

PROJECT
WITH: N/A

5378-00-74

COUNTY: **VERNON**

December 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








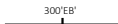

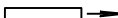



TOTAL SHEETS = 78




















DESIGN DESIGNATION 5378-00-04

A.A.D.T.	(2024)	=	10
A.A.D.T.	(2044)	=	12
D.H.V.		=	5
D.D.		=	62/38
T.		=	20.0%
DESIGN SPEED		=	25 MPH
ESALS		=	37,000

CONVENTIONAL SYMBOLS

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

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

**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

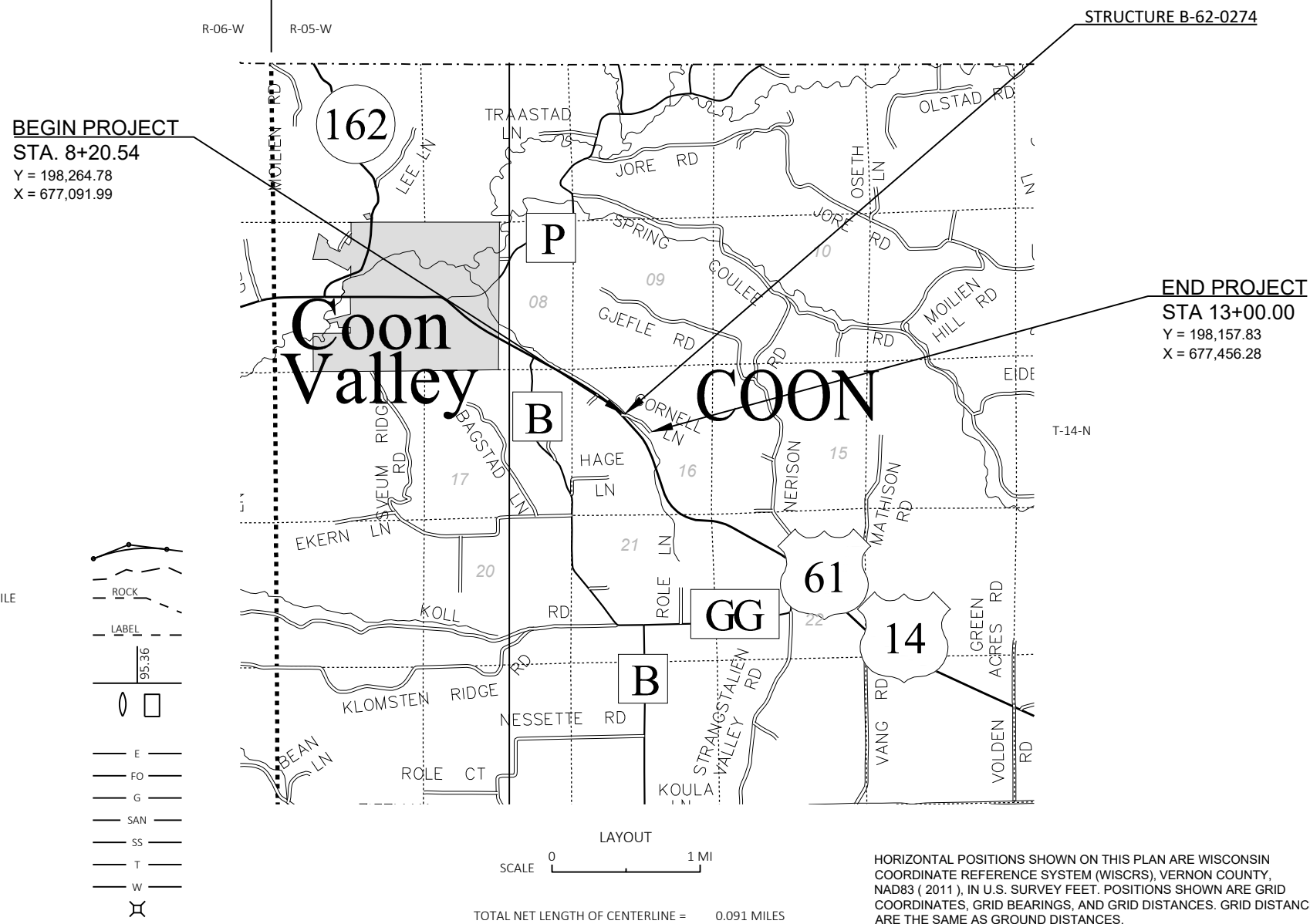
PLAN OF PROPOSED IMPROVEMENT

TOWN OF COON, CORNELL LANE

BR COON CREEK BRIDGE B-62-0274

LOCAL STREET VERNON COUNTY

STATE PROJECT NUMBER
5378-00-74



HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), VERNON 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.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5378-00-74	WISC 2025095	1

