

EAU  
PROJECT ID:  
WITH: NA

7234-00-70

COUNTY:  
BUFFALO

JANUARY 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 Plaques
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS = 42

42

DESIGN DESIGNATION

A.A.D.T.	2021	=	48
A.A.D.T.	2041	=	52
D.H.V.		=	6
D.D.		=	60/40
T.		=	10%
DESIGN SPEED		=	40 MPH
ESALS		=	<100,000

CONVENTIONAL SYMBOLS

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

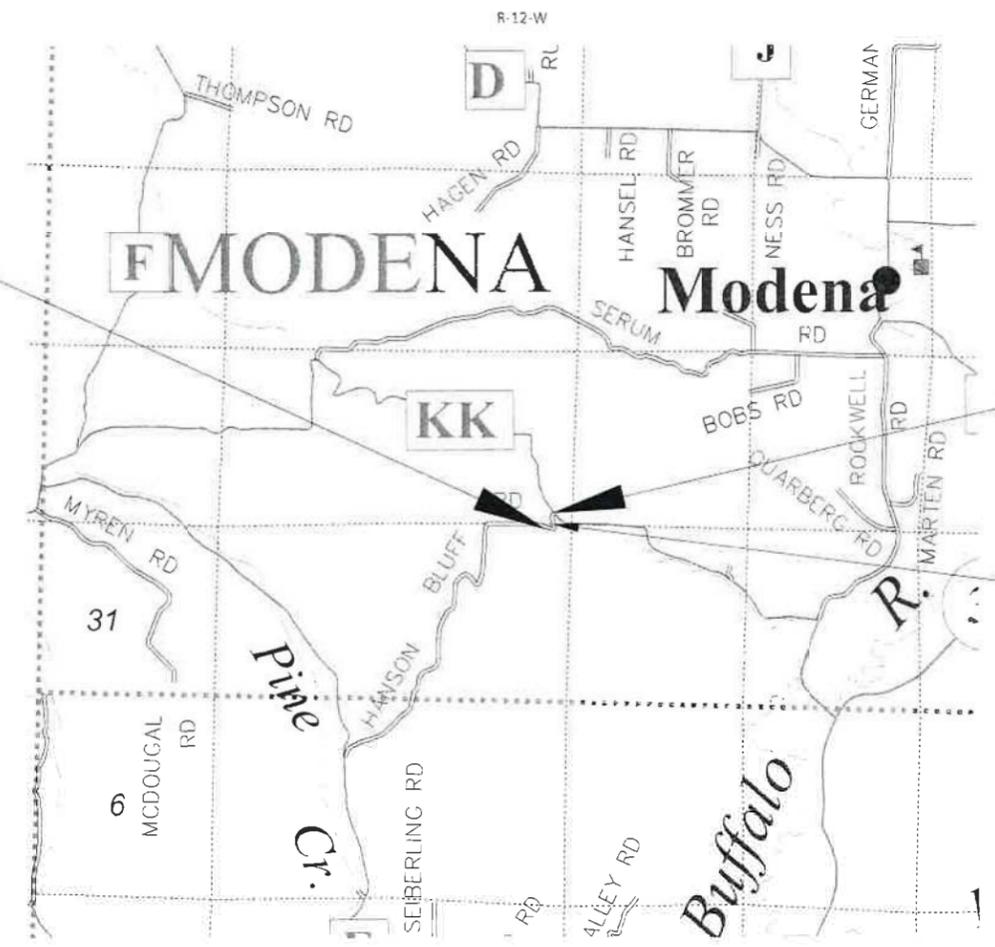
PROJECT LOCATION



BEGIN PROJECT  
STA 19+50.00  
Y = 348292.448  
X = 565052.840

END PROJECT  
STA 20+50.00  
Y = 348279.045  
X = 565151.231

STRUCTURE B-06-0184  
STA 20+00.00



TOTAL NET LENGTH OF CENTERLINE = 0.0189 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), BUFFALO COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
PLAN OF PROPOSED IMPROVEMENT  
T MODENA, HANSON BLUFF ROAD  
LEE VALLEY CREEK BRIDGE B-06-0184  
LOCAL STREET  
BUFFALO COUNTY

STATE PROJECT NUMBER  
7234-00-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7234-00-70		

ACCEPTED FOR  
COUNTY OF BUFFALO  
Date 10/13/21  
Signature: [Signature]  
HIGHWAY COMMISSIONER

ORIGINAL PLANS PREPARED BY  
CBS SQUARED INC.

WISCONSIN PROFESSIONAL ENGINEER  
MATTHEW J. GUNDRY  
38517  
EAU CLAIRE WI  
10-12-21  
Signature: [Signature]

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY  
Surveyor: CBS SQUARED INC.  
Designer: CBS SQUARED INC.  
Project Manager: MATTHEW THORNTON  
Region Examiner: TOU YANG  
Region Supervisor: TYLER RONGSTAD

APPROVED FOR THE DEPARTMENT  
DATE 10/13/2021  
Signature: [Signature]

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**GENERAL NOTES**

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

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

THE EXACT LOCATION AND WIDTH OF PRIVATE ENTRANCES WILL BE DETERMINED IN THE FIELD BY THE ENGINEER. ALL DRIVEWAYS ARE TO BE REPLACED IN KIND UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR AS SHOWN ON THE PLANS. BASE AGGREGATE DENSE 1 1/4-INCH WILL BE USED UNDER ALL DRIVEWAYS.

MAINTAIN DRIVING SURFACE TO ALL PROPERTY OWNERS WITH BASE AGGREGATE DENSE 1 1/4-INCH.

FILL EXPANSION FACTOR IS 30%.

PROPERTY LINES SHOWN ARE APPROXIMATE.

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

BEARINGS SHOWN ON THIS PLAN ARE TRUE BEARINGS TO THE NEAREST SECOND.

PLACE EROSION CONTROL MEASURES AS SHOWN ON THE EROSION CONTROL PLAN. THE EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE FERTILIZED, SEEDED, AND EROSION MATTED AS DIRECTED BY THE ENGINEER.

ELEVATIONS SHOWN ON THE ROADWAY CROSS SECTIONS ARE SUBGRADE ELEVATIONS AT THE CENTERLINE OF THE ROADWAY.

WISDOT WILL FURNISH A BENCHMARK MONUMENT TO BE SET BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER IN THE FIELD.

**STANDARD ABBREVIATIONS**

AC	ACRE	INL	INLET
AGG	AGGREGATE	INV	INVERT
AH	AHEAD	JCT	JUNCTION
AADT	ANNUAL AVERAGE DAILY TRAFFIC	LT	LEFT
ASPH	ASPHALTIC	L	LENGTH OF CURVE
AVG	AVERAGE	LIN FT OR LF	LINEAR FOOT
BK	BACK	LS	LUMP SUM
BAD	BASE AGGREGATE DENSE	NC	NORMAL CROWN
BM	BENCH MARK	N	NORTH
BR	BRIDGE	NB	NORTHBOUND
CL OR C/L	CENTER LINE	NO	NUMBER
CE	COMMERCIAL ENTRANCE	PT	POINT
CONC	CONCRETE	PC	POINT OF CURVATURE
CO	COUNTY	PCC	POINT OF COMPOUND CURVATURE
CTH	COUNTY TRUNK HIGHWAY	PI	POINT OF INTERSECTION
CR	CREEK	PT	POINT OF TANGENCY
CABC	CRUSHED AGGREGATE BASE COURSE	LB	POUND
CY OR CUYD	CUBIC YARD	PE	PRIVATE ENTRANCE
CULV	CULVERT	R	RADIUS
CP	CULVERT PIPE	RL OR R/L	REFERENCE LINE
C&G	CURB AND GUTTER	RT	RIGHT
D	DEGREE OF CURVE	R/W	RIGHT-OF-WAY
DIA	DIAMETER	RD	ROAD
DISCH	DISCHARGE	SHLDR	SHOULDER
E	EAST	SB	SOUTHBOUND
EB	EASTBOUND	SF OR SQ FT	SQUARE FEET
EL OR ELEV	ELEVATION	SY OR SQ YD	SQUARE YARD
EW	END WALL	SDD	STANDARD DETAIL DRAWINGS
ENT	ENTRANCE	STH	STATE TRUNK HIGHWAY
EXC	EXCAVATION	SE	SUPERELEVATION
EX	EXISTING	T	TANGENT
FERT	FERTILIZER	TEMP	TEMPORARY
FE	FIELD ENTRANCE	USH	UNITED STATES HIGHWAY
FL OR F/L	FLOW LINE	V	VELOCITY OR DESIGN SPEED
FT	FOOT	VC	VERTICAL CURVE
HMA	HOT MIX ASPHALT	WB	WESTBOUND
CWT	HUNDREDWEIGHT	YD	YARD

**UTILITY CONTACTS**

RIVERLAND ENERGY COOPERATIVE - ELECTRICITY  
 TIM HOLTAN  
 N28988 STATE ROAD 93, P.O. BOX 277  
 ARCADIA, WI 54612  
 608-323-3381  
 THOLTAN@RIVERLANDENERGY.COM



**DESIGN CONTACT**

CBS SQUARED INC.  
 770 TECHNOLOGY WAY, SUITE 1A  
 CHIPPEWA FALLS, WI 54729  
 ATTN: MATT GUNDRY, PE  
 715-861-7425  
 MGUNDRY@CBSSQUAREDINC.COM

**WISCONSIN DOT NORTHWEST REGION LOCAL**

WISCONSIN DEPARTMENT OF TRANSPORTATION  
 EAU CLAIRE OFFICE  
 718 WEST CLAIREMONT AVENUE  
 EAU CLAIRE, WI 54701  
 ATTN: MATTHEW THORNSEN, P.E.  
 715-225-4159  
 MATTHEW.THORNSEN@DOT.WI.GOV

**WISCONSIN DNR - LIASON**

DEPARTMENT OF NATURAL RESOURCES  
 EAU CLAIRE SERVICE CENTER  
 1300 WEST CLAIREMONT AVENUE  
 EAU CLAIRE, WI 54701  
 ATTN: AMY LESIK  
 715-495-1903  
 AMYL.LESIK@WISCONSIN.GOV

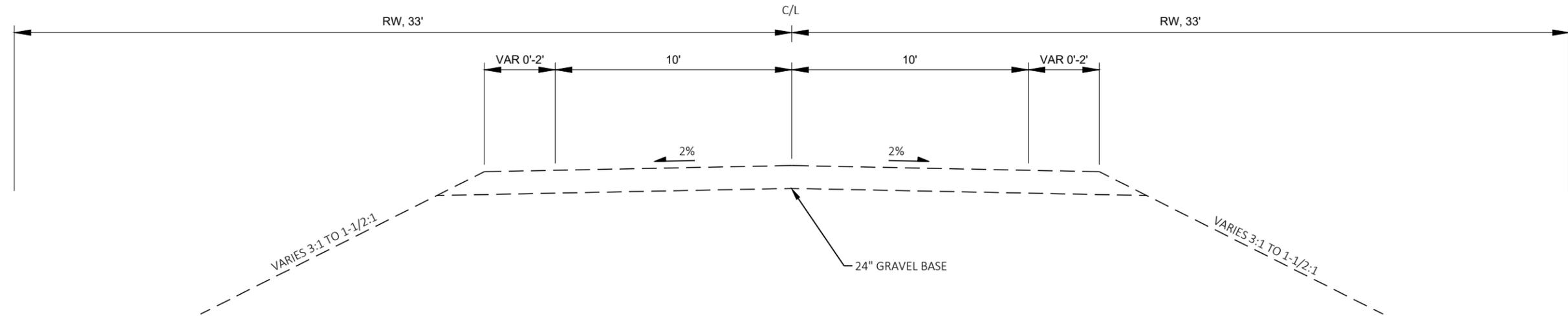
**BUFFALO COUNTY HIGHWAY DEPARTMENT**

BOB PLATTETER  
 HIGHWAY COMMISSIONER  
 BUFFALO COUNTY HIGHWAY DEPARTMENT  
 S1672 STATE HWY 37  
 ALMA, WI 54610  
 608-685-6226  
 BOB.PLATTETER@CO.BUFFALO.WI.US

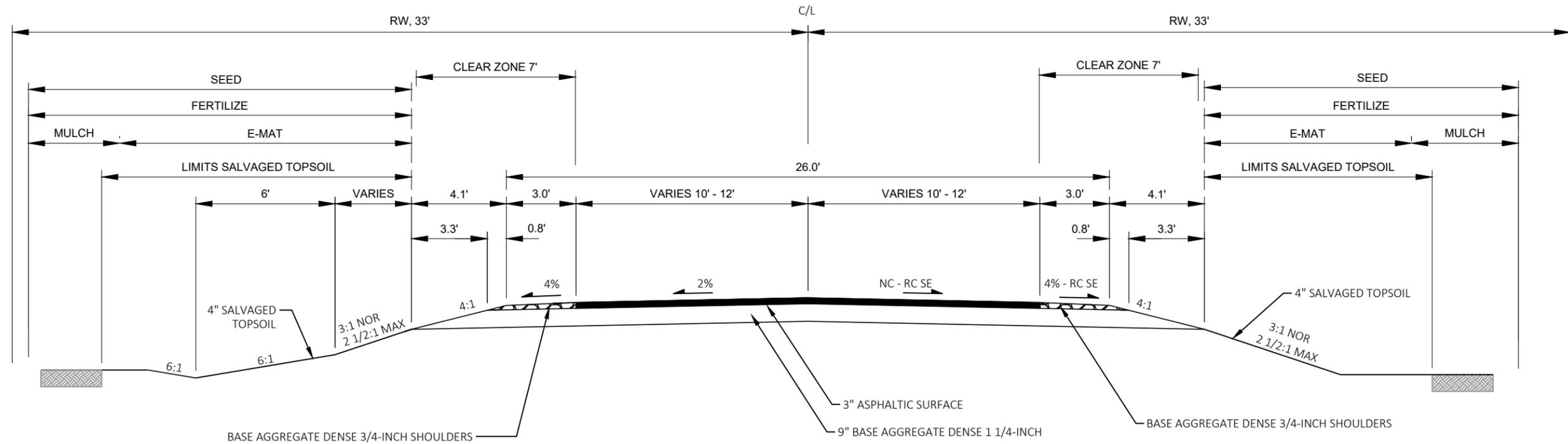
**RUNOFF COEFFICIENT TABLE**

LAND USE:	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
	0-2	2-6	6 & OVER									
ROW CROPS	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIP-TURF	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPE-TURF			.25			.27			.28			.30
			.32			.34			.36			.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 = 0.303 ACRES  
 TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.205 ACRES



**EXISTING TYPICAL SECTION - HANSON BLUFF ROAD**  
 STA 19+50.00 - 19+88.54, 20+11.78 - 20+50.00



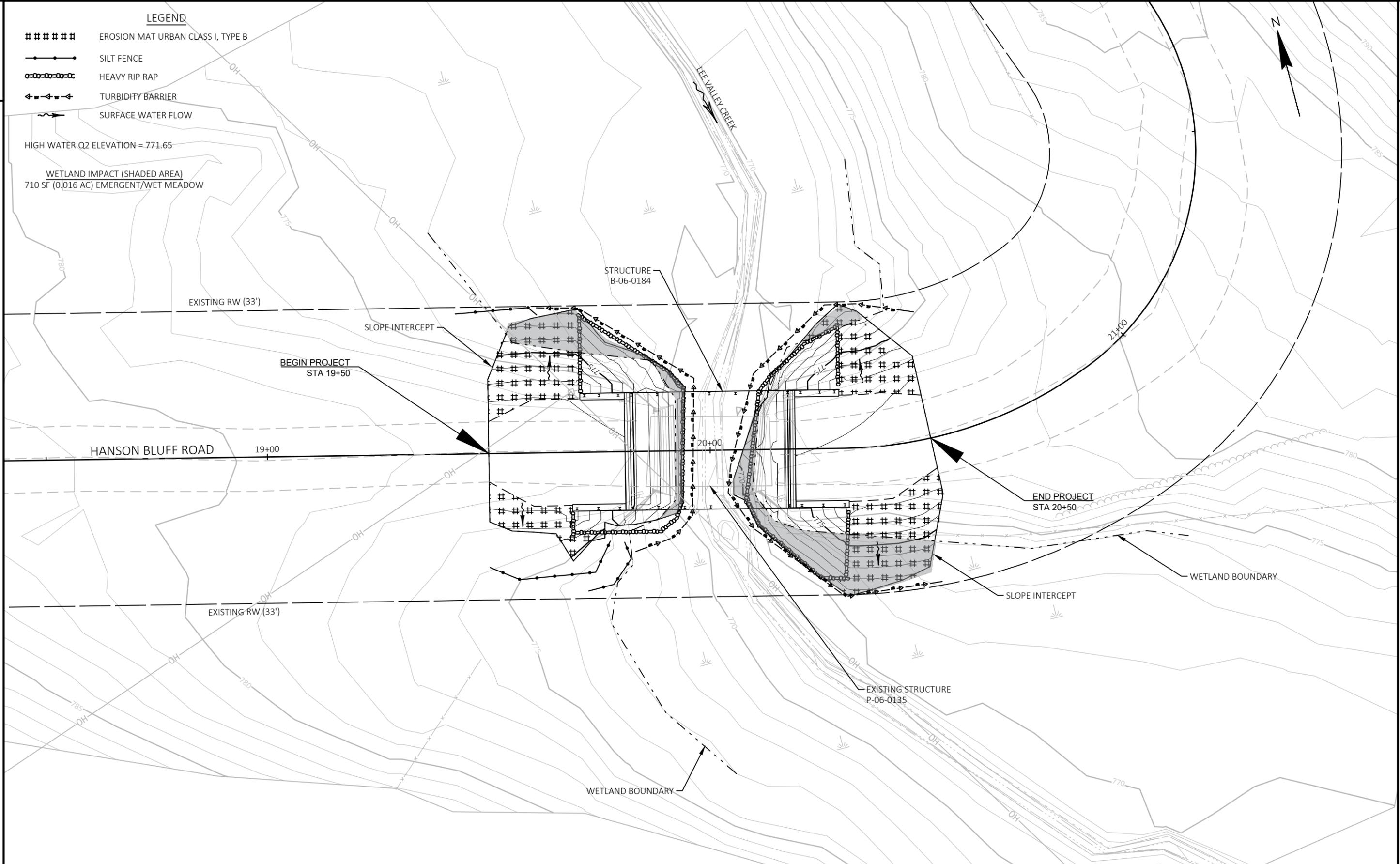
**FINISHED TYPICAL SECTION - HANSON BLUFF ROAD**  
 STA 19+50.00 - 19+80.75, STA 20+19.25 - 20+50.00

LEGEND

- ##### EROSION MAT URBAN CLASS I, TYPE B
- SILT FENCE
- HEAVY RIP RAP
- ▲—▲—▲ TURBIDITY BARRIER
- >—>—> SURFACE WATER FLOW

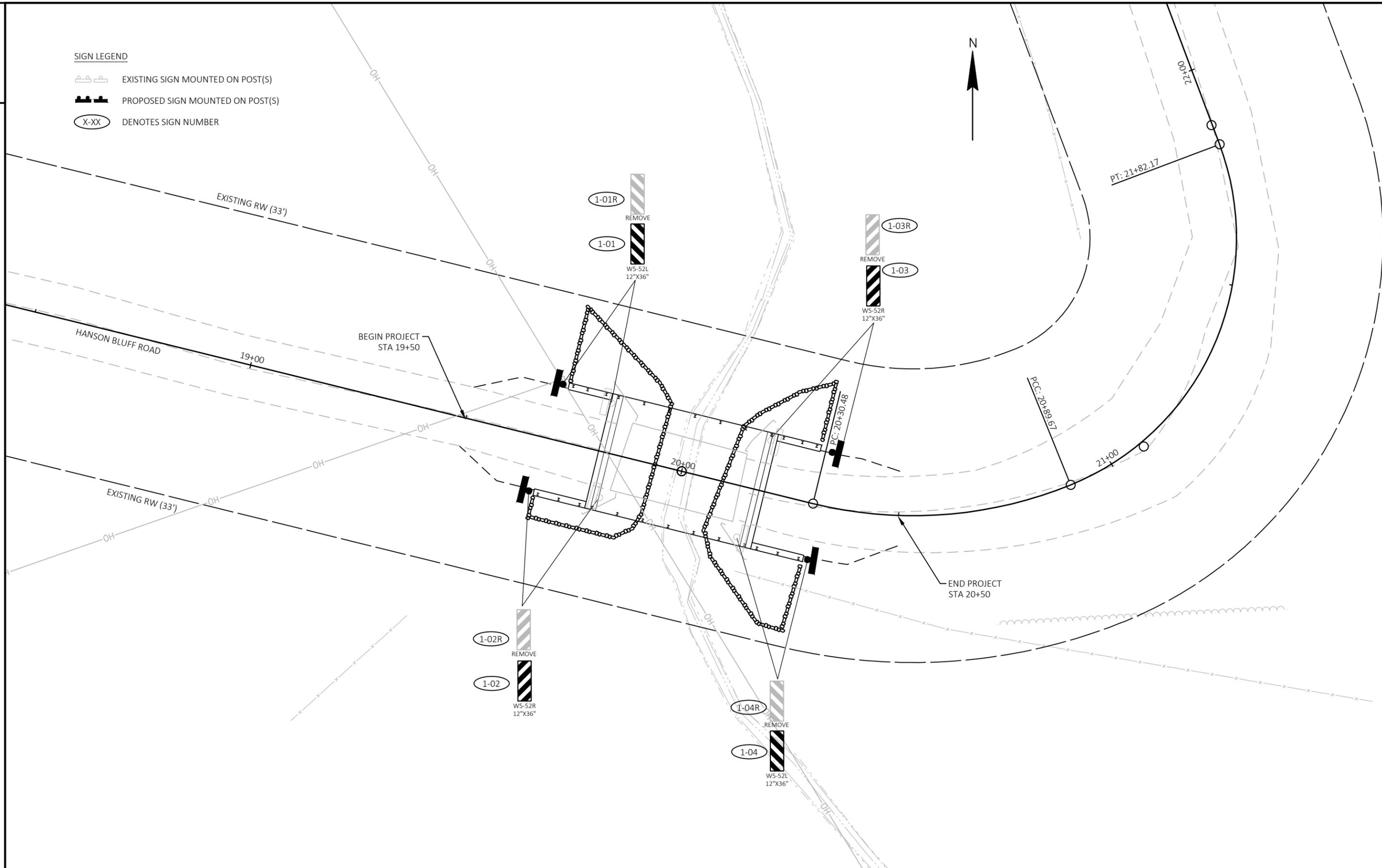
HIGH WATER Q2 ELEVATION = 771.65

WETLAND IMPACT (SHADED AREA)  
710 SF (0.016 AC) EMERGENT/WET MEADOW

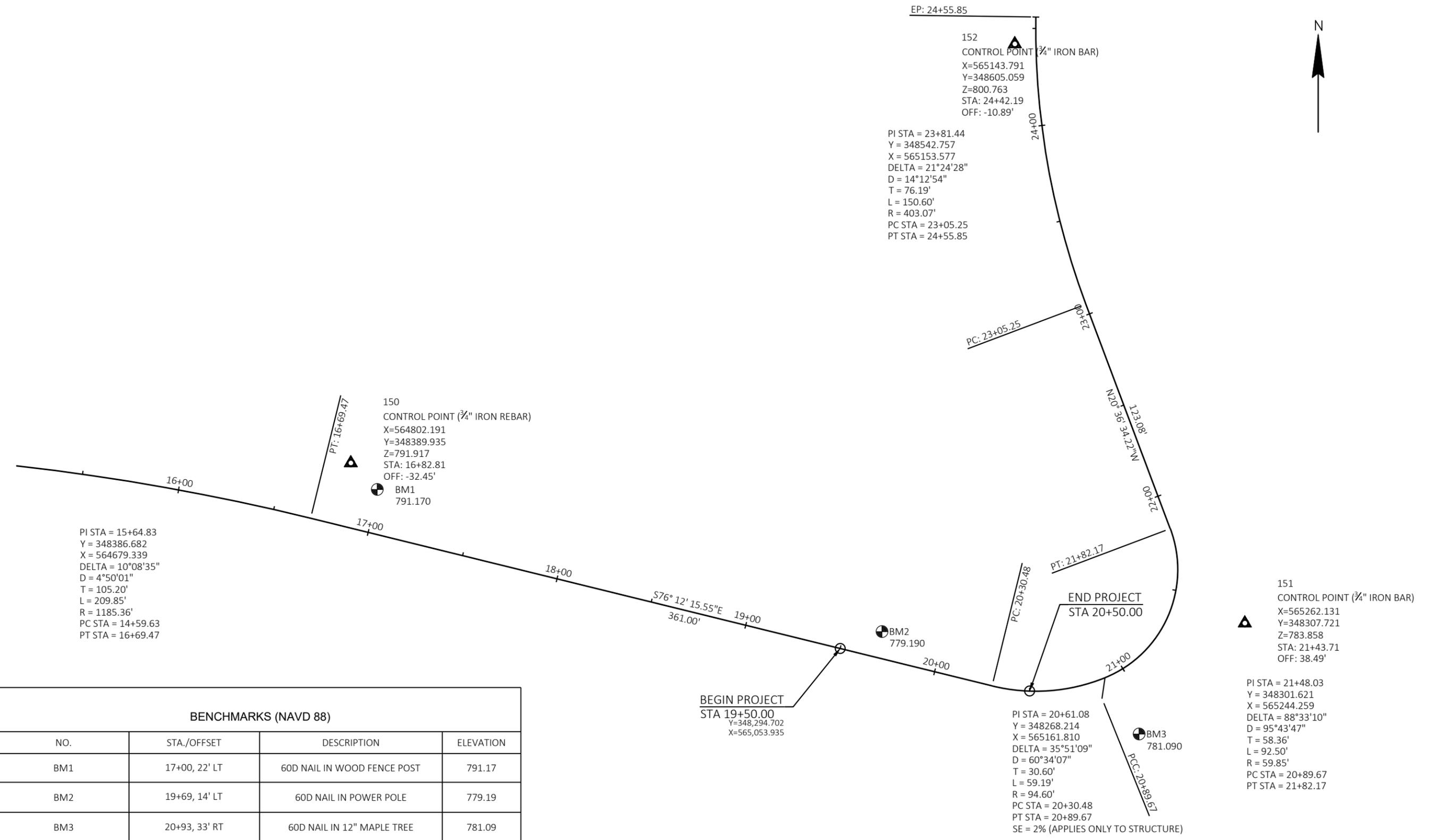


SIGN LEGEND

-  EXISTING SIGN MOUNTED ON POST(S)
-  PROPOSED SIGN MOUNTED ON POST(S)
-  DENOTES SIGN NUMBER



PROJECT NO: 7234-00-70	HWY: HANSON BLUFF ROAD	COUNTY: BUFFALO	PERMANENT SIGNING	SHEET	E
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Estimate Of Quantities

