

GRE

AUGUST 2024

ORDER OF SHEETS

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

TOTAL SHEETS = 58

PROJECT ID:

4312-09-71

COUNTY: MANITOWOC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT

T GIBSON, ROCKLEDGE ROAD
EAST TWIN RIVER BRIDGE
LOC STR
MANITOWOC COUNTY

STATE PROJECT NUMBER

4312-09-71

STATE PROJECT

4312-09-71

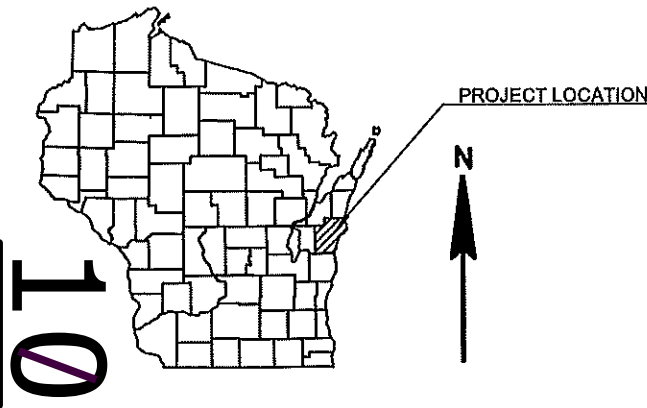
FEDERAL PROJECT

PROJECT

WISC 2024407

CONTRACT

1



DESIGN DESIGNATION

A.A.D.T.	2025	=	49
A.A.D.T.	2045	=	55
D.H.V.		=	
D.D.		=	50/50
T.		=	3.5%
DESIGN SPEED		=	45 MPH
ESALS		=	0

CONVENTIONAL SYMBOLS

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

PROFILE

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

BEGIN PROJECT
STA. 9+10
Y=382435.580
X=233013.878



LAYOUT
SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.033 MI

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

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

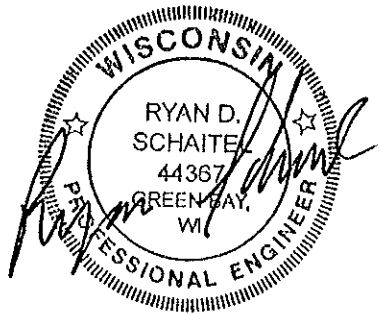
ACCEPTED FOR
MANITOWOC COUNTY

4/8/2024
DATE

Greg Grotegut
COUNTY HIGHWAY COMMISSIONER

ORIGINAL PLANS PREPARED BY

AYRES



4-8-2024
(Date)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	AYRES
Designer	AYRES
Project Manager	MIKE COHEN
Regional Supervisor	BRAIN EDWARDS

APPROVED FOR THE DEPARTMENT

DATE: 4/19/2024
(Signature)

GENERAL NOTES

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

PROPERTY LINES AS SHOWN ARE APPROXIMATE.

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

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

ALL TIES ON THIS PLAN ARE HORIZONTAL UNLESS DESCRIBED OTHERWISE.

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

DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SUBGRADE SHOULDER POINTS ARE TO BE SEEDED AND EROSION MAT AS DIRECTED BY THE ENGINEER.

UTILITIES

* WISCONSIN PUBLIC SERVICES CORP - ELECTRIC
227 W CALUMET STREET
CHILTON, WI 53014
ATTENTION: CHUCK WINDUS
E-MAIL: charles.windus@wisconsinpublicservice.com

TELEPHONE 920-617-5281
CELL 920-606-1141

*-MEMBER OF DIGGERS HOTLINE



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

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP- TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE- TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA= 0.311 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.170 ACRES
SOIL GROUP A/D.

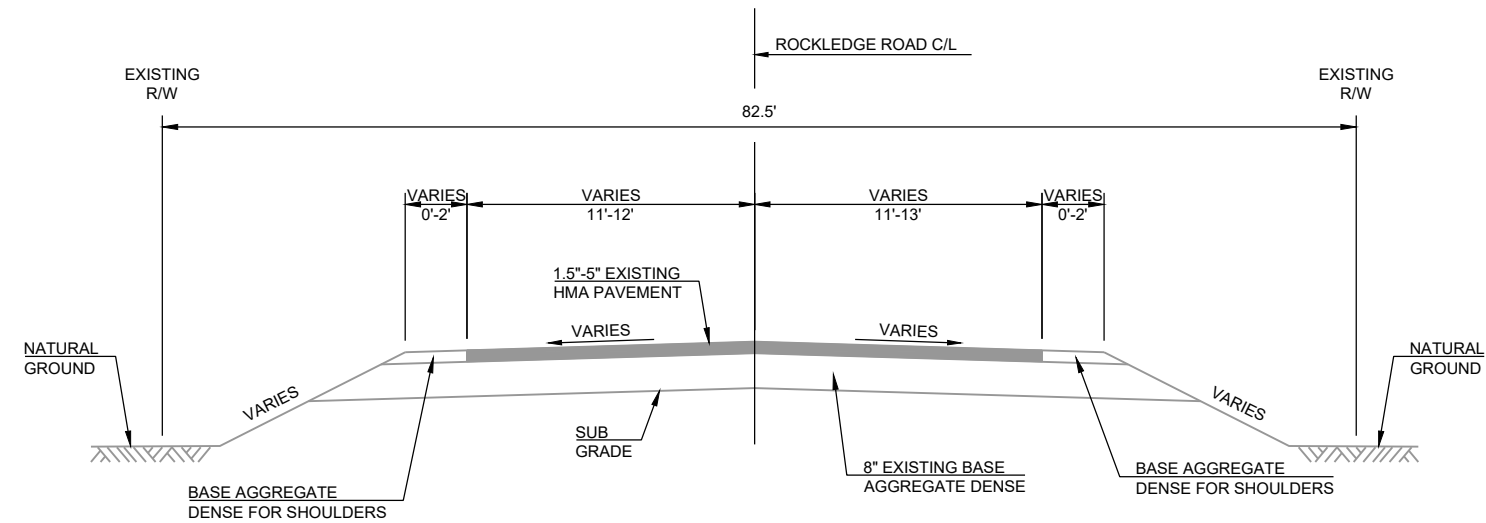
STANDARD ABBREVIATIONS

ADT	AVERAGE DAILY TRAFFIC	NC	NORMAL CROWN
AC	ASPHALT CEMENT	PT	POINT OF TANGENCY
AGG	AGGREGATE	PC	POINT OF CURVATURE
ASPH	ASPHALT	PI	POINT OF INTERSECTION
BM	BENCH MARK	PE	PRIVATE ENTRANCE
C/L	CENTERLINE	R	RADIUS
CONC	CONCRETE	REM	REMOVE
CMP	CORRUGATED METAL PIPE	R/L OR RL	REFERENCE LINE
CR.	CREEK	RCCP	REINFORCED CONCRETE CULVERT PIPE
D	DEGREE OF CURVE	RCPSS	REINFORCED CONCRETE PIPE STORM SEWER
DHV	DESIGN HOUR VOLUME	R.O.	RUNOUT
ESALS	EQUIVALENT SINGLE AXIS LOADS	R/W	RIGHT-OF-WAY
EXIST	EXISTING	STA	STATION
FE	FIELD ENTRANCE	SE	SUPER ELEVATION
HYD	HYDRANT	SS	STORM SEWER
IP	IRON PIPE OR PIN	T	TANGENT
L	LENGTH OF CURVE	TEL	TELEPHONE
LC	LONG CHORD OF CURVE	TLE	TEMPORARY LIMITED EASEMENT
LR	LENGTH OF RUNOFF	T	TRUCKS
MH	MANHOLE	VC	VERTICAL CURVE
		W	WELL

DEPARTMENT OF NATURAL RESOURCES

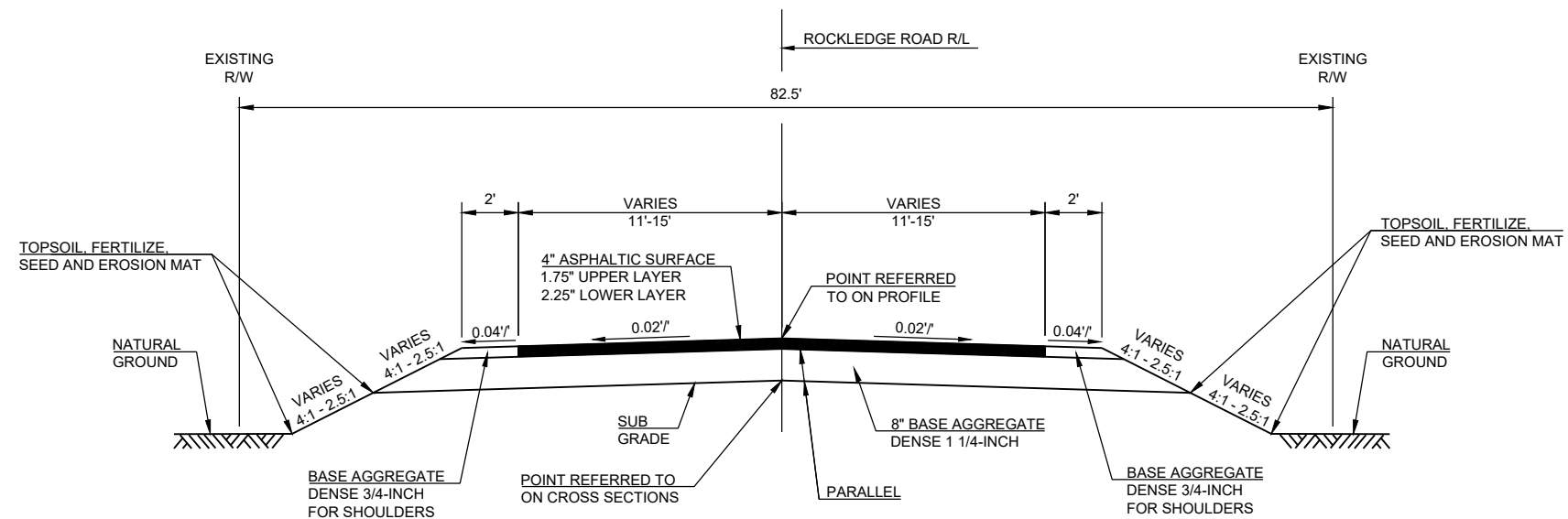
WDNR
2984 SHAWANO AVE.
GREEN BAY, WISCONSIN 54313
ATTENTION: MATT SCHAEVE
E-MAIL: MATTHEW.SCHAEVE@WISCONSIN.GOV

TELEPHONE 920-366-1544



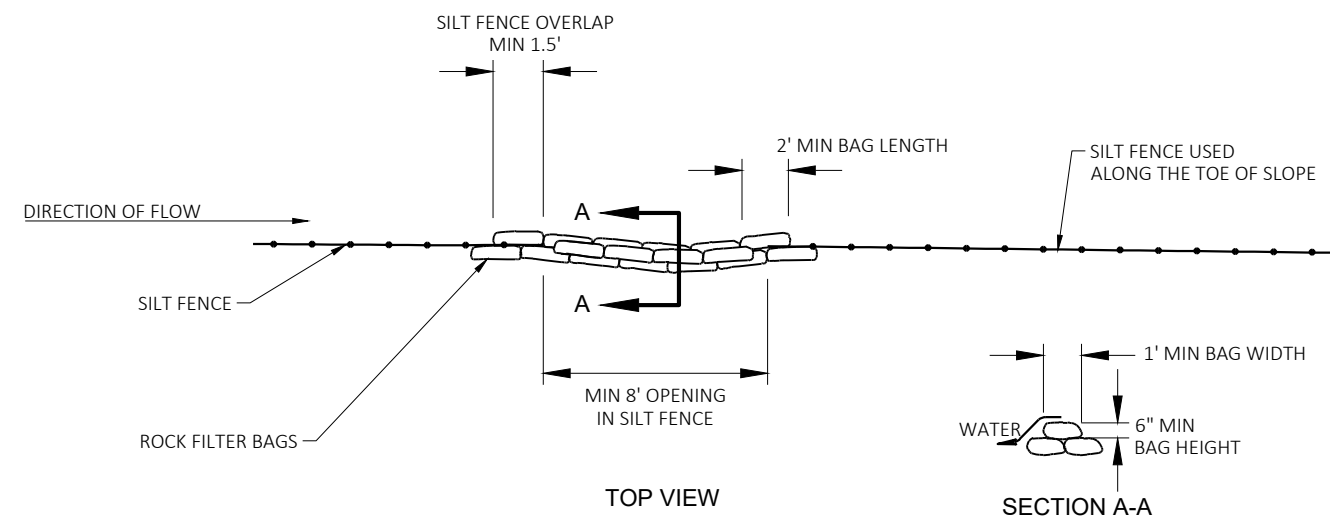
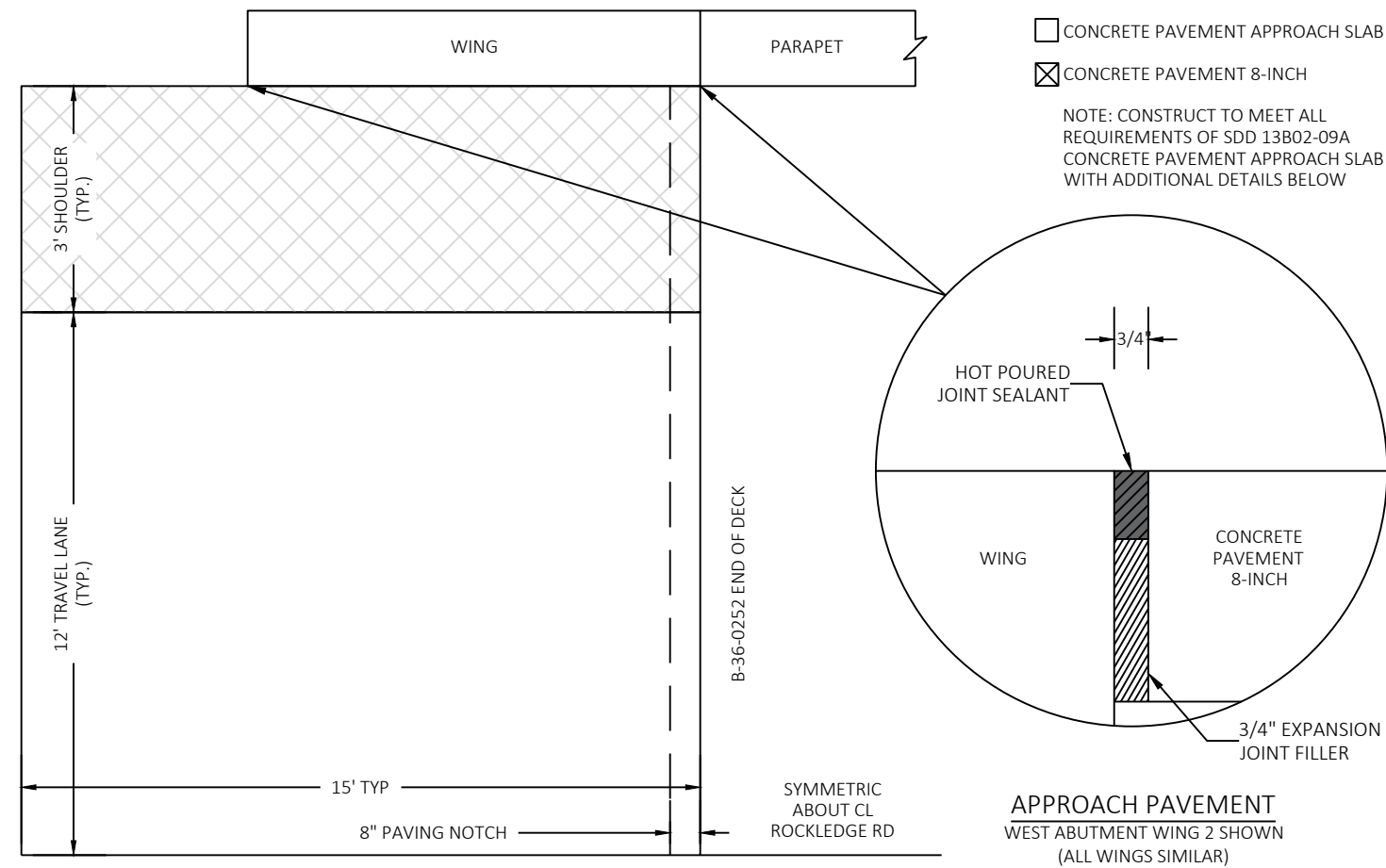
EXISTING TYPICAL SECTION FOR ROCKLEDGE ROAD

STA. 9+10 - STA. 10+85

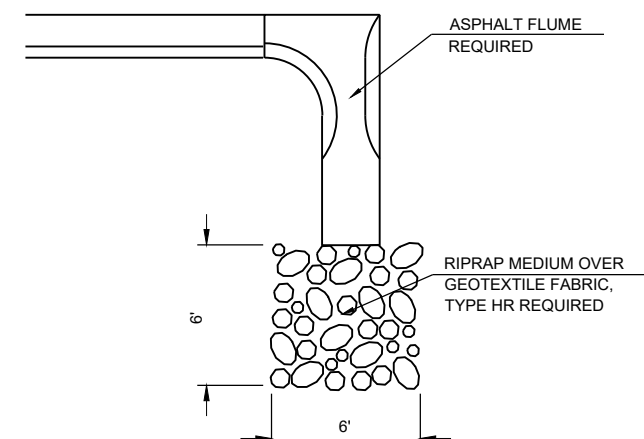


FINISHED TYPICAL SECTION FOR ROCKLEDGE ROAD

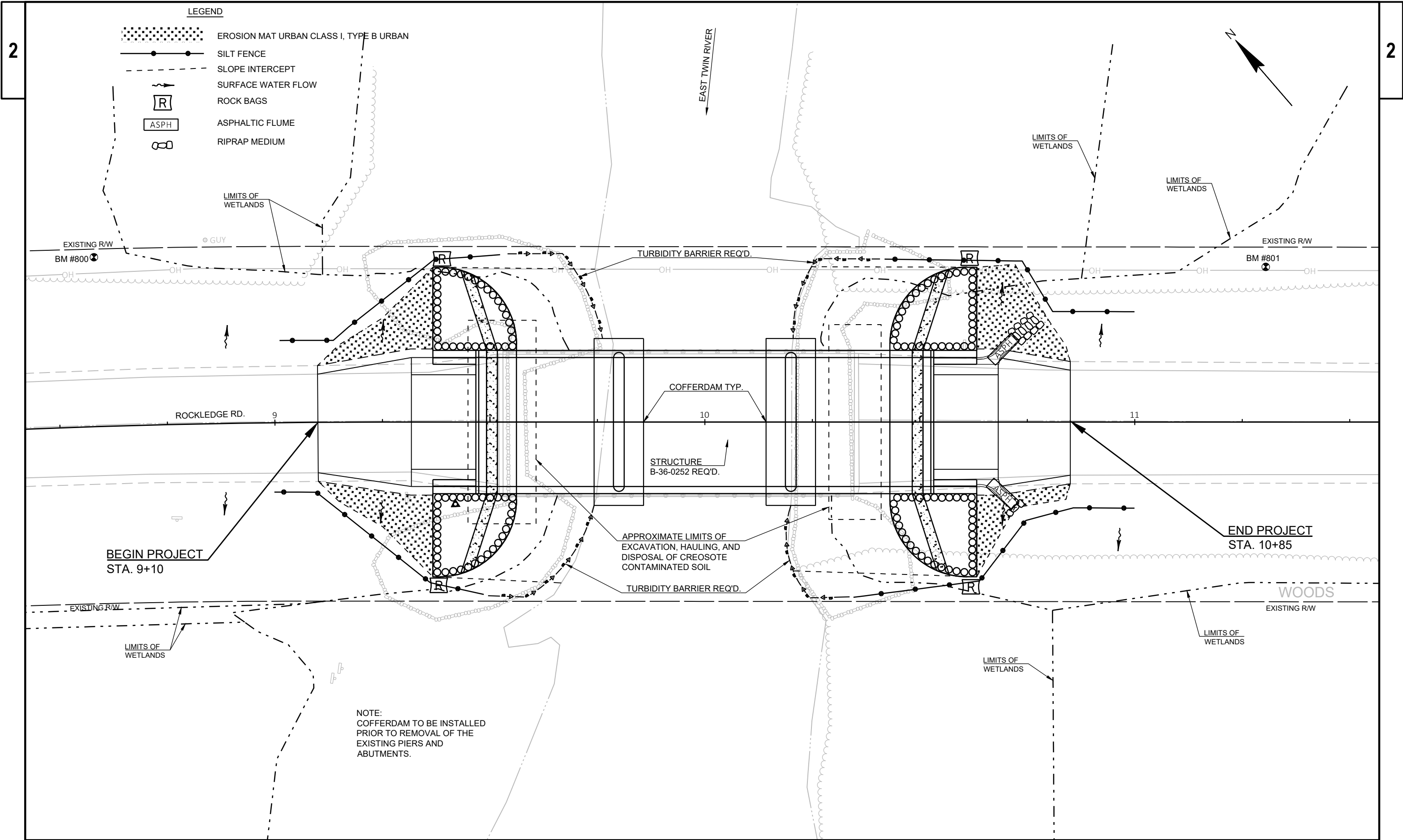
STA. 9+10 - STA. 10+85

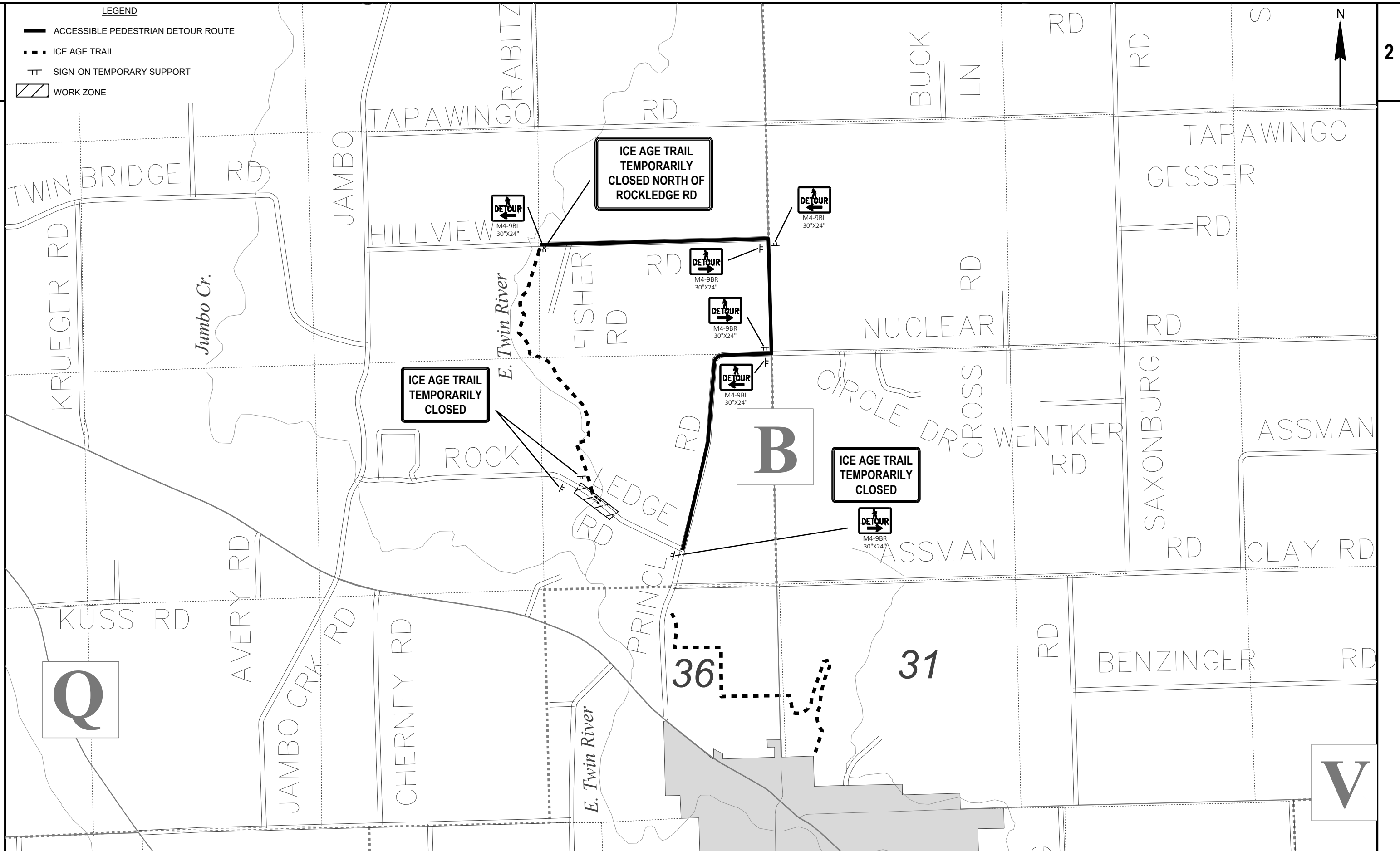


ROCK BAGS USED FOR SILT FENCE RELIEF



RIPRAP MEDIUM AT ASPHALT FLUME
(SEE MISCELLANEOUS QUANTITIES FOR LOCATION)





Estimate Of Quantities

4312-09-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	1.000	1.000
0004	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. P-36-87	EACH	1.000	1.000
0006	205.0100	Excavation Common	CY	68.000	68.000
0008	205.0506.S	Excavation, Hauling, and Disposal of Creosote Contaminated Soil	TON	200.000	200.000
0010	206.1001	Excavation for Structures Bridges (structure) 01. B-36-252	EACH	1.000	1.000
0012	206.5001	Cofferdams (structure) 01. B-36-252	EACH	2.000	2.000
0014	210.1500	Backfill Structure Type A	TON	260.000	260.000
0016	213.0100	Finishing Roadway (project) 01. 4312-09-71	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	11.000	11.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	141.000	141.000
0022	415.0080	Concrete Pavement 8-Inch	SY	28.000	28.000
0024	415.0410	Concrete Pavement Approach Slab	SY	74.000	74.000
0026	450.4000	HMA Cold Weather Paving	TON	27.000	27.000
0028	455.0605	Tack Coat	GAL	2.000	2.000
0030	465.0105	Asphaltic Surface	TON	27.000	27.000
0032	465.0315	Asphaltic Flumes	SY	6.000	6.000
0034	502.0100	Concrete Masonry Bridges	CY	358.000	358.000
0036	502.3200	Protective Surface Treatment	SY	480.000	480.000
0038	505.0400	Bar Steel Reinforcement HS Structures	LB	7,700.000	7,700.000
0040	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	40,260.000	40,260.000
0042	513.7084	Railing Steel Type NY4	LF	258.700	258.700
0044	516.0500	Rubberized Membrane Waterproofing	SY	20.000	20.000
0046	550.2124	Piling CIP Concrete 12 3/4 X 0.25-Inch	LF	1,580.000	1,580.000
0048	606.0200	Riprap Medium	CY	4.000	4.000
0050	606.0300	Riprap Heavy	CY	165.000	165.000
0052	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	150.000	150.000
0054	619.1000	Mobilization	EACH	1.000	1.000
0056	624.0100	Water	MGAL	4.000	4.000
0058	625.0100	Topsoil	SY	128.000	128.000
0060	628.1504	Silt Fence	LF	315.000	315.000
0062	628.1520	Silt Fence Maintenance	LF	630.000	630.000
0064	628.1905	Mobilizations Erosion Control	EACH	10.000	10.000
0066	628.1910	Mobilizations Emergency Erosion Control	EACH	6.000	6.000
0068	628.2008	Erosion Mat Urban Class I Type B	SY	128.000	128.000
0070	628.6005	Turbidity Barriers	SY	124.000	124.000
0072	628.7570	Rock Bags	EACH	75.000	75.000
0074	629.0210	Fertilizer Type B	CWT	0.300	0.300
0076	630.0120	Seeding Mixture No. 20	LB	2.500	2.500
0078	630.0500	Seed Water	MGAL	3.800	3.800
0080	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0082	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0084	638.2602	Removing Signs Type II	EACH	8.000	8.000
0086	638.3000	Removing Small Sign Supports	EACH	8.000	8.000
0088	642.5001	Field Office Type B	EACH	1.000	1.000
0090	643.0420	Traffic Control Barricades Type III	DAY	3,996.000	3,996.000
0092	643.0705	Traffic Control Warning Lights Type A	DAY	6,216.000	6,216.000
0094	643.0900	Traffic Control Signs	DAY	4,440.000	4,440.000
0096	643.1000	Traffic Control Signs Fixed Message	SF	18.000	18.000
0098	643.5000	Traffic Control	EACH	1.000	1.000

Estimate Of Quantities

4312-09-71

Line	Item	Item Description	Unit	Total	Qty
0100	645.0111	Geotextile Type DF Schedule A	SY	110.000	110.000
0102	645.0120	Geotextile Type HR	SY	338.000	338.000
0104	646.1020	Marking Line Epoxy 4-Inch	LF	350.000	350.000
0106	650.4500	Construction Staking Subgrade	LF	68.000	68.000
0108	650.5000	Construction Staking Base	LF	68.000	68.000
0110	650.6501	Construction Staking Structure Layout (structure) 01. B-36-0252	EACH	1.000	1.000
0112	650.7000	Construction Staking Concrete Pavement	LF	44.000	44.000
0114	650.9911	Construction Staking Supplemental Control (project) 01. 4312-09-71	EACH	1.000	1.000
0116	650.9920	Construction Staking Slope Stakes	LF	68.000	68.000
0118	690.0150	Sawing Asphalt	LF	44.000	44.000
0120	715.0502	Incentive Strength Concrete Structures	DOL	2,148.000	2,148.000
0122	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0124	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	300.000	300.000
0126	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000
0128	SPV.0090	Special 01. Flashing Stainless Steel	LF	213.000	213.000
0130	SPV.0195	Special 01. Select Crushed Material for Travel Corridor	TON	22.000	22.000

EARTHWORK SUMMARY

Division	From/To Station	Location	Common Excavation (item #205.0100)	Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate +/- (14)	Waste
			Cut (1)				Factor 1.30		
1	9+10 - 10+85	ROCKLEDGE ROAD	68	20	48	20	26	22	22
Division 1 Totals			68	20	48	20	26	22	22

- 1) Unsuable Pavement Material is included in Cut
- 4) Unusable Pavement Material = Existing Asphaltic Pavement.
- 5) Available Material = Cut - Unusuable Pavement Material
- 13) Expanded Fill. Factor = 1.3 Expanded Fill = Unexpanded Fill * Fill Factor
- 14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material w ithin the Division.
 Minus indicates a shortage of material w ithin the Division.

EXCAVATION, HAULING, AND DISPOSAL OF CREOSOTE CONTAMINATED SOIL

BASE AGGREGATE DENSE

GRUBBING

STATION TO STATION		LOCATION	201.0205 GRUBBING STA
10+00	- 11+00	ROCKLEDGE ROAD	1
TOTAL			1

CATEGORY		STATION	LOCATION	205.0506.S EXCAVATION, HAULING, AND DISPOSAL OF CREOSOTE CONTAMINATED SOIL TON
0030		10+00	ROCKLEDGE ROAD	200
TOTAL 0030				200

STATION TO STATION		LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL
9+10	- 9+47	ROCKLEDGE ROAD	6	76	2
10+53	- 10+85	ROCKLEDGE ROAD	5	65	2
TOTAL			11	141	4

CONCRETE PAVEMENT

STATION TO STATION		LOCATION	415.0080 CONCRETE PAVEMENT 8-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY
9+32	- 9+47	ROCKLEDGE ROAD	14	37
10+53	- 10+68	ROCKLEDGE ROAD	14	37
TOTAL			28	74

ASPHALTIC FLUMES

STATION	LOCATION	465.0315 ASPHALTIC FLUMES SY
10+65	ROCKLEDGE ROAD, LT & RT	6
TOTAL		6

HMA PAVEMENT

STATION TO STATION		LOCATION	450.4000 HMA COLD WEATHER PAVING TON	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
9+10	- 9+32	ROCKLEDGE ROAD	15	1	15
10+68	- 10+85	ROCKLEDGE ROAD	12	1	12
TOTAL			27	2	27

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

TURBIDITY BARRIER

				628.6005 TURBIDITY BARRIERS SY
STATION	TO	STATION	LOCATION	
9+10	-	10+00	ROCKLEDGE ROAD	64
10+00	-	10+85	ROCKLEDGE ROAD	60
TOTAL 0010				124

TOPSOIL, FERTILIZER, AND SEED

				625.0100	628.2008 EROSION MAT URBAN CLASS I	629.0210 FERTILIZER TYPE B	630.0120 SEEDING MIXTURE NO. 20	630.0500 SEED WATER
STATION	TO	STATION	LOCATION	TOPSOIL SY	TYPE B SY	CWT	LB	MGAL
9+10	-	10+00	ROCKLEDGE ROAD	51	51	0.1	1.0	1.5
10+00	-	10+85	ROCKLEDGE ROAD	51	51	0.1	1.0	1.5
			UNDISTRIBUTED	26	26	0.1	0.5	0.8
TOTAL				128	128	0.3	2.5	3.8

RIPRAP AND GEOTEXTILE

				606.0200	* 645.0120 GEOTEXTILE TYPE
STATION	LOCATION	RIPRAP MEDIUM CY	HR SY		
10+65	ROCKLEDGE ROAD	4	18		
TOTAL		4	18		

*QUANTITY SHOWN ELSEWHERE

SILT FENCE

				628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
STATION	TO	STATION	LOCATION		
9+10	-	10+00	ROCKLEDGE ROAD	114	228
10+00	-	10+85	ROCKLEDGE ROAD	138	276
			UNDISTRIBUTED	63	126
TOTAL				315	630

MOBILIZATION EROSION CONTROL

				628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
STATION	TO	STATION	LOCATION		
9+10	-	10+85	ROCKLEDGE ROAD	10	6
TOTAL				10	6

ROCK BAGS

			628.7570 ROCK BAGS EACH
STATION	LOCATION		
9+37	ROCKLEDGE ROAD		30
10+64	ROCKLEDGE ROAD		30
	UNDISTRIBUTED		15
TOTAL			75

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

SIGNS AND SIGN POSTS

		634.0612 POSTS WOOD 4X6-INCH X 12- FT	637.2230 SIGNS TYPE II REFLECTIVE F W5-52L W5-52R	
QUADRANT	LOCATION	EACH	SF	SF
SW	ROCKLEDGE ROAD	1	-	3
NW	ROCKLEDGE ROAD	1	3	-
SE	ROCKLEDGE ROAD	1	3	-
NE	ROCKLEDGE ROAD	1	-	3
TOTAL		4	12	

REMOVING SIGNS

		638.2602 REMOVING SIGNS TYPE II	638.3000 REMOVING SMALL SIGN SUPPORTS	
STATION	LOCATION	EACH	EACH	REMARKS
	ROCKLEDGE ROAD, RT	1	1	"5 TON BRIDGE 1 MILE AHEAD"
9+31	ROCKLEDGE ROAD, RT	1	1	"BRIDGE WEIGHT LIMIT 5 TONS"
9+52	ROCKLEDGE ROAD, LT & RT	2	2	OBJECT MARKER
10+36	ROCKLEDGE ROAD, LT & RT	2	2	OBJECT MARKER
10+61	ROCKLEDGE ROAD, LT	1	1	"BRIDGE WEIGHT LIMIT 5 TONS"
	ROCKLEDGE ROAD, LT	1	1	"5 TON BRIDGE 1/2 MILE AHEAD"
TOTAL		8	8	

TRAFFIC CONTROL DEVICES

		643.0420		643.0705		643.0900		643.1000		
		TRAFFIC CONTROL BARRICADES TYPE III		TRAFFIC CONTROL WARNING LIGHTS TYPE A		TRAFFIC CONTROL SIGNS		TRAFFIC CONTROL SIGNS FIXED MESSAGE		
LOCATION	APPROX. SERVICE PERIOD	NO. IN SERVICE	DAY	NO. IN SERVICE	DAY	NO. IN SERVICE	DAY	NO. IN SERVICE	SF	REMARKS
ROCKLEDGE ROAD WEST APPROACH	221	9	1989	14	3094	7	1547	-	-	REFER TO SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL C & D"
ROCKLEDGE ROAD EAST APPROACH	221	9	1989	14	3094	7	1547	-	-	REFER TO SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL C & D"
ROCKLEDGE ROAD	221	-	-	-	-	-	-	2	8	PEDESTRIAN DETOUR
PRINCL RD	221	-	-	-	-	2	442	4	4	PEDESTRIAN DETOUR
CTH B	221	-	-	-	-	2	442	-	-	PEDESTRIAN DETOUR
HILLVIEW RD	221	-	-	-	-	2	442	3	6	PEDESTRIAN DETOUR
TOTAL		3,996		6,216		4,440		18		

