

GRE

MARCH 2019

PROJECT ID:

9008-03-71

COUNTY: OCONTO

ORDER OF SHEETS

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

TOTAL SHEETS = 46

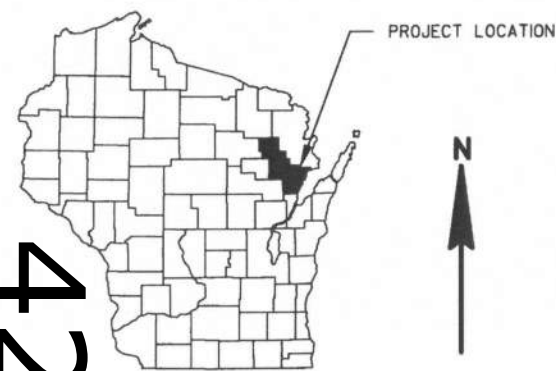
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T LITTLE SUAMICO, GROSSE RD
LITTLE SUAMICO RIVER BRIDGE B420131
LOCAL STREET
OCONTO COUNTY

STATE PROJECT NUMBER
9008-03-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9008-03-71	WISC 2019175	1



DESIGN DESIGNATION

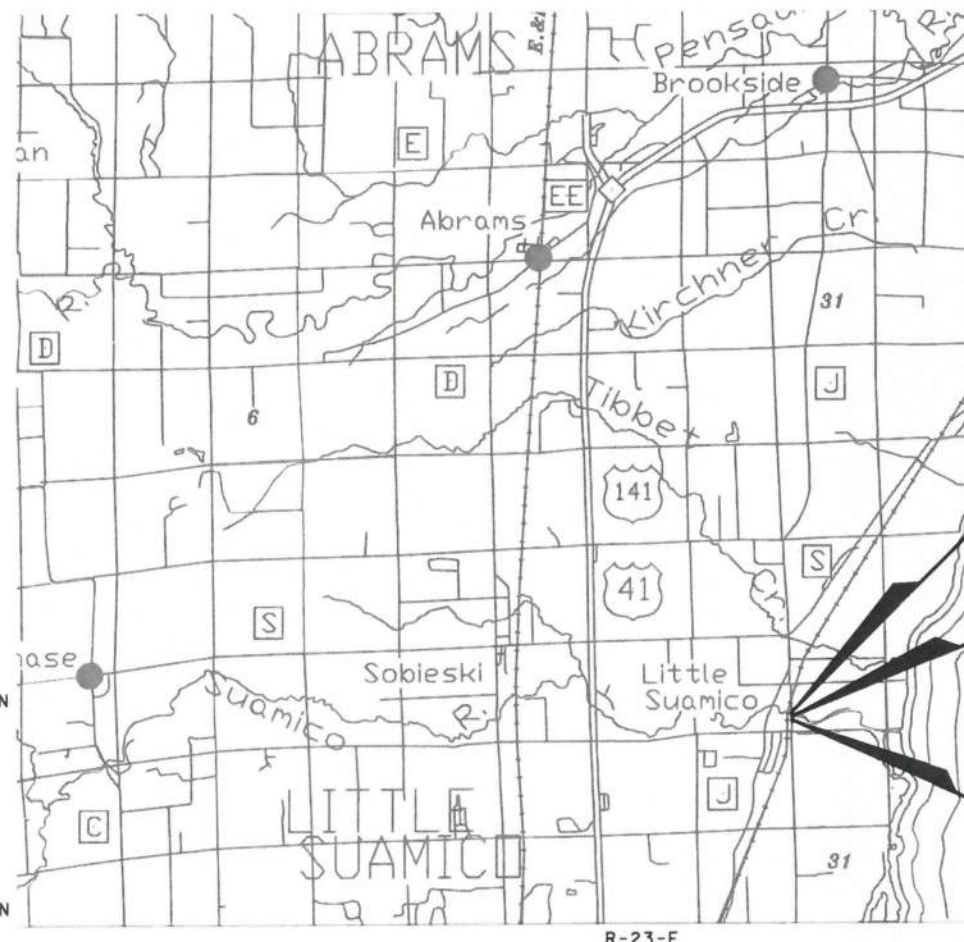
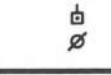
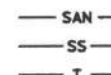
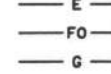
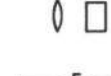
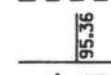
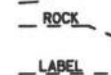
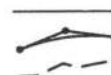
A.A.D.T. (2018)	= 70
A.A.D.T. (2038)	= 85
D.H.V.	= 7.1
D.D.	= 60/40
T.	= 8.5%
DESIGN SPEED	= 35 MPH
ESALS	= 14600

CONVENTIONAL SYMBOLS

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

HIGH VOLTAGE

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



LAYOUT
SCALE 0 1.0 MI
TOTAL NET LENGTH OF CENTERLINE = 0.076 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, OCONTO COUNTY, NAD83 (1991), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ACCEPTED FOR

COUNTY of OCONTO

10-29-18 Patrick Scanlan
(Date) (Signature) COMMISSIONER

ORIGINAL PLANS PREPARED BY

Mead & Hunt

Mead & Hunt, Inc.
1702 Lawrence Drive
DePere, WI 54115
phone: 920-496-0500
meadhunt.com



STATE OF WISCONSIN

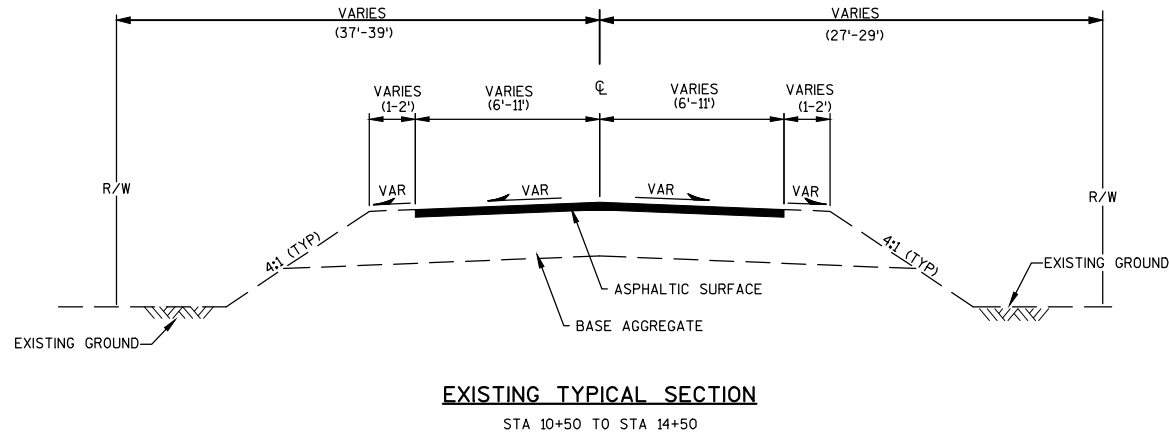
PREPARED BY

Surveyor	MEAD & HUNT, INC.
Designer	MEAD & HUNT, INC.
Management Consultant	JT ENGINEERING, INC.

APPROVED FOR THE DEPARTMENT

Management Consultant Signature

DATE: 10/31/18



GENERAL NOTES

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 2012 (NAVD88).

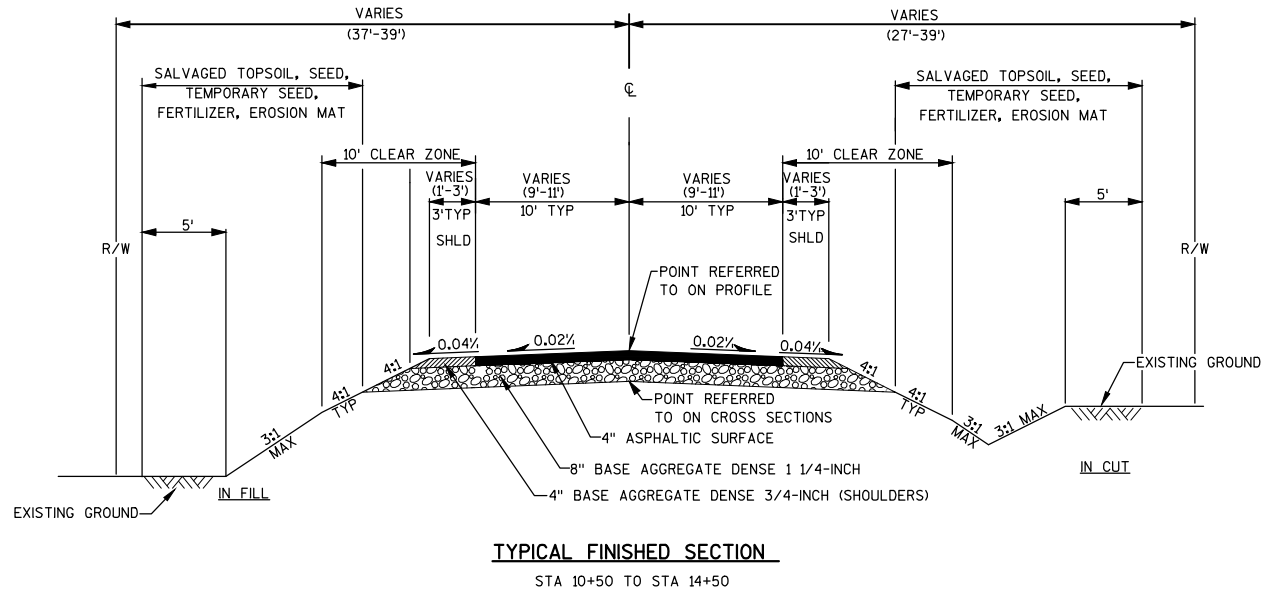
NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE TOPSOIL, FERTILIZE, SEED, TEMPORARY SEED, AND EROSION MAT.

4-INCH ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH AN 1 3/4-INCH UPPER LAYER AND A 2 1/4-INCH LOWER LAYER.

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

KEEP ALL EQUIPMENT AND MATERIALS OUT OF ADJACENT WETLANDS. DO NOT PLACE FERTILIZER WITHIN THE WETLAND OR WATERWAY.



STANDARD ABBREVIATIONS

ADT	AVERAGE DAILY TRAFFIC	NO	NUMBER
ASPH	ASPHALTIC	PI	POINT OF INTERSECTION
BM	BENCH MARK	PL	PROPERTY LINE
CL	CENTERLINE	RHF	RIGHT-HAND FORWARD
CWT	HUNDREDWEIGHT	RT	RIGHT
CY	CUBIC YARD	R/W	RIGHT-OF-WAY
DHV	DESIGN HOURLY VOLUME	SF	SQUARE FOOT
DWY	DRIVEWAY	SHLDR	SHOULDER
EL	ELEVATION	STA	STATION
EXC	EXCAVATION	SY	SQUARE YARD
FT	FOOT	T	TRUCKS (PERCENT OF)
FTG	FOOTING	TLE	TEMPORARY LIMITED EASEMENT
LB	POUND	TYP	TYPICAL
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
		VPT	VERTICAL POINT OF TANGENCY

UTILITIES

LITTLE SUAMICO SANITARY DISTRICT
5964-A COUNTY RD S
SOBIESKI, WI 54171
CONTACT: DAN HERZBERG
TEL: (920) 639-8745 (MOBILE)
EMAIL: dan.herzberg@graef-usa.com
lssanitary@bayland.net

INSIGHT TELS SERVICES
5475 GLENDALE AVENUE
GREEN BAY, WI 54313
CONTACT: RANDY HEIMKE
TEL: (920) 865-3162
EMAIL: randy.heimke@insight.com

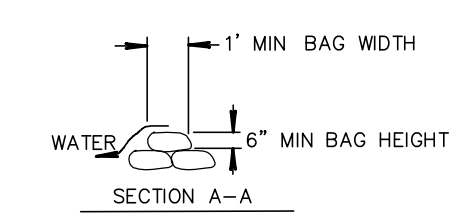
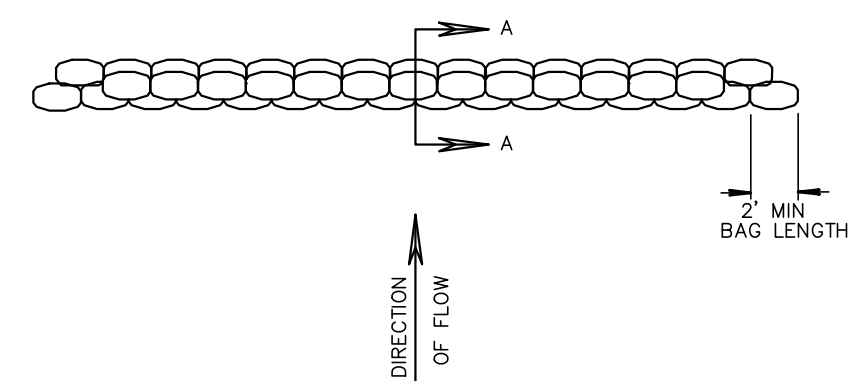
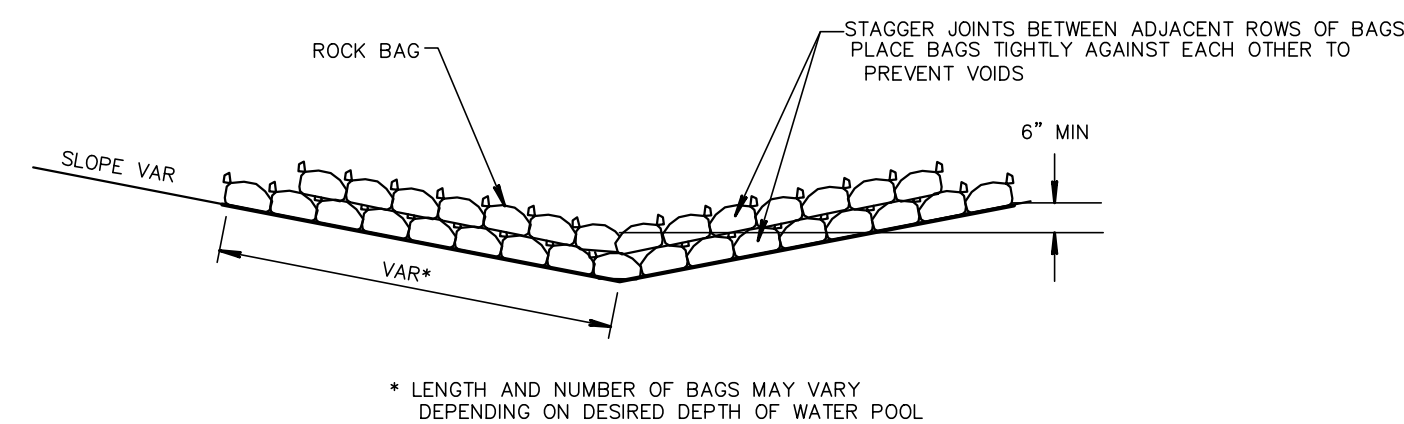
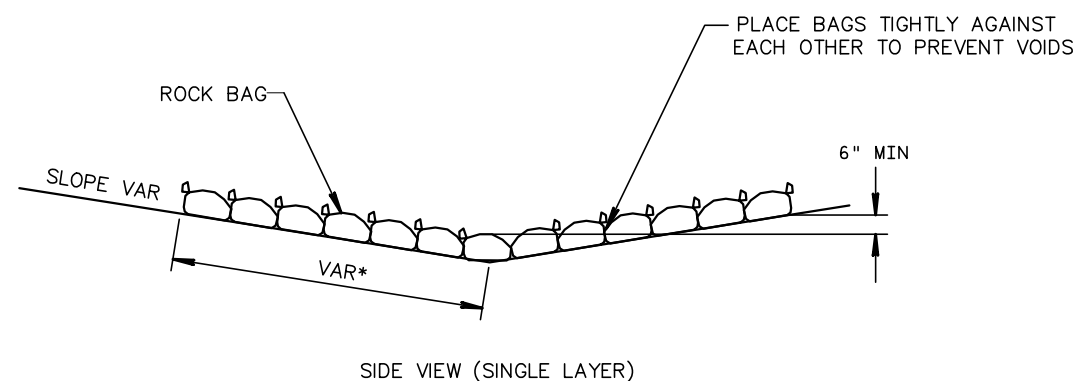
WDNR

JAMES DOPERALSKI
WISCONSIN DEPT NATURAL RESOURCES
2984 SHAWANO AVENUE
GREEN BAY, WI 54313
TEL: (920) 662-5119
EMAIL: james.doperalski@wisconsin.gov

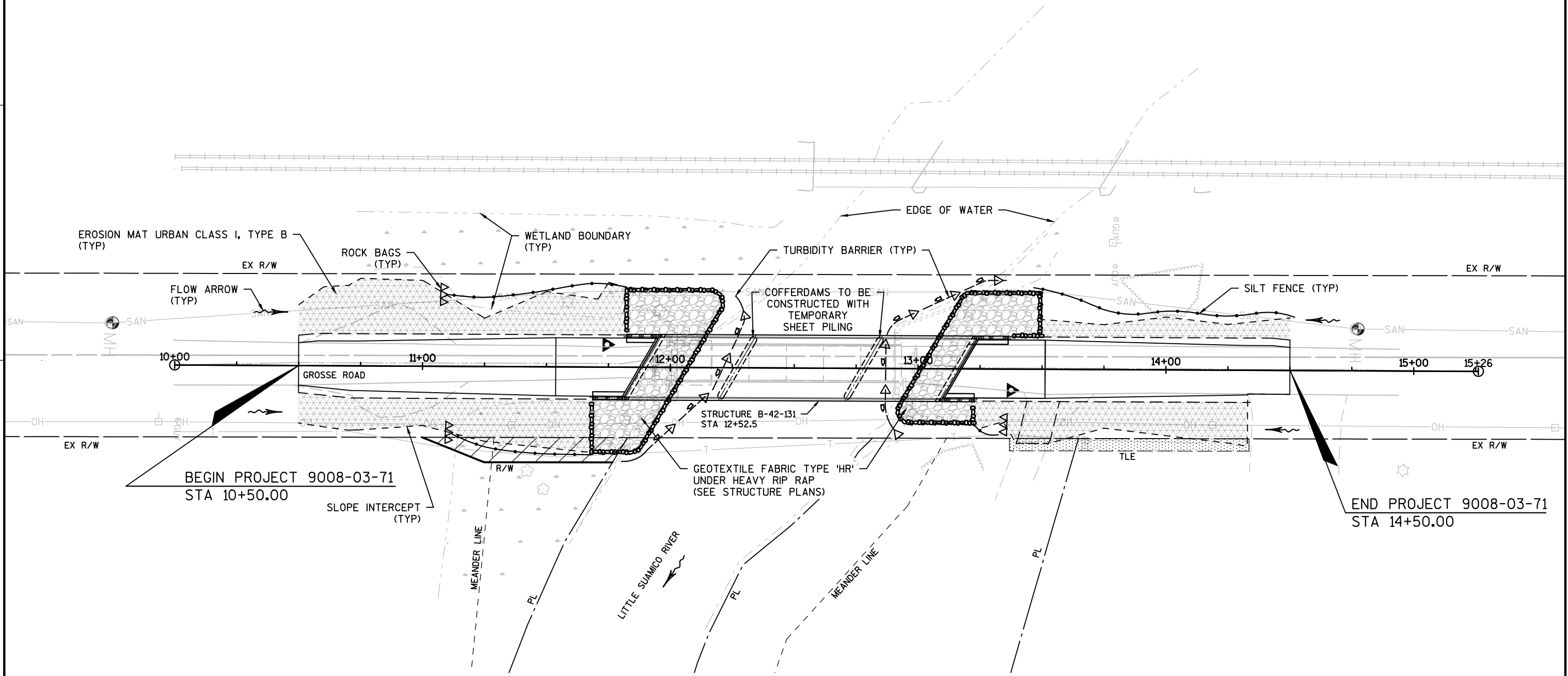
RUNOFF COEFFICIENT TABLE

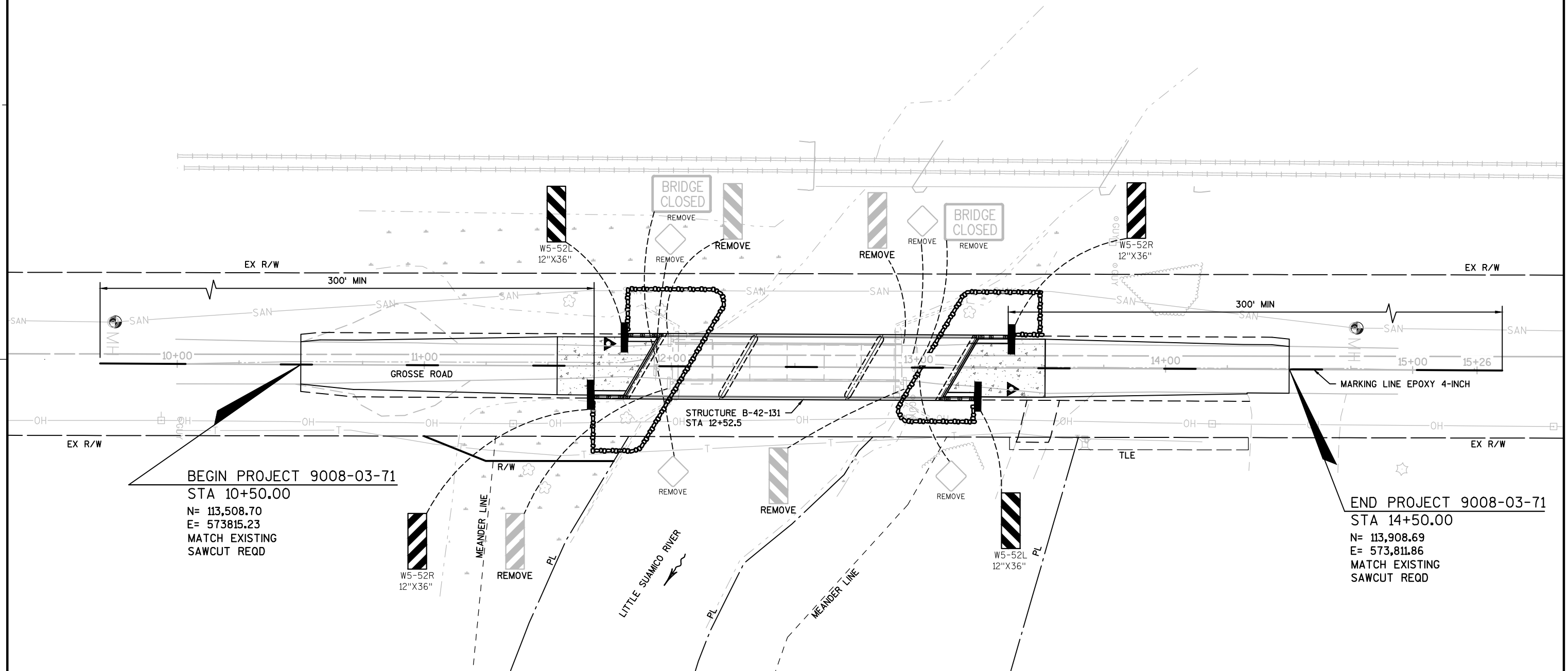
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .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 = 0.60 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.53 ACRES



ROCK BAGS USED FOR DITCH CHECKS DETAIL





Estimate Of Quantities

9008-03-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	3.000	3.000
0004	203.0500.S	Removing Old Structure Over Waterway (station) 01. 12+50	LS	1.000	1.000
0006	204.0165	Removing Guardrail	LF	32.000	32.000
0008	205.0100	Excavation Common	CY	241.000	241.000
0010	206.1000	Excavation for Structures Bridges (structure) 01. B-42-131	LS	1.000	1.000
0012	206.5000	Cofferdams (structure) 01. B-42-131	LS	1.000	1.000
0014	210.1500	Backfill Structure Type A	TON	240.000	240.000
0016	213.0100	Finishing Roadway (project) 01. 9008-03-71	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	78.000	78.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	444.000	444.000
0022	415.0410	Concrete Pavement Approach Slab	SY	180.000	180.000
0024	455.0605	Tack Coat	GAL	33.000	33.000
0026	465.0105	Asphaltic Surface	TON	115.000	115.000
0028	502.0100	Concrete Masonry Bridges	CY	364.000	364.000
0030	502.3200	Protective Surface Treatment	SY	415.000	415.000
0032	505.0400	Bar Steel Reinforcement HS Structures	LB	7,140.000	7,140.000
0034	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	51,650.000	51,650.000
0036	513.4061	Railing Tubular Type M 01.B-42-131	LF	313.000	313.000
0038	516.0500	Rubberized Membrane Waterproofing	SY	12.000	12.000
0040	550.0500	Pile Points	EACH	22.000	22.000
0042	550.1120	Piling Steel HP 12-Inch X 53 Lb	LF	660.000	660.000
0044	606.0300	Riprap Heavy	CY	295.000	295.000
0046	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	150.000	150.000
0048	618.0100	Maintenance And Repair of Haul Roads (project) 01. 9008-03-71	EACH	1.000	1.000
0050	619.1000	Mobilization	EACH	1.000	1.000
0052	624.0100	Water	MGAL	8.000	8.000
0054	625.0500	Salvaged Topsoil	SY	708.000	708.000
0056	628.1504	Silt Fence	LF	396.000	396.000
0058	628.1520	Silt Fence Maintenance	LF	132.000	132.000
0060	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0062	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0064	628.2008	Erosion Mat Urban Class I Type B	SY	708.000	708.000
0066	628.6005	Turbidity Barriers	SY	187.000	187.000
0068	628.7570	Rock Bags	EACH	45.000	45.000
0070	629.0210	Fertilizer Type B	CWT	0.500	0.500
0072	630.0120	Seeding Mixture No. 20	LB	19.000	19.000
0074	630.0200	Seeding Temporary	LB	19.000	19.000

Estimate Of Quantities

9008-03-71

Line	Item	Item Description	Unit	Total	Qty
0076	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	6.000	6.000
0078	637.2210	Signs Type II Reflective H	SF	20.000	20.000
0080	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0082	638.2602	Removing Signs Type II	EACH	10.000	10.000
0084	638.3000	Removing Small Sign Supports	EACH	10.000	10.000
0086	642.5001	Field Office Type B	EACH	1.000	1.000
0088	643.0420	Traffic Control Barricades Type III	DAY	1,081.000	1,081.000
0090	643.0705	Traffic Control Warning Lights Type A	DAY	2,162.000	2,162.000
0092	643.0900	Traffic Control Signs	DAY	216.000	216.000
0094	643.5000	Traffic Control	EACH	1.000	1.000
0096	645.0111	Geotextile Type DF Schedule A	SY	100.000	100.000
0098	645.0120	Geotextile Type HR	SY	550.000	550.000
0100	646.1020	Marking Line Epoxy 4-Inch	LF	192.000	192.000
0102	650.4500	Construction Staking Subgrade	LF	271.000	271.000
0104	650.5000	Construction Staking Base	LF	271.000	271.000
0106	650.6500	Construction Staking Structure Layout (structure) 01. B-42-131	LS	1.000	1.000
0108	650.9910	Construction Staking Supplemental Control (project) 01. 9008-03-71	LS	1.000	1.000
0110	650.9920	Construction Staking Slope Stakes	LF	271.000	271.000
0112	690.0150	Sawing Asphalt	LF	52.000	52.000
0114	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0116	715.0502	Incentive Strength Concrete Structures	DOL	1,440.000	1,440.000
0118	801.0117	Railroad Flagging Reimbursement	DOL	2,600.000	2,600.000
0120	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	150.000	150.000
0122	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	300.000	300.000
0124	SPV.0090	Special 01. Flashing Stainless Steel	LF	260.000	260.000

EARTHWORK SUMMARY

Division	From/To Station	Location	Common Excavation (1) (Item # 205.0100)		Available Material (3)	Unexpanded Fill	Expanded Fill (4)	Mass Ordinate +/- (5)	Waste	Borrow (Item # 208.0100)	Comment:
			Cut	EBS Excavation (2)			Factor 1.25				
1	10+25 to 11+75	Grosse Road South of Bridge	126	0	126	73	92	34	34		
2	12+25 to 13+75	Grosse Road North of Bridge	115	0	115	12	15	100	100		
Grand Total			241	0	241	86	107	134	134	0	
			Total Common Exc = 241			Total Borrow = 0					

- 1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) EBS Excavation to be backfilled with Borrow or Cut.
3) Available Material = Cut - Salvaged/Unusable Pavement Material
4) Expanded Fill Factor = 1.25
5) The Mass Ordinate + or - Qty calculated for the Division. Plus (+) quantity indicates an excess of material within the Division. Minus (-) indicates a shortage of material within the Division.

