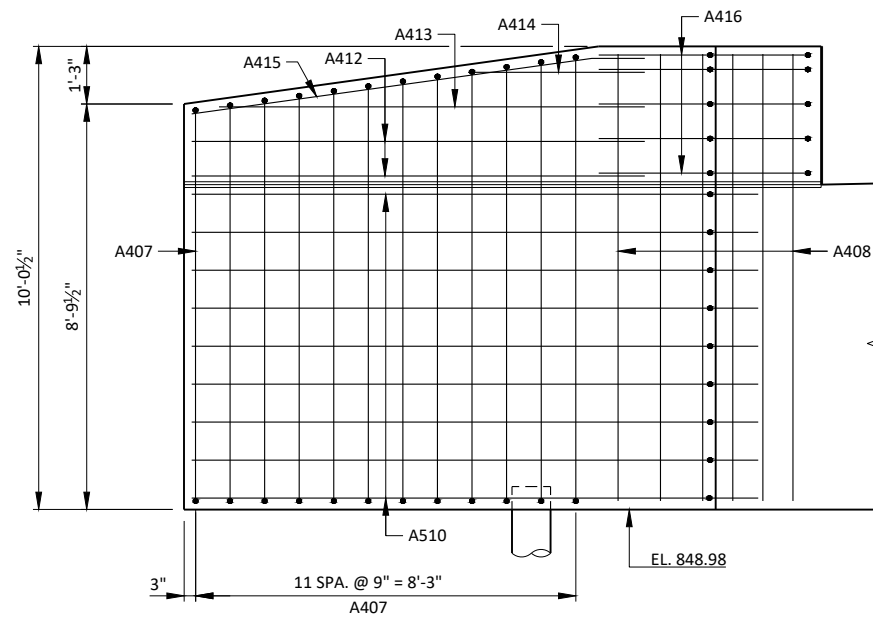
LEGEND

- ① KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.
- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- ▲ 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD 3/8" BELOW SURFACE OF CONCRETE)
- ▲ 3/4" x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.
- ★ A506 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".
- PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."
- ◇ ALTERNATE THE POSITION OF THE 90° AND THE 180° BENDS AT EACH VERTICAL LAYER OF TIES.

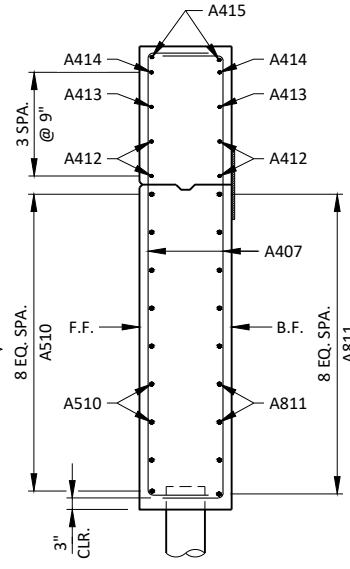
NOTES

- SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 5 FOR BILL OF BARS.
- SEAT ELEVATIONS SHOWN IN THE ELEVATION VIEW ARE TAKEN AT THE C/L OF BEARING NEGLECTING THE KEYED CONSTRUCTION JOINT.
- DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.
- SPACE REINFORCEMENT TO MISS PILING
- F.F. - FRONT FACE
- B.F. - BACK FACE

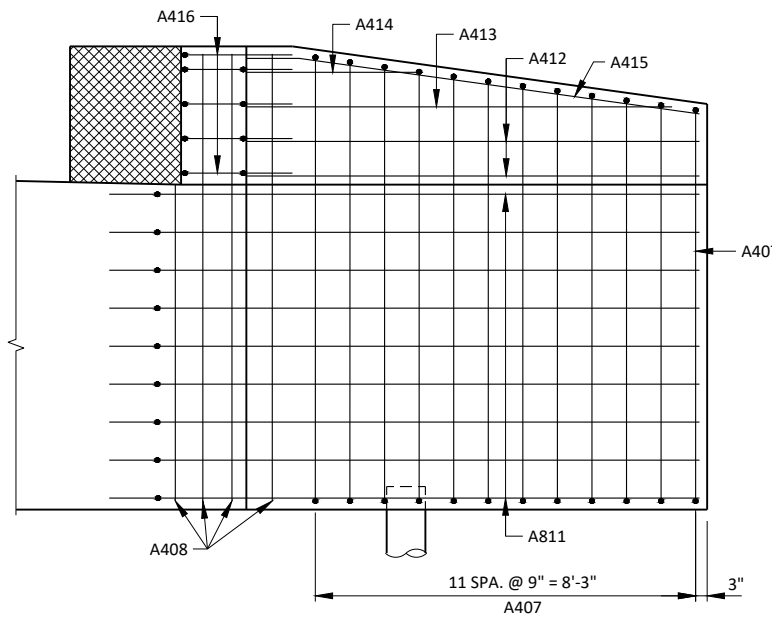
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-11-181</b>			
DRAWN BY		PTB	PLANS CK'D. PMF
<b>WEST ABUTMENT</b>			SHEET 4 OF 10



F.F. ELEVATION - WING 1



SECTION A-A



B.F. ELEVATION - WING 1

**BILL OF BARS  
WEST ABUTMENT**

**1,580 LB (COATED)  
2,300 LB (UNCOATED)**

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	BAR SERIES	LOCATION
A501	66	8-1	X			BODY - VERT. - F.F. & B.F.
A502	33	8-3	X			BODY - VERT. - TOP
A403	24	2-8	X			TIE BARS
A504	9	33-10				BODY - HORIZ. - F.F.
A805	18	22-10	X			BODY - HORIZ. - B.F.
A506	27	2-0		X		BODY - VERT. - DOWELS
A407	24	11-6	X	X	*	WING 1 - VERT. - F.F. & B.F.
A408	10	9-8		X		WING 1 - VERT.
A409	1	3-4		X		WING 1 - VERT. - TOP
A510	9	12-9	X	X		WING 1 - HORIZ. - F.F.
A811	9	14-4	X	X		WING 1 - HORIZ. - B.F.
A412	4	9-10		X		WING 1 - HORIZ. - F.F. & B.F.
A413	2	9-3		X		WING 1 - HORIZ. - F.F. & B.F.
A414	2	3-10		X		WING 1 - HORIZ. - F.F. & B.F.
A415	2	9-11	X	X		WING 1 - HORIZ. - F.F. & B.F. - TOP
A416	5	10-6	X	X		WING 1 - HORIZ. - TOP
A417	22	10-11	X	X	*	WING 2 - VERT. - F.F. & B.F.
A418	8	9-7		X		WING 2 - VERT.
A419	1	3-4		X		WING 2 - VERT. - TOP
A520	9	11-9	X	X		WING 2 - HORIZ. - F.F.
A821	9	13-4	X	X		WING 2 - HORIZ. - B.F.
A422	2	8-10		X		WING 2 - HORIZ. - F.F. & B.F.
A423	2	7-9		X		WING 2 - HORIZ. - F.F. & B.F.
A424	2	5-1		X		WING 2 - HORIZ. - F.F. & B.F.
A425	2	2-5		X		WING 2 - HORIZ. - F.F. & B.F.
A426	2	9-2	X	X		WING 2 - HORIZ. - F.F. & B.F. - TOP
A427	5	8-8	X	X		WING 2 - HORIZ. - TOP

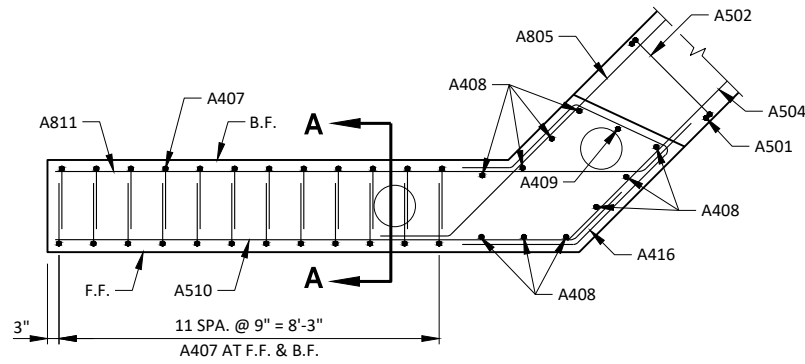
**NOTES**

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

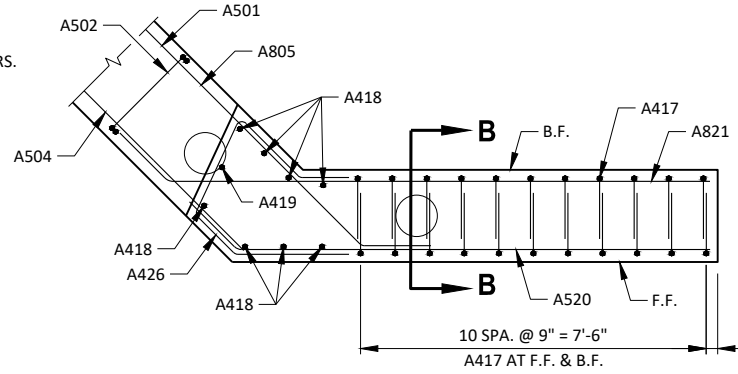
SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