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

MARKING LINE					
646.1020 MARKING LINE EPOXY 4- INCH					
STATION	TO	STATION	LOCATION	LF	REMARKS
9+10	-	10+85	ROCKLDEGE ROAD	175	Double Yellow Centerline
9+10	-	10+85	ROCKLDEGE ROAD	175	White Edglines
TOTAL				350	

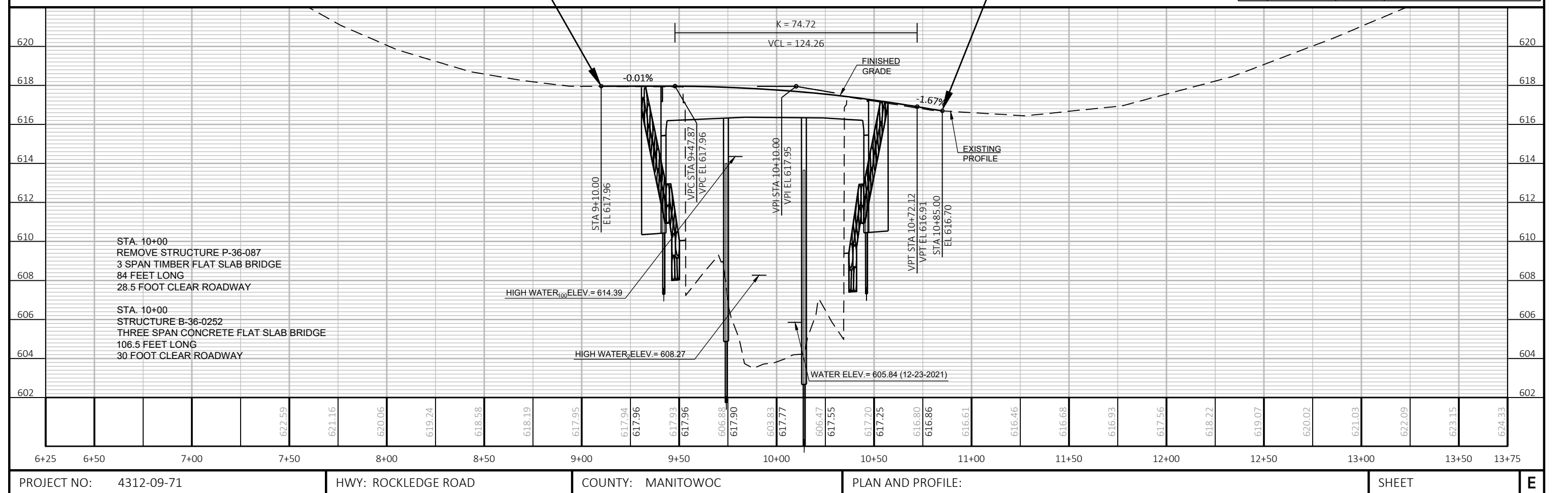
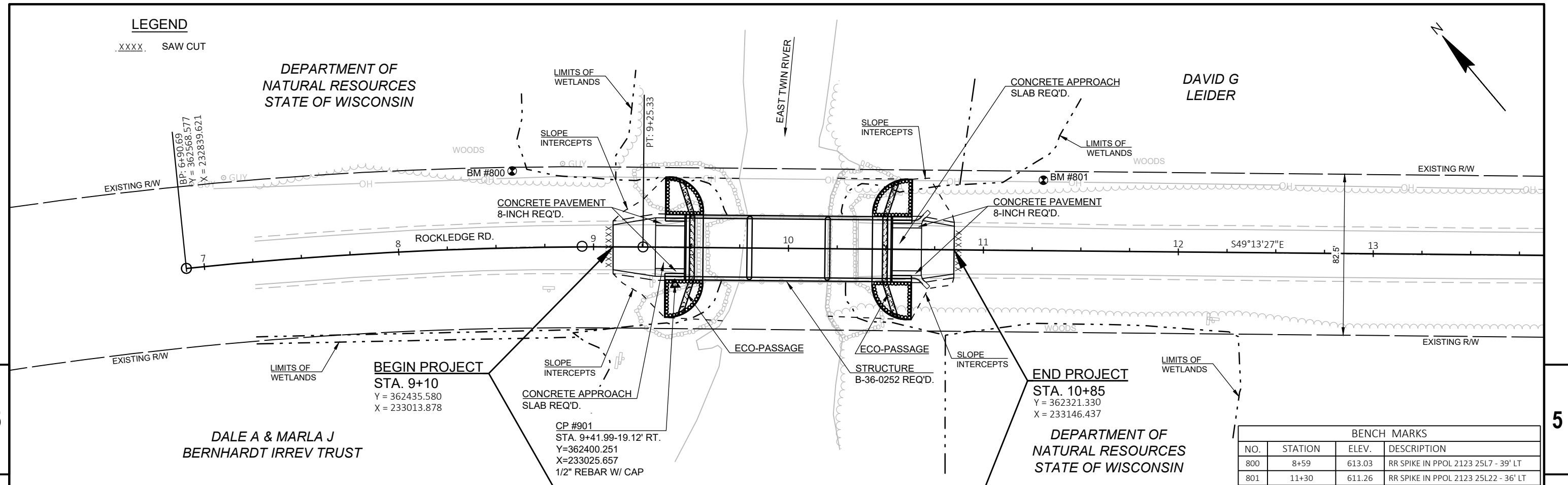
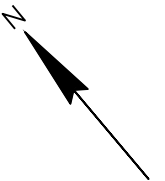
SAWING ASPHALT		
690.0150 SAWING ASPHALT		
STATION	LOCATION	LF
9+10	ROCKLEDGE ROAD	22
10+85	ROCKLEDGE ROAD	22
TOTAL		44

CONSTRUCTION STAKING										
					650.4500	650.5000	650.6501.01	650.7000	650.9911.01	650.9920
					CONSTRUCTION		CONSTRUCTION	CONSTRUCTION	CONSTRUCTION	
					STAKING	CONSTRUCTION	STAKING	STAKING	STAKING	
					SUBGRADE	STAKING BASE	STRUCTURE	CONCRETE	SUPPLEMENTAL	CONSTRUCTION
							LAYOUT	PAVEMENT	CONTROL	STAKING SLOPE
CATEGORY	STATION	TO	STATION	LOCATION	LF	LF	EACH	LF	EACH	LF
0010	9+10	-	9+47	ROCKLEDGE ROAD	37	37	-	22	-	37
0010	10+54	-	10+85	ROCKLEDGE ROAD	31	31	-	22	-	31
	PROJECT			ROCKLEDGE ROAD	-	-	-	-	1	-
TOTAL 0010					68	68	0	44	1	68
0020	B-36-0252			ROCKLEDGE ROAD	-	-	1	-	-	-
TOTAL 0020					0	0	1	0	0	0
PROJECT TOTAL					68	68	1	44	1	68

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

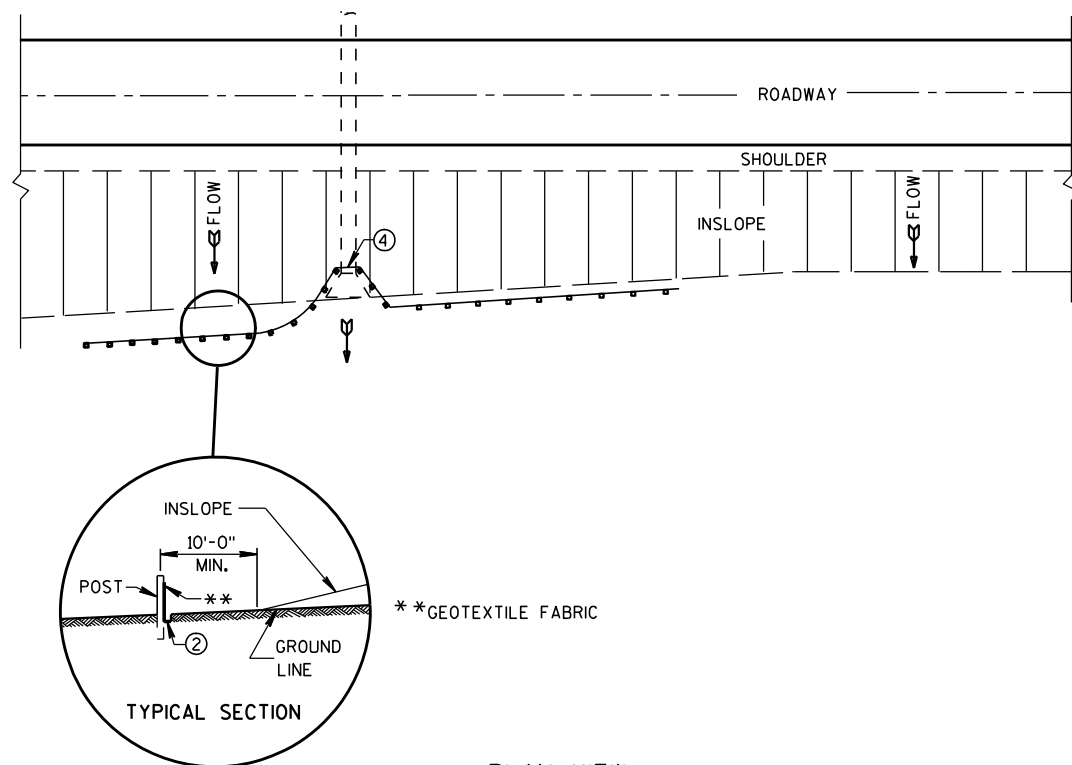
.XXXX. SAW CUT

DAVID G
LEIDER



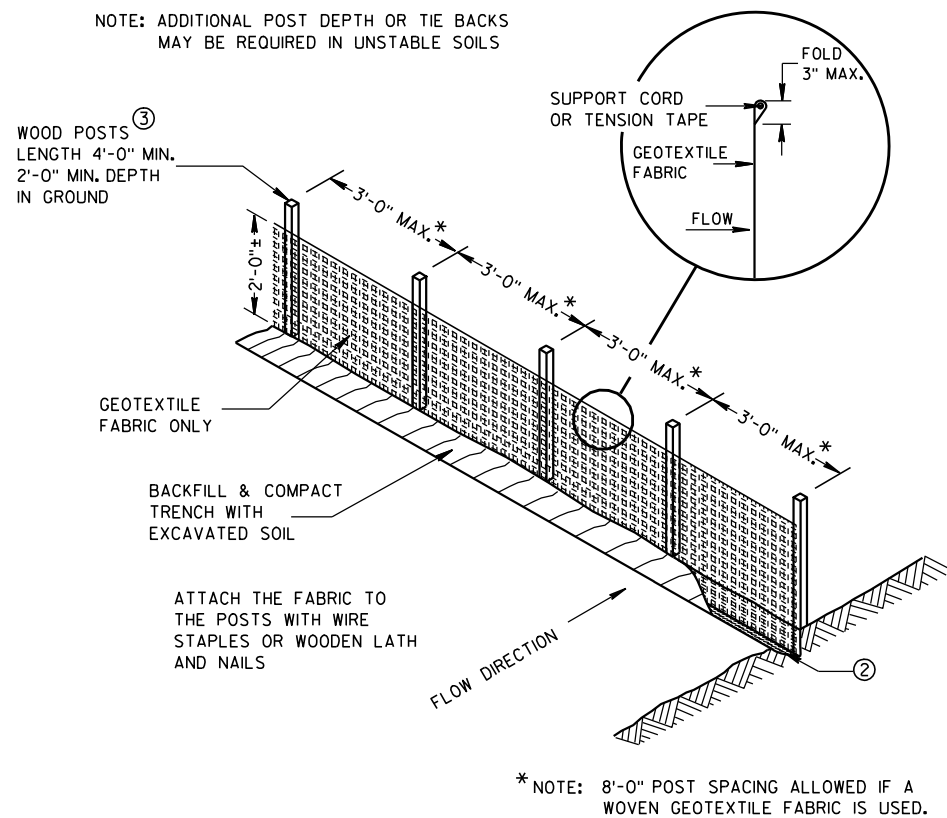
Standard Detail Drawing List

08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13A03-07	CONCRETE PAVEMENT SHOULDERS
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C19-03	HMA LONGITUDINAL JOINTS
14B29-01	SAFETY EDGE
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

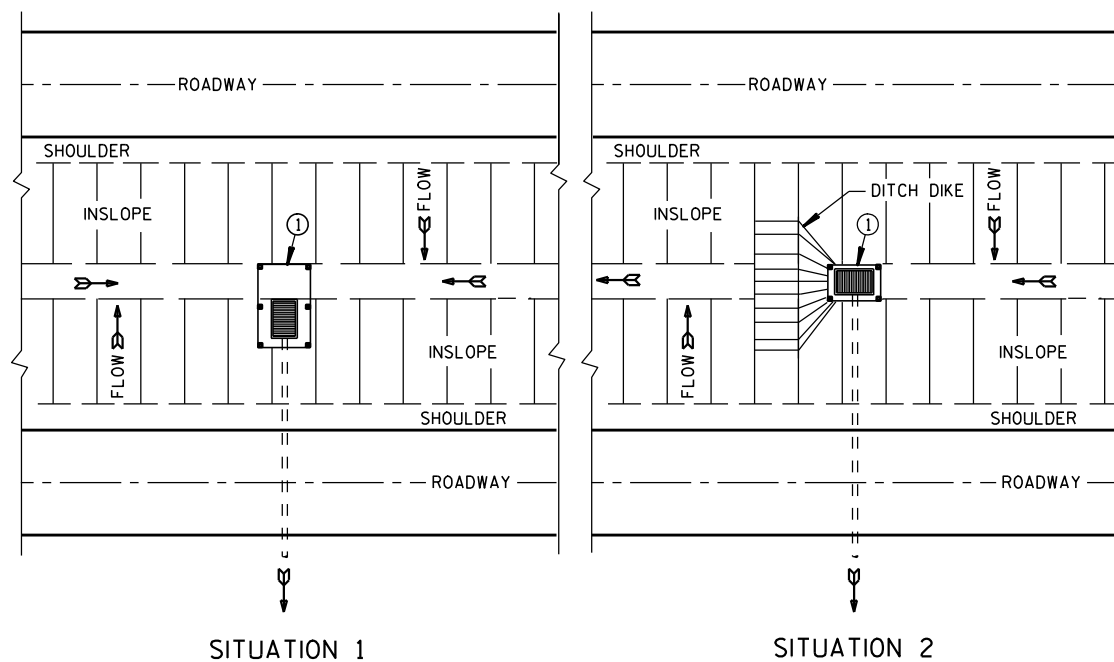


PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

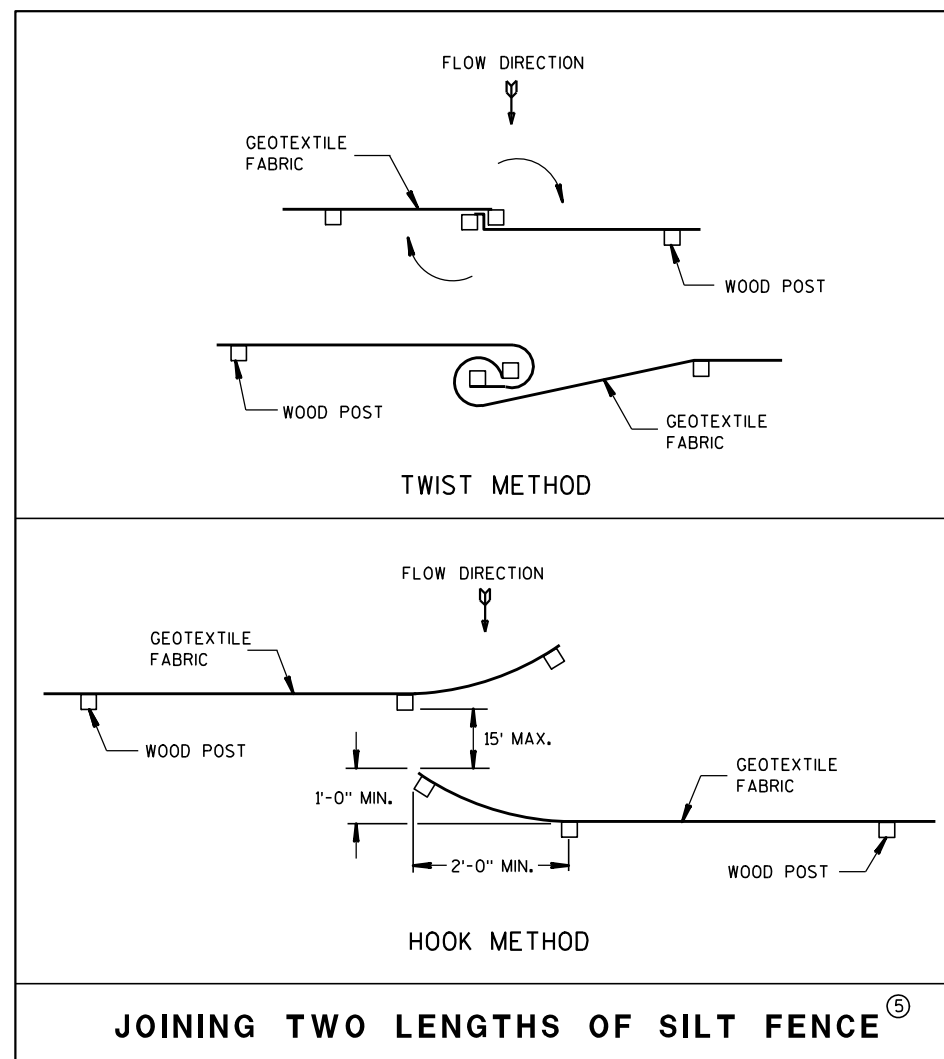
NOTE: ADDITIONAL POST DEPTH OR TIE BACKS
MAY BE REQUIRED IN UNSTABLE SOILS



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

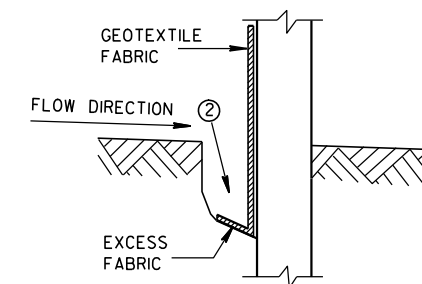


JOINING TWO LENGTHS OF SILT FENCE^⑤

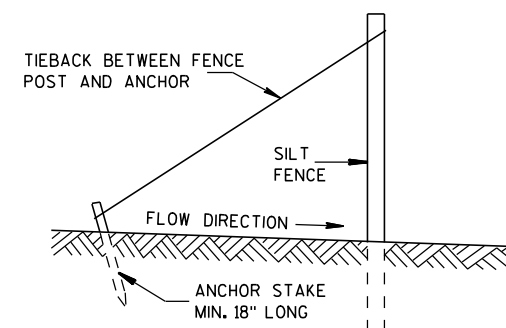
GENERAL NOTES

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

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



TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

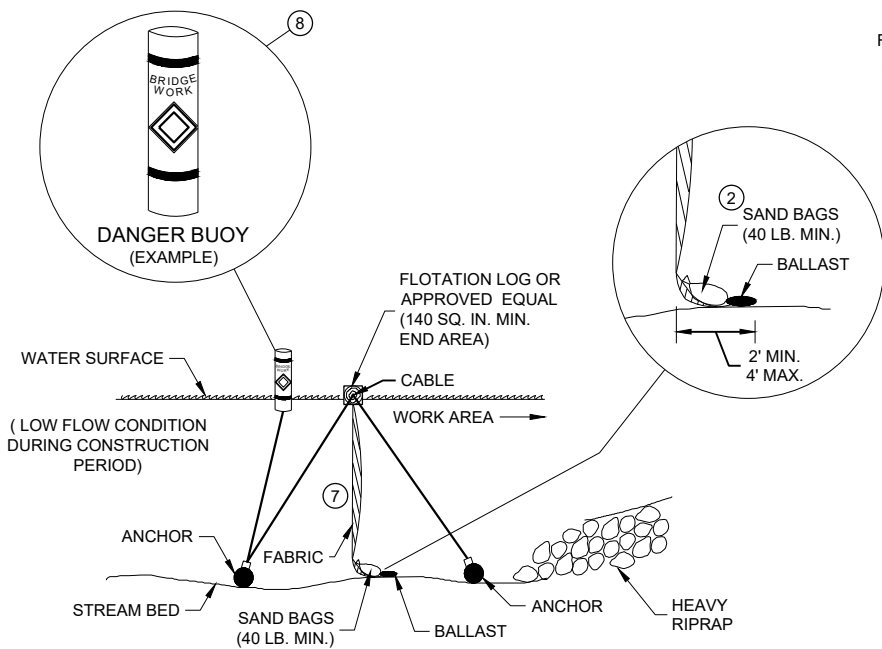
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-29-05
DATE

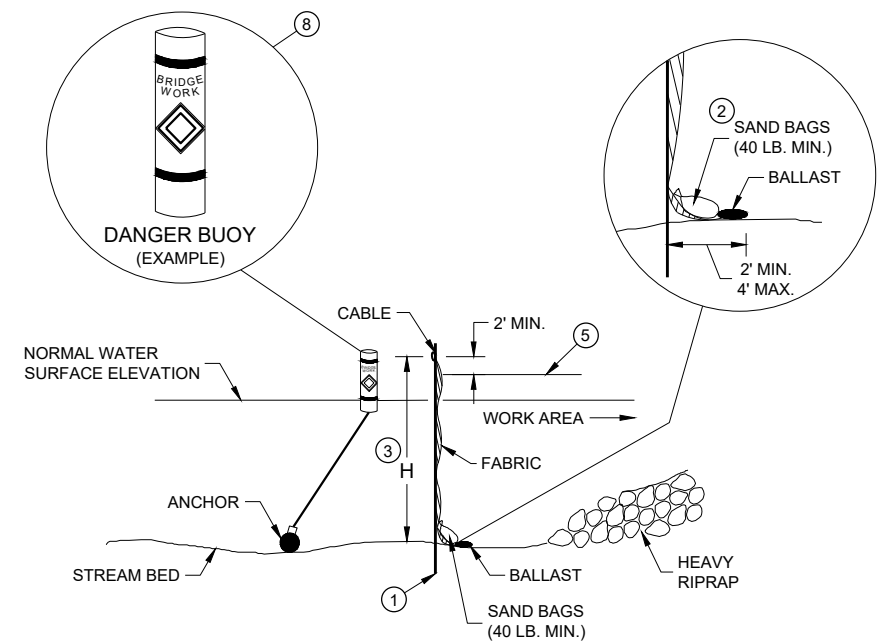
FHWA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



SECTION B - B

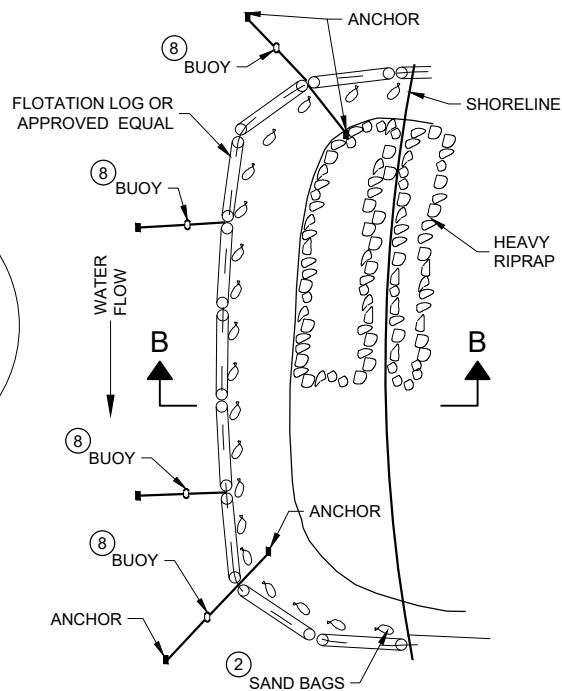
TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



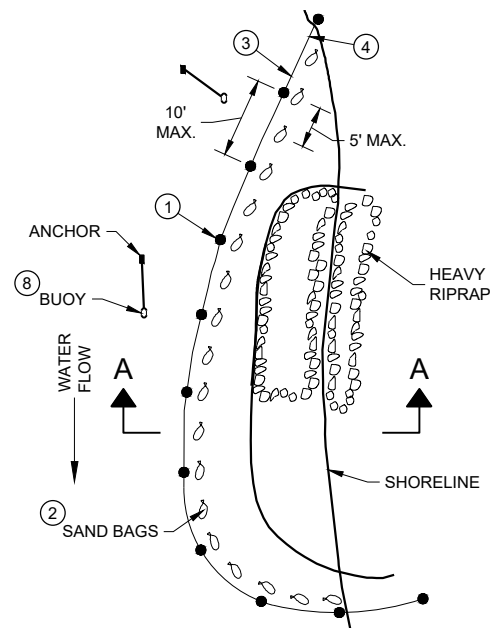
SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS



PLAN VIEW



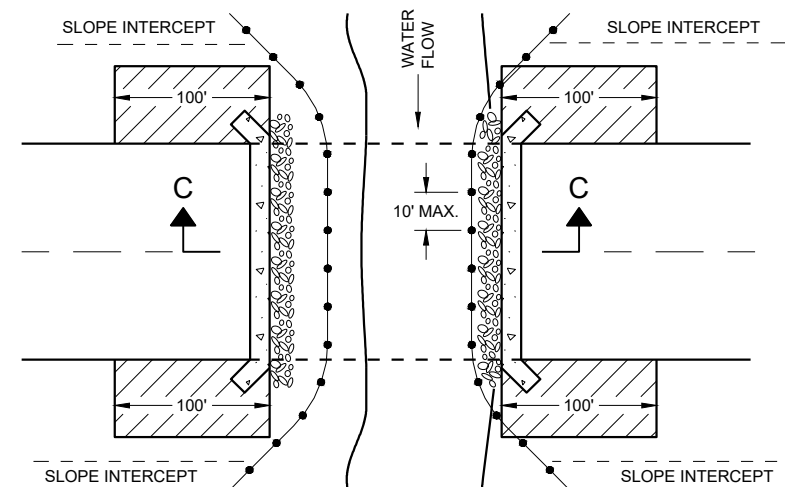
PLAN VIEW

GENERAL NOTES

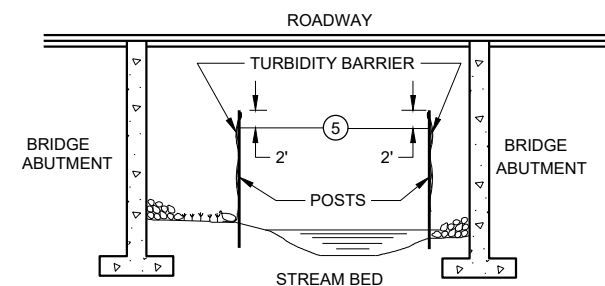
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

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



PLAN VIEW



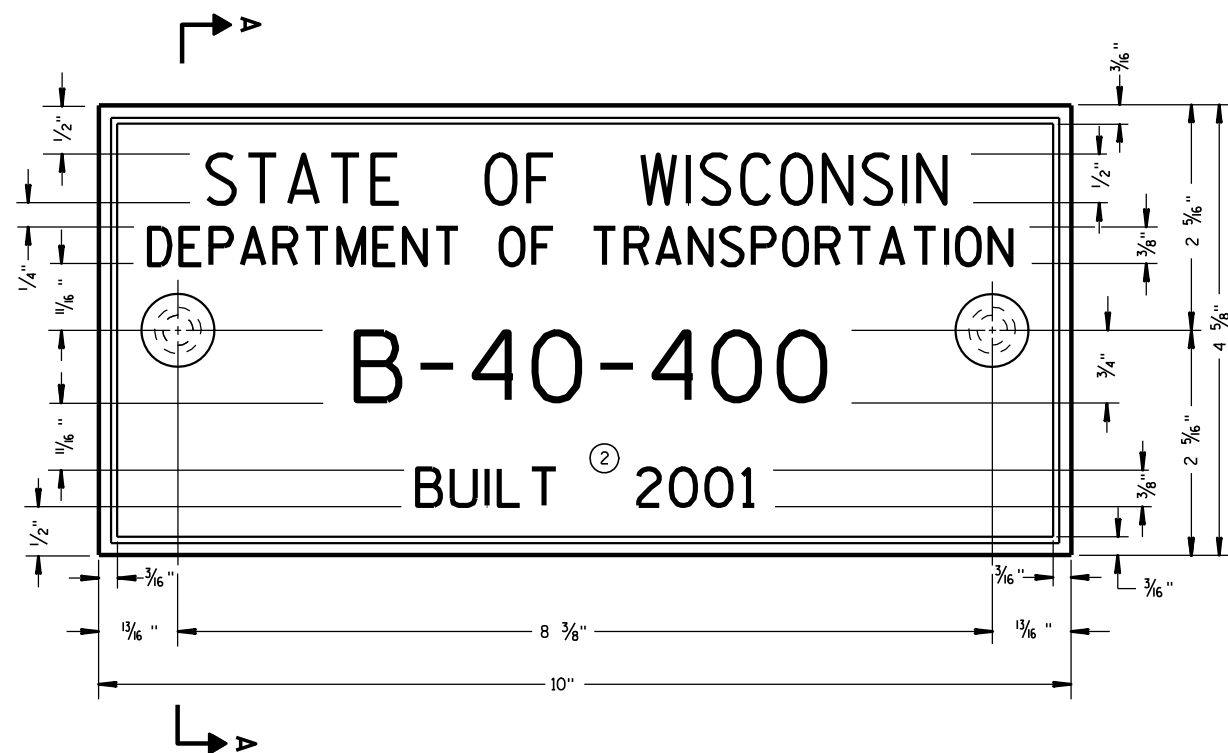
SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING
TYPICAL PLACEMENT AT STRUCTURES

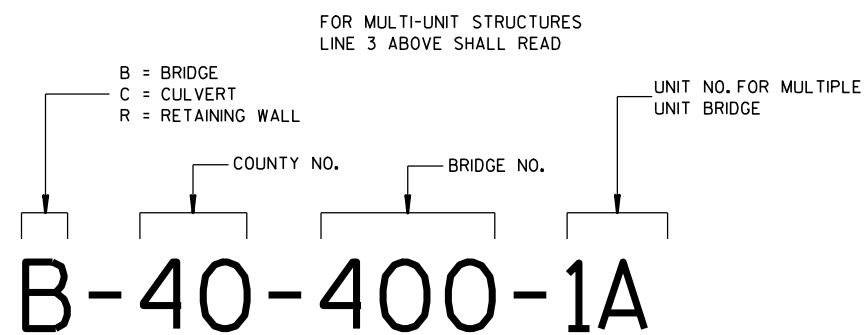
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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



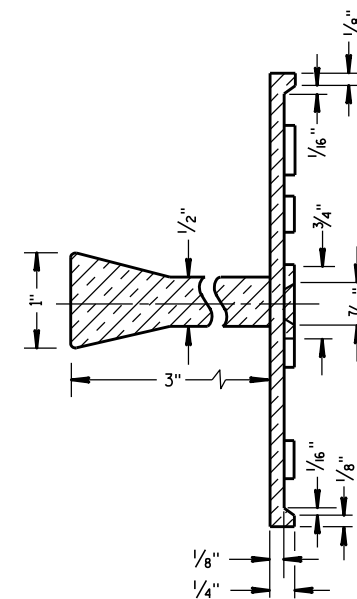
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

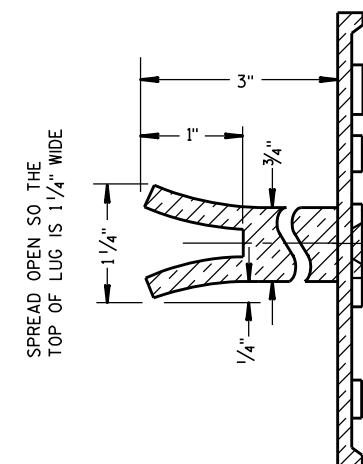
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

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

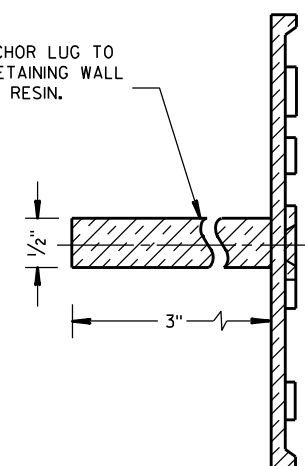


SECTION A-A



ALTERNATE LUG

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



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

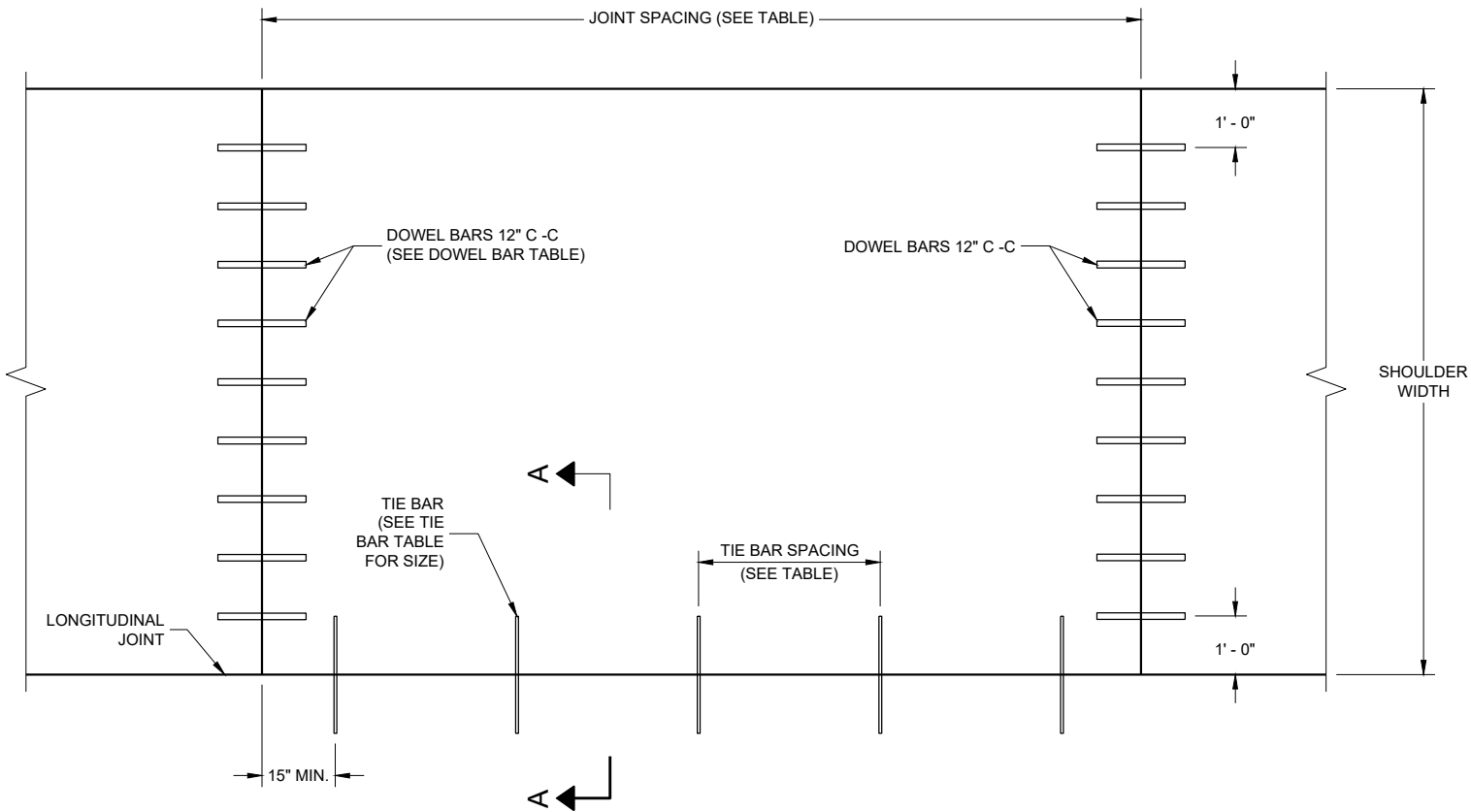
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10
DATE

FHWA

/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



PLAN VIEW
CONCRETE PAVEMENT SHOULDER

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
<10 1/2"	NO. 4	30"	36"
>10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BATS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES).

** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

PAVEMENT DEPTH, DOWEL BAR SIZE
AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER ***	CONTRACTION JOINT SPACING
6", 6 1/2"	NONE	12"
7", 7 1/2"	1"	14"
8" & ABOVE	1 1/4"	15"

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FRO THE AVERAGE THICKNESS OF THE CROSS SECTION.

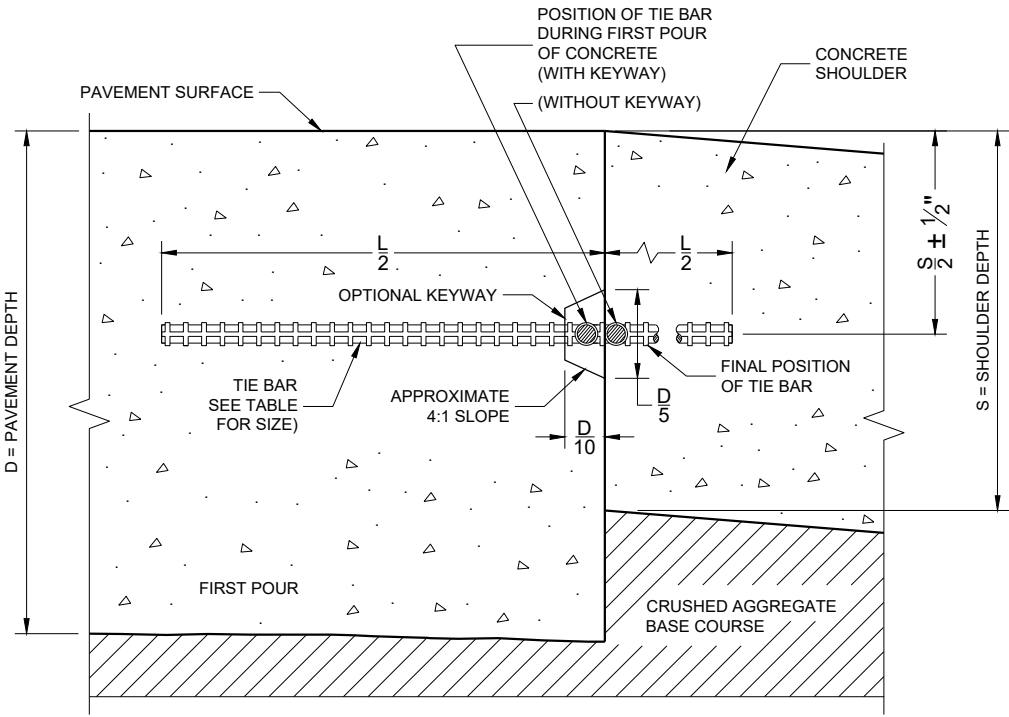
GENERAL NOTES

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

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.

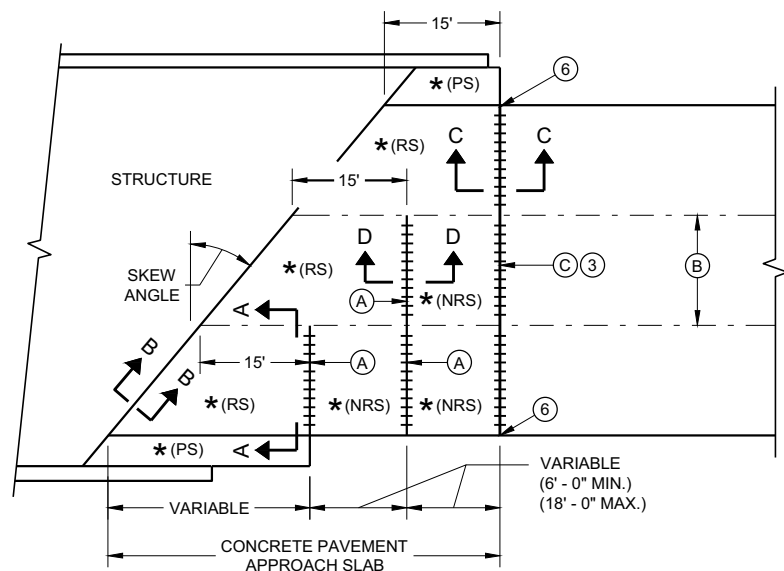


SECTION A - A
LONGITUDINAL CONSTRUCTION JOINT

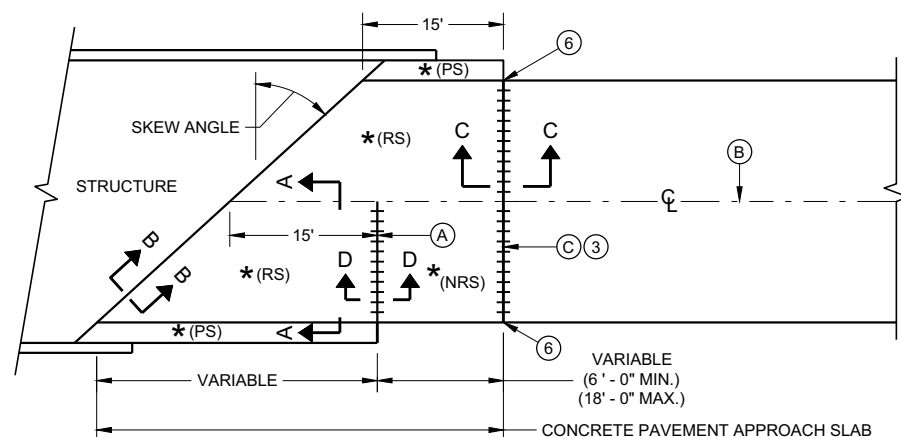
CONCRETE PAVEMENT
SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

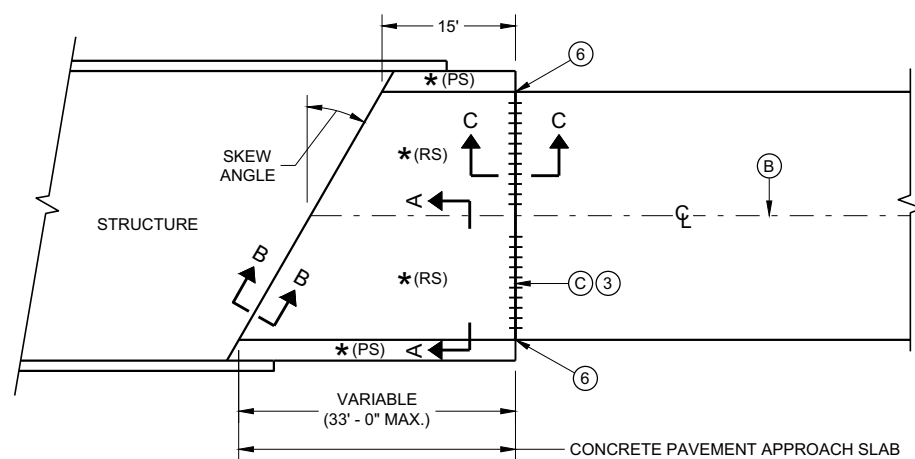
APPROVED
November 2022
DATE /S/ Peter Kemp
PAVEMENT SUPERVISOR
FHWA



**SKewed Approach
(Pavement more than two lanes)**



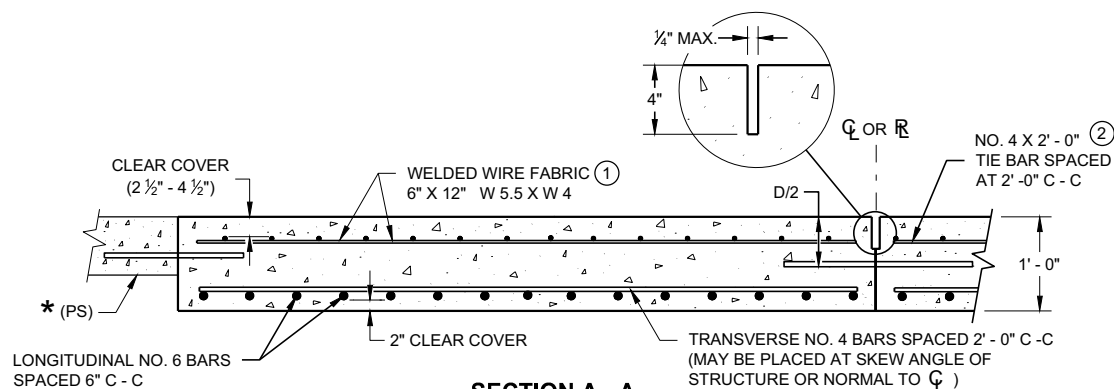
**SKews > 20°
(Pavement width ≤ 30')**



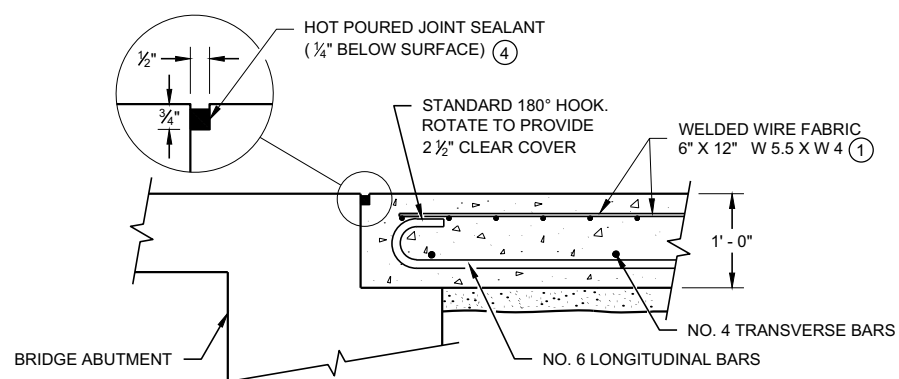
**SKews ≤ 20°
(Pavement width ≤ 30')**

APPROACH SLAB AND ADJACENT PAVEMENT

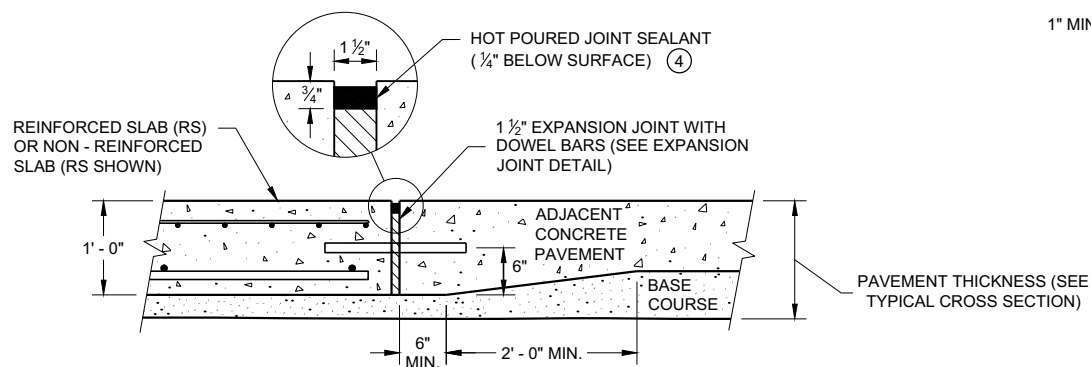
- * (RS) = REINFORCED CONCRETE SLAB
- * (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
- * (NRS) = NON - REINFORCED CONCRETE SLAB
- *** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



**SECTION A - A
REINFORCEMENT POSITIONING DETAIL**



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



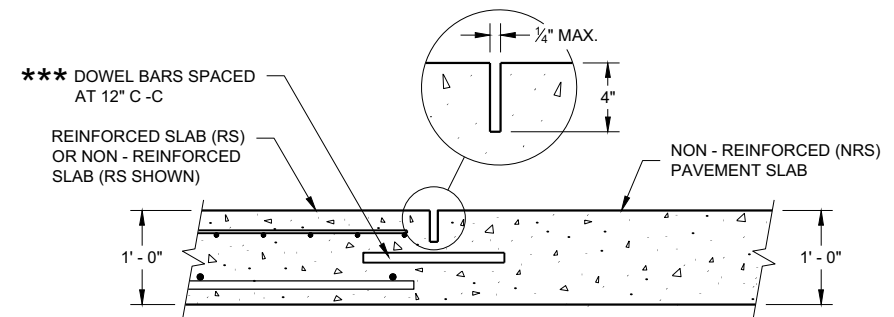
**SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT**

GENERAL NOTES

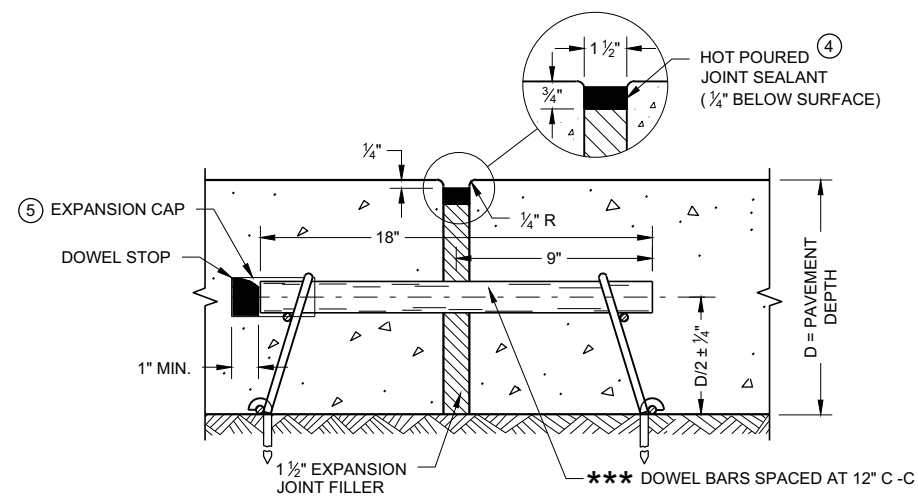
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

- ① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0" C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
- ② THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
- ④ USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.
- ⑥ EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.
- (A) STANDARD CONTRACTION JOINT NORMAL TO $\mathcal{C}$ OR $\mathcal{R}$.
- (B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.
- (C) 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO $\mathcal{C}$ OR $\mathcal{R}$.



**SECTION D - D
CONTRACTION JOINT**

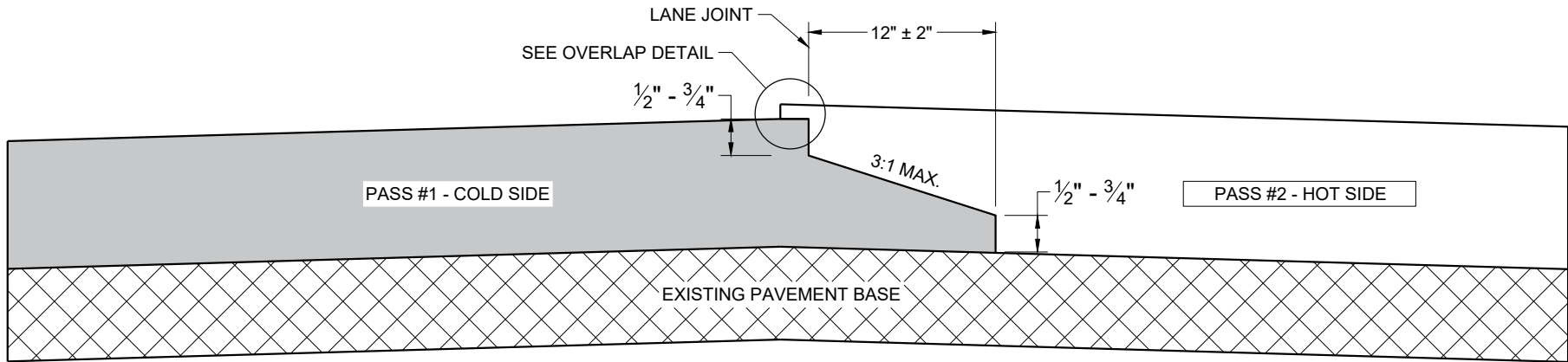


EXPANSION JOINT DETAIL

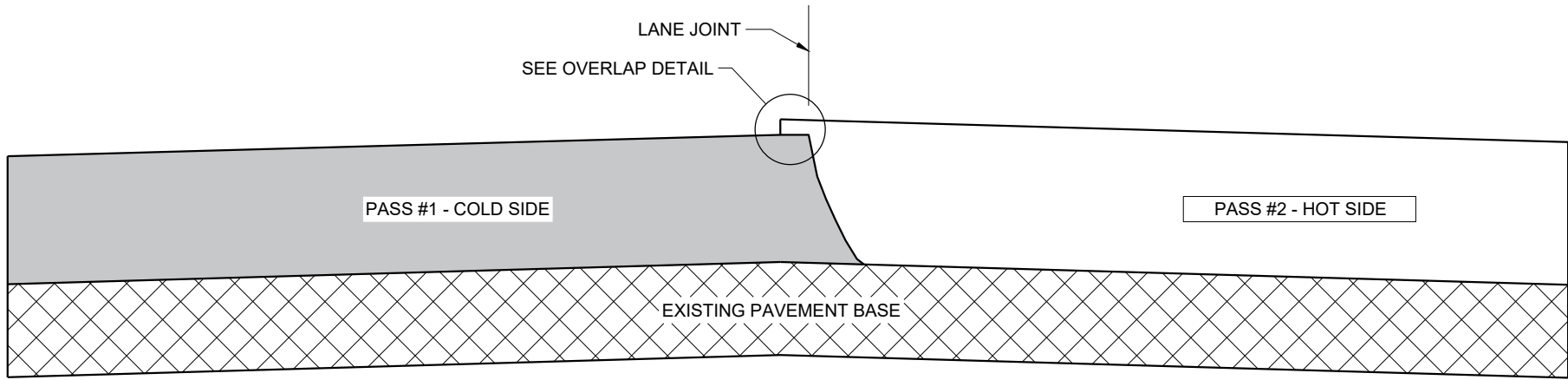
CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

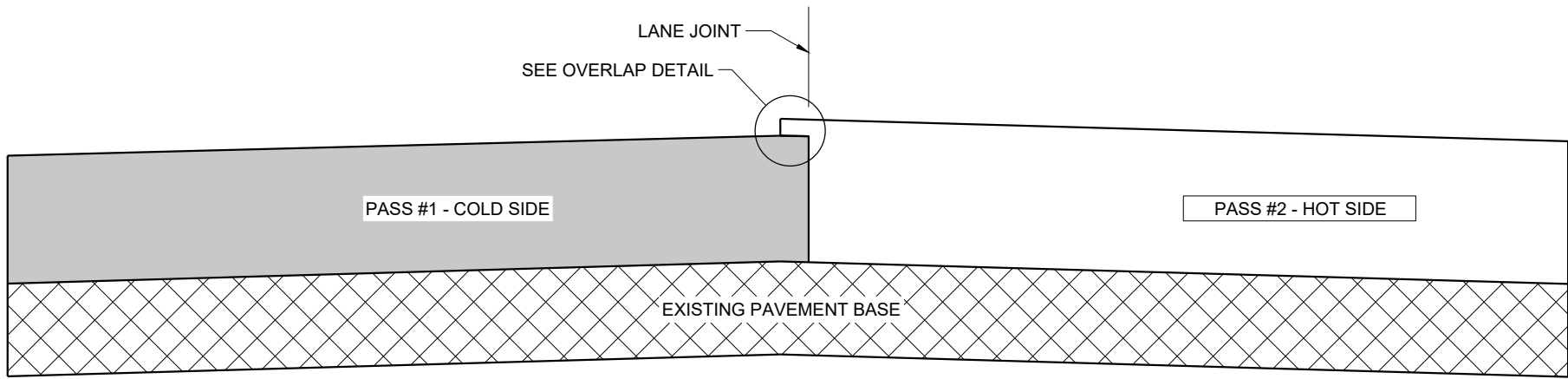
APPROVED
November 2018 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR
FHWA



**TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT**



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

GENERAL NOTES

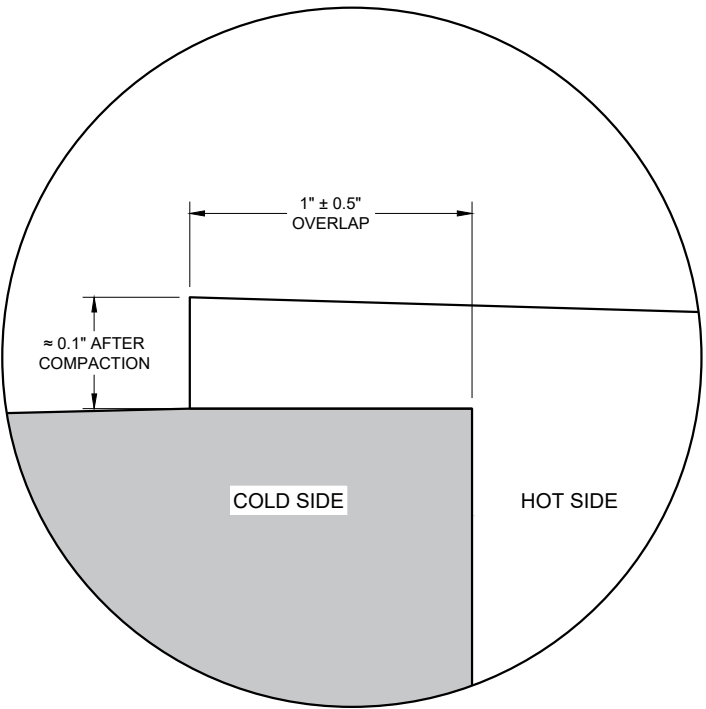
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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

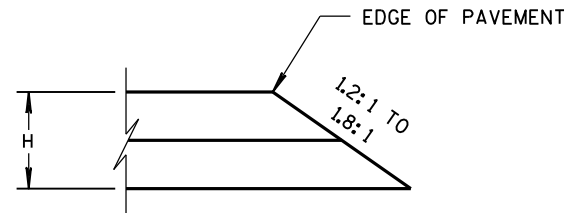


OVERLAP DETAIL (TYPICAL)

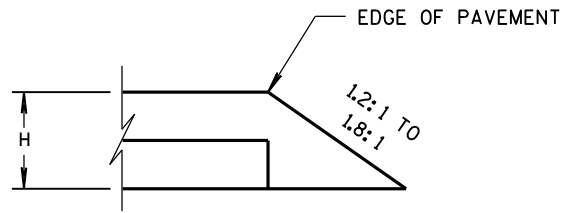
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

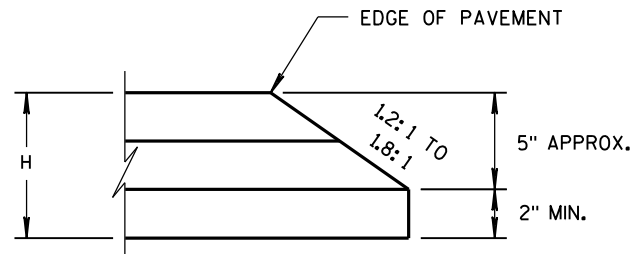
APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGINEER
FHWA



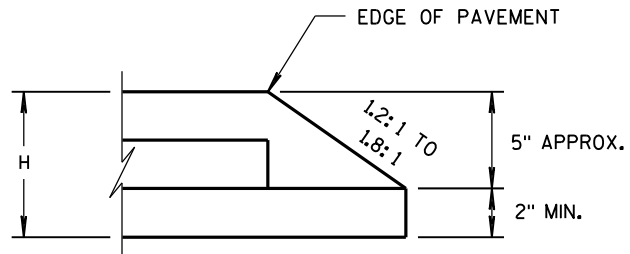
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

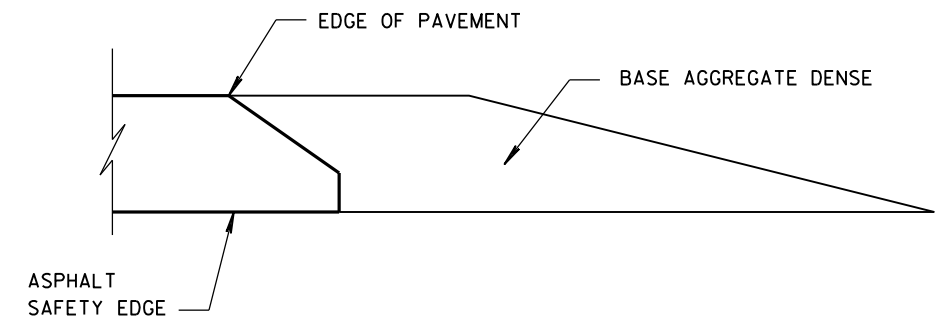


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



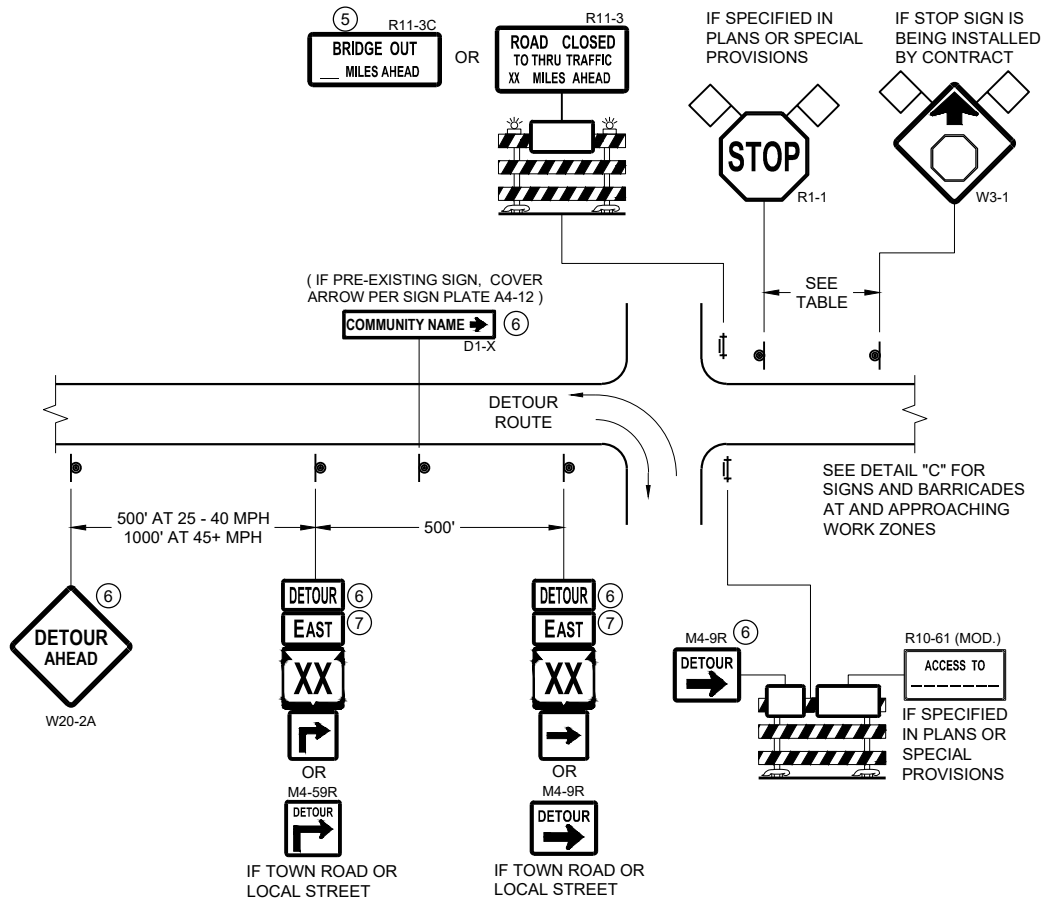
CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS

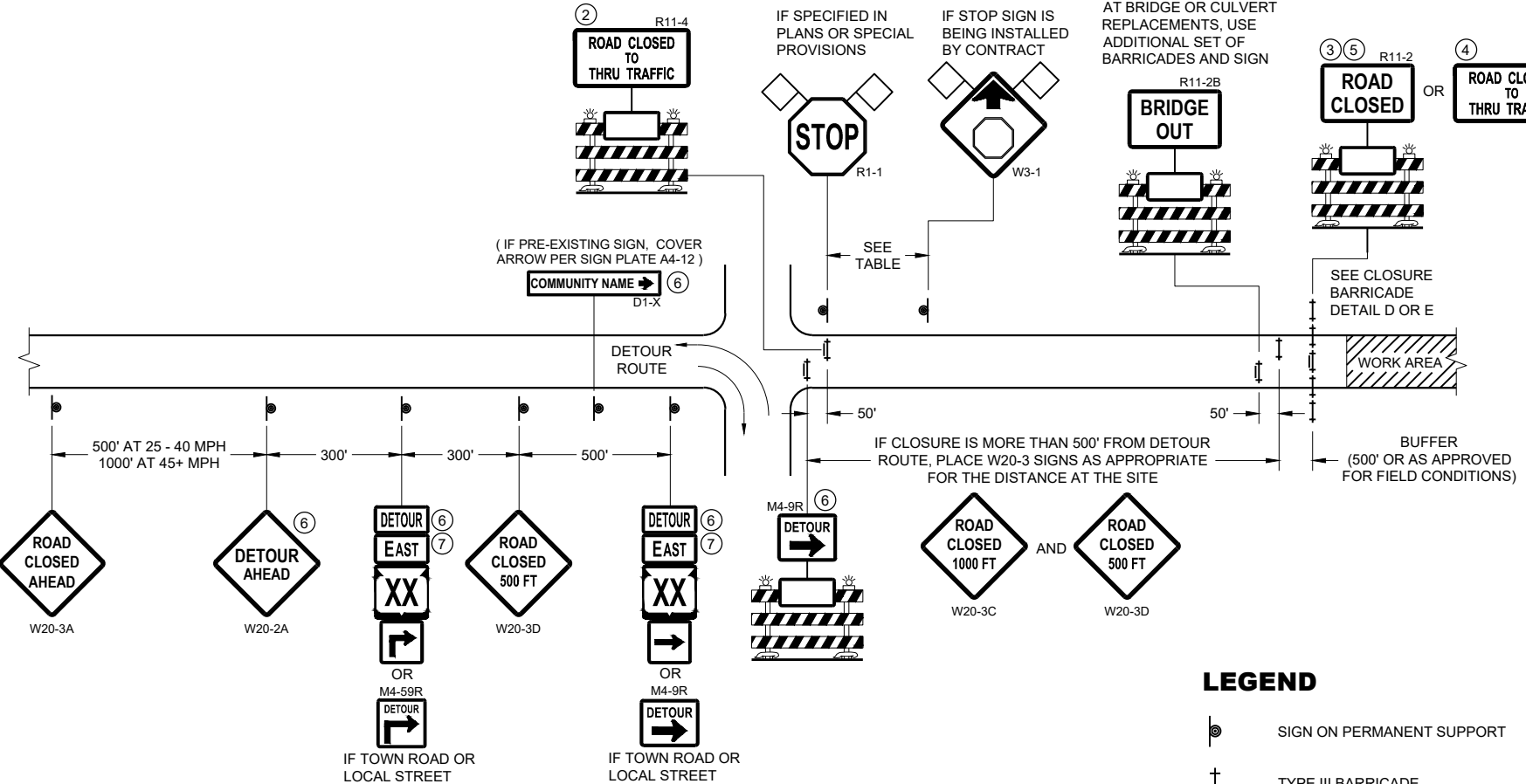


FINISHED SHOULDER AGGREGATE PLACEMENT

SAFETY EDGE _{SM}	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 11/30/2012	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER FHWA



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)



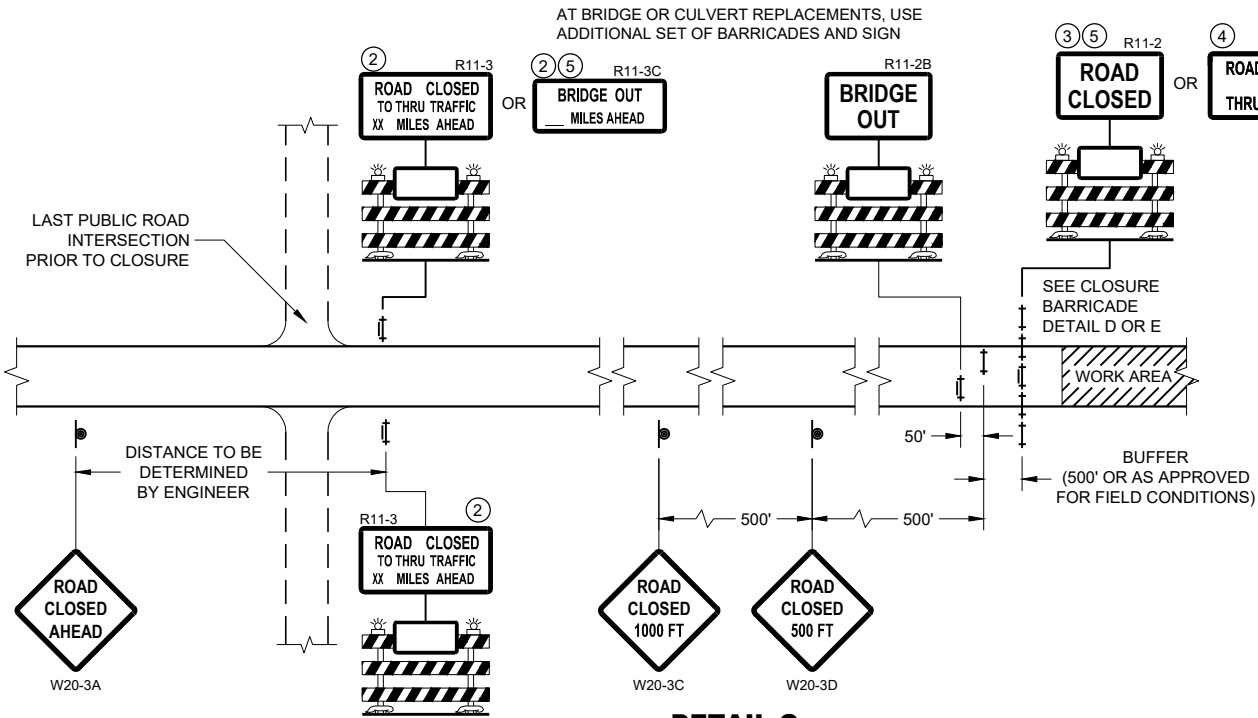
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

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

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

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

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



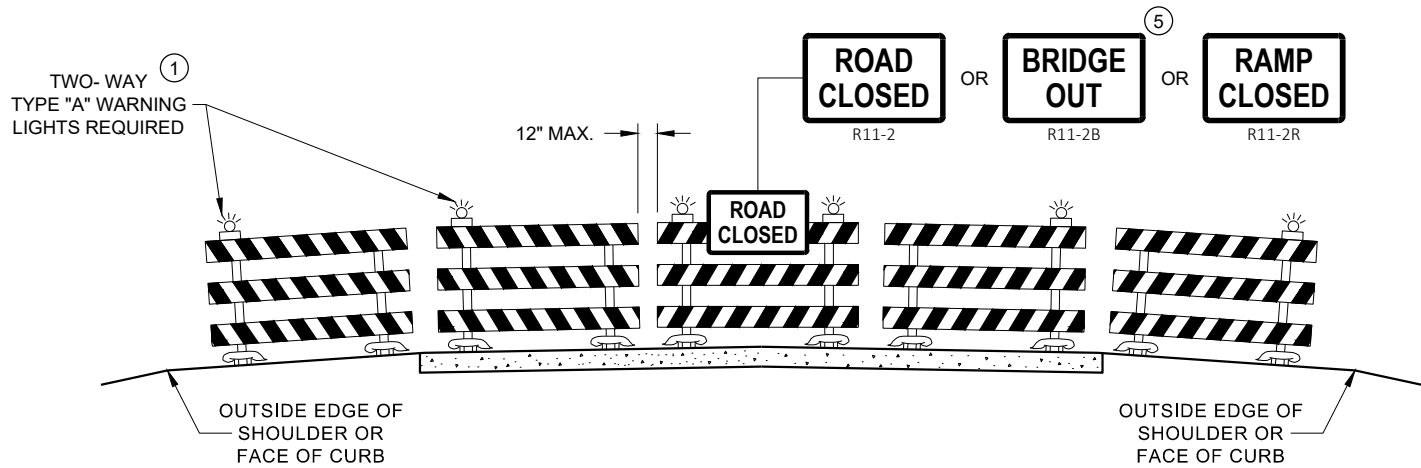
DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

