EAU

PROJECT ID: 7281-00-73

COUNTY: TREMPEALEAU

MARCH 2022

ORDER OF SHEETS

TOTAL SHEETS = 48

N

DESIGN DESIGNATION

A.A.D.T.	2022	=	90
A.A.D.T.	2042	=	100
D.H.V.		=	10
D.D.		=	50/50
T.		=	13% ASSUMED
DESIGN SPEED		=	40 MPH
ESALS		=	36,000

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

TOWN OF ETTRICK, JOE COULEE ROAD

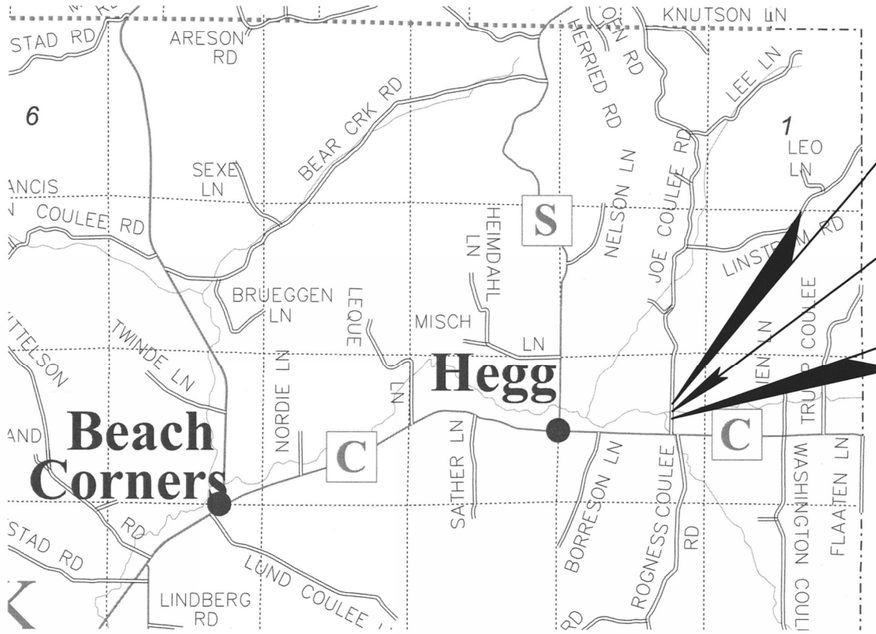
NF BEAVER CREEK BRIDGE B-61-245

LOCAL STREET

TREMPEALEAU COUNTY

STATE PROJECT NUMBER
7281-00-73

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7281-00-73	WISC 2022256	1



R-7-W

END PROJECT 7281-00-73
STA. 10+90.00
Y = 382,776.044
X = 892,466.484

STRUCTURE B-61-245
STA. 9+97.08

BEGIN PROJECT 7281-00-73
STA. 9+25.00
Y = 382,611.047
X = 892,465.513

T-20-N

LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.031 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, TREMPEALEAU COUNTY NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88.

ACCEPTED FOR

TOWN OF ETTRICK

Date 10-21 (Signature and Title of Official)

ACCEPTED FOR

COUNTY OF TREMPEALEAU

Date 10/21/21 (Signature and Title of Official)

ORIGINAL PLANS PREPARED BY

Mead & Hunt

WISCONSIN JAY P. WHEATON E-36779 LA CROSSE, WI PROFESSIONAL ENGINEER

DATE: 10/25/21 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MEAD & HUNT
Designer	MEAD & HUNT
Project Manager	MATTHEW THORNSEN, PE
Regional Examiner	TOU YANG, PE
Regional Supervisor	TYLER RONGSTAD, PE

APPROVED FOR THE DEPARTMENT

DATE: 10/26/2021 (Signature)

E

FILE NAME : X:\2918800\200252.01\TECH\CAD\XXXXXXXX\SHEETSPLAN\010101_TI.DWG PLOT DATE : 10/19/2021 7:35 AM PLOT BY : JEFF BREU PLOT NAME :

GENERAL NOTES

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

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

THE EXACT LOCATION OF THE EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD. SILT FENCE IS TO BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, AND IN PLACE PRIOR TO BRIDGE REMOVAL.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 4-INCH SALVAGED TOPSOIL, FERTILIZED, SEEDED AND EROSION MAT URBAN CLASS I, TYPE B.

BEARINGS SHOWN ON THE PLANS ARE GROUND BEARINGS TO THE NEAREST SECOND.

A VERTICAL SAWCUT SHALL BE MADE THROUGH EXISTING PAVEMENTS AT REMOVAL LIMITS.

TEMPORARY STORAGE OF ANY EXCAVATED MATERIALS WILL NOT BE PERMITTED IN THE WETLANDS.

WETLANDS ARE PRESENT WITHIN THE PROJECT LIMITS. DO NOT OPERATE EQUIPMENT OUTSIDE THE SLOPE INTERCEPTS.

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN 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 = 0.25 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.19 ACRES

ORDER OF SECTION 2 SHEETS

TYPICAL SECTIONS
TRAFFIC CONTROL

STANDARD ABBREVIATIONS

ADT	AVERAGE DAILY TRAFFIC	M/L	MAINLINE
AGG	AGGREGATE	NO	NUMBER
ASPH	ASPHALTIC	PE	PRIVATE ENTRANCE
BM	BENCH MARK	PI	POINT OF INTERSECTION
BOC	BACK OF CURB	PL	PROPERTY LINE
C&G	CURB AND GUTTER	PP	POWER POLE
CE	COMMERCIAL ENTRANCE	QTY	QUANTITY
CL	CENTERLINE	RHF	RIGHT-HAND FORWARD
COR	CORNER	RT	RIGHT
CWT	HUNDREDWEIGHT	R/L	REFERENCE LINE
CY	CUBIC YARD	R/W	RIGHT-OF-WAY
DHV	DESIGN HOURLY VOLUME	SF	SQUARE FOOT
DWY	DRIVEWAY	SHLDR	SHOULDER
EL	ELEVATION	SS	STORM SEWER
EX	EXISTING	STA	STATION
EXC	EXCAVATION	SY	SQUARE YARD
FT	FOOT	T	TRUCKS (PERCENT OF)
FTG	FOOTING	TEL	TELEPHONE
HYD	HYDRANT	TLE	TEMPORARY LIMITED EASEMENT
INV	INVERT	TYP	TYPICAL
LB	POUND	UG	UNDERGROUND CABLE
LF	LINEAR FOOT	VAR	VARIABLE
LHF	LEFT-HAND FORWARD	VC	VERTICAL CURVE
LS	LUMP SUM	VPC	VERTICAL POINT OF CURVE
LT	LEFT	VPI	VERTICAL POINT OF INTERSECTION
Mgal	MEGAGALLON	VPT	VERTICAL POINT OF TANGENCY

CONTACTS

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** DAIRYLAND POWER
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** THESE ARE MEMBERS OF DIGGERS HOTLINE.

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www.DiggersHotline.com

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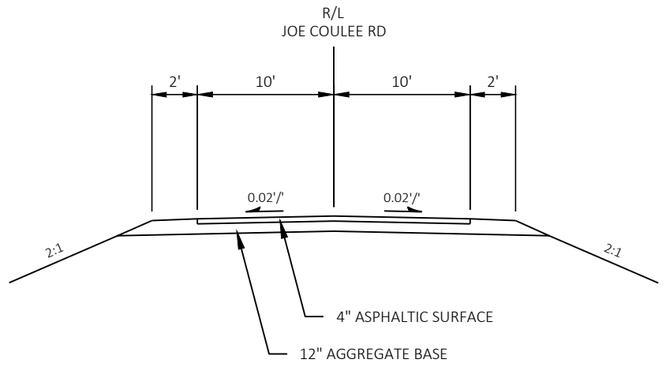
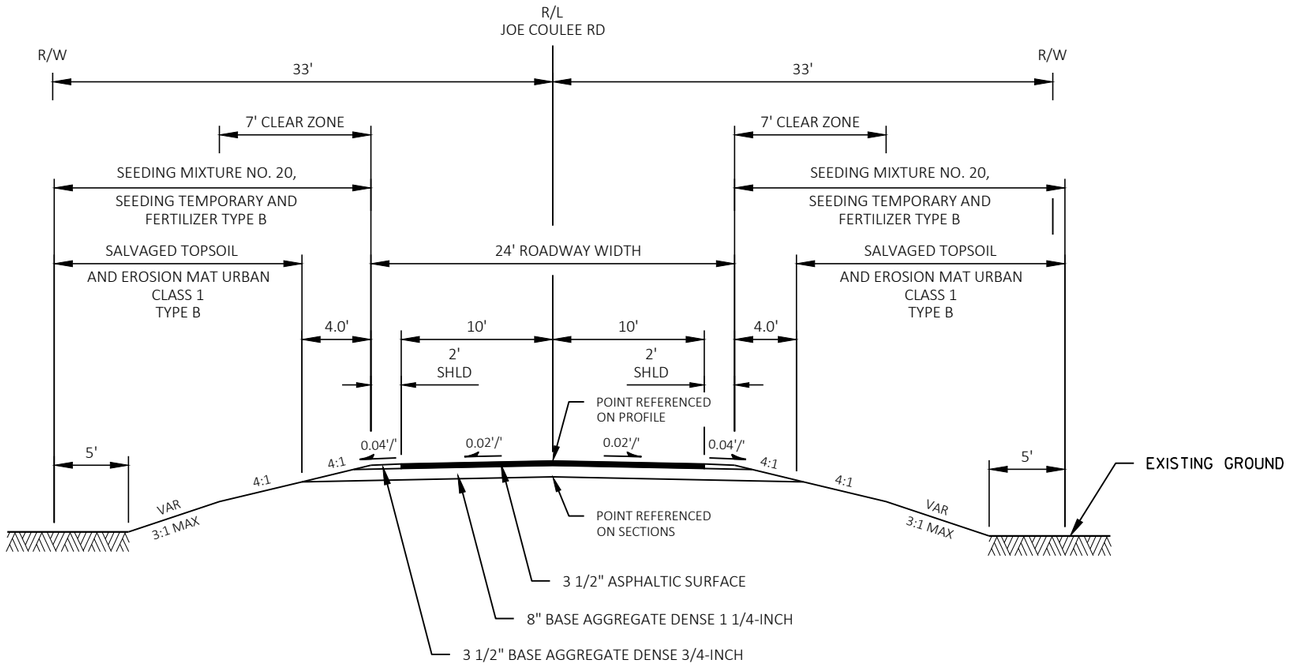


EXISTING TYPICAL SECTION

STA 9+25.00 TO STA 9+77.2
STA 10+22.1 TO STA 10+90.00



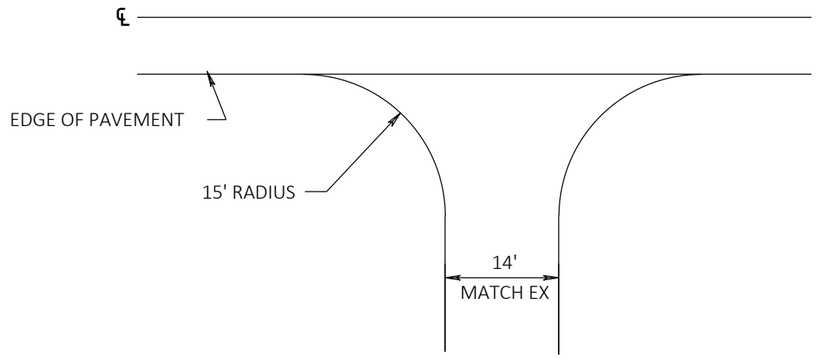
PROPOSED TYPICAL SECTION

STA 9+25.00 TO STA 9+74.31
STA 10+19.85 TO STA 10+90.00

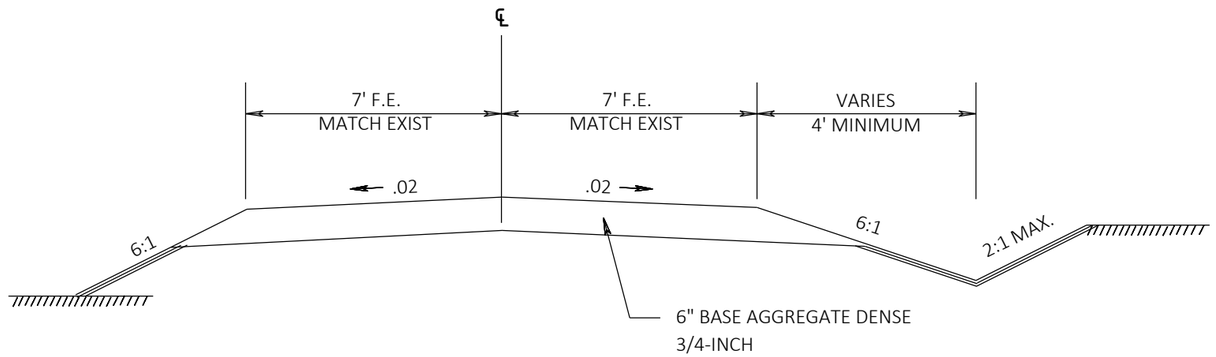
PROJECT NO: 7281-00-73	HWY: LOCAL STREET	COUNTY: TREMPEALEAU	TYPICAL SECTIONS	SHEET 3	E

FILE NAME : X:\2918800\200252.01\TECH\CAD\XXXXXXXX\SHEETSPLAN\020301_TS.DWG
LAYOUT NAME - 020301_ts
PLOT DATE : 10/19/2021 9:59 AM
PLOT BY : JEFF BREU
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2



TYPICAL DRIVEWAY DETAIL
(NON-COMMERCIAL RURAL)



TYPICAL SECTION
FOR PRIVATE ENTRANCES

NOTE:
DRIVEWAY PROFILES NOT EXPECTED TO EXCEED 10%. PLACE LOW POINT OF DRIVEWAY PROFILE OVER DITCH FLOW LINE.

2

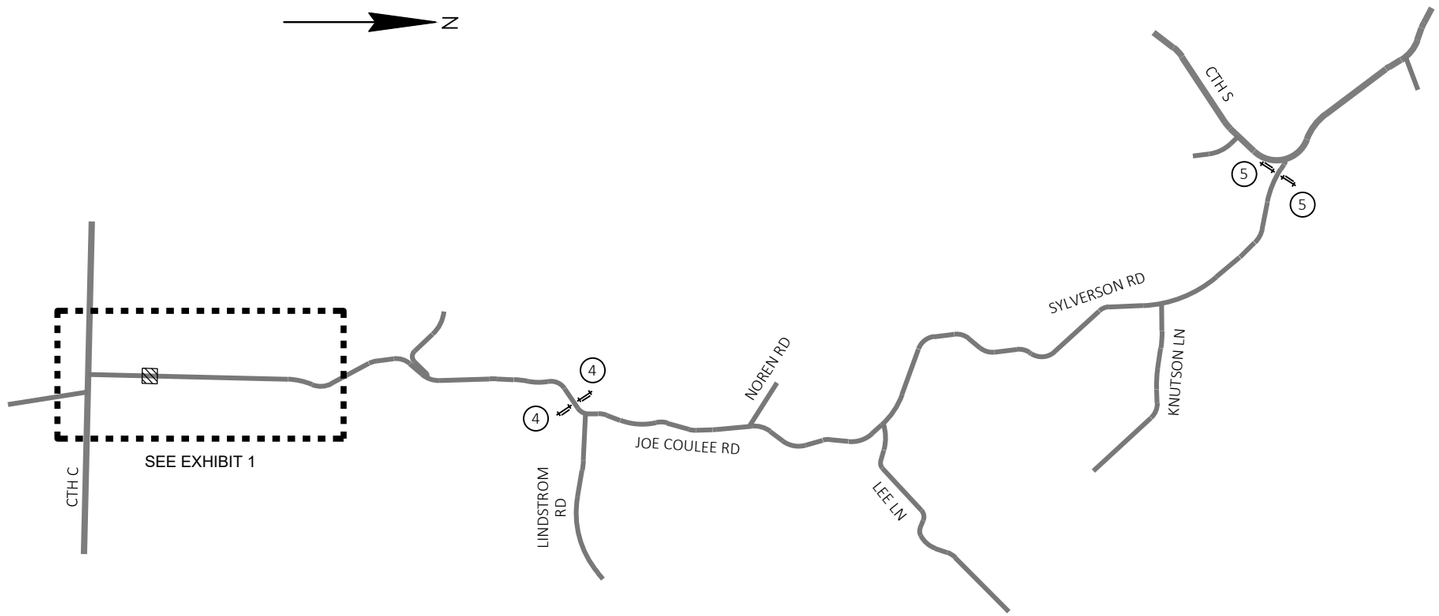
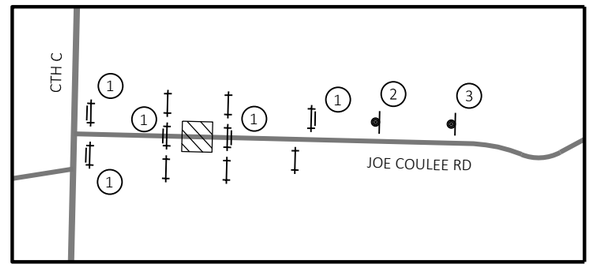


EXHIBIT 1



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- WORK AREA

1

R11-2B
48"X30"

2

3

4

R11-3B
60"X30"

5

R11-3B
60"X30"

NOTES

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

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

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

ALL SIGNS 48"x48" UNLESS NOTED OTHERWISE.

7281-00-73

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. P-61-185	EACH	1.000	1.000
0010	205.0100	Excavation Common	CY	95.000	95.000
0012	206.1000	Excavation for Structures Bridges (structure) 01. B-61-245	LS	1.000	1.000
0016	208.0100	Borrow	CY	120.000	120.000
0018	210.1500	Backfill Structure Type A	TON	226.000	226.000
0020	213.0100	Finishing Roadway (project) 01. 7281-00-73	EACH	1.000	1.000
0024	305.0110	Base Aggregate Dense 3/4-Inch	TON	30.000	30.000
0026	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	178.000	178.000
0028	455.0605	Tack Coat	GAL	20.000	20.000
0030	465.0105	Asphaltic Surface	TON	58.000	58.000
0032	502.0100	Concrete Masonry Bridges	CY	149.000	149.000
0034	502.3200	Protective Surface Treatment	SY	187.000	187.000
0036	505.0400	Bar Steel Reinforcement HS Structures	LB	3,060.000	3,060.000
0038	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	19,890.000	19,890.000
0040	513.4061	Railing Tubular Type M	LF	136.000	136.000
0042	516.0500	Rubberized Membrane Waterproofing	SY	18.000	18.000
0044	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	4.000	4.000
0046	520.3324	Culvert Pipe Class III-A 24-Inch	LF	92.000	92.000
0050	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	640.000	640.000
0054	606.0300	Riprap Heavy	CY	156.000	156.000
0056	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	124.000	124.000
0058	618.0100	Maintenance And Repair of Haul Roads (project) 01. 7281-00-73	EACH	1.000	1.000
0062	619.1000	Mobilization	EACH	0.500	0.500
0064	624.0100	Water	MGAL	2.000	2.000
0066	625.0500	Salvaged Topsoil	SY	350.000	350.000
0070	628.1504	Silt Fence	LF	220.000	220.000
0072	628.1520	Silt Fence Maintenance	LF	440.000	440.000
0074	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0076	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0078	628.2008	Erosion Mat Urban Class I Type B	SY	350.000	350.000
0080	628.6005	Turbidity Barriers	SY	170.000	170.000
0082	628.7504	Temporary Ditch Checks	LF	30.000	30.000
0084	628.7555	Culvert Pipe Checks	EACH	6.000	6.000
0086	629.0210	Fertilizer Type B	CWT	0.200	0.200
0088	630.0120	Seeding Mixture No. 20	LB	9.000	9.000
0090	630.0200	Seeding Temporary	LB	9.000	9.000
0092	630.0500	Seed Water	MGAL	8.000	8.000
0096	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0098	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0100	638.2602	Removing Signs Type II	EACH	6.000	6.000
0102	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0104	642.5001	Field Office Type B	EACH	0.500	0.500
0108	643.0420	Traffic Control Barricades Type III	DAY	812.000	812.000
0110	643.0705	Traffic Control Warning Lights Type A	DAY	1,392.000	1,392.000
0114	643.0900	Traffic Control Signs	DAY	638.000	638.000
0116	643.5000	Traffic Control	EACH	0.500	0.500
0118	645.0111	Geotextile Type DF Schedule A	SY	52.000	52.000

7281-00-73

Line	Item	Item Description	Unit	Total	Qty
0120	645.0120	Geotextile Type HR	SY	340.000	340.000
0122	650.4500	Construction Staking Subgrade	LF	120.000	120.000
0124	650.5000	Construction Staking Base	LF	120.000	120.000
0126	650.6000	Construction Staking Pipe Culverts	EACH	2.000	2.000
0128	650.6500	Construction Staking Structure Layout (structure) 01. B-61-245	LS	1.000	1.000
0132	650.9910	Construction Staking Supplemental Control (project) 01. 7281-00-73	LS	1.000	1.000
0136	650.9920	Construction Staking Slope Stakes	LF	120.000	120.000
0138	690.0150	Sawing Asphalt	LF	40.000	40.000
0140	715.0502	Incentive Strength Concrete Structures	DOL	900.000	900.000
0142	999.2005.S	Maintaining Bird Deterrent System (station) 01. Sta 10+00	EACH	1.000	1.000
0146	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	150.000	150.000
0148	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	150.000	150.000
0150	SPV.0090	Special 01. Flashing Stainless Steel	LF	92.000	92.000

3

3

CLEARING & GRUBBING

STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
9+25	-	10+90	JOE COULEE RD	2	2
			TOTALS	**2**	**2**

EARTHWORK SUMMARY

FROM/TO STATION	LOCATION	205.0100 EXCAVATION COMMON CUT (1)	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	AVAILABLE MATERIAL (2)	UNEXPANDED FILL	EXPANDED FILL (FACTOR 1.25)	MASS ORDINATE +/- (3)	208.0100 BORROW
9+25 - 10+90	JOE COULEE RD	95	29	66	149	186	-120	120
		95					**TOTALS**	**120**

(1) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED
(2) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
(3) THE MASS ORDINATE + OR - QUANTITY CALCULATED. PLUS QUANTITY INDICATES AS EXCESS OF MATERIAL. MINUS INDICATES A SHORTAGE OF MATERIAL.

BASE AGGREGATE DENSE

STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1-1/4 INCH TON	624.0100 WATER MGAL
9+25.00	-	9+74.00	JOE COULEE RD	7	74	1
10+20.00	-	10+90.00	JOE COULEE RD	10	104	1
10+60.00	-	10+72.00	DRIVEWAY	13	-	0
			TOTALS	**30**	**178**	**2**

ASPHALT SUMMARY

STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
9+25	-	9+74	JOE COULEE RD	9	24
10+20	-	10+90	JOE COULEE RD	12	34
			TOTALS	**20**	**58**

TACK COAT ESTIMATED AT 0.07 GAL/SY

DRAINAGE

STATION	TO	STATION	LOCATION	STEEL PIPE MINIMUM THICKNESS INCHES	ALUMINUM PIPE MINIMUM THICKNESS INCHES	520.1024 APRON ENDWALLS FOR CULVERT PIPE 24-INCH EACH	520.3324 CULVERT PIPE CLASS III-A 24-INCH LF
9+41	-	9+81	JOE COULEE RD	0.064	0.075	2	34
10+22	-	10+87	JOE COULEE RD	0.064	0.075	2	58
					TOTALS	**4**	**92**

MOBILIZATION

CATEGORY	STATION	TO	STATION	LOCATION	619.1000 MOBILIZATION EACH
0010	PROJECT			JOE COULEE RD	0.50
				TOTALS	**0.50**

TURBIDITY BARRIERS

STATION	LOCATION	628.6005 TURBIDITY BARRIERS SY
9+90	JOE COULEE RD	85
10+10	JOE COULEE RD	85
	TOTALS	**170**

LANDSCAPING ITEMS

STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
9+25	-	9+80	JOE COULEE RD, LT & RT	158	158	0.1	4	4	4
10+00	-	10+90	JOE COULEE RD, LT & RT	192	192	0.1	5	5	4
			TOTALS	**350**	**350**	**0.2**	**9**	**9**	**8**

SILT FENCE

STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
9+25.00	-	9+76.00	JOE COULEE RD	120	240
10+07.00	-	10+90.00	JOE COULEE RD	100	200
			TOTALS	**220**	**440**

NOTE: ALL ITEMS ARE CATEGORY 0010 UNLESS NOTED AS 0020.

3

3

EROSION CONTROL MOBILIZATIONS

STATION	TO	STATION	LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EA
9+25	-	10+90	JOE COULEE RD	-	-	30	6
UNDISTRIBUTED			VARIOUS	5	2	-	-
			TOTALS	**5**	**2**	**30**	**6**

SIGNING

STATION	LOCATION	634.0614 POSTS WOOD 4x6-INCH x 14-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	COMMENTS
9+76	JOE COULEE RD, LT & RT	-	-	2	2	W5-52L & W5-52R
9+76	JOE COULEE RD, RT	-	-	1	1	WEIGHT LIMIT
10+23	JOE COULEE RD, LT & RT	-	-	2	2	W5-52L & W5-52R
10+23	JOE COULEE RD, LT	-	-	1	1	WEIGHT LIMIT
9+60	JOE COULEE RD, LT	1	3	-	-	W5-52L
9+64	JOE COULEE RD, RT	1	3	-	-	W5-52R
10+30	JOE COULEE RD, LT	1	3	-	-	W5-52L
10+35	JOE COULEE RD, RT	1	3	-	-	W5-52R
	TOTALS	**4**	**12**	**6**	**6**	

TRAFFIC CONTROL ITEMS

PROJECT	TRAFFIC CONTROL BARRICADES TYPE III EACH	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	TRAFFIC CONTROL SIGNS EACH	643.0900 TRAFFIC CONTROL SIGNS DAY	643.5000 TRAFFIC CONTROL EACH	REMARKS
7281-00-73	14	812	24	1,392	11	638	0.5	58 DAYS
TOTALS		**812**		**1,392**		**638**	**0.5**	

CONSTRUCTION STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EA	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (B-61-245) LS	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) LS	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	9+25	-	9+75	JOE COULEE RD, LT & RT	50	50	-	-	-	50
0010	10+20	-	10+90	JOE COULEE RD, LT & RT	70	70	-	-	-	70
0010		9+61		JOE COULEE RD, RT	-	-	1	-	-	-
0010		10+54		JOE COULEE RD, RT	-	-	1	-	-	-
0020		9+97.08		JOE COULEE RD	-	-	-	1	-	-
0010		PROJECT		JOE COULEE RD	-	-	-	-	1	-
				TOTALS	**120**	**120**	**2**	**1**	**1**	**120**

SAWING ASPHALT

STATION	LOCATION	690.0150 SAWING ASPHALT LF
9+25	JOE COULEE RD	20
10+90	JOE COULEE RD	20
	TOTALS	**40**

NOTE: ALL ITEMS ARE CATEGORY 0010 UNLESS NOTED AS 0020.

LEGEND

⌗⌗⌗⌗⌗⌗	EROSION MAT URBAN CLASS I, TYPE B
—•—•—	SILT FENCE
∞∞∞∞	RIP RAP
— — —	SLOPE INTERCEPT
◁-▫-◁-▫-◁	TURBIDITY BARRIER
△△△	TEMPORARY DITCH CHECK
○○○	CULVERT PIPE CHECK
~→	SURFACE WATER FLOW

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
1	7+44.8, RT 0.0'	MAG NAIL IN ROADWAY (CP #100)	840.17
2	9+77.3, LT 10.3'	MAG NAIL IN SW ABUTMENT	839.48
3	12+80.7, RT 0.0'	MAG NAIL IN ROADWAY (CP #102)	840.68

STA 10+00.00
REMOVE EXISTING STRUCTURE P-61-185
44.5' OVERALL LENGTH AND
19.7' CLEAR ROADWAY WIDTH
TWO-SPAN STEEL DECK GIRDER BRIDGE

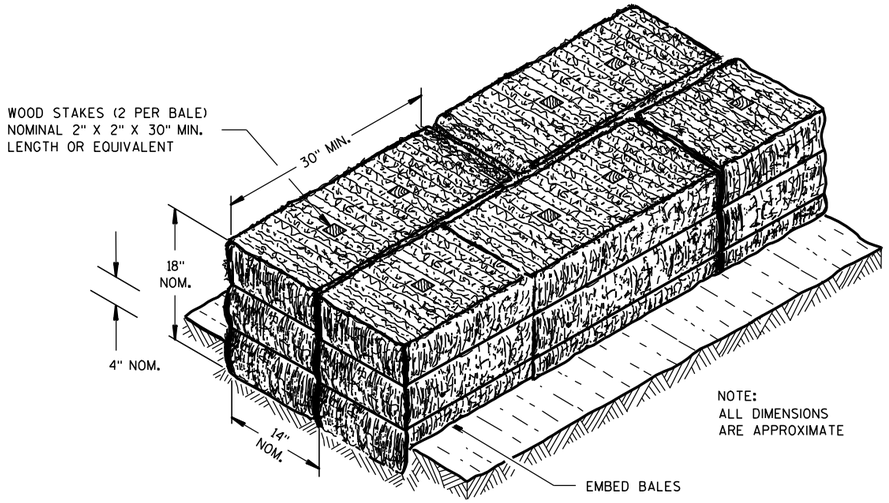
STA 9+97.08
STRUCTURE B-61-245
45.5' OVERALL LENGTH AND
24.0' CLEAR ROADWAY WIDTH
SINGLE-SPAN REINFORCED CONCRETE FLAT SLAB BRIDGE

PROJECT NO: 7281-00-73	HWY: LOCAL STREET	COUNTY: TREMPEALEAU	PLAN AND PROFILE: JOE COULEE RD	SHEET 10	E

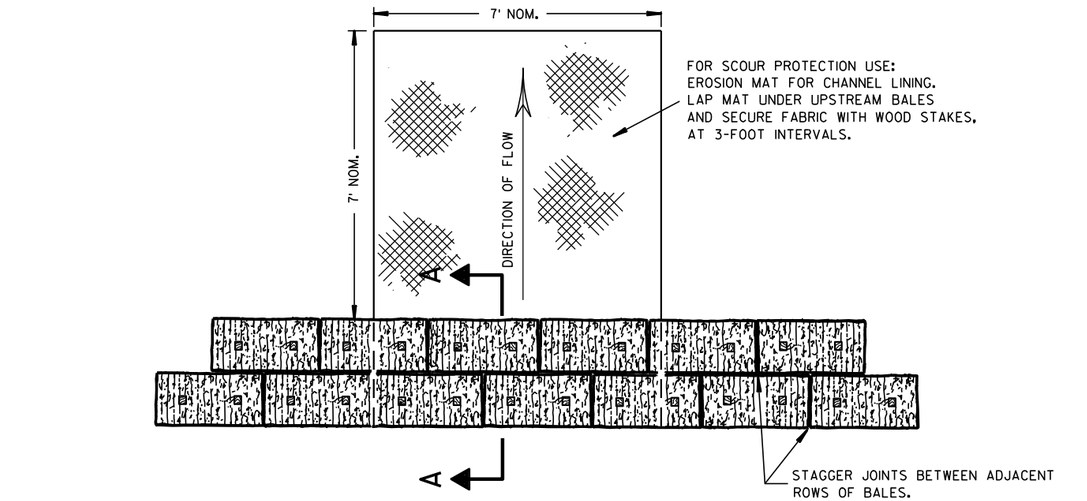
FILE NAME : X:\2918800\200252.01\TECH\CAD\XXXXXXXX\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050101_pp
PLOT DATE : 10/19/2021 10:02 AM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

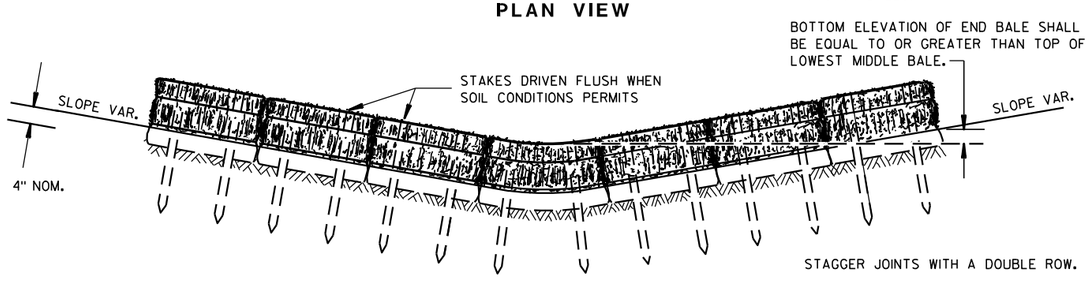
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS



SECTION A-A



PLAN VIEW



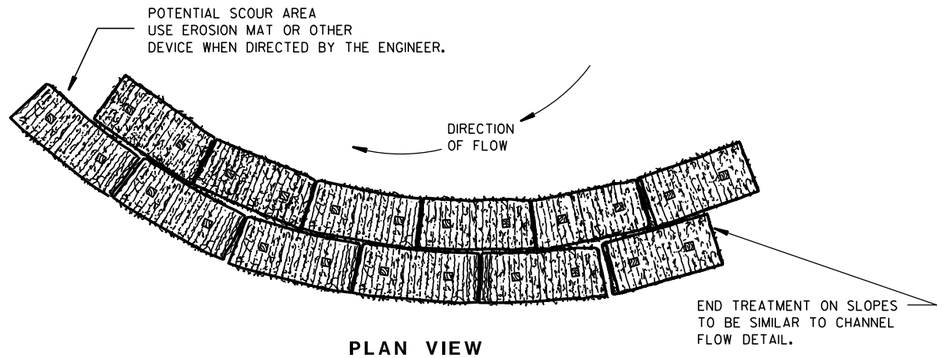
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

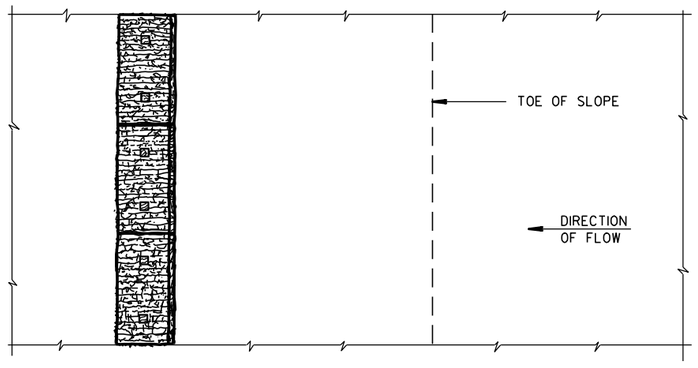
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

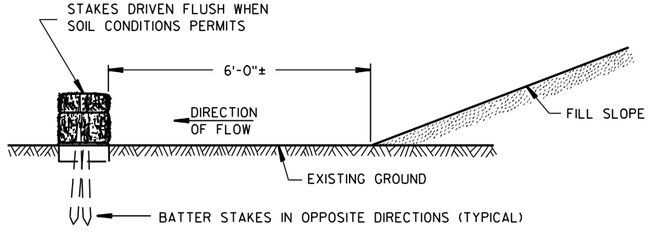


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

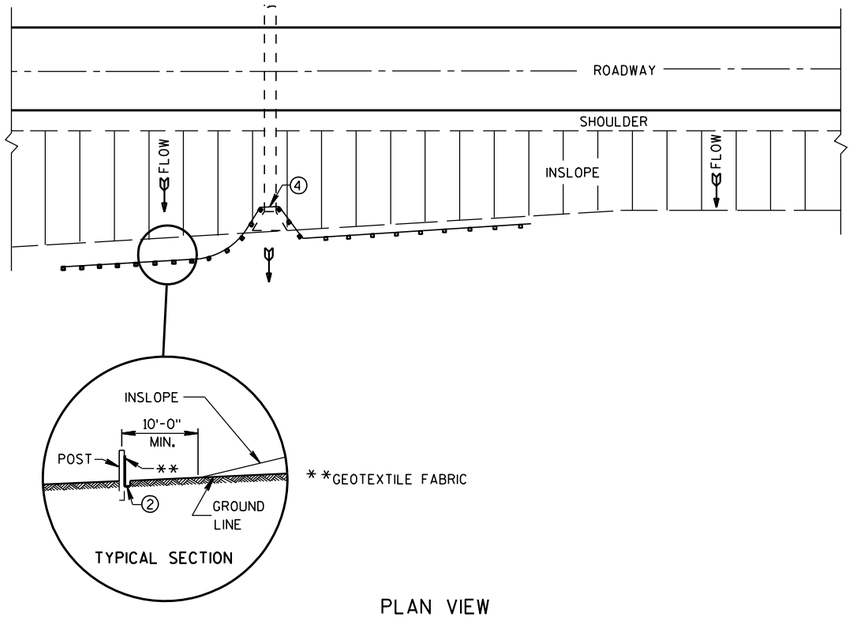
APPROVED
6/04/02 — DATE
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

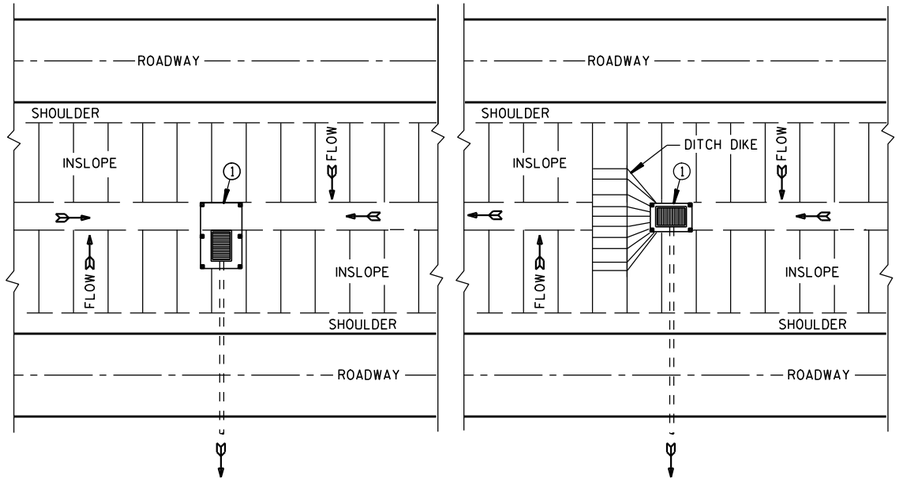
6

S.D.D. 8 E 8-3



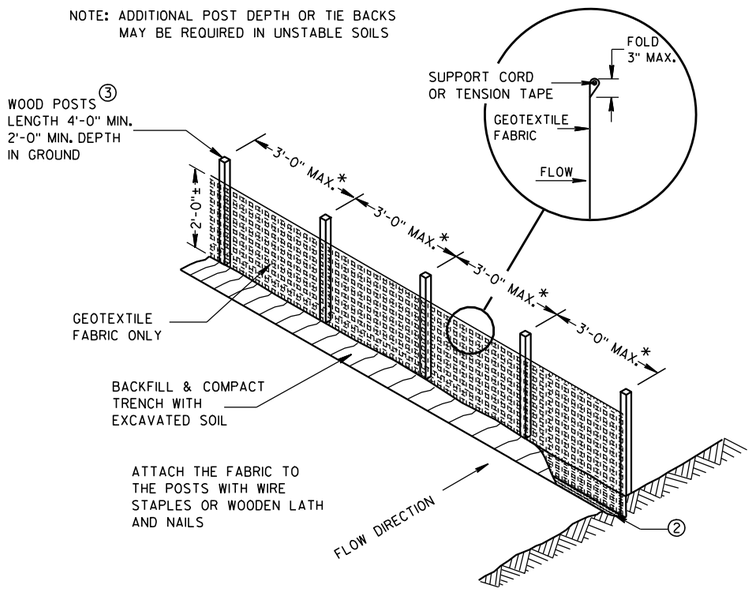
PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



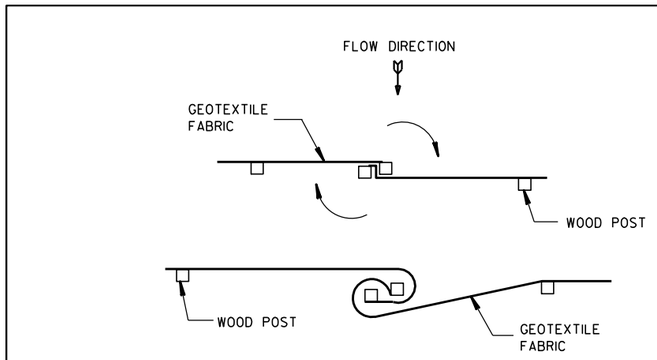
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS



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

SILT FENCE

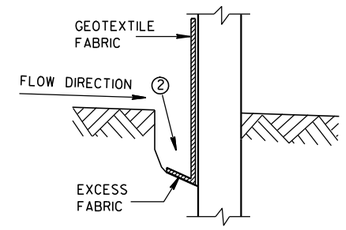


JOINING TWO LENGTHS OF SILT FENCE 5

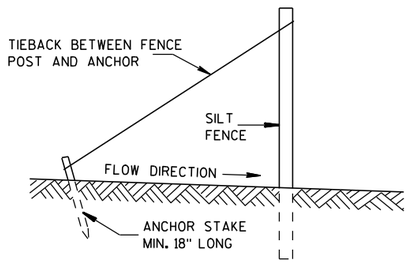
GENERAL NOTES

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

1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



TRENCH DETAIL



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

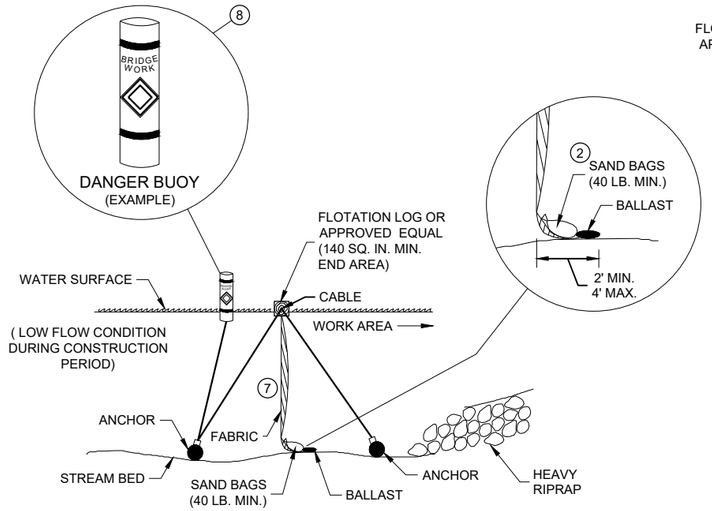
SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

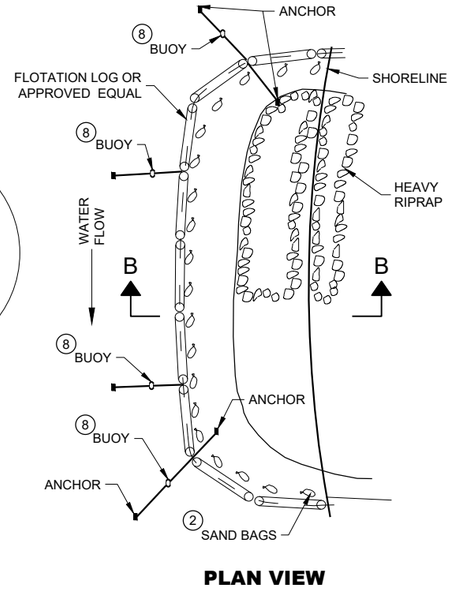
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

S.D.D. 8 E 9-6

6

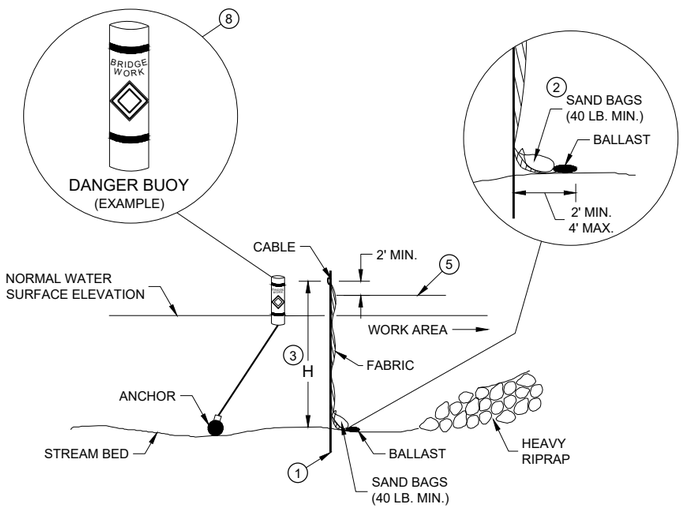


SECTION B - B

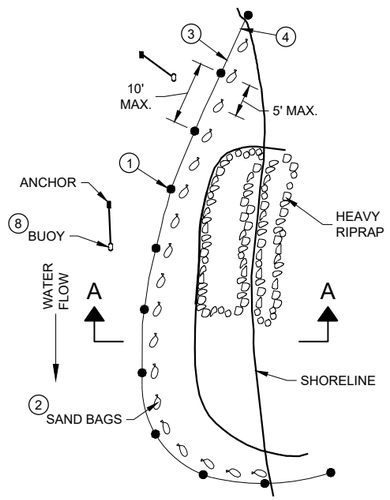


PLAN VIEW

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A - A



PLAN VIEW

TURBIDITY BARRIER - STANDARD POST INSTALLATION

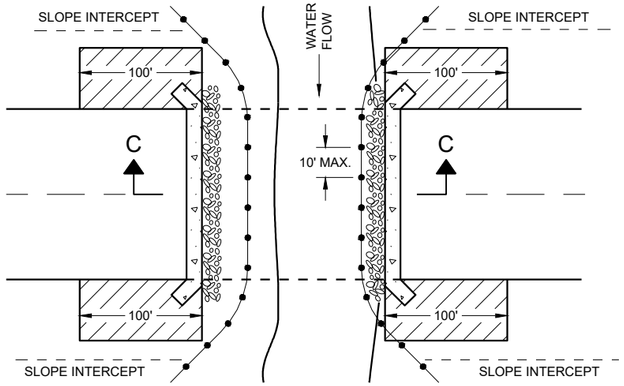
TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

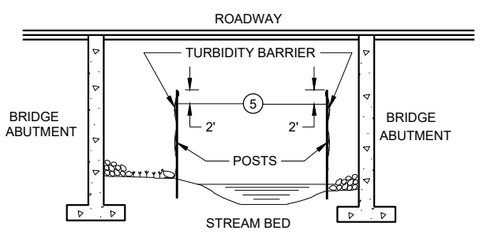
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

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



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

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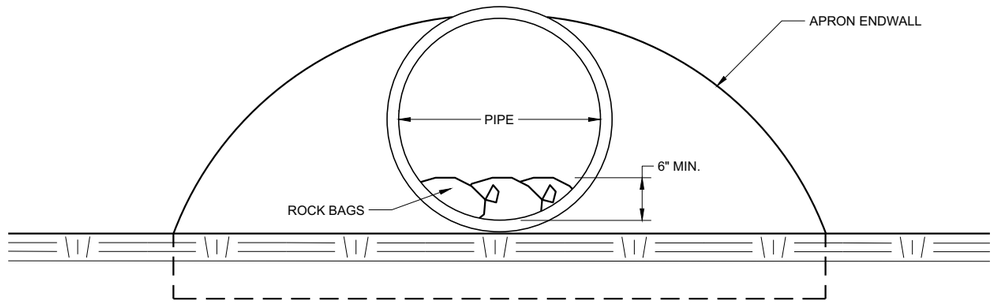
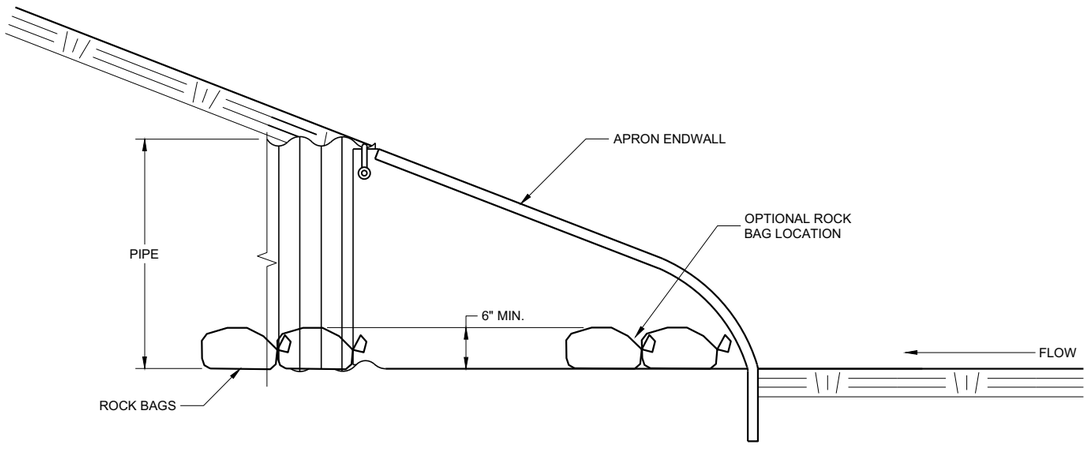
SDD 08E11 - 02



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 — DATE
/S/ Daniel Schave — EROSION CONTROL ENGI
FHWA

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SDD 08E15 - 01

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SDD 08E15 - 01

METAL APRON ENDWALLS

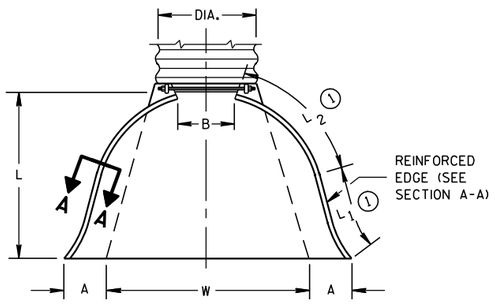
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

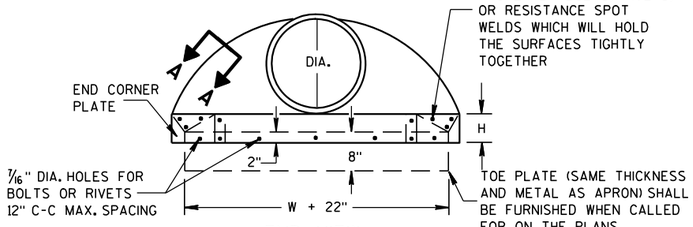
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24 - ** 30	* 72 - ** 78	* 21 - ** 27	99	102	5 1/2	2 to 1
72	7	* 24 - ** 36	78	21	99	108	6	2 to 1
78	7 1/2	* 24 - ** 36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

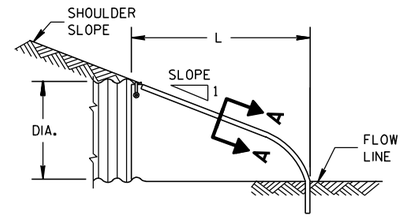
*MINIMUM
**MAXIMUM



PLAN VIEW

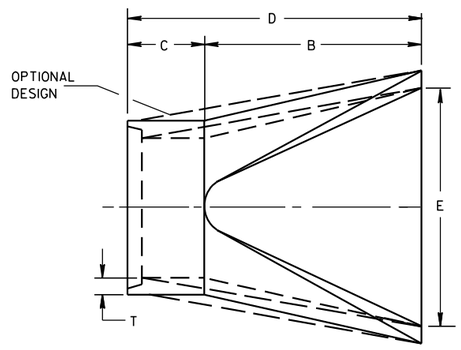


END VIEW

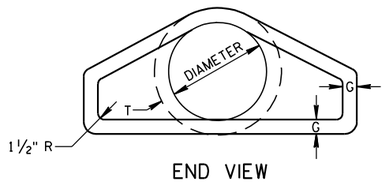


SIDE ELEVATION

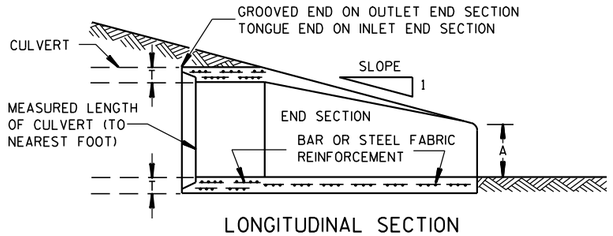
METAL ENDWALLS



PLAN

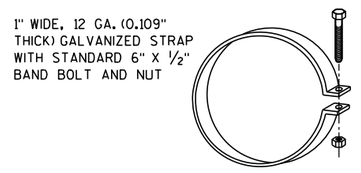


END VIEW



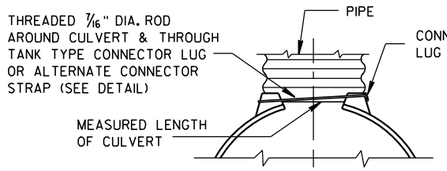
LONGITUDINAL SECTION

CONCRETE ENDWALLS

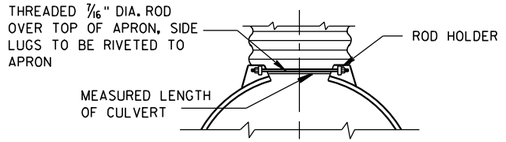


ALTERNATE FOR TYPE 1 CONNECTION

END SECTION CONNECTOR STRAP

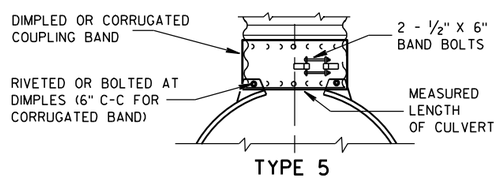


TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE

TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

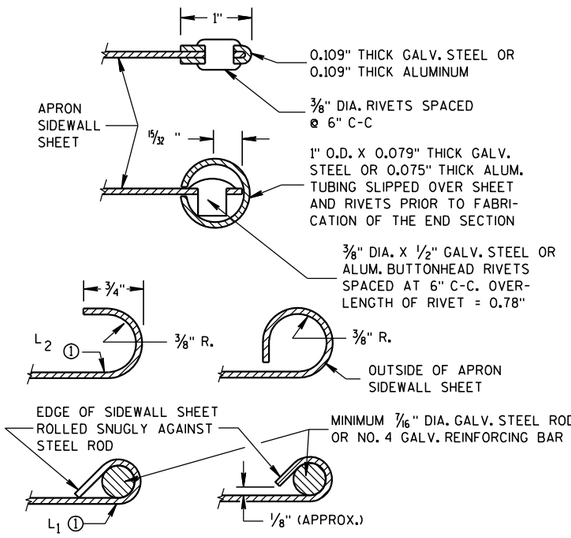
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

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.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

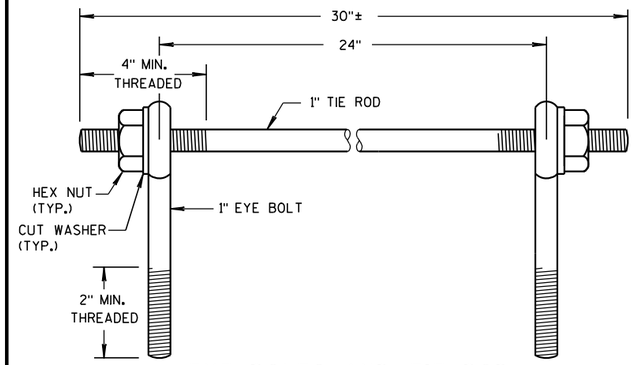
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

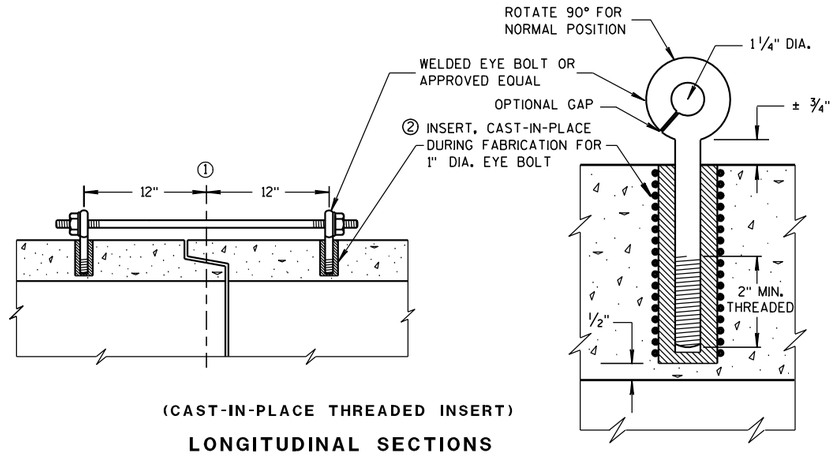
APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

GENERAL NOTES

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

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

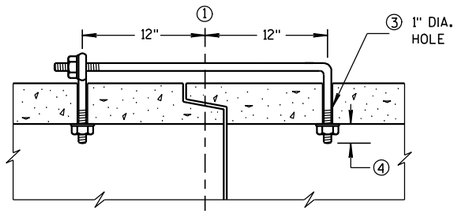
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

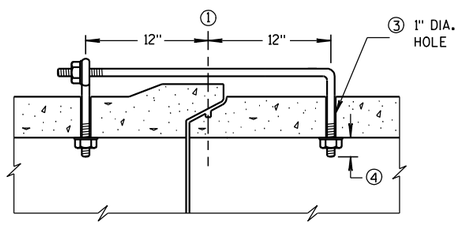
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

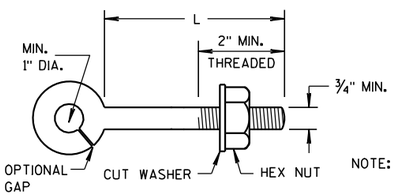


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

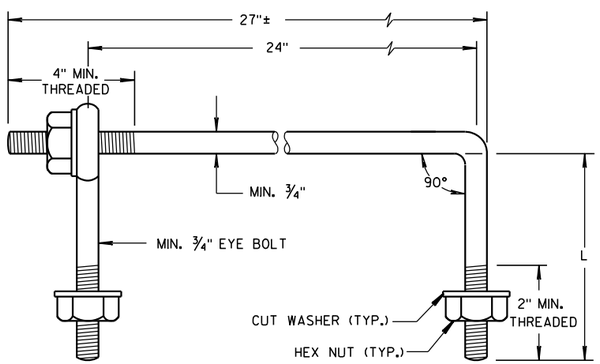
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

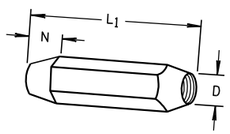
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

DIMENSIONS SHOWN ARE IN INCHES



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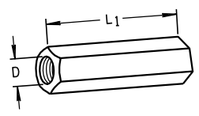
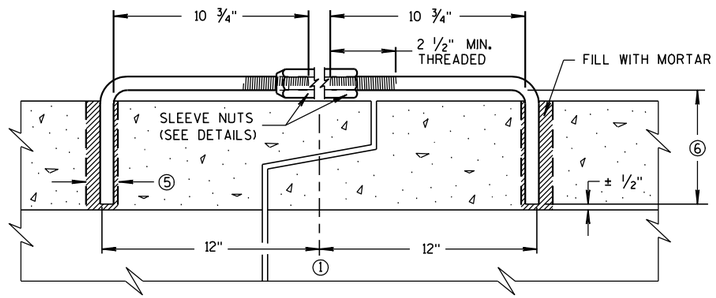