GRUBBING SUMMARY

				201.0205 GRUBBING
STATION - STATION	OFFSET	STA		
12+00 - 13+00	LT	1		
14+00 - 15+00	LT	1		
14+00 - 15+00	RT	1		
TOTAL			3	

REMOVING GUARDRAIL

			204.0165 REMOVING GUARDRAIL LF
STATION - STATION	OFFSET		
11+95 - 13+00			16
TOTAL			32

FINISHING ROADWAY (9008-03-71)

		213.0100 FINISHING ROADWAY EACH
LOCATION		
9008-03-71		1
TOTAL		1

BASE AGGREGATE DENSE FOR ROADWAY

				305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL
STATION - STATION	LOCATION					
10+50 - 11+90	GROSSE RD.			30	223	4
13+20 - 14+50	GROSSE RD.			29	221	4
13+47 - 13+47	GROSSE RD, RT			19	--	0.3
TOTAL				78	444	8

CONCRETE PAVEMENT APPROACH SLAB

				415.041 CONCRETE PAVEMENT APPROACH SLAB SY
STATION - STATION				
11+54 - 11+88				90
13+17 - 13+51				90
TOTAL				180

ASPHALT ITEMS SUMMARY

				455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
STATION - STATION	OFFSET	SY			
10+50 - 11+90		243		17	58
11+71 - 11+84	RT	7		--	--
11+84 - 13+20	LT	7		--	--
13+20 - 13+35	RT	7		--	--
13+35 - 13+35	LT	7		--	--
13+20 - 14+50		234		16	56
TOTAL				33	115

MOBILIZATION

		619.1000 MOBILIZATION EACH
LOCATION		
PROJECT		1
TOTAL		1

FINISHING ITEMS

			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
STATION - STATION	OFFSET						
10+50 - 11+84	LT	250		250	0.2	6.8	6.8
10+50 - 11+71	RT	206		206	0.1	5.6	5.6
13+35 - 14+50	LT	74		74	0.1	2.0	2.0
13+20 - 14+50	RT	178		178	0.1	4.8	4.8
UNDISTRIBUTED	--	177		177.0	0.1	4.8	4.8
TOTAL			885	885	0.6	24	24

EROSION CONTROL MOBILIZATION		
STATION - STATION	628.1905	628.1910
	EROSION CONTROL MOBILIZATION EA	EMERGENCY EROSION CONTROL MOBILIZATION EA
PROJECT	5	3
TOTAL	5	3

SILT FENCE					
STATION - STATION			OFFSET	628.1504	628.1520
				SILT FENCE LF	SILT FENCE MAINTENANCE LF
11+10	-	11+81	LT	73	24
11+12	-	11+67	RT	124	41
13+46	-	14+50	LT	108	36
13+22	-	13+32	RT	12	4
UNDISTRIBUTED			--	79	26
TOTAL				396	132

TURBIDITY BARRIER		
STATION	LOCATION	628.6005
		TURBIDITY BARRIER SY
12+11.00	GROSSE RD	90
12+96.00	GROSSE RD	97
TOTAL		187

ROCK BAGS		
STATION	LOCATION	628.7570
		ROCK BAGS EACH
11+10	LT	15
11+10	RT	15
13+35	RT	15
TOTAL		45

SIGNING SUMMARY						
STATION	OFFSET	638.2602	638.3000	634.0416	637.2210	637.2230
		REMOVING	REMOVING SMALL	POSTS WOOD	SIGNS TYPE II	SIGNS TYPE II
		SIGNS TYPE II EA	SIGN SUPPORTS EA	4X6-INCH X 16-FT EA	REFLECTIVE H SF	REFLECTIVE F SF
12+00	RT	1	1	--	--	--
12+00	LT	1	1	--	--	--
11+95		3	3	--	--	--
11+68	RT	--	--	1	--	3.00
11+82	LT	--	--	2	10.00	3.00
12+95	RT	1	1	--	--	--
12+95	LT	1	1	--	--	--
13+00		3	3			
13+23	RT	--	--	1	--	3.00
13+36	LT	--	--	2	10.00	3.00
TOTAL		10	10	6	20.00	12.00

FIELD OFFICE TYPE B	
STATION - STATION	642.5001
	FIELD OFFICE TYPE B EACH
PROJECT	1
TOTAL	1

TRAFFIC CONTOL (PROJECT)	
STATION - STATION	643.5000
	TRAFFIC CONTROL 9008-03-71 EACH
PROJECT	1
TOTAL	1

TRAFFIC CONTROL ITEMS							
LOCATION	SERVICE DAYS DAYS	BARRICADES EACH	643.0420	LIGHTS EACH	643.0705	SIGNS EACH	643.0900
			TRAFFIC CONTROL BARRICADES TYPE III DAYS		TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS		TRAFFIC CONTROL SIGNS DAYS
NORTH OF BRIDGE	94	5	470	10	940	1	94
SOUTH OF BRIDGE	94	5	470	10	940	1	94
UNDISTRIBUTED			141		282		28
TOTAL			1,081		2,162		216

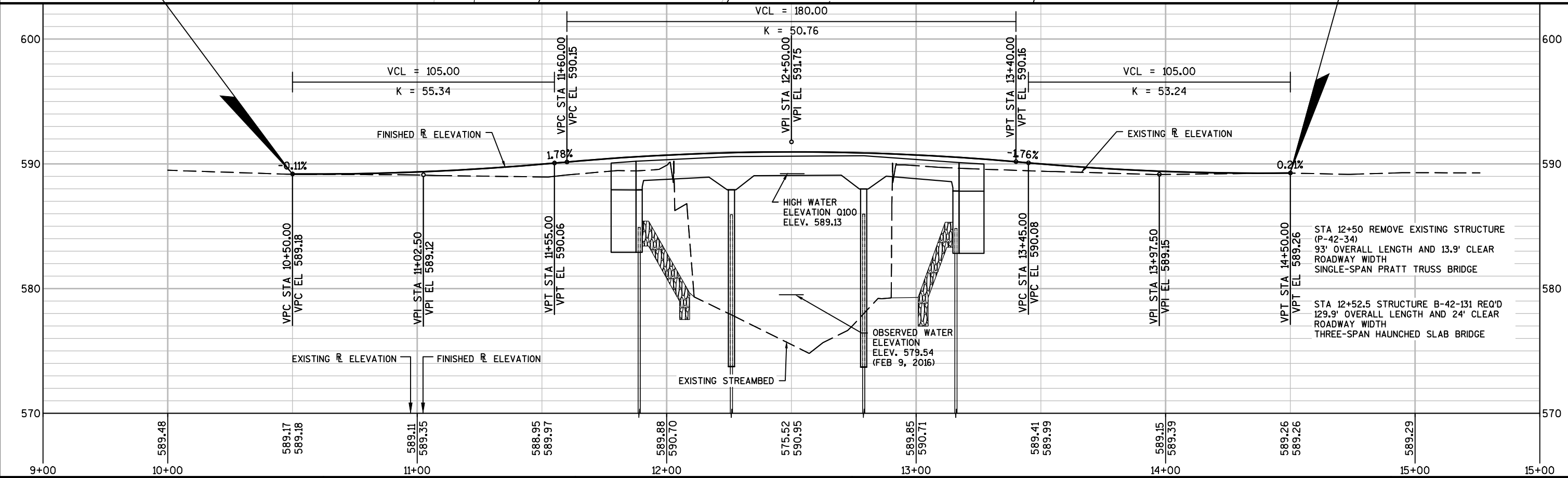
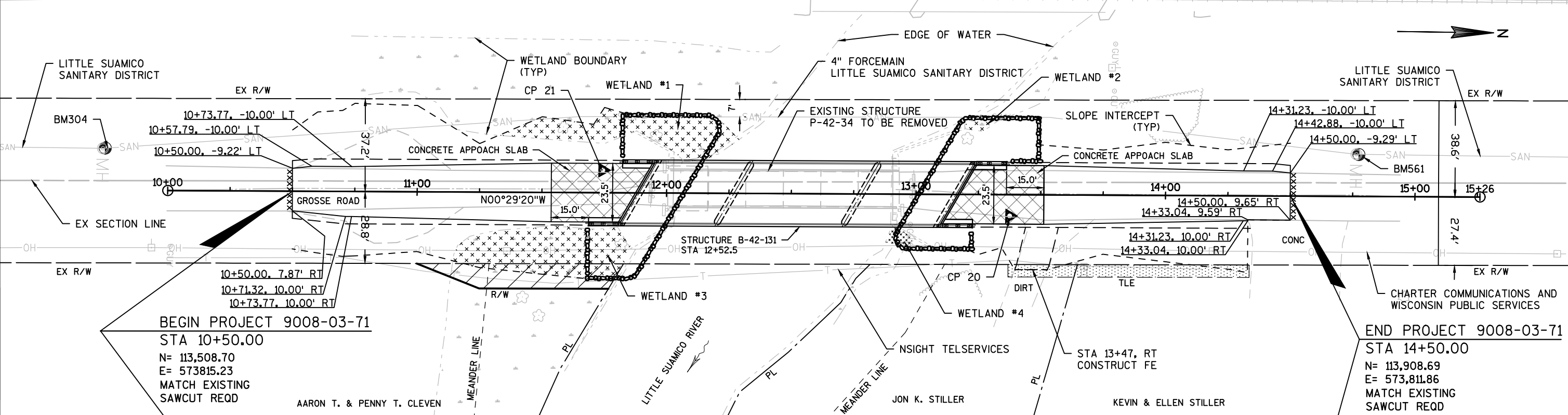
CONSTRUCTION STAKING SUMMARY					
STATION - STATION	650.4500	650.5000	650.6500	650.9910	650.9920
	CONSTRUCTION STAKING SUBGRADE LF	CONSTRUCTION STAKING BASE LF	CONSTRUCTION STAKING STRUCTURE LAYOUT OL B-42-131 LS	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL .01 9008-03-71 LS	CONSTRUCTION STAKING SLOPE STAKES LF
PROJECT	--	--	1	1	--
10+50 - STRUCTURE	138	138	--	--	138
STRUCTURE - 14+50	133	133	--	--	133
TOTAL	271	271	1	1	271

SAWCUTTING SUMMARY		
STATION	LOCATION	690.0150
		SAWING ASPHAL T LF
10+50	--	17
14+50	--	35
TOTAL		52

PAVEMENT MARKING SUMMARY			
STATION - STATION	OFFSET	LF	646.1020
			PAVEMENT MARKING EPOXY 4-INCH YELLOW
8+68 - 16+36	CL	192	
SUBTOTAL		192	
TOTAL		192	

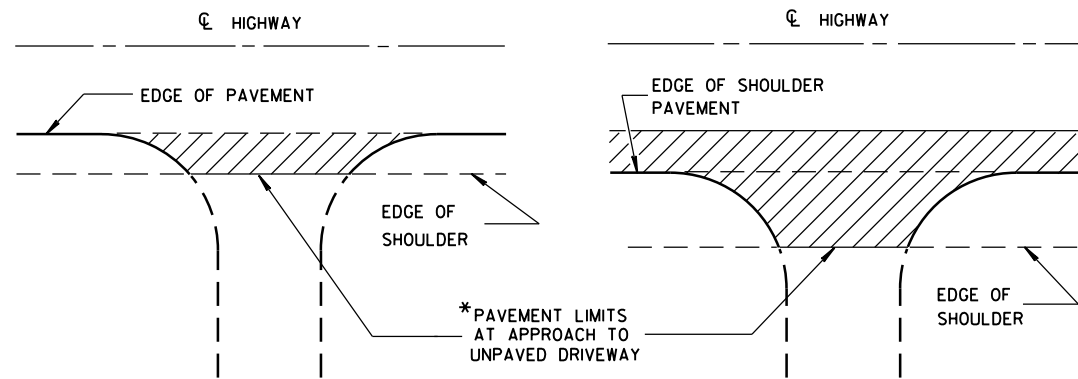
CONTROL POINTS / BENCH MARKS						
NO.	STATION	OFFSET	EASTING	NORTHING	DESCRIPTION	ELEV.
20	13+37.57	8.53' RT	573821.36	113796.33	CP MAG NAIL	589.33
21	11+74.67	9.07' LT	573805.15	113633.00	CP 3/4 RBB	589.06
BM304	9+73.79	16.85' LT	573799.07	113433.45	BM N. RIM	589.75
BM561	14+77.43	16.78' LT	573794.85	113935.97	BM N. RIM	588.61

WETLANDS			
LOCATION	TYPE	AREA (SF)	AREA (AC)
#1	RPF	1006	0.023
#2	RPF	27	0.001
#3	RPF	1155	0.027
#4	RPF	52	0.001



Standard Detail Drawing List

08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS

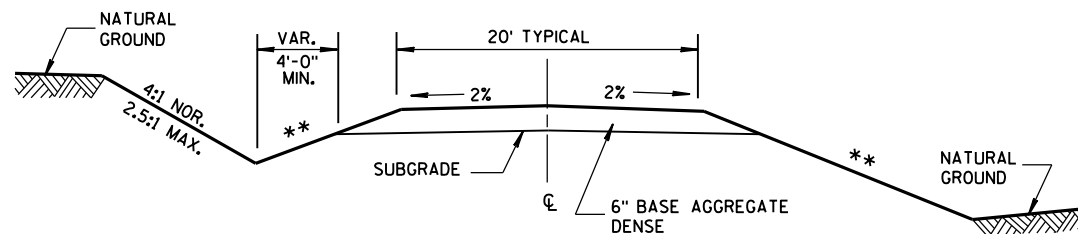


*WHERE DRIVEWAY IS PAVED, APPROACH PAVEMENT SHOULD BE EXTENDED TO MATCH DRIVEWAY PAVEMENT.

PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

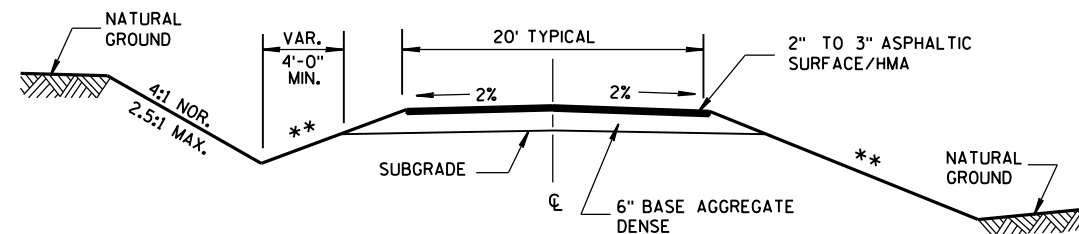
RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB & GUTTER OR SIDEWALK)



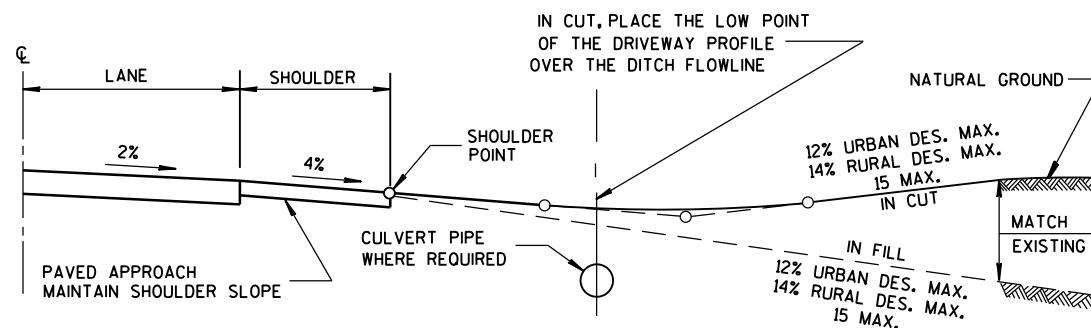
TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
AGGREGATE SURFACE

** SLOPE CAN VARY WITH SPEED. SEE 11-45-2.6.2.

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



TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
ASPHALTIC SURFACE

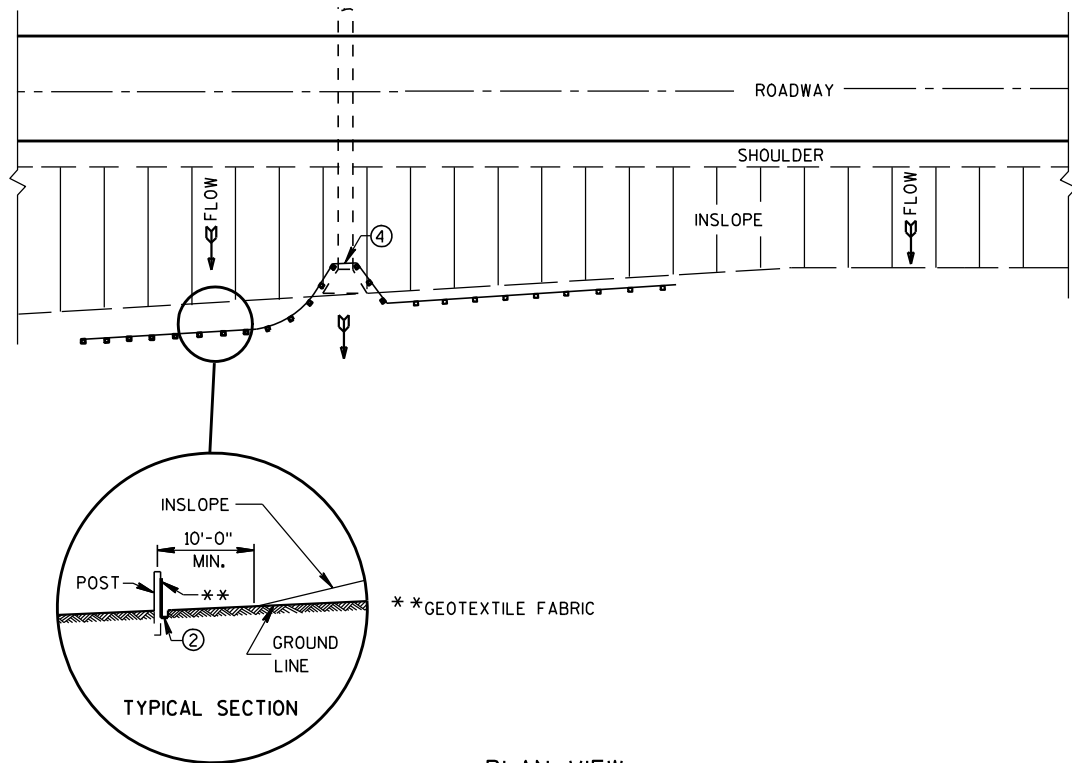


TYPICAL DRIVEWAY PROFILES

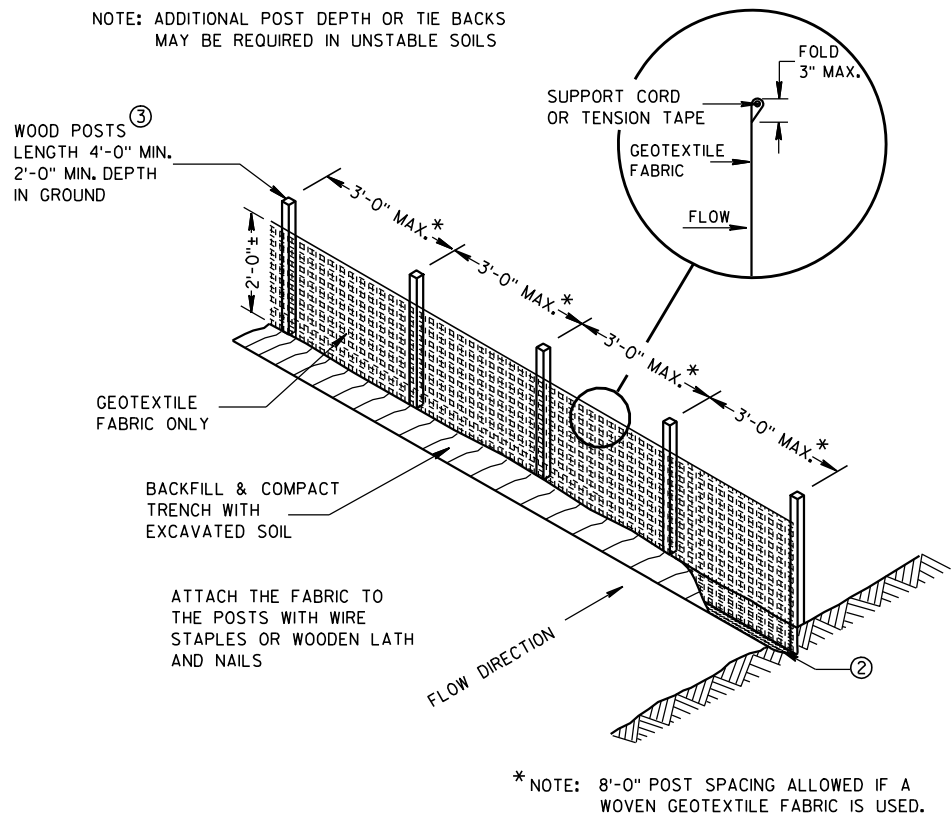
DRIVEWAYS
WITHOUT CURB & GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

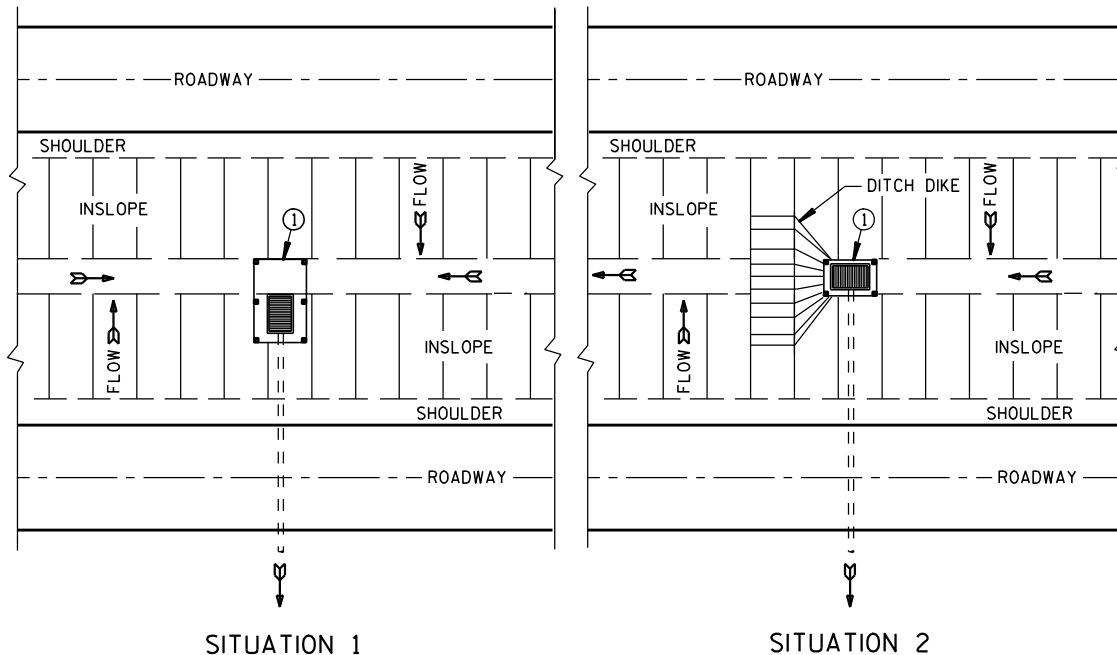
APPROVED
December, 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



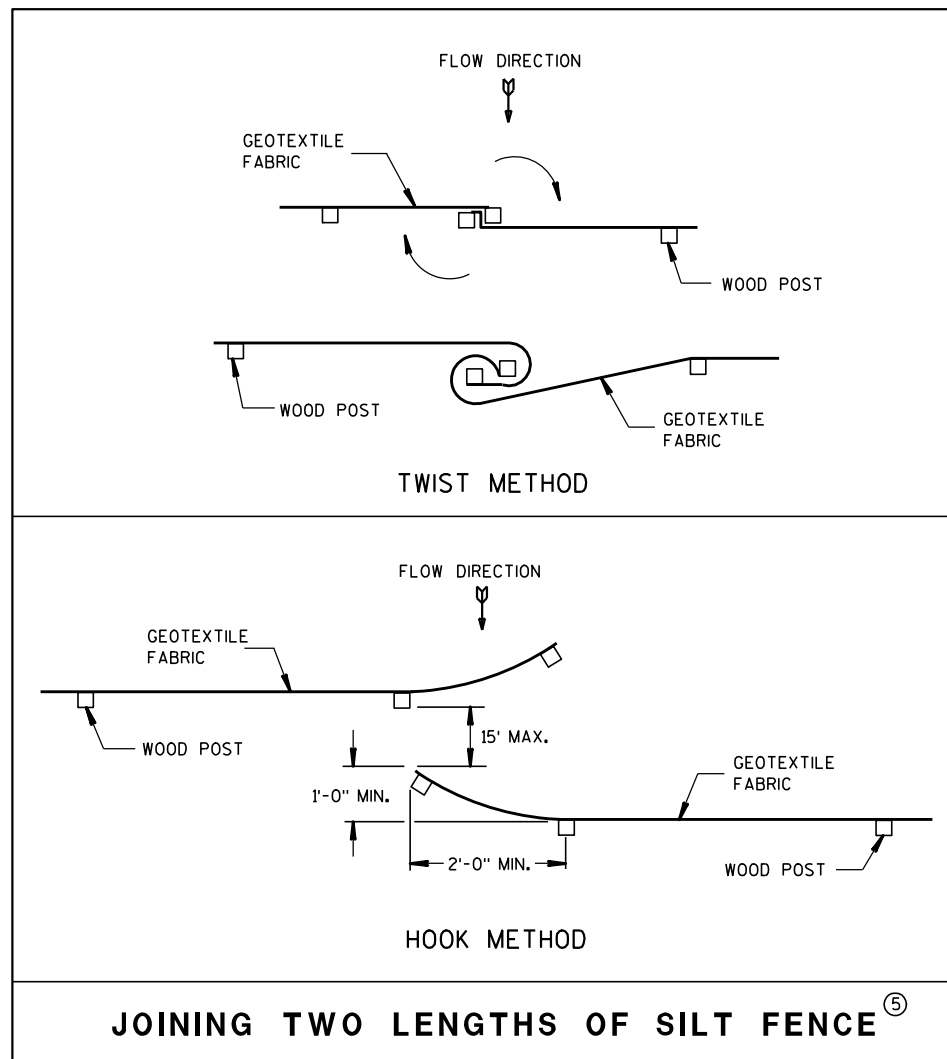
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

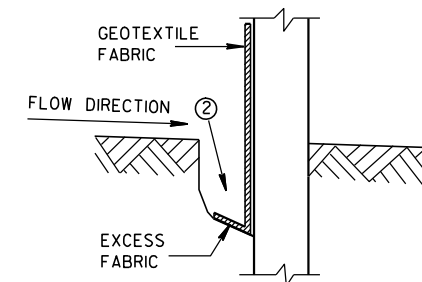


JOINING TWO LENGTHS OF SILT FENCE

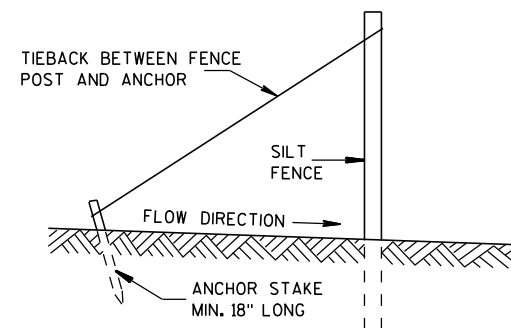
GENERAL NOTES

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

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

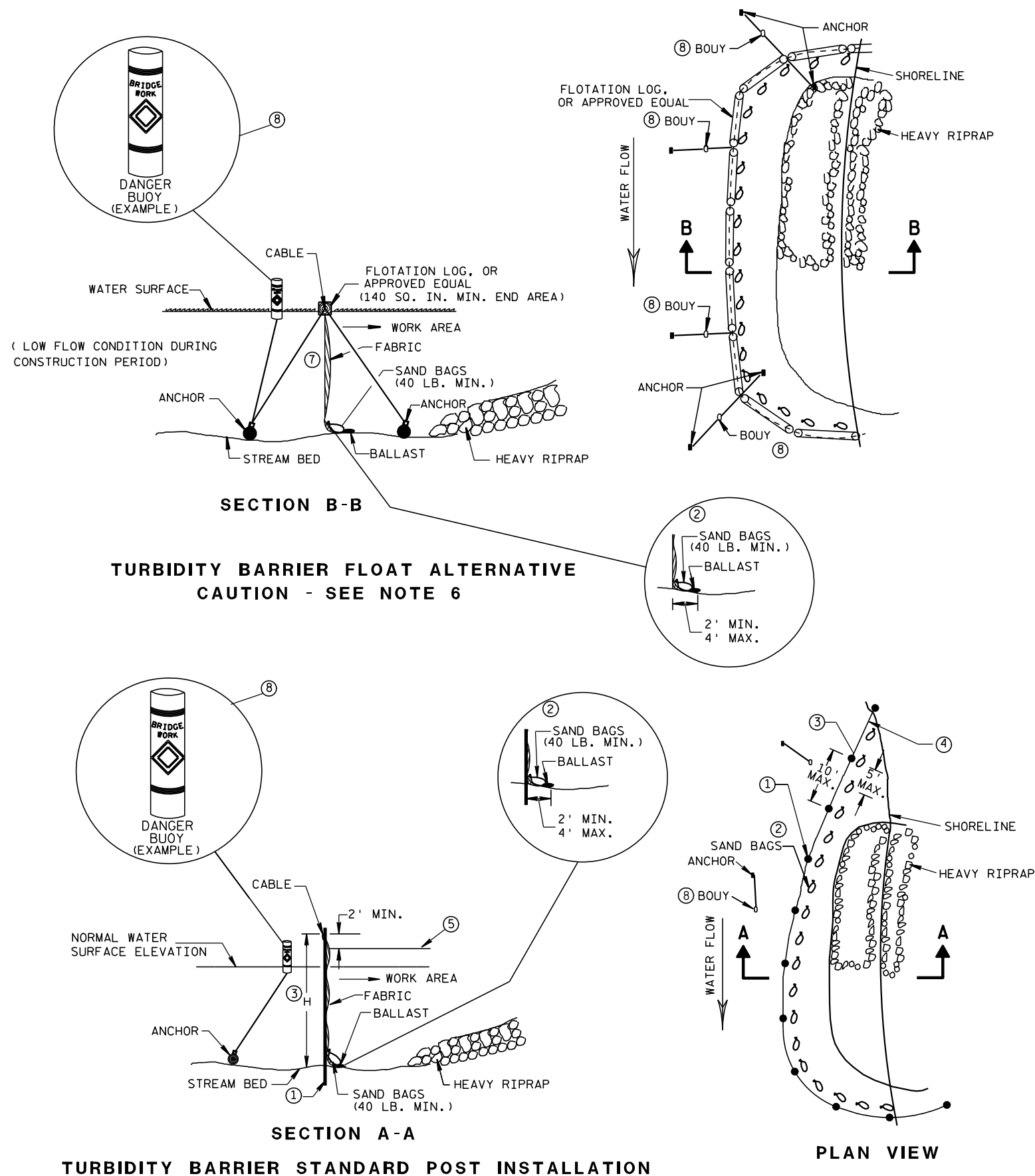


TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

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

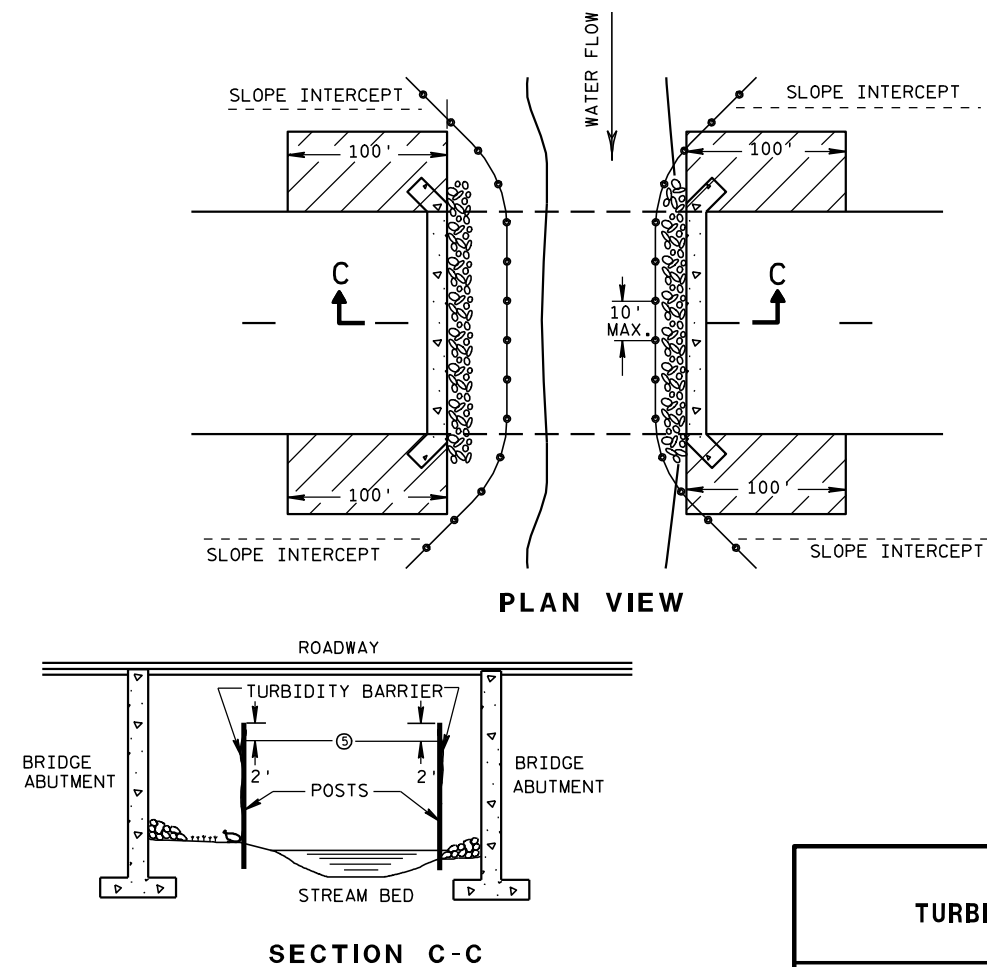


GENERAL NOTES

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

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 SANDBAGS 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 FT., 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 02 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 BED ROCK 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.



TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

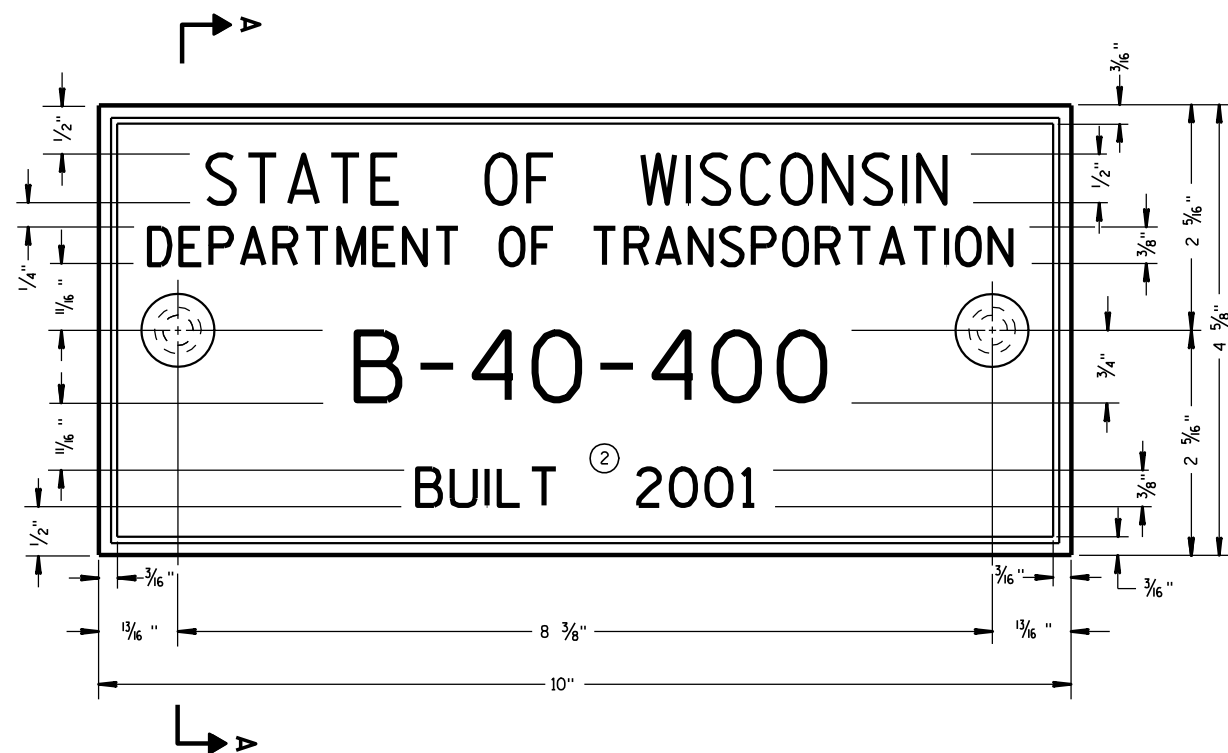
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

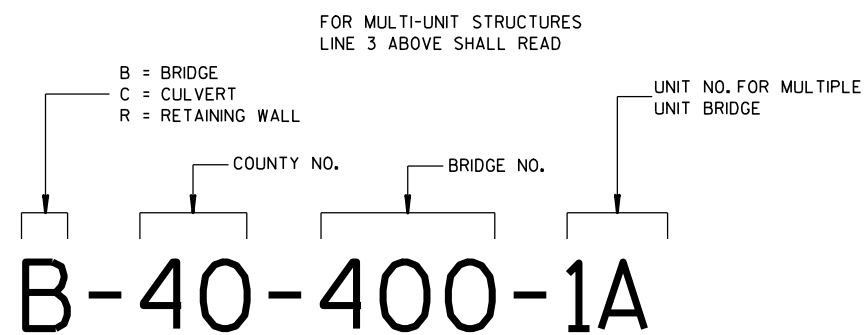
6/04/02
DATE

FHWA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



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



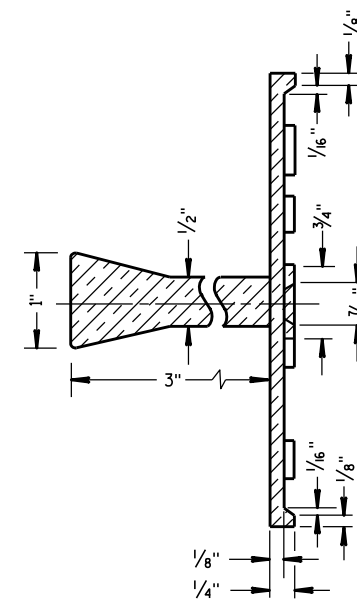
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

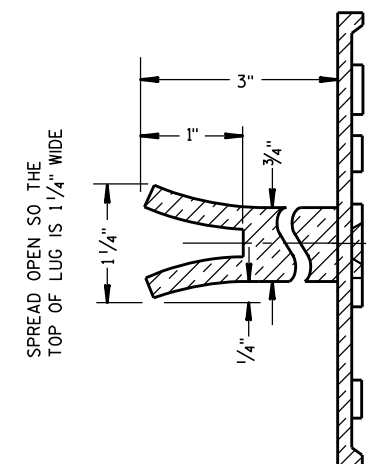
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

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

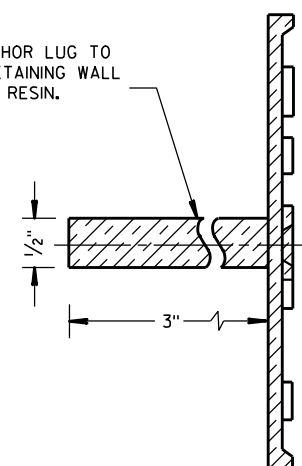


SECTION A-A



ALTERNATE LUG

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



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

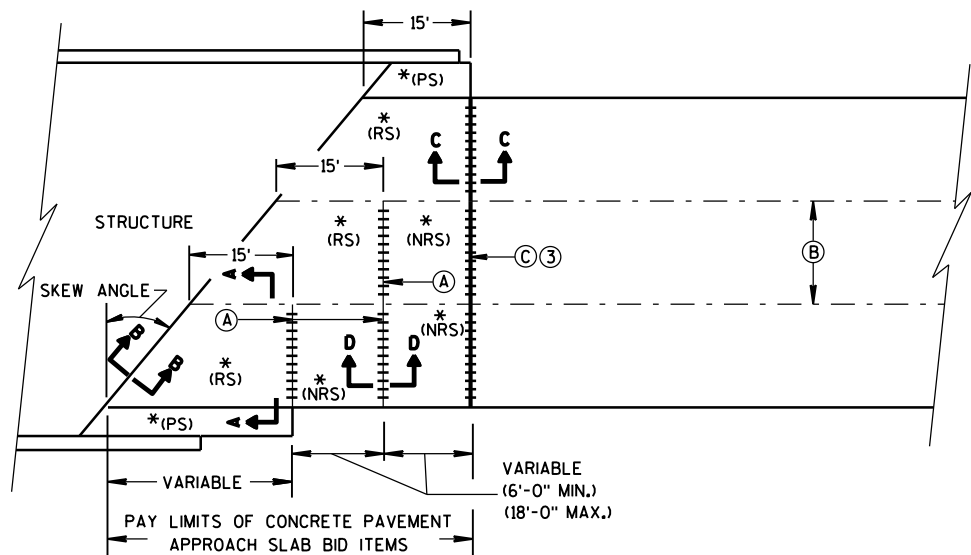
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

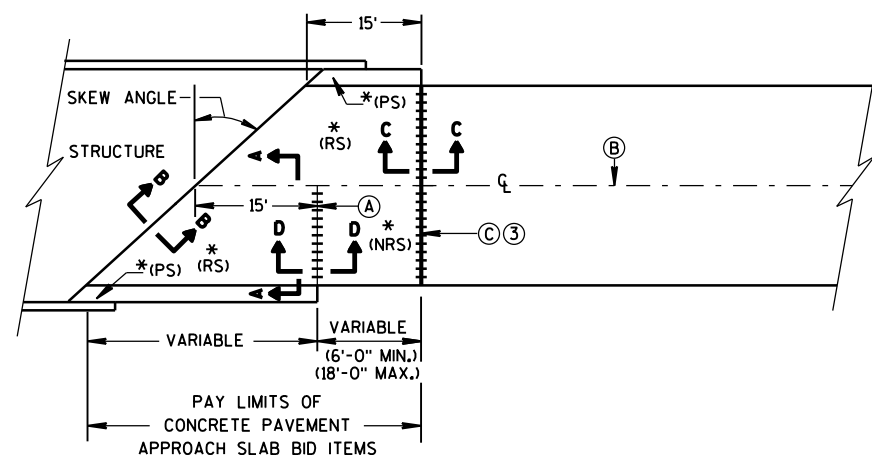
3/26/10
DATE

FHWA

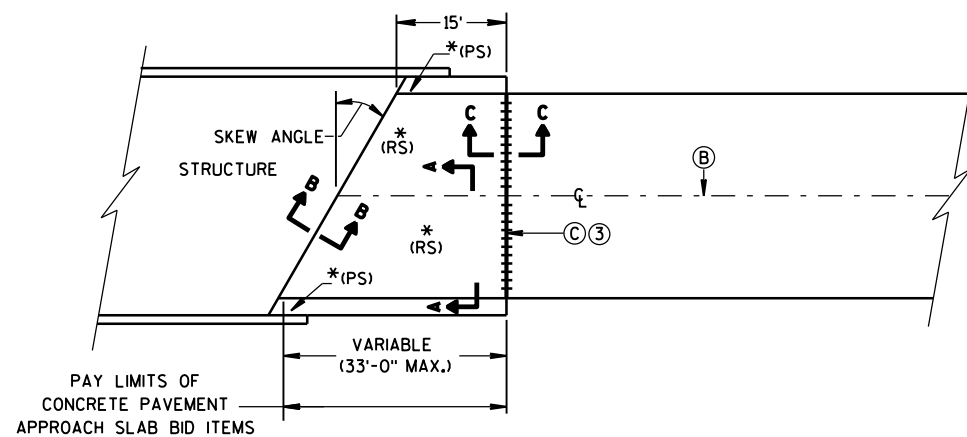
/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



**SKewed APPROACH
(PAVEMENT MORE THAN 2 LANES)**



**SKews > 20°
(PAVEMENT WIDTH ≤ 30')**

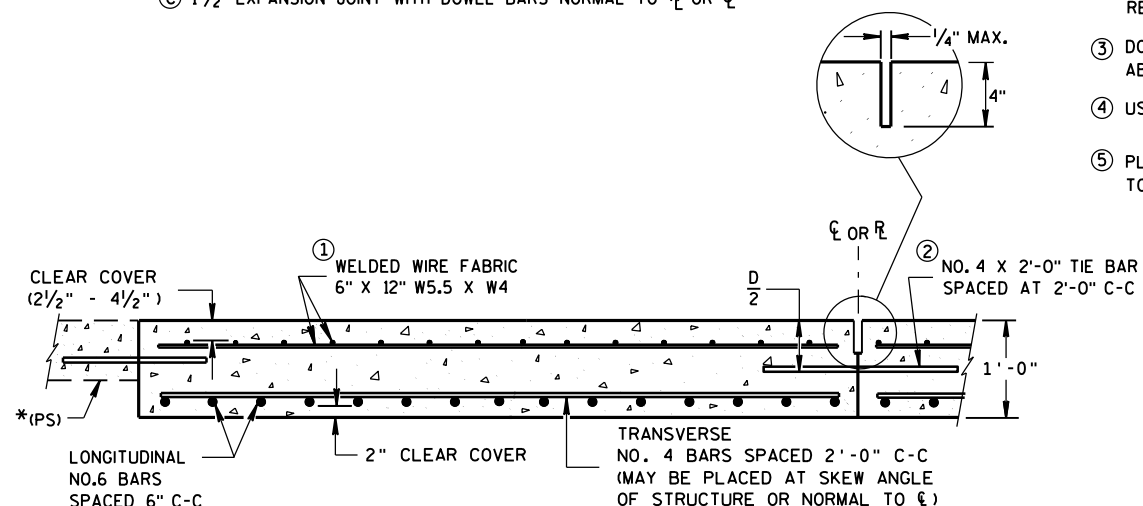


**SKews ≤ 20°
(PAVEMENT WIDTH ≤ 30')
APPROACH SLAB AND ADJACENT PAVEMENT**

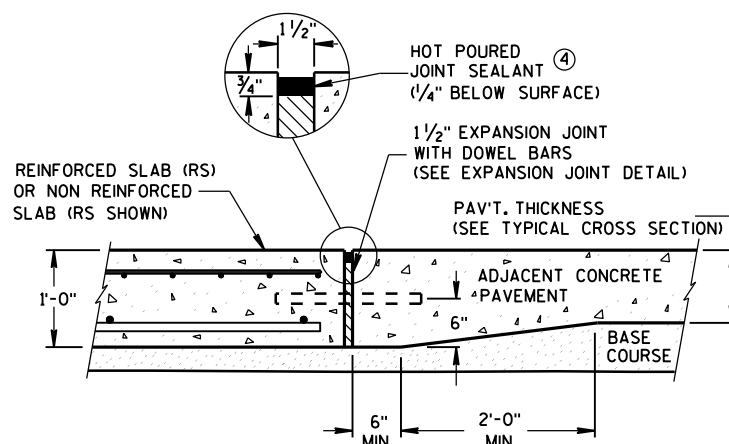
* (RS) = REINFORCED CONCRETE SLAB
* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
* (NRS) = NON-REINFORCED CONCRETE SLAB

*** STANDARD DOWEL BAR DIAMETER
(SEE SDD 13C11, & SDD 13C13)

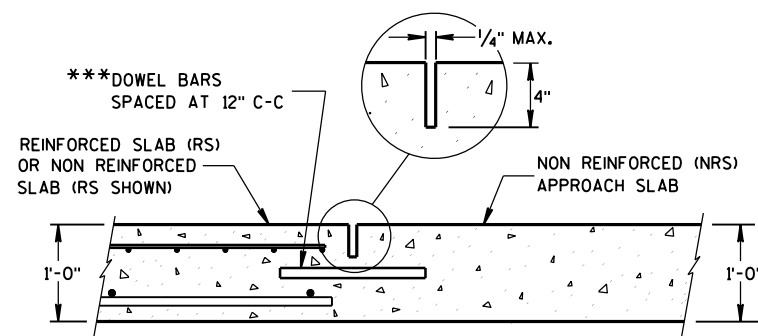
- (A) STANDARD CONTRACTION JOINT NORMAL TO ℓ OR ℓ_c
(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.
(C) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℓ OR ℓ_c



**SECTION A-A
REINFORCEMENT POSITIONING DETAIL**



**SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT**



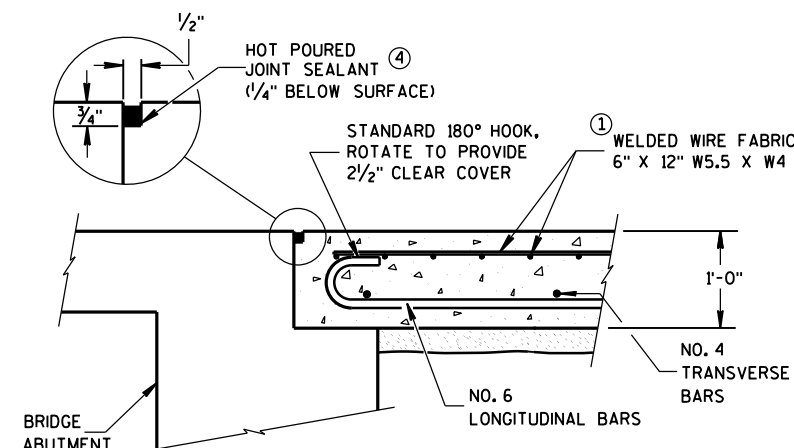
**SECTION D-D
CONTRACTION JOINT**

GENERAL NOTES

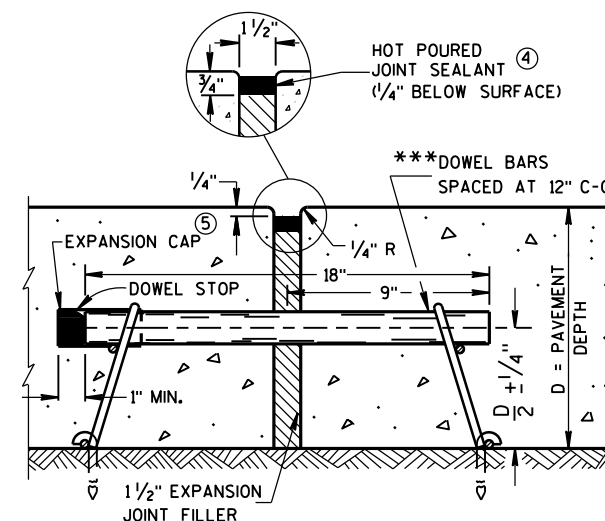
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

- THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
- THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
- USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.
- PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



**SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT**

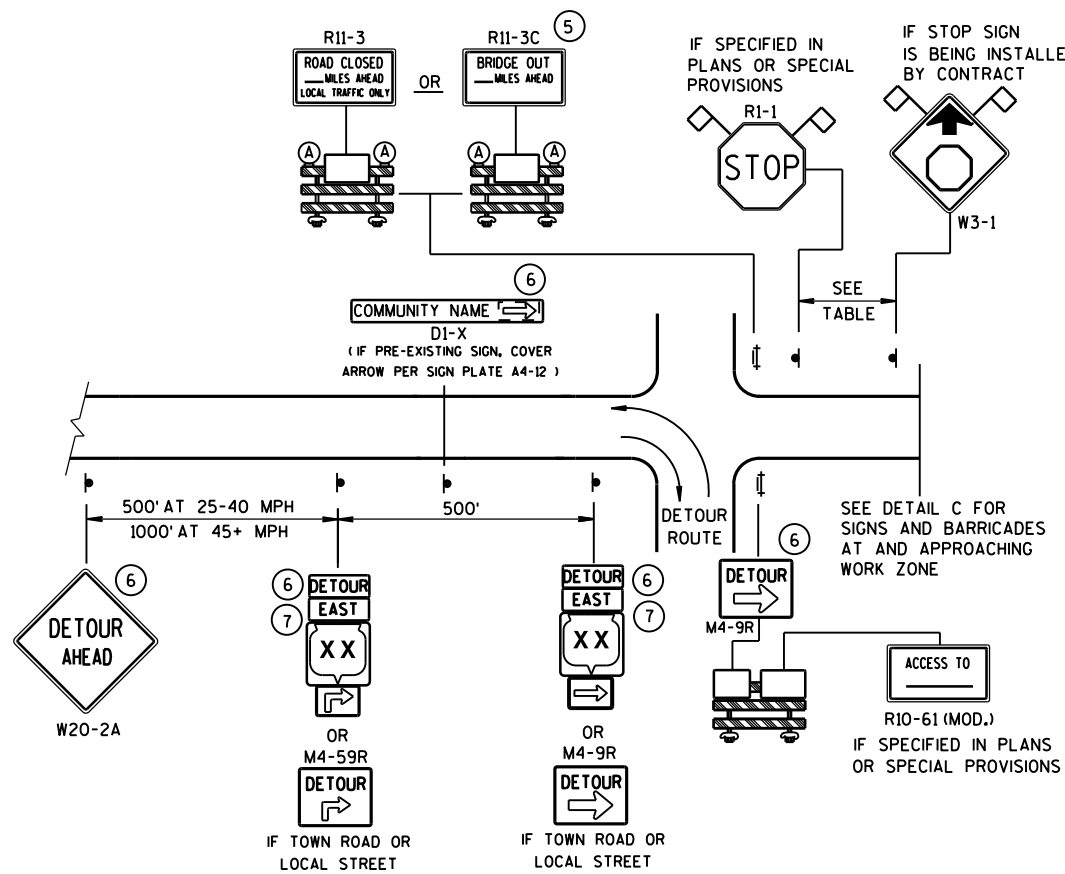


EXPANSION JOINT DETAIL

**CONCRETE PAVEMENT
APPROACH SLAB**

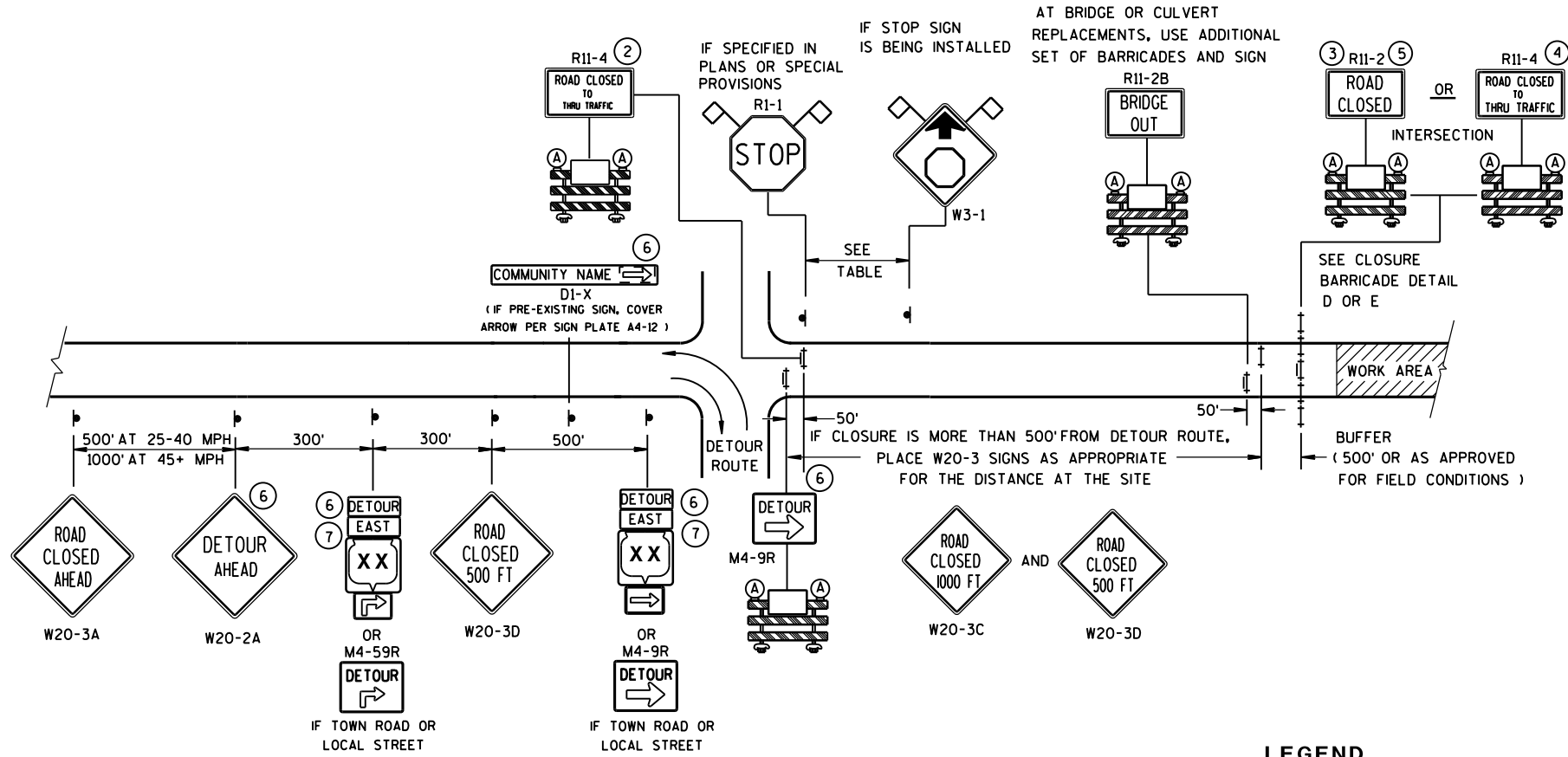
**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

APPROVED
June, 2015 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR
FHWA



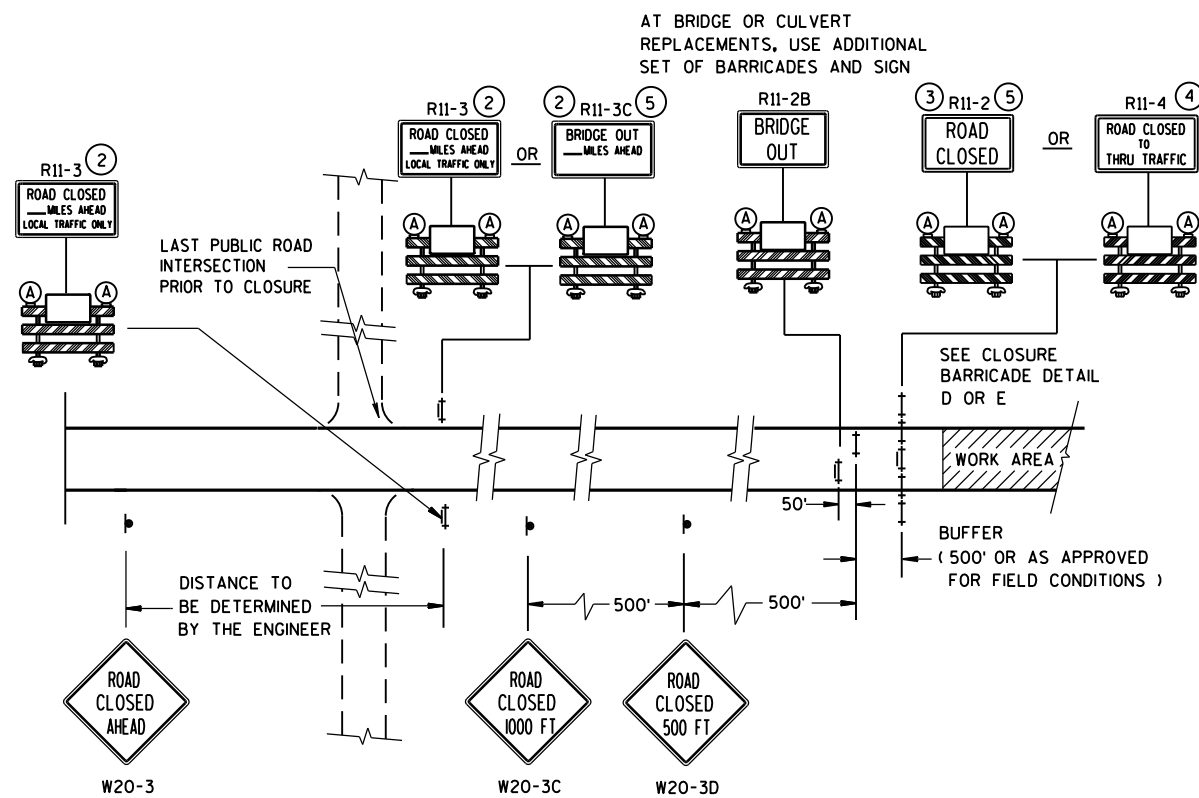
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

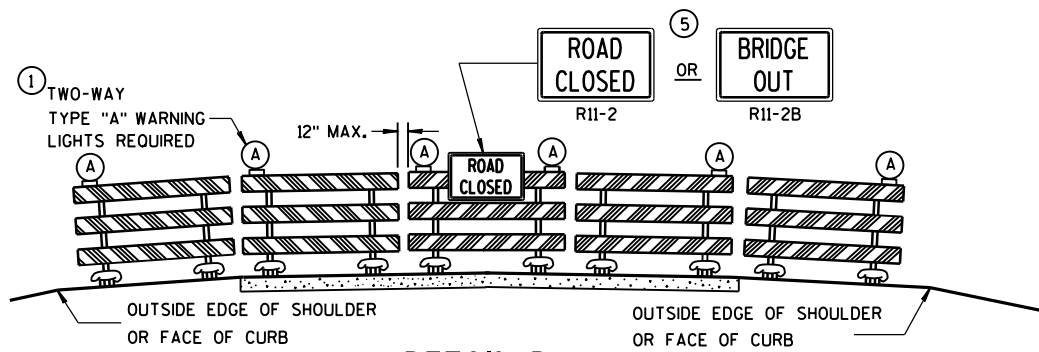


DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

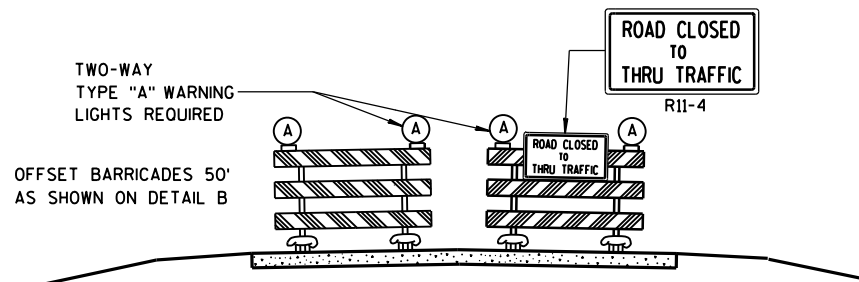
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
Sept. 2015 DATE	/S/ Peter Amokobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

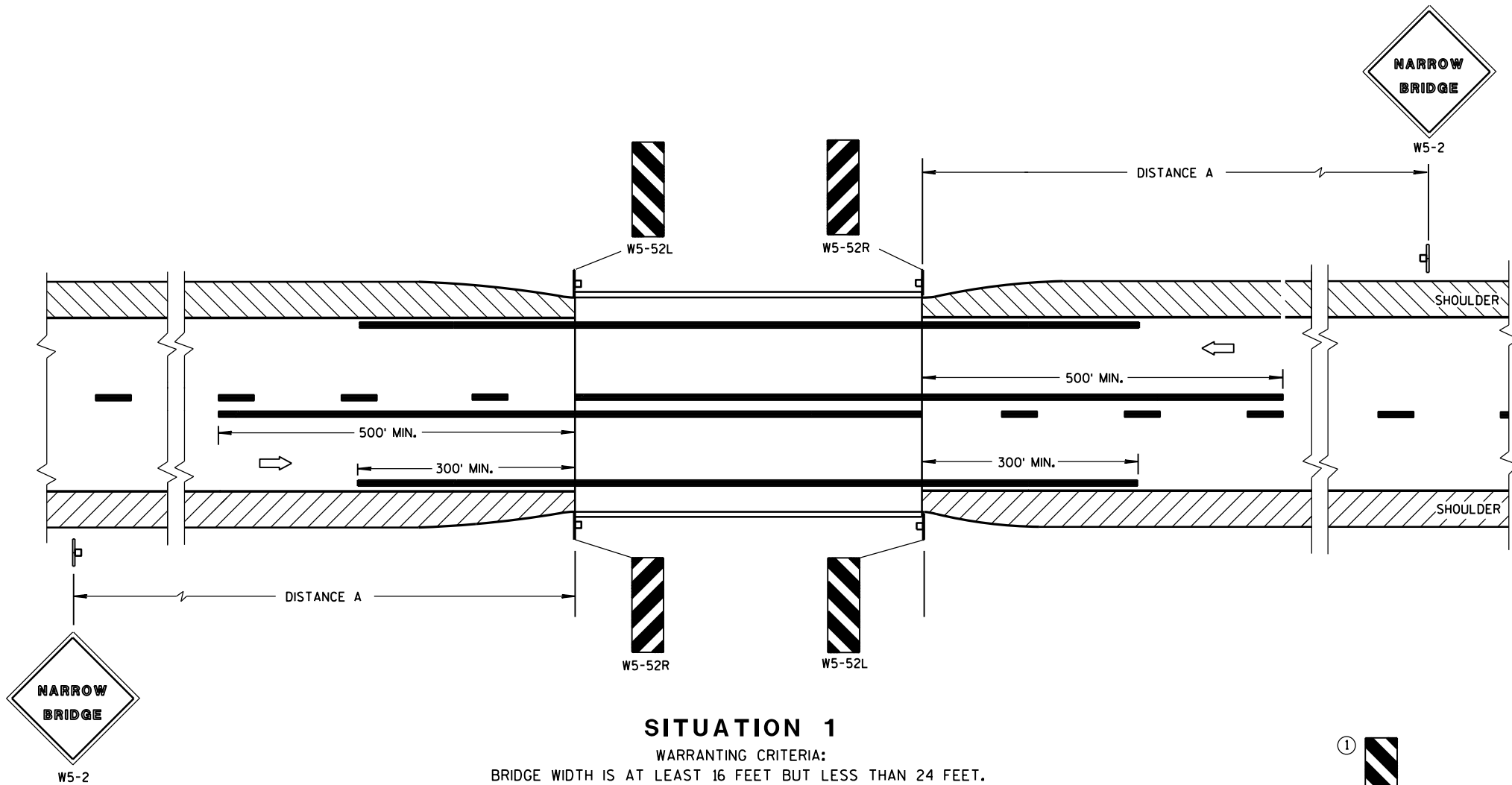
"WO AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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

- R11-2 SHALL BE 48" X 30".
- R11-3, 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". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- 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 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 LANE 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 MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
Sept. 2015 DATE	/S/ Peter Amokobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	



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

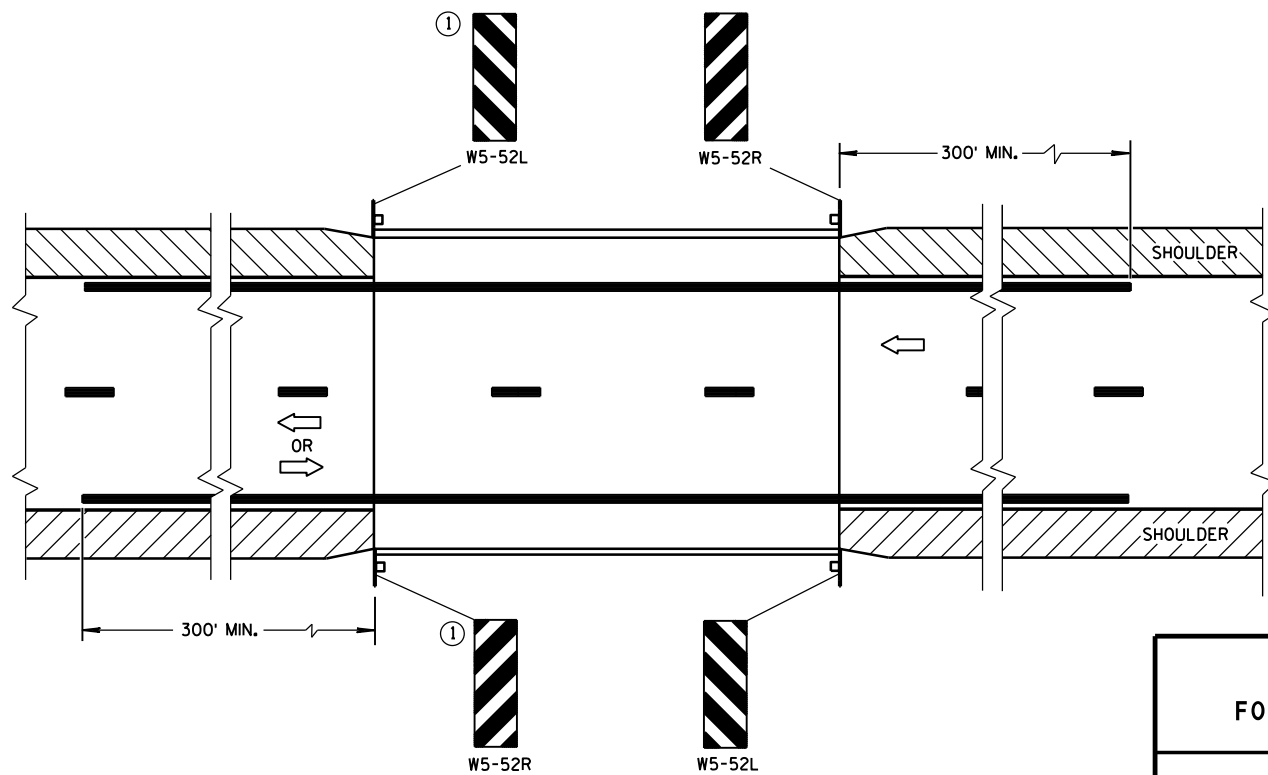
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

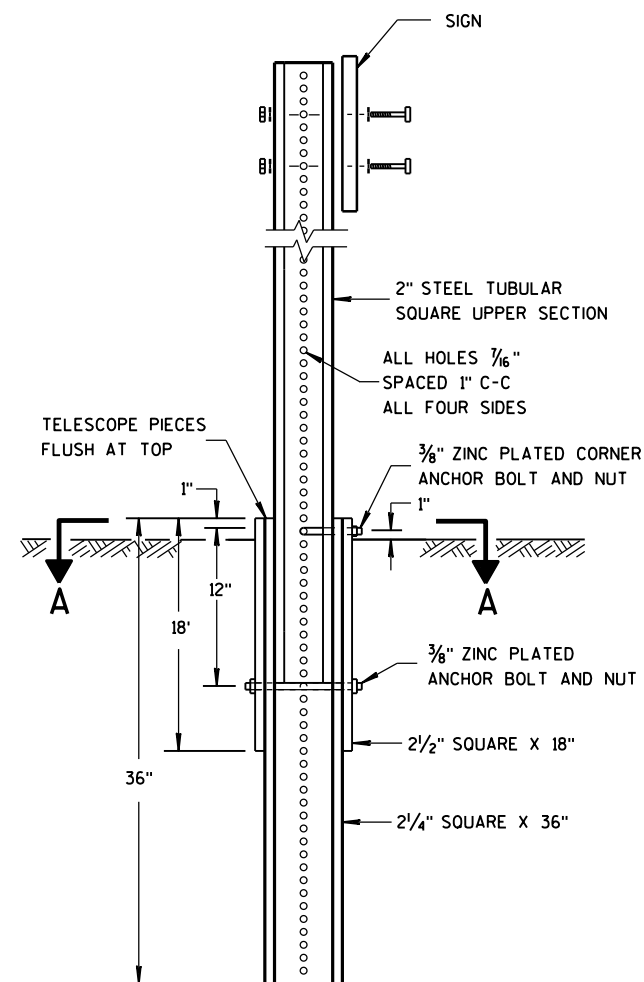
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2017
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA



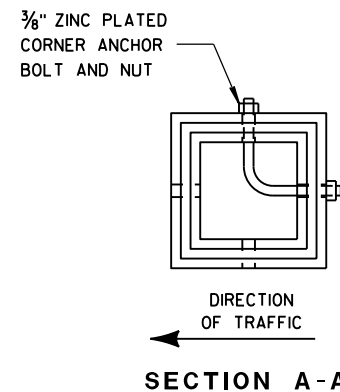
DETAIL OF TUBULAR
STEEL SIGN POST

TUBULAR STEEL POSTS

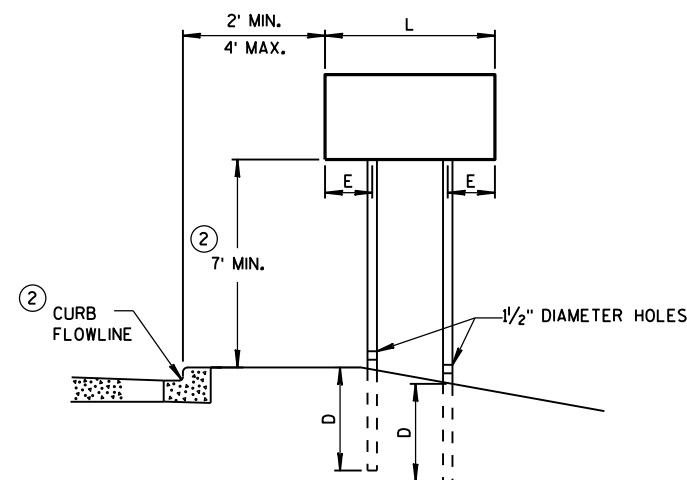
AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL
BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED
ON TUBULAR STEEL POSTS.