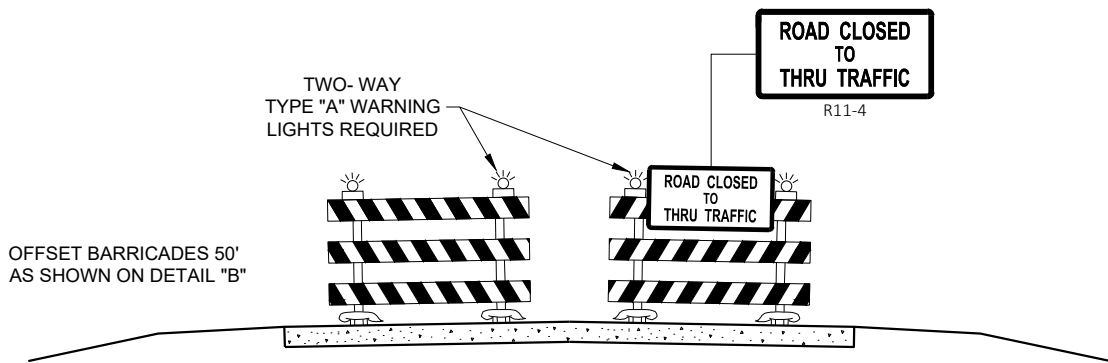
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

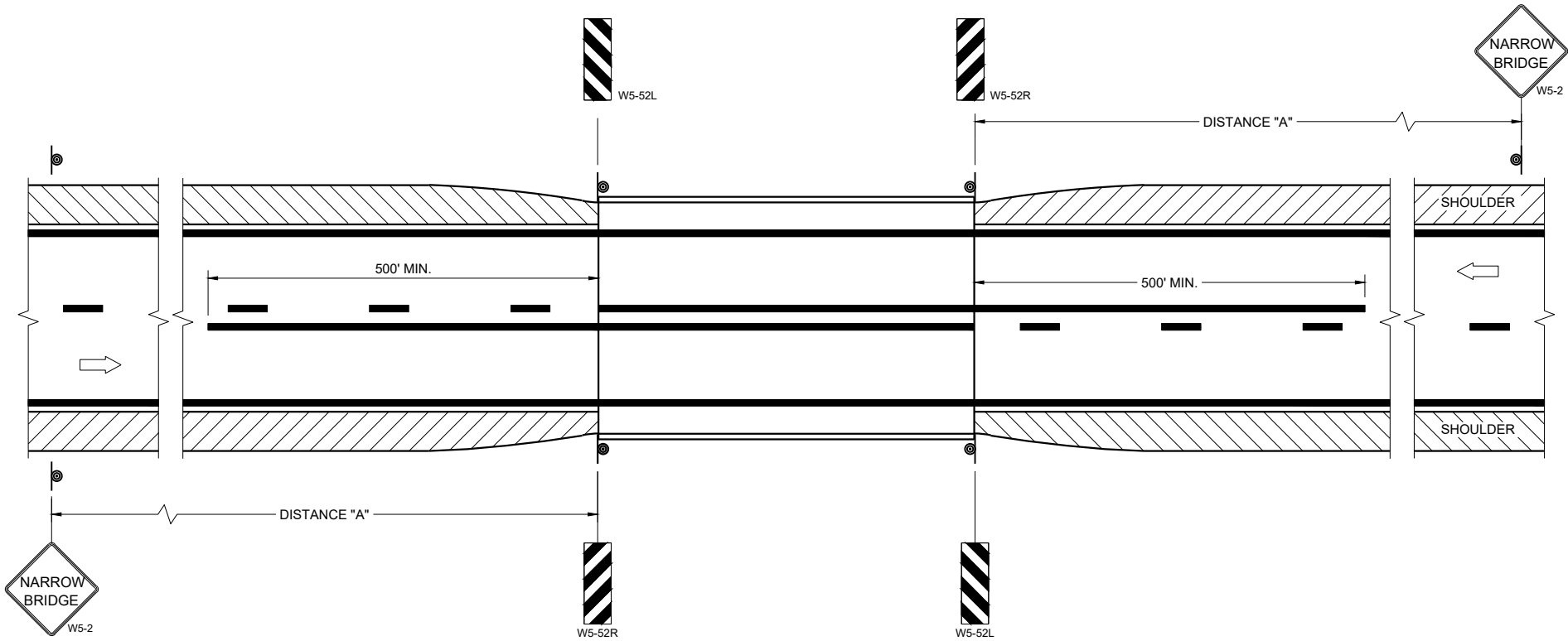
- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS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

BARRICADES AND SIGNS
FOR
VARIOUS CLOSURES

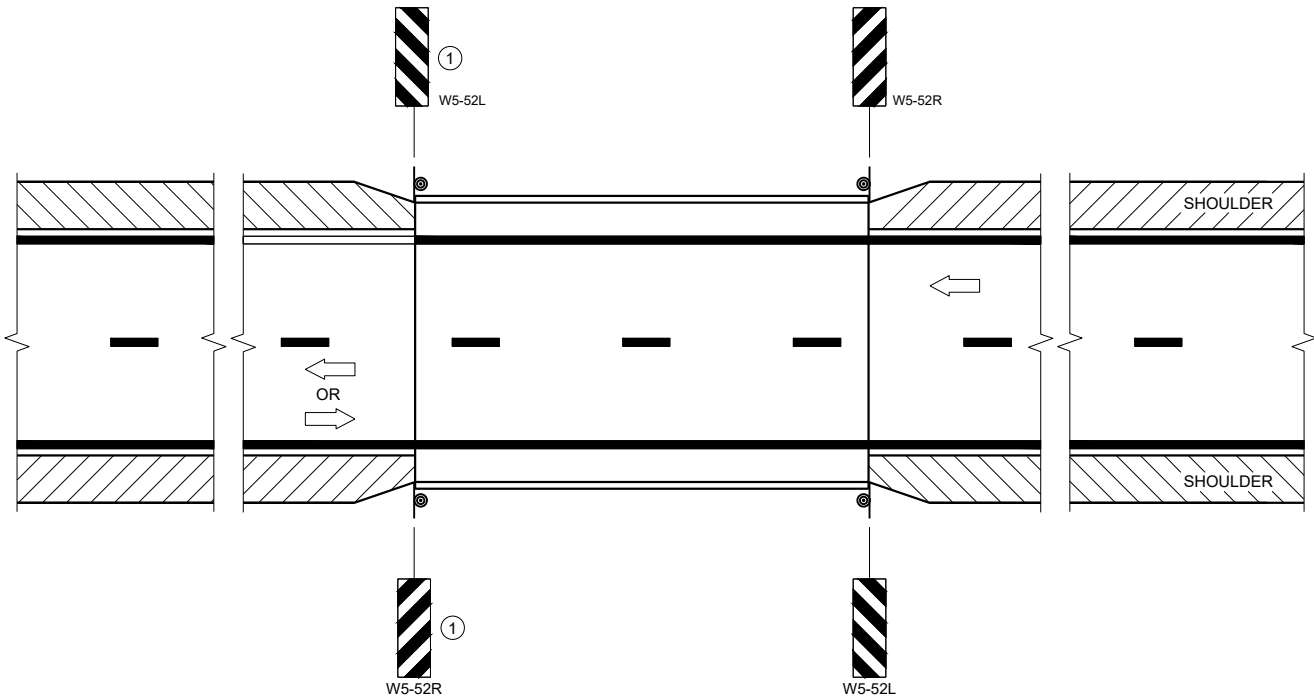
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



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'

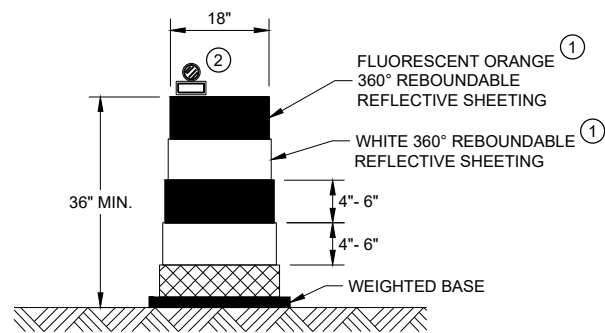
**SIGNING AND MARKING
FOR TWO LANE BRIDGES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Jeannie Silver
DATE Statewide Pavement Marking Engineer
FHWA

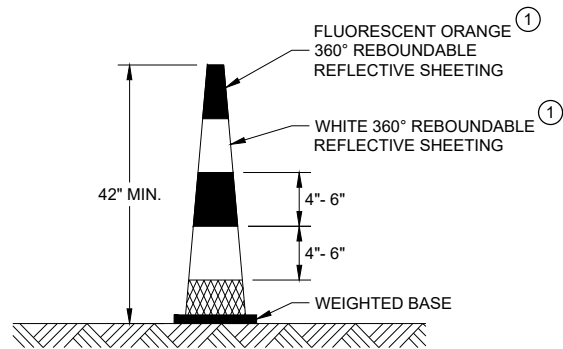


 "T" MARKING
 SIGN ON PERMANENT SUPPORT
 DIRECTION OF TRAFFIC



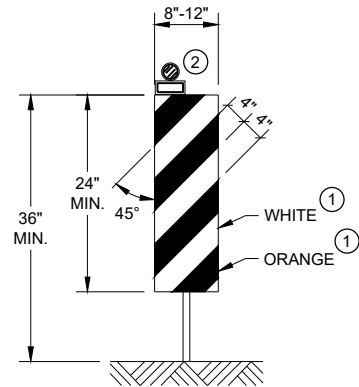
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



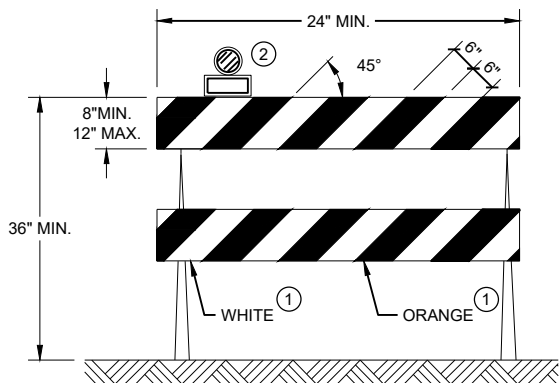
42" CONE

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



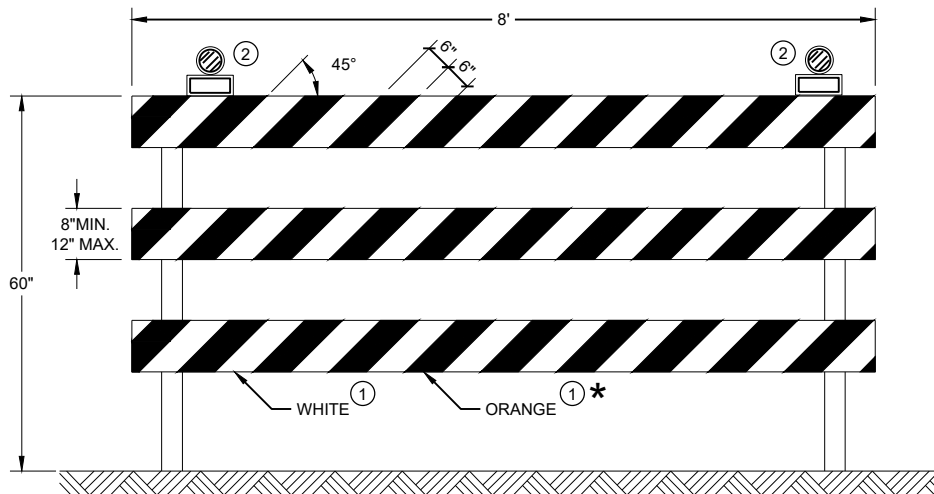
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

GENERAL NOTES

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

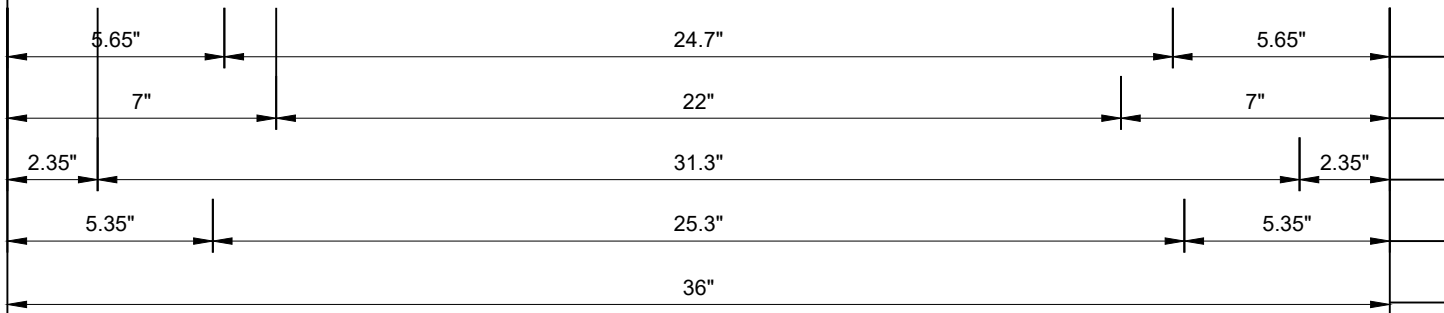
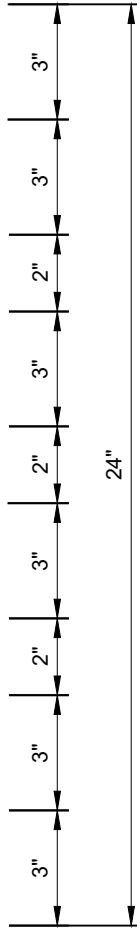
**CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

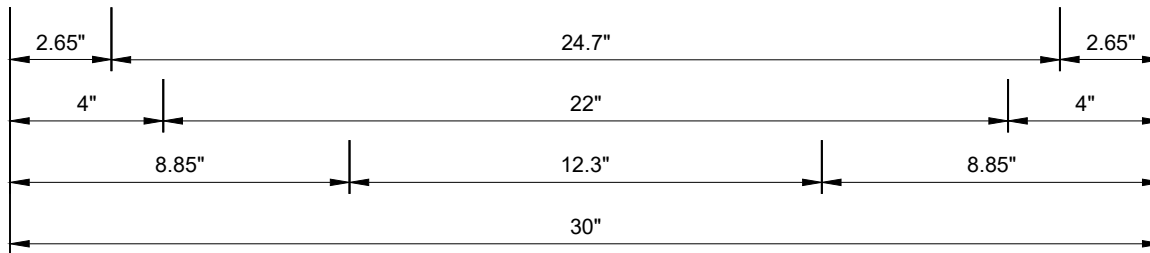
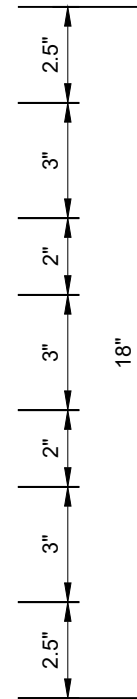
ICE AGE TRAIL
TEMPORARILY
CLOSED NORTH OF
ROCKLEDGE RD



1.125" Radius, 0.50" Boarder, 0.375" Indent

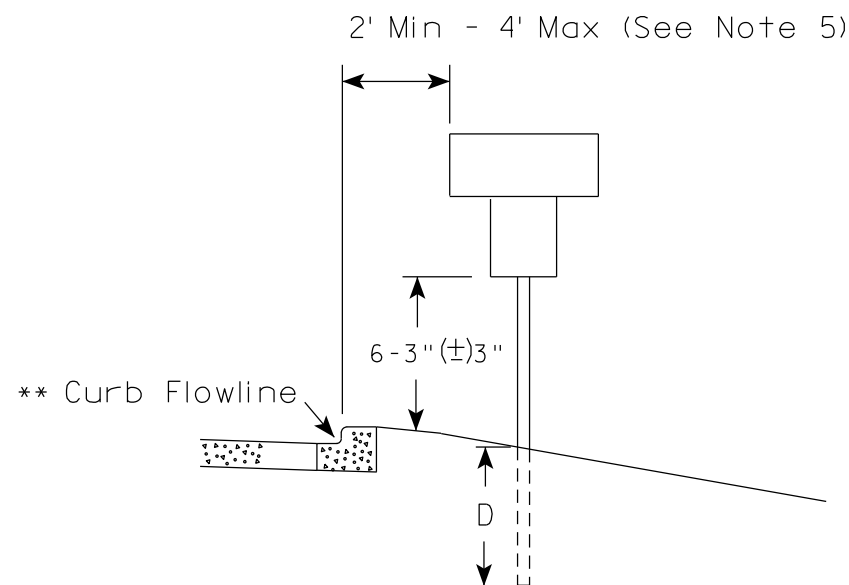
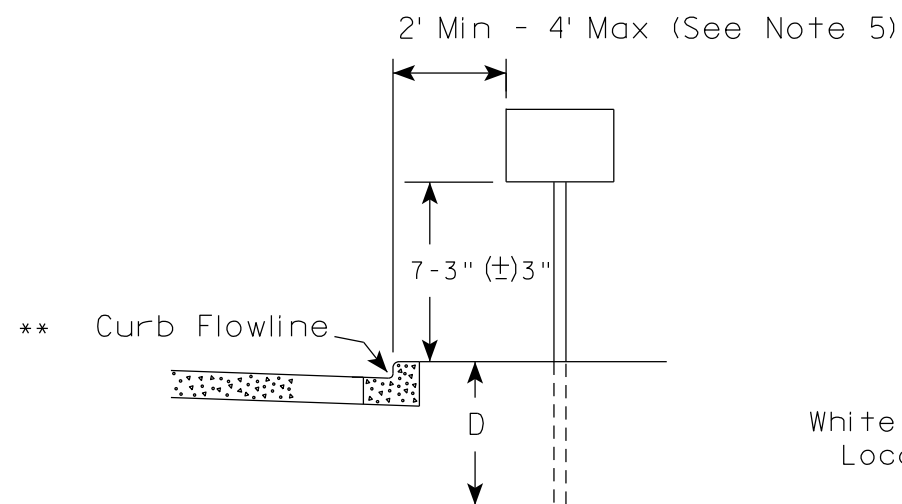
- NOTES:
1. ALL SIGNS TYPE II - TYPE F REFLECTIVE
 2. COLOR:
BACKGROUND - ORANGE
MESSAGE - BLACK
 3. MESSAGE SERIES - C

ICE AGE TRAIL
TEMPORARILY
CLOSED

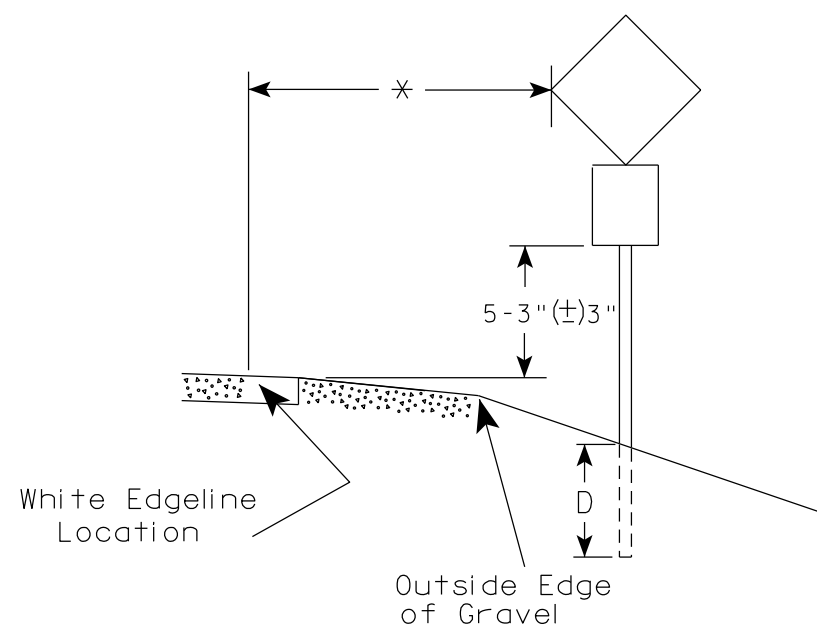
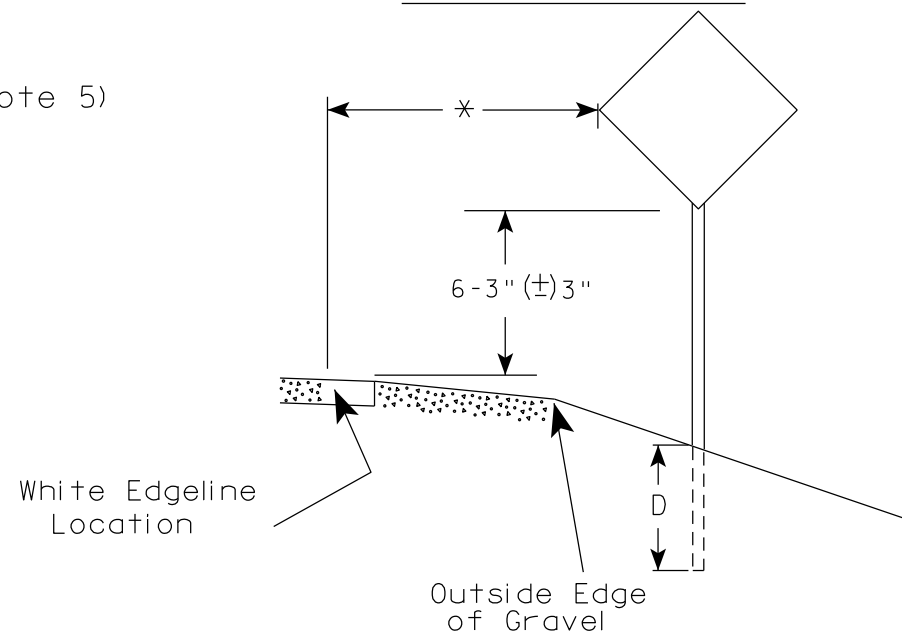


1.125" Radius, 0.50" Boarder, 0.375" Indent

URBAN AREA



RURAL AREA (See Note 2)



POST EMBEDMENT DEPTH

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

- Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
- 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" (±) 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" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
- Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the Engineer.

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

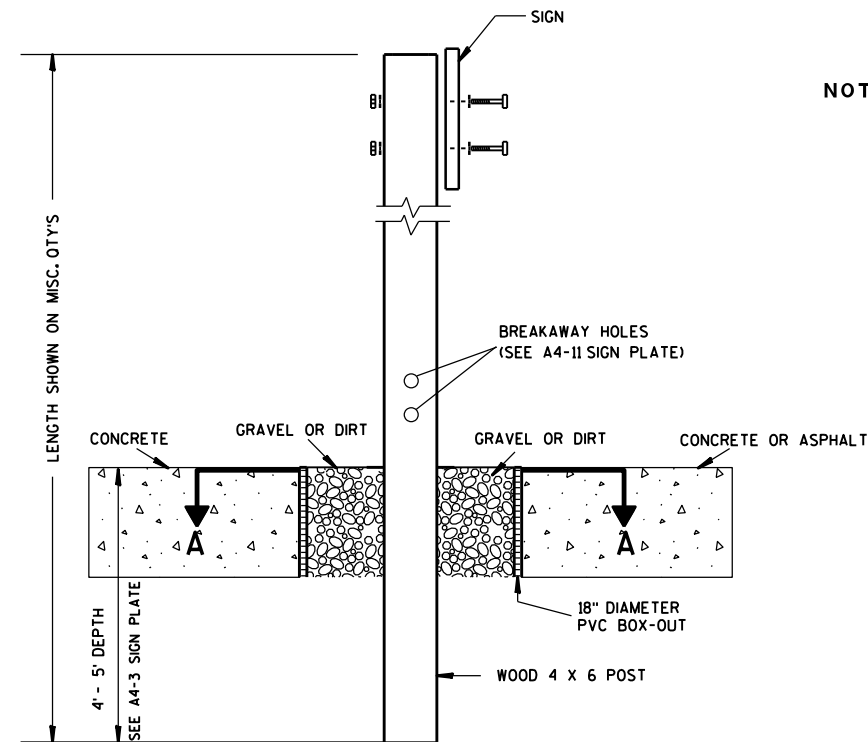
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

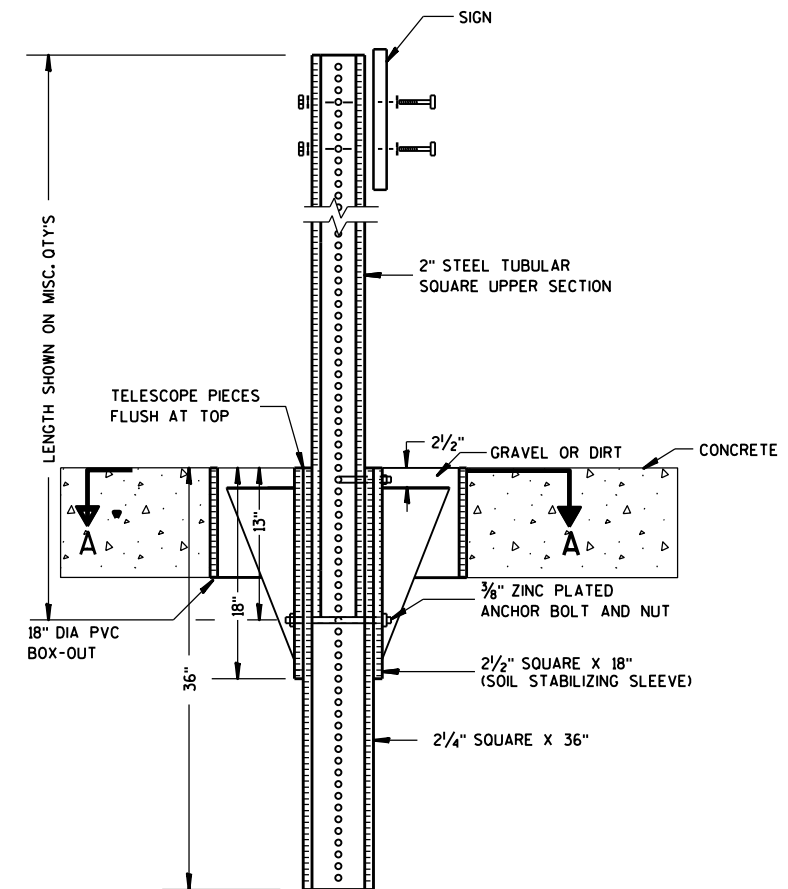
DATE 12/6/23 PLATE NO. A4-3.23



ELEVATION VIEW

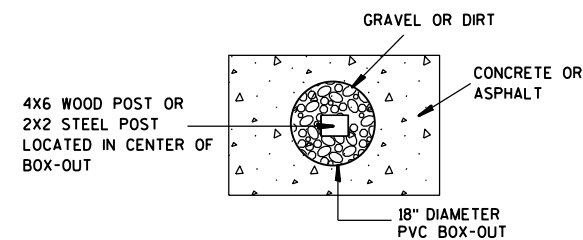
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PROJECT NO:

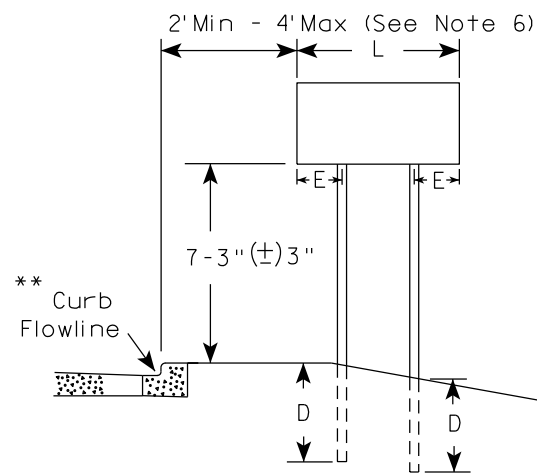
HWY:

COUNTY:

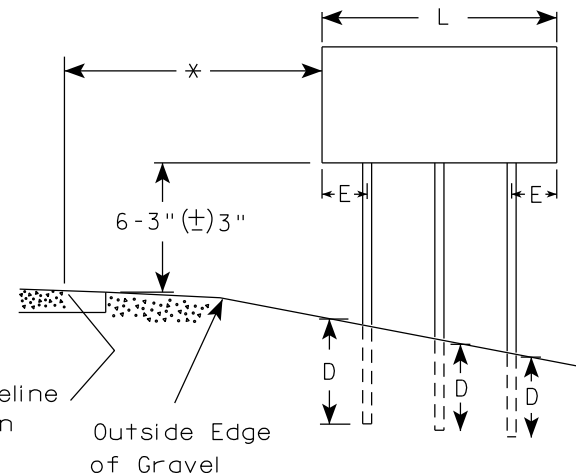
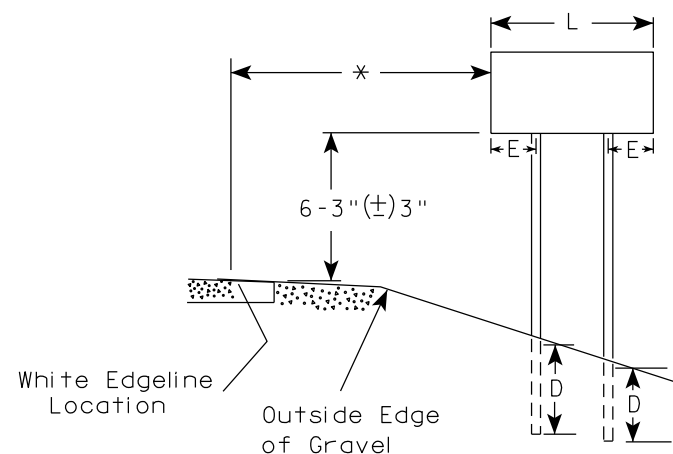
SHEET NO:

E

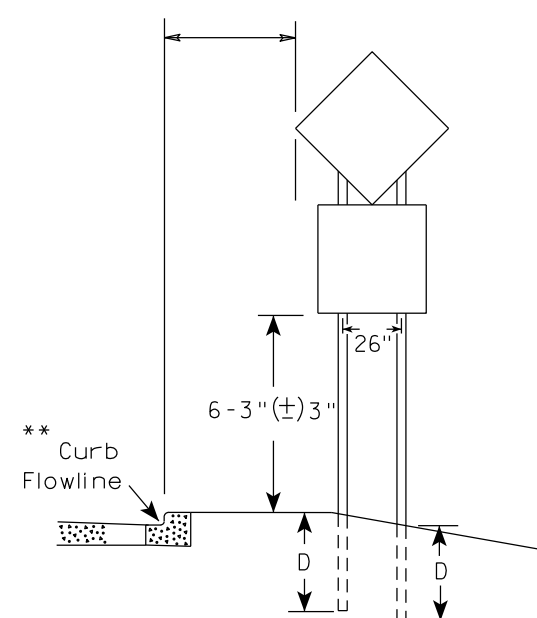
URBAN AREA



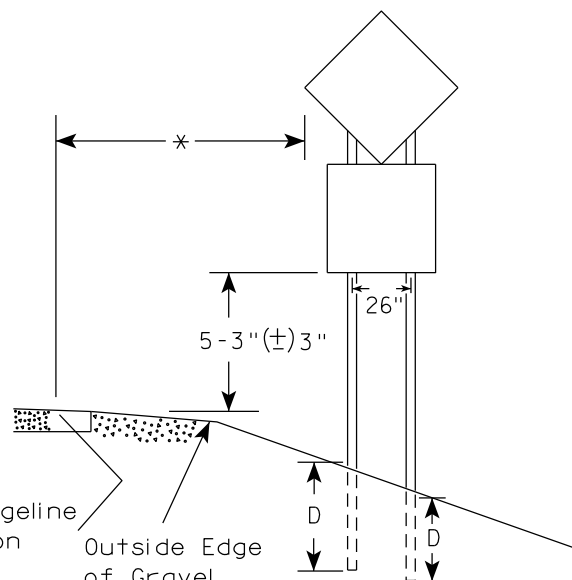
RURAL AREA (See Note 3)



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



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

POST EMBEDMENT DEPTH

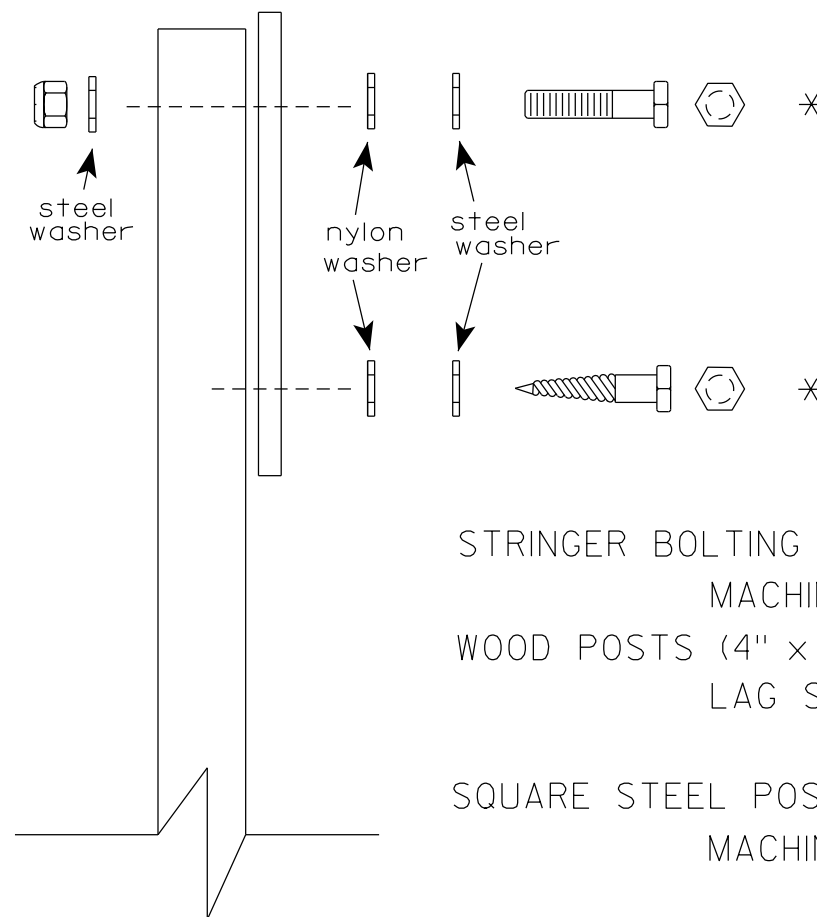
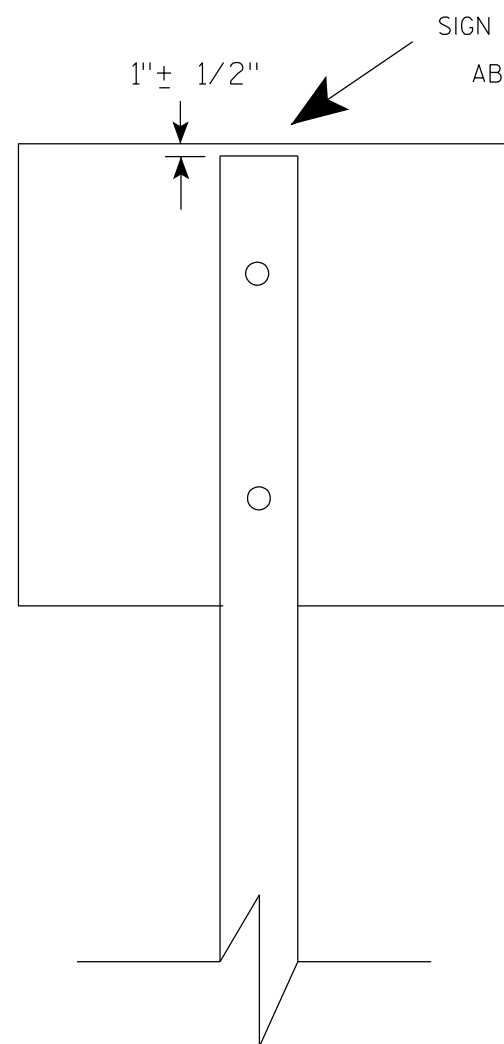
Area of Sign Installation (Sq.Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16