ACCEPTED FOR

VERNON COUNTY

Date 7/22/24 Phil Hewitt
County Commissioner

ORIGINAL PLANS PREPARED BY



1702 Pankratz Street, Madison, WI 53704
608-242-7779 1-800-446-0679 Fax: 608-242-5664



DATE: 7/10/2024 _____
(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	<u>MSA PROFESSIONAL SERVICES, INC.</u>
Designer	<u>MSA PROFESSIONAL SERVICES, INC.</u>
Project Manager	<u>LORRAINE BETZEL</u>
Regional Examiner	<u>REGIONAL EXAMINER</u>
Regional Supervisor	<u>KYLE HEMP</u>

APPROVED FOR THE DEPARTMENT

DATE: 7/22/24

Lorraine Betzel

(Signature)

1

GENERAL NOTES

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

CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY OPERATIONS, OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

THE 4" ASPHALTIC SURFACE SHALL BE CONSTRUCTED USING A 2.25" LOWER LAYER OF 19 MM NOMINAL SIZE AGGREGATE AND A 1.75" UPPER LAYER WITH 12.5 MM NOMINAL SIZE AGGREGATE.

ASPHALTIC SURFACE WEIGHT CALCULATIONS ARE BASED ON 112 LBS/SY/IN.

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

THE CONTRACTOR IS TO WORK WITH UTMOST CARE AND PROTECT ALL SURVEY MARKERS. REMOVAL OF ANY SURVEY MARKER IS TO BE WITH THE APPROVAL OF THE ENGINEER.

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT APPROXIMATE LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND APPROVED BY THE ENGINEER. MAINTAIN EROSION CONTROL MEASURES UNTIL SUCH A TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

DO NOT DRIVE OR STORE EQUIPMENT, OR STORE CONSTRUCTION MATERIALS IN ENVIRONMENTALLY SENSITIVE AREAS, WETLANDS OR WATERWAYS.

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
TYPICAL SECTIONS
CONSTRUCTION DETAILS
INTERSECTION DETAILS
EROSION CONTROL

UTILITIES CONTACTS

COON VALLEY FARMERS TELEPHONE COMPANY
BURIED FIBER OPTIC
BRANDON SEELEY
105 CENTRAL AVENUE
COON VALLEY, WI 54623
PHONE: (608) 452-3101
EMAIL: CVFTCLOCATES@GMAIL.COM

BRIGHTSPEED
BURIED FIBER OPTIC
TOM MURRAY
1905 WARD AVENUE
LA CROSSE, WI 54601
PHONE: (608) 780-0895
EMAIL: TOM.L.MURRAY@BRIGHTSPEED.COM

XCEL ENERGY
OVERHEAD ELECTRIC
LAURA JORSTAD
3215 COMMERCE ST
LA CROSSE, WI 54603
PHONE: (608) 789-3628
EMAIL: LAURA.JORSTAD@XCELENERGY.COM

DESIGN CONTACT

JOSH SWENO, P.E.
MSA PROFESSIONAL SERVICES, INC.
1702 PANKRATZ STREET
MADISON, WI 53704
PHONE: (608) 355-8852
EMAIL: JSWENO@MSA-PS.COM

COUNTY HIGHWAY COMMISSIONER

PHIL HEWITT
VERNON COUNTY
1335 RAILROAD AVENUE
VIROQUA, WI 54665
PHONE: (608) 637-5452
EMAIL: PHIL.HEWITT@VERNONCOUNTY.ORG

WISCONSIN DNR LIAISON

KAREN KALVELAGE
DEPARTMENT OF NATURAL RESOURCES
3550 MORMAN COULEE ROAD
LA CROSSE, WI 54601
PHONE: (608) 785-9115
EMAIL: KAREN.KALVELAGE@WISCONSIN.GOV