PLAIN

RIGHT AND LEFT THREADS

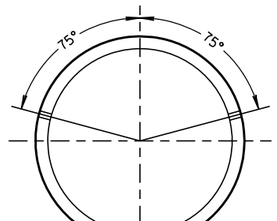
SLEEVE NUTS



LONGITUDINAL SECTION

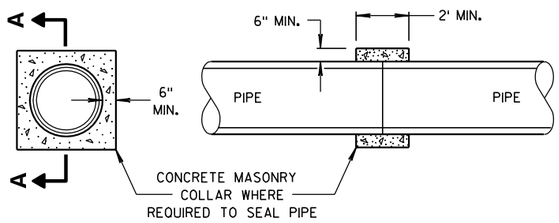
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

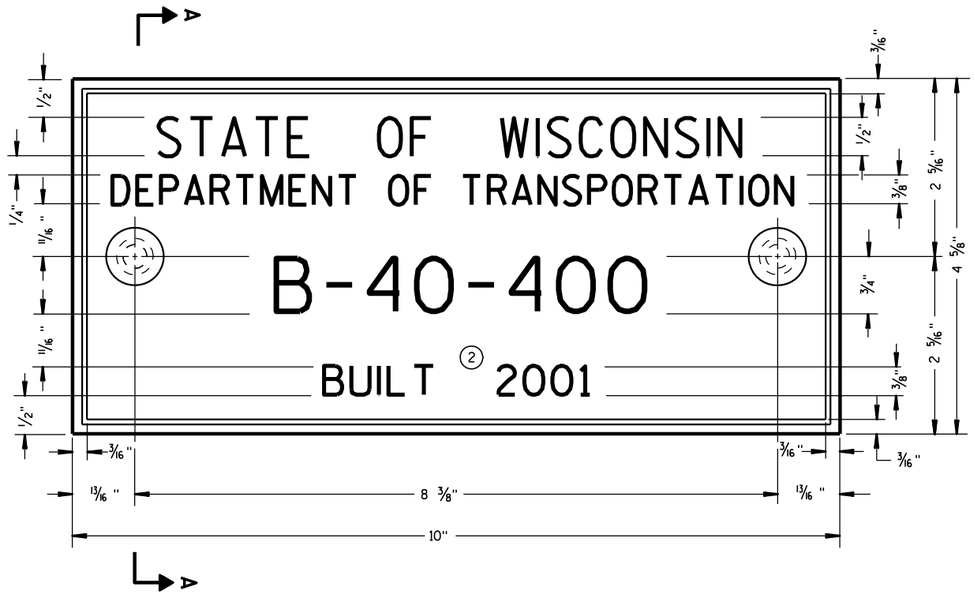
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
17
FHWA

6

S.D.D. 8 F 4-7

6

S.D.D. 8 F 4-7



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)

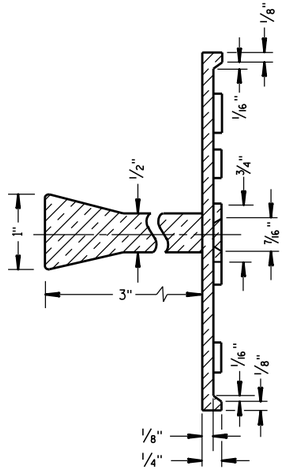
GENERAL NOTES

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

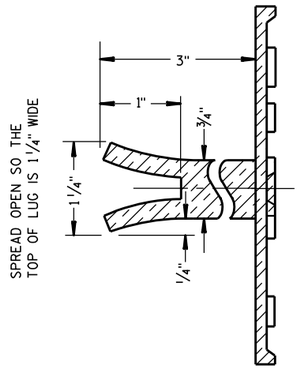
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

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



SECTION A-A



ALTERNATE LUG

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

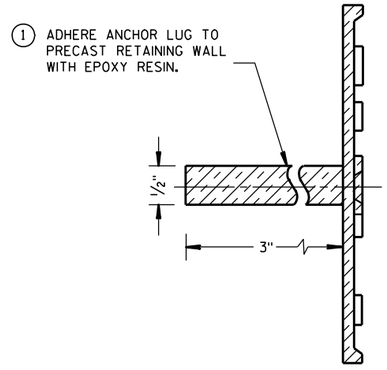
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION MULTI-UNIT STRUCTURES



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

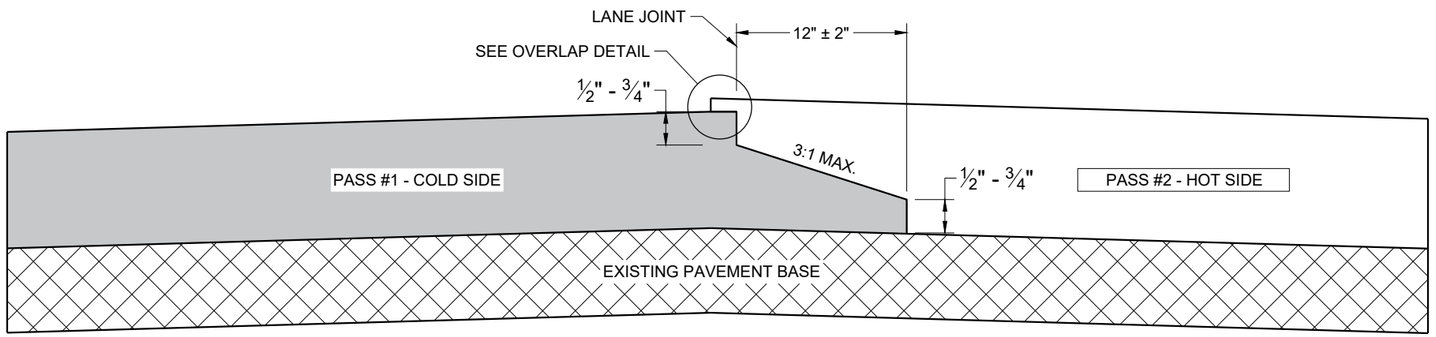
FHWA

6

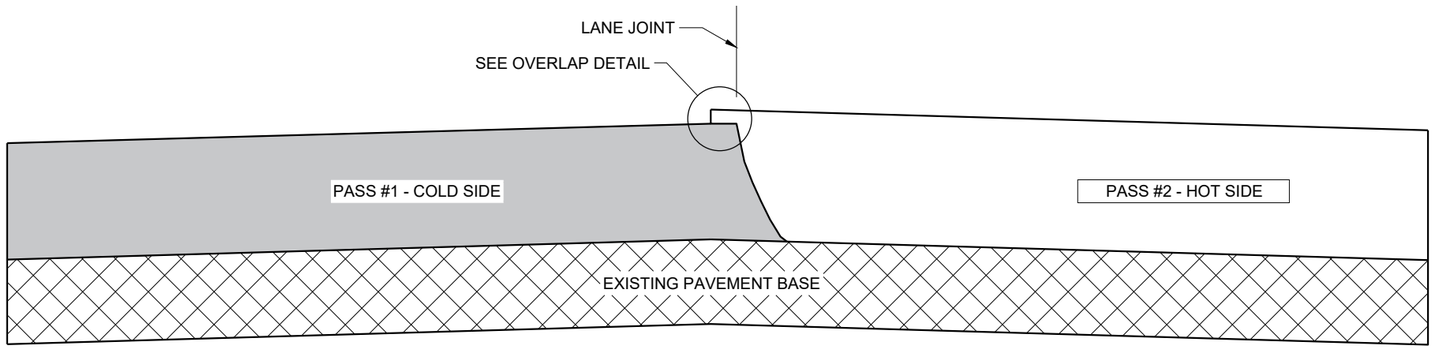
S.D.D. 12 A 3-10

6

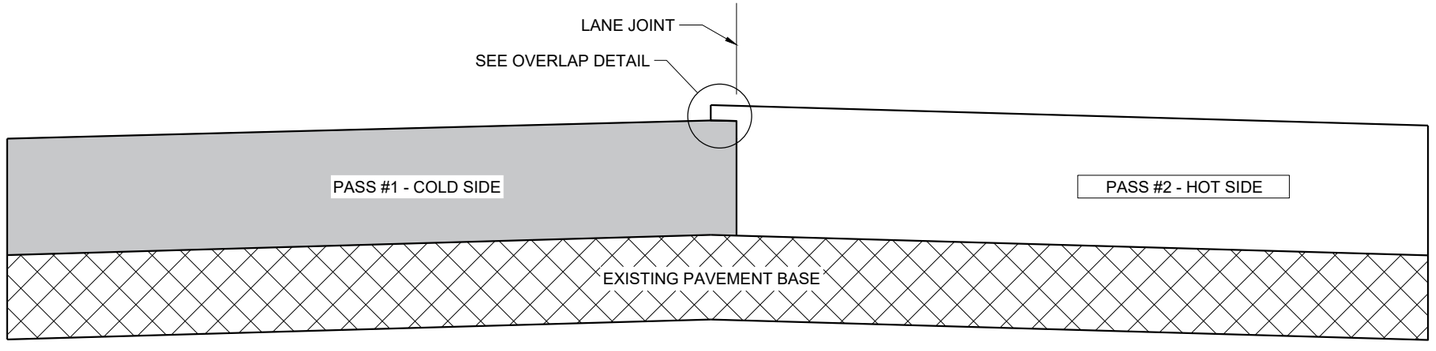
S.D.D. 12 A 3-10



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

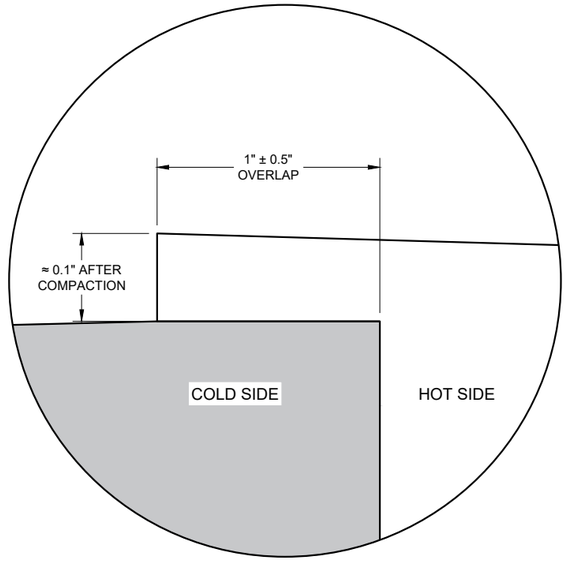
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

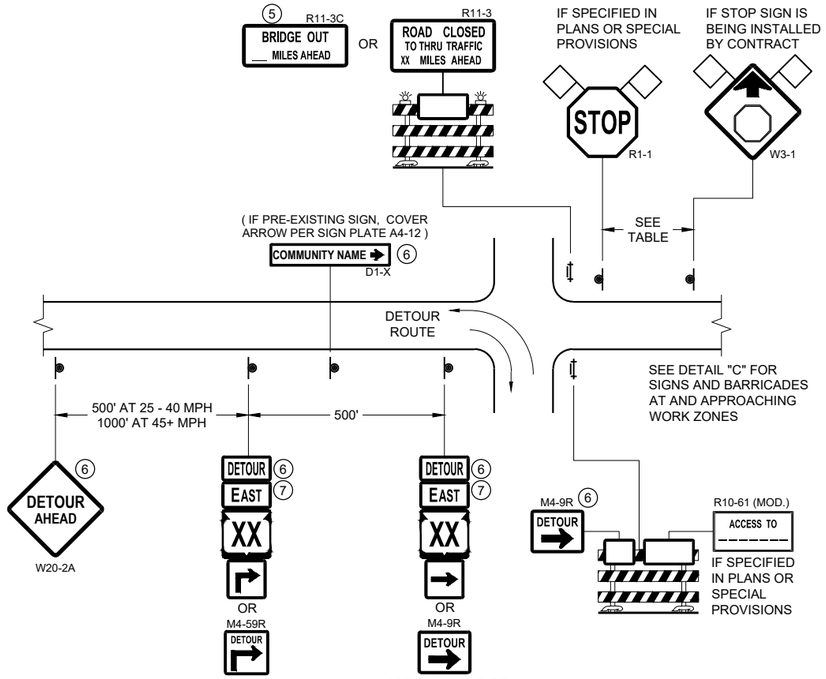
HMA LONGITUDINAL JOINTS

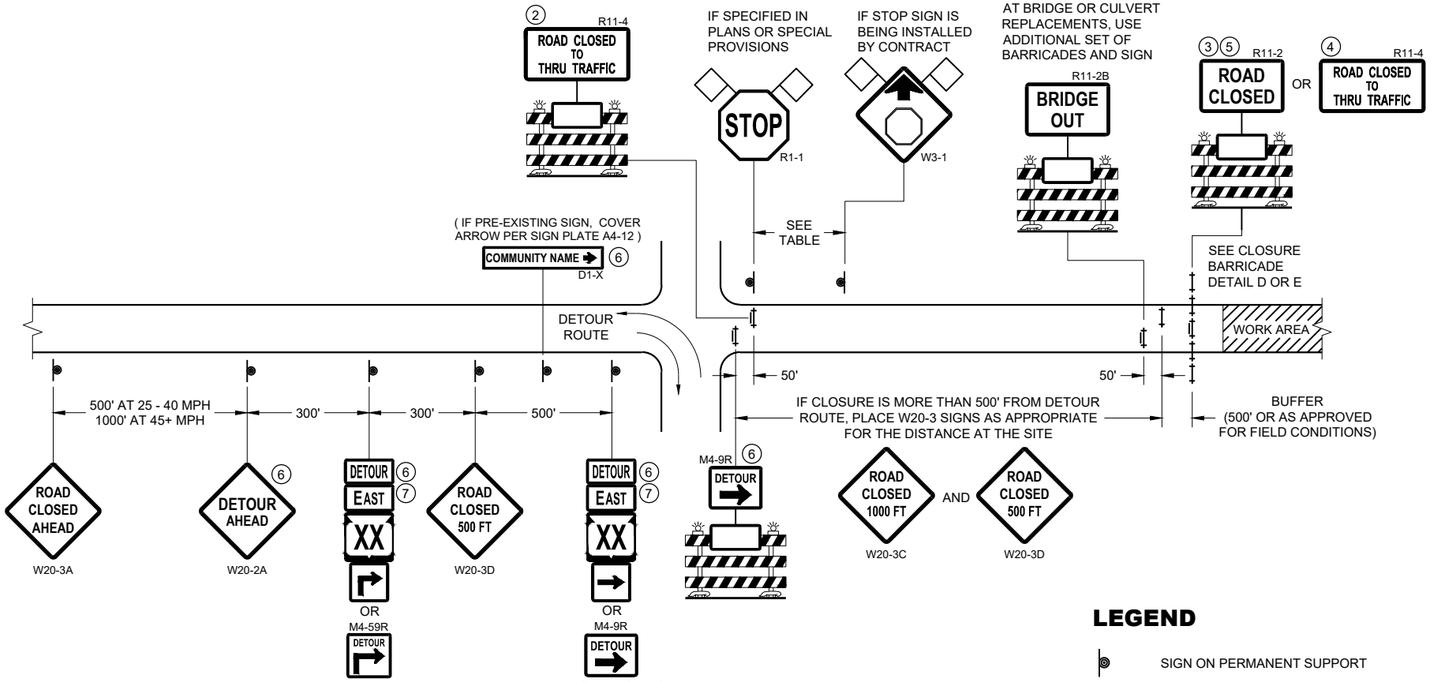
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA



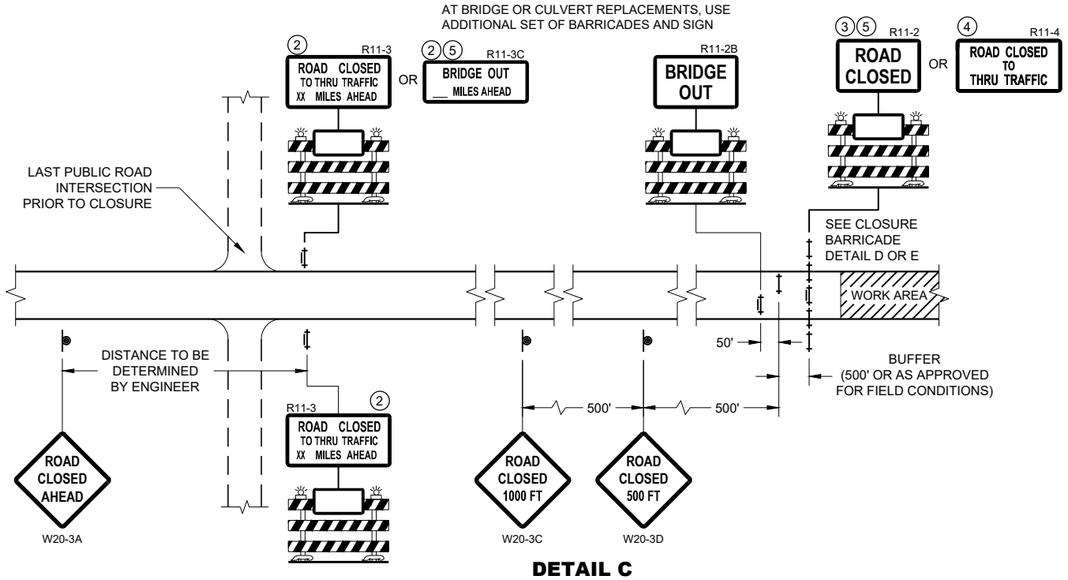


DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

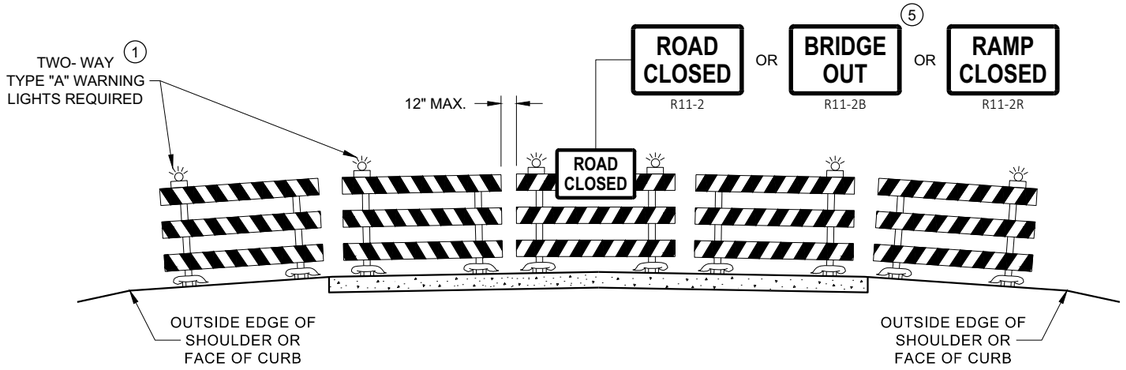
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

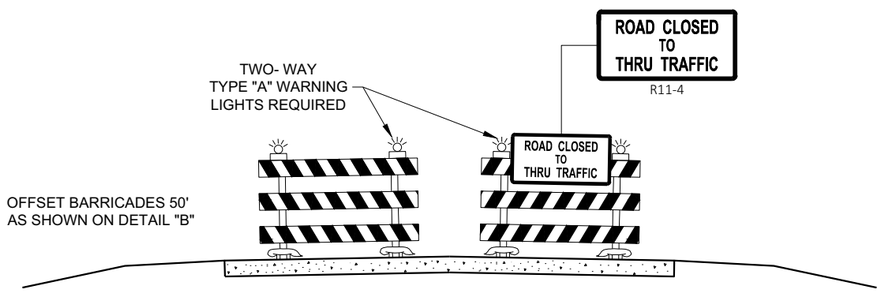
SDD 15C02 - 08a

6

SDD 15C02 - 08a



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

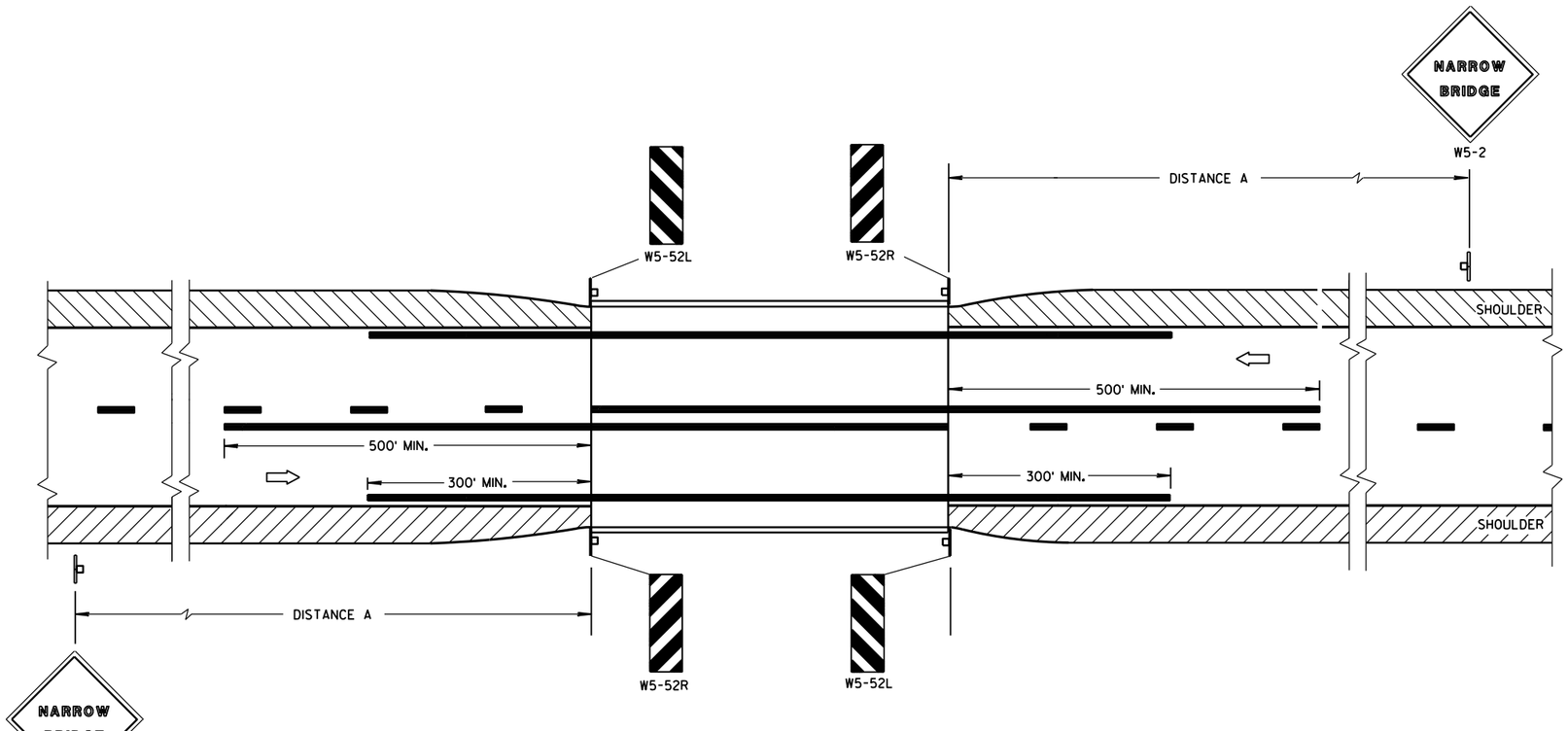
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

6

SDD 15C02 - 08b

6

SDD 15C02 - 08b



SITUATION 1

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

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'

GENERAL NOTES

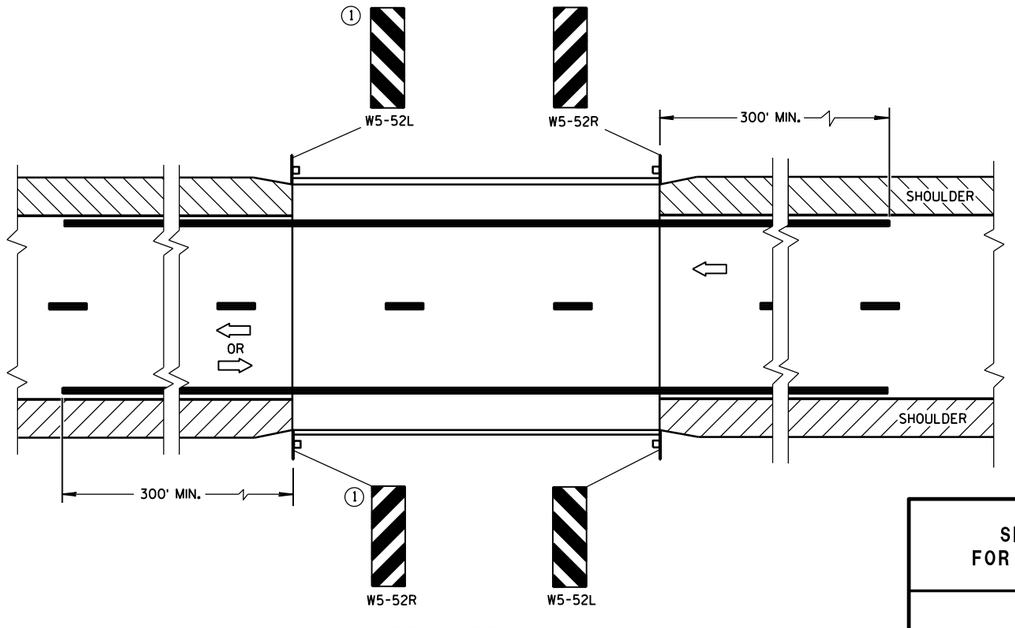
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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.

(1) OMIT ON ONE-WAY TRAVELLED WAYS.

⇨ DIRECTION OF TRAFFIC



SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET.

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

6

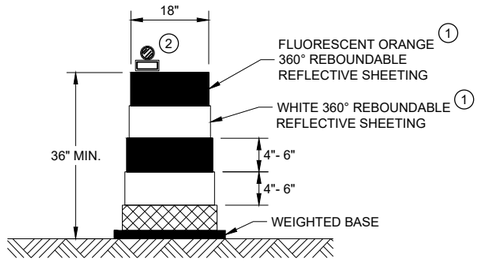
S.D.D. 15 C 6-9

6

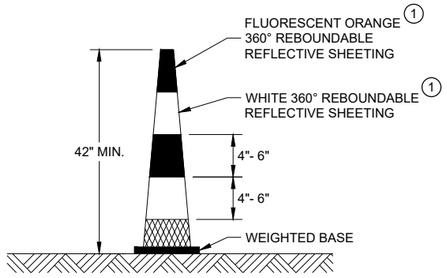
S.D.D. 15 C 6-9

GENERAL NOTES

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

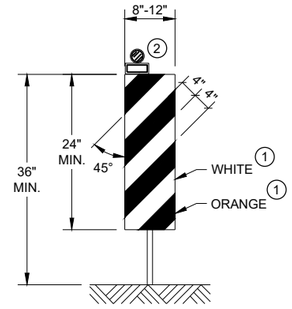


DRUM



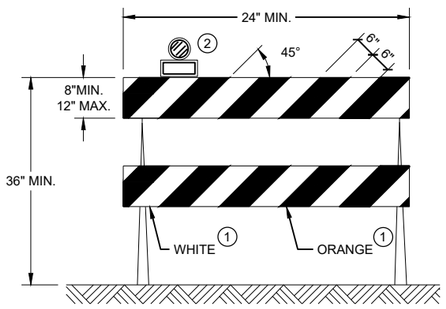
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



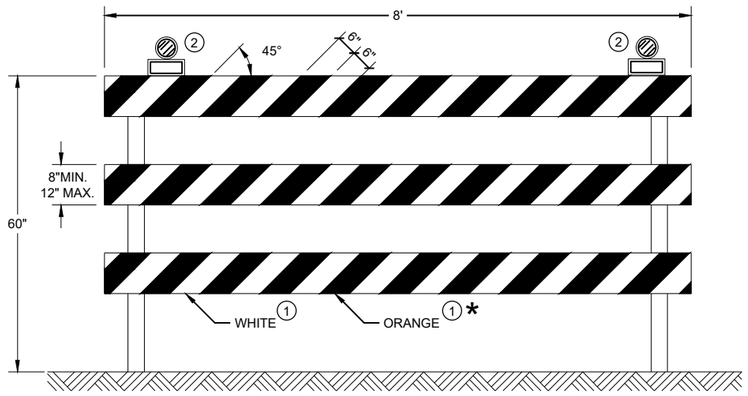
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

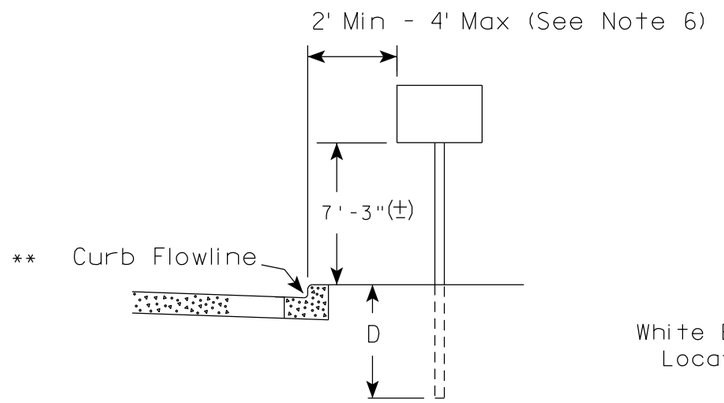
6

SDD 15C11 - 09b

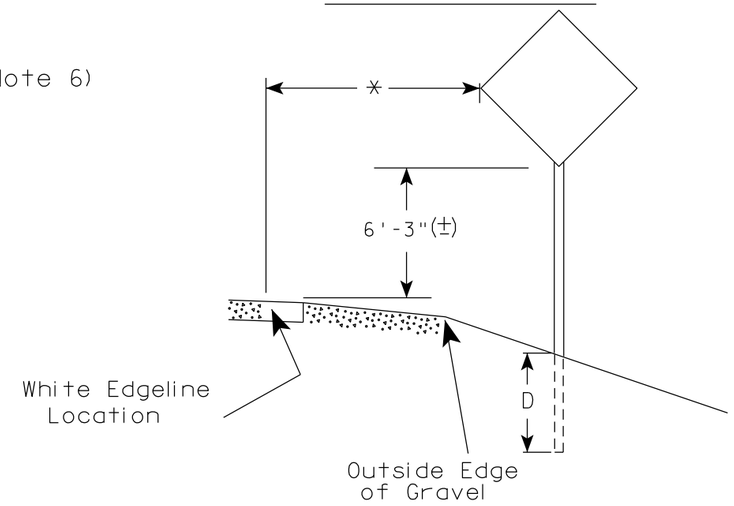
6

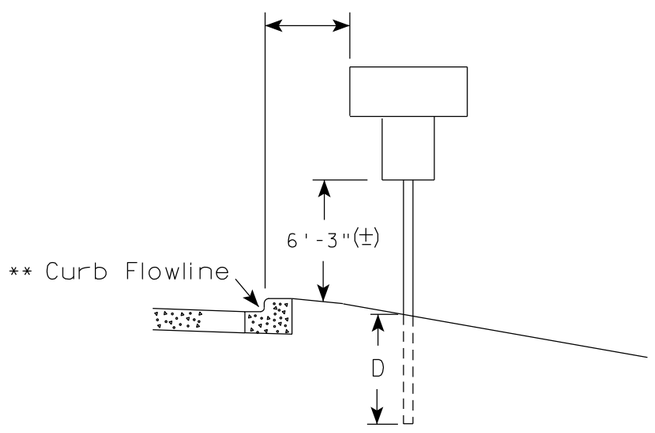
SDD 15C11 - 09b

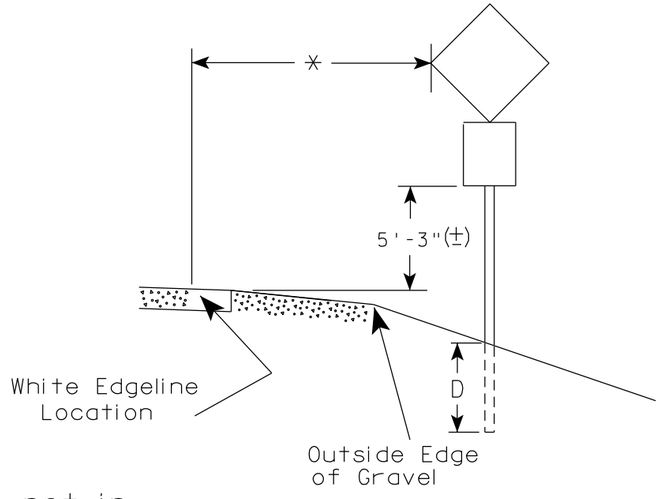
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
   The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±). 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 directd by the Engineer.

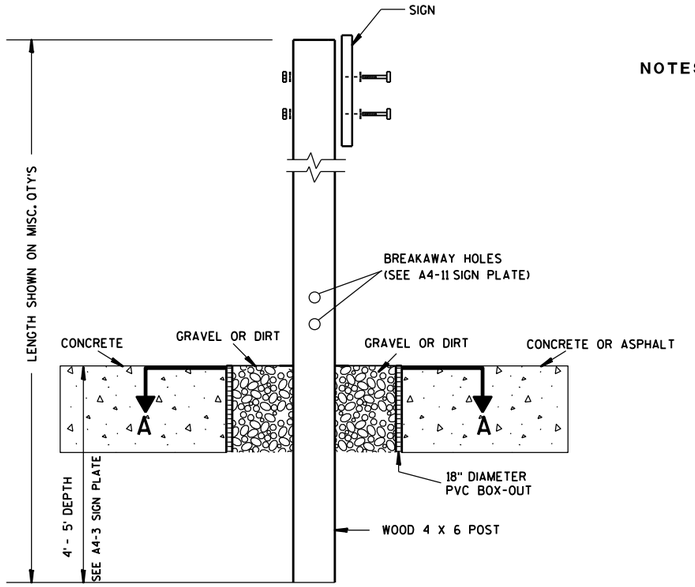
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

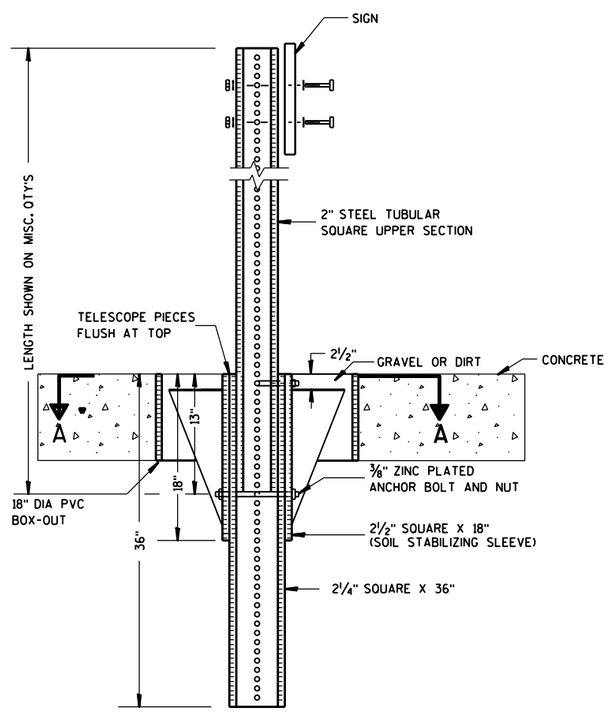
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 24	E



ELEVATION VIEW

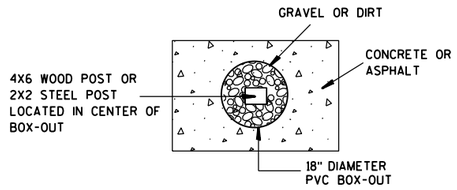
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

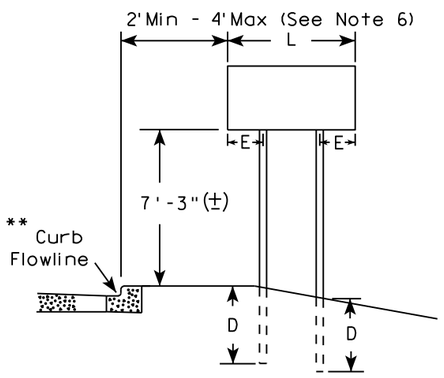
APPROVED Matthew R Rauch
for State Traffic Engineer

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

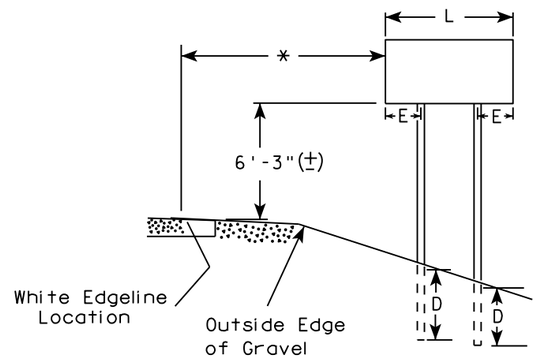
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

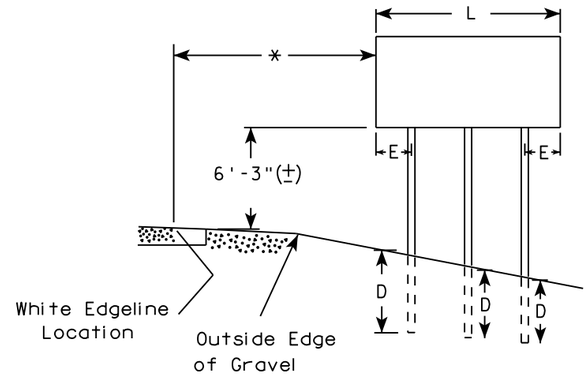
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

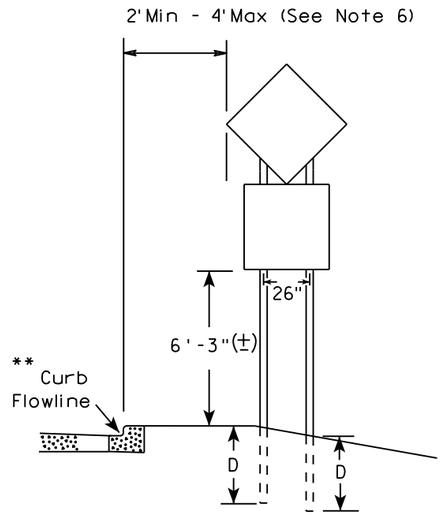
URBAN AREA



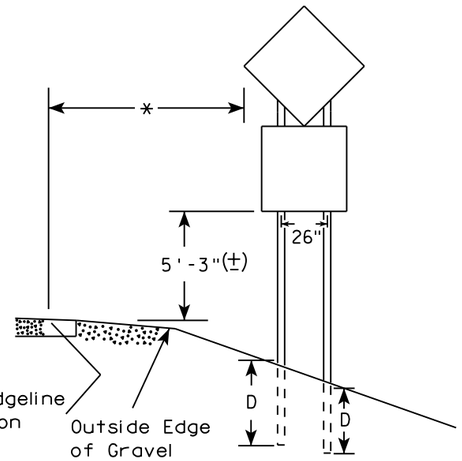
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) 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" (±).

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

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

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

POST EMBEDMENT DEPTH

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

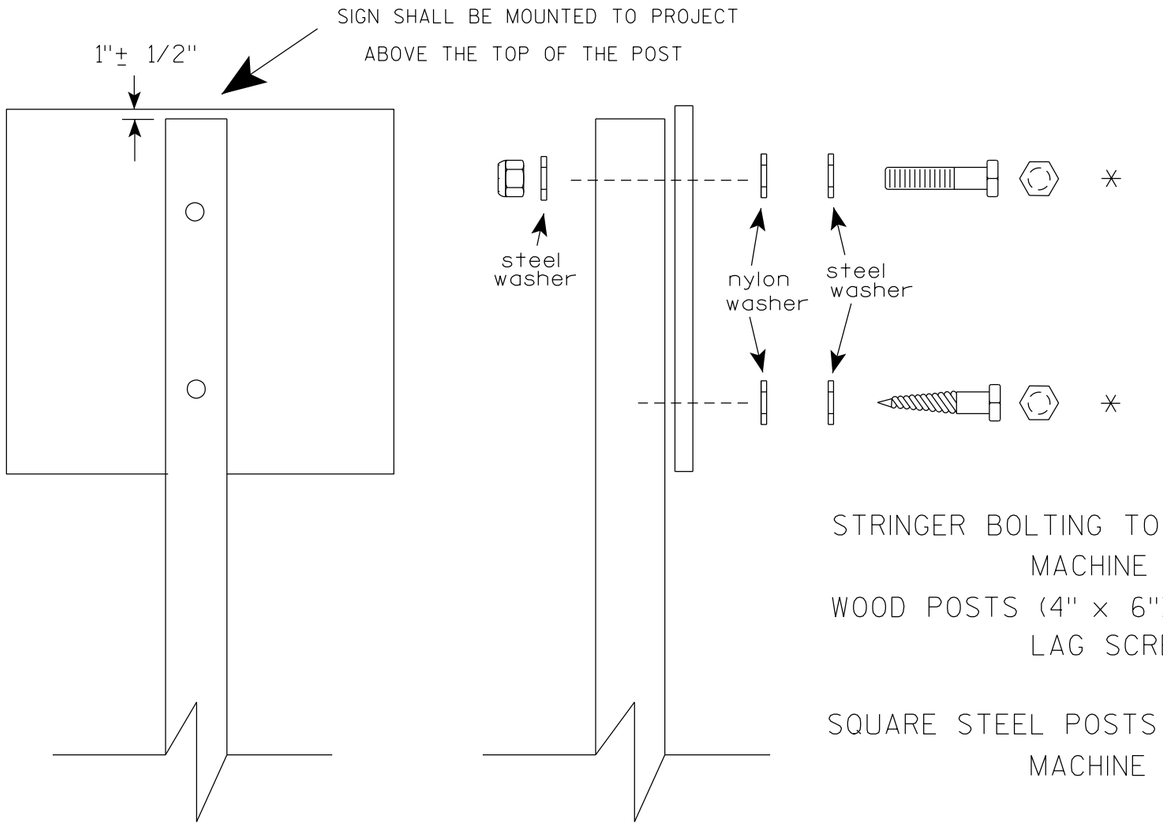
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 26	E



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:

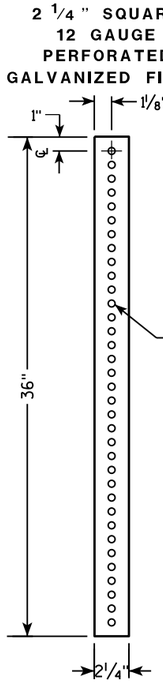
SHEET NO: 27 E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 01-APRIL-2020 PLOT BY : dotc4c

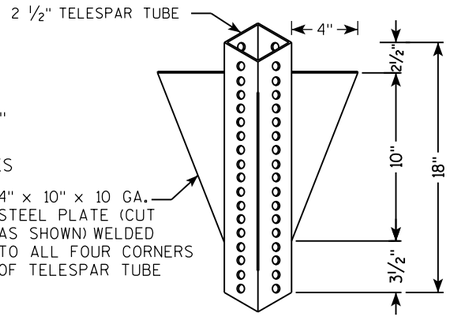
WISDOT/CADDS SHEET 42

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

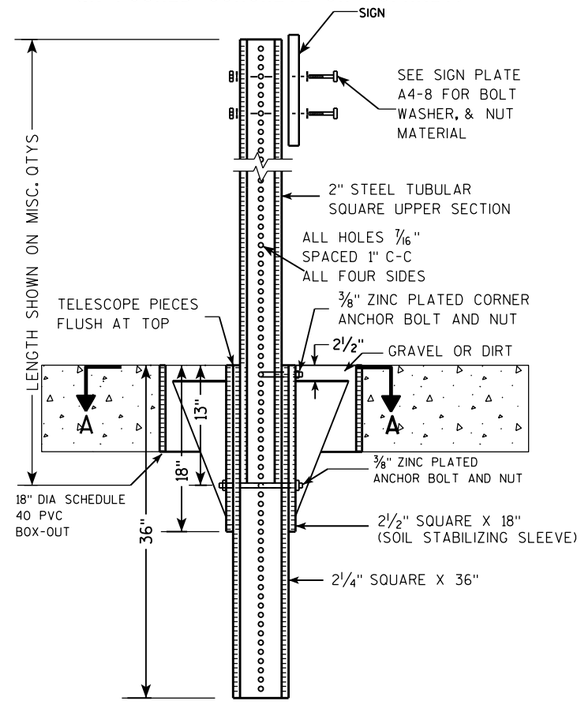
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



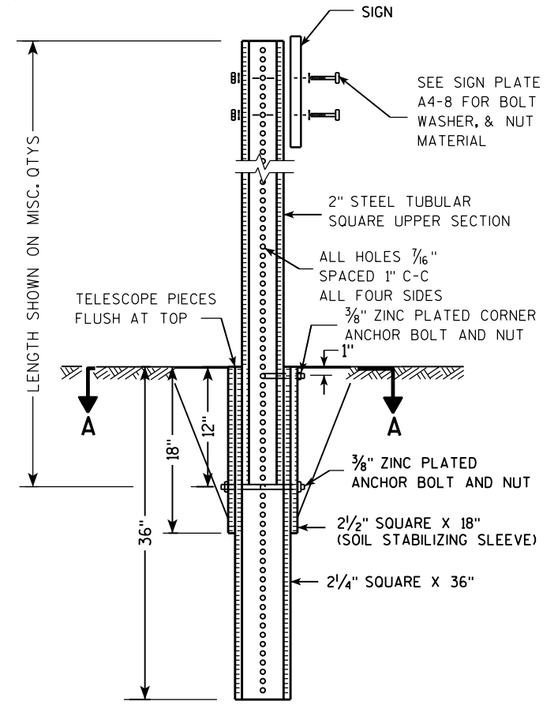
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

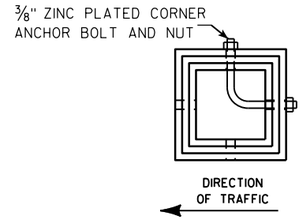


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

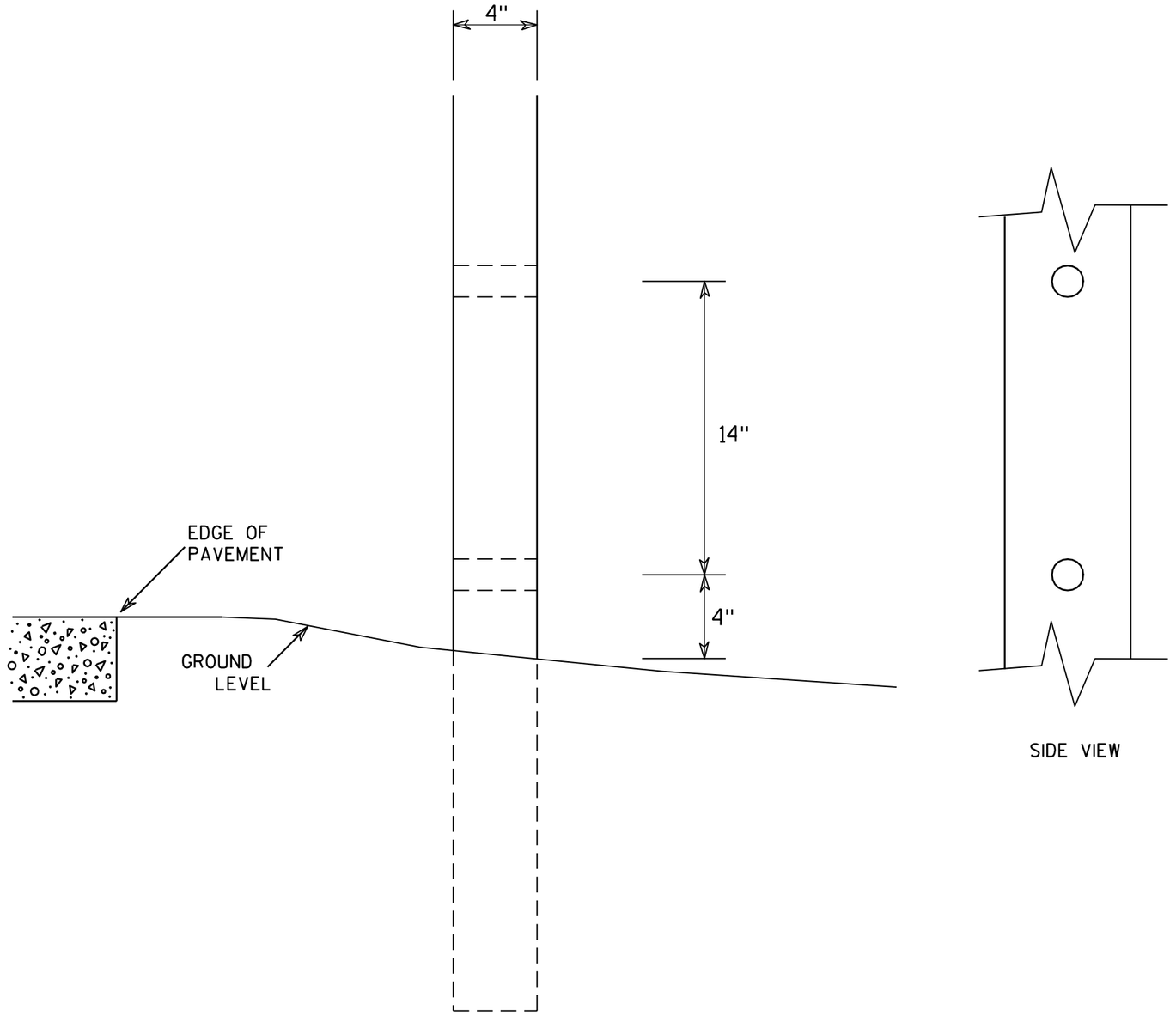
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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



SIDE VIEW

GENERAL NOTES

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

7

7

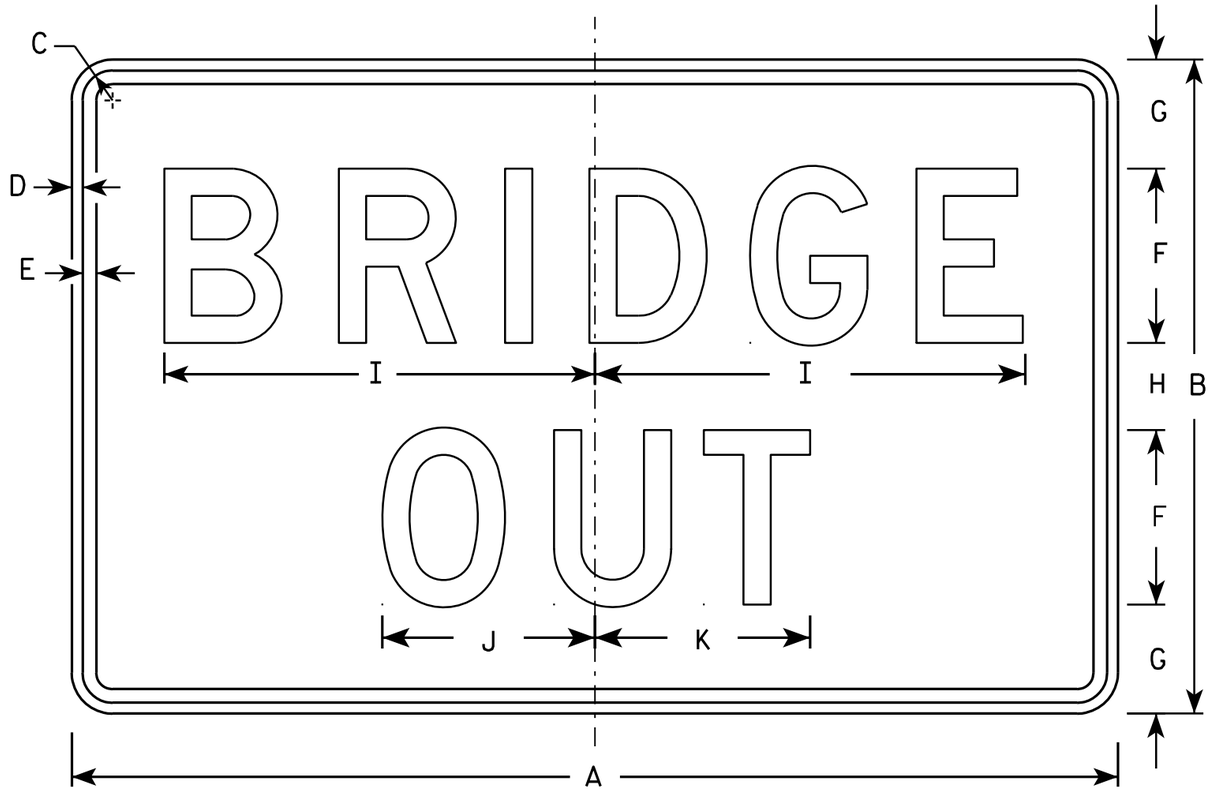
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 29	E



R11-2B

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

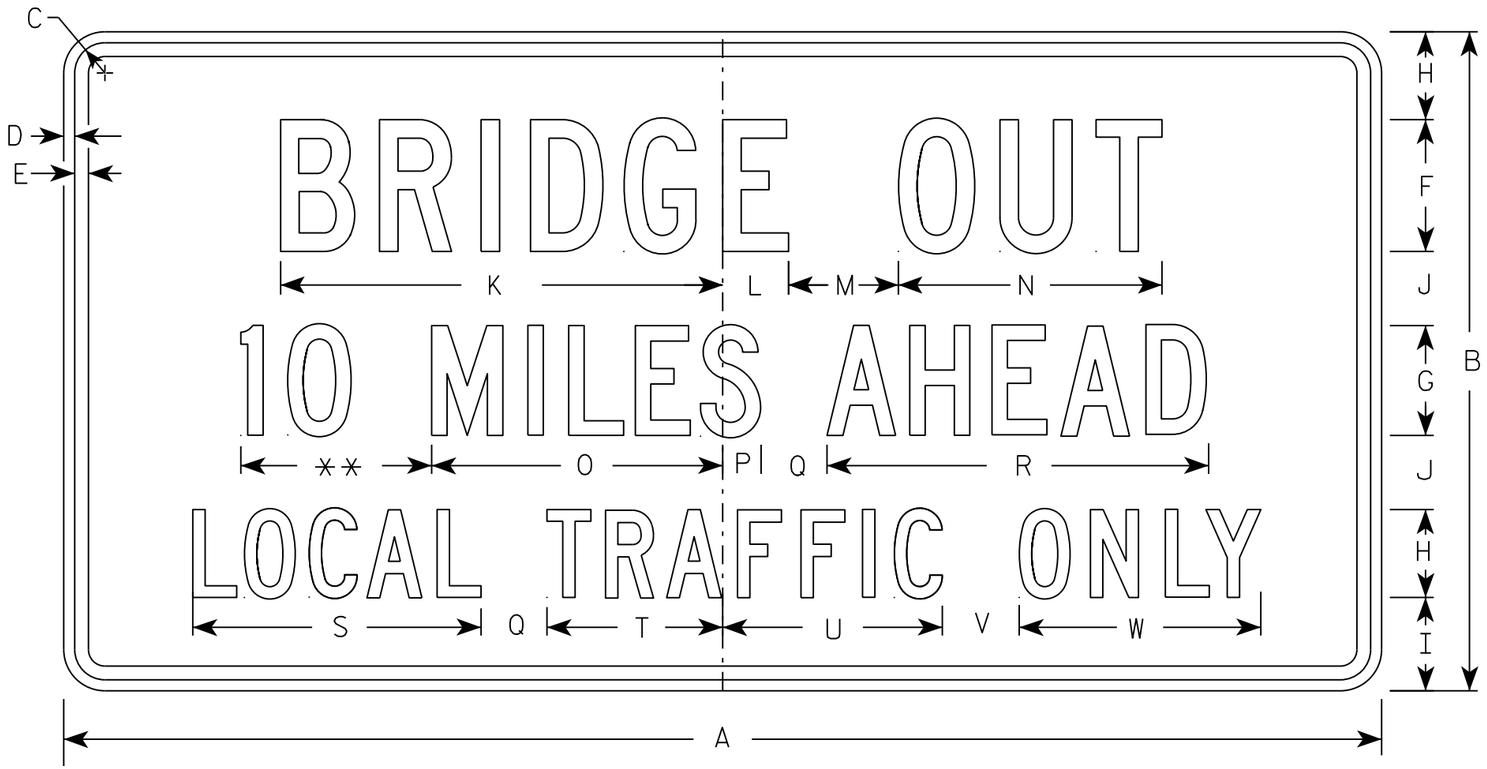
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2B.2

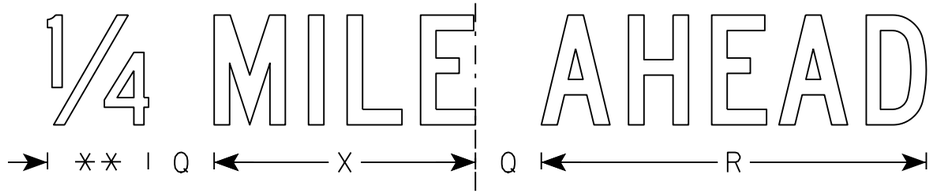
PROJECT NO:

SHEET NO: 30 E



R11-3B

** See Note 5



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 3/8	1/2	5/8	4	3	2 1/2	2	2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4	7 1/8			4.5
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
3																											
4																											
5																											

STANDARD SIGN
R11-3B

WISCONSIN DEPT OF TRANSPORTATION

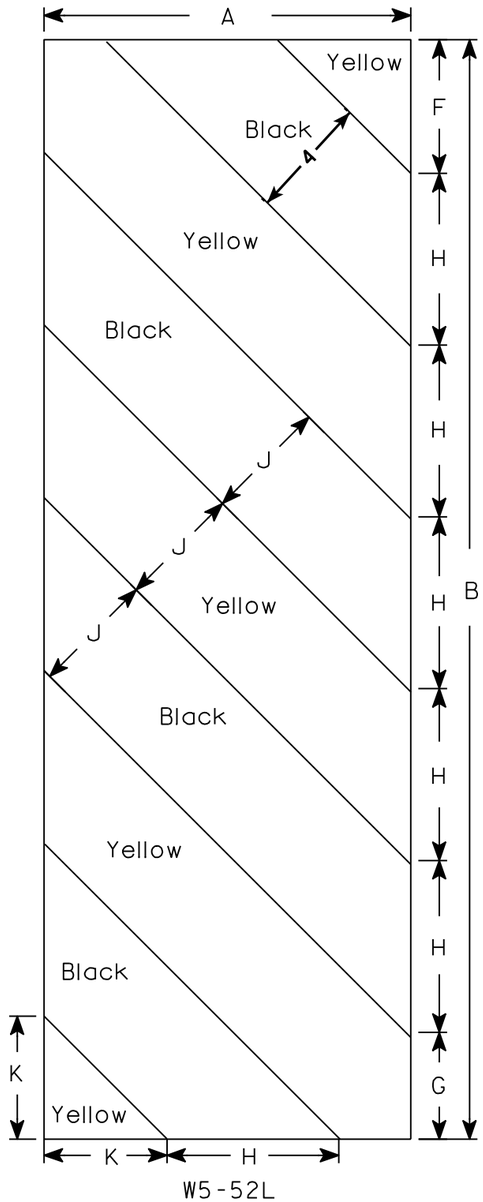
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/17 PLATE NO. R11-3B.3

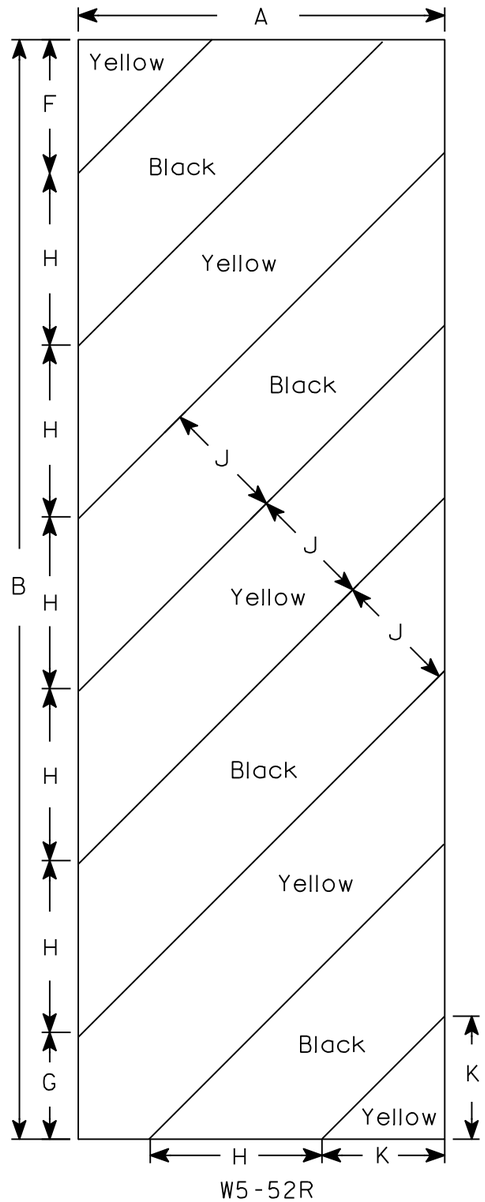
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 31 | E

7

7



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.