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

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

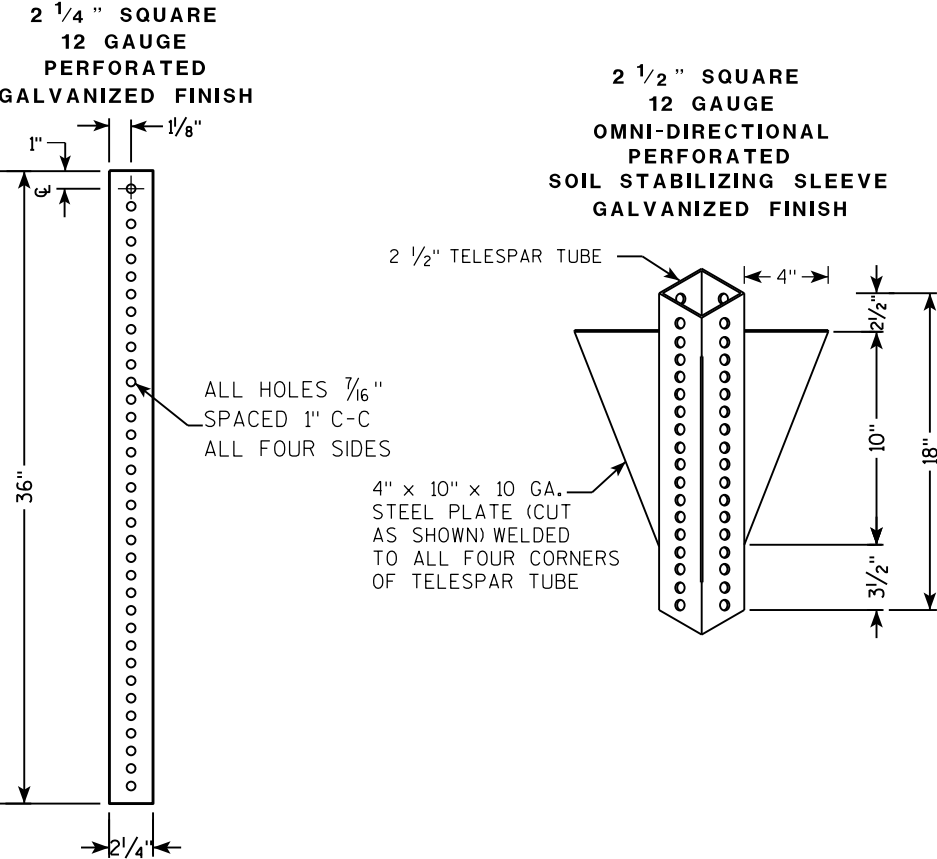
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

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

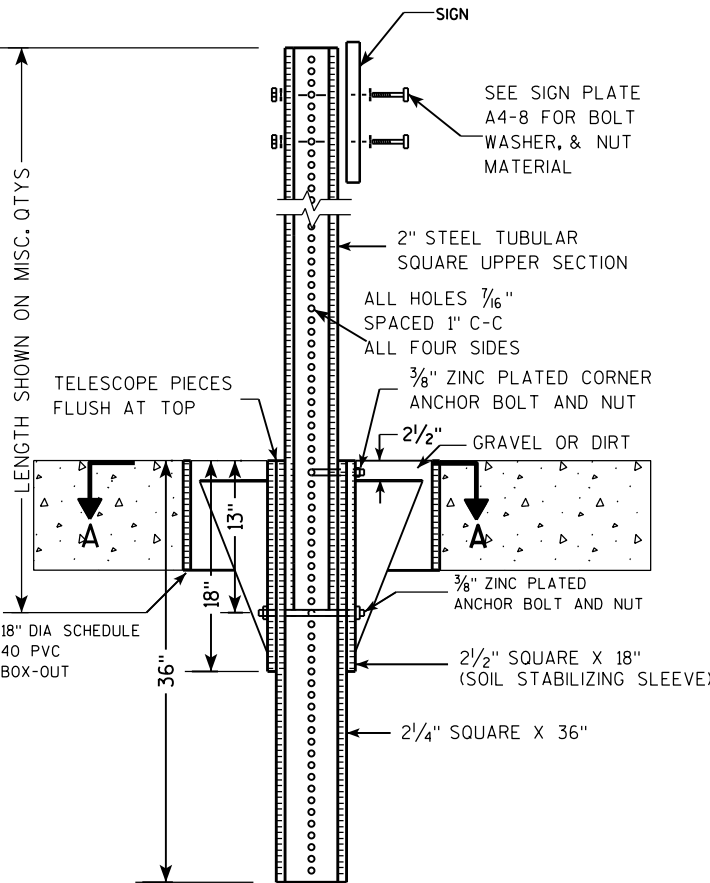
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

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

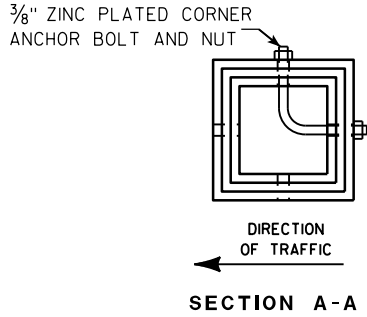
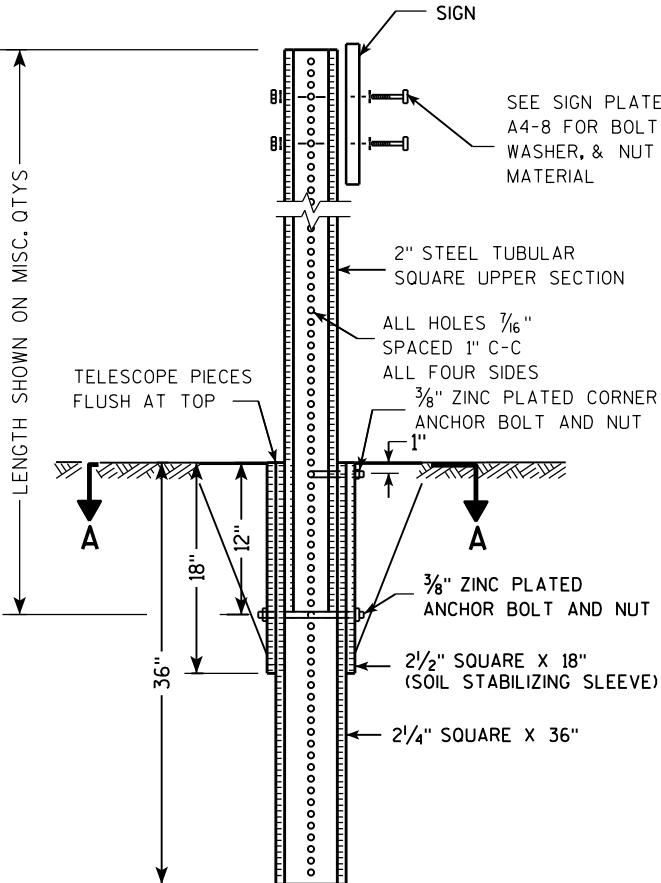
TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM



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



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



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

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

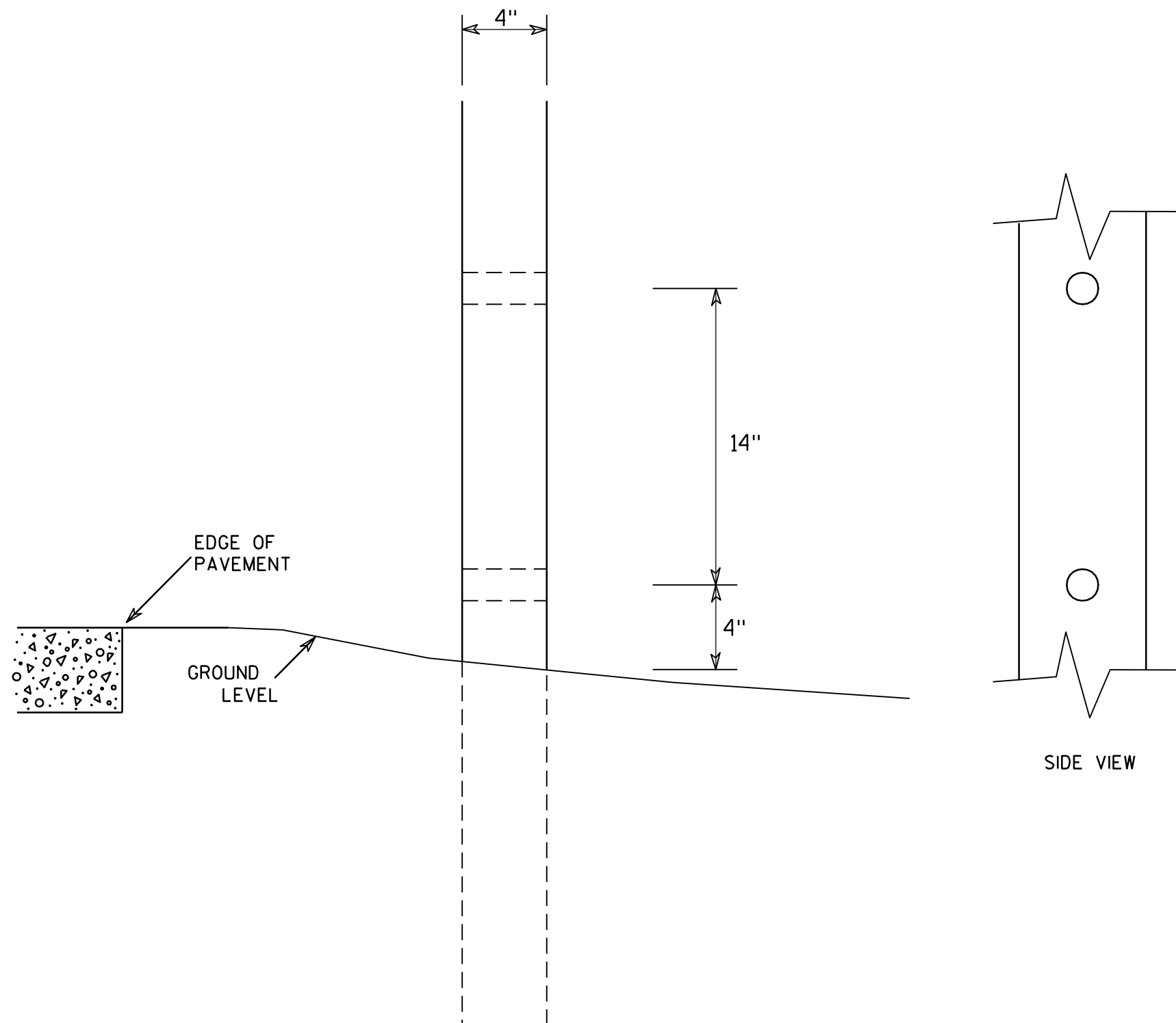
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

7



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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

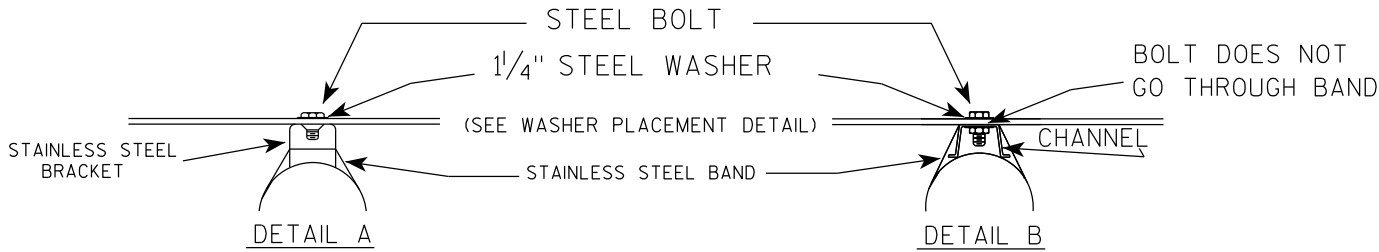
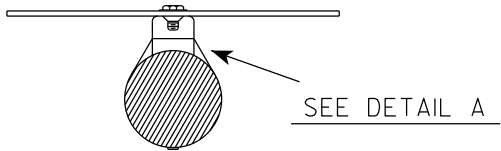
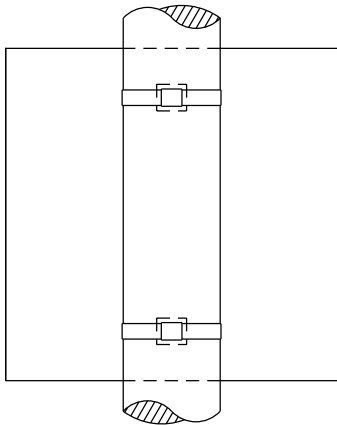
COUNTY:

SHEET NO:

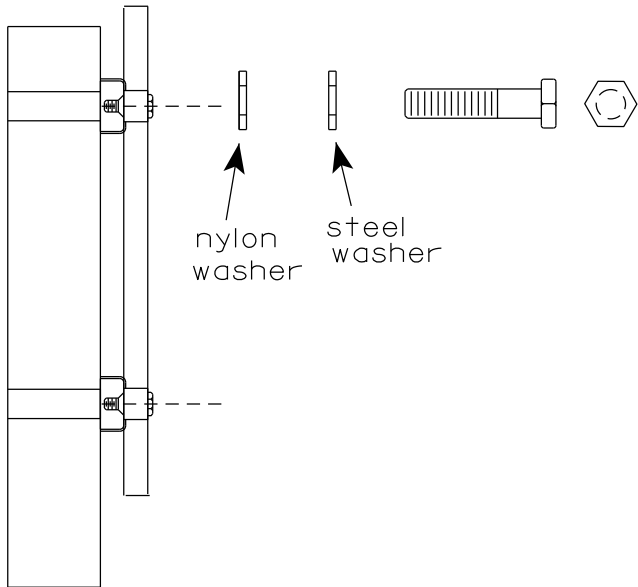
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

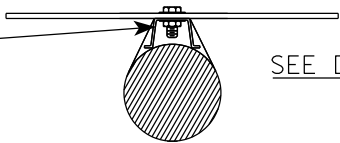
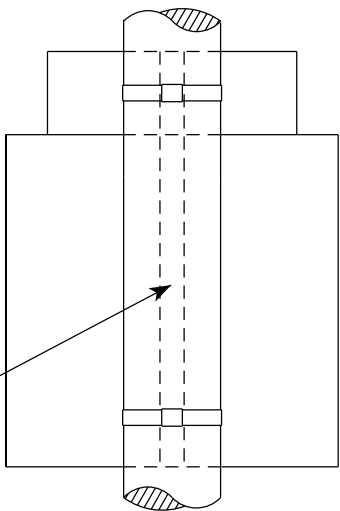


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

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

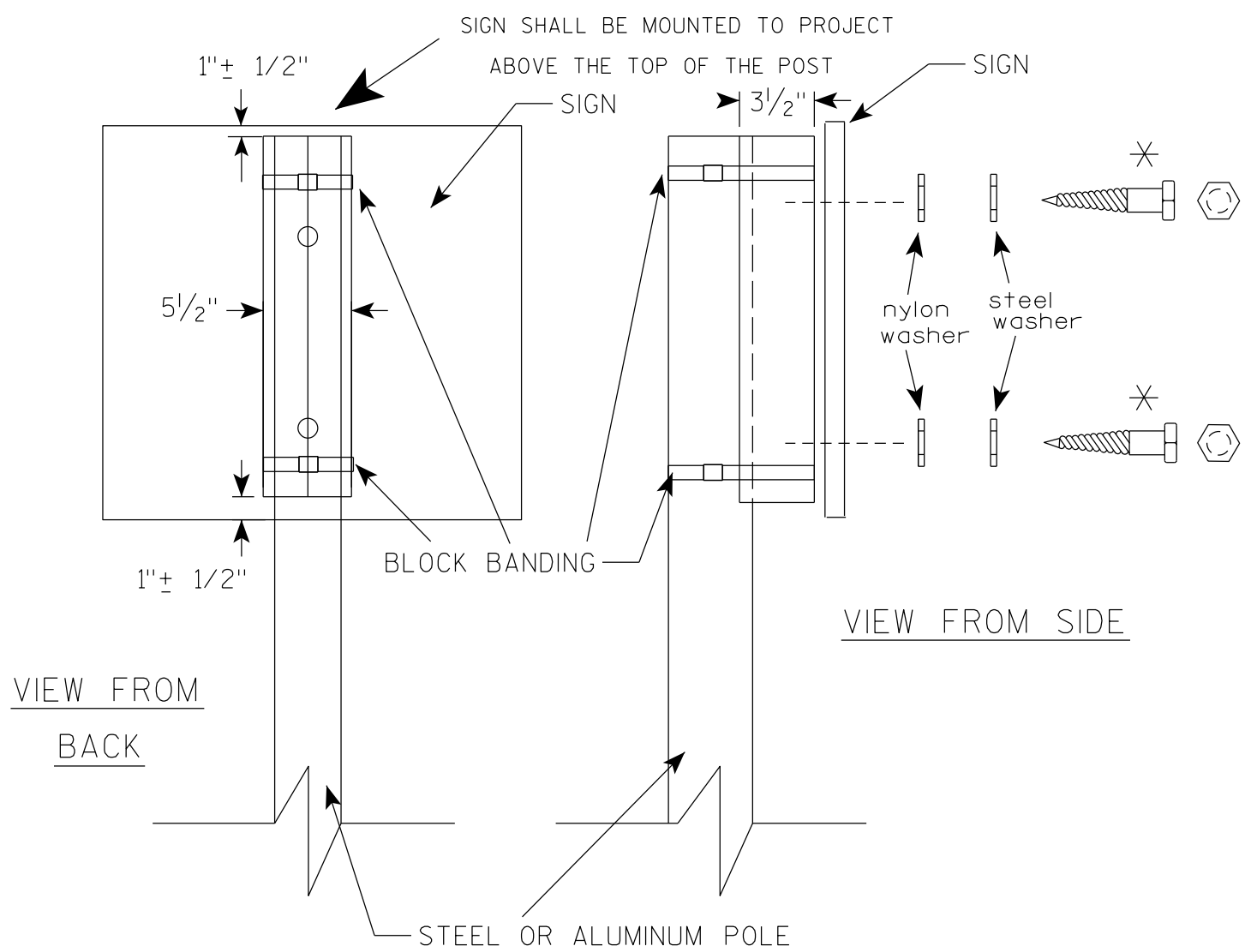
"J" ASSEMBLY



STANDARD SIGN
SIGN BANDING DETAILS

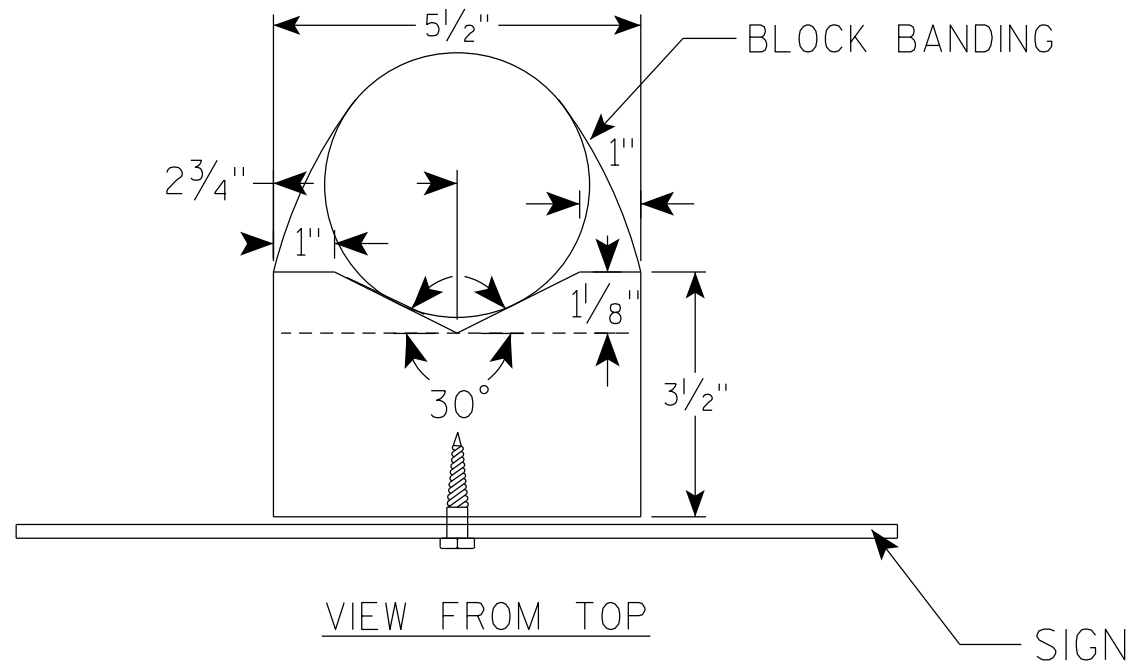
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM
BACK

VIEW FROM SIDE



VIEW FROM TOP

GENERAL NOTES

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

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

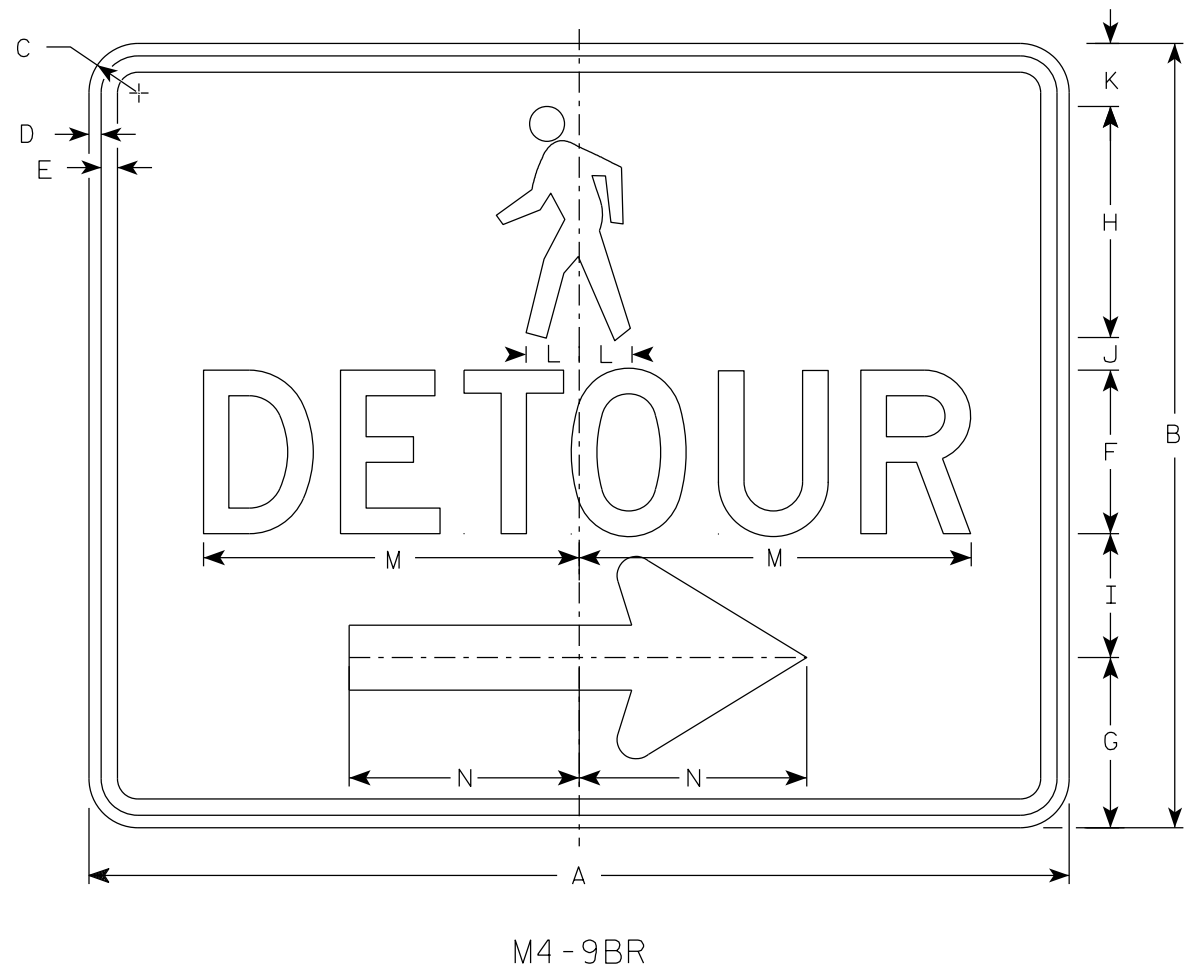
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO:

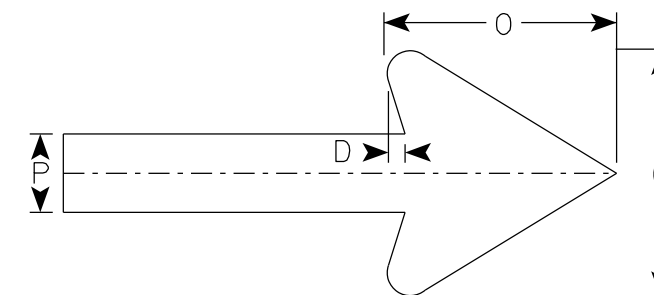
E

7



NOTES

1. Sign is Type II-Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-9BL is the same as M4-9BR except the arrow is reversed.



Arrow Detail

7

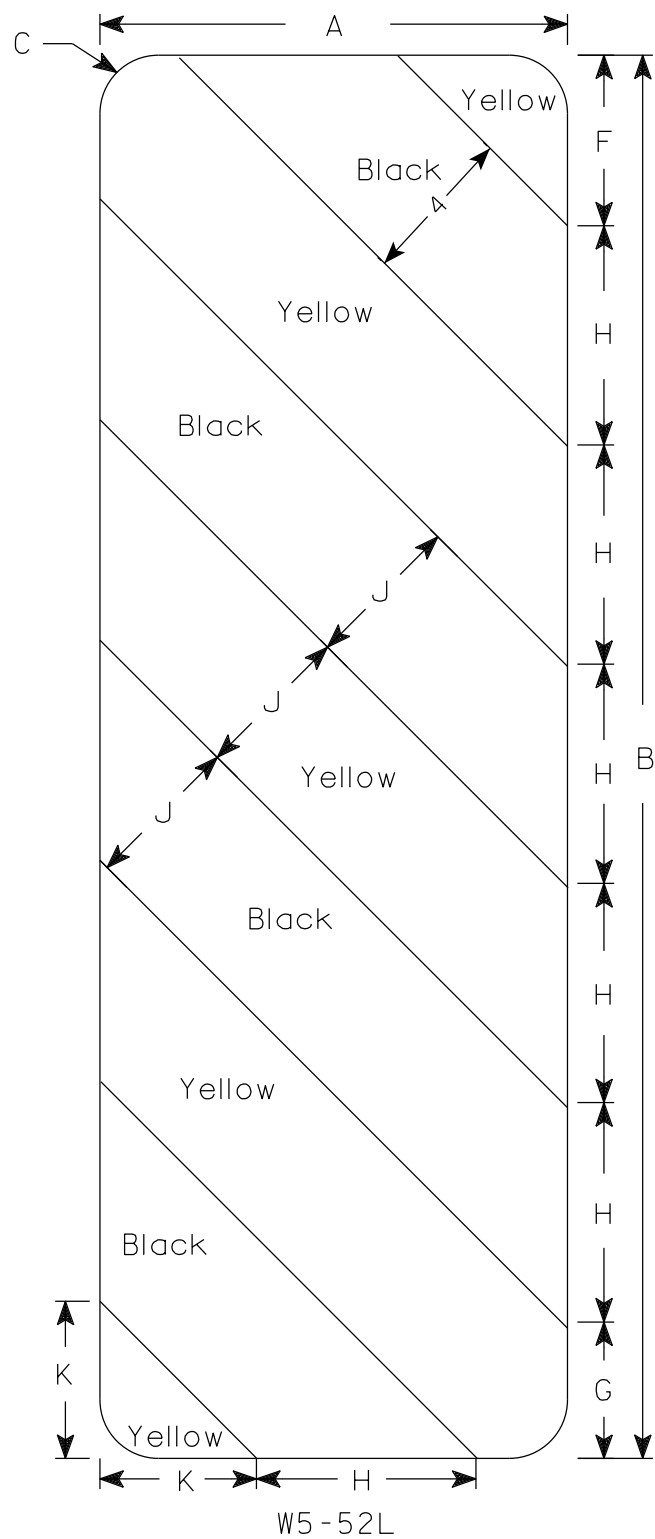
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	24	1 1/2	3/8	1/2	5	5 1/4	7 1/8	3 3/4	1	1 1/8	1 5/8	11 3/4	7	6	2											5.0
2M	30	24	1 1/2	3/8	1/2	5	5 1/4	7 1/8	3 3/4	1	1 1/8	1 5/8	11 3/4	7	6	2											5.0
3																											
4																											
5																											

STANDARD SIGN
M4-9B L&R

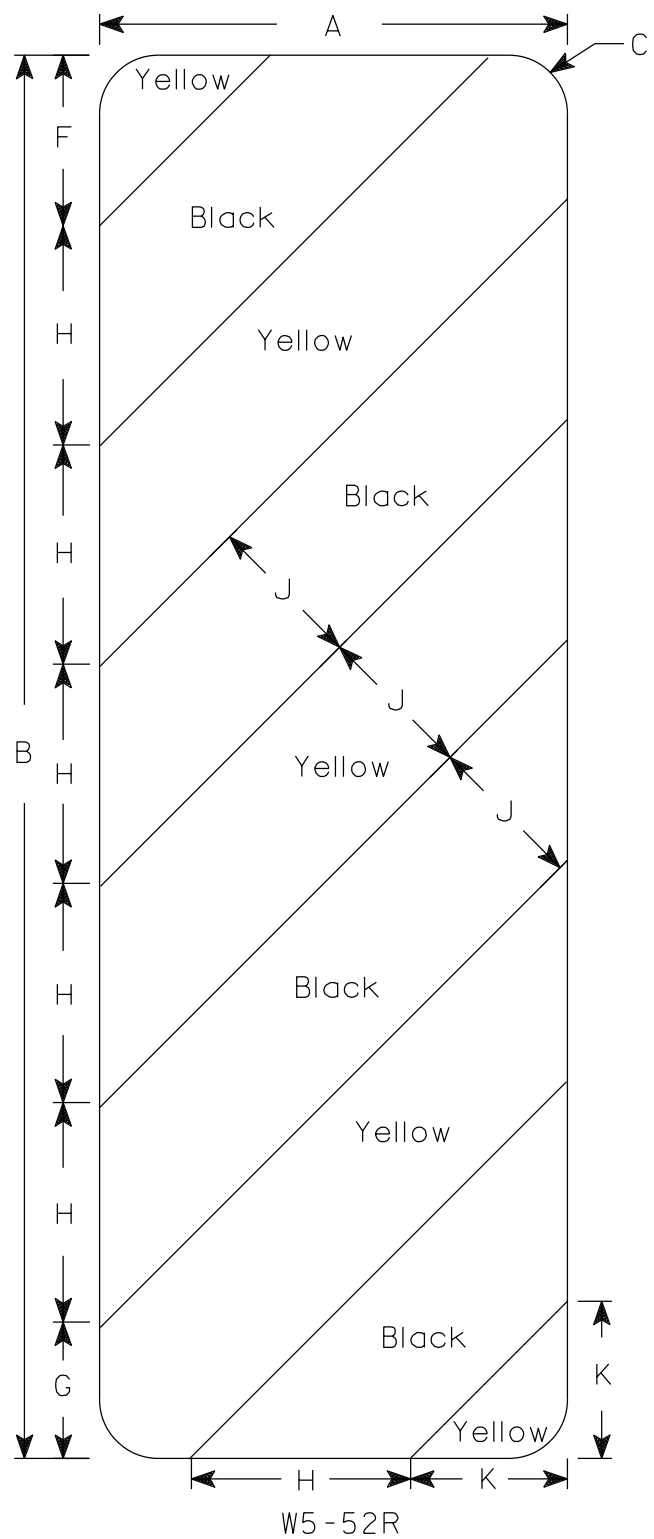
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-9B.4



W5-52L



W5-52R

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
 - Background - Yellow
 - Message - Black
- 3. Alternate colors of stripes as shown.

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

STANDARD SIGN

W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

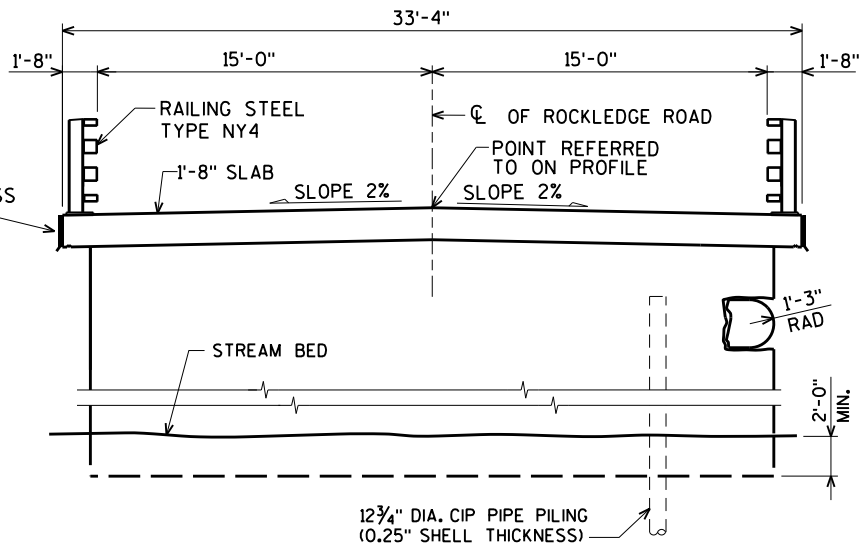
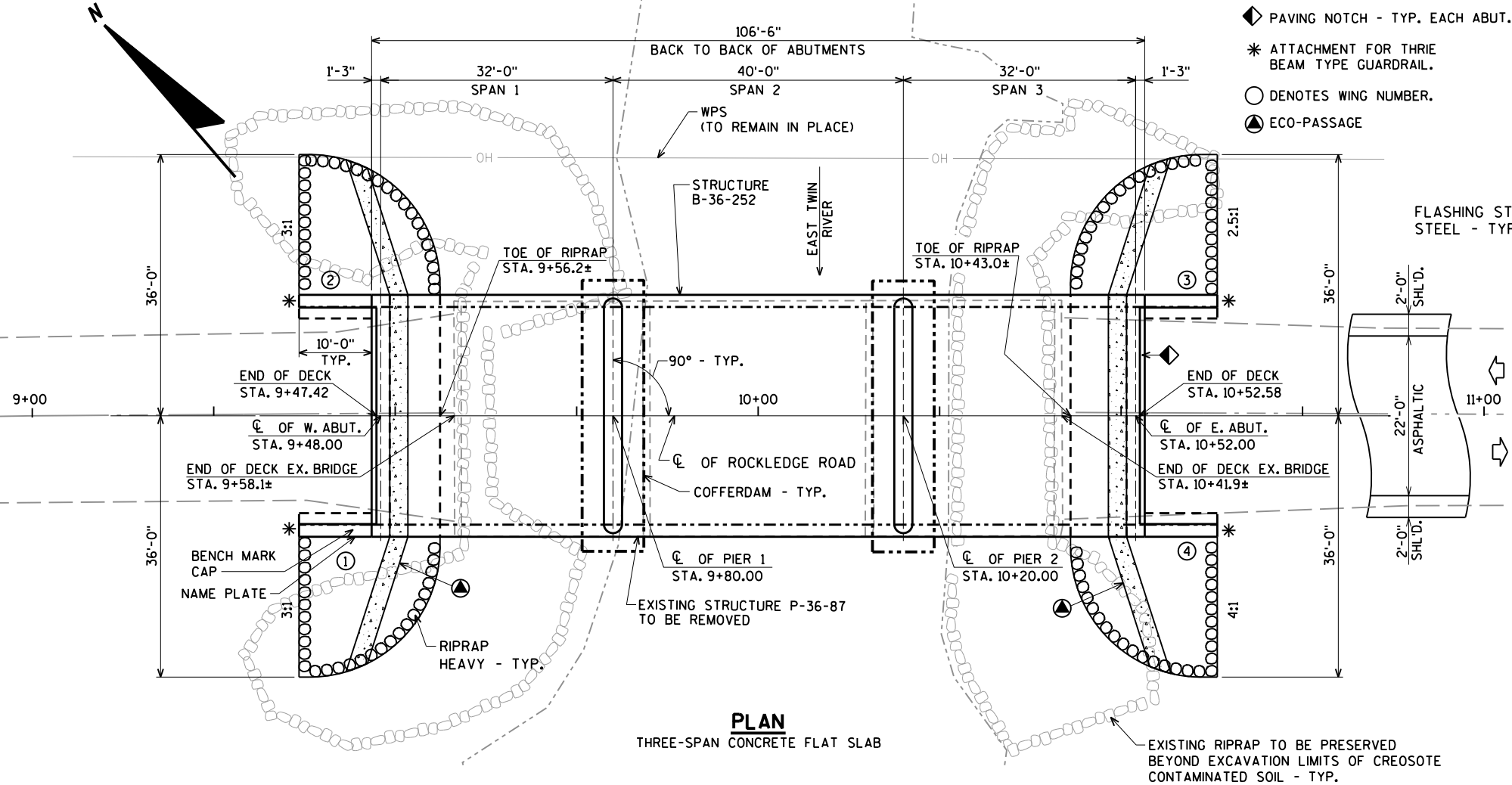
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/4/2024 PLATE NO. W5-52.10

6/7/2024
PENTABLE:BRequ-shd_util.tbl

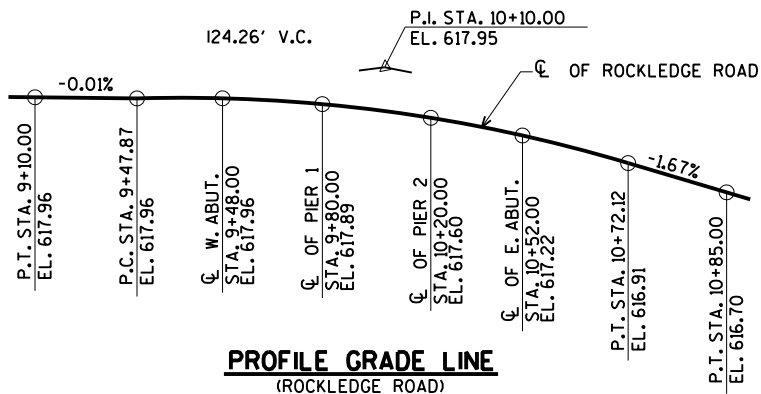
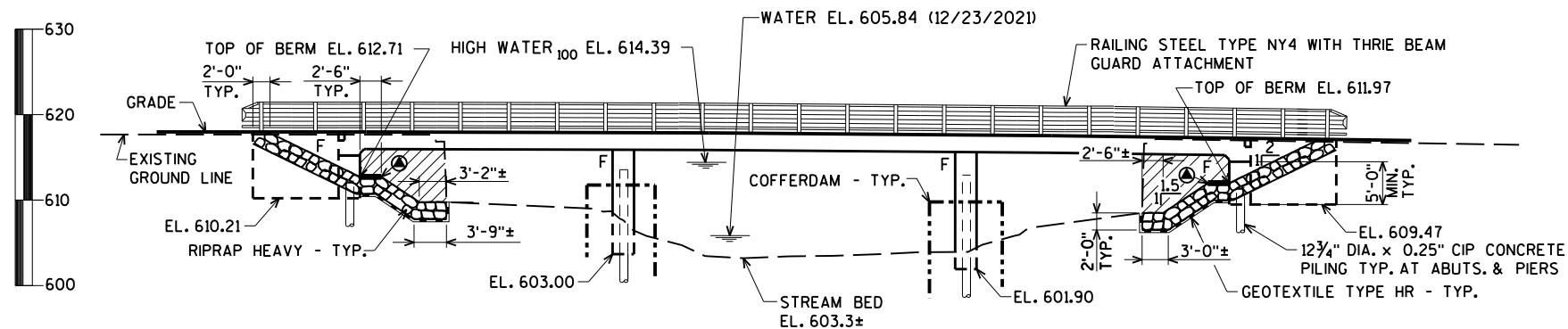
DATE: DATE:
CHECKED BY: BACK CHECKED BY:
CORRECTED BY:

8



LIST OF DRAWINGS

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



COST OF EXCAVATION AND FILL IN THE HATCHED AREAS SHALL BE INCLUDED IN THE PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-36-252".

