

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

C MELLEN, E TYLER AVE BAD RIVER BRIDGE B-02-0073 LOC STR ASHLAND COUNTY

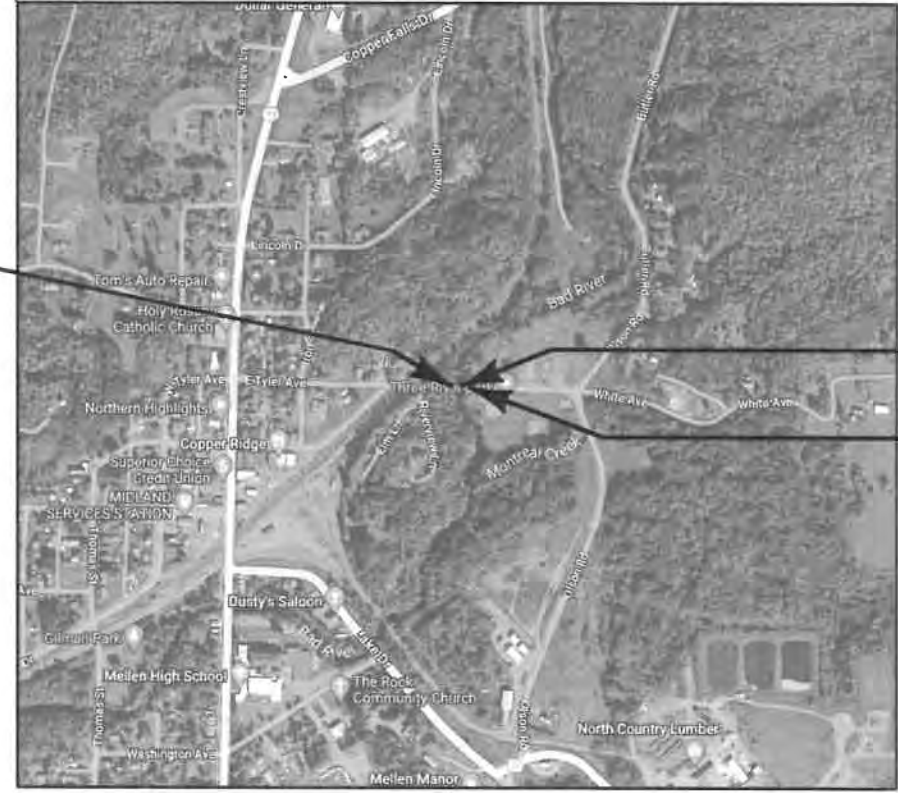
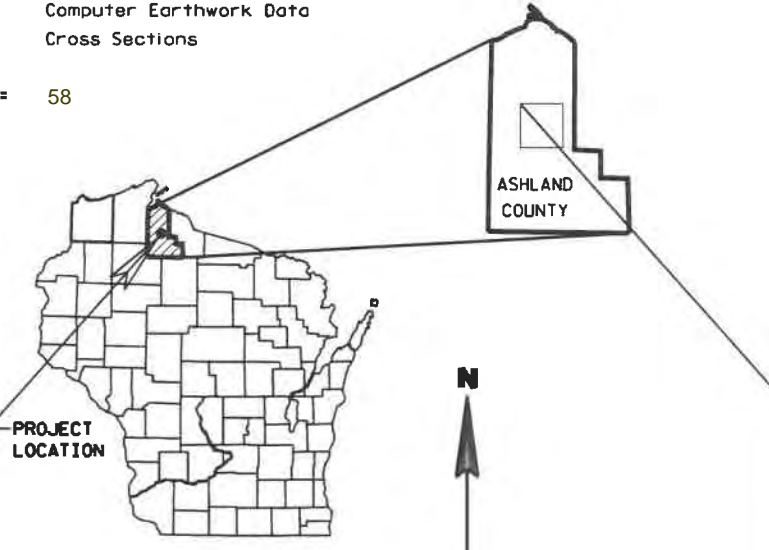
STATE PROJECT NUMBER
9955-00-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9955-00-70	WISC 2024133	1

ORDER OF SHEETS

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

TOTAL SHEETS = 58



BEGIN PROJECT
STA. 9+09.75
 Y = 226651.14
 X = 558472.81

END PROJECT
STA. 10+92.25
 Y = 226648.21
 X = 558655.28

DESIGN DESIGNATION

A.A.D.T. (2024)	=	120
A.A.D.T. (2044)	=	160
D.H.V.	=	10
D.	=	50/50
T.	=	5%
DESIGN SPEED	=	20 MPH
ESALS	=	36,500

**CONVENTIONAL SYMBOLS
PLAN**

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

SCALE 0 500 FT.

TOTAL NET LENGTH OF CENTERLINE = 0.035 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), ASHLAND COUNTY, NADB3 (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 NAVD88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

ACCEPTED FOR
 County of Ashland
 Date 7/24/2023
 Highway Commissioner

ORIGINAL PLANS PREPARED BY
AYRES 3433 Oakwood Hills Parkway
 Eau Claire, WI 54701
 www.AyresAssociates.com



DATE 07/26/2023

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

PREPARED BY
 Surveyor AYRES ASSOCIATES INC
 Designer AYRES ASSOCIATES INC
 Project Manager PALLA GROOM, PE
 Regional Examiner NORTHWEST REGION
 Regional Supervisor TYLER RONGSTAD, PE

APPROVED FOR THE DEPARTMENT
 DATE: 07/26/2023
 (Signature)

E

PROJECT ID: 9955-00-70
WITH: N/A

27

COUNTY: ASHLAND

GENERAL NOTES

EROSION CONTROL ITEMS TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

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

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

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCLUSIVE OF THE ROADBED, SHALL BE FERTILIZED, SEEDED, AND MULCHED AS DIRECTED BY THE ENGINEER.

THE DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR WITH A MONUMENT TO BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

WETLANDS EXIST IN THE PROJECT AREA. NO DISTURBANCE IS ALLOWED OUTSIDE THE SLOPE INTERCEPTS.

UTILITIES

LUMEN TECHNOLOGIES - COMMUNICATIONS
5475 MEREDITH DRIVE
DES MOINES, IA 50310
ATTN: CHUCK BRUN
515-336-6310
515-371-3429 (CELL)
Charles.Brun@lumen.com
ATTN: ROBERT LUICK
980-376-1572
608-738-1284 (CELL)
Robert.Luick@Brightspeed.com

XCEL ENERGY - ELECTRIC & GAS
2400 FARM ROAD
ASHLAND, WI 54806
ATTN: MATTHEW ROONI
715-682-6927
715-209-0229 (CELL)
matthew.w.rooni@xcelenergy.com
ATTN: DAWN SCHULTZ
dawn.schultz@xcelenergy.com

MELLEN MUNICIPAL UTILITIES - WATER & SEWER
P.O. BOX 708
MELLEN, WI 54546-0706
ATTN: RYAN ELLIS
715-274-2136
utilities@cityofmellen.org

ASTREA - COMMUNICATIONS
105 KENT STREET
P.O. BOX 190
IRON MOUNTAIN, MI 49801
ATTN: ANDREW HEIGL
906-221-7536
andy.heigl@astreaconnect.com



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

DESIGNER

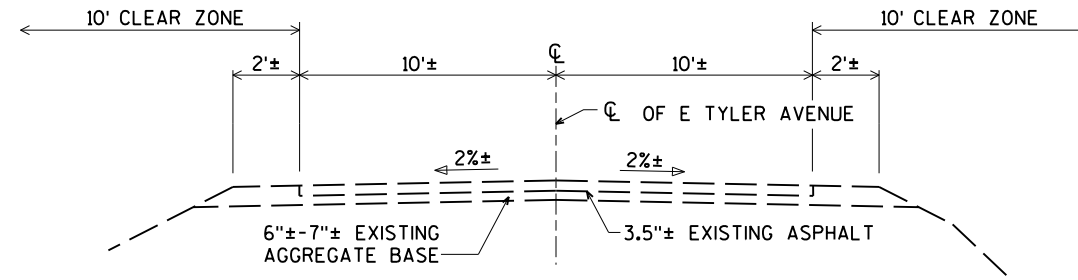
AYRES ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54701
ATTN: KAREN L. WALDERA
715-834-3161
walderak@ayresassociates.com

COUNTY CONTACT:

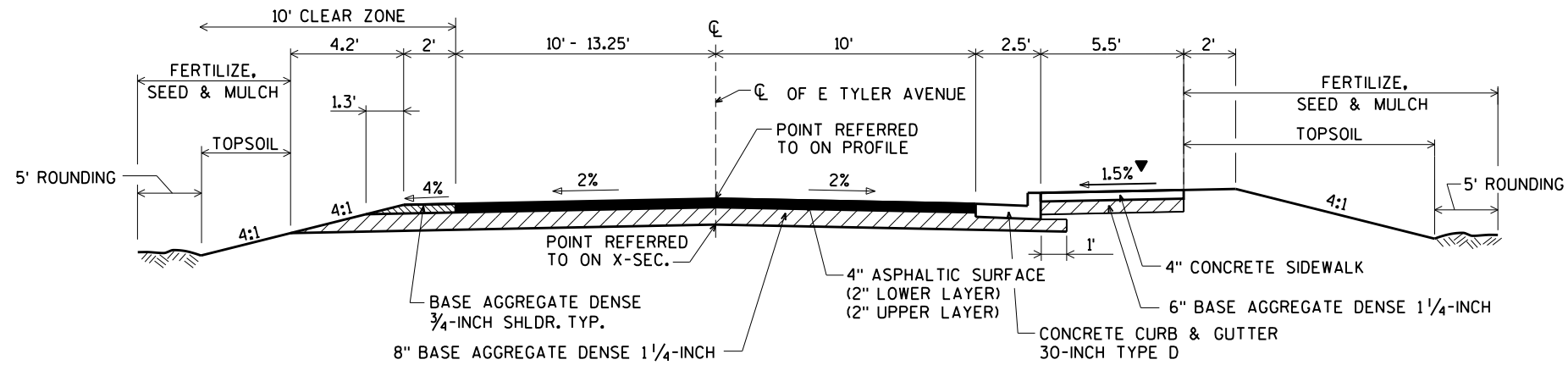
ASHLAND COUNTY, HIGHWAY COMMISSIONER
PO BOX 25
HIGHBRIDGE, WI 54846
ATTN: MATTHEW ERICKSON
715-274-3662
matt.erickson@co.ashland.wi.us

**WISCONSIN DEPARTMENT OF
NATURAL RESOURCES CONTACT:**

SHAWN HASELEU
810 W MAPLE STREET
SPOONER, WI 54801
715-635-4228
715-416-0478 cell
shawn.haseleu@wisconsin.gov

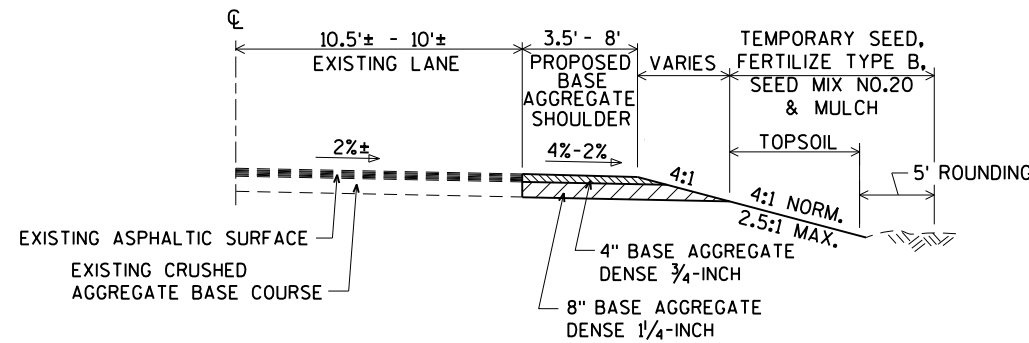


EXISTING TYPICAL SECTION
 STA. 9+09.75 - STA. 10+92.25

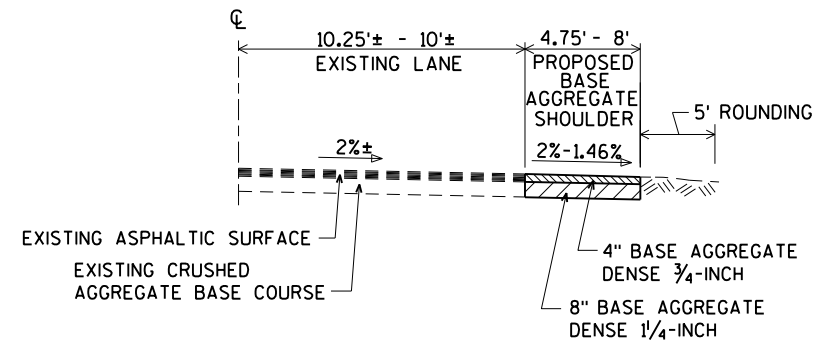


TYPICAL FINISHED SECTION
 STA. 9+09.75 - STA. 9+41.75
 STA. 10+48.25 - STA. 10+92.25

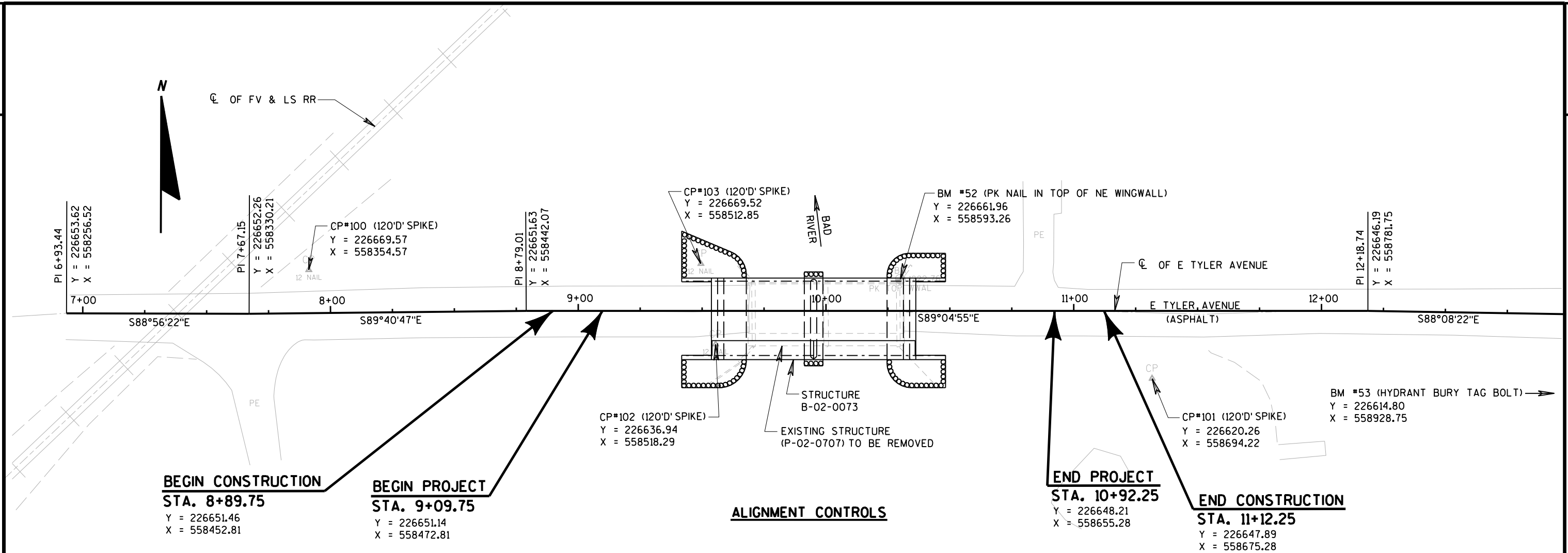
▼ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



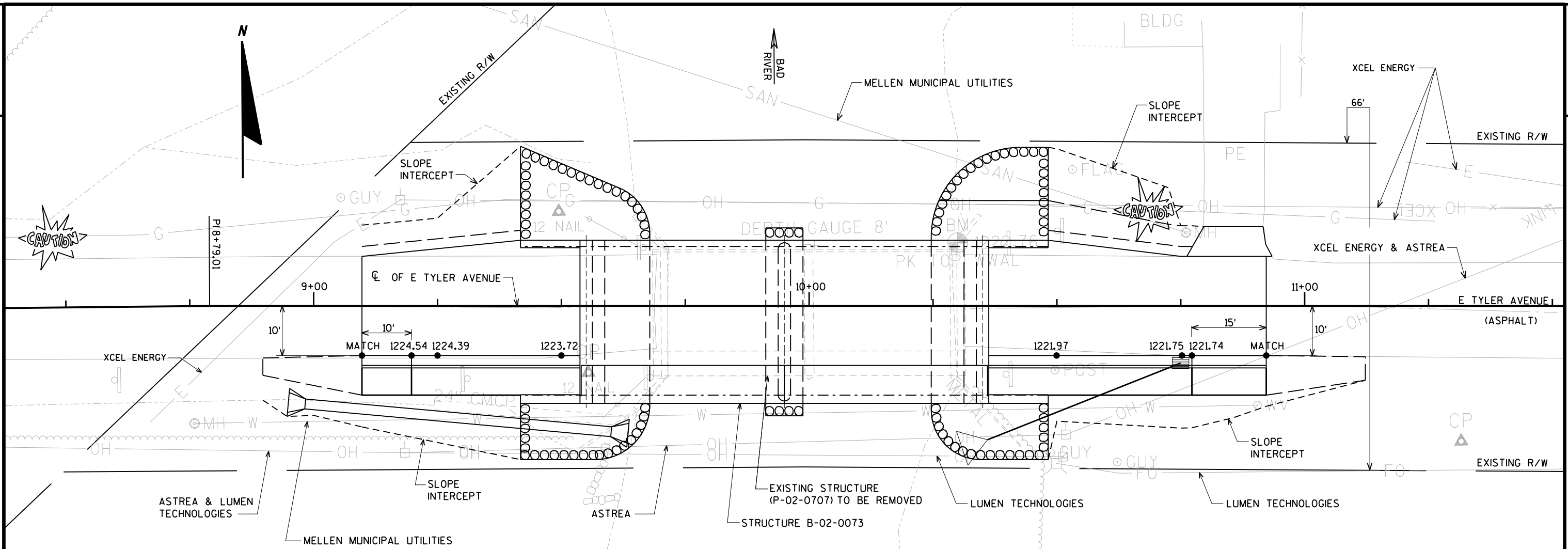
TYPICAL FINISHED HALF SECTION - SHOULDER WIDENING
 STA. 8+89.75 - STA. 9+09.75, RT



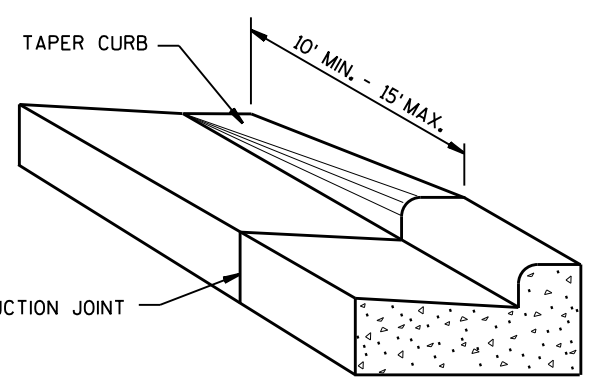
TYPICAL FINISHED HALF SECTION - SHOULDER WIDENING
 STA. 10+92.25 - STA. 11+12.25, RT



PROJECT NO: 9955-00-70	HWY: E TYLER AVENUE	COUNTY: ASHLAND	ALIGNMENT CONTROL	SHEET	E
------------------------	---------------------	-----------------	-------------------	-------	---

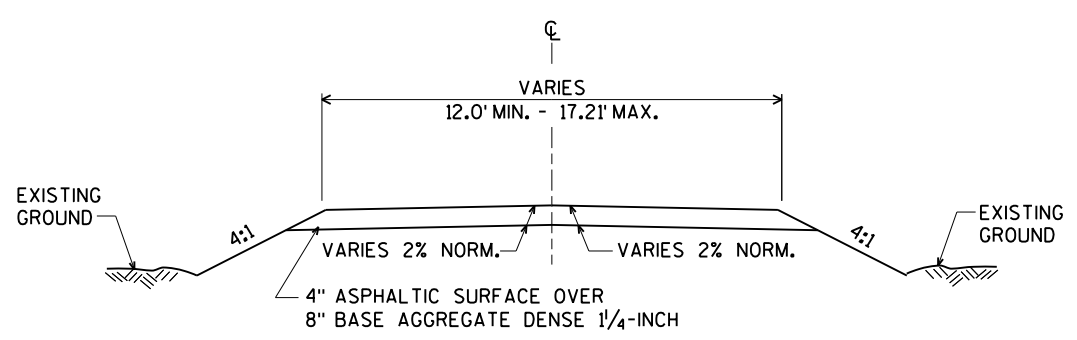


CURB & GUTTER GRADES

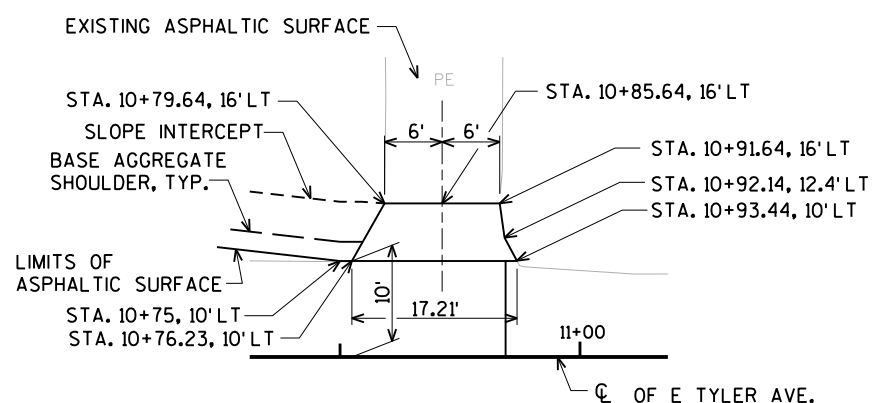


DETAIL OF CURB & GUTTER TERMINAL

E TYLER AVE.
STA. 9+09.75 TO STA. 9+19.75, RT
STA. 10+77.25 TO STA. 10+92.25, RT



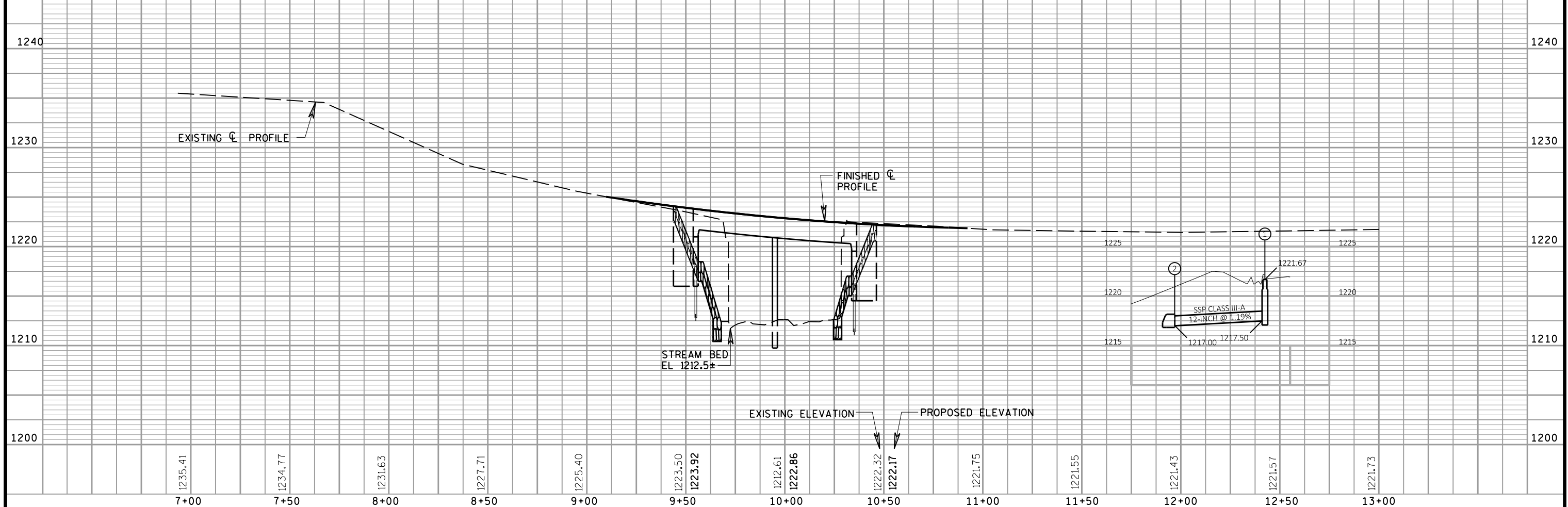
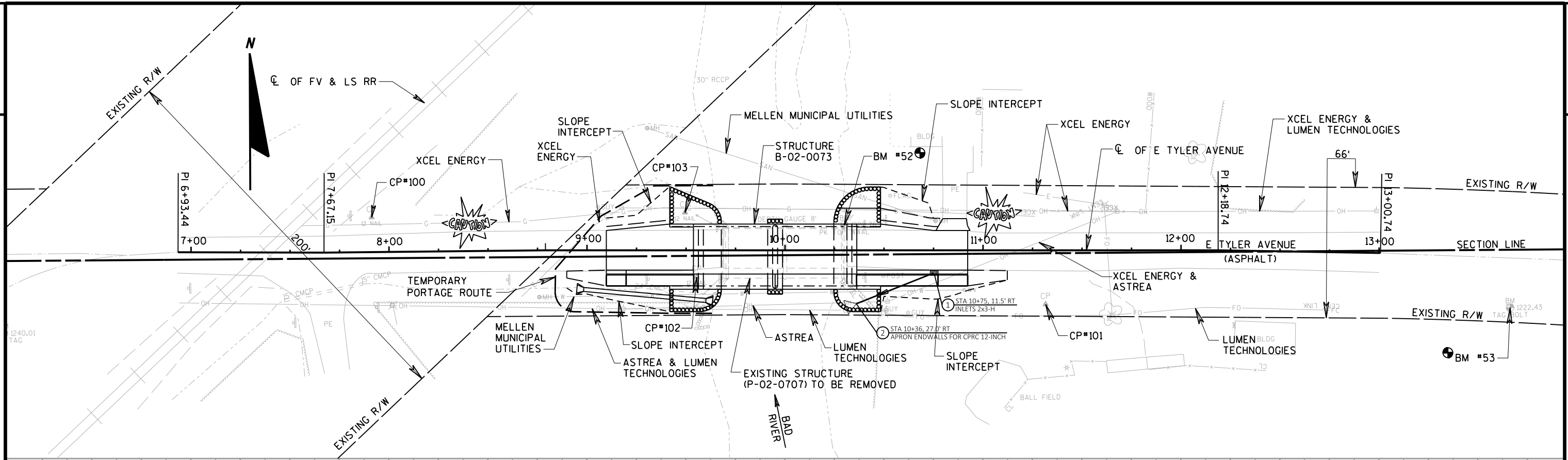
TYPICAL CROSS SECTION



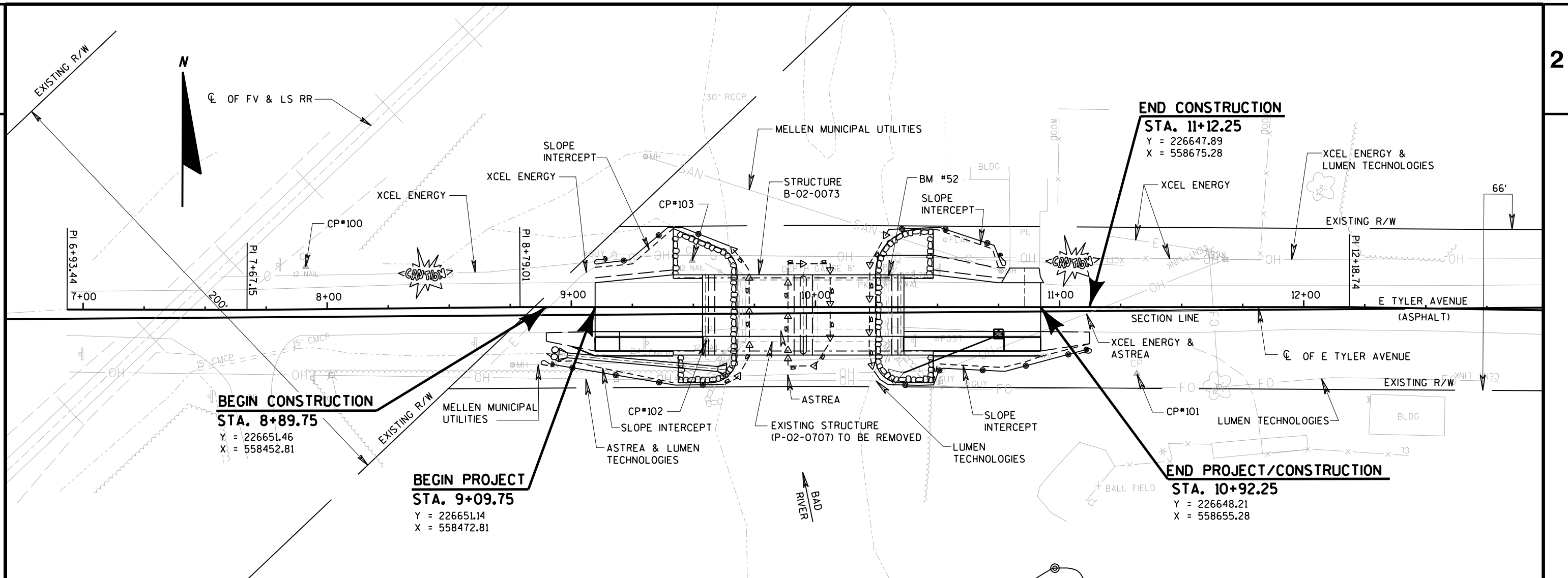
PLAN

STA. 10+85.64, LT

PRIVATE ENTRANCE DETAILS



PROJECT NO: 9955-00-70 | HWY: E TYLER AVENUE | COUNTY: ASHLAND | STORM SEWER | SCALE, FEET 0 25 50 | SHEET | E



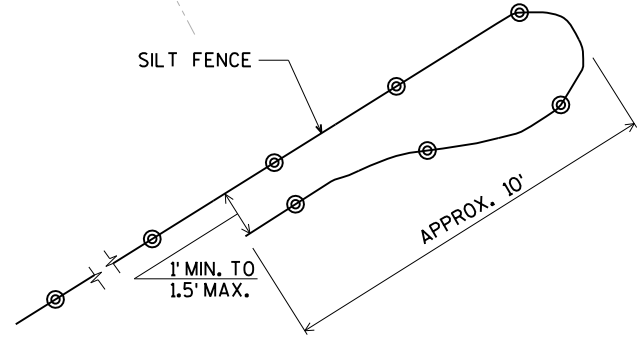
BEGIN CONSTRUCTION
STA. 8+89.75
 Y = 226651.46
 X = 558452.81

BEGIN PROJECT
STA. 9+09.75
 Y = 226651.14
 X = 558472.81

END CONSTRUCTION
STA. 11+12.25
 Y = 226647.89
 X = 558675.28

END PROJECT/CONSTRUCTION
STA. 10+92.25
 Y = 226648.21
 X = 558655.28

	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											



SILT FENCE END DETAIL
 (TURNAROUNDS - TO REDIRECT AMPHIBIANS AND REPTILES AWAY FROM CONSTRUCTION ZONE)

LEGEND

- SILT FENCE
- TURBIDITY BARRIER
- RIPRAP HEAVY
- CULVERT PIPE CHECKS
- INLET PROTECTION TYPE D

TOTAL PROJECT AREA = 0.328 ACRES
 TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.175 ACRES

Estimate Of Quantities

9955-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0008	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. P-02-0707	EACH	1.000	1.000
0010	204.0165	Removing Guardrail	LF	25.000	25.000
0012	205.0100	Excavation Common	CY	137.000	137.000
0014	206.1001	Excavation for Structures Bridges (structure) 01. B-02-0073	EACH	1.000	1.000
0016	210.1500	Backfill Structure Type A	TON	280.000	280.000
0018	213.0100	Finishing Roadway (project) 01. 9955-00-70	EACH	1.000	1.000
0020	305.0110	Base Aggregate Dense 3/4-Inch	TON	20.000	20.000
0022	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	165.000	165.000
0024	455.0605	Tack Coat	GAL	19.000	19.000
0026	465.0105	Asphaltic Surface	TON	60.000	60.000
0028	502.0100	Concrete Masonry Bridges	CY	287.000	287.000
0030	502.3200	Protective Surface Treatment	SY	463.000	463.000
0032	505.0400	Bar Steel Reinforcement HS Structures	LB	5,380.000	5,380.000
0034	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	39,870.000	39,870.000
0036	511.1100	Temporary Shoring	SF	85.000	85.000
0038	513.4061	Railing Tubular Type M	LF	109.000	109.000
0040	513.7084	Railing Steel Type NY4	LF	109.300	109.300
0042	516.0500	Rubberized Membrane Waterproofing	SY	20.000	20.000
0044	520.1012	Apron Endwalls for Culvert Pipe 12-Inch	EACH	1.000	1.000
0046	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	2.000	2.000
0048	520.3324	Culvert Pipe Class III-A 24-Inch	LF	62.000	62.000
0050	550.0500	Pile Points	EACH	18.000	18.000
0052	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	450.000	450.000
0054	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	100.000	100.000
0056	602.0405	Concrete Sidewalk 4-Inch	SF	525.000	525.000
0058	606.0300	Riprap Heavy	CY	175.000	175.000
0060	608.3012	Storm Sewer Pipe Class III-A 12-Inch	LF	42.000	42.000
0062	611.0624	Inlet Covers Type H	EACH	1.000	1.000
0064	611.3230	Inlets 2x3-FT	EACH	1.000	1.000
0066	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	200.000	200.000
0068	616.0700.S	Fence Safety	LF	85.000	85.000
0070	618.0100	Maintenance and Repair of Haul Roads (project) 01. 9955-00-70	EACH	1.000	1.000
0072	619.1000	Mobilization	EACH	1.000	1.000
0074	623.0200	Dust Control Surface Treatment	SY	420.000	420.000
0076	624.0100	Water	MGAL	2.000	2.000
0078	625.0100	Topsoil	SY	120.000	120.000
0080	627.0200	Mulching	SY	2,725.000	2,725.000
0082	628.1504	Silt Fence	LF	405.000	405.000
0084	628.1520	Silt Fence Maintenance	LF	810.000	810.000
0086	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0088	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0090	628.6005	Turbidity Barriers	SY	340.000	340.000
0092	628.7020	Inlet Protection Type D	EACH	1.000	1.000
0094	628.7555	Culvert Pipe Checks	EACH	2.000	2.000
0096	629.0210	Fertilizer Type B	CWT	0.230	0.230
0098	630.0120	Seeding Mixture No. 20	LB	10.000	10.000
0100	630.0200	Seeding Temporary	LB	10.000	10.000

Estimate Of Quantities

9955-00-70

Line	Item	Item Description	Unit	Total	Qty
0102	630.0500	Seed Water	MGAL	9.000	9.000
0104	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0106	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0108	638.2602	Removing Signs Type II	EACH	6.000	6.000
0110	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0112	642.5001	Field Office Type B	EACH	1.000	1.000
0114	643.0420	Traffic Control Barricades Type III	DAY	1,980.000	1,980.000
0116	643.0705	Traffic Control Warning Lights Type A	DAY	2,640.000	2,640.000
0118	643.0900	Traffic Control Signs	DAY	1,540.000	1,540.000
0120	643.5000	Traffic Control	EACH	1.000	1.000
0122	645.0111	Geotextile Type DF Schedule A	SY	64.000	64.000
0124	645.0120	Geotextile Type HR	SY	340.000	340.000
0126	650.4000	Construction Staking Storm Sewer	EACH	2.000	2.000
0128	650.4500	Construction Staking Subgrade	LF	100.000	100.000
0130	650.5000	Construction Staking Base	LF	100.000	100.000
0132	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	100.000	100.000
0134	650.6000	Construction Staking Pipe Culverts	EACH	1.000	1.000
0136	650.6501	Construction Staking Structure Layout (structure) 01. B-02-0073	EACH	1.000	1.000
0138	650.9500	Construction Staking Sidewalk (project) 01. 9955-00-70	EACH	1.000	1.000
0140	650.9911	Construction Staking Supplemental Control (project) 01. 9955-00-70	EACH	1.000	1.000
0142	650.9920	Construction Staking Slope Stakes	LF	100.000	100.000
0144	690.0150	Sawing Asphalt	LF	77.000	77.000
0146	715.0502	Incentive Strength Concrete Structures	DOL	1,722.000	1,722.000
0148	999.1001.S	Seismograph	EACH	1.000	1.000
0150	999.1501.S	Crack and Damage Survey	EACH	1.000	1.000
0152	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 10+00	EACH	1.000	1.000
0154	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	300.000	300.000
0156	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	300.000	300.000

CLEARING AND GRUBBING

CATEGORY	STATION	TO	STATION	LOCATION	201.0105	201.0205
					CLEARING STA	GRUBBING STA
0010	9+09.75	-	10+92.25	LT/RT	2	2
TOTAL 0010					2	2

NOTE: TREES TO BE CUT DOWN PRIOR TO CONSTRUCTION BY OTHERS

REMOVING GUARDRAIL

CATEGORY	STATION	TO	STATION	LOCATION	204.0165
					REMOVING GUARDRAIL LF
0010	9+55	-	9+66	LT	13
	9+58	-	9+67	RT	12
TOTAL 0010					25

E TYLER AVENUE EARTHWORK SUMMARY

From/To Station	Location	Common Excavation (1)		Unexpanded Fill	Expanded Fill (2) Factor 1.30	Mass Ordinate +/- (3)	Waste	Borrow (Item 208.0100)	Comment:
		Cut	Unusable						
8+89.75 to 9+53.75	WEST APPROACH	46	18	19	25	3	3	0	
10+36.25 to 10+92.25	EAST APPROACH	91	22	5	7	63	63	0	
TOTAL		137							

- 1) Common Excavation is the Cut. Unusable excavation is existing pavement (Included in Cut volume). Item number 205.0100.
- 2) Expanded Fill. Factor = 1.30; Expanded Fill = Unexpanded Fill * Fill Factor
- 3) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material on the project.
- 4) All quantities shown in CY.