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: 32	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W552.DGN PLOT DATE : 29-MAY-2012 13:03 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 4.961899:1.000000

WISDOT/CADDS SHEET 42

7

7

JOE COULEE RD

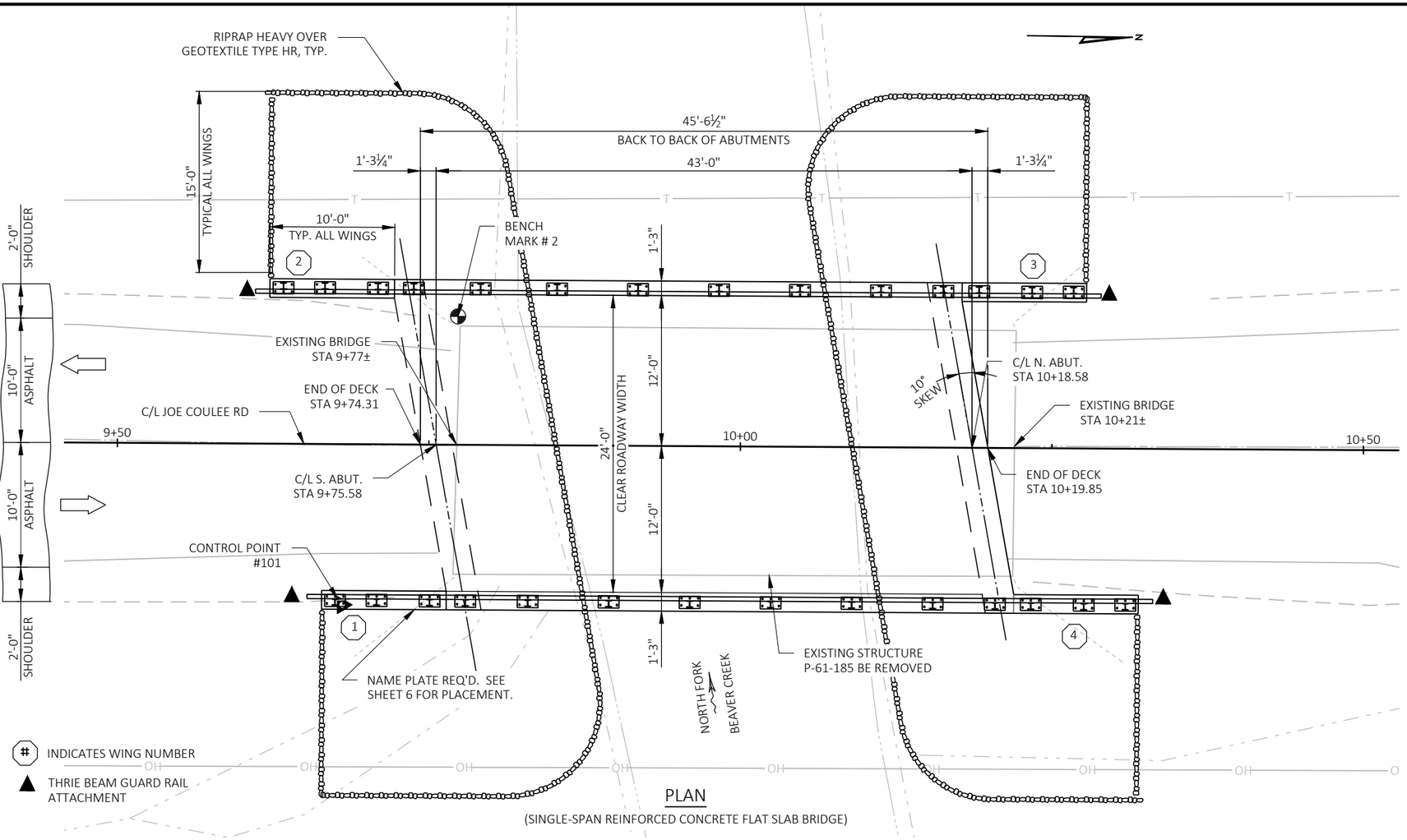
STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT NOTE 1	SALVAGED/UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
9+25	23	7	0	0	0	0	0	0	0
9+41	28	7	27	15	4	8	15	10	1
9+50	21	7	56	8	2	14	23	27	-10
9+62	19	7	68	9	3	28	32	62	-39
9+74	18	7	22	8	3	20	40	87	-59
10+20	16	7	22	0	0	0	40	87	-59
10+32	15	7	54	7	3	17	47	108	-76
10+53	22	7	47	15	5	39	62	157	-115
10+68	25	7	15	13	4	17	75	178	-127
10+90	24	7	0	20	5	6	95	186	-120
				95	29	149			

NOTES:
1 - Cut (Salvage/Unusable Pavement Material Included.)
2 - Salvage/Unusable Pavement Material. (This does not show up in the cross sections.)
3 - Fill (Does not include Unusable Pavement volume.)
4 - The Mass Ordinate + of - quantities calculated. Plus quantities as excess of material. Minus a shortage of material.

No Marsh of EBS is anticipated.

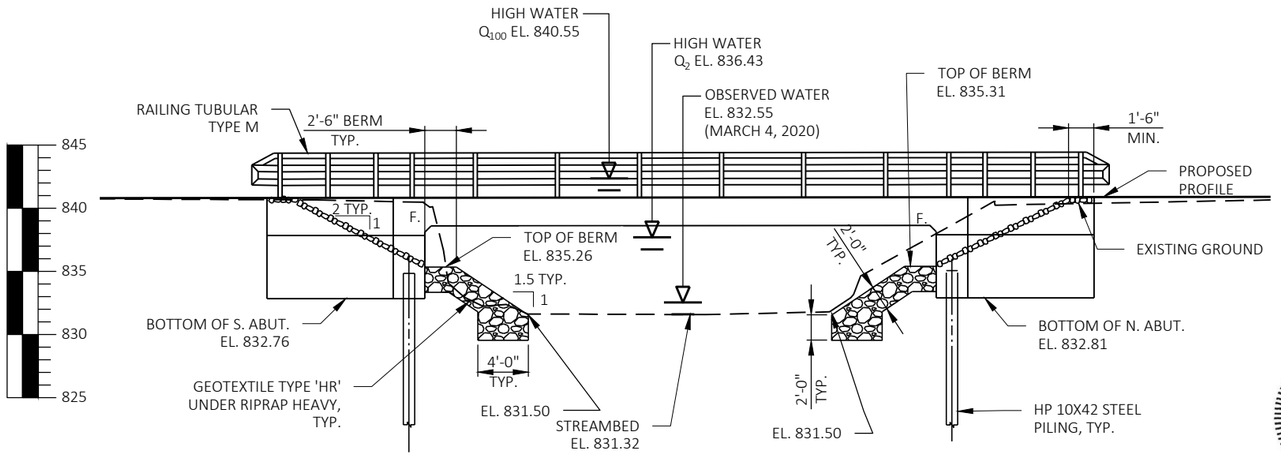
STATE PROJECT NUMBER

7281-00-73



PLAN

(SINGLE-SPAN REINFORCED CONCRETE FLAT SLAB BRIDGE)



ELEVATION

(NORMAL TO C/L OF STREAM)

DESIGN DATA:

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.20
OPERATING RATING FACTOR: 1.56
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS
STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY:
- SUPERSTRUCTURE — f'c = 4,000 psi
- ALL OTHER — f'c = 3,500 psi

BAR STEEL REINFORCEMENT:
- GRADE 60 — fy = 60,000 psi

FOUNDATION DATA:

ABUTMENTS SUPPORTED ON HP 10X42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 170* TONS PER PILE AS REQUIRED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 80' LONG.

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

HYDRAULIC DATA:

100 YEAR FREQUENCY

Q_{100} = 2000 C.F.S.
VELOCITY = 8.19 F.P.S.
HW_{100} = EL. 840.55
WATERWAY AREA = 243.9 SQ. FT.
DRAINAGE AREA = 20.0 SQ. MI.
SCOUR CRITICAL CODE = 5

ROAD OVERTOPPING FREQUENCY

FREQUENCY = 99 YEARS
Q_{99}= 1972 C.F.S.
HW_{99}= EL. 840.45

2 YEAR FREQUENCY

Q_2 = 450 C.F.S.
VELOCITY = 3.0 F.P.S.
HW_2 = EL. 836.43

TRAFFIC DATA:

ADT (2022) =	90
ADT (2042) =	100
DESIGN SPEED =	40 MPH

LIST OF DRAWINGS:

WISCONSIN MATTHEW J. BUCKLI E-39849 MADISON WI PROFESSIONAL ENGINEER
7/30/21

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

CONSULTANT CONTACT
MATT BUCKLI, P.E.
TELEPHONE: (608) 443-0441

NO.	DATE	REVISION	BY

Mead & Hunt, Inc.
2440 Deming Way
Middleton, WI 53562
608.273.6380
www.meadhunt.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED — SDR — 11/24/21
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-61-245

JOE COULEE ROAD OVER NORTH FORK BEAVER CREEK

COUNTY	TOWN/~~CITY/VILLAGE~~
TREMPEALEAU	ETTRICK

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
TJR	RCP	TJR	RCP

GENERAL PLAN

SHEET 1 OF 12
34

8

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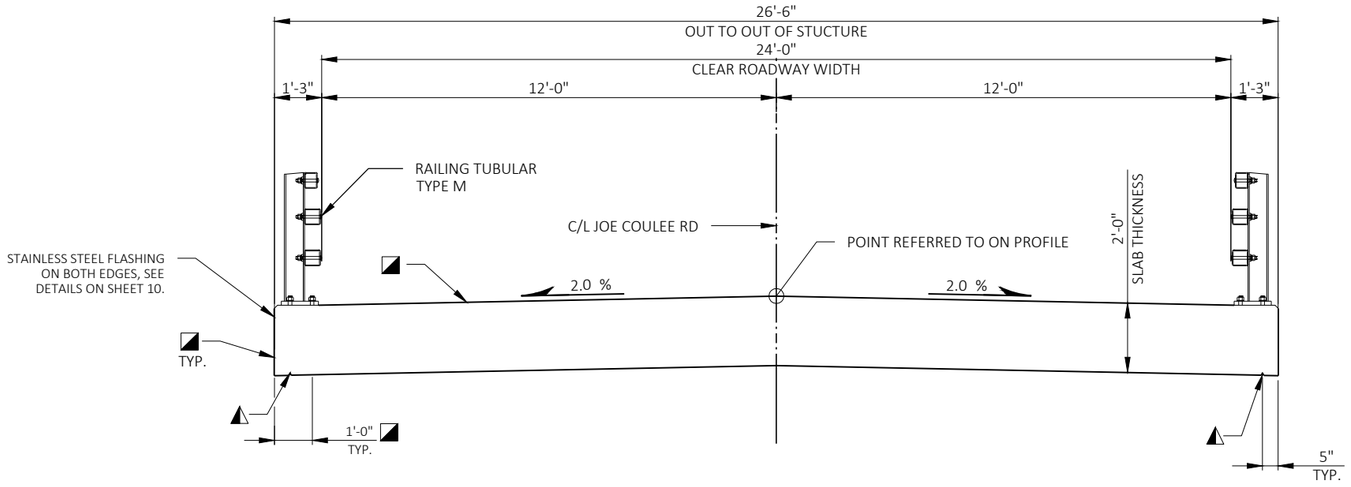


CROSS SECTION THRU BRIDGE

(LOOKING NORTH)

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	S ABUT	N ABUT	SUPER	TOTALS
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS P-61-185	LS	---	---	---	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-61-245	LS	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	113	113	---	226
502.0100	CONCRETE MASONRY BRIDGES	CY	27.7	27.9	93.3	149
502.3200	PROTECTIVE SURFACE TREATMENT	SY	11	11	165	187
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1530	1530	---	3060
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1410	1410	17070	19890
513.4061	RAILING TUBULAR TYPE M B-61-245	LF	---	---	---	136
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	9	9	---	18
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	320	320	---	640
606.0300	RIPRAP HEAVY	CY	78	78	---	156
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	62	62	---	124
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	26	26	---	52
645.0120	GEOTEXTILE TYPE HR	SY	170	170	---	340
SPV.0090.01	FLASHING STAINLESS STEEL	LF	---	---	92	92
	NON BID ITEMS					
	FILLER	SIZE				1/2" & 3/4"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

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

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

THE EXISTING GROUND LINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

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

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

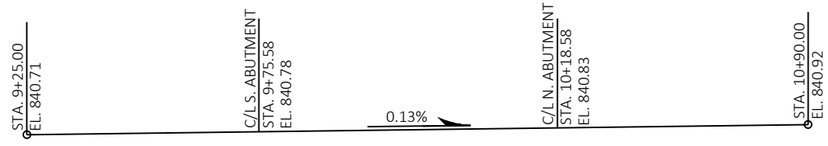
ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO NAVD88 (1991) DATUM.

THE EXISTING STRUCTURE TO BE REMOVED IS A 44.5' LONG BY 19.7' CLEAR ROADWAY WIDTH, TWO-SPAN STEEL DECK GIRDER BRIDGE (P-61-185). A REHABILITATION PROJECT ADDED 4 H-PILE AT THE SOUTH ABUTMENT.

CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATION.

◭ ¾" V-GROOVE REQ'D. EXTEND TO 6" FROM FRONT FACE OF ABUTMENT DIAPHRAGM.

◪ COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS. PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE TOP AND EXTERIOR EXPOSED FACE OF WINGS, AND THE END 1'-0" OF THE FRONT FACE OF ABUTMENT.



PROFILE GRADE LINE, C/L JOE COULEE RD

BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
BM1	7+44.8, 00.0' RT	840.17	MAG NAIL IN ROADWAY (CP #100)
BM2	9+77.3, 10.3' LT	839.48	MAG NAIL IN SW ABUTMENT
BM3	12+80.7, 00.0' RT	840.68	MAG NAIL IN ROADWAY (CP #102)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-245

DRAWN BY TJR | PLANS CK'D. RCP

TYPICAL SECTION, GENERAL NOTES & QUANTITIES

SHEET 2 OF 12
35

STATE PROJECT NUMBER
7281-00-73

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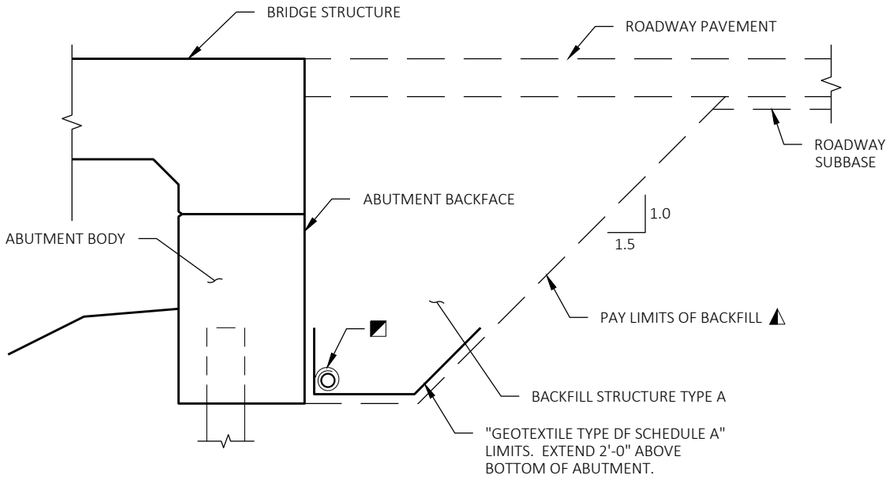
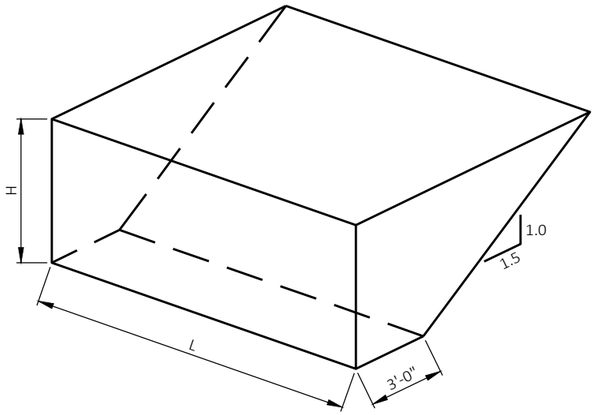
STATE PROJECT NUMBER

7281-00-73



STRUCTURE BACKFILL & PIPE UNDERDRAIN DETAIL

(TYPICAL AT BOTH ABUTMENTS)



ABUTMENT BACKFILL DIAGRAM

L = OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
V_{CF} = (L)(3.0)(H) + (L)(0.5)(1.5H)(H)
V_{CY} = V_{CF} (EF)/27
V_{TON} = V_{CY} (2.0)

STRUCTURE BACKFILL NOTES

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-61-245" SHALL BE THE EXISTING GROUNDLINE.

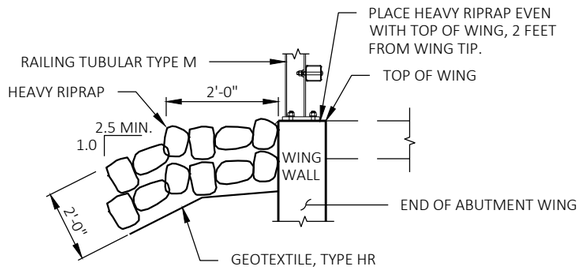
THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

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

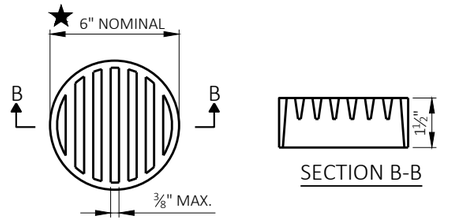
LEGEND

◭ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO THE EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

◩ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.



TYPICAL FILL SECTION AT WING TIPS



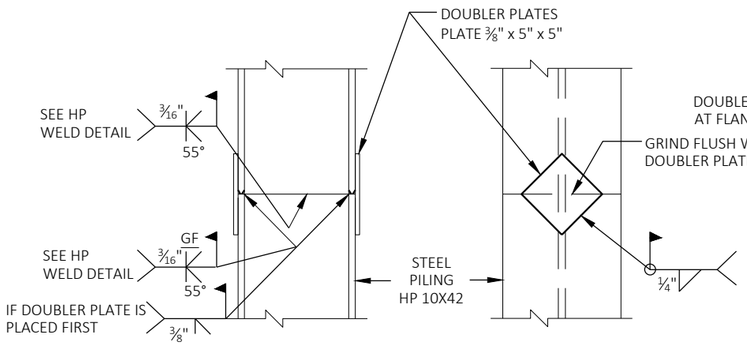
SECTION B-B

RODENT SHIELD

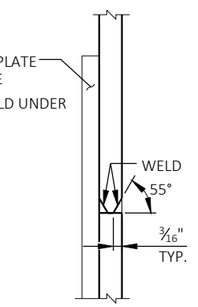
★ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

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

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



PILE SPLICE DETAILS



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

8

8

NO.	DATE	REVISION	BY

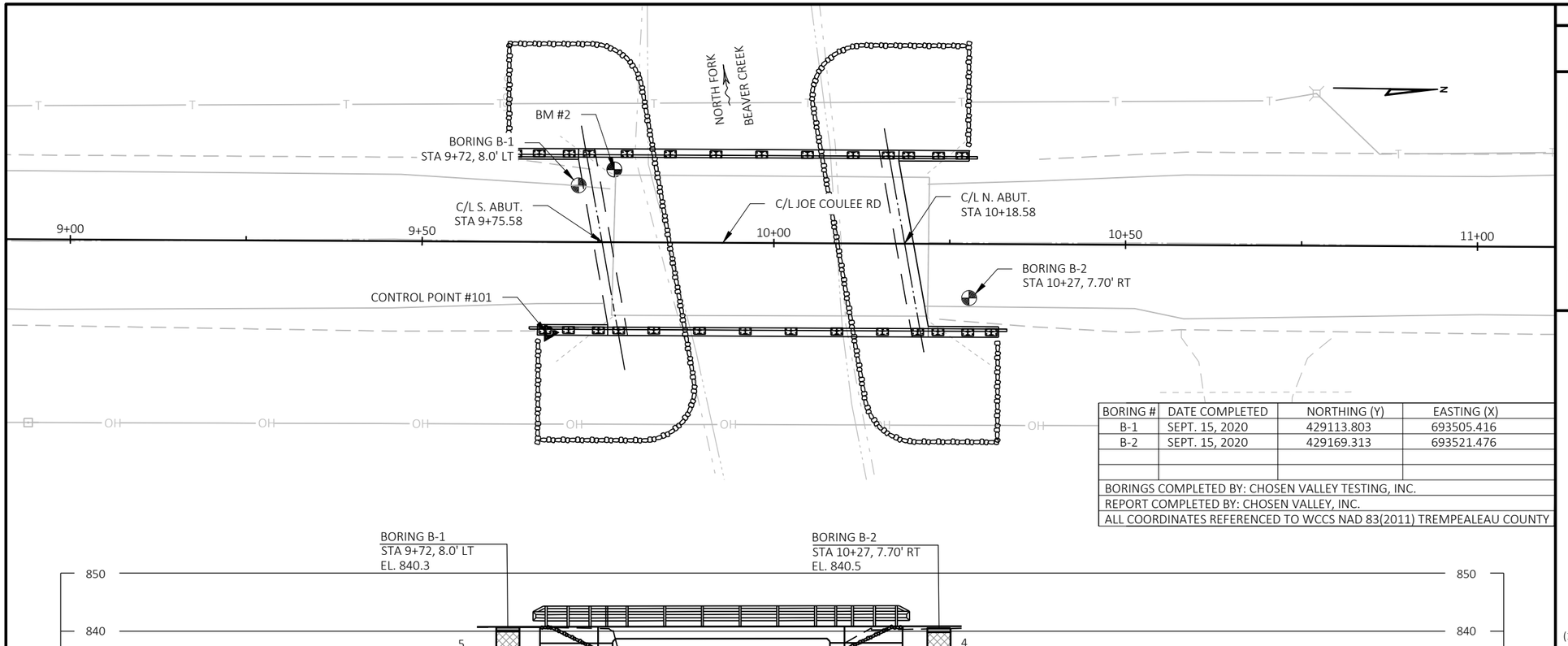
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-245

DRAWN BY TJR | PLANS CK'D. RCP

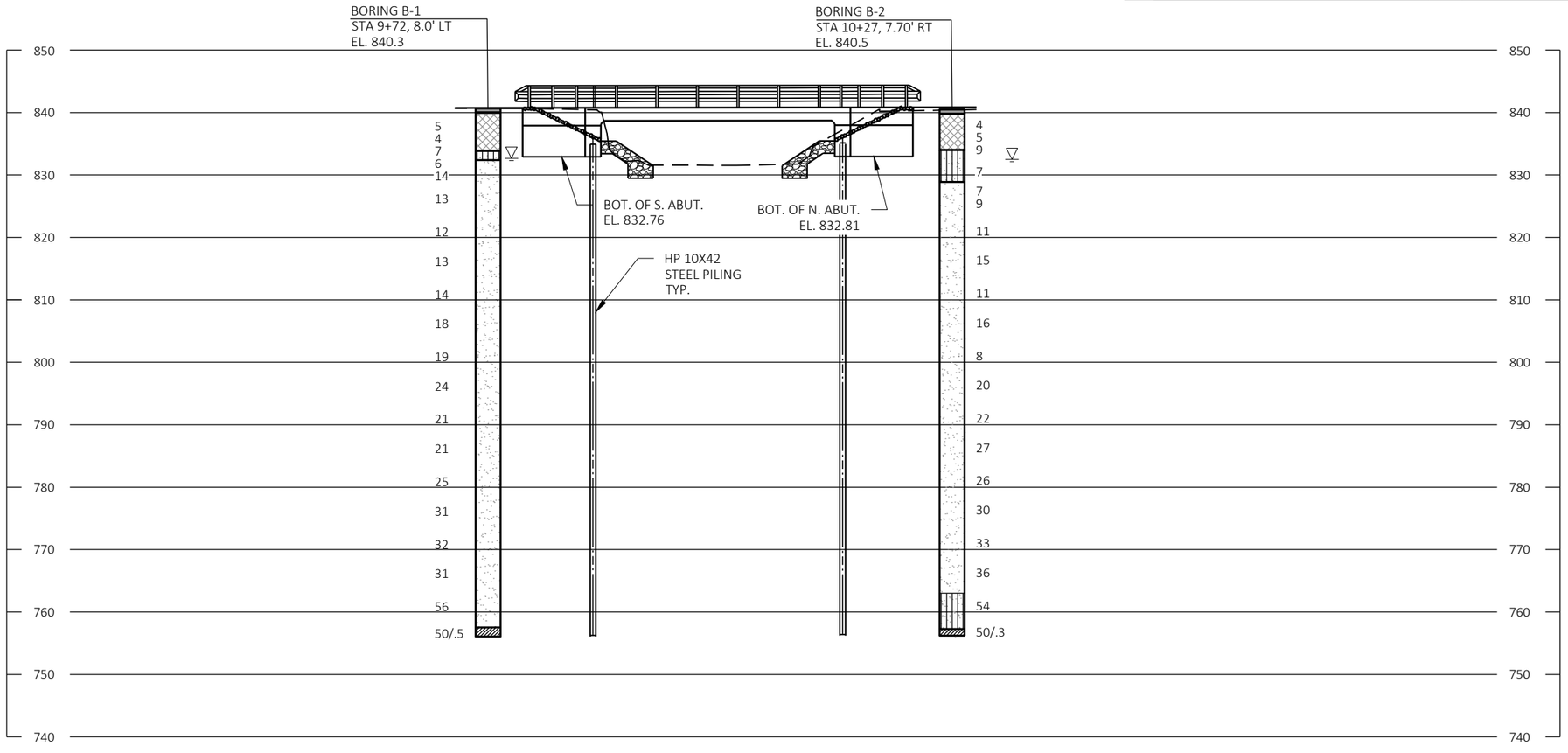
GENERAL DETAILS

SHEET 36 OF 12



BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-1	SEPT. 15, 2020	429113.803	693505.416
B-2	SEPT. 15, 2020	429169.313	693521.476

BORINGS COMPLETED BY: CHOSEN VALLEY TESTING, INC.
REPORT COMPLETED BY: CHOSEN VALLEY, INC.
ALL COORDINATES REFERENCED TO WCCS NAD 83(2011) TREMPEALEAU COUNTY



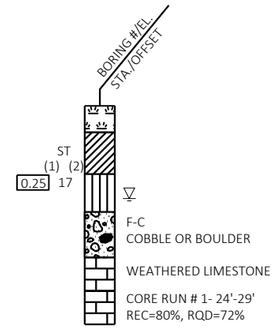
STATE PROJECT NUMBER

7281-00-73

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-245

DRAWN BY TJR | PLANS CK'D. RCP

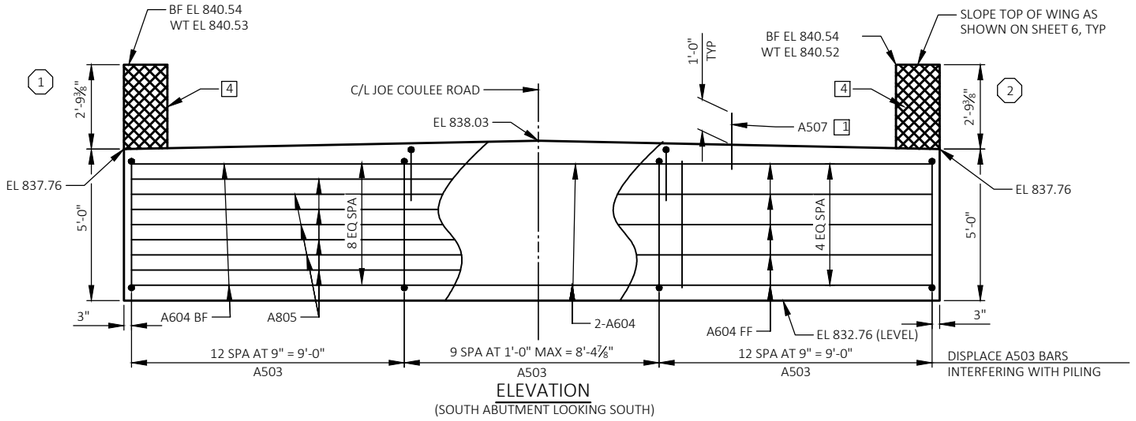
SUBSURFACE EXPLORATION

SHEET 4 OF 12
37

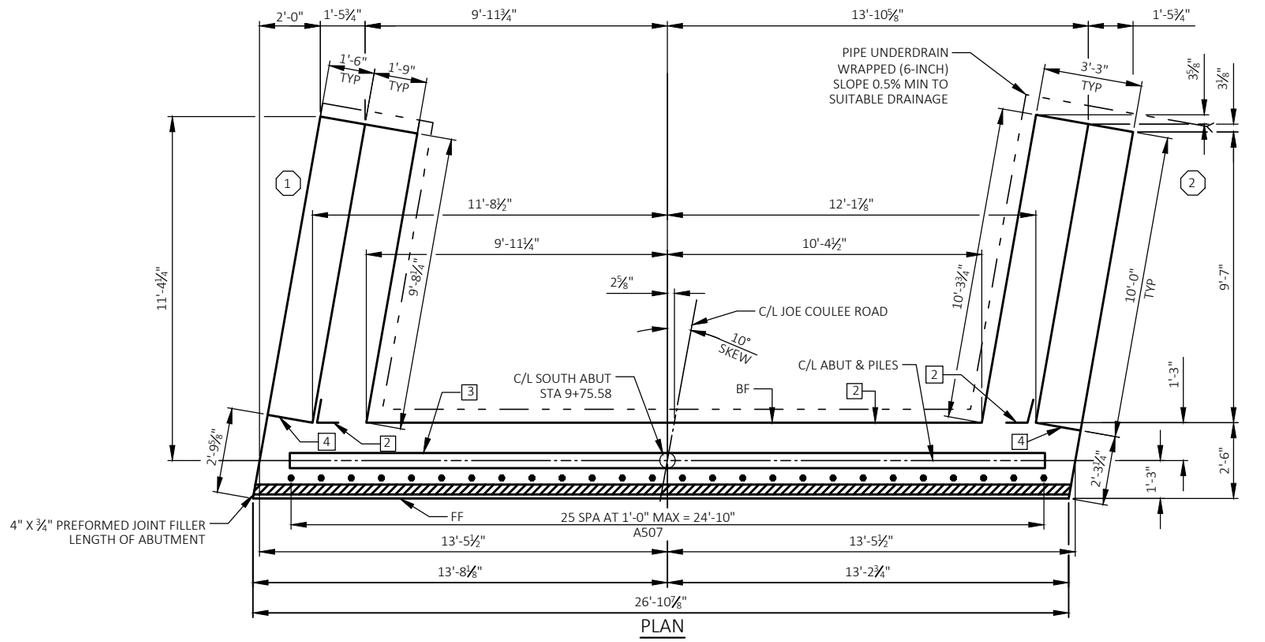
8

8

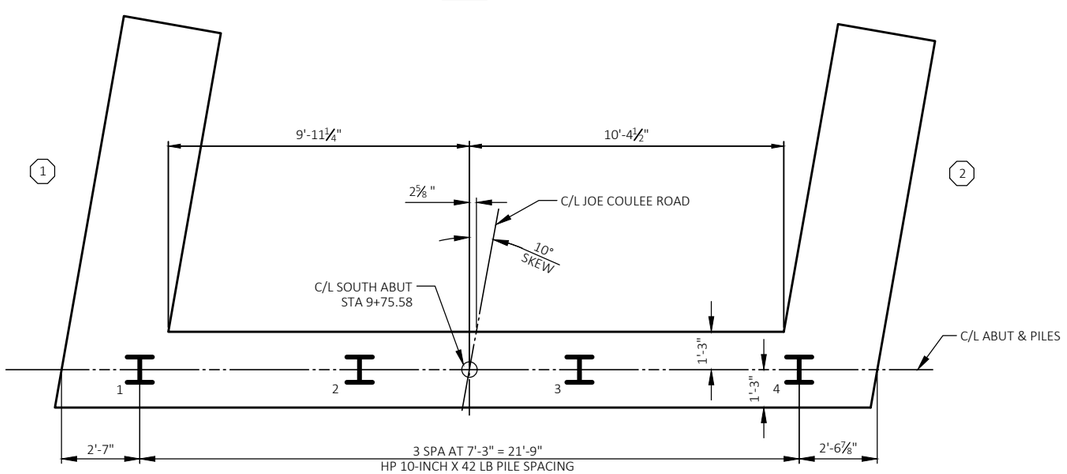
FILE NAME : X:\2918800\200252.01\TECH\CAD\XXXXXXXX\DESIGN\STRUCTURE\080104_SE.DWG PLOT DATE : 7/30/2021 PLOT BY : TRAVIS REFF PLOT SCALE :



ELEVATION
(SOUTH ABUTMENT LOOKING SOUTH)



PLAN



PILE PLAN

NOTES

FOR PILE SPLICE DETAIL SEE SHEET 3.

FILL/EXCAVATE TO BOTTOM OF ABUTMENT EL 832.76 BEFORE DRIVING PILING.

SEE SHEET 3 FOR STRUCTURE BACKFILL AND PIPE UNDERDRAIN DETAIL.

ABUTMENT SUPPORTED ON 10X42 H-PILING WITH REQUIRED DRIVING RESISTANCE OF 170 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 80' LONG.

1 A507 BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INITIAL SETTING HAS TAKEN PLACE.

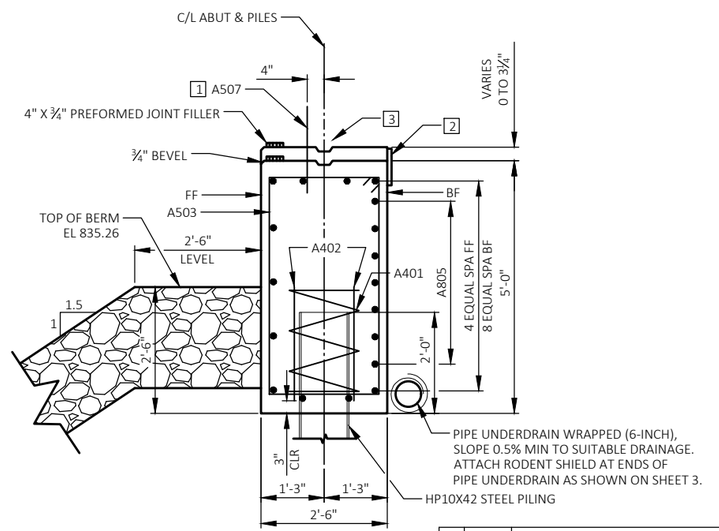
2 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE. EXTEND FROM BRIDGE SEAT TO TOP OF WING.

3 KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY. TERMINATE 1'-0" FROM ABUTMENT ENDS.

4 ½" FILLER - TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

FF - FRONT FACE
BF - BACK FACE
WT - WING TIP

(#) INDICATES WING NUMBER



SECTION THRU ABUTMENT BODY

ALL HORIZONTAL BARS NOT LABELED ARE A604 BARS.

STATE PROJECT NUMBER
7281-00-73

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-245

DRAWN BY TJR | PLANS CK'D. RCP

SOUTH ABUTMENT

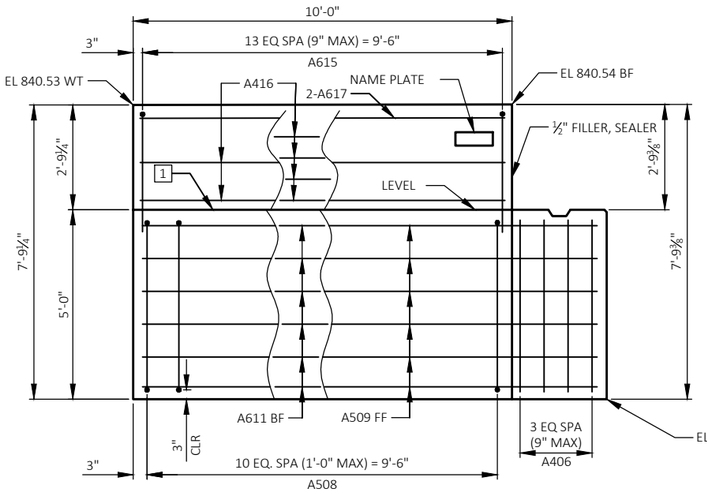
SHEET 38 OF 12

8

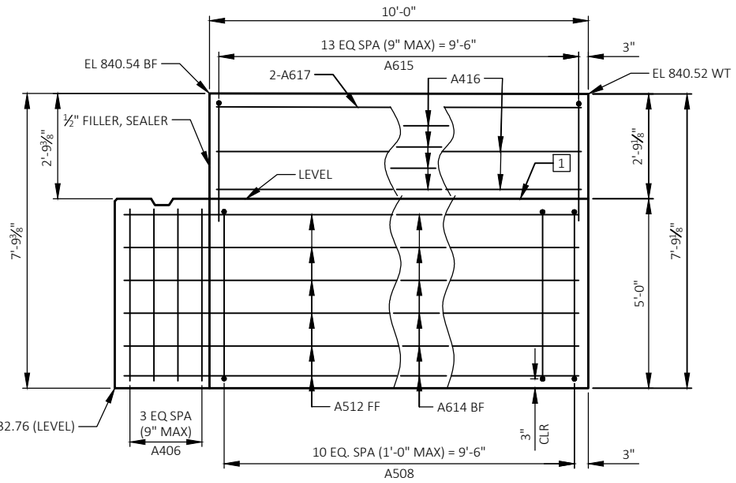
8

STATE PROJECT NUMBER

7281–00–73



WING 1 ELEVATION



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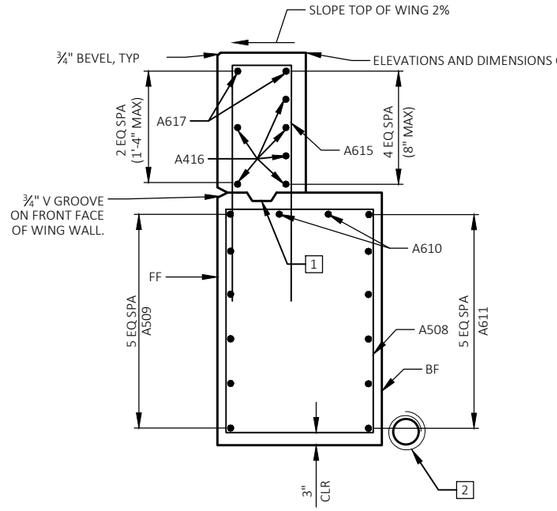
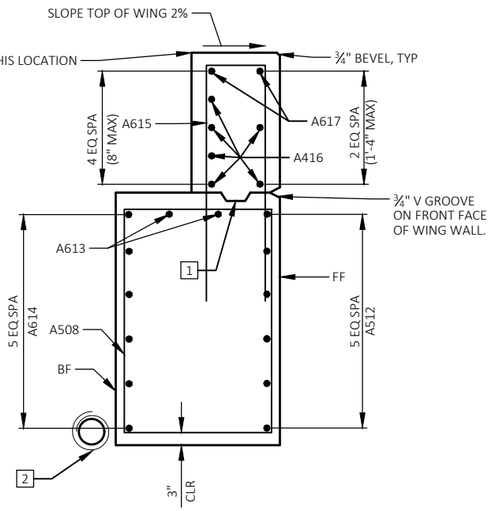


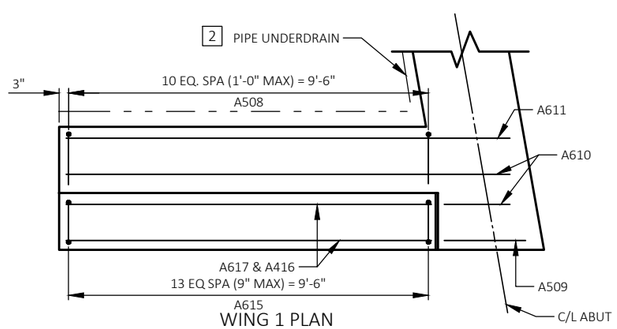
WING 1 SECTION

SEE SHEET 11 FOR RAIL POST ANCHORS



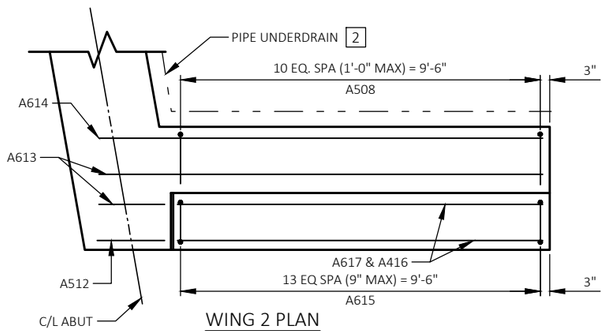
WING 2 SECTION

SEE SHEET 11 FOR RAIL POST ANCHORS



WING 1 PLAN

SPACE A615 TO MISS ANCHORS FOR RAIL POSTS.



WING 2 PLAN

SPACE A615 TO MISS ANCHORS FOR RAIL POSTS.

BILL OF BARS
SOUTH ABUTMENT

COATED= 1410 LBS.
UNCOATED= 1530 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH FT - IN	BENT	BAR SERIES	LOCATION	
A401		4	28 - 0	X		ABUTMENT BODY - 1 PER PILE	SPIRAL
A402		8	2 - 3			ABUTMENT BODY - 2 PER PILE	VERT
A503		34	13 - 8	X		ABUTMENT BODY - STIRRUPS	VERT
A604		11	26 - 6			ABUTMENT BODY - FF, TOP, BTM	HORIZ
A805		7	26 - 6			ABUTMENT BODY - BF	HORIZ
A406		8	4 - 7			ABUTMENT BODY - ENDS	VERT
A507	26		2 - 0			ABUTMENT BODY - DOWELS	VERT
A508	22		15 - 4	X		WING WALLS - BODY	VERT
A509	6		12 - 5			WING WALL 1 - FF OF BODY	HORIZ
A610	2		12 - 1			WING WALL 1 - TOP OF BODY	HORIZ
A611	6		11 - 8			WING WALL 1 - BF OF BODY	HORIZ
A512	6		11 - 11			WING WALL 2 - FF OF BODY	HORIZ
A613	2		12 - 1			WING WALL 2 - TOP OF BODY	HORIZ
A614	6		12 - 3			WING WALL 2 - BF OF BODY	HORIZ
A615	28		10 - 2	X		WING WALL - TOP	VERT
A416	12		9 - 7			WING WALL - TOP	HORIZ
A617	4		9 - 7			WING WALL - TOP	HORIZ

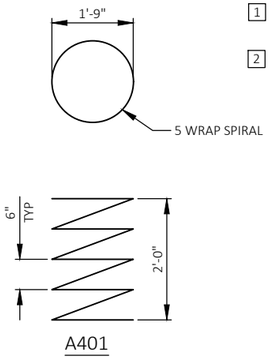
FF - FRONT FACE
BF - BACK FACE
WT - WING TIP

BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.

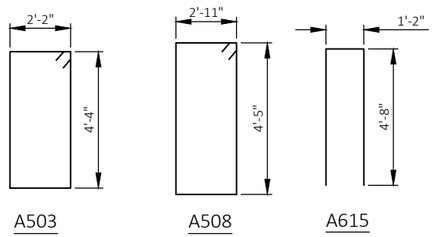
THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

1 OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY, WITH MEMBRANE ON BACK FACE.

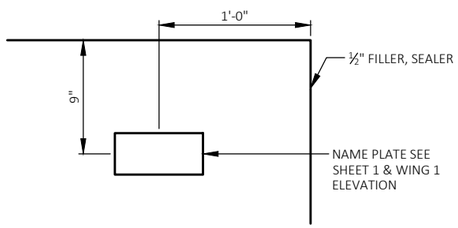
2 PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN TO SUITABLE DRAINAGE.



A401



A503 A508 A615



NAME PLATE LOCATION
ON WING 1

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–61–245

DRAWN BY TJR | PLANS CK'D. RCP

SOUTH ABUTMENT DETAILS

SHEET 8 OF 12
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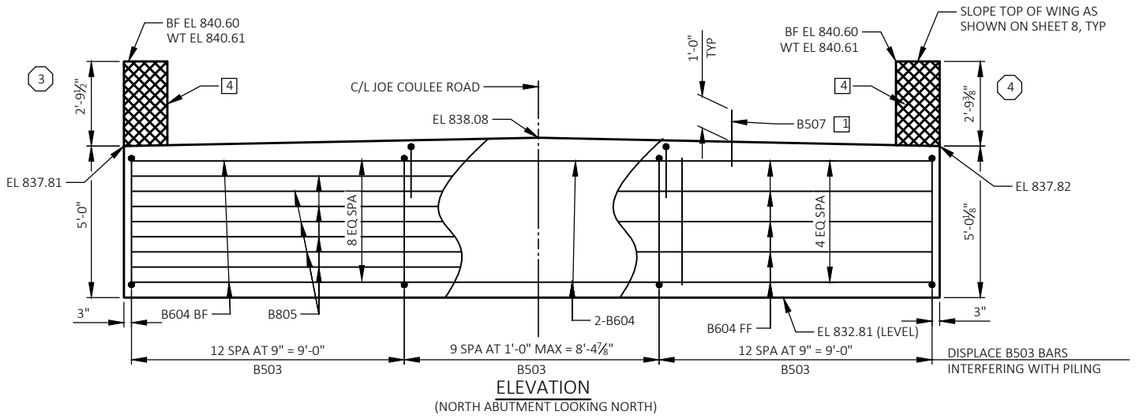
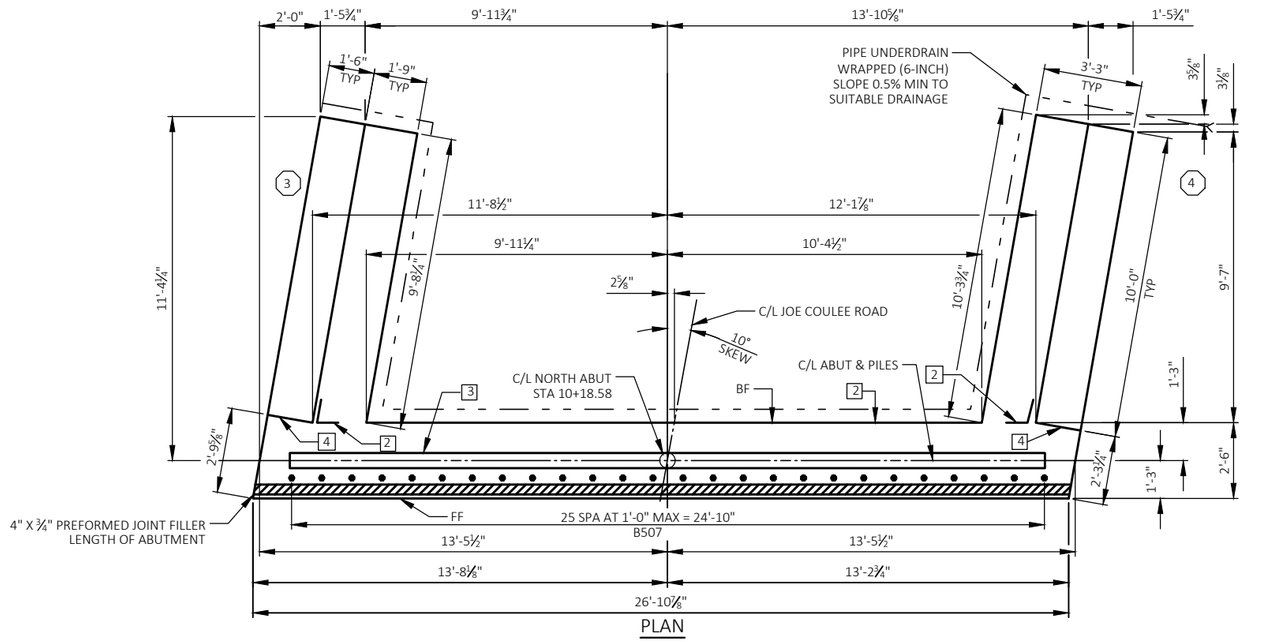
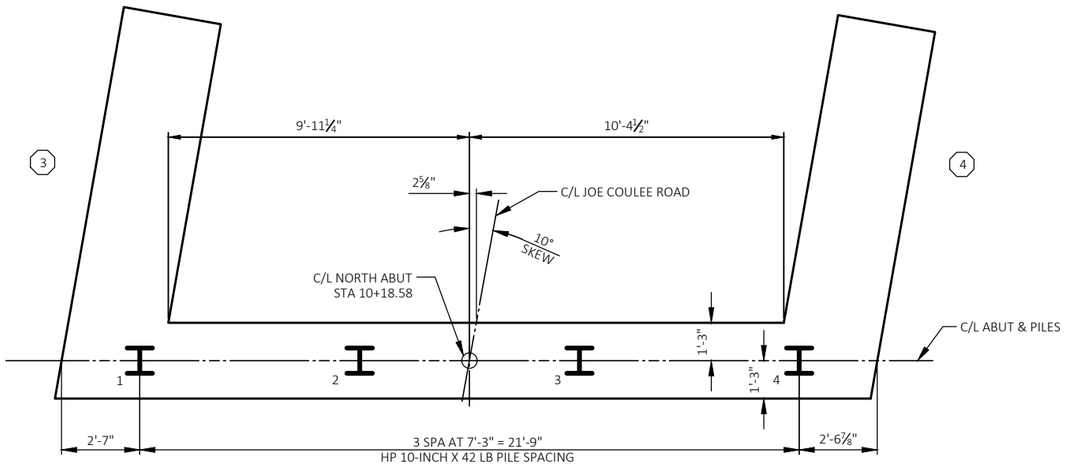
FILE NAME : X:±2918800±200252.01±TECH±CAD±XXXXXXXX±DESIGN±STRUCTURE±080105_SA.DWG PLOT DATE : 7/30/2021 PLOT BY : TRAVIS REFF PLOT SCALE : 1" = 1'



ELEVATION
(NORTH ABUTMENT LOOKING NORTH)



PLAN



PILE PLAN

NOTES

FOR PILE SPLICE DETAIL SEE SHEET 3.

FILL/EXCAVATE TO BOTTOM OF ABUTMENT EL 832.81 BEFORE DRIVING PILING.

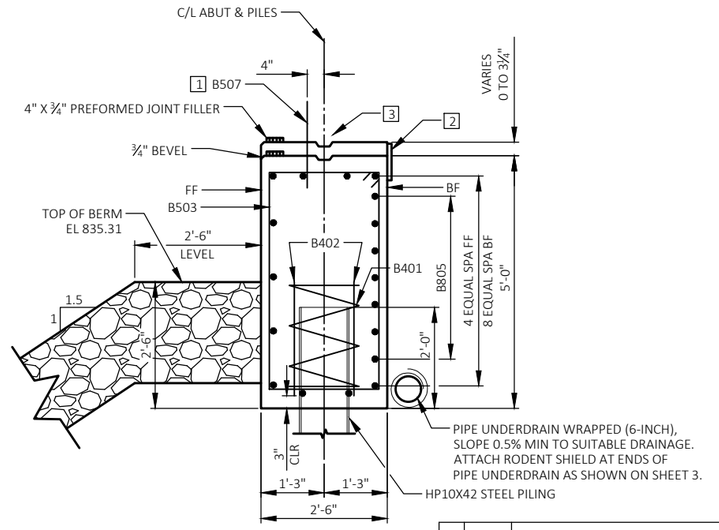
SEE SHEET 3 FOR STRUCTURE BACKFILL AND PIPE UNDERDRAIN DETAIL.

ABUTMENT SUPPORTED ON 10X42 H-PILING WITH REQUIRED DRIVING RESISTANCE OF 170 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 80' LONG.

1. B507 BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INITIAL SETTING HAS TAKEN PLACE.
2. 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE. EXTEND FROM BRIDGE SEAT TO TOP OF WING.
3. KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY. TERMINATE 1'-0" FROM ABUTMENT ENDS.
4. ½" FILLER - TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

FF - FRONT FACE
BF - BACK FACE
WT - WING TIP

(#) INDICATES WING NUMBER



SECTION THRU ABUTMENT BODY

ALL HORIZONTAL BARS NOT LABELED ARE B604 BARS.

STATE PROJECT NUMBER
7281-00-73

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-245

DRAWN BY TJR | PLANS CK'D. RCP

NORTH ABUTMENT

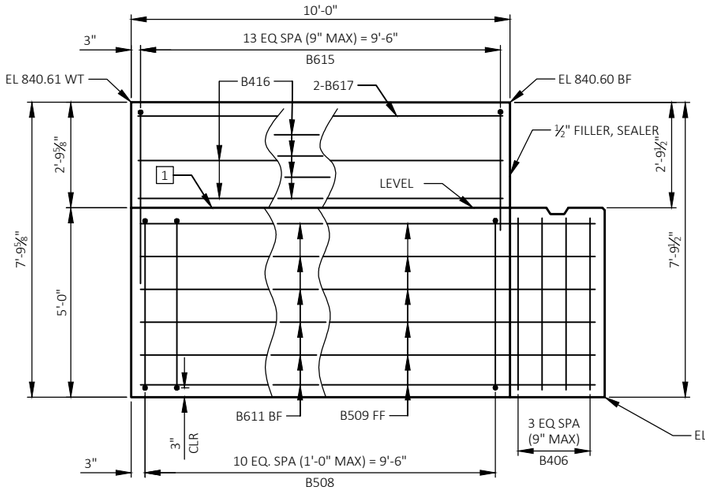
SHEET 7 OF 12
40

8

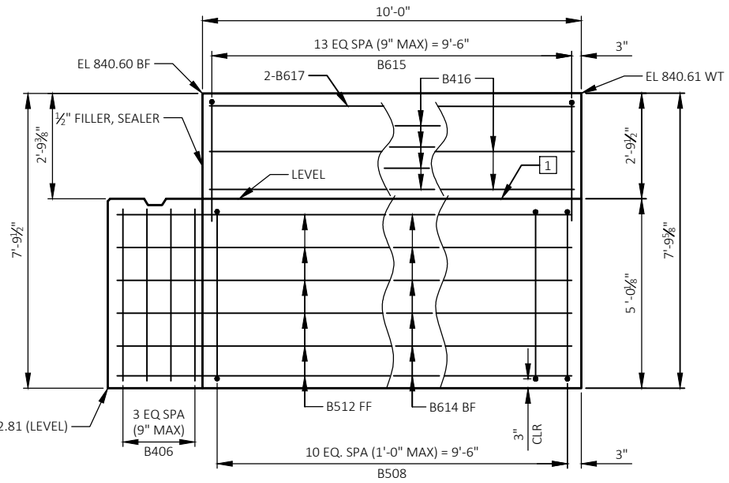
8

STATE PROJECT NUMBER

7281-00-73



WING 3 ELEVATION



WING 4 ELEVATION

BILL OF BARS
NORTH ABUTMENT

COATED= 1410 LBS.
UNCOATED= 1530 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH FT - IN	BENT	BAR SERIES	LOCATION	
B401		4	28 - 0	X		ABUTMENT BODY - 1 PER PILE	SPIRAL
B402		8	2 - 3			ABUTMENT BODY - 2 PER PILE	VERT
B503		34	13 - 8	X		ABUTMENT BODY - STIRRUPS	VERT
B604		11	26 - 6			ABUTMENT BODY - FF, TOP, BTM	HORIZ
B805		7	26 - 6			ABUTMENT BODY - BF	HORIZ
B406		8	4 - 7			ABUTMENT BODY - ENDS	VERT
B507	26		2 - 0			ABUTMENT BODY - DOWELS	VERT
B508	22		15 - 4	X		WING WALLS - BODY	VERT
B509	6		12 - 5			WING WALL 3 - FF OF BODY	HORIZ
B610	2		12 - 1			WING WALL 3 - TOP OF BODY	HORIZ
B611	6		11 - 8			WING WALL 3 - BF OF BODY	HORIZ
B512	6		11 - 11			WING WALL 4 - FF OF BODY	HORIZ
B613	2		12 - 1			WING WALL 4 - TOP OF BODY	HORIZ
B614	6		12 - 3			WING WALL 4 - BF OF BODY	HORIZ
B615	28		10 - 2	X		WING WALL - TOP	VERT
B416	12		9 - 7			WING WALL - TOP	HORIZ
B617	4		9 - 7			WING WALL - TOP	HORIZ

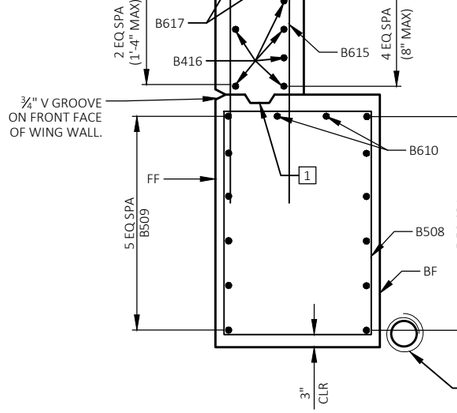
FF - FRONT FACE
BF - BACK FACE
WT - WING TIP

BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.