RUNOFF COEFFICIENT TABLE

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

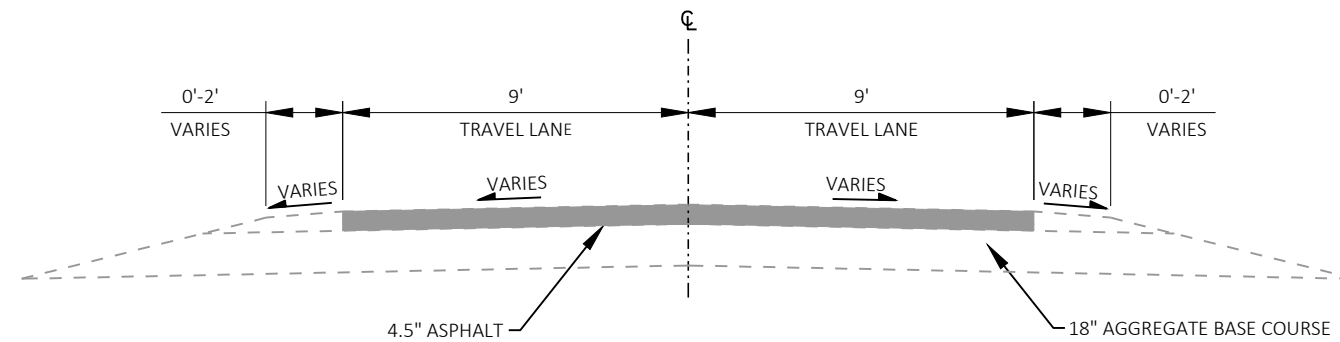
TOTAL PROJECT AREA = 1.03 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 1.94 ACRES