ASPHALT

CATEGORY	STATION	TO	STATION	LOCATION	455.0605	465.0105	REMARKS
					TACK COAT GAL	ASPHALTIC SURFACE TON	
0010	9+09.75	-	9+53.75	MAINLINE	8	25	WEST APPROACH
	10+36.25	-	10+92.25	MAINLINE	10	30	EAST APPROACH
	10+76.23	-	10+93.44	PE LT	1	5	EAST APPROACH
TOTAL 0010					19	60	

NOTES:
 * TACK COAT APPLICATION RATE = 0.07 GAL/SY
 ** ASSUMED ASPHALT AT 112 LBS/SY/IN

TEMPORARY SHORING

CATEGORY	LOCATION	511.1100
		TEMPORARY SHORING SF
0010	STA. 10+51 RT (POWER POLE)	85
TOTAL 0010		85

CULVERT PIPE

CATEGORY	STATION	TO	STATION	LOCATION	203.0100	520.3324	520.1024	628.7555
					REMOVAL SMALL PIPE CULVERTS EACH	CULVERT PIPE CLASS III-A 24-INCH LF	APRON ENDWALLS FOR CULVERT PIPE 24-INCH EACH	CULVERT PIPE CHECKS EACH
0010	9+24.33	-	9+63.47	RT	1	--	--	--
0010	8+98.30	-	9+60.05	RT	--	62	2	2
TOTAL 0010					1	62	2	2

CURB & GUTTER

CATEGORY	STATION	TO	STATION	LOCATION	601.0411	REMARKS
					CONCRETE CURB & GUTTER 30-INCH TYPE D LF	
0010	9+09.75	-	9+53.75	RT	44	WEST APPROACH
	10+36.25	-	10+92.25	RT	56	EAST APPROACH
TOTAL 0010					100	

CONCRETE SIDEWALK

CATEGORY	STATION	TO	STATION	LOCATION	602.0405	REMARKS
					CONCRETE SIDEWALK 4-INCH SF	
0010	9+09.75	-	9+53.75	RT	215	WEST APPROACH
	10+36.25	-	10+92.25	RT	310	EAST APPROACH
TOTAL 0010					525	

STORM SEWER PIPES

FROM	TO	LOCATION	608.3012	JOINT TIES*	INLET ELEVATION	DISCHARGE ELEVATION	SLOPE FT/FT
			STORM SEWER PIPE CLASS III-A 12-INCH LF				
1	2	TYLER ST	42	9	1217.50	1217.00	0.0119
TOTALS			42	9			

*NON-BID ITEM: FOR INFORMATION ONLY

STORM SEWER STRUCTURES

STRUCTURE	STATION	OFFSET*	LOCATION	520.1012	611.0624	611.3230	650.4000	RIM** ELEVATION	INVERT*** ELEVATION	DEPTH**** FT
				APRON ENDWALLS FOR CULVERT PIPE 12-INCH EACH	INLET COVERS TYPE H EACH	INLETS 2X3- FT EACH	CONSTRUCTION STAKING STORM SEWER EACH			
1	10+74.97	11.53'	RT TYLER ST		1	1	1	1221.67	1217.50	3.34
2	10+36.00	27.00'	RT TYLER ST	1			1		1217.00	
TOTALS				1	1	1	2			

REMARKS:

*STATIONS AND OFFSETS ARE TO CENTER OF STRUCTURE

**RIM ELEV IS AT THE INLET COVER FLOW LINE LOCATION

***FOR STRUCTURES WITH SUMPS, THE INVERT ELEVATION IS THE ELEVATION OF THE SUMP. FOR STRUCTURES WITHOUT SUMPS, THE INVERT ELEVATION IS THE ELEVATION OF THE LOWEST PIPE FLO'

****DEPTH = RIM ELEV - TOP OF STRUCTURE BASE ELEV - COVER HEIGHT - 6-INCH ADJUSTMENT RING HEIGHT

FENCE SAFETY

CATEGORY	STATION	TO	STATION	LOCATION	616.0700.S
					FENCE SAFETY LF
0010	9+46	-	11+03	RT	85
TOTAL 0010					85

MISCELLANEOUS ITEMS

CATEGORY	STATION TO	STATION	LOCATION	623.0200 DUST CONTROL SURFACE TREATMENT SY	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EROSION CONTROL EACH	999.2000.S INTALLING AND MAINTAINING BIRD DETERRENT SYSTEM EACH
0010	9+09.75	- 10+92.25	PROJECT-WIDE	440	4	4	1
			TOTAL 0010	440	4	4	1

INLET PROTECTION TYPE D

CATEGORY	STATION	LOCATION	628.7020 INLET PROTECTION TYPE D EACH
0010	10+75	RT	1
		TOTAL 0010	1

EROSION CONTROL AND FINISHING ITEMS

CATEGORY	STATION TO	STATION	LOCATION	625.0100 TOPSOIL SY	627.0200 MULCHING SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.6005 TURBIDITY BARRIERS SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
0010	9+10	- 10+00	LT	0	195	70	140	145	0.02	1	1	1.0
	8+90	- 10+00	RT	50	755	85	170		0.06	3	3	2.0
	10+00	- 10+92	LT	40	575	65	130	125	0.05	2	2	2.0
	10+00	- 10+92	RT	30	655	105	210		0.05	2	2	2.0
			UNDISTRIBUTED	-	545	80	160	70	0.05	2	2	2.0
			TOTAL 0010	120	2,725	405	810	340	0.23	10	10	9.0

SIGNS

CATEGORY	STATION	LOCATION	634.0614 POSTS WOOD 4X6-INCH X 14- FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	9+41	LT	1	3	-	-	W5-52L: CLEARANCE STRIPER DOWN RIGHT
	9+41	RT	1	3	-	-	W5-52R: CLEARANCE STRIPER DOWN LEFT
	9+31	RT	-	-	1	1	R12-1: WEIGHT LIMIT 40 TONS
	9+67	LT	-	-	1	1	W5-52L: CLEARANCE STRIPER DOWN RIGHT
	9+68	RT	-	-	1	1	W5-52R: CLEARANCE STRIPER DOWN RIGHT
	10+39	LT	-	-	1	1	W5-52L: CLEARANCE STRIPER DOWN LEFT
	10+40	RT	-	-	1	1	W5-52R: CLEARANCE STRIPER DOWN RIGHT
	10+50	LT	-	-	1	1	R12-1: WEIGHT LIMIT 20 TONS
	10+49	LT	1	3	-	-	W5-52R: CLEARANCE STRIPER DOWN LEFT
	10+49	RT	1	3	-	-	W5-52L: CLEARANCE STRIPER DOWN RIGHT
			TOTAL 0010	4	12	6	6

TRAFFIC CONTROL

CATEGORY	LOCATION	DURATION DAYS	NO.	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	NO.	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	NO.	643.0900 TRAFFIC CONTROL SIGNS DAY	643.5000 TRAFFIC CONTROL EACH
0010	PER SDD 15C2 E TYLER AVENUE	110	18	1,980	24	2,640	14	1,540	-
	TOTAL 0010			1,980		2,640		1,540	1

STAKING

CATEGORY	STATION TO STATION	LOCATION	650.4500	650.5000	650.5500	650.6000	650.6501.01	650.9500.01	650.9911.01	650.9920
			CONSTRUCTION STAKING SUBGRADE LF	CONSTRUCTION STAKING BASE LF	CONSTRUCTION STAKING CURB GUTTER & GUTTER LF	CONSTRUCTION STAKING PIPE CULVERTS EACH	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) (01. B-02-0073) EACH	CONSTRUCTION STAKING SIDEWALK (PROJECT) (01. 9955-00-70) EACH	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 9955-00-70) EACH	CONSTRUCTION STAKING SLOPE STAKES LF
0010	9+09.75 - 10+92.25	MAINLINE	100	100	100	1	-	1	1	100
		TOTAL 0010	100	100	100	1	0	1	1	100
0020	9+53.75 - 10+36.25	B-13-0890	-	-	-	-	1	-	-	-
		TOTAL 0020	0	0	0	0	1	0	0	0
		PROJECT TOTAL	100	100	100	1	1	1	1	100

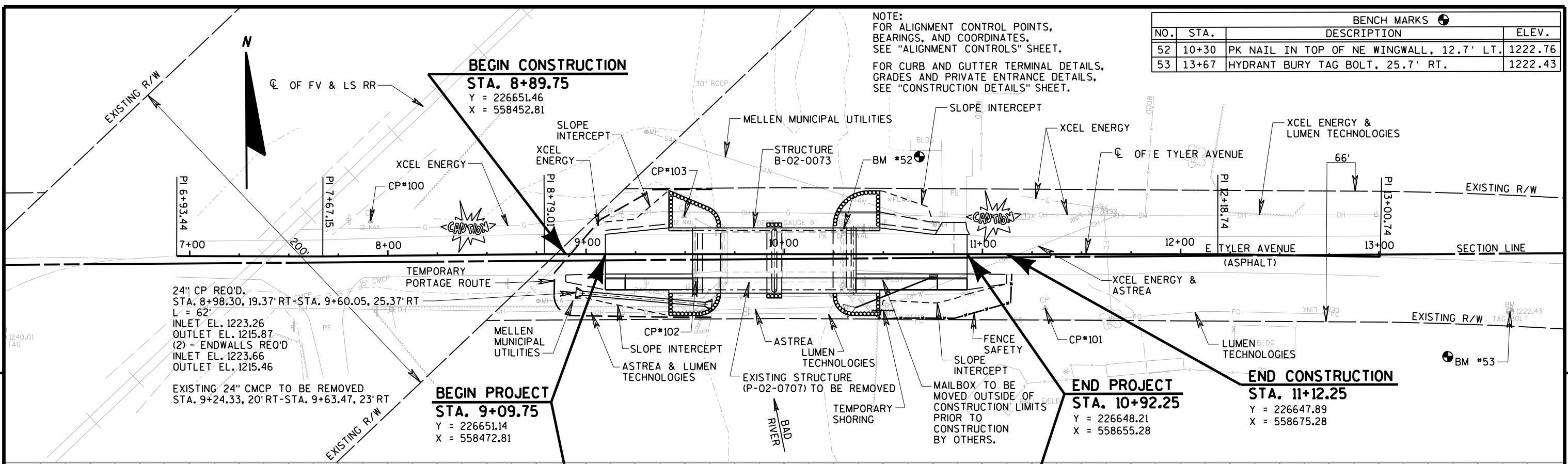
SAWING ASPHALT

CATEGORY	STATION TO STATION	LOCATION	690.0150
			SAWING ASPHALT LF
0010	8+89.75 - 9+09.75	RT	20
	9+09.75 - 9+09.75	MAINLINE	23
	10+80.00 - 10+92.00	PELT	12
	10+92.25 - 10+92.25	MAINLINE	22
		TOTAL 0010	77

BENCH MARKS			
NO.	STA.	DESCRIPTION	ELEV.
52	10+30	PK NAIL IN TOP OF NE WINGWALL, 12.7' LT.	1222.76
53	13+67	HYDRANT BURY TAG BOLT, 25.7' RT.	1222.43

NOTE:
FOR ALIGNMENT CONTROL POINTS,
BEARINGS, AND COORDINATES,
SEE "ALIGNMENT CONTROLS" SHEET.

FOR CURB AND GUTTER TERMINAL DETAILS,
GRADES AND PRIVATE ENTRANCE DETAILS,
SEE "CONSTRUCTION DETAILS" SHEET.



24" CP REQ'D.
STA. 8+98.30, 19.37' RT-STA. 9+60.05, 25.37' RT
L = 62'
INLET EL. 1223.26
OUTLET EL. 1215.87
(2) - ENDWALLS REQ'D
INLET EL. 1223.66
OUTLET EL. 1215.46

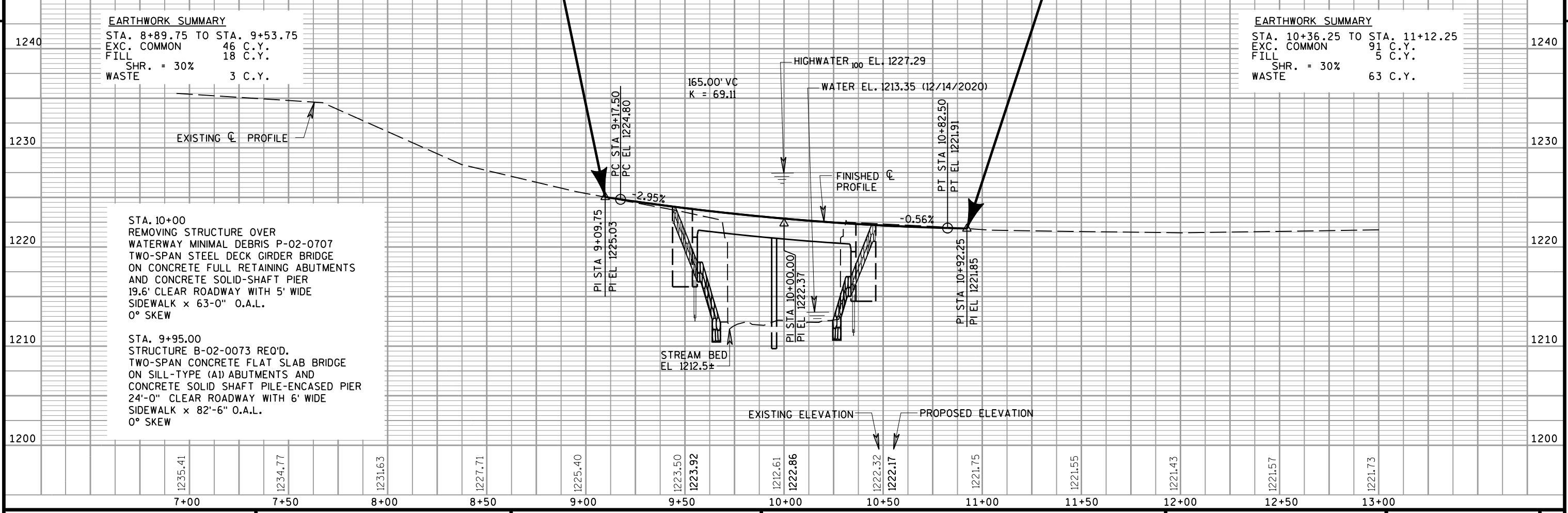
EXISTING 24" CMCP TO BE REMOVED
STA. 9+24.33, 20' RT-STA. 9+63.47, 23' RT

EARTHWORK SUMMARY

STA. 8+89.75 TO STA. 9+53.75	
EXC. COMMON	46 C.Y.
FILL	18 C.Y.
SHR. = 30%	
WASTE	3 C.Y.

EARTHWORK SUMMARY

STA. 10+36.25 TO STA. 11+12.25	
EXC. COMMON	91 C.Y.
FILL	5 C.Y.
SHR. = 30%	
WASTE	63 C.Y.

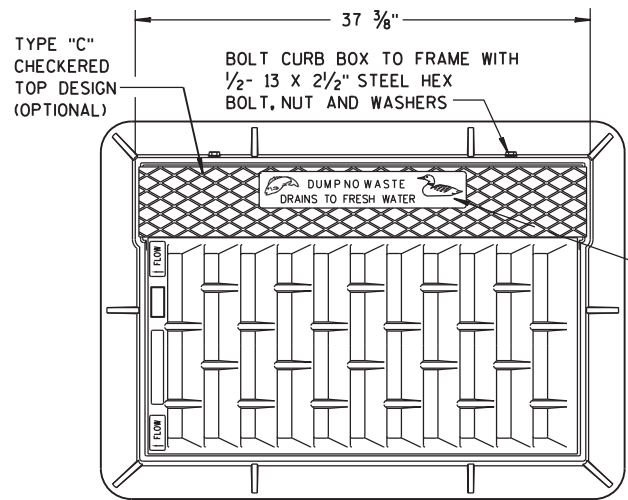


STA. 10+00
REMOVING STRUCTURE OVER
WATERWAY MINIMAL DEBRIS P-02-0707
TWO-SPAN STEEL DECK GIRDER BRIDGE
ON CONCRETE FULL RETAINING ABUTMENTS
AND CONCRETE SOLID-SHAFT PIER
19.6' CLEAR ROADWAY WITH 5' WIDE
SIDEWALK x 63'-0" O.A.L.
0° SKEW

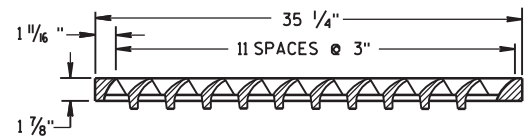
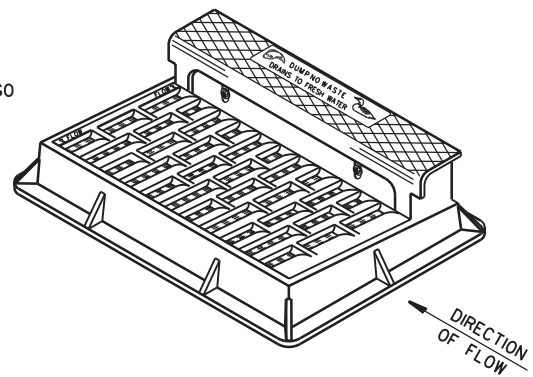
STA. 9+95.00
STRUCTURE B-02-0073 REQ'D.
TWO-SPAN CONCRETE FLAT SLAB BRIDGE
ON SILL-TYPE (A1) ABUTMENTS AND
CONCRETE SOLID SHAFT PILE-ENCASED PIER
24'-0" CLEAR ROADWAY WITH 6' WIDE
SIDEWALK x 82'-6" O.A.L.
0° SKEW

Standard Detail Drawing List

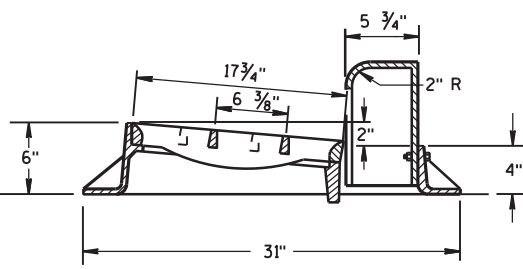
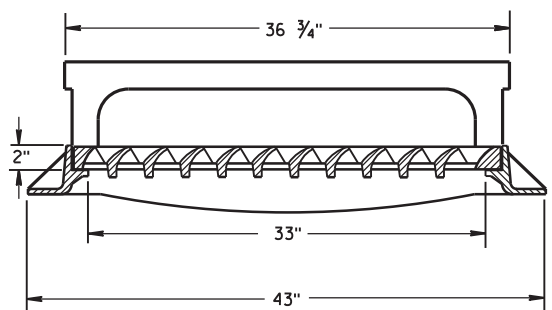
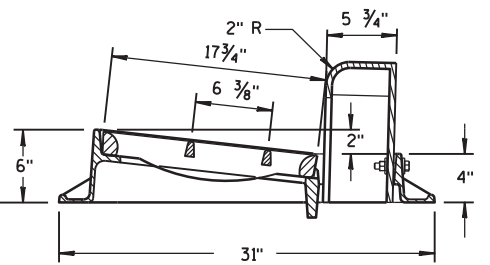
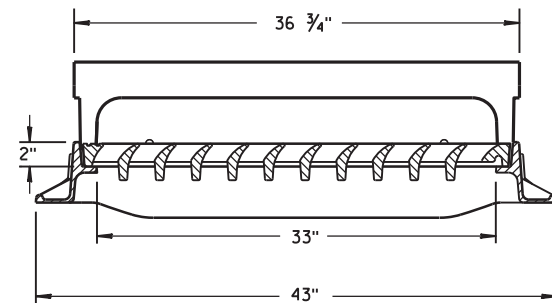
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
12A03-10	NAME PLATE (STRUCTURES)
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES



**NOTE:
GRATE IS REVERSIBLE.**

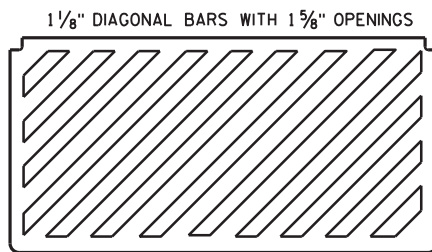


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

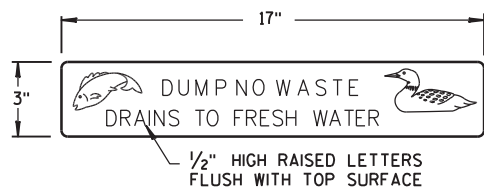


TYPE "H"

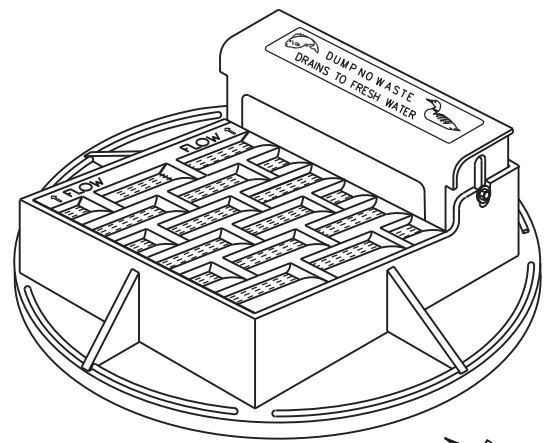
NOTE: EITHER CASTING IS ACCEPTABLE



**SPECIAL GRATE FOR
TYPE "H" COVER**
(MEASURES 35 1/4" X 17 3/4" X 2")
(NOTED AS TYPE H-S ON DRAINAGE TABLE)



LOGO DETAIL



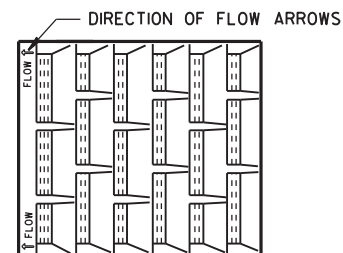
**NOTE:
GRATE IS REVERSIBLE.**

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.

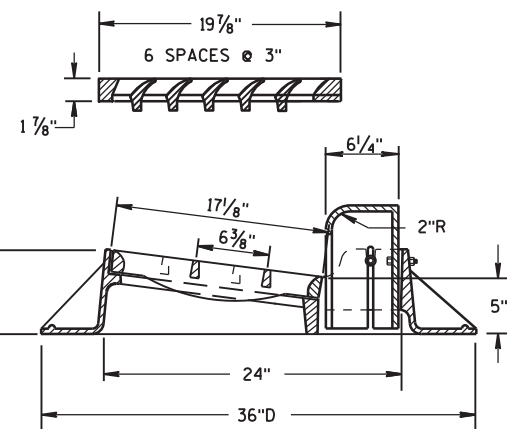
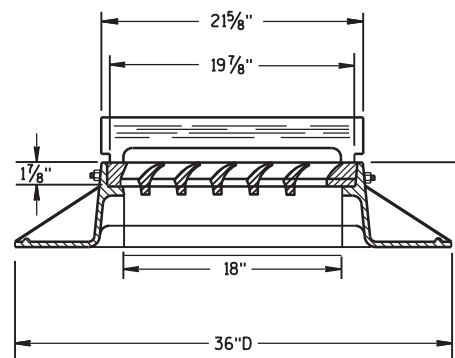
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

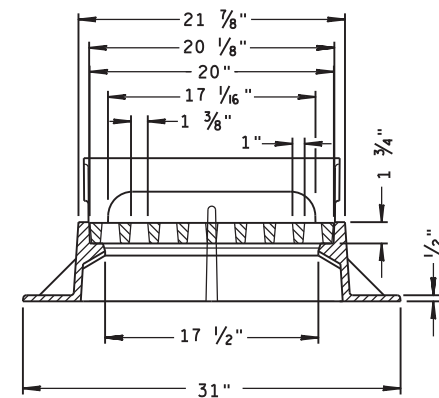
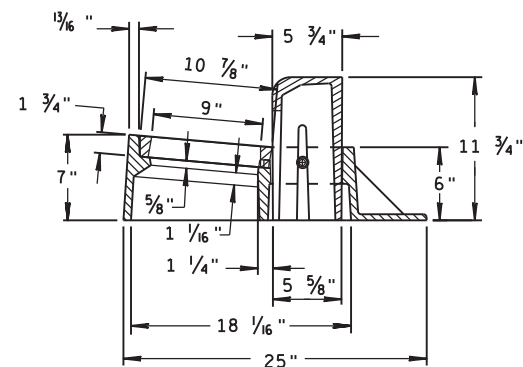


**SPECIAL GRATE FOR
TYPE "A" COVER**

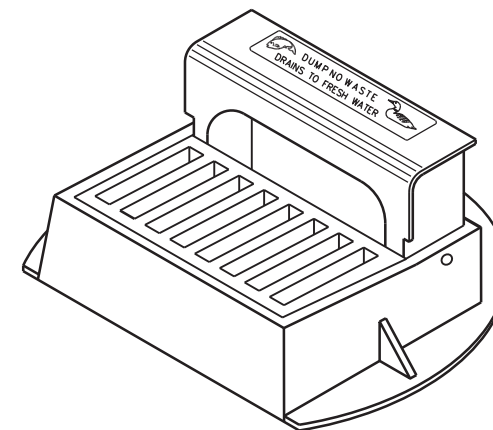
(MEASURES 19 3/4" X 17" X 1 1/8")
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "A"



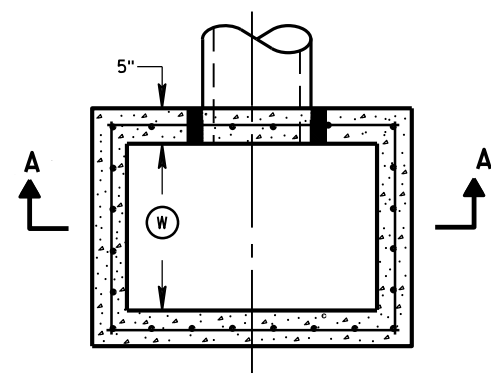
TYPE "Z"



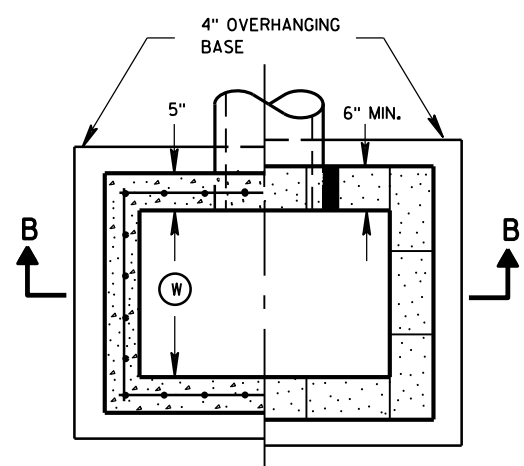
**INLET COVERS
TYPE A, H, A-S, H-S & Z**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

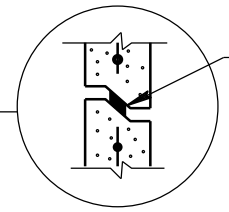
APPROVED
11-27-13
DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



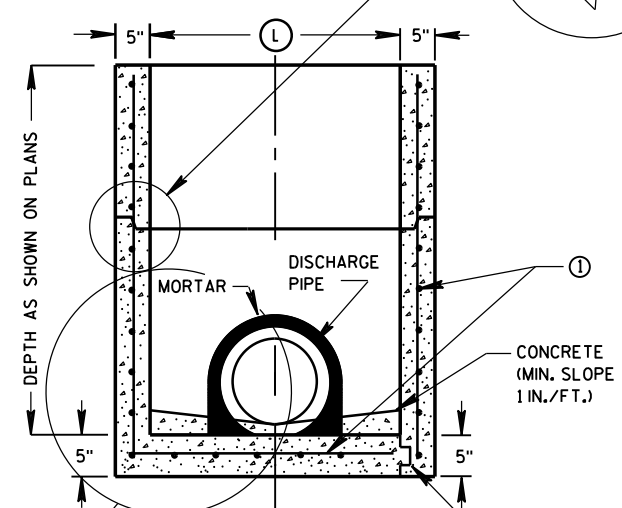
PLAN VIEW



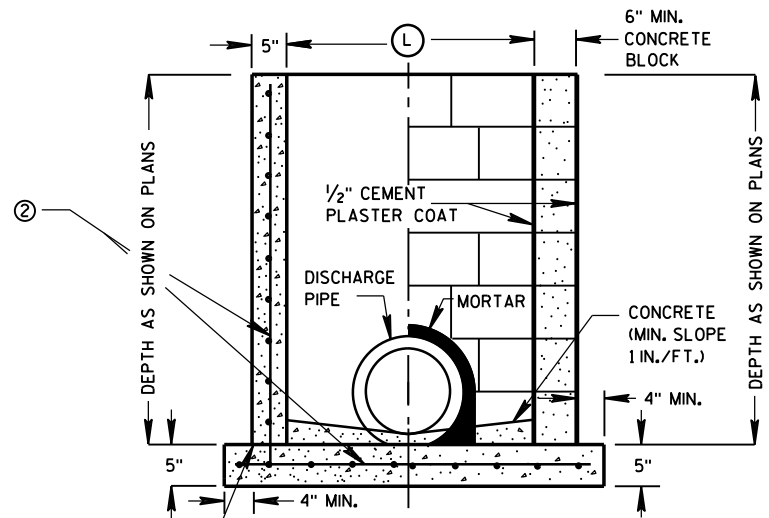
PLAN VIEW



RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



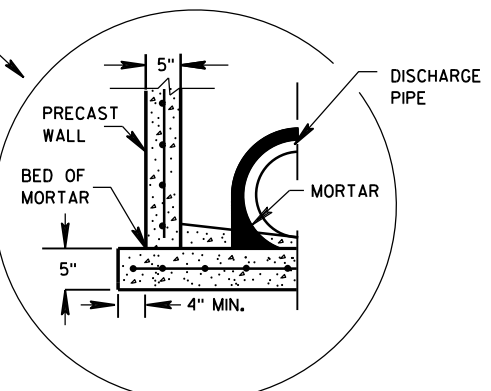
SECTION A-A



SECTION B-B

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE
 PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE
 KEYWAY

CONSTRUCTION JOINT
 CAST-IN-PLACE REINFORCED CONCRETE
 CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ①



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

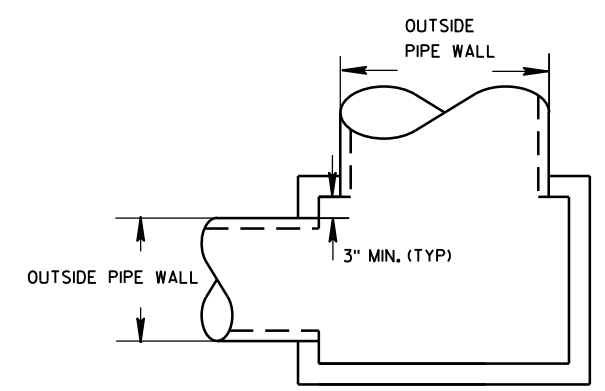
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE	INLET COVER TYPE		ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



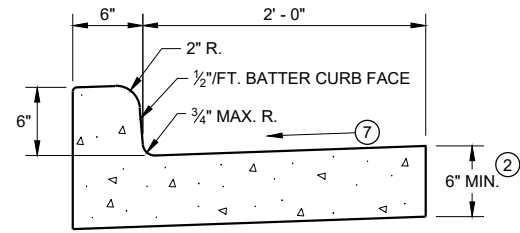
DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

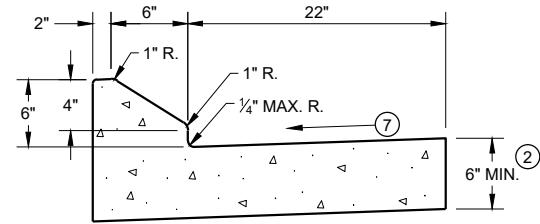
**INLETS 2X2-FT, 2X2.5-FT,
2X3-FT AND 2.5X3-FT**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

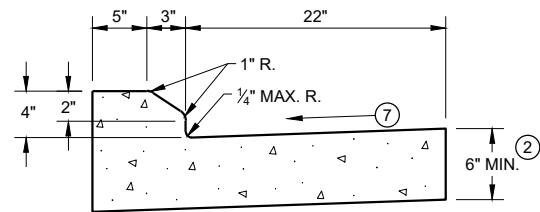
APPROVED
 Sept., 2016 /S/ Rodney Taylor
 DATE ROADWAY STANDARDS DEVELOPMENT
 FHWA UNIT SUPERVISOR



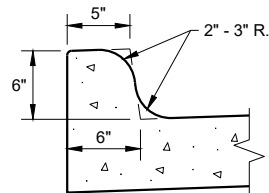
TYPES A^① & D



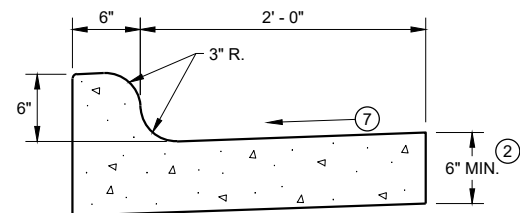
6" SLOPED CURB TYPES G^① & J



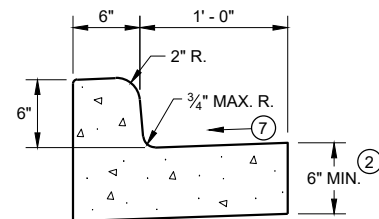
4" SLOPED CURB TYPES G^① & J



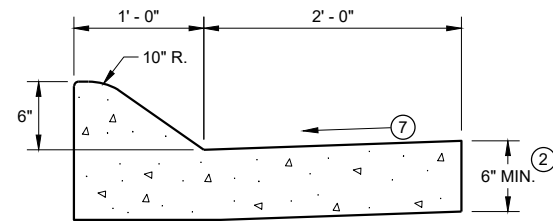
TYPES K^① & L
(OPTIONAL CURB SHAPE)



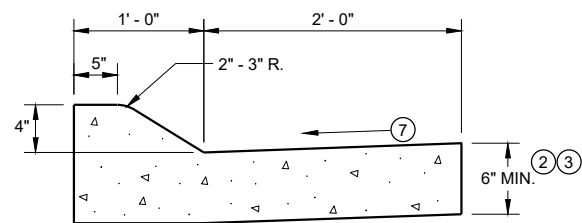
TYPES K^① & L
CONCRETE CURB AND GUTTER 30"



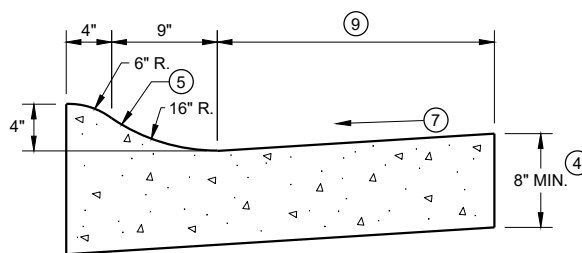
TYPES A^① & D
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A^① & D

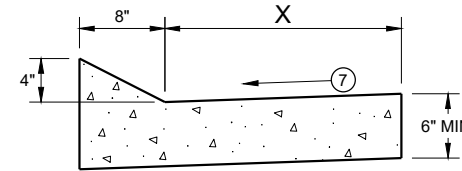


4" SLOPED CURB TYPES A^① & D
CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R^① & T

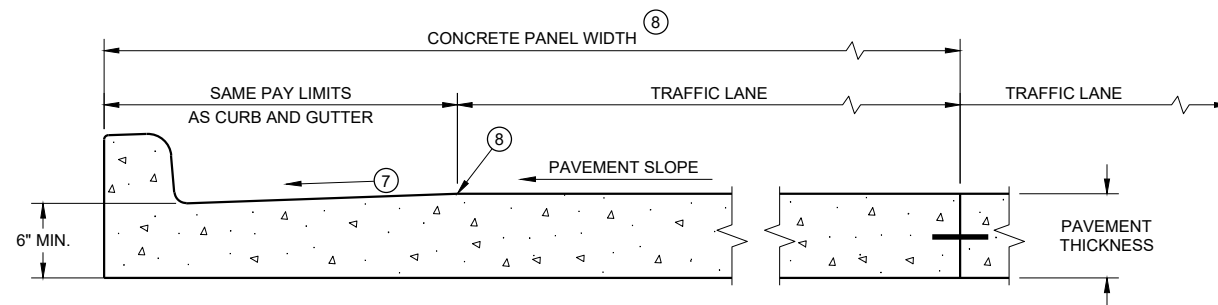
TBT & TBTT	X
30"	22"
36"	28"



TYPES TBT & TBTT^①
CONCRETE CURB AND GUTTER

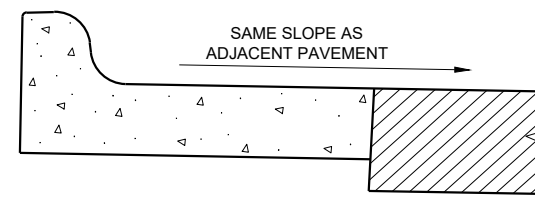
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'



PARTIAL SECTION OF PAVEMENT* WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER^⑥
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

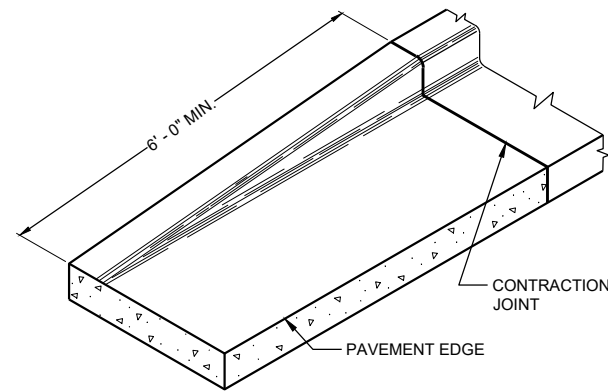
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

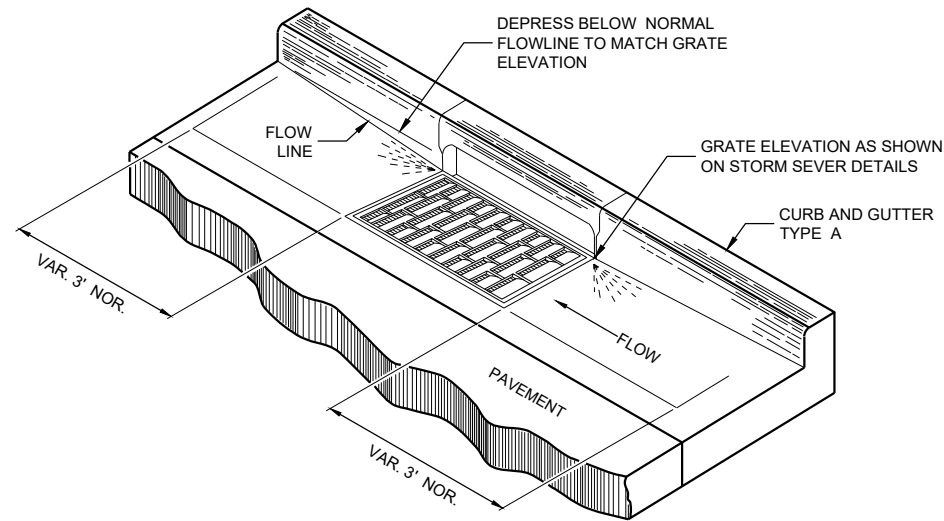
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
- ⑨ CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES



END SECTION CURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

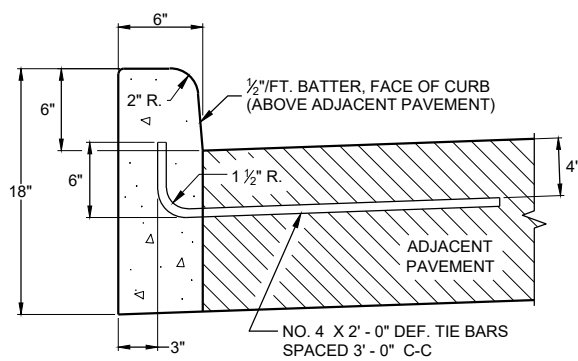
GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

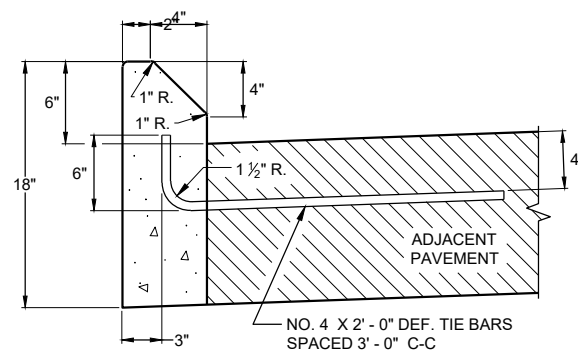
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

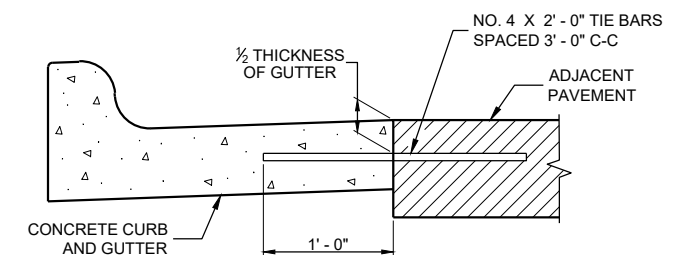
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑩ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.
- ⑪ PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.