B.F. - BACK FACE



PLAN VIEW - WING 1



PLAN VIEW - WING 2

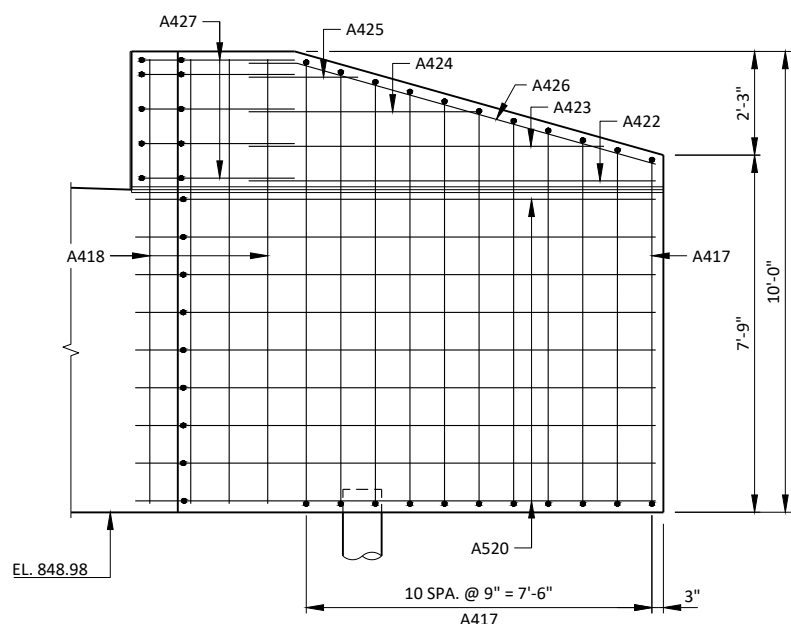
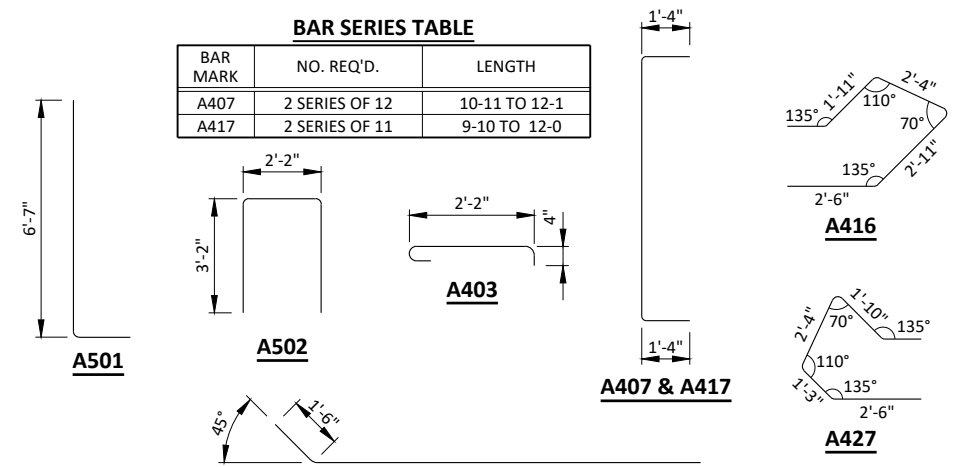
NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

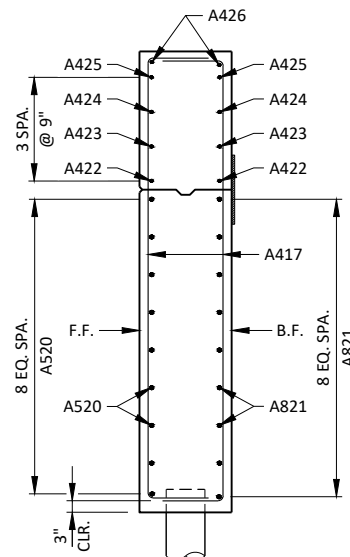
\* LENGTH SHOWN IS AN AVERAGE LENGTH ONLY. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

**BAR SERIES TABLE**

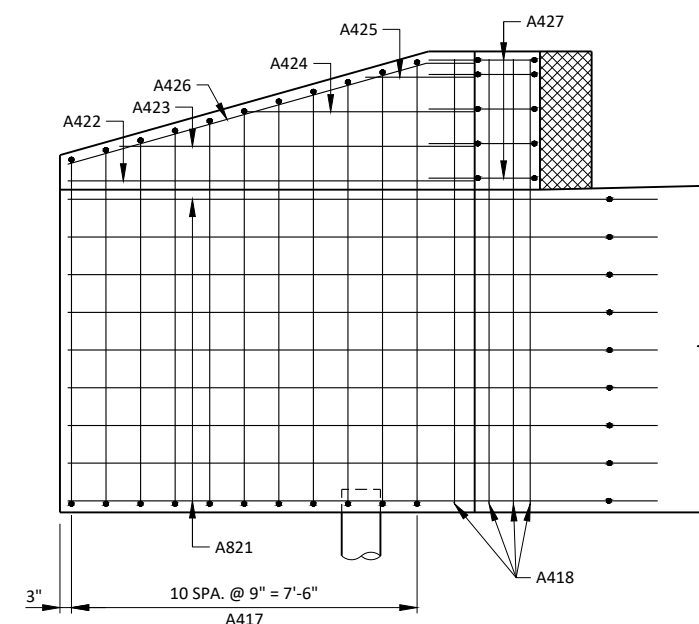
BAR MARK	NO. REQ'D.	LENGTH
A407	2 SERIES OF 12	10-11 TO 12-1
A417	2 SERIES OF 11	9-10 TO 12-0