7234-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. P-06-135	EACH	1.000	1.000
0004	205.0100	Excavation Common	CY	32.000	32.000
0006	206.1000	Excavation for Structures Bridges (structure) 01. B-06-0184	LS	1.000	1.000
0008	208.0100	Borrow	CY	11.000	11.000
0010	210.1500	Backfill Structure Type A	TON	200.000	200.000
0012	213.0100	Finishing Roadway (project) 01. 7234-00-70	EACH	1.000	1.000
0014	305.0110	Base Aggregate Dense 3/4-Inch	TON	8.000	8.000
0016	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	90.000	90.000
0018	465.0105	Asphaltic Surface	TON	25.000	25.000
0020	502.0100	Concrete Masonry Bridges	CY	129.000	129.000
0022	502.3200	Protective Surface Treatment	SY	136.000	136.000
0024	505.0400	Bar Steel Reinforcement HS Structures	LB	3,240.000	3,240.000
0026	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	15,385.000	15,385.000
0028	513.4061	Railing Tubular Type M	LF	127.000	127.000
0030	516.0500	Rubberized Membrane Waterproofing	SY	18.000	18.000
0032	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	360.000	360.000
0034	606.0300	Riprap Heavy	CY	142.000	142.000
0036	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	130.000	130.000
0038	618.0100	Maintenance And Repair of Haul Roads (project) 01. 7234-00-70	EACH	1.000	1.000
0040	619.1000	Mobilization	EACH	1.000	1.000
0042	624.0100	Water	MGAL	2.000	2.000
0044	625.0500	Salvaged Topsoil	SY	135.000	135.000
0046	628.1504	Silt Fence	LF	100.000	100.000
0048	628.1520	Silt Fence Maintenance	LF	100.000	100.000
0050	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0052	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0054	628.2008	Erosion Mat Urban Class I Type B	SY	135.000	135.000
0056	628.6005	Turbidity Barriers	SY	120.000	120.000
0058	629.0210	Fertilizer Type B	CWT	0.200	0.200
0060	630.0110	Seeding Mixture No. 10	LB	1.800	1.800
0062	630.0500	Seed Water	MGAL	10.000	10.000
0064	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0066	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0068	638.2602	Removing Signs Type II	EACH	4.000	4.000
0070	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0072	642.5001	Field Office Type B	EACH	1.000	1.000
0074	643.0420	Traffic Control Barricades Type III	DAY	960.000	960.000
0076	643.0705	Traffic Control Warning Lights Type A	DAY	1,440.000	1,440.000
0078	643.0900	Traffic Control Signs	DAY	840.000	840.000
0080	643.5000	Traffic Control	EACH	1.000	1.000
0082	645.0111	Geotextile Type DF Schedule A	SY	50.000	50.000
0084	645.0120	Geotextile Type HR	SY	215.000	215.000
0086	650.4500	Construction Staking Subgrade	LF	62.000	62.000
0088	650.5000	Construction Staking Base	LF	62.000	62.000
0090	650.6500	Construction Staking Structure Layout (structure) 01. B-06-0184	LS	1.000	1.000
0092	650.9910	Construction Staking Supplemental Control (project) 01. 7234-00-70	LS	1.000	1.000
0094	650.9920	Construction Staking Slope Stakes	LF	62.000	62.000
0096	715.0502	Incentive Strength Concrete Structures	DOL	774.000	774.000
0098	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 20+00	EACH	1.000	1.000

Estimate Of Quantities

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					7234-00-70
0100	SPV.0090	Special 01. Flashing Stainless Steel	LF	67.000	67.000

EARTHWORK

CATEGORY	STATION	TO	STATION	LOCATION	205.0100	208.0100	REMARKS
					EXCAVATION COMMON CY	BORROW CY	
0010	19+50	-	19+69	DIVISION 1	14		
0010	20+31	-	20+50	DIVISION 2	18	11	
				TOTAL 0010	32	11	

BASE AGGREGATE

CATEGORY	STATION	TO	STATION	LOCATION	305.0110	305.0120	624.0100	REMARKS
					BASE AGGREGATE DENSE 3/4-INCH TON	BASE AGGREGATE DENSE 1 1/4- INCH TON	WATER MGAL	
0010	19+50	-	19+81	MAINLINE	4	45	1	
0010	20+19	-	20+50	MAINLINE	4	45	1	
				TOTAL 0010	8	90	2	

ASPHALT

CATEGORY	STATION	TO	STATION	LOCATION	465.0105	REMARKS
					ASPHALTIC SURFACE TON	
0010	19+50	-	19+81	MAINLINE	12.5	
0010	20+19	-	20+50	MAINLINE	12.5	
				TOTAL 0010	25	

EROSION CONTROL

CATEGORY	STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.6005 TURBIDITY BARRIERS SY	REMARKS
0010	19+50	-	19+81	MAINLINE	100	100			45	48	
0010	20+19	-	20+50	MAINLINE					90	72	
0010	19+50	-	20+50	PROJECT			2	2			
TOTAL 0010					100	100	2	2	135	120	

FINISHING

CATEGORY	STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0110 SEEDING MIXTURE NO. 10 LB	630.0500 SEED WATER MGAL	REMARKS
0010	19+50	-	20+50	PROJECT					
0010	19+50	-	19+81	MAINLINE	45	0.1	0.6	3	
0010	20+19	-	20+50	MAINLINE	90	0.1	1.2	7	
TOTAL 0010					135	0.2	1.8	10	

PERMANENT SIGNING

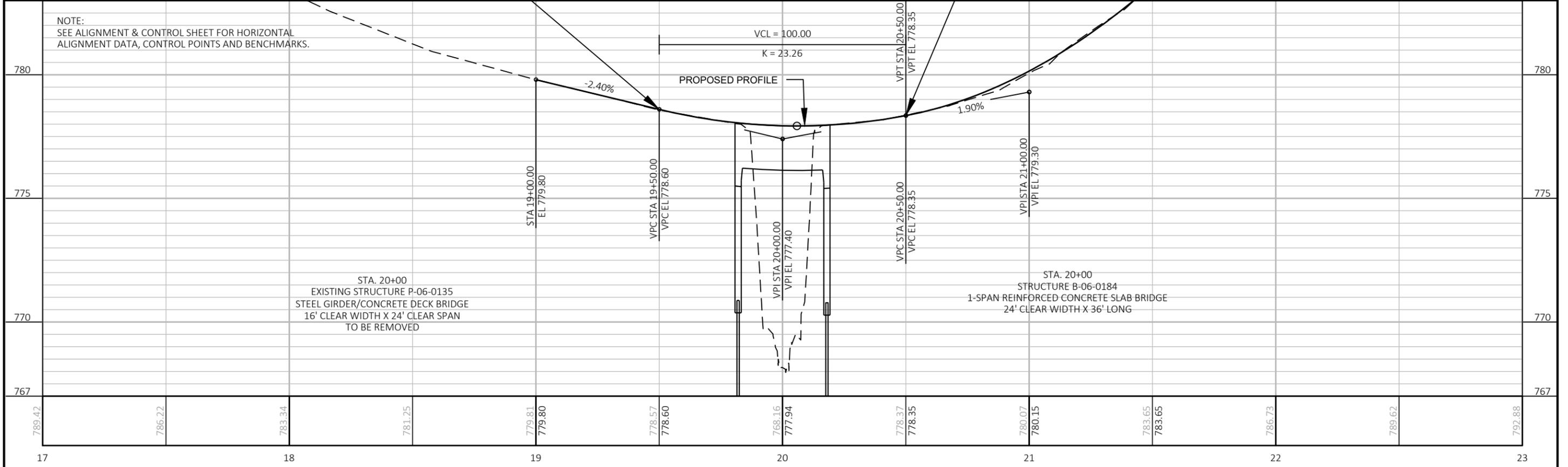
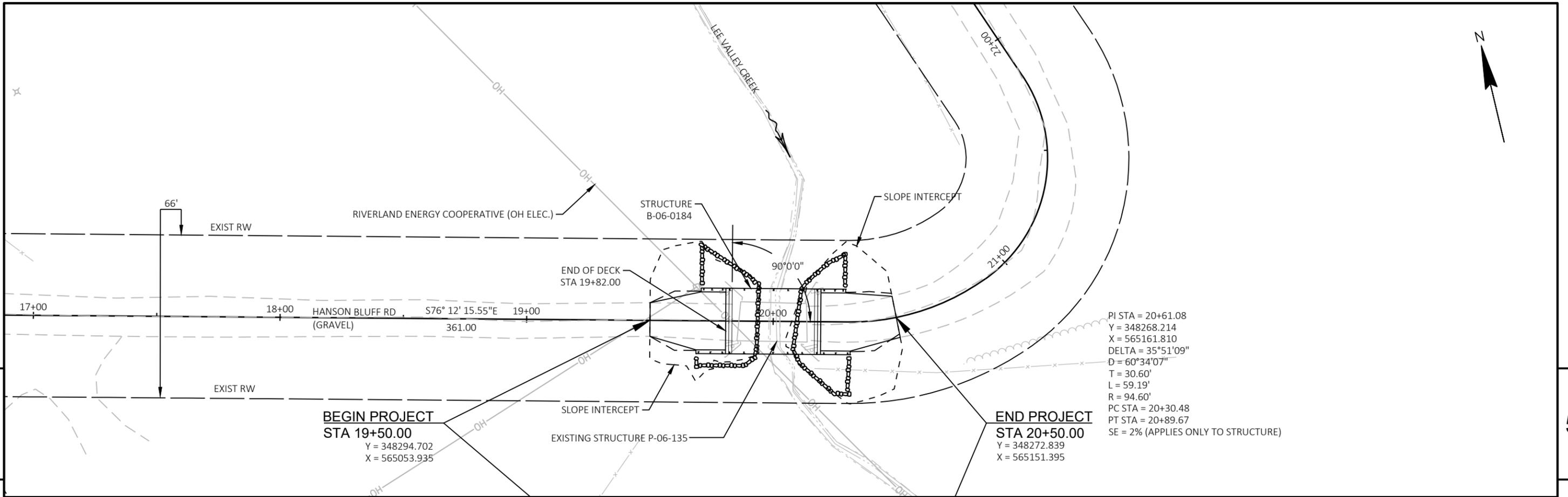
CATEGORY	STATION	LOCATION	634.0612 POSTS WOOD 4X6-INCH X 12- FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	19+70	MAINLINE LEFT	1	3.0	1	1	(1-01) W5-52L
0010	19+70	MAINLINE RIGHT	1	3.0	1	1	(1-02) W5-52R
0010	20+30	MAINLINE LEFT	1	3.0	1	1	(1-03) W5-52R
0010	20+30	MAINLINE RIGHT	1	3.0	1	1	(1-04) W5-52L
TOTAL 0010			4	12.0	4	4	

TRAFFIC CONTROL

CATEGORY	STATION	TO	STATION	LOCATION	643.0420		643.0705		643.0900		643.5000		REMARKS
					TRAFFIC CONTROL BARRICADES TYPE III EACH	DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	DAY	TRAFFIC CONTROL SIGNS EACH	DAY	TRAFFIC CONTROL EACH		
0010					16	60	24	60	14	60	1		
				TOTAL 0010	960		1,440		840		1		

STAKING

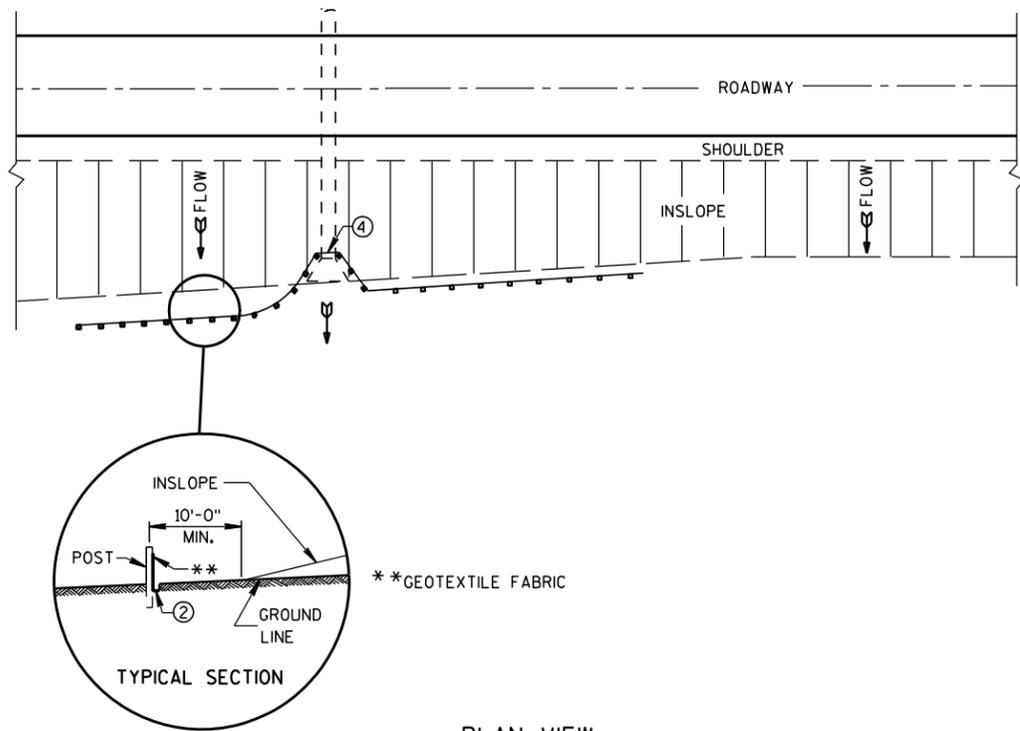
CATEGORY	STATION	TO	STATION	LOCATION	650.4500		650.5000		650.6500.01		650.9910.01		650.9920		REMARKS
					CONSTRUCTION STAKING SUBGRADE LF	CONSTRUCTION STAKING BASE LF	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) (01. B-06-184) LS	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 7234-00-70) LS	CONSTRUCTION STAKING SLOPE STAKES LF						
0010	19+50	-	19+81	MAINLINE	31	31						31			
0010	20+19	-	20+50	MAINLINE	31	31						31			
0010	19+50	-	20+50	MAINLINE					1						
0020	19+81	-	20+19	STRUCTURE B-06-184			1								
				TOTAL 0010	62	62			1			62			
				TOTAL 0020			1								



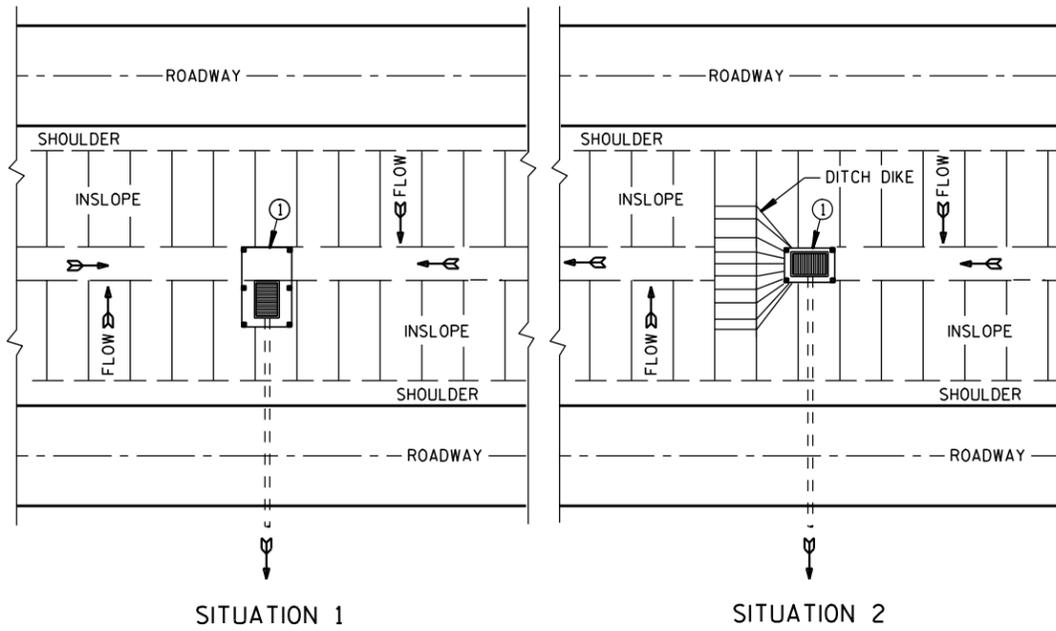
PROJECT NO: 7234-00-70      HWY: HANSON BLUFF ROAD      COUNTY: BUFFALO      PLAN AND PROFILE: HANSON BLUFF ROAD      SHEET: E

## Standard Detail Drawing List

08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M. P. H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC



PLAN VIEW  
TYPICAL APPLICATION OF SILT FENCE

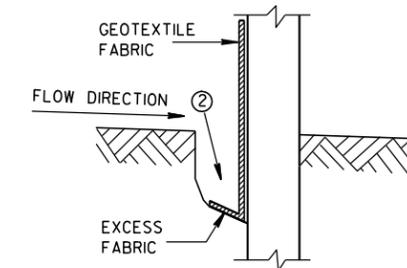


SITUATION 1 SITUATION 2  
PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

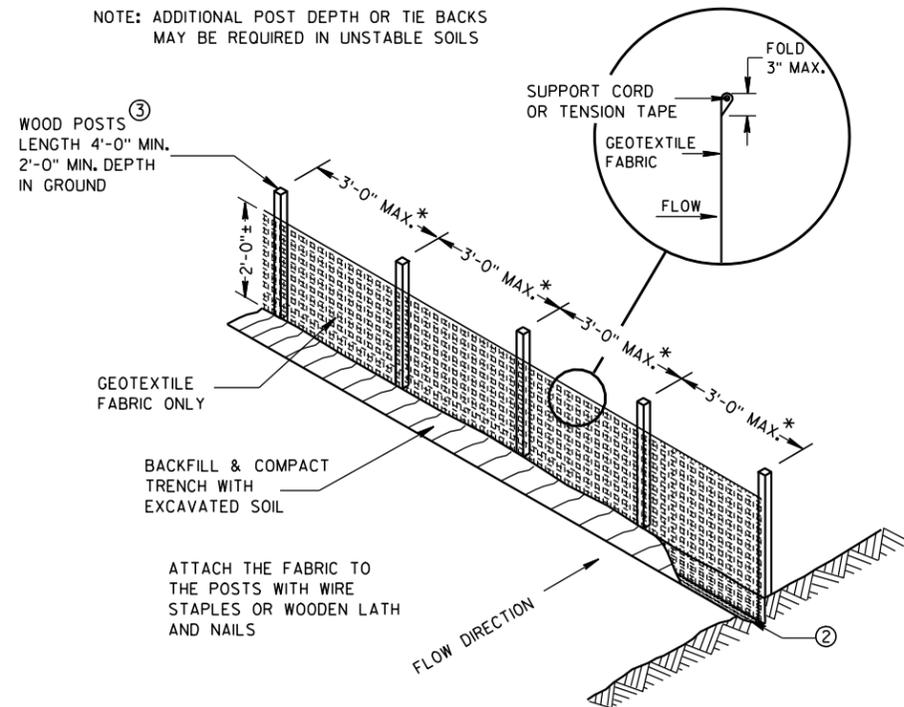
**GENERAL NOTES**

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

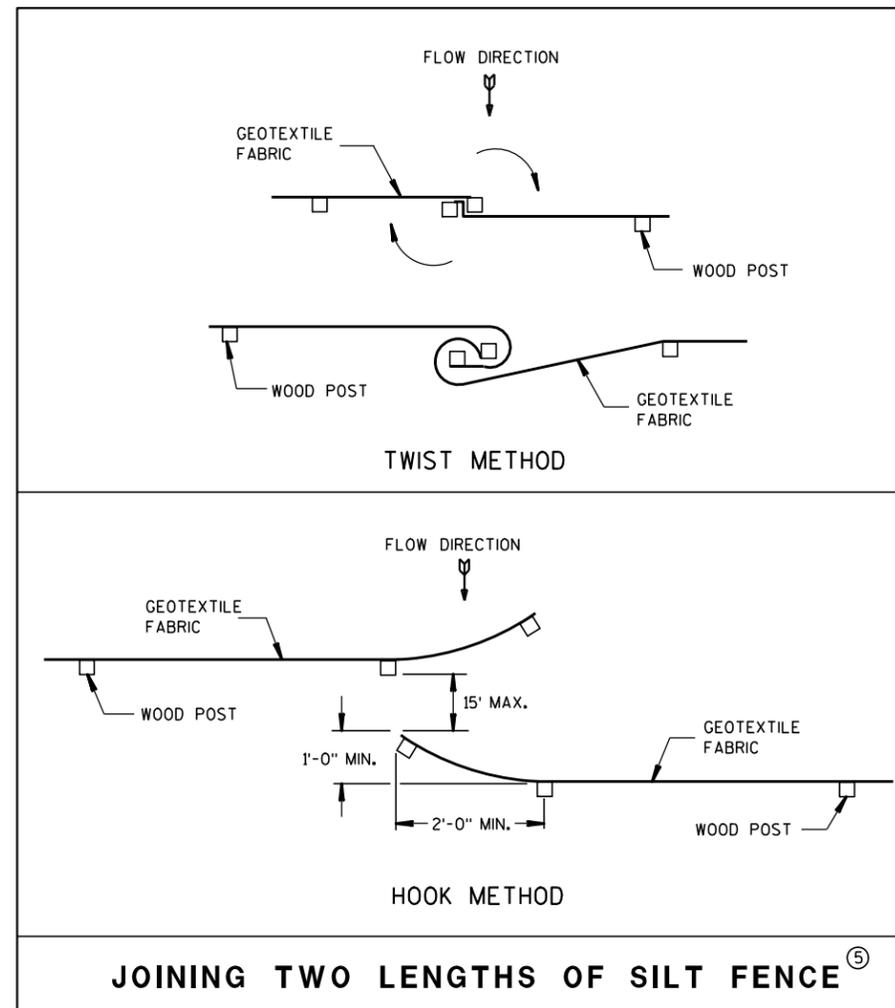
- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS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



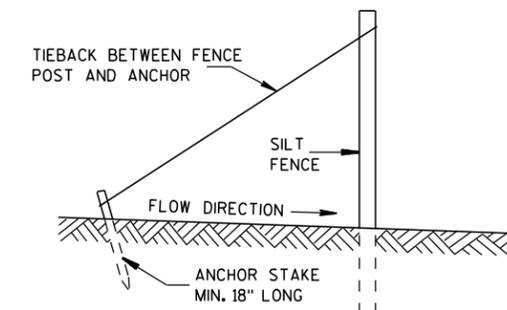
TRENCH DETAIL



SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE ⑤

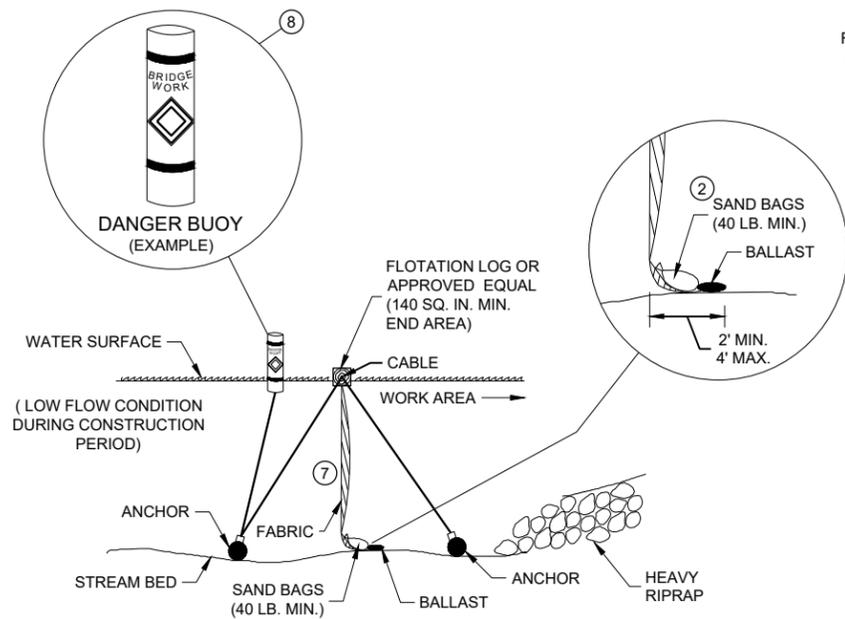


SILT FENCE TIE BACK  
(WHEN REQUIRED BY THE ENGINEER)