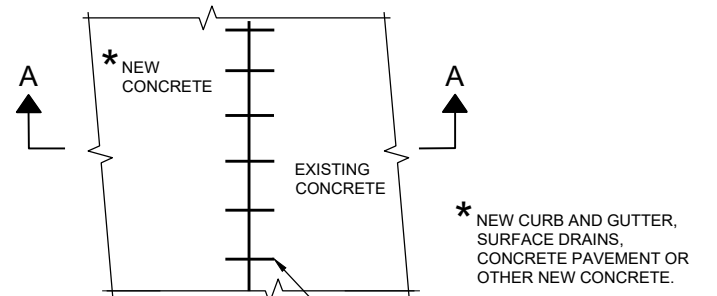
TYPES A^① & D



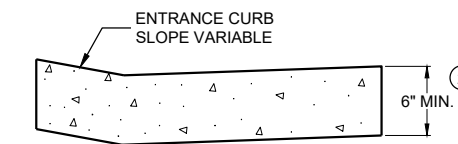
**TYPES G^① & J
CONCRETE CURB**



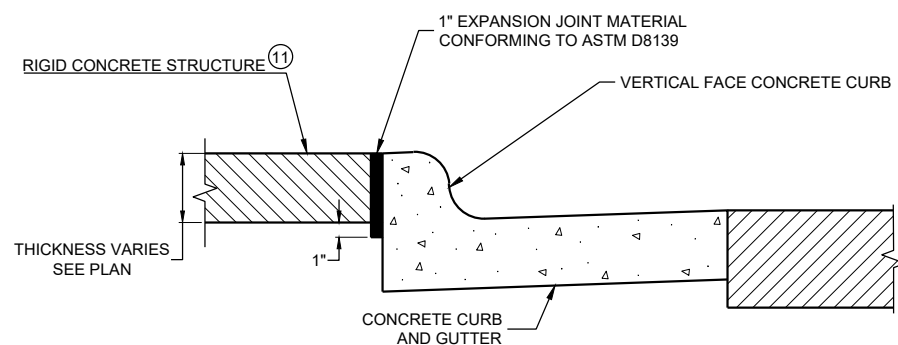
TYPICAL TIE BAR LOCATION^①



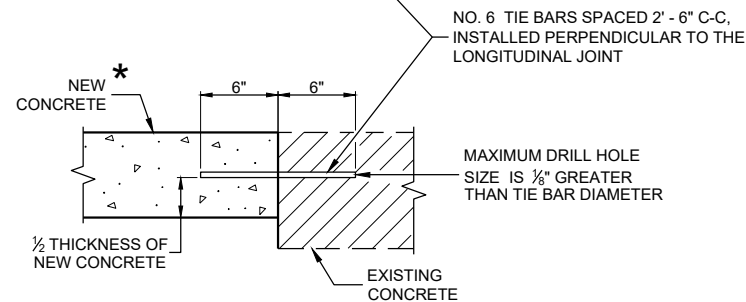
PLAN VIEW



**DRIVEWAY ENTRANCE CURB^⑩
(WHEN DIRECTED BY THE ENGINEER)**



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE^⑪



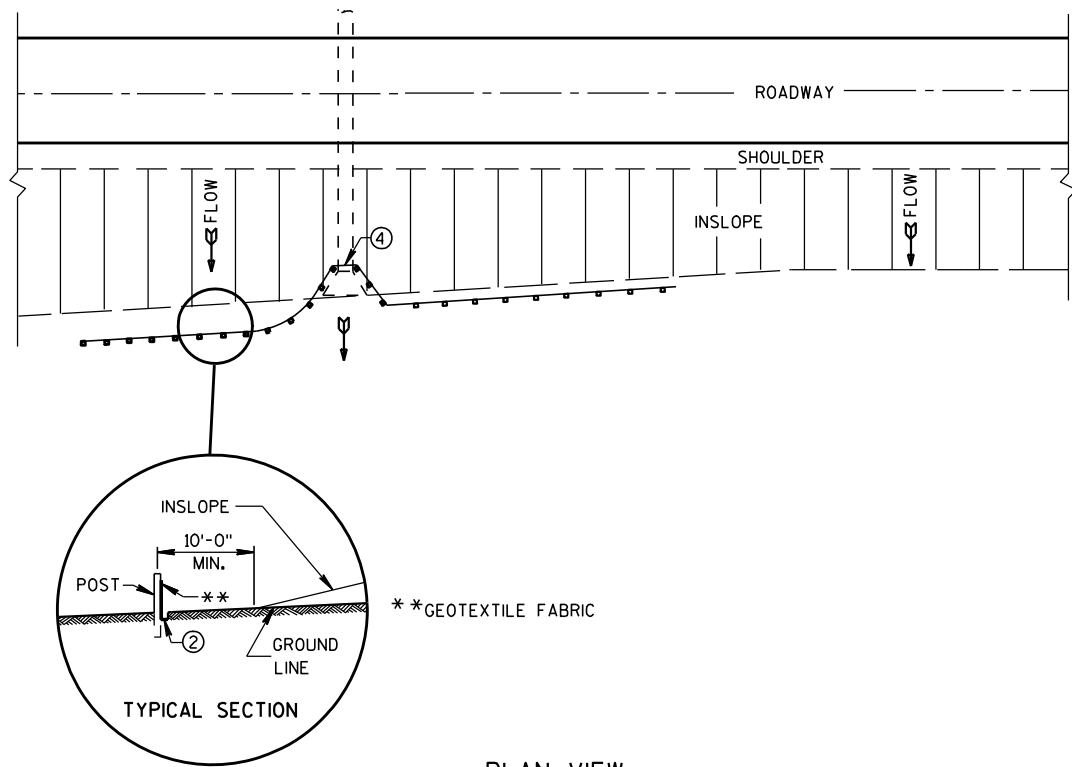
**SECTION A - A
TIE BARS DRILLED INTO EXISTING PAVEMENT**

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

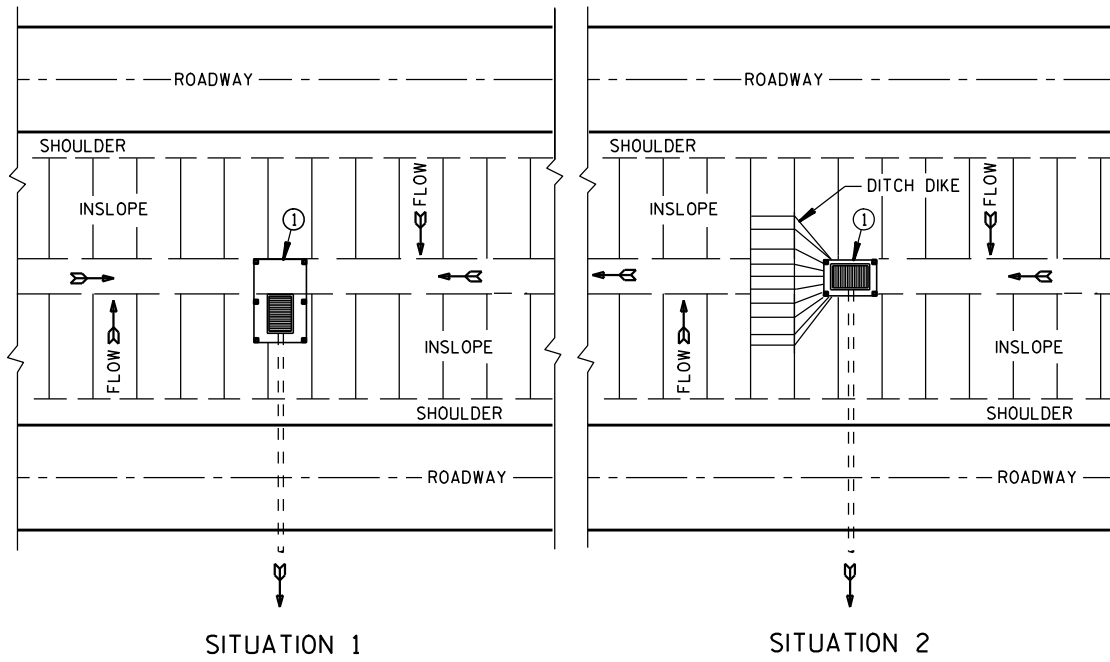
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE May 2023 /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

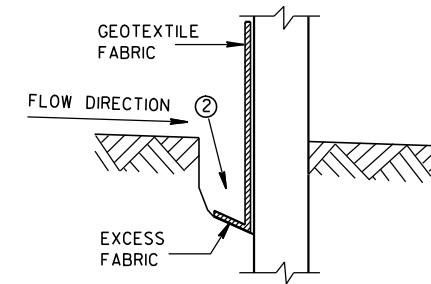


SITUATION 1 SITUATION 2
PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

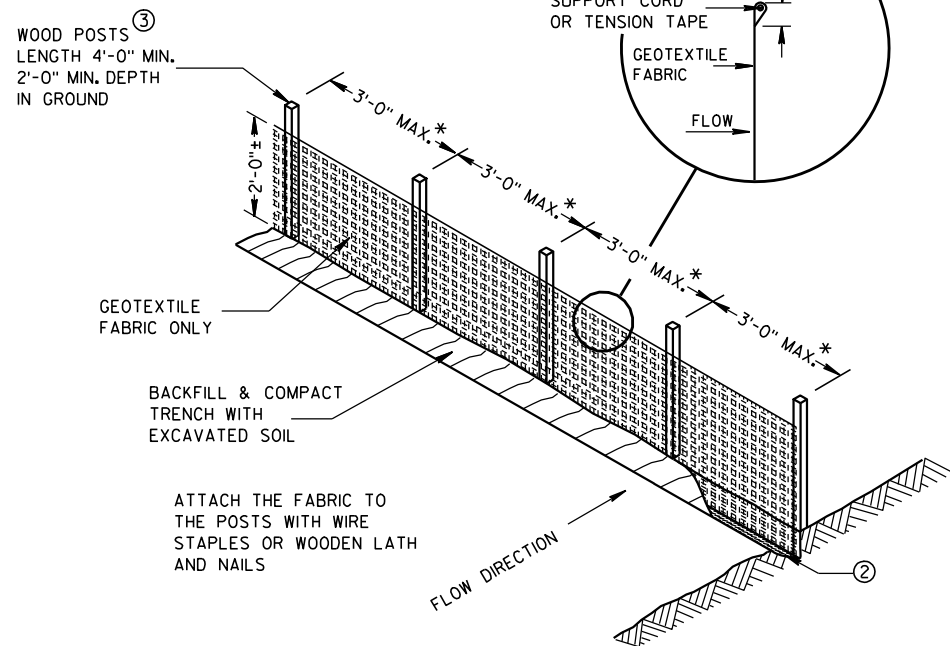
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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



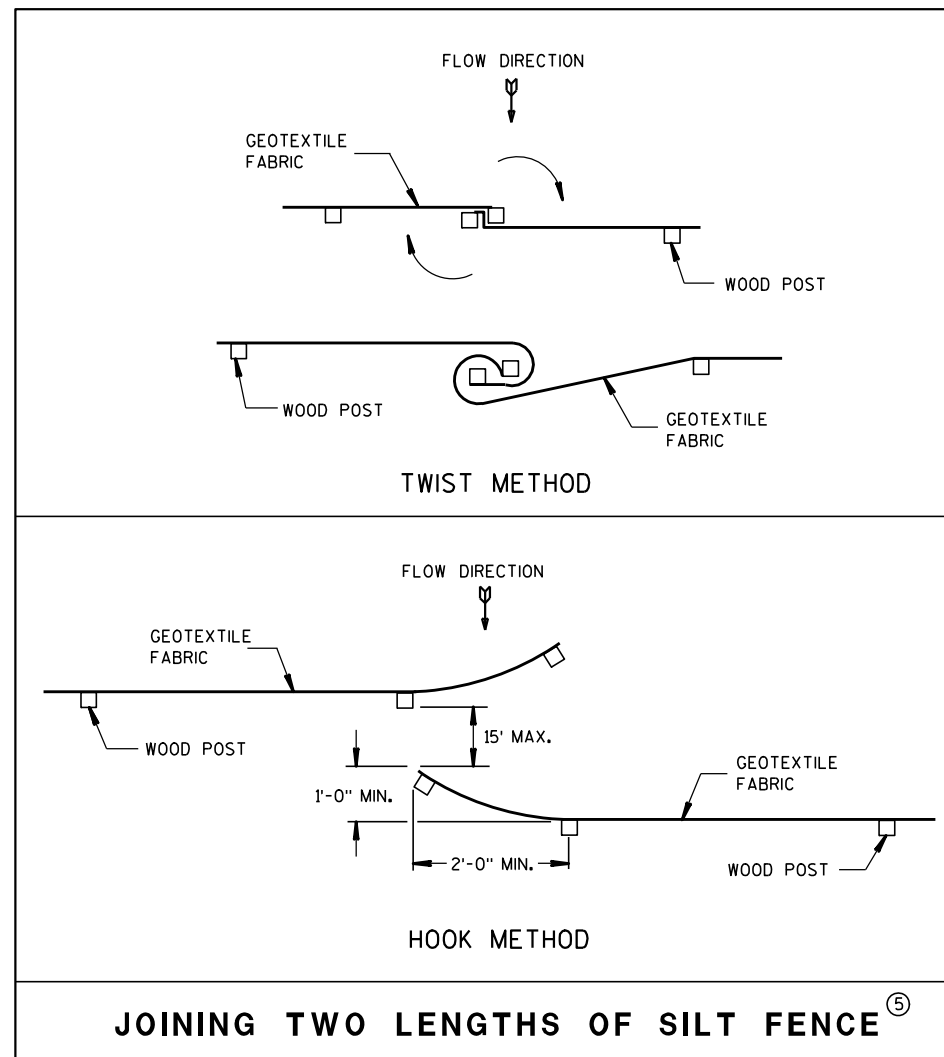
TRENCH DETAIL

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

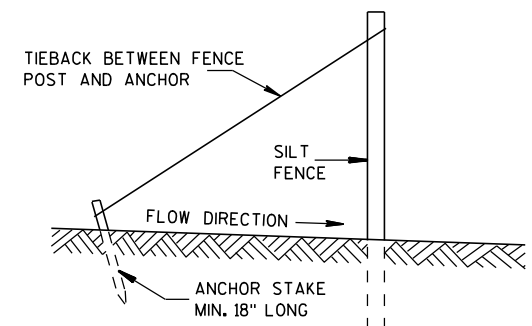


SILT FENCE

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



JOINING TWO LENGTHS OF SILT FENCE ⑤

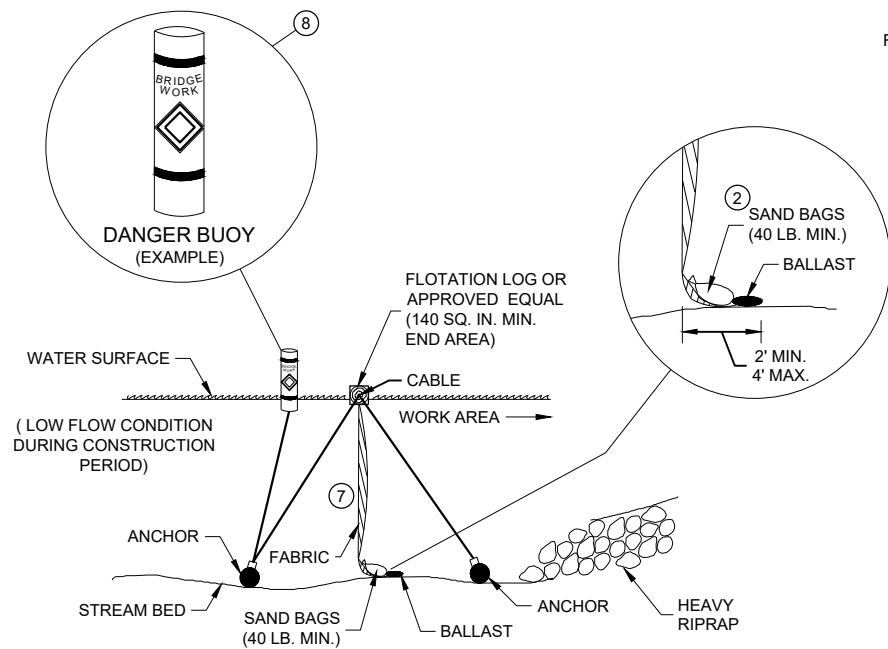


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

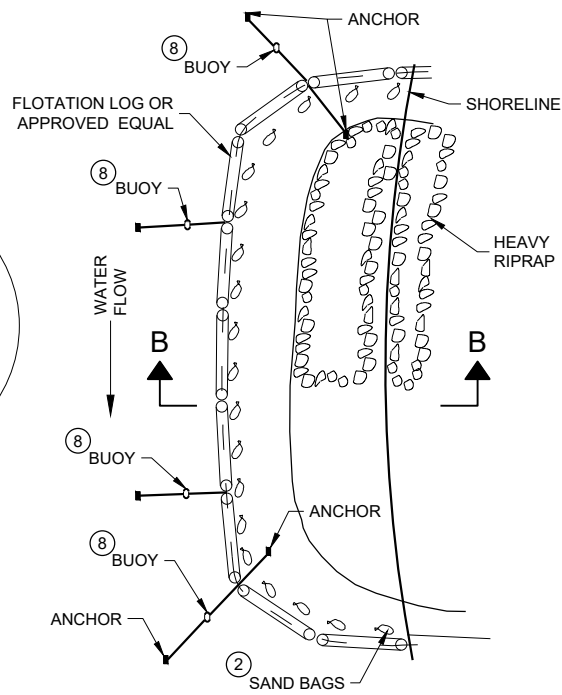
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

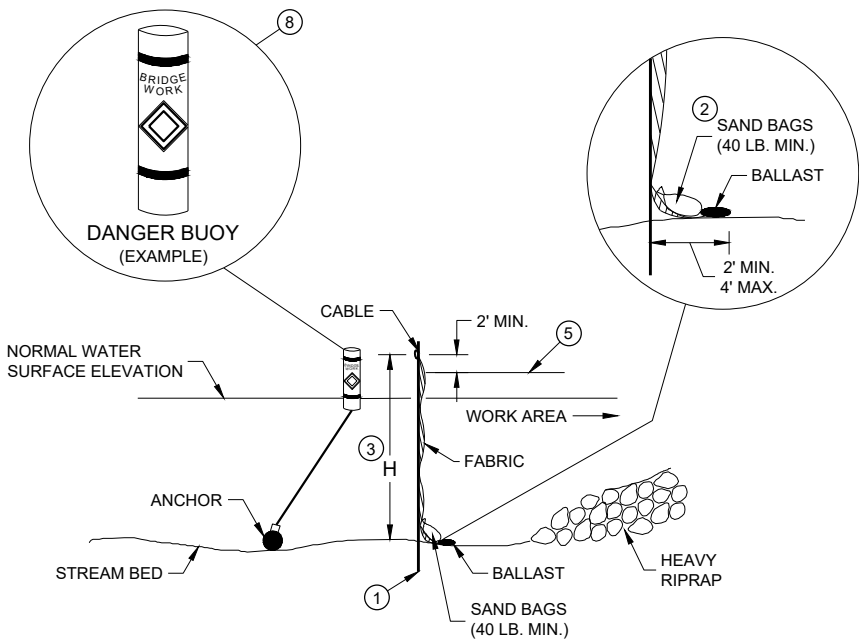


SECTION B - B

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

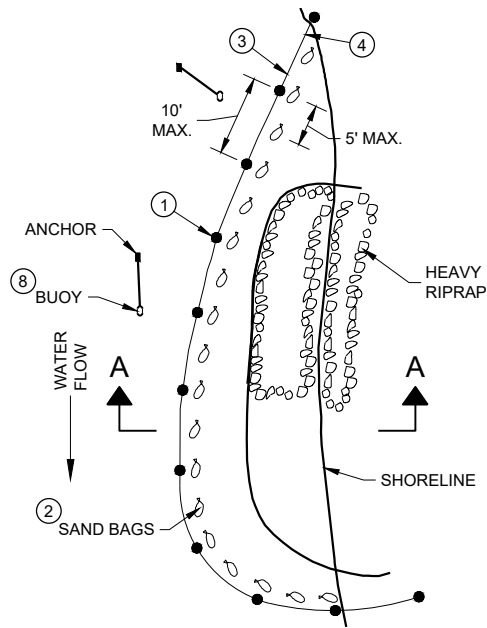


PLAN VIEW



SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION



PLAN VIEW

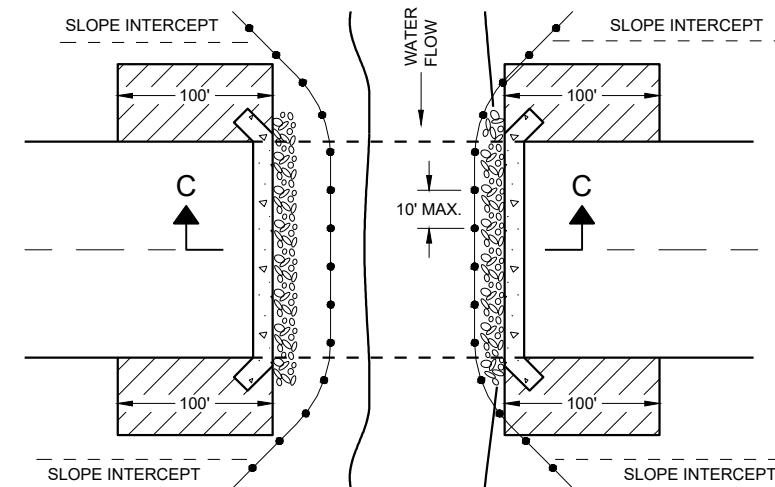
TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

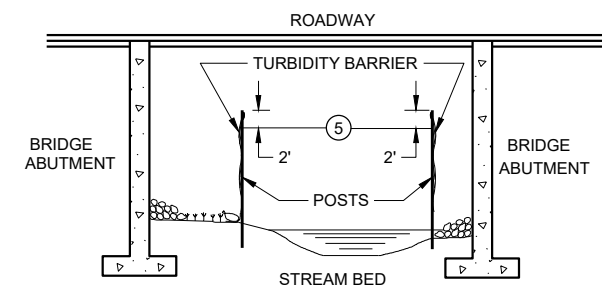
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

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



PLAN VIEW



SECTION C - C

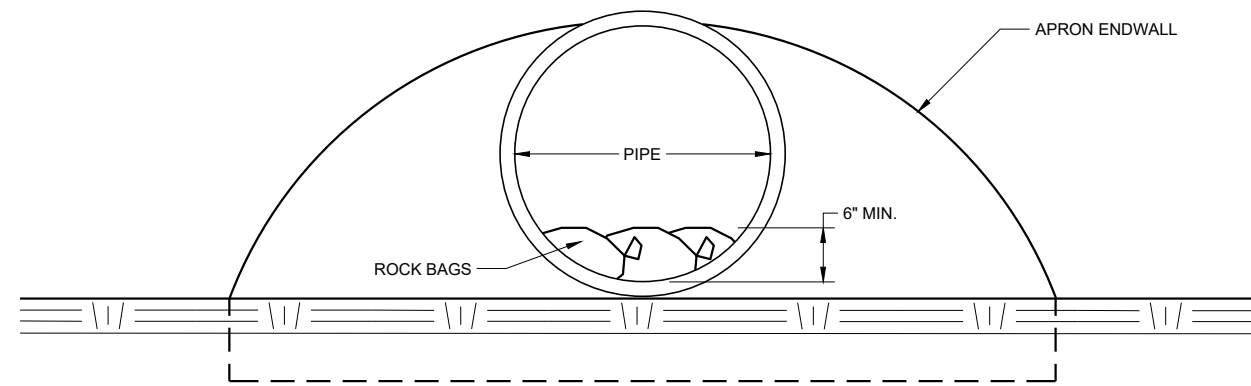
**TURBIDITY BARRIER DETAIL SHOWING
TYPICAL PLACEMENT AT STRUCTURES**

TURBIDITY BARRIER

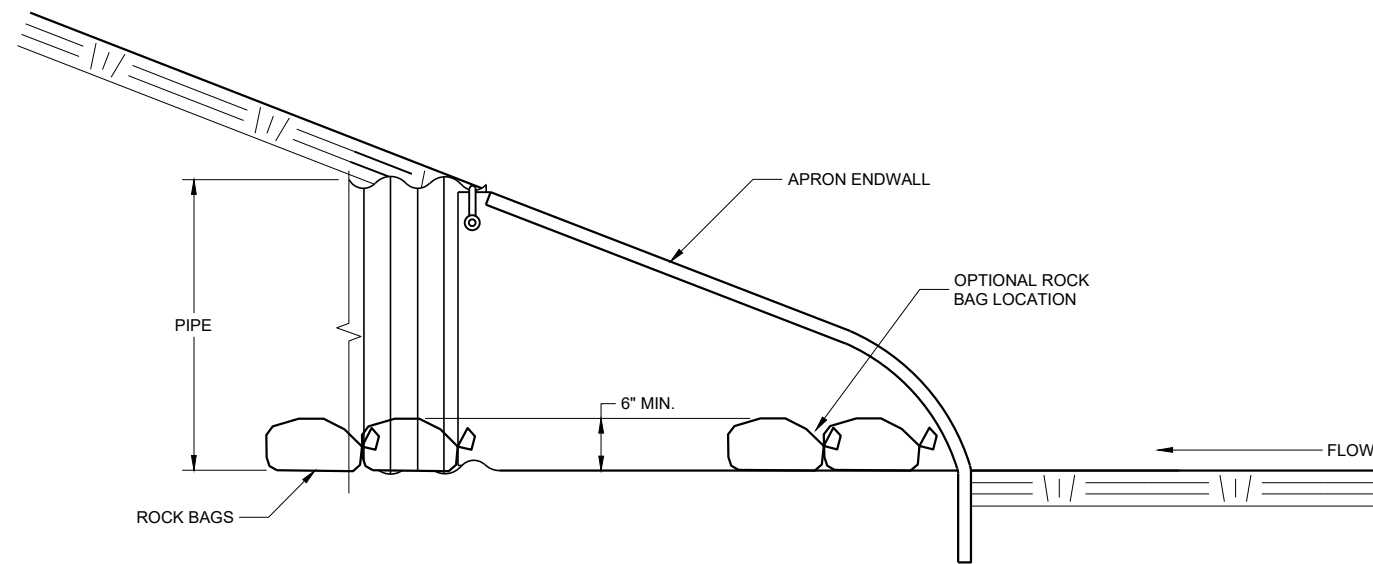
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



END VIEW



SIDE VIEW

CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 /S/ Daniel Schave
DATE EROSION CONTROL ENGINEER

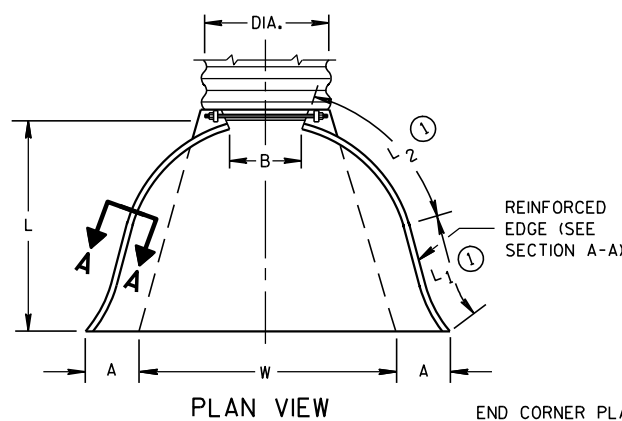
FHWA

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

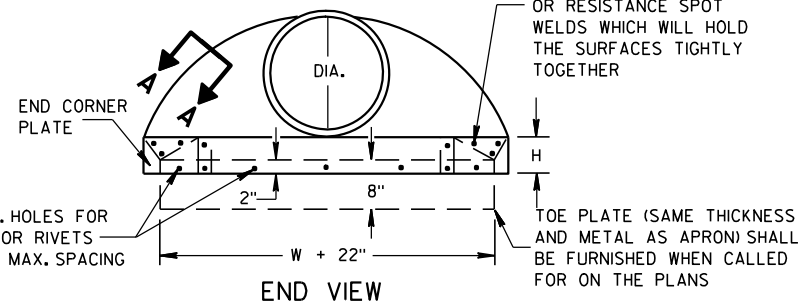
* EXCEPT CENTER PANEL SEE GENERAL NOTES

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

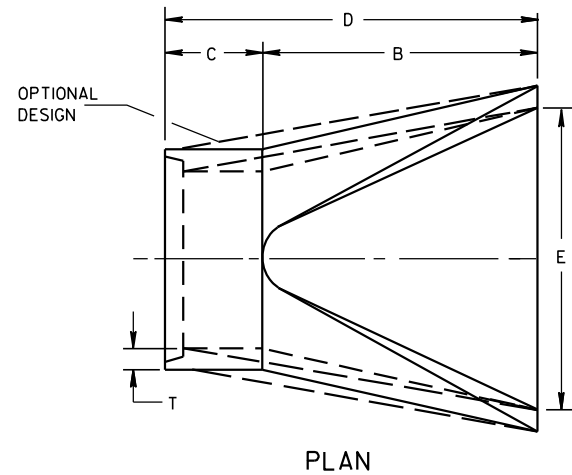
* MINIMUM
** MAXIMUM



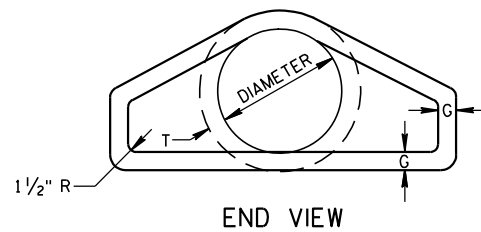
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



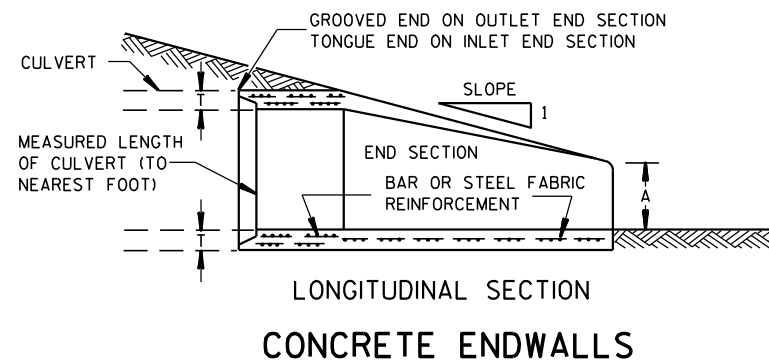
SIDE ELEVATION
METAL ENDWALLS



PLAN

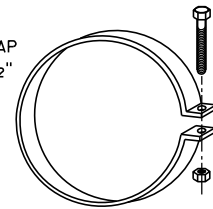


END VIEW

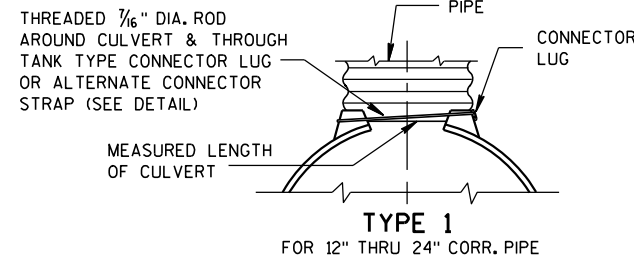


LONGITUDINAL SECTION
CONCRETE ENDWALLS

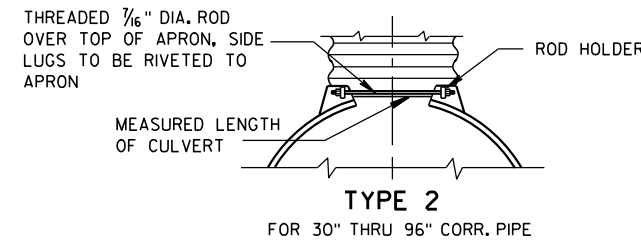
1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



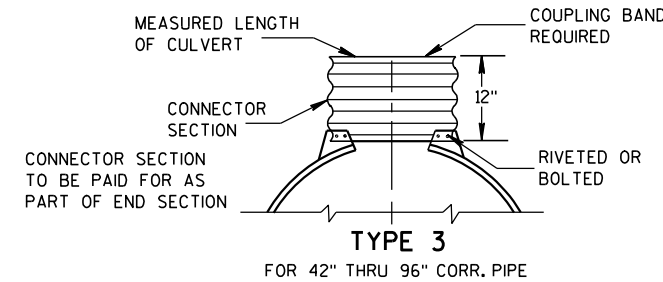
ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