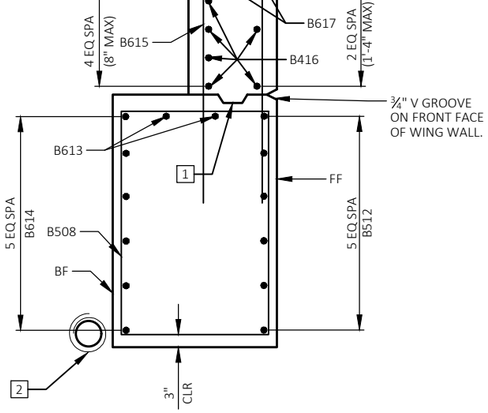
THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

1 OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY, WITH MEMBRANE ON BACK FACE.

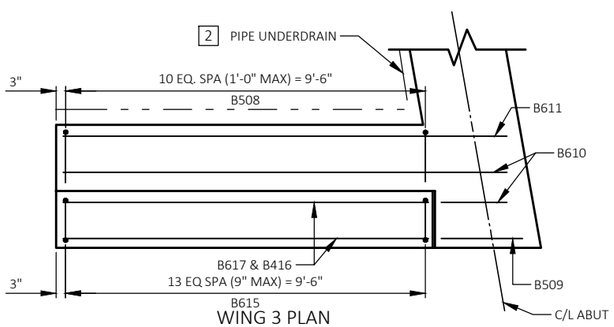
2 PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN TO SUITABLE DRAINAGE.



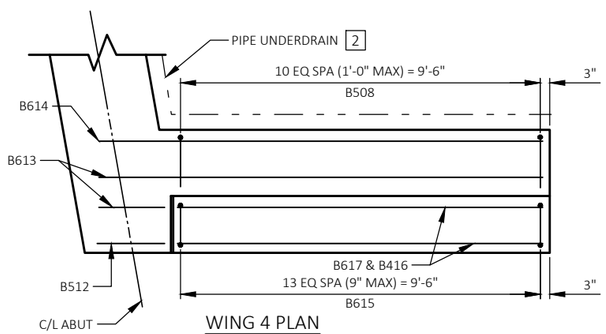
WING 3 SECTION
SEE SHEET 11 FOR RAIL POST ANCHORS



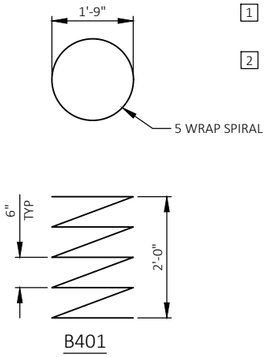
WING 4 SECTION
SEE SHEET 11 FOR RAIL POST ANCHORS



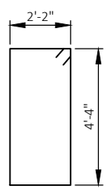
WING 3 PLAN
SPACE B615 TO MISS ANCHORS FOR RAIL POSTS.



WING 4 PLAN
SPACE B615 TO MISS ANCHORS FOR RAIL POSTS.



B401



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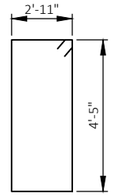
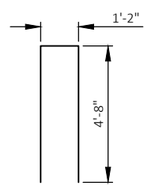


B508



B615

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-245

DRAWN BY TJR | PLANS CK'D. RCP

NORTH ABUTMENT DETAILS

SHEET 8 OF 12
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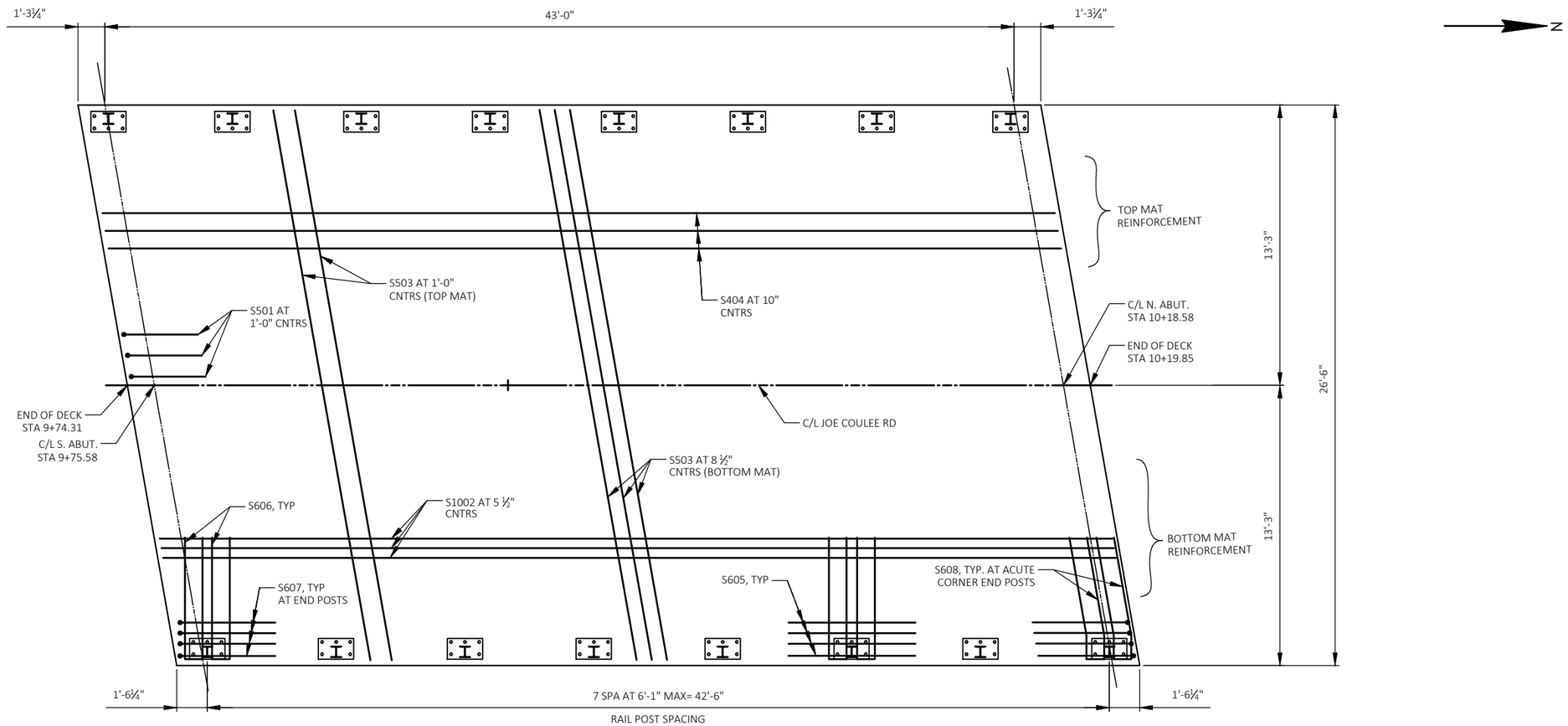
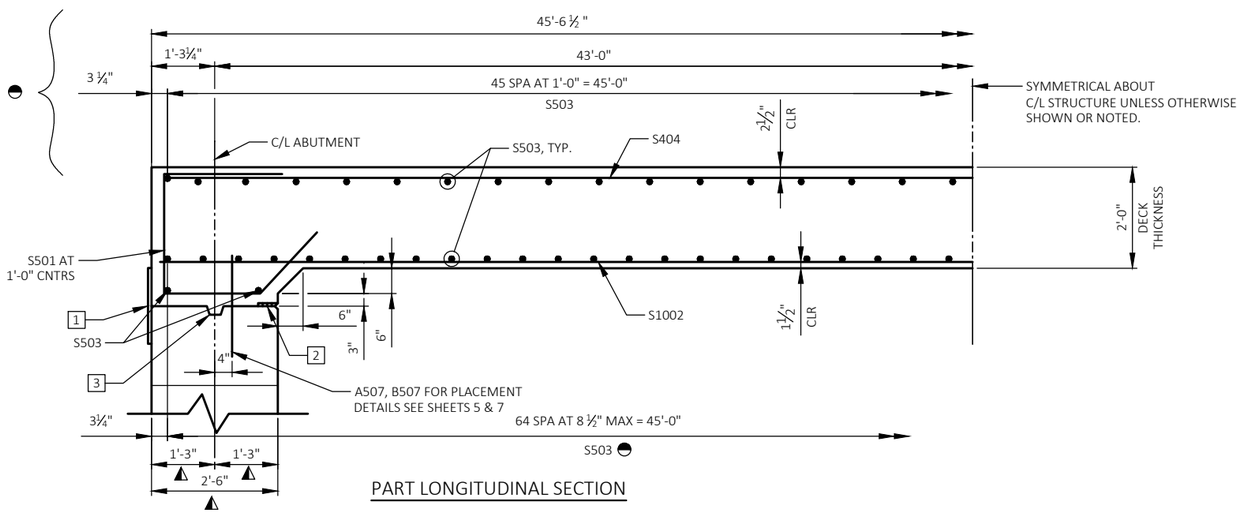
8

8

STATE PROJECT NUMBER

7281-00-73





PART LONGITUDINAL SECTION

NOTES

1. 18" RUBBERIZED MEMBRANE WATERPROOFING
2. 4" X ¾" PREFORMED JOINT FILLER
3. KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY.
- ◭ MEASURED NORMAL TO C/L SUBSTRUCTURE
- ◓ MEASURED PARALLEL TO C/L JOE COULEE RD

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-245

DRAWN BY TJR | PLANS CK'D. RCP

SUPERSTRUCTURE

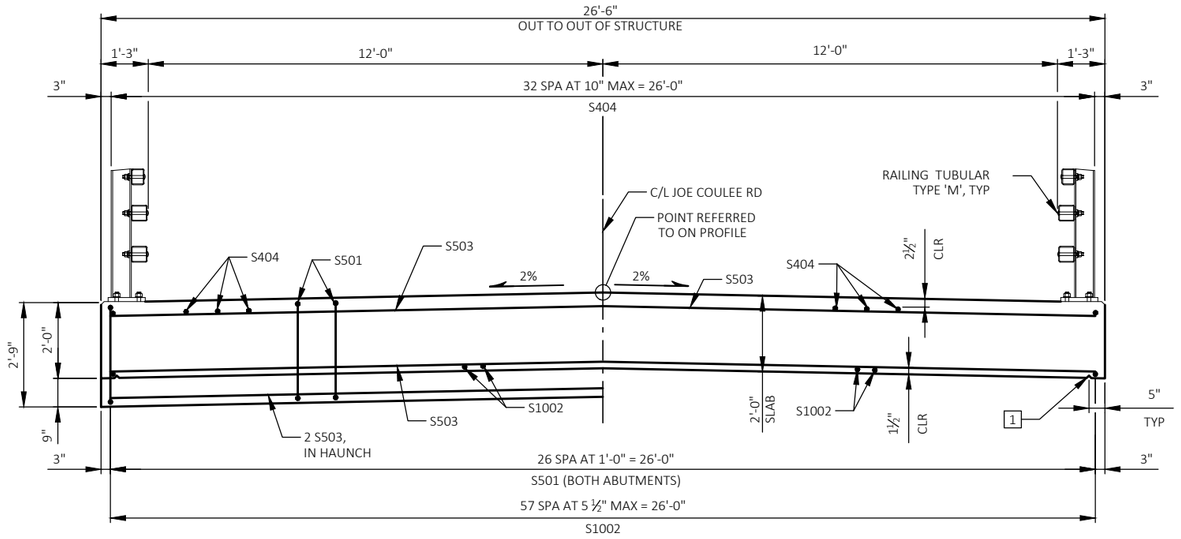
SHEET 42 OF 12

8

8

STATE PROJECT NUMBER

7281-00-73



AT ABUTMENTS

CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

IN SPAN

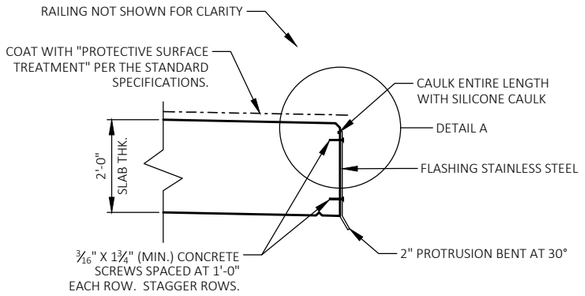
NOTES:

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

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

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF ABUTMENTS AND AT $\frac{5}{10}$ PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGES OF DECK AND C/L.

[1] ¾" V-GROOVE. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT DIAPHRAGM. V-GROOVES ARE REQUIRED.



PROTECTIVE SURFACE TREATMENT AND FLASHING DETAIL

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 THE DECK PRIOR TO ATTACHMENT OF THE FLASHING.

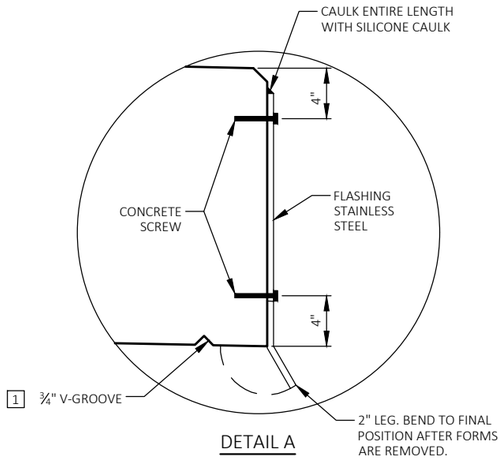
CONCRETE SCREWS SHALL BE 410 STAINLESS STEEL.

EXTEND FLASHING TO B.F. OF ABUTMENT DIAPHRAGM.

FLASHING TO BE INSTALLED AFTER PROTECTIVE SURFACE TREATMENT APPLICATION.

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

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



DETAIL A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-245

DRAWN BY TJR | PLANS CK'D. RCP

SUPERSTRUCTURE DETAILS

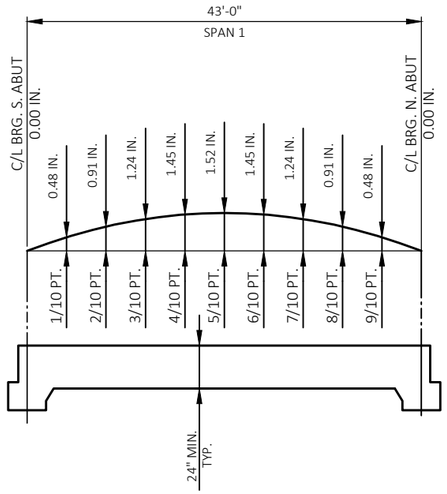
SHEET 43 OF 12

8

FILE NAME : X:±2918800±200252.01±TECH±CAD±XXXXXXXX±DESIGN±STRUCTURE±080110_SS.DWG PLOT DATE : 7/30/2021 PLOT BY : TRAVIS REFF PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

7281-00-73



CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTION.

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

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB AND CROWN FOLLOW THIS PROCEDURE:

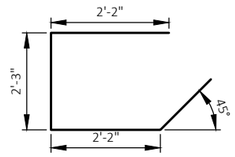
TOP OF SLAB ELEVATION AT FINAL GRADE
MINUS..... SLAB THICKNESS
PLUS..... CAMBER
PLUS..... FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY CONTRACTOR)

EQUALS = TOP OF SLAB FALSEWORK ELEVATION

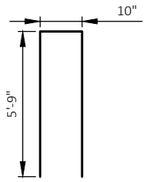
SURVEY TOP OF SLAB ELEVATIONS

	C/L BRG. SOUTH ABUTMENT	5/10 PT.	C/L BRG. NORTH ABUTMENT
WEST EDGE OF SLAB			
C/L JOE COULEE ROAD / CROWN			
EAST EDGE OF SLAB			

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF ABUTMENTS AND AT 5/10 PT. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND CROWN. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

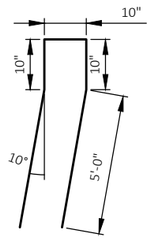


S501



S606

S607



S608

BILL OF BARS
SUPERSTRUCTURE

COATED= 17070 LBS.
UNCOATED= 0 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH FT - IN	BENT	BAR SERIES	LOCATION	
S501	54		8 - 5	X		SLAB - ABUTMENT TIES	LONGIT
S1002	58		45 - 2			SLAB - BOTTOM	LONGIT
S503	115		26 - 6			SLAB - TOP & BOTTOM	TRANS
S404	33		45 - 2			SLAB - TOP	LONGIT
S605	48		6 - 0			RAILING ANCHORS	LONGIT
S606	28		12 - 0	X		RAILING ANCHORS	TRANS
S607	16		5 - 8	X		RAILING ANCHORS AT END POSTS	LONGIT
S608	4		12 - 3	X		RALING ANCHORS AT CORNERS	TRANS

BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.

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

TOP OF SLAB ELEVATIONS

SPAN PT.	WEST EDGE STATION	WEST EDGE ELEVATION	CENTERLINE/CROWN STATION	CENTERLINE/CROWN ELEVATION	EAST EDGE STATION	EAST EDGE ELEVATION
S. ABUT.	9 + 73.24	840.51	9 + 75.58	840.78	9 + 77.92	840.51
0.1	9 + 77.54	840.51	9 + 79.88	840.78	9 + 82.22	840.52
0.2	9 + 81.84	840.52	9 + 84.18	840.79	9 + 86.52	840.52
0.3	9 + 86.14	840.52	9 + 88.48	840.79	9 + 90.82	840.53
0.4	9 + 90.44	840.53	9 + 92.78	840.80	9 + 95.12	840.54
0.5	9 + 94.74	840.54	9 + 97.08	840.80	9 + 99.42	840.54
0.6	9 + 99.04	840.54	10 + 01.38	840.81	10 + 03.72	840.55
0.7	10 + 03.34	840.55	10 + 05.68	840.81	10 + 08.02	840.55
0.8	10 + 07.64	840.55	10 + 09.98	840.82	10 + 12.32	840.56
0.9	10 + 11.94	840.56	10 + 14.28	840.83	10 + 16.62	840.56
N. ABUT	10 + 16.24	840.56	10 + 18.58	840.83	10 + 20.92	840.57

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-245

DRAWN BY TJR | PLANS CK'D. RCP

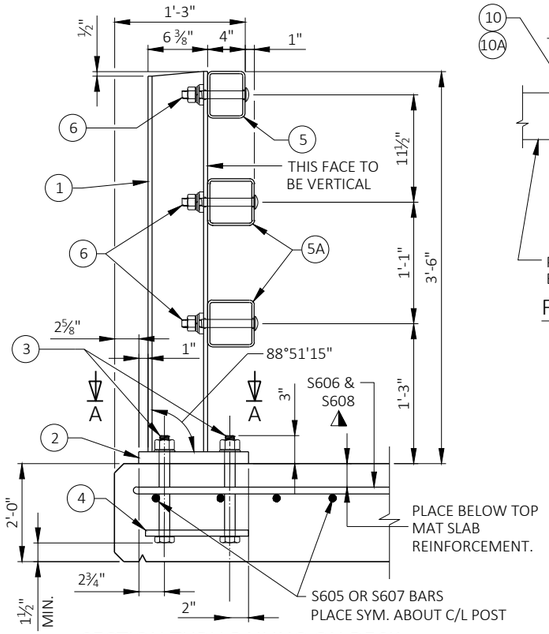
CAMBER AND BILL OF BARS

SHEET 44 OF 12

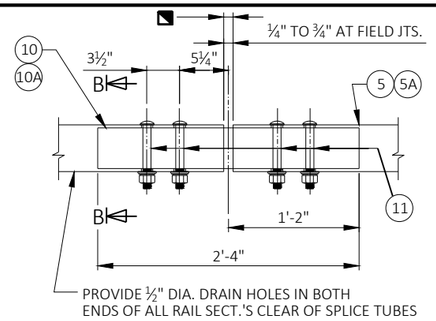
FILE NAME : X:±2918800±200252.01±TECH±CAD±XXXXXXXX±DESIGN±STRUCTURE±080110_SS.DWG PLOT DATE : 7/30/2021 PLOT BY : TRAVIS REFF PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

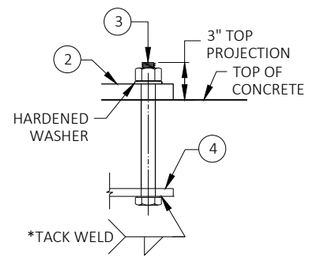
7281-00-73



SECTION THRU RAILING ON DECK

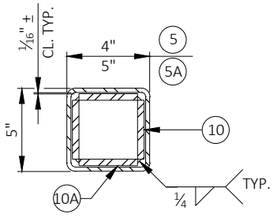


FIELD ERECTION JOINT DETAIL

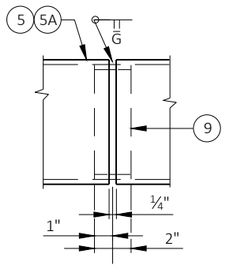


ANCHOR BOLTS

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

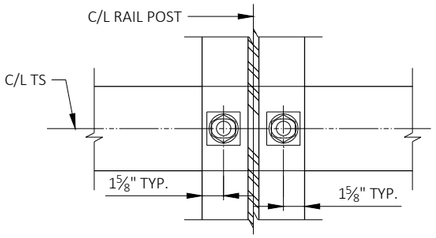


SECTION B-B

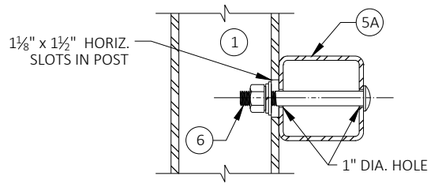


SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



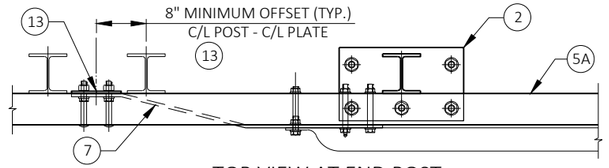
SECTION THRU POST WEB



SECTION THRU RAIL

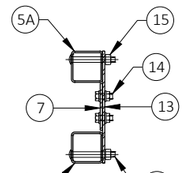
NOTE: CONNECTIONS AT LOWER RAILS SHOWN, CONNECTIONS AT TOP RAIL SIMILAR

TYPICAL RAIL TO POST CONNECTIONS



TOP VIEW AT END POST

(THRIE BEAM RAIL ATTACHMENT)



SECTION C-C

LEGEND

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

¼" TO ¾" OPENING AT ABUTMENT.

TIE TO TOP MAT OF STEEL.

NOTES

BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-61-245" WHICH INCLUDES ALL ITEMS SHOWN.

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.

THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.

RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.

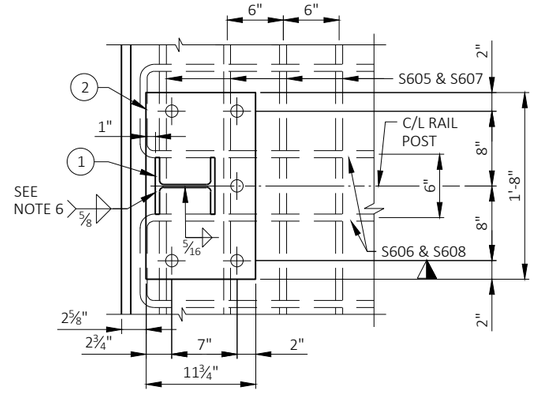
ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.

WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.

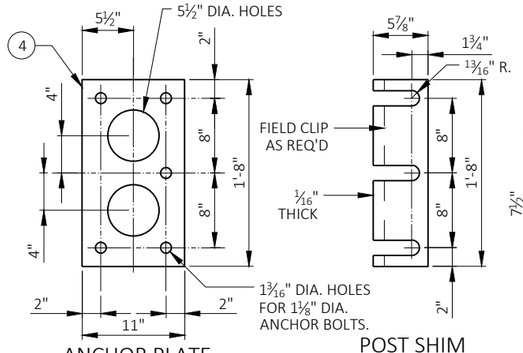
FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.

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.

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 SSPC SPECIFICATIONS.



SECTION A-A



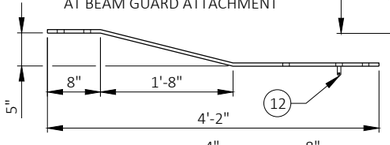
ANCHOR PLATE

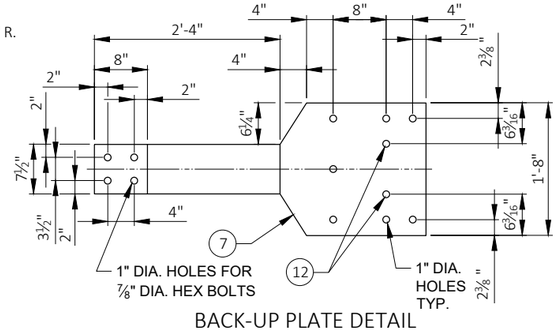
AT RAIL TO DECK CONNECTION

POST SHIM DETAIL

ANCHOR PLATE

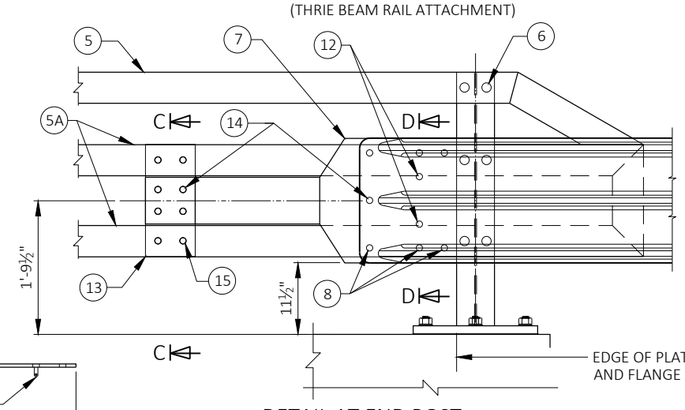
AT BEAM GUARD ATTACHMENT





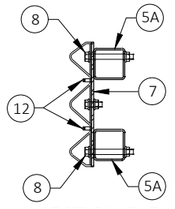
BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT

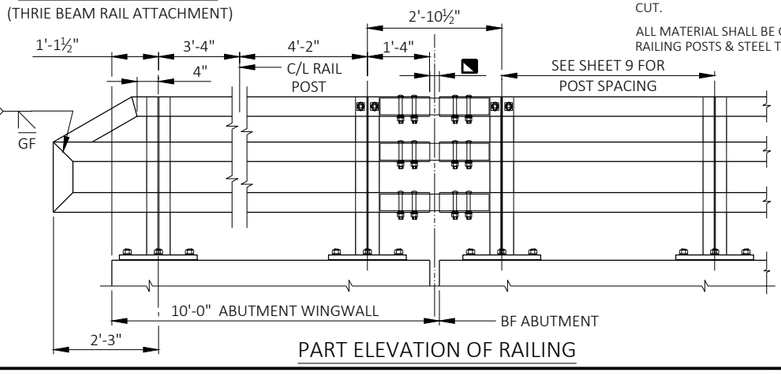


DETAIL AT END POST

(THRIE BEAM RAIL ATTACHMENT)



SECTION D-D



PART ELEVATION OF RAILING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-245

DRAWN BY TJR | PLANS CK'D. RCP

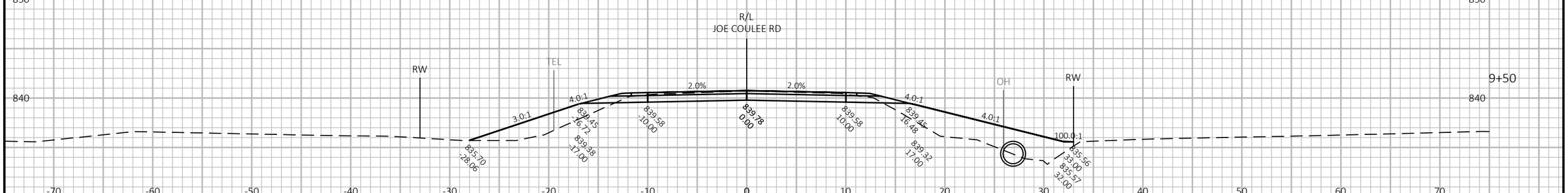
TYPE M RAILING DETAILS

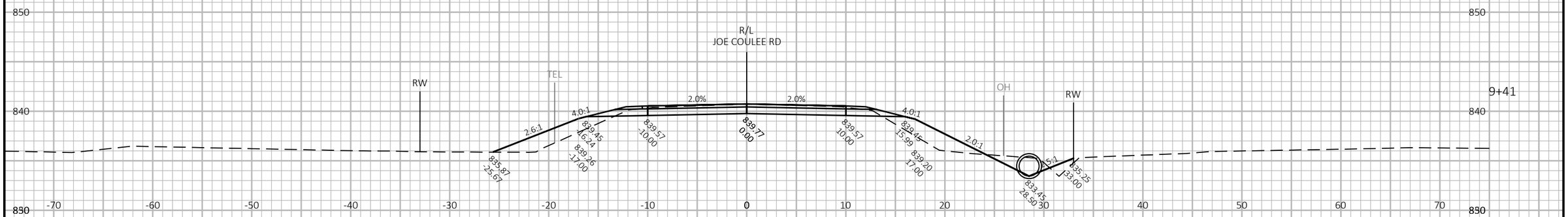
SHEET 12 OF 12
45

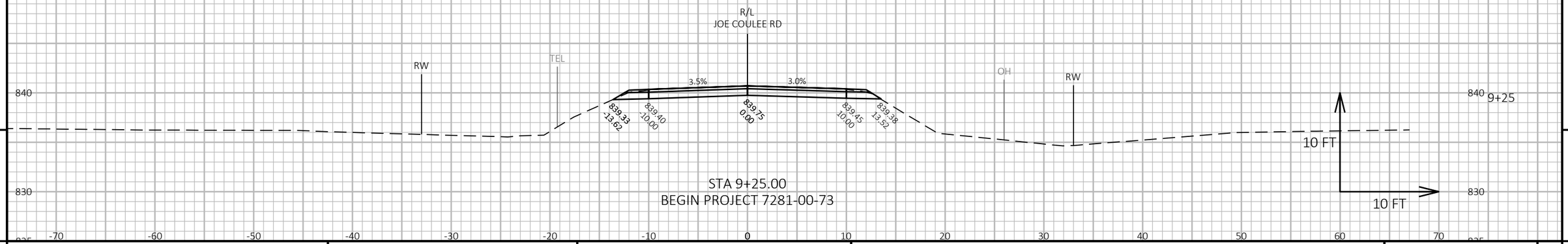
8

8

STA 9+97.08
CONSTRUCT STRUCTURE B-61-245







STA 9+25.00
BEGIN PROJECT 7281-00-73

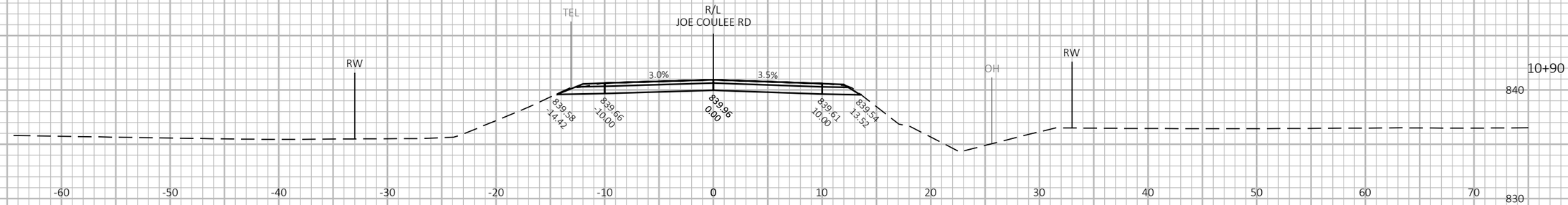
PROJECT NO: 7281-00-73	HWY: LOCAL STREET	COUNTY: TREMPEALEAU	CROSS SECTIONS: JOE COULEE RD	SHEET 46 E

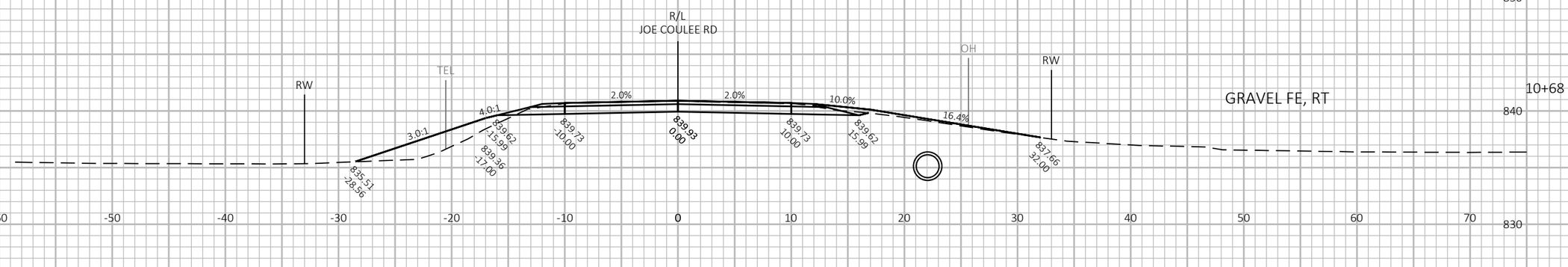
FILE NAME : X:\2918800\200252.01\TECH\CAD\XXXXXXXX\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090201_xs

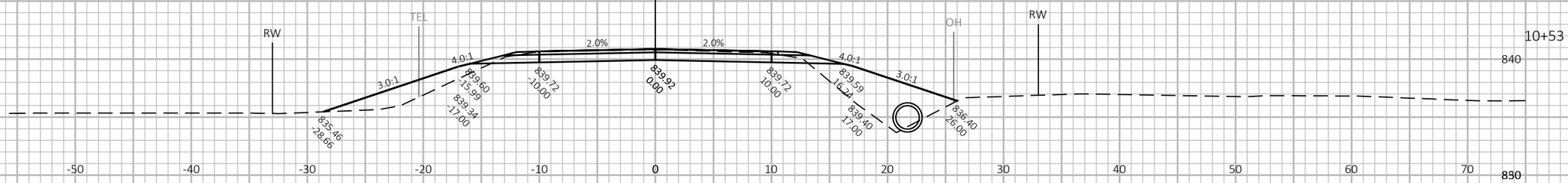
PLOT DATE : 10/19/2021 10:03 AM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

STA 10+90.00
END PROJECT 7281-00-73







STA 9+97.08
CONSTRUCT STRUCTURE B-61-245

9 9

PROJECT NO: 7281-00-73	HWY: LOCAL STREET	COUNTY: TREMPEALEAU	CROSS SECTIONS: JOE COULEE RD	SHEET 47	E

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LAYOUT NAME - 090202_xs

PLOT DATE : 10/19/2021 10:03 AM PLOT BY : JEFF BREU PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

EAU

PROJECT ID: 7281-00-74

WITH: 7281-00-73

COUNTY: TREMPEALEAU

MARCH 2022
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 = 56

40

N

DESIGN DESIGNATION

A.A.D.T.	2022	=	25
A.A.D.T.	2042	=	40
D.H.V.		=	2
D.D.		=	50/50
T.		=	10%
DESIGN SPEED		=	40 MPH
ESALS		=	7,200

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

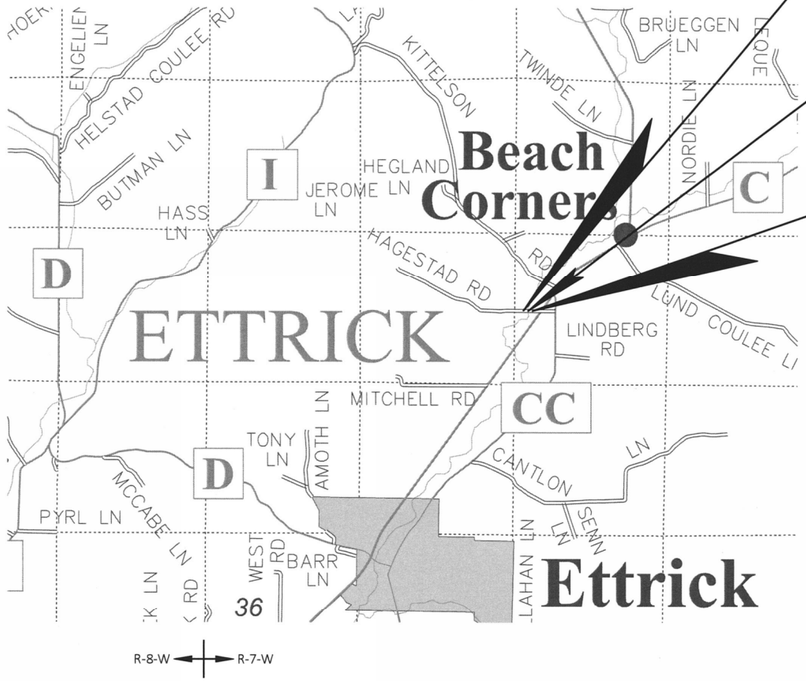
TOWN OF ETTRICK, HAGESTAD ROAD

NF BEAVER CREEK BRIDGE B-61-246

LOCAL STREET
TREMPEALEAU COUNTY

STATE PROJECT NUMBER
7281-00-74

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7281-00-74	WISC 2022257	1



LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.034 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, TREMPEALEAU COUNTY NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88.

ACCEPTED FOR
TOWN OF ETTRICK
Date 10-21 John Vehrden
(Signature and Title of Official)

ACCEPTED FOR
COUNTY OF TREMPEALEAU
Date 10/21/21
(Signature and Title of Official)

ORIGINAL PLANS PREPARED BY
Mead & Hunt

WISCONSIN
JAY P. WHEATON
E-36779
LA CROSSE, WI
PROFESSIONAL ENGINEER

DATE: 10/25/21
(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MEAD & HUNT
Designer	MEAD & HUNT
Project Manager	MATTHEW THORNSEN, PE
Regional Examiner	TOU YANG, PE
Regional Supervisor	TYLER RONGSTAD, PE

APPROVED FOR THE DEPARTMENT
DATE: 10/26/2021
(Signature)

E

FILE NAME : X:\2918800\200250.01\TECH\CAD\72810074\SHEETSPLAN\010101_TI.DWG PLOT DATE : 10/19/2021 7:33 AM PLOT BY : JEFF BREU PLOT NAME :

GENERAL NOTES

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

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

THE EXACT LOCATION OF THE EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD. SILT FENCE IS TO BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, AND IN PLACE PRIOR TO BRIDGE REMOVAL.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 4-INCH SALVAGED TOPSOIL, FERTILIZED, SEEDED AND EROSION MAT URBAN CLASS I, TYPE B OR MULCHING.

BEARINGS SHOWN ON THE PLANS ARE GROUND BEARINGS TO THE NEAREST SECOND.

A VERTICAL SAWCUT SHALL BE MADE THROUGH EXISTING PAVEMENTS AT REMOVAL LIMITS.

TEMPORARY STORAGE OF ANY EXCAVATED MATERIALS WILL NOT BE PERMITTED IN THE WETLANDS.

WETLANDS ARE PRESENT WITHIN THE PROJECT LIMITS. DO NOT OPERATE EQUIPMENT OUTSIDE THE SLOPE INTERCEPTS.

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN 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 = 1.16 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.68 ACRES

ORDER OF SECTION 2 SHEETS

TYPICAL SECTIONS
EROSION CONTROL
ALIGNMENTS

STANDARD ABBREVIATIONS

ADT	AVERAGE DAILY TRAFFIC	M/L	MAINLINE
AGG	AGGREGATE	NO	NUMBER
ASPH	ASPHALTIC	PE	PRIVATE ENTRANCE
BM	BENCH MARK	PI	POINT OF INTERSECTION
BOC	BACK OF CURB	PL	PROPERTY LINE
C&G	CURB AND GUTTER	PP	POWER POLE
CE	COMMERCIAL ENTRANCE	QTY	QUANTITY
CL	CENTERLINE	RHF	RIGHT-HAND FORWARD
COR	CORNER	RT	RIGHT
CWT	HUNDREDWEIGHT	R/L	REFERENCE LINE
CY	CUBIC YARD	R/W	RIGHT-OF-WAY
DHV	DESIGN HOURLY VOLUME	SF	SQUARE FOOT
DWY	DRIVEWAY	SHLDR	SHOULDER
EL	ELEVATION	SS	STORM SEWER
EX	EXISTING	STA	STATION
EXC	EXCAVATION	SY	SQUARE YARD
FT	FOOT	T	TRUCKS (PERCENT OF)
FTG	FOOTING	TEL	TELEPHONE
HYD	HYDRANT	TLE	TEMPORARY LIMITED EASEMENT
INV	INVERT	TYP	TYPICAL
LB	POUND	UG	UNDERGROUND CABLE
LF	LINEAR FOOT	VAR	VARIABLE
LHF	LEFT-HAND FORWARD	VC	VERTICAL CURVE
LS	LUMP SUM	VPC	VERTICAL POINT OF CURVE
LT	LEFT	VPI	VERTICAL POINT OF INTERSECTION
Mgal	MEGAGALLON	VPT	VERTICAL POINT OF TANGENCY

CONTACTS

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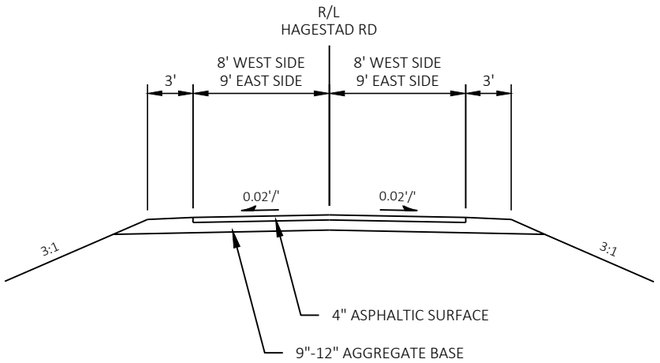
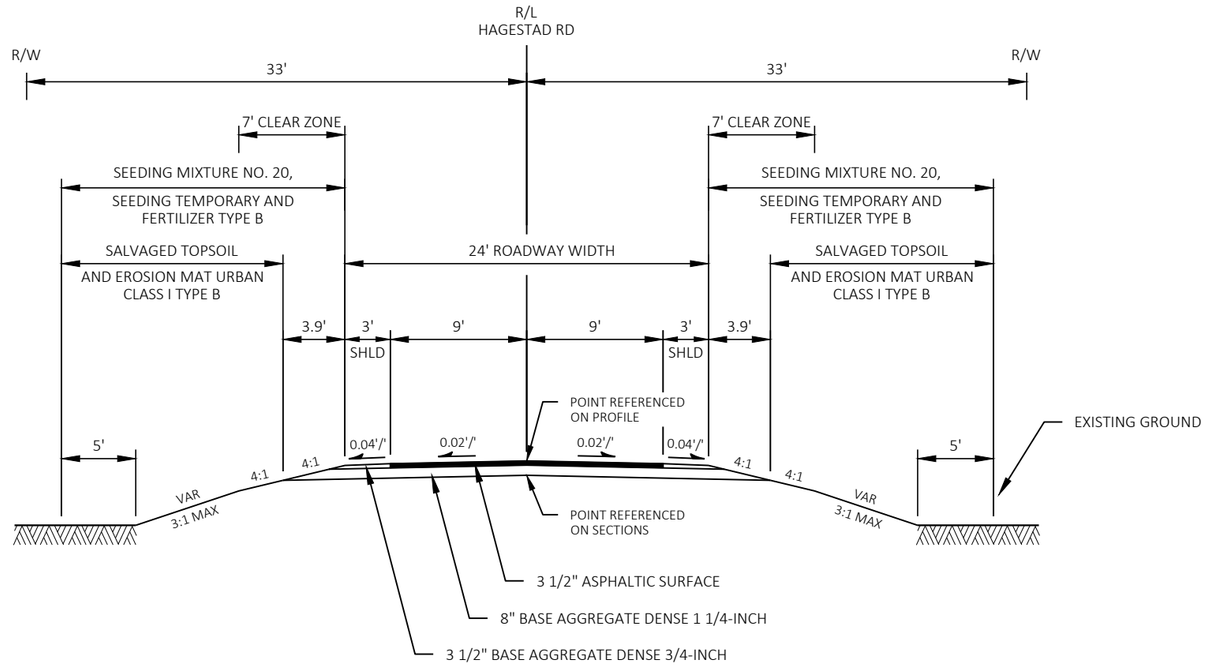
DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

** THESE ARE MEMBERS OF DIGGERS HOTLINE.



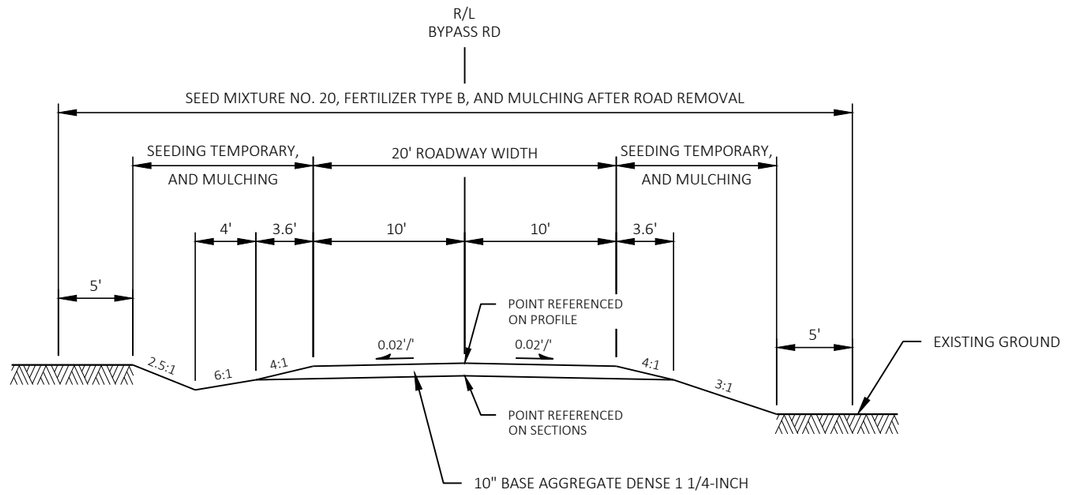
EXISTING TYPICAL SECTION

STA 9+00.00 TO STA 9+77.0
STA 10+23.0 TO STA 10+80.00



PROPOSED TYPICAL SECTION

STA 9+00.00 TO STA 9+62.91
STA 10+29.41 TO STA 10+80.00

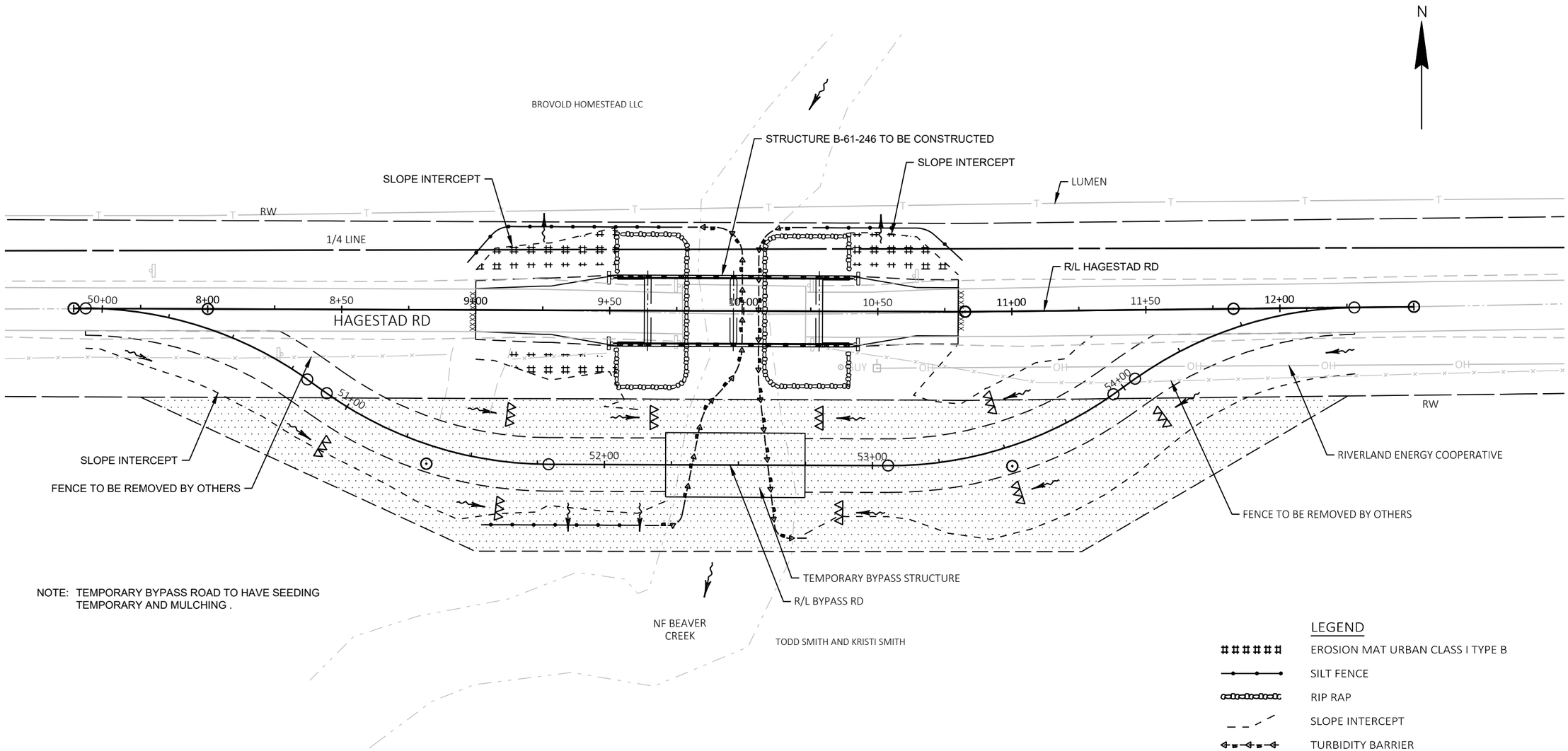


PROPOSED TYPICAL SECTION TEMPORARY BYPASS ROAD

STA 49+93.79 TO STA 54+92.74

PROJECT NO: 7281-00-74	HWY: LOCAL STREET	COUNTY: TREMPEALEAU	TYPICAL SECTIONS	SHEET 3	E

2



PROJECT NO: 7281-00-74	HWY: LOCAL STREET	COUNTY: TREMPEALEAU	EROSION CONTROL	SHEET 4	E

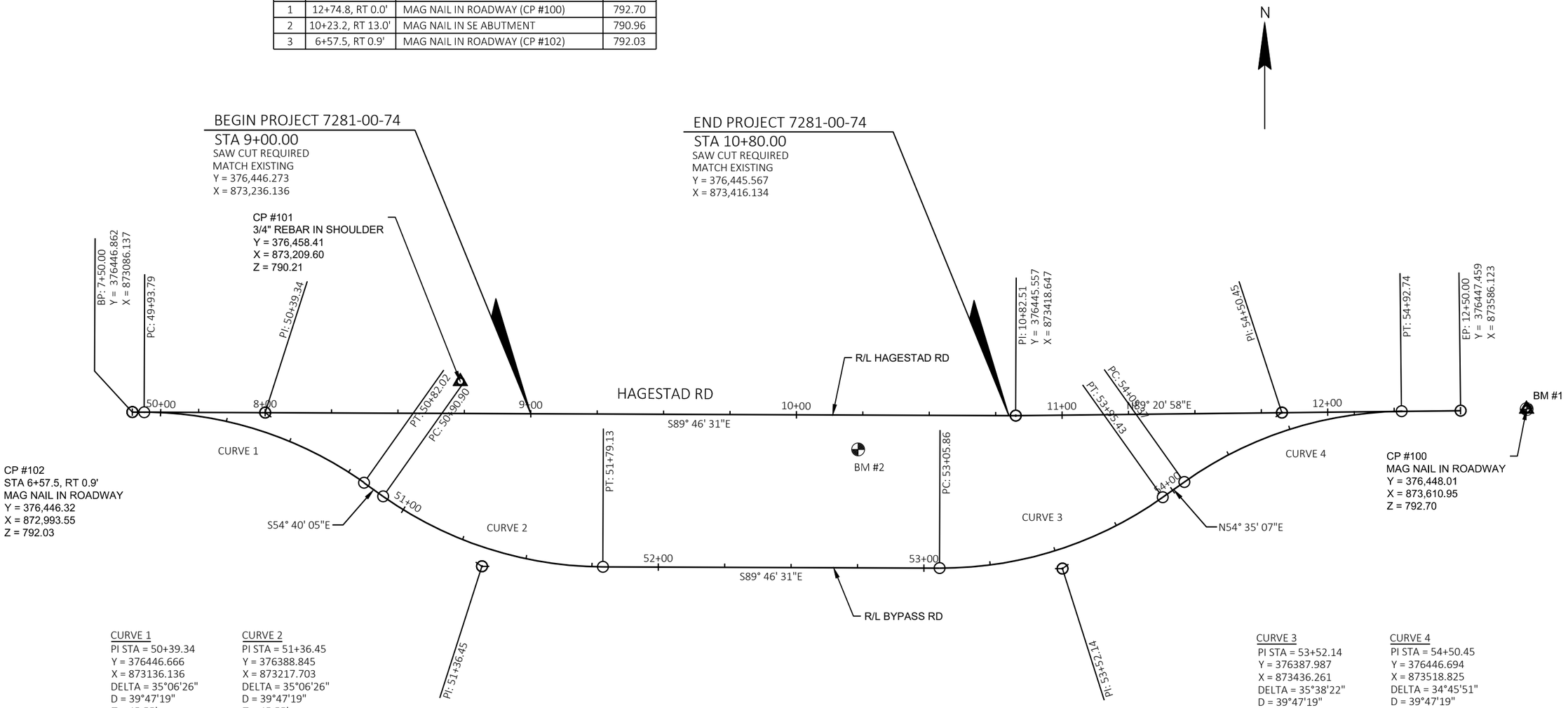
FILE NAME : X:\2918800\200250.01\TECH\CAD\72810074\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022001_ec

PLOT DATE : 10/19/2021 10:09 AM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
1	12+74.8, RT 0.0'	MAG NAIL IN ROADWAY (CP #100)	792.70
2	10+23.2, RT 13.0'	MAG NAIL IN SE ABUTMENT	790.96
3	6+57.5, RT 0.9'	MAG NAIL IN ROADWAY (CP #102)	792.03



CURVE 1
PI STA = 50+39.34
Y = 376446.666
X = 873136.136
DELTA = 35°06'26"
D = 39°47'19"
T = 45.55'
L = 88.23'
R = 144.00'
PC STA = 49+93.79
Y = 376446.844
X = 873090.586
PT STA = 50+82.02
Y = 376420.323
X = 873173.298

CURVE 2
PI STA = 51+36.45
Y = 376388.845
X = 873217.703
DELTA = 35°06'26"
D = 39°47'19"
T = 45.55'
L = 88.23'
R = 144.00'
PC STA = 50+90.90
Y = 376415.188
X = 873180.541
PT STA = 51+79.13
Y = 376388.666
X = 873263.253

CURVE 3
PI STA = 53+52.14
Y = 376387.987
X = 873436.261
DELTA = 35°38'22"
D = 39°47'19"
T = 46.29'
L = 89.57'
R = 144.00'
PC STA = 53+05.86
Y = 376388.169
X = 873389.973
PT STA = 53+95.43
Y = 376414.811
X = 873473.985

CURVE 4
PI STA = 54+50.45
Y = 376446.694
X = 873518.825
DELTA = 34°45'51"
D = 39°47'19"
T = 45.08'
L = 87.37'
R = 144.00'
PC STA = 54+05.37
Y = 376420.573
X = 873482.088
PT STA = 54+92.74
Y = 376447.206
X = 873563.900

PROJECT NO: 7281-00-74	HWY: LOCAL STREET	COUNTY: TREMPEALEAU	ALIGNMENTS	SHEET 5	E

FILE NAME : X:\2918800\200250.01\TECH\CAD\72810074\SHEETSPLAN\027201_AD.DWG
LAYOUT NAME - 027201_ad
PLOT DATE : 10/19/2021 10:09 AM
PLOT BY : JEFF BREU
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

7281-00-74

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0008	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 02. P-61-189	EACH	1.000	1.000
0010	205.0100	Excavation Common	CY	1,032.000	1,032.000
0014	206.1000	Excavation for Structures Bridges (structure) 02. B-61-246	LS	1.000	1.000
0016	208.0100	Borrow	CY	812.000	812.000
0018	210.1500	Backfill Structure Type A	TON	192.000	192.000
0022	213.0100	Finishing Roadway (project) 02. 7281-00-74	EACH	1.000	1.000
0024	305.0110	Base Aggregate Dense 3/4-Inch	TON	16.000	16.000
0026	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	698.000	698.000
0028	455.0605	Tack Coat	GAL	20.000	20.000
0030	465.0105	Asphaltic Surface	TON	56.000	56.000
0032	502.0100	Concrete Masonry Bridges	CY	182.000	182.000
0034	502.3200	Protective Surface Treatment	SY	252.000	252.000
0036	505.0400	Bar Steel Reinforcement HS Structures	LB	4,710.000	4,710.000
0038	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	23,970.000	23,970.000
0040	513.4061	Railing Tubular Type M	LF	178.000	178.000
0042	516.0500	Rubberized Membrane Waterproofing	SY	16.000	16.000
0048	526.0100	Temporary Structure (station) 01. 52+50	LS	1.000	1.000
0052	550.2104	Piling CIP Concrete 10 3/4 X 0.25-Inch	LF	1,280.000	1,280.000
0054	606.0300	Riprap Heavy	CY	217.000	217.000
0056	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	124.000	124.000
0060	618.0100	Maintenance And Repair of Haul Roads (project) 02. 7281-00-74	EACH	1.000	1.000
0062	619.1000	Mobilization	EACH	0.500	0.500
0064	624.0100	Water	MGAL	7.000	7.000
0066	625.0500	Salvaged Topsoil	SY	2,352.000	2,352.000
0068	627.0200	Mulching	SY	1,183.000	1,183.000
0070	628.1504	Silt Fence	LF	300.000	300.000
0072	628.1520	Silt Fence Maintenance	LF	600.000	600.000
0074	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0076	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0078	628.2008	Erosion Mat Urban Class I Type B	SY	2,352.000	2,352.000
0080	628.6005	Turbidity Barriers	SY	270.000	270.000
0082	628.7504	Temporary Ditch Checks	LF	120.000	120.000
0086	629.0210	Fertilizer Type B	CWT	1.500	1.500
0088	630.0120	Seeding Mixture No. 20	LB	63.000	63.000
0090	630.0200	Seeding Temporary	LB	96.000	96.000
0092	630.0500	Seed Water	MGAL	53.000	53.000
0094	633.1100	Delineators Temporary	EACH	34.000	34.000
0096	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0098	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0100	638.2602	Removing Signs Type II	EACH	6.000	6.000
0102	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0104	642.5001	Field Office Type B	EACH	0.500	0.500
0106	643.0300	Traffic Control Drums	DAY	1,950.000	1,950.000
0108	643.0420	Traffic Control Barricades Type III	DAY	520.000	520.000
0110	643.0705	Traffic Control Warning Lights Type A	DAY	1,040.000	1,040.000
0112	643.0715	Traffic Control Warning Lights Type C	DAY	1,300.000	1,300.000
0114	643.0900	Traffic Control Signs	DAY	2,080.000	2,080.000

7281-00-74

Line	Item	Item Description	Unit	Total	Qty
0116	643.5000	Traffic Control	EACH	0.500	0.500
0118	645.0111	Geotextile Type DF Schedule A	SY	52.000	52.000
0120	645.0120	Geotextile Type HR	SY	440.000	440.000
0122	650.4500	Construction Staking Subgrade	LF	564.000	564.000
0124	650.5000	Construction Staking Base	LF	564.000	564.000
0130	650.6500	Construction Staking Structure Layout (structure) 02. B-61-246	LS	1.000	1.000
0134	650.9910	Construction Staking Supplemental Control (project) 02. 7281-00-74	LS	1.000	1.000
0136	650.9920	Construction Staking Slope Stakes	LF	564.000	564.000
0138	690.0150	Sawing Asphalt	LF	34.000	34.000
0140	715.0502	Incentive Strength Concrete Structures	DOL	1,110.000	1,110.000
0144	999.2005.S	Maintaining Bird Deterrent System (station) 02. Sta 10+00	EACH	1.000	1.000
0146	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	150.000	150.000
0148	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	150.000	150.000
0150	SPV.0090	Special 01. Flashing Stainless Steel	LF	133.000	133.000

3

3

CLEARING & GRUBBING

STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
9+00	-	10+80	HAGESTAD RD, RT	2	2
			TOTALS	**2**	**2**

EARTHWORK SUMMARY

FROM/TO STATION			LOCATION	205.0100 EXCAVATION COMMON CUT (1)	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	AVAILABLE MATERIAL (2)	UNEXPANDED FILL	EXPANDED FILL (FACTOR 1.25)	MASS ORDINATE +/- (3)	WASTE
49+93.79	-	54+92.74	TEMPORARY BYPASS RD	780	0	780	135	169	611	611
9+00	-	10+80	HAGESTAD RD	117	24	93	52	65	28	28
49+93.79	-	54+92.74	TEMPORARY BYPASS RD - RESTORATION	135	0	135	780	975	-840	-840
				1,032						

(1) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED

(2) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL

(3) THE MASS ORDINATE + OR - QUANTITY CALCULATED. PLUS QUANTITY INDICATES AS EXCESS OF MATERIAL. MINUS INDICATES A SHORTAGE OF MATERIAL.