F.F. ELEVATION - WING 2

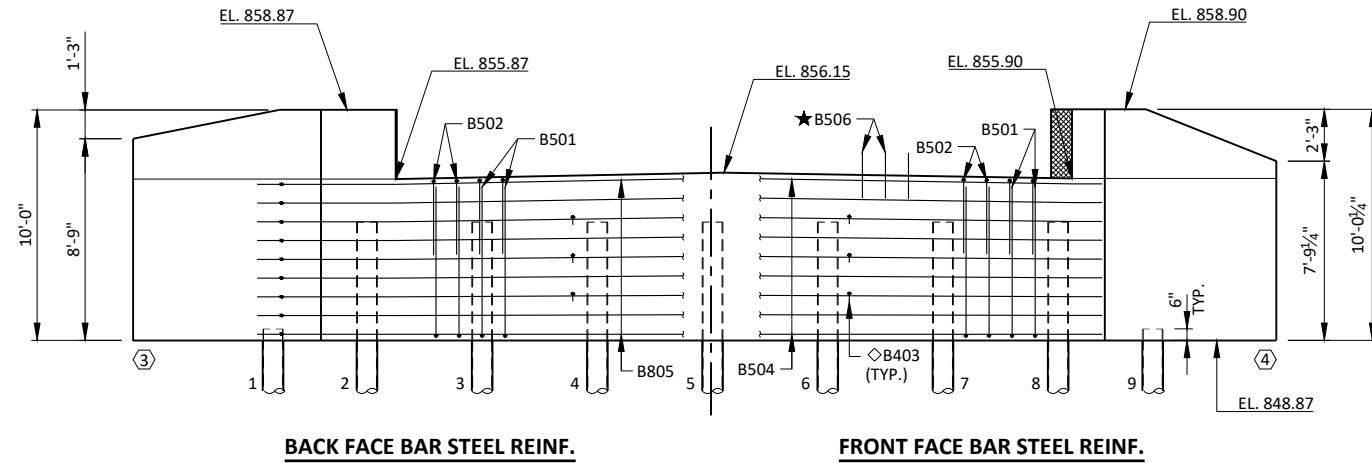


SECTION B-B

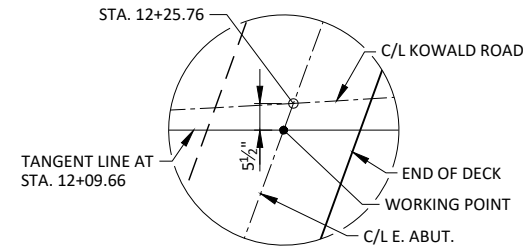


B.F. ELEVATION - WING 2

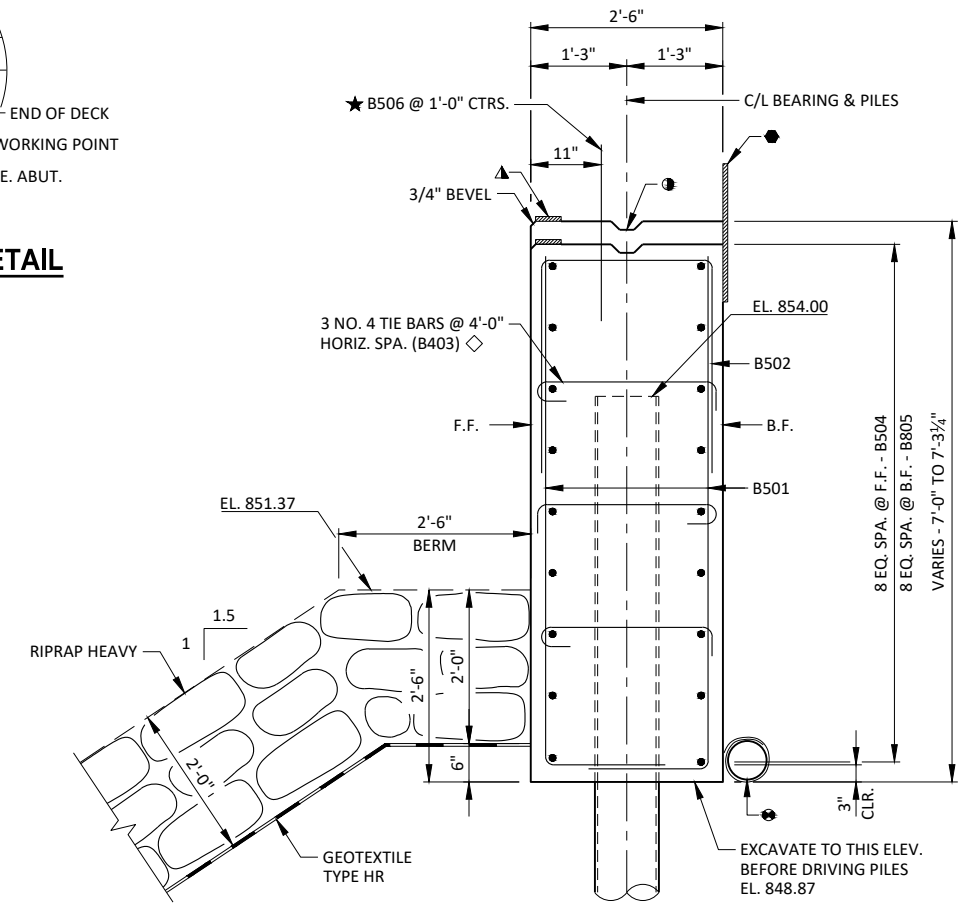
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-11-181</b>			
DRAWN BY		PTB	PLANS CK'D. PMF
<b>WEST ABUTMENT DETAILS</b>			SHEET 5 OF 10



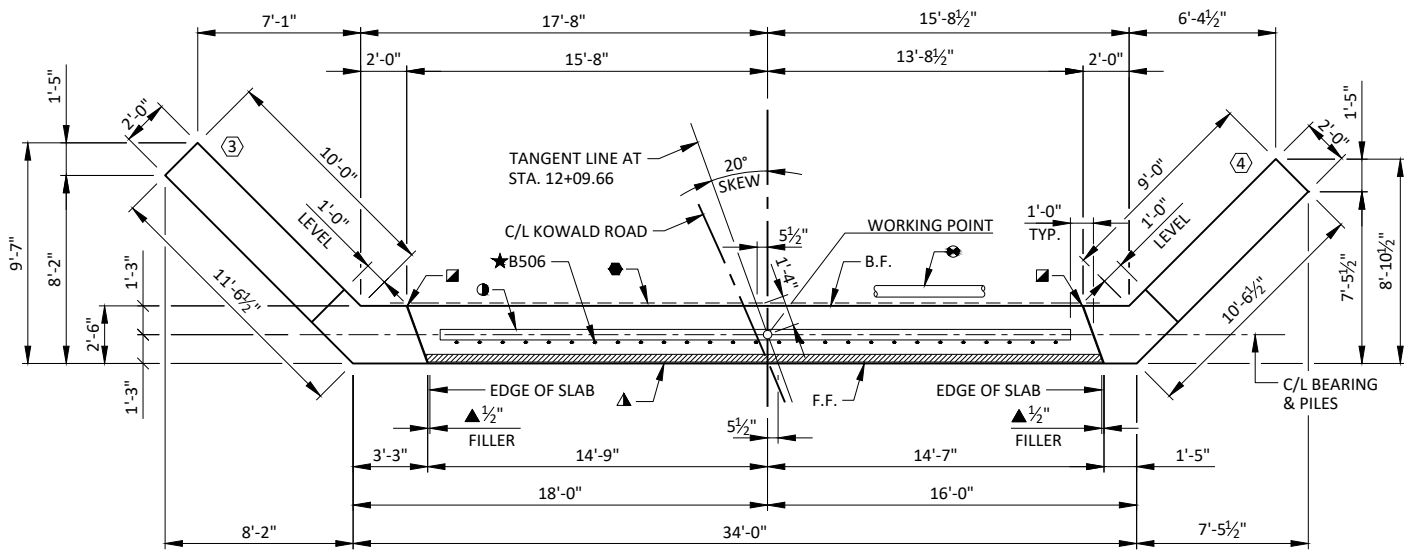
ELEVATION



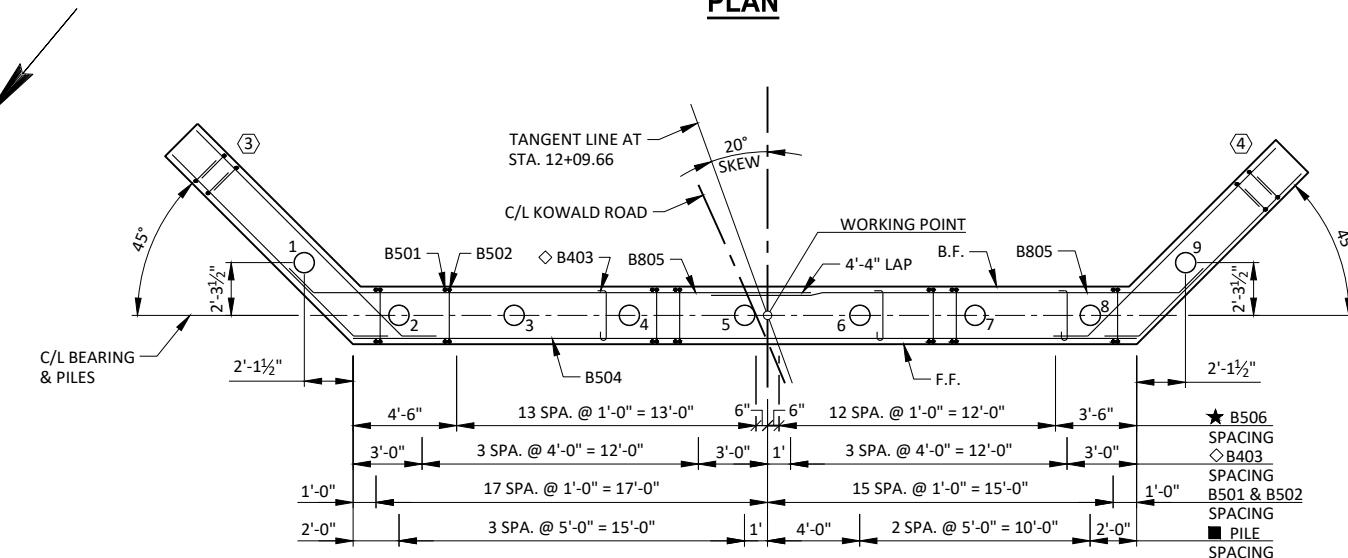
EAST ABUTMENT TANGENT OFFSET DETAIL



TYPICAL SECTION THROUGH ABUTMENT BODY



PLAN



LAYOUT

ABUTMENTS TO BE SUPPORTED ON PILING CIP CONCRETE 10 3/4 X 0.25-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 120 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 25 FT PILE LENGTHS AT EAST ABUTMENT.