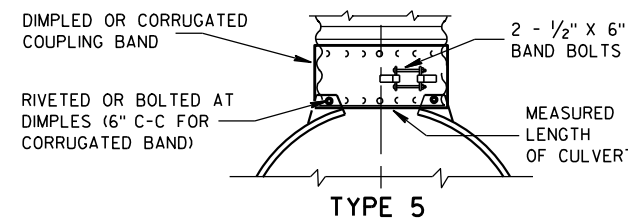
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

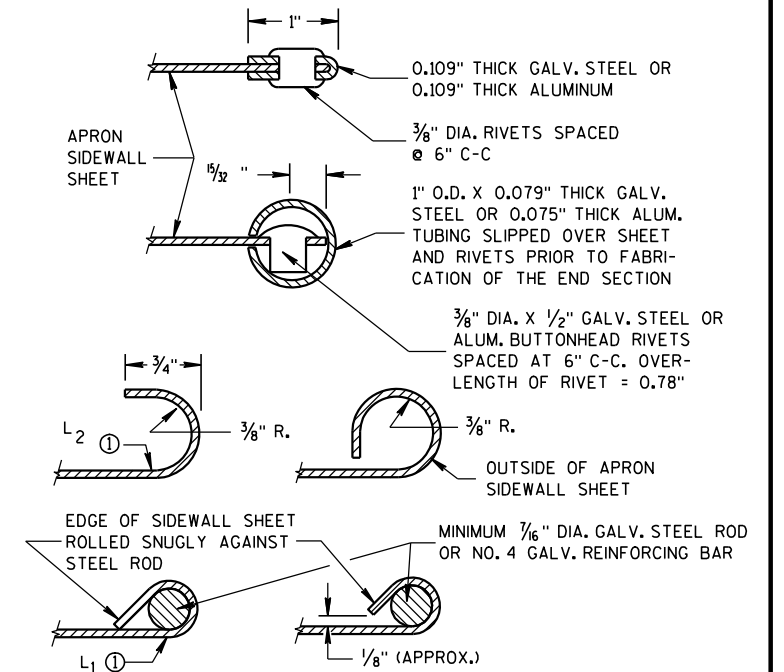
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

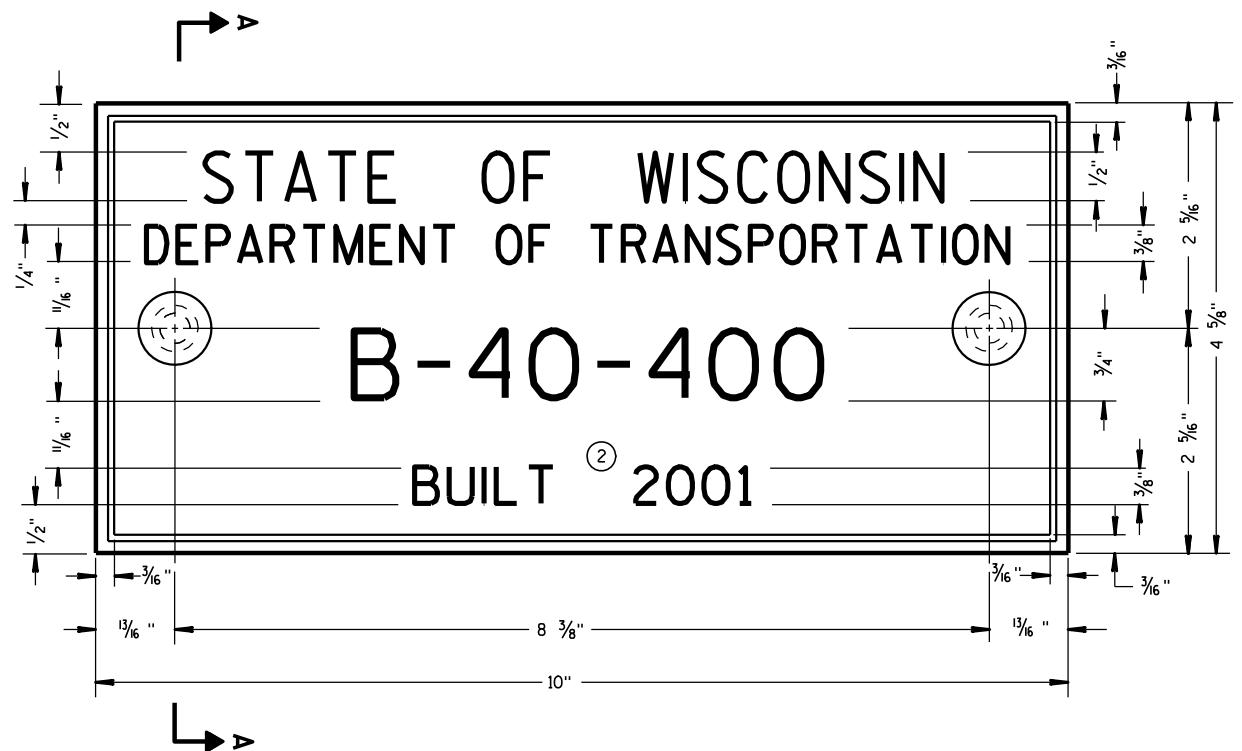
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

APRON ENDWALLS FOR
CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



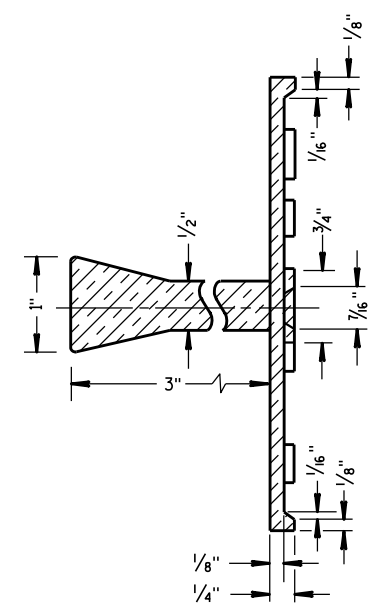
TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

GENERAL NOTES

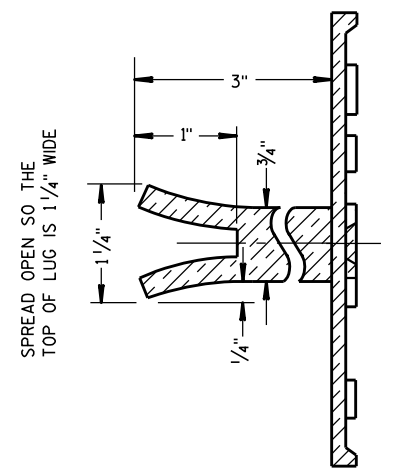
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

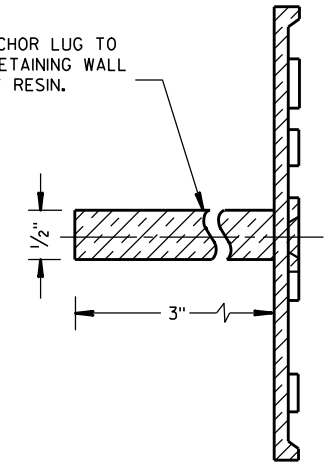
COUNTY NO. BRIDGE NO.

UNIT NO. FOR MULTIPLE
UNIT BRIDGE

B-40-400-1A

**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

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

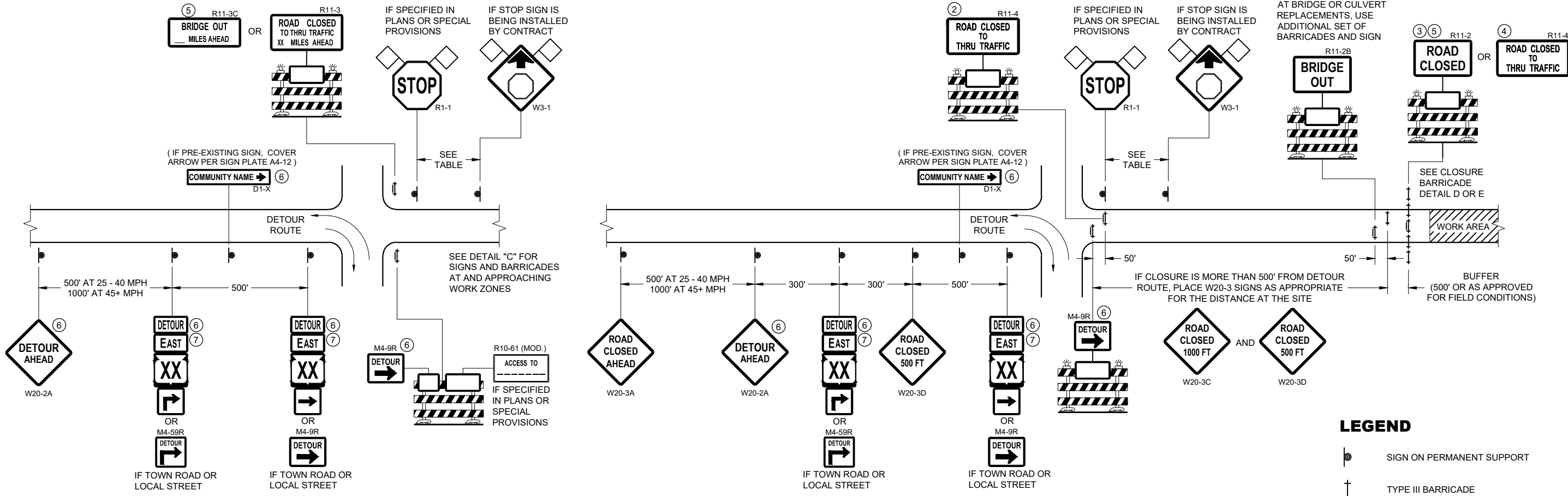


ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

S.D.D. 12 A 3-10

S.D.D. 12 A 3-10

NAME PLATE (STRUCTURES)	
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**

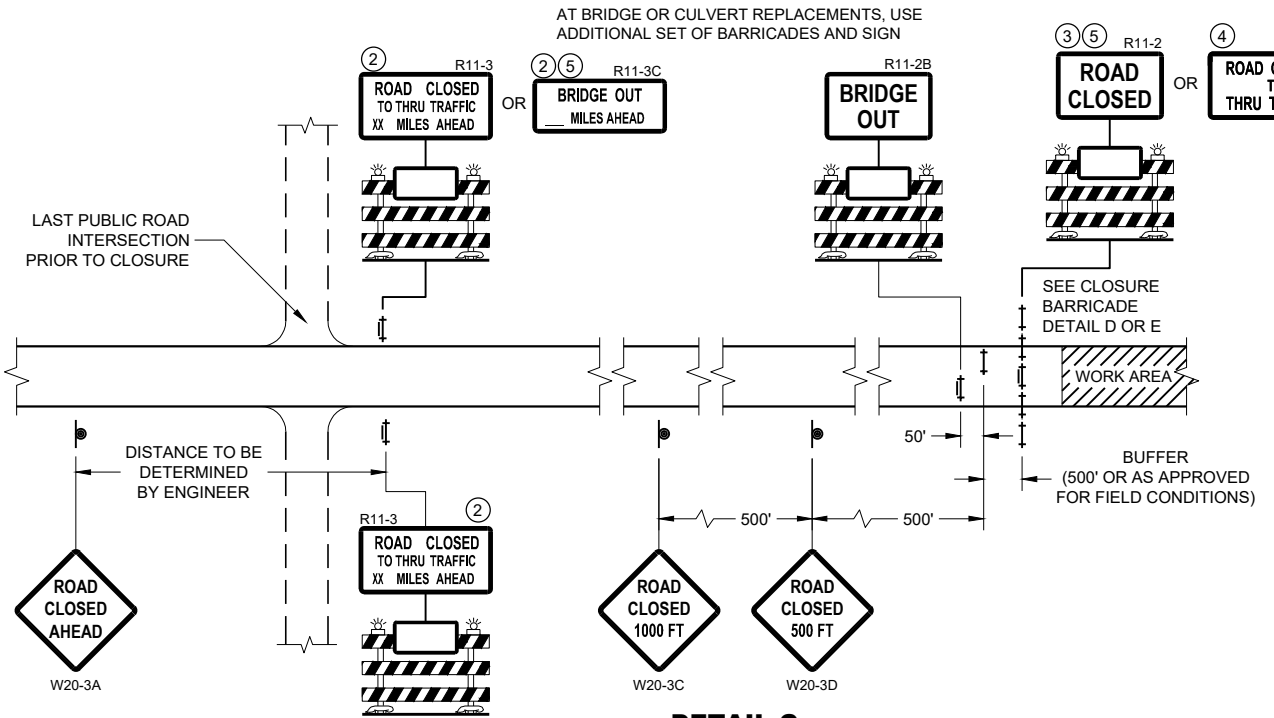
WORK ZONE LESS THAN 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

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



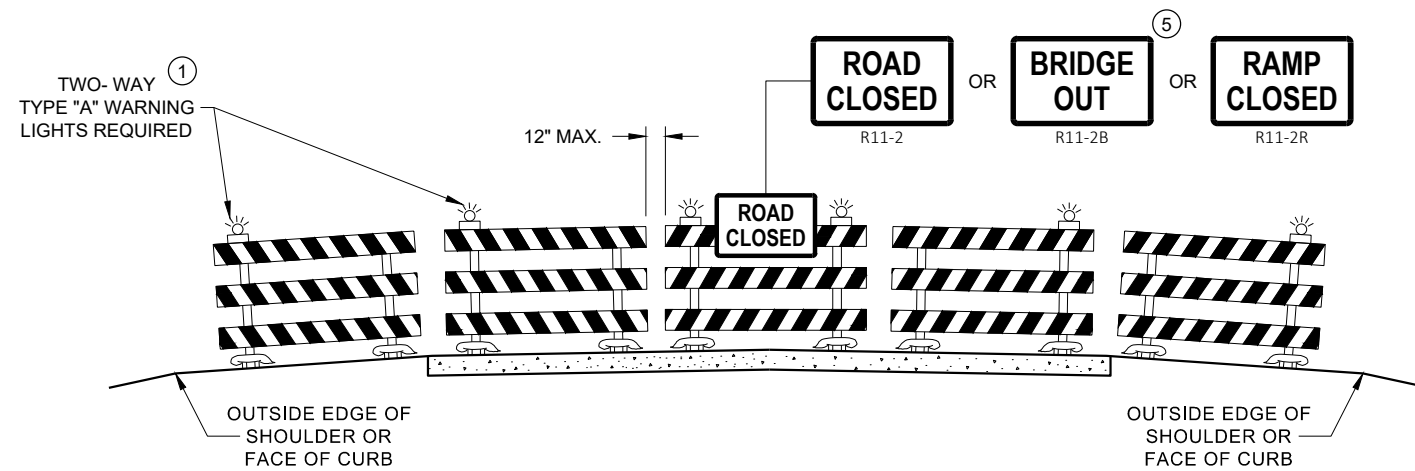
**DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR**

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

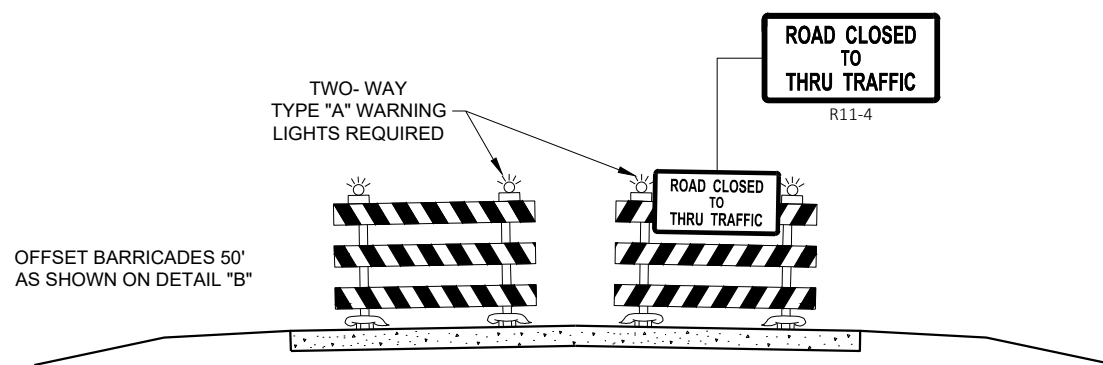
**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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



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

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

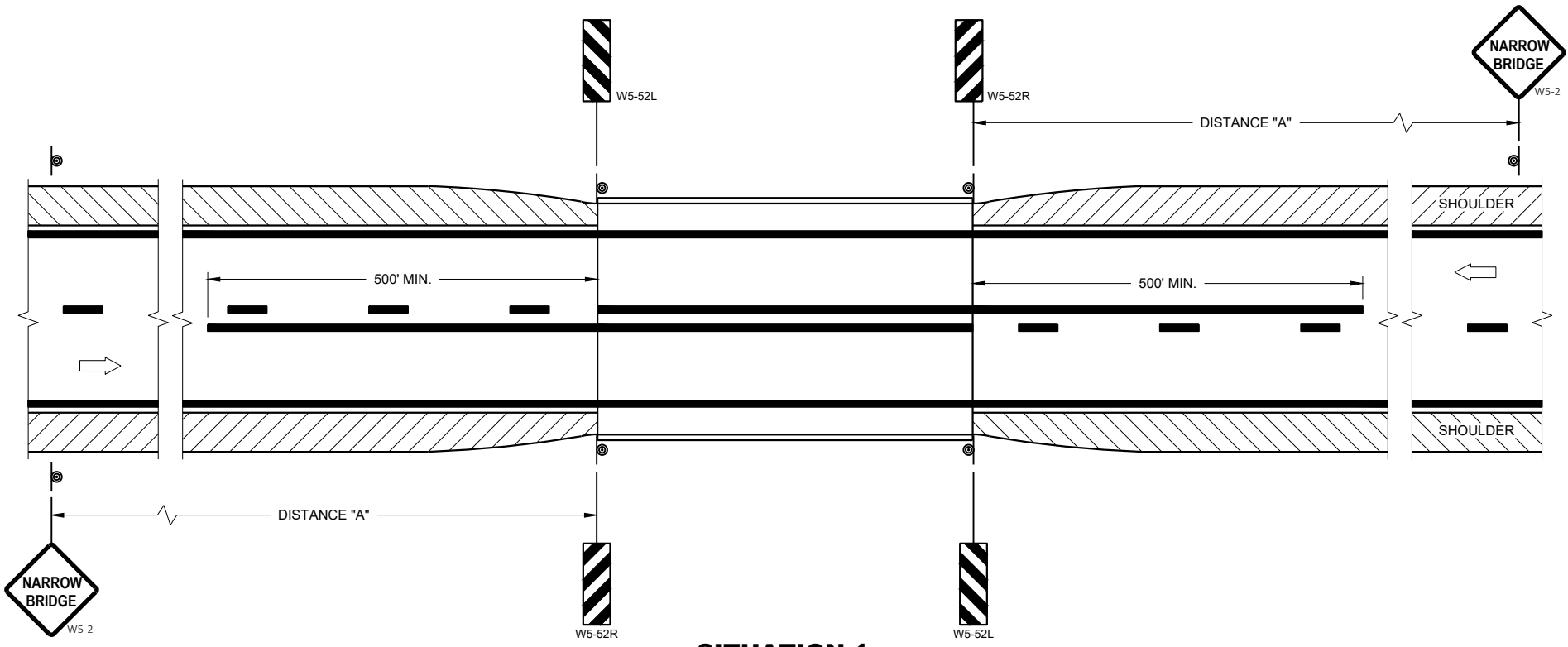
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24"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

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

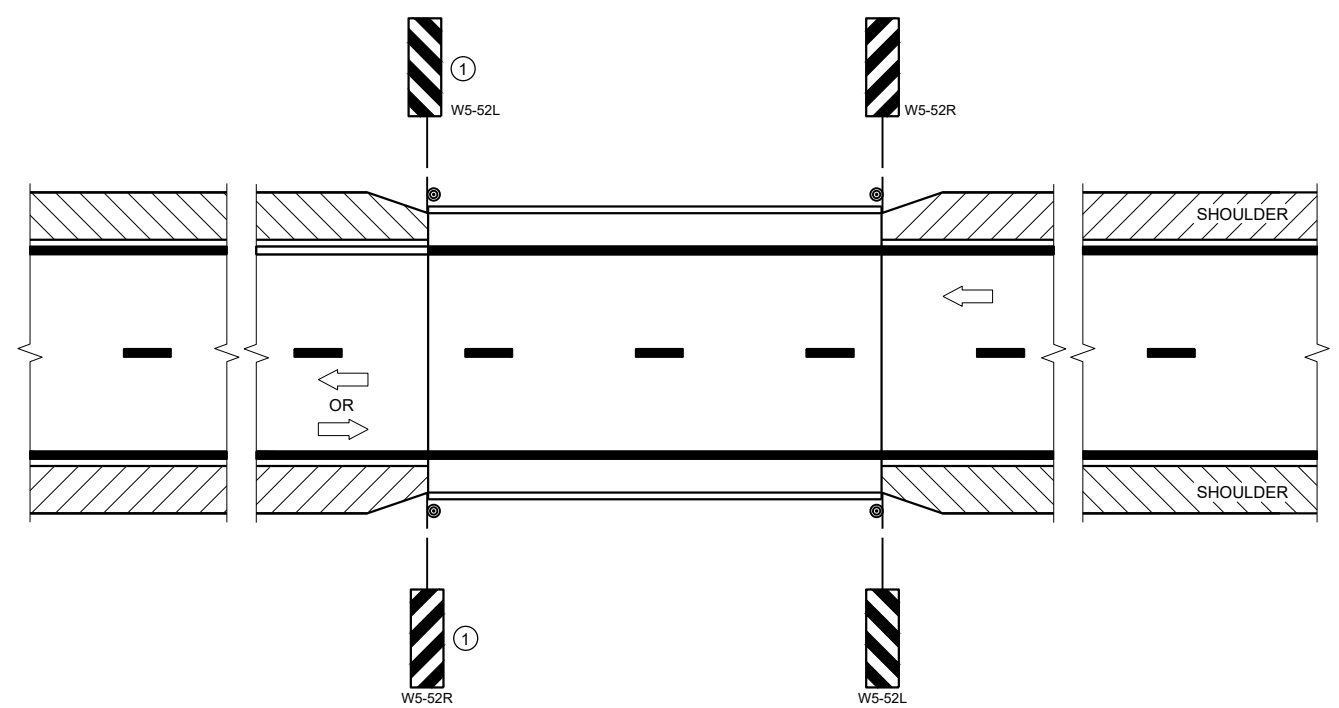
**BARRICADES AND SIGNS
FOR
VARIOUS CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



SITUATION 1
 WARRANTING CRITERIA:
 BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.



SITUATION 2
 WARRANTING CRITERIA:
 1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
 2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET

GENERAL NOTES

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

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

① OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC

DISTANCE TABLE

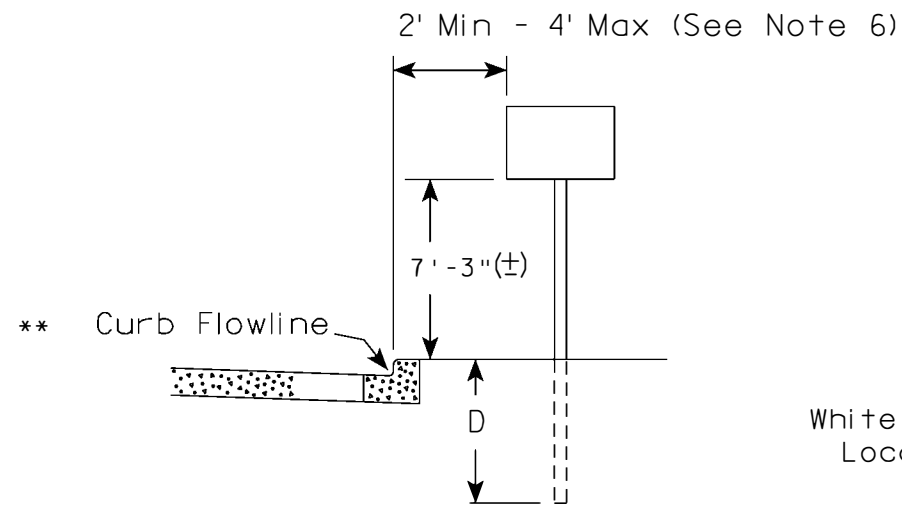
POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

SIGNING AND MARKING FOR TWO LANE BRIDGES

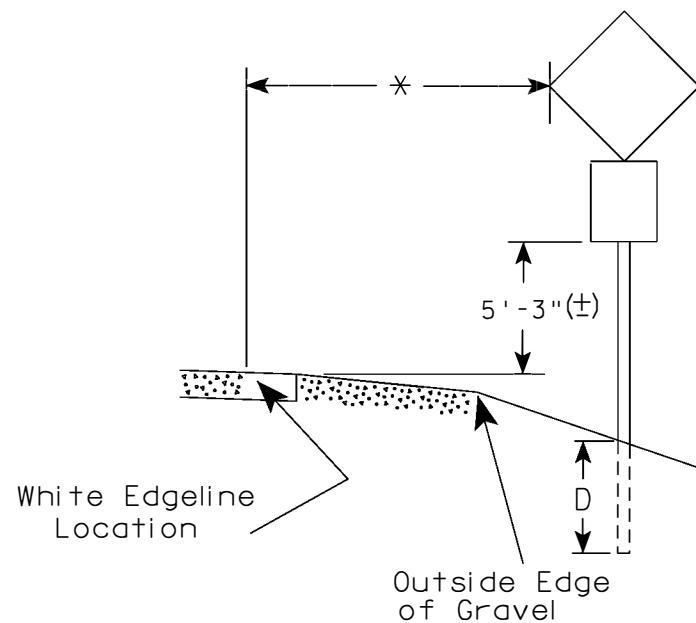
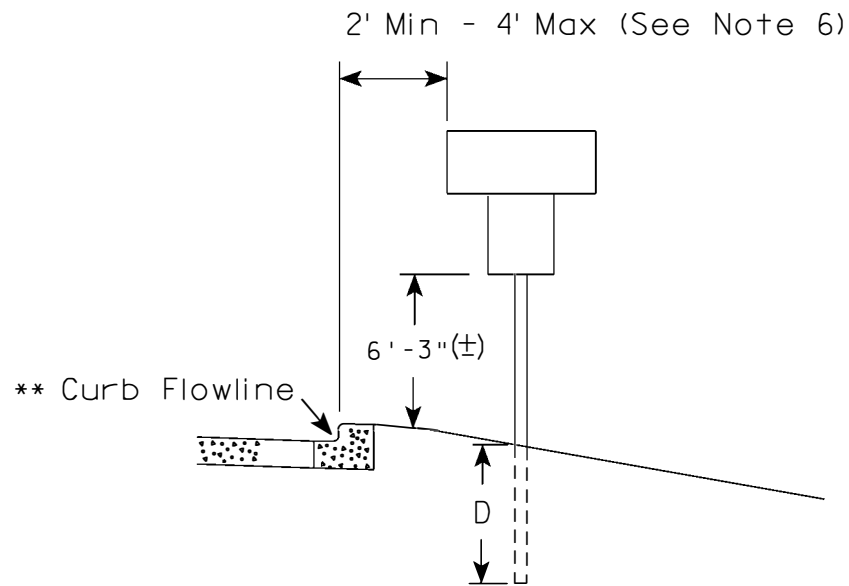
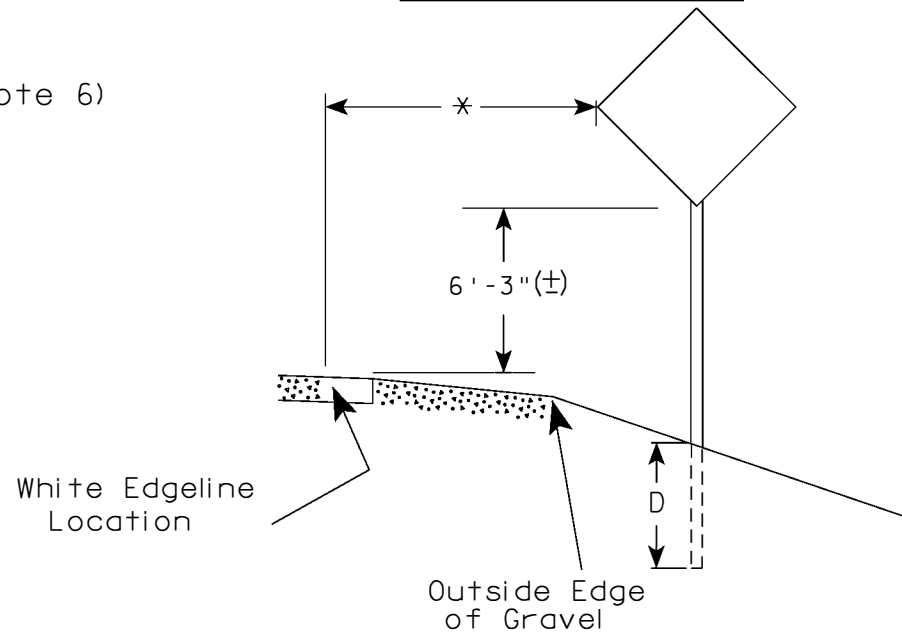
STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

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

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.

POST EMBEDMENT DEPTH

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

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

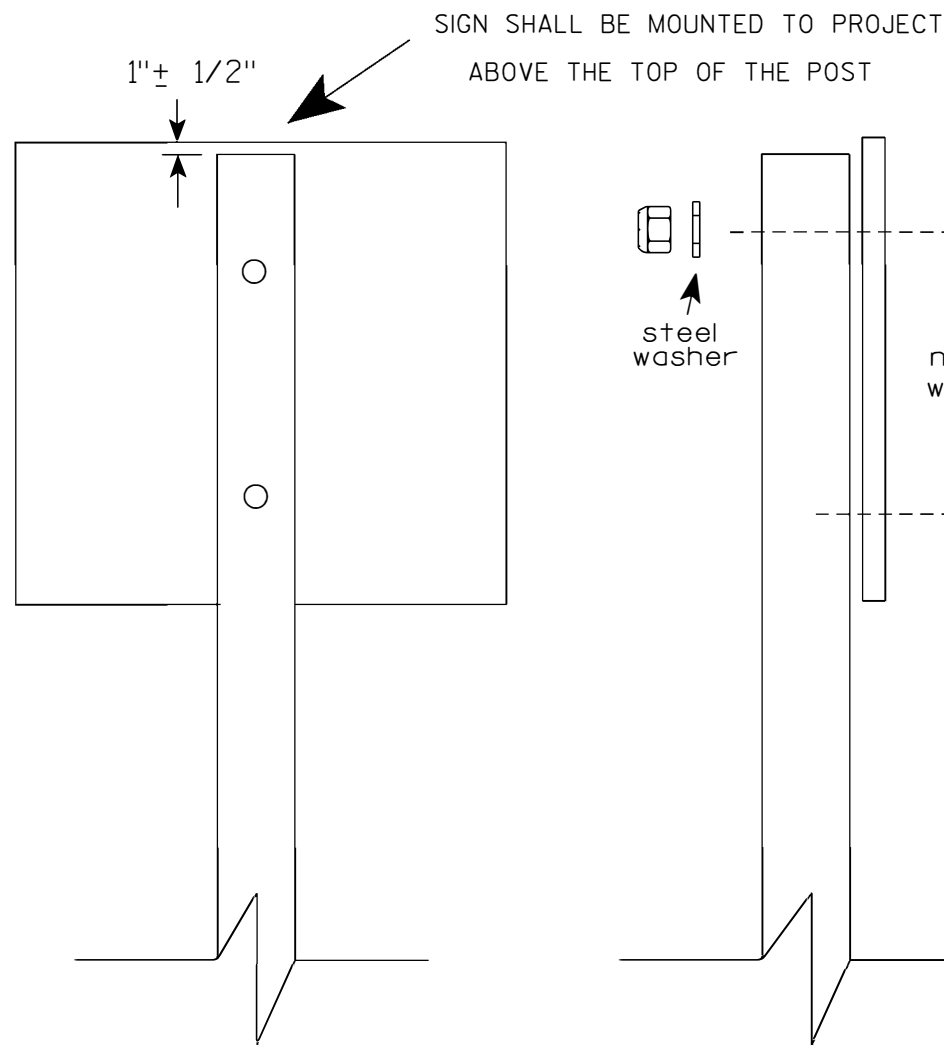
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Raush*
for State Traffic Engineer

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



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

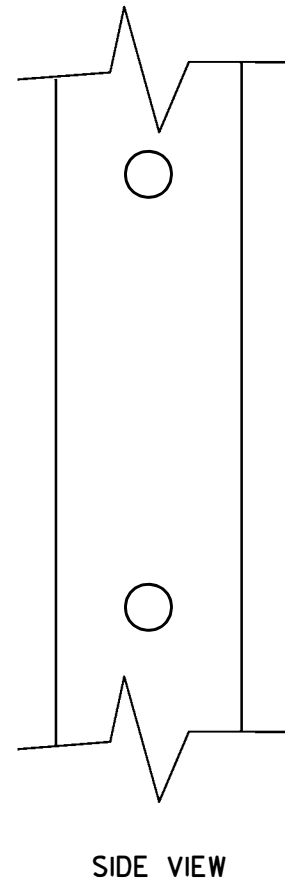
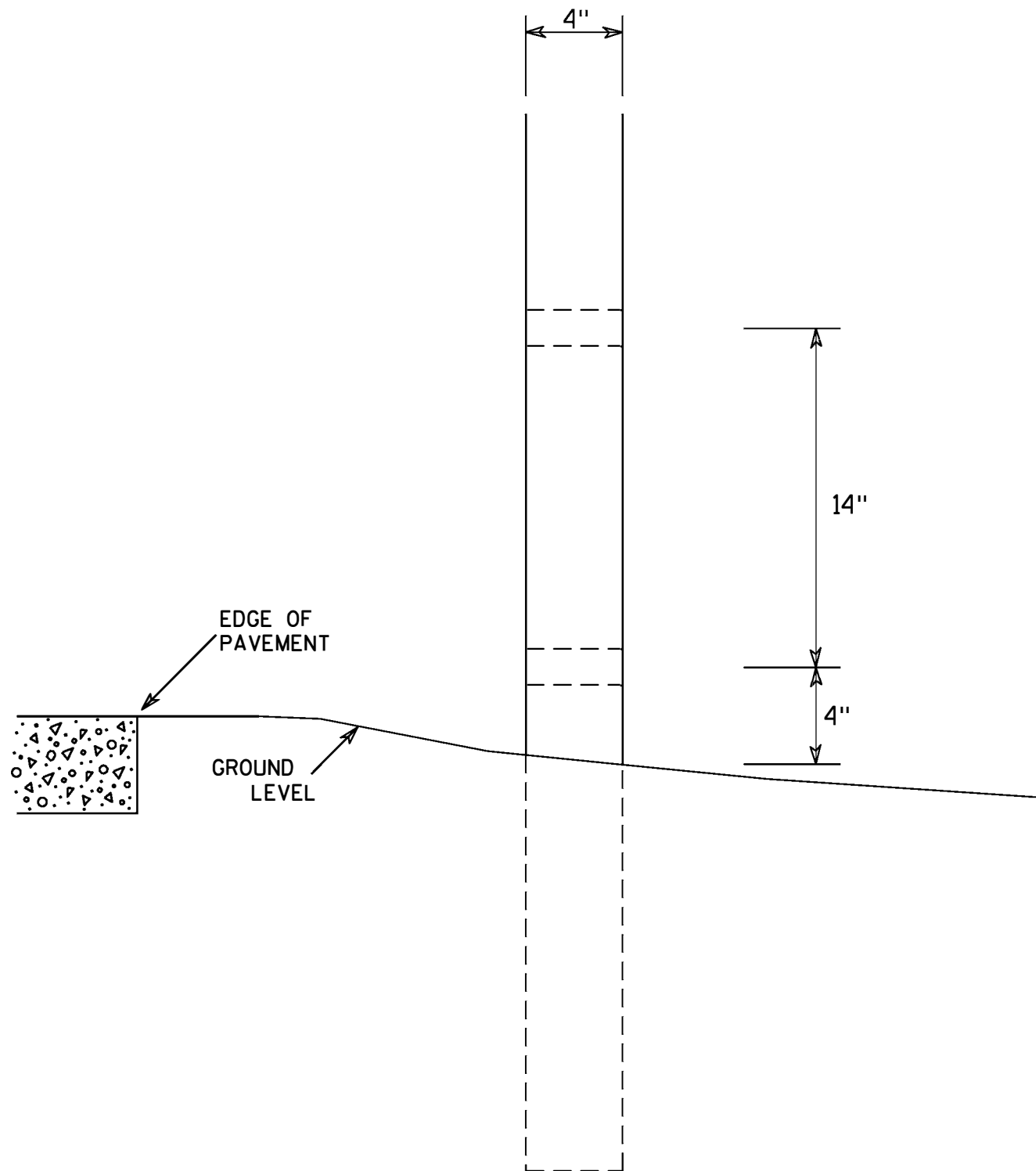
- Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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