TOTAL BORROW = **812 CY**

NOTE: WASTE FROM TEMPORARY BYPASS ROAD CONSTRUCTION IS EXPECTED TO BE HAULED OFF SITE AS WASTE. WASTE FROM HAGESTAD ROAD CONSTRUCTION IS EXPECTED TO BE USED ON-SITE TO FILL IN THE TEMPORARY BYPASS ROAD. APPROXIMATELY 812 CY OF BORROW WILL BE NEEDED TO FILL THE FIELD WHERE THE TEMPORARY BYPASS ROADWAY WAS LOCATED. AFTER REMOVING TEMPORARY BYPASS ROADWAY,RESTORE SURFACE TO ORIGINAL EXISTING GROUND.

BASE AGGREGATE DENSE

STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1-1/4 INCH TON	624.0100 WATER MGAL
9+00.00	-	9+65.00	HAGESTAD RD	9	95	1
10+28.00	-	10+80.00	HAGESTAD RD	7	80	1
50+60.00	-	54+20.00	TEMP BYPASS RD	-	523	5
			TOTALS	**16**	**698**	**7**

ASPHALT SUMMARY

STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
9+00	-	9+63	HAGESTAD RD	10	29
10+29	-	10+80	HAGESTAD RD	10	27
			TOTALS	**20**	**56**

TACK COAT ESTIMATED AT 0.07 GAL/SY

MOBILIZATION

CATEGORY	LOCATION	619.1000 MOBILIZATION EACH
0010	HAGESTAD RD	0.50
	TOTALS	**0.50**

LANDSCAPING ITEMS

STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL	REMARKS
7+50	-	9+80	HAGESTAD RD, LT & RT	1,175	1,175	-	0.7	32	32	26	INCLUDES TEMP BYPASS RESORATION AREA
10+10	-	12+25	HAGESTAD RD, LT & RT	1,177	1,177	-	0.7	32	32	26	INCLUDES TEMP BYPASS RESORATION AREA
50+00	-	52+25	TEMP BYPASS RD, LT & RT	-	-	574	-	-	16	-	
52+75	-	54+90	TEMP BYPASS RD, LT & RT	-	-	609	-	-	16	-	
			TOTALS	**2,352**	**2,352**	**1,183**	**1.5**	**63**	**96**	**53**	

NOTE: ALL ITEMS ARE CATEGORY 0010 UNLESS NOTED AS 0020.

3

SILT FENCE

STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
8+97	-	9+84	HAGESTAD RD, LT	87	174
10+17	-	10+82	HAGESTAD RD, LT	65	130
51+58	-	52+24	TEMP BYPASS RD, RT	66	132
UNDISTRIBUTED			VARIOUS	82	164
			TOTAL	**300**	**600**

TURBIDITY BARRIERS

STATION	TO	STATION	LOCATION	628.6005 TURBIDITY BARRIERS SY
	10+00		HAGESTAD RD	130
	10+05		HAGESTAD RD	140
			TOTALS	**270**

EROSION CONTROL SUMMARY

STATION	TO	STATION	LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.7504 TEMPORARY DITCH CHECKS LF
7+50	-	12+50	HAGESTAD RD	-	-	90
UNDISTRIBUTED			VARIOUS	5	2	30
			TOTAL	**5**	**2**	**120**

SIGNING

STATION	LOCATION	634.0614 POSTS WOOD 4x6-INCH x 14-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	COMMENTS
8+28	HAGESTAD RD, RT	-	-	1	1	ONE LANE BRIDGE
9+76	HAGESTAD RD, LT & RT	-	-	2	2	W5-52L & W5-52R
9+51	HAGESTAD RD, LT & RT	2	6	-	-	W5-52L & W5-52R
10+25	HAGESTAD RD, LT & RT	-	-	2	2	W5-52L & W5-52R
10+42	HAGESTAD RD, LT & RT	2	6	-	-	W5-52L & W5-52R
15+50	HAGESTAD RD, LT	-	-	1	1	ONE LANE BRIDGE
	TOTALS	**4**	**12**	**6**	**6**	

TRAFFIC CONTROL ITEMS

PROJECT	DELINEATORS TEMPORARY EACH	633.1100 DELINEATORS TEMPORARY EACH	643.0300 TRAFFIC CONTROL DRUMS EACH	643.0300 TRAFFIC CONTROL DRUMS DAY	TRAFFIC CONTROL BARRICADES TYPE III EACH	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE C EACH	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	TRAFFIC CONTROL SIGNS EACH	643.0900 TRAFFIC CONTROL SIGNS DAY	643.5000 TRAFFIC CONTROL EACH	REMARKS
7281-00-74	34	34	30	1,950	8	520	16	1,040	20	1,300	32	2,080	0.5	65 DAYS (25 MPH ADVISORY SPEED)
TOTALS		**34**		**1,950**		**520**		**1,040**		**1,300**		**2,080**	**0.5**	

CONSTRUCTION STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (B-61-246) LS	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) LS	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	9+00	-	9+63	HAGESTAD RD	63	63	-	-	63
0010	10+29	-	10+80	HAGESTAD RD	51	51	-	-	51
0010	49+94	-	52+25	TEMP BYPASS RD	232	232	-	-	232
0010	52+75	-	54+93	TEMP BYPASS RD	218	218	-	-	218
0020		9+96.16		HAGESTAD RD	-	-	1	-	-
0010		PROJECT		HAGESTAD RD	-	-	-	1	-
				TOTALS	**564**	**564**	**1**	**1**	**564**

SAWING ASPHALT

STATION	LOCATION	690.0150 SAWING ASPHALT LF
9+00	HAGESTAD RD	16
10+80	HAGESTAD RD	18
	TOTALS	**34**

NOTE: ALL ITEMS ARE CATEGORY 0010 UNLESS NOTED AS 0020.

BASIS OF EXISTING R/W
HAGESTAD ROAD : 4 ROD CHAPTER 82.31(1) WISCONSIN STATUES

TOWN OF ETTRICK

BROVOLD HOMESTEAD LLC

SCHEDULE OF LANDS AND INTERESTS

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TLE ACRES
1	TODD SMITH AND KRISTI SMITH	TLE	0.44

WETLAND IMPACTS
SLOPE INTERCEPT
WETLAND BOUNDARY
STRUCTURE B-61-246 TO BE CONSTRUCTED
STRUCTURE P-61-189 TO BE REMOVED
SLOPE INTERCEPT
W5-52L 12"X36"
W5-52R 12"X36"
LUMEN
R/L HAGESTAD RD
SW 1/4 NW 1/4 SEC 20, T20N, R7W
BP: 7+50.00 Y = 376446.862 X = 873086.137
PI: 50+39.34
RW
1/4 LINE
33'
EXISTING ASPHALTIC SURFACE
HAGESTAD RD
CP #101
+25.00
+27.91
+64.41
PI: 10+82.51 Y = 376445.557 X = 873418.647
PI: 54+50.45
EP: 12+50.00 Y = 376447.459 X = 873586.123
50+00
8+00
S89° 46' 31"E
9+00
10+00
11+00
12+00
ASPHALTIC
9'
EXISTING ASPHALTIC SURFACE
N89° 20' 58"E
BM #1
CP #100
BM #2
GRAVEL FE
N89° 46' 31"W
307.76'
S54° 40' 05"E
51+00
54+00
105
S89° 20' 58"W
142.74'
RW
100
TLE 7+75.00
33.00' RT
TLE 12+25.00
33.00' RT
104
N54° 35' 07"E
SLOPE INTERCEPT
FENCE TO BE REMOVED BY OTHERS
S65° 15' 44"E
137.38'
10'
52+00
S89° 46' 31"E
53+00
RIVERLAND ENERGY COOPERATIVE
TLE FOR TEMPORARY BYPASS ROAD (0.44 AC)
N59° 39' 59"E
115.10
FENCE TO BE REMOVED BY OTHERS
N
5
5
NW 1/4 SW 1/4 SEC 20, T20N, R7W
STA 9+03, RT
RECONSTRUCT EXISTING AGGREGATE FE AFTER THE REMOVAL OF TEMPORARY BYPASS ROAD.
BEGIN PROJECT 7281-00-74
STA 9+00.00
SAW CUT REQUIRED
MATCH EXISTING
Y = 376,446.273
X = 873,236.136
PI: 51+36.45
TLE 9+00.00
90.00' RT
102
1
TODD SMITH AND KRISTI SMITH
NF BEAVER CREEK
S89° 56' 32"E
226.37'
TEMPORARY BYPASS STRUCTURE
R/L BYPASS RD
PI: 53+53.74
103
TLE 11+25.00
90.00' RT
END PROJECT 7281-00-74
STA 10+80.00
SAW CUT REQUIRED
MATCH EXISTING
Y = 376,445.567
X = 873,416.134
W5-52R 12"X36"
W5-52L 12"X36"

VCL = 50.00
K = 85.78
HIGH WATER Q100 EL. 788.86
HIGH WATER Q2 EL. 783.11
HIGH WATER Q5 EL. 784.79
STA 9+00.00 EL 790.73
VPC STA 9+50.00 VPC EL 790.84
VPI STA 10+00.00 VPI EL 791.09
VPT STA 10+50.00 VPT EL 790.76
STA 10+80.00 EL 790.57
EXISTING PROFILE
0.50%
-0.65%
-0.08%
PROPOSED PROFILE
VPC STA 9+00.00 VPC EL 790.73
VPI STA 9+25.00 VPI EL 790.71
VPT STA 9+50.00 VPT EL 790.84
OBSERVED WATER EL. 779.30 (FEBRUARY 6, 2020)
STREAMBED EL. 776.61
VCL = 100.00
K = 86.65
EXISTING R/L ELEVATION
PROPOSED R/L ELEVATION

800 / 795 / 790 / 785 / 780 / 775 / 770

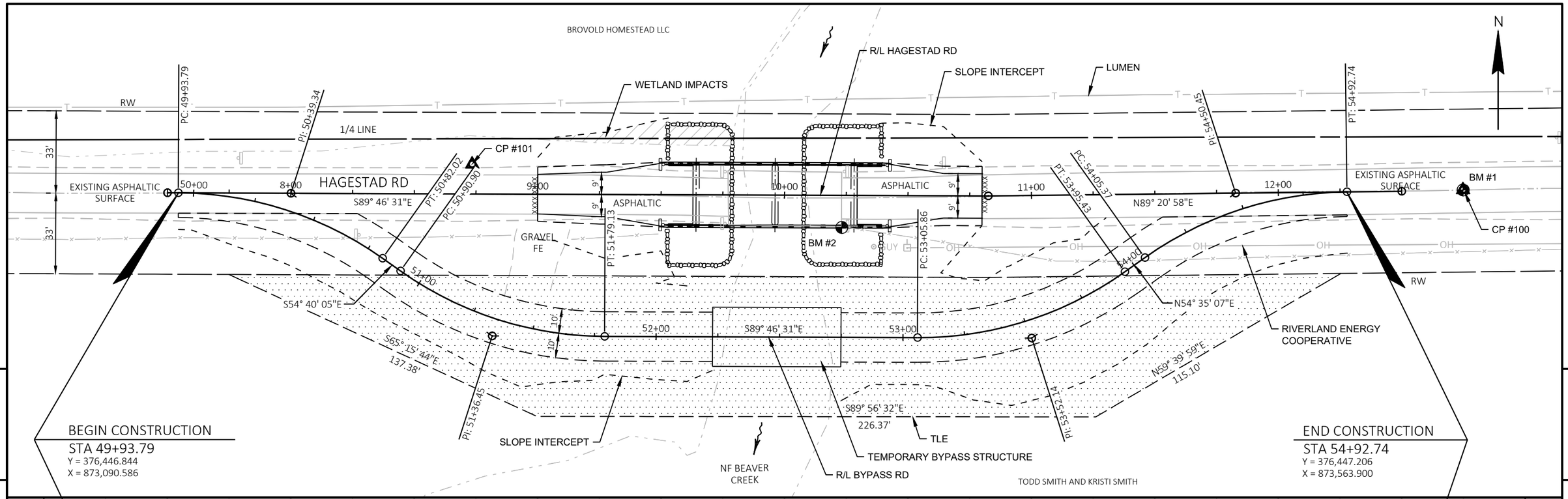
7+00	7+50	8+00	8+50	9+00	9+50	10+00	10+50	11+00	11+50	12+00	12+50	13+00
791.47	791.36	791.26	791.12	790.96	790.80	790.73	790.73	790.71	790.75	790.93	790.84	791.04	790.93	778.17	790.94	791.11	790.89	790.82	790.76	790.59	790.60	790.46	790.51	790.74	791.07	791.41	791.85	792.34

STA 10+00.00
REMOVE EXISTING STRUCTURE P-61-189
46.0' OVERALL LENGTH AND
20.0' CLEAR ROADWAY WIDTH
SINGLE-SPAN PRESTRESSED CHANNEL BEAM BRIDGE

STA 9+96.16
STRUCTURE B-61-246
66.5' OVERALL LENGTH AND
24.0' CLEAR ROADWAY WIDTH
TWO-SPAN REINFORCED CONCRETE FLAT SLAB BRIDGE

PROJECT NO: 7281-00-74	HWY: LOCAL STREET	COUNTY: TREMPEALEAU	PLAN AND PROFILE: HAGESTAD ROAD	SHEET 10	E

FILE NAME : X:\2918800\200250.01\TECH\CAD\72810074\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050101_pp
PLOT DATE : 10/19/2021 10:12 AM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44



PROJECT NO: 7281-00-74	HWY: LOCAL STREET	COUNTY: TREMPEALEAU	PLAN AND PROFILE: BYPASS ROAD	SHEET 11	E

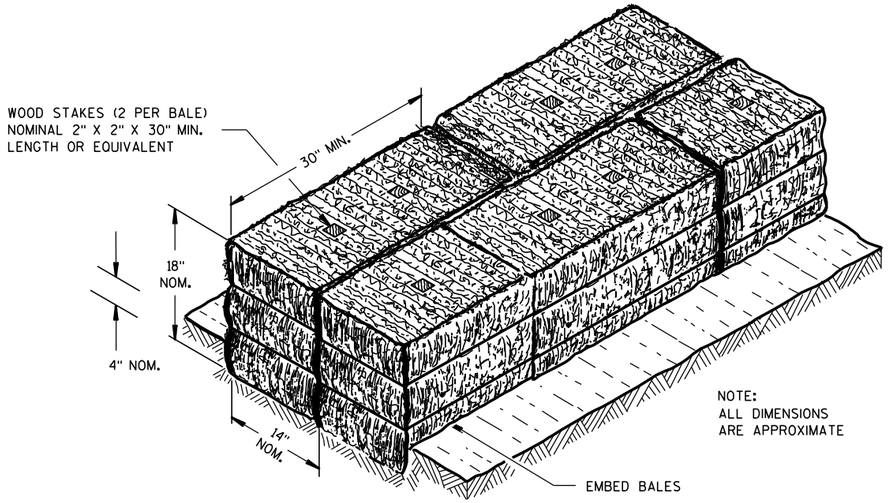
FILE NAME : X:\2918800\200250.01\TECH\CAD\72810074\SHEETSPLAN\050102_PP.DWG
LAYOUT NAME - 050102_pp

PLOT DATE : 10/19/2021 10:13 AM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:40 FT

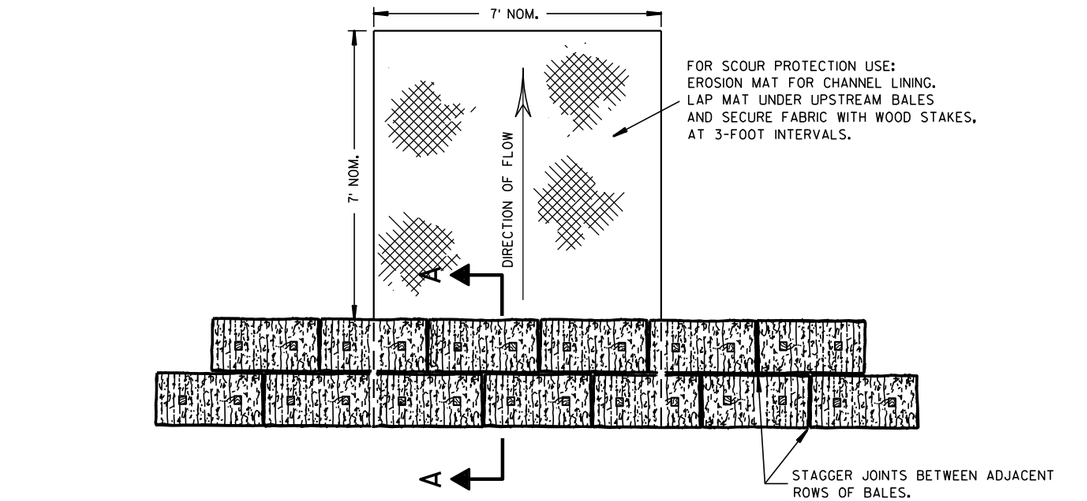
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

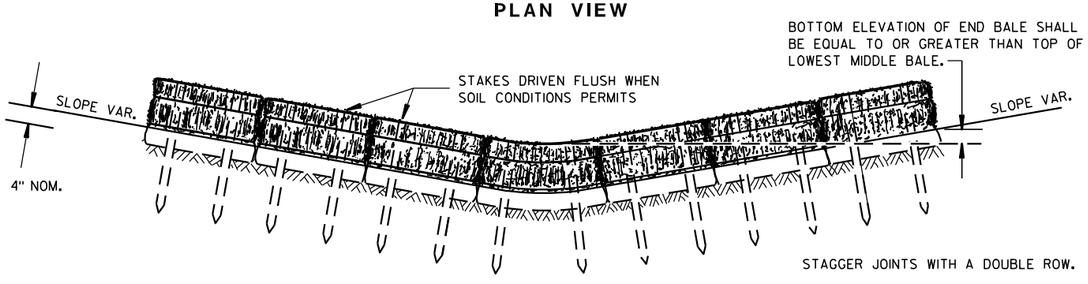
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
15A04-06A	FLEXIBLE DELINEATOR POST
15A04-06C	DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D31-03	TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY
15D45-03	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL



SECTION A-A



PLAN VIEW



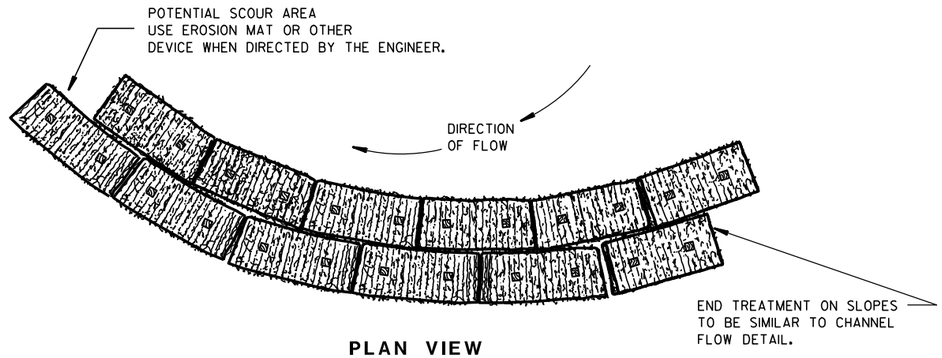
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

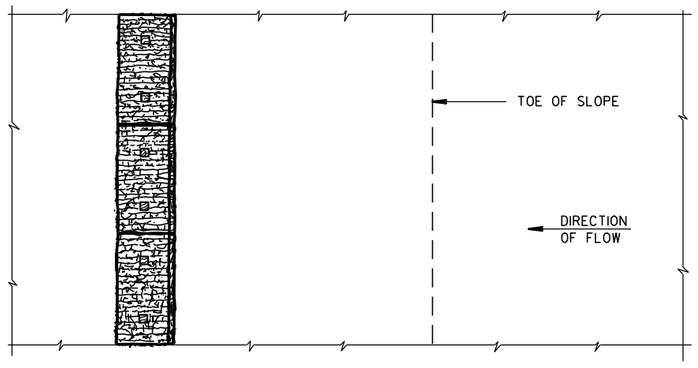
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

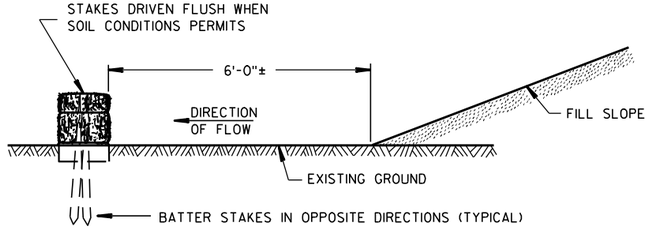


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02 DATE — /S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

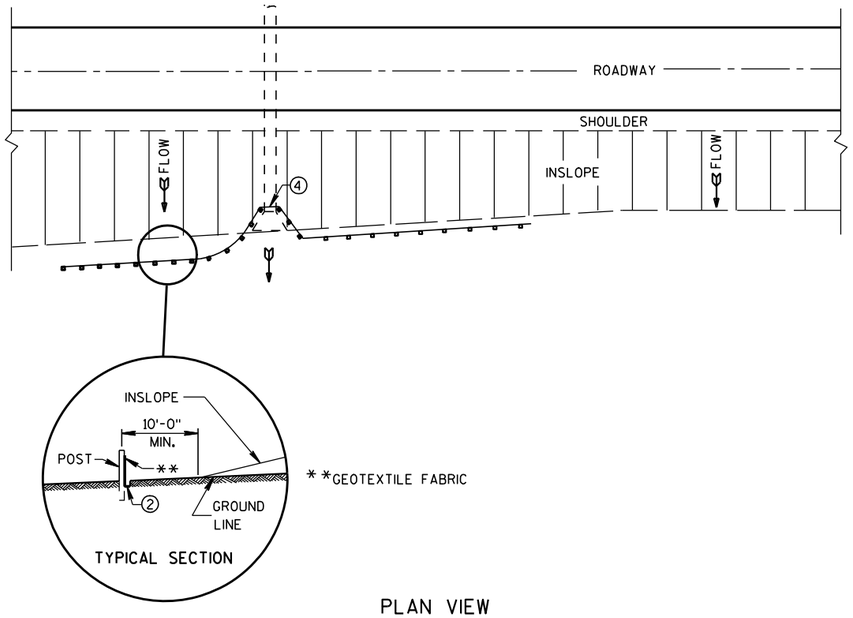
FHWA

6

S.D.D. 8 E 8-3

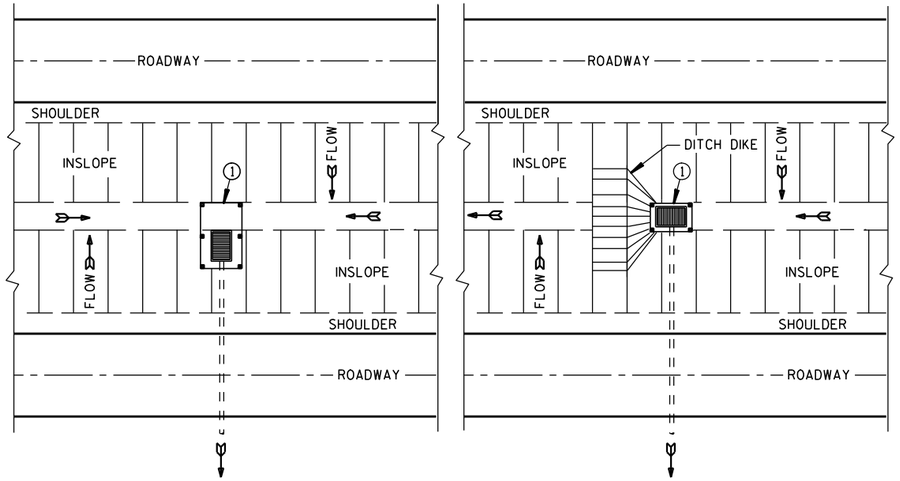
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



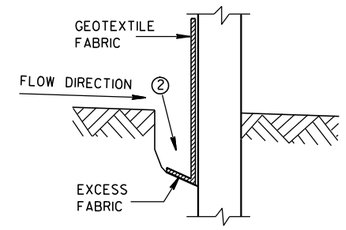
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

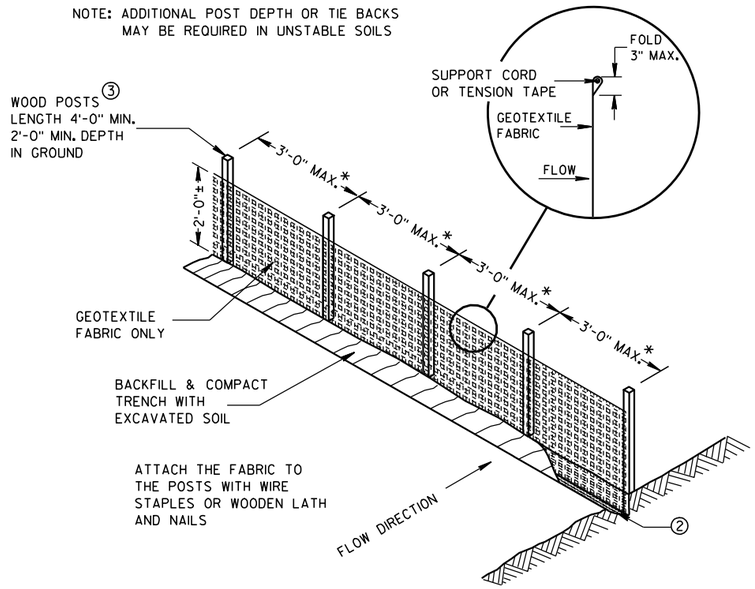
GENERAL NOTES

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

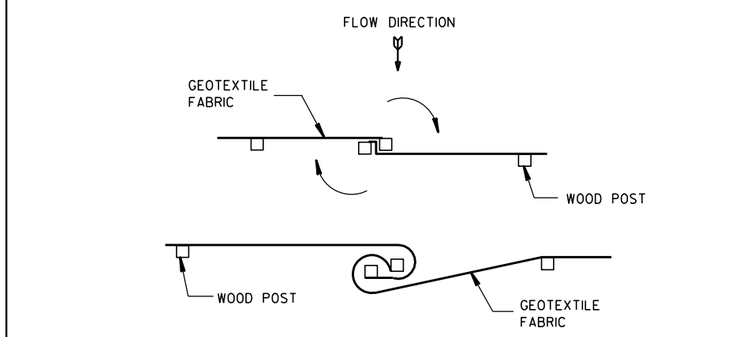
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



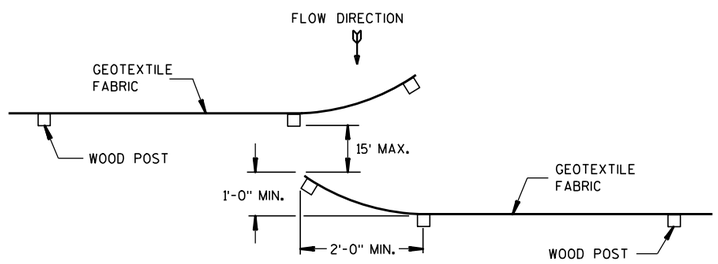
TRENCH DETAIL



SILT FENCE

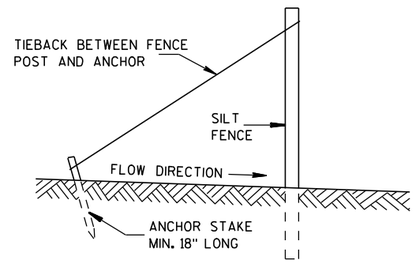


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

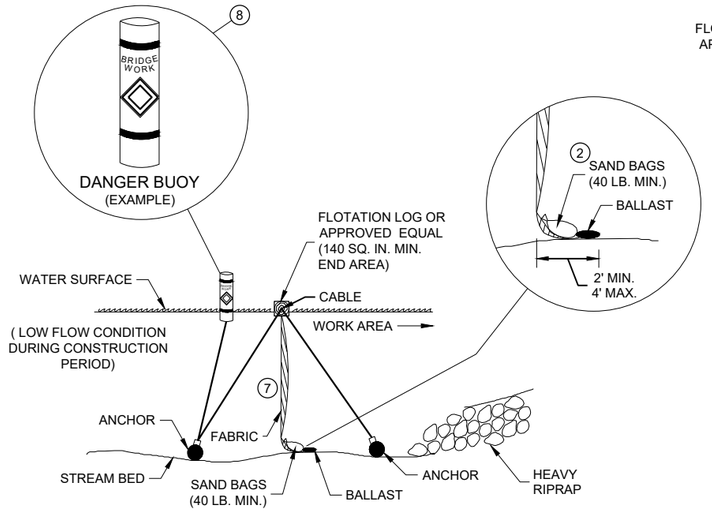
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

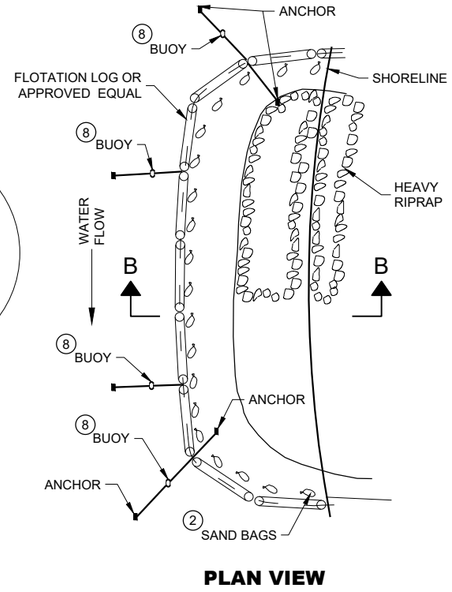
S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

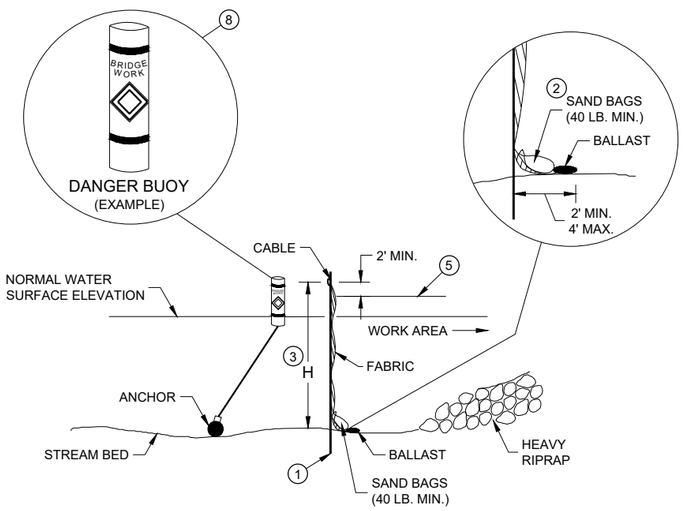


SECTION B - B

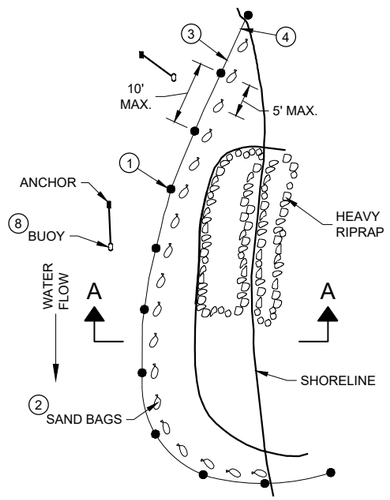


PLAN VIEW

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A - A



PLAN VIEW

TURBIDITY BARRIER - STANDARD POST INSTALLATION

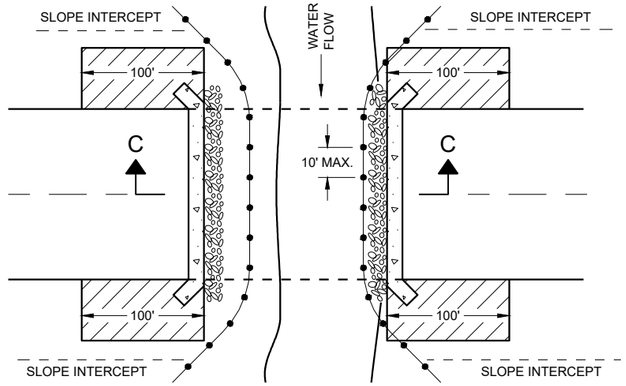
TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

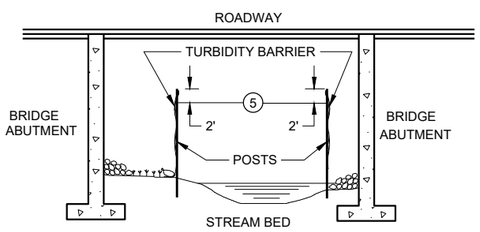
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

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



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

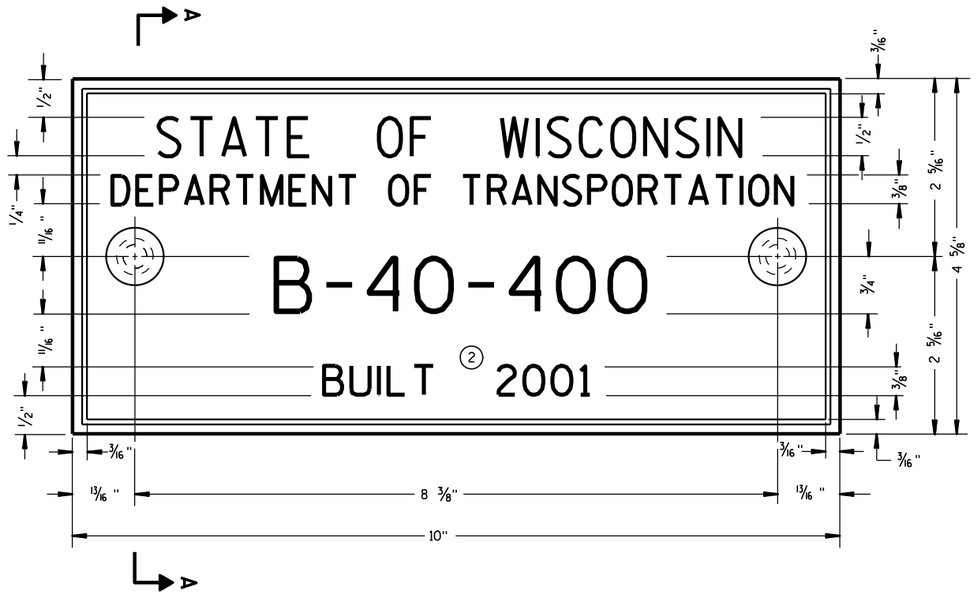
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6
SDD 08E11 - 02



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

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

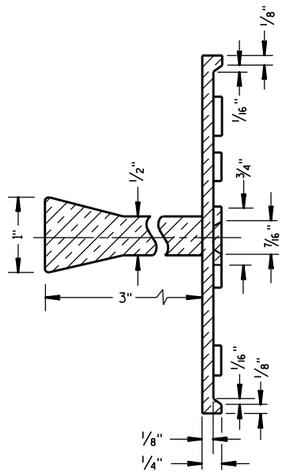
GENERAL NOTES

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

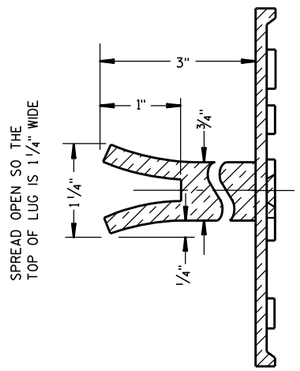
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

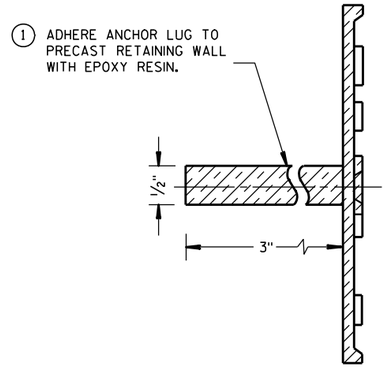
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

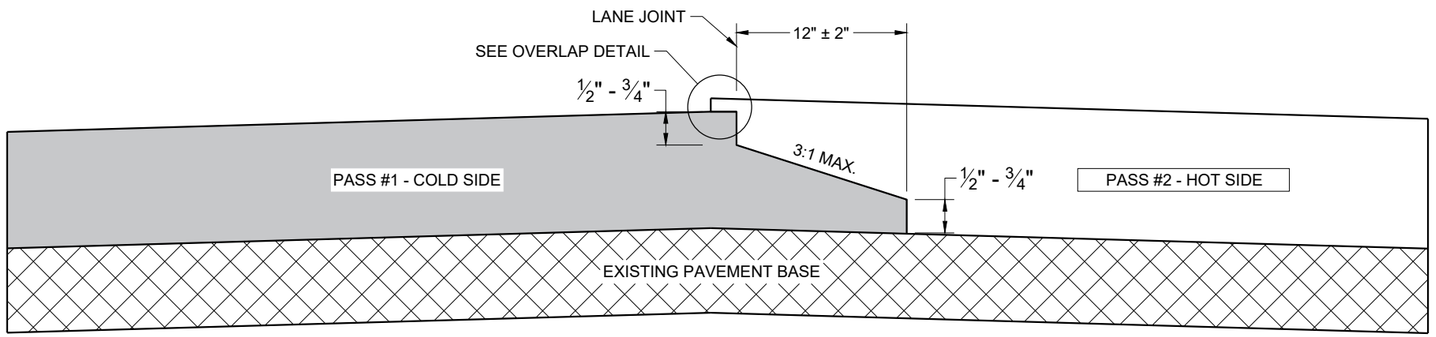
3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOPMENT ENGINEER

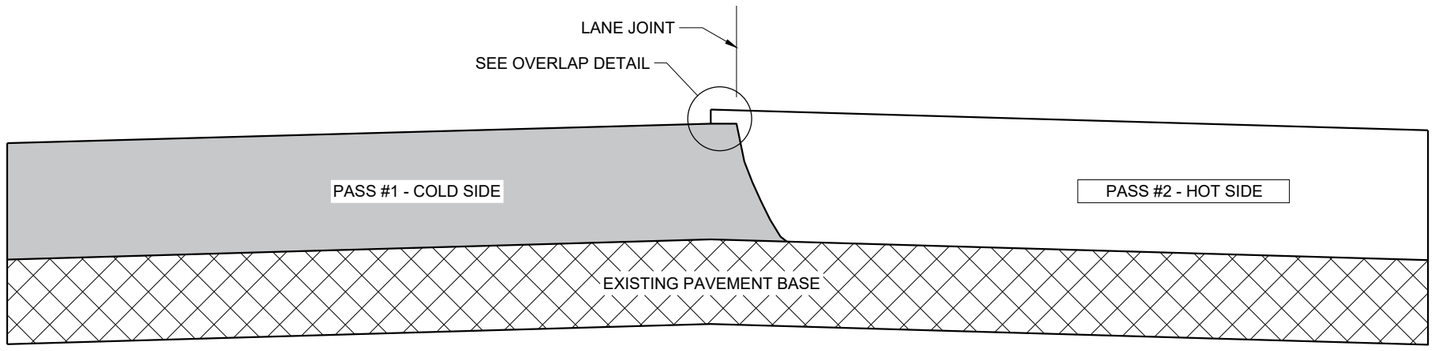
FHWA

6

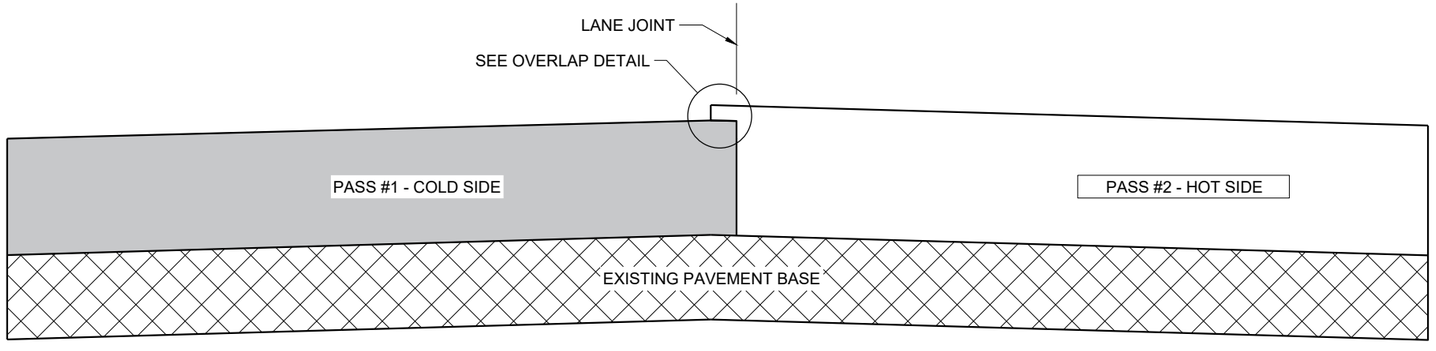
S.D.D. 12 A 3-10



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

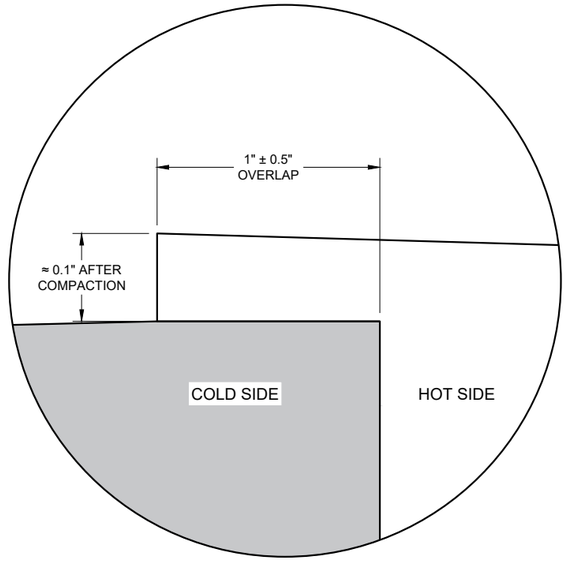
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

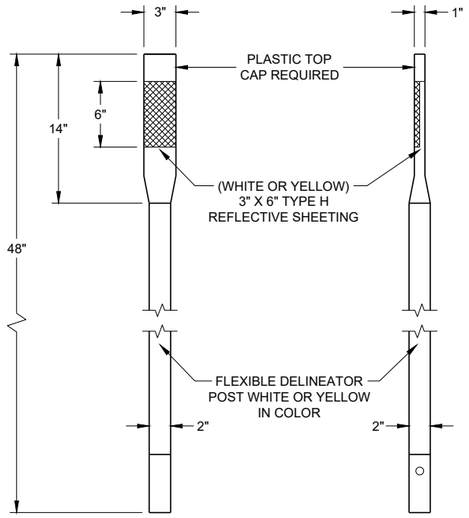
HMA LONGITUDINAL JOINTS

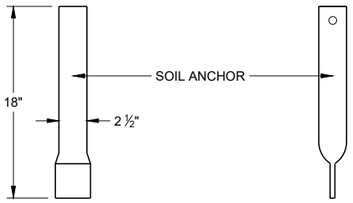
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

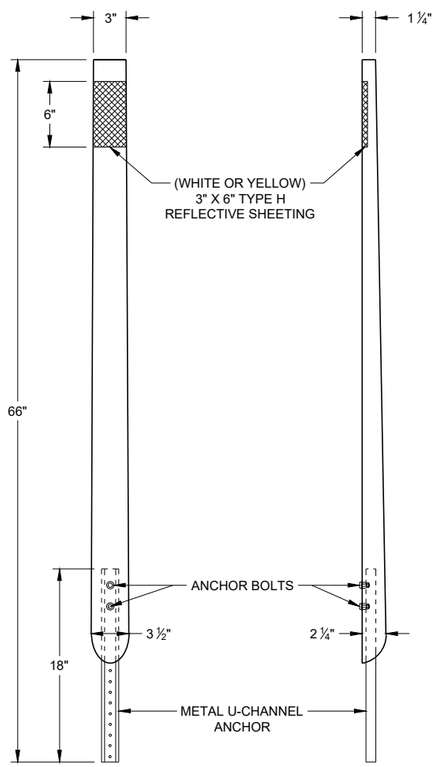
FHWA





FRONT VIEW SIDE VIEW

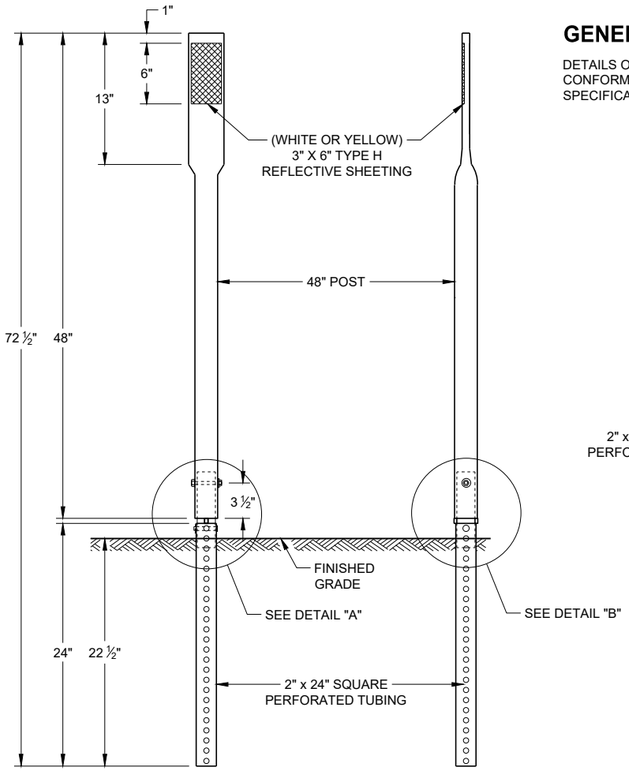
ALTERNATE 1



FRONT VIEW SIDE VIEW

ALTERNATE 2

FLEXIBLE DELINEATOR POSTS

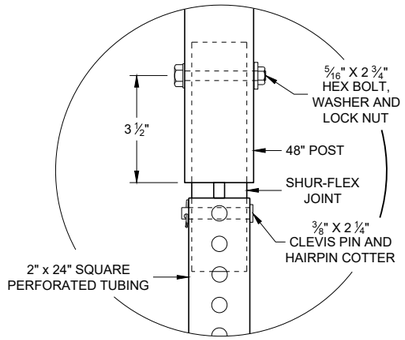


FRONT VIEW SIDE VIEW

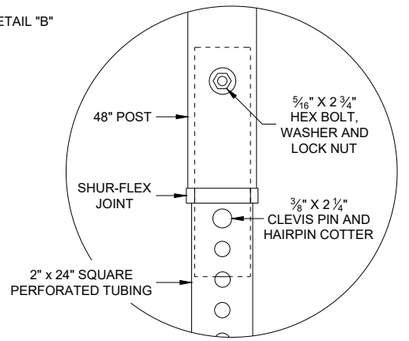
ALTERNATE 3

GENERAL NOTES

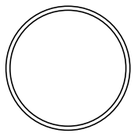
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



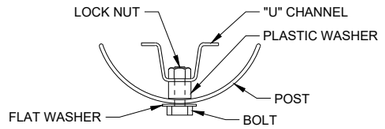
DETAIL A



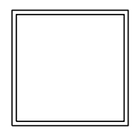
DETAIL B



SECTION A - A



SECTION B - B

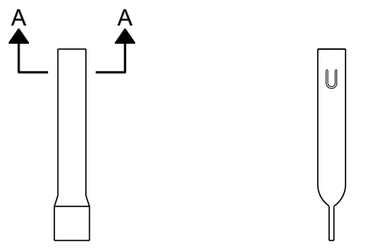


SECTION C - C

REFLECTOR SPACING TABLE

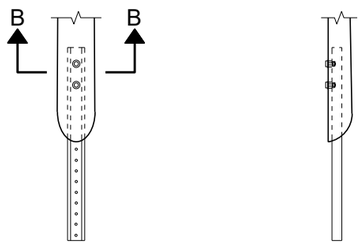
REFLECTOR SPACING	LOCATION
* 100' C-C	RAMPS
400' C-C	MAINLINE

* START AT BEGINNING OF RAMP TAPER AND END AT END OF RAMP TAPER



FRONT VIEW SIDE VIEW

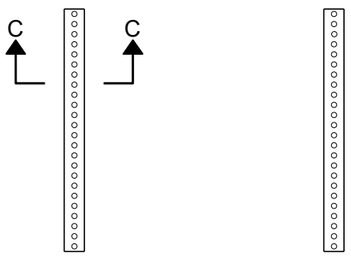
ALTERNATE 1



FRONT VIEW SIDE VIEW

ALTERNATE 2

FLEXIBLE MARKER POST ANCHORS



FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE DELINEATOR POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MAF ENGINEER

FHWA

6

SDD 15A04 - 06a

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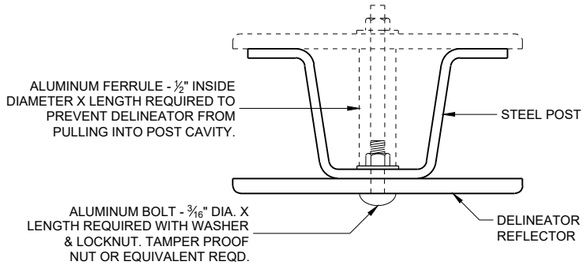
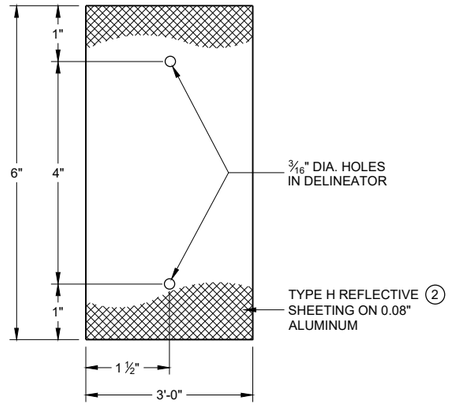
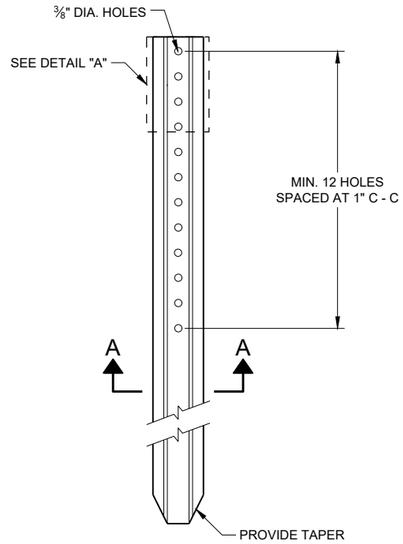


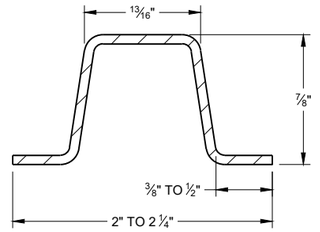
MOUNTING DETAIL FOR DELINEATOR REFLECTOR



DETAIL "A" 3" X 6" DELINEATOR REFLECTOR



DELINEATOR POST



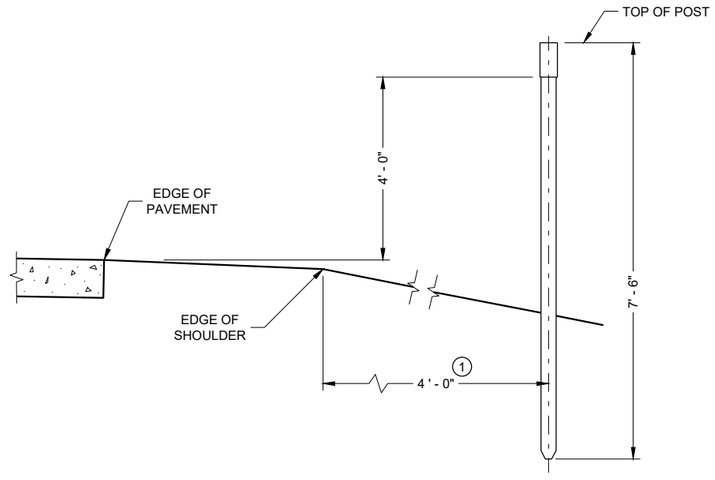
SECTION A - A

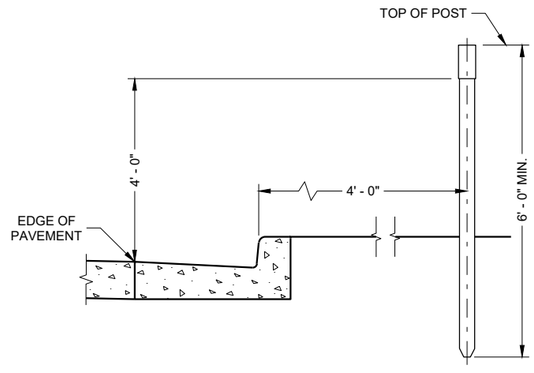
WEIGHT 1.12 LBS PER FT. \ 0.1 LB.