SECTION A-A

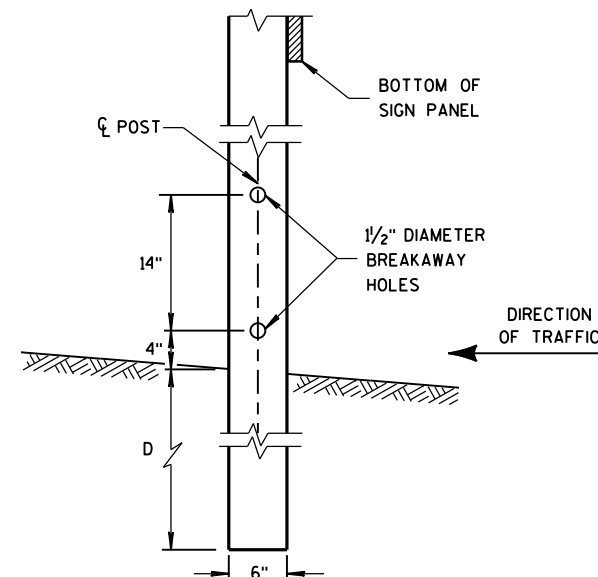


URBAN AREA

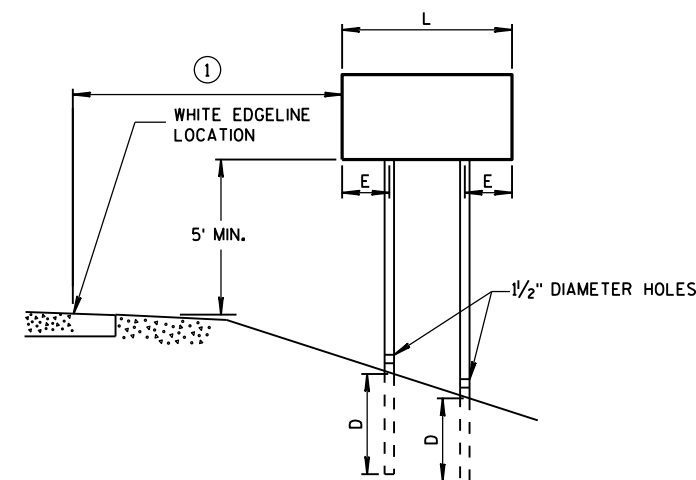
POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST
EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'



4 "x6 " WOOD POST
MODIFICATION



RURAL AREA

4 " X 6 " WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

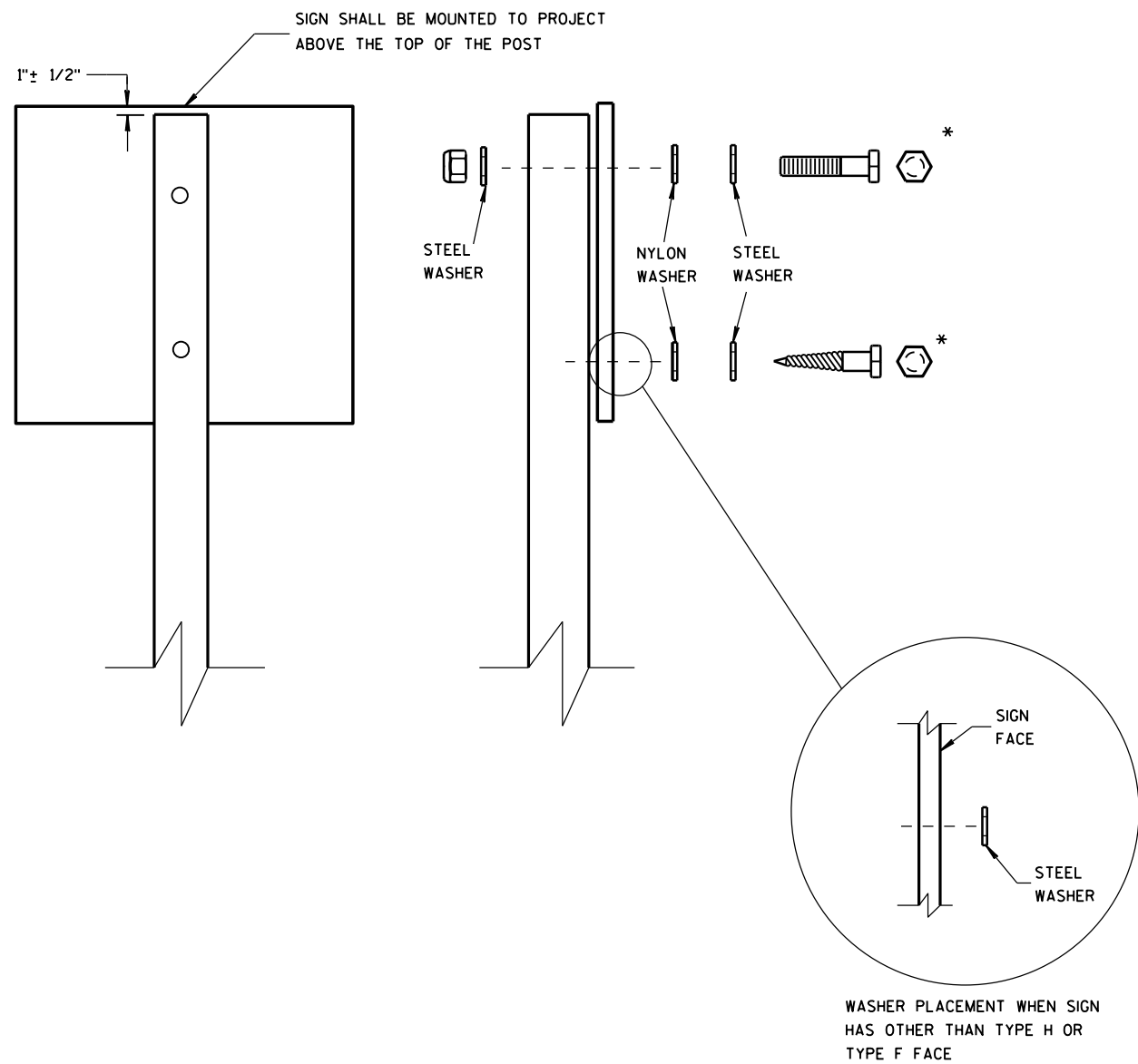
SEE NOTE ③

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS
OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD
BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- 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. IF NO SIDEWALK AND NO PARKING,
VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET
OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

TEMPORARY TRAFFIC CONTROL
SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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.

- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" x 3"
 - MACHINE BOLTS - 5/16" x 6-1/2" OR 7" LENGTH W/ NUTS

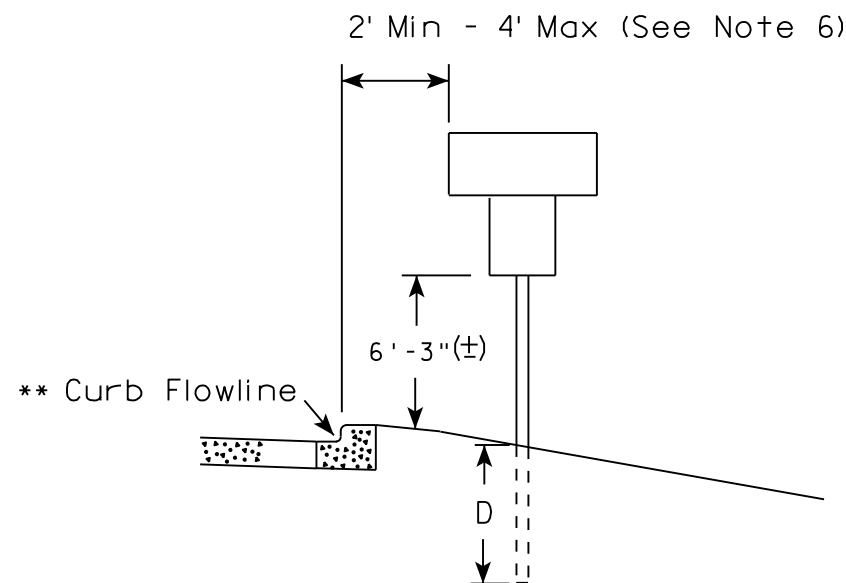
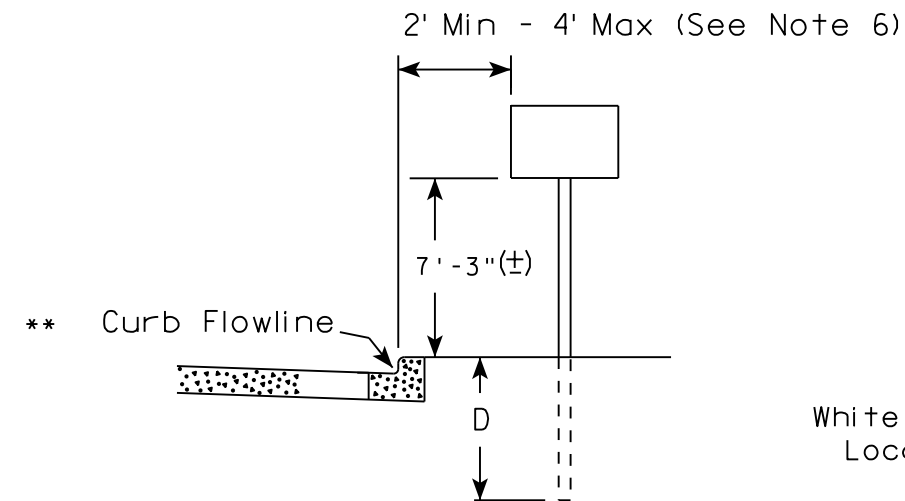
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" x 3-1/4" LENGTH W/ NUTS
 - RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

- 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 FOR ALL TYPE H SIGNS

* 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

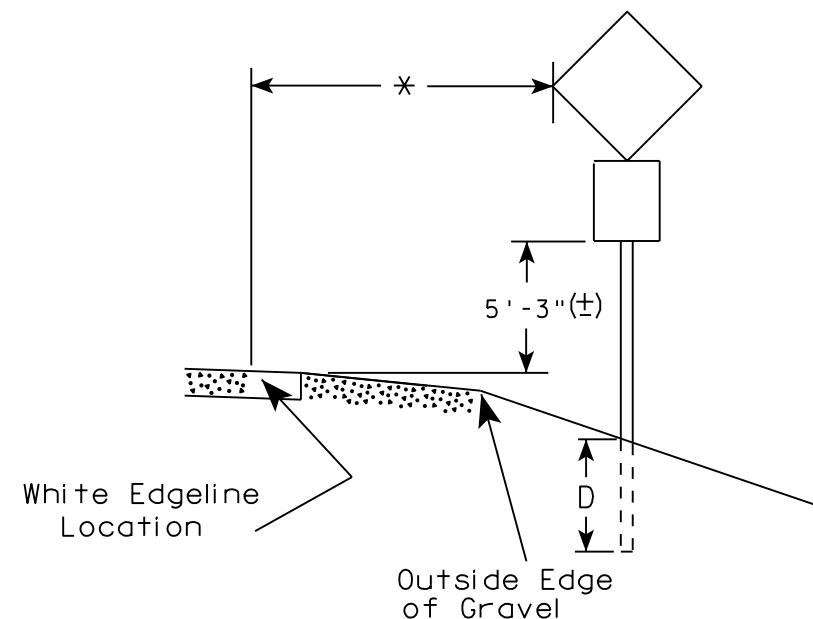
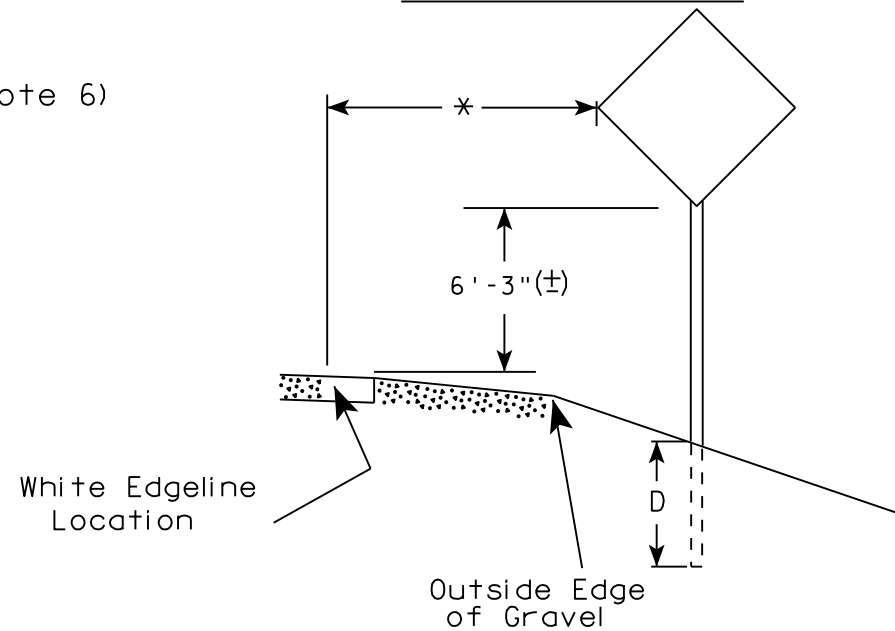
ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

URBAN AREA



✱✱ 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.

RURAL AREA (See Note 2)



* 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

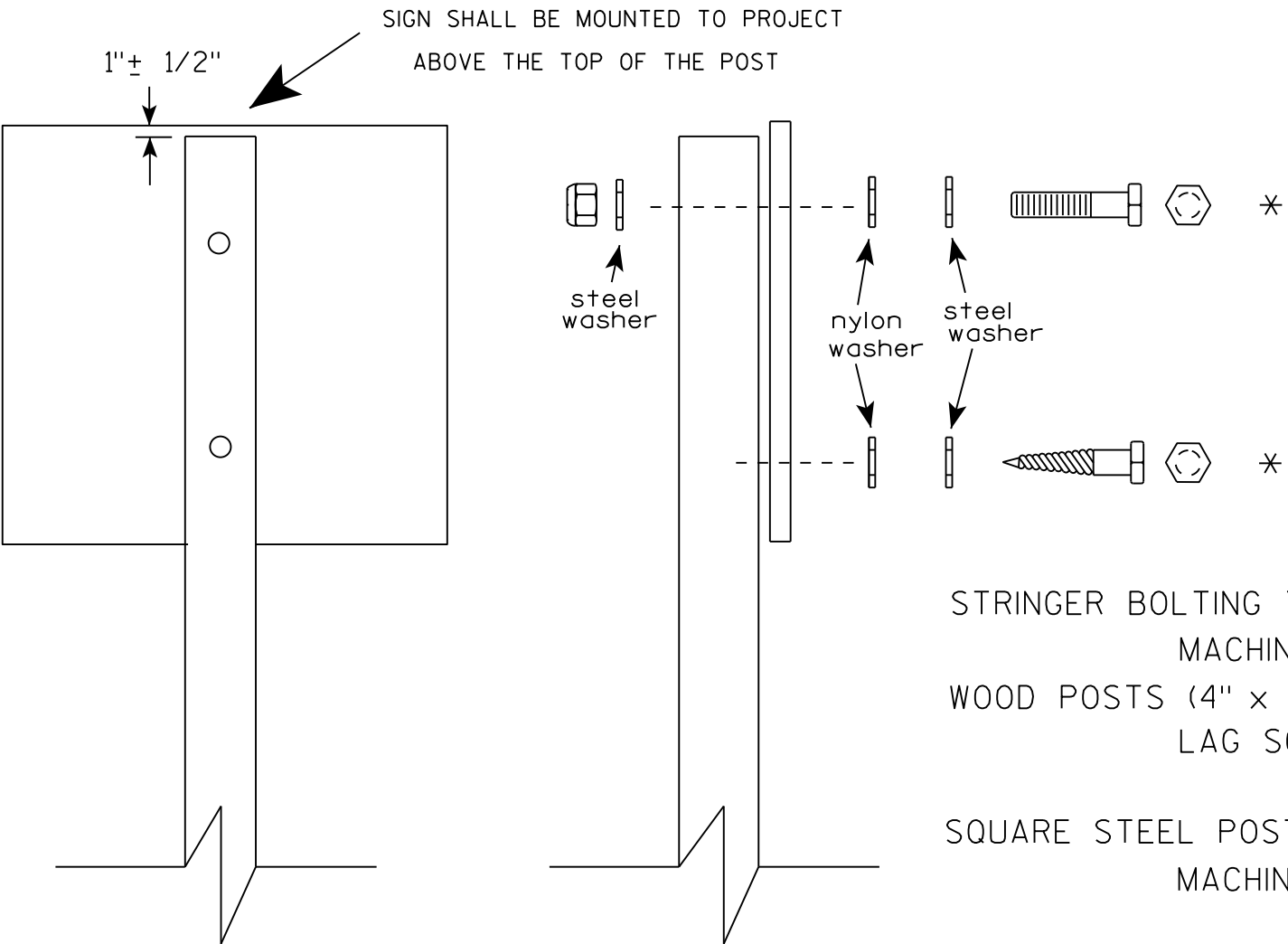
1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. J-Assemblies are considered to be one sign for mounting height.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. 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), 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" (±).

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21



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 4" or 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

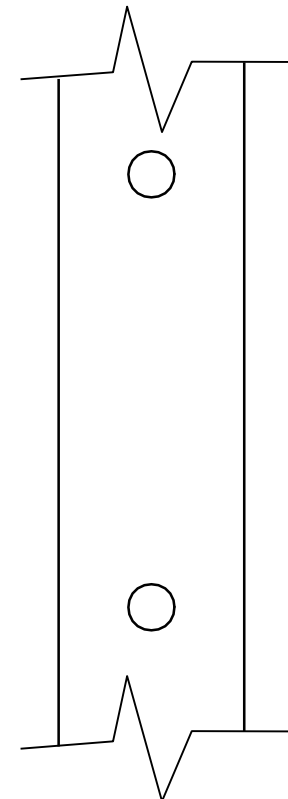
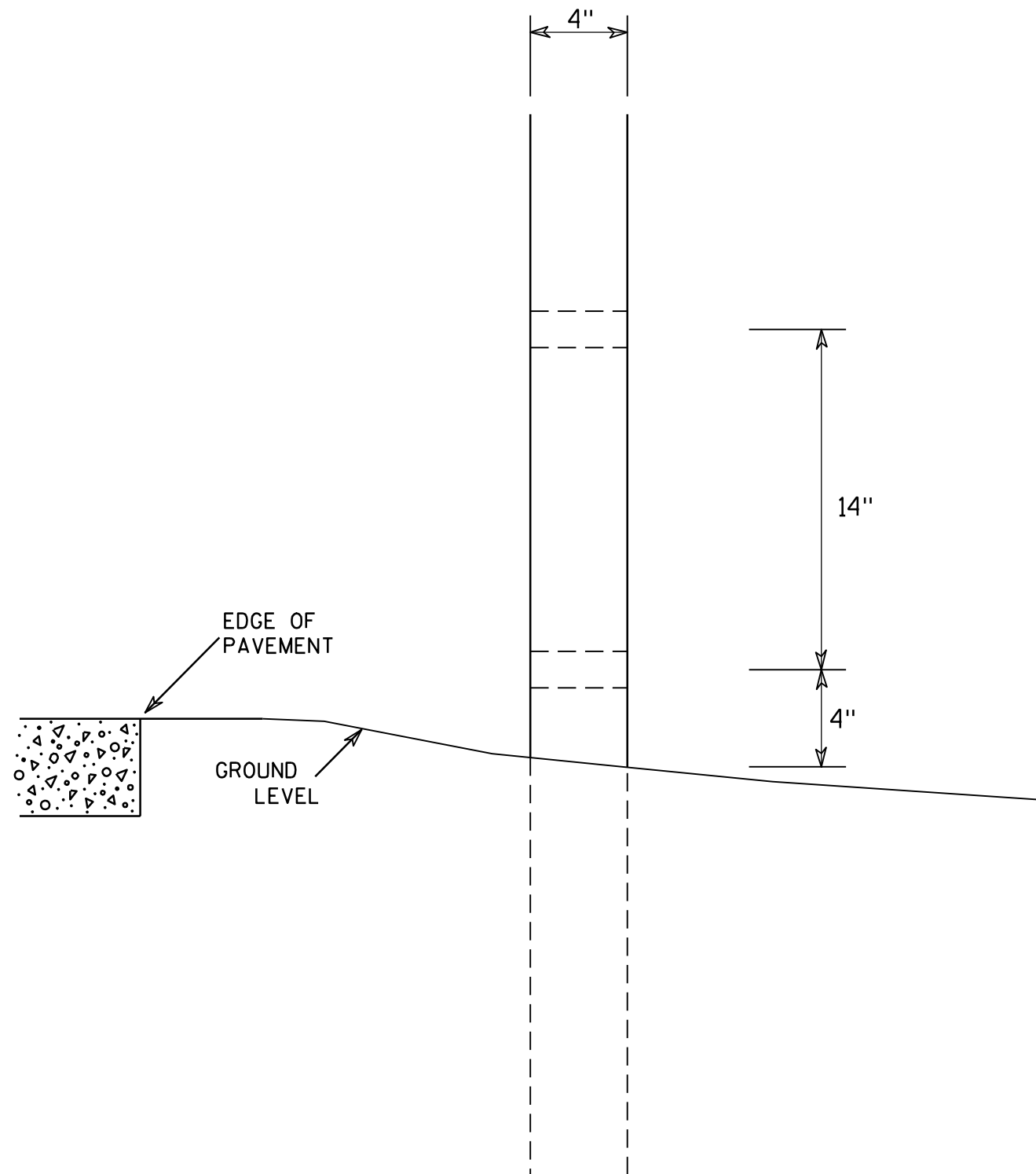
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

ATTACHMENT OF SIGNS
TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 8/11/16 PLATE NO. A4-8.8



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: 9008-03-71

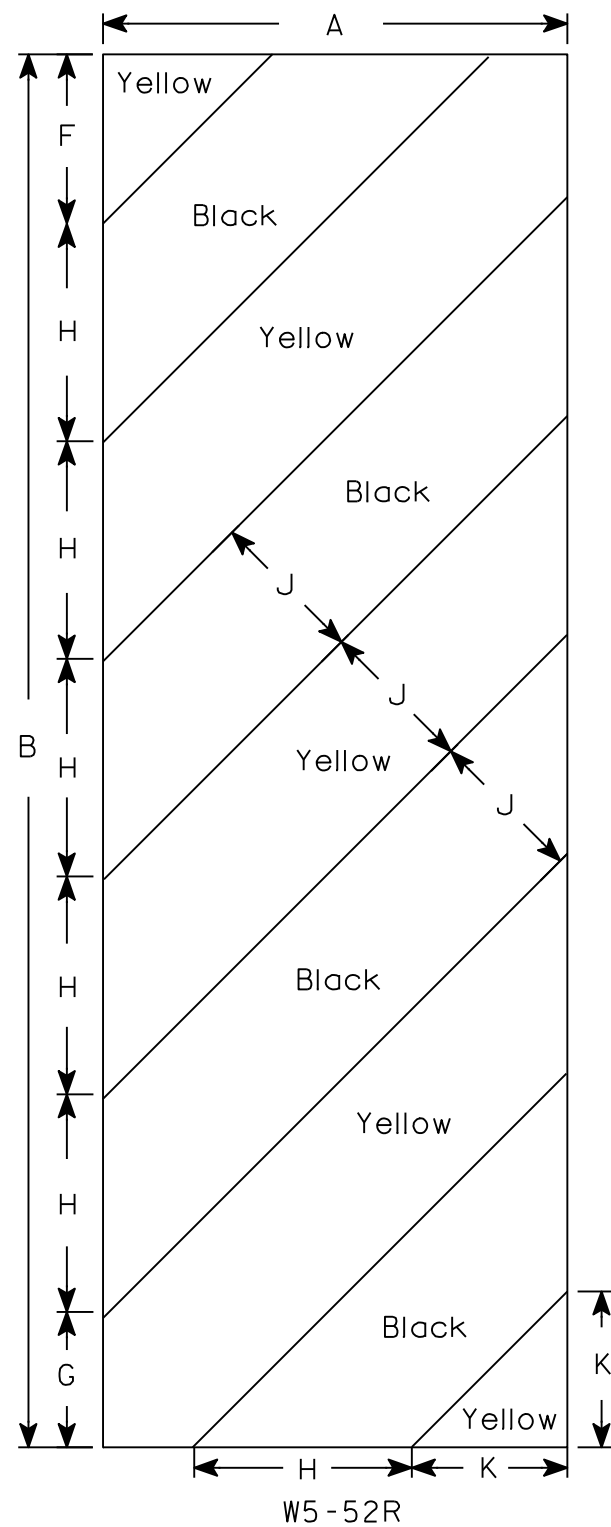
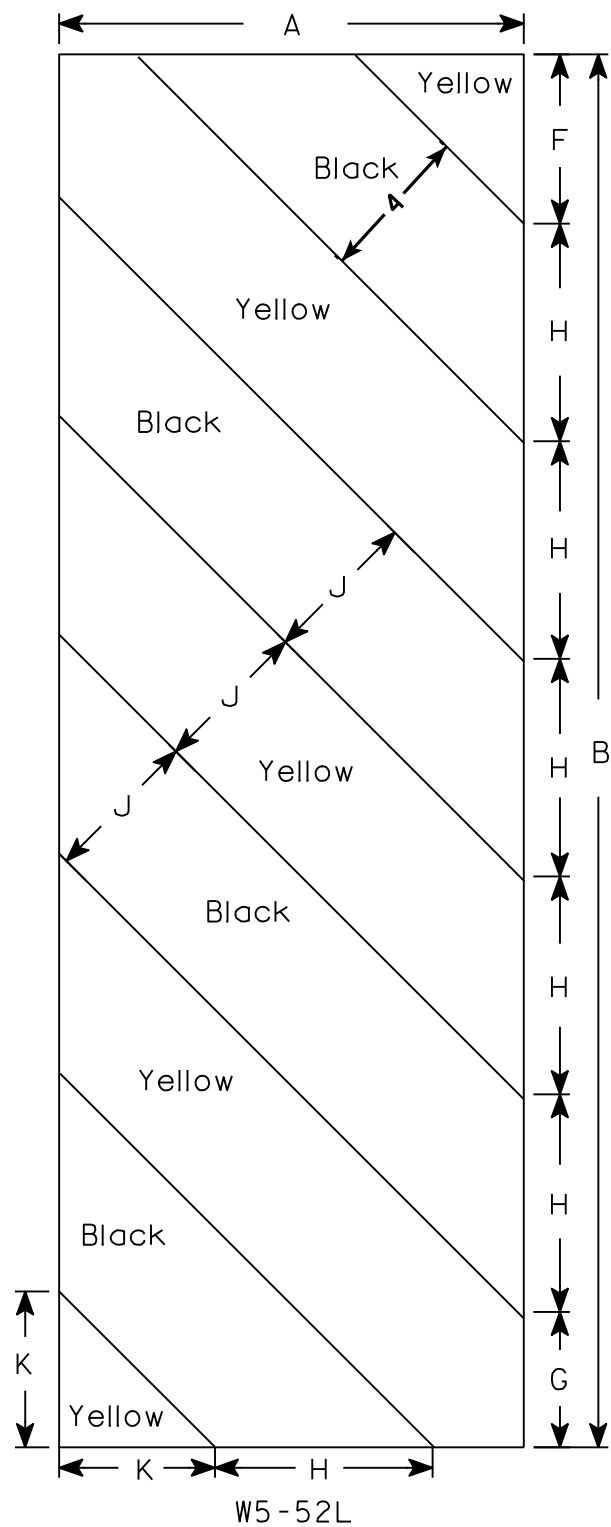
HWY: GROSSE ROAD

COUNTY: OCONTO

SIGN PLATES

SHEET NO:

E



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 5⁄16																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

DESIGN DATA:

DESIGN LOADING _____ HL-93
INVENTORY RATING FACTOR _____ L22
OPERATING RATING FACTOR _____ L58
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
HIGH STRENGTH BAR STEEL REINFORCEMENT _____ fy = 60 ksi

TRAFFIC DATA:

ADT (2018) = 70
ADT (2038) = 85
DESIGN SPEED = 35 MPH

FOUNDATION DATA:

ABUTMENTS AND PIERS SUPPORTED ON HP 12X53 STEEL PILING WITH A
REQUIRED DRIVING RESISTANCE OF 140* TONS PER PILE AT ABUTMENTS
AND 220* TONS PER PILE AT PIERS AS DETERMINED BY THE MODIFIED
GATES DYNAMIC EQUATION. ESTIMATED 30' LONG AT THE ABUTMENTS AND
30' LONG AT THE PIERS. DRIVE PILES TO A MINIMUM PILE TIP ELEVATION
OF 558' FOR BOTH PIERS.