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

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



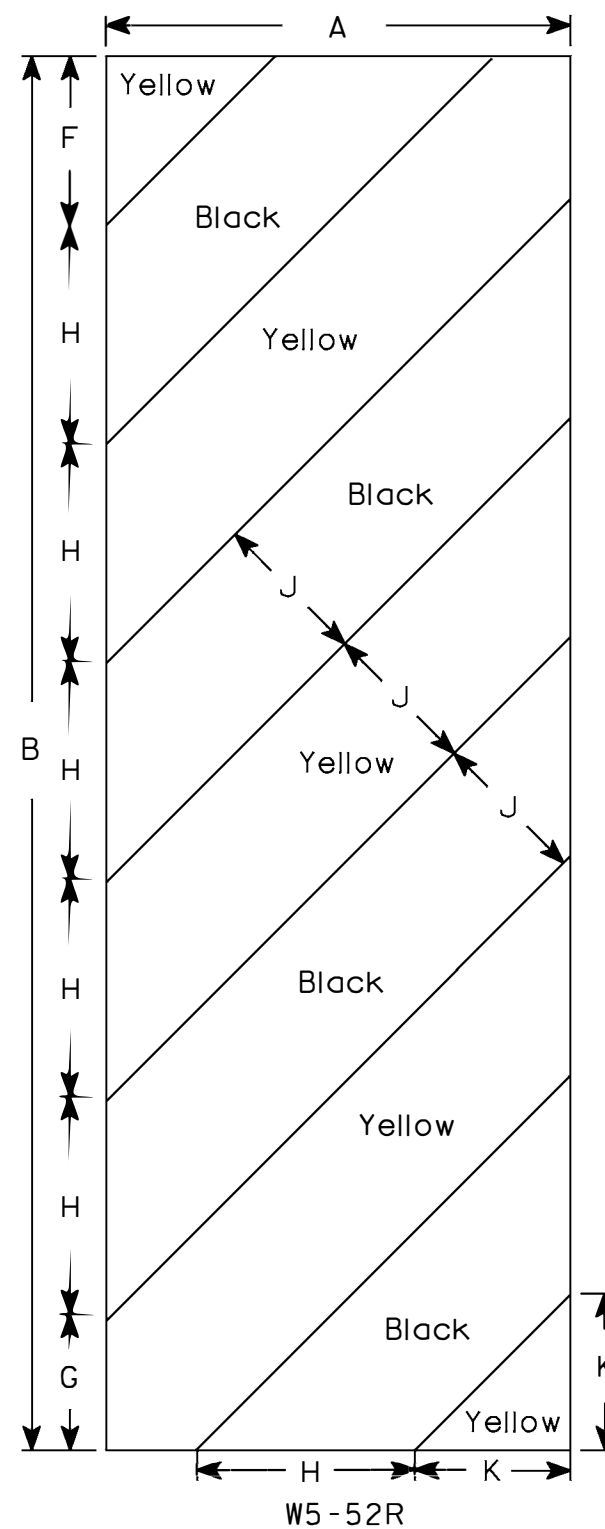
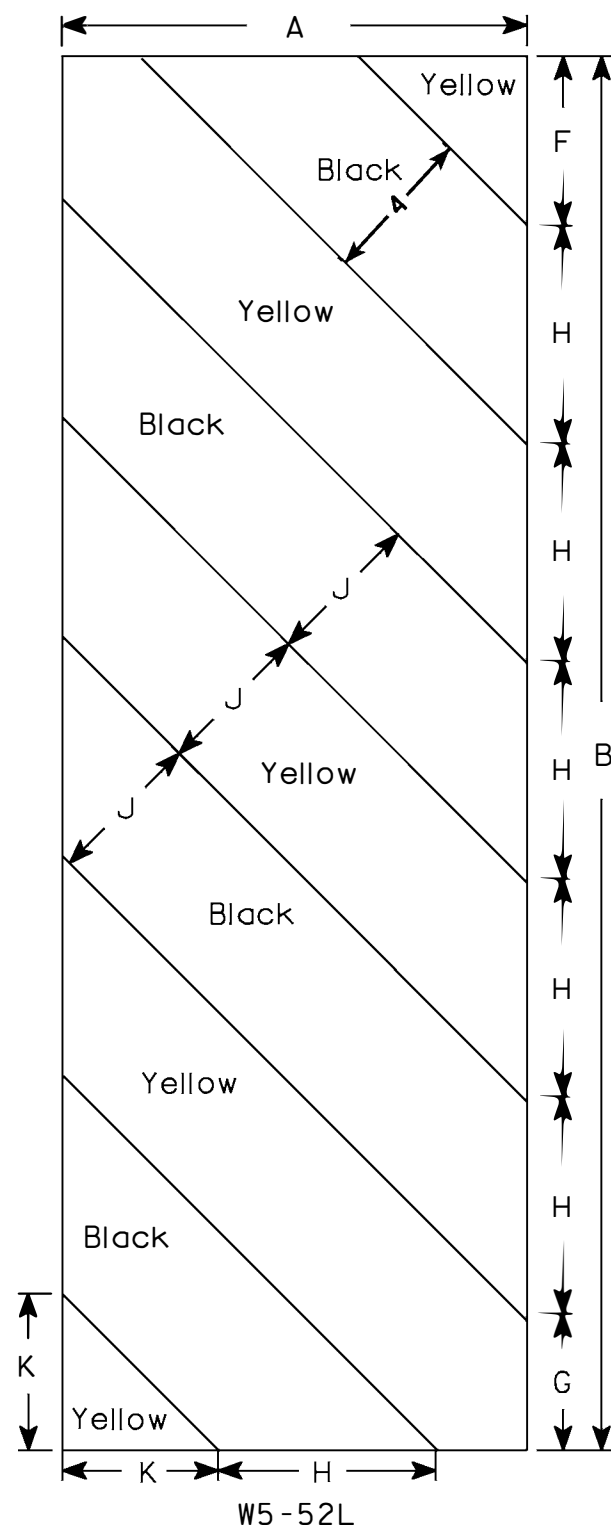
GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS	
<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>



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

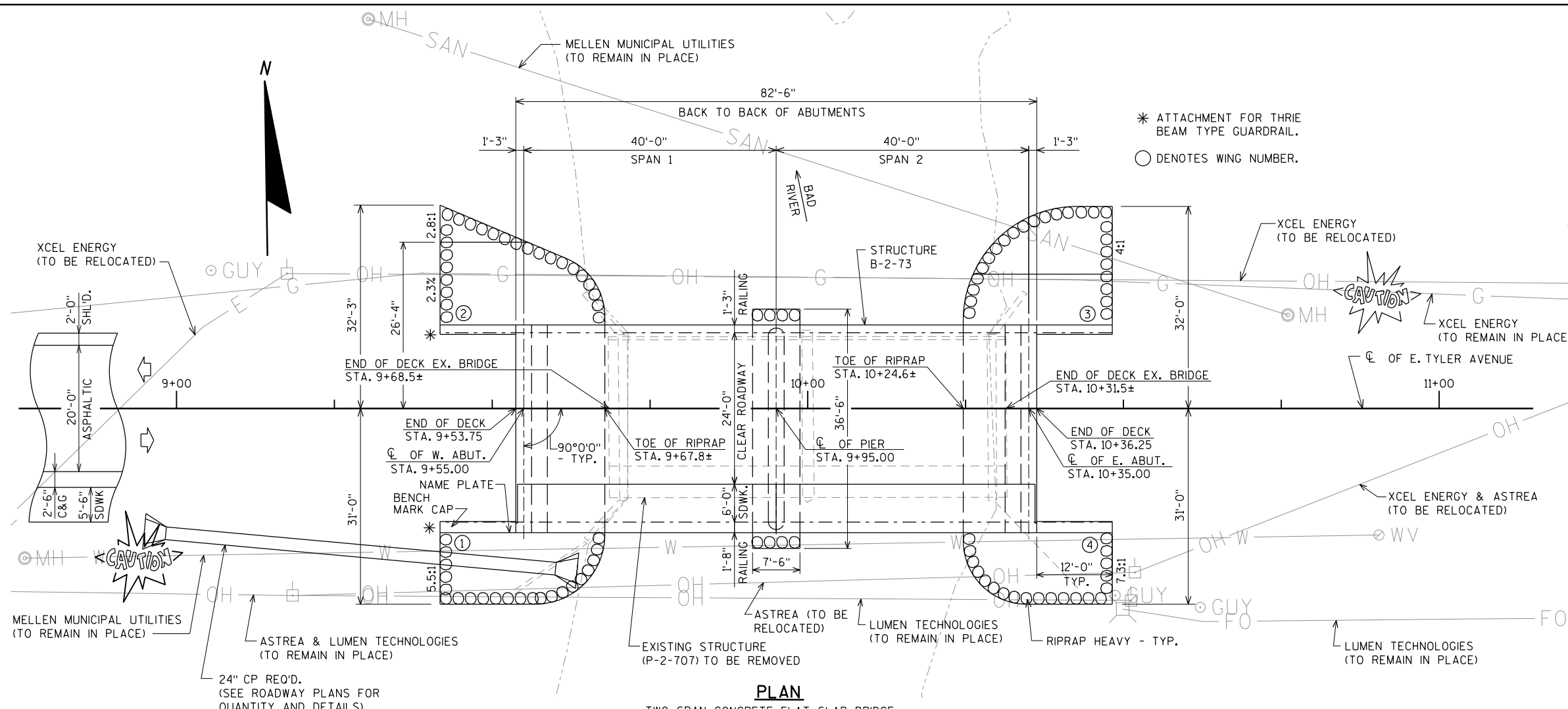
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 5/16																6.75
4																											
5																											

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

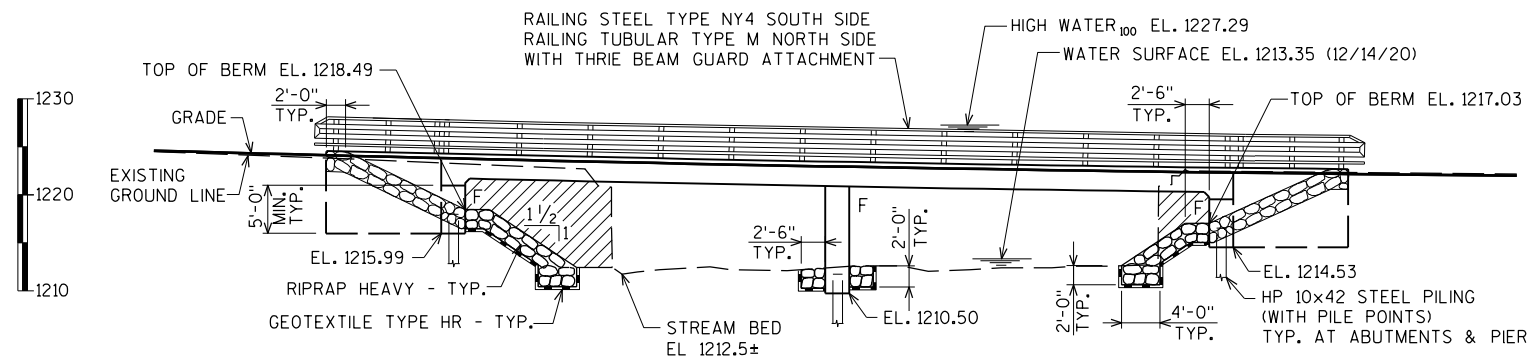
DATE 5/29/12 PLATE NO. W5-52.9



PLAN
TWO SPAN CONCRETE FLAT SLAB BRIDGE

LIST OF DRAWINGS

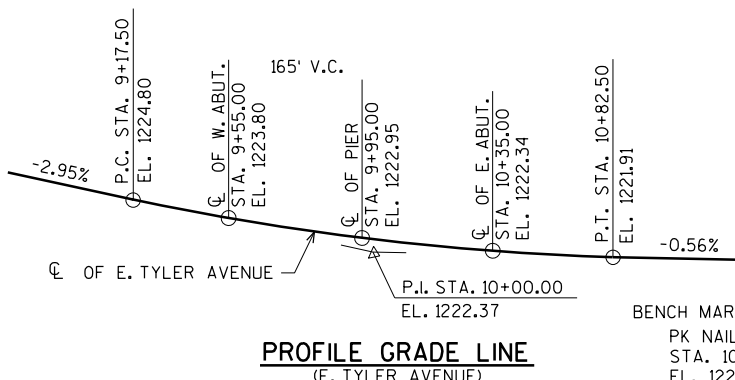
1. GENERAL PLAN
2. QUANTITIES, TYPICAL SECTION, AND NOTES
3. STRUCTURE DETAILS
4. SUBSURFACE EXPLORATION
5. WEST ABUTMENT
6. WEST ABUTMENT WING 1 DETAILS
7. WEST ABUTMENT WING 2 DETAILS
8. WEST ABUTMENT PILE LAYOUT & BILL OF BARS
9. EAST ABUTMENT
10. EAST ABUTMENT WING 3 DETAILS
11. EAST ABUTMENT WING 4 DETAILS
12. EAST ABUTMENT PILE LAYOUT & BILL OF BARS
13. PIER
14. SUPERSTRUCTURE
15. SUPERSTRUCTURE PLAN
16. SUPERSTRUCTURE DETAILS
17. SUPERSTRUCTURE ELEVATIONS
18. TUBULAR STEEL RAILING TYPE 'M'
19. RAILING STEEL TYPE NY4
20. END POST DETAILS FOR RAILING STEEL TYPE NY4



ELEVATION

COST OF EXCAVATION OR FILL IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-2-73".

REMOVE EXISTING SUBSTRUCTURE AS NEEDED. COST INCLUDED WITH "REMOVING STRUCTURE" ITEM. TYPICAL AT ALL SUBSTRUCTURES.



PROFILE GRADE LINE
(E. TYLER AVENUE)

FOR TYPICAL SECTION AND DESIGN DATA SEE SHEET 2

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY			
AVRES 3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED		SDR	07/25/23
CHIEF STRUCTURES DESIGN ENGINEER		DATE	
STRUCTURE B-2-73			
E. TYLER AVENUE OVER BAD RIVER			
COUNTY	ASHLAND	TOWN/CITY/VILLAGE	MELLEN
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	JLB	DESIGN CK'D.	DRS
DRAWN BY	CLP	PLANS CK'D.	DNS
GENERAL PLAN			SHEET 1 OF 20



07/19/2023

BRIDGE OFFICE CONTACT:
AARON BONK
(608)-261-0261

CONSULTANT CONTACT:
DAN SYDOW
(715)-834-3161

7/18/2023
PENTABLE:Bredu...shd_util.tbl

DATE:
DATE:
CHECKED BY:
BACK CHECKED BY:
CORRECTED BY:

8

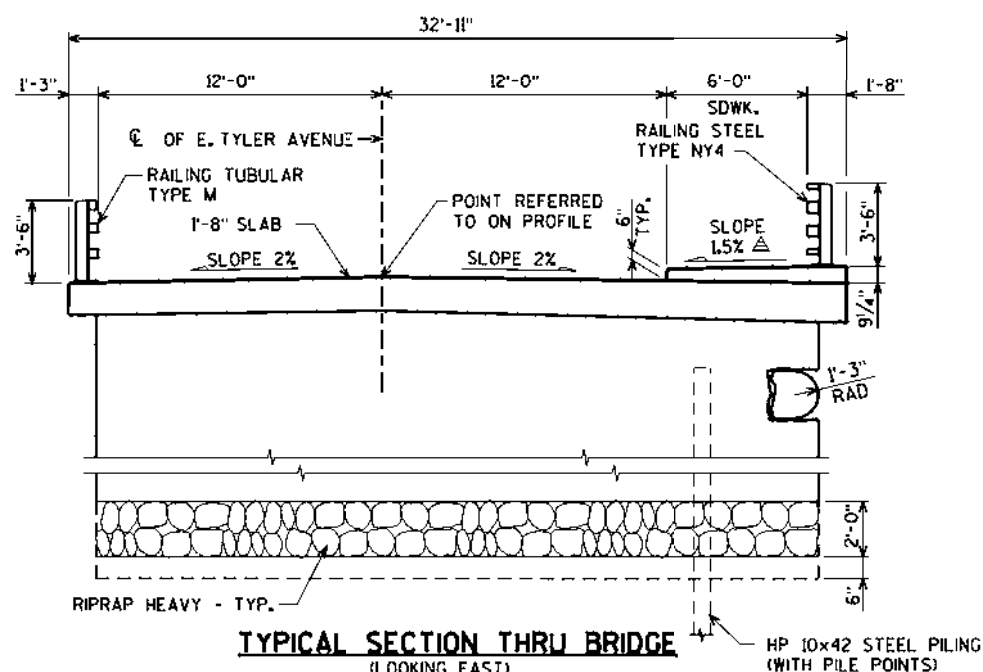
8

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	W. ABUT.	PIER	E. ABUT.	SUPER.	TOTAL
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS P-2-707	EACH	-----	-----	-----	-----	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-2-73	EACH	-----	-----	-----	-----	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	140	-----	140	-----	280
502.0100	CONCRETE MASONRY BRIDGES	CY	34.7	30.1	34.3	187.6	287
502.3200	PROTECTIVE SURFACE TREATMENT	SY	18	-----	18	427	463
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1,950	1,480	1,950	-----	5,380
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,820	60	1,750	36,240	39,870
513.4061	RAILING TUBULAR TYPE M	LF	13.25	13.25	-----	82.5	109
513.7084	RAILING STEEL TYPE NY4	LF	13.4	13.4	-----	82.5	109.3
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	10	-----	10	-----	20
550.0500	PILE POINTS	EACH	5	6	5	-----	18
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	125	200	125	-----	450
606.0300	RIPRAP HEAVY	CY	90	15	70	-----	175
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	100	-----	100	-----	200
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	32	-----	32	-----	64
645.0120	GEOTEXTILE TYPE HR	SY	165	45	130	-----	340
999.1001.S	SEISMOGRAPH	EACH	-----	-----	-----	-----	1
999.1501.S	CRACK AND DAMAGE SURVEY	EACH	-----	-----	-----	-----	1
	NON-BID ITEMS						
	FILLER	SIZE	-----	-----	-----	-----	1/2" & 3/4"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
 BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.
 THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE. JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.
 THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.
 SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATIVE METHOD IS APPROVED BY THE ENGINEER.
 THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-2-73" SHALL BE THE EXISTING GROUNDLINE.
 THE EXISTING STRUCTURE, P-2-707 TO BE REMOVED, IS A TWO SPAN STEEL DECK GIRDER BRIDGE ON CONCRETE ABUTMENTS AND PIER, 63.0 FEET LONG WITH A 19.6 FOOT CLEAR ROADWAY WIDTH WITH 5 FOOT WIDE SIDEWALK.
 PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED AS SHOWN IN DETAIL ON SHEET 3.
 BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS NOTED OTHERWISE.
 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.
 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.
 EXISTING SUBSTRUCTURE LOCATIONS ARE BASED ON SURVEY. EXTENT OF BELOW GRADE SUBSTRUCTURES ARE NOT KNOWN. REMOVE EXISTING SUBSTRUCTURES AS NEEDED TO BUILD NEW SUBSTRUCTURES. COST OF SUBSTRUCTURE REMOVAL IS INCLUDED WITH "REMOVING STRUCTURE" BID ITEM.
 AT PIER, CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.
 AT THE BACK FACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A.



TYPICAL SECTION THRU BRIDGE
(LOOKING EAST)

△ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

DESIGN DATA**LIVE LOAD:**

DESIGN LOADING: HL-93
 INVENTORY RATING FACTOR: 1.05
 OPERATING RATING FACTOR: 1.36
 WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

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

MATERIAL PROPERTIES:

CONCRETE MASONRY { SUPERSTRUCTURE _____ f'c = 4,000 p.s.i.
 { ALL OTHER _____ f'c = 3,500 p.s.i.
 HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) _____ fy = 60,000 p.s.i.

HYDRAULIC DATA:**100 YEAR FREQUENCY**

O₁₀₀ = 8,000 c.f.s. { STRUCTURE = 1,262 c.f.s.
 { OVERFLOW = 6,738 c.f.s.

VEL. = 2.2 f.p.s.

HW₁₀₀ = EL. 1227.29

WATERWAY AREA = 575 sq. ft.

DRAINAGE AREA = 126 sq. mi.

SCOUR CRITICAL CODE = 5

DATUM = NAVD88 (2012)

2 YEAR FREQUENCY

O₂ = 1,350 c.f.s.

VEL. = 3.8 f.p.s.

HW₂ = EL. 1218.32

FREQUENCY OF OVERTOPPING

FREQUENCY = 3.9 YEARS

O_{3.9} = 2,660 c.f.s.

HW_{3.9} = EL. 1221.52

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 120 TONS ± PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 25'-0" FOR BOTH.

PIER TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ± PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 25'-0".

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

TRAFFIC DATA:

A.A.D.T. = 120 (2024)

A.A.D.T. = 160 (2044)

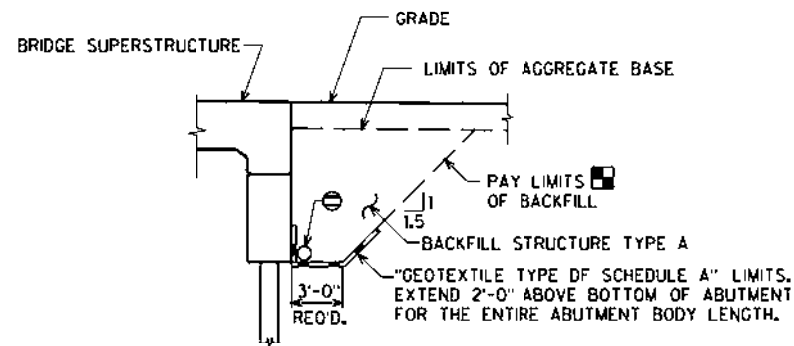
R.D.S. = 20 M.P.H.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-2-73			
DRAWN BY		CLP	PLANS CKD. JLB
QUANTITIES, TYPICAL SECTION, AND NOTES			SHEET 2 OF 20

ORIGINAL PLANS PREPARED BY

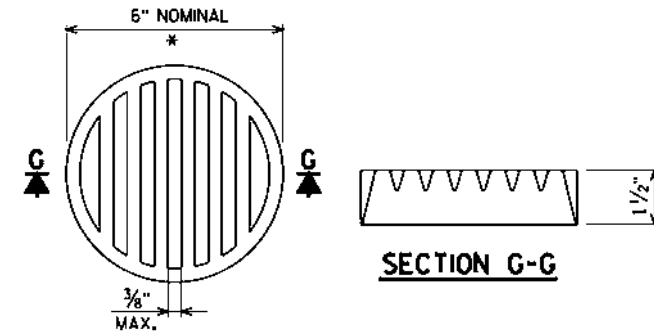
AYRES

3433 Oakwood Hills Parkway
 Eau Claire, WI 54701
 www.AyresAssociates.com



BACKFILL STRUCTURE LIMITS

- 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 AS DETAILED ON THIS SHEET.

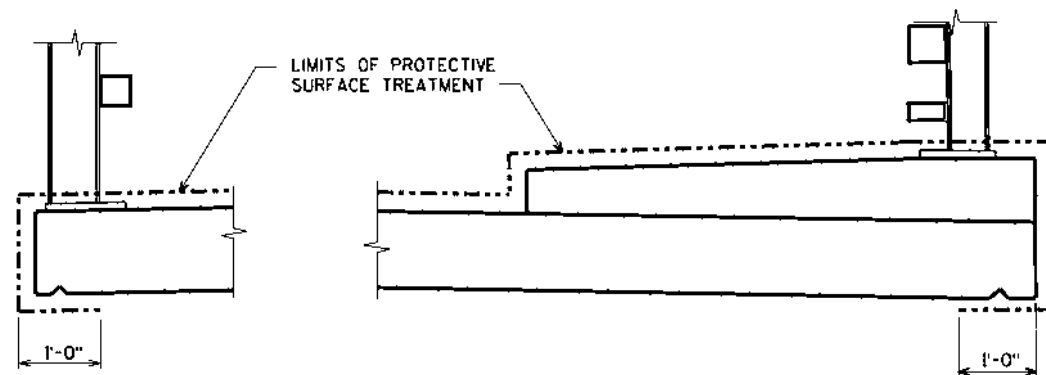


* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

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

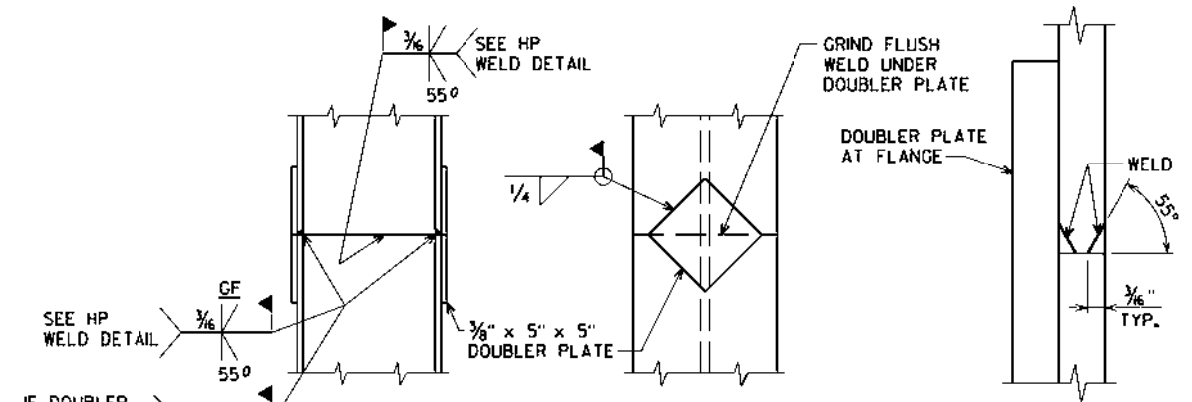
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER, A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH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

RODENT SHIELD DETAIL



PROTECTIVE SURFACE TREATMENT DETAIL

NOTE:
APPLY TO THE TOP AND EXTERIOR EXPOSED FACE OF WINGS, AND THE END 1'-0" OF THE FRONT FACE OF ABUTMENT.



HP 10 x 42 SPLICE DETAIL

HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

4/6/2023 PENTABLE:Breou_shd_util.tbl

8

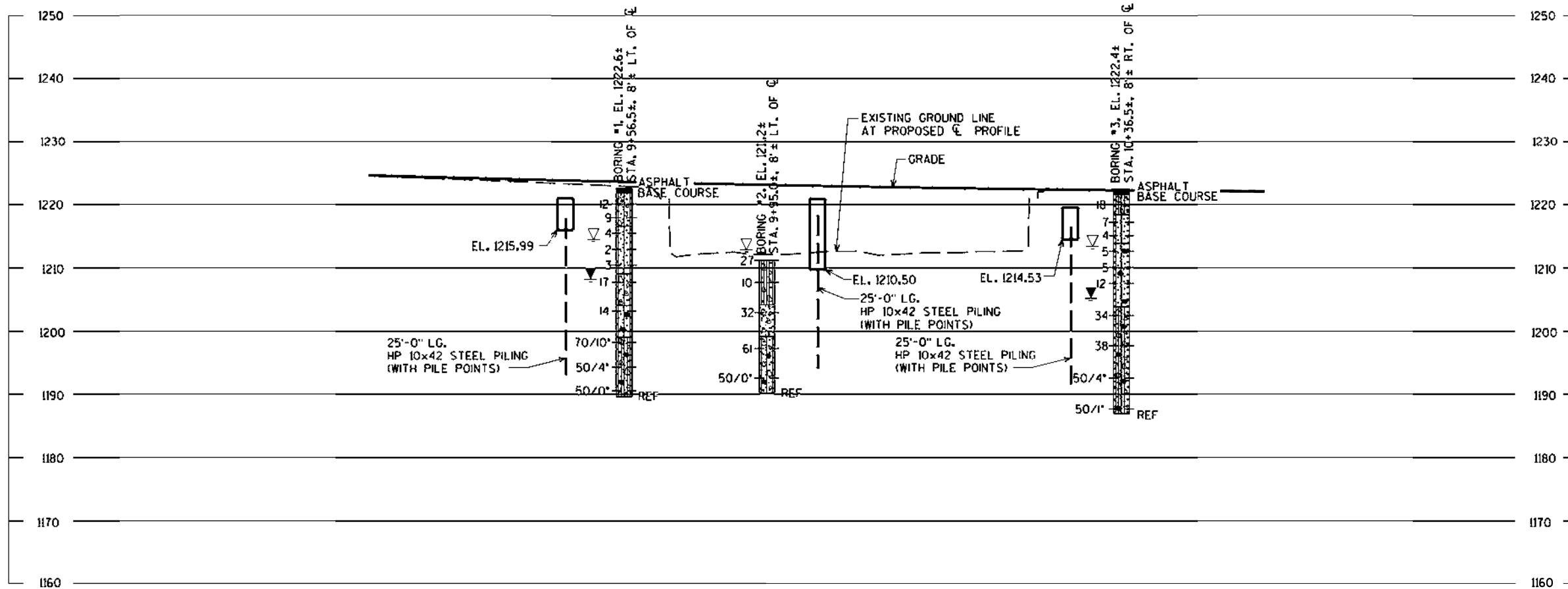
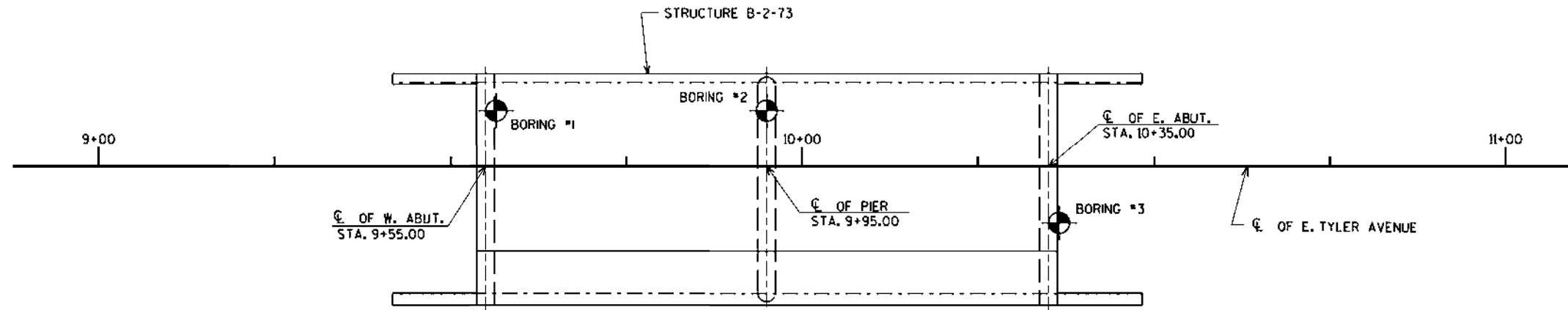
8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-2-73			
DRAWN BY	CLP	PLANS CKD.	JLB
STRUCTURE DETAILS			SHEET 3 OF 20

ORIGINAL PLANS PREPARED BY
AYRES 3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	JUNE 28, 2022	226658.39	558519.67
2	JUNE 28, 2022	226657.77	558558.17
3	JUNE 28, 2022	226641.11	558599.40

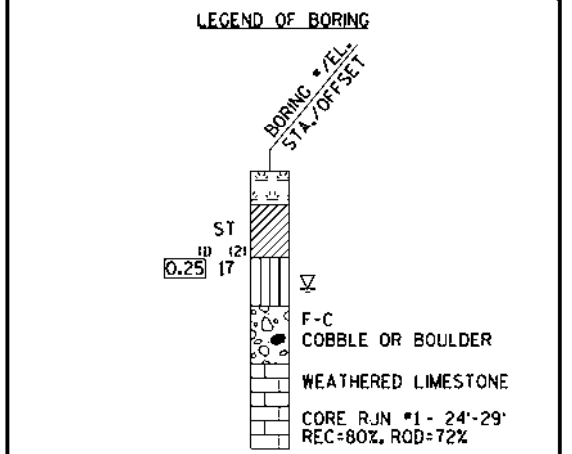
BORINGS COMPLETED BY: GEOTECHNICAL DRILLING CONTRACTORS, LLC
 REPORT COMPLETED BY: ECS MIDWEST, LLC
 ALL COORDINATES REFERENCED TO WCCS NAD 83(91) ASHLAND COUNTY



STATE PROJECT NUMBER
9955-00-70

MATERIAL SYMBOLS

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



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

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

GROUND WATER ELEVATION

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

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

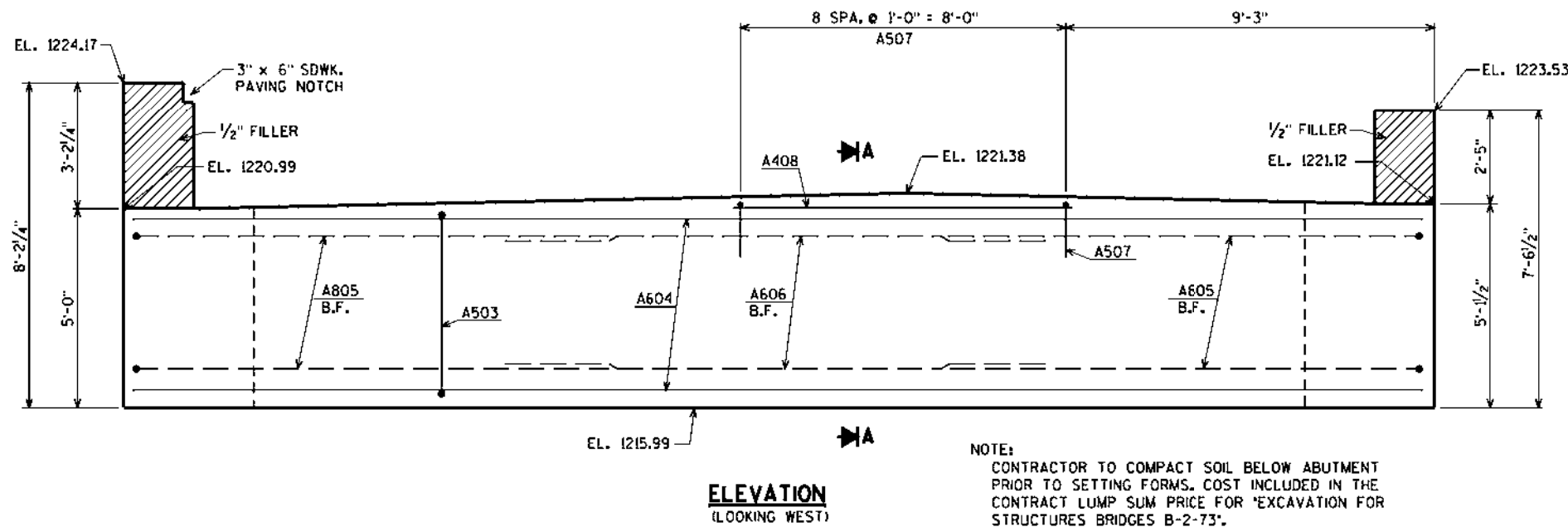
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-2-73			
DRAWN BY		CLP	PLANS CKD. JLB
SUBSURFACE EXPLORATION			SHEET 4 OF 20

4/6/2023 PENTABLE:BRReou_shd_u111.tbl

8

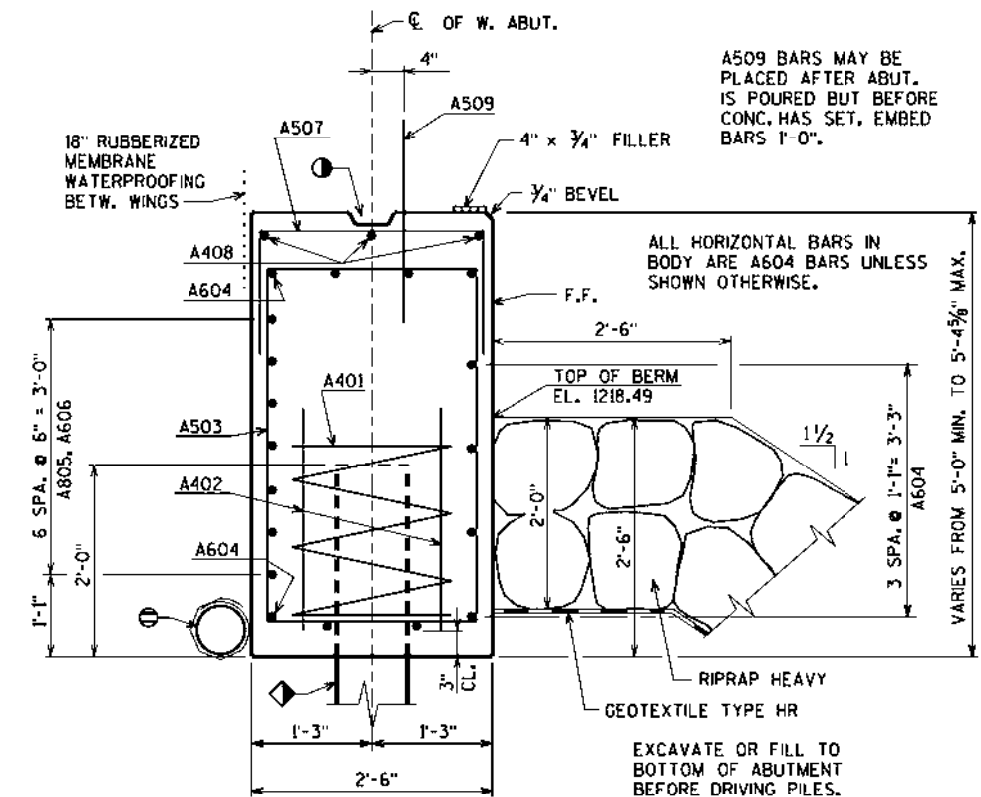
8

NOTE:
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.



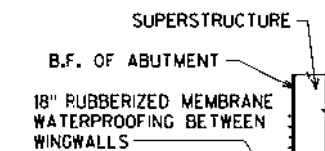
ELEVATION
(LOOKING WEST)

NOTE:
CONTRACTOR TO COMPACT SOIL BELOW ABUTMENT
PRIOR TO SETTING FORMS. COST INCLUDED IN THE
CONTRACT LUMP SUM PRICE FOR EXCAVATION FOR
STRUCTURES BRIDGES B-2-73.