REFLECTOR SPACING TABLE

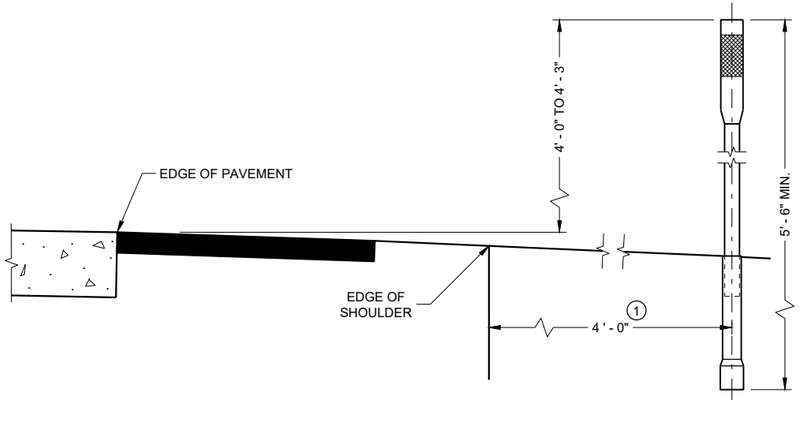
REFLECTOR SPACING	LOCATION
* 100' C-C	RAMPS
400' C-C	MAINLINE

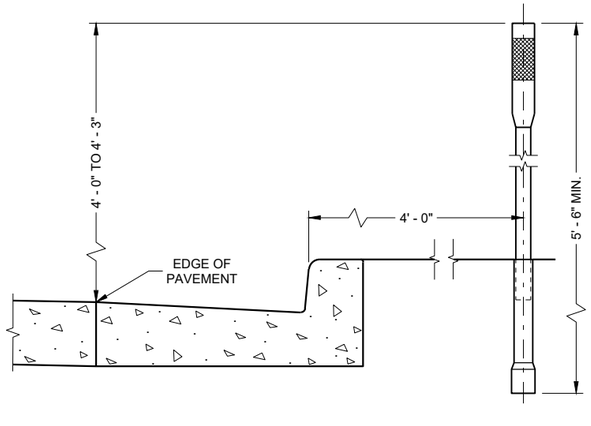
* START AT BEGINNING OF RAMP TAPER AND END AT END OF RAMP TAPER





TYPICAL INSTALLATIONS OF DELINEATOR POSTS





TYPICAL INSTALLATIONS OF FLEXIBLE DELINEATOR POSTS

GENERAL NOTES

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

1. DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.
2. FURNISH TYPE H SHEETING FROM THE APPROVED PRODUCTS LIST.

DELINEATOR POST WITH REFLECTIVE SHEETING

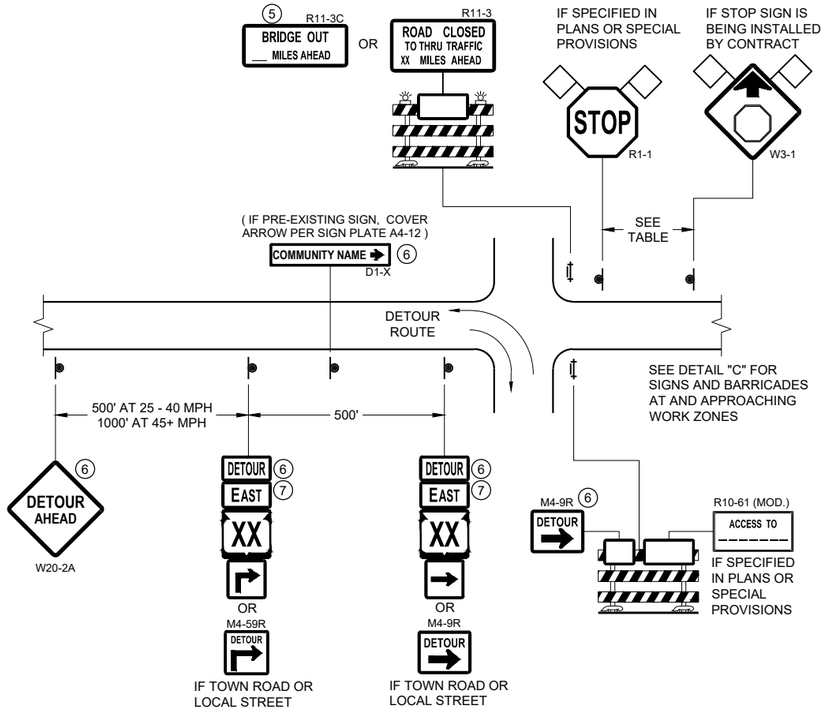
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MAF ENGINEER

FHWA

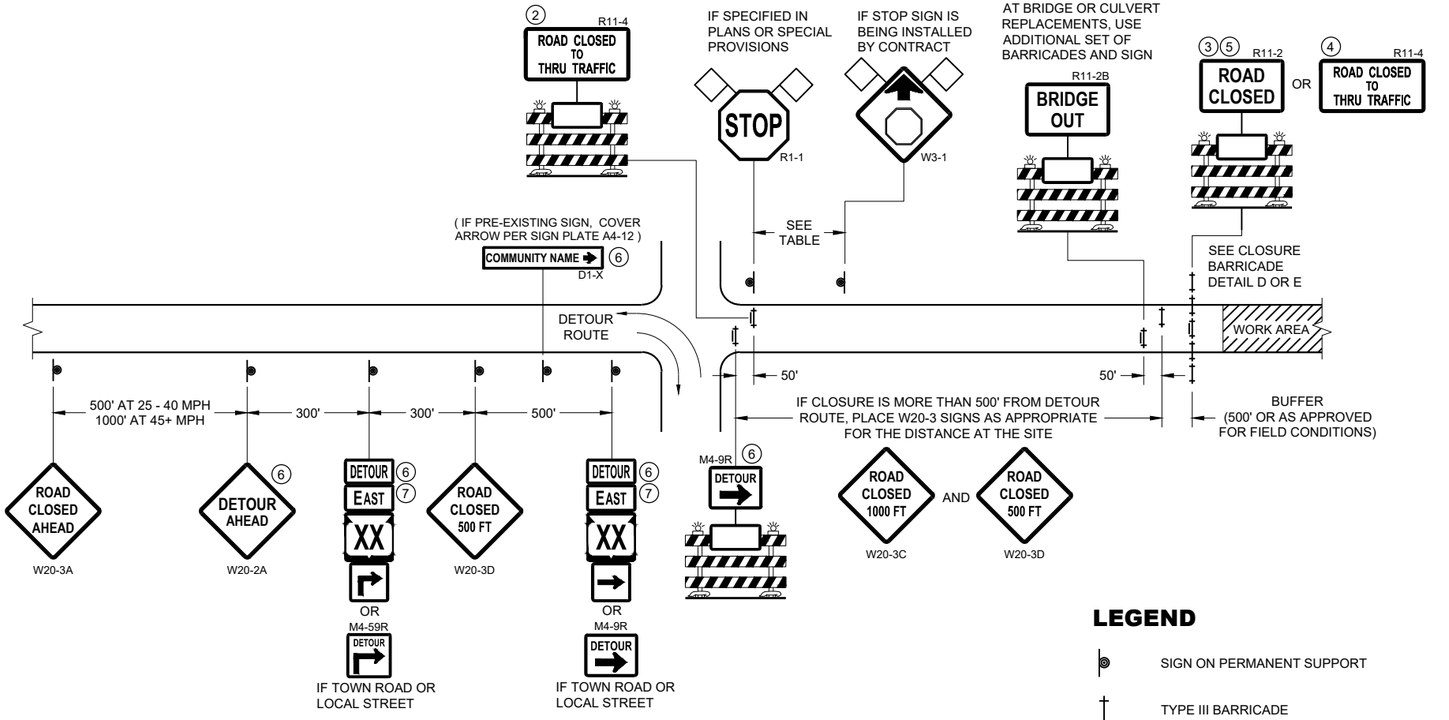
SDD 15A04 - 06c

SDD 15A04 - 06c



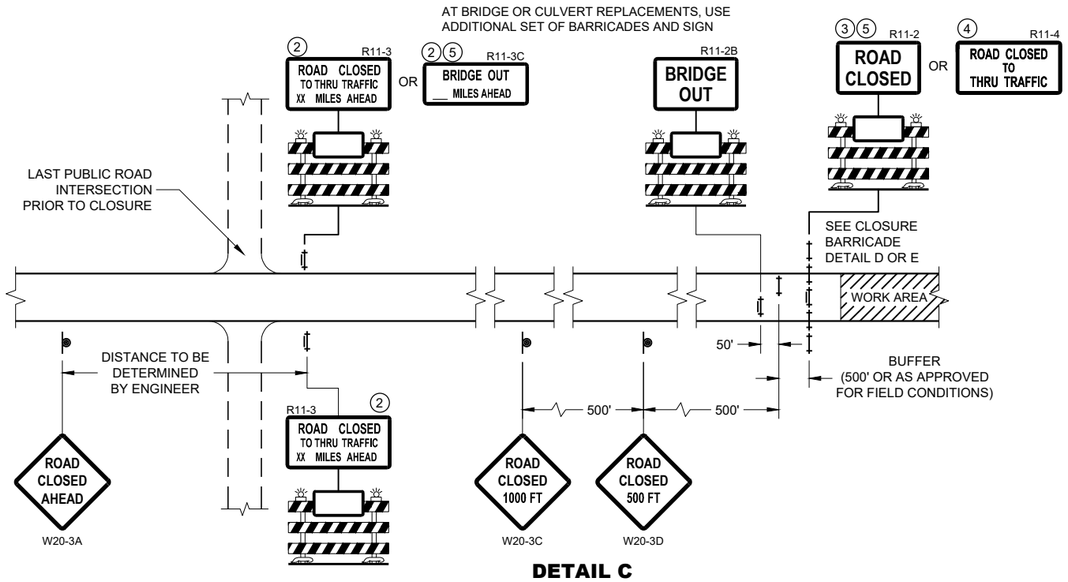
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

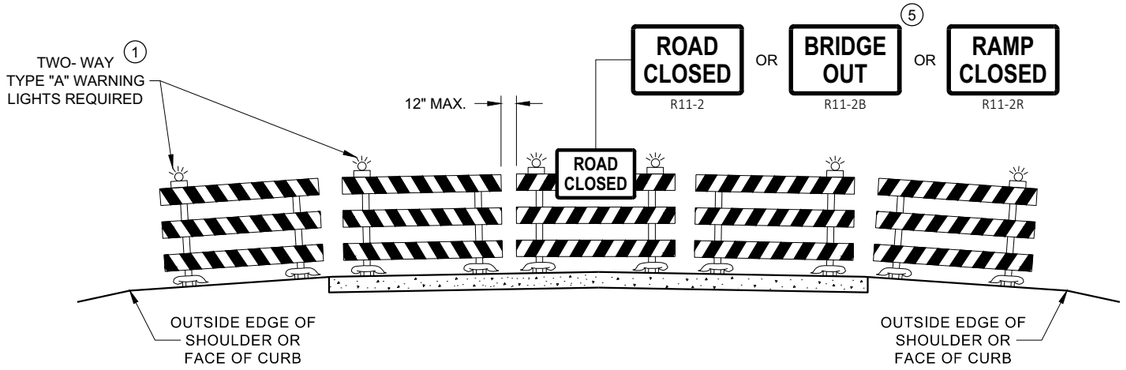
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

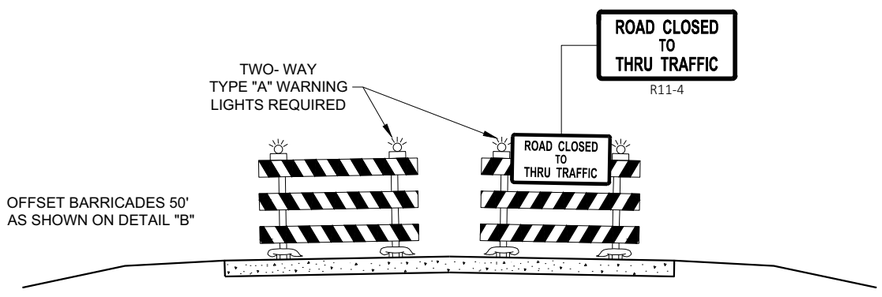
6

SDD 15C02 - 08a

SDD 15C02 - 08a



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
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

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SDD 15C02 - 08b

6

SDD 15C02 - 08b

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

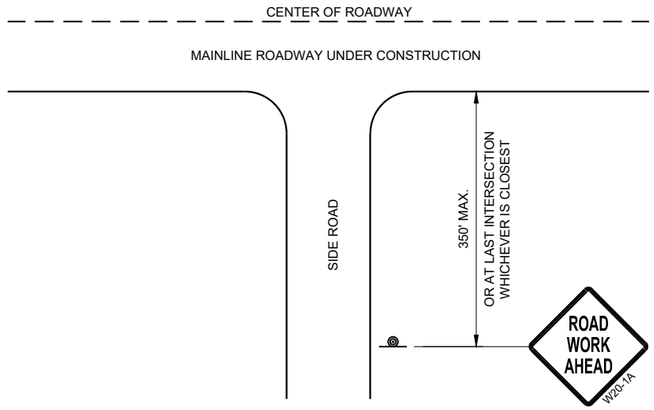
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



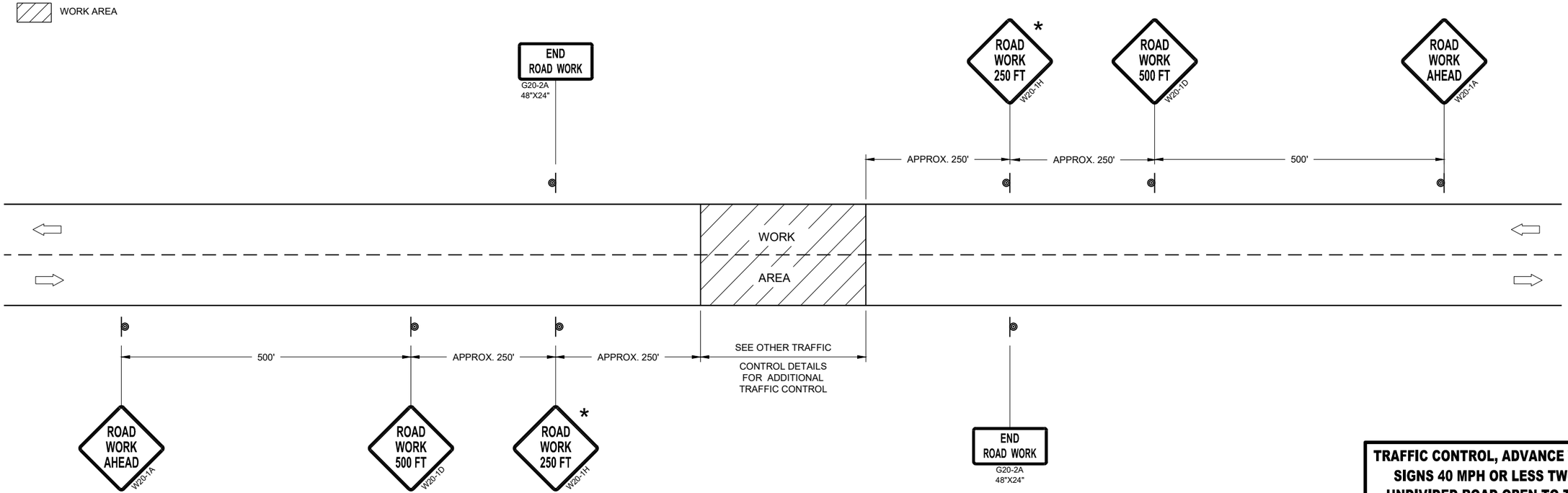
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 MPH OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

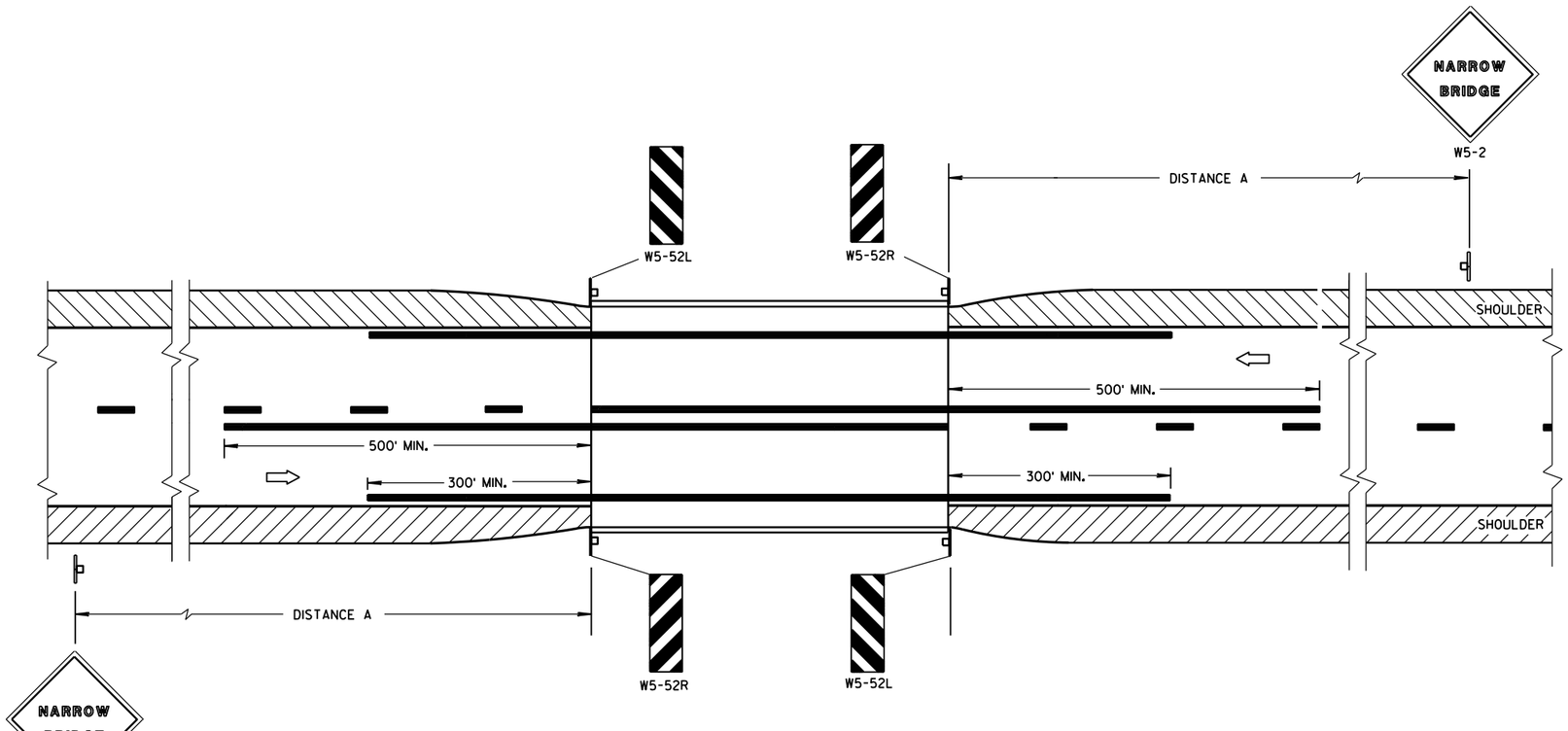
APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C05 - 05



SITUATION 1

WARRANTING CRITERIA:

BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'

GENERAL NOTES

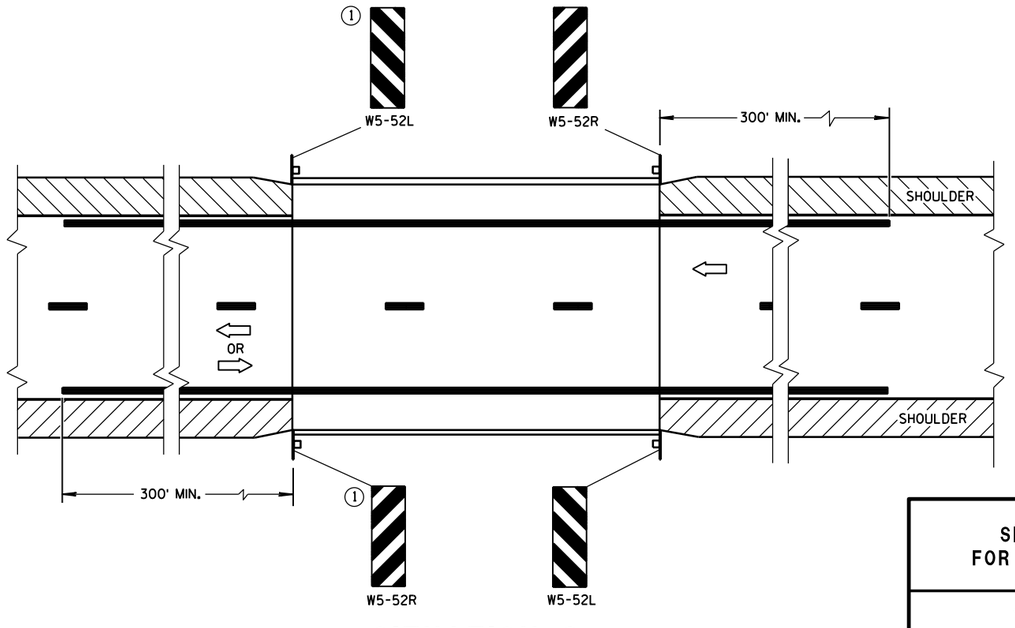
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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.

(1) OMIT ON ONE-WAY TRAVELLED WAYS.

⇨ DIRECTION OF TRAFFIC



SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET.

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

6

S.D.D. 15 C 6-9

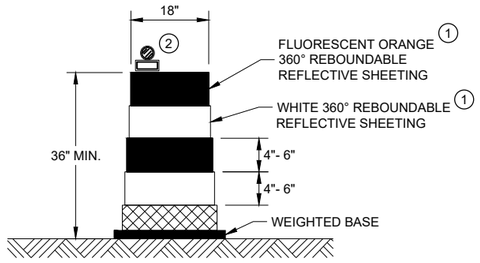
6

S.D.D. 15 C 6-9

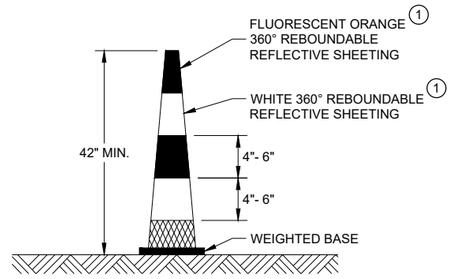
GENERAL NOTES

(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

(2) LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

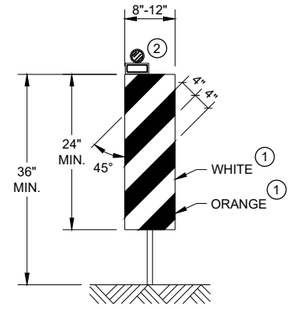


DRUM



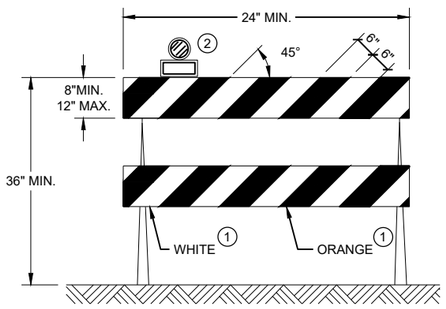
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



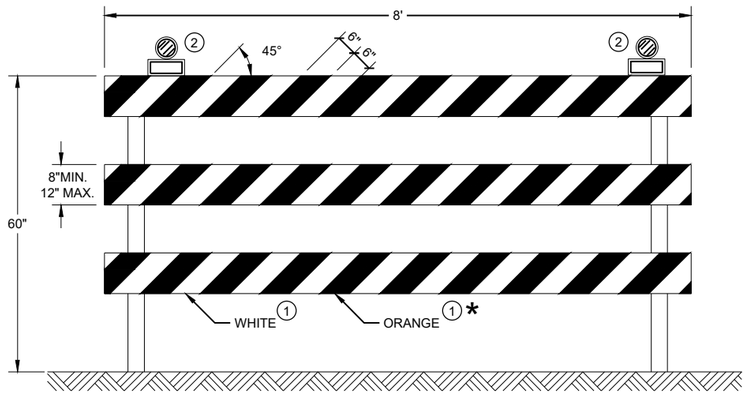
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C11 - 09b
SDD 15C11 - 09b

S	BUFFER SPACE (DESIRABLE)
25	55'
30	85'
35	120'
40	170'
45	220'
50	280'
55	335'

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

END ROAD WORK
G20-2A
48"x24"

NO PASSING ZONE
W14-3
48"x36"

BEGIN TEMPORARY PAVEMENT MARKING, 4-INCH SOLID YELLOW CENTERLINE ✳✳

1000'
500'
400'
500'
200'
50'
50'
25' TYP.

W01-6
48"x24"
✳✳✳

R11-2
48"x30"
ROAD CLOSED
TYPE III BARRICADE

FOR BRIDGE OR CULVERT REPLACEMENTS SUBSTITUTE
BRIDGE OUT
R11-2B
48"x30"

ROAD CLOSURE OR BRIDGE/CULVERT REPLACEMENT

BUFFER SPACE (SEE TABLE)

WORK AREA

BUFFER SPACE (SEE TABLE)

TEMPORARY STEEL PLATE BEAM GUARD AND END TREATMENT WHEN INCLUDED IN THE CONTRACT. FOR LAYOUT, SEE DETAILS ELSEWHERE IN THE PLAN.

W05-52L
12"x36"
W05-52R
12"x36"

OR

W01-3L
W01-4L
W013-1
XX M.P.H.
24"x24"

ROAD WORK 1000 FT
W20-1C

ROAD WORK AHEAD
W20-1A

END TEMPORARY PAVEMENT MARKING, 4-INCH SOLID YELLOW CENTERLINE ✳✳

END TEMPORARY PAVEMENT MARKING, 4-INCH WHITE EDGELINE

TEMPORARY PAVEMENT MARKING, 4-INCH WHITE EDGELINES. (USE REMOVABLE TAPE WHERE TEMPORARY MARKING CROSSES PERMANENT PAVEMENT)

TEMPORARY PAVEMENT MARKING, 4-INCH DOUBLE YELLOW CENTERLINE AND 2-WAY YELLOW RAISED PAVEMENT MARKERS AT 25' SPACING. USE REMOVABLE TAPE WHERE TEMPORARY MARKING CROSSES PERMANENT PAVEMENT.

BEGIN TEMPORARY PAVEMENT MARKING, 4-INCH WHITE EDGELINE

ROAD WORK AHEAD
W20-1A

ROAD WORK 1000 FT
W20-1C

OR

W01-4R
W01-3R
W013-1
XX M.P.H.
24"x24"

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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

EQUIPMENT, VEHICLES, OR MATERIAL SHOULD NOT BE STORED IN BUFFER SPACE.

✳ IF ADVISORY SPEED IS GREATER THAN 30 MPH, USE THE W01-4 SIGN. IF ADVISORY SPEED IS 30 MPH OR LESS, USE THE W01-3 SIGN.

✳✳ WHEN THE DISTANCE TO/FROM THE NEXT CLOSEST NO-PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.

✳✳✳ OMIT THESE W01-6 SIGNS IF THE ADVISORY SPEED OF THE CURVE IS GREATER THAN 30 MPH.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY-BURN LIGHT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- TEMPORARY DELINEATOR, (WHITE) (SINGLE DELINEATOR)
- TEMPORARY RAISED PAVEMENT MARKERS (TWO-WAY YELLOW)
- XXX REMOVE PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- TEMPORARY STEEL PLATE BEAM GUARD AND END TREATMENT
- WORK AREA

TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE SAFETY ENGINEER

FHWA

6

S.D.D. 15 D 31-3

6

S.D.D. 15 D 31-3

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

(1) PLACE SIGNS 350' IN ADVANCE OF CHIP SEALED OR LOOSE GRAVEL SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

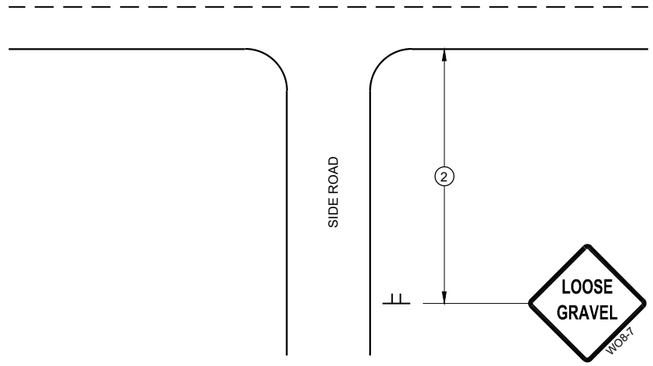
(2) PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

(3) ADD WO8-1 OR WO8-2 SIGN WHEN THE CONDITION IS PRESENT.

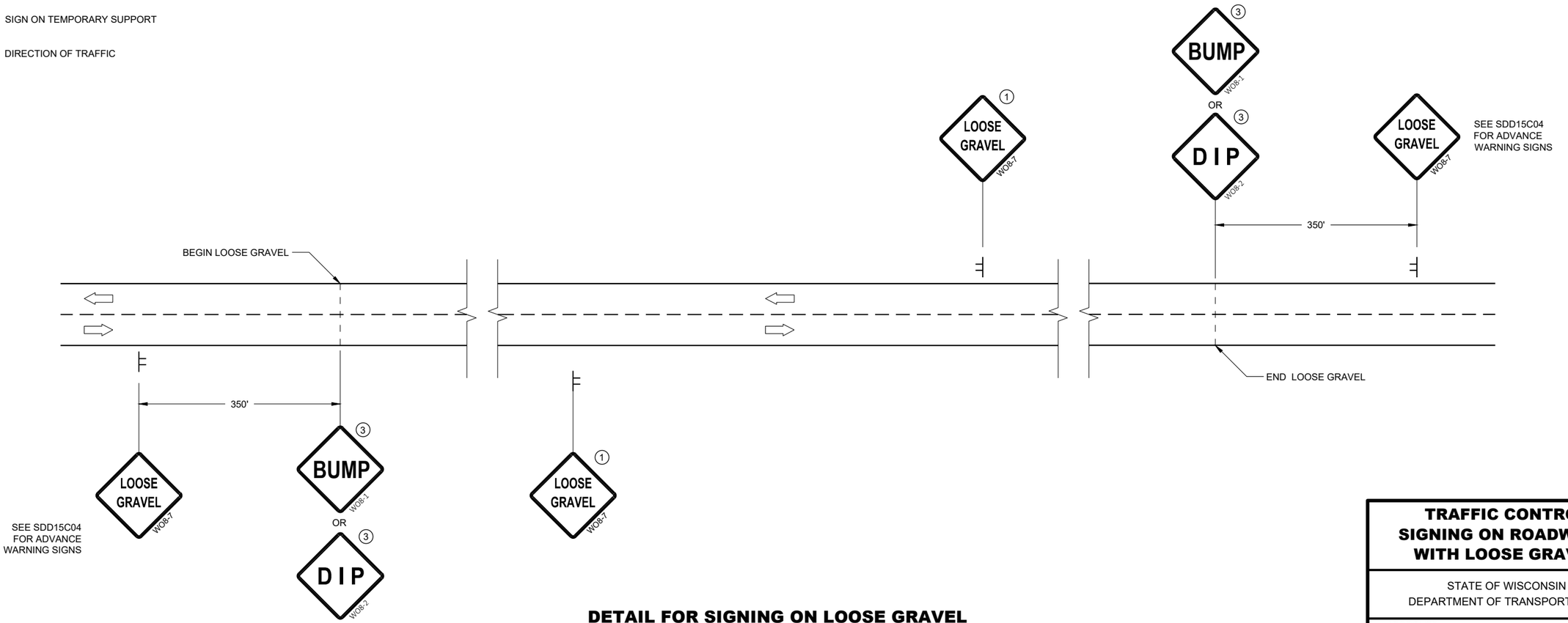
LEGEND

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



DETAIL FOR SIGNING ON LOOSE GRAVEL OR CHIP SEALED SURFACES

TRAFFIC CONTROL SIGNING ON ROADWAYS WITH LOOSE GRAVEL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021
DATE

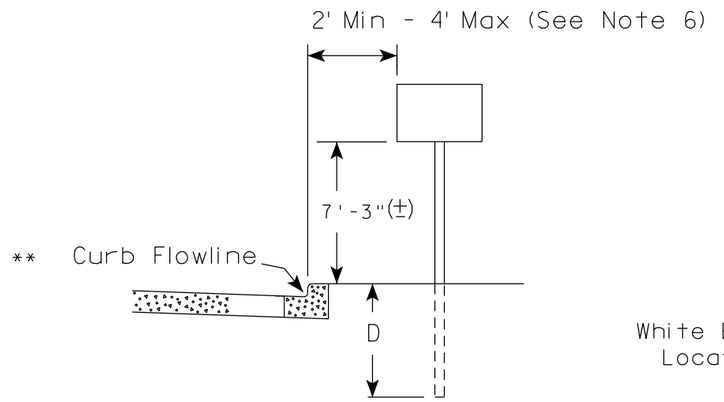
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

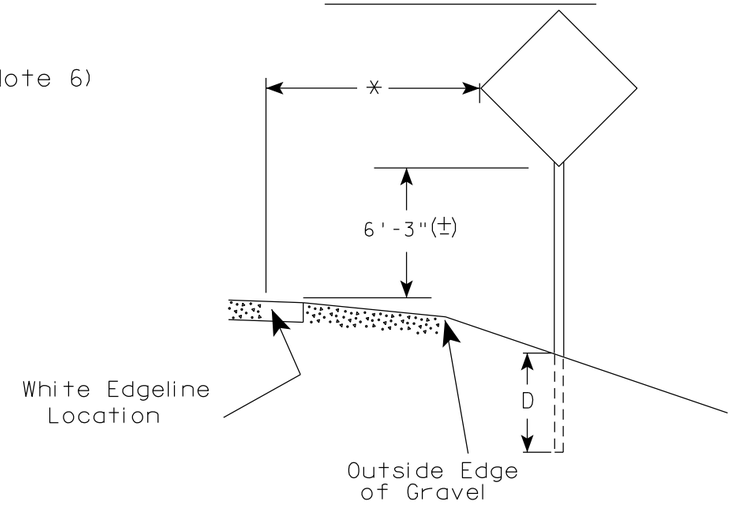
6

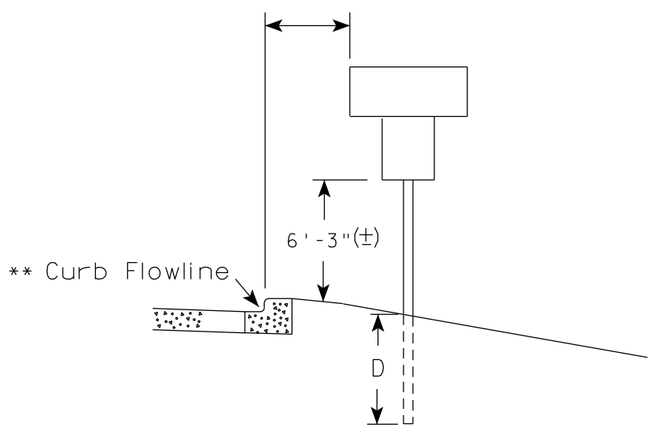
SDD 15D45 - 03

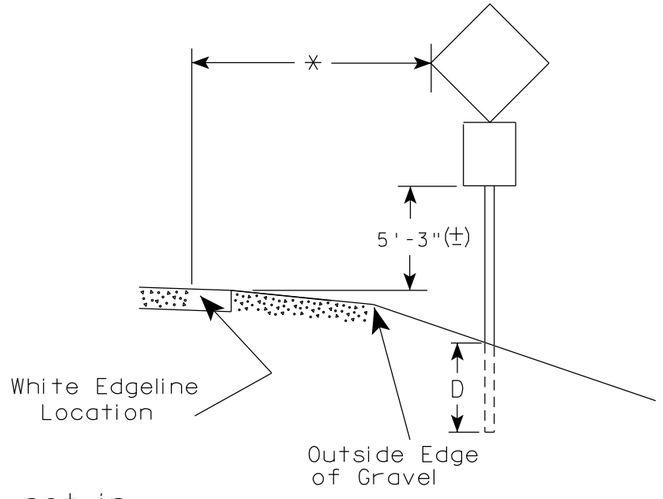
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
   The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±). 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 directd by the Engineer.

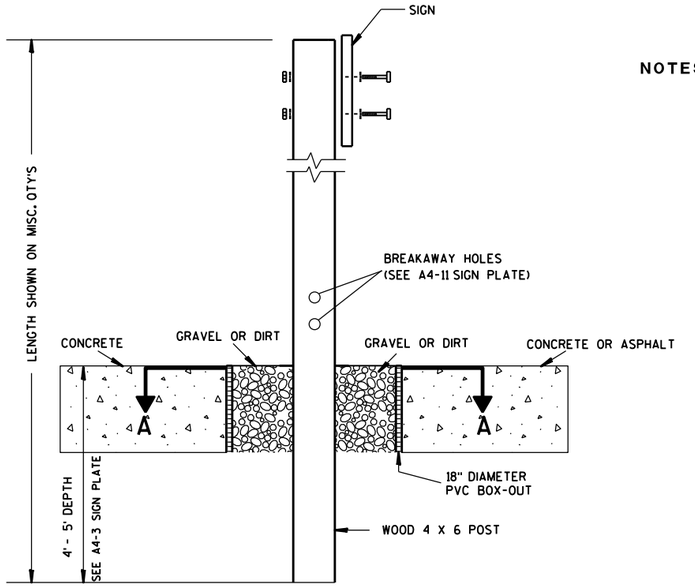
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

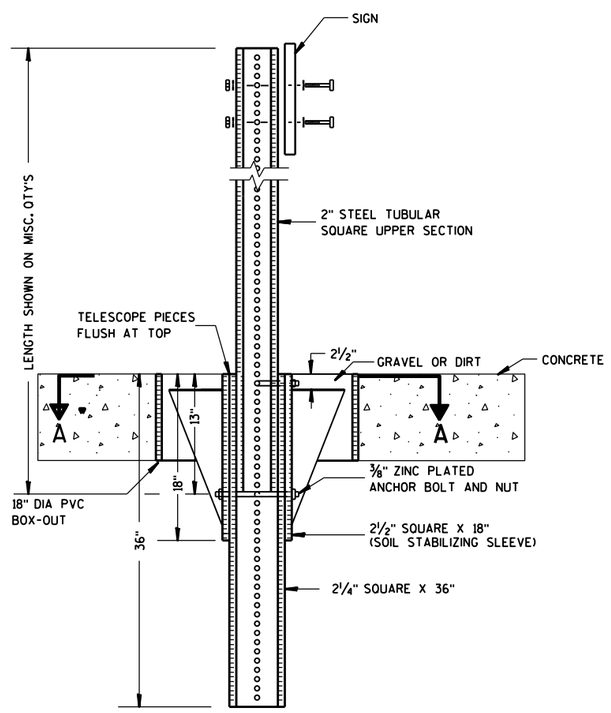
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 27	E



ELEVATION VIEW

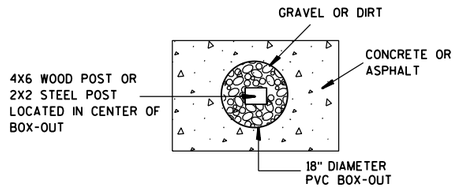
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

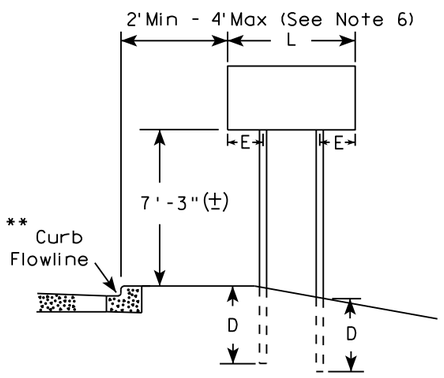
APPROVED Matthew R Rauch
for State Traffic Engineer

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

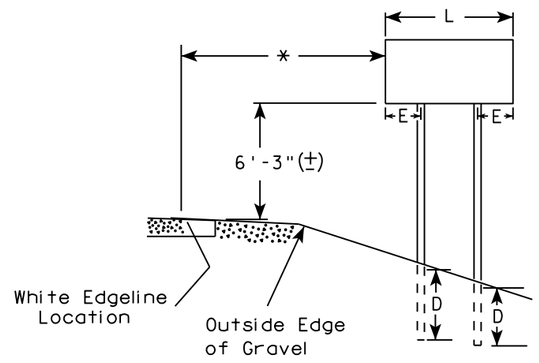
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

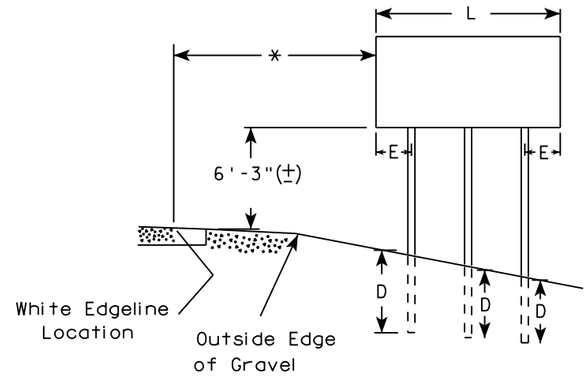
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

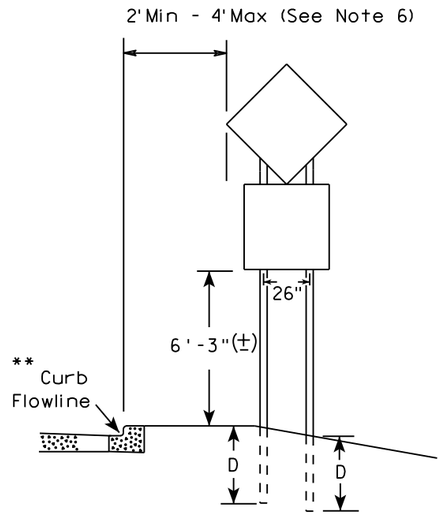
URBAN AREA



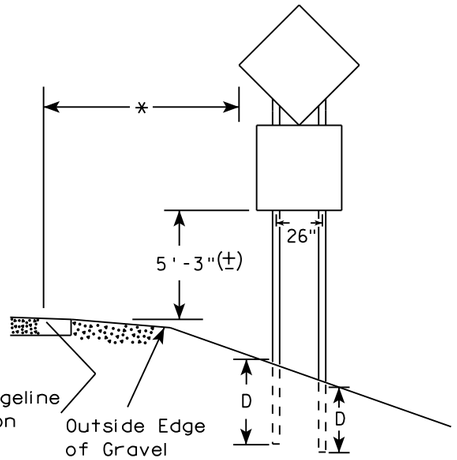
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) 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" (±).

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

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

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

POST EMBEDMENT DEPTH

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

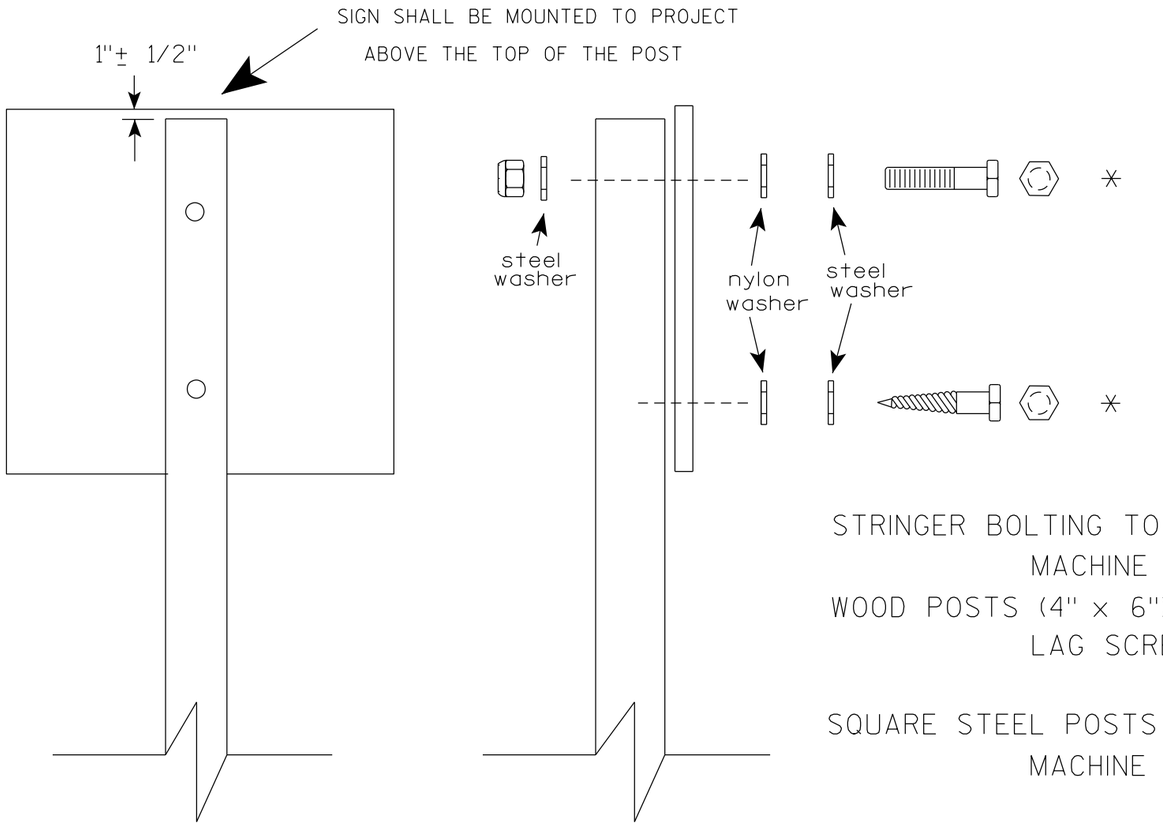
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 29	E



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:

SHEET NO: 30 E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 01-APRIL-2020 PLOT BY : dotc4c

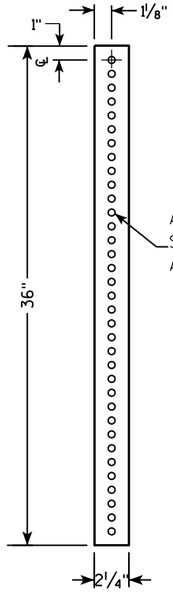
WISDOT/CADDS SHEET 42

7

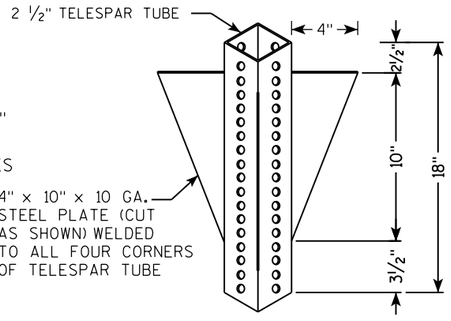
7

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

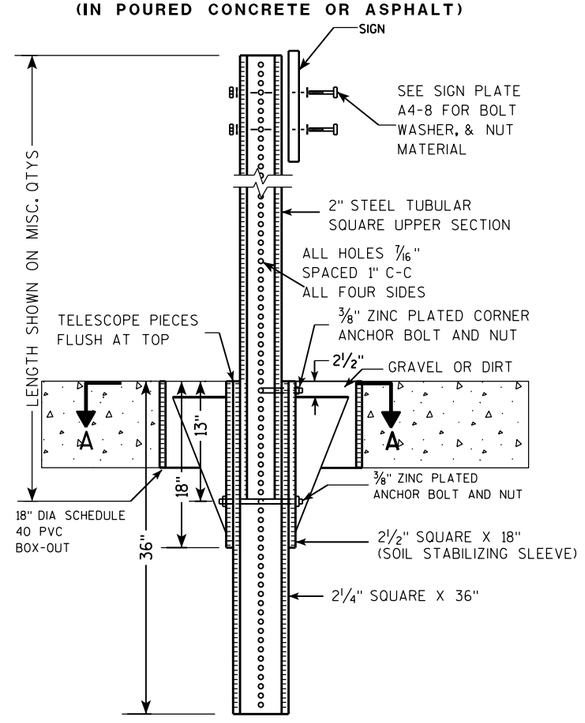
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



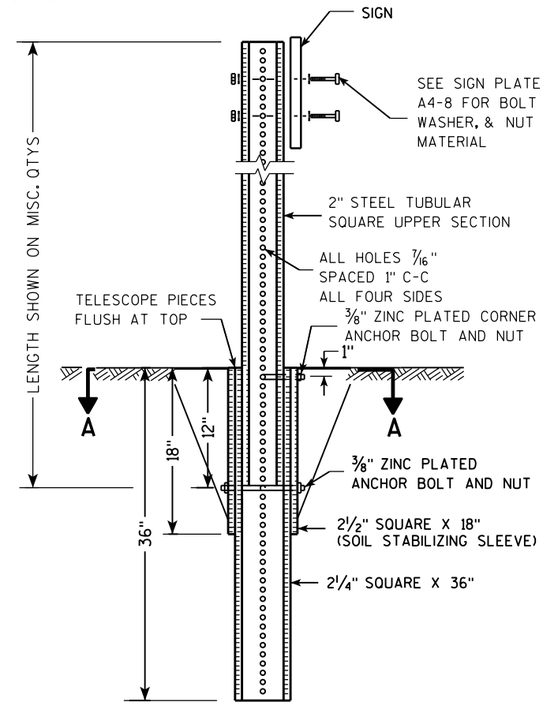
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

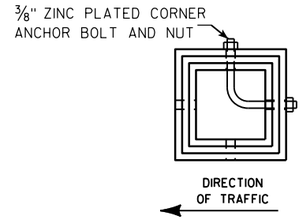


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

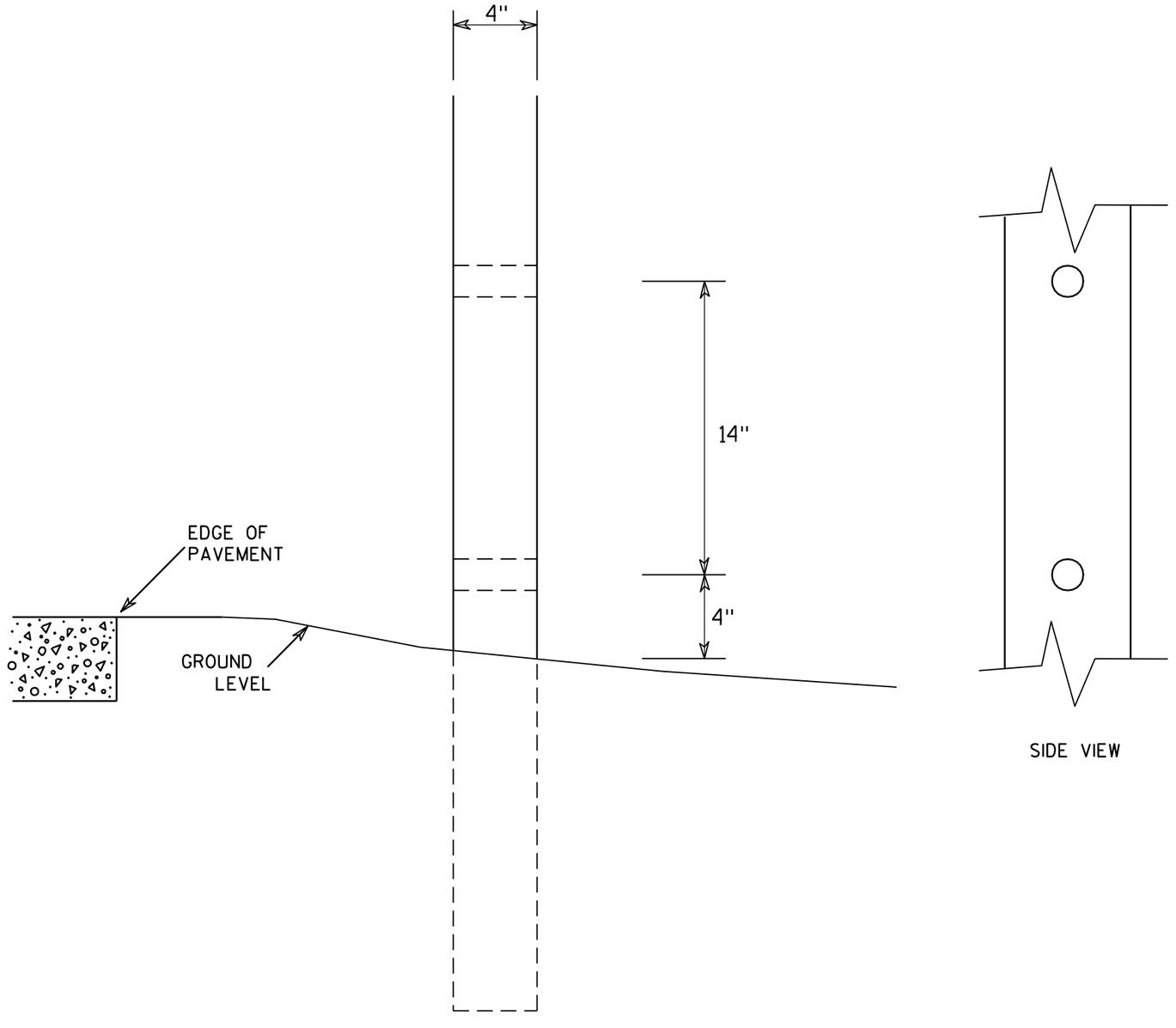
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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



SIDE VIEW

GENERAL NOTES

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

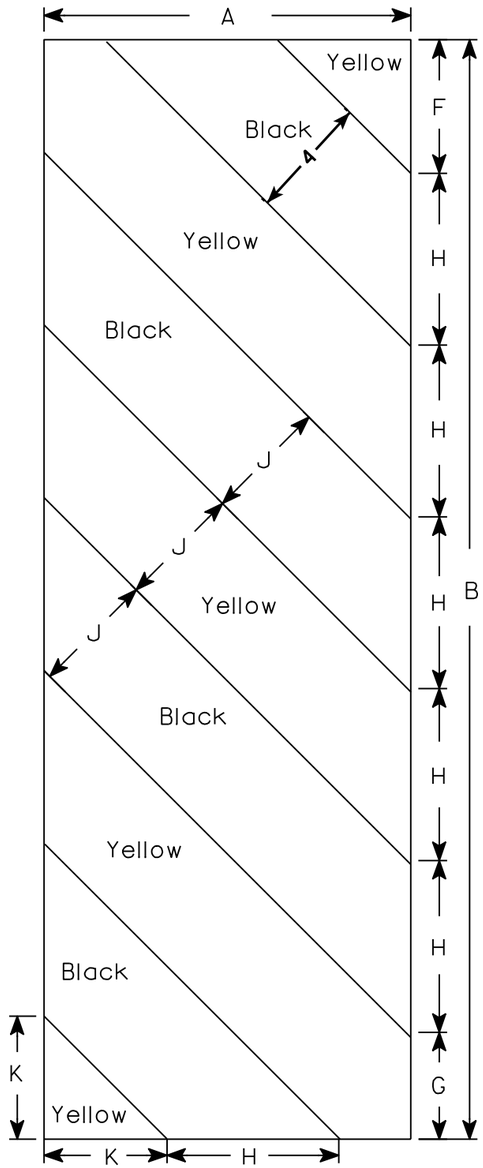
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

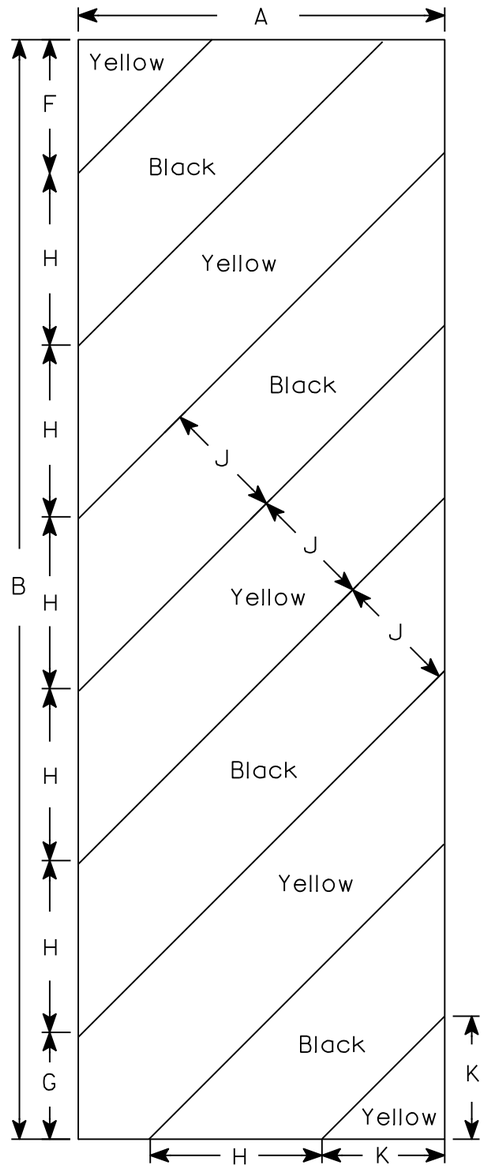
APPROVED Chester J Spang for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 32	E



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.

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

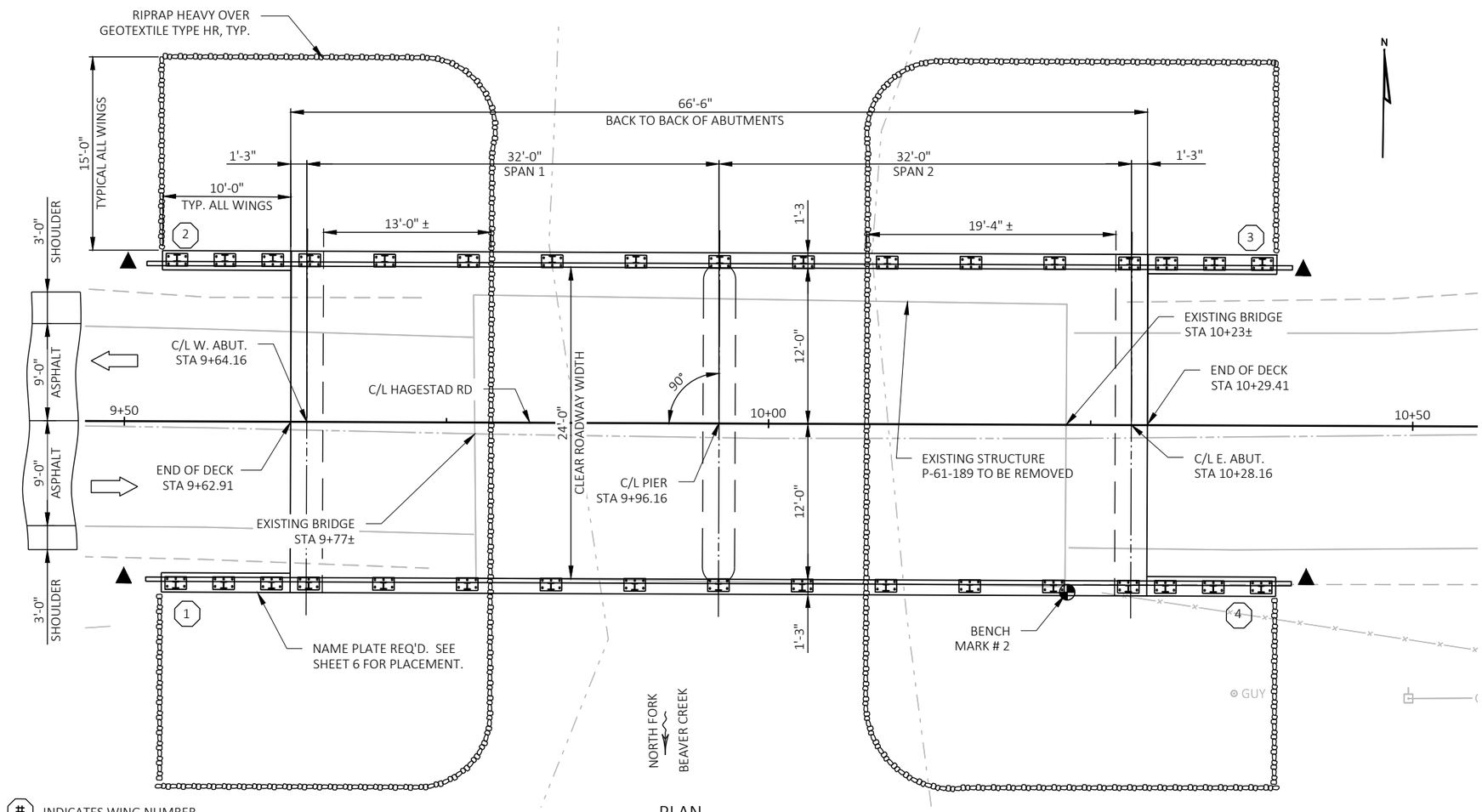
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 33	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W552.DGN PLOT DATE : 29-MAY-2012 13:03 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 4.961899:1.000000

WISDOT/CADDS SHEET 42

7

7

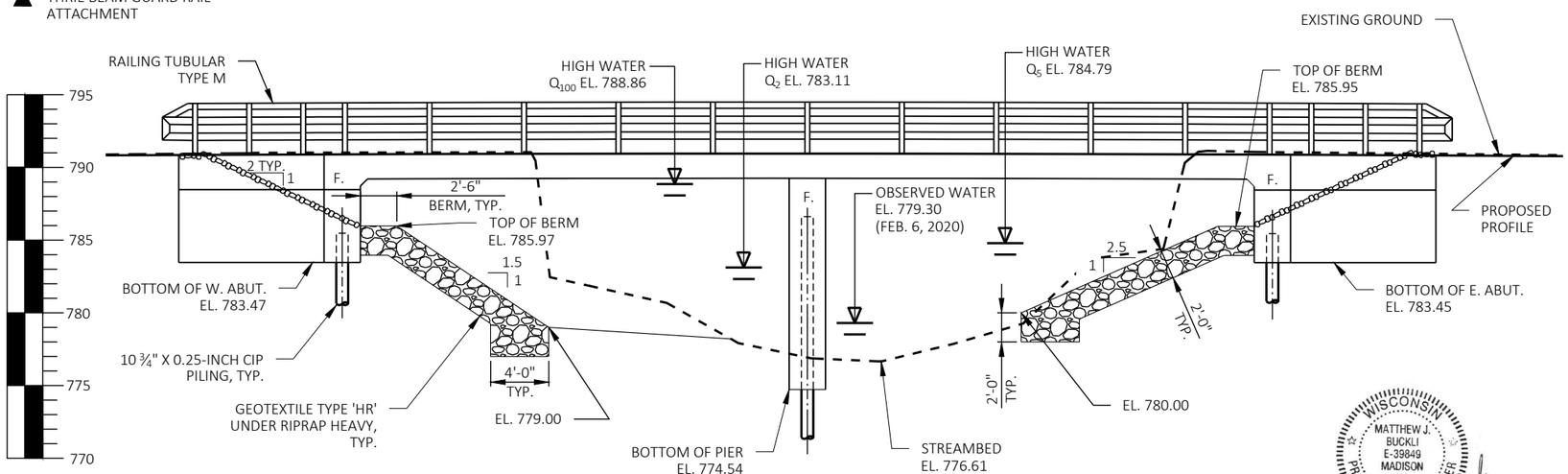


PLAN

(TWO-SPAN REINFORCED CONCRETE FLAT SLAB BRIDGE)

INDICATES WING NUMBER

THRIE BEAM GUARD RAIL ATTACHMENT



ELEVATION

(NORMAL TO C/L OF STREAM)

WISCONSIN MATTHEW J. BUCKLI E-39849 MADISON WI PROFESSIONAL ENGINEER 7/30/21

DESIGN DATA:

LIVE LOAD:
DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.10
OPERATING RATING FACTOR: 1.43
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS
STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY:
SUPERSTRUCTURE — f'c = 4,000 psi
ALL OTHER — f'c = 3,500 psi
BAR STEEL REINFORCEMENT:
GRADE 60 — fy = 60,000 psi

FOUNDATION DATA:

ABUTMENTS SUPPORTED ON 10 ¾" DIA. X 0.250" CIP CONCRETE PILING WITH A REQUIRED DRIVING RESISTANCE OF 130* TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 70' LONG.