REMOVE EXISTING SUBSTRUCTURE AS NEEDED. COST CONSIDERED INCIDENTAL TO "REMOVING STRUCTURE" ITEM. TYPICAL AT ALL SUBSTRUCTURES.



06/10/2024

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

CONSULTANT CONTACT:
ARLEN BEAUDETTE
(715)-834-3161

NO.		DATE		REVISION		BY	
ORIGINAL PLANS PREPARED BY							
AYRES		3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com					
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION							
ACCEPTED		 MUTK				6/17/2024	
CHIEF STRUCTURES DESIGN ENGINEER						DATE	
STRUCTURE B-36-252							
ROCKLEDGE ROAD OVER EAST TWIN RIVER							
COUNTY		MANITOWOC			TOWN/CITY/VILLAGE		GIBSON
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS							
DESIGNED BY		JMC	DESIGN CK'D.		JLB	DRAWN BY	
					ZSS	PLANS CK'D.	
						AEB	
GENERAL PLAN					SHEET 1 OF 17		

8

6/6/2024
PENTABLE:BRequ-shd_util.tbi

8

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	W. ABUT.	PIER 1	PIER 2	E. ABUT.	SUPER.	TOTAL
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS P-36-87	EACH	-----	-----	-----	-----	-----	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-36-252	EACH	-----	-----	-----	-----	-----	1
206.5001	COFFERDAMS B-36-252	EACH	-----	-----	-----	-----	-----	2
210.1500	BACKFILL STRUCTURE TYPE A	TON	130	-----	-----	130	-----	260
502.0100	CONCRETE MASONRY BRIDGES	CY	31.1	35.3	37.5	31.0	222.6	358
502.3200	PROTECTIVE SURFACE TREATMENT	SY	10	-----	-----	10	460	480
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,050	1,740	1,860	2,050	-----	7,700
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,320	60	60	1,320	37,500	40,260
513.7084	RAILING STEEL TYPE NY4	LF	22.8	-----	-----	22.8	213.0	258.7
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	10	-----	-----	10	-----	20
550.2124	PILING CIP CONCRETE 12¾ X 0.25-INCH	LF	200	450	630	300	-----	1,580
606.0300	RIPRAP HEAVY	CY	80	-----	-----	85	-----	165
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	75	-----	-----	75	-----	150
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	55	-----	-----	55	-----	110
645.0120	GEOTEXTILE TYPE HR	SY	160	-----	-----	160	-----	320
SPV.0090	FLASHING STAINLESS STEEL	LF	-----	-----	-----	-----	213	213
SPV.0195	SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR	TON	11	-----	-----	11	-----	22
	NON-BID ITEMS							
	FILLER	SIZE	-----	-----	-----	-----	-----	½" & ¾"

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.07
OPERATING RATING FACTOR: 1.39
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

Q100 = 4,200 c.f.s.
VEL. = 7.0 f.p.s.
HW100 = EL. 614.39
WATERWAY AREA = 601 sq. ft.
DRAINAGE AREA = 77.2 sq. mi.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 5
DATUM = NAVD88 (2012)

2 YEAR FREQUENCY

Q2 = 500 c.f.s.
VEL. = 6.8 f.p.s.
HW2 = EL. 608.23

FOUNDATION DATA:

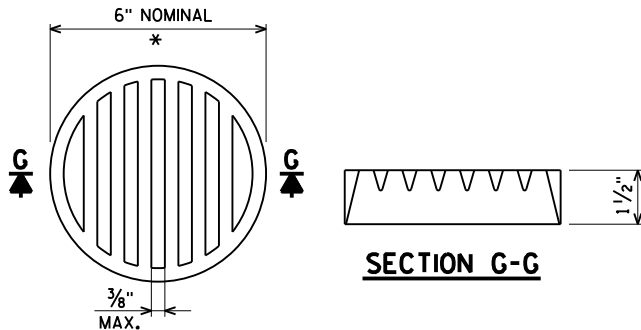
ABUTMENTS TO BE SUPPORTED ON 12¾" DIA. x 0.25" CIP CONCRETE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 135 TONS * PER PILE FOR THE WEST ABUT. AND 150 TONS * PER PILE FOR THE EAST ABUT. AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED LENGTH 40'-0" FOR WEST ABUT. AND 60'-0" FOR EAST ABUT.

PIERS TO BE SUPPORTED ON 12¾" DIA. x 0.25" CIP CONCRETE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 150 TONS * PER PILE FOR PIER 1 AND 160 TONS * PER PILE FOR PIER 2 AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED LENGTH 50'-0" FOR PIER 1 AND 70'-0" FOR PIER 2.

*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. = 49 (2025)
A.A.D.T. = 55 (2045)
R.D.S. = 45 M.P.H.



* 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

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-36-252" SHALL BE THE EXISTING GROUNDLINE.

THE EXISTING STRUCTURE, P-36-87, TO BE REMOVED, IS A THREE SPAN TIMBER SLAB BRIDGE ON TIMBER ABUTMENTS, 84.0 FT. LONG WITH A 28.5 FT. CLEAR ROADWAY WIDTH.

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

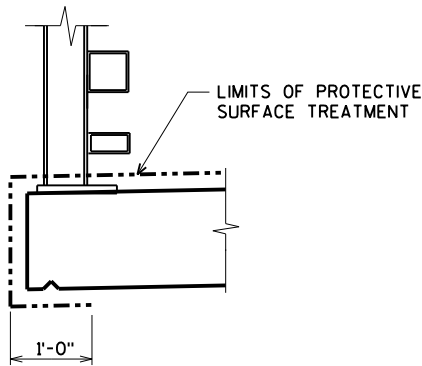
EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

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.

AT THE BACK FACE OF ABUTMENTS AND AT EXISTING ABUTMENT REMOVALS, 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.

AT PIERS, COFFERDAMS REQUIRED. CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS. CONCRETE POURED UNDERWATER SHALL NOT EXCEED 10.0 FEET IN DEPTH, UNLESS APPROVED OTHERWISE.

EXTENT OF BELOW GRADE SUBSTRUCTURES ARE UNKNOWN. REMOVE EXISTING SUBSTRUCTURES AS NEEDED TO BUILD NEW SUBSTRUCTURES. COST OF SUBSTRUCTURE REMOVAL IS CONSIDERED INCIDENT TO "REMOVING OLD STRUCTURE" BID ITEM.



PROTECTIVE SURFACE TREATMENT DETAIL

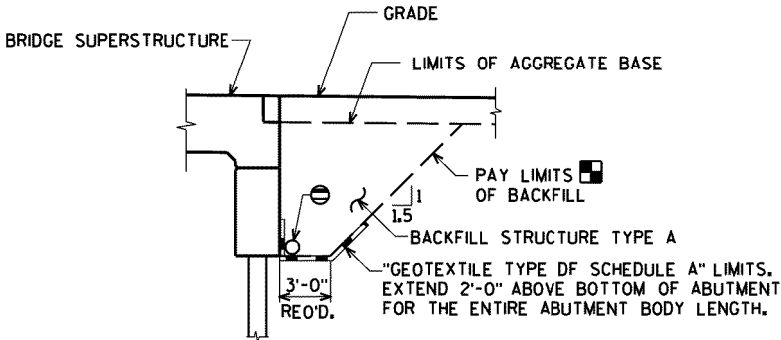
NOTE: APPLY TO VERTICAL AND HORIZONTAL SURFACES OF PAVING NOTCH, TOP AND EXTERIOR EXPOSED FACE OF WINGS, AND THE END 1'-0" OF THE FRONT FACE OF ABUTMENT.

8

STATE PROJECT NUMBER
4312-09-71

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-252			
DRAWN BY		ZSS	PLANS CK'D. AEB
QUANTITIES, DESIGN DATA, AND NOTES		SHEET 2 OF 17	

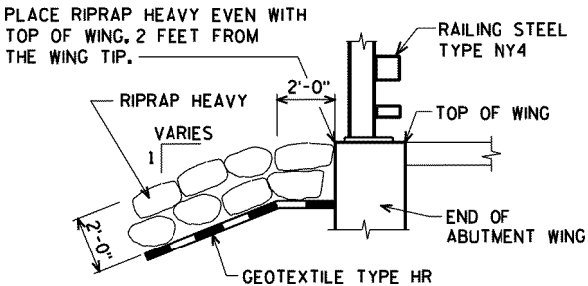
ORIGINAL PLANS PREPARED BY
AYRES 3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com



BACKFILL STRUCTURE LIMITS THRU ABUTMENT

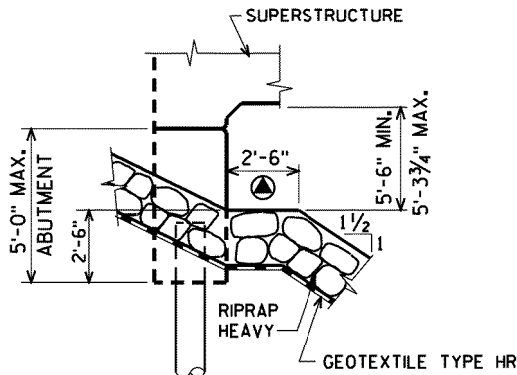
BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2.



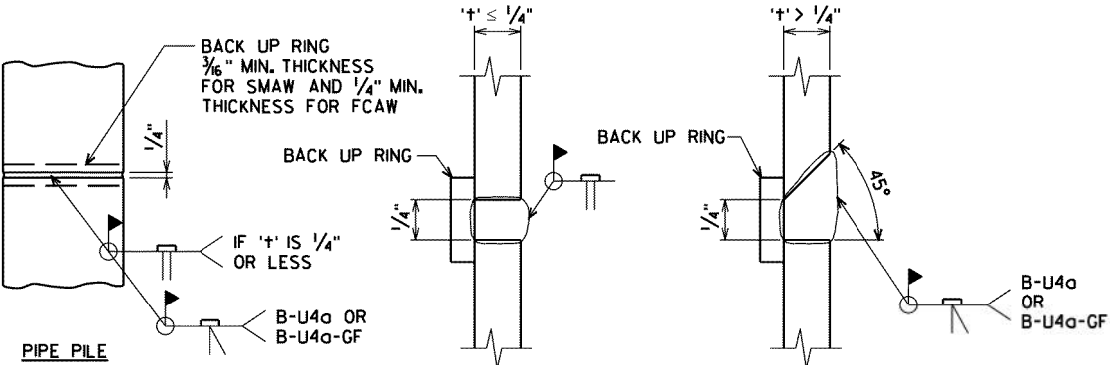
TYPICAL FILL SECTION AT WING TIPS

NOTE: PLACE RIPRAP HEAVY AS SHOWN ON GENERAL PLAN SHEET



ECO-PASSAGE DETAIL

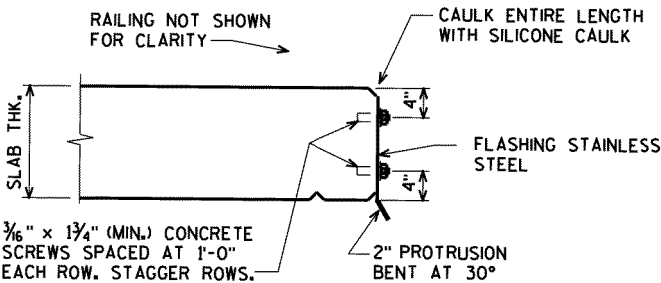
ECO-PASSAGE. FILL VOIDS IN RIPRAP HEAVY WITH "SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR".



PILE SPLICE DETAIL

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

CIP PILE WELD DETAIL



FLASHING DETAIL FOR NEW BRIDGES WITH OPEN RAILING

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

FLASHING TO BE INSTALLED AFTER PROTECTIVE SURFACE TREATMENT APPLICATION.

CONCRETE SCREWS SHALL BE 410 STAINLESS STEEL.

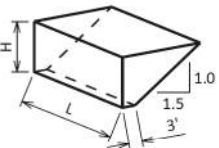
EXTEND FLASHING TO BACK FACE OF ABUTMENT DIAPHRAGM.

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

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

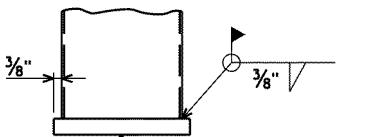
PROVIDE 2" MINIMUM FLASHING OVERLAP. FASTEN WITH 3/8" x 2" (MIN.) CONCRETE SCREWS.

CAULK SHALL BE NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER.



ABUTMENT BACKFILL DIAGRAM

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



END PLATE DETAIL FOR CIP PILING

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-252			
DRAWN BY		ZSS	PLANS CK'D. AEB
STRUCTURE DETAILS		SHEET 3 OF 17	

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

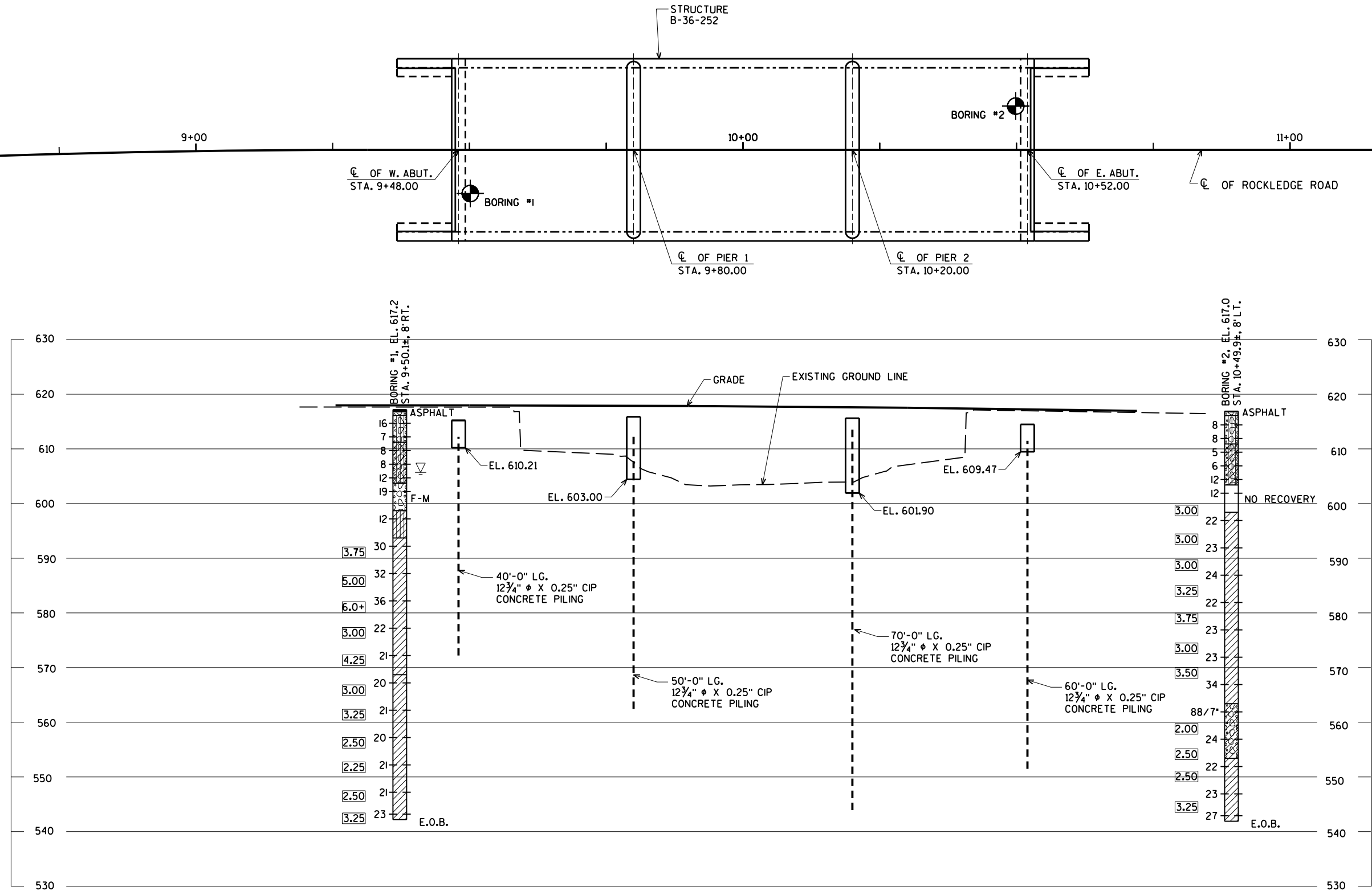
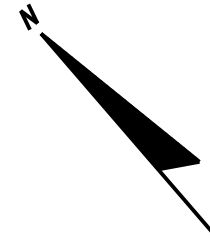
6/6/2024
PENTABLE:BRequ_shd_util.tbl

8

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	MAY 3, 2022	362407.2937	233034.5134
2	MAY 3, 2022	362354.2810	233120.4803

BORINGS COMPLETED BY: GEOTECHNICAL DRILLING CONTRACTORS, LLC
REPORT COMPLETED BY: ECS MIDWEST, LLC
ALL COORDINATES REFERENCED TO WCCS NAD 83(9) MANITOWOC COUNTY

EAST TWIN RIVER



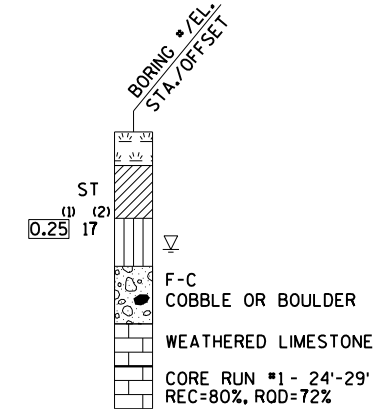
STATE PROJECT NUMBER

4312-09-71

MATERIAL SYMBOLS

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

LEGEND OF BORING



(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

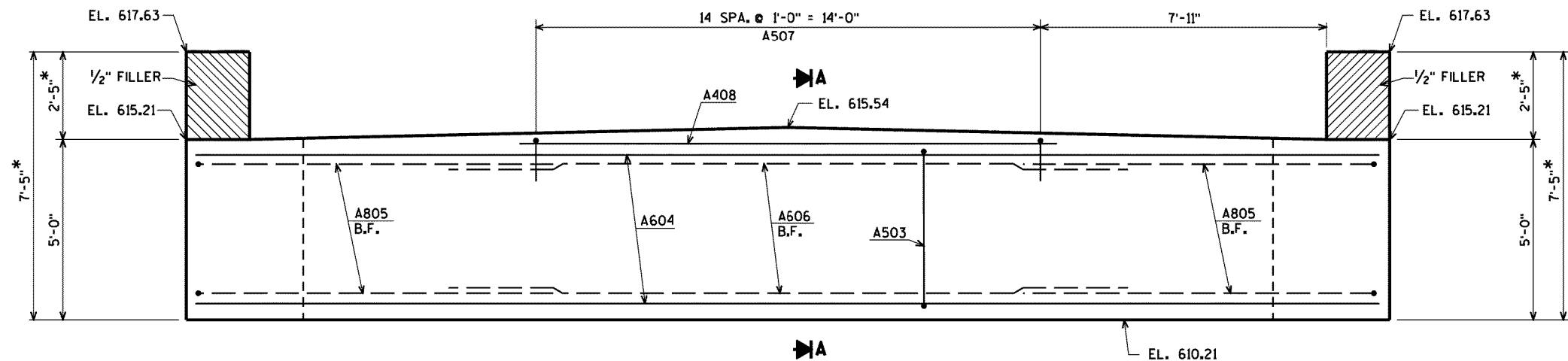
SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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.

8

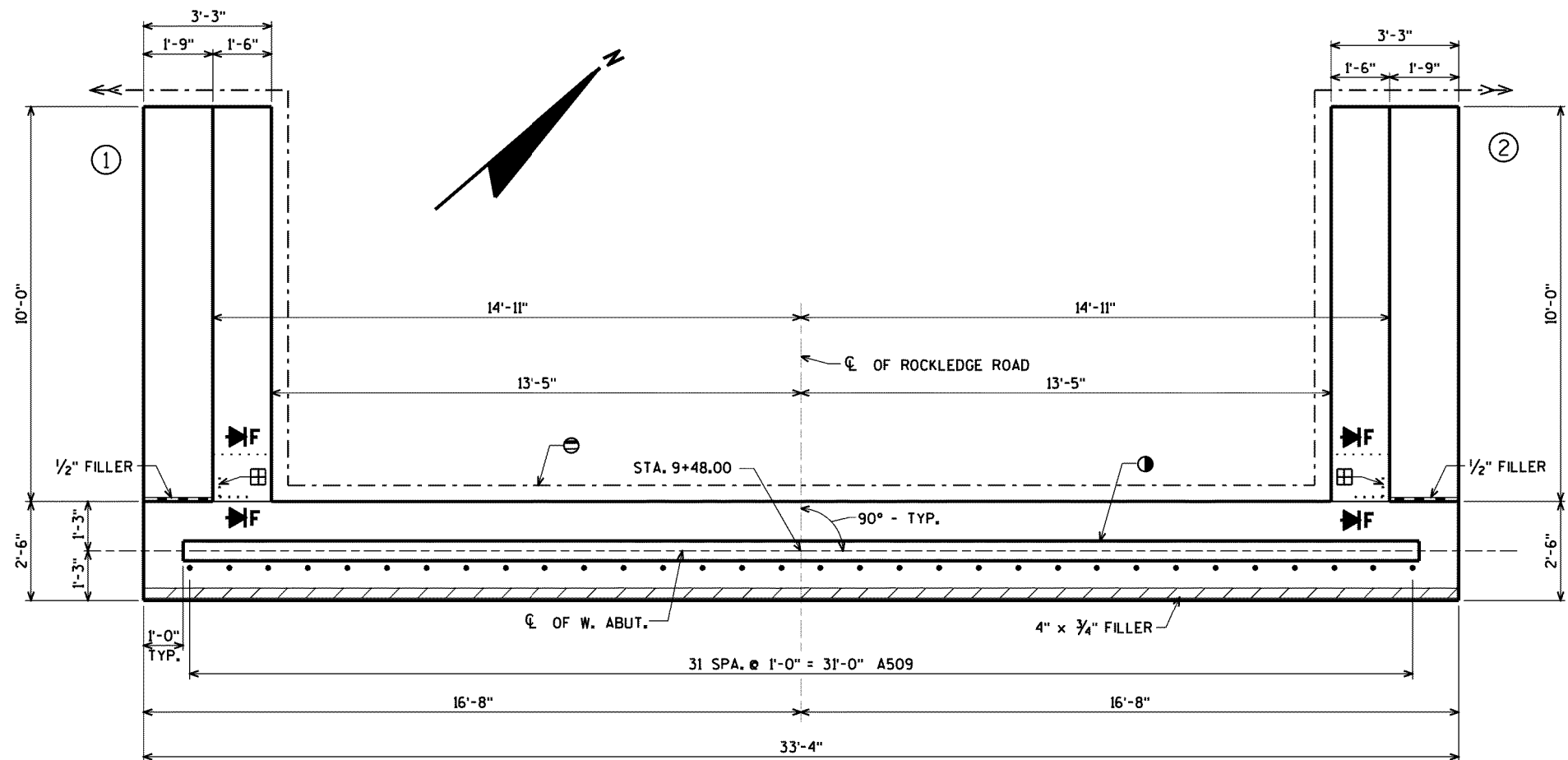
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-252			
DRAWN BY ZSS		PLANS CK'D. AEB	
SUBSURFACE EXPLORATION		SHEET 4 OF 17	

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).

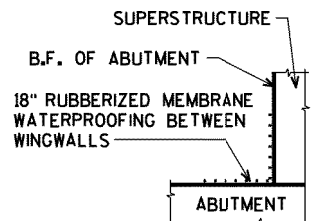


ELEVATION
(LOOKING WEST)

* MEASURED AT FRONT FACE OF SUBSTRUCTURE UNIT.



PLAN



SECTION F

FOR SECTION A SEE SHEET 6.

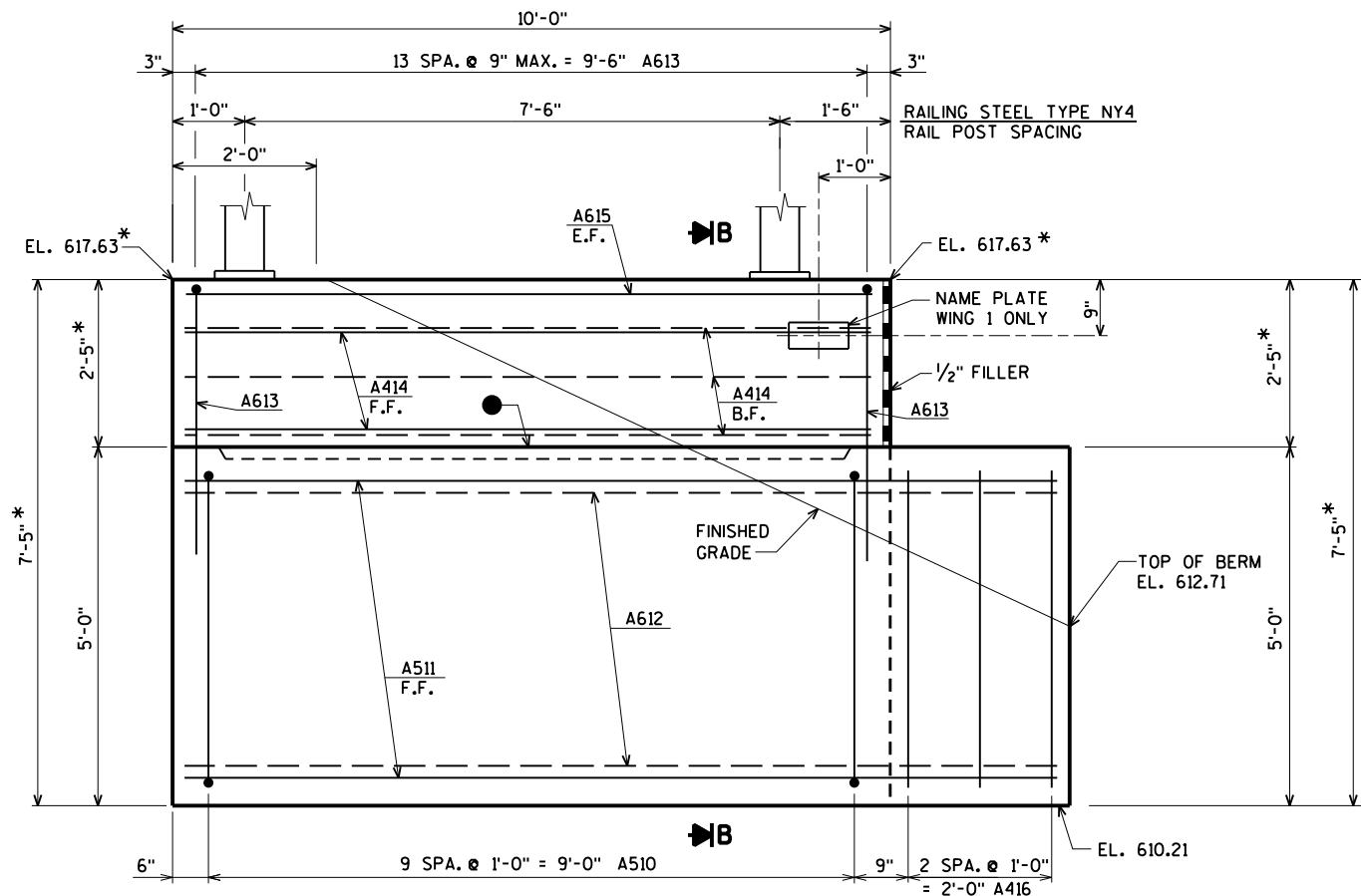
● PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2. RODENT SHIELD TO BE INCIDENTAL TO BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

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

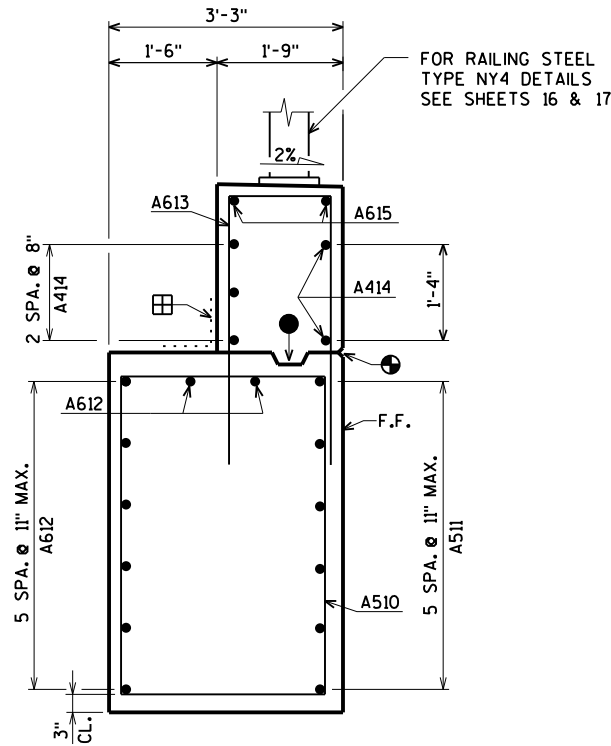
⊞ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WINGWALL.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-252			
DRAWN BY		CLP	PLANS CK'D. AEB
WEST ABUTMENT		SHEET 5 OF 17	

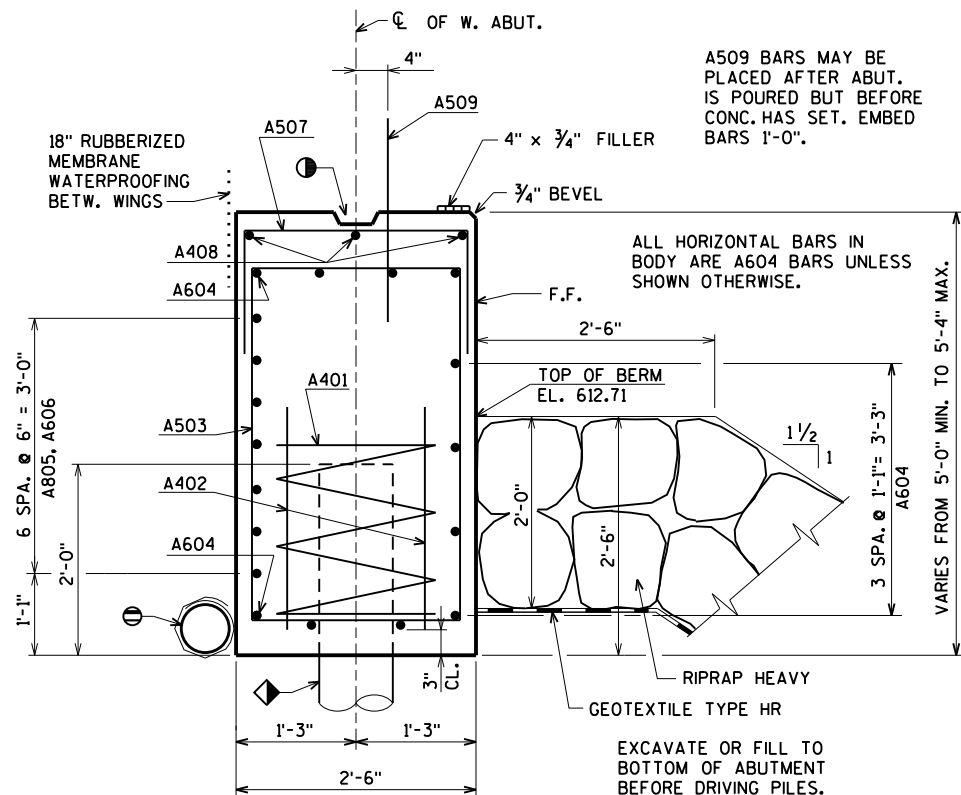
ORIGINAL PLANS PREPARED BY
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com



ELEVATION - WING 1
(WING 1 SHOWN, WING 2 SIMILAR)



SECTION B



SECTION A

* MEASURED AT FRONT FACE OF SUBSTRUCTURE UNIT.

FOR LOCATION OF SECTION A SEE SHEET 5.

PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2. RODENT SHIELD TO BE INCIDENTAL TO BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

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

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.

FOR PILE SPLICE DETAIL SEE SHEET 3.