**SILT FENCE**

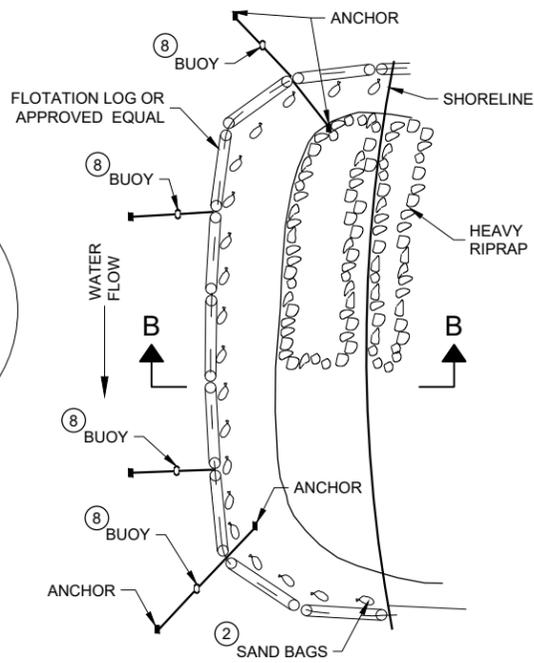
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

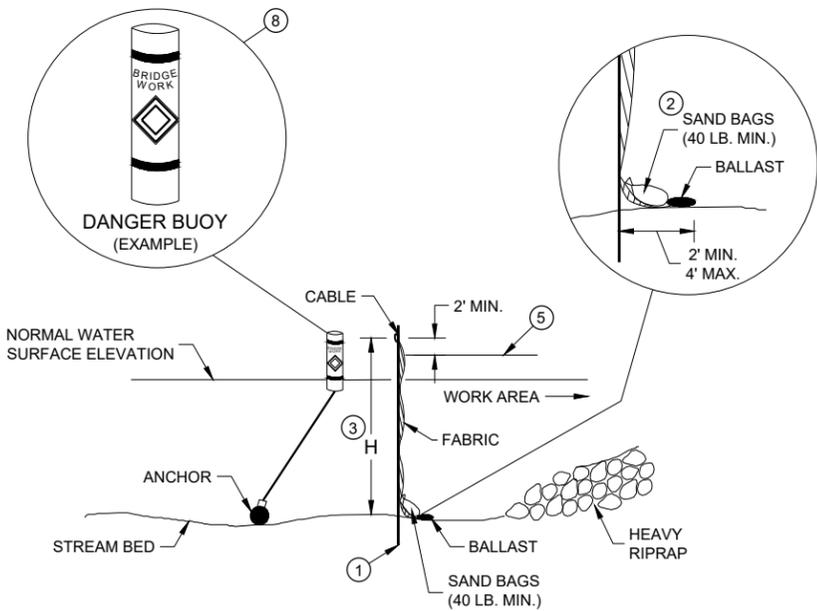


**SECTION B - B**

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

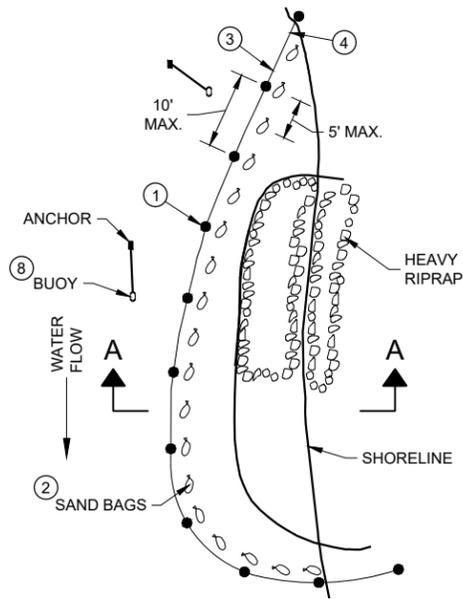


**PLAN VIEW**



**SECTION A - A**

**TURBIDITY BARRIER - STANDARD POST INSTALLATION**



**PLAN VIEW**

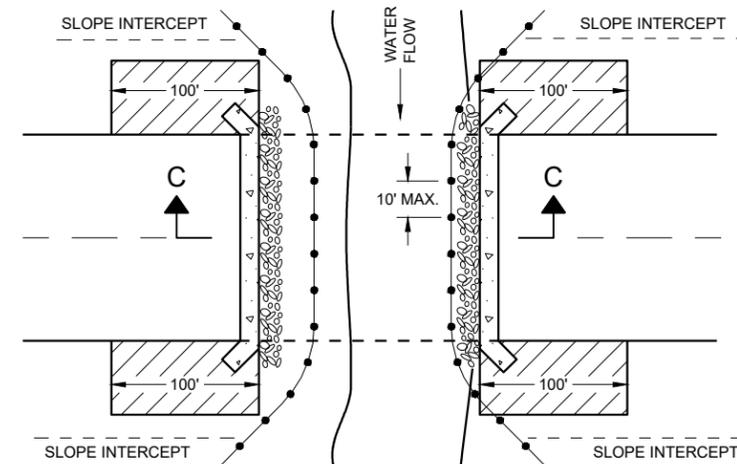
**TURBIDITY BARRIER PLACEMENT DETAILS**

**GENERAL NOTES**

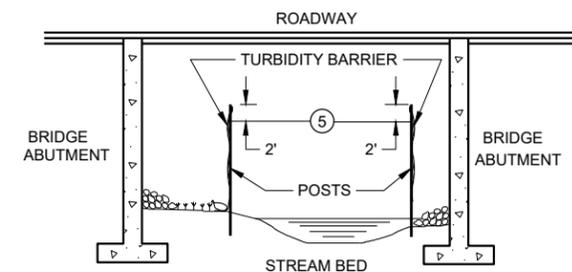
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

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



**PLAN VIEW**



**SECTION C - C**

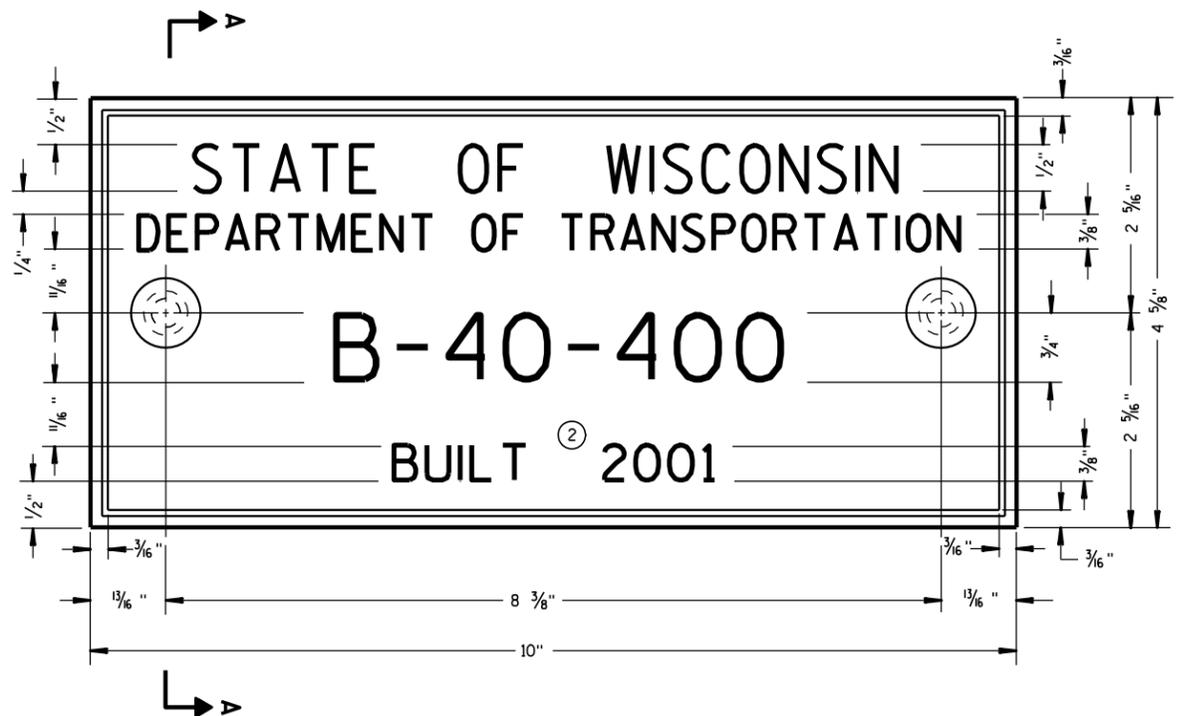
**TURBIDITY BARRIER DETAIL SHOWING  
TYPICAL PLACEMENT AT STRUCTURES**

**TURBIDITY BARRIER**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA



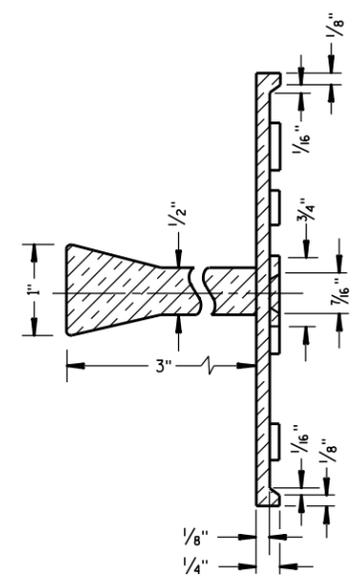
**TYPICAL NAME PLATE**  
(BRIDGES, CULVERTS, AND RETAINING WALLS)

**GENERAL NOTES**

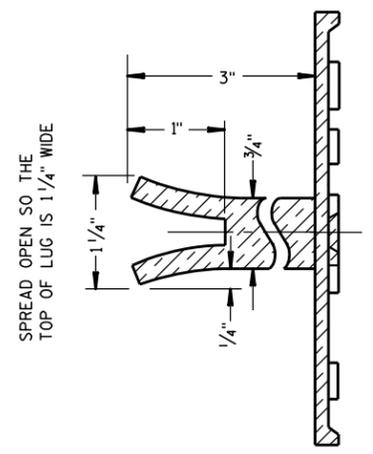
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

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



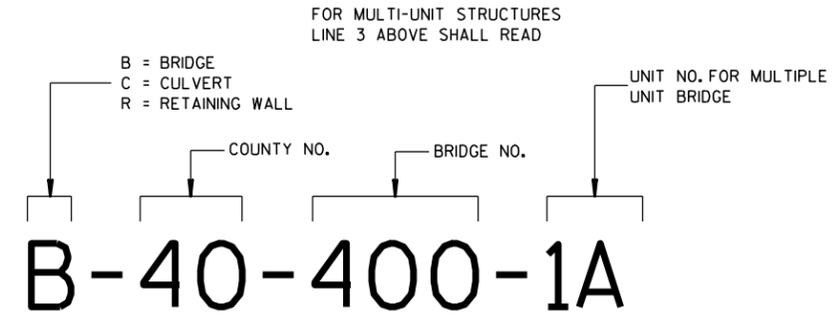
**SECTION A-A**



**ALTERNATE LUG**

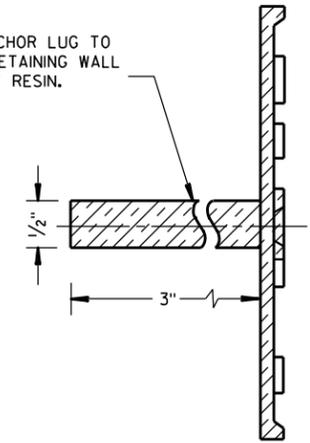
6

6



**NUMBERING DESIGNATION  
MULTI-UNIT STRUCTURES**

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

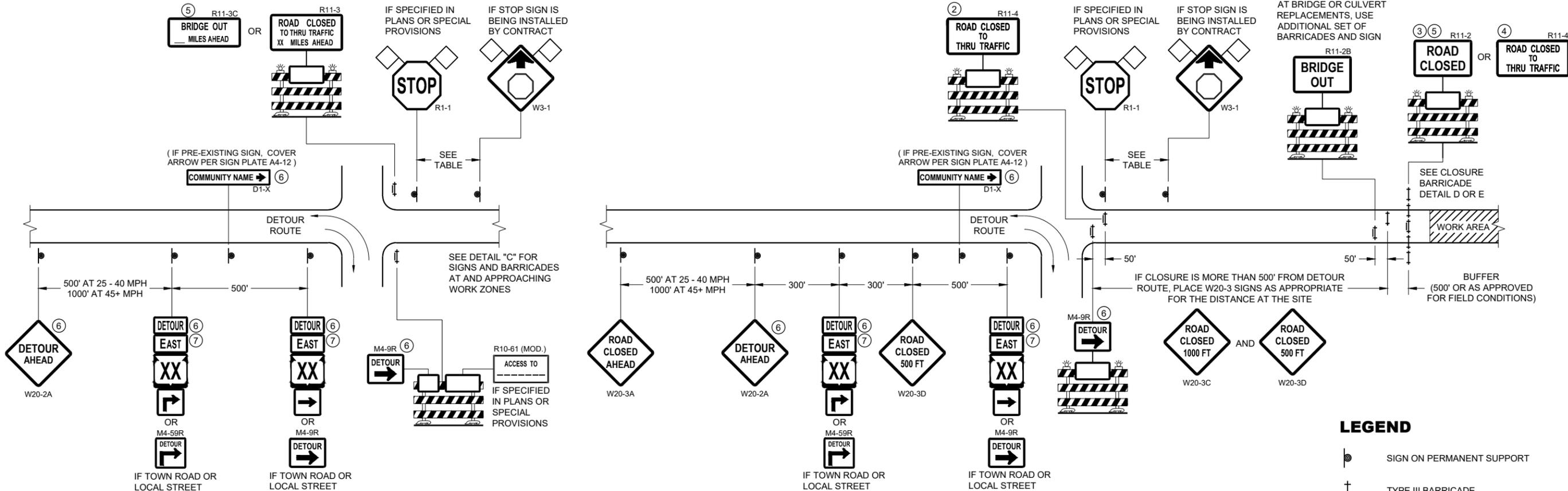


**ALTERNATE LUG**  
(FOR ATTACHMENT TO PRECAST STRUCTURES)

S.D.D. 12 A 3-10

S.D.D. 12 A 3-10

<b>NAME PLATE (STRUCTURES)</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 3/26/10	/S/ Scot Becker CHIEF STRUCTURAL DEVELOPMENT ENGINEER
FHWA	



**DETAIL A  
MAINLINE CLOSURE WITH POSTED DETOUR**

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

**DETAIL B  
MAINLINE CLOSURE WITH POSTED DETOUR**

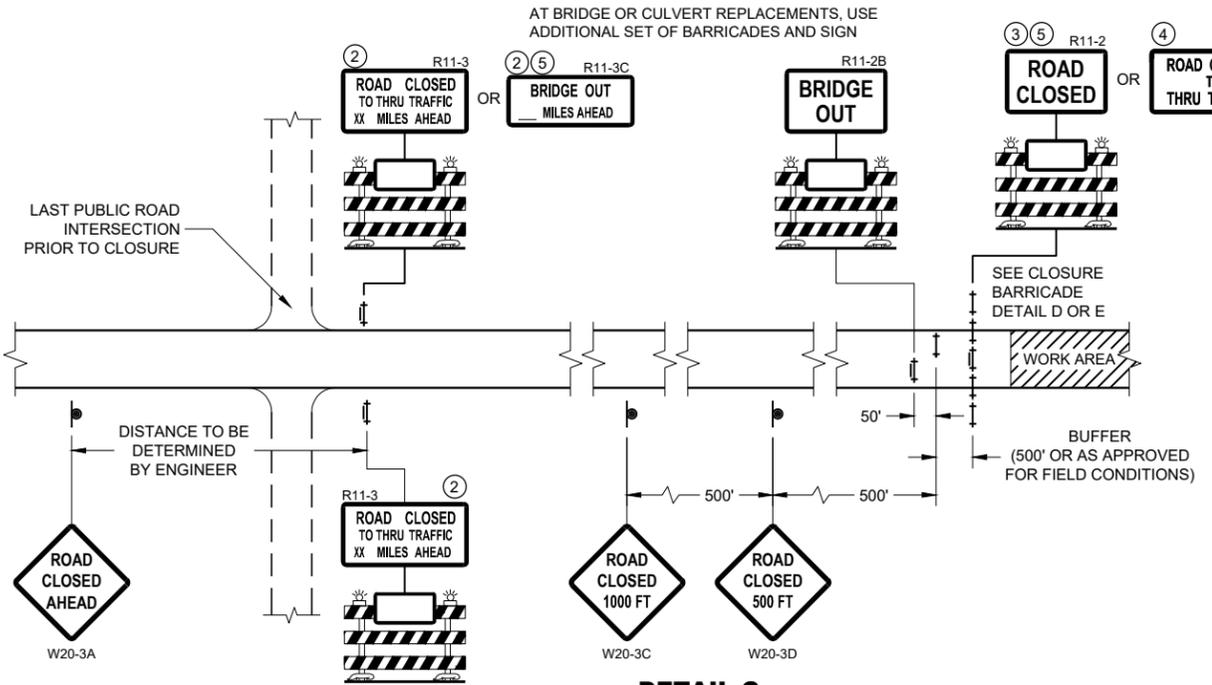
WORK ZONE LESS THAN 1/2 MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )

**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)

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

- M4 - 8
- M3 - X
- M1 - 4
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1



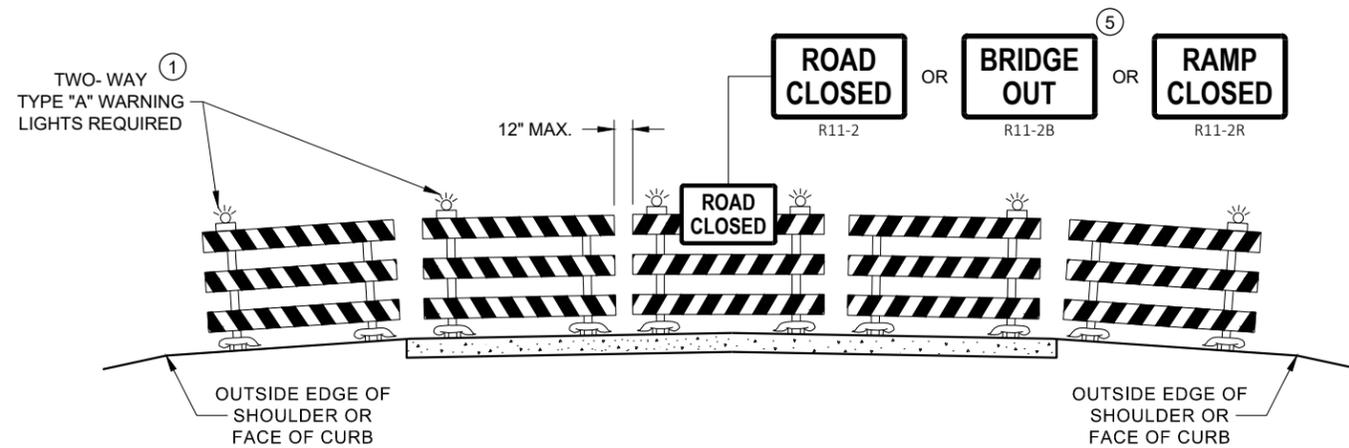
**DETAIL C  
MAINLINE CLOSURE, NO POSTED DETOUR**

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

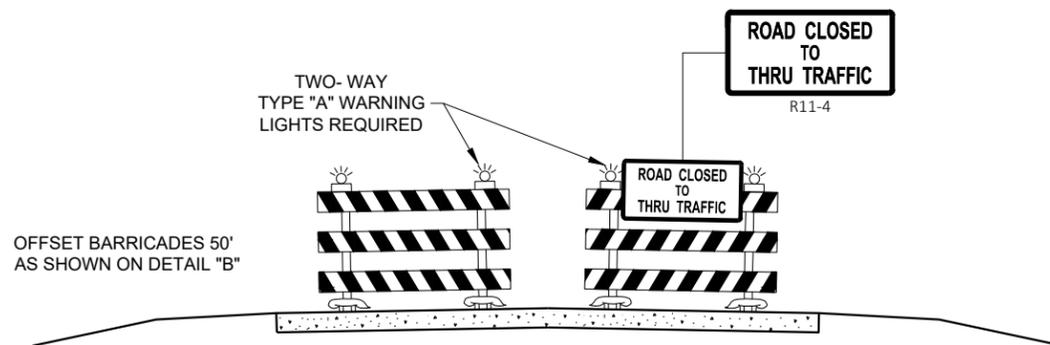
**BARRICADES AND SIGNS  
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



**DETAIL D  
ROAD CLOSURE BARRICADE DETAIL  
APPROACH VIEW**



**DETAIL E  
LANE CLOSURE BARRICADE DETAIL  
APPROACH VIEW**

SEE SDD 15C2 - SHEET "a" FOR LEGEND

**GENERAL NOTES**

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

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

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

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

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

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

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

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

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

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

- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- ③ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- ④ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- ⑤ FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- ⑥ INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- ⑦ "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

**BARRICADES AND SIGNS  
FOR  
VARIOUS CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

**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.

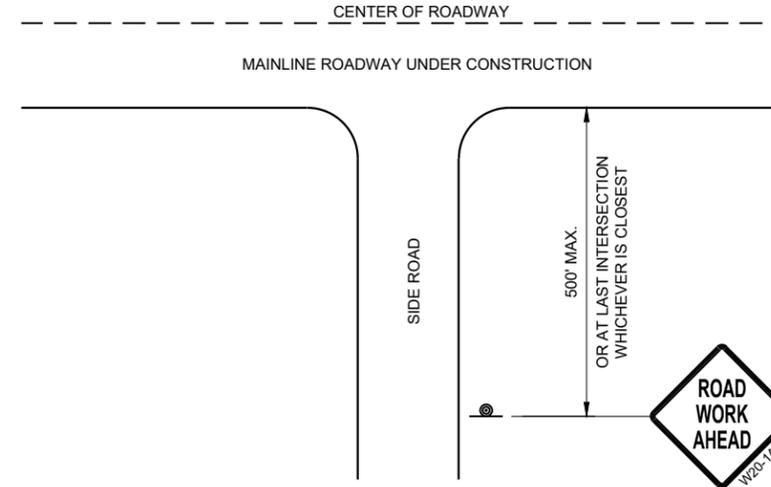
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

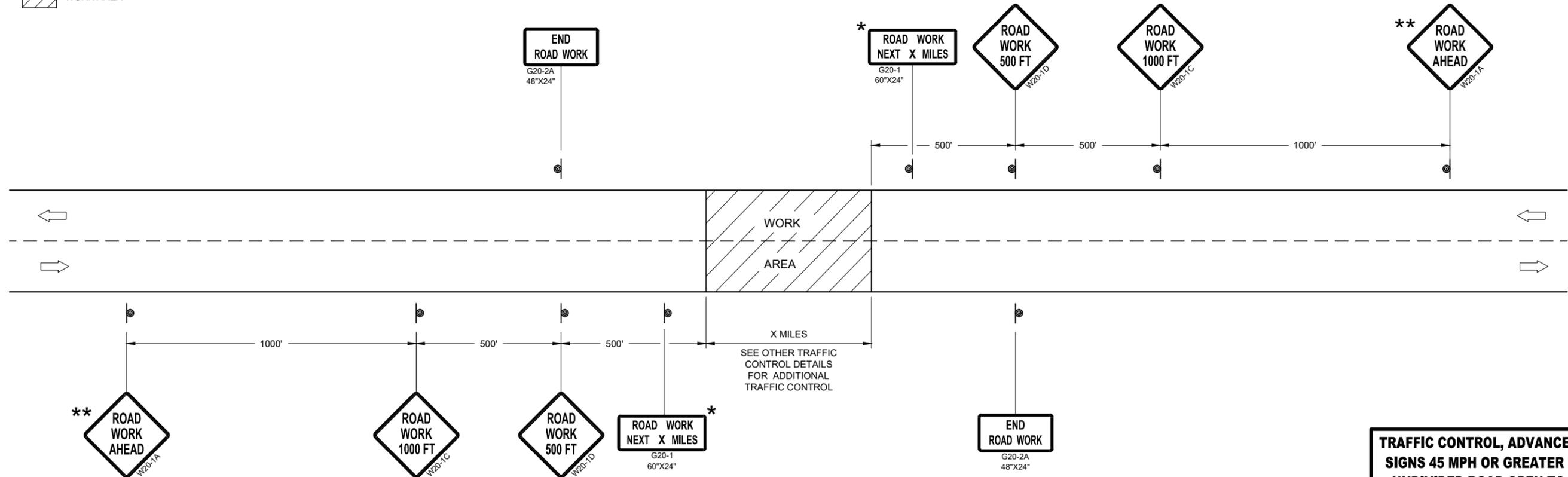
- \* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- \*\* PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