PIER SUPPORTED ON 10 ¾ " DIA. X 0.250" CIP CONCRETE PILING WITH A REQUIRED DRIVING RESISTANCE OF 130* TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 90' LONG.

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

HYDRAULIC DATA:

100 YEAR FREQUENCY
Q_{100} = 3150 C.F.S.
VELOCITY = 7.31 F.P.S.
HW_{100} = EL. 788.86
WATERWAY AREA = 431.0 SQ. FT.
DRAINAGE AREA = 44.50 SQ. MI.
ROADWAY OVERTOPPING = NA
SCOUR CRITICAL CODE = 5

5 YEAR FREQUENCY
Q_5 = 1100 C.F.S.
VELOCITY = 7.07 F.P.S.
HW_5 = EL. 784.79

TEMPORARY STRUCTURE
Q_5 = 1100 C.F.S.
HW_5 = EL. 783.83
MINIMUM AREA = 225.0 SQ. FT.

2 YEAR FREQUENCY
Q_2 = 760 C.F.S.
VELOCITY = 5.09 F.P.S.
HW_2 = EL. 783.11

TRAFFIC DATA:

ADT (2022) = 25
ADT (2042) = 40
DESIGN SPEED = 40 MPH

LIST OF DRAWINGS:

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

CONSULTANT CONTACT
MATT BUCKLI, P.E.
TELEPHONE: (608) 443-0441

STATE PROJECT NUMBER: 7281-00-74

NO.	DATE	REVISION	BY

Mead & Hunt, Inc.
2440 Deming Way
Middleton, WI 53562
608.273.6380
www.meadhunt.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 11/24/21
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-61-246

HAGESTAD ROAD OVER NORTH FORK BEAVER CREEK

COUNTY: TREMPEALEAU — TOWN/~~CITY/VILLAGE~~: ETTRICK

DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
RCP	TJR	MJB	RCP

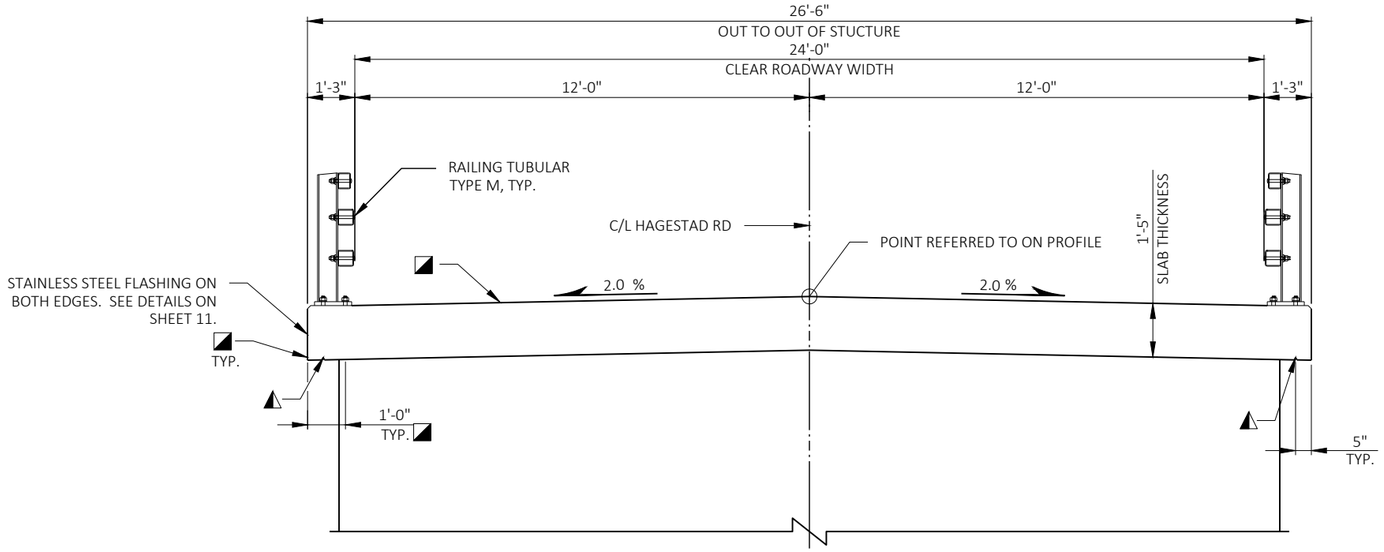
GENERAL PLAN

SHEET 1 OF 13
34

8

8

FILE NAME : X:\2918800\200250.01\TECH\CAD\72810074\DESIGN\STRUCTURE\080101_GP.DWG PLOT DATE : 7/30/2021 PLOT BY : MATTHEW BUCKLI PLOT SCALE :



CROSS SECTION THRU BRIDGE

(LOOKING EAST)

TOTAL ESTIMATED QUANTITES

BID ITEM NO.	BID ITEMS	UNIT	W ABUT	E ABUT	PIER	SUPER	TOTALS
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS P-61-189	LS	---	---	---	---	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-61-246	LS	---	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	96	96	---	---	192
502.0100	CONCRETE MASONRY BRIDGES	CY	26.7	26.7	31.6	96.4	182
502.3200	PROTECTIVE SURFACE TREATMENT	SY	10	10	---	232	252
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1510	1510	1690	---	4710
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1350	1350	---	21270	23970
513.4061	RAILING TUBULAR TYPE M B-61-246	LF	---	---	---	---	178
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	8	8	---	---	16
550.2104	PILING CIP CONCRETE 10 3/4 X 0.25-INCH	LF	280	280	720	---	1280
606.0300	RIPRAP HEAVY	CY	101	116	---	---	217
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	62	62	---	---	124
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	26	26	---	---	52
645.0120	GEOTEXTILE TYPE HR	SY	210	230	---	---	440
SPV.0090.01	FLASHING STAINLESS STEEL	LF	---	---	---	133	133
	NON BID ITEMS						
	FILLER	SIZE					1/2" & 3/4"

GENERAL NOTES

STATE PROJECT NUMBER

7281-00-74

DRAWINGS SHALL NOT BE SCALED.

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

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

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

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

THE EXISTING GROUND LINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

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

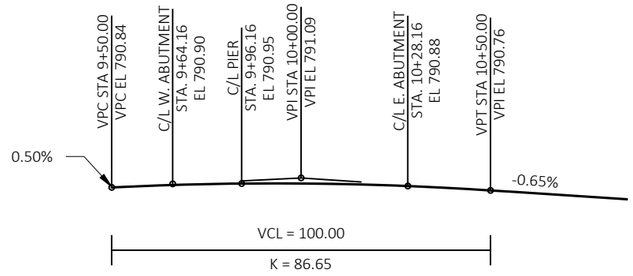
SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATIVE METHOD IS APPROVED BY THE ENGINEER.

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO NAVD88 (1991) DATUM.

THE EXISTING STRUCTURE TO BE REMOVED IS A 46.0' LONG BY 20.0' CLEAR ROADWAY WIDTH, SINGLE-SPAN PRESTRESSED CHANNEL BEAM BRIDGE (P-61-189).

◭ ¾" V-GROOVE REQ'D. EXTEND TO 6" FROM FRONT FACE OF ABUTMENT DIAPHRAGM.

◪ COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS. PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE TOP AND EXTERIOR EXPOSED FACE OF WINGS, AND THE END 1'-0" OF THE FRONT FACE OF ABUTMENT.



PROFILE GRADE LINE, C/L HAGESTAD RD

BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
BM1	12+74.8, 00.0' RT	792.70	MAG NAIL IN ROADWAY (CP #100)
BM2	10+23.2, 13.0' RT	790.96	MAG NAIL IN SE ABUTMENT
BM3	6+57.5, 00.9' RT	792.03	MAG NAIL IN ROADWAY (CP #102)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-246

DRAWN BY MJB | PLANS CK'D. RCP

TYPICAL SECTION, GENERAL NOTES & QUANTITIES

SHEET 35 OF 13

8

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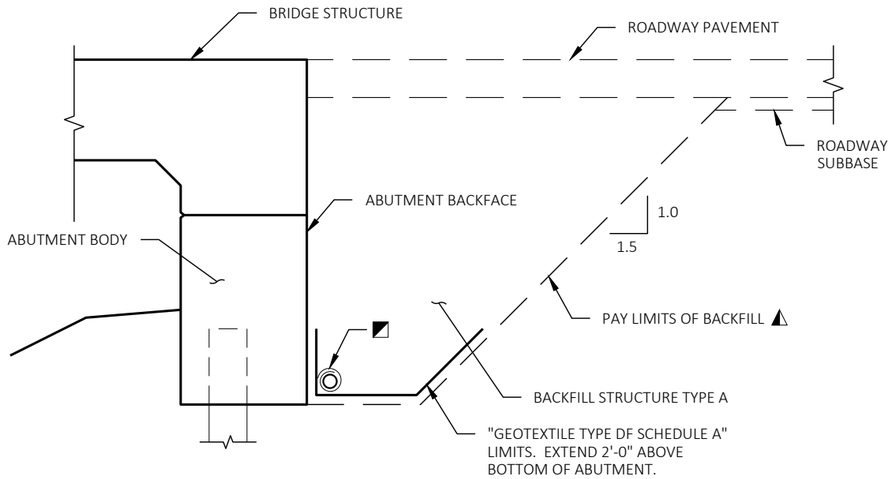
FILE NAME : X:\2918800\200250.01\TECH\CAD\72810074\DESIGN\STRUCTURE\080102_TYP.DWG PLOT DATE : 7/30/2021 PLOT BY : MATTHEW BUCKLI PLOT SCALE :

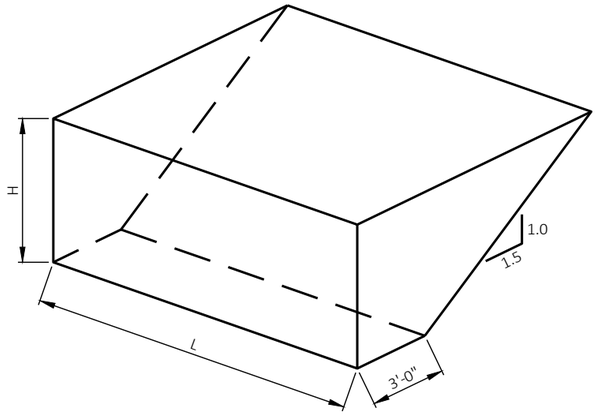
STATE PROJECT NUMBER

7281-00-74



STRUCTURE BACKFILL & PIPE UNDERDRAIN DETAIL

(TYPICAL AT BOTH ABUTMENTS)



ABUTMENT BACKFILL DIAGRAM

L = OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
V_{CF} = (L)(3.0)(H) + (L)(0.5)(1.5H)(H)
V_{CY} = V_{CF} (EF)/27
V_{TON} = V_{CY} (2.0)

STRUCTURE BACKFILL NOTES

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-61-246" SHALL BE THE EXISTING GROUNDLINE.

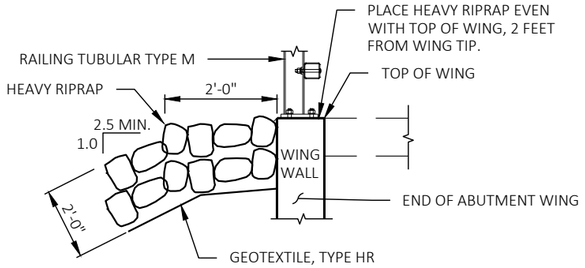
THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

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

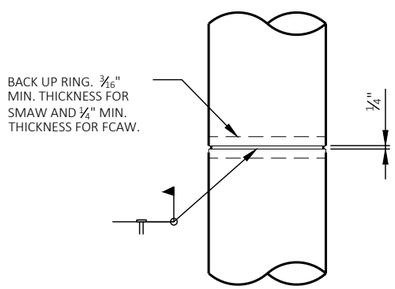
LEGEND

◭ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO THE EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

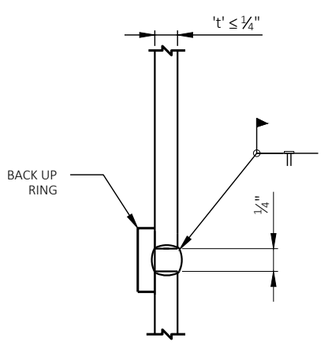
◩ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.



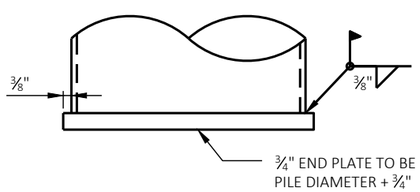
TYPICAL FILL SECTION AT WING TIPS



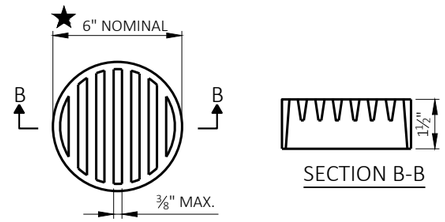
PILE SPLICE DETAILS



CIP PILE WELD DETAIL



END PLATE DETAIL FOR CIP PILING



SECTION B-B

RODENT SHIELD

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

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

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-246

DRAWN BY MJB | PLANS CK'D. RCP

GENERAL DETAILS

SHEET 36 OF 13

8

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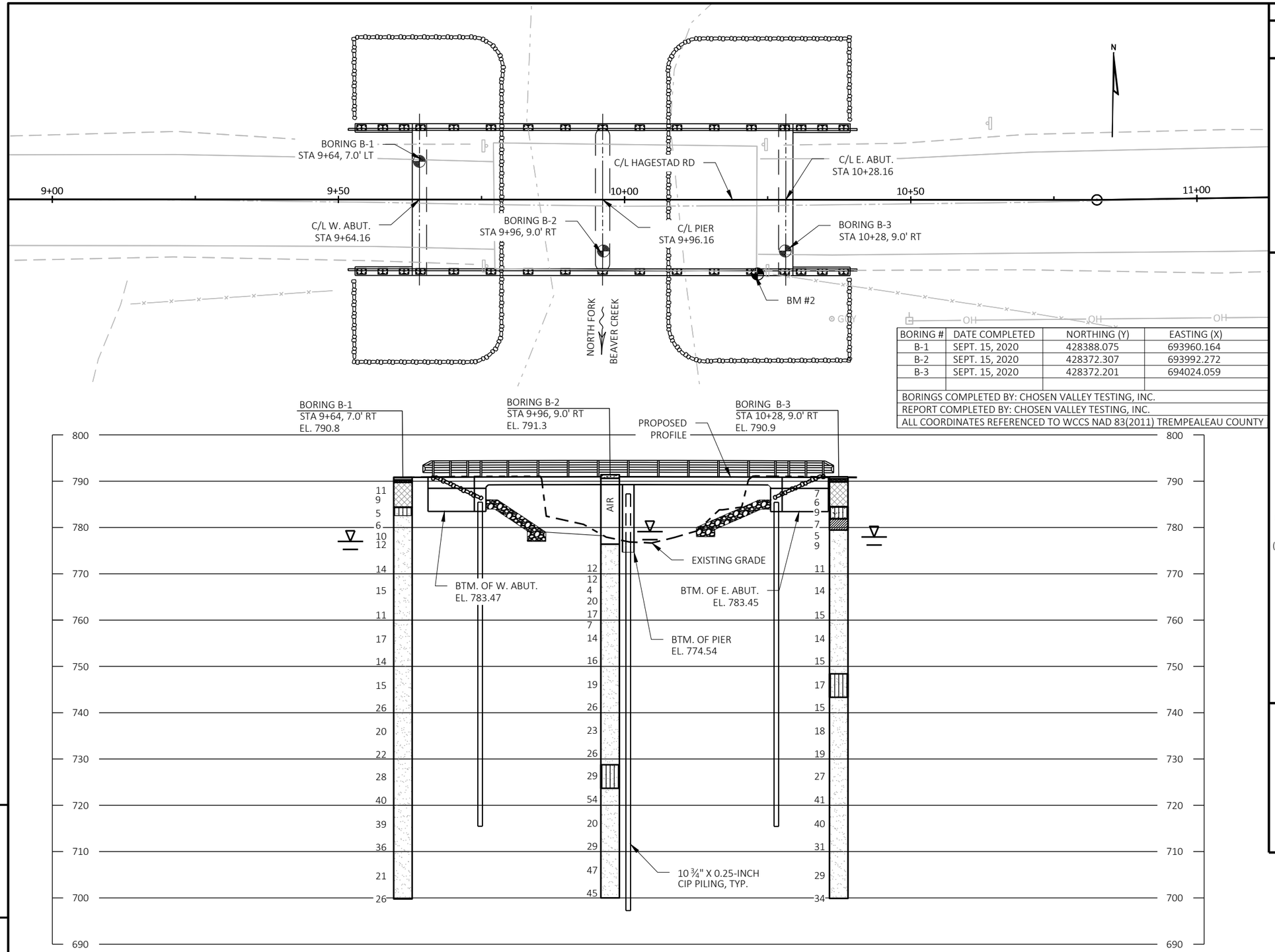


BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-1	SEPT. 15, 2020	428388.075	693960.164
B-2	SEPT. 15, 2020	428372.307	693992.272
B-3	SEPT. 15, 2020	428372.201	694024.059
BORINGS COMPLETED BY: CHOSEN VALLEY TESTING, INC.			
REPORT COMPLETED BY: CHOSEN VALLEY TESTING, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(2011) TREMPEALEAU COUNTY			

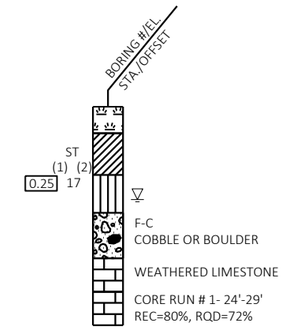
STATE PROJECT NUMBER

7281-00-74

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

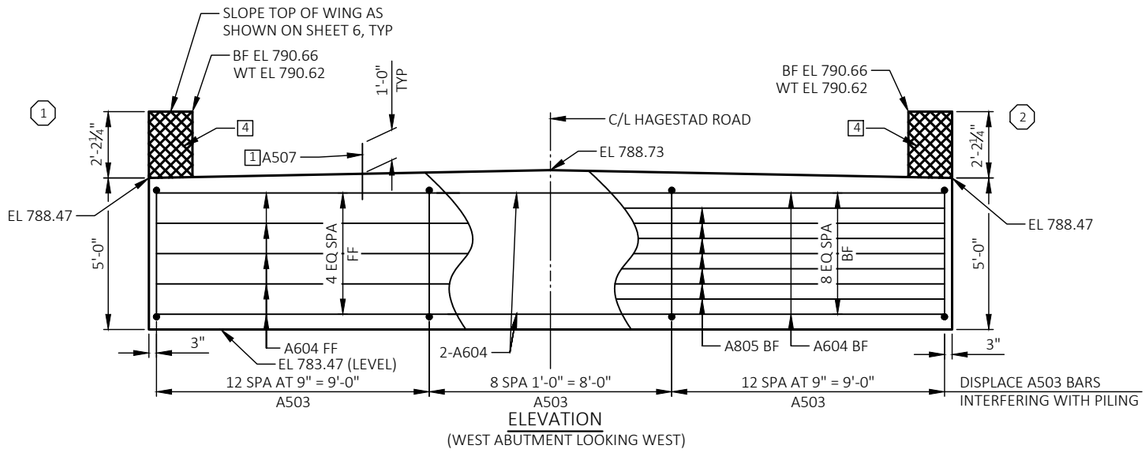
STRUCTURE B-61-246

DRAWN BY MJB | PLANS CK'D. RCP

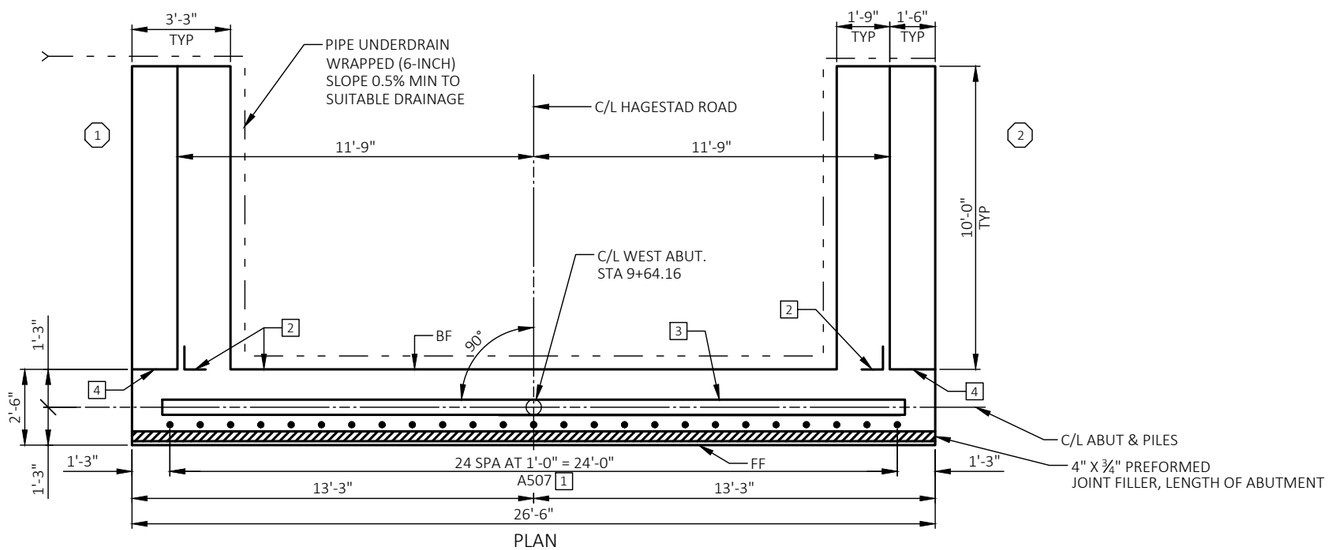
SUBSURFACE EXPLORATION

SHEET 4 OF 13
37

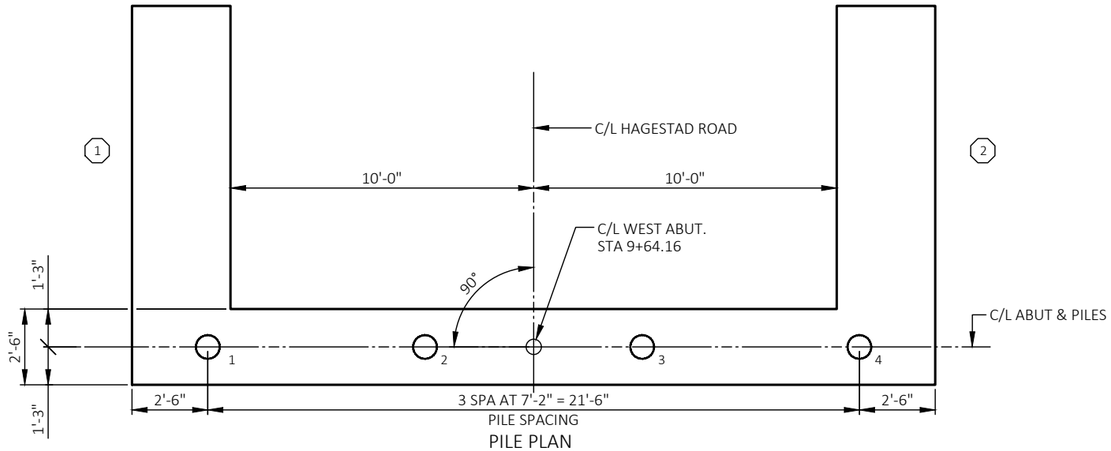
FILE NAME : X:\2918800\200250.01\TECH\CAD\72810074\DESIGN\STRUCTURE\080104_SE.DWG PLOT DATE : 7/30/2021 PLOT BY : MATTHEW BUCKLI PLOT SCALE :



ELEVATION
(WEST ABUTMENT LOOKING WEST)



PLAN



PILE PLAN

NOTES

FOR PILE SPLICE DETAIL SEE SHEET 3

FILL/EXCAVATE TO BOTTOM OF ABUTMENT EL 783.47 BEFORE DRIVING PILING.

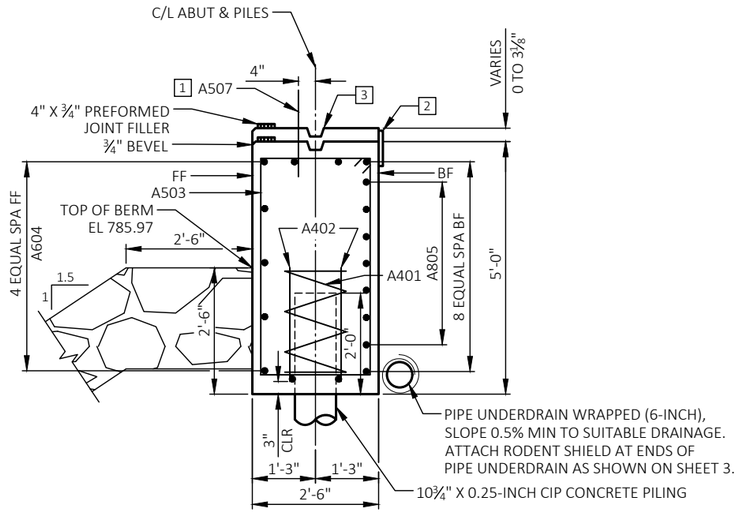
SEE SHEET 3 FOR STRUCTURE BACKFILL AND PIPE UNDERDRAIN DETAIL.

ABUTMENT SUPPORTED ON 10 ¾" DIA. X 0.250" CIP CONCRETE PILING WITH A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 70' LONG.

1. A507 BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INITIAL SET HAS TAKEN PLACE.
2. 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE. EXTEND FROM BRIDGE SEAT TO TOP OF WING.
3. KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY. TERMINATE 1'-0" FROM ABUTMENT ENDS.
4. ½" FILLER - TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

FF - FRONT FACE
BF - BACK FACE
WT - WING TIP

(#) INDICATES WING NUMBER



SECTION THRU ABUTMENT BODY

ALL HORIZONTAL BARS NOT LABELED ARE A604 BARS.

STATE PROJECT NUMBER
4310-01-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-240

DRAWN BY MJB | PLANS CK'D. RCP

WEST ABUTMENT

SHEET 38 OF 13

8

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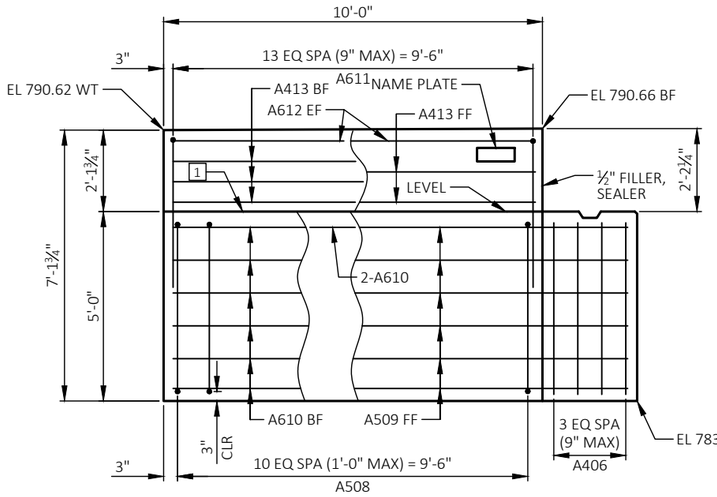
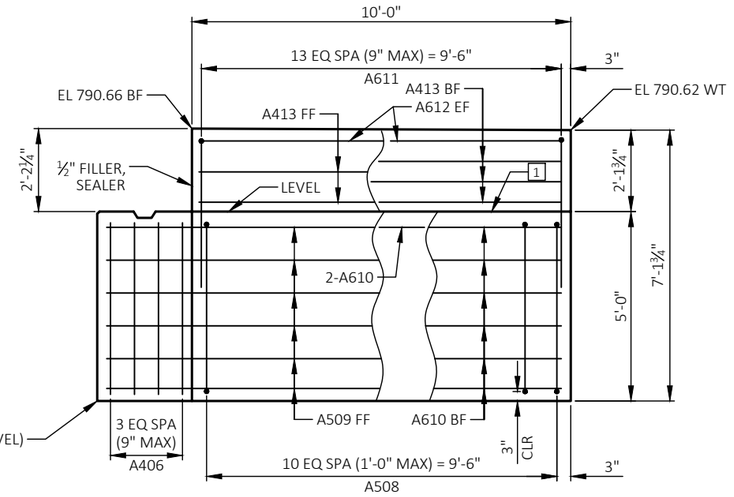
STATE PROJECT NUMBER

4310-01-71



WING 1 ELEVATION



WING 2 ELEVATION

BILL OF BARS
WEST ABUTMENT

COATED= 1350 LBS.
UNCOATED= 1510 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH FT - IN	BENT	BAR SERIES	LOCATION	
A401		4	28 - 0	X		ABUTMENT BODY - 1 PER PILE	SPIRAL
A402		8	2 - 3			ABUTMENT BODY - 2 PER PILE	VERT
A503		33	13 - 8	X		ABUTMENT BODY - STIRRUPS	VERT
A604		11	26 - 2			ABUTMENT BODY - FF, TOP, BTM	HORIZ
A805		7	26 - 2			ABUTMENT BODY - BF	HORIZ
A406		8	4 - 7			ABUTMENT BODY - AT ENDS	VERT
A507	25		2 - 0			ABUTMENT BODY - DOWELS	VERT
A508	22		15 - 4	X		WING WALL - BODY	VERT
A509	12		12 - 2			WING WALL - FF OF BODY	HORIZ
A610	16		11 - 11			WING WALL - BODY	HORIZ
A611	28		9 - 0	X		WING WALL - TOP	VERT
A612	4		9 - 7			WING WALL - TOP	HORIZ
A413	10		9 - 7			WING WALL - TOP	HORIZ

FF - FRONT FACE
BF - BACK FACE
EF - EACH FACE
WT - WING TIP

BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.

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

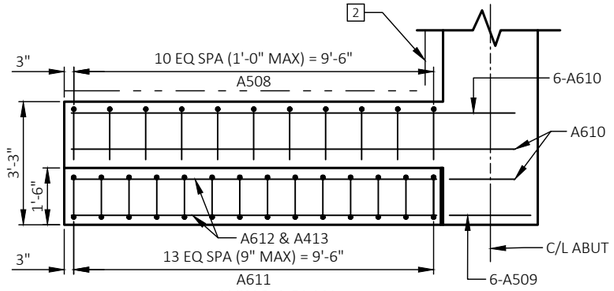
1 OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY, WITH MEMBRANE ON BACK FACE.

2 PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN TO SUITABLE DRAINAGE.

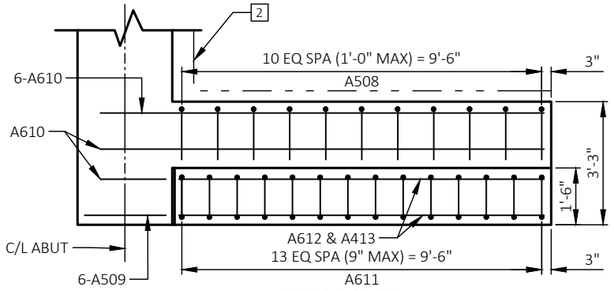
WING 1 SECTION
SEE SHEET 12 FOR RAIL POST ANCHORS

WING 2 SECTION
SEE SHEET 12 FOR RAIL POST ANCHORS

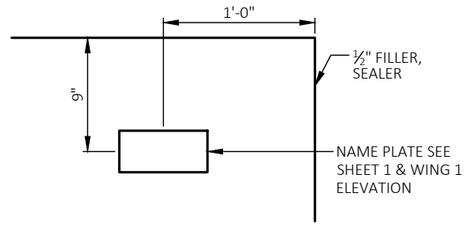
A401 A503 A508 A611



WING 1 PLAN
SPACE A611 TO MISS ANCHORS FOR RAIL POSTS.



WING 2 PLAN
SPACE A611 TO MISS ANCHORS FOR RAIL POSTS.



NAME PLATE LOCATION
ON WING 1

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-240

DRAWN BY MJB | PLANS CK'D. RCP

WEST ABUTMENT DETAILS

SHEET 6 OF 13
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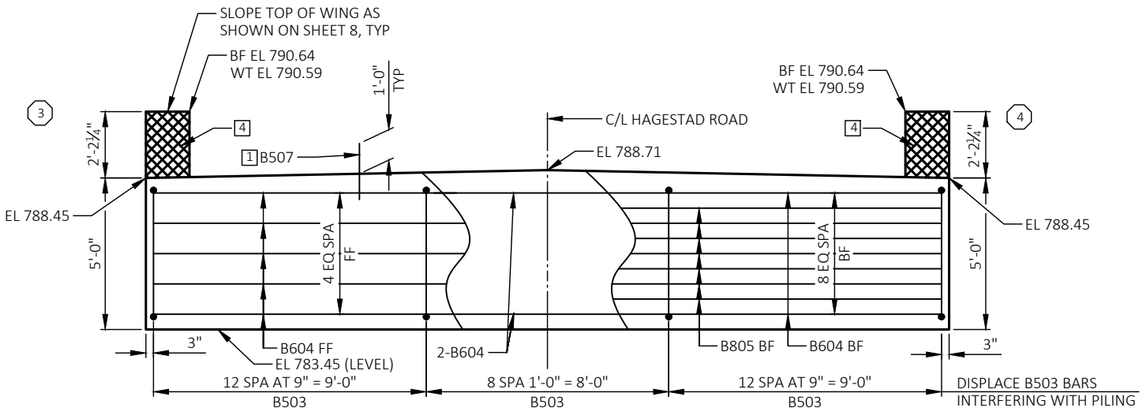
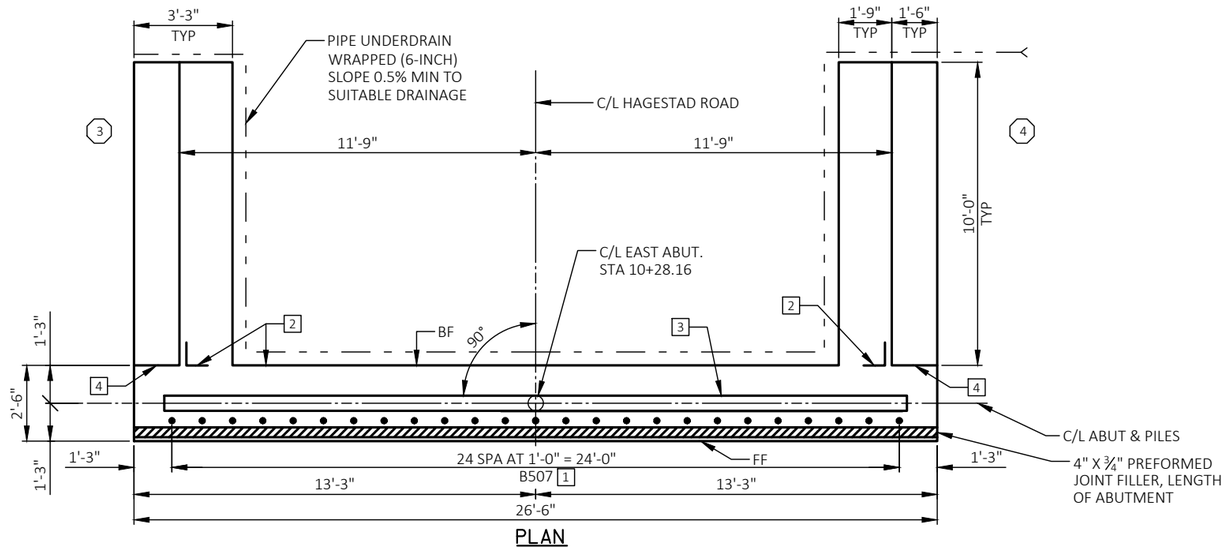
8

8

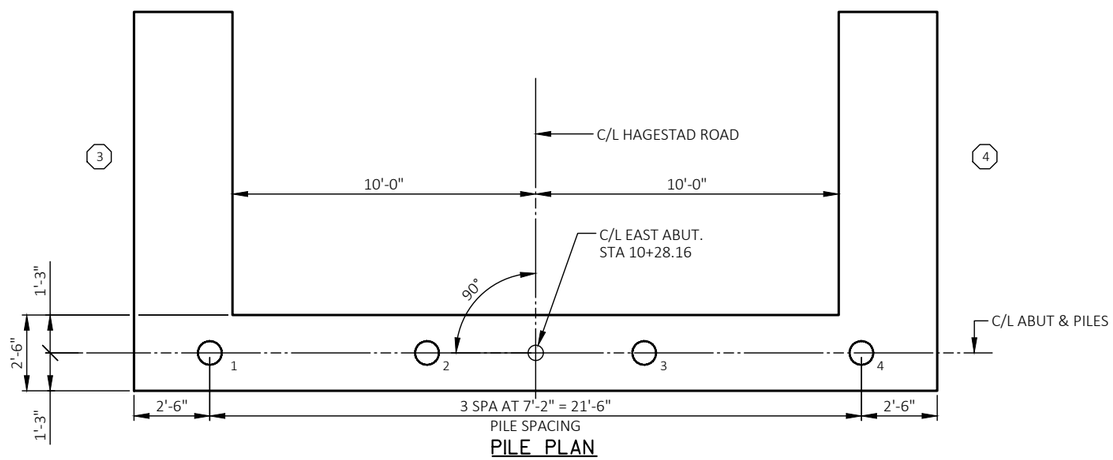


ELEVATION

(EAST ABUTMENT LOOKING EAST)



PLAN



PILE PLAN

NOTES

FOR PILE SPLICE DETAIL SEE SHEET 3

FILL/EXCAVATE TO BOTTOM OF ABUTMENT EL 783.45 BEFORE DRIVING PILING.

SEE SHEET 3 FOR STRUCTURE BACKFILL AND PIPE UNDERDRAIN DETAIL.

ABUTMENT SUPPORTED ON 10¾" DIA. X 0.250" CIP CONCRETE PILING WITH REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 70' LONG.

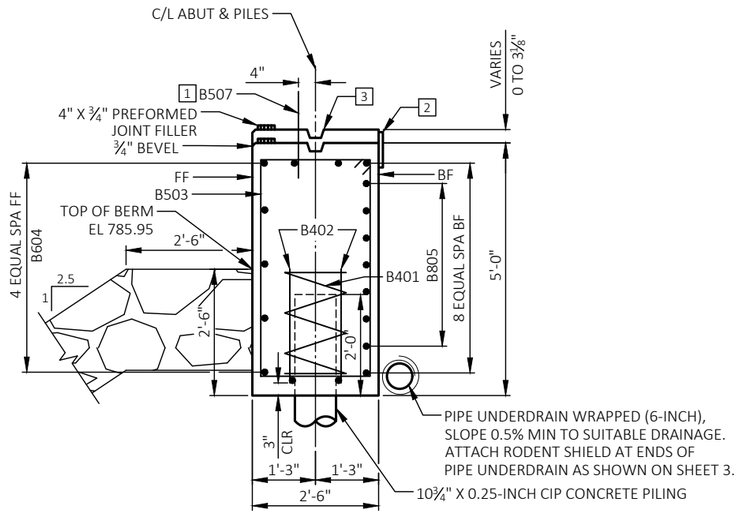
1. B507 BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INITIAL SET HAS TAKEN PLACE.
2. 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE. EXTEND FROM BRIDGE SEAT TO TOP OF WING.
3. KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY. TERMINATE 1'-0" FROM ABUTMENT ENDS.
4. ½" FILLER - TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

FF - FRONT FACE

BF - BACK FACE

WT - WING TIP

(#) INDICATES WING NUMBER



SECTION THRU ABUTMENT BODY

ALL HORIZONTAL BARS NOT LABELED ARE B604 BARS.

STATE PROJECT NUMBER

4310-01-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-240

DRAWN BY MJB | PLANS CK'D. RCP

EAST ABUTMENT

SHEET 7 OF 13
40

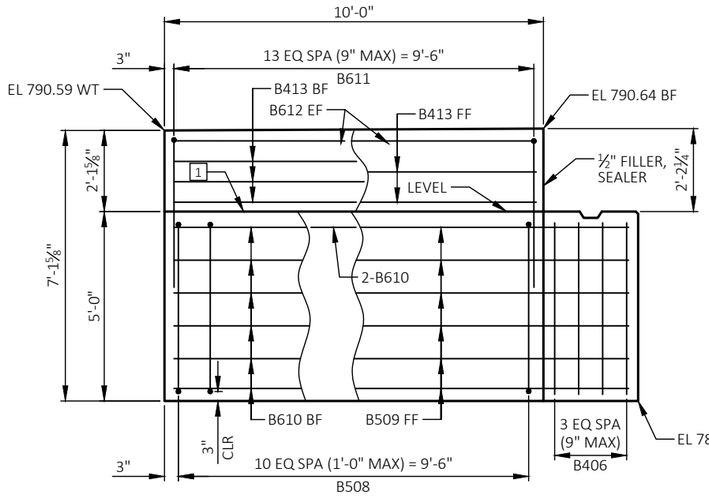
8

8

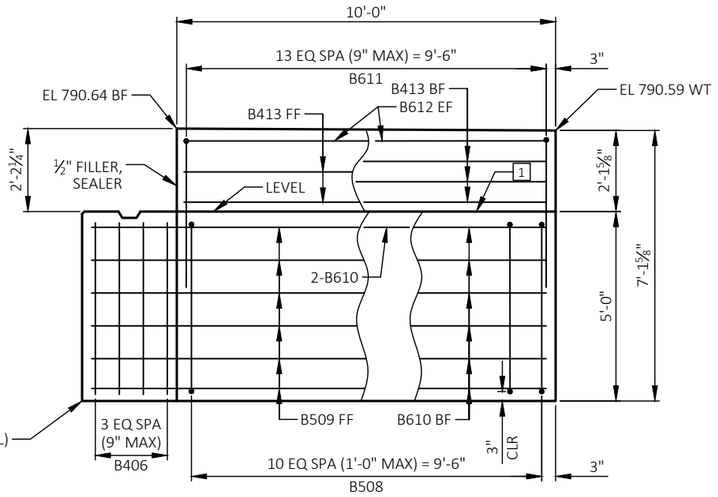
FILE NAME : X:\2918800\200250.01\TECH\CAD\72810074\DESIGN\STRUCTURE\080107_EA.DWG PLOT DATE : 7/30/2021 PLOT BY : MATTHEW BUCKLI PLOT SCALE :

STATE PROJECT NUMBER

4310-01-71



WING 3 ELEVATION



WING 4 ELEVATION

BILL OF BARS
EAST ABUTMENT

COATED= 1350 LBS.
UNCOATED= 1510 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH FT - IN	BENT	BAR SERIES	LOCATION	
B401		4	28 - 0	X		ABUTMENT BODY - 1 PER PILE	SPIRAL
B402		8	2 - 3			ABUTMENT BODY - 2 PER PILE	VERT
B503		33	13 - 8	X		ABUTMENT BODY - STIRRUPS	VERT
B604		11	26 - 2			ABUTMENT BODY - FF, TOP, BTM	HORIZ
B805		7	26 - 2			ABUTMENT BODY - BF	HORIZ
B406		8	4 - 7			ABUTMENT BODY - AT ENDS	VERT
B507	25		2 - 0			ABUTMENT BODY - DOWELS	VERT
B508	22		15 - 4	X		WING WALL - BODY	VERT
B509	12		12 - 2			WING WALL - FF OF BODY	HORIZ
B610	16		11 - 11			WING WALL - BODY	HORIZ
B611	28		9 - 0	X		WING WALL - TOP	VERT
B612	4		9 - 7			WING WALL - TOP	HORIZ
B413	10		9 - 7			WING WALL - TOP	HORIZ

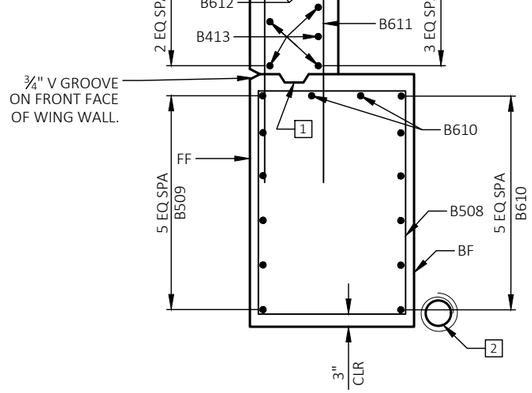
FF - FRONT FACE
BF - BACK FACE
EF - EACH FACE
WT - WING TIP

BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.

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

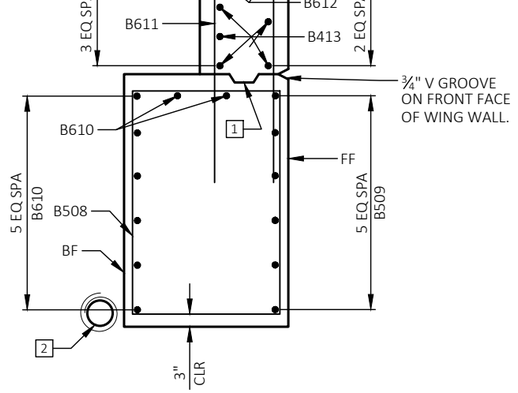
1 OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY, WITH MEMBRANE ON BACK FACE.

2 PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN TO SUITABLE DRAINAGE.



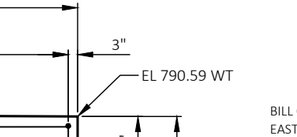
WING 3 SECTION

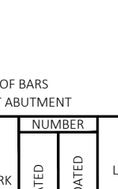
SEE SHEET 12 FOR RAIL POST ANCHORS



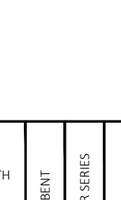
WING 4 SECTION

SEE SHEET 12 FOR RAIL POST ANCHORS





B503



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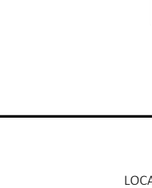

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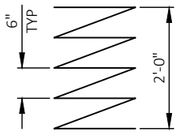

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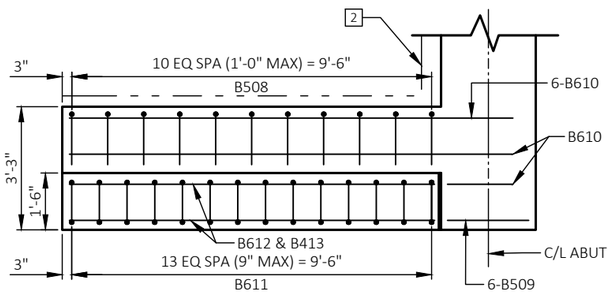
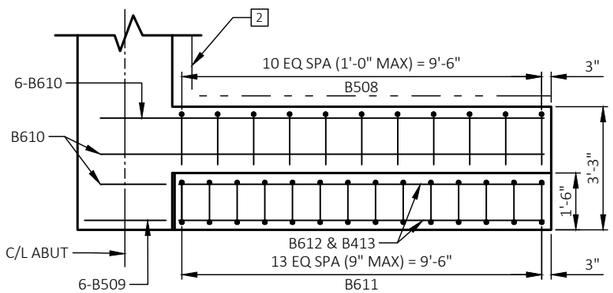


WING 3 PLAN

SPACE B611 TO MISS ANCHORS FOR RAIL POSTS.



WING 4 PLAN

SPACE B611 TO MISS ANCHORS FOR RAIL POSTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-240

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EAST ABUTMENT DETAILS

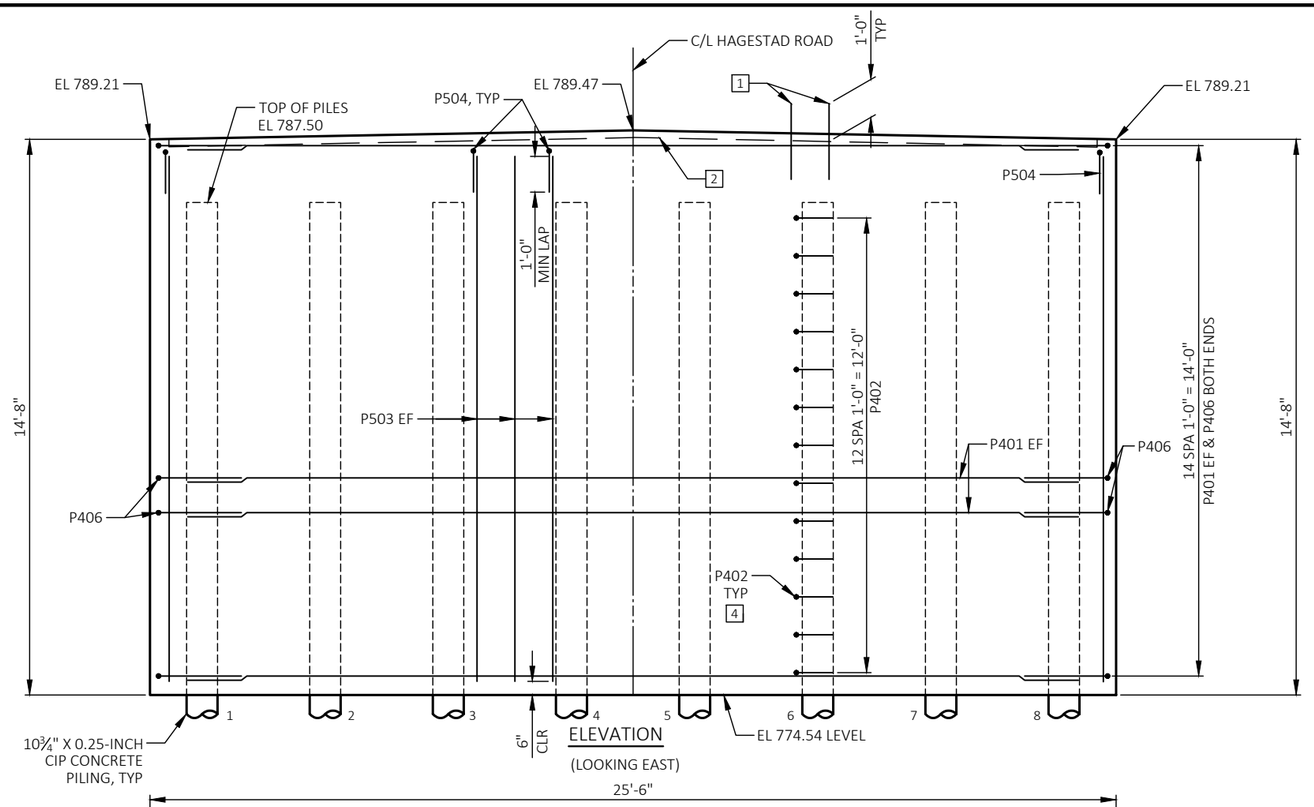
SHEET 41 OF 13

8

8

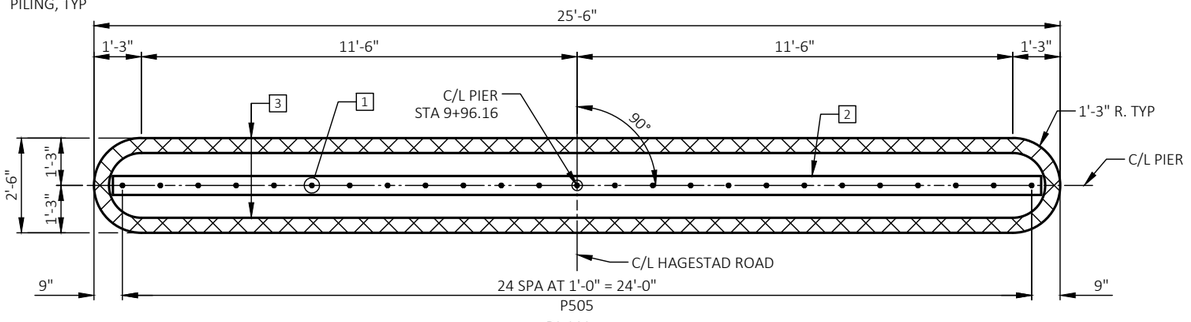
STATE PROJECT NUMBER

4310-01-71

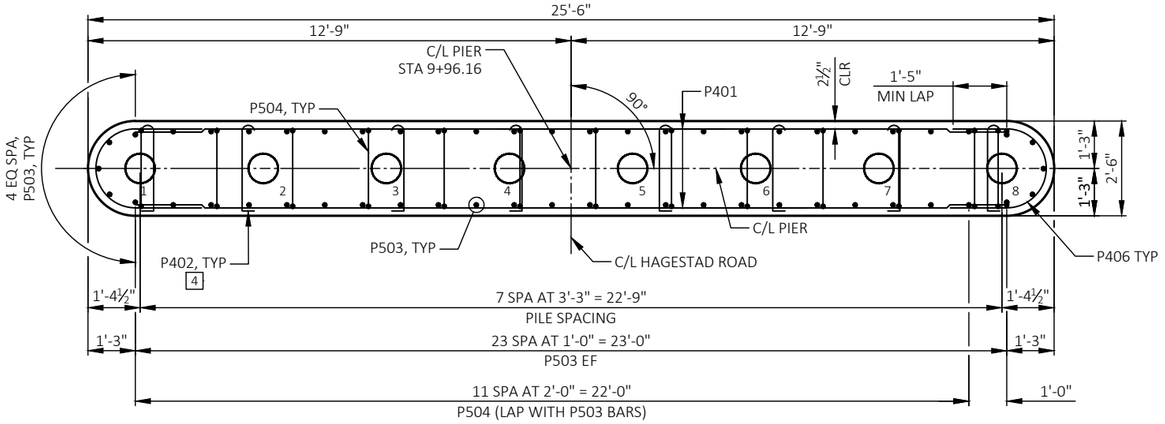


ELEVATION

(LOOKING EAST)



PLAN



PILE AND REINFORCEMENT PLAN

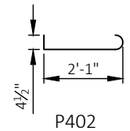
BILL OF BARS
PIER

COATED= 0 LBS.
UNCOATED= 1690 LBS.

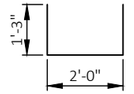
MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH FT - IN	BENT	BAR SERIES	LOCATION	
P401		30	23 - 0			SHAFT	HORIZ
P402		104	2 - 11	X		SHAFT - TIES	HORIZ
P503		54	14 - 0			SHAFT	VERT
P504		13	4 - 3	X		SHAFT AT TOP	VERT
P505		25	2 - 0			SHAFT DOWELS	VERT
P406		30	6 - 1	X		SHAFT AT ENDS	HORIZ

BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.

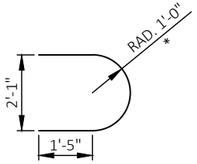
THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.



P402



P504



* MEASURED ON INSIDE OF BAR

P406

NOTES

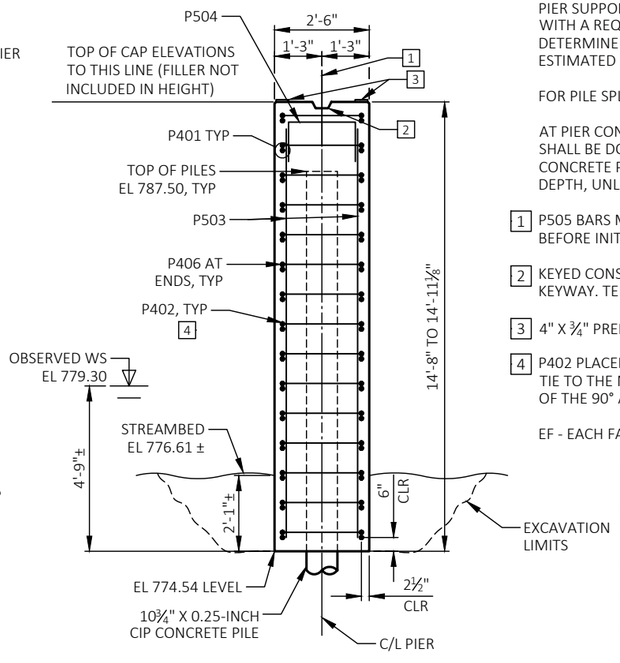
PIER SUPPORTED ON 10¾" DIA. X 0.250" CIP CONCRETE PILING WITH A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 90'-0" LONG.

FOR PILE SPLICE DETAILS SEE SHEET 3

AT PIER CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH STANDARD SPEC 502.3.5.3. CONCRETE POURED UNDERWATER SHALL NOT EXCEED 10.0 FEET IN DEPTH, UNLESS APPROVED OTHERWISE.