SECTION A

◆ ABUTMENT TO BE SUPPORTED ON
HP 10 x 42 STEEL PILING (WITH PILE POINTS)
DRIVEN TO A REQUIRED DRIVING
RESISTANCE OF 120 TONS PER PILE.
ESTIMATED LENGTH 25'-0".



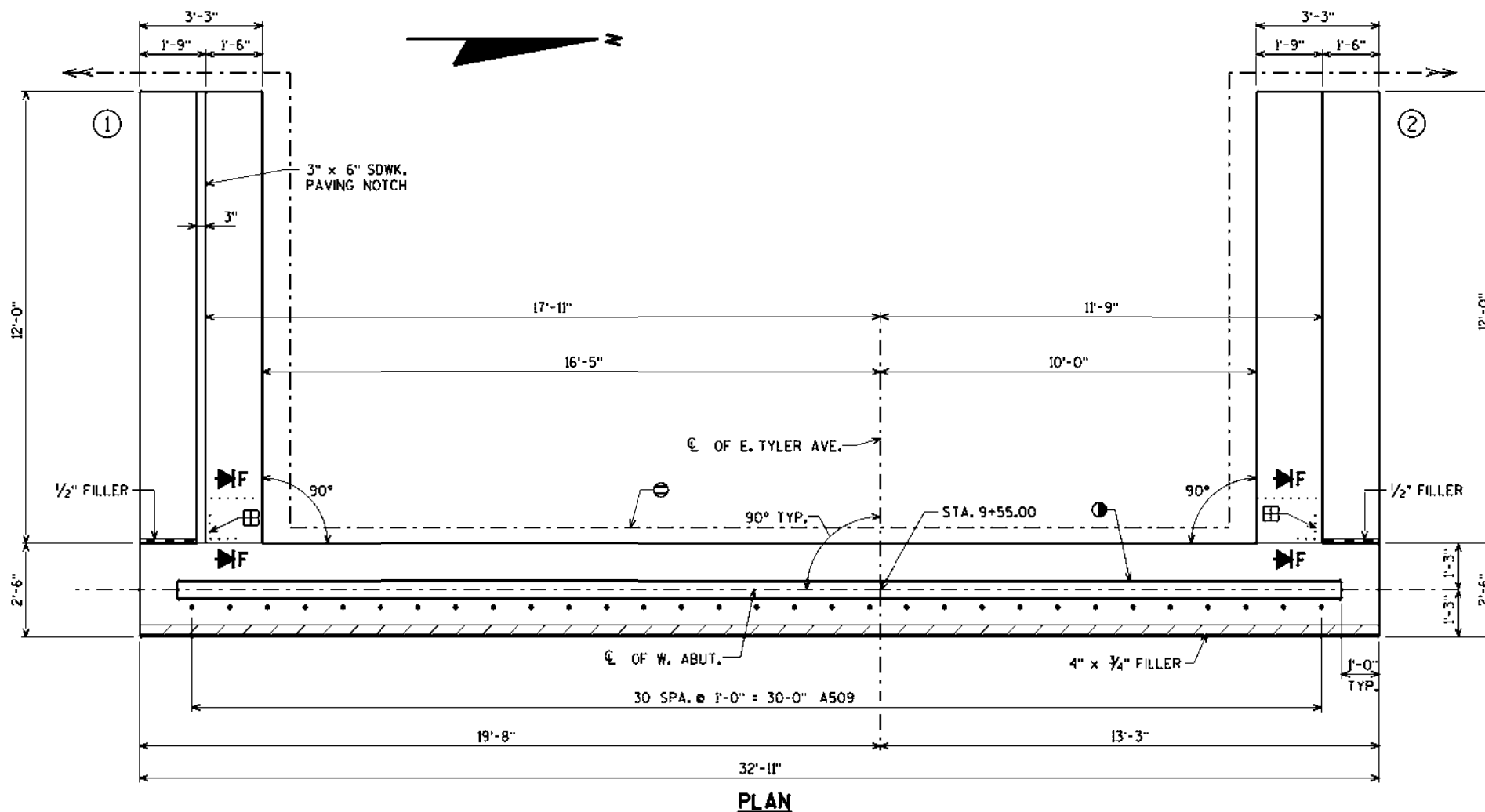
SECTION F

⊙ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5%
MIN. TO SUITABLE DRAINAGE. ATTACH RODENT
SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED
ON SHEET 3. RODENT SHIELD TO BE INCIDENTAL TO
BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

⊙ KEYED CONST. JOINT - FORMED
BY A BEVELED 2" x 6".

⊞ VERTICAL 18" RUBBERIZED MEMBRANE
WATERPROOFING TO EXTEND FROM
BRIDGE SEAT TO TOP OF WINGWALL.

FOR PILE SPLICE DETAIL SEE SHEET 3.



PLAN

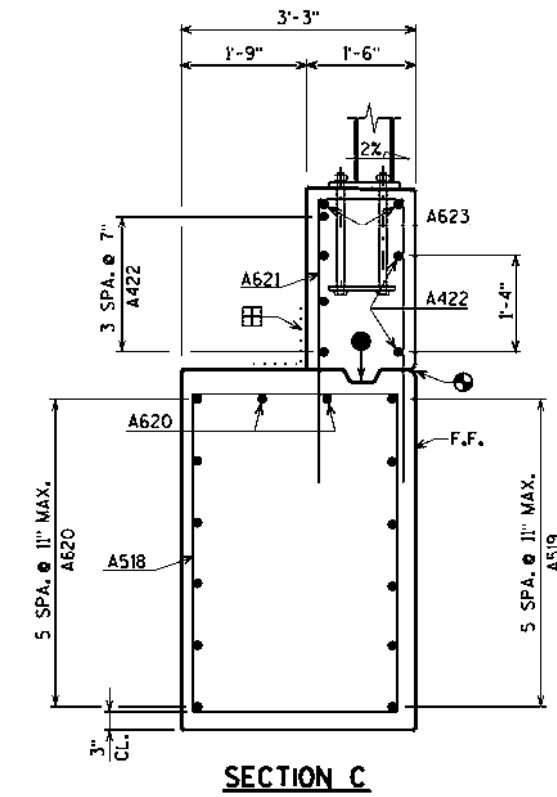
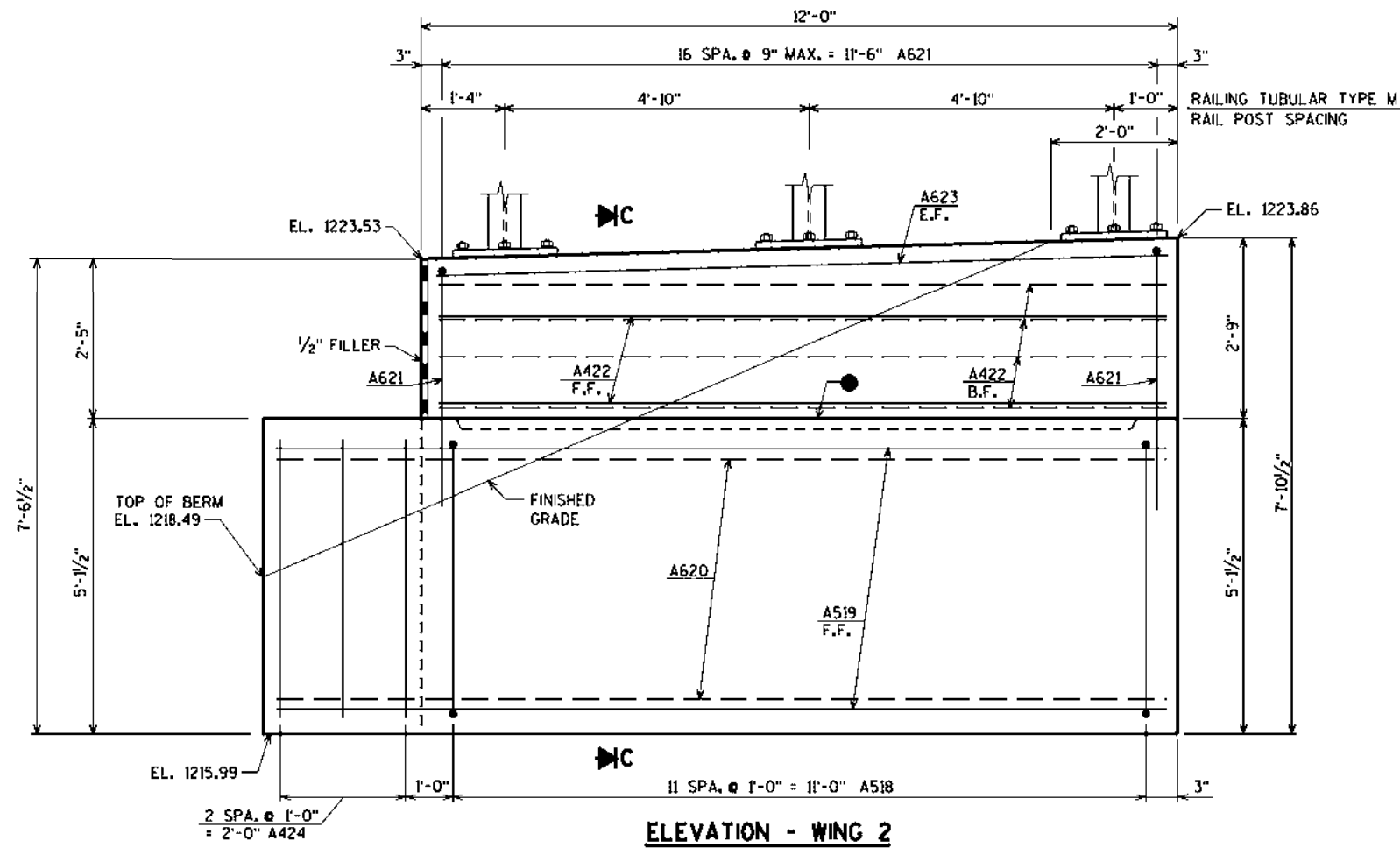
4/6/2023
PENTABLE:BRRequ_shd_util.tbl

8

8

ORIGINAL PLANS PREPARED BY
AYRES 3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-2-73			
DRAWN BY CLP		PLANS CKD. JLB	
WEST ABUTMENT			SHEET 5 OF 20



ELEVATION - WING 2

SECTION C

- 3/4" "V" GROOVE ON FRONT FACE OF WINGWALL, ONLY REQUIRED IF OPTIONAL CONSTRUCTION JOINT IS USED.
- OPT. CONST. JOINT FORMED BY A BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE.
- ⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

4/6/2023
PENTABLE:BRcu_shd_util.tbj

8

8

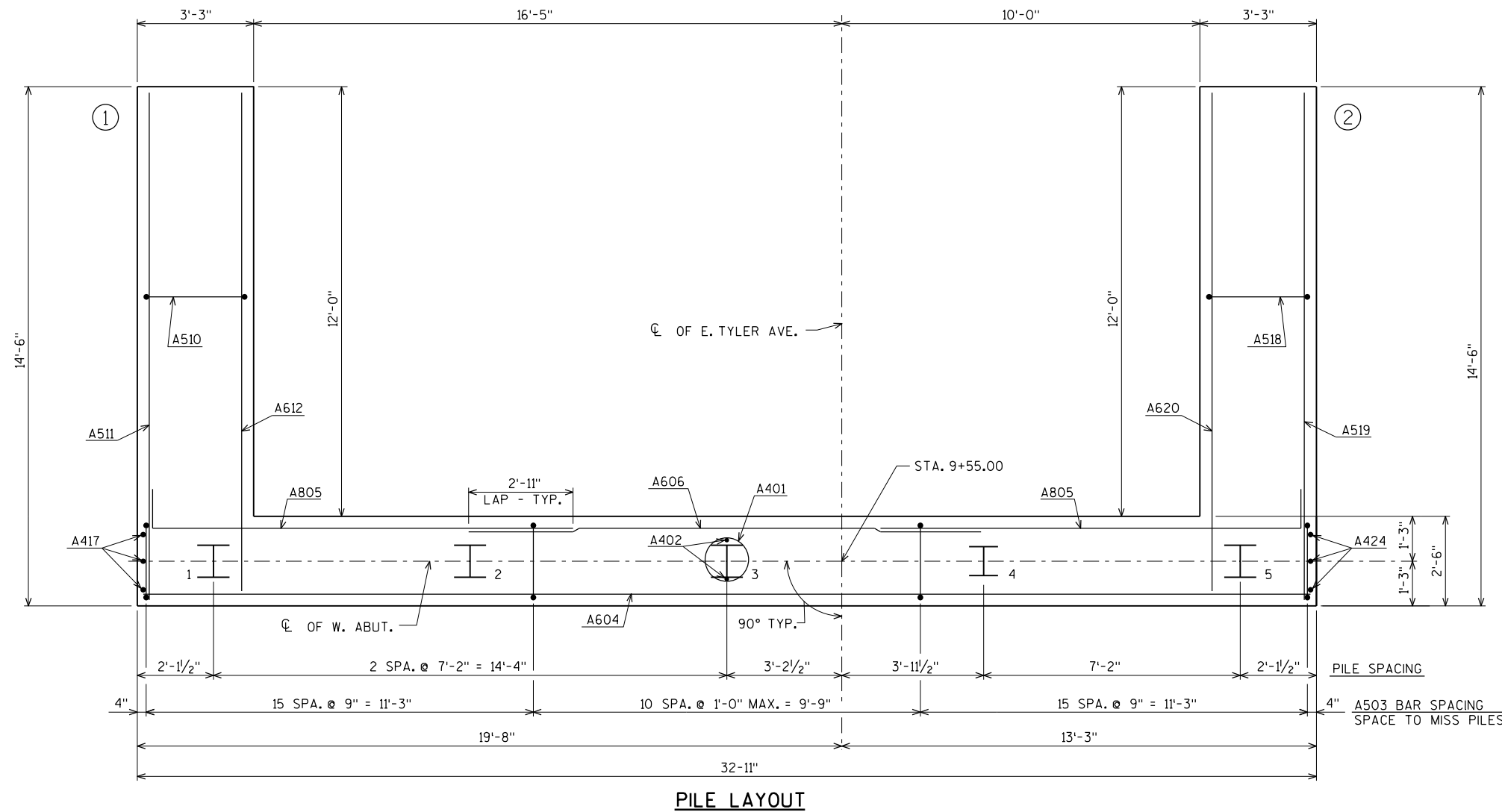
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-2-73			
DRAWN BY		CLP	PLANS CKD. JLB
WEST ABUTMENT WING 2 DETAILS			SHEET 7 OF 20

ORIGINAL PLANS PREPARED BY
AYRES 3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

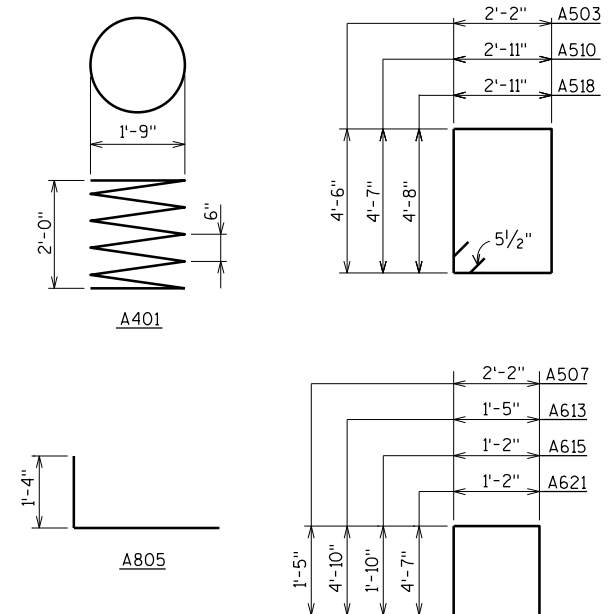
BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	1,820# COATED	1,950# UNCOATED
							LOCATION	
A401		5	28-0	X				BODY @ PILES
A402		10	2-3					BODY @ PILES
A503		41	14-0	X				BODY VERT.
A604		11	32-7					BODY HORIZ.
A805		14	13-2	X				BODY HORIZ. @ WING B.F.
A606		7	14-5					BODY HORIZ. BETW. WINGS B.F.
A507		9	4-9	X				BODY VERT.
A408		3	8-4					BODY HORIZ.
A509	X	31	2-0					BODY DOWELS
A510	X	12	15-8	X				WING 1 VERT.
A511	X	6	14-2					WING 1 HORIZ. F.F.
A612	X	8	14-2					WING 1 HORIZ. B.F. & TOP
A613	X	17	10-9	X				WING 1 VERT.
A414	X	8	11-8					WING 1 HORIZ. E.F.
A615	X	17	4-6	X				WING 1 VERT.
A616	X	2	11-8					WING 1 HORIZ. E.F.
A417	X	3	4-7					BODY VERT. END @ WING 1
A518	X	12	15-10	X				WING 2 VERT.
A519	X	6	14-2					WING 2 HORIZ. F.F.
A620	X	8	14-2					WING 2 HORIZ. B.F. & TOP
A621	X	17	10-0	X				WING 2 VERT.
A422	X	6	11-8					WING 2 HORIZ. E.F.
A623	X	2	11-8					WING 2 HORIZ. E.F.
A424	X	3	4-8					BODY VERT. END @ WING 2

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



PILE LAYOUT

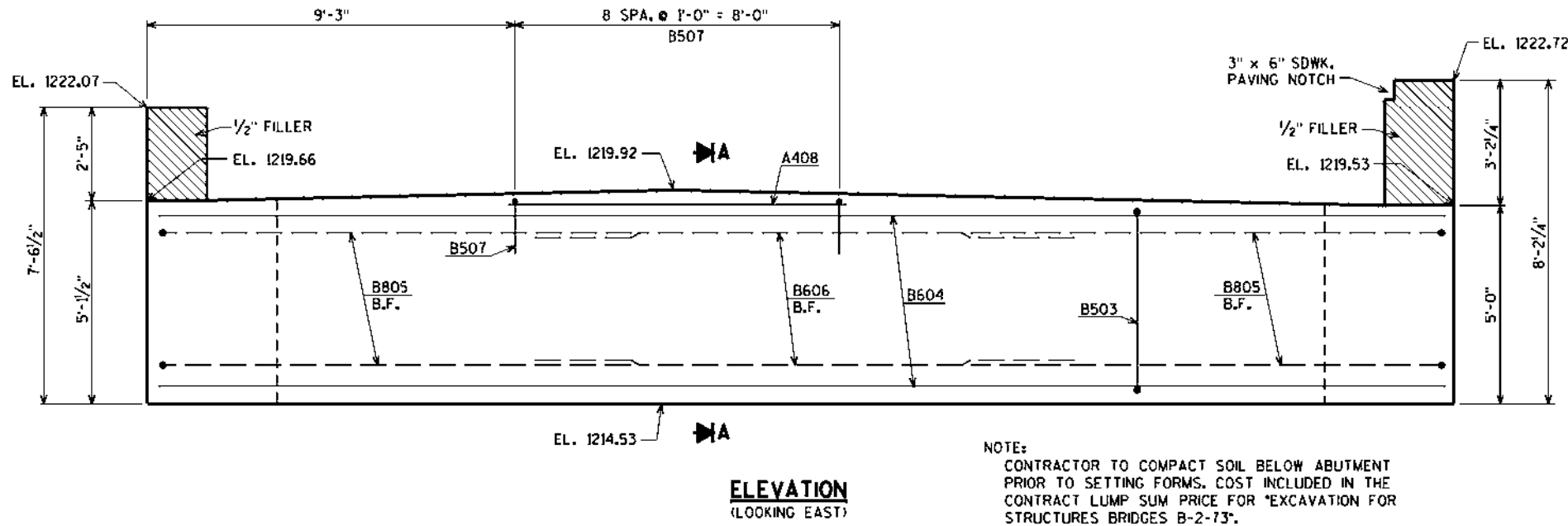


FOR PILE SPLICE DETAIL SEE SHEET 3.

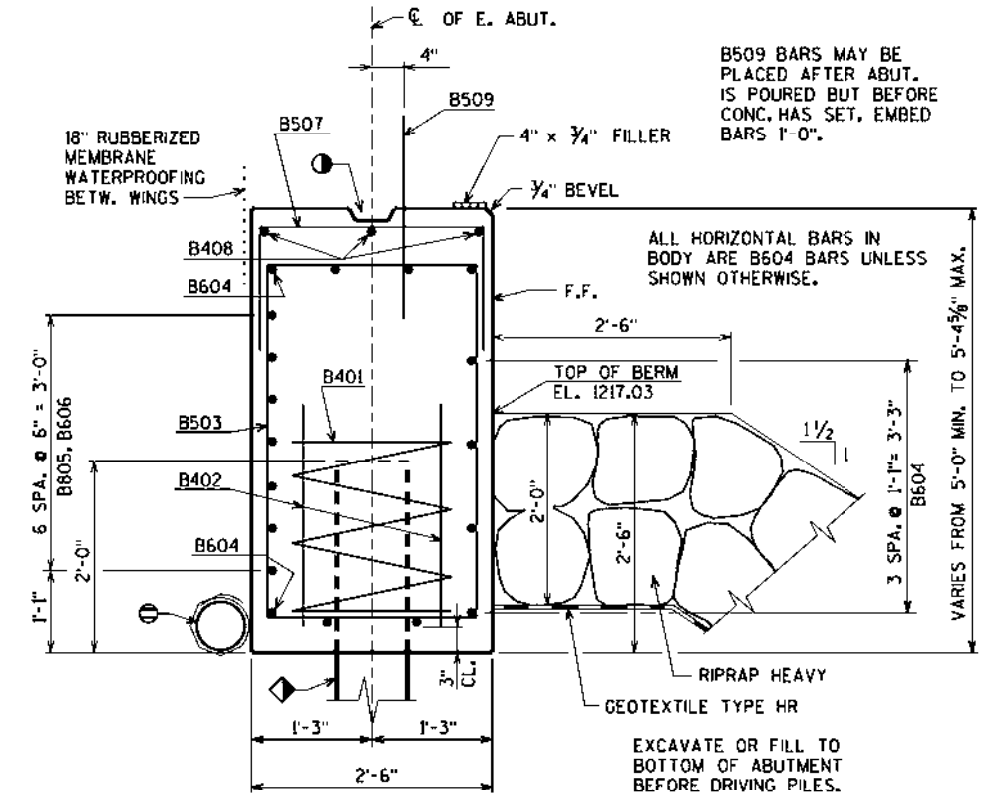
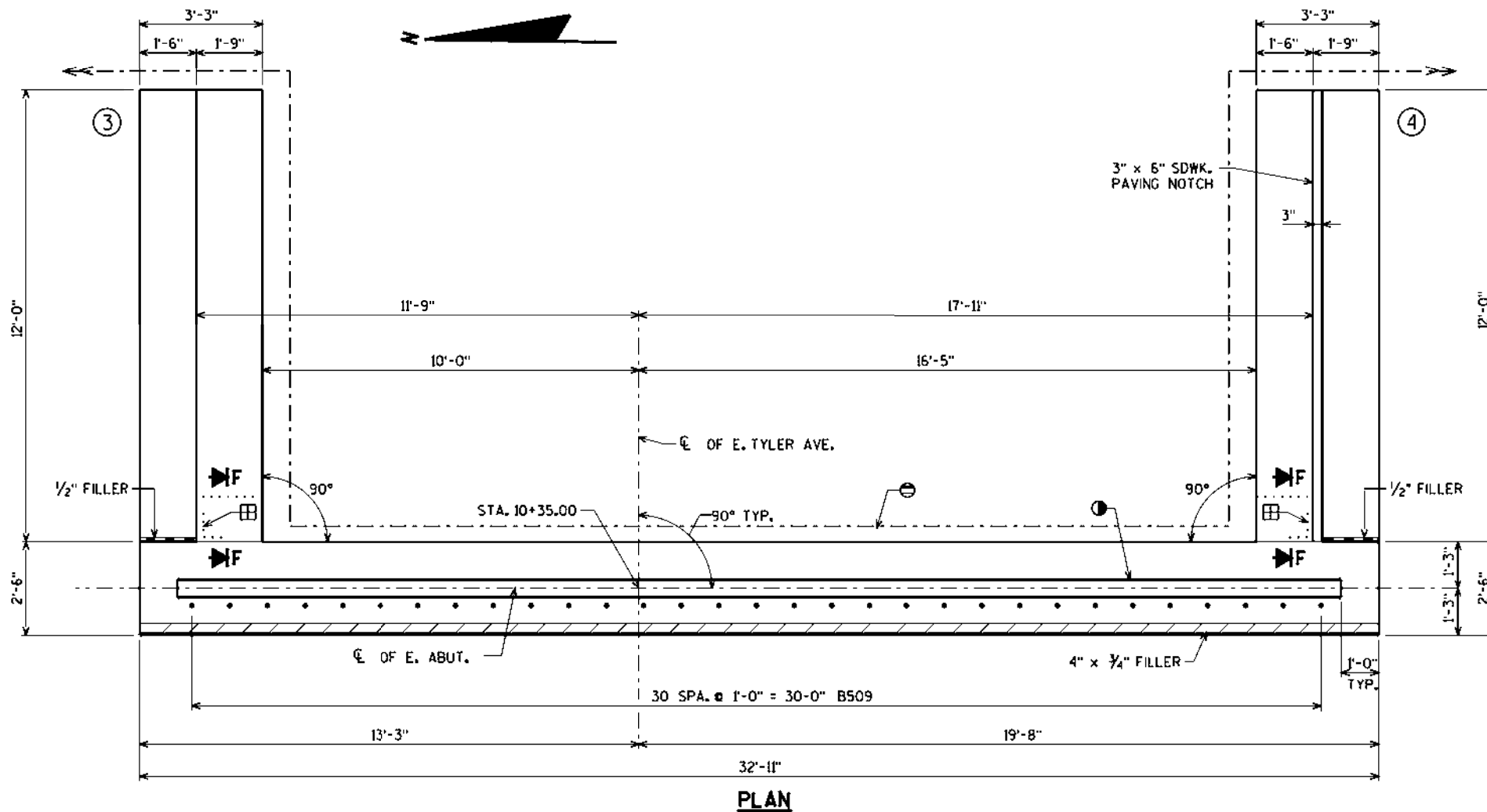
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-2-73			
DRAWN BY		CLP	PLANS CK'D. JLB
WEST ABUTMENT PILE LAYOUT & BILL OF BARS			SHEET 8 OF 20

ORIGINAL PLANS PREPARED BY
AYRES 3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

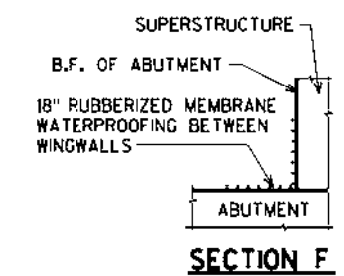
NOTE:
SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF
1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT
SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).



NOTE:
CONTRACTOR TO COMPACT SOIL BELOW ABUTMENT
PRIOR TO SETTING FORMS. COST INCLUDED IN THE
CONTRACT LUMP SUM PRICE FOR EXCAVATION FOR
STRUCTURES BRIDGES B-2-73.



ABUTMENT TO BE SUPPORTED ON
HP 10 x 42 STEEL PILING (WITH PILE POINTS)
DRIVEN TO A REQUIRED DRIVING
RESISTANCE OF 120 TONS PER PILE.
ESTIMATED LENGTH 25'-0".

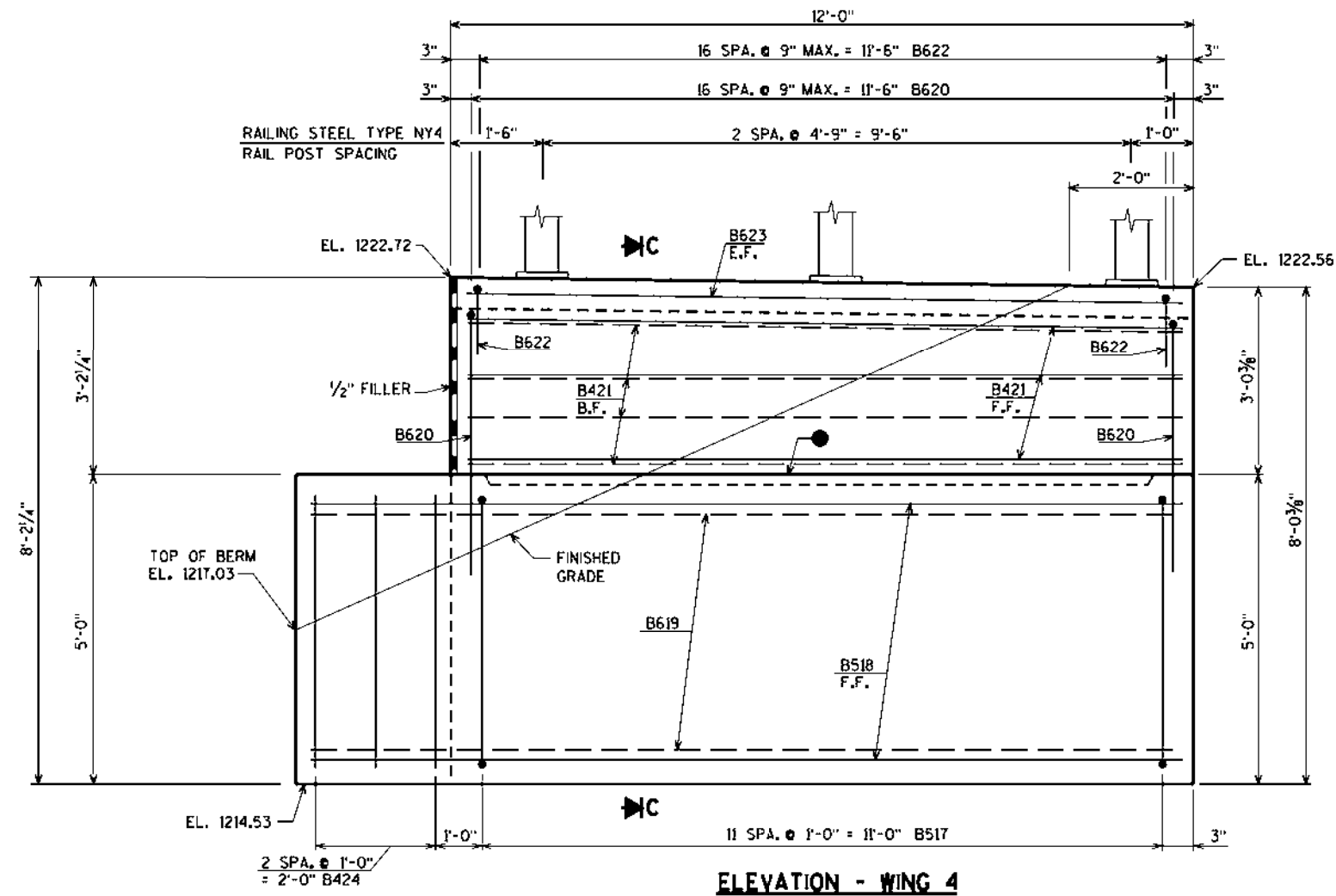


- ⊙ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5%
MIN. TO SUITABLE DRAINAGE. ATTACH RODENT
SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED
ON SHEET 3. RODENT SHIELD TO BE INCIDENTAL TO
BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".
 - ⊙ KEYED CONST. JOINT - FORMED
BY A BEVELED 2" x 6".
 - ⊞ VERTICAL 18" RUBBERIZED MEMBRANE
WATERPROOFING TO EXTEND FROM
BRIDGE SEAT TO TOP OF WINGWALL.
- FOR PILE SPLICE DETAIL SEE SHEET 3.

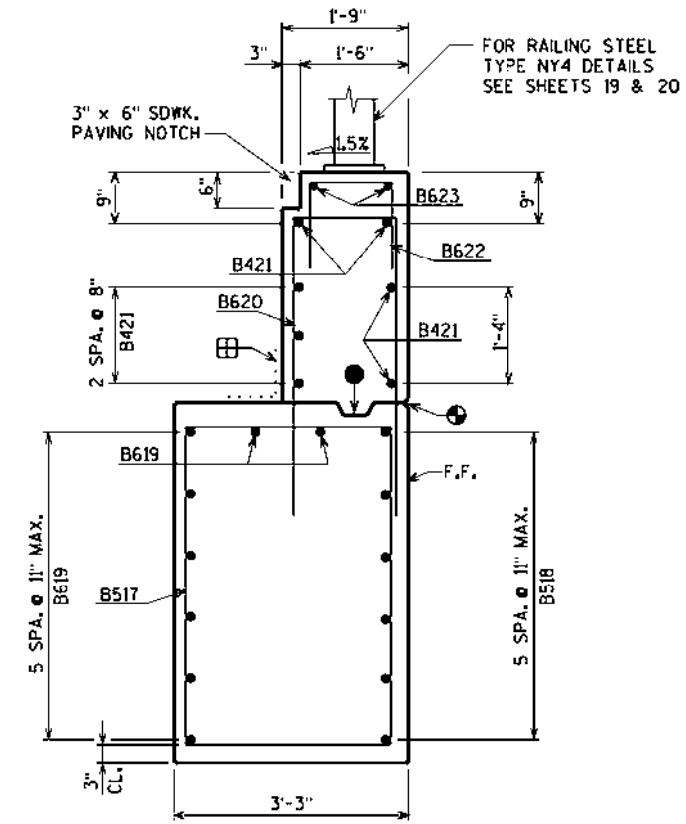
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-2-73			
DRAWN BY		CLP	PLANS CKD. JLB
EAST ABUTMENT			SHEET 9 OF 20

ORIGINAL PLANS PREPARED BY
AYRES 3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

4/6/2023 PENTABLE:BRRequ_shd_util.tbl



ELEVATION - WING 4



SECTION C

- 3/4" "V" GROOVE ON FRONT FACE OF WINGWALL, ONLY REQUIRED IF OPTIONAL CONSTRUCTION JOINT IS USED.
- OPT. CONST. JOINT FORMED BY A BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE.
- ⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

4/6/2023 PENTABLE:BRcu_shd_util.tbj

8

8

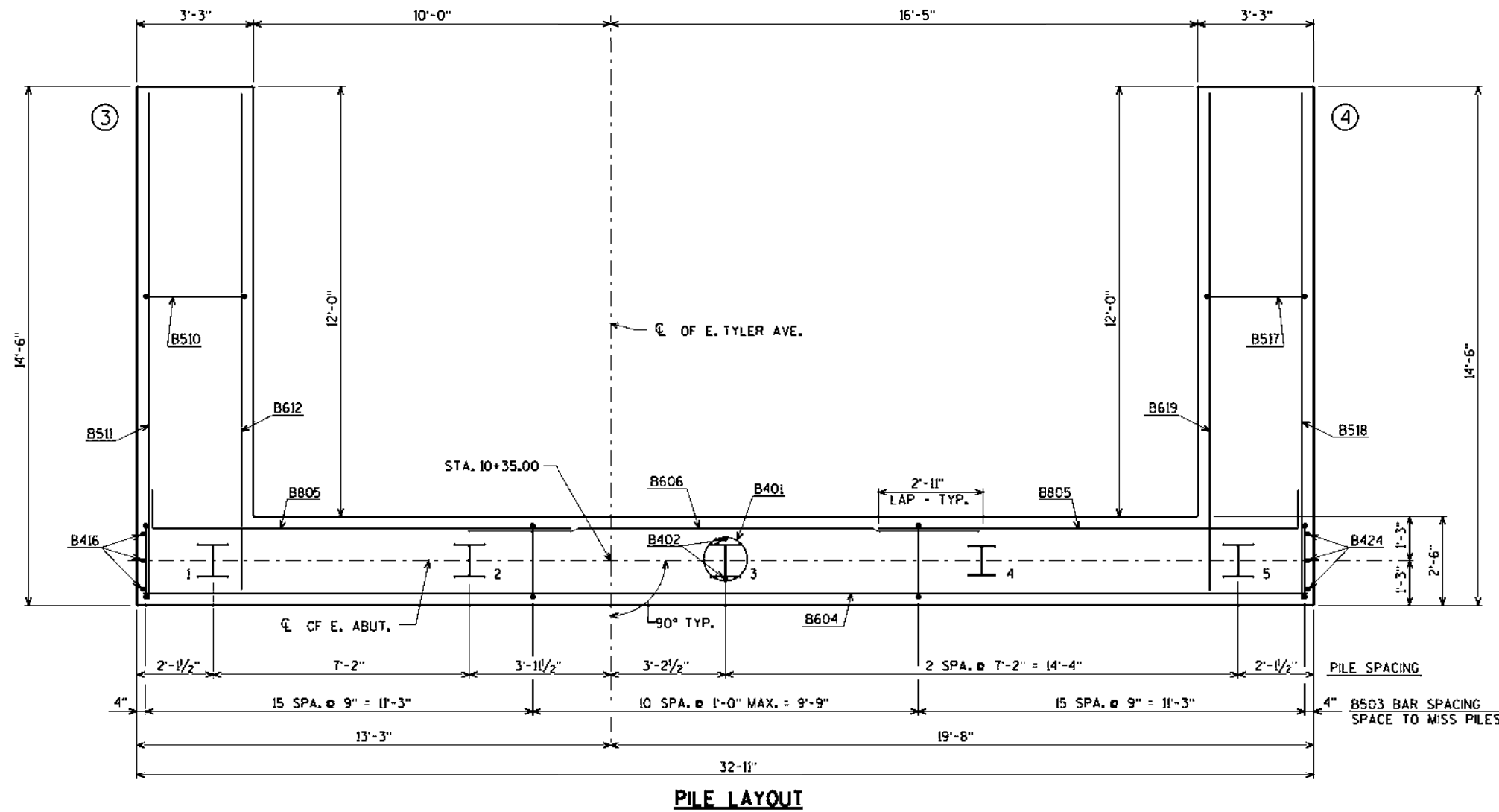
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-2-73			
DRAWN BY		CLP	PLANS CKD. JLB
EAST ABUTMENT WING 4 DETAILS			SHEET 11 OF 20