**LEGEND**

-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA



**TYPICAL SIDE ROAD APPROACH  
WARNING SIGN DETAIL**



**TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER**

**TRAFFIC CONTROL, ADVANCE WARNING  
SIGNS 45 MPH OR GREATER TWO-WAY  
UNDIVIDED ROAD OPEN TO TRAFFIC**

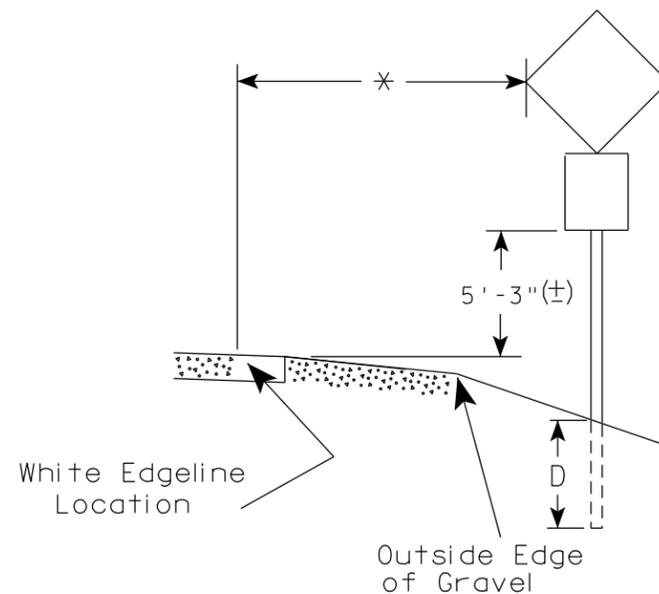
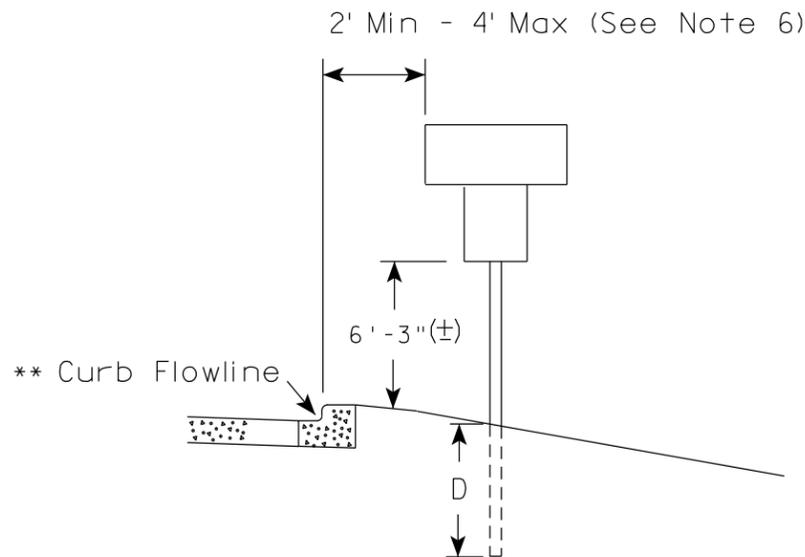
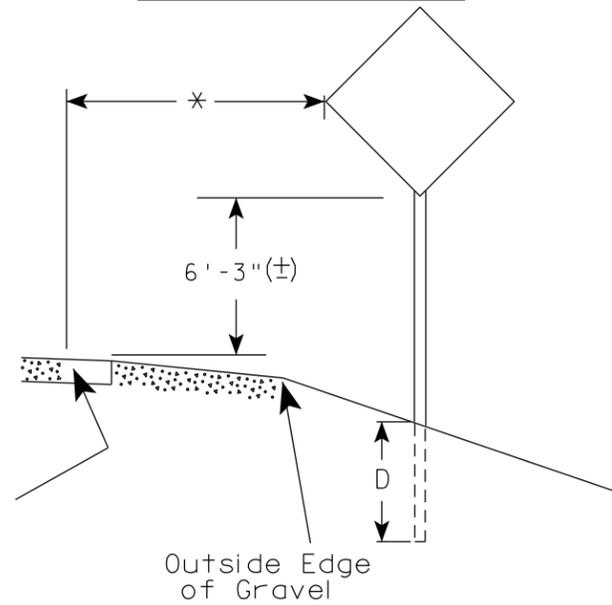
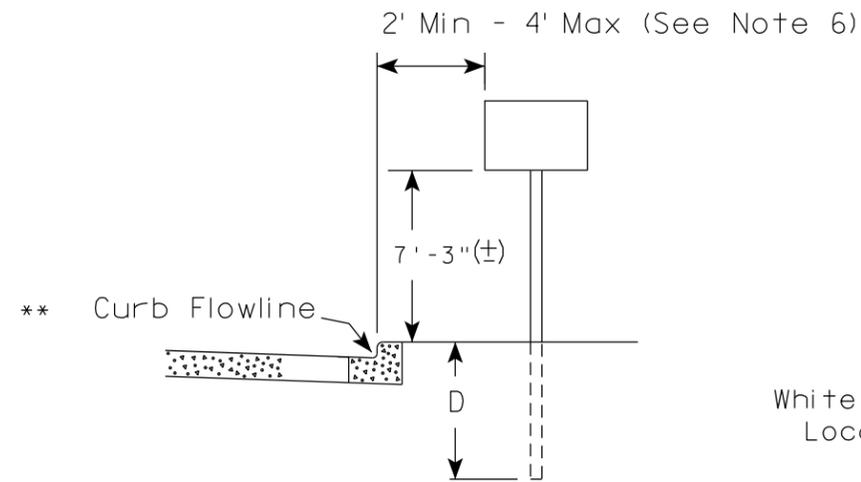
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED \_\_\_\_\_ /S/ Andrew Heidtke  
DATE July 2018 WORK ZONE ENGINEER

FHWA

URBAN AREA

RURAL AREA (See Note 2)



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 directed by the 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.

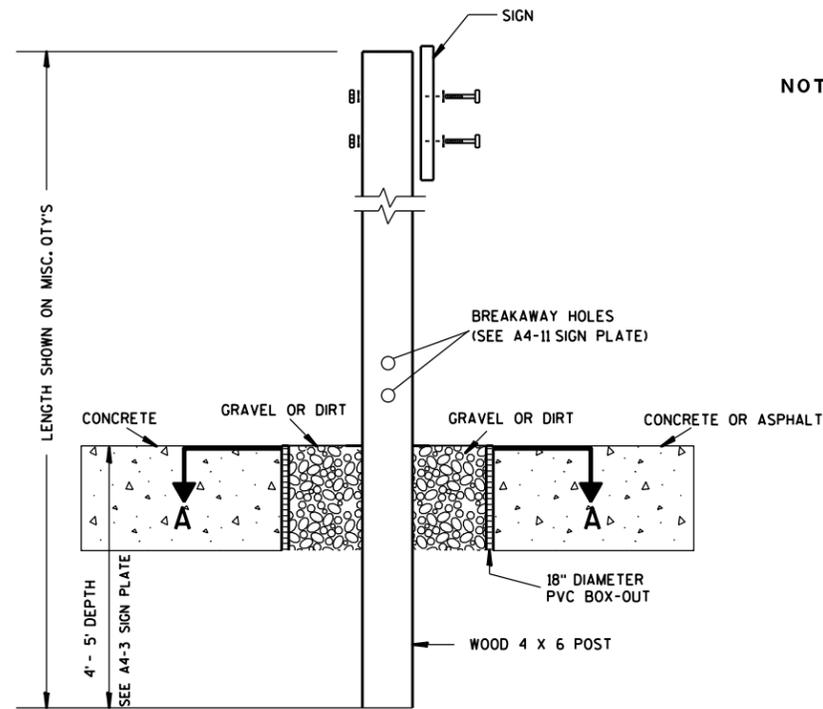
\* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

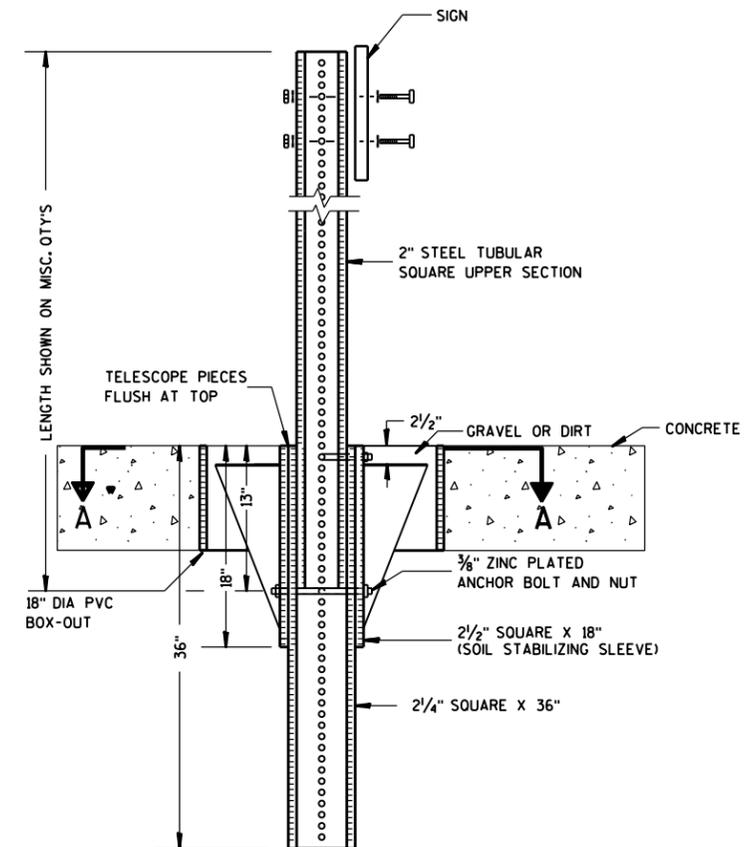
DATE 5/13/2020 PLATE NO. A4-3.22



**ELEVATION VIEW**

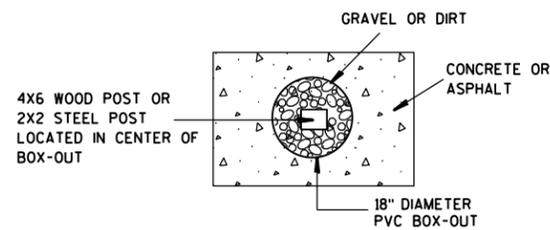
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

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



**ELEVATION VIEW**

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



**PLAN VIEW**

**FOR NEW CONCRETE/ ASPHALT INSTALLATIONS**

**SIGN POST  
BOX-OUTS  
A4-3B**

WISCONSIN DEPT OF TRANSPORTATION

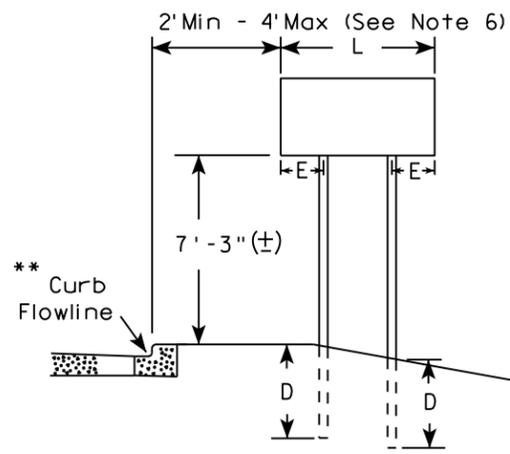
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

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

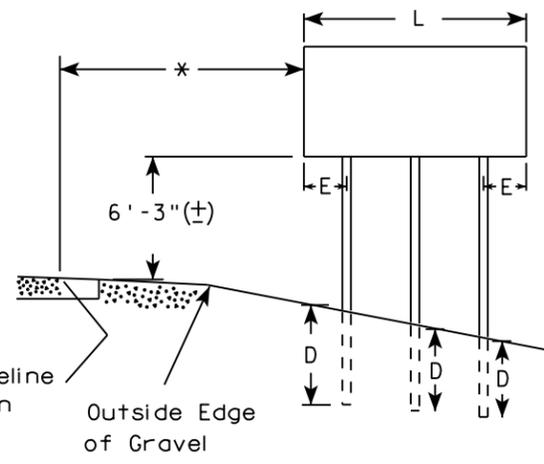
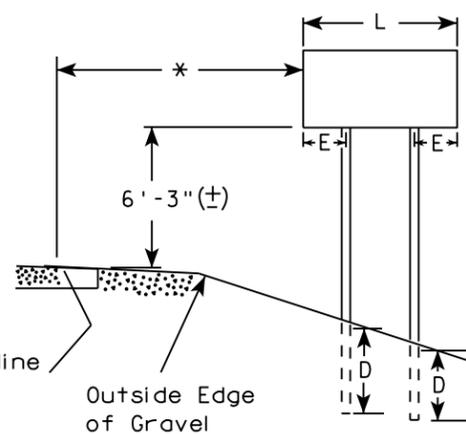
GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

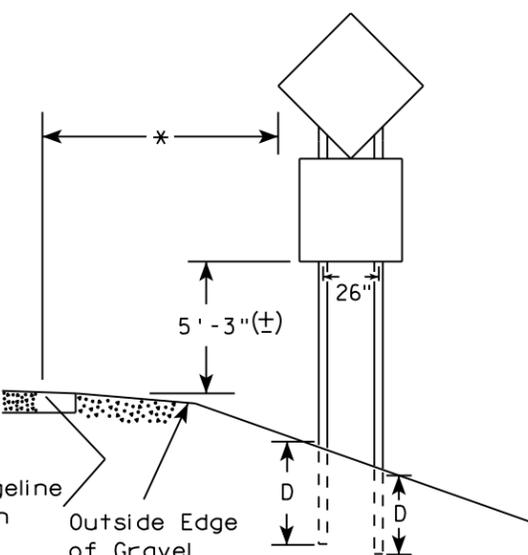
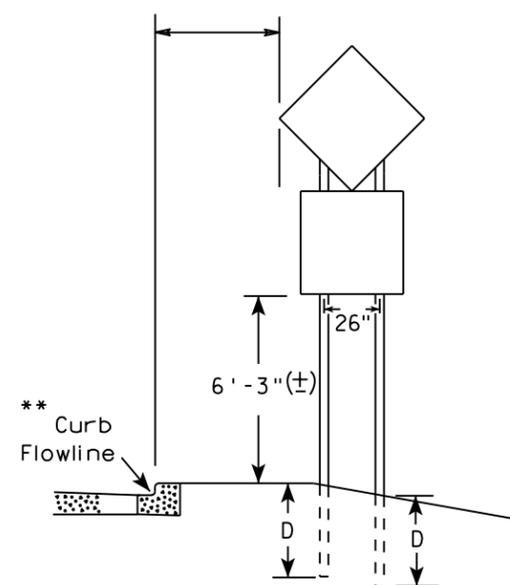
URBAN AREA



RURAL AREA (See Note 3)



URBAN AREA



48" DIAMOND WARNING SIGN

48" DIAMOND WARNING SIGN

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

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

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

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

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

POST EMBEDMENT DEPTH

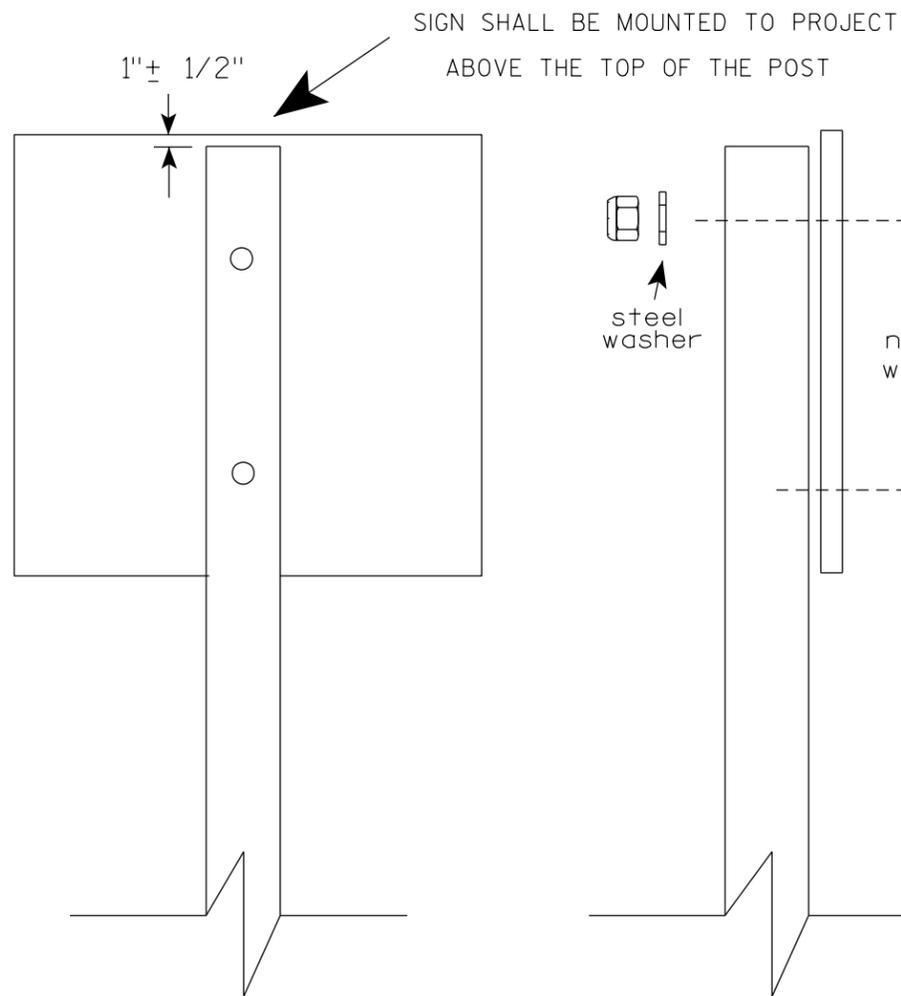
Area of Sign Installation ( Sq. Ft. )	D ( Min )
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

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



SIGN SHALL BE MOUNTED TO PROJECT  
ABOVE THE TOP OF THE POST

1"± 1/2"

steel washer

nylon washer

steel washer

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

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

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

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

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

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

ATTACHMENT OF SIGNS  
TO POSTS

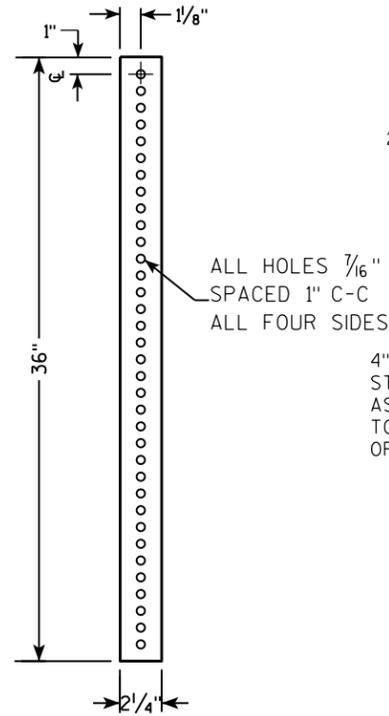
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*  
For State Traffic Engineer

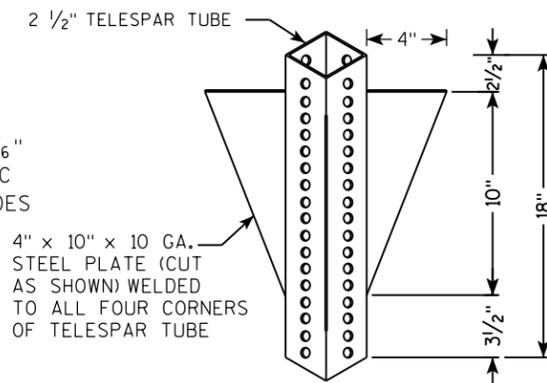
DATE 4/1/2020 PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM**

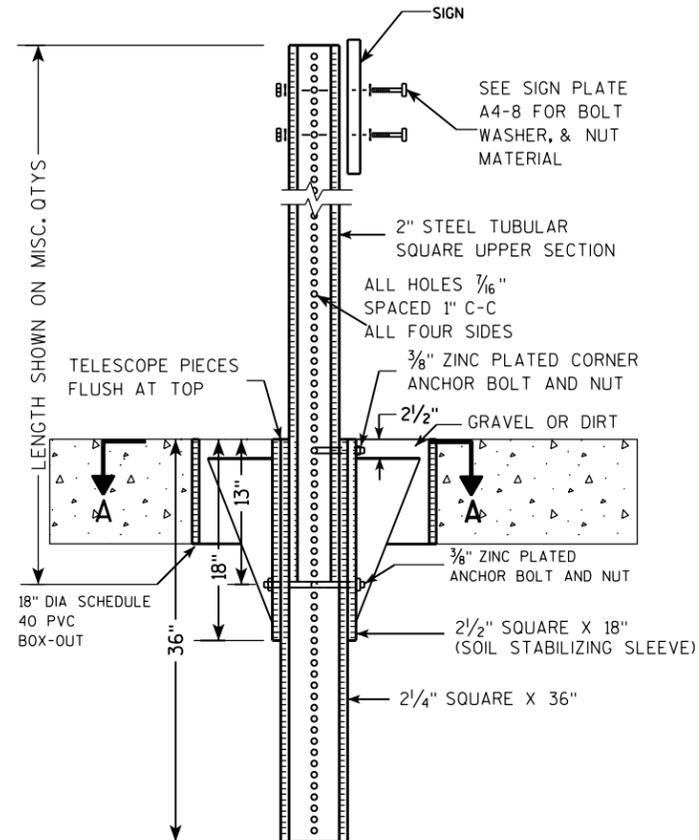
**2 1/4" SQUARE  
12 GAUGE  
PERFORATED  
GALVANIZED FINISH**



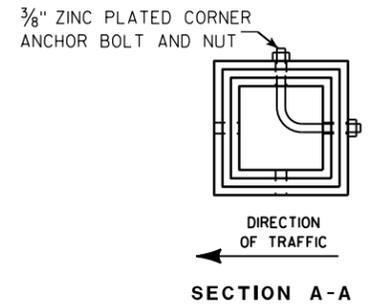
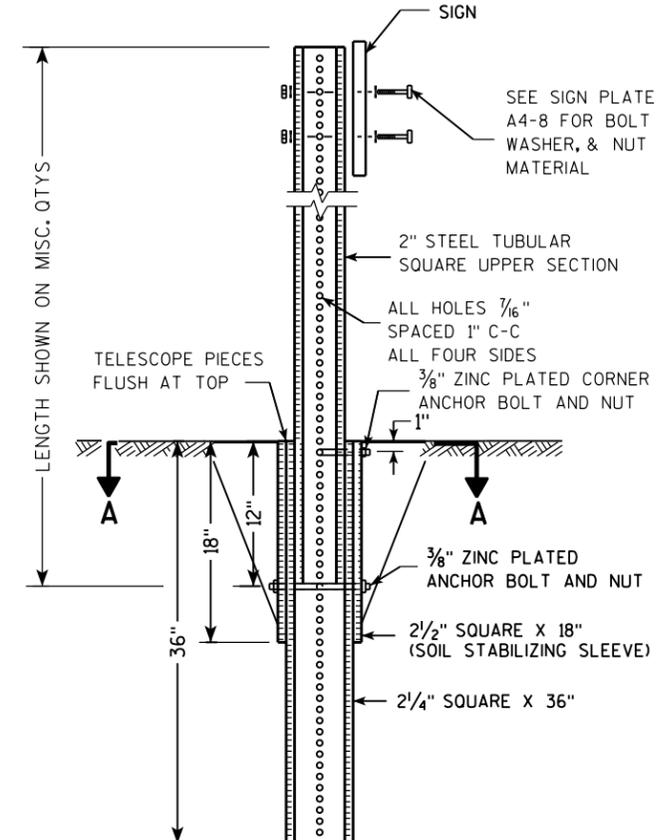
**2 1/2" SQUARE  
12 GAUGE  
OMNI-DIRECTIONAL  
PERFORATED  
SOIL STABILIZING SLEEVE  
GALVANIZED FINISH**



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



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



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

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

**TUBULAR STEEL  
SIGN POST  
A4-9**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

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

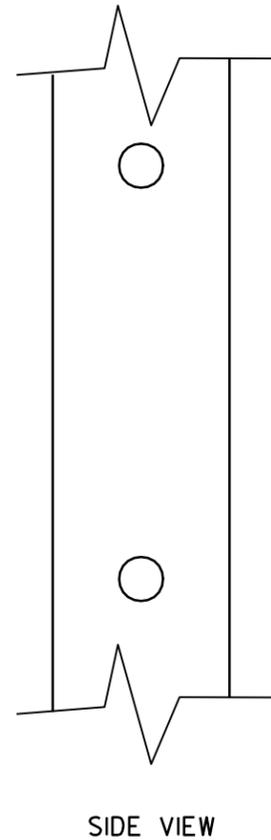
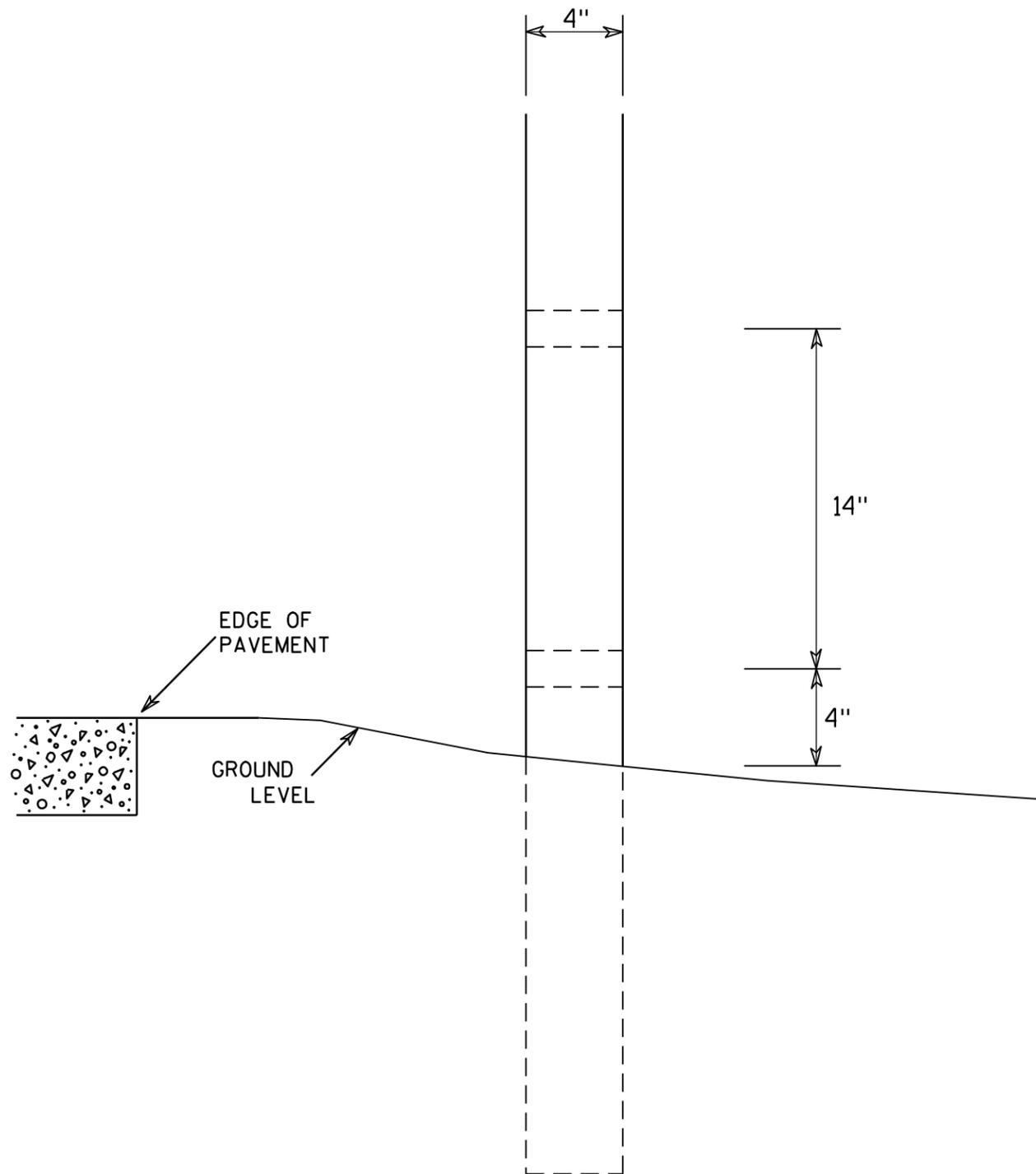
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