ABUTMENT TO BE SUPPORTED ON 12 3/4" DIA. x 0.25" CIP CONCRETE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 135 TONS PER PILE. ESTIMATED LENGTH 40'-0".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-252			
DRAWN BY		CLP	PLANS CK'D. AEB
WEST ABUTMENT DETAILS			SHEET 6 OF 17

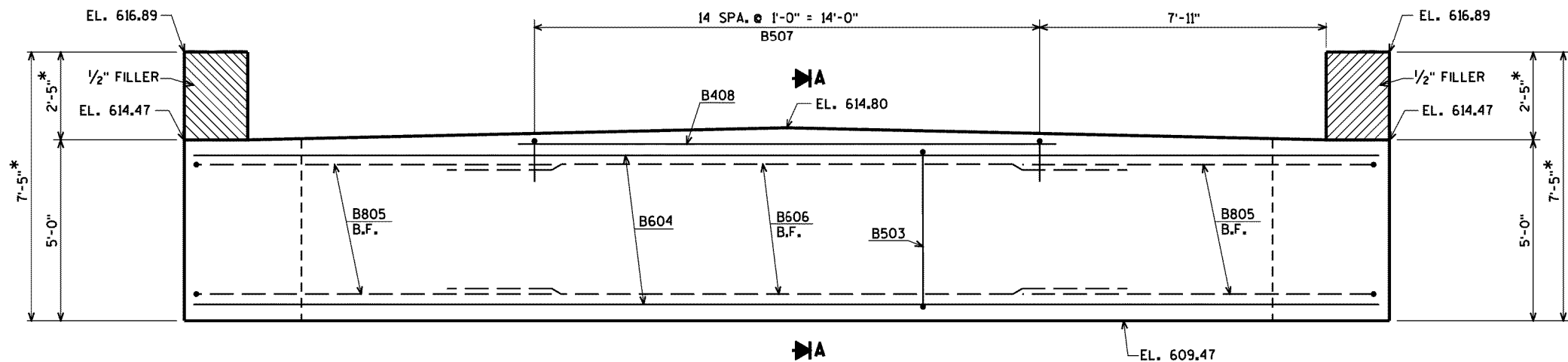
ORIGINAL PLANS PREPARED BY
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	
							LOCATION
A401		5	28-0	X			BODY @ PILES
A402		10	2-3				BODY @ PILES
A503		42	14-2	X			BODY VERT.
A604		11	33-0				BODY HORIZ.
A805		14	10-11	X			BODY HORIZ. @ WINGS 1 & 2 B.F.
A606		7	18-10				BODY HORIZ. BTWN WINGS 1 & 2 B.F.
A507		15	4-7	X			BODY VERT. TOP
A408		3	14-11				BODY HORIZ. TOP
A509		32	2-0				BODY DOWELS
A510	X	20	15-8	X			WINGS 1 & 2 VERT.
A511	X	12	12-2				WINGS 1 & 2 HORIZ. F.F.
A612	X	16	12-2				WINGS 1 & 2 HORIZ.
A613	X	28	9-9	X			WINGS 1 & 2 VERT.
A414	X	10	9-7				WINGS 1 & 2 HORIZ. E.F.
A615	X	4	9-7				WINGS 1 & 2 HORIZ. TOP E.F.
A416	X	6	4-7				BODY VERT. END @ WINGS 1 & 2

[illegible]

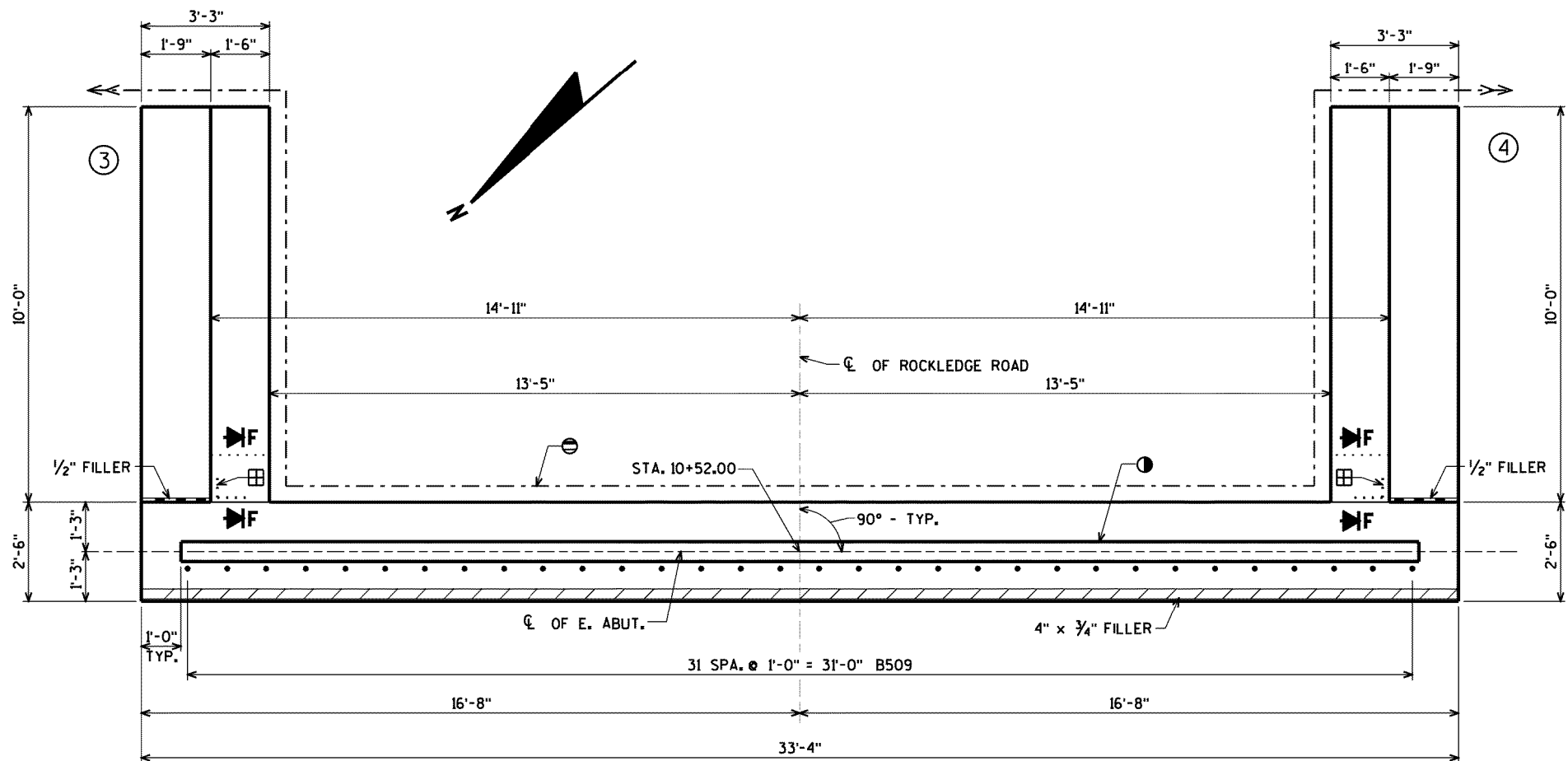
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-252			
	DRAWN BY	CLP	PLANS CK'D. AEB
WEST ABUTMENT PILE LAYOUT & BILL OF BARS		SHEET 7 OF 17	

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).

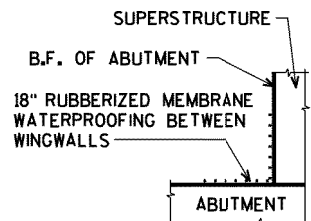


ELEVATION
(LOOKING EAST)

* MEASURED AT FRONT FACE OF SUBSTRUCTURE UNIT.



PLAN



SECTION F

FOR SECTION A SEE SHEET 9.

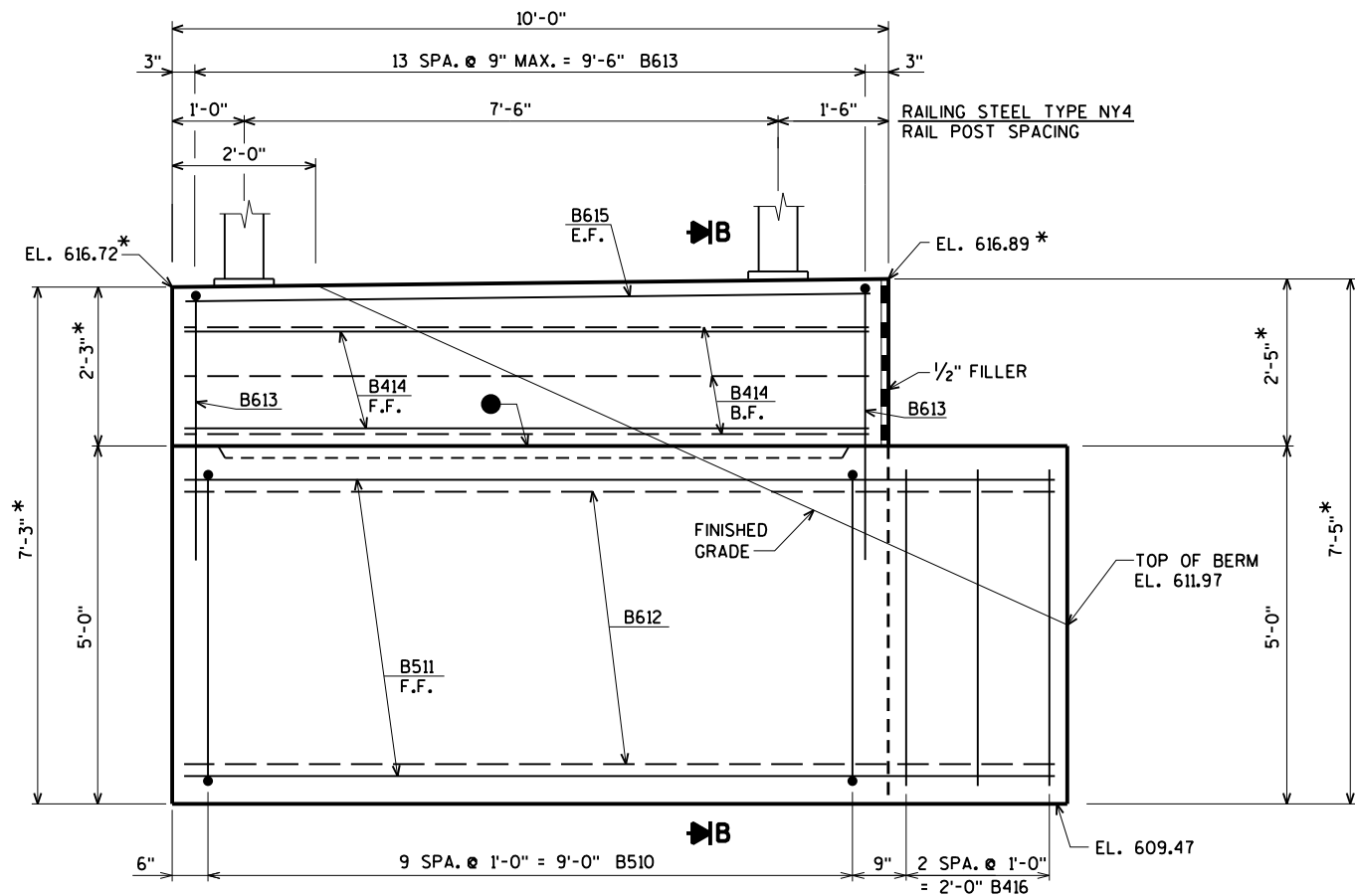
● PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2. RODENT SHIELD TO BE INCIDENTAL TO BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

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

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

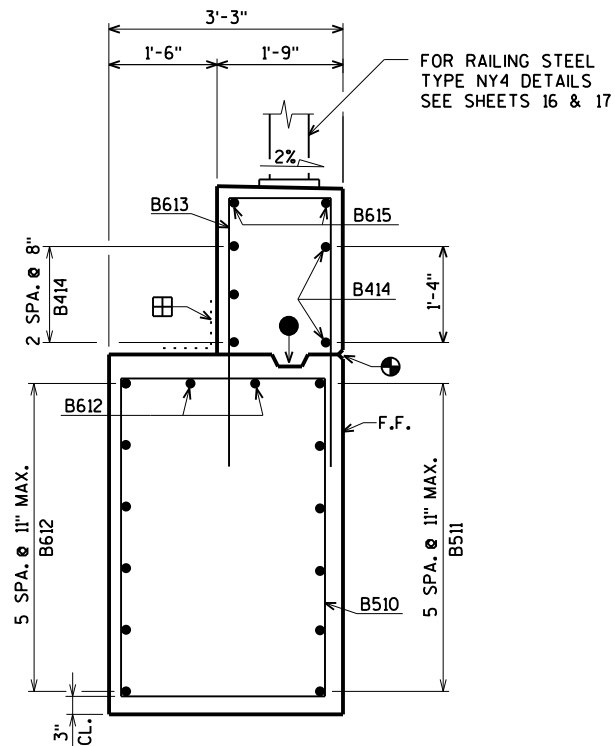
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-252			
DRAWN BY		CLP	PLANS CK'D. AEB
EAST ABUTMENT		SHEET 8 OF 17	

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

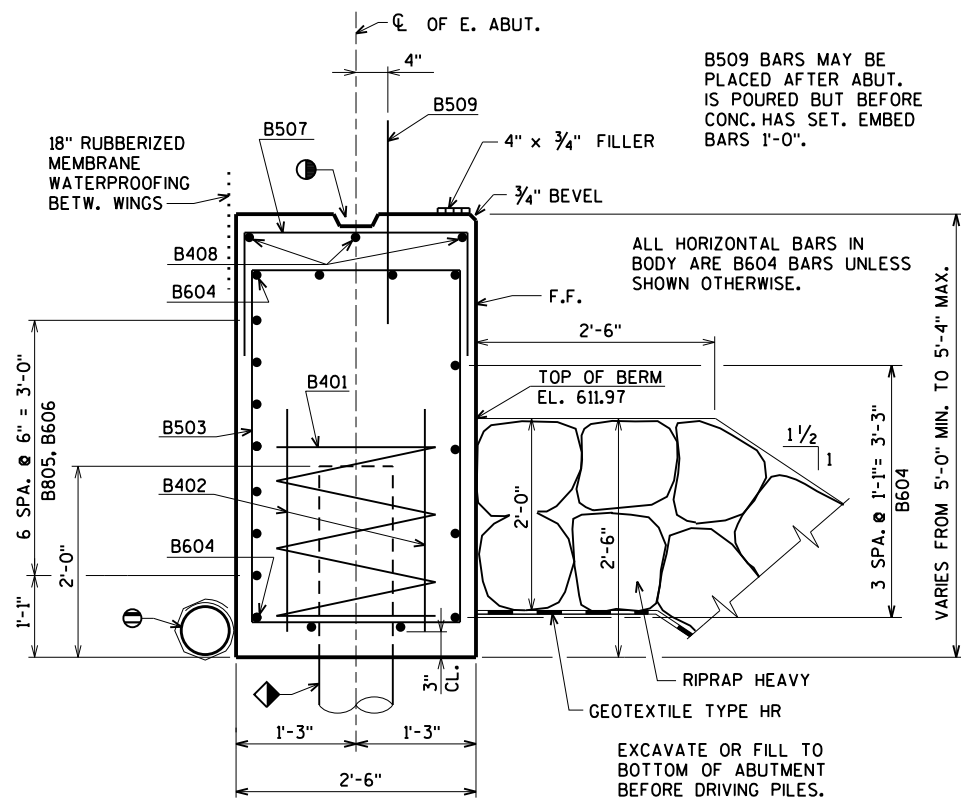


ELEVATION - WING 3

(WING 3 SHOWN, WING 4 SIMILAR)



SECTION B



SECTION A

* MEASURED AT FRONT FACE OF SUBSTRUCTURE UNIT.

FOR LOCATION OF SECTION A SEE SHEET 8.

PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2. RODENT SHIELD TO BE INCIDENTAL TO BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

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

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.

FOR PILE SPLICE DETAIL SEE SHEET 3.

ABUTMENT TO BE SUPPORTED ON 12 3/4" DIA. x 0.25" CIP CONCRETE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 150 TONS PER PILE. ESTIMATED LENGTH 60'-0".

NO.	DATE	REVISION	BY
-----	------	----------	----

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-252

DRAWN BY CLP PLANS CK'D. AEB

EAST
ABUTMENT
DETAILS

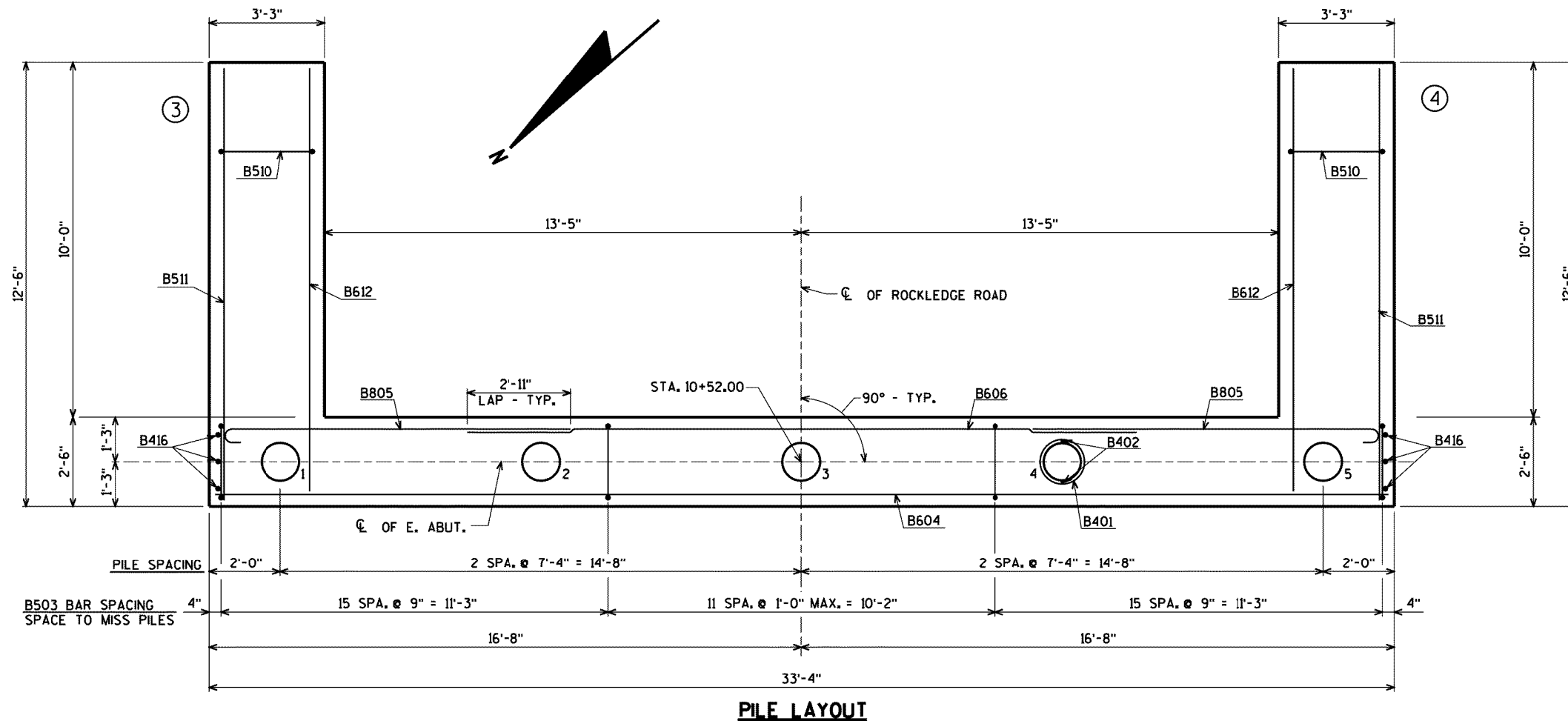
SHEET 9 OF 17

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

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	LOCATION
B401		5	28-0	X			BODY @ PILES
B402		10	2-3				BODY @ PILES
B503		42	14-2	X			BODY VERT.
B604		11	33-0				BODY HORIZ.
B805		14	10-11	X			BODY HORIZ. @ WINGS 3 & 4 B.F.
B606		7	18-10				BODY HORIZ. BTWN WINGS 3 & 4 B.F.
B507		15	4-7	X			BODY VERT. TOP
B408		3	14-11				BODY HORIZ. TOP
B509		32	2-0				BODY DOWELS
B510	X	20	15-8	X			WINGS 3 & 4 VERT.
B511	X	12	12-2				WINGS 3 & 4 HORIZ. F.F.
B612	X	16	12-2				WINGS 3 & 4 HORIZ.
B613	X	28	9-9	X			WINGS 3 & 4 VERT.
B414	X	10	9-7				WINGS 3 & 4 HORIZ. E.F.
B615	X	4	9-7				WINGS 3 & 4 HORIZ. TOP E.F.
B416	X	6	4-7				BODY VERT. END @ WINGS 3 & 4

The image contains four technical drawings of reinforcement bars, each with specific dimensions and hook details:

- B401:** A vertical bar with a circular top section and a wavy bottom section. The total height is 2'-0". The width of the top section is 1'-9". The wavy section has a height of 6".
- B503:** A vertical bar with a rectangular top section and a wavy bottom section. The total height is 4'-7". The width of the top section is 2'-2". The wavy section has a height of 4'-7". The bottom section has a width of 5 1/2".
- B510:** A vertical bar with a rectangular top section and a wavy bottom section. The total height is 4'-7". The width of the top section is 2'-11". The wavy section has a height of 4'-7". The bottom section has a width of 5 1/2".
- B805:** A horizontal bar with a 180-degree hook. The total length is 10'-0". The hook has a radius of 1'-2". The bar has a width of 4'-5".



PILE LAYOUT

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-252			
	DRAWN BY	CLP	PLANS CK'D. AEB
EAST ABUTMENT PILE LAYOUT & BILL OF BARS		SHEET 10 OF 17	

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	LOCATION
P501		66	12-1				COLUMN VERT. E.F.
P402		26	29-10				COLUMN HORIZ.
P403		26	6-1	X			COLUMN HORIZ. @ ENDS
P404		108	2-10	X			COLUMN TIES
P505		16	4-7	X			COLUMN VERT. @ TOP
P506	X	30	2-0				COLUMN DOWELS

This diagram shows the elevation view of a bridge deck. The top profile is a parabola with a maximum camber of 1.16 inches at the center. The deck is 12 feet wide, with 11 vertical reinforcement bars (P402, P403, P404) spaced at 1 foot on center. The reinforcement is provided in three layers: top (P404), middle (P403), and bottom (P402). The deck is supported by two 12-inch wide abutments. The elevation is marked as EL. 615.84 at the abutment tops and EL. 616.16 at the center of the deck. The reinforcement is labeled P402, P403, and P404. The deck is 12 feet wide, with 11 vertical reinforcement bars (P402, P403, P404) spaced at 1 foot on center. The reinforcement is provided in three layers: top (P404), middle (P403), and bottom (P402). The deck is supported by two 12-inch wide abutments. The elevation is marked as EL. 615.84 at the abutment tops and EL. 616.16 at the center of the deck. The reinforcement is labeled P402, P403, and P404.

PIER TO BE SUPPORTED ON
12 $\frac{3}{4}$ " DIA. x 0.25" CIP CONCRETE PILING
DRIVEN TO A REQ'D. DRIVING
RESISTANCE OF 150 TONS PER PILE
ESTIMATED LENGTH 50'-0".

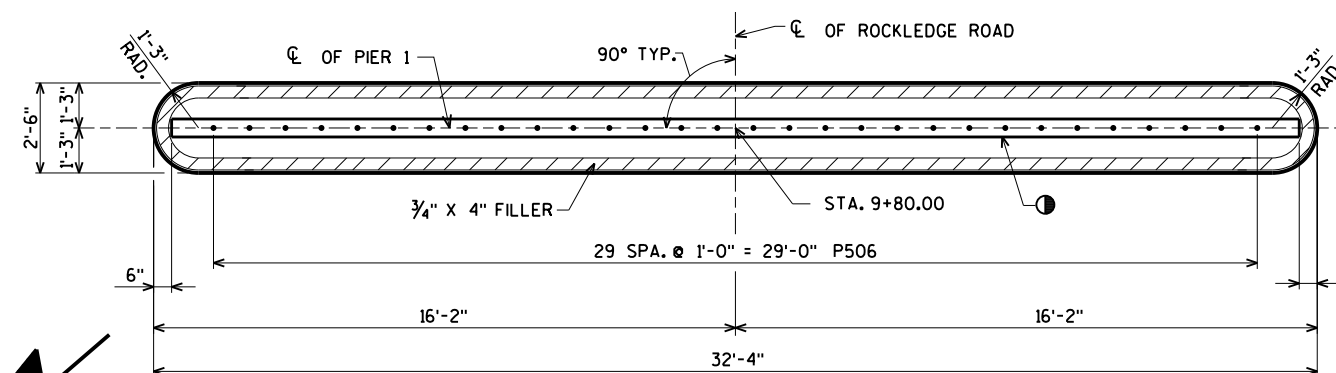
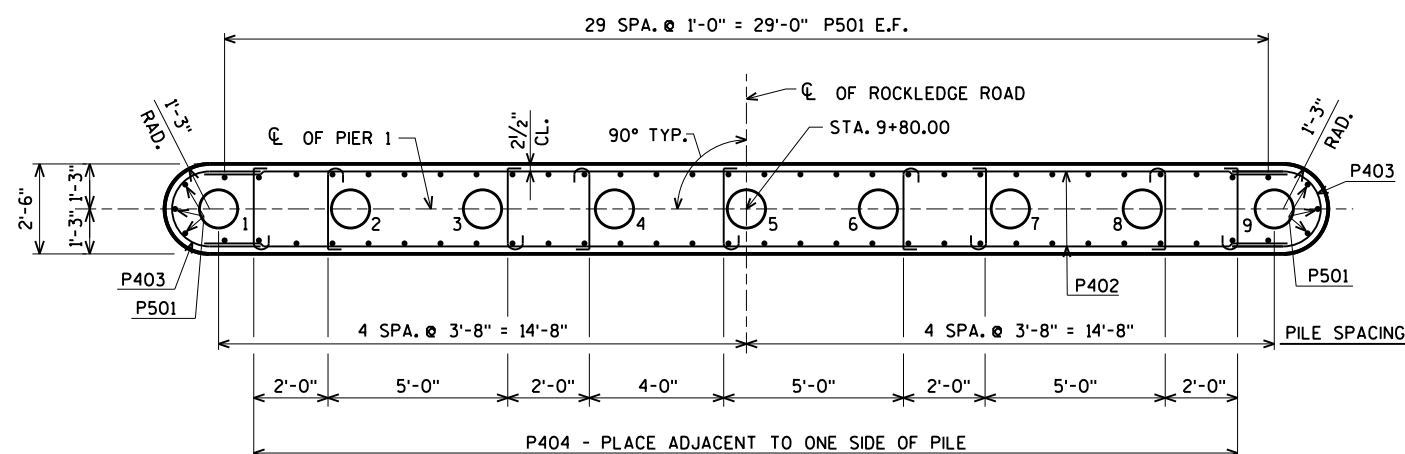
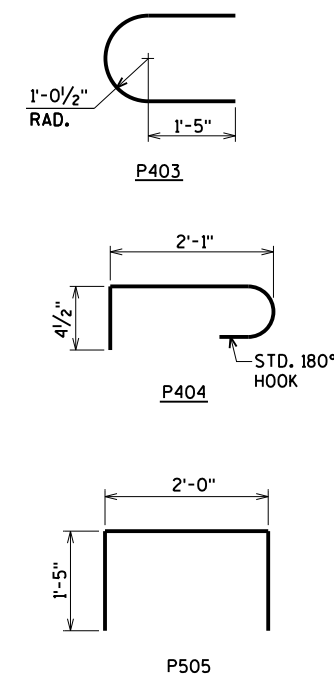


Diagram illustrating the elevation view of Pier 1, showing dimensions and reinforcement details:

- Overall width: 2'-6"
- Width segments: 1'-3" (left), 1'-3" (right)
- Reinforcement: P506 (top), P505 (middle), P501 (bottom), P404 (right side), P402 (left side)
- Top of pile: EL. 613.32
- Vertical dimension: VARIES 13'-1 7/8" MAX. TO 12'-9 7/8" MIN.
- Bottom dimension: 6" CL.
- Core dimension: 3/4" X 4" FILLER
- Centerline: CL. OF PIER 1

P506 BARS MAY BE
PLACED AFTER PIER
IS POURED BUT BEFORE
CONC. HAS SET. IMBED
BARS 1'-0".



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

FOR PILE SPLICE DETAIL SEE SHEET 3.

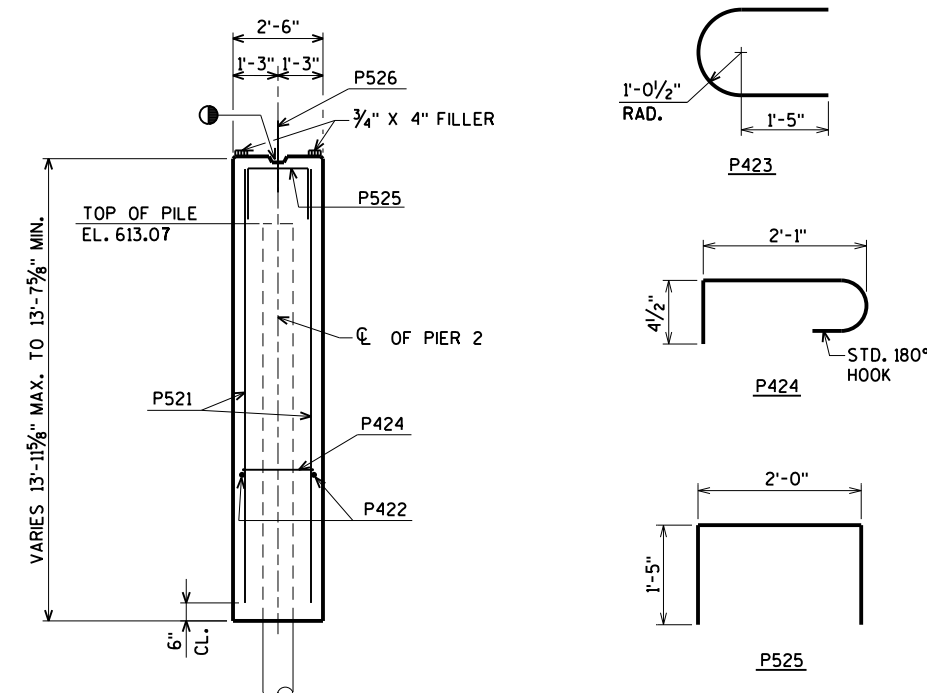
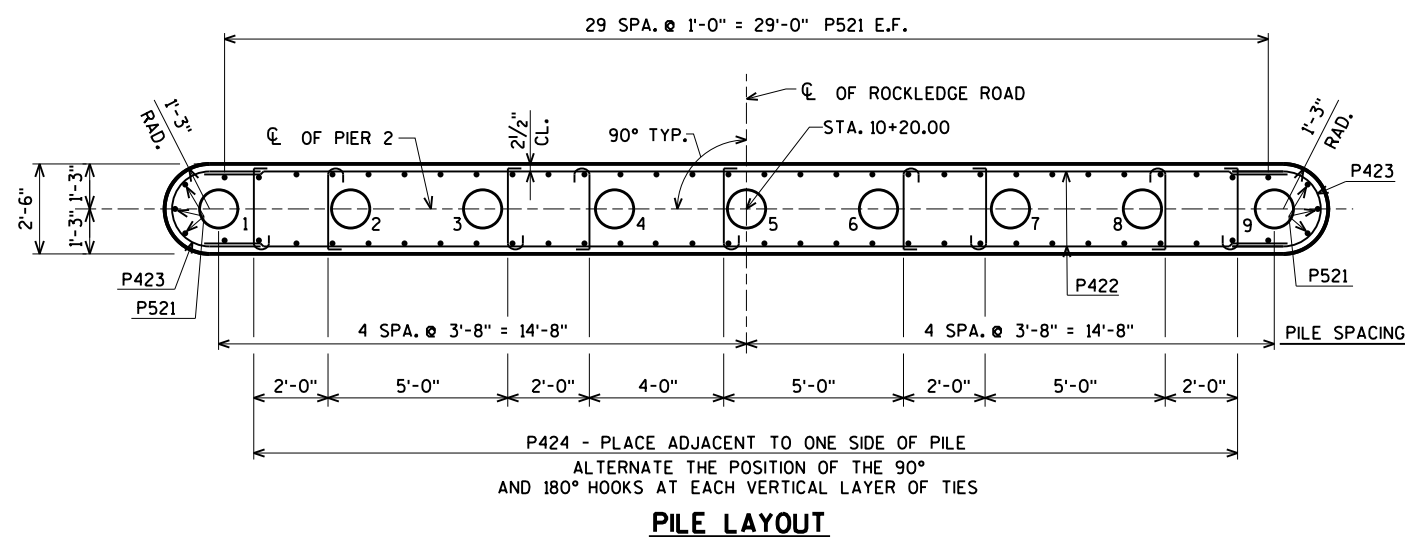
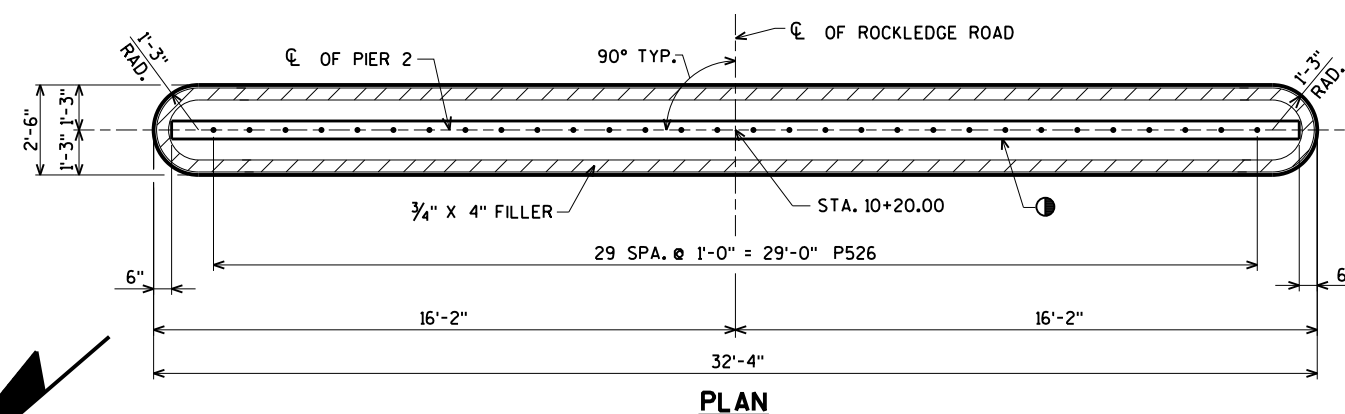
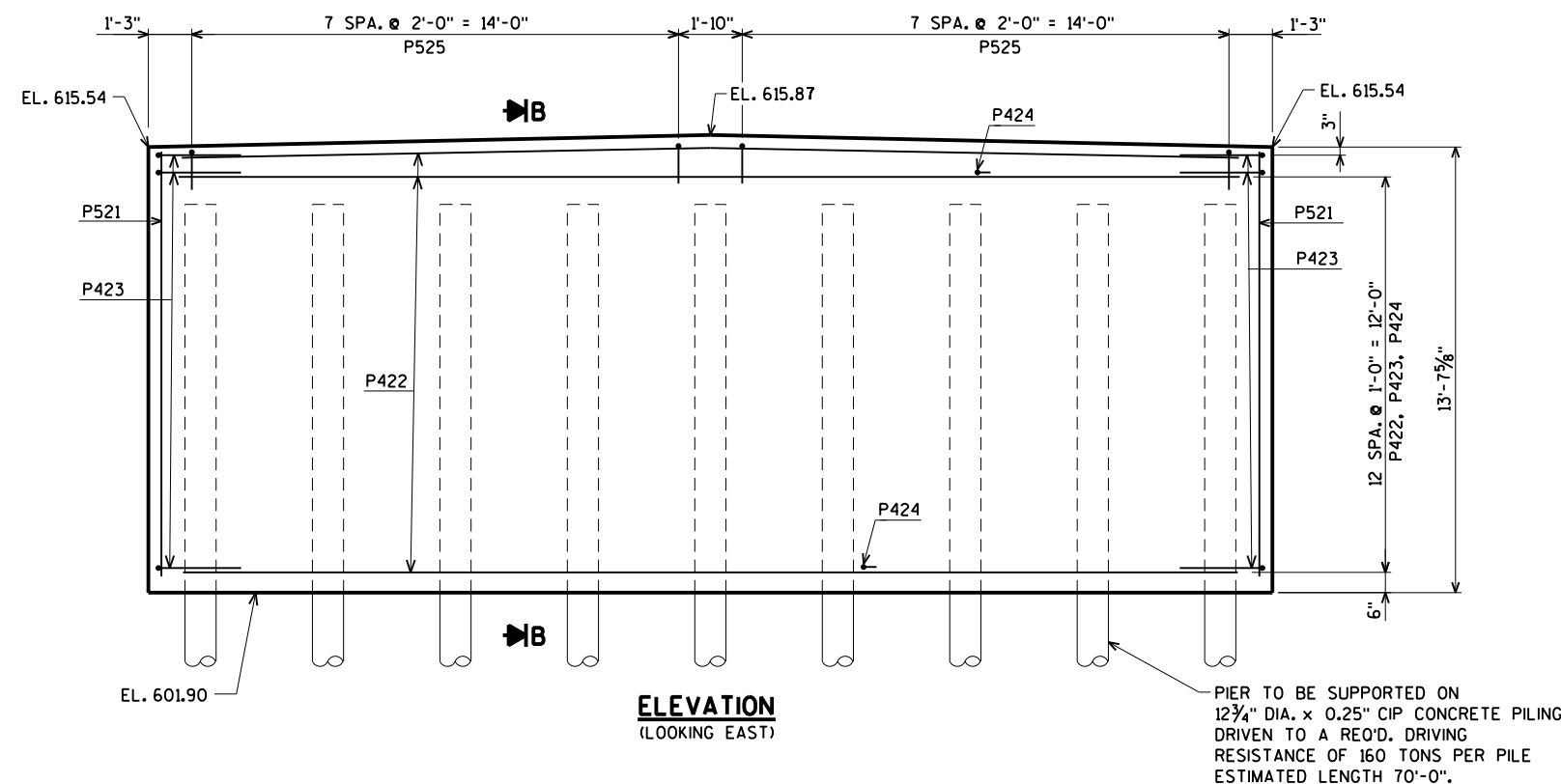
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-252			
DRAWN BY		CLP	PLANS CK'D. AEE
PIER 1			SHEET 11 OF 17

AYRES

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

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	LOCATION
P521		66	12-11				COLUMN VERT. E.F.
P422		28	29-10				COLUMN HORIZ.
P423		28	6-1	X			COLUMN HORIZ. @ ENDS
P424		117	2-10	X			COLUMN TIES
P525		16	4-7	X			COLUMN VERT. @ TOP
P526	X	30	2-0				COLUMN DOWELS

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



SECTION B

P526 BARS MAY BE
PLACED AFTER PIER
IS POURED BUT BEFORE
CONC. HAS SET. IMBED
BARS 1'-0".

① KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

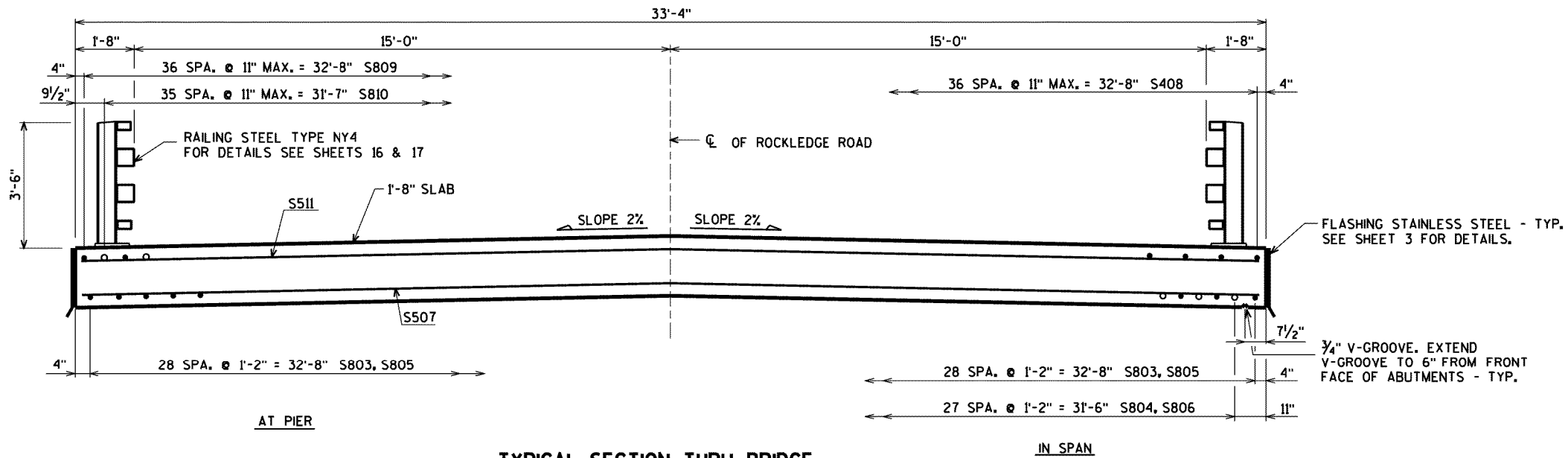
FOR PILE SPLICE DETAIL SEE SHEET 3.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-252			
DRAWN BY		CLP	PLANS CK'D. AEE
PIER 2		SHEET 12 OF 1	

4/15/2024
PENTABLE:BReou_shd_util.tbl

STATE PROJECT NUMBER

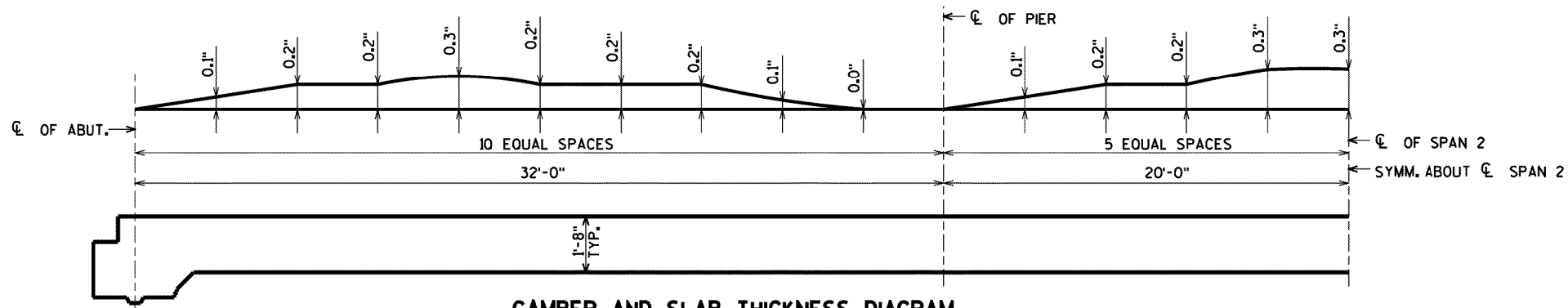
4312-09-71



TYPICAL SECTION THRU BRIDGE

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 (+).



CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTION.

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

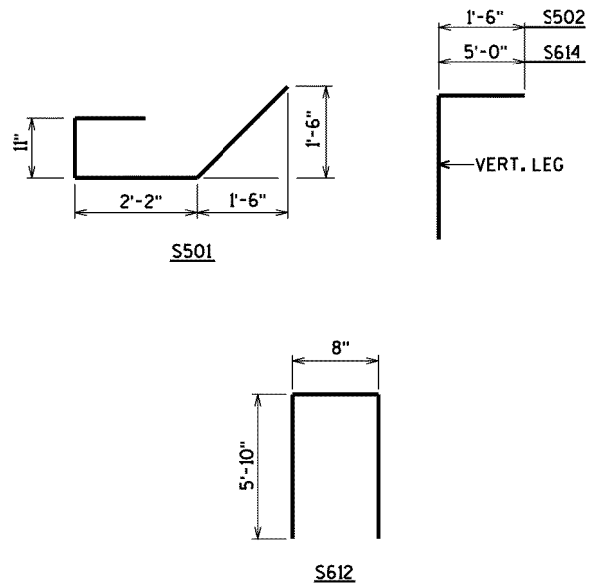
TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR REFERENCE LINE, FOLLOW THIS PROCEDURE:

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

BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	LOCATION
S501	X	68	6-5	X			SLAB VERT. @ ABUT.
S502	X	68	3-5	X			SLAB VERT. @ ABUT.
S803	X	58	35-8				SLAB LONG. BOT. @ PIERS & SPANS 1 & 3
S804	X	56	22-2				SLAB LONG. BOT. SPANS 1 & 3
S805	X	29	45-1				SLAB LONG. BOT. @ PIERS & SPAN 2
S806	X	28	24-8				SLAB LONG. BOT. SPAN 2
S507	X	111	33-0				SLAB TRANS. BOT.
S408	X	74	10-9				SLAB LONG. TOP SPANS 1 & 3
S809	X	74	32-3				SLAB LONG. TOP @ PIERS AND SPANS
S810	X	72	30-9				SLAB LONG. TOP @ PIERS AND SPANS
S511	X	107	33-0				SLAB TRANS. TOP
S612	X	64	12-0	X			SLAB @ RAIL POSTS
S613	X	112	6-0				SLAB @ INT. RAIL POSTS
S614	X	16	6-0	X			SLAB @ END RAIL POSTS

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

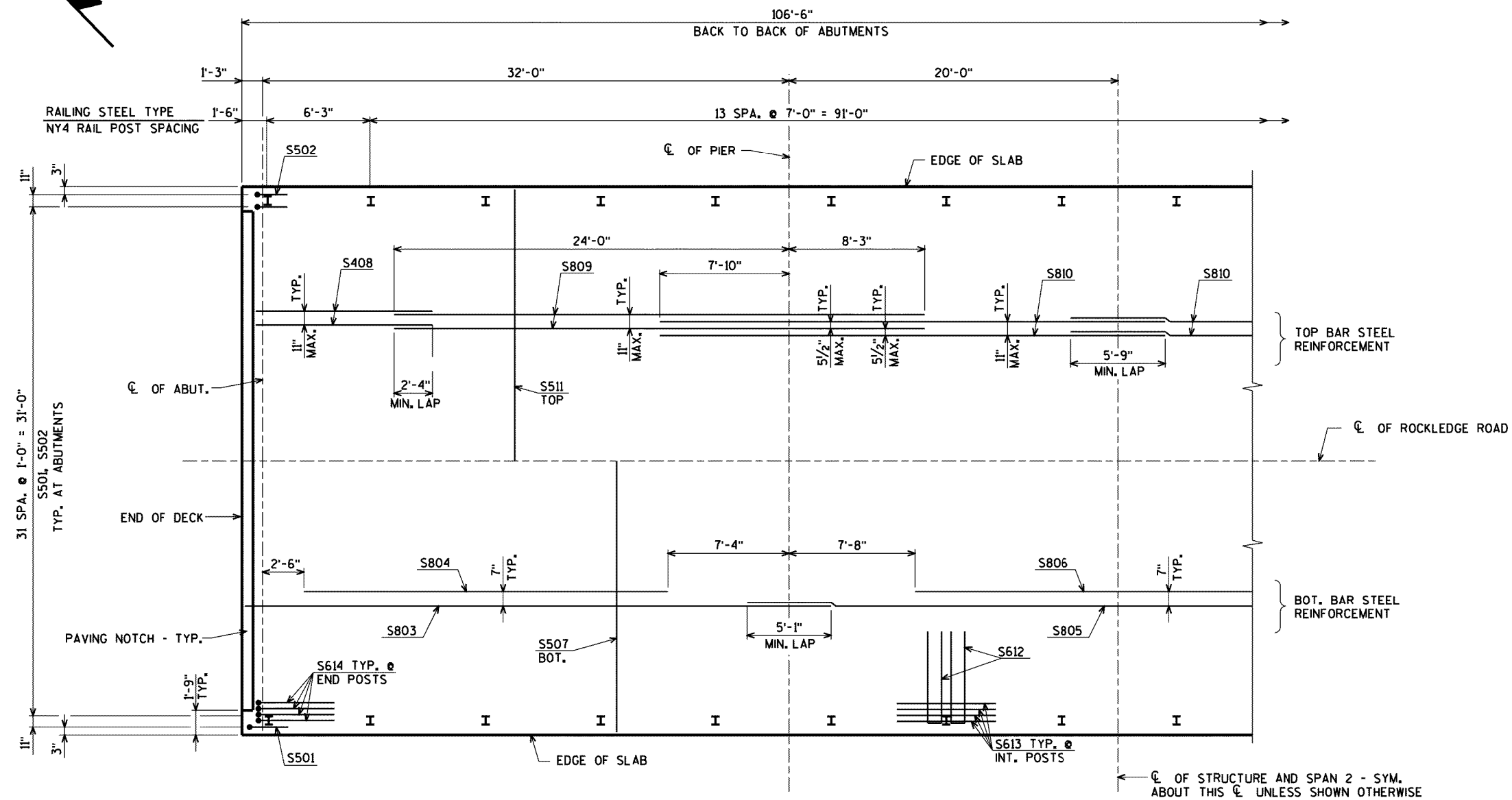


8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-252			
DRAWN BY		CLP	PLANS CK'D. AEB
SUPERSTRUCTURE			SHEET 13 OF 17

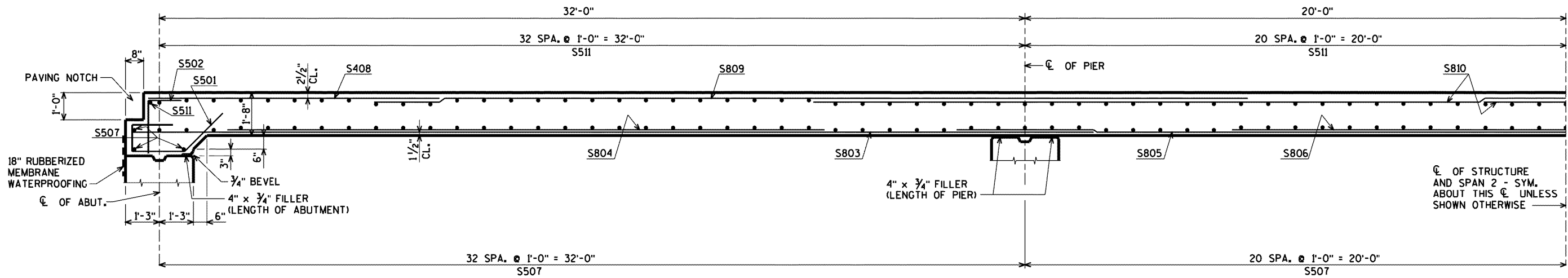
ORIGINAL PLANS PREPARED BY
AYRES 3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com



PART PLAN

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-252			
DRAWN BY	CLP	PLANS CK'D.	AEB
SUPERSTRUCTURE PLAN			SHEET 14 OF 17

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



PART LONGITUDINAL SECTION

TOP OF DECK ELEVATIONS

ELEVATIONS SHOWN ARE FINISHED DECK 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 1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ OF PIER 2
N. EDGE OF SLAB	617.63	617.63	617.62	617.62	617.61	617.61	617.60	617.59	617.58	617.57	617.55	617.53	617.51	617.49	617.46	617.44	617.41	617.38	617.34	617.31	617.27
℄ OF STRUCTURE	617.96	617.96	617.96	617.95	617.95	617.94	617.93	617.92	617.91	617.90	617.89	617.87	617.85	617.82	617.80	617.77	617.74	617.71	617.68	617.64	617.60
S. EDGE OF SLAB	617.63	617.63	617.62	617.62	617.61	617.61	617.60	617.59	617.58	617.57	617.55	617.53	617.51	617.49	617.46	617.44	617.41	617.38	617.34	617.31	617.27

LOCATION	℄ OF PIER 2	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	617.27	617.24	617.20	617.17	617.13	617.09	617.06	617.02	616.97	616.93	616.89
℄ OF STRUCTURE	617.60	617.57	617.54	617.50	617.47	617.43	617.39	617.35	617.31	617.26	617.22
S. EDGE OF SLAB	617.27	617.24	617.20	617.17	617.13	617.09	617.06	617.02	616.97	616.93	616.89

SURVEY TOP OF SLAB ELEVATIONS

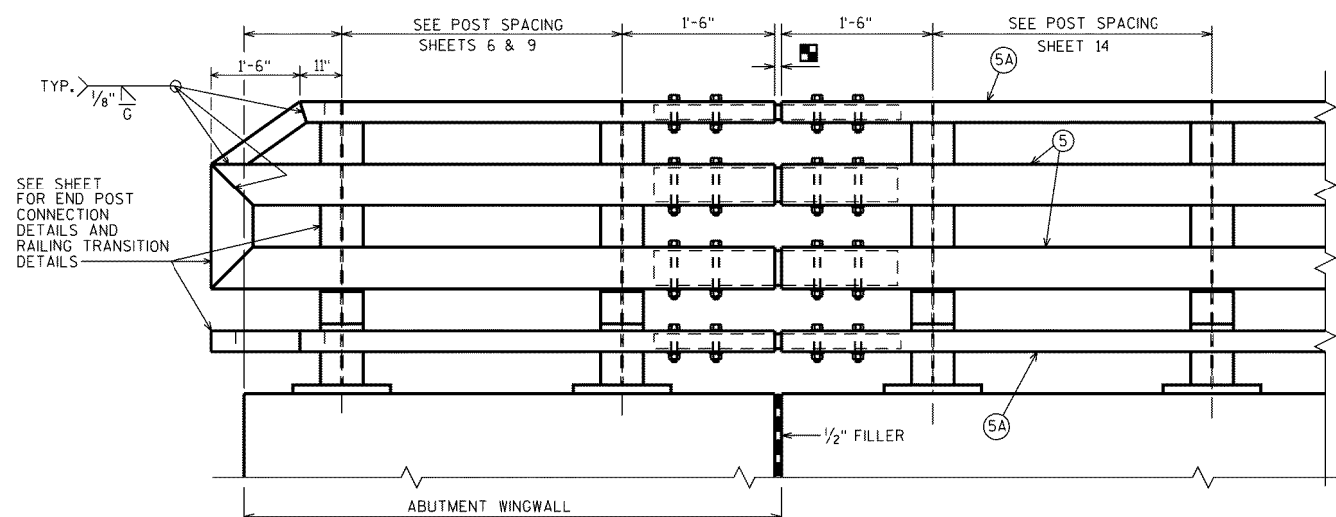
LOCATION	℄ OF W. ABUT.	5/10 PT. SPAN 1	℄ OF PIER 1	5/10 PT. SPAN 2	℄ OF PIER 2	5/10 PT. SPAN 3	℄ OF E. ABUT.
NORTH EDGE OF SLAB							
℄ OF STRUCTURE							
SOUTH EDGE OF SLAB							

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

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-252			
DRAWN BY		CLP	PLANS CK'D. AEB
SUPERSTRUCTURE DETAILS			SHEET 15 OF 17

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

WORK THIS SHEET WITH "END POST FOR RAILING TYPE NY4" SHEET.



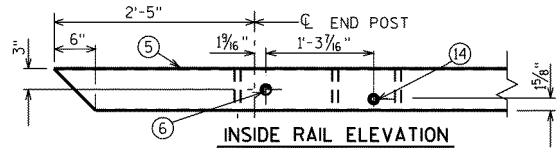
LEGEND

- 1 W6 X 25 WITH 1/8" X 1 3/8" 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 ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- 2 PLATE 1/2" X 10" X 1'-2". SEE SHEET "TUBULAR STEEL RAILING NY4" FOR MORE INFORMATION.
- 5 TS 6 X 6 X 3/8" STRUCTURAL TUBING. USE 7/8" 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.
- 5A 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 3/8" HORIZONTAL SLOTTED HOLES FOR BOLT NO. 6 IN BOTTOM RAIL (FRONT & BACK) AND A 2" O.D. WASHER UNDER BOLT HEAD.
- 6 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH HEX NUT, 3/16" X 1 3/4" X 1 3/4" 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).
- 11 TS 6 X 6 X 3/8" STRUCTURAL TUBING. USE 1" DIA. HOLES IN FRONT AND BACK FOR BOLT NO. 14 & 7/8" DIA. HOLES IN TOP & BOTTOM FOR BOLT NO. 13.
- 12 L 6 X 6 X 1/2" STRUCTURAL ANGLE. USE 7/8" DIA. HOLES IN TOP FLANGE FOR BOLT NO. 13.
- 13 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.
- 14 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH HEX NUT AND 3/16" X 2" X 2" WASHER FOR CONNECTION OF THRIE BEAM (4 REQUIRED)

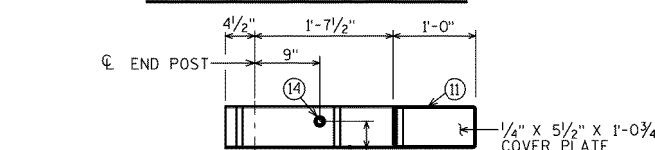
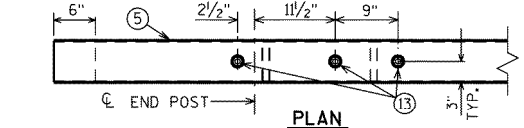
NOTES

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.

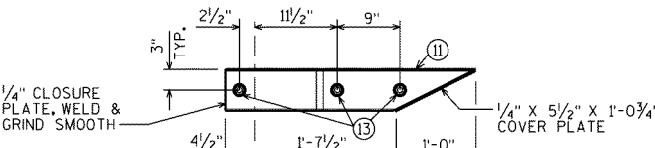
WORK THIS SHEET WITH "TUBULAR STEEL RAILING TYPE NY4" SHEET.



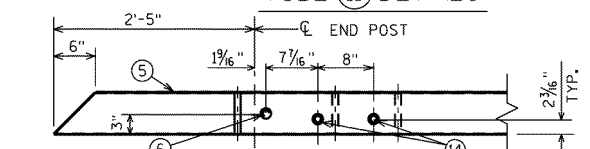
TOP RAIL 5 DETAILS



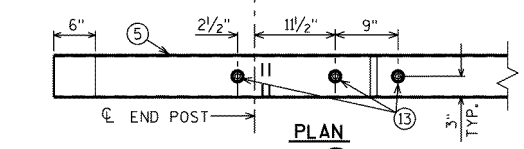
INSIDE RAIL ELEVATION



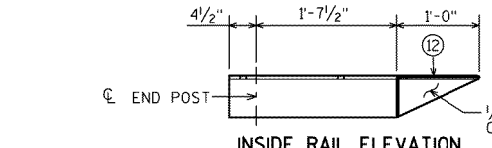
TUBE 11 DETAILS



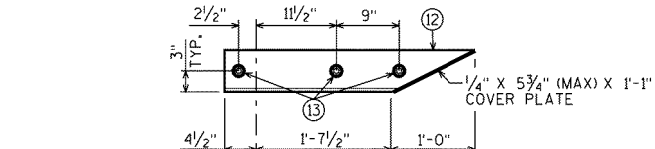
INSIDE RAIL ELEVATION



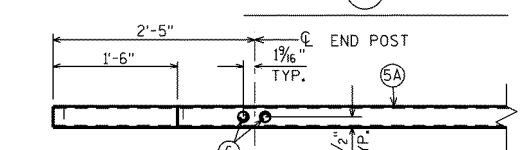
BOTTOM RAIL 5 DETAILS



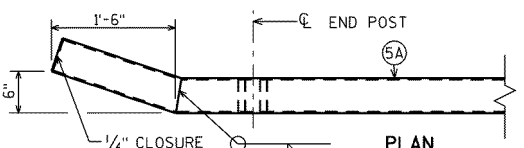
INSIDE RAIL ELEVATION



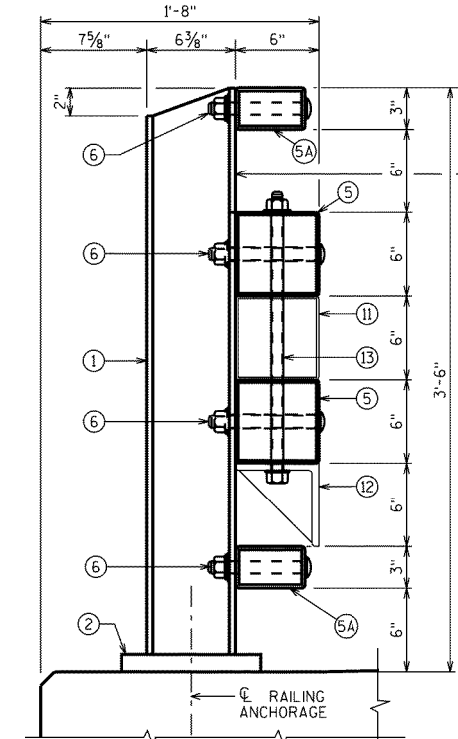
ANGLE 12 DETAILS



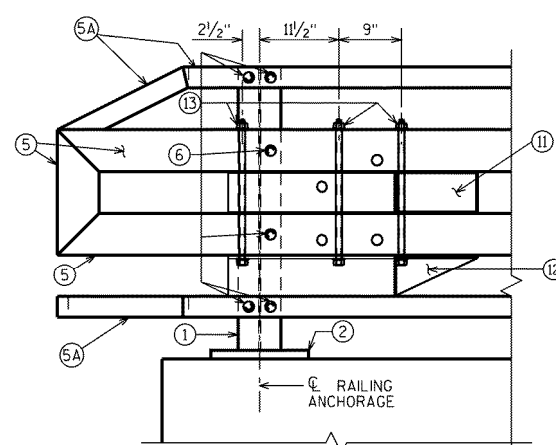
INSIDE RAIL ELEVATION



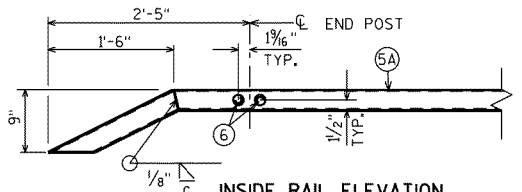
BOTTOM RAIL 5A DETAILS



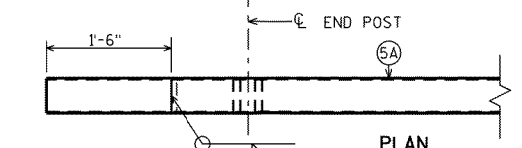
SECTION THRU RAILING END POST



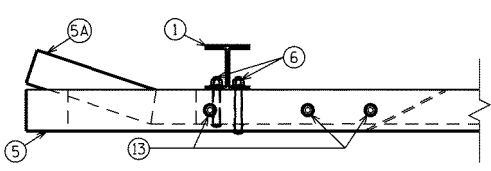
ELEVATION DETAIL AT END POST
INTERIOR ELEVATION



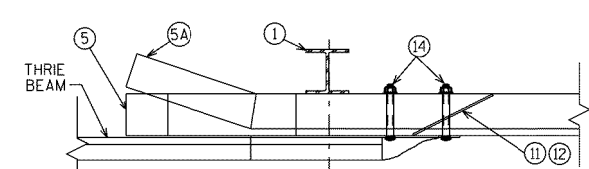
INSIDE RAIL ELEVATION



TOP RAIL 5A DETAILS



PLAN OF DETAIL AT END POST



PLAN OF DETAIL AT END POST
THRIE BEAM RAIL ATTACHMENT

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

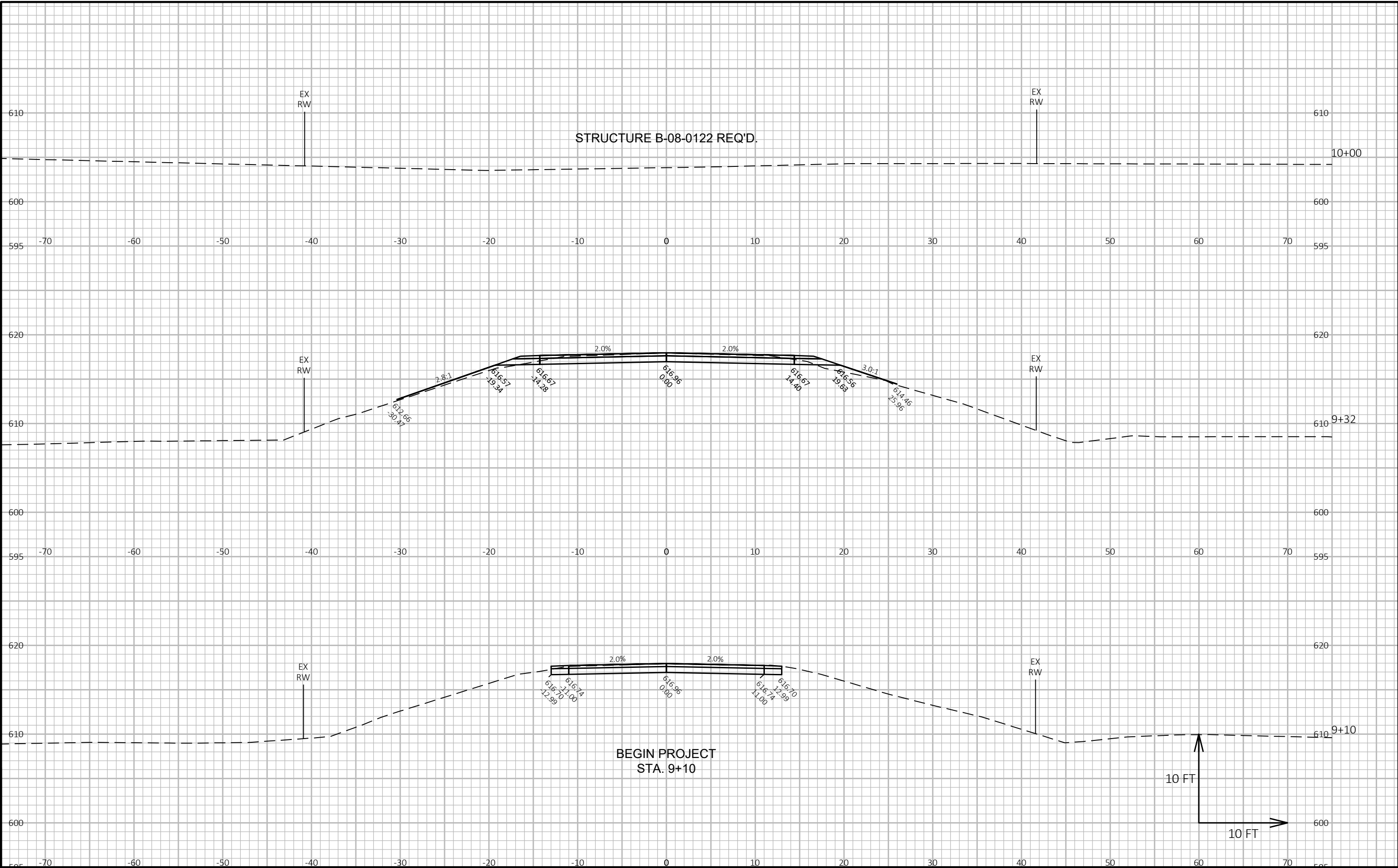
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-252			
DRAWN BY		CLP	PLANS CK'D. AEB
END POST FOR RAILING TYPE NY4			SHEET 17 OF 17

DIVISION - ROCKLEDGE RD.

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDNATE
					NOTE 1	NOTE 2	NOTE 3	NOTE 1	1.30	NOTE 8
9+10.00	0.00	24.74	7.67	0.00	0	0	0	0	0	0
9+36.75	26.75	26.39	8.33	3.82	25	8	2	25	3	14
9+46.75	10.00	26.39	9.00	3.82	10	3	1	35	4	20
B-36-0252										
10+53.25	0.00	29.63	9.00	22.50	0	0	0	35	4	20
10+63.25	10.00	29.63	8.33	22.50	11	3	8	46	14	18
10+85.00	21.75	26.09	7.67	0.00	22	6	9	68	26	22

682020

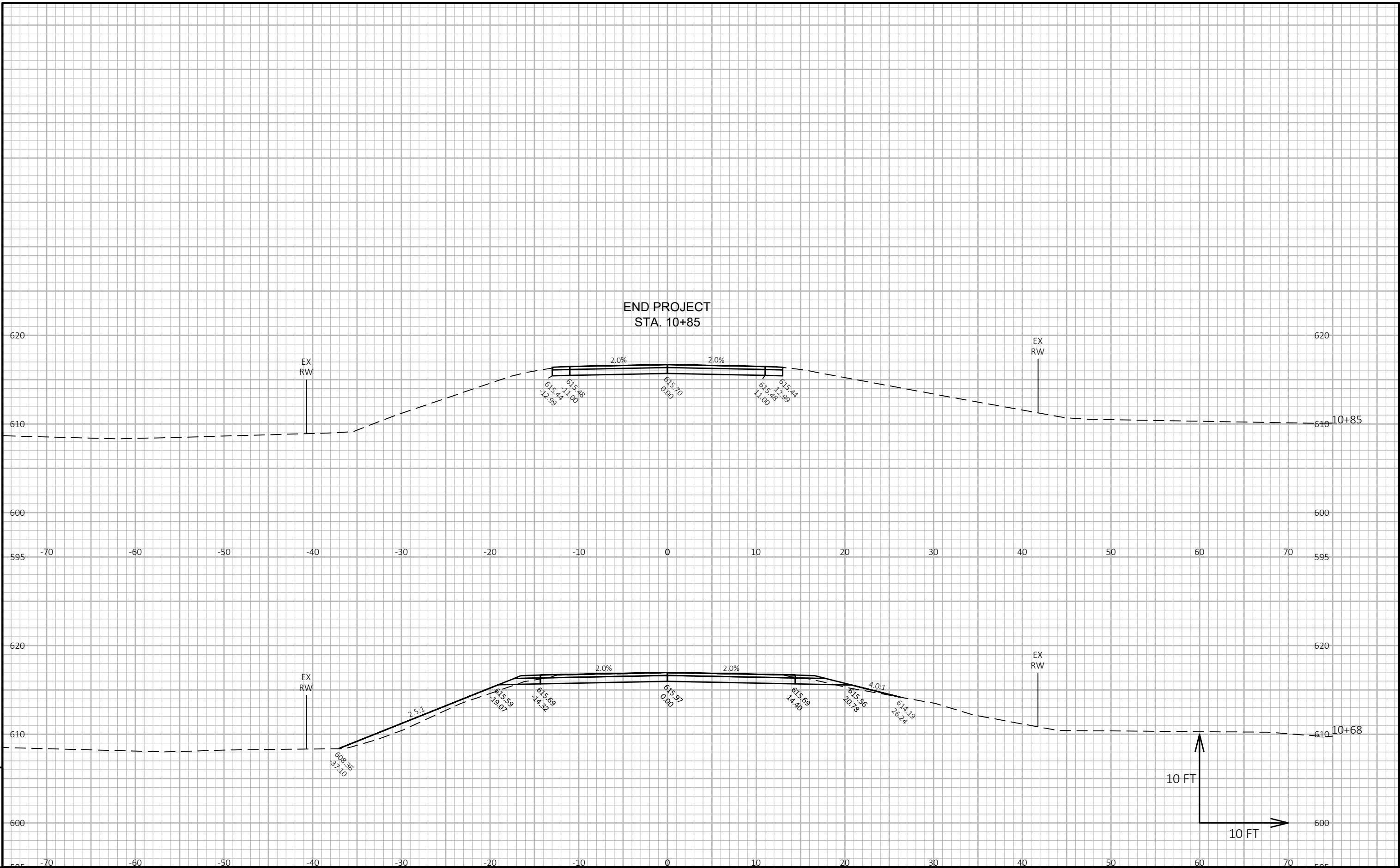
Notes:	
1 - Cut	Cut includes Salvaged/Unusable Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Exc volume
8 - Mass Ordinate	Cut - Unusable Pavement Material - (Fill * Fill Factor)



9

9

PROJECT NO: 4312-09-71	HWY: ROCKLEDGE ROAD	COUNTY: MANITOWOC	CROSS SECTIONS: ROCKLEDGE ROAD	SHEET	E
------------------------	---------------------	-------------------	--------------------------------	-------	---



PROJECT NO: 4312-09-71	HWY: ROCKLEDGE ROAD	COUNTY: MANITOWOC	CROSS SECTIONS: ROCKLEDGE ROAD	SHEET	E
------------------------	---------------------	-------------------	--------------------------------	-------	---

FILE NAME : I:\45\450552 ROCKLEDGE RD\C3D\SHEETS\PLAN\090201-XS.DWG
LAYOUT NAME - 090202-xs

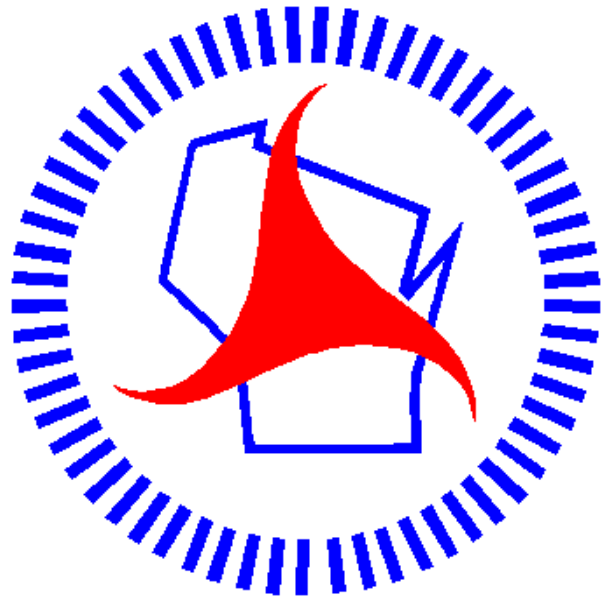
PLOT DATE : 4/22/2024 1:49 PM

PLOT BY : PROSE, JOHNATHAN

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDs SHEET 49



Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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