LEGEND

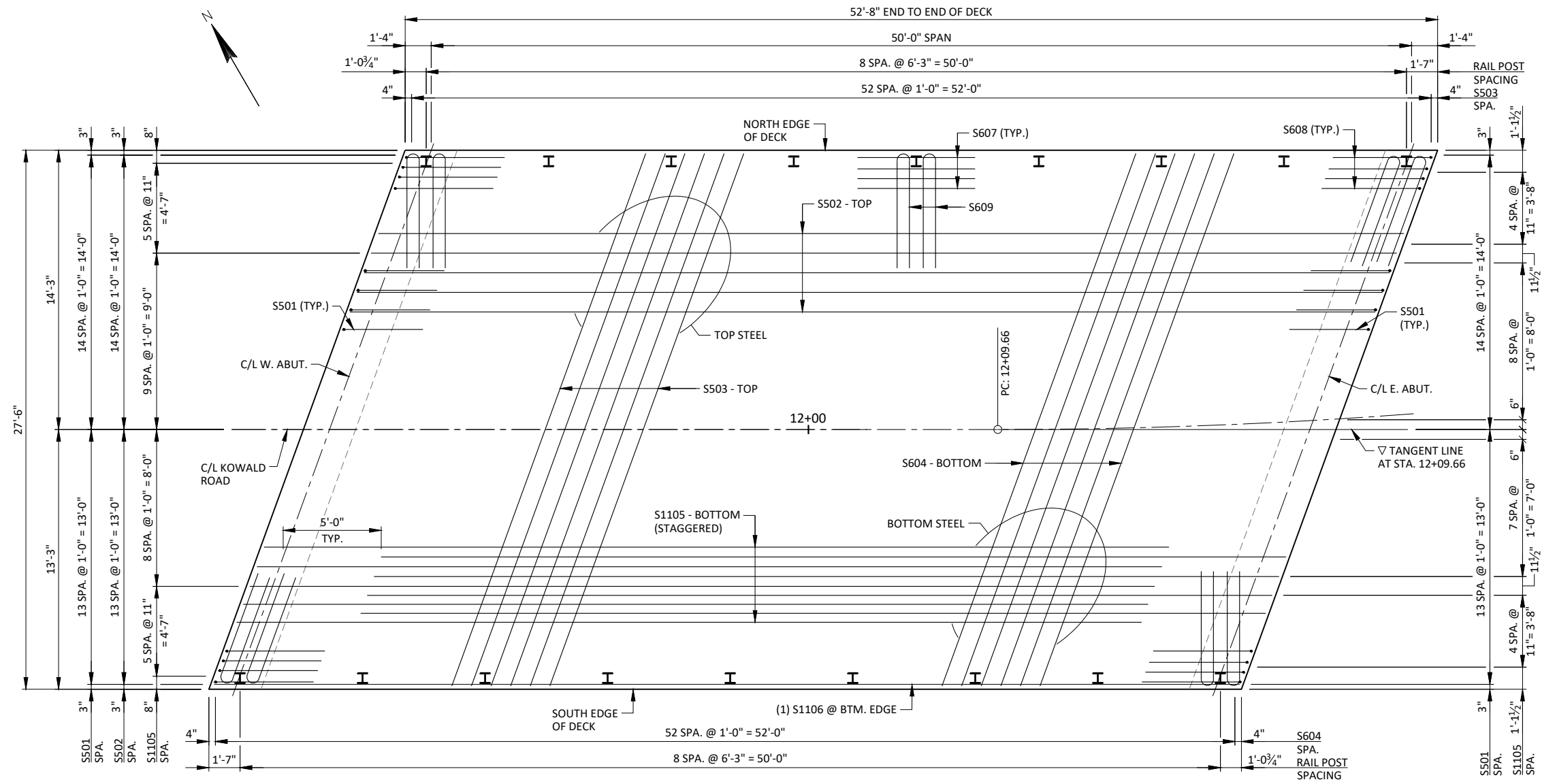
- ① KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.
- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- ▲ 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD 3/8" BELOW SURFACE OF CONCRETE)
- ▲ 3/4" x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.
- ★ B506 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".
- PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- ⊖ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."
- ◇ ALTERNATE THE POSITION OF THE 90° AND THE 180° BENDS AT EACH VERTICAL LAYER OF TIES.

NOTES

- SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 7 FOR BILL OF BARS.
- SEAT ELEVATIONS SHOWN IN THE ELEVATION VIEW ARE TAKEN AT THE C/L OF BEARING NEGLECTING THE KEYED CONSTRUCTION JOINT.
- DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.
- SPACE REINFORCEMENT TO MISS PILING
- F.F. - FRONT FACE
- B.F. - BACK FACE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-11-181</b>			
DRAWN BY: PTB		PLANS CK'D: PMF	
<b>EAST ABUTMENT</b>			SHEET 6 OF 10



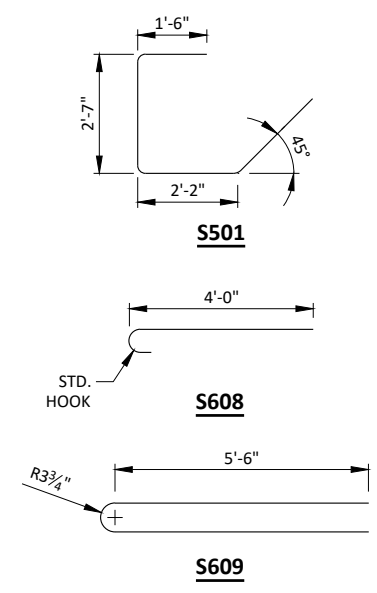


**PLAN**

**BILL OF BARS SUPERSTRUCTURE 21,400 LB (COATED)**

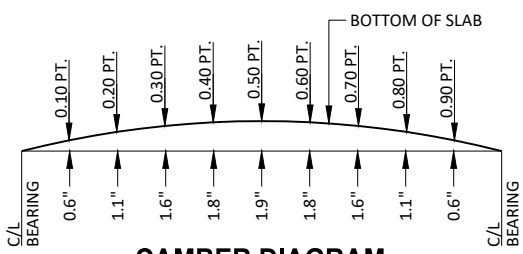
BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
S501	56	8-6	X	X	ENDS OF DECK
S502	28	52-3		X	SLAB - TOP - LONGIT.
S503	59	28-10		X	SLAB - TOP - TRANS. & AT ABUT.
S604	53	28-10		X	SLAB - BOTTOM - TRANS.
S1105	55	46-2		X	SLAB - BOTTOM - LONGIT.
S1106	2	52-3		X	SLAB - BOTTOM - LONGIT. - EDGES
S607	56	6-0		X	RAIL POSTS - INTERIOR
S608	16	4-8	X	X	RAIL POSTS - CORNERS
S609	36	12-0	X	X	RAIL POSTS

NOTES: THE FIRST DIGIT OF A THREE DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.  
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.  
SOME BARS HAVE BEEN OMITTED FOR CLARITY.



**TOP OF DECK ELEVATIONS**

	C/L W. ABUT.	0.10 PNT.	0.20 PNT.	0.30 PNT.	0.40 PNT.	0.50 PNT.	0.60 PNT.	0.70 PNT.	0.80 PNT.	0.90 PNT.	C/L E. ABUT.
N. EDGE	858.98	858.97	858.96	858.94	858.93	858.92	858.91	858.89	858.89	858.88	858.87
R/L	859.28	859.26	859.25	859.24	859.23	859.22	859.20	859.19	859.18	859.16	859.15
S. EDGE	859.02	859.01	859.00	858.99	858.98	858.96	858.95	858.94	858.93	858.91	858.90



**CAMBER DIAGRAM**

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPAN AS SHOWN TO PROVIDE FOR THEORETICAL DEADLOAD DEFLECTION AND FUTURE PLASTIC FLOW. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB OR CENTER LINE FOLLOW THIS PROCEDURE:  
TOP OF SLAB ELEVATION AT FINAL GRADE  
-SLAB THICKNESS  
+CAMBER  
+FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (COMPUTED BY CONTRACTOR)  
=TOP OF SLAB FALSEWORK ELEVATION.

**NOTES**

SUPPORT ALTERNATE TOP TRANSVERSE BARS IN SLAB BY INDIVIDUAL BAR CHAIRS AT APPROX. 3'-0" CENTERS. SUPPORT BOTTOM LONGITUDINAL BARS BY CONTINUOUS BAR CHAIRS AT APPROX. 4'-0" CENTERS.  
PLACE TRANSVERSE BARS PARALLEL TO THE CENTERLINE OF SUBSTRUCTURE UNITS.  
THE SLAB THICKNESS DIMENSION IS MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).  
SEE SHEET 1 FOR HORIZONTAL CURVE DATA  
MEASURED ALONG BRIDGE REFERENCE LINE