DIGGERSHOTLINE

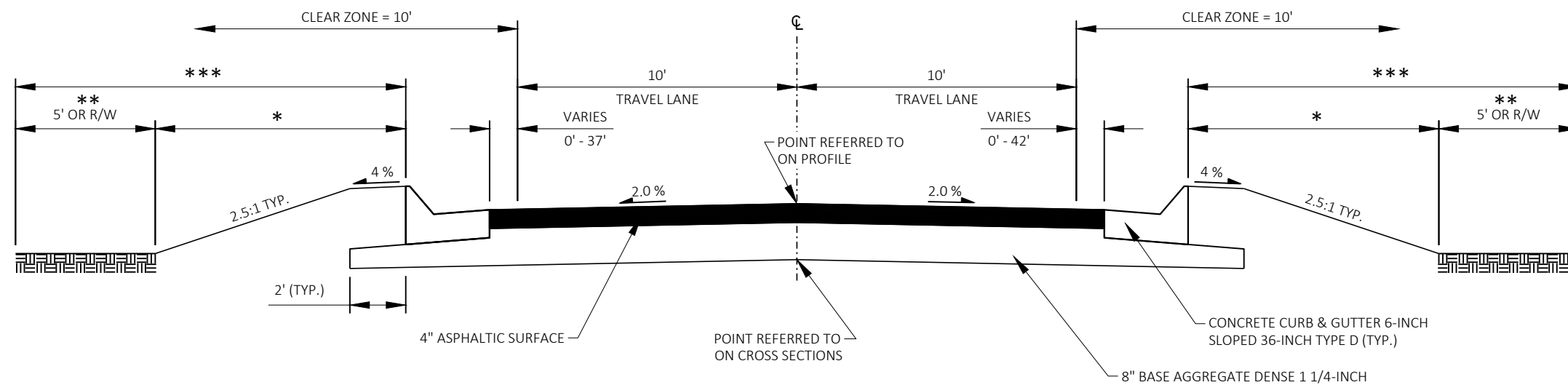
Dial 811 or (800)242-8511

www.DiggersHotline.com

*DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBER

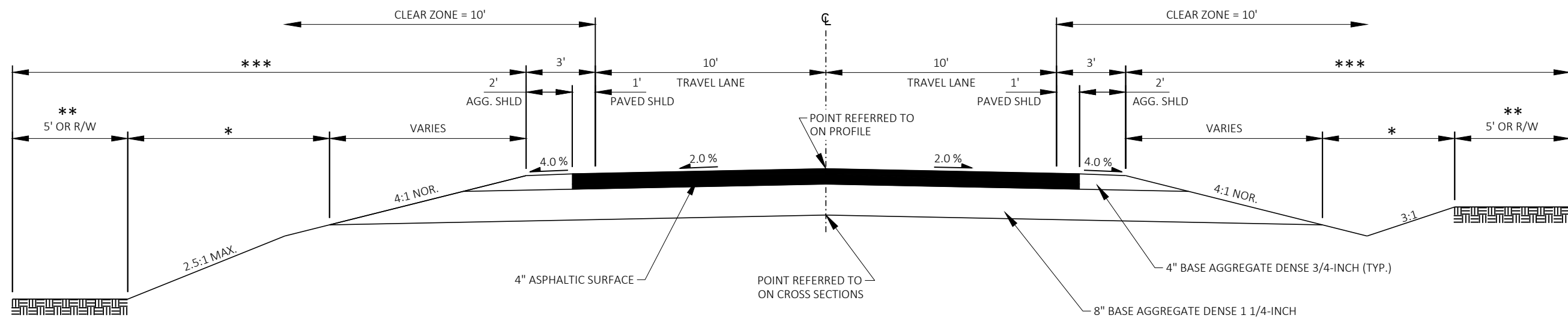


EXISTING TYPICAL SECTION CORNELL LANE



FINISHED TYPICAL SECTION CORNELL LANE

STA 8+20.54 - STA 9+10.73



FINISHED TYPICAL SECTION CORNELL LANE

STA 9+77.27 - STA 13+00.00

NOTES:

- * SALVAGED TOPSOIL & EROSION MAT URBAN CLASS I, TYPE B
- ** MULCHING LIMITS
- *** SEEDING MIXTURE #20 & FERTILIZER TYPE B LIMITS