ORIGINAL PLANS PREPARED BY
AYRES 3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

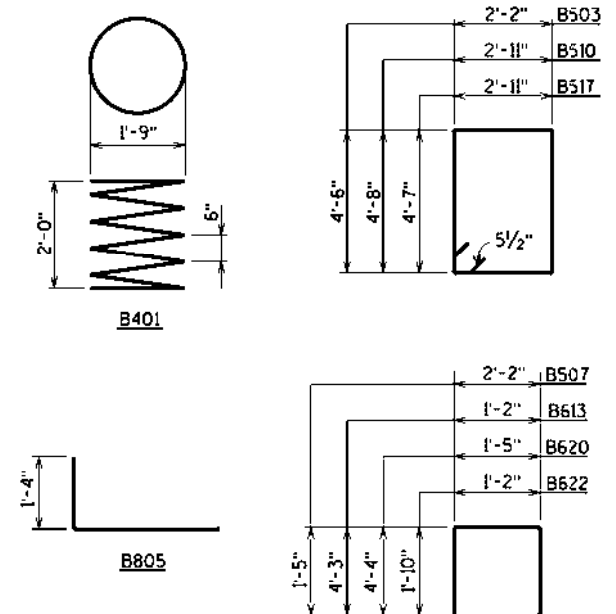
BILL OF BARS

BAR NO.	COATED BAR	NO. REOD.	LENGTH	BENT BAR	BUNDLE	BAR SERIES	1.750" COATED
							1.950" UNCOATED
							LOCATION
B401		5	28-0	X			BODY @ PILES
B402		10	2-3				BODY @ PILES
B503		41	14-0	X			BODY VERT.
B604		11	32-7				BODY HORIZ.
B805		14	13-2	X			BODY HORIZ. @ WING B.F.
B606		7	14-5				BODY HORIZ. BETW. WINGS B.F.
B507		9	4-9	X			BODY VERT.
B408		3	8-4				BODY HORIZ.
B509	X	31	2-0				BODY DOWELS
B510	X	12	15-10	X			WING 3 VERT.
B511	X	6	14-2				WING 3 HORIZ. F.F.
B612	X	8	14-2				WING 3 HORIZ. B.F. & TOP
B613	X	17	9-4	X			WING 3 VERT.
B414	X	5	11-8				WING 3 HORIZ. E.F.
B615	X	2	11-8				WING 3 HORIZ. E.F.
B416	X	3	4-8				BODY VERT. END @ WING 3
B517	X	12	15-8	X			WING 4 VERT.
B518	X	6	14-2				WING 4 HORIZ. F.F.
B619	X	8	14-2				WING 4 HORIZ. B.F. & TOP
B620	X	17	9-9	X			WING 4 VERT.
B421	X	5	11-8				WING 4 HORIZ. E.F.
B622	X	17	4-6	X			WING 4 VERT.
B623	X	2	11-8				WING 4 HORIZ. E.F.
B424	X	3	4-7				BODY VERT. END @ WING 4

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



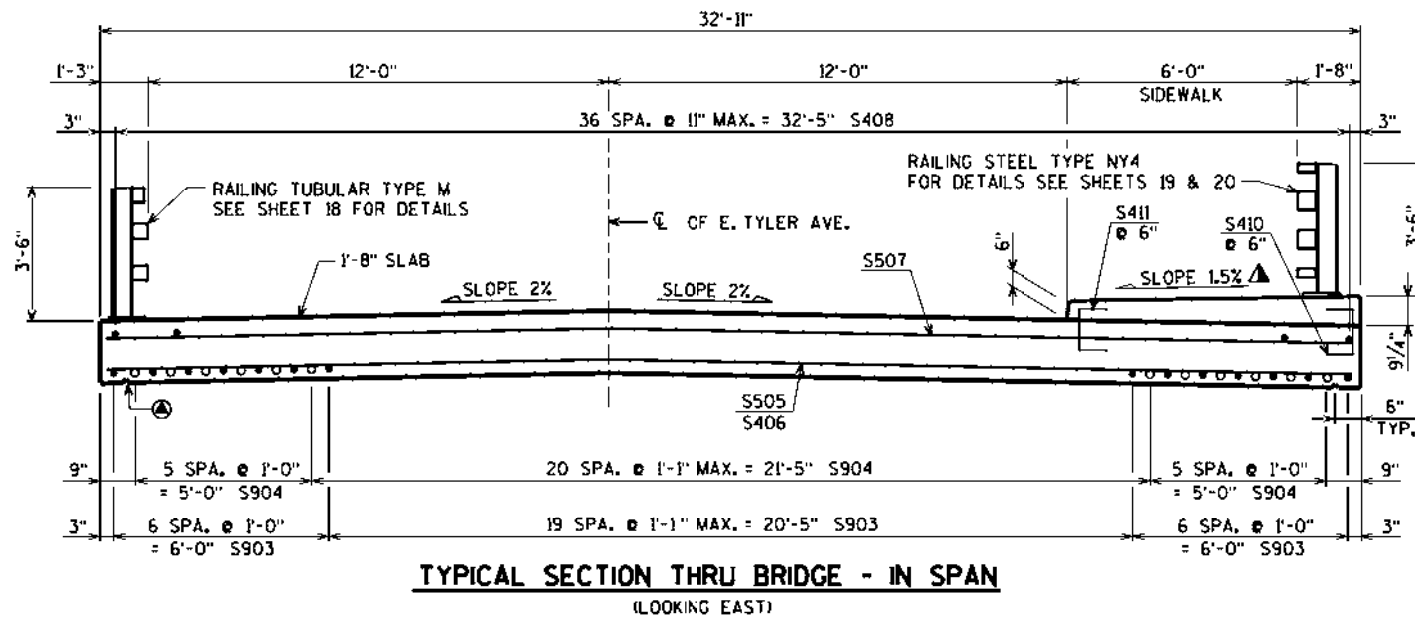
PILE LAYOUT



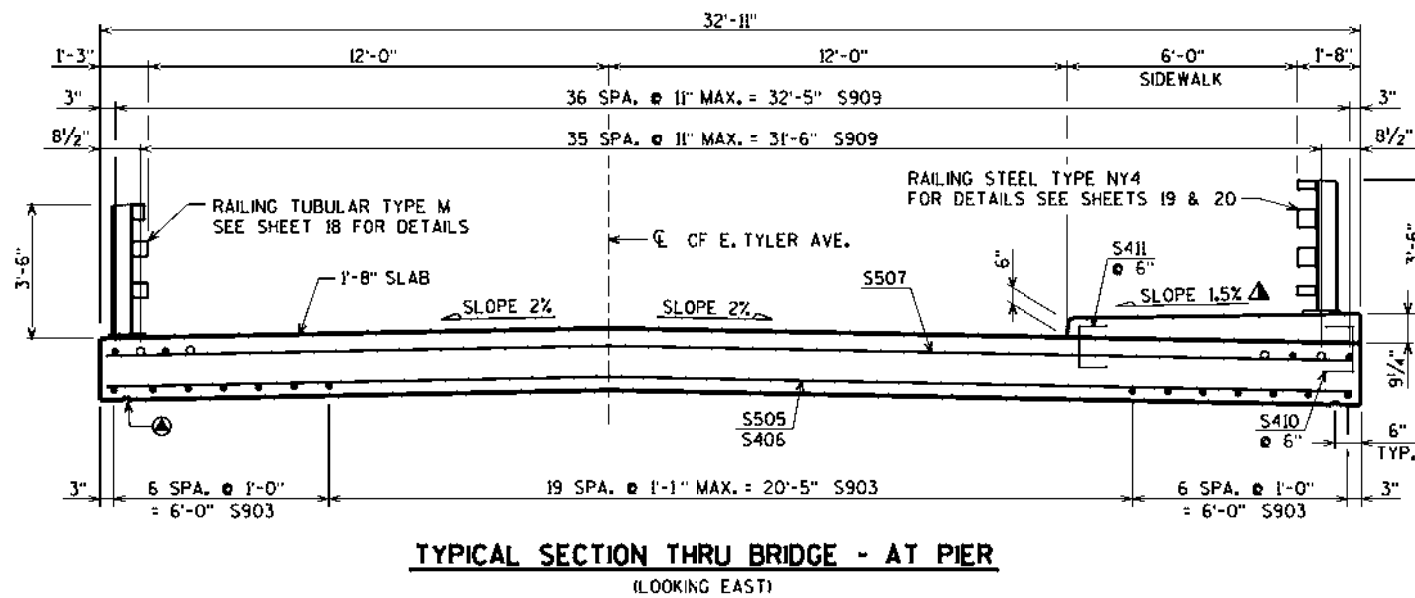
FOR PILE SPLICE DETAIL SEE SHEET 3.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-2-73			
DRAWN BY		CLP	PLANS CKD. JLB
EAST ABUTMENT PILE LAYOUT & BILL OF BARS			SHEET 12 OF 20

ORIGINAL PLANS PREPARED BY
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com



TYPICAL SECTION THRU BRIDGE - IN SPAN
(LOOKING EAST)



TYPICAL SECTION THRU BRIDGE - AT PIER
(LOOKING EAST)

▲ ±0.5% CONSTRUCTION TOLERANCE IN THE SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

⊙ 3/4" V-GROOVE, EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENTS - TYP.

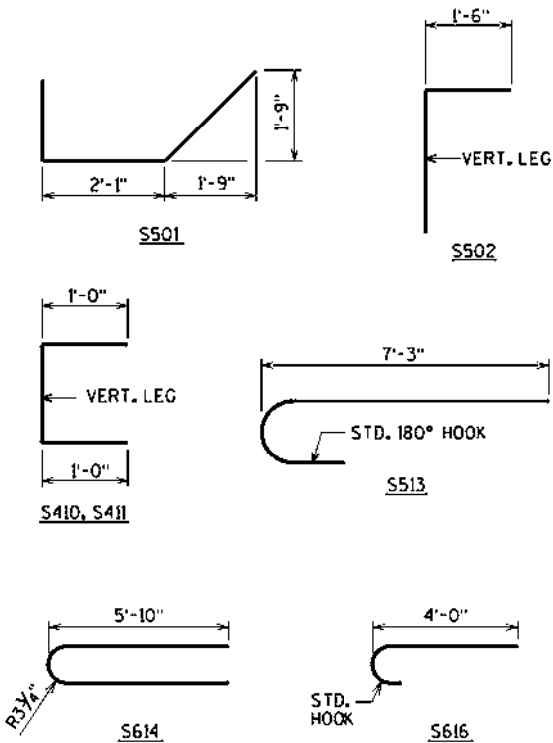
TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY, BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

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

BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLE	BAR SERIES	36,240# COATED	LOCATION
S501	X	68	6-1	X				SLAB @ ABUT.
S502	X	68	3-5	X				SLAB @ ABUT.
S903	X	64	44-4					SLAB LONG. BOT.
S904	X	62	31-6					SLAB LONG. BOT.
S505	X	68	32-7					SLAB TRANS. BOT.
S406	X	19	32-7					SLAB TRANS. BOT.
S507	X	83	32-7					SLAB TRANS. TOP
S408	X	74	20-9					SLAB LONG. TOP
S909	X	73	30-0					SLAB LONG. TOP
S410	X	165	3-9	X				SLAB @ SDWK. @ EDGE OF SLAB
S411	X	165	3-6	X				SLAB @ SDWK. @ CURB
S412	X	22	40-8					SDWK. LONG. TOP
S513	X	247	7-10	X				SDWK. TRANS. TOP
S614	X	52	12-0	X				SLAB @ RAIL POSTS
S615	X	88	6-0					SLAB @ INT. RAIL POSTS
S616	X	16	4-8	X				@ END RAIL POSTS

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



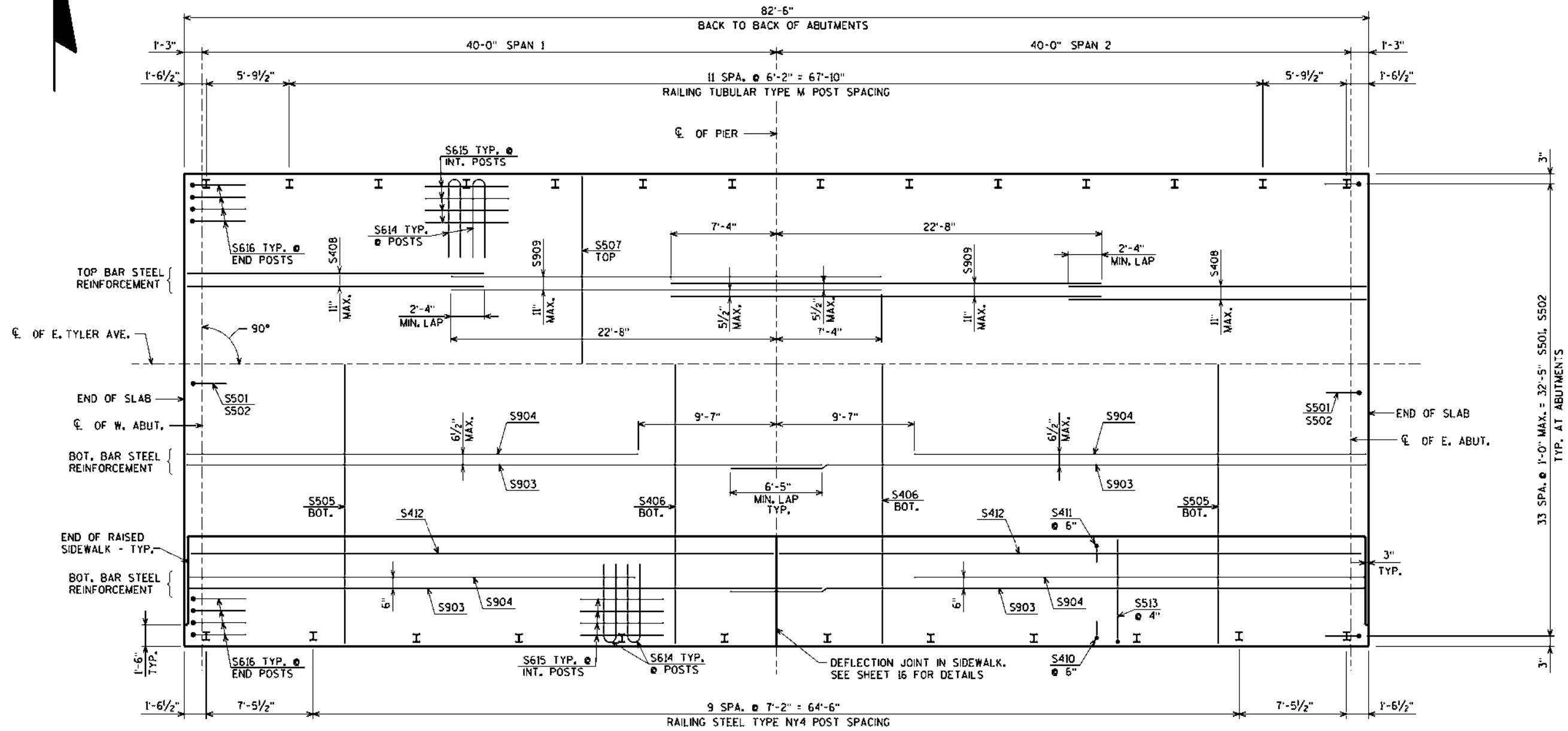
5/25/2023
PENTABLE:BRQu_shd_util.tb1

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-2-73			
DRAWN BY CLP		PLANS CKD. JLB	
SUPERSTRUCTURE			SHEET 14 OF 20

ORIGINAL PLANS PREPARED BY
AYRES 3433 Oakwood Hills Parkway
Eau Claire, WI 54601
www.AyresAssociates.com



PLAN

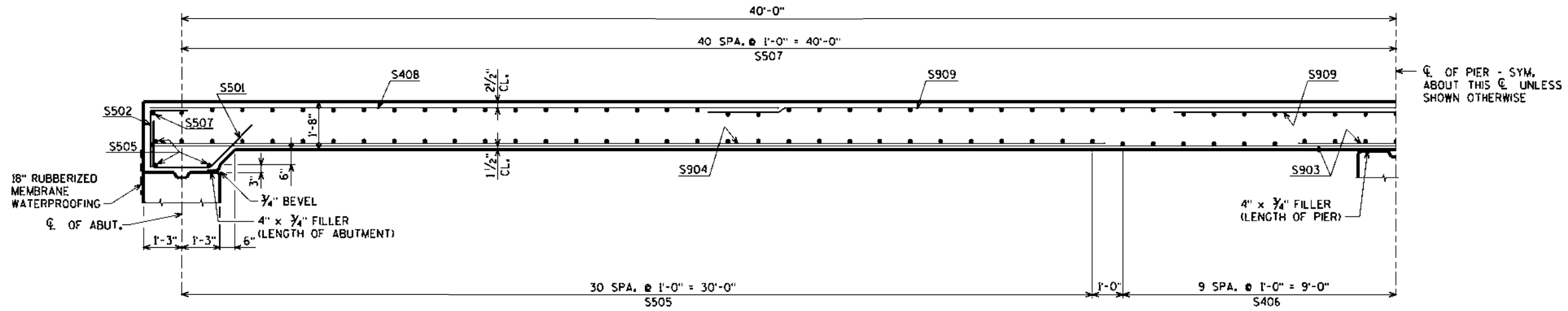
5/25/2023
PENTABLE:BRcu_shd_util.tb1

8

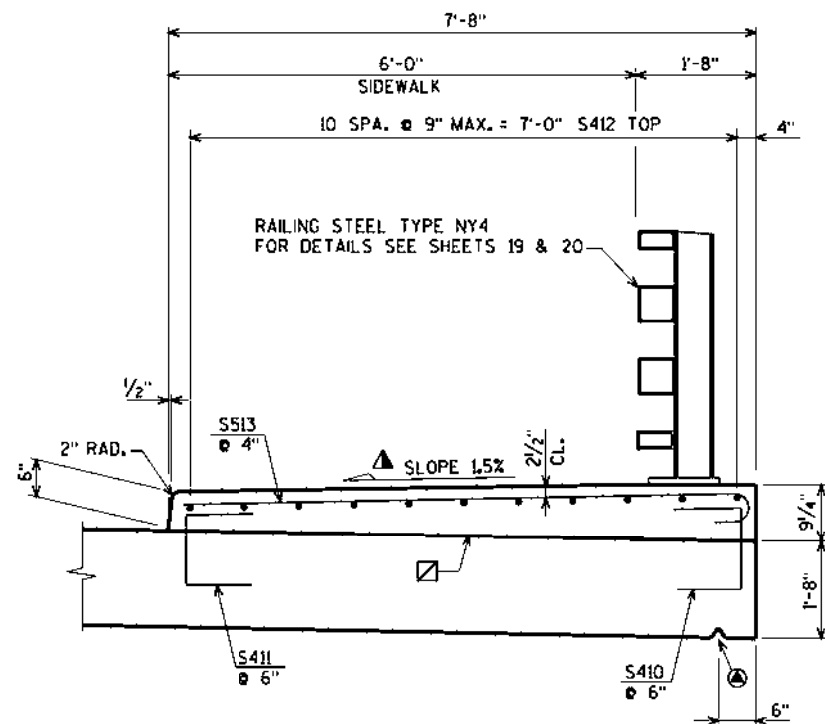
8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-2-73			
DRAWN BY		CLP	PLANS CKD. JLB
SUPERSTRUCTURE PLAN			SHEET 15 OF 20

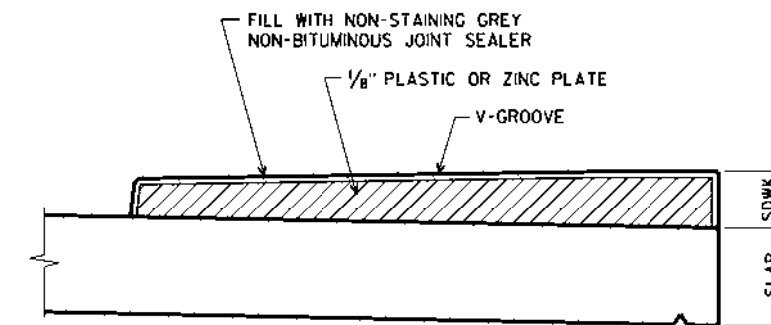
ORIGINAL PLANS PREPARED BY
AYRES 3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com



PART LONGITUDINAL SECTION



TYPICAL SECTION THRU SIDEWALK



DEFLECTION JOINT DETAIL

▲ ±0.5% CONSTRUCTION TOLERANCE IN THE SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

☒ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH FOR DECK POUR, MATCH BRIDGE X-SLOPE.

Ⓢ 3/4" V-GROOVE, EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENTS - TYP.

5/25/2023
PENTABLE:BRRequ_shd_util.tb1

8

8

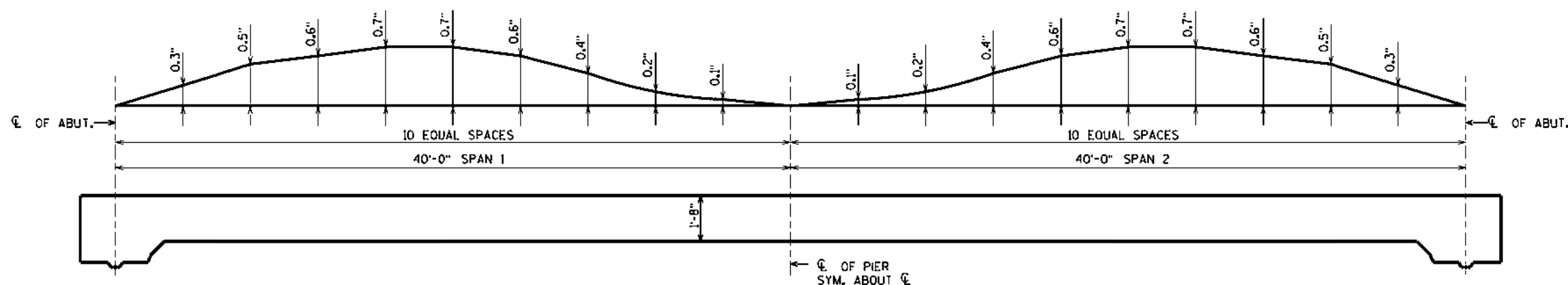
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-2-73			
DRAWN BY		CLP	PLANS CKD. JLB
SUPERSTRUCTURE DETAILS			SHEET 16 OF 20

ORIGINAL PLANS PREPARED BY
AYRES 3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

TOP OF SLAB ELEVATIONS

ELEVATIONS SHOWN ARE FINISHED SLAB AND DO NOT INCLUDE ALLOWANCES OF DEAD LOAD DEFLECTION AND FUTURE CREEP.

LOCATION	℄ OF W. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ OF PIER	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ OF E. ABUT.
N. EDGE OF SLAB	1223.53	1223.44	1223.34	1223.25	1223.17	1223.08	1223.00	1222.92	1222.84	1222.76	1222.69	1222.62	1222.55	1222.48	1222.41	1222.35	1222.29	1222.23	1222.18	1222.12	1222.07
℄ OF STRUCTURE	1223.80	1223.70	1223.61	1223.52	1223.43	1223.35	1223.26	1223.18	1223.10	1223.03	1222.95	1222.88	1222.81	1222.74	1222.68	1222.62	1222.56	1222.50	1222.44	1222.39	1222.34
GUTTER LINE @ SDWK.	1223.56	1223.46	1223.37	1223.28	1223.19	1223.11	1223.02	1222.94	1222.86	1222.79	1222.71	1222.64	1222.57	1222.50	1222.44	1222.38	1222.32	1222.26	1222.20	1222.15	1222.10
S. EDGE OF SLAB	1223.40	1223.31	1223.22	1223.13	1223.04	1222.95	1222.87	1222.79	1222.71	1222.63	1222.56	1222.49	1222.42	1222.35	1222.29	1222.22	1222.16	1222.10	1222.05	1222.00	1221.94



CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTION.

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

SIDEWALK PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

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

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

SURVEY TOP OF SLAB ELEVATIONS

LOCATION	℄ OF W. ABUT.	5/10 PT. SPAN 1	℄ OF PIER	5/10 PT. SPAN 2	℄ OF E. ABUT.
NORTH EDGE OF SLAB					
℄ OF STRUCTURE					
GUTTER LINE @ SDWK.					
SOUTH EDGE OF SLAB					

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS, THE ℄ OF PIER AND AT 1/2 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB, CROWN, AND GUTTER LINE. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

4/6/2023 PENTABLE:BRQu_shd_util.tbl

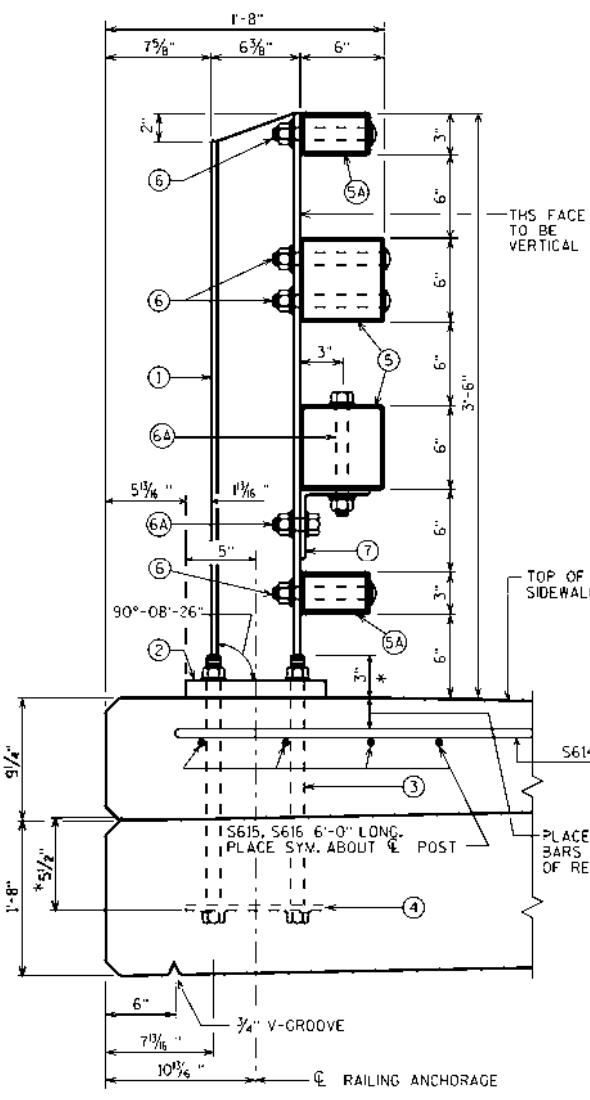
8

8

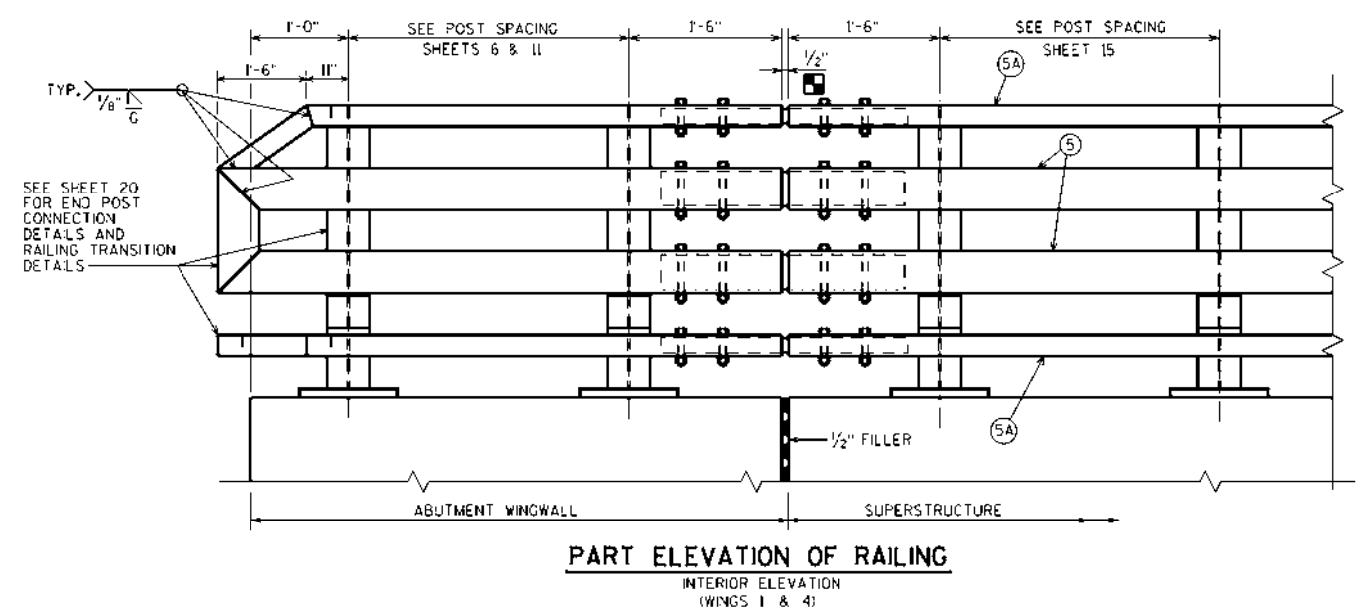
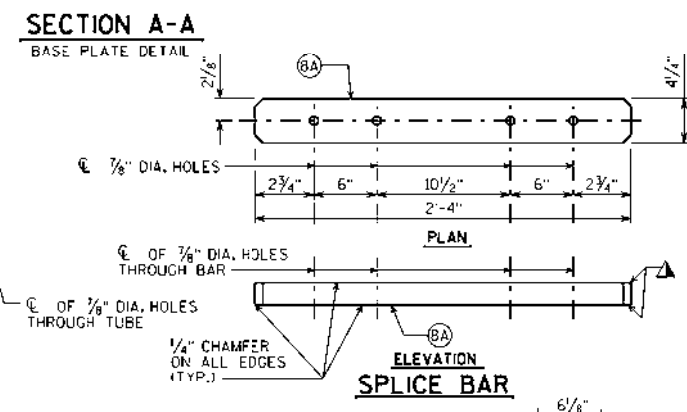
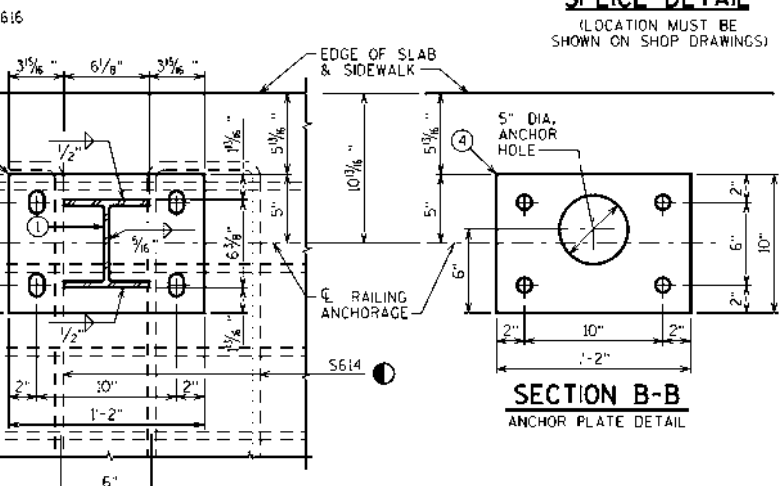
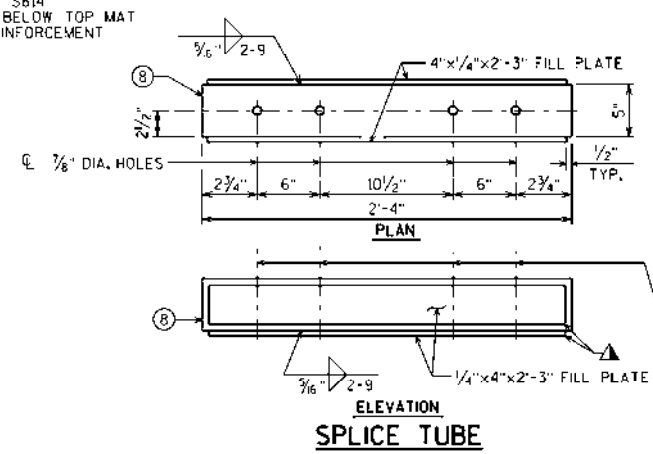
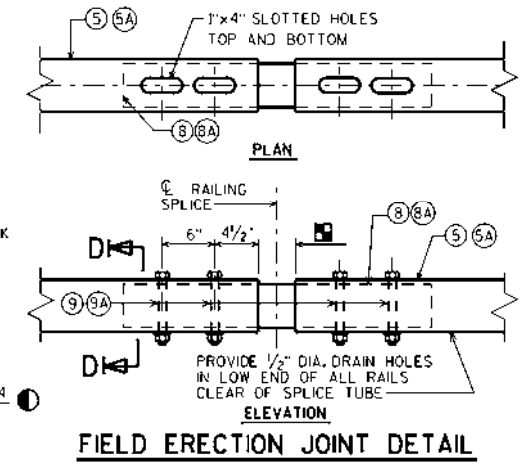
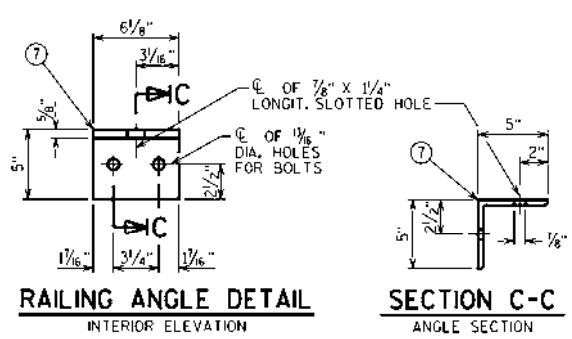
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-2-73			
DRAWN BY		CLP	PLANS CKD. JLB
SUPERSTRUCTURE ELEVATIONS			SHEET 17 OF 20

ORIGINAL PLANS PREPARED BY
AYRES 3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

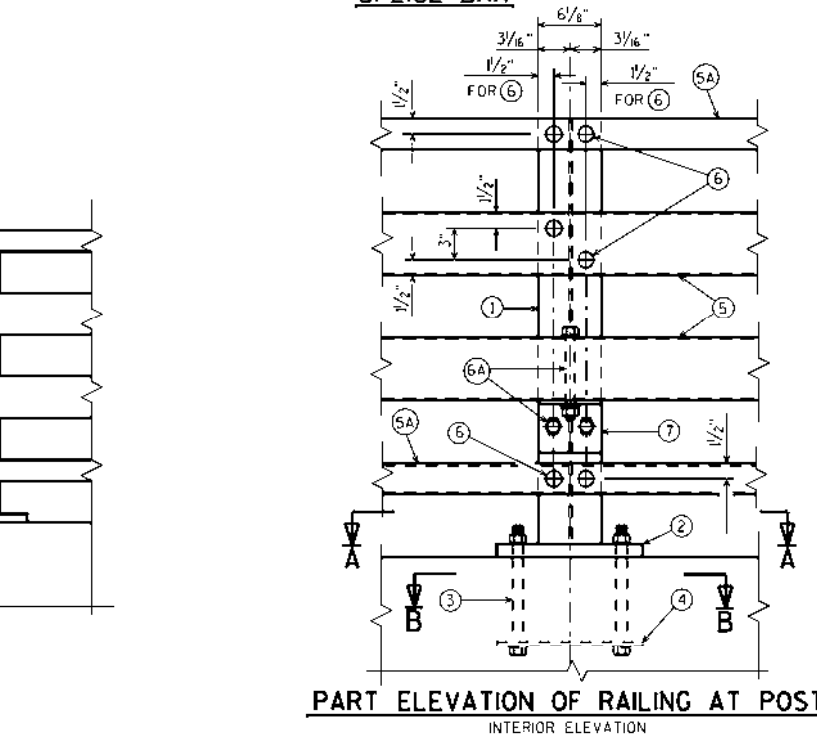
\$PRNAME\$
 I2:42:42-1279.00 - Ashland Co. Melen, Tyler Ave over Bad River+Structures+CADD+Final+421279 NY4 RAIL.DGN



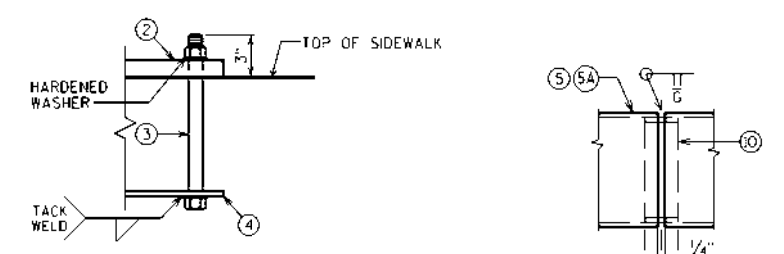
SECTION THRU RAILING ON SIDEWALK
 *NORMAL TO BASE PLATE



PART ELEVATION OF RAILING
 INTERIOR ELEVATION
 (WINGS 1 & 4)



PART ELEVATION OF RAILING AT POST
 INTERIOR ELEVATION



ANCHOR BOLTS
 FOR ANCHOR BOLTS IN WINGS,
 TACK WELD MAY BE USED IN FIELD
 AFTER ANCHOR PLATE IS IN POSITION
 IF REQ'D FOR CONSTRUCTIBILITY.