* 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 _____ 5,520 cfs
Q₁₀₀ _____
STREAM VELOCITY _____ 6.21 fps
HIGH WATER _____ EL. 589.13
WATERWAY AREA _____ 888 ft²
DRAINAGE AREA _____ 60.5 mi²
SCOUR CRITICAL CODE _____ 5
OVERTOPPING FREQUENCY _____ N/A
2 YEAR FREQUENCY _____
Q₂ _____ 1,000 cfs
HIGH WATER _____ EL. 582.68

LIST OF DRAWINGS:

- 1 GENERAL PLAN
- 2 CROSS SECTION, GENERAL NOTES, AND QUANTITIES
- 3 GENERAL DETAILS
- 4 SUBSURFACE EXPLORATION
- 5 SOUTH ABUTMENT
- 6 SOUTH ABUTMENT DETAILS
- 7 NORTH ABUTMENT
- 8 NORTH ABUTMENT DETAILS
- 9 PIER DETAILS
- 10 SUPERSTRUCTURE
- 11 SUPERSTRUCTURE DETAILS
- 12 SUPERSTRUCTURE DETAILS 2
- 13 TUBULAR STEEL RAILING TYPE 'M'

⊙ INDICATES WING NUMBER
F. FIXED BEARING

PLAN B-42-131

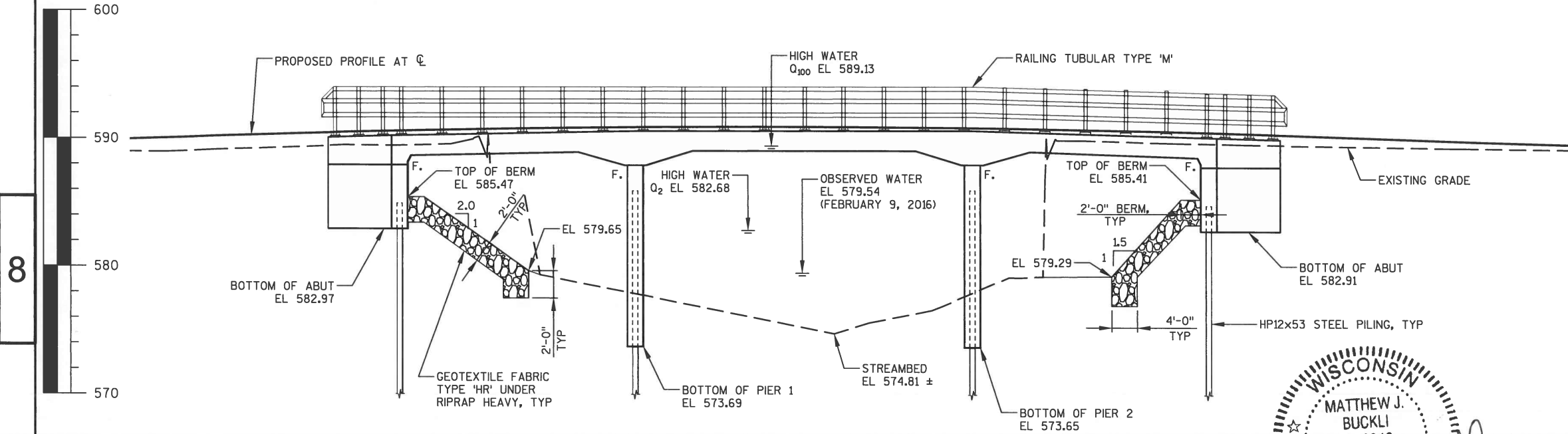
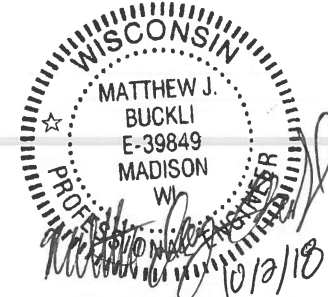
(THREE SPAN REINFORCED CONCRETE HAUNCHED SLAB BRIDGE)

ELEVATION

(NORMAL TO C OF STREAM)

NO.	DATE	REVISION	BY
Mead & Hunt Mead & Hunt, Inc. 2440 Deming Way Middleton, WI 53562 608.273.6380 www.meadhunt.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED <i>William C. Dreher</i> ^{SR} 11/02/18 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-42-131			
GROSSE RD OVER LITTLE SUAMICO RIVER			
COUNTY	OCONTO	TOWN/CITY/VILLAGE	LITTLE SUAMICO
DESIGN SPEC. _____ AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	JAK	DESIGN CK'D. RCP	DRAWN BY JAK PLANS CK'D. RCP
GENERAL PLAN			
SHEET 1 OF 13			

BRIDGE OFFICE CONTACT
WILLIAM DREHER, P.E.
TELEPHONE: (608) 266-8489
CONSULTANT CONTACT
MATTHEW BUCKLI, P.E.
TELEPHONE: (608) 273-6380



GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED. BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

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

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

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

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-42-131" SHALL BE THE EXISTING GROUND LINE OR STREAMBED.

AT THE BACKFACE OF ABUTMENT ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

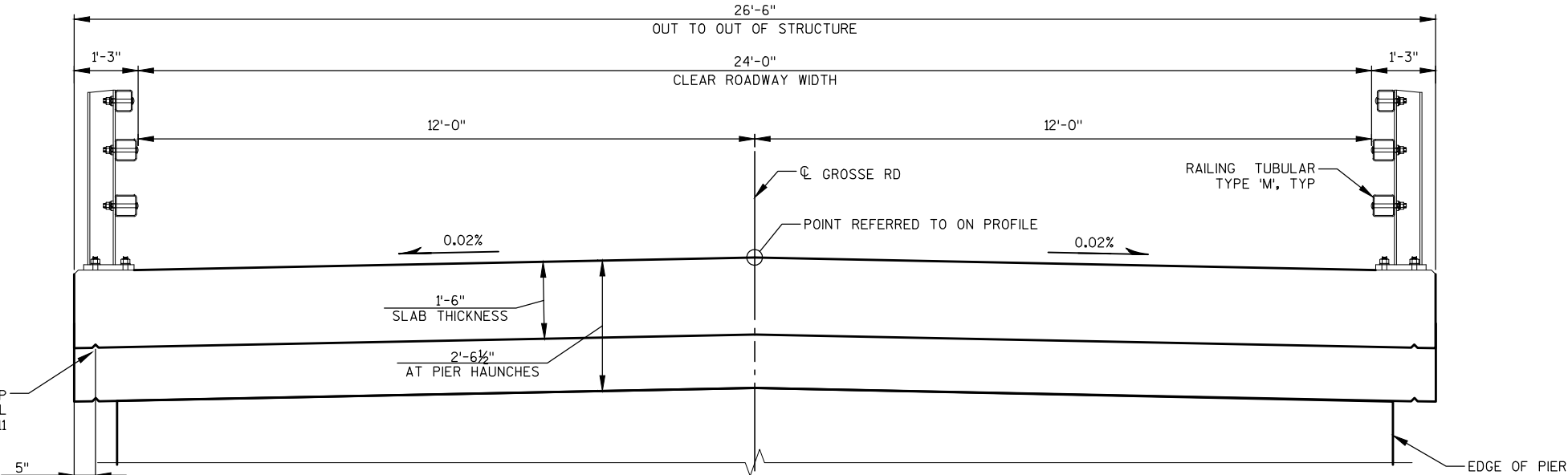
★ ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 2012 (NAVD 88).

PROTECTIVE SURFACE TREATMENT TO BE PLACED FULL WIDTH ON TOP SURFACE. SEE DETAILS ON SHEET 11.

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.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

THE EXISTING STRUCTURE, TO BE REMOVED, IS A 93.0-FOOT SINGLE SPAN STEEL THROUGH TRUSS BRIDGE, WITH A 13.9-FOOT CLEAR BRIDGE WIDTH (P-42-34).



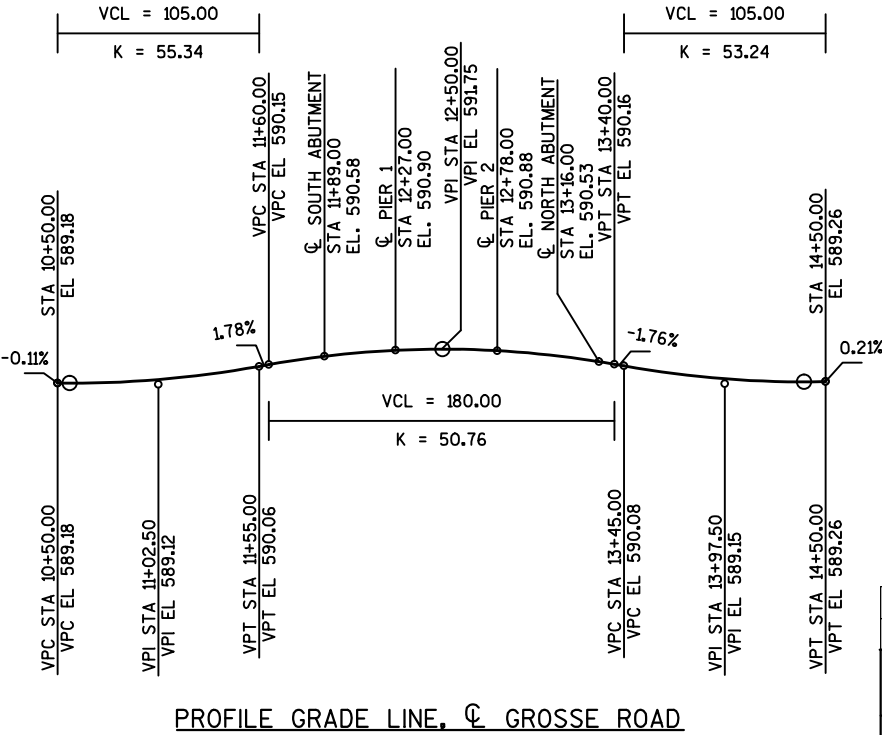
CROSS SECTION THRU ROADWAY
(LOOKING NORTH)

BENCH MARKS ★

NO.	STATION	OFFSET	DESCRIPTION	ELEV.
20	13+37.57	8.53' LT	CP MAG NAIL	589.33'
21	11+74.67	9.07' RT	CP 3/4 RBB	589.06'
BM304	9+73.79	16.59' LT	BM N. RIM OF MH	589.75'
BM561	14+77.73	16.59' LT	BM N. RIM OF MH	588.61'

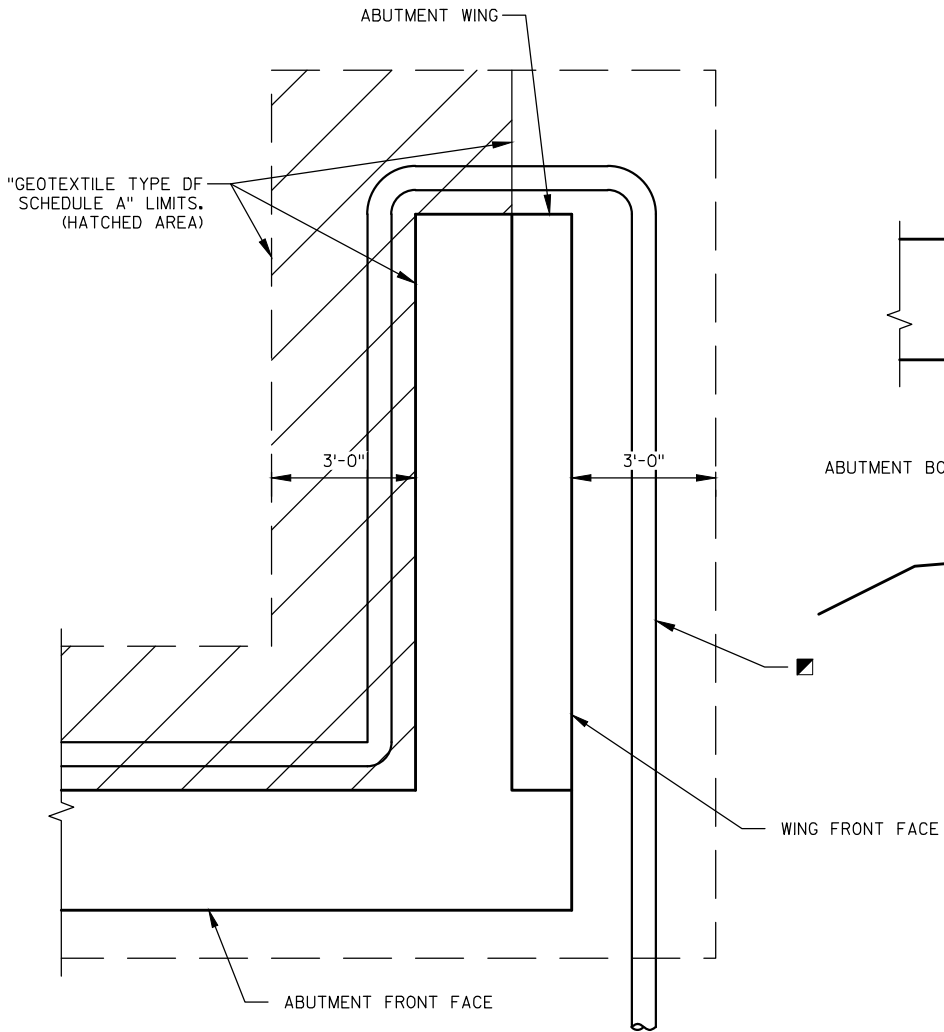
TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	S ABUT	PIER 1	PIER 2	N ABUT	SUPER	TOTALS
203.0500.S	REMOVING OLD STRUCTURE OVER WATERWAY STATION 12+50	LS	---	---	---	---	---	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-42-131	LS	---	---	---	---	---	1
206.5000	COFFERDAMS B-42-131	LS	---	---	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	120	---	---	120	---	240
502.0100	CONCRETE MASONRY BRIDGES	CY	33	38	38	33	222	364
502.3200	PROTECTIVE SURFACE TREATMENT	SY	15	---	---	15	385	415
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1790	1780	1780	1790	---	7140
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1610	---	---	1610	48430	51650
513.4061	RAILING TUBULAR TYPE M B-42-131	LF	---	---	---	---	313	313
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6	---	---	6	---	12
550.0500	PILE POINTS	EA	5	6	6	5	---	22
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	150	180	180	150	---	660
606.0300	RIPRAP HEAVY	CY	160	---	---	135	---	295
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	75	---	---	75	---	150
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	50	---	---	50	---	100
645.0120	GEOTEXTILE TYPE HR	SY	290	---	---	260	---	550
SPV.0090.01	FLASHING STAINLESS STEEL	LF	---	---	---	---	260	260
NON BID ITEMS								
	FILLER	SIZE						1/2" & 3/4"

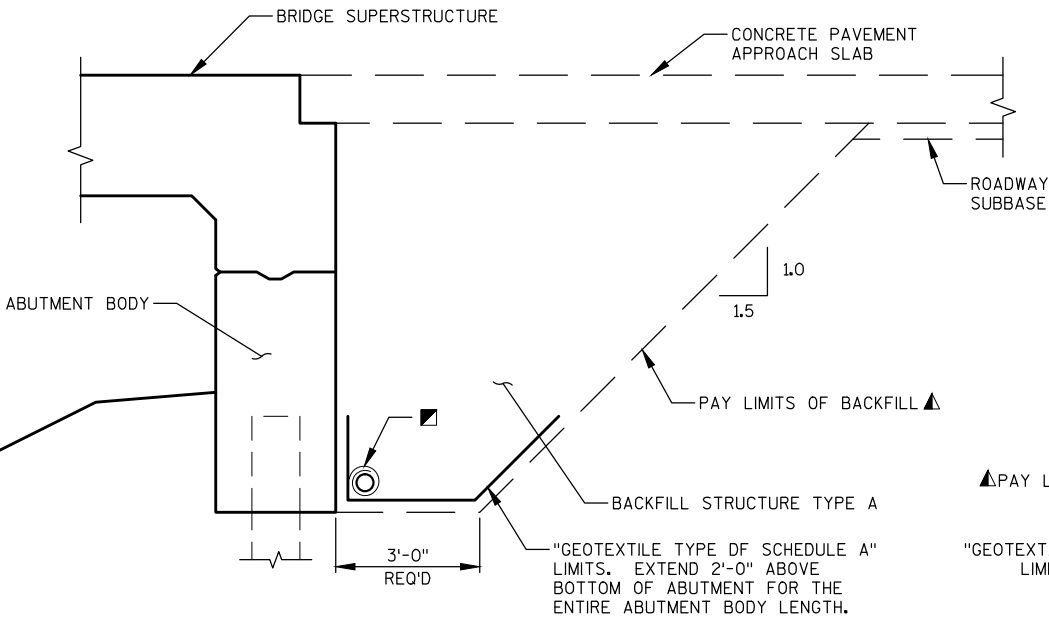


PROFILE GRADE LINE, GROSSE ROAD

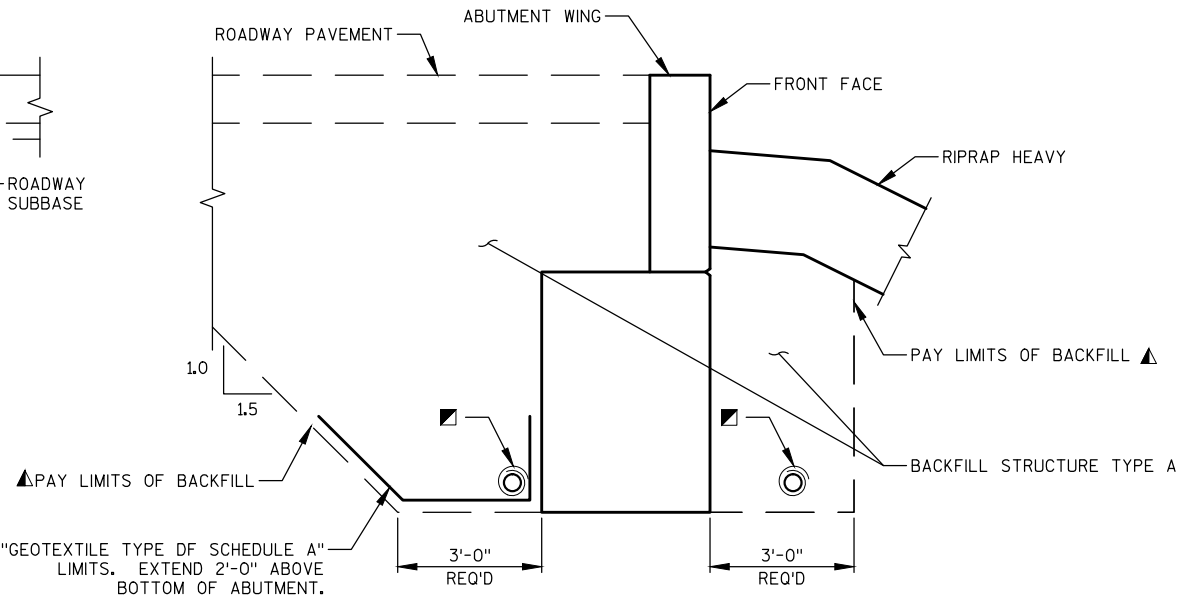
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-131			
		DRAWN BY JAK	PLANS CK'D. RCP
CROSS SECTION, GENERAL NOTES, AND QUANTITIES			SHEET 2 OF 13



ABUTMENT PLAN WITH WING
(SHOWING STRUCTURE BACKFILL LIMITS)



STRUCTURE BACKFILL & PIPE UNDERDRAIN DETAIL
(TYPICAL AT BOTH ABUTMENTS)



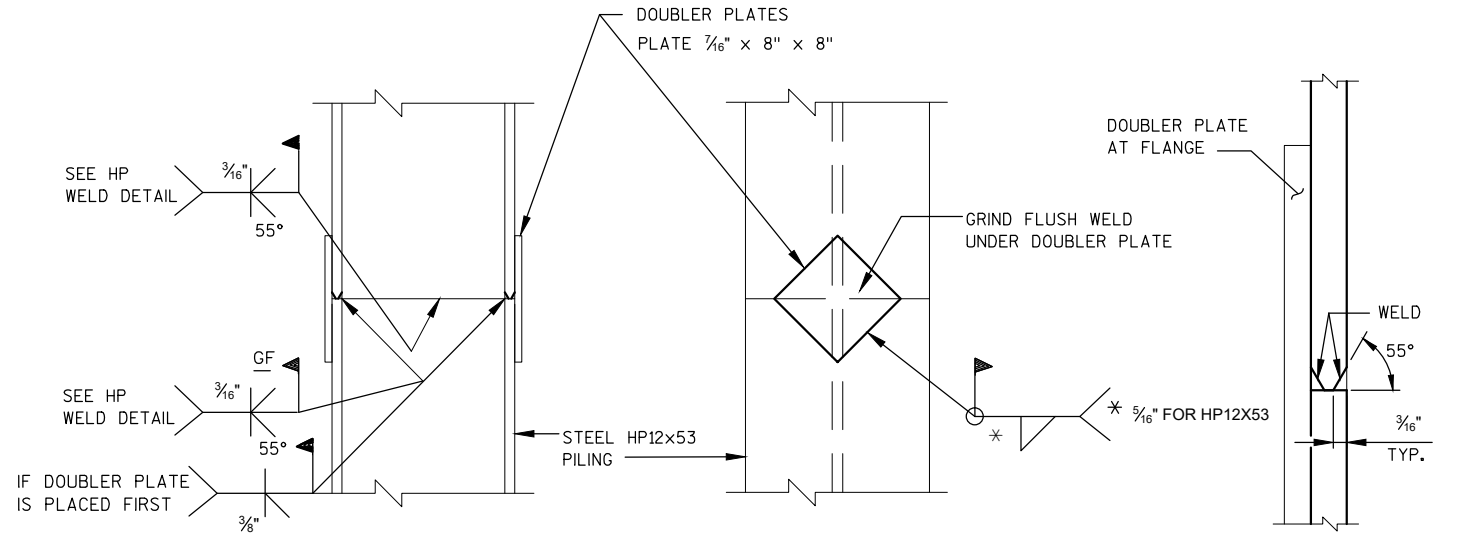
TYPICAL SECTION THRU WING
(SHOWING STRUCTURE BACKFILL LIMITS)

NOTES:

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.

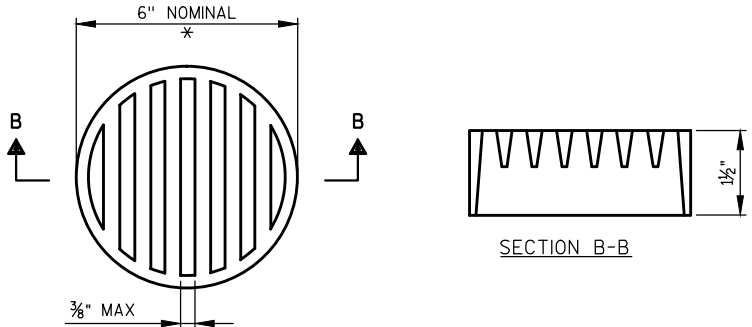
- ▲ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.



PILE SPLICE DETAILS

HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR



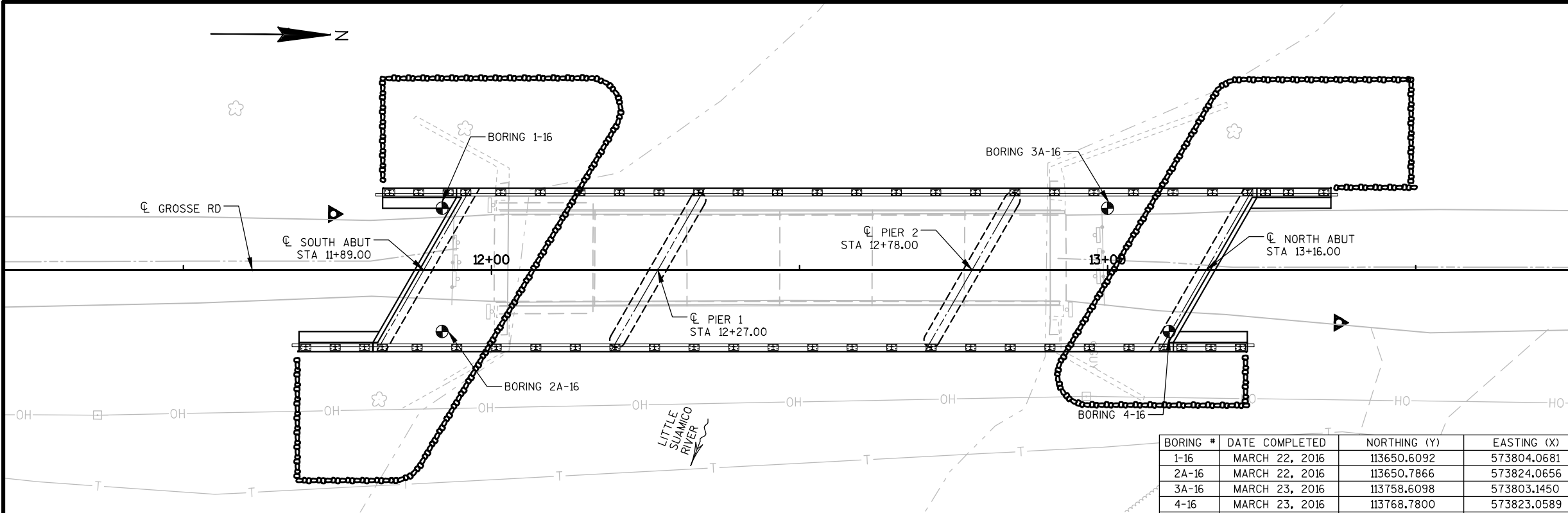
RODENT SHIELD DETAIL

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

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

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

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-131			
DRAWN BY		JAK	PLANS CK'D. RCP
GENERAL DETAILS		SHEET 3 OF 13	



BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1-16	MARCH 22, 2016	113650.6092	573804.0681
2A-16	MARCH 22, 2016	113650.7866	573824.0656
3A-16	MARCH 23, 2016	113758.6098	573803.1450
4-16	MARCH 23, 2016	113768.7800	573823.0589

BORINGS COMPLETED BY: RIVER VALLEY TESTING CORP.
REPORT COMPLETED BY: RIVER VALLEY TESTING CORP.
ALL COORDINATES REFERENCED TO WCCS NAD 83(1991) OCONTO COUNTY

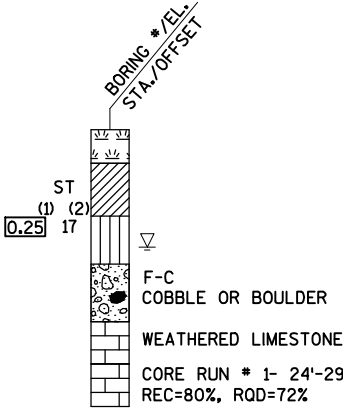
STATE PROJECT NUMBER

9008-03-71

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

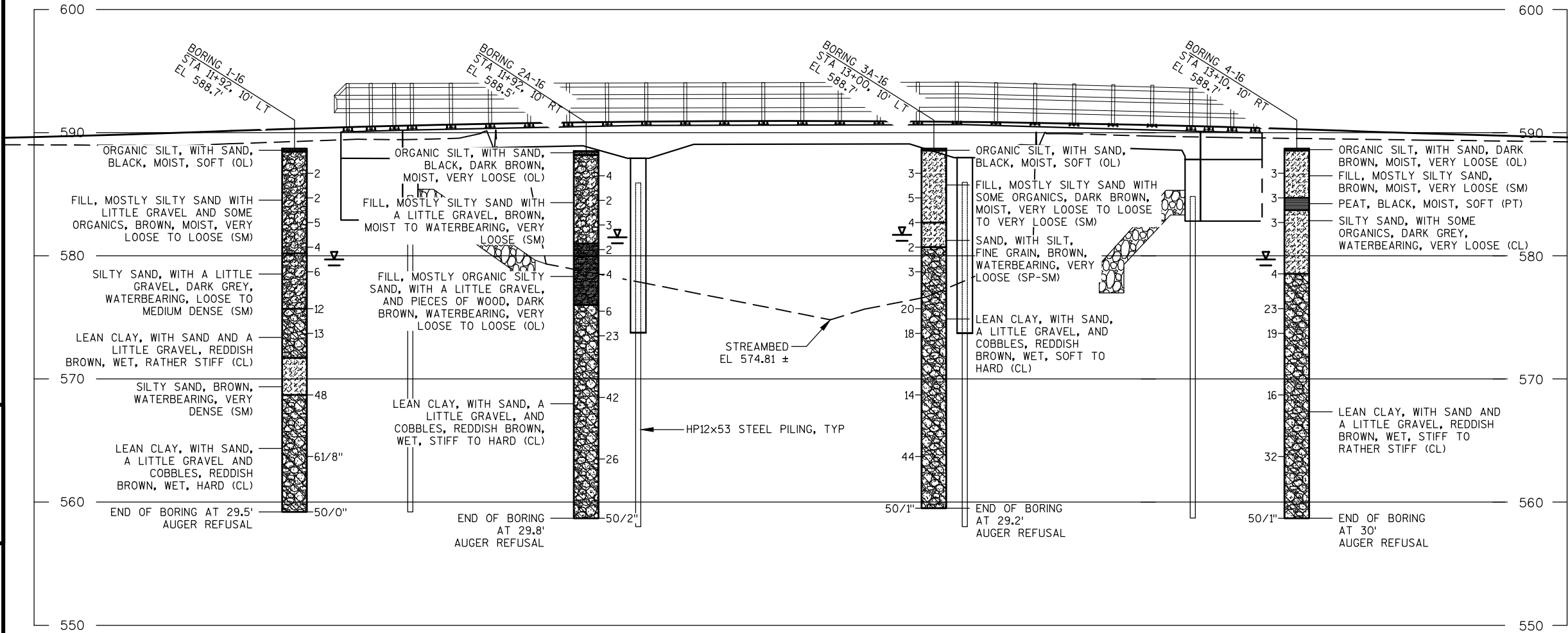
- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

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

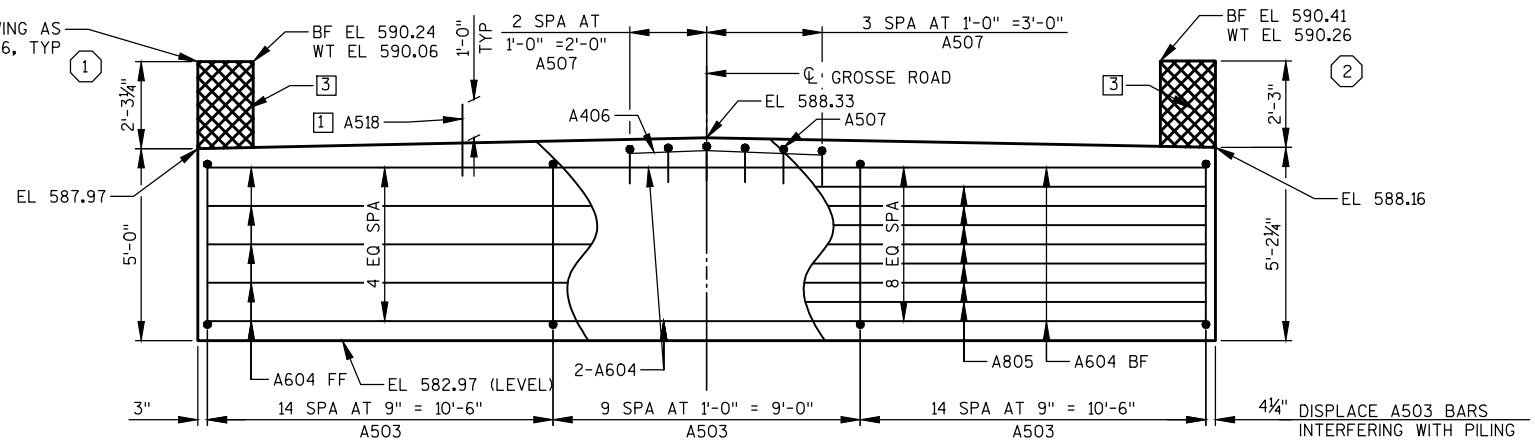
SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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.