PROJECT NO: 5378-00-74

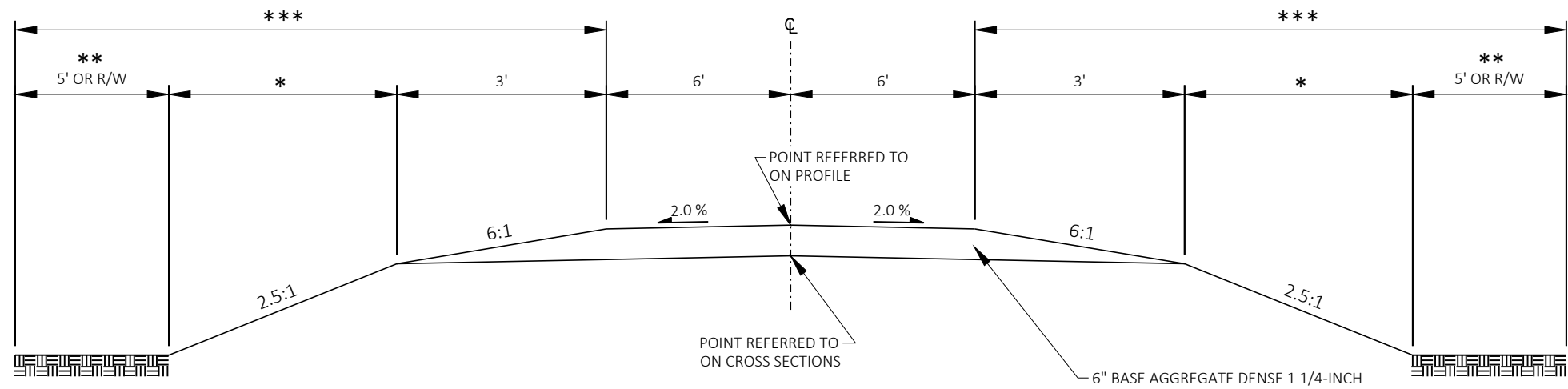
HWY: LOCAL STREET

COUNTY: VERNON

TYPICAL SECTIONS

SHEET

E

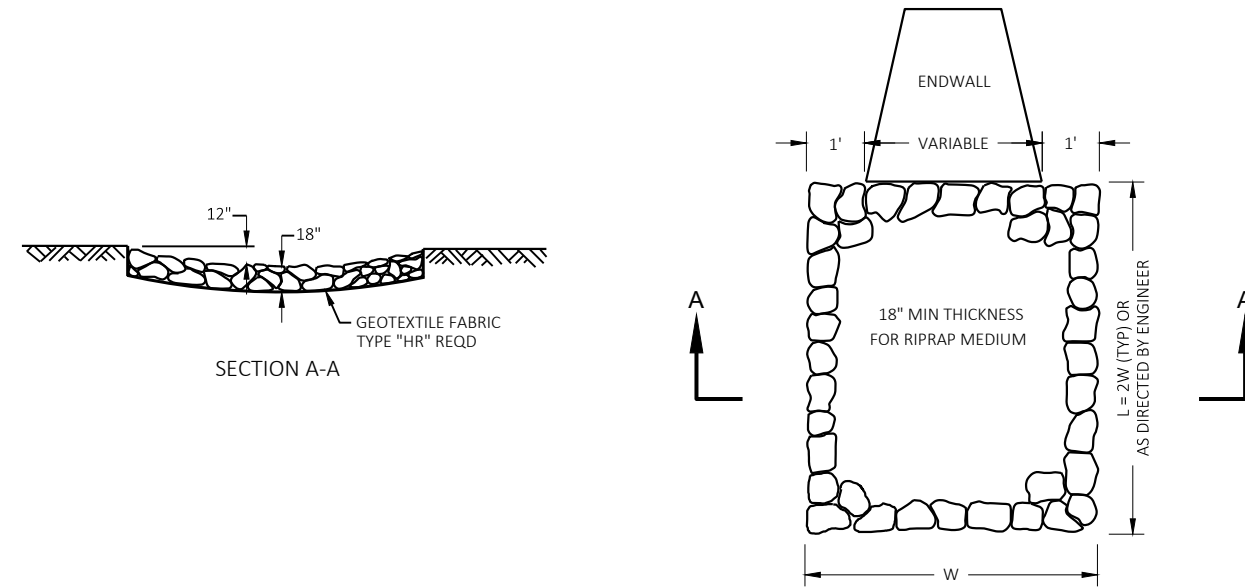


FINISHED TYPICAL SECTION DRIVEWAY
STA 500+00.00'D' - STA 501+90.34'D'

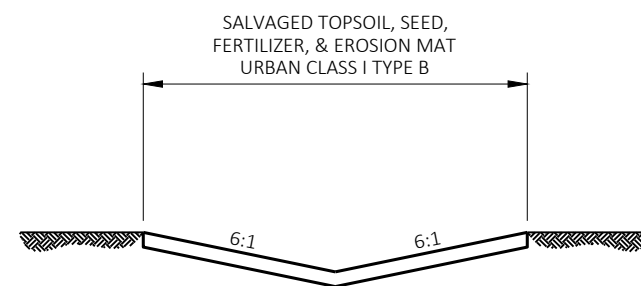
NOTES:

- * SALVAGED TOPSOIL & EROSION MAT URBAN CLASS I, TYPE B
- ** MULCHING LIMITS
- *** SEEDING MIXTURE #20 & FERTILIZER TYPE B LIMITS