GENERAL NOTES

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

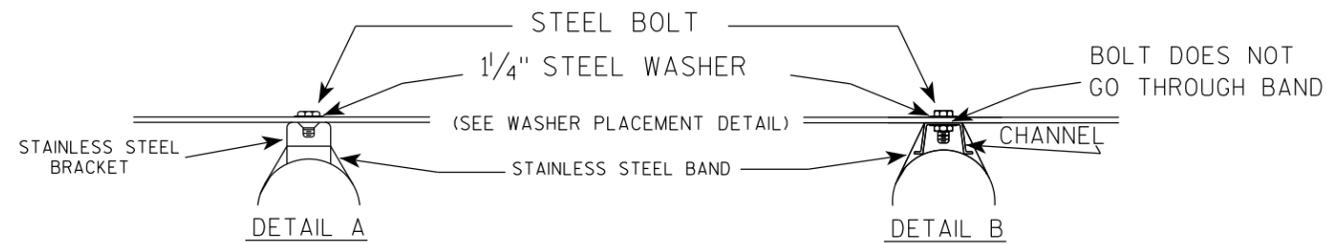
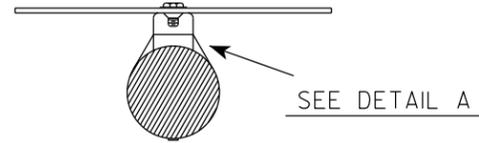
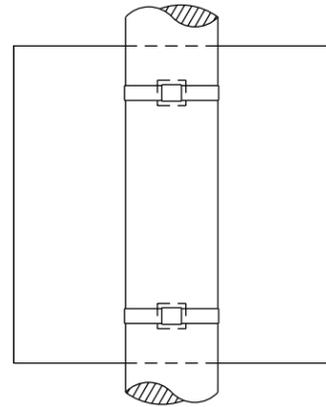
7

7

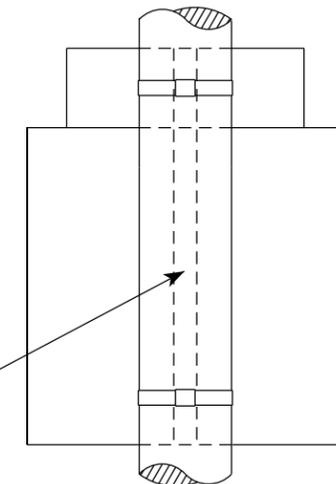
<b>4 X 6 WOOD POST MODIFICATIONS</b>	
<i>WISCONSIN DEPT OF TRANSPORTATION</i>	
APPROVED	<i>Chester J Spang</i> for State Traffic Engineer
DATE <u>3/27/97</u>	PLATE NO. <u>A4-11.2</u>

# BANDING

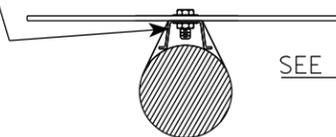
SINGLE SIGN



"J" ASSEMBLY

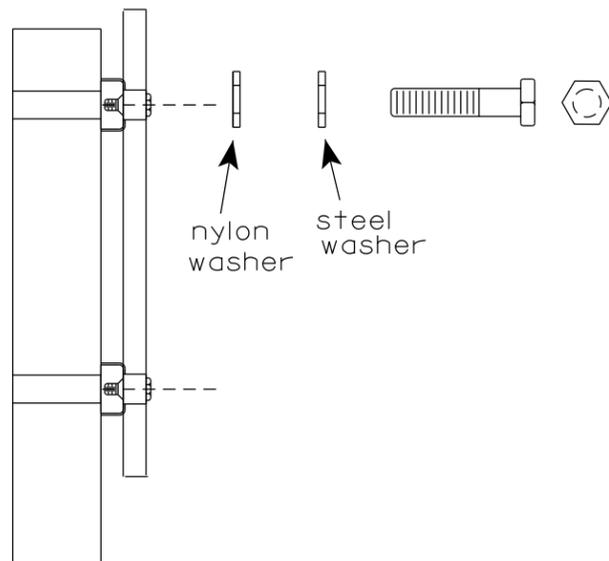


CHANNEL  
SEE TYPICAL PANEL  
INSTALLATION SHEET



- GENERAL NOTES**
1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
  2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
  3. Banding and assembly bracket shall be stainless steel. All bands shall be  $\frac{3}{4}$ " in width and 0.025" thickness.
  4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
    - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
    - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

WASHER PLACEMENT



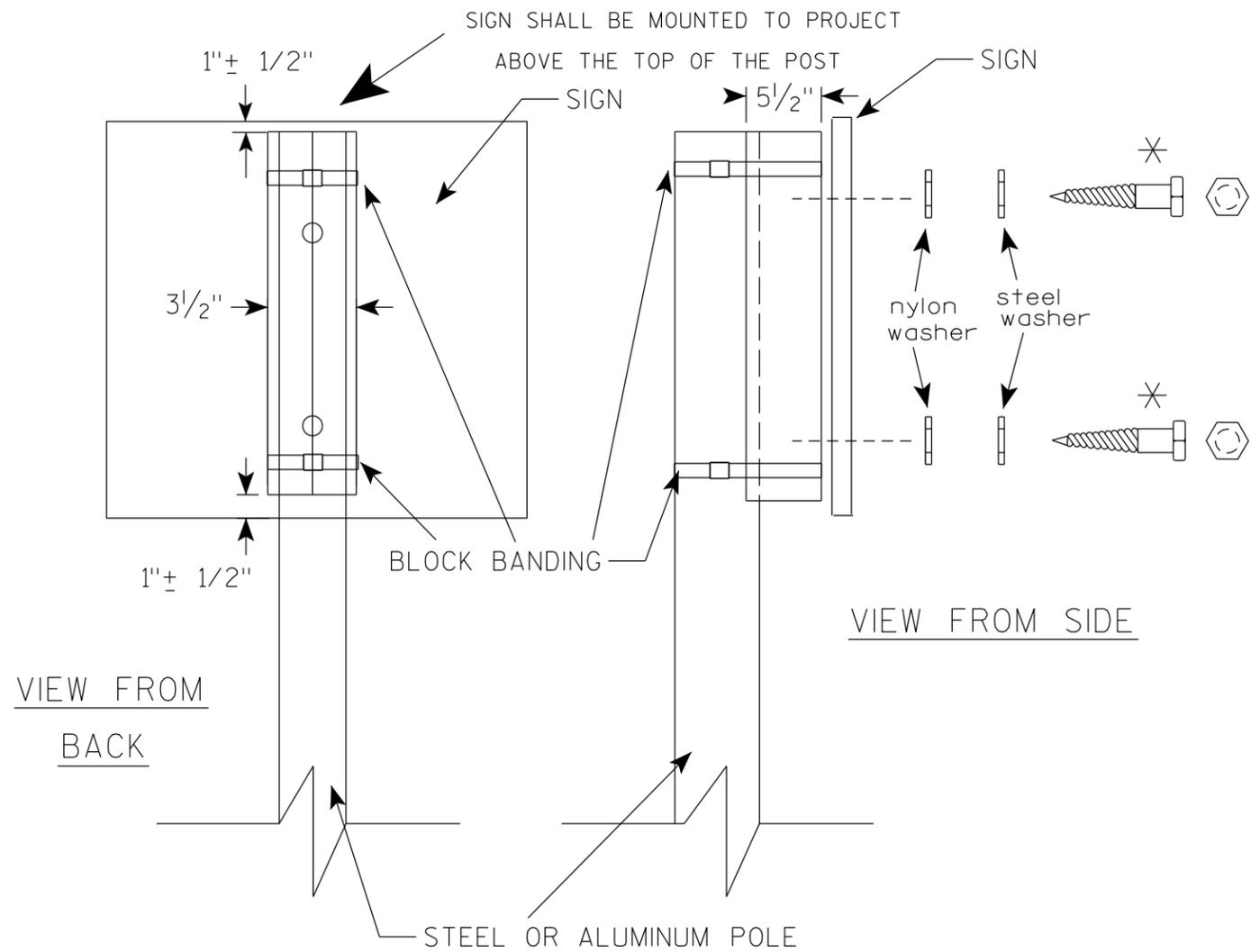
WASHERS (ALL POSTS) -  
 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL  
 1-1/4" O.D. X 3/8" I.D. X .080 NYLON  
 FOR ALL TYPE H SIGNS

STANDARD SIGN  
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

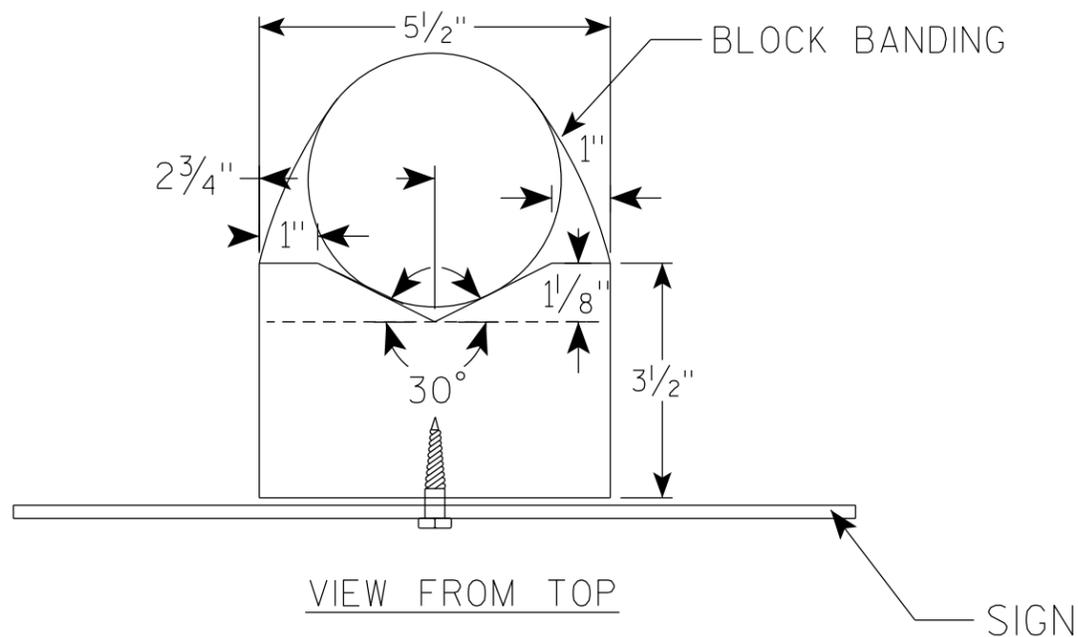
DATE 6/10/19 PLATE NO. A5-9.4



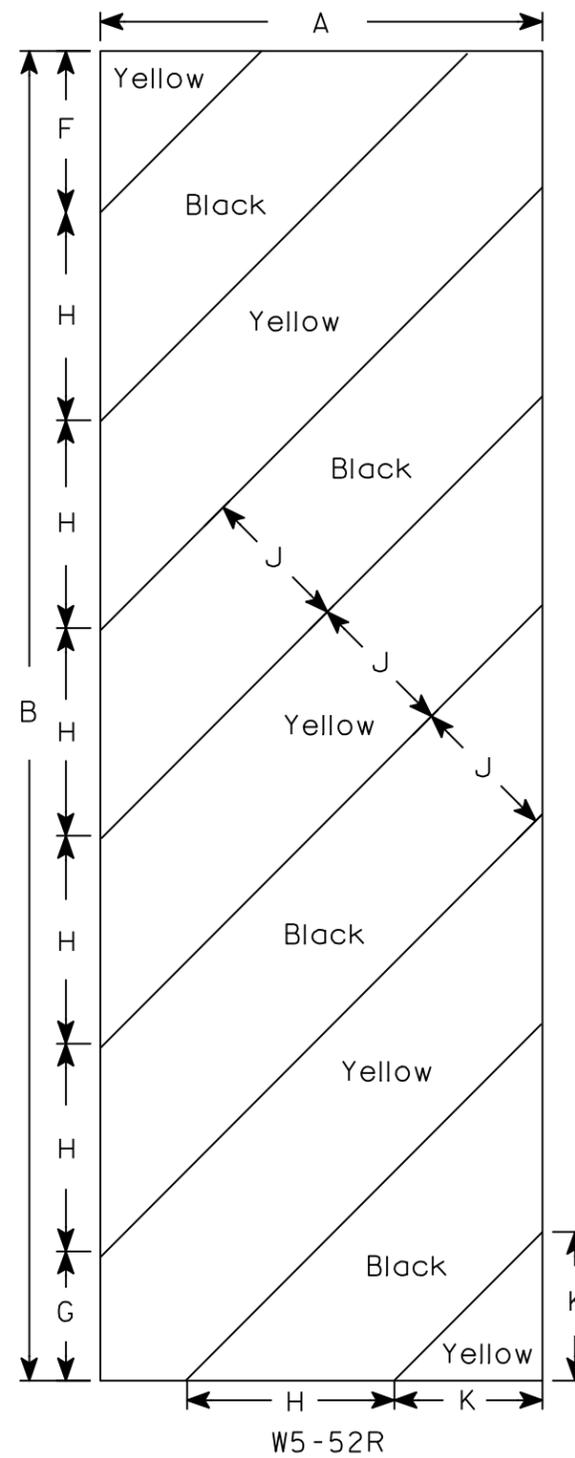
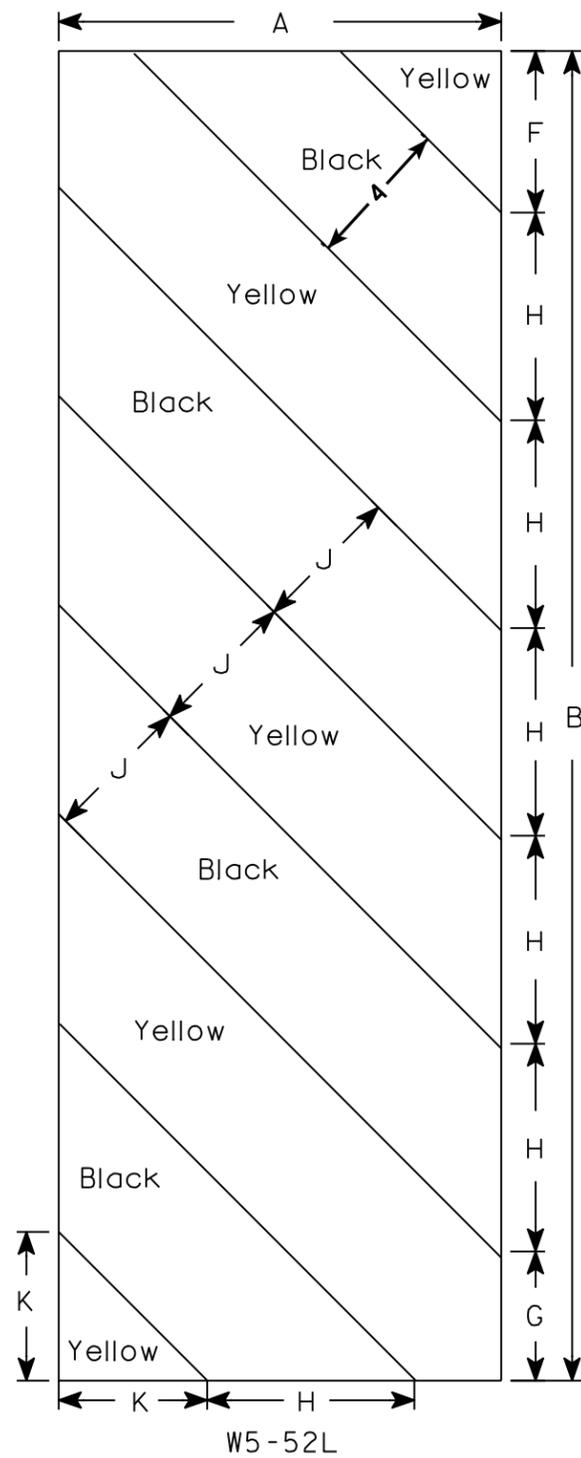
GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, 3/4" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
  - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1/4" O.D. X 3/8" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1/4" O.D. X 3/8" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE 3/8" X 2 1/2"



BLOCK BANDING DETAIL ( V-BLOCK OPTION )	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> for State Traffic Engineer
DATE 6/10/19	PLATE NO. A5-10.2



NOTES

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

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN  
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

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

**DESIGN DATA**

LIVE LOAD:  
 DESIGN LOADING: HL-93  
 INVENTORY RATING FACTOR: RF = 1.24  
 OPERATING RATING FACTOR: RF = 1.61  
 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  $f'_c = 4,000$  P.S.I.  
 ALL OTHER  $f'_c = 3,500$  P.S.I.

BAR STEEL REINFORCEMENT:  
 GRADE 60  $f_y = 60,000$  P.S.I.

**FOUNDATION DATA**

ABUTMENTS TO BE SUPPORTED ON HP 10 X 42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 150 TONS \*\* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 45' LONG AT BOTH ABUTMENTS

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

**HYDRAULIC DATA**

**100 YEAR FREQUENCY**  
 $Q_{100} = 640$  C.F.S.  
 $VEL_{100} = 6.44$  F.P.S.  
 $HW_{100} = EL. 775.77$   
 WATERWAY AREA = 99.37 SQ. FT.  
 DRAINAGE AREA = 1.4 SQ. MI.  
 ROADWAY OVERTOPPING = N/A  
 SCOUR CRITICAL CODE = 5

**TRAFFIC VOLUME**

**HANSON BLUFF ROAD**  
 ADT = 48 (2021)  
 ADT = 52 (2041)  
 R.D.S. = 40 M.P.H.

**2 YEAR FREQUENCY**

$Q_2 = 118$  C.F.S.  
 $VEL_2 = 4.22$  F.P.S.  
 $HW_2 = EL. 771.63$

**BENCH MARK**

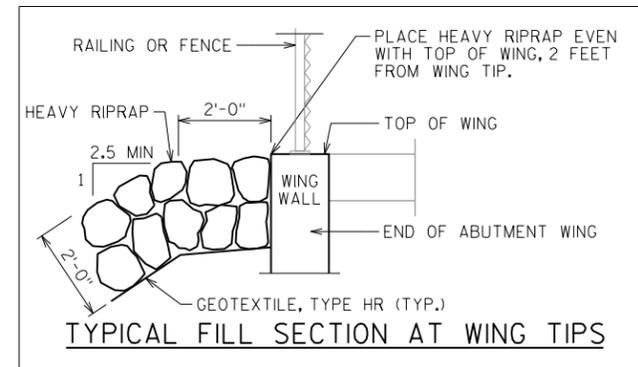
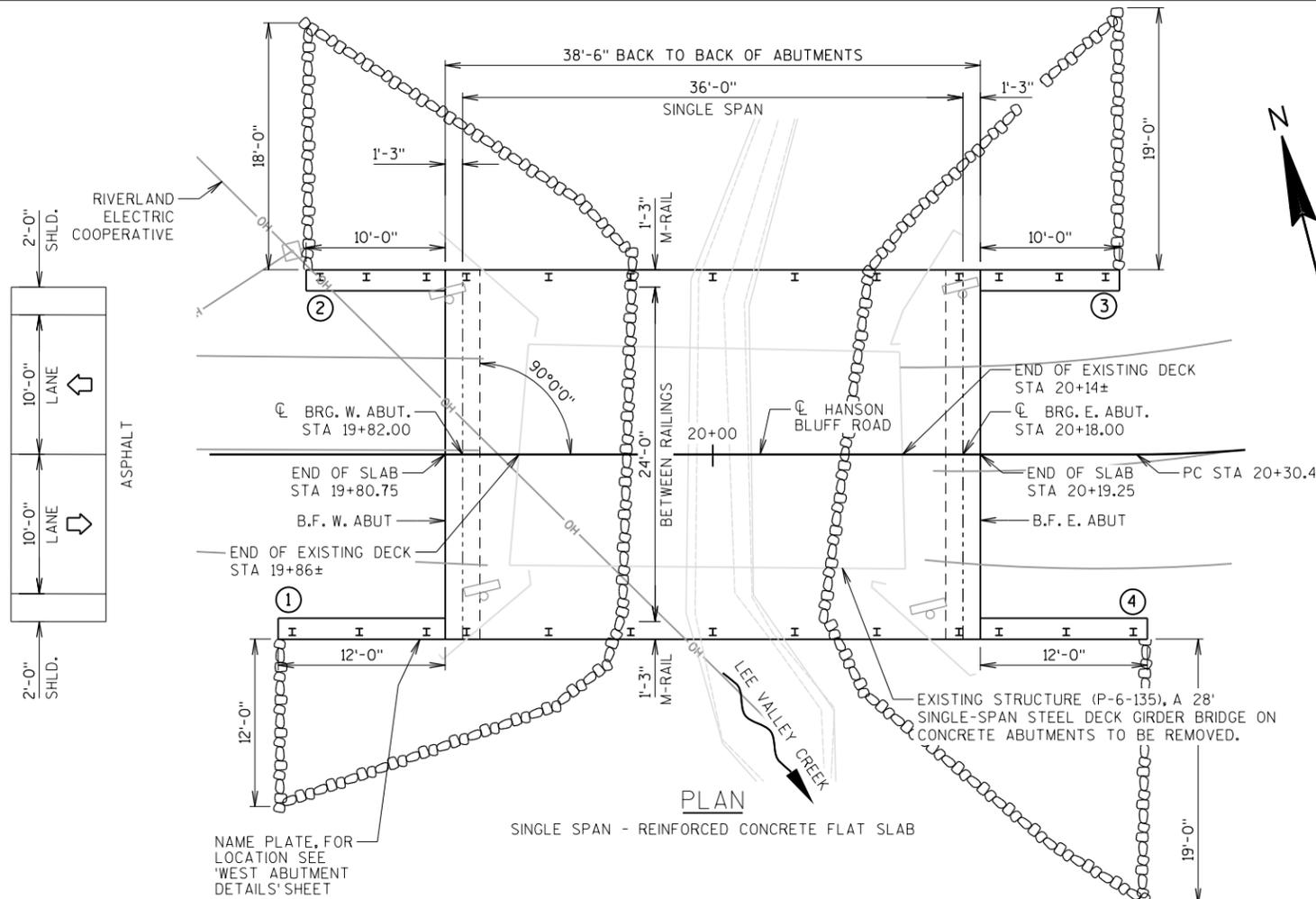
NO.	STATION	DESCRIPTION	ELEV.
BM1	17+00, 22'LT	60D NAIL IN WOOD FENCE POST	791.17
BM2	19+69, 14'LT	60D NAIL IN POWER POLE	779.19
BM3	20+93, 33'RT	60D NAIL IN 12" MAPLE TREE	781.09

**STRUCTURE DESIGN CONTACTS**

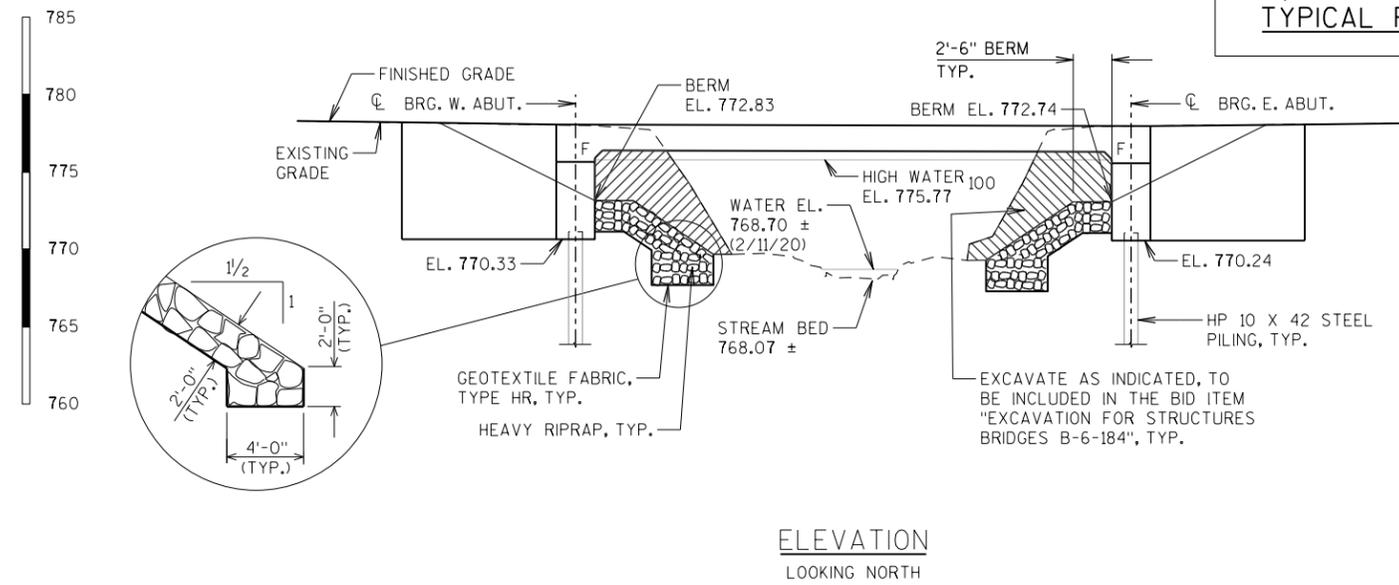
CONSULTANT: TIM BOROWSKI - (262) 337-1242  
 BRIDGE OFFICE: AARON BONK - (608) 261-0261

**LIST OF DRAWINGS**

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUTMENT DETAILS
6. EAST ABUTMENT
7. EAST ABUTMENT DETAILS
8. SUPERSTRUCTURE
9. SUPERSTRUCTURE DETAILS
10. TUBULAR STEEL RAILING TYPE 'M'



(X) INDICATES WING NUMBER



**ELEVATION**  
 LOOKING NORTH

NO.	DATE	REVISION	BY

**cbs<sup>2</sup> Engineers - Surveyors - Architects**  
 770 Technology Way  
 Chippewa Falls, WI 54729  
 Phone: 715.861.5226  
 www.cbsquaredinc.com

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

ACCEPTED *[Signature]* SDR **08/05/21**  
 CHIEF STRUCTURES DESIGN ENGINEER DATE

**STRUCTURE B-6-184**

HANSON BLUFF RD OVER LEE VALLEY CREEK

COUNTY BUFFALO TOWN/CITY/VILLAGE MODENA

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	TAB	DESIGN CK'D.	MJG	DRAWN BY	ALC	PLANS CK'D.	TAB
-------------	-----	--------------	-----	----------	-----	-------------	-----

**GENERAL PLAN** SHEET 1 OF 10

8

8

SCALE = 6:0

**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 3/4" UNLESS OTHERWISE NOTED.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE FABRIC HR TO THE LIMITS SHOWN ON SHEET 1 AND ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER.