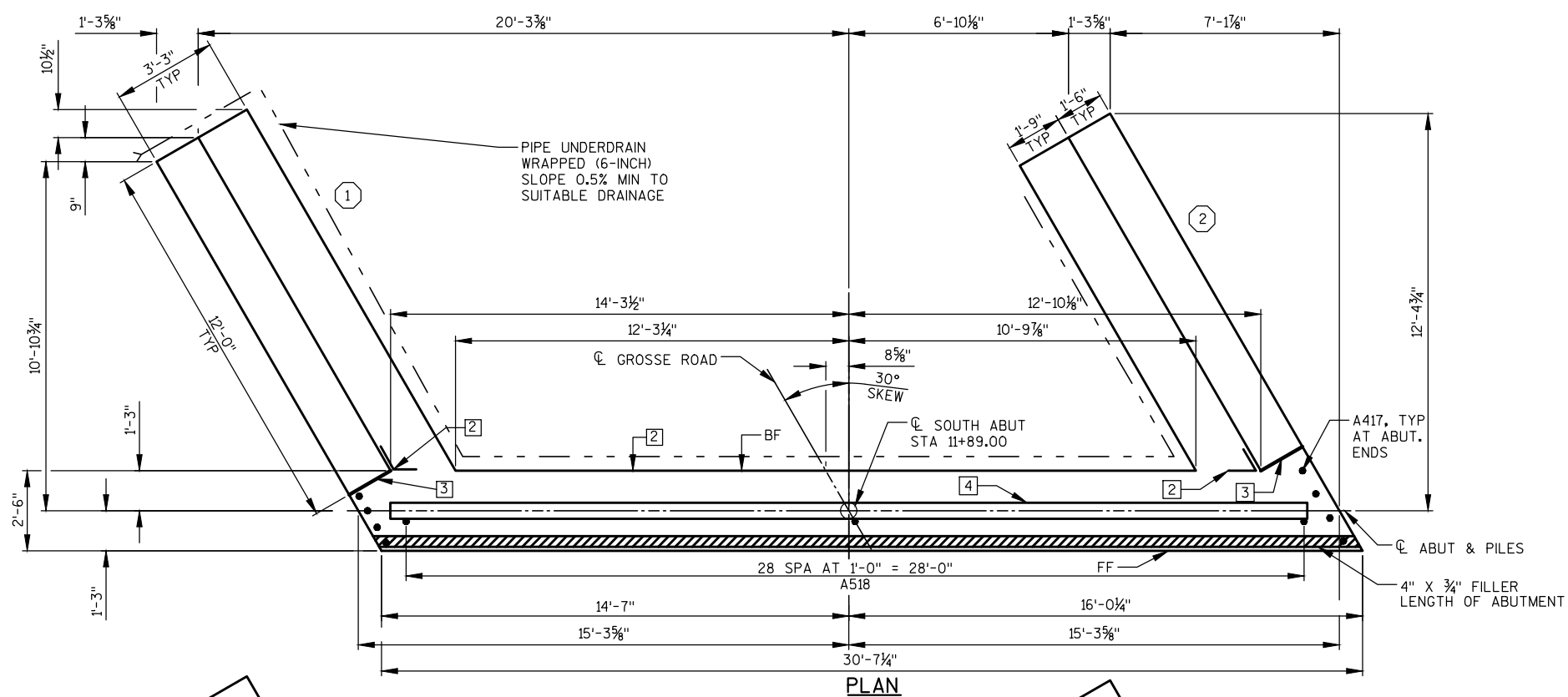


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-131			
DRAWN BY JAK		PLANS CK'D. RCP	
SUBSURFACE EXPLORATION		SHEET 4 OF 13	

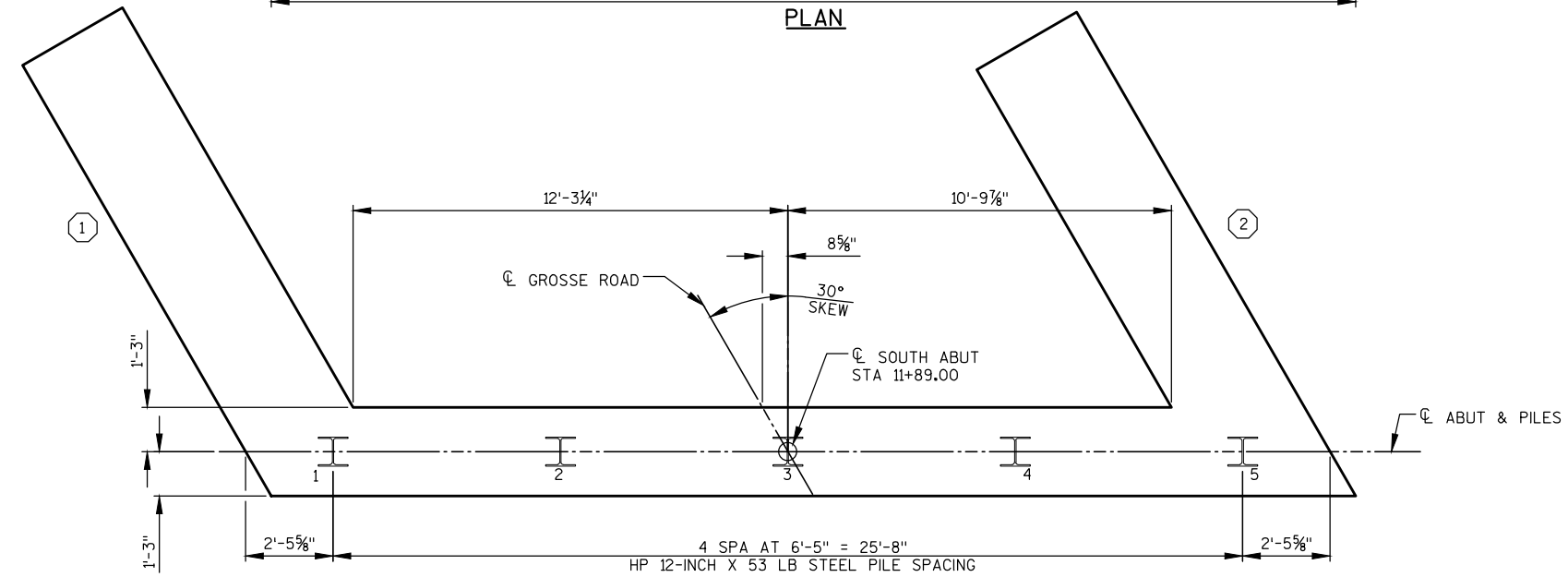
SLOPE TOP OF WING AS SHOWN ON SHEET 6, TYP



ELEVATION
(SOUTH ABUTMENT LOOKING SOUTH)



PLAN



PILE PLAN

NOTES

FOR PILE SPLICE SEE SHEET 3

FILL/EXCAVATE TO BOTTOM OF ABUTMENT EL 582.97 BEFORE DRIVING PILING.

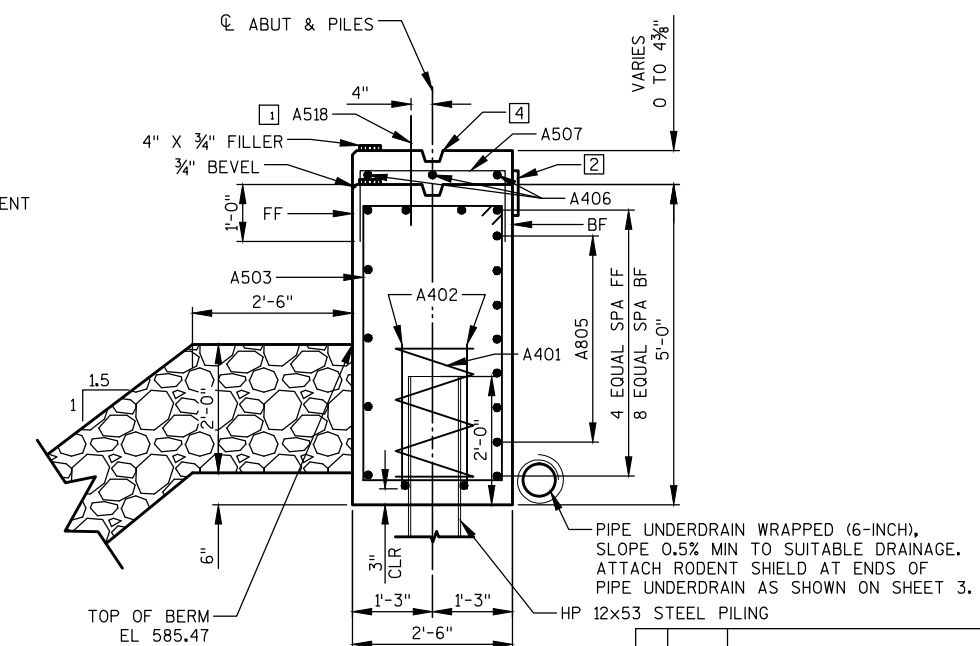
SEE SHEET 3 FOR STRUCTURE BACKFILL AND PIPE UNDERDRAIN DETAIL.

ABUTMENT SUPPORTED ON HP 12-INCH X 53 LB STEEL PILING WITH REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 30' LONG. PILE POINTS REQUIRED.

- 1 A518 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 1/2" FILLER - TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- 4 KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY. TERMINATE 1'-0" FROM ABUTMENT ENDS.

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		9008-03-71	
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-131			
DRAWN BY		JAK	PLANS CK'D. RCP
SOUTH ABUTMENT		SHEET 5 OF 13	

MARK	NUMBER		LENGTH	BENT	BAR SERIES	LOCATION
	COATED	UNCOATED				
			FT - IN			
A401		5	28 - 0	X		ABUTMENT BODY - 1 PER PILE SPIRAL
A402		10	2 - 3			ABUTMENT BODY - 2 PER PILE VERT
A503		38	13 - 10	X		ABUTMENT BODY - STIRRUPS VERT
A604		11	30 - 1			ABUTMENT BODY - FF, TOP, BTM HORIZ
A805		7	30 - 1			ABUTMENT BODY - BF HORIZ
A406		3	5 - 4			ABUTMENT BODY - TOP HORIZ
A507		6	4 - 9	X		ABUTMENT BODY - TOP VERT
A508	26		15 - 4	X		WING WALL - STIRRUPS VERT
A509	6		13 - 8			WING WALL 1 - FF OF BODY HORIZ
A610	6		14 - 8			WING WALL 1 - BF OF BODY HORIZ
A611	34		9 - 2	X		WING WALL - TOP VERT
A612	4		11 - 7			WING WALL - TOP HORIZ
A413	10		11 - 7			WING WALL - TOP HORIZ
A614	2		14 - 2			WING WALL 1 - TOP OF BODY HORIZ
A615	6		13 - 0			WING WALL 2 - BF OF BODY HORIZ
A516	6		15 - 1			WING WALL 2 - FF OF BODY HORIZ
A417		8	4 - 7			ABUTMENT ENDS VERT
A518	29		2 - 0			ABUTMENT BODY - DOWELS VERT
A619	2		14 - 1			WING WALL 2 - TOP OF BODY HORIZ

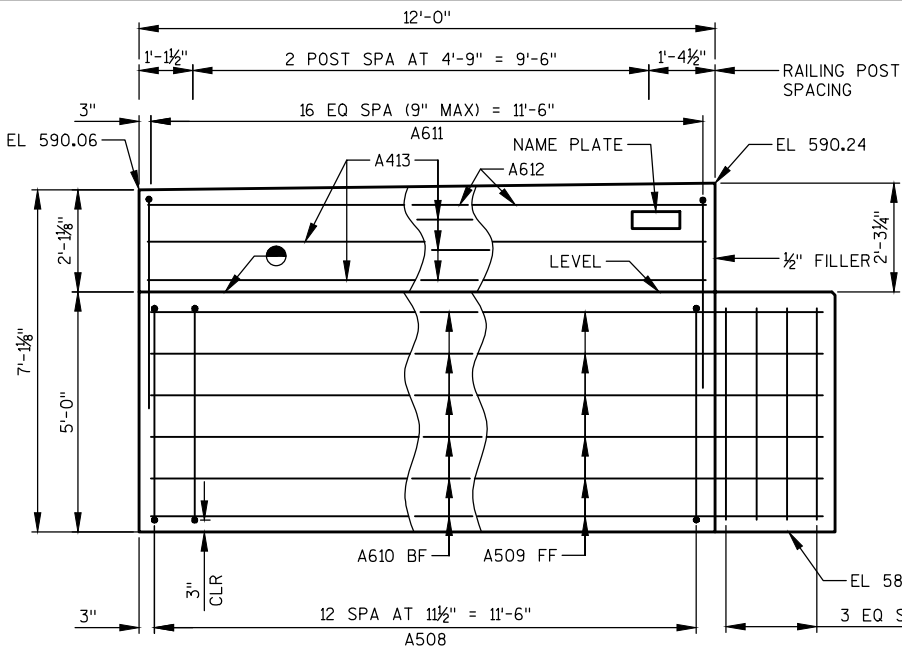
FF - FRONT FACE
BF - BACK FACE

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

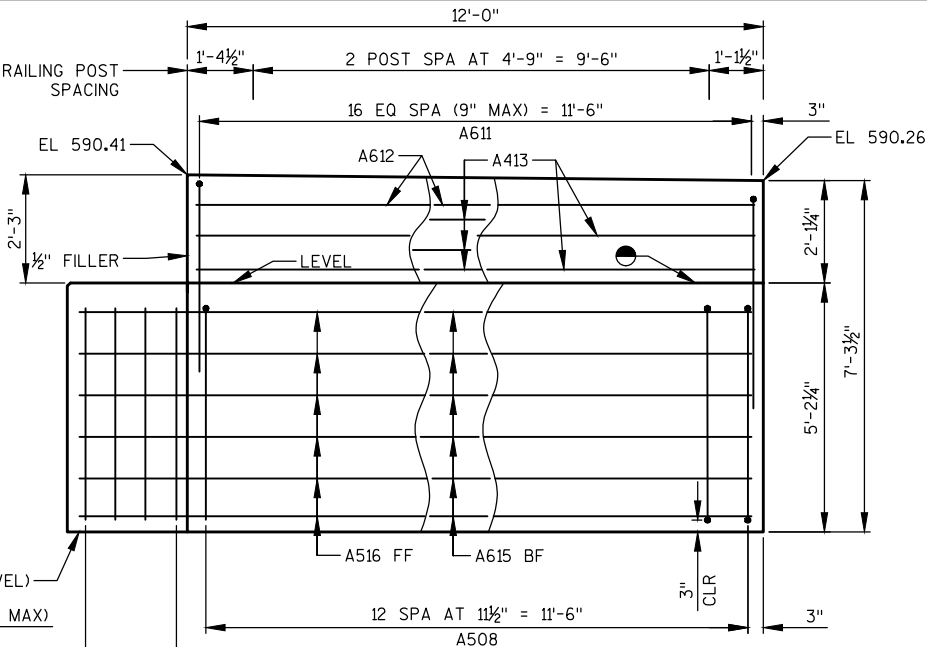
THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

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

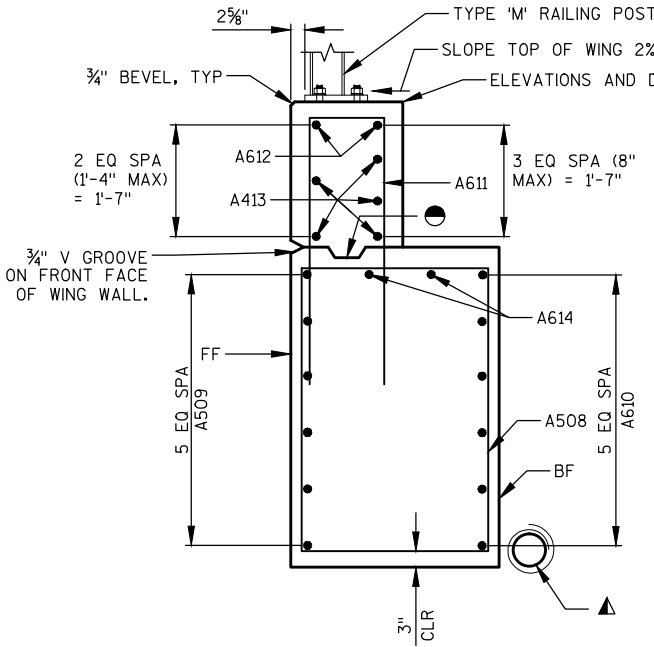
PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN TO
SUITABLE DRAINAGE.



WING 1 ELEVATION

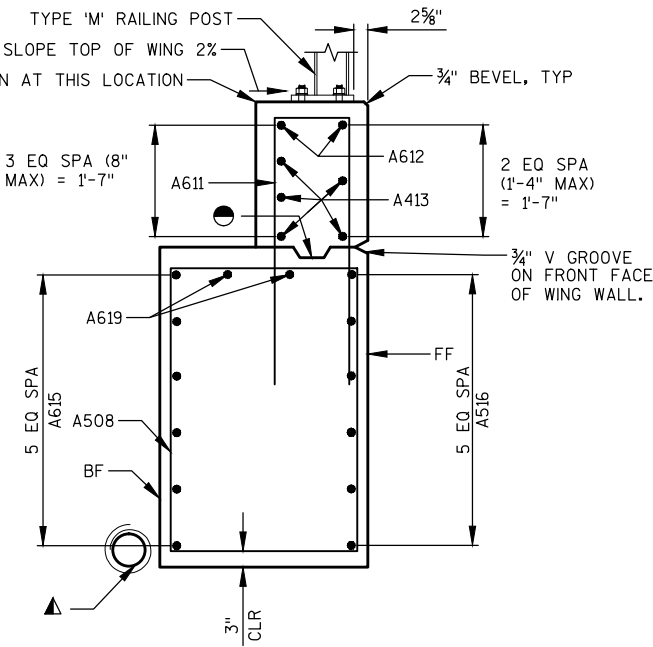


WING 2 ELEVATION



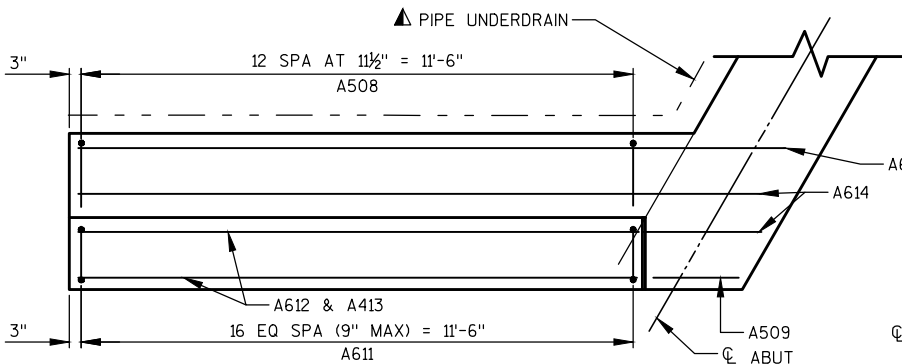
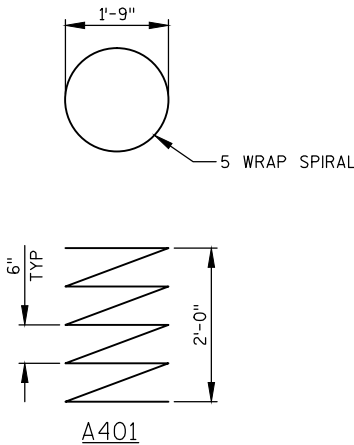
WING 1 SECTION

SEE SHEET 13 FOR RAIL POST ANCHORS



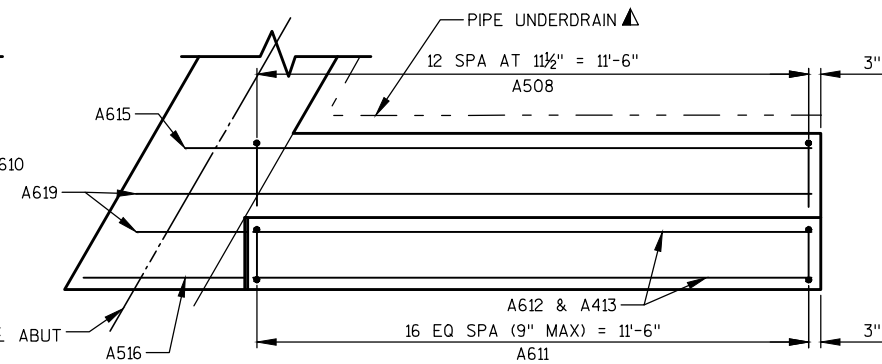
WING 2 SECTION

SEE SHEET 13 FOR RAIL POST ANCHORS



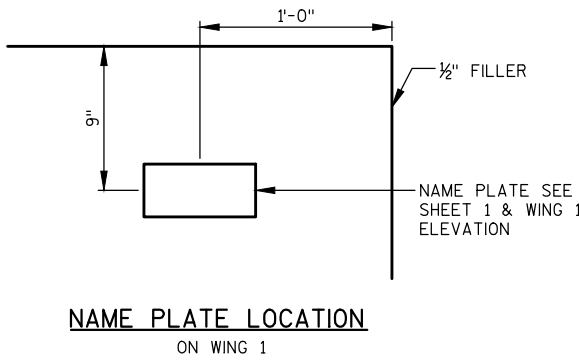
WING 1 PLAN

SPACE A611 TO MISS ANCHORS
FOR RAIL POSTS.



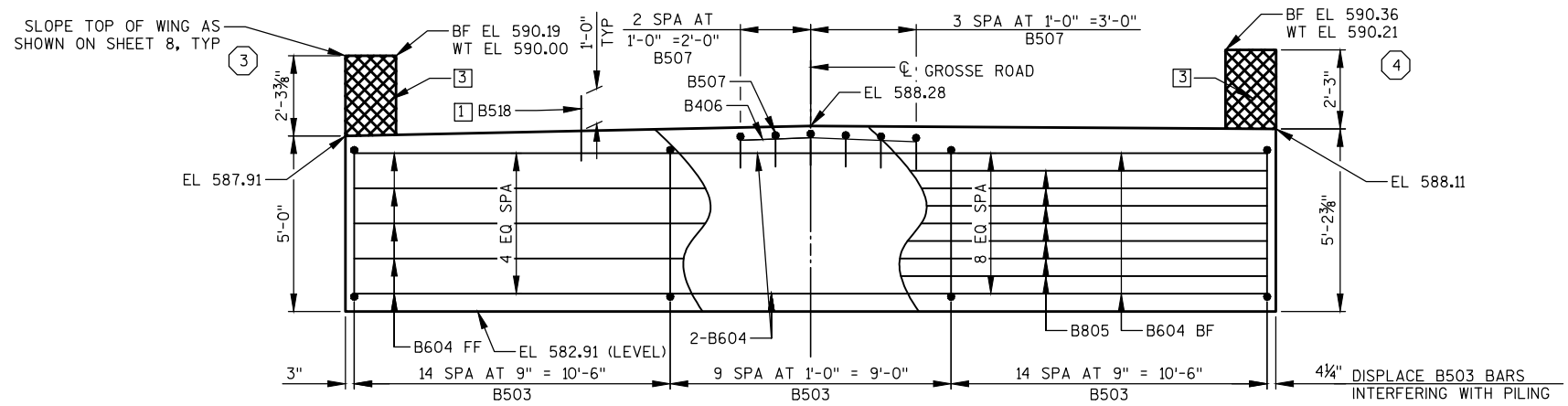
WING 2 PLAN

SPACE A611 TO MISS ANCHORS
FOR RAIL POSTS.

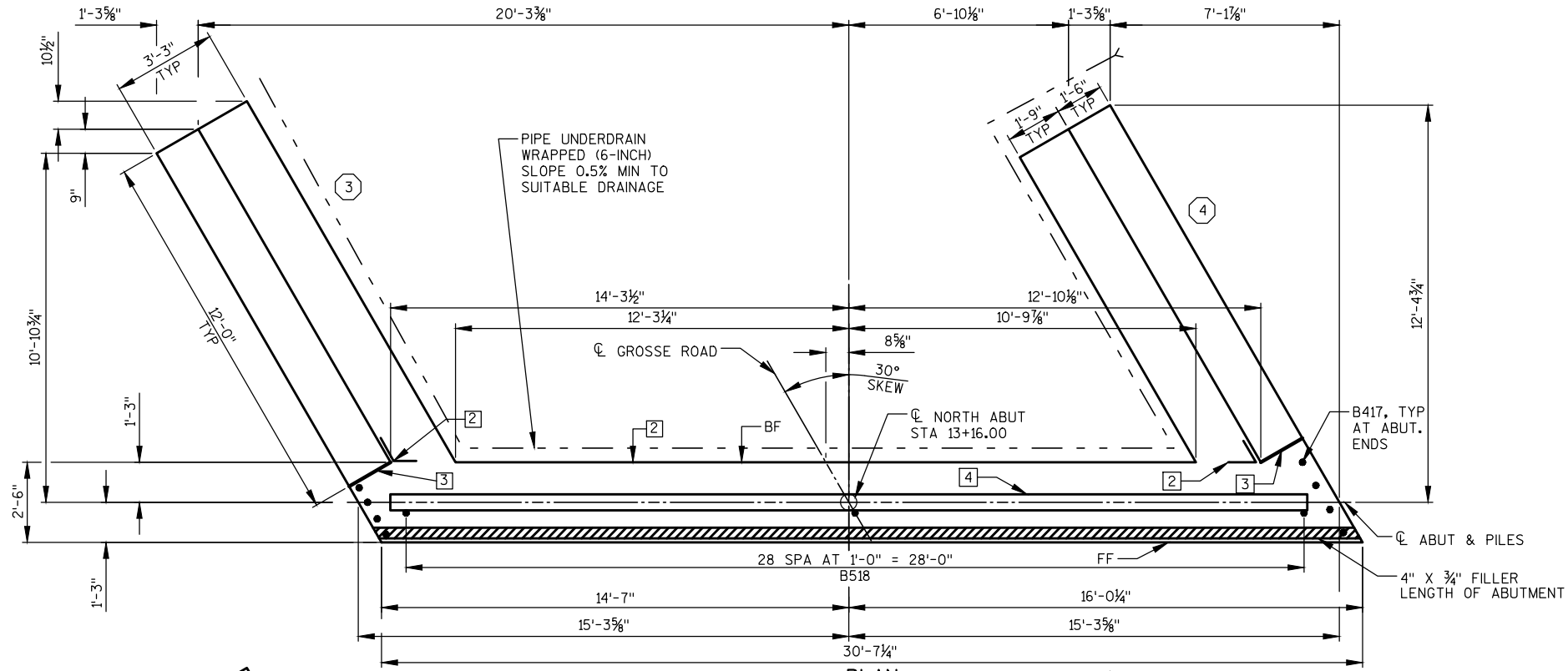


NAME PLATE LOCATION
ON WING 1

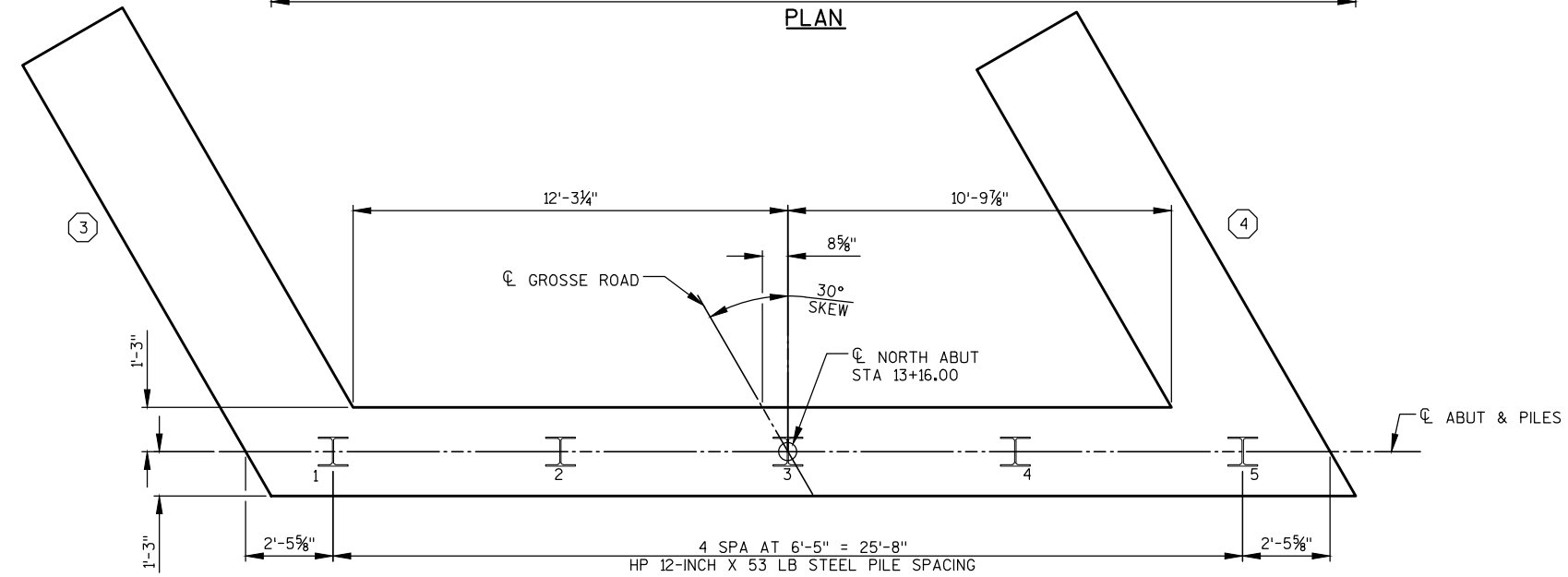
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-131			
DRAWN BY JAK		PLANS CK'D. RCP	
SOUTH ABUTMENT DETAILS			SHEET 6 OF 13



ELEVATION
(NORTH ABUTMENT LOOKING NORTH)



PLAN



PILE PLAN

NOTES

FOR PILE SPLICE SEE SHEET 3

FILL/EXCAVATE TO BOTTOM OF ABUTMENT EL 582.91 BEFORE DRIVING PILING.

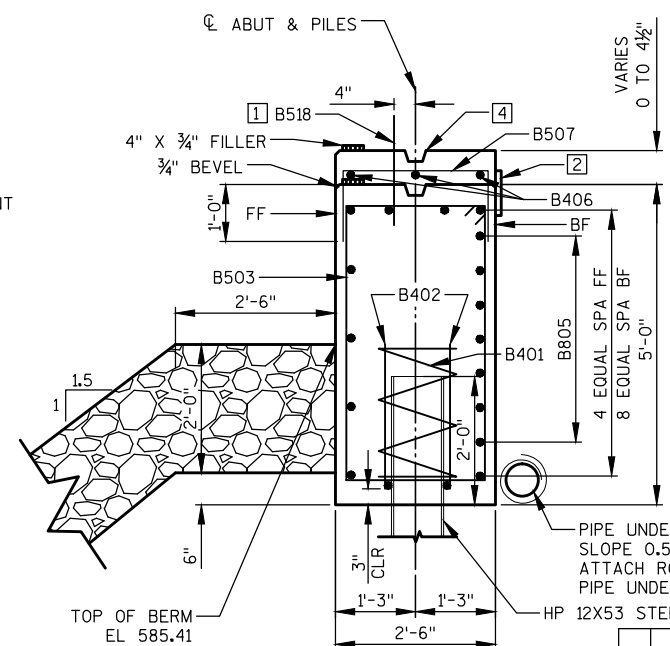
SEE SHEET 3 FOR STRUCTURE BACKFILL AND PIPE UNDERDRAIN DETAIL.

ABUTMENT SUPPORTED ON HP 12-INCH X 53 LB STEEL PILING WITH REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 30' LONG. PILE POINTS REQUIRED.

- 1 B518 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 1/2" FILLER - TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- 4 KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY. TERMINATE 1'-0" FROM ABUTMENT ENDS.

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			
9008-03-71			
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-131			
DRAWN BY		JAK	PLANS CK'D. RCP
NORTH ABUTMENT			SHEET 7 OF 13

COATED= 1610 LBS.
UNCOATED= 1790 LBS.BILL OF BARS
NORTH ABUTMENT

MARK	NUMBER		LENGTH	BENT	BAR SERIES	LOCATION
	COATED	UNCOATED				
			FT - IN			
B401		5	28 - 0	X		ABUTMENT BODY - 1 PER PILE SPIRAL
B402		10	2 - 3			ABUTMENT BODY - 2 PER PILE VERT
B503		38	13 - 10	X		ABUTMENT BODY - STIRRUPS VERT
B604		11	30 - 1			ABUTMENT BODY - FF, TOP, BTM HORIZ
B805		7	30 - 1			ABUTMENT BODY - BF HORIZ
B406		3	5 - 4			ABUTMENT BODY - TOP HORIZ
B507		6	4 - 9	X		ABUTMENT BODY - TOP VERT
B508	26		15 - 4	X		WING WALL - STIRRUPS VERT
B509	6		13 - 8			WING WALL 3 - FF OF BODY HORIZ
B610	6		14 - 8			WING WALL 3 - BF OF BODY HORIZ
B611	34		9 - 2	X		WING WALL - TOP VERT
B612	4		11 - 7			WING WALL - TOP HORIZ
B413	10		11 - 7			WING WALL - TOP HORIZ
B614	2		14 - 2			WING WALL 3 - TOP OF BODY HORIZ
B615	6		13 - 0			WING WALL 4 - BF OF BODY HORIZ
B516	6		15 - 1			WING WALL 4 - FF OF BODY HORIZ
B417		8	4 - 7			ABUTMENT ENDS VERT
B518	29		2 - 0			ABUTMENT BODY - DOWELS VERT
B619	2		14 - 1			WING WALL 4 - TOP OF BODY HORIZ

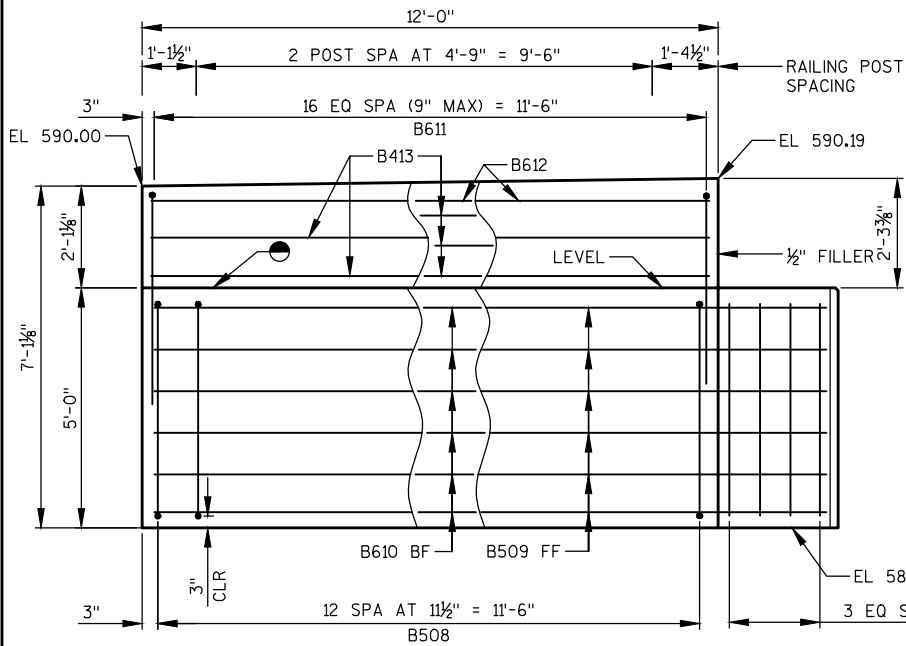
FF - FRONT FACE
BF - BACK FACE

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

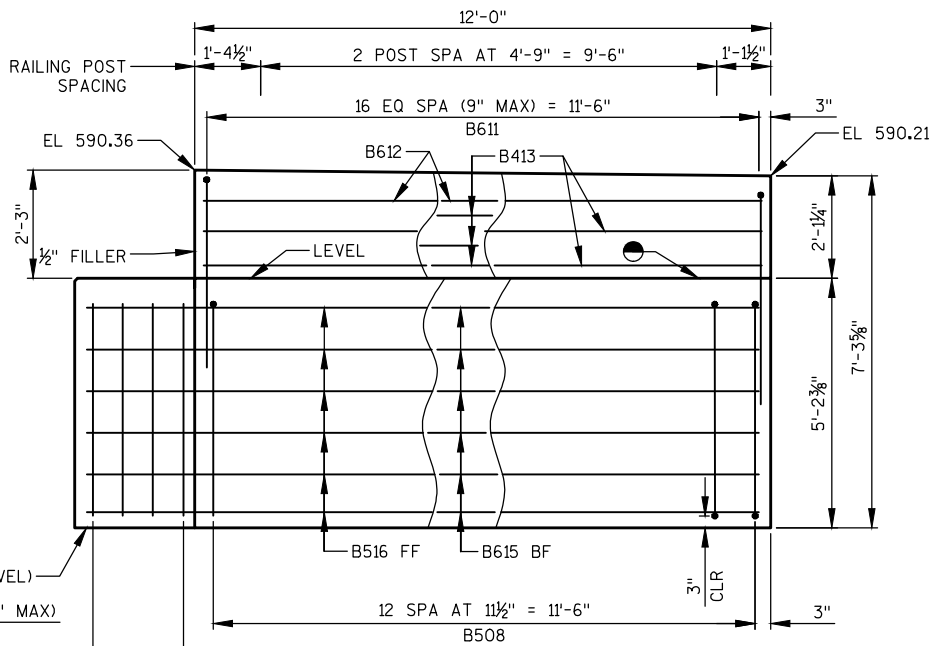
THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

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

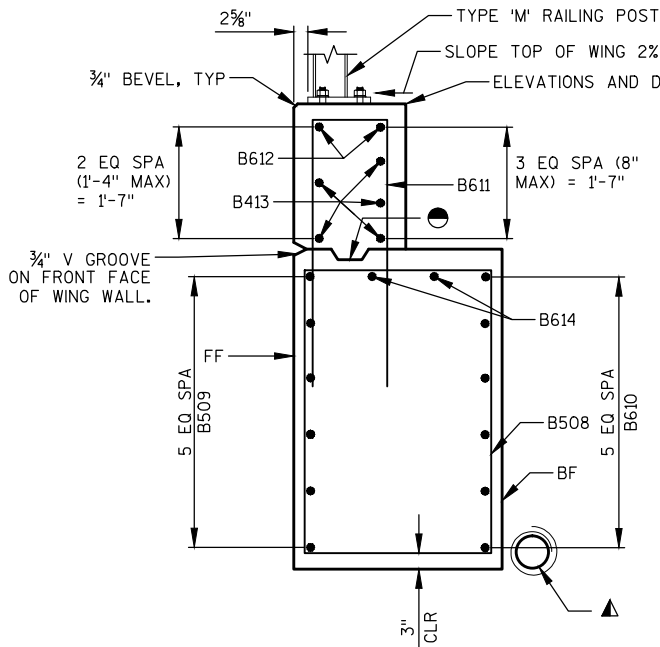
PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN TO
SUITABLE DRAINAGE.