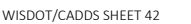
PROJECT NO: 5378-00-74	HWY: LOCAL STREET	COUNTY: VERNON	TYPICAL SECTIONS	SHEET	E
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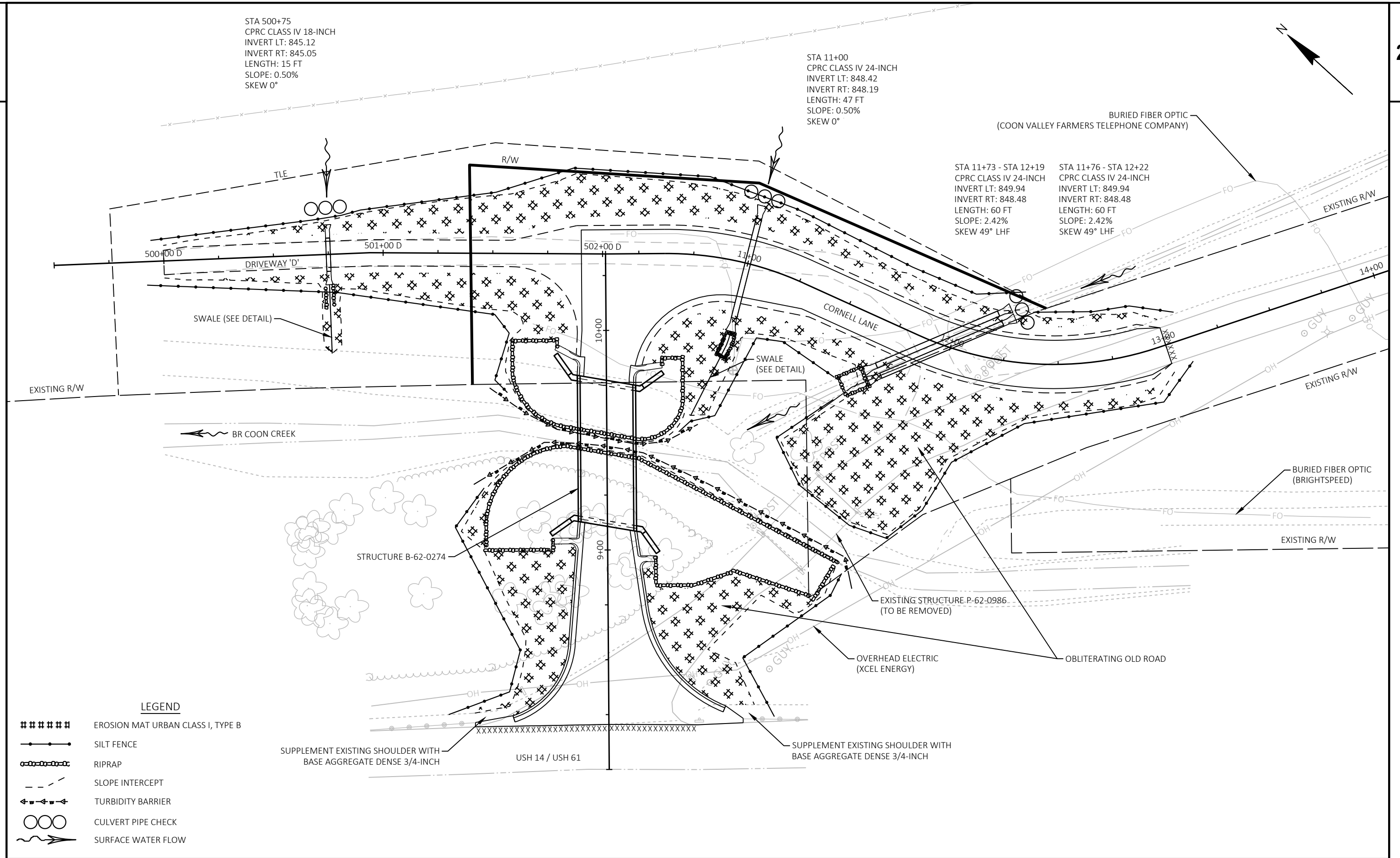