AT THE BACK FACE 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.

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

● PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF SLAB SURFACES, VERTICAL SLAB EDGE AND EXTERIOR 1'-0" OF SLAB UNDERSIDE.

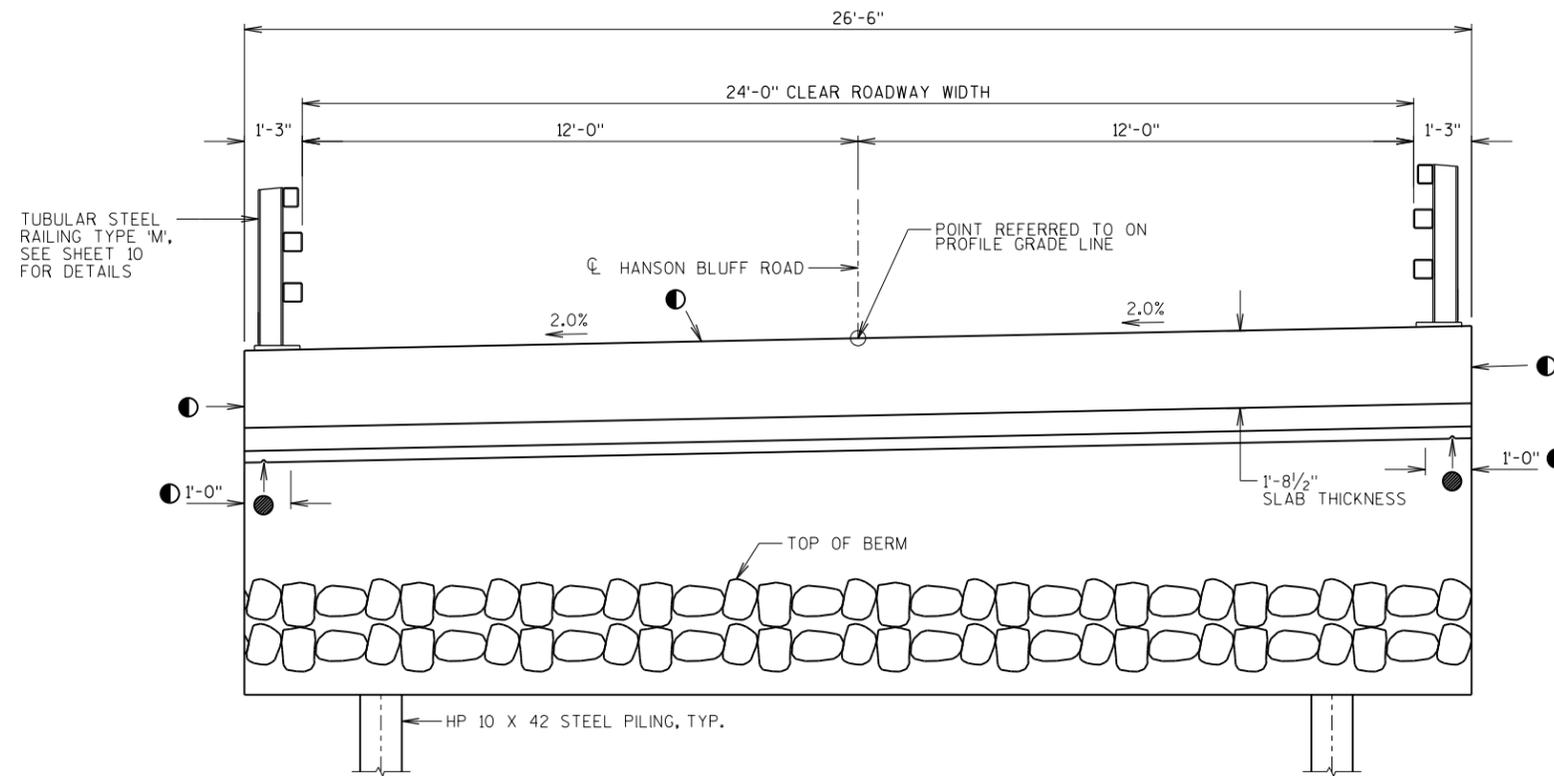
SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

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

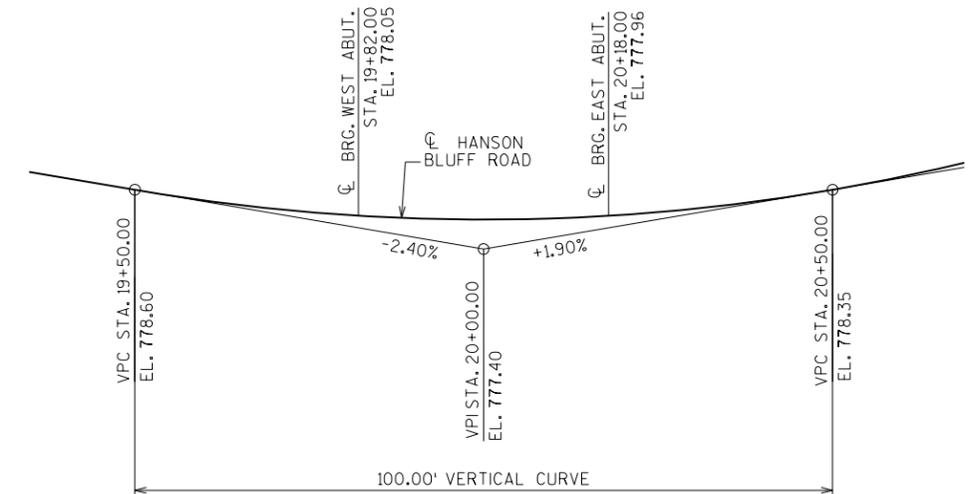
● 3/4" V-GROOVE, 5" FROM EDGE OF SLAB. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT.

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

SUBSURFACE MATERIAL NEAR THE BOTTOM OF THE SUBSTRUCTURES ARE SOFT AND SHOULD BE CONSIDERED ACCORDINGLY FOR EXCAVATION AND BACKFILL OPERATIONS.



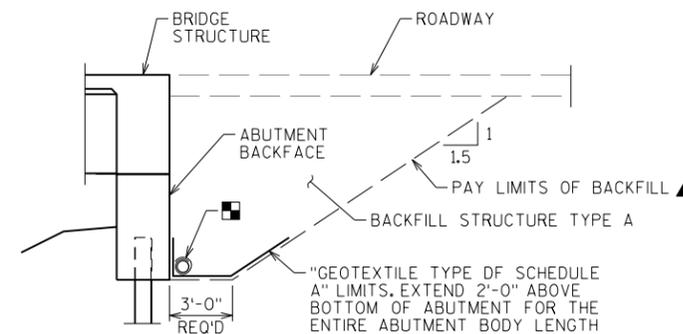
**CROSS SECTION THRU ROADWAY**  
LOOKING EAST



**PROFILE GRADE LINE HANSON BLUFF ROAD**

**TOTAL ESTIMATED QUANTITIES**

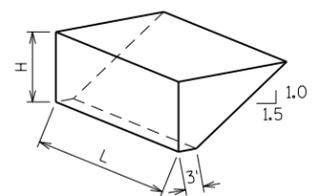
BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	WEST ABUT.	EAST ABUT.	TOTALS
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS P-6-135	EACH	—	—	—	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-6-184	LS	—	—	—	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	—	100	100	200
502.0100	CONCRETE MASONRY BRIDGES	CY	69	30	30	129
502.3200	PROTECTIVE SURFACE TREATMENT	SY	136	—	—	136
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	—	1620	1620	3240
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	12325	1530	1530	15385
513.4061	RAILING TUBULAR TYPE M	LF	77	25	25	127
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	—	9	9	18
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	—	180	180	360
606.0300	RIPRAP HEAVY	CY	—	75	67	142
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	—	65	65	130
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	—	25	25	50
645.0120	GEOTEXTILE TYPE HR	SY	—	115	100	215
SPV.0090	FLASHING STAINLESS STEEL	LF	67	—	—	67
	NON-BID ITEMS					
	FILLER	SIZE	—	—	—	1/2", 3/4"



**TYPICAL SECTION THRU 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.



**ABUTMENT BACKFILL DIAGRAM FOR WINGS PARALLEL TO ROADWAY**

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)  
 $V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)$   
 $V_{CY} = V_{CF} (EF)/27$   
 $V_{TON} = V_{CY} (2.0)$

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-6-184</b>			
DRAWN BY		ALC	PLANS CK'D. TAB
<b>CROSS SECTION &amp; QUANTITIES</b>			SHEET 2 OF 10

8

8

SOIL BORINGS

BY: INTERTEK PSI  
EAU CLAIRE, WI

ON: JANUARY 22, 2020

GEOTECHNICAL REPORT

BY: INTERTEK PSI  
EAU CLAIRE, WI

ON: JULY 10, 2020

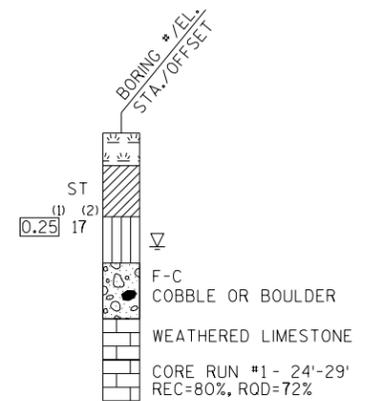
STATE PROJECT NUMBER

7234-00-70

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

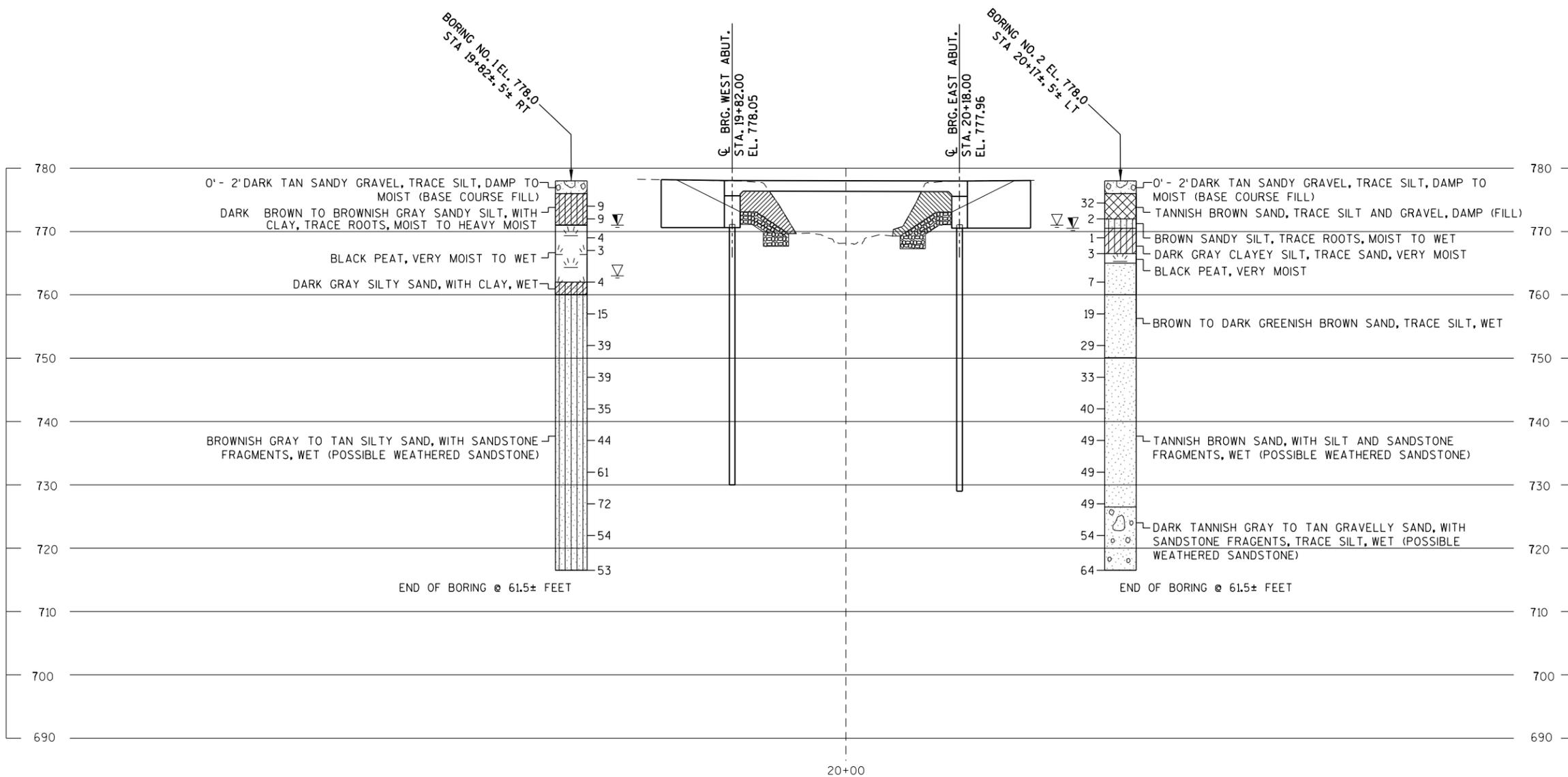
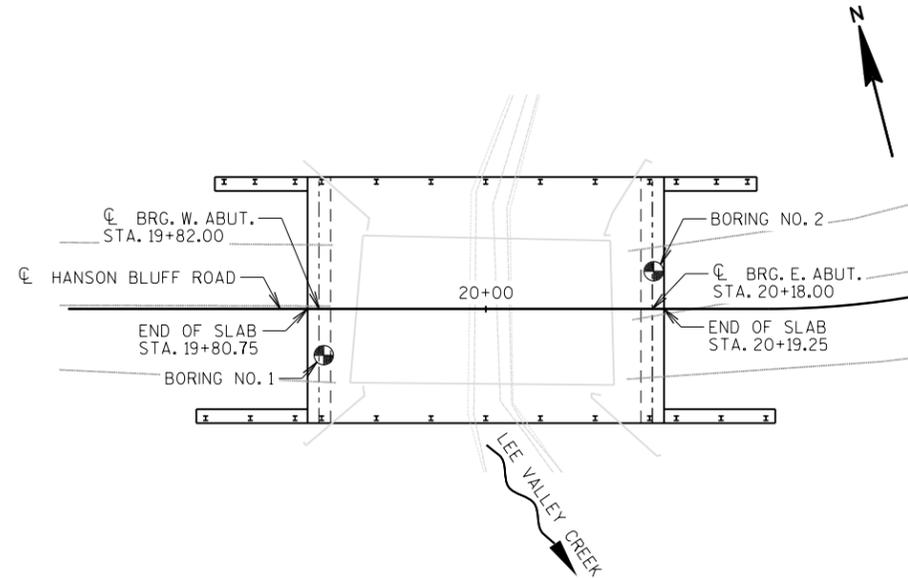
- ▽ AT TIME OF DRILLING
- ▽ END OF DRILLING
- ▽ AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

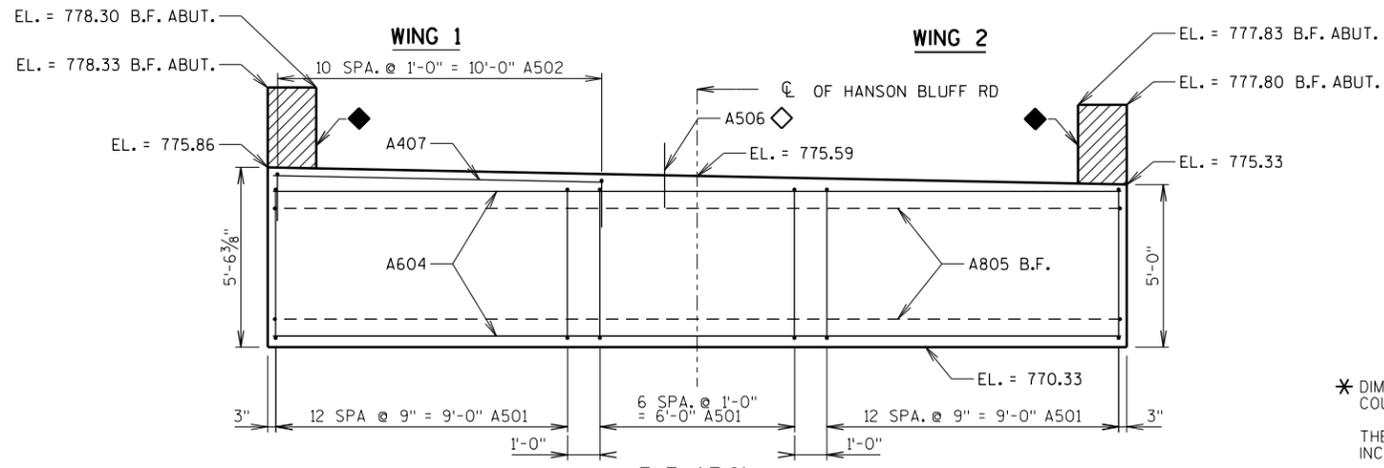


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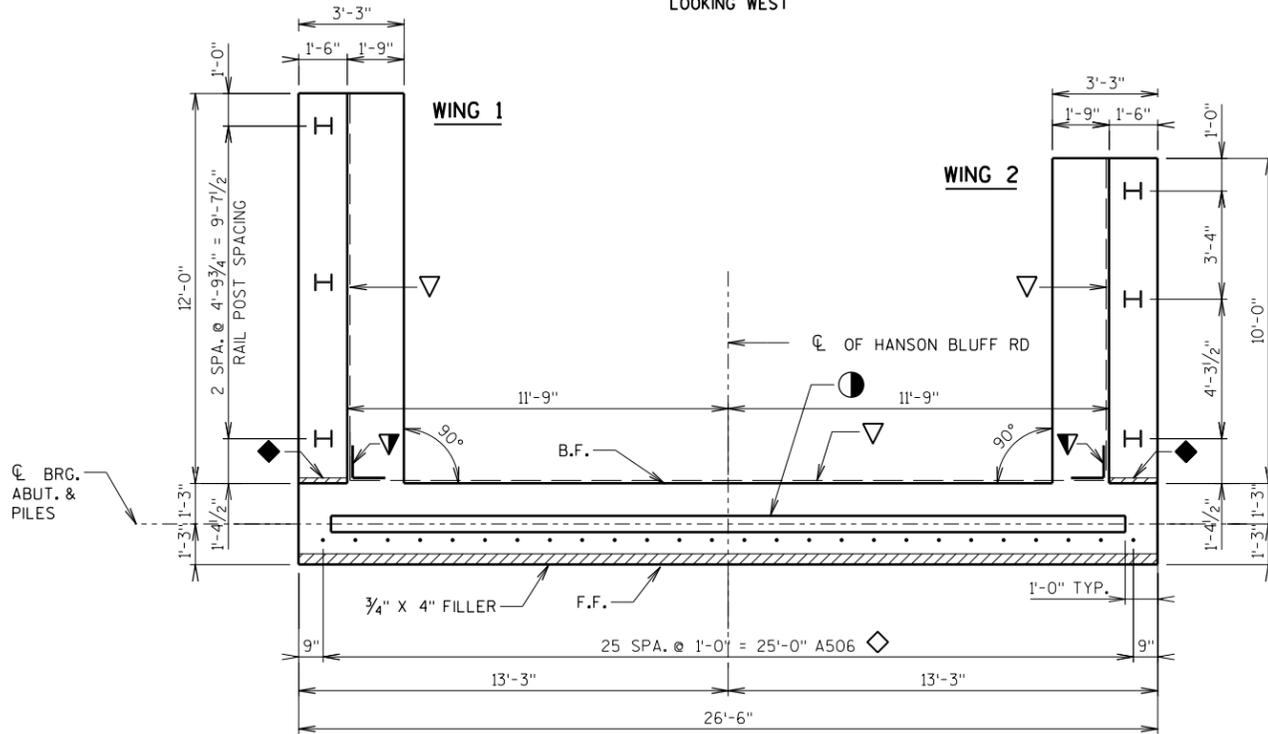
8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-6-184			
DRAWN BY		TAB	PLANS CK'D. WCD
SUBSURFACE EXPLORATION			SHEET 3 OF 10

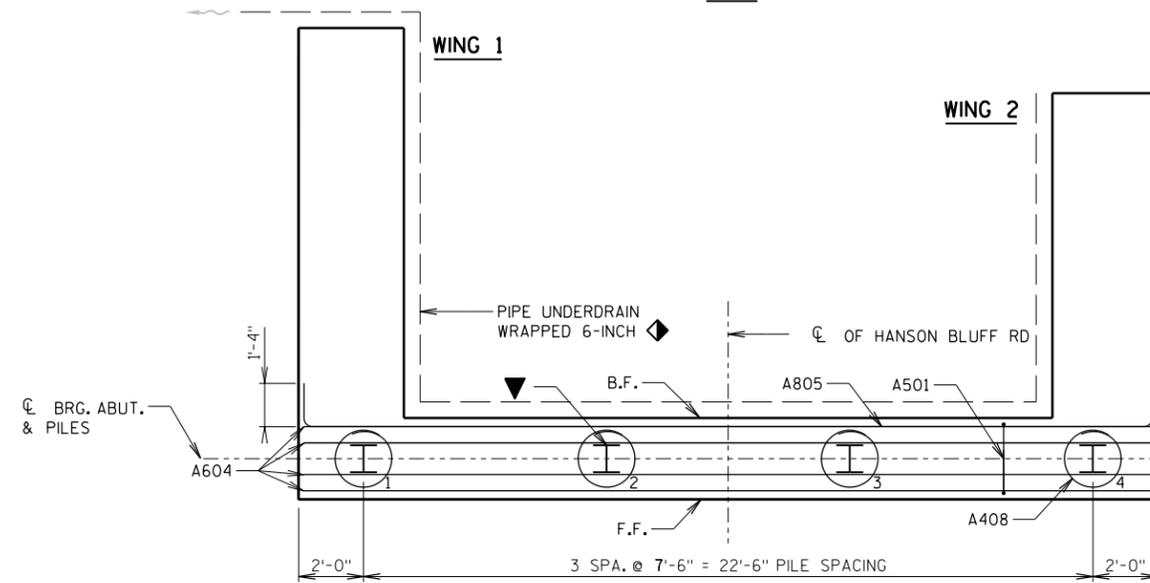
SCALE = 10



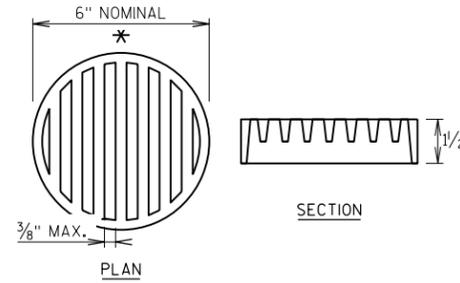
ELEVATION  
LOOKING WEST



PLAN



PILE LAYOUT



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.