WING 3 ELEVATION

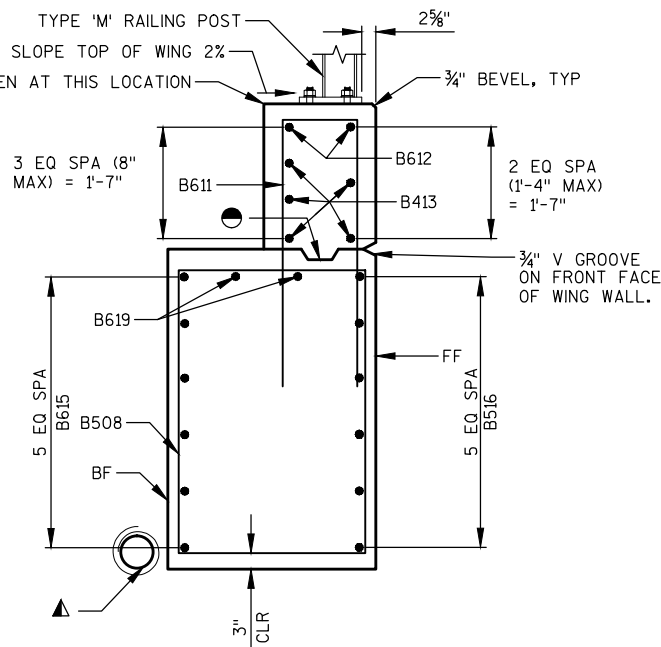


WING 4 ELEVATION



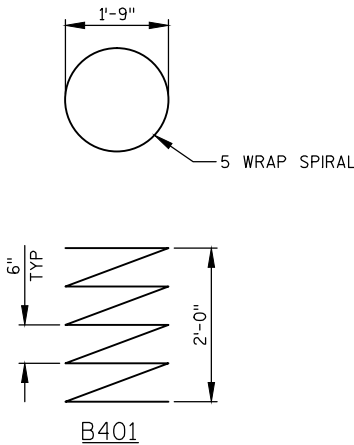
WING 3 SECTION

SEE SHEET 13 FOR RAIL POST ANCHORS



WING 4 SECTION

SEE SHEET 13 FOR RAIL POST ANCHORS

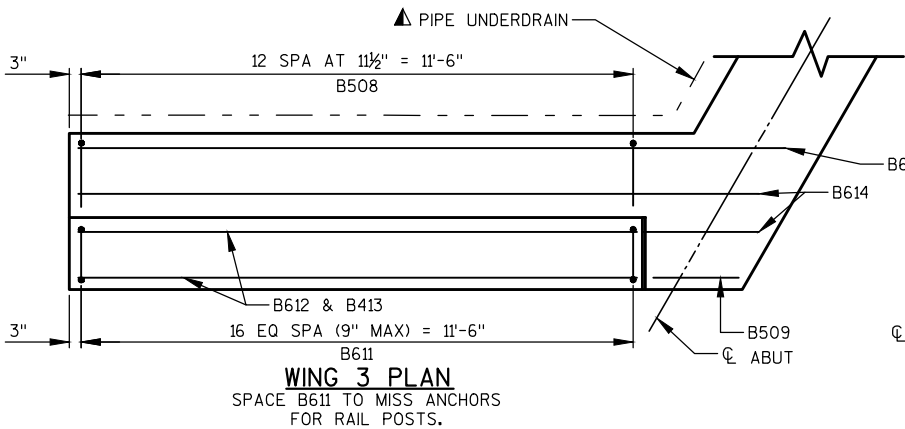


B503

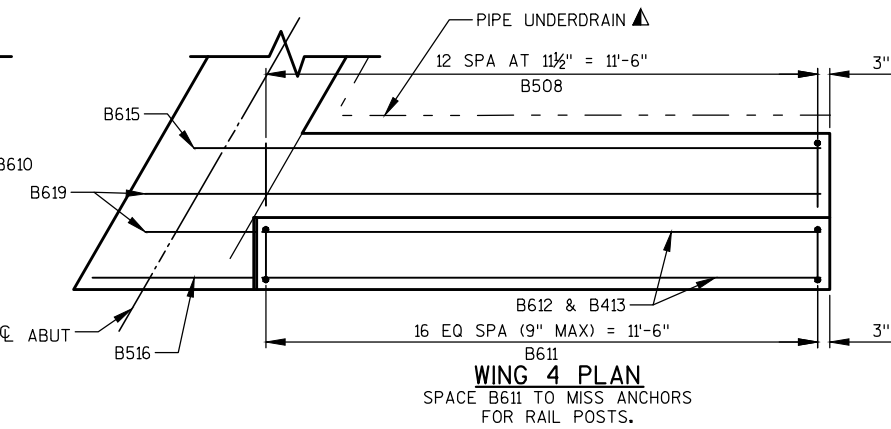
B507

B508

B611



WING 3 PLAN

SPACE B611 TO MISS ANCHORS
FOR RAIL POSTS.

WING 4 PLAN

SPACE B611 TO MISS ANCHORS
FOR RAIL POSTS.

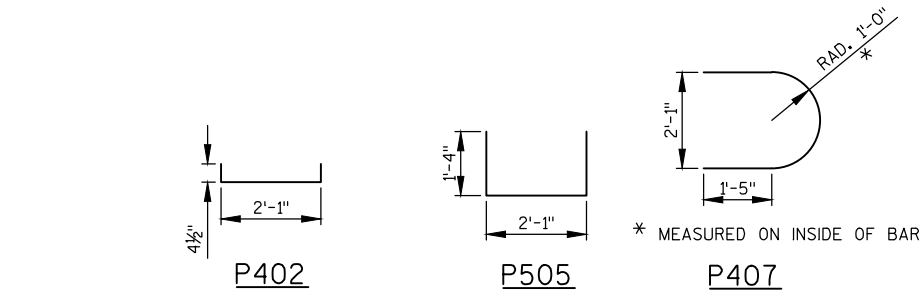
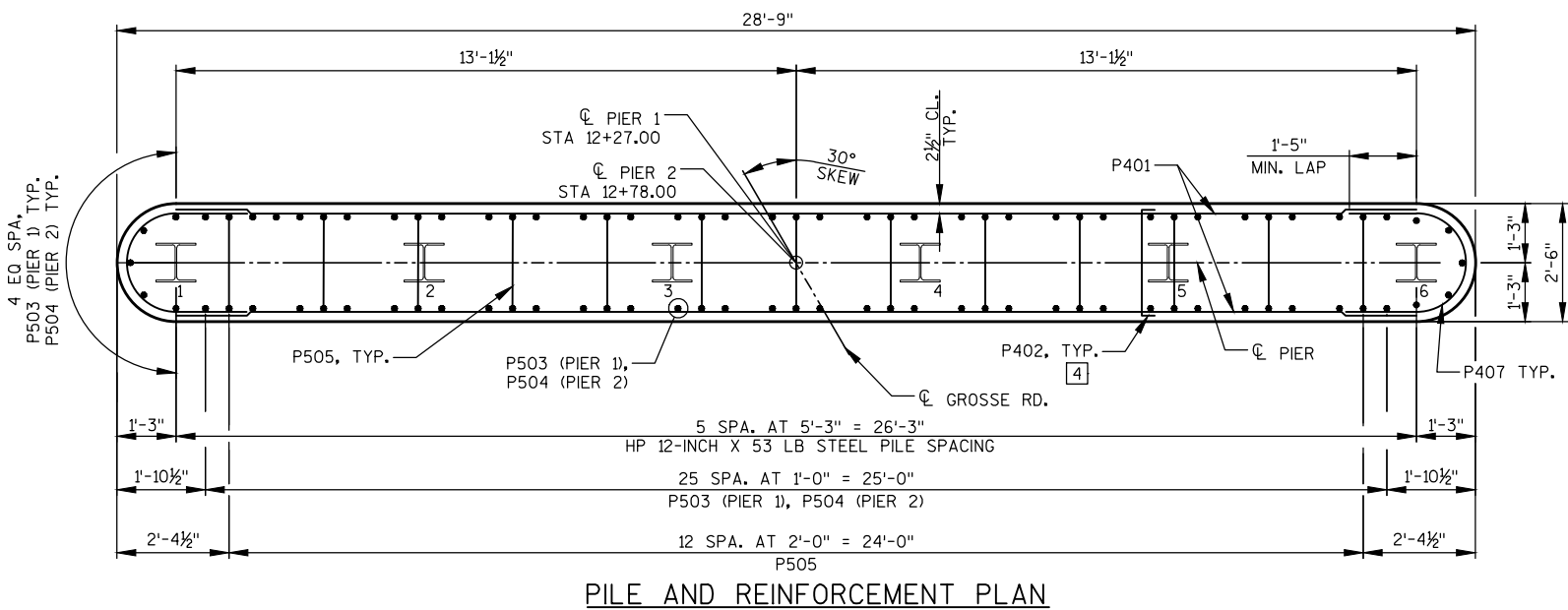
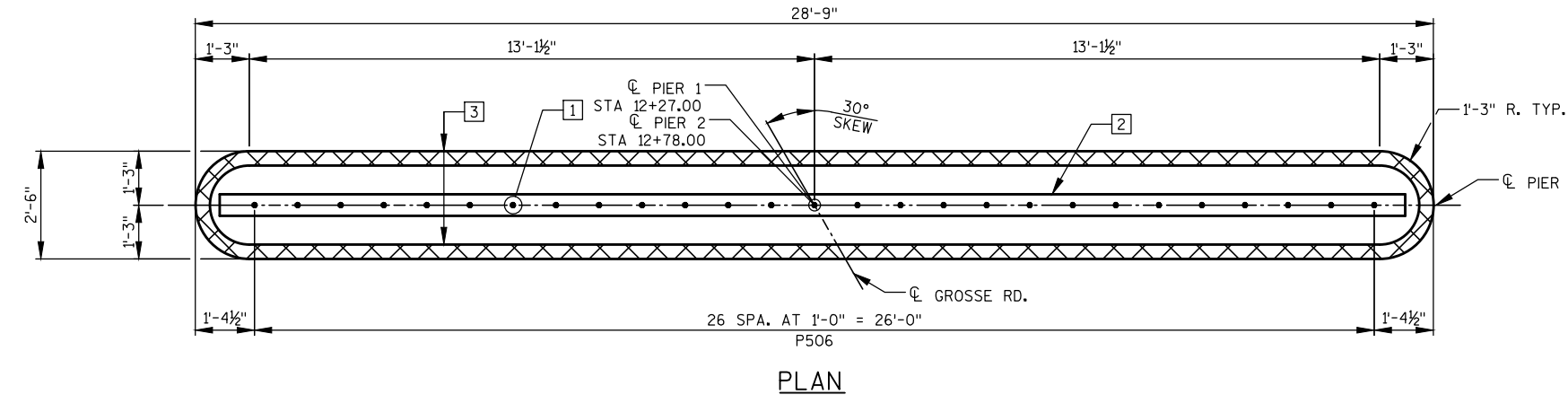
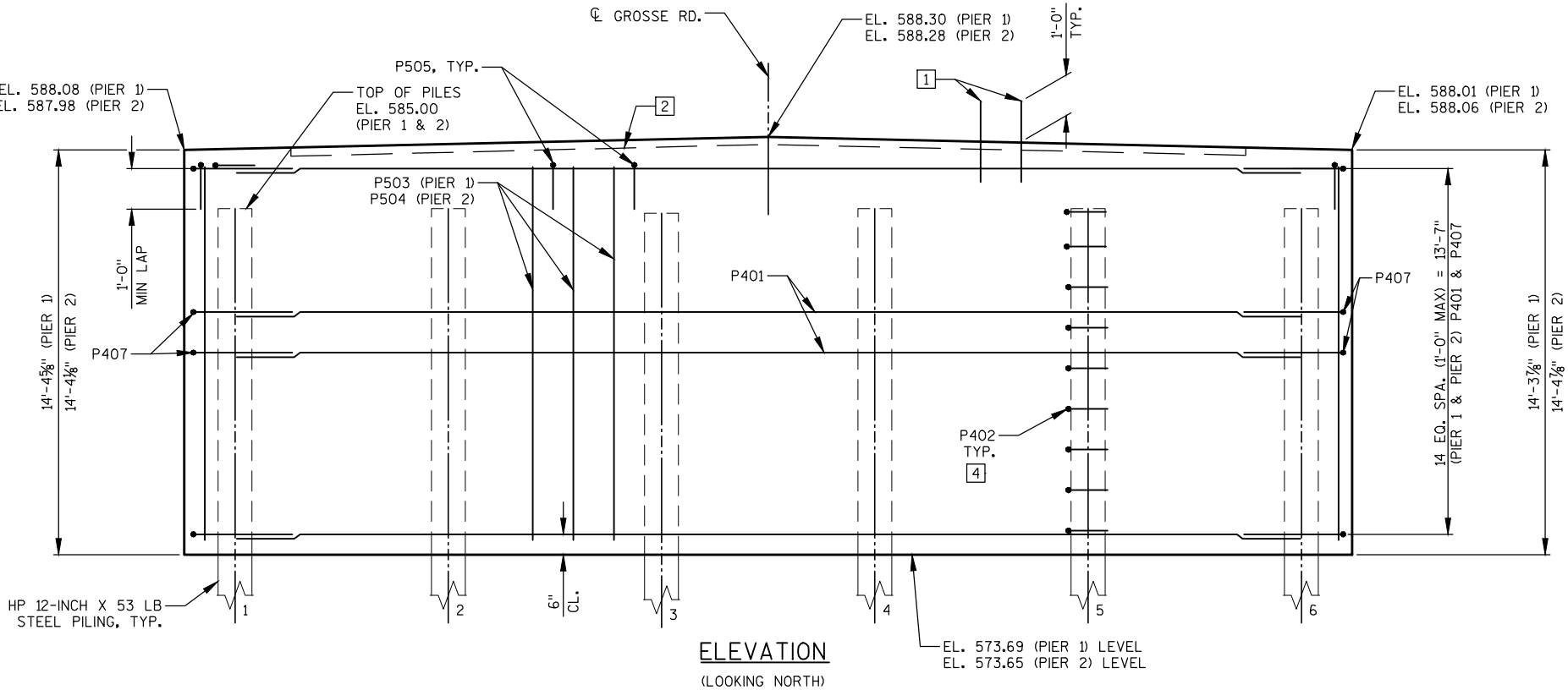
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-131			
DRAWN BY JAK		PLANS CK'D. RCP	
NORTH ABUTMENT DETAILS			SHEET 8 OF 13

PIER 1 COATED=0 LBS.
PIER 1 UNCOATED=1780 LBS.
PIER 2 COATED=0 LBS.
PIER 2 UNCOATED=1780 LBS.

BILL OF BARS
PIERS 1 & 2

	PIER 1		PIER 2						
MARK	NUMBER		NUMBER		LENGTH	BENT	BAR SERIES	LOCATION	
	COATED	UNCOATED	COATED	UNCOATED					
					FT				-
P401		30		30	26	-	3	SHAFT	HORIZ
P402		72		72	2	-	8	SHAFT - TIES	HORIZ
P503		62			13	-	7	SHAFT - PIER 1	VERT
P504				62	13	-	7	SHAFT - PIER 2	VERT
P505		13		13	4	-	6	SHAFT AT TOP	VERT
P506		27		27	2	-	0	SHAFT DOWELS	VERT
P407		30		30	6	-	2	SHAFT AT ENDS	HORIZ

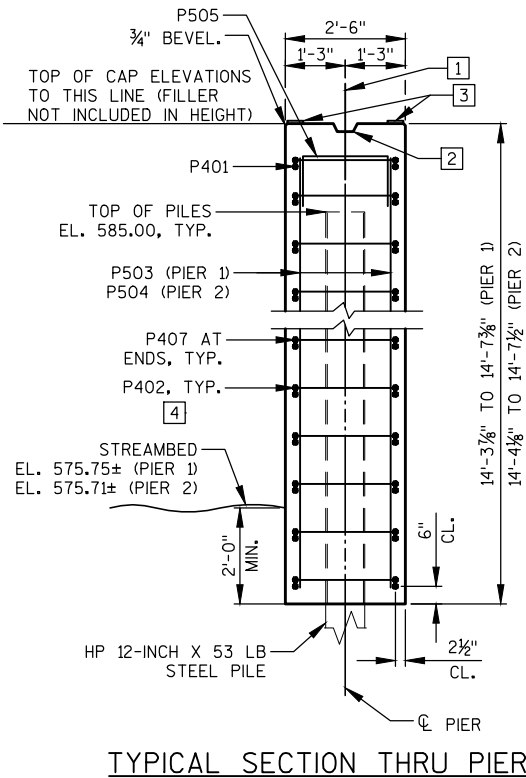
BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.
THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.



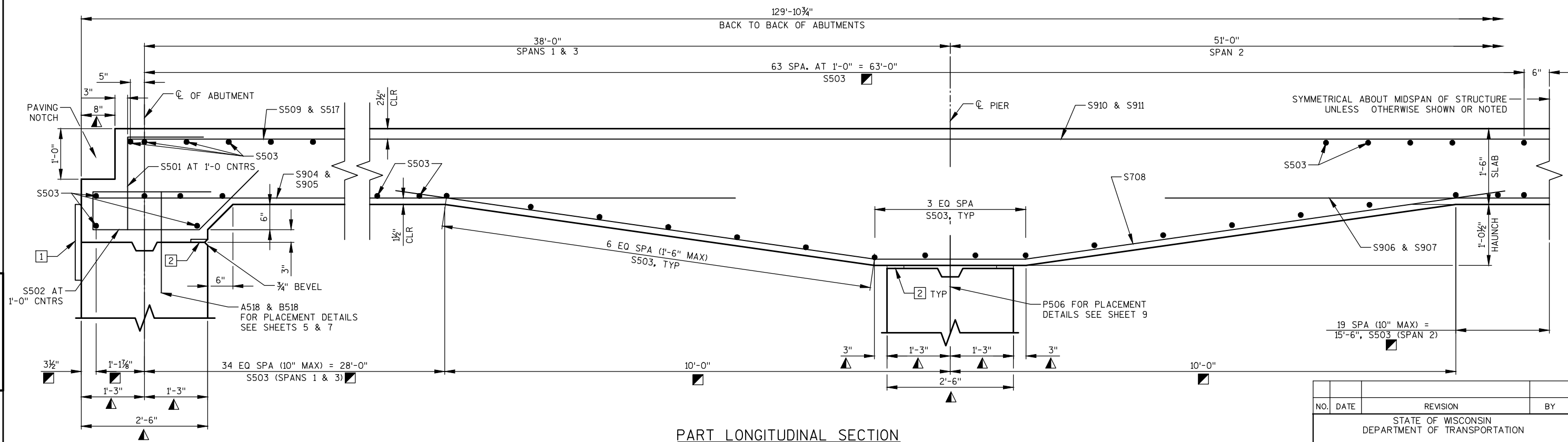
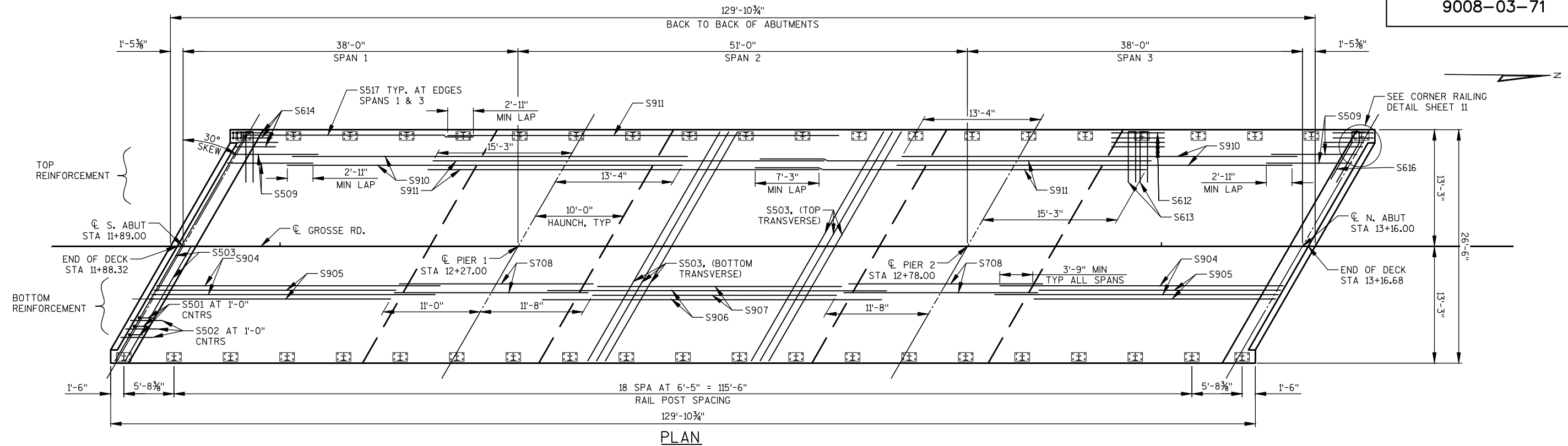
NOTES

PIERS TO BE SUPPORTED ON HP 12-INCH X 53 LB STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 30'-0" LONG AT PIER 1 AND 30'-0" LONG AT PIER 2. PILE POINTS REQUIRED. DRIVE PILES TO A MINIMUM PILE TIP ELEVATION OF 558' FOR BOTH PIERS.

- FOR PILE SPLICE DETAILS SEE SHEET 3.
- 1 P506 BARS MAY BE PLACED AFTER CONCRETE IS POURED, 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 3/4" FILLER LENGTH OF PIER.
 - 4 P402 PLACED ADJACENT TO EACH PILE AT 1'-0" VERTICAL CENTERS.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-131			
DRAWN BY		JAK	PLANS CK'D. RCP
PIER DETAILS		SHEET 9 OF 13	



NOTES

- 1 18" RUBBERIZED MEMBRANE WATERPROOFING
- 2 4" X 3/4" FILLER LENGTH OF ABUTMENT & PIER
- MEASURED PARALLEL TO CL GROSSE RD.
- MEASURED NORMAL TO CL SUBSTRUCTURE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-131			
DRAWN BY		JAK	PLANS CK'D. RCP
SUPERSTRUCTURE		SHEET 10 OF 13	

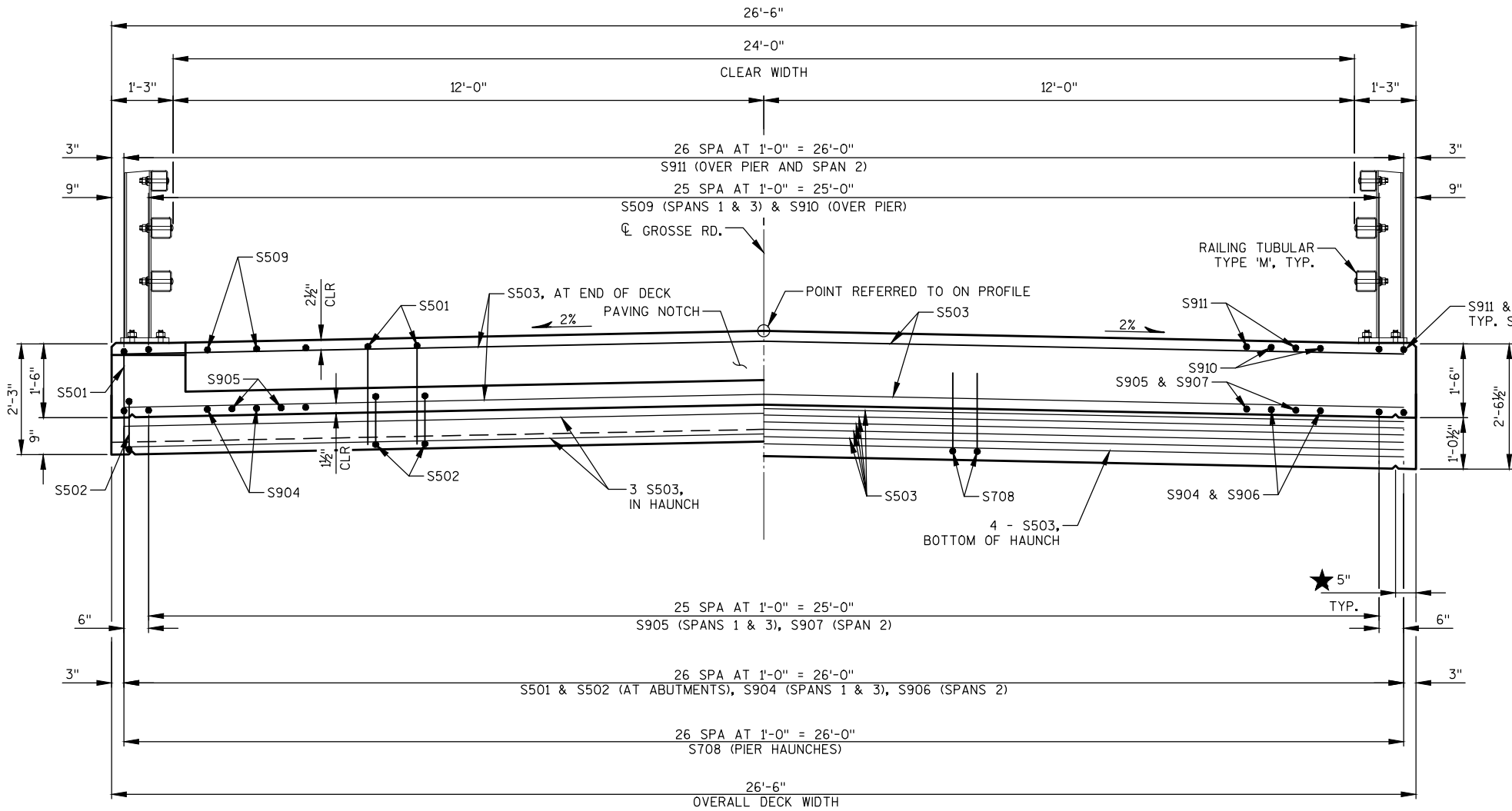
NOTES

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

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.

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ϕ OF ABUTMENTS, THE ϕ OF PIERS AND AT $\frac{5}{10}$ PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND ϕ .

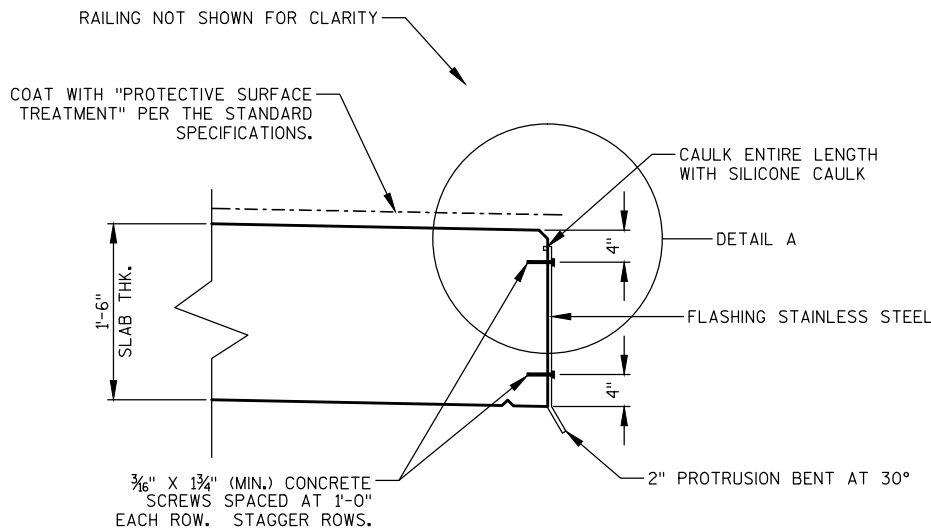
★ $\frac{3}{4}$ " V-GROOVE, REQ'D. EXTEND TO 6" FROM FRONT FACE OF ABUTMENTS.



AT ABUTMENTS

CROSS SECTION THRU ROADWAY
(LOOKING NORTH)

AT PIERS

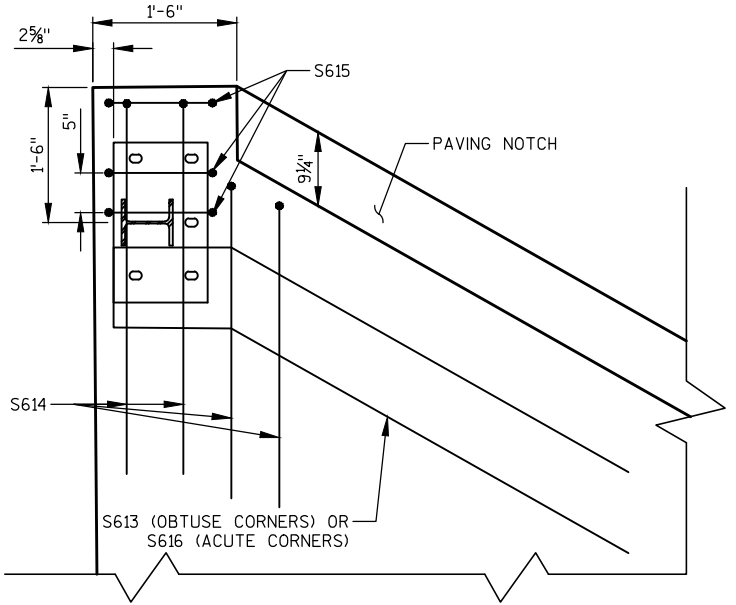
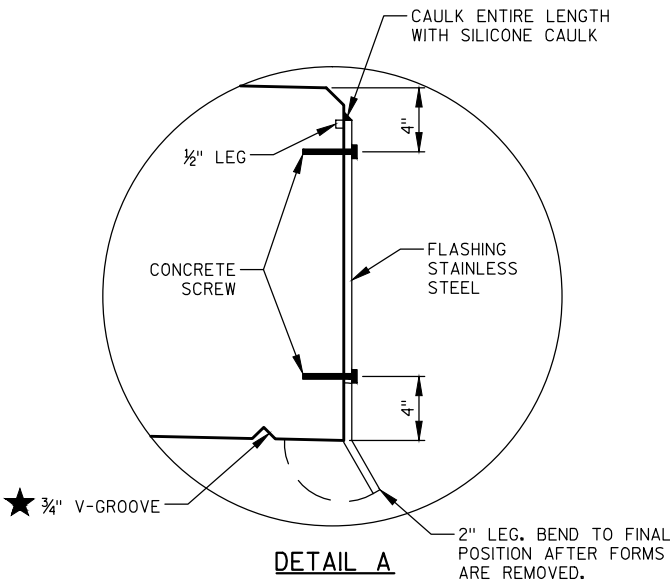


SURFACE TREATMENT AND FLASHING DETAIL

THE BID ITEM "FLASHING STAINLESS STEEL" SHALL INCLUDE PROVIDING AND INSTALLING THE STAINLESS STEEL FLASHING, SILICONE CAULK, $\frac{3}{16}$ " CONCRETE SCREWS AND CLEANING THE EDGE OF THE DECK PRIOR TO ATTACHMENT OF THE FLASHING.