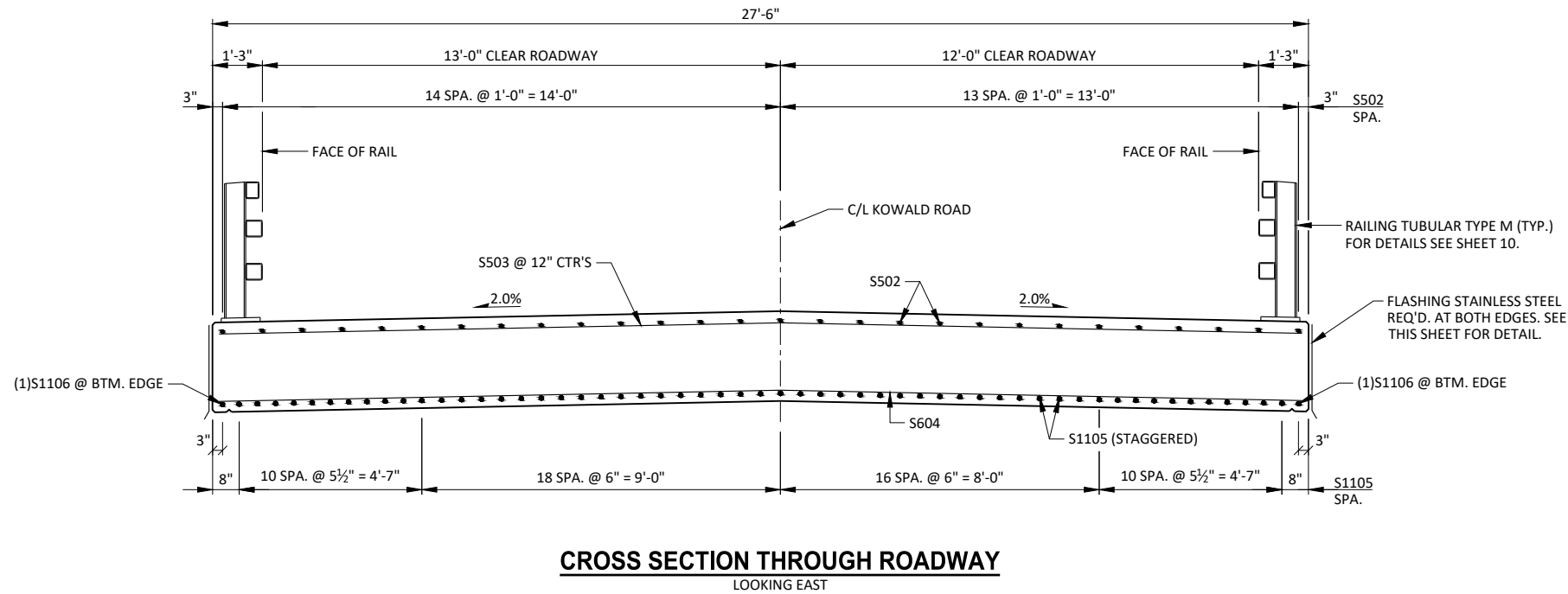
**SURVEY TOP OF DECK ELEVATIONS**

	W. ABUT.	0.50 PT.	E. ABUT.
NORTH EDGE OF DECK			
TANGENT LINE			
SOUTH EDGE OF DECK			

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF DECK ELEVATIONS AT THE C/L OF THE ABUTMENTS AND AT 0.50 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG THE EDGE OF DECK AND CENTER LINE. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

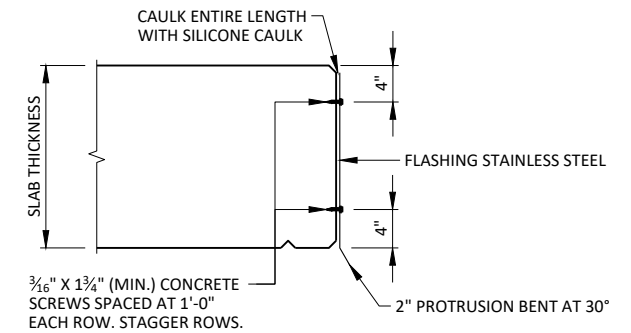
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-11-181</b>			
DRAWN BY		PTB	PLANS CK'D. PMF
<b>SUPERSTRUCTURE</b>		SHEET 8 OF 10	





**LEGEND**

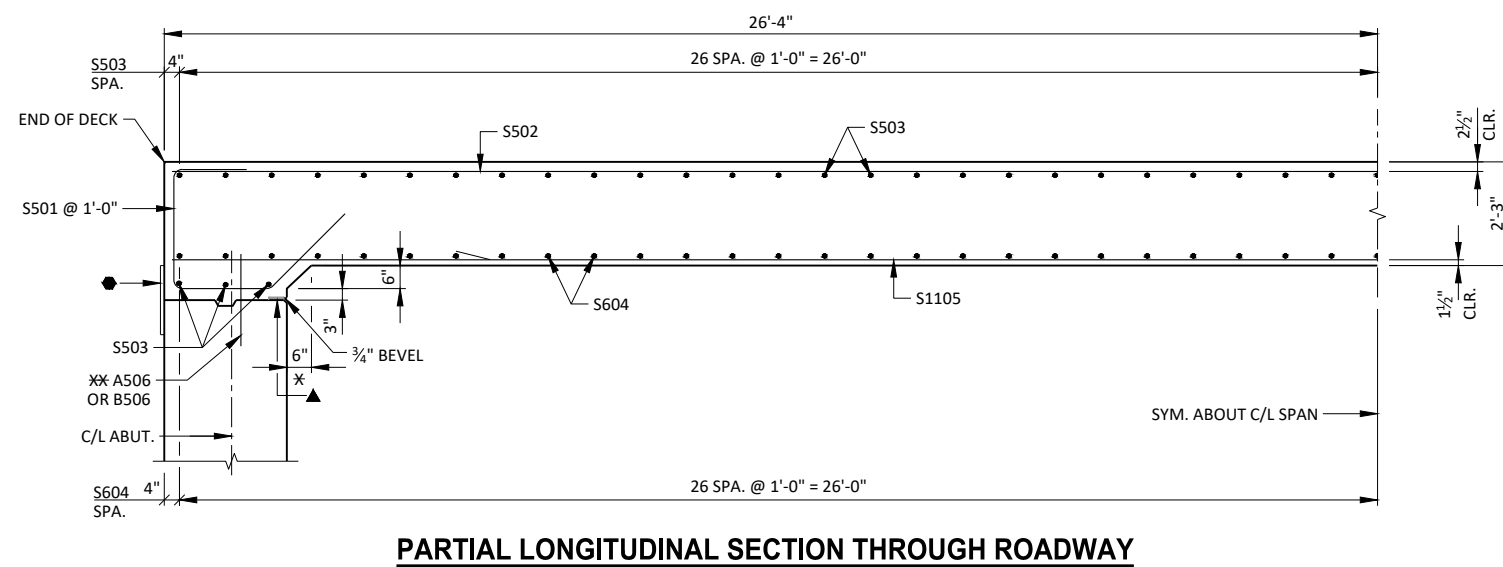
- 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- ▲ ¾" x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.
- \* DIMENSION IS NORMAL TO THE C/L OF SUBSTRUCTURE UNITS.
- ✱ SEE SHEET 4 FOR PLACEMENT OF A506 BARS AND SHEET 6 FOR PLACEMENT OF B506 BARS.



**STAINLESS STEEL FLASHING DETAIL**

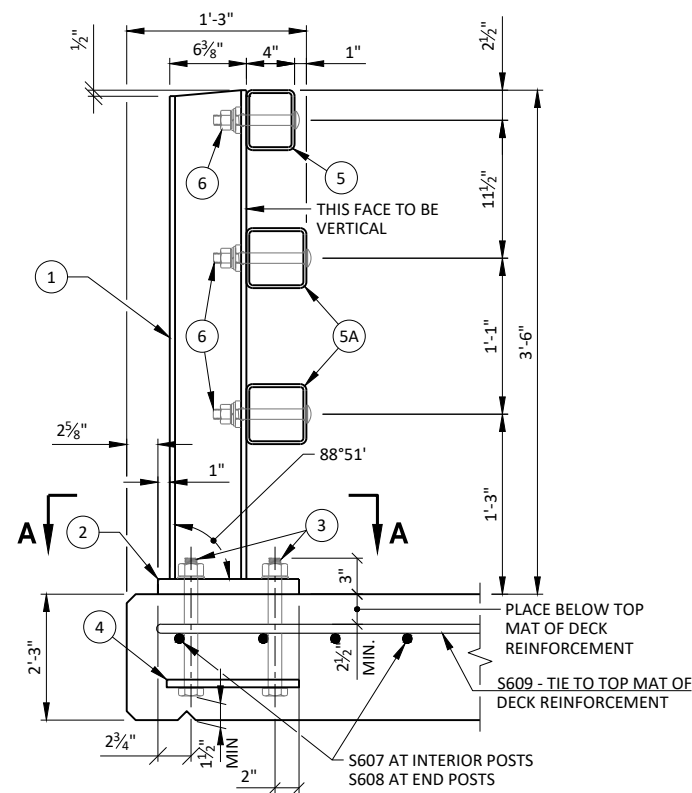
**NOTES:**

- THE BID ITEM "FLASHING STAINLESS STEEL" SHALL INCLUDE PROVIDING AND INSTALLING THE STAINLESS STEEL FLASHING, SILICONE CAULK, 3/16" CONCRETE SCREWS, AND CLEANING THE EDGE OF DECK PRIOR TO ATTACHMENT OF THE FLASHING.
- FLASHING TO BE INSTALLED AFTER APPLICATION OF PROTECTIVE SURFACE TREATMENT.
- CONCRETE SCREWS SHALL BE 410 STAINLESS STEEL.
- EXTEND FLASHING TO F.F. OF ABUTMENT.
- TOP OF FLASHING TO BEGIN APPROXIMATELY 1" BELOW TOP OF SLAB SURFACE.
- THE FLASHING IS TO BE A CONSTANT HEIGHT BASED ON THE THINNEST SLAB DEPTH OVER THE BRIDGE LENGTH.