1. P505 BARS MAY BE PLACED AFTER CONCRETE IS PLACED, BUT BEFORE INITIAL SET HAS TAKEN PLACE.
2. KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY. TERMINATE 6" FROM PIER ENDS.
3. 4" X ¾" PREFORMED JOINT FILLER LENGTH OF PIER.
4. P402 PLACED ADJACENT TO EACH PILE AT 1'-0" VERTICAL CENTERS. TIE TO THE NEAREST VERTICAL #5 BAR. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

EF - EACH FACE



TYPICAL SECTION THRU PIER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-240

DRAWN BY MJB | PLANS CK'D. RCP

PIER DETAILS

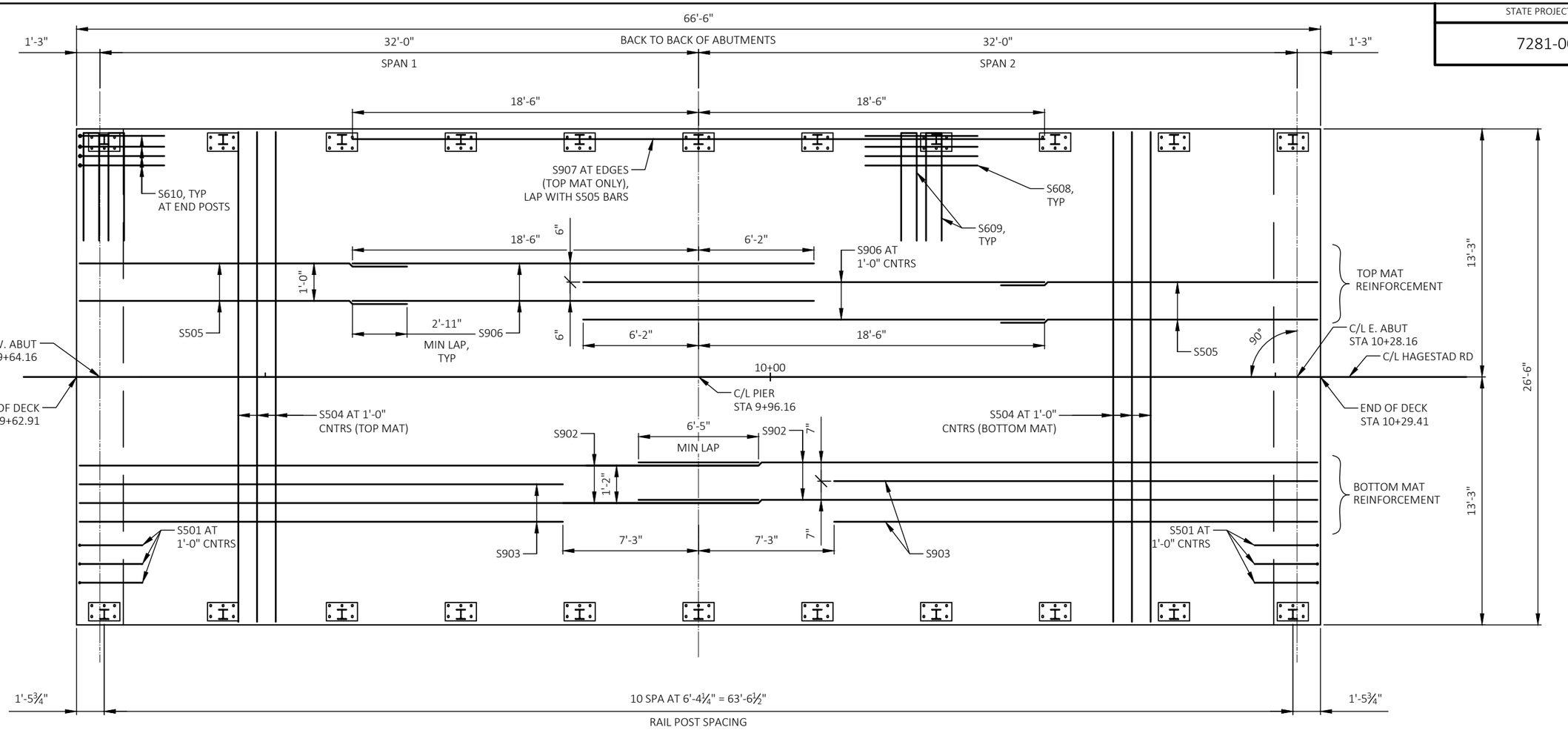
SHEET 9 OF 13
42

8

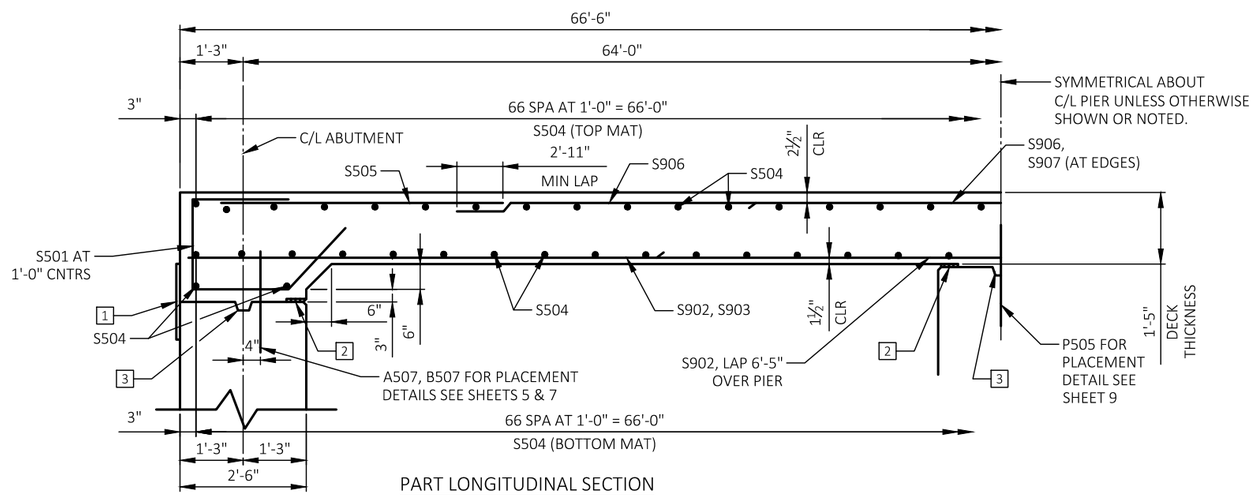
8

STATE PROJECT NUMBER

7281-00-74



PLAN



PART LONGITUDINAL SECTION

NOTES

1. 18" RUBBERIZED MEMBRANE WATERPROOFING
2. 4" X ¾" PREFORMED JOINT FILLER
3. KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-246

DRAWN BY MJB | PLANS CK'D. RCP

SUPERSTRUCTURE

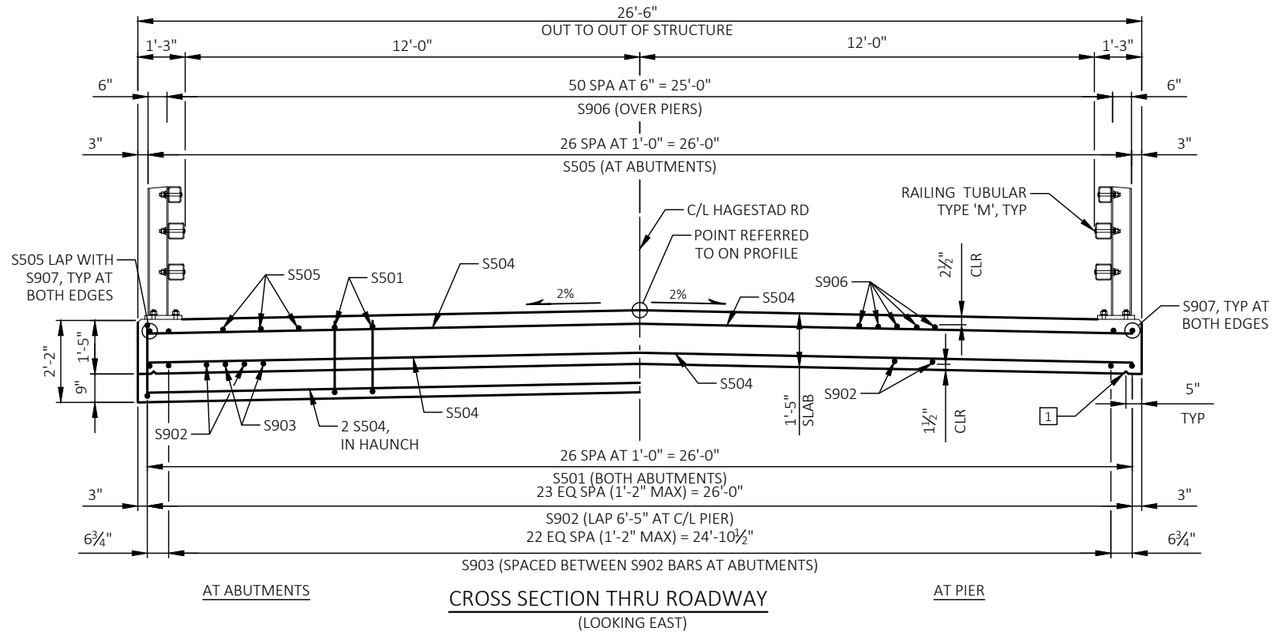
SHEET 10 OF 13
43

8

8

STATE PROJECT NUMBER

7281-00-74



CROSS SECTION THRU ROADWAY
(LOOKING EAST)

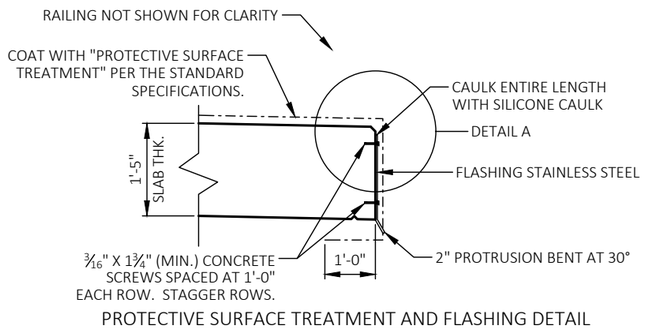
NOTES:

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

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

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF ABUTMENTS, C/L OF PIER AND AT $\frac{5}{10}$ PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF DECK AND C/L.

[1] ¾" V-GROOVE. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT DIAPHRAGM. V-GROOVES ARE REQUIRED.



PROTECTIVE SURFACE TREATMENT AND FLASHING DETAIL

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 THE DECK PRIOR TO ATTACHMENT OF THE FLASHING.

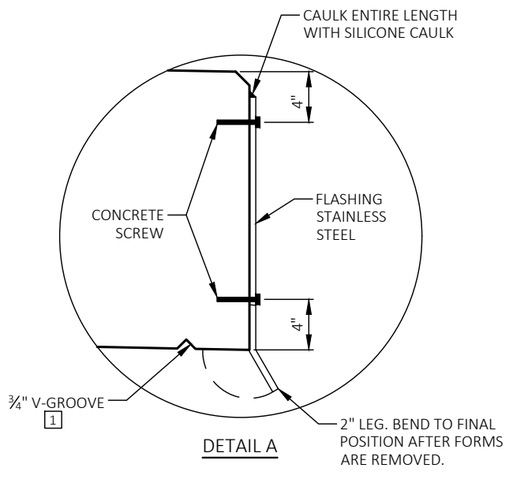
CONCRETE SCREWS SHALL BE 410 STAINLESS STEEL.

EXTEND FLASHING TO B.F. OF ABUTMENT DIAPHRAGM.

FLASHING TO BE INSTALLED AFTER PROTECTIVE SURFACE TREATMENT APPLICATION.

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

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



DETAIL A

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

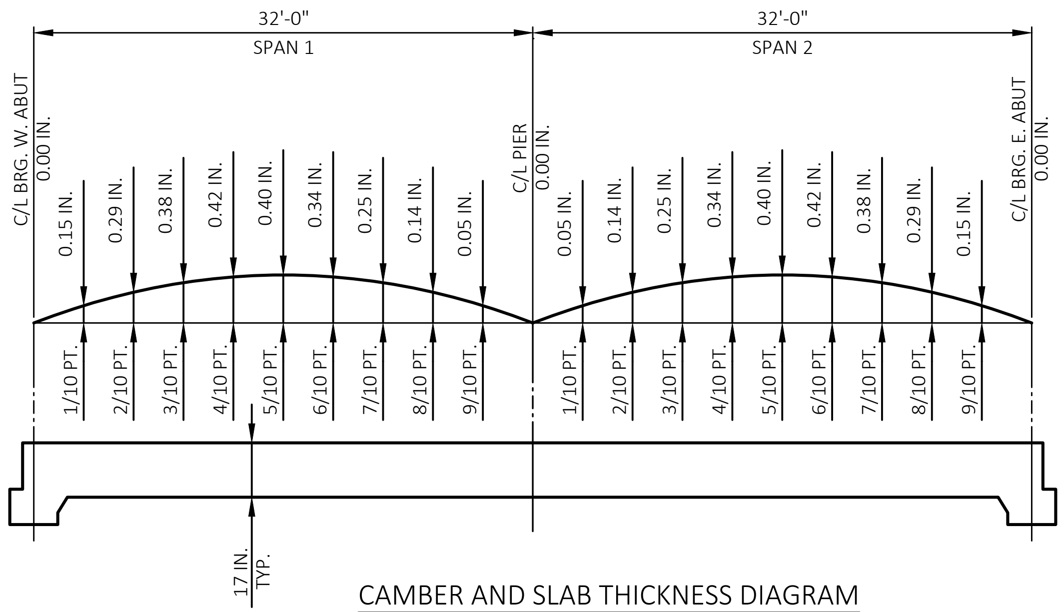
STRUCTURE B-61-246

DRAWN BY MJB | PLANS CK'D. RCP

SUPERSTRUCTURE DETAILS

SHEET 11 OF 13
44

FILE NAME : X:±2918800±200250.01±TECH±CAD±72810074±DESIGN±STRUCTURE±080110_SS.DWG PLOT DATE : 7/30/2021 PLOT BY : MATTHEW BUCKLI PLOT SCALE : 1" = 1'



CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTION.

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

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB AND CROWN FOLLOW THIS PROCEDURE:

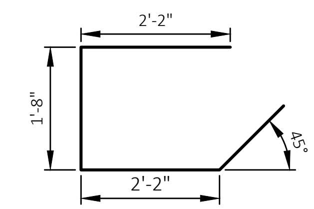
TOP OF SLAB ELEVATION AT FINAL GRADE
MINUS..... SLAB THICKNESS
PLUS........ CAMBER
PLUS........ FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY CONTRACTOR)

EQUALS = TOP OF SLAB FALSEWORK ELEVATION

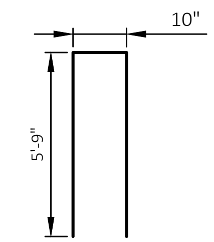
SURVEY TOP OF SLAB ELEVATIONS

	C/L BRG. WEST ABUTMENT	5/10 PT.	C/L PIER	5/10 PT.	C/L BRG. EAST ABUTMENT
NORTH EDGE OF SLAB					
C/L HAGESTAD ROAD / CROWN					
SOUTH EDGE OF SLAB					

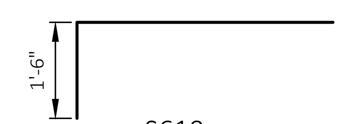
PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF ABUTMENTS, THE C/L OF PIER, AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND CROWN. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.



S501



S609



S610

BILL OF BARS
SUPERSTRUCTURE

COATED= 21270 LBS.
UNCOATED= 0 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH FT - IN	BENT	BAR SERIES	LOCATION	
S501	54		7 - 10	X		SLAB - ABUTMENT TIES	LONGIT
S902	48		36 - 4			SLAB - BOTTOM	LONGIT
S903	46		25 - 10			SLAB - BOTTOM	LONGIT
S504	138		26 - 2			SLAB - TOP & BOTTOM	TRANS
S505	54		17 - 6			SLAB - TOP	LONGIT
S906	51		24 - 8			SLAB - TOP	LONGIT
S907	2		37 - 0			SLAB - TOP AT EDGES	LONGIT
S608	72		6 - 0			RAILING ANCHORS	LONGIT
S609	44		12 - 0	X		RAILING ANCHORS	TRANS
S610	16		5 - 8	X		RAILING ANCHORS AT CORNERS	LONGIT

BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.

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

TOP OF SLAB ELEVATIONS

	NORTH EDGE		CENTERLINE/CROWN		SOUTH EDGE	
SPAN PT.	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
W. ABUT.	9 + 64.16	790.63	9 + 64.16	790.90	9 + 64.16	790.63
0.1	9 + 67.36	790.64	9 + 67.36	790.91	9 + 67.36	790.64
0.2	9 + 70.56	790.65	9 + 70.56	790.92	9 + 70.56	790.65
0.3	9 + 73.76	790.66	9 + 73.76	790.93	9 + 73.76	790.66
0.4	9 + 76.96	790.67	9 + 76.96	790.93	9 + 76.96	790.67
0.5	9 + 80.16	790.67	9 + 80.16	790.94	9 + 80.16	790.67
0.6	9 + 83.36	790.68	9 + 83.36	790.94	9 + 83.36	790.68
0.7	9 + 86.56	790.68	9 + 86.56	790.95	9 + 86.56	790.68
0.8	9 + 89.76	790.68	9 + 89.76	790.95	9 + 89.76	790.68
0.9	9 + 92.96	790.68	9 + 92.96	790.95	9 + 92.96	790.68
PIER	9 + 96.16	790.68	9 + 96.16	790.95	9 + 96.16	790.68
0.1	9 + 99.36	790.68	9 + 99.36	790.95	9 + 99.36	790.68
0.2	10 + 02.56	790.68	10 + 02.56	790.94	10 + 02.56	790.68
0.3	10 + 05.76	790.68	10 + 05.76	790.94	10 + 05.76	790.68
0.4	10 + 08.96	790.67	10 + 08.96	790.93	10 + 08.96	790.67
0.5	10 + 12.16	790.66	10 + 12.16	790.93	10 + 12.16	790.66
0.6	10 + 15.36	790.66	10 + 15.36	790.92	10 + 15.36	790.66
0.7	10 + 18.56	790.65	10 + 18.56	790.91	10 + 18.56	790.65
0.8	10 + 21.76	790.64	10 + 21.76	790.90	10 + 21.76	790.64
0.9	10 + 24.96	790.63	10 + 24.96	790.89	10 + 24.96	790.63
E. ABUT.	10 + 28.16	790.61	10 + 28.16	790.88	10 + 28.16	790.61

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-246

DRAWN BY MJB PLANS CK'D. RCP

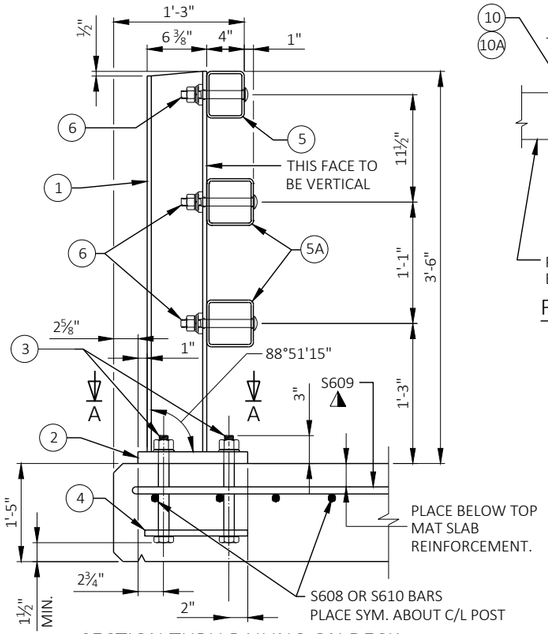
CAMBER AND BILL OF BARS

SHEET 12 OF 13

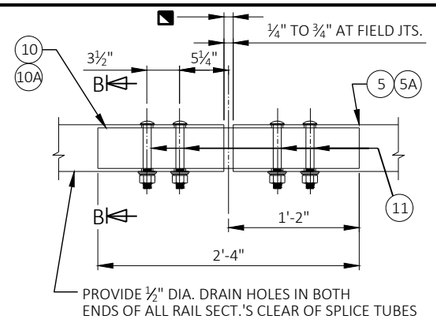
45

STATE PROJECT NUMBER

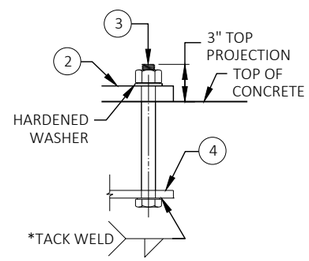
7281-00-74



SECTION THRU RAILING ON DECK

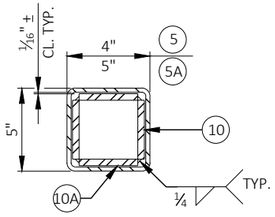


FIELD ERECTION JOINT DETAIL

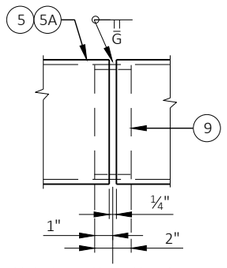


ANCHOR BOLTS

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

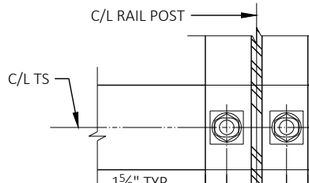


SECTION B-B

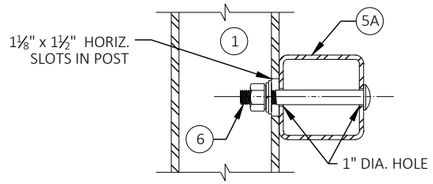


SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



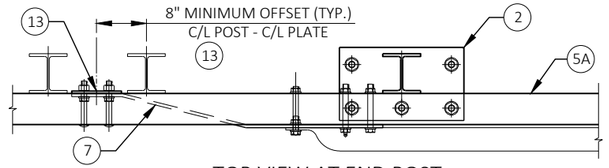
SECTION THRU POST WEB



SECTION THRU RAIL

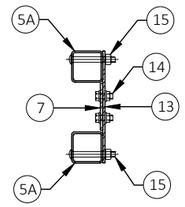
NOTE: CONNECTIONS AT LOWER RAILS SHOWN, CONNECTIONS AT TOP RAIL SIMILAR

TYPICAL RAIL TO POST CONNECTIONS

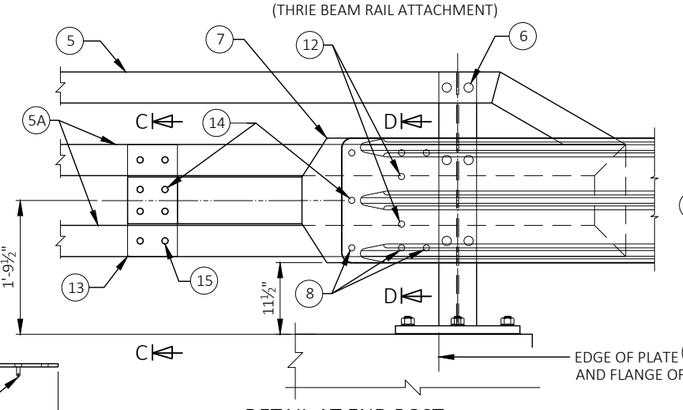


TOP VIEW AT END POST

(THRIE BEAM RAIL ATTACHMENT)

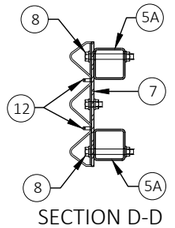


SECTION C-C



DETAIL AT END POST

(THRIE BEAM RAIL ATTACHMENT)



SECTION D-D

LEGEND

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

¼" TO ¾" OPENING AT ABUTMENT.

TIE TO TOP MAT OF STEEL.

NOTES

BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-61-246" WHICH INCLUDES ALL ITEMS SHOWN.

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.

THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.

RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.

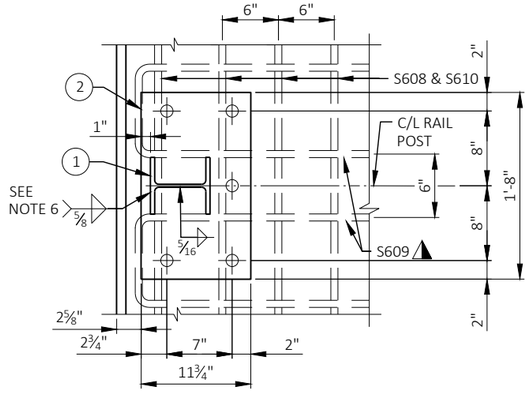
ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.

WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.

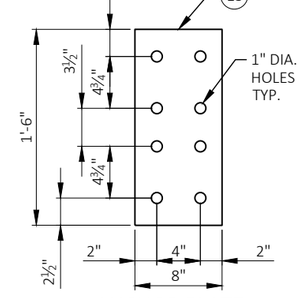
FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.

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.

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 SSPC SPECIFICATIONS.

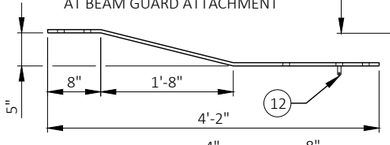


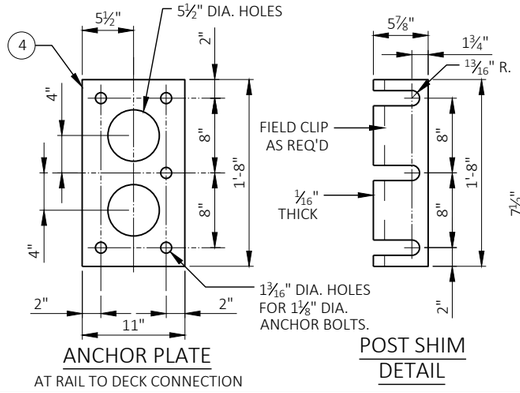
SECTION A-A



ANCHOR PLATE

AT BEAM GUARD ATTACHMENT

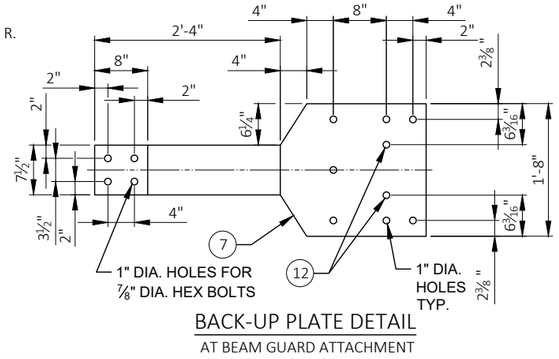




ANCHOR PLATE

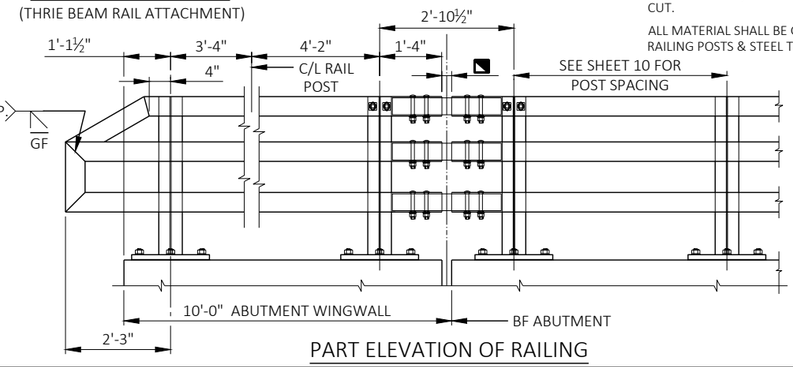
AT RAIL TO DECK CONNECTION

POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-246

DRAWN BY MJB | PLANS CK'D. RCP

TYPE M RAILING DETAILS

SHEET 13 OF 13

46

8

8

HAGESTAD RD

STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT NOTE 1	SALVAGED/UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
9+00	23	5	0	0	0	0	0	0	0
9+25	23	5	16	21	5	7	21	9	7
9+28	23	5	15	3	1	2	24	11	7
9+53	26	5	9	22	5	11	46	25	10
9+63	24	5	0	9	2	2	55	28	15
10+29	24	6	0	0	0	0	55	28	15
10+39	33	6	22	11	2	4	66	33	19
10+50	33	6	25	14	2	9	79	44	18
10+64	34	6	18	18	3	11	97	58	19
10+80	33	6	0	20	4	5	117	65	28
				117	24	52			

TEMP BYPASS RD

STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT NOTE 1	SALVAGED/UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
49+94	0	0	0	0	0	0	0	0	0
50+25	5	0	0	3	0	0	3	0	3
50+50	17	0	0	10	0	0	13	1	13
50+75	6	0	5	11	0	2	24	4	20
51+00	3	0	7	4	0	6	28	11	17
51+25	7	0	2	5	0	4	33	16	16
51+50	74	0	0	38	0	1	71	18	53
51+75	5	0	7	37	0	3	107	21	86
52+00	10	0	16	7	0	10	114	35	80
52+25	12	0	20	10	0	17	125	55	69
52+75	0	0	170	0	0	0	125	55	69
53+00	14	0	12	6	0	84	131	161	-30
53+25	64	0	1	36	0	6	167	168	-2
53+50	172	0	0	109	0	0	276	169	107
53+75	216	0	0	180	0	0	456	169	287
54+00	136	0	0	163	0	0	619	169	450
54+25	64	0	0	93	0	0	711	169	542
54+50	30	0	0	43	0	0	755	169	586
54+75	15	0	0	21	0	0	775	169	606
54+93	0	0	0	5	0	0	780	169	611
				780	0	135			

NOTES:
1 - Cut (Salvage/Unusable Pavement Material Included.)
2 - Salvage/Unusable Pavement Material. (This does not show up in the cross sections.)
3 - Fill (Does not include Unusable Pavement volume.)
4 - The Mass Ordinate + of - quantities calculated. Plus quantities as excess of material. Minus a shortage of material.

No Marsh of EBS is anticipated.

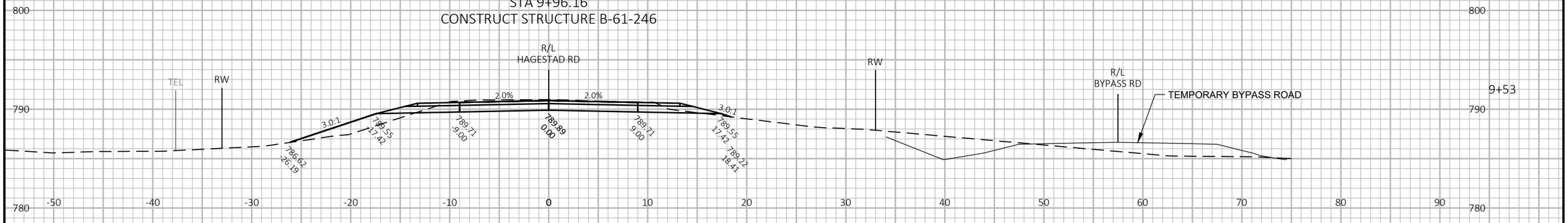
TEMP BYPASS RD REMOVAL

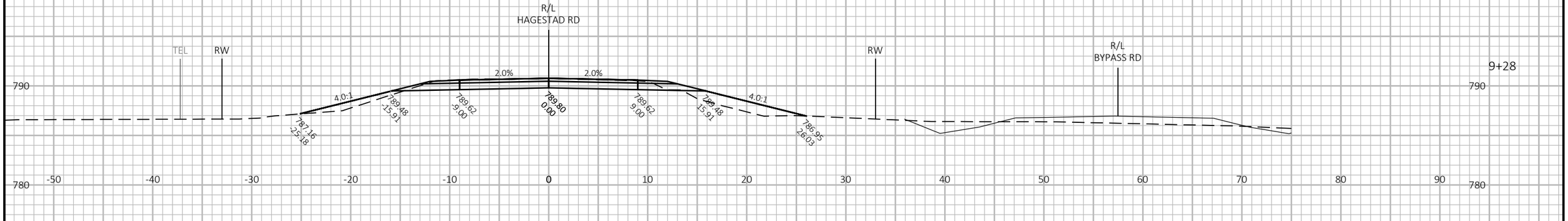
STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT NOTE 1	SALVAGED/UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
49+94	0	0	0	0	0	0	0	0	0
50+25	0	0	5	0	0	3	0	4	-4
50+50	0	0	17	0	0	10	0	17	-16
50+75	5	0	6	2	0	11	3	30	-27
51+00	7	0	3	6	0	4	9	35	-27
51+25	2	0	7	4	0	5	13	41	-28
51+50	0	0	74	1	0	38	14	88	-74
51+75	7	0	5	3	0	37	17	134	-117
52+00	16	0	10	10	0	7	28	143	-115
52+25	20	0	12	17	0	10	44	156	-111
52+75	170	0	0	0	0	0	44	156	-111
53+00	12	0	14	84	0	6	129	164	-35
53+25	1	0	64	6	0	36	135	208	-74
53+50	0	0	172	0	0	109	135	345	-210
53+75	0	0	216	0	0	180	135	570	-434
54+00	0	0	136	0	0	163	135	773	-638
54+25	0	0	64	0	0	93	135	889	-754
54+50	0	0	30	0	0	43	135	943	-808
54+75	0	0	15	0	0	21	135	969	-834
54+93	0	0	0	0	0	5	135	975	-840
				135	0	780			

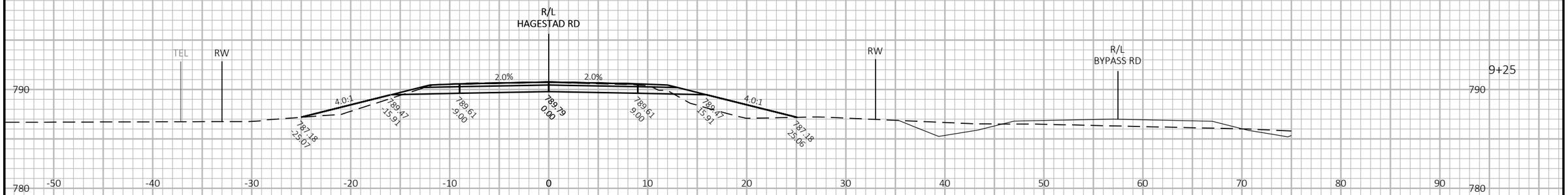
NOTES:
1 - Cut (Salvage/Unusable Pavement Material Included.)
2 - Salvage/Unusable Pavement Material. (This does not show up in the cross sections.)
3 - Fill (Does not include Unusable Pavement volume.)
4 - The Mass Ordinate + of - quantities calculated. Plus quantities as excess of material. Minus a shortage of material.

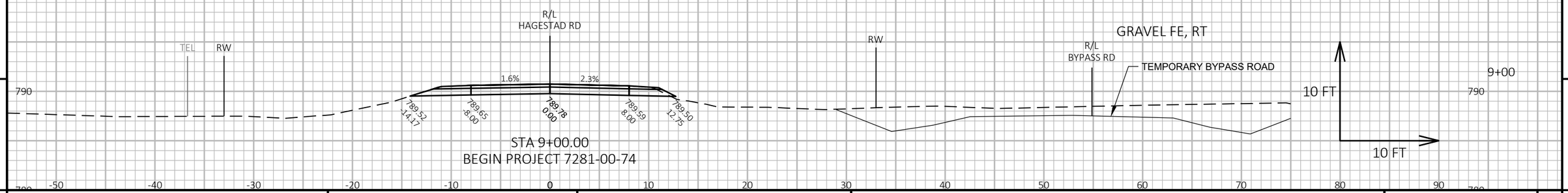
No Marsh of EBS is anticipated.

STA 9+96.16
CONSTRUCT STRUCTURE B-61-246







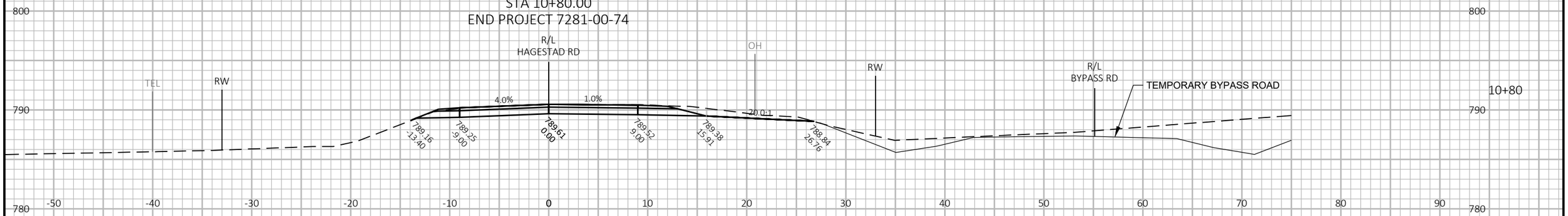


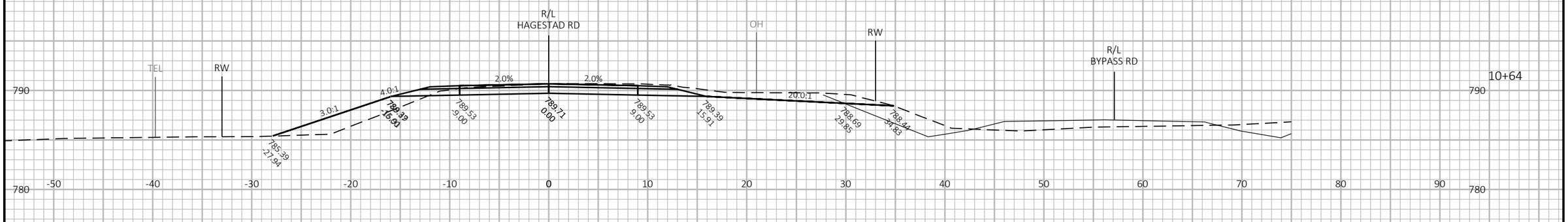
STA 9+00.00
BEGIN PROJECT 7281-00-74

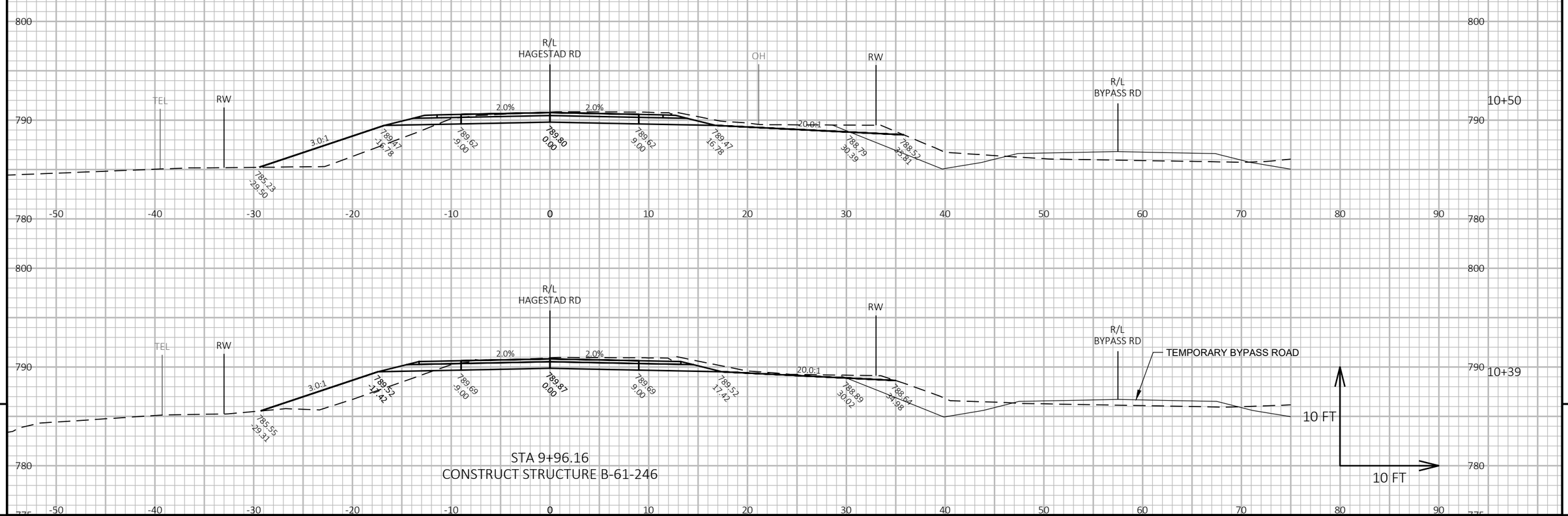
PROJECT NO: 7281-00-74	HWY: LOCAL STREET	COUNTY: TREMPEALEAU	CROSS SECTIONS: HAGESTAD ROAD	SHEET 49 E

FILE NAME : X:\2918800\200250.01\TECH\CAD\72810074\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090201_xs
PLOT DATE : 10/19/2021 10:14 AM
PLOT BY : JEFF BREU
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

STA 10+80.00
END PROJECT 7281-00-74







STA 9+96.16
CONSTRUCT STRUCTURE B-61-246

9 9

PROJECT NO: 7281-00-74	HWY: LOCAL STREET	COUNTY: TREMPEALEAU	CROSS SECTIONS: HAGESTAD ROAD	SHEET 50	E

FILE NAME : X:\2918800\200250.01\TECH\CAD\72810074\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090202_xs

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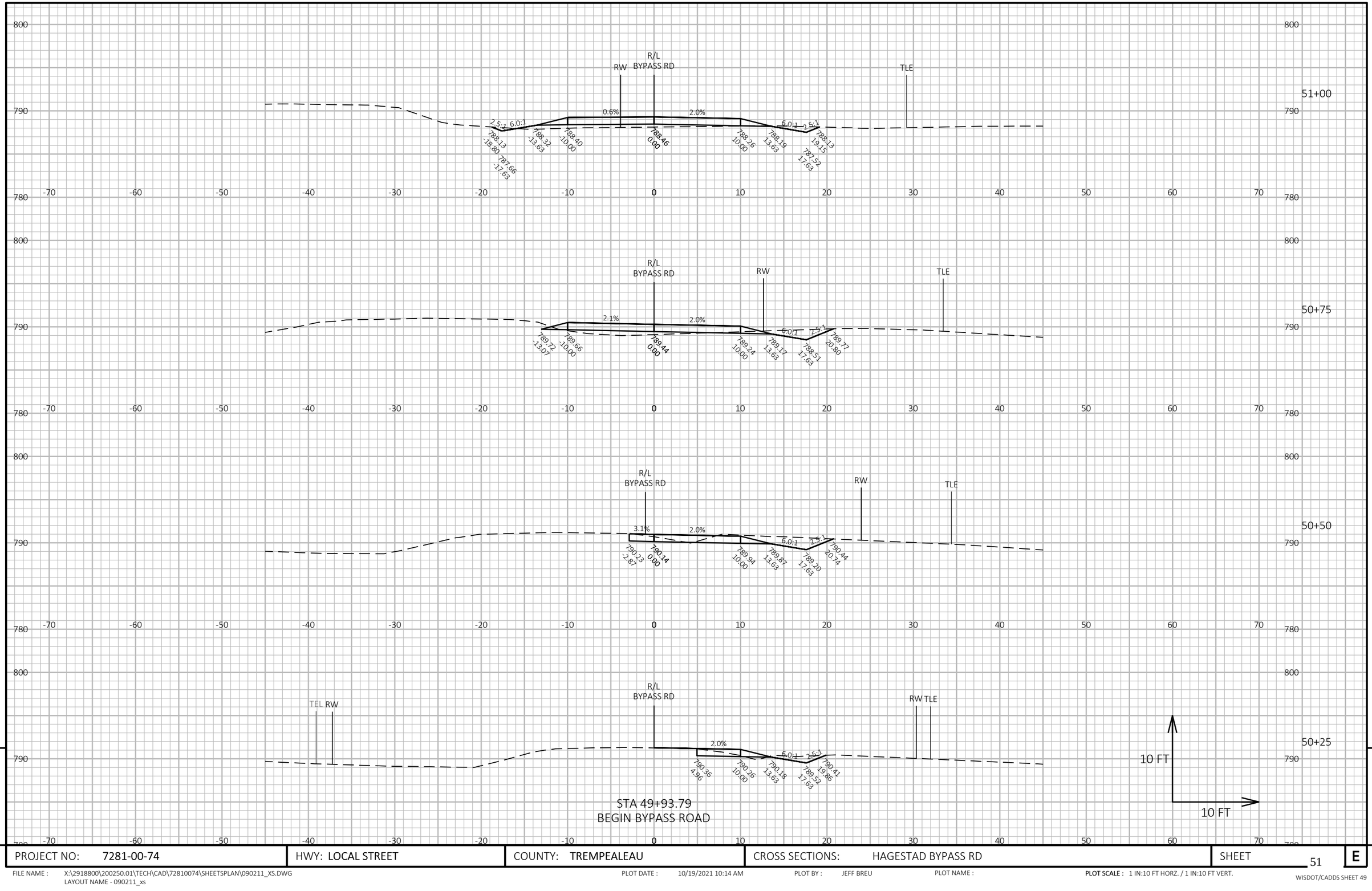

PROJECT NO: 7281-00-74	HWY: LOCAL STREET	COUNTY: TREMPEALEAU	CROSS SECTIONS: HAGESTAD BYPASS RD	SHEET 51 E

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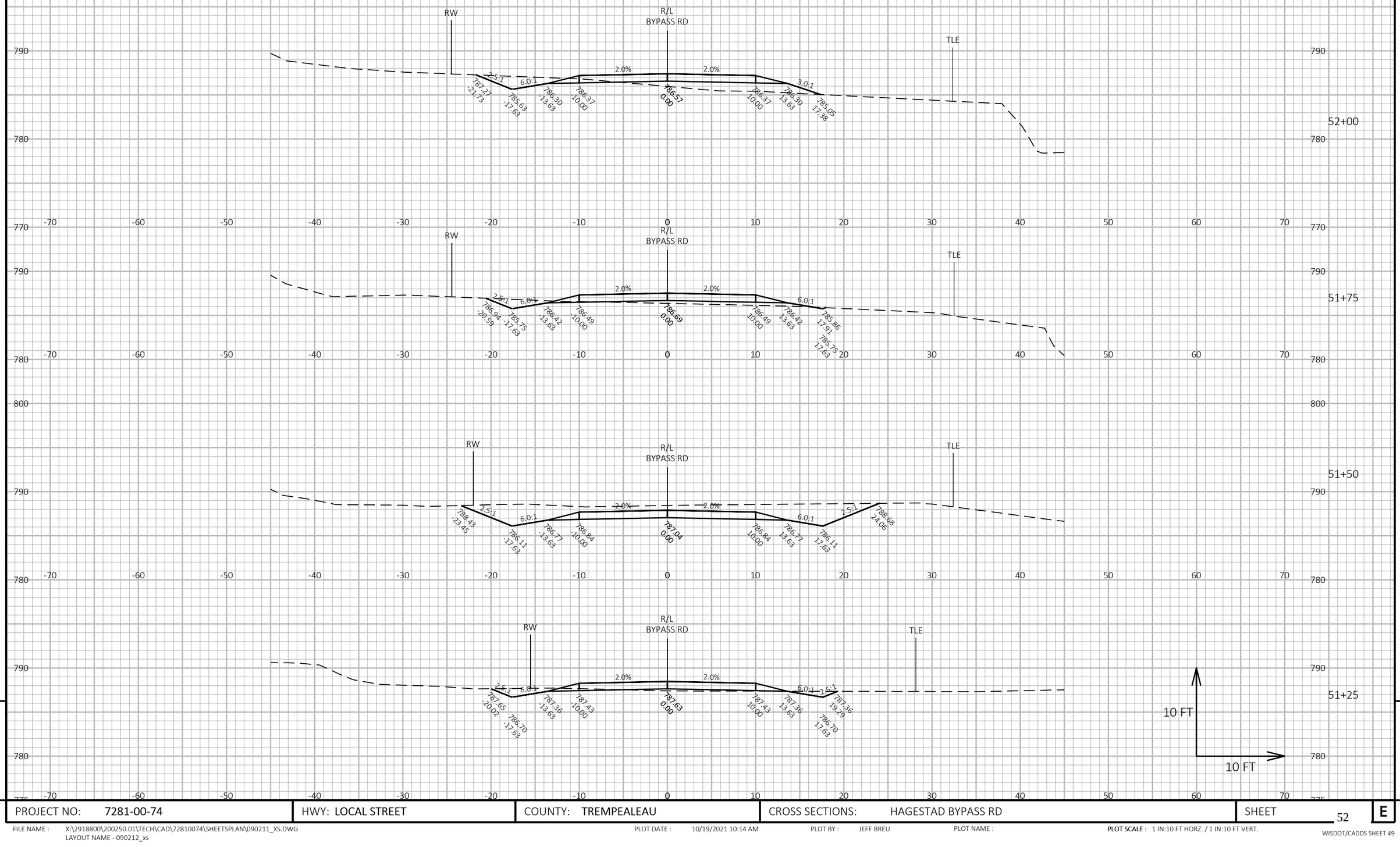
LAYOUT NAME - 090211_xs

PLOT DATE : 10/19/2021 10:14 AM PLOT BY : JEFF BREU PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

STA 52+50.00
CONSTRUCT TEMPORARY STRUCTURE



PROJECT NO: 7281-00-74	HWY: LOCAL STREET	COUNTY: TREMPEALEAU	CROSS SECTIONS: HAGESTAD BYPASS RD	SHEET 52	E

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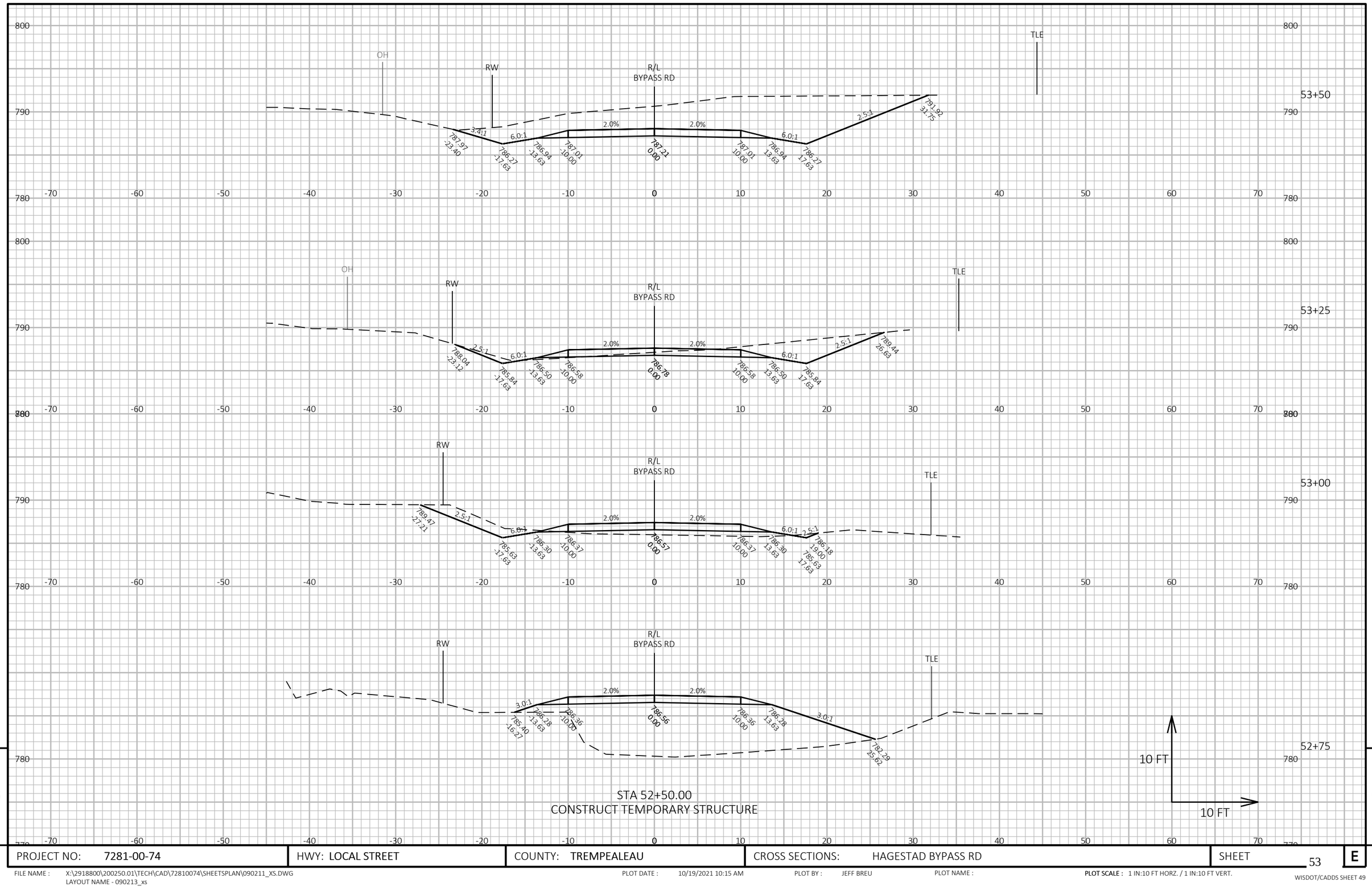
LAYOUT NAME - 090212_xs

PLOT DATE : 10/19/2021 10:14 AM PLOT BY : JEFF BREU PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



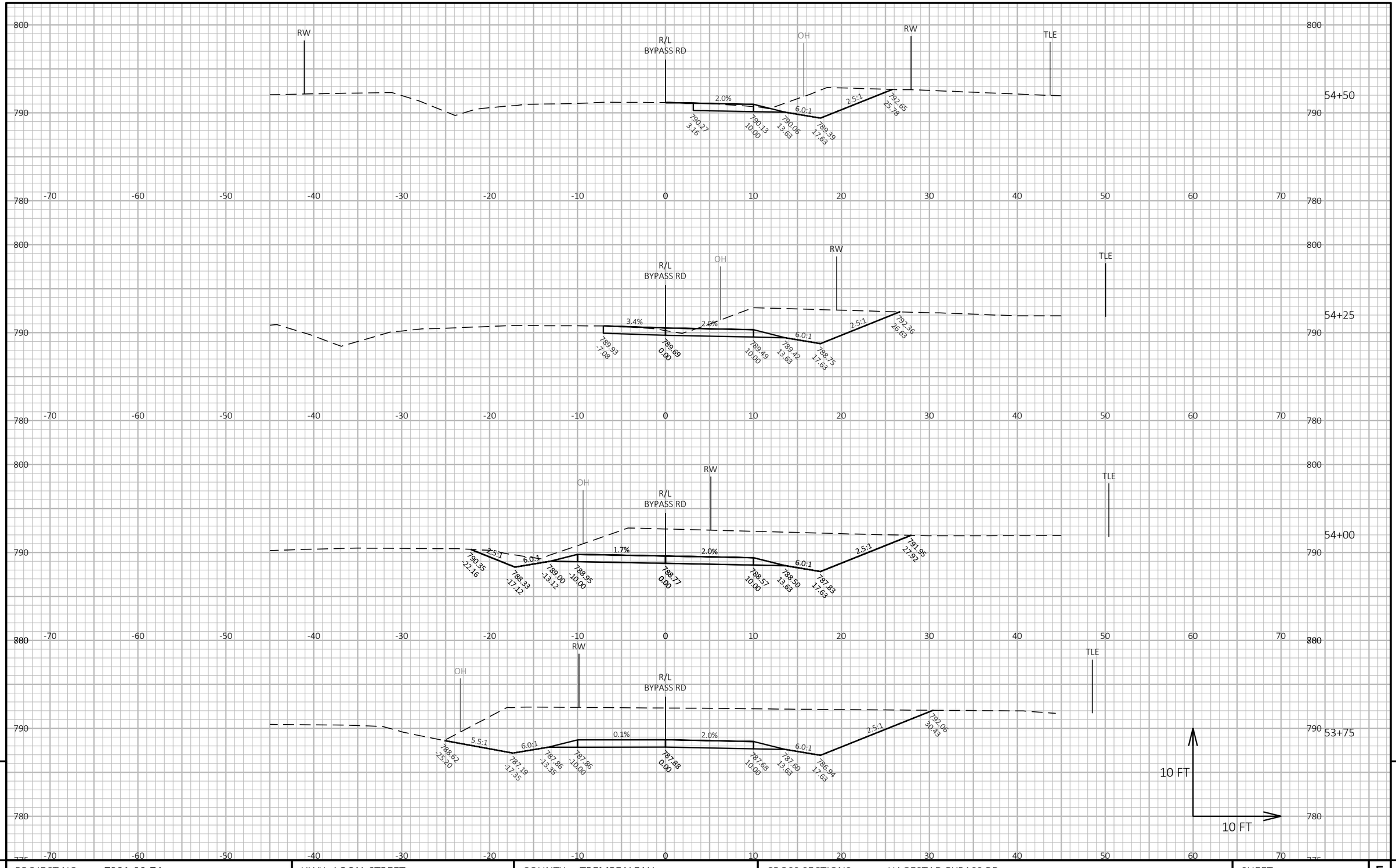
STA 52+50.00
CONSTRUCT TEMPORARY STRUCTURE

PROJECT NO: 7281-00-74	HWY: LOCAL STREET	COUNTY: TREMPEALEAU	CROSS SECTIONS: HAGESTAD BYPASS RD	SHEET 53	E

FILE NAME : X:\2918800\200250.01\TECH\CAD\72810074\SHEETSPLAN\090211_XS.DWG
LAYOUT NAME - 090213_xs

PLOT DATE : 10/19/2021 10:15 AM PLOT BY : JEFF BREU PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

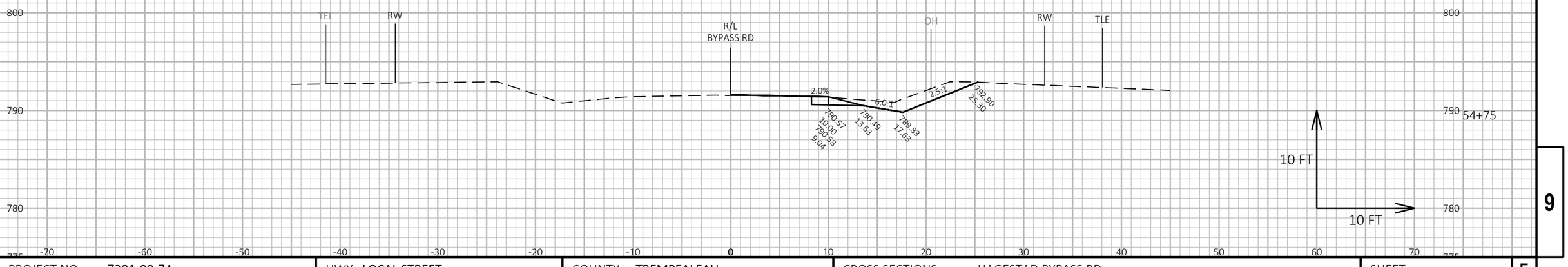
9

PROJECT NO: 7281-00-74	HWY: LOCAL STREET	COUNTY: TREMPEALEAU	CROSS SECTIONS: HAGESTAD BYPASS RD	SHEET 54	E

FILE NAME : X:\2918800\200250.01\TECH\CAD\72810074\SHEETSPLAN\090211_XS.DWG
LAYOUT NAME - 090214_xs

PLOT DATE : 10/19/2021 10:15 AM PLOT BY : JEFF BREU PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

STA 54+92.74
END BYPASS ROAD



PROJECT NO: 7281-00-74	HWY: LOCAL STREET	COUNTY: TREMPEALEAU	CROSS SECTIONS: HAGESTAD BYPASS RD	SHEET 55	E

FILE NAME : X:\2918800\200250.01\TECH\CAD\72810074\SHEETSPLAN\090211_XS.DWG
LAYOUT NAME - 090215_xs

PLOT DATE : 10/19/2021 10:15 AM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

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