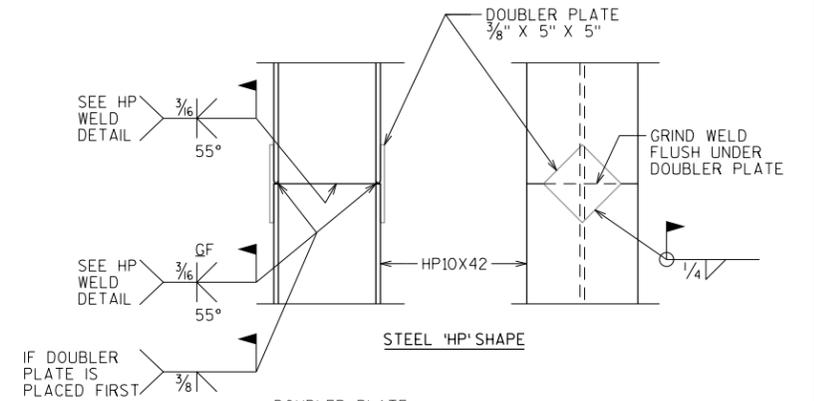
LEGEND

- KEYED CONST. JOINT FORMED BY BEVELED 2" x 6".
- ◆ 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. 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.
- ▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL JOINTS ON BACKFACE.
- ▽ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.
- ◇ THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INITIAL SET HAS TAKEN PLACE.
- ◆ PIPE UNDERDRAIN WRAPPED (6-INCH). TO BE PLACED AT AN ELEVATION AND SLOPED 0.5% MIN. TO ALLOW FOR SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.
- ▽ HP10X42 STEEL PILING ESTIMATED 45' LONG DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 150 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.

E.F. DENOTES EACH FACE

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

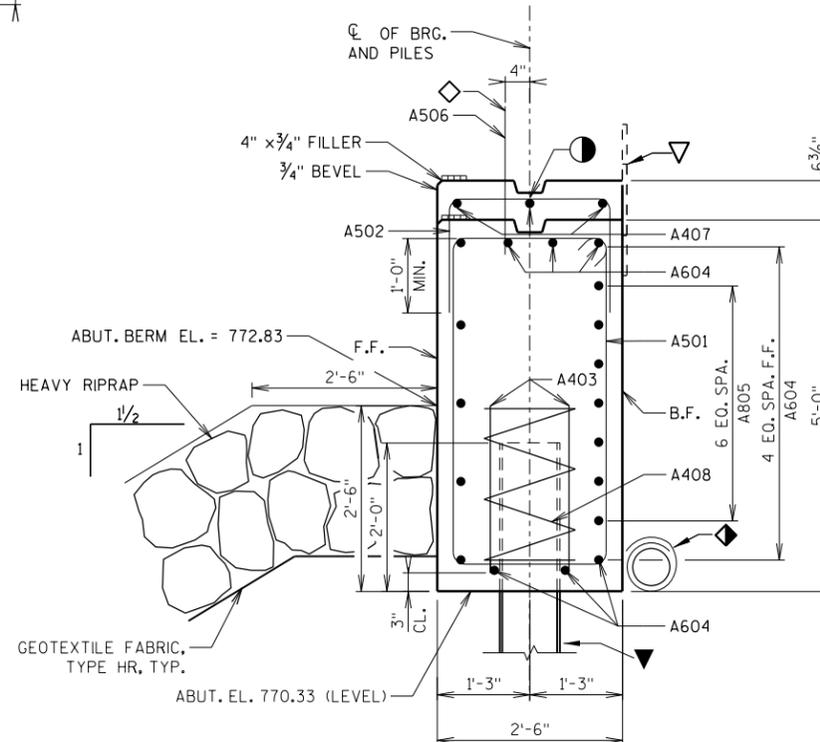


STEEL 'HP' SHAPE

DOUBLER PLATE AT FLANGE

IF DOUBLER PLATE IS PLACED FIRST

HP WELD DETAIL  
FLANGE SHOWN, WEB SIMILAR



TYPICAL SECTION THRU ABUT. BODY

PILE DETAILS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-6-184			
DRAWN BY		ALC	PLANS CK'D. TAB
WEST ABUTMENT			SHEET 4 OF 10

8

8

**LEGEND**

- ▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL JOINTS ON BACKFACE.
- OPT. KEYED CONST. JOINT FORMED BY BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE.
- ◆ 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. 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.

E.F. DENOTES EACH FACE

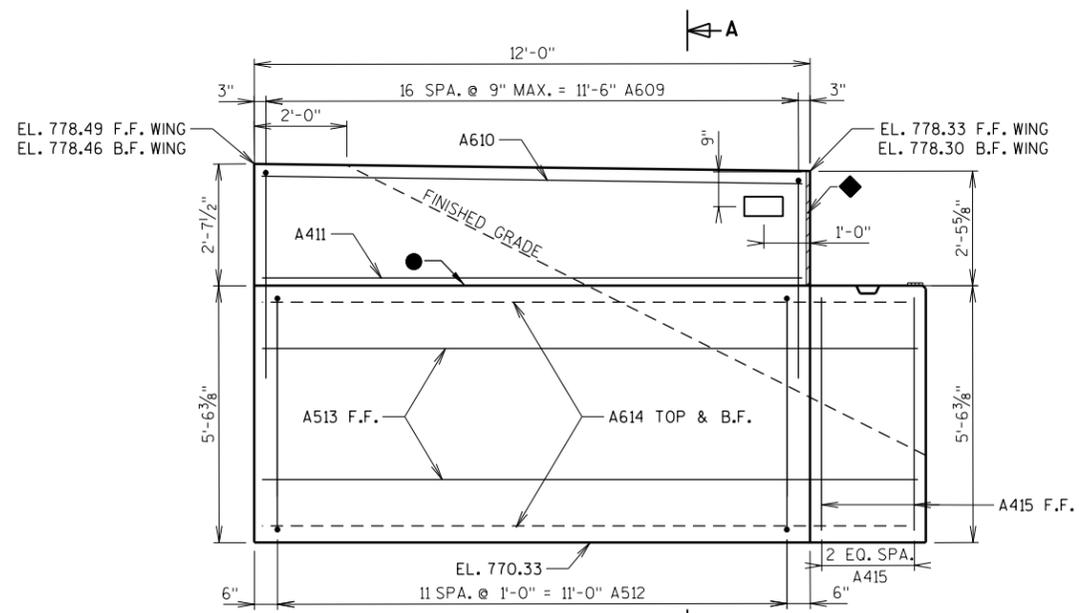
B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

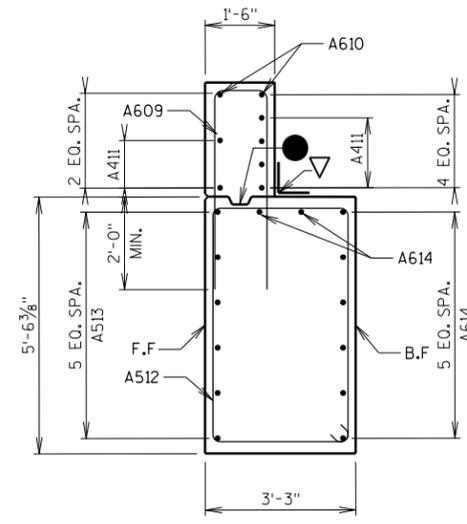
**BILL OF BARS - WEST ABUTMENT**

MARK	NO. REQ'D	LENGTH	COAT	BENT	LOCATION
A501	33	14 - 0		X	BODY STIRRUP
A502	11	5 - 1		X	BODY VERT. TOP
A403	8	2 - 3			BODY VERT. (2 PER PILE)
A604	11	26 - 2			BODY HORIZ. F.F., TOP, & BOT.
A805	7	28 - 5		X	BODY HORIZ. B.F.
A506	26	2 - 0	X		BODY DOWELS
A407	3	10 - 0			BODY HORIZ. TOP
A408	4	28 - 0	X	X	BODY (1 PER PILE)
A609	17	9 - 11	X	X	WING 1 VERT. TOP
A610	2	11 - 8	X		WING 1 HORIZ. TOP
A411	6	11 - 8	X		WING 1 HORIZ. E.F.
A512	12	16 - 6	X	X	WING 1 STIRRUP
A513	6	14 - 2	X		WING 1 HORIZ. F.F.
A614	8	13 - 11	X		WING 1 HORIZ. TOP & B.F.
A415	3	5 - 0	X		WING 1 VERT. F.F.
A616	14	9 - 11	X	X	WING 2 VERT. TOP
A617	2	9 - 8	X		WING 2 HORIZ. TOP
A418	6	9 - 8	X		WING 2 HORIZ. E.F.
A519	10	15 - 6	X	X	WING 2 STIRRUP
A520	6	12 - 2	X		WING 2 HORIZ. F.F.
A621	8	11 - 11	X		WING 2 HORIZ. TOP & B.F.
A422	3	4 - 6	X		WING 2 VERT. F.F.

TOTAL WEIGHT - COATED	1530 LBS
TOTAL WEIGHT - UNCOATED	1620 LBS

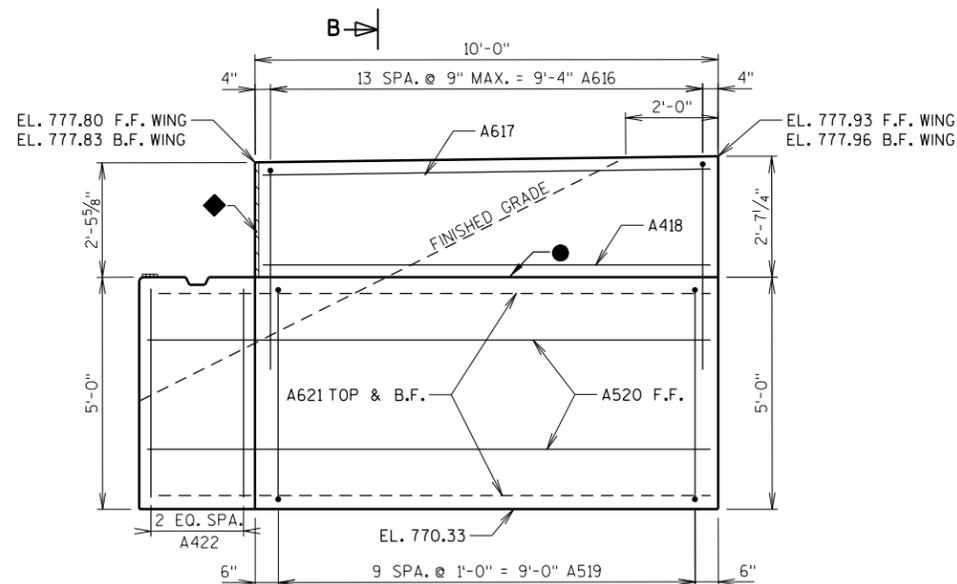


**ELEVATION - WING 1**  
LOOKING NORTH

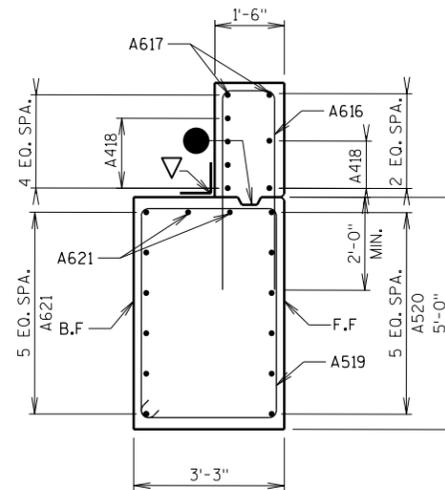


**SECTION A**

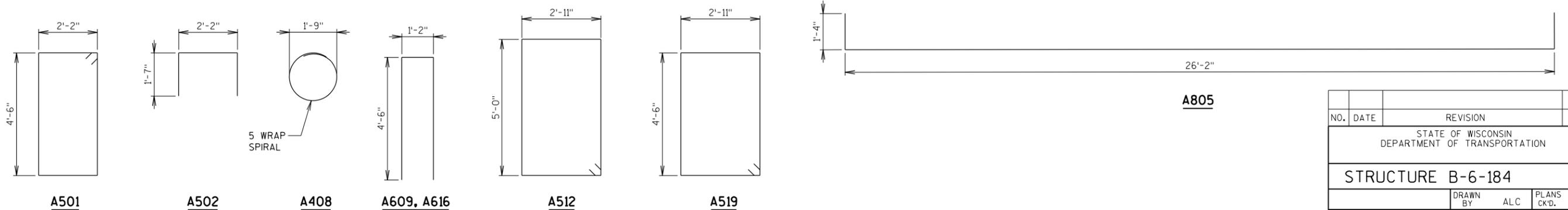
NOTE: RAIL POST ANCHORAGE TO BE PLACED IN WINGS PRIOR TO POURING CONCRETE. SEE SHEETS 4 & 10 FOR SPACING AND DETAILS.



**ELEVATION - WING 2**  
LOOKING SOUTH



**SECTION B**



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-6-184</b>			
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<b>WEST ABUTMENT DETAILS</b>			SHEET 5 OF 10

8

8



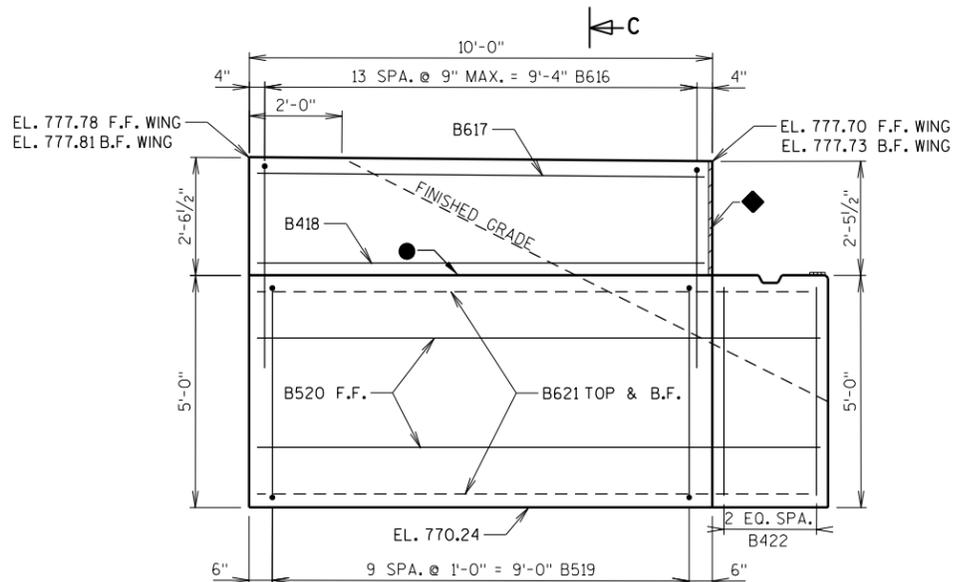
**LEGEND**

- ▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL JOINTS ON BACKFACE.
- OPT. KEYED CONST. JOINT FORMED BY BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE.
- ◆ 1/2" FILLER (INCLUDED IN WING LENGTH); SEAL ALL EXPOSED HORIZ. & VERT. 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.

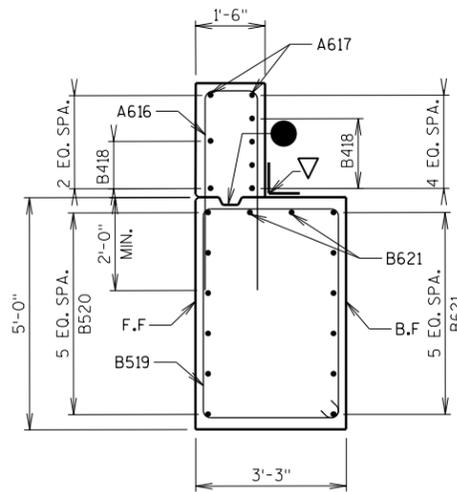
E.F. DENOTES EACH FACE

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE



**ELEVATION - WING 3**  
LOOKING SOUTH



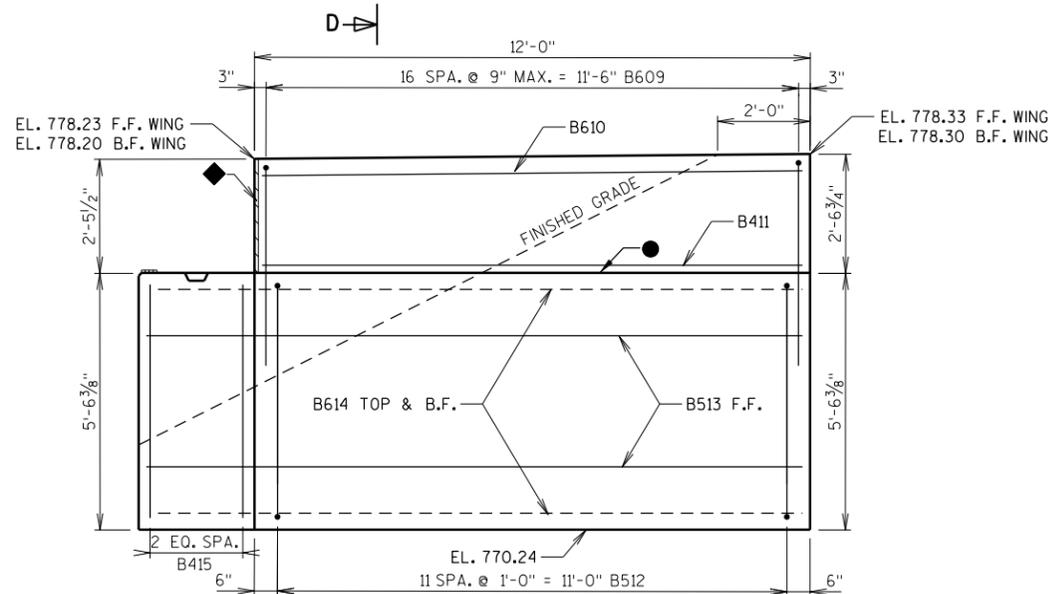
**SECTION C**

NOTE: RAIL POST ANCHORAGE TO BE PLACED IN WINGS PRIOR TO POURING CONCRETE. SEE SHEETS 6 & 10 FOR SPACING AND DETAILS.

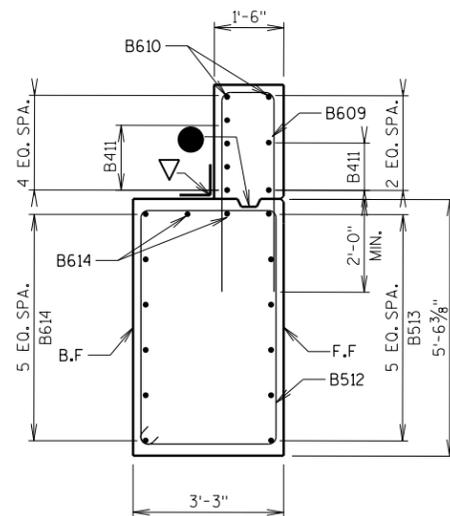
**BILL OF BARS - EAST ABUTMENT**

MARK	NO.	REQ'D	LENGTH	COAT	BENT	LOCATION
B501	33		14 - 0		X	BODY STIRRUP
B502	11		5 - 1		X	BODY VERT. TOP
B403	8		2 - 3			BODY VERT. (2 PER PILE)
B604	11		26 - 2			BODY HORIZ. F.F., TOP, & BOT.
B805	7		28 - 5		X	BODY HORIZ. B.F.
B506	26		2 - 0	X		BODY DOWELS
B407	3		10 - 0			BODY HORIZ. TOP
B408	4		28 - 0	X		BODY (1 PER PILE)
B609	17		9 - 11	X	X	WING 4 VERT. TOP
B610	2		11 - 8	X		WING 4 HORIZ. TOP
B411	6		11 - 8	X		WING 4 HORIZ. E.F.
B512	12		16 - 6	X	X	WING 4 STIRRUP
B513	6		14 - 2	X		WING 4 HORIZ. F.F.
B614	8		13 - 11	X		WING 4 HORIZ. TOP & B.F.
B415	3		5 - 0	X		WING 4 VERT. F.F.
B616	14		9 - 11	X	X	WING 3 VERT. TOP
B617	2		9 - 8	X		WING 3 HORIZ. TOP
B418	6		9 - 8	X		WING 3 HORIZ. E.F.
B519	10		15 - 6	X	X	WING 3 STIRRUP
B520	6		12 - 2	X		WING 3 HORIZ. F.F.
B621	8		11 - 11	X		WING 3 HORIZ. TOP & B.F.
B422	3		4 - 6	X		WING 3 VERT. F.F.

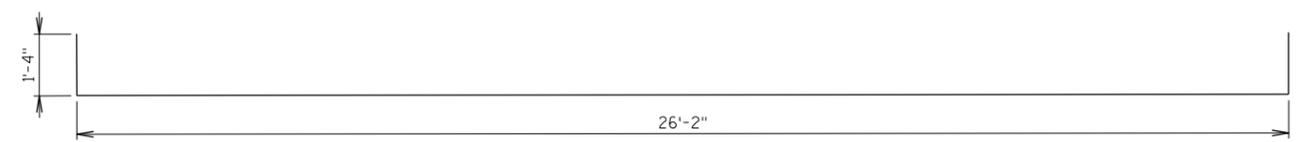
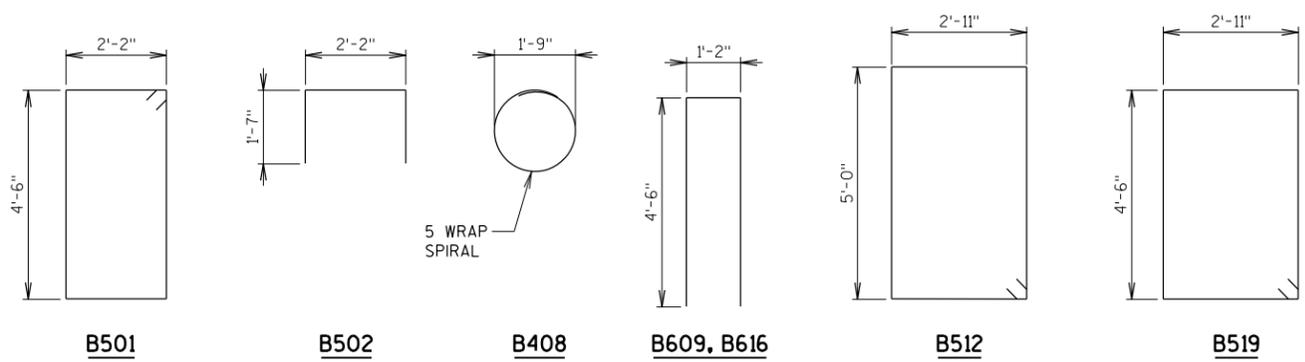
TOTAL WEIGHT - COATED	1530 LBS
TOTAL WEIGHT - UNCOATED	1620 LBS



**ELEVATION - WING 4**  
LOOKING NORTH

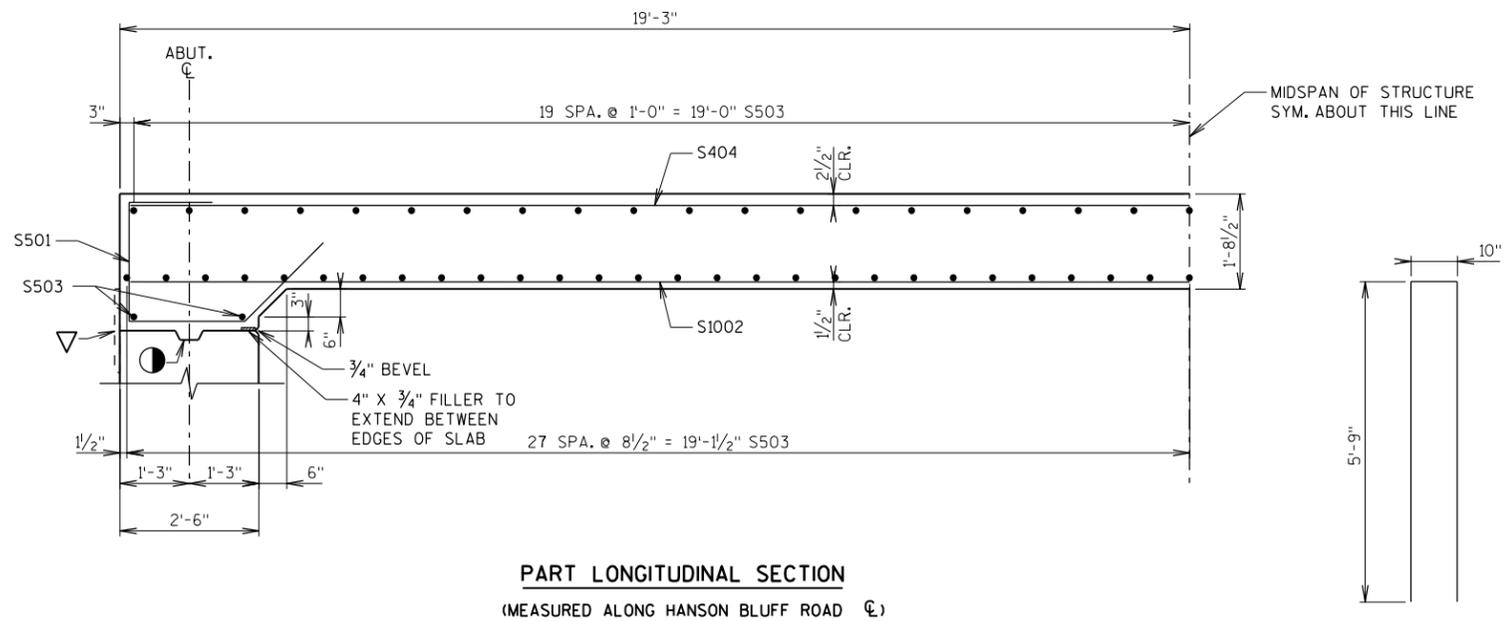


**SECTION D**



**B805**

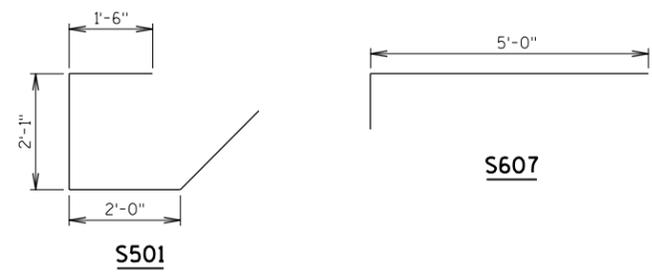
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-6-184</b>			
DRAWN BY		ALC	PLANS CK'D. TAB
<b>EAST ABUTMENT DETAILS</b>			SHEET 7 OF 10



**PART LONGITUDINAL SECTION**  
(MEASURED ALONG HANSON BLUFF ROAD CL)

S605

- LEGEND**
- ▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL JOINTS ON BACKFACE.
  - KEYED CONST. JOINT FORMED BY BEVELED 2" x 6".