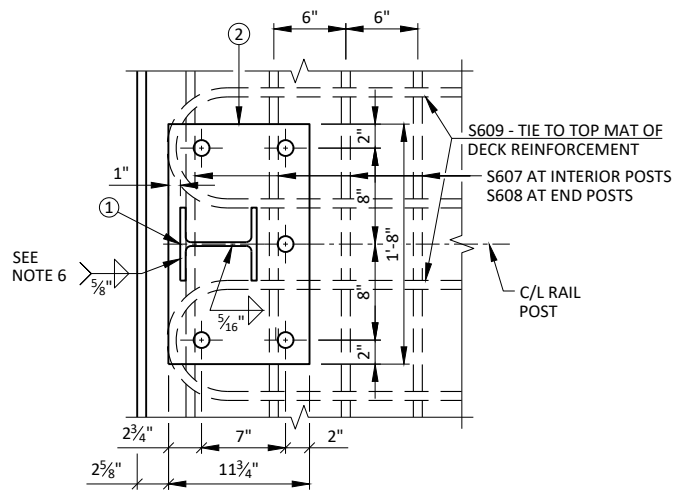


**PARTIAL LONGITUDINAL SECTION THROUGH ROADWAY**

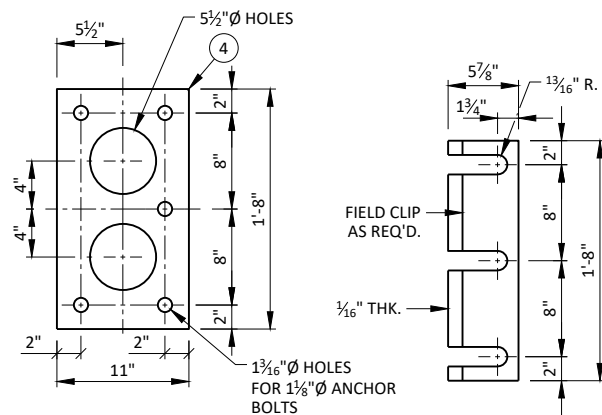
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-11-181</b>			
DRAWN BY		PTB	PLANS CK'D. PMF
<b>SUPERSTRUCTURE DETAILS</b>			SHEET 9 OF 10



**SECTION THROUGH RAILING ON DECK**

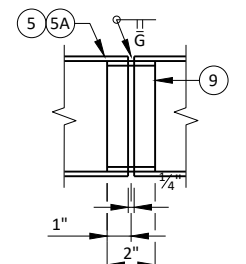


**SECTION A-A**

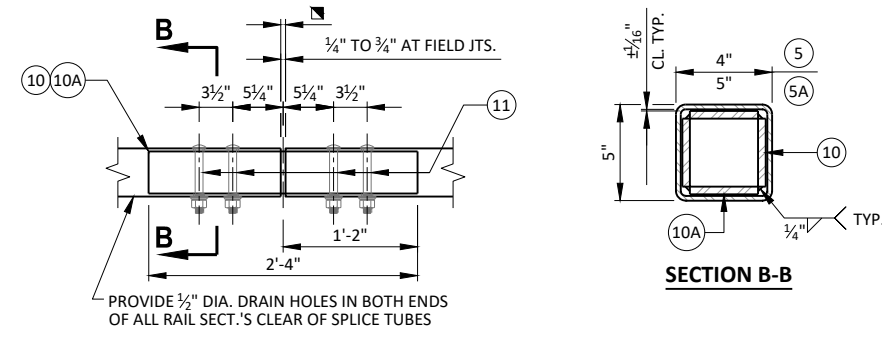


**ANCHOR PLATE**  
AT RAIL TO DECK CONNECTION

**POST SHIM**  
DETAIL

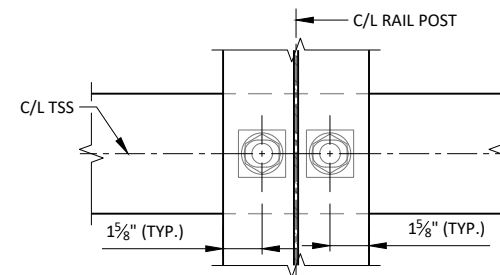


**SHOP RAIL SPLICE DETAIL**  
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)

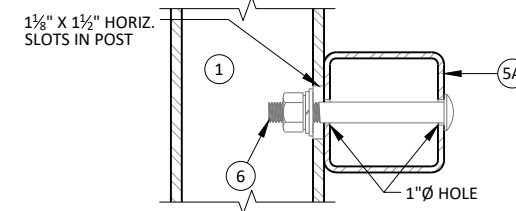


**FIELD ERECTION JOINT DETAIL**

RDWY. OPENING OR 2 1/2" MIN. FOR STRIP SEAL EXP. JOINT & (1/4" TO 3/4") OPENING FOR A1 ABUTMENT.



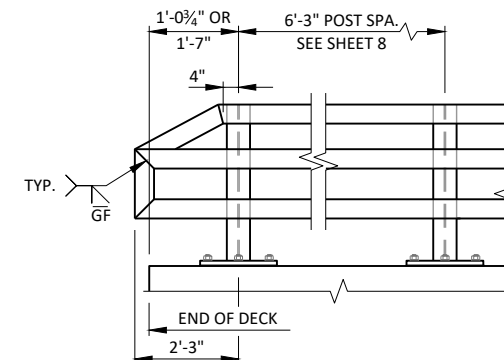
**SECTION THROUGH POST WEB**



**SECTION THROUGH RAIL**

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

**TYPICAL RAIL TO POST CONNECTIONS**



**PART ELEVATION OF RAILING**

**LEGEND**

- ① W6x25 WITH 1 1/2" x 1 1/2" HORIZONTAL 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 1 1/4"x11 3/4"x1'-8" WITH 1 1/16" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
- ③ ASTM A449 - 1 1/2" 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 AT ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10 3/8" 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 3/8"x11"x1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3/16" DIA. HOLES FOR ANCHOR BOLTS NO. 3.
- ⑤ TSS 5x4x0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑤A TSS 5x5x0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑥ 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16"x1 3/8"x1 3/8" MIN. WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION).
- ⑨ SPLICE SLEEVE FABRICATED FROM 1/2" PLATE. PROVIDE "SLIDING FIT".
- ⑩ 3/8"x3 3/8"x2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑩A 3/8"x2 3/8"x2'-4" PLATE USED IN NO. 5, 3/8"x3 3/8"x2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- ⑪ 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1 5/16"x1 1/4" LONG. SLOTTED HOLES IN PLATE NO. 10A. AT FIELD JOINTS AND 1 5/16"x2 1/4" MIN. LONG. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A. PROVIDE 1 3/16" DIA. ROUND HOLES IN TUBES NO. 5 AND NO. 5A.