RIPRAP MEDIUM TREATMENT AT CULVERTS



SWALE DETAIL





Estimate Of Quantities

5378-00-74

Line	Item	Item Description	Unit	Total	Qty
0002	201.0110	Clearing	SY	576.000	576.000
0004	201.0210	Grubbing	SY	576.000	576.000
0006	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0008	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. P-62-986	EACH	1.000	1.000
0010	205.0100	Excavation Common	CY	226.000	226.000
0012	206.1001	Excavation for Structures Bridges (structure) 01. B-62-274	EACH	1.000	1.000
0014	208.0100	Borrow	CY	4,115.000	4,115.000
0016	210.1500	Backfill Structure Type A	TON	450.000	450.000
0018	213.0100	Finishing Roadway (project) 01. 5378-00-74	EACH	1.000	1.000
0020	214.0100	Obliterating Old Road	STA	1.100	1.100
0022	305.0110	Base Aggregate Dense 3/4-Inch	TON	47.000	47.000
0024	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	917.000	917.000
0026	455.0605	Tack Coat	GAL	65.000	65.000
0028	465.0105	Asphaltic Surface	TON	298.000	298.000
0030	502.0100	Concrete Masonry Bridges	CY	152.000	152.000
0032	502.3200	Protective Surface Treatment	SY	225.000	225.000
0034	502.3210	Pigmented Surface Sealer	SY	68.000	68.000
0036	503.0137	Prestressed Girder Type I 36W-Inch	LF	260.000	260.000
0038	505.0400	Bar Steel Reinforcement HS Structures	LB	4,120.000	4,120.000
0040	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	19,805.000	19,805.000
0042	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	8.000	8.000
0044	506.4000	Steel Diaphragms (structure) 01. B-62-274	EACH	3.000	3.000
0046	516.0500	Rubberized Membrane Waterproofing	SY	22.000	22.000
0048	522.0418	Culvert Pipe Reinforced Concrete Class IV 18-Inch	LF	15.000	15.000
0050	522.0424	Culvert Pipe Reinforced Concrete Class IV 24-Inch	LF	167.000	167.000
0052	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	2.000	2.000
0054	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	6.000	6.000
0056	550.0020	Pre-Boring Rock or Consolidated Materials	LF	128.000	128.000
0058	550.0500	Pile Points	EACH	14.000	14.000
0060	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	435.000	435.000
0062	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	215.000	215.000
0064	602.3010	Concrete Surface Drains	CY	7.000	7.000
0066	606.0200	Riprap Medium	CY	18.000	18.000
0068	606.0400	Riprap Extra-Heavy	CY	800.000	800.000
0070	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	180.000	180.000
0072	618.0100	Maintenance and Repair of Haul Roads (project) 01. 5378-00-74	EACH	1.000	1.000
0074	619.1000	Mobilization	EACH	1.000	1.000
0076	624.0100	Water	MGAL	15.000	15.000
0078	625.0500	Salvaged Topsoil	SY	2,367.000	2,367.000
0080	627.0200	Mulching	SY	904.000	904.000
0082	628.1504	Silt Fence	LF	1,605.000	1,605.000
0084	628.1520	Silt Fence Maintenance	LF	1,605.000	1,605.000
0086	628.1905	Mobilizations Erosion Control	EACH	6.000	6.000
0088	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0090	628.2008	Erosion Mat Urban Class I Type B	SY	2,367.000	2,367.000
0092	628.6005	Turbidity Barriers	SY	464.000	464.000
0094	628.7555	Culvert Pipe Checks	EACH	11.000	11.000
0096	629.0210	Fertilizer Type B	CWT	1.400	1.400
0098	630.0120	Seeding Mixture No. 20	LB	103.000	103.000

Estimate Of Quantities

5378-00-74

Line	Item	Item Description	Unit	Total	Qty
0100	630.0200	Seeding Temporary	LB	103.000	103.000
0102	630.0500	Seed Water	MGAL	85.000	85.000
0104	633.5200	Markers Culvert End	EACH	8.000	8.000
0106	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0108	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	3.000	3.000
0110	637.2210	Signs Type II Reflective H	SF	10.360	10.360
0112	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0114	638.2102	Moving Signs Type II	EACH	1.000	1.000
0116	638.3000	Removing Small Sign Supports	EACH	1.000	1.000
0118	642.5001	Field Office Type B	EACH	1.000	1.000
0120	643.0300	Traffic Control Drums	DAY	3,025.000	3,025.000
0122	643.0420	Traffic Control Barricades Type III	DAY	1,210.000	1,210.000
0124	643.0705	Traffic Control Warning Lights Type A	DAY	1,450.000	1,450.000
0126	643.0715	Traffic Control Warning Lights Type C	DAY	1,210.000	1,210.000
0128	643.0900	Traffic Control Signs	DAY	2,055.000	2,055.000
0130	643.5000	Traffic Control	EACH	1.000	1.000
0132	645.0111	Geotextile Type DF Schedule A	SY	106.000	106.000
0134	645.0120	Geotextile Type HR	SY	1,289.000	1,289.000
0136	650.4500	Construction Staking Subgrade	LF	604.000	604.000
0138	650.5000	Construction Staking Base	LF	604.000	604.000
0140	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	215.000	215.000
0142	650.6000	Construction Staking Pipe Culverts	EACH	4.000	4.000
0144	650.6501	Construction Staking Structure Layout (structure) 01. B-62-0274	EACH	1.000	1.000
0146	650.9911	Construction Staking Supplemental Control (project) 01. 5378-00-74	EACH	1.000	1.000
0148	650.9920	Construction Staking Slope Stakes	LF	604.000	604.000
0150	690.0150	Sawing Asphalt	LF	119.000	119.000
0152	715.0502	Incentive Strength Concrete Structures	DOL	912.000	912.000
0154	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0156	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000