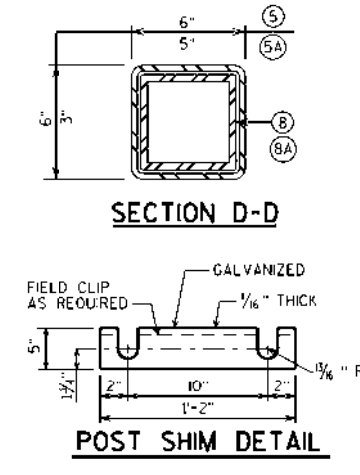
SHOP RAIL SPLICE DETAIL
 (LOCATION MUST BE SHOWN ON SHOP DRAWINGS)

LEGEND

- ① W6 X 25 WITH 1/8" X 1 3/8" HORIZONTAL SLOTTED HOLES ON EACH SIDE OF POST FOR BOLT NO. 6 AT TOP TWO RAILS. USE 1" DIA. HOLES FOR BOLTS NO. 6 AT BOTTOM NO. 5A & FOR BOLT NO. 6A AT NO. 7. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF SIDEWALK. PLACE POST VERTICAL. PLACE PCSTS NORMAL TO GRADE LINE.
- ② PLATE 1/4" X 10" X 1'-2" WITH 1/4" X 1 1/4" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. USE 1" AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- ③ ASTM A449 - 1" DIA. ANCHOR BOLTS WITH HEAVY HEX NUT AND 2" O.D. HARDENED WASHER (ALL GALVANIZED). 4 REQUIRED PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1 1/2" LONG BOLT FOR CONCRETE DECKS ON CONCRETE SLAB SUPERSTRUCTURES. USE 1 1/2" LONG BOLTS FOR CONCRETE DECKS 16" AND 1 1/2" LONG FOR THICKNESS < 16". USE 1 3/4" LONG BOLT FOR CONCRETE SIDEWALKS. USE 1'-9" LONG IN ABUTMENT WINGS. TAN EQUIVALENT THREADED ROD WITH HEAVY HEX NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQUIRED FOR CONSTRUCTIBILITY.)
- ④ 3/8" X 10" X 1'-2" ANCHOR PLATE (GALVANIZED) WITH 1/8" DIA. HOLES FOR ANCHOR BOLTS NO. 3.
- ⑤ TS 6 X 6 X 3/8" STRUCTURAL TUBING. USE 1" DIA. HOLES FOR BOLT NO. 6 (FRONT & BACK) & 3/8" DIA. HOLES FOR BOLT NO. 6A (TOP & BOTTOM).
- ⑥ TS 5 X 3 X 1/4" STRUCTURAL TUBING. USE 1" DIA. HOLES FOR BOLT NO. 6 IN TOP RAIL (FRONT & BACK). USE 1/8" X 1 3/8" HORIZONTAL SLOTTED HOLES FOR BOLT NO. 6 IN BOTTOM RAIL (FRONT & BACK) AND A 2" O.D. WASHER UNDER BOLT HEAD.
- ⑦ 3/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH HEX NUT, 3/8" X 1 3/4" X 1 3/4" WASHER, AND SPRING LOCK WASHER (2 REQUIRED AT RAIL TO POST LOCATIONS SHOWN).
- ⑧ 3/4" DIA. A325 BOLT WITH HEX NUT AND SPRING LOCK WASHER (1 REQUIRED AT RAIL TO ANGLE AND 2 REQUIRED AT ANGLE TO POST LOCATIONS SHOWN WITH 3/8" X 1 3/4" X 1 3/4" WASHER).
- ⑨ L 5 X 5 X 5/8" STRUCTURAL ANGLE. ATTACH TO NO. 1 AND NO. 5 AS SHOWN.
- ⑩ TS 5 X 5 X 3/8" X 2'-4" LONG SPLICE TUBE. 1 PER RAIL. USED IN NO. 5.
- ⑪ 4 1/4" X 2 1/8" X 2'-4" LONG SPLICE BAR. 1 PER RAIL. USED IN NO. 5A.
- ⑫ 3/4" DIA. A325 FULLY THREADED BOLTS, 7/2" LONG, WITH 2 WASHERS AND HEAVY HEX NUT ON EACH BOLT. NUT TO BE FINGER TIGHT. (4 REQUIRED PER SPLICE). USE 1" X 4" SLOTTED HOLES IN TOP AND BOTTOM OF NO. 5.
- ⑬ 3/4" DIA. A325 FULLY THREADED BOLTS, 4 1/2" LONG, WITH 2 WASHERS AND HEAVY HEX NUT ON EACH BOLT. NUT TO BE FINGER TIGHT. (4 REQUIRED PER SPLICE). USE 1" X 4" SLOTTED HOLES IN TOP AND BOTTOM OF NO. 5A.
- ⑭ SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- ⑮ 1/2" OPENING FOR ABUTMENT.
- ⑯ PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE RAILS, SPLICE TUBES AND FILL PLATES.
- ⑰ TIE TO TOP MAT OF STEEL.

NOTES

- BID ITEM SHALL BE "RAILING STEEL TYPE NY4", WHICH INCLUDES ALL ITEMS SHOWN.
- RAILING SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.
- POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT, AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
- ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS, ANGLES, SPLICE TUBES, SPLICE BARS AND STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS.
- RAIL POST, BASE PLATES, SPLICE BAR, ANGLES AND SPLICE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED $f_y = 50$ KSI. ANCHOR PLATES & SHIMS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
- THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8" TURN.
- FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. CAULK AROUND PERIMETER OF NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.
- STEEL SHIMS SHALL BE PROVIDED & USED UNDER PLATE NO. 2 WHERE REQUIRED FOR ALIGNMENT, AND SHALL BE GALVANIZED.
- WORK THIS SHEET WITH "END POST DETAILS FOR RAILING STEEL TYPE NY4" SHEET.



SECTION D-D

POST SHIM DETAIL

ORIGINAL PLANS PREPARED BY

AYRES 3433 Oakwood Hills Parkway
 Eau Claire, WI 54701
 www.AyresAssociates.com

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

STRUCTURE B-2-73

DRAWN BY	CLP	PLANS CKD.	JLB
----------	-----	------------	-----

RAILING STEEL TYPE NY4

SHEET 19 OF 20

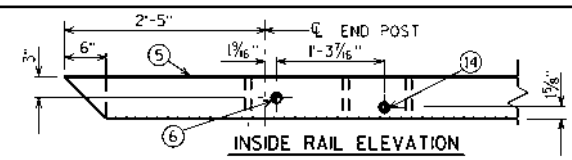
LEGEND

- ① #6 X 25 WITH 1/8" X 1 1/4" HORIZONTAL SLOTTED HOLES ON SIDE OF POST FOR BOLT NO. 6 AT NO. 5 & AT TOP RAIL NO. 5A. USE 1" DIA. HOLE FOR BOLT NO. 6 AT NO. 5A BOTTOM RAIL. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF SIDEWALK. PLACE POSTS VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1/4" X 10" X 1'-2". SEE SHEET "TUBULAR STEEL RAILING NY4" FOR MORE INFORMATION.
- ③ TS 6 X 6 X 3/8" STRUCTURAL TUBING. USE 1/8" DIA. HOLES IN TOP AND BOTTOM OF RAILS FOR BOLT NO. 13 AS SHOWN IN PLAN DETAILS. USE 1" DIA. HOLES IN FRONT AND BACK OF RAILS FOR BOLTS NO. 6 & NO. 14 AS SHOWN IN ELEVATION DETAILS.
- ④ TS 5 X 3 X 1/4" STRUCTURAL TUBING. USE 1" DIA. HOLES FOR TOP RAIL NO. 5A (FRONT & BACK). USE 1/8" X 1 1/2" HORIZONTAL SLOTTED HOLES FOR BOLT NO. 6 IN BOTTOM RAIL (FRONT & BACK) AND A 2" O.D. WASHER UNDER BOLT HEAD.
- ⑤ 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH HEX NUT, 3/4" X 1 1/4" X 1 1/4" WASHER, AND SPRING LOCK WASHER (1 REQUIRED AT RAIL NO. 5 TO POST NO. 1 CONNECTION LOCATIONS SHOWN, 2 REQUIRED AT RAIL NO. 5A TO POST NO. 1 CONNECTION LOCATIONS SHOWN).
- ⑥ TS 6 X 6 X 3/8" STRUCTURAL TUBING. USE 1" DIA. HOLES IN FRONT AND BACK FOR BOLT NO. 14 & 3/8" DIA. HOLES IN TOP & BOTTOM FOR BOLT NO. 13.
- ⑦ L 6 X 6 X 1/2" STRUCTURAL ANGLE. USE 3/8" DIA. HOLES IN TOP FLANGE FOR BOLT NO. 13.
- ⑧ 3/4" DIA. A325 FULLY THREADED BOLTS, 2 WASHERS AND A HEAVY HEX NUT. ON EACH BOLT. NUT TO BE FINGER TIGHT. 3 BOLTS AT EACH END POST.
- ⑨ 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH HEX NUT AND 3/8" X 2" X 2" WASHER FOR CONNECTION OF THREE BEAM (4 REQUIRED)

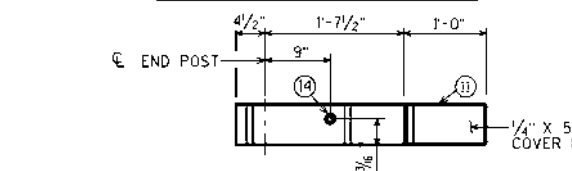
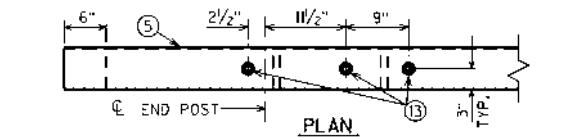
NOTES

STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED $f_y=50$ KSI. STRUCTURAL ANGLE SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50.

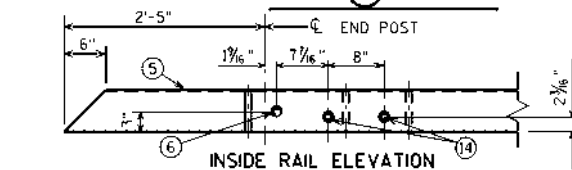
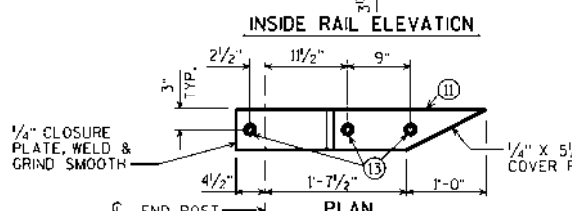
WORK THIS SHEET WITH "TUBULAR STEEL RAILING TYPE NY4" SHEET.



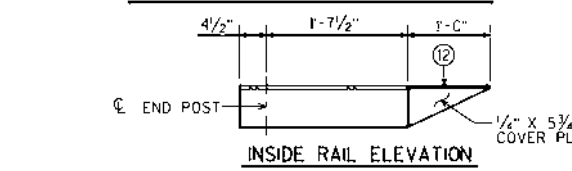
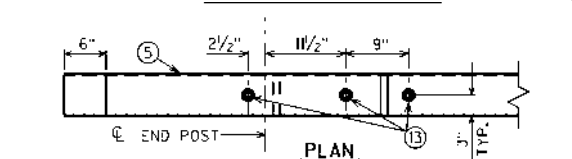
TOP RAIL ⑤ DETAILS



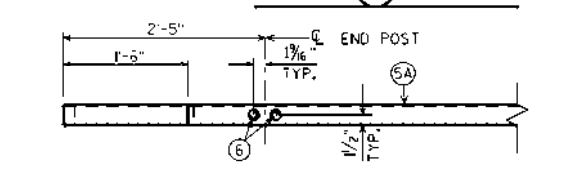
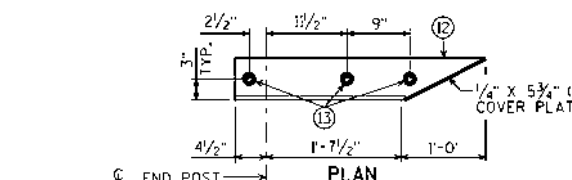
TUBE ⑪ DETAILS



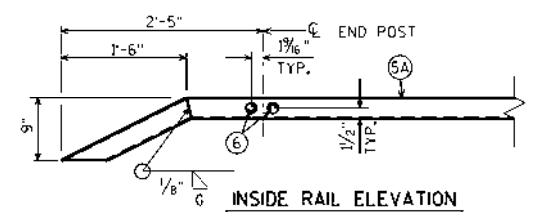
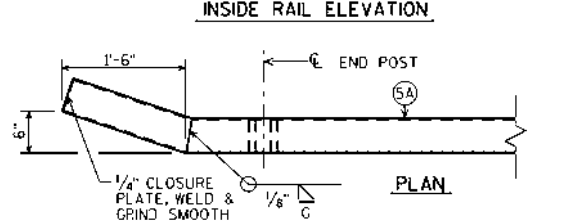
BOTTOM RAIL ⑤ DETAILS



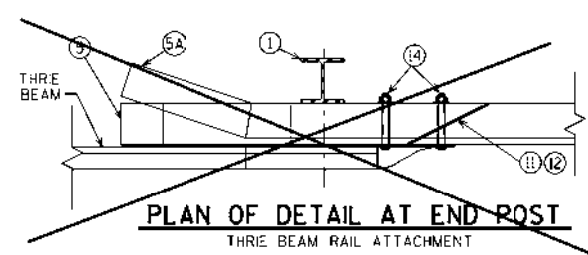
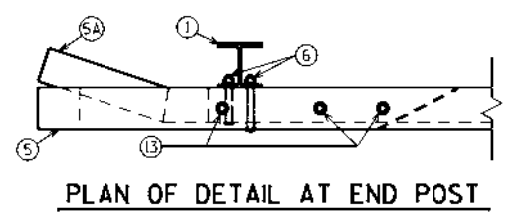
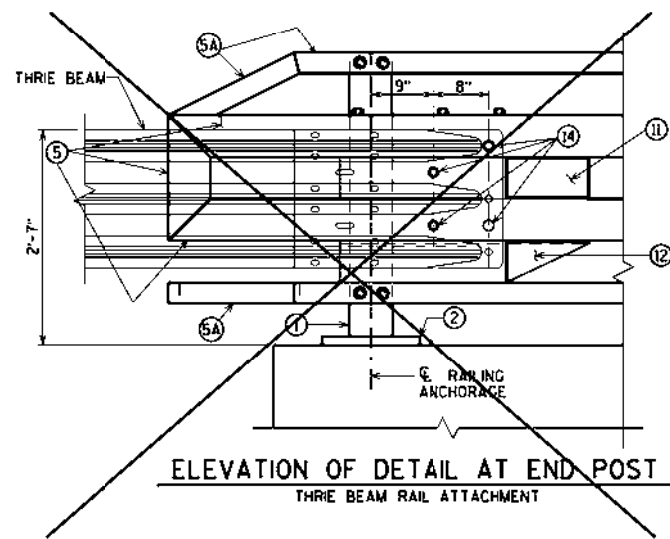
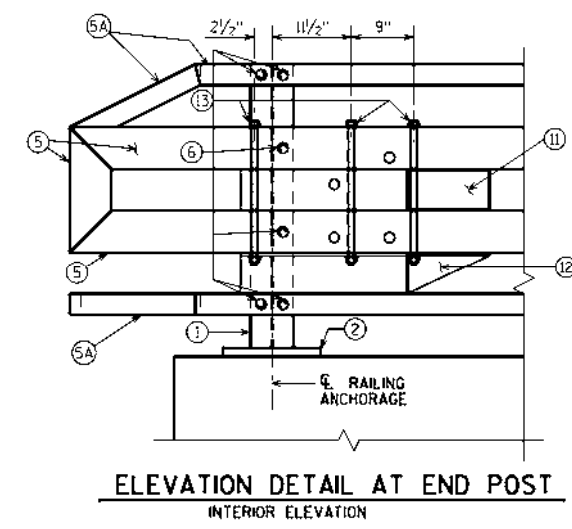
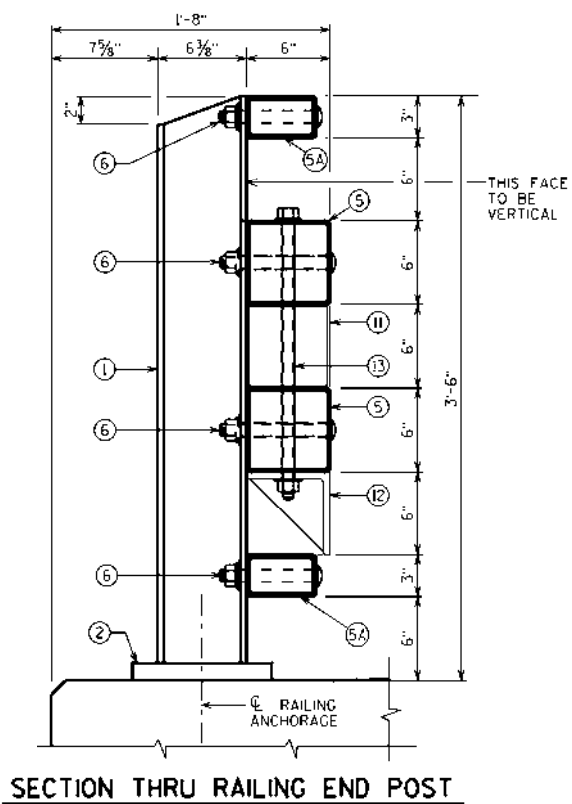
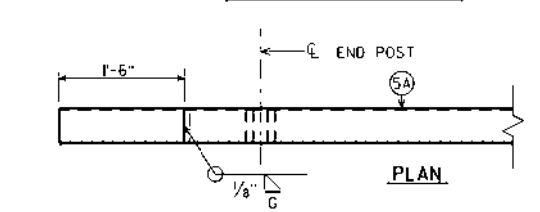
ANGLE ⑫ DETAILS



BOTTOM RAIL ⑤A DETAILS



TOP RAIL ⑤A DETAILS



4/6/2023 PENTABLE:BRReq_uhd_util.tbl

8

8

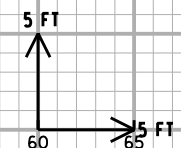
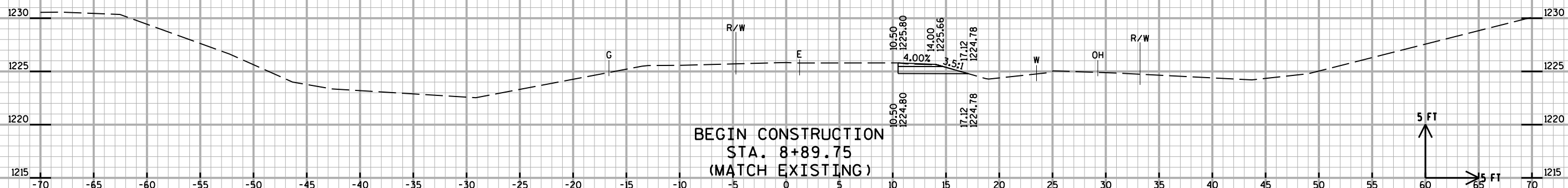
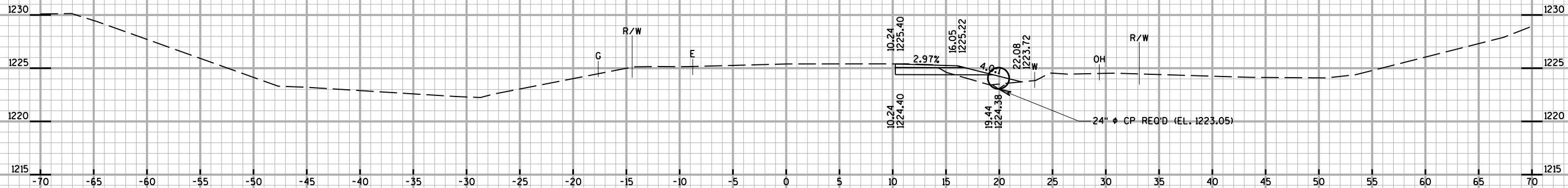
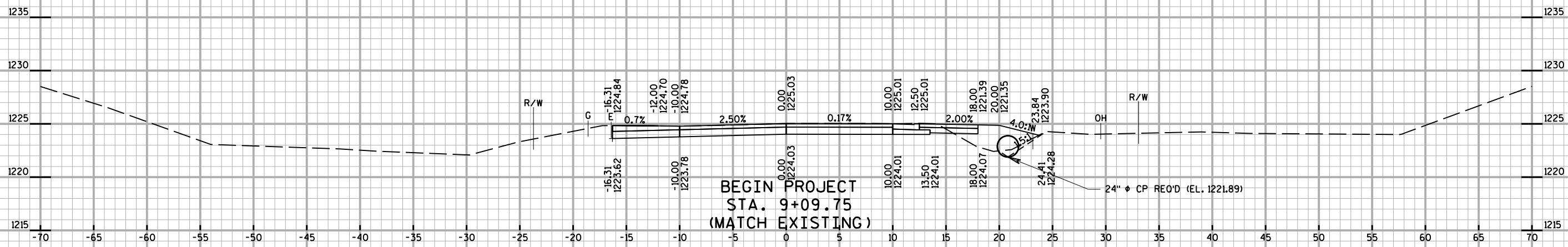
ORIGINAL PLANS PREPARED BY
AYRES 3433 Oakwood Hills Parkway
 Eau Claire, WI 54701
 www.AyresAssociates.com

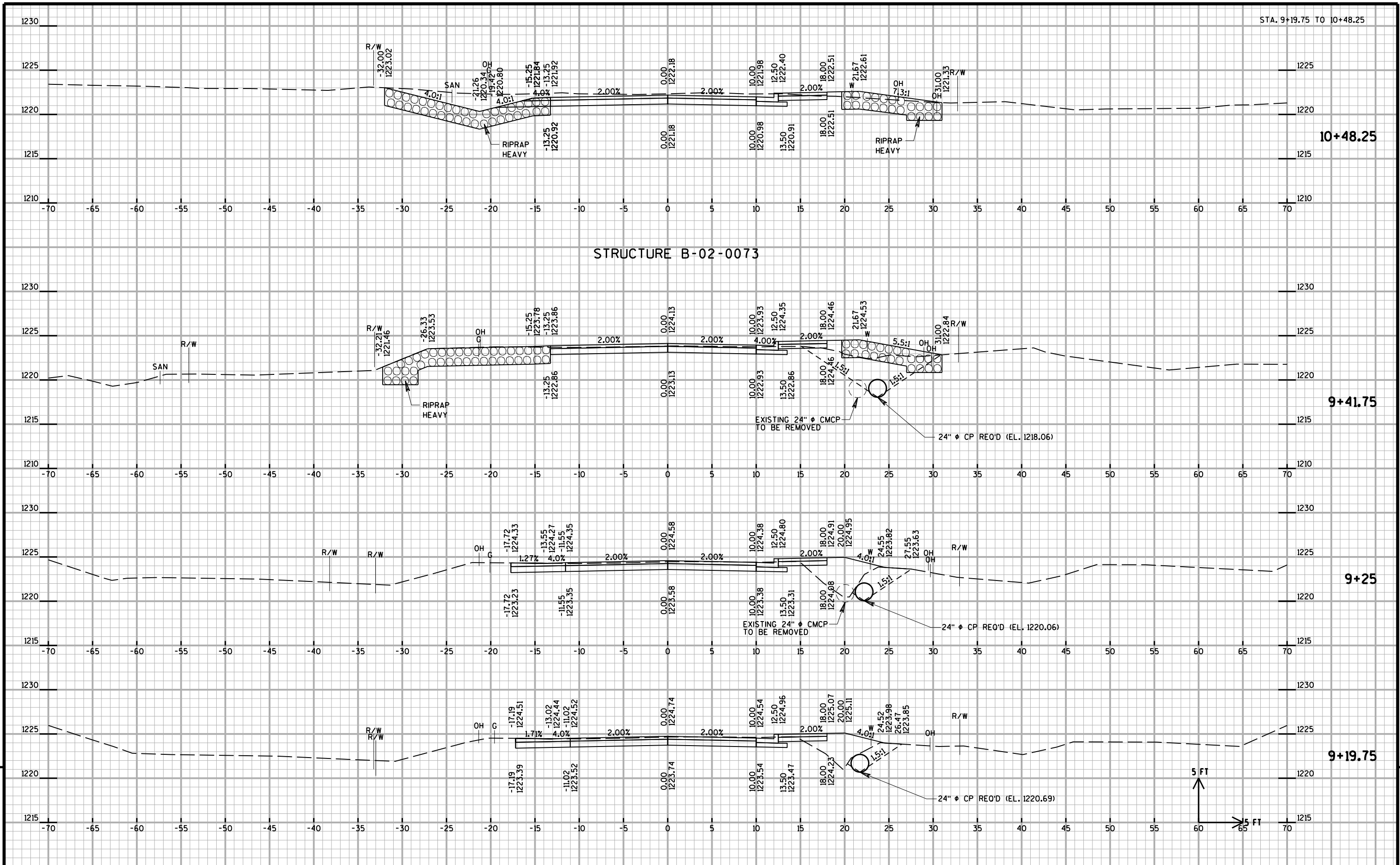
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-2-73			
DRAWN BY		CLP	PLANS CKD. JLB
END POST DETAILS FOR RAILING STEEL TYPE NY4			SHEET 20 OF 20

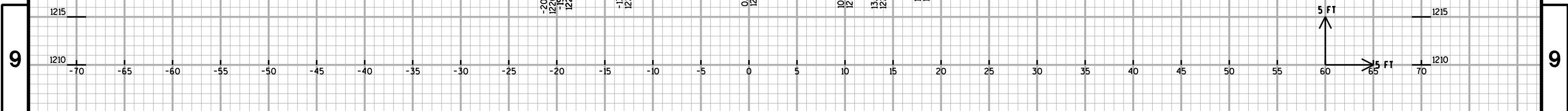
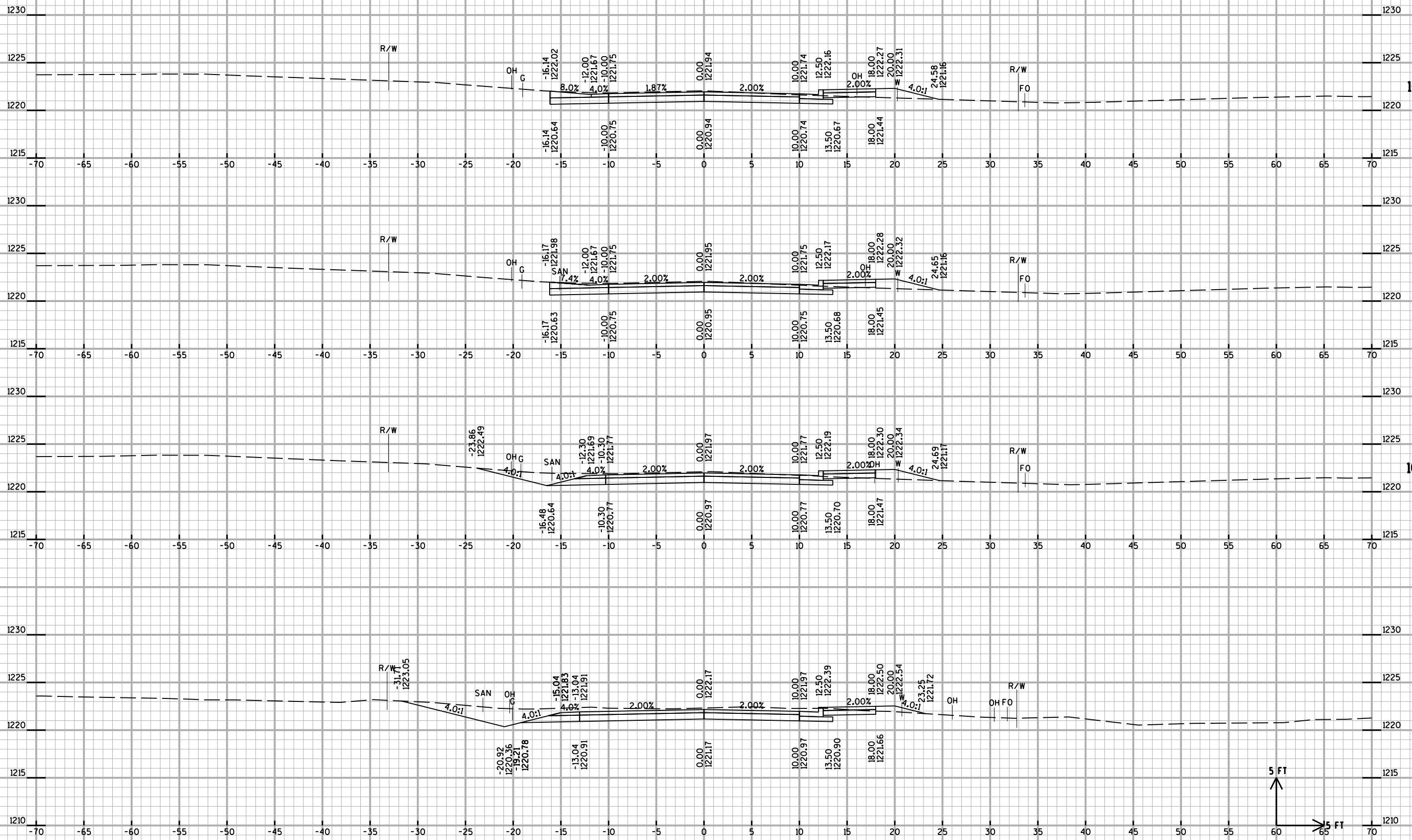
E TYLER AVENUE COMPUTER EARTHWORK

Station	Distance	Area (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
		Cut	Unusable Cut	Fill	Cut	Unusable Cut	Fill	Cut 1.00	Unusable Cut	Expanded Fill 1.30	
8+89.75	--	4.5	0.0	0.0	--	--	--				
9+00	10	4.3	0.0	3.1	2	0	1	2	0	1	1
9+09.75	10	4.8	0.0	11.2	2	0	3	3	0	4	-1
9+09.75	--	32.0	10.9	11.2							
9+19.75	10	30.9	10.8	15.7	12	4	5	15	4	10	0
9+25	5	30.1	10.8	19.2	6	2	3	21	6	15	0
9+41.75	17	20.1	10.8	2.3	16	7	7	36	13	24	0
9+53.75	12	18.9	10.8	0.1	9	5	1	45	18	24	3
BRIDGE B-2-73	--	--	--	--	--	--	--	--	--	--	--
10+36.25	--	34.7	10.8	0.0	--	--	--	--	--	--	--
10+48.25	12	55.8	10.8	0.8	20	5	0	65	22	24	18
10+50	2	58.4	10.8	2.1	4	1	0	69	23	25	21
10+72.5	23	37.5	10.8	4.3	40	9	3	109	32	28	48
10+75	3	31.8	10.8	4.4	3	1	0	112	33	29	50
10+77.25	2	31.4	10.8	4.3	3	1	0	115	34	29	51
10+85.64	8	31.9	10.8	1.8	10	3	1	125	37	30	57
10+92.25	7	29.5	10.8	0.1	8	3	0	132	40	31	61
10+92.25	--	7.7	0.0	0.0							
11+00.00	8	6.4	0.0	0.0	2	0	0	134	40	31	63
11+12.25	12	4.6	0.0	0.0	2	0	0	137	40	31	66
					137	40	23				

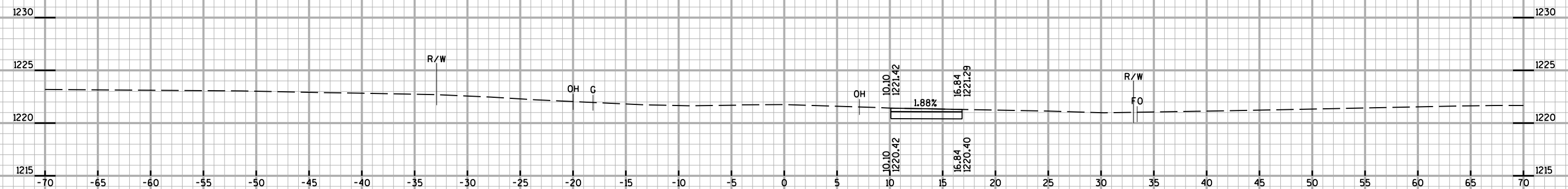
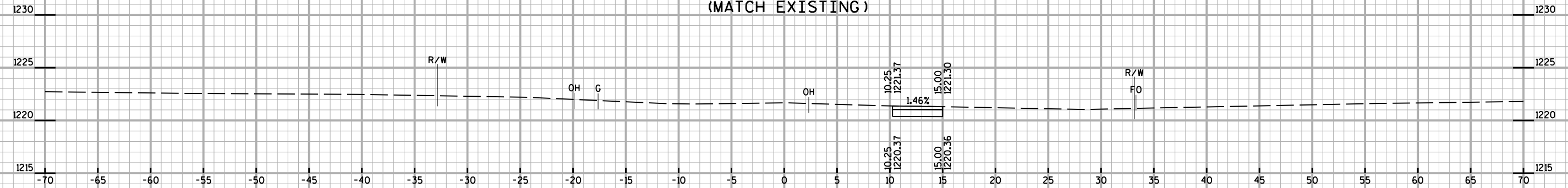
Note 1 - Cut	Cut includes unusable pavement material.
Note 2 - Unusable Cut	Existing asphalt pavement. Not to be used outside the 1:1 road core.
Note 3 - Expanded Fill	Volume needed to be filled = Fill * 1.30 (Does not include unusable pavement excavation volume.)
Note 4 - Mass Ordinate	(Cut) - (Unusable) - (Expanded Fill * Fill Factor)



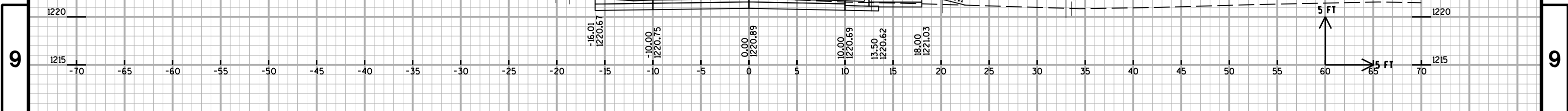
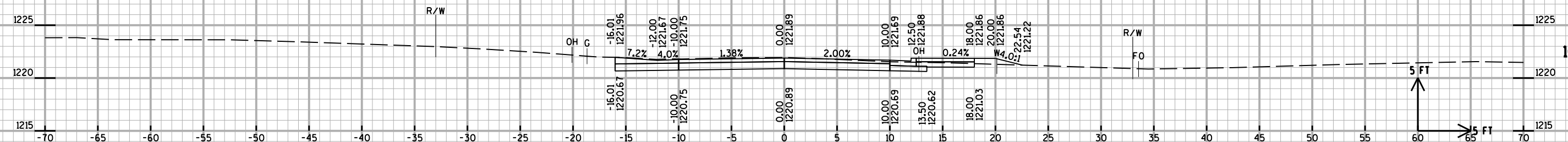
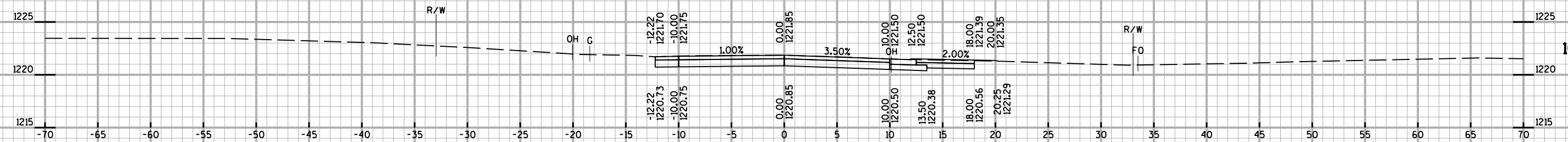




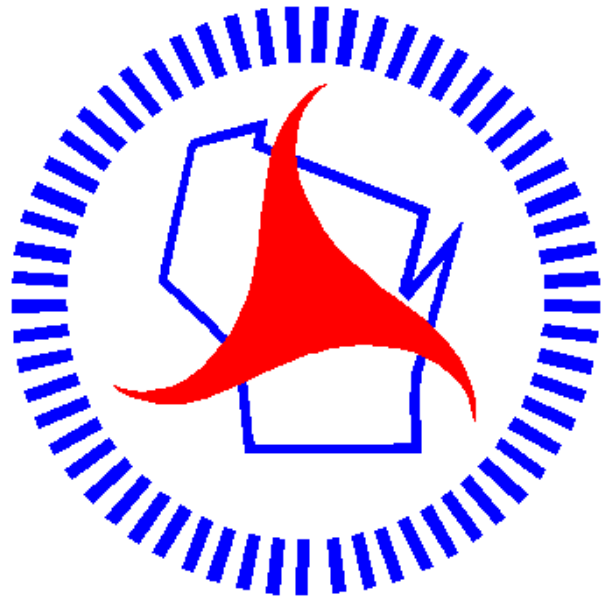
END CONSTRUCTION
STA. 11+12.25
(MATCH EXISTING)



END PROJECT
STA. 10+92.25
(MATCH EXISTING)



Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

<http://www.dot.wisconsin.gov>