**GENERAL NOTES**

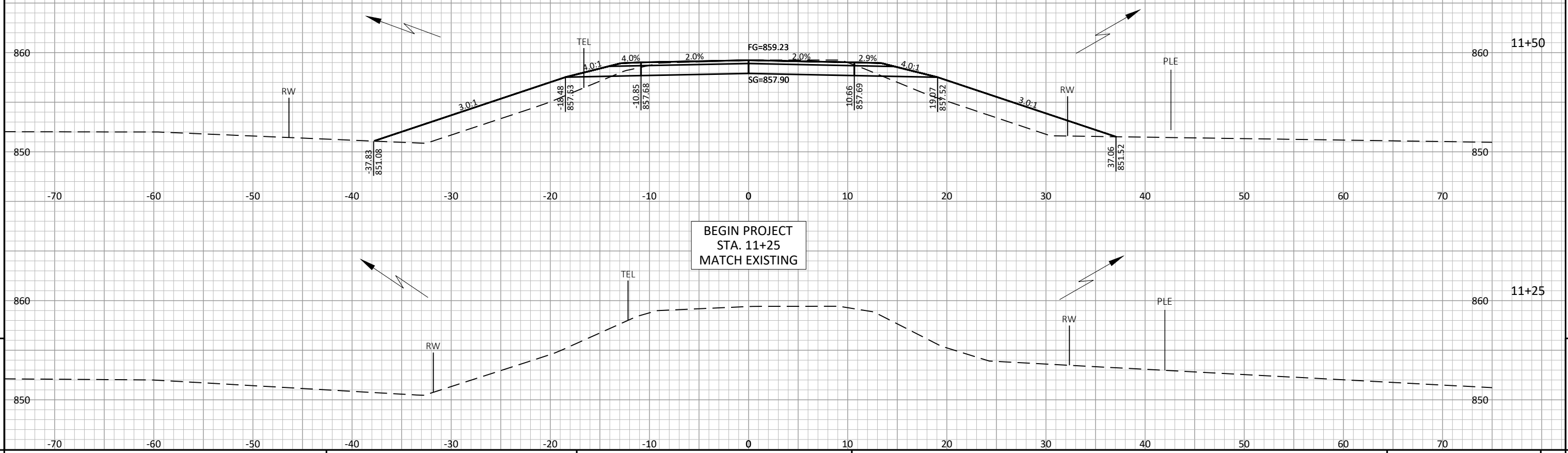
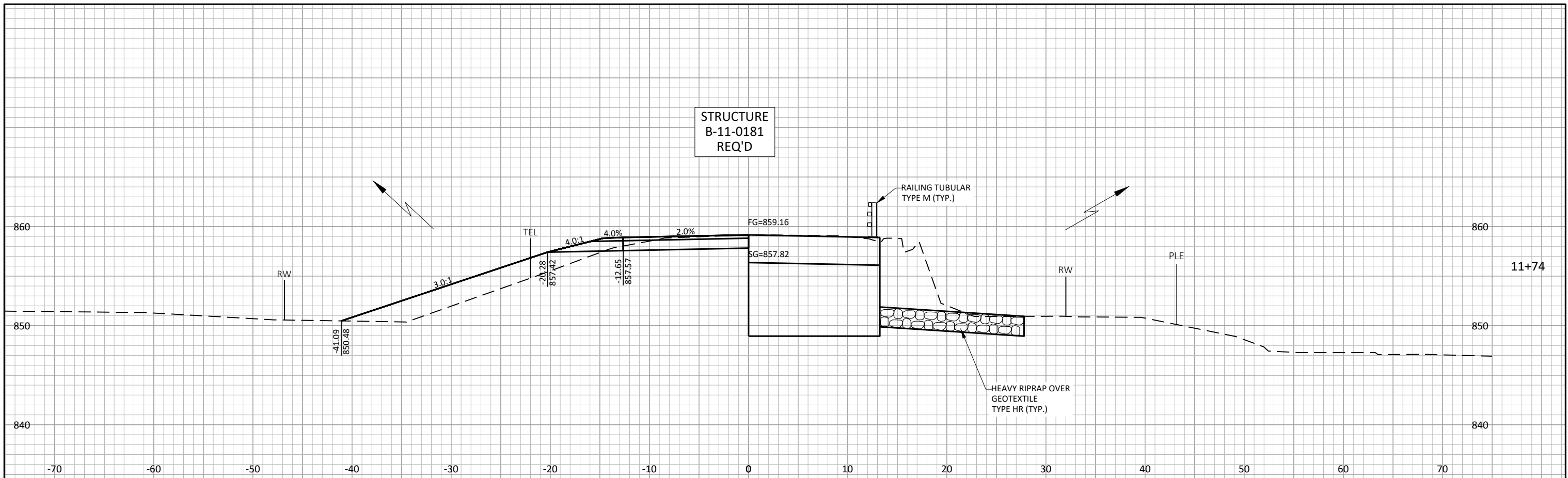
1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY=50 KSI. ANCHOR PLATES AND 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 1/2 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.
10. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-11-181</b>			
DRAWN BY		PTB	PLANS CK'D. PMF
<b>TUBULAR RAILING</b>			SHEET 10 OF 10
<b>TYPE M</b>			

EARTHWORK-KOWALD ROAD

STATION	AREA (SF)		INCREMENTAL VOL (CY)			CUMMULATIVE VOLUME (CY)			
	CUT	FILL	CUT NOTE 1	FILL NOTE 2	FILL (25%) NOTE 3	CUT 1.00 NOTE 1	FILL	FILL (25%) NOTE 3	MASS ORDINATE NOTE 4
11+25	0	0	15	35	44	15	35	44	-29
11+50	32	75	28	67	83	43	102	127	-83
11+74	32	75	0	0	0	43	102	127	-83
12+27	34	76	29	65	81	72	167	208	-136
12+50	34	76	29	67	83	101	234	291	-190
12+75	29	67	26	58	73	127	292	364	-237
13+00	29	58	28	33	42	155	325	406	-250
13+25	33	14	30	9	11	185	334	417	-232
13+50	32	6	15	3	3	200	336	420	-220
13+75	0	0	0	0	0	200	336	420	-220
COLUMN TOTALS =			200	336	420				-220

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
3 - FILL 25%	(UNEXPANDED FILL)*1.25
4 - MASS ORDINATE	CUT + ROCK (10%) +REDUCED MARSH (60%) - FILL (25%)



Station: 11+25

Vertical axis: 850, 860

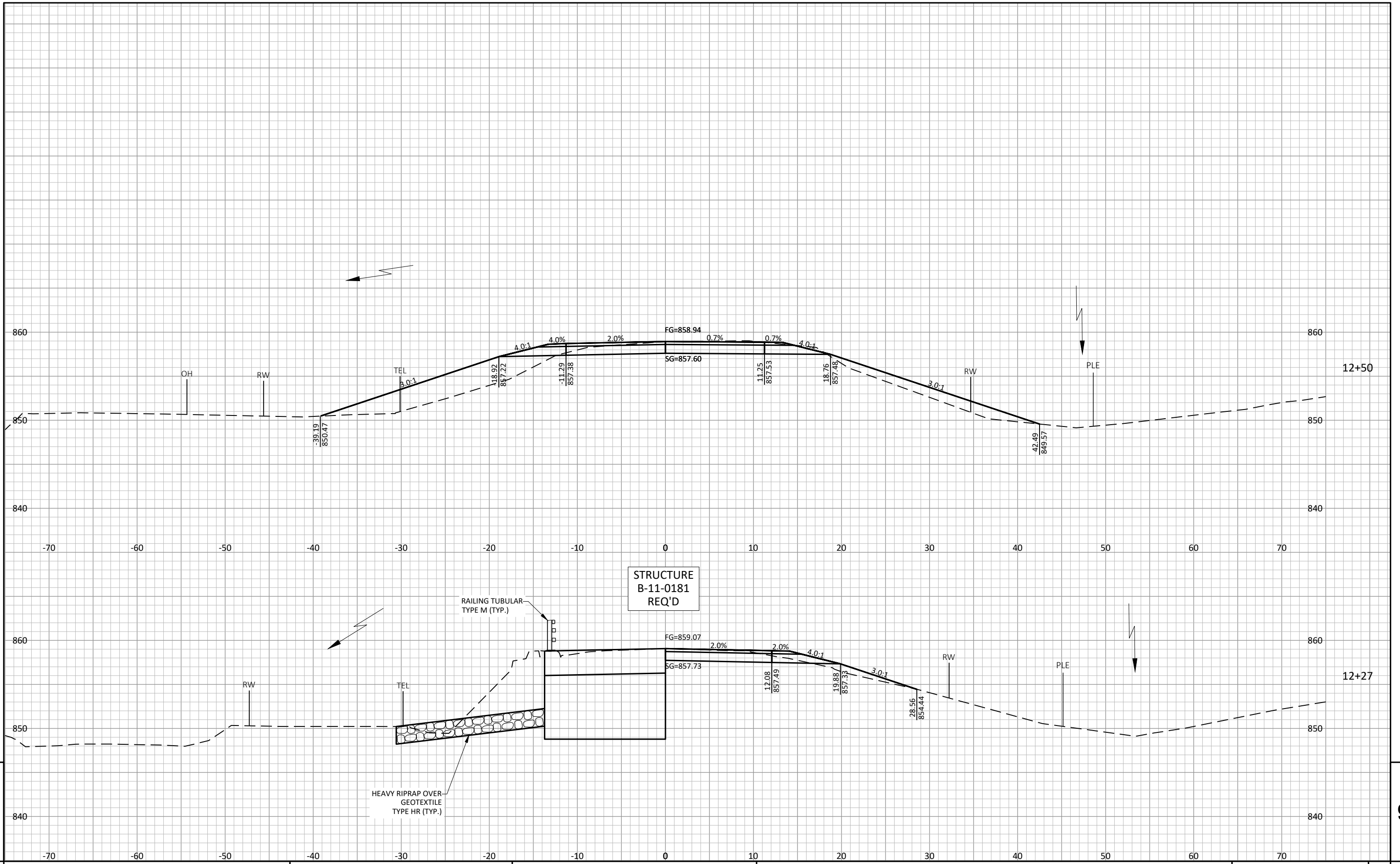
Horizontal axis: -70, -60, -50, -40, -30, -20, -10, 0, 10, 20, 30, 40, 50, 60, 70