CONCRETE SCREWS SHALL BE 410 STAINLESS STEEL.

EXTEND FULL LENGTH OF SUPERSTRUCTURE.



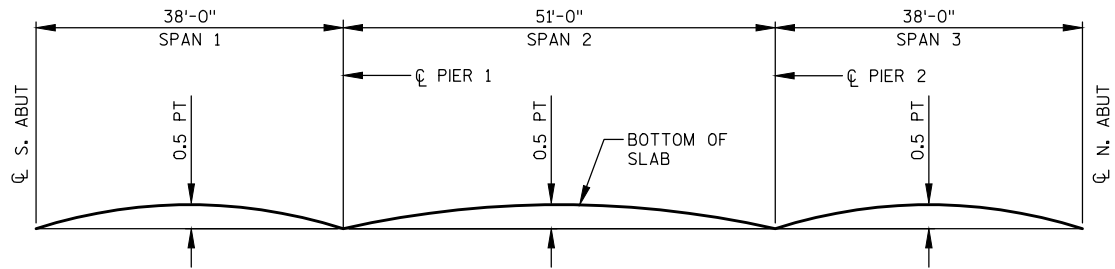
CORNER RAILING DETAIL

USE S613 FOR OBTUSE CORNER AND S616 FOR THE ACUTE CORNER (ACUTE CORNER SHOWN)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-131			
DRAWN BY		JAK	PLANS CK'D. RCP
SUPERSTRUCTURE DETAILS			SHEET 11 OF 13

ELEVATION TABLE

SPAN POINT	WEST EDGE		R/L GROSSE ROAD		EAST EDGE	
	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
S. ABUT	11+96.65	590.41	11+89.00	590.58	11+81.35	590.22
0.1	12+00.45	590.44	11+92.80	590.63	11+85.15	590.27
0.2	12+04.25	590.48	11+96.60	590.67	11+88.95	590.32
0.3	12+08.05	590.51	12+00.40	590.71	11+92.75	590.36
0.4	12+11.85	590.54	12+04.20	590.74	11+96.55	590.40
0.5	12+15.65	590.57	12+08.00	590.78	12+00.35	590.44
0.6	12+19.45	590.60	12+11.80	590.81	12+04.15	590.48
0.7	12+23.25	590.62	12+15.60	590.84	12+07.95	590.51
0.8	12+27.05	590.64	12+19.40	590.86	12+11.75	590.54
0.9	12+30.85	590.65	12+23.20	590.88	12+15.55	590.57
PIER 1	12+34.65	590.67	12+27.00	590.90	12+19.35	590.60
0.1	12+39.75	590.68	12+32.10	590.92	12+24.45	590.62
0.2	12+44.85	590.69	12+37.20	590.94	12+29.55	590.65
0.3	12+49.95	590.69	12+42.30	590.95	12+34.65	590.67
0.4	12+55.05	590.69	12+47.40	590.95	12+39.75	590.68
0.5	12+60.15	590.68	12+52.50	590.96	12+44.85	590.69
0.6	12+65.25	590.67	12+57.60	590.95	12+49.95	590.69
0.7	12+70.35	590.65	12+62.70	590.94	12+55.05	590.69
0.8	12+75.45	590.63	12+67.80	590.93	12+60.15	590.68
0.9	12+80.55	590.60	12+72.90	590.91	12+65.25	590.67
PIER 2	12+85.65	590.57	12+78.00	590.88	12+70.35	590.65
0.1	12+89.45	590.54	12+81.80	590.86	12+74.15	590.64
0.2	12+93.25	590.51	12+85.60	590.83	12+77.95	590.62
0.3	12+97.05	590.48	12+89.40	590.81	12+81.75	590.59
0.4	13+00.85	590.44	12+93.20	590.78	12+85.55	590.57
0.5	13+04.65	590.40	12+97.00	590.74	12+89.35	590.54
0.6	13+08.45	590.36	13+00.80	590.71	12+93.15	590.51
0.7	13+12.25	590.32	13+04.60	590.67	12+96.95	590.48
0.8	13+16.05	590.27	13+08.40	590.63	13+00.75	590.44
0.9	13+19.85	590.22	13+12.20	590.58	13+04.55	590.40
N. ABUT	13+23.65	590.16	13+16.00	590.53	13+08.35	590.36



CAMBER DIAGRAM

CAMBER SPAN AS SHOWN TO PROVIDE FOR DEADLOAD DEFLECTION & FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

CAMBER

SPAN PT.	CAMBER (IN)
S ABUT	0
0.1	1/8
0.2	3/8
0.3	3/8
0.4	3/8
0.5	3/8
0.6	1/4
0.7	1/8
0.8	1/8
0.9	0
PIER 1	0
0.1	0
0.2	1/4
0.3	3/8
0.4	1/2
0.5	5/8
0.6	1/2
0.7	3/8
0.8	1/4
0.9	0
PIER 2	0
0.1	0
0.2	1/8
0.3	1/8
0.4	1/4
0.5	3/8
0.6	3/8
0.7	3/8
0.8	3/8
0.9	1/8
N ABUT	0

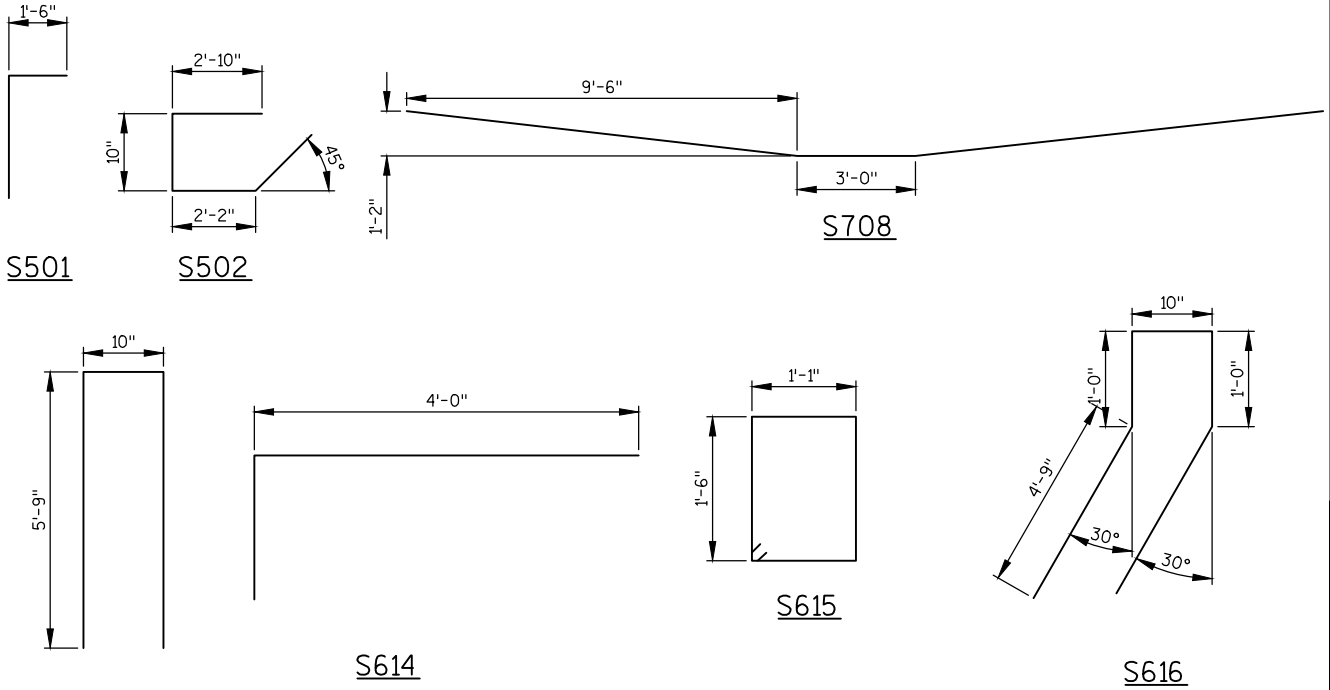
BILL OF BARS
SUPERSTRUCTURE

COATED= 48430 LBS.
UNCOATED= 0 LBS.

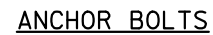
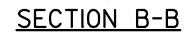
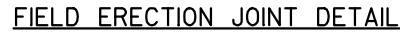
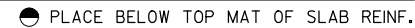
MARK	NUMBER		LENGTH	BENT	BAR SERIES	LOCATION
	COATED	UNCOATED	FT - IN			
S501	54		3 - 3	X		SLAB - ABUTMENT TIES VERT
S502	54		7 - 4	X		SLAB - ABUTMENT TIES VERT
S503	273		30 - 1			SLAB - TOP & BOTTOM TRANS
S904	54		33 - 0			SLAB - BOTTOM SPANS 1 & 3 LONGIT
S905	52		28 - 3			SLAB - BOTTOM SPANS 1 & 3 LONGIT
S906	27		38 - 6			SLAB - BOTTOM SPAN 2 LONGIT
S907	26		27 - 8			SLAB - BOTTOM SPAN 2 LONGIT
S708	54		22 - 2	X		SLAB - BOTTOM HAUNCH LONGIT
S509	52		9 - 10			SLAB - TOP SPANS 1 & 3 LONGIT
S910	52		44 - 10			SLAB - TOP OVER PIERS LONGIT
S911	54		44 - 5			SLAB - TOP SPAN 2 LONGIT
S612	152		6 - 0			RAILING ANCHORS LONGIT
S613	78		12 - 0	X		RAILING ANCHORS TRANS
S614	16		5 - 6	X		RAILING ANCHORS AT CORNERS LONGIT
S615	12		6 - 0	X		RAILING ANCHORS AT CORNERS LONGIT
S616	2		12 - 0	X		RAILING ANCHORS AT CORNERS TRANS
S517	4		26 - 10			SLAB - TOP SPANS 1 & 3 AT EDGES LONGIT

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

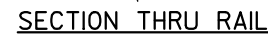
THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.



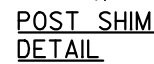
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-131			
DRAWN BY		JAK	PLANS CK'D. RCP
SUPERSTRUCTURE DETAILS 2		SHEET 12 OF 13	



SECTION THRU POST WEB



TYPICAL RAIL TO POST CONNECTIONS



- (1) W6 x 25 WITH $1\frac{1}{8}$ x $1\frac{1}{2}$ " HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- (2) PLATE $1\frac{1}{4}$ " x $11\frac{3}{4}$ " x 1'-8" WITH $1\frac{5}{16}$ " x $1\frac{5}{16}$ " SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- (3) ASTM A449 - $1\frac{1}{8}$ " 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) $\frac{5}{8}$ " x 1" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH $1\frac{3}{16}$ " 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) $\frac{7}{8}$ " DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, $\frac{3}{4}$ " x $1\frac{5}{8}$ " x $1\frac{5}{8}$ " WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- (9) SPLICE SLEEVE FABRICATED FROM $\frac{1}{4}$ " PLATE. PROVIDE "SLIDING FIT".
- (10) $\frac{3}{8}$ " x $3\frac{5}{8}$ " x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- (10A) $\frac{3}{8}$ " x 2 $\frac{5}{8}$ " x 2'-4" PLATE USED IN NO. 5, $\frac{3}{8}$ " x $3\frac{5}{8}$ " x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- (11) $\frac{7}{8}$ " DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE $1\frac{5}{8}$ " x $1\frac{1}{4}$ " LONGIT. SLOTTED HOLES AT FIELD JOINTS AND $1\frac{5}{8}$ " x 2 $\frac{1}{4}$ " MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-42-131" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 ksi. ANCHOR PLATES, AND SPlice TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL $\frac{1}{8}$ TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY SSPC SPECIFICATIONS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-131			
		DRAWN BY	PLANS CK'D.
		JAK	RCP
TUBULAR STEEL RAILING TYPE 'M'		SHEET 13 OF 13	

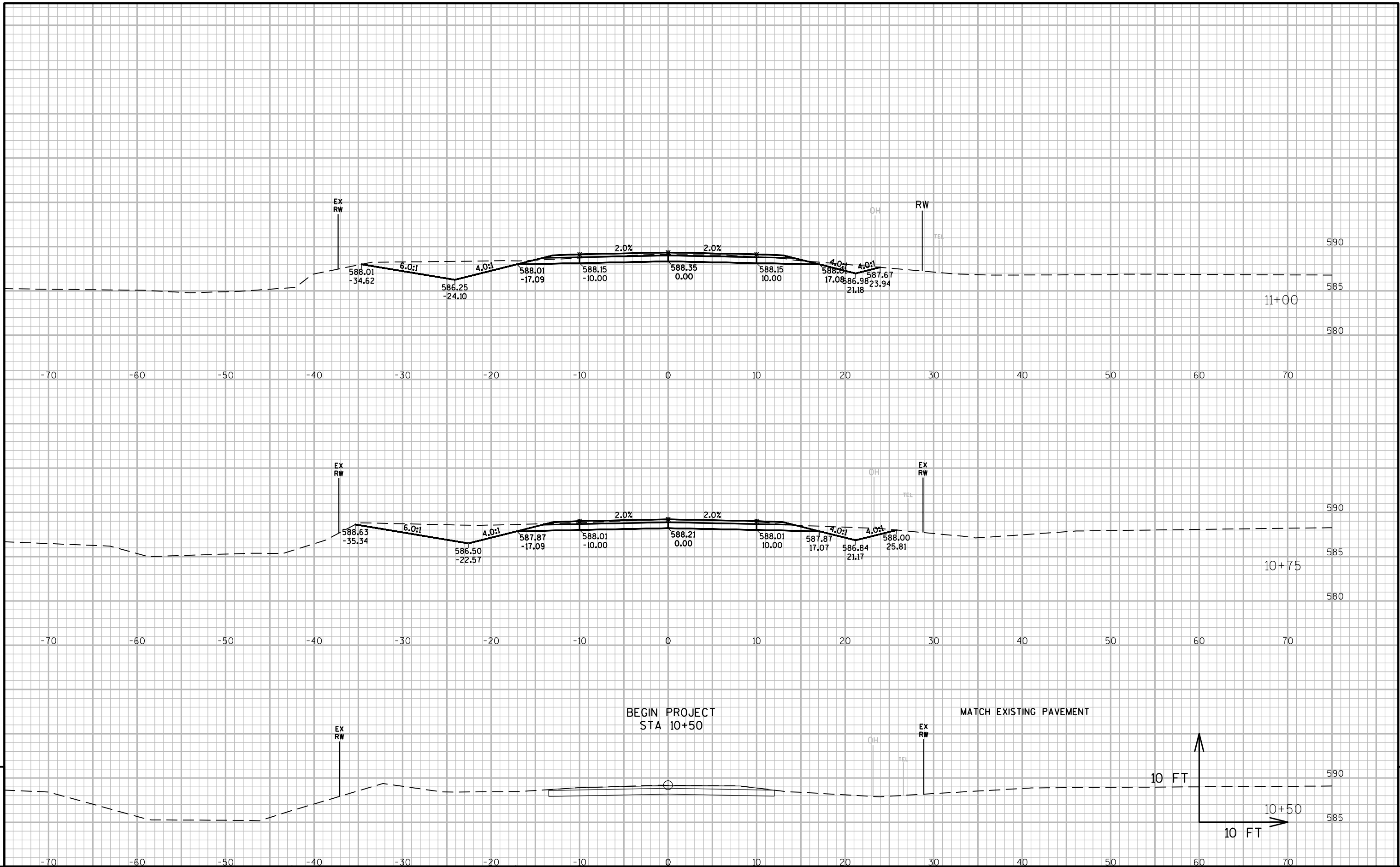
DIVISION 1: GROSSE ROAD, SOUTH OF BRIDGE

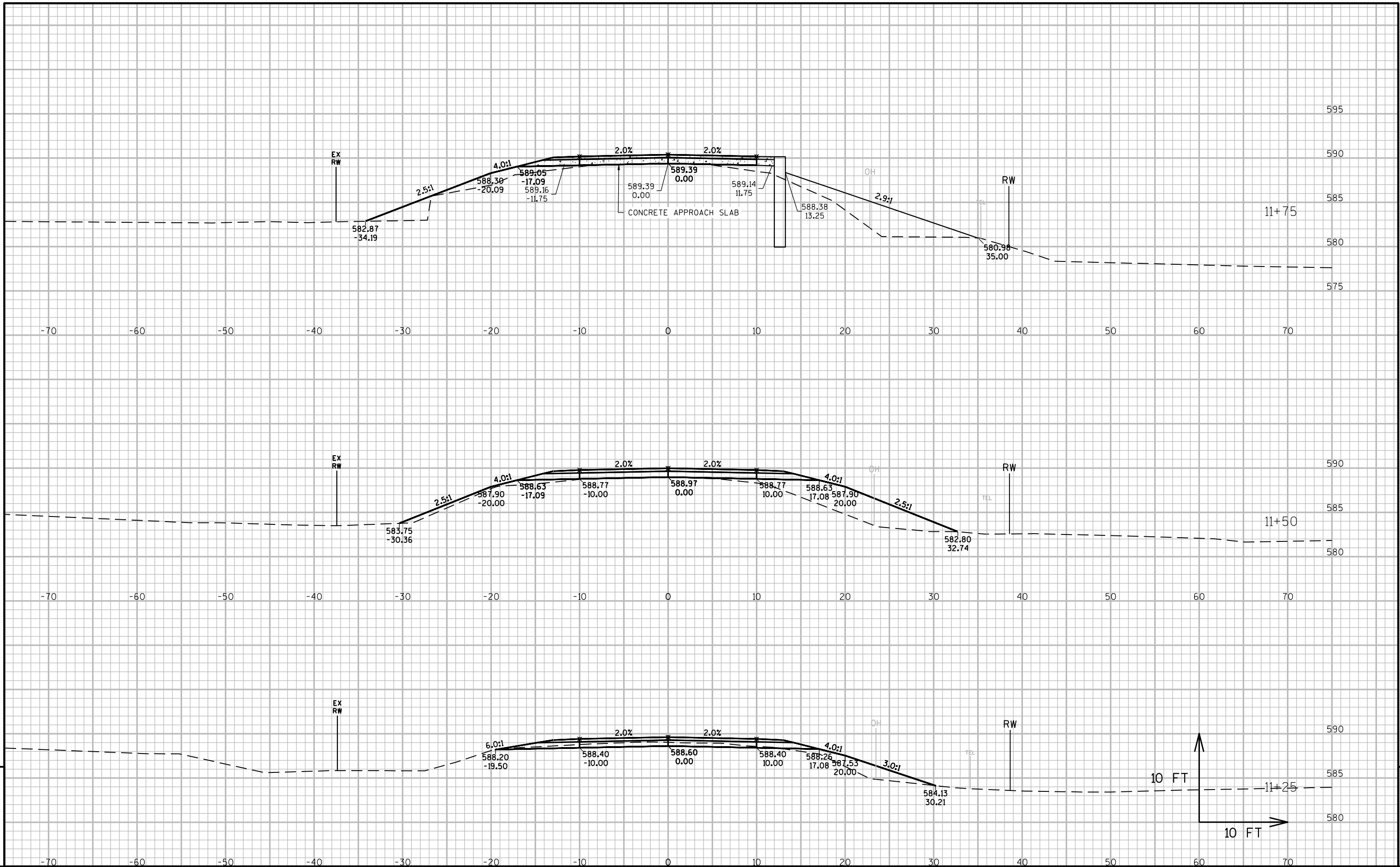
STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		MASS ORDINATE (CY) NOTE 2
			CUT	FILL	CUT	FILL	CUT	EXPANDED FILL NOTE 1	
10+50.00	1050	0	40.7	0.0	0.0	0.0	0	0	0
10+75.00	1075	25	58.8	0.0	46.1	0.0	46	0	46
11+00.00	1100	25	46.2	0.0	48.6	0.0	95	0	141
11+25.00	1125	25	10.4	14.2	26.2	6.6	121	8	253
11+50.00	1150	25	0.4	53.4	5.0	31.3	126	47	332
11+75.00	1175	25	0.3	23.6	0.3	35.6	126	92	366
					126	73			

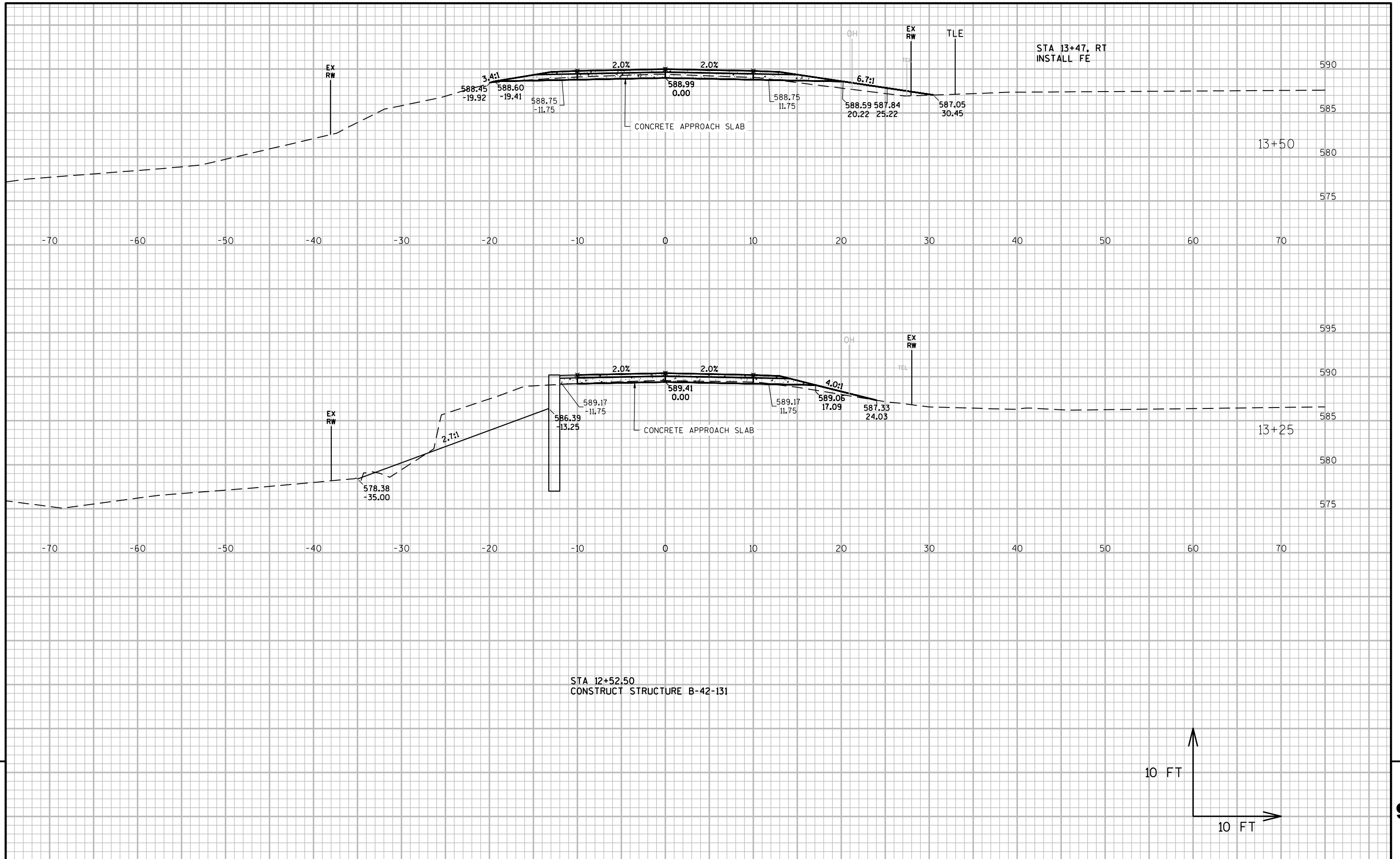
DIVISION 2: GROSSE ROAD, NORTH OF BRIDGE

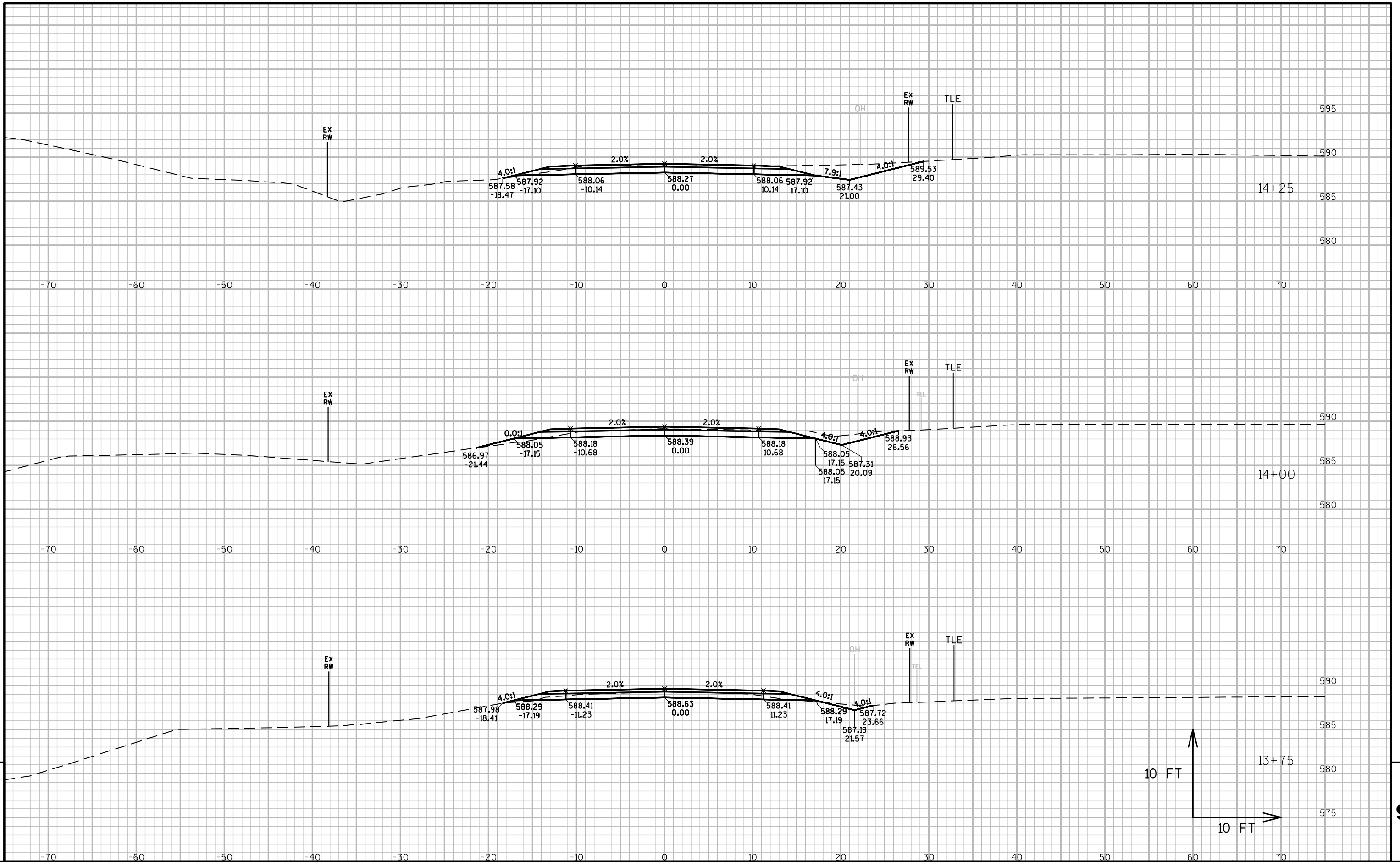
STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		MASS ORDINATE (CY) NOTE 2
			CUT	FILL	CUT	FILL	CUT	EXPANDED FILL NOTE 1	
13+25.00	1325	0	3.3	3.4	0.0	0.0	0	0	0
13+50.00	1350	25	8.9	8.8	5.6	5.7	6	7	-1
13+75.00	1375	25	16.4	0.7	11.7	4.4	17	13	3
14+00.00	1400	25	27.5	2.0	20.4	1.2	38	14	27
14+25.00	1425	25	40.6	0.2	31.5	1.0	69	15	81
14+50.00	1450	25	58.5	0.0	45.9	0.1	115	15	181
					115	12			

NOTES:
1 - FILL: EXPANDED FILL FACTOR = 1.25
2 - MASS ORDINATE: + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN
EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERAILWITHIN THE DIVISION.

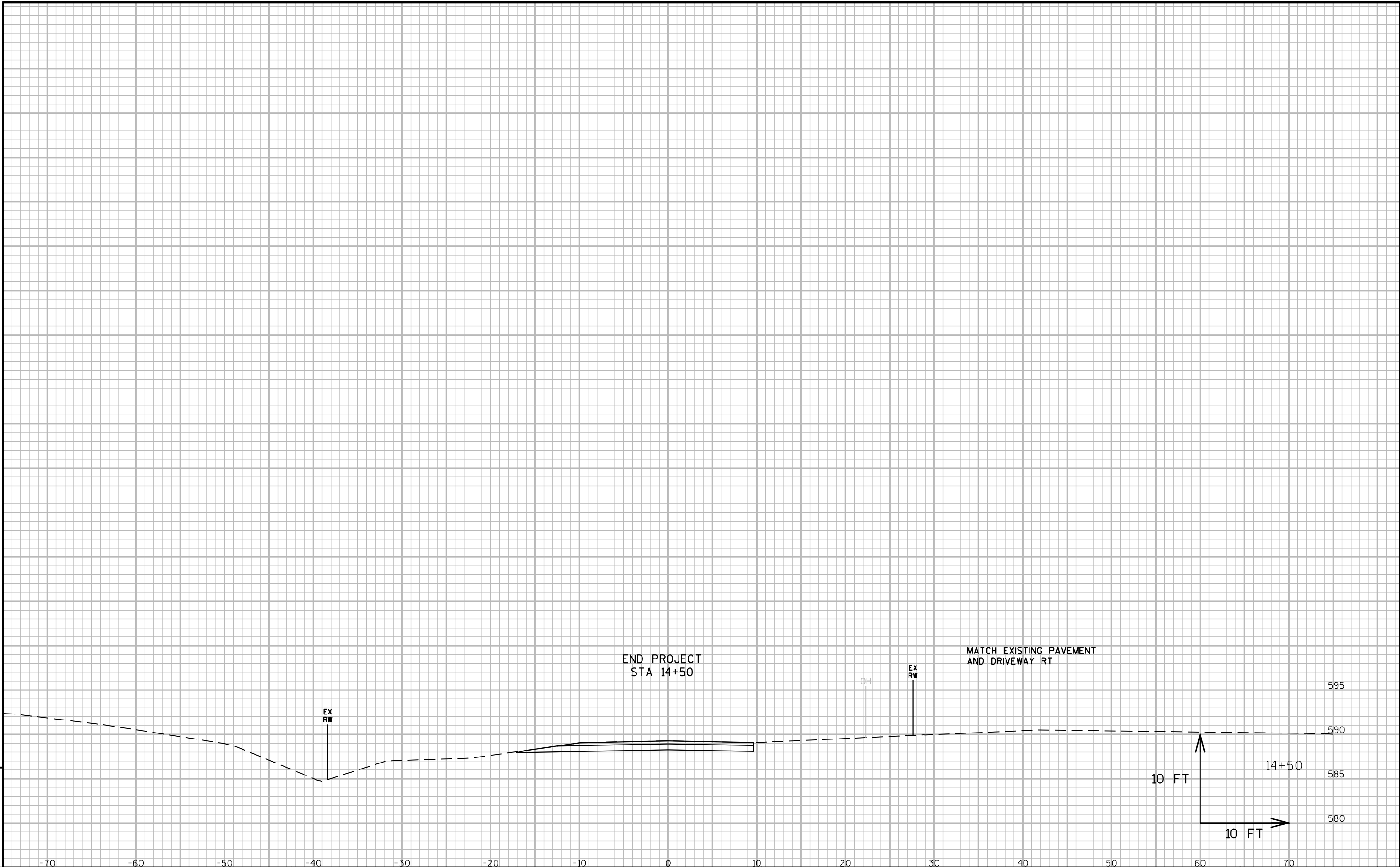






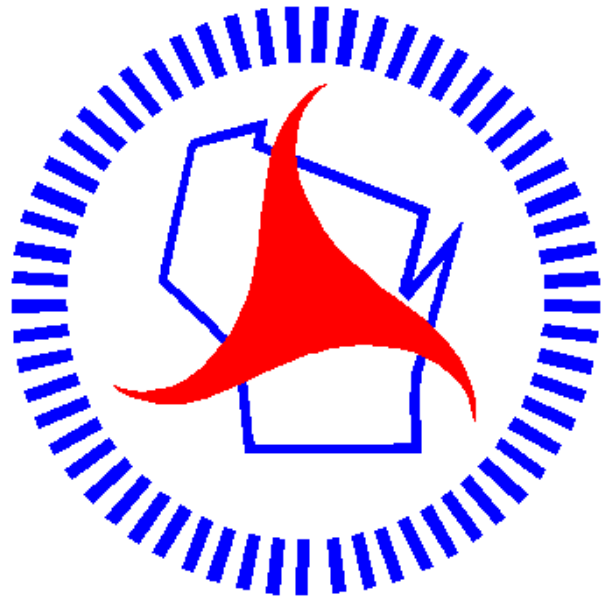


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Notes



Wisconsin Department of Transportation

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