S501

S607

**BILL OF BARS - SUPERSTRUCTURE**

MARK	NO. REQ'D	LENGTH	COAT	BENT	LOCATION
S501	54	7-4	X	X	SLAB VERT. @ ABUT.
S1002	53	32-10	X		SLAB LONG. BOT.
S503	98	26-2	X		SLAB TRANS. TOP & BOT.
S404	29	38-2	X		SLAB LONG. TOP
S605	28	12-0	X	X	SLAB @ RAIL POSTS
S606	40	6-0	X		SLAB @ INT. RAIL POSTS
S607	16	6-0	X	X	SLAB @ END RAIL POSTS
TOTAL WEIGHT (COATED BARS) - 12,325 LBS					

**GENERAL NOTES**

DIMENSIONS ARE OUT TO OUT OF BARS.

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 CL OF ABUTMENTS AND AT THE 1/2 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND CROWN OR CL.

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

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

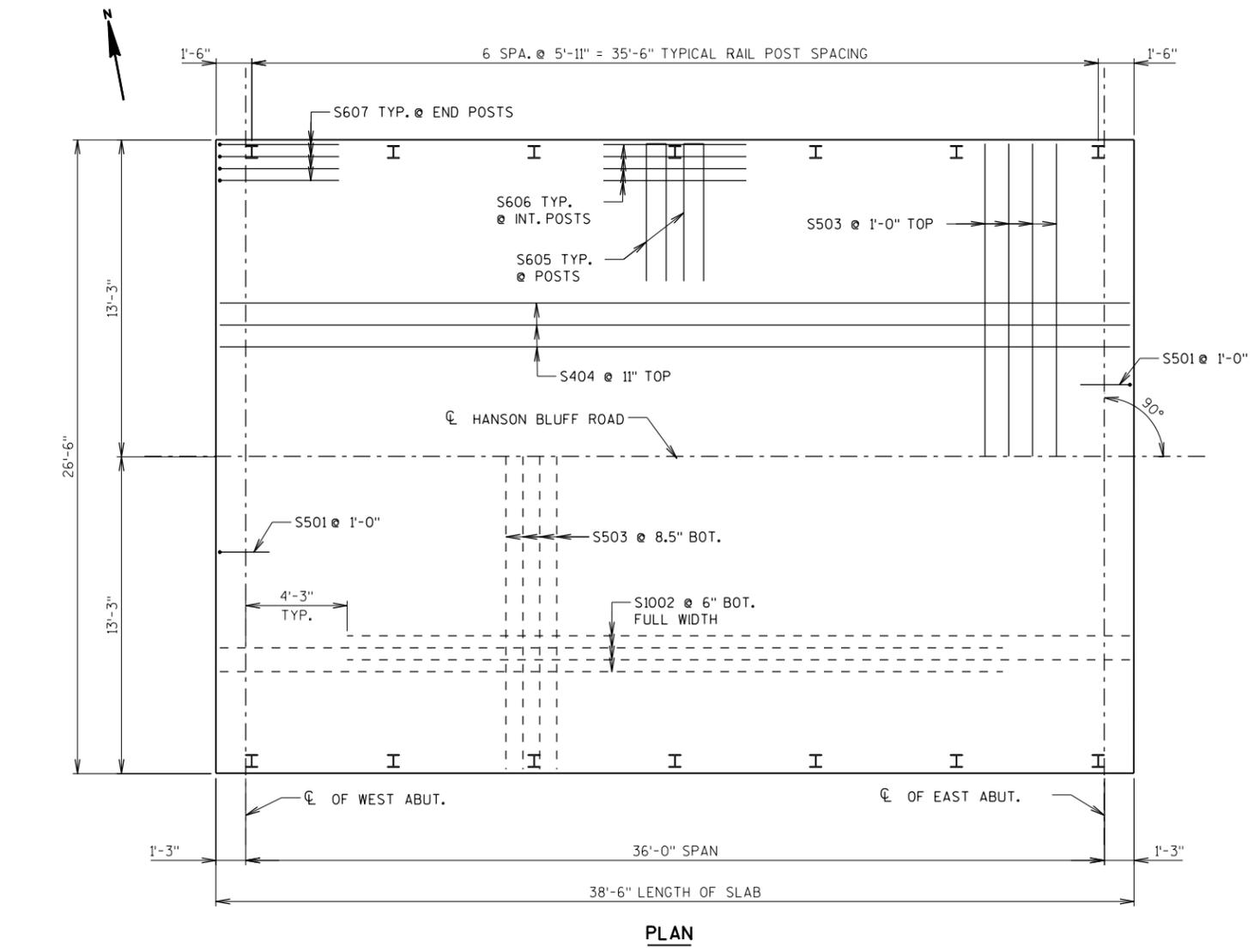
FLASHING TO BE INSTALLED AFTER PROTECTIVE SURFACE TREATMENT APPLICATION.

CONCRETE SCREWS SHALL BE 410 STAINLESS STEEL.

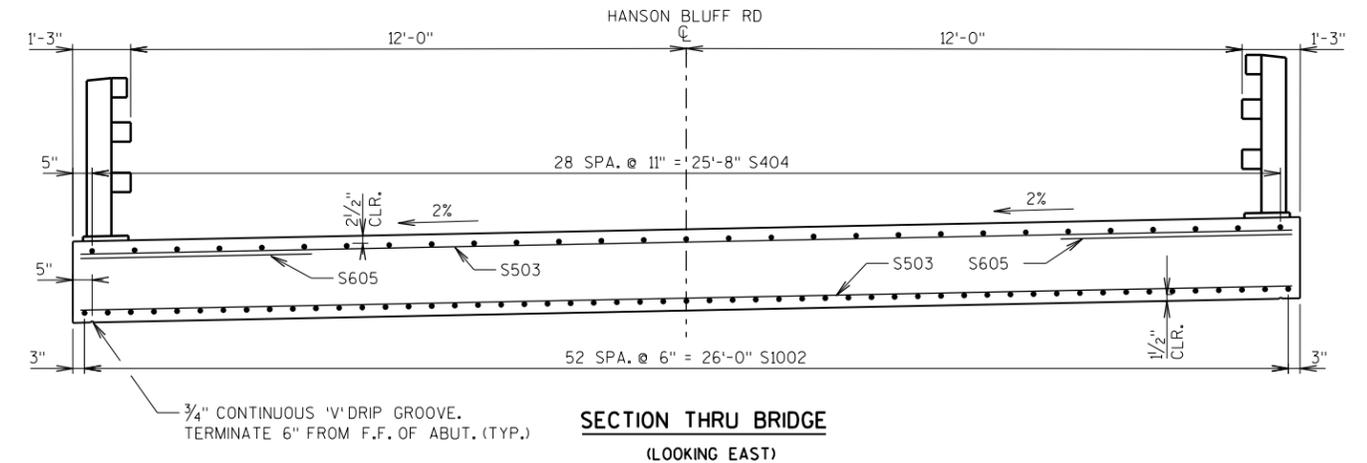
EXTEND FLASHING TO F.F. OF ABUTMENT.

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

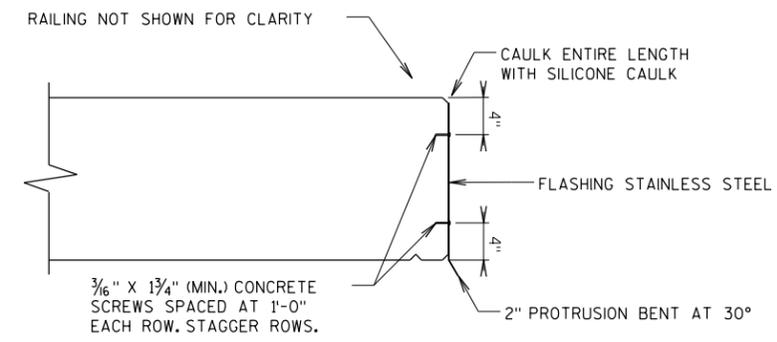
THE FLASHING IS TO BE A CONSTANT HEIGHT BASED ON THE THINNEST SLAB DEPTH OVER THE BRIDGE LENGTH.



**PLAN**



**SECTION THRU BRIDGE**  
(LOOKING EAST)

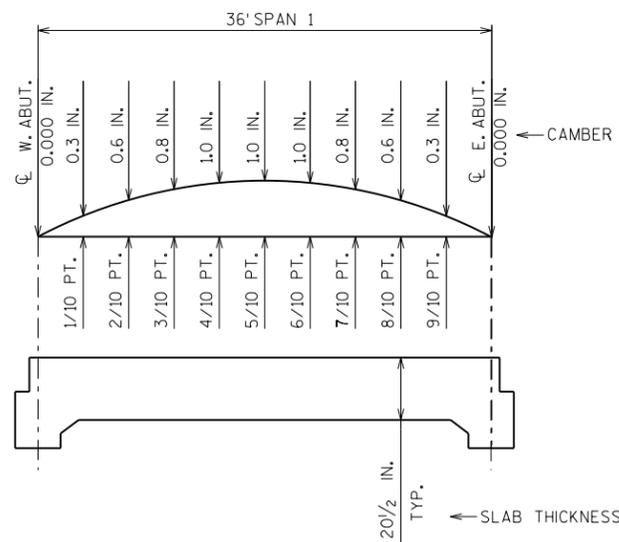


**FLASHING DETAIL FOR NEW BRIDGES WITH OPEN RAILING**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-6-184			
DRAWN BY		ALC	PLANS CK'D. TAB
SUPERSTRUCTURE			SHEET 8 OF 10

8

8



**CAMBER AND SLAB THICKNESS DIAGRAM**

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. PARAPETS, SIDEWALKS AND MEDIANS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED, EXCEPT FOR STAGED CONSTRUCTION.

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

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

**TOP OF SLAB ELEVATIONS**

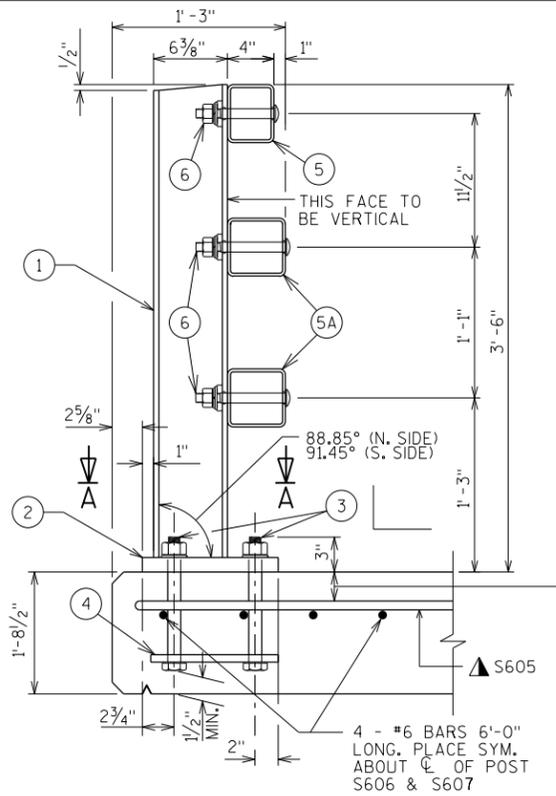
	CL BRG. W. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CL BRG. E. ABUT.
N. EDGE OF DECK	777.79	777.75	777.72	777.70	777.68	777.67	777.67	777.67	777.67	777.68	777.70
CL	778.05	778.02	777.99	777.97	777.95	777.94	777.93	777.93	777.94	777.95	777.96
S. EDGE OF DECK	778.32	778.28	778.25	778.23	778.21	778.20	778.20	778.20	778.20	778.21	778.23

**SURVEY TOP OF SLAB ELEVATIONS**

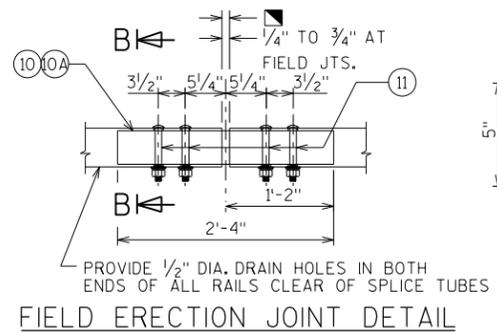
	ABUTMENT	5/10 PT.	ABUTMENT
N. EDGE OF SLAB			
CL			
S. EDGE OF SLAB			

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF DECK ELEVATIONS AT THE CL OF ABUTMENTS, THE CL OF PIERS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR CL. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

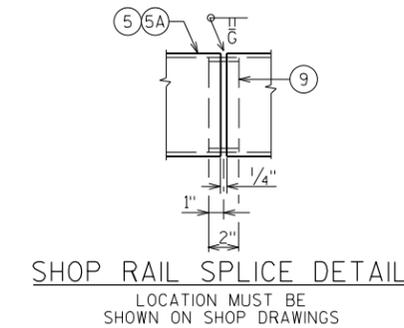
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-6-184			
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SUPERSTRUCTURE DETAILS		SHEET 9 OF 10	



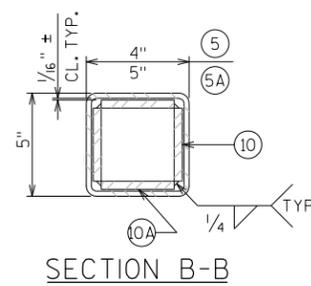
SECTION THRU RAILING ON DECK



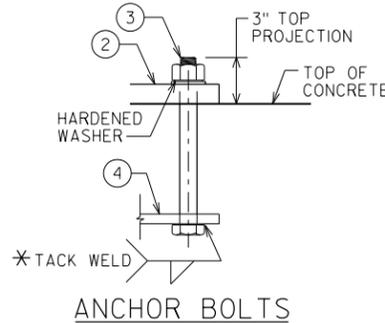
FIELD ERECTION JOINT DETAIL



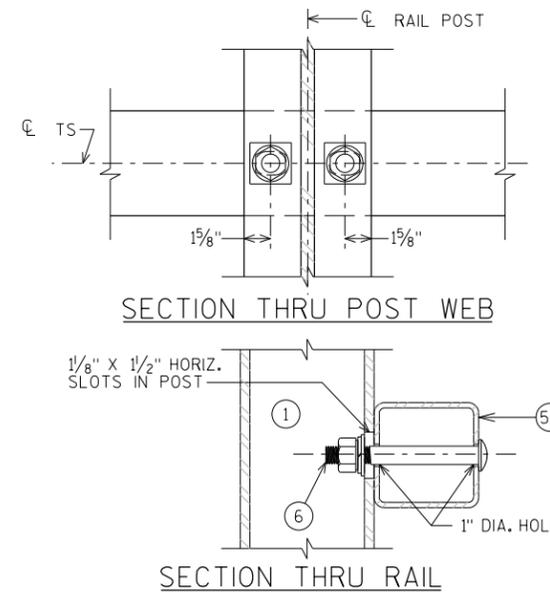
SHOP RAIL SPLICE DETAIL  
LOCATION MUST BE SHOWN ON SHOP DRAWINGS



SECTION B-B



ANCHOR BOLTS



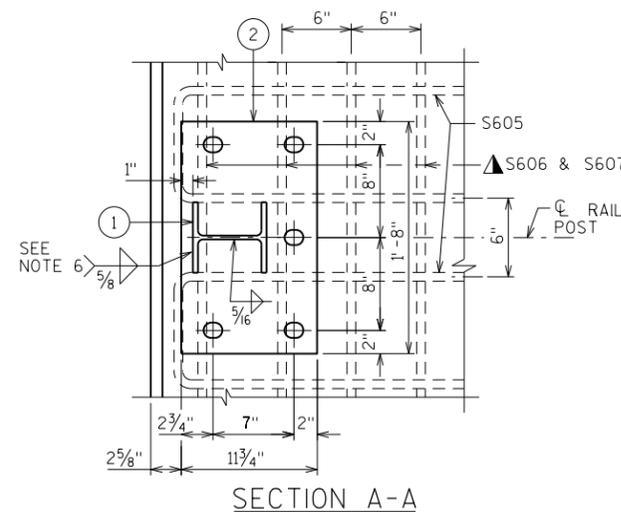
SECTION THRU POST WEB  
SECTION THRU RAIL  
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

LEGEND

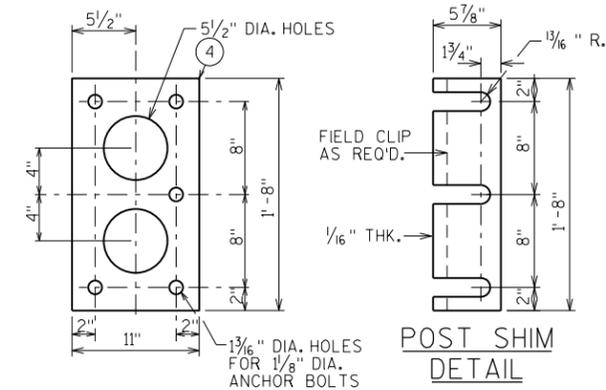
- ① W6 x 25 WITH 1/8" x 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1/4" x 11 3/4" x 1'-8" WITH 1 1/16" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
- ③ ASTM A449 - 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 ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10 3/4" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTIBILITY.)
- ④ 5/8" 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 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16" x 1 5/8" x 1 5/8" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- ⑨ SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- ⑩ 3/8" x 3 5/8" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑩A 3/8" x 2 5/8" x 2'-4" PLATE USED IN NO. 5. 3/8" x 3 5/8" x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- ⑪ 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1 5/16" x 1 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND 1 5/16" x 2 1/4" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A. PROVIDE 1 5/16" DIA. ROUND HOLES IN NO. 5 AND NO. 5A.

2 1/2" FOR SLABS ON GIRDERS; FOR OTHER STRUCTURES, PLACE BELOW TOP MAT SLAB REINFORCEMENT.

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

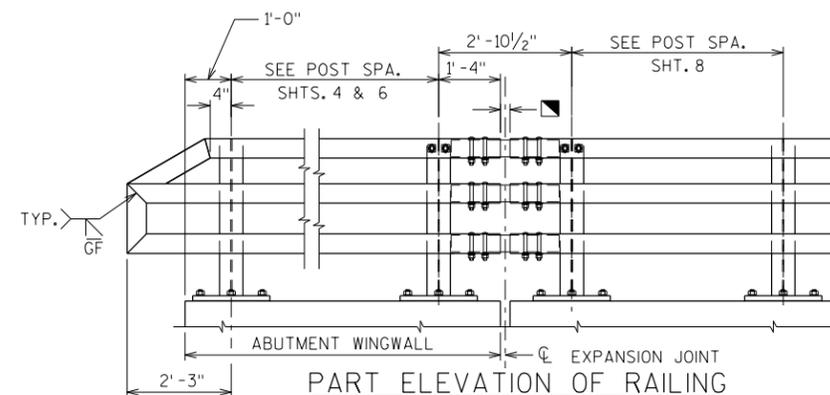


SECTION A-A



ANCHOR PLATE AT RAIL TO DECK CONNECTION

POST SHIM DETAIL



PART ELEVATION OF RAILING

GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
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.

▲ TIE TO TOP MAT OF STEEL.

■ 1/4" TO 3/4" OPENING FOR A1 ABUTMENT.

8

8

NO.	DATE	REVISION	BY
DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-6-184			
DRAWN BY		ALC	PLANS CK'D. TAB
TUBULAR STEEL RAILING TYPE 'M'			SHEET 10 OF 10

MAINLINE EARTHWORK

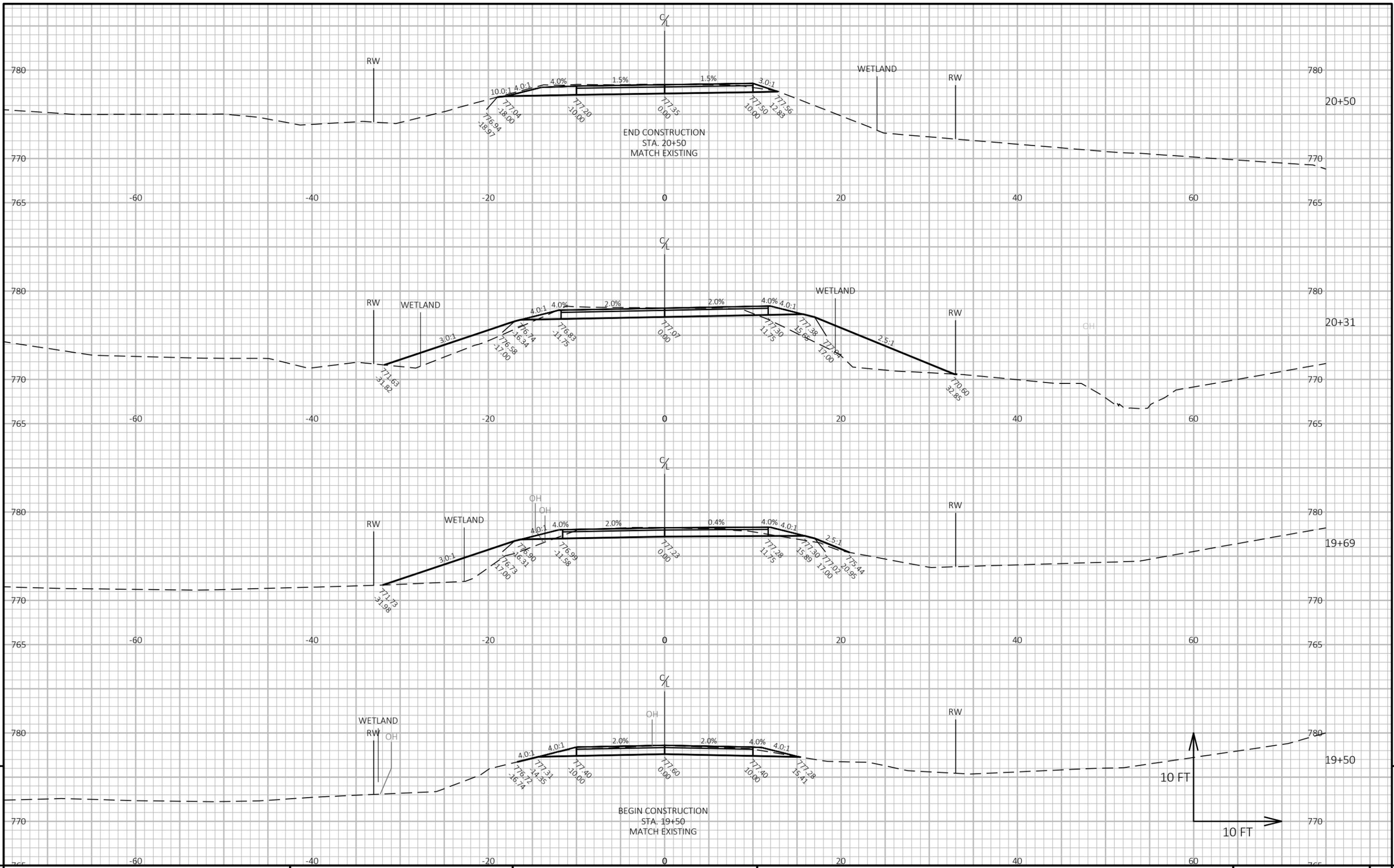
STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
				NOTE 1	NOTE 3	1.00 NOTE 1	1.30	NOTE 8
1950	21	0	0	0	0	0	0	0
1969	20	0	29	14	10	14	13	1
				14	10			

STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
				NOTE 1	NOTE 3	1.00 NOTE 1	1.30	NOTE 8
20+31	24.2	0.0	64.5	0	0	0	0	0
20+50	27.8	0.0	0.0	18	22	18	29	-11
				18	22			

Notes	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
8 - MASS ORDINATE	EBS AND MARSH EXC USED OUTSIDE 1:1 IN FILL SLOPES

9

9



PROJECT NO: 7234-00-70

HWY: HANSON BLUFF ROAD

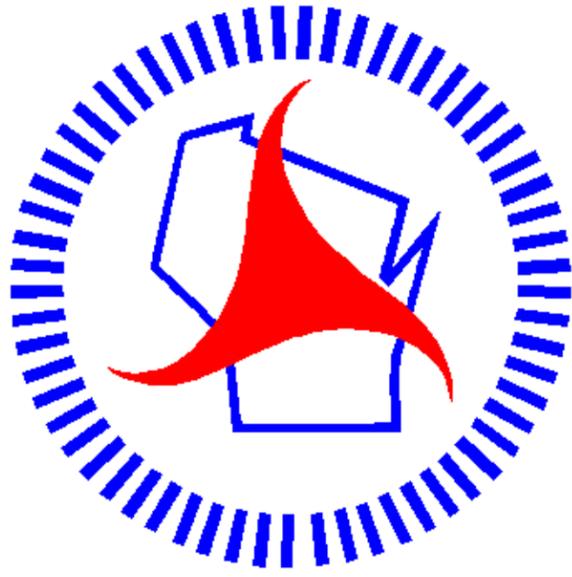
COUNTY: BUFFALO

CROSS SECTIONS: HANSON BLUFF ROAD

SHEET

E

# Notes



## *Wisconsin Department of Transportation*

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