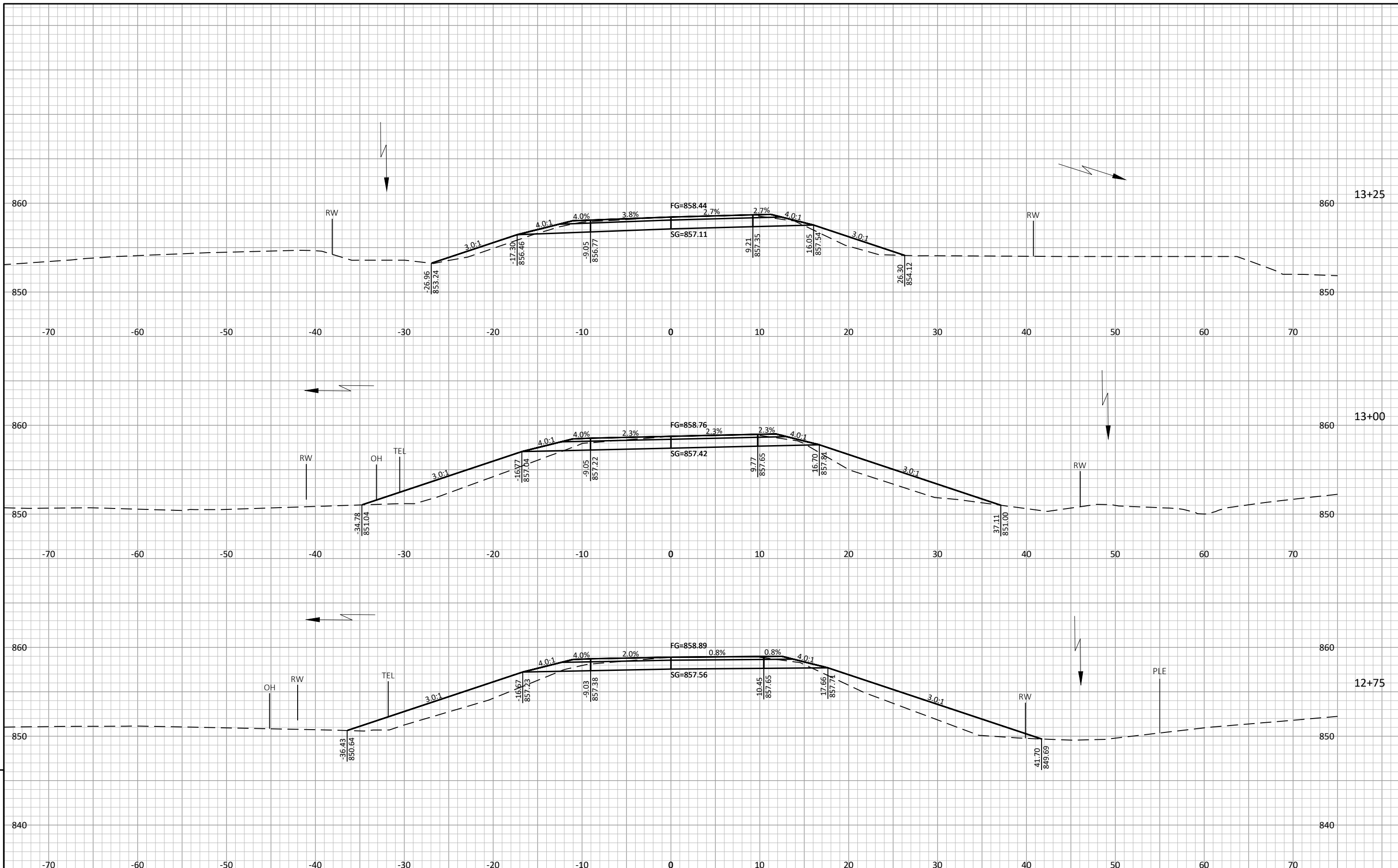
Labels: RW, PLE

BEGIN PROJECT  
STA. 11+25  
MATCH EXISTING

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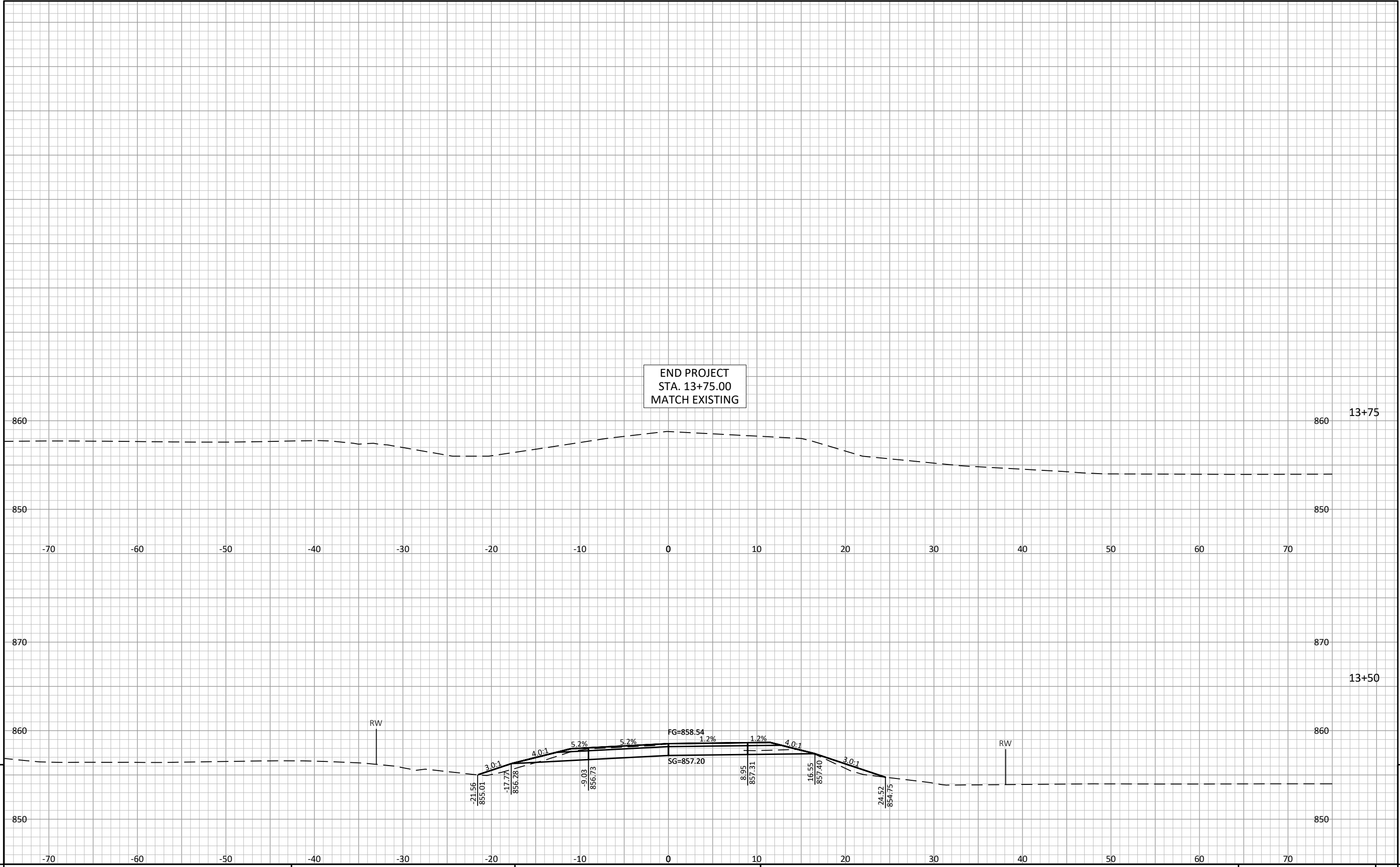
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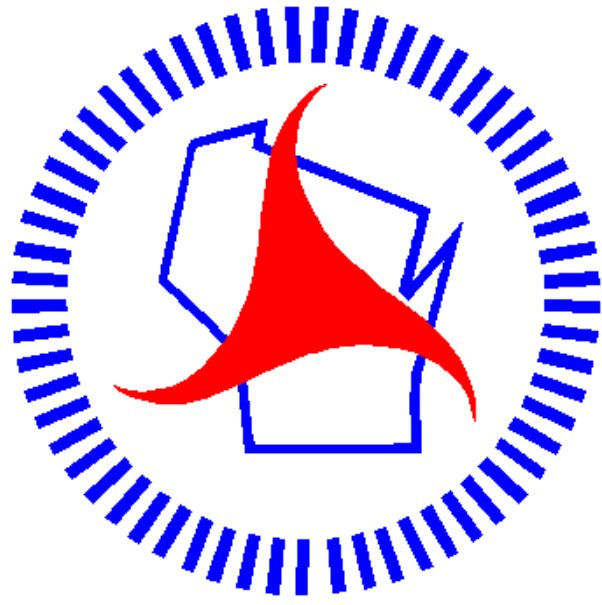


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Notes





## *Wisconsin Department of Transportation*

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