REMOVING SMALL PIPE CULVERTS											EARTHWORK SUMMARY																			
CLEARING & GRUBBING						203.0100 REMOVING SMALL PIPE CULVERTS					205.0100 EXCAVATION COMMON					208.0100														
CATEGORY	STATION	TO	STATION	LOCATION	201.0110 CLEARING SY	201.0210 GRUBBING SY	CATEGORY	STATION	LOCATION	EACH	REMARKS	CATEGORY	STATION	TO	STATION	LOCATION	CY	FILL CY (1)	EXPANDED FILL CY (2)	WASTE CY	BORROW CY									
0010	8+53	-	9+40	LT & RT	575	575	0010	11+94	EXISTING DWY	1	CP PLASTIC 24-INCH	0010	8+20	-	8+98	CORNELL LANE	67	933	1,213	0	1,146									
0010	11+60	-	---	RT	1	1						0010	9+90	-	13+00	CORNELL LANE	152	1,494	1,944	0	1,792									
												0010	500+00'D'	-	501+90'D'	DRIVEWAY	7	911	1,184	0	1,177									
TOTAL 0010					576	576	TOTAL 0010				1		TOTAL 0010					226	3,338	4,341	0	4,115								
(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY.																														
(2) - FILL EXPANSION 30%																														
BASE AGGREGATE ITEMS											ASPHALTIC SURFACE																			
OBLITERATING OLD ROAD						305.0110 BASE AGGREGATE DENSE 3/4-INCH TON			305.0120 BASE AGGREGATE DENSE 1 1/4- INCH TON			624.0100 WATER MGAL			455.0605 TACK COAT GAL			465.0105 ASPHALTIC SURFACE TON												
CATEGORY	LOCATION	STA	CATEGORY	STATION	TO	STATION	LOCATION	TON	CATEGORY	STATION	TO	STATION	LOCATION	THICKNESS (INCHES)	TACK COAT GAL	TON	CATEGORY	STATION	TO	STATION	LOCATION	THICKNESS (INCHES)	TACK COAT GAL	TON						
0010	OLD CORNELL LANE	1.1	0010	8+20	-	9+11	CORNELL LANE	7	0010	8+20	-	9+11	CORNELL LANE	4.00	21	93	0010	8+20	-	9+11	CORNELL LANE	4.00	21	93						
			0010	9+77	-	13+00	CORNELL LANE	40	0010	9+05	-	9+13	LT	4.00	---	2	0010	9+05	-	9+13	LT	4.00	---	2						
			0010	500+00'D'	-	501+90'D'	DRIVEWAY	---	0010	8+97	-	9+09	RT	4.00	---	2	0010	8+97	-	9+09	RT	4.00	---	2						
TOTAL 0010									TOTAL 0010									TOTAL 0010												
CULVERT PIPE ITEMS											CONCRETE ITEMS																			
522.0418						522.0424		522.1018 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18- INCH EACH		522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24- INCH EACH		633.5200 MARKERS CULVERT END EACH		650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH		601.0557 CONCRETE CURB & GUTTER 6- INCH SLOPED 36- INCH TYPE D LF		602.3010 CONCRETE SURFACE DRAINS CY		650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF										
CATEGORY	STATION	TO	STATION	LOCATION	INVERT	CONCRETE CLASS IV 18-INCH LF	CONCRETE CLASS IV 24-INCH LF	CONCRETE 18- INCH EACH	CONCRETE 24- INCH EACH	MARKERS CULVERT END EACH	CONSTRUCTION STAKING PIPE CULVERTS EACH	CATEGORY	STATION	TO	STATION	LOCATION	LF	CY	LF	CATEGORY	STATION	TO	STATION	LOCATION	LF					
0010	500+75'D'	-	---	7.5' LT	845.12	---	---	1	---	1	---	0010	500+75'D'	-	---	7.5' LT	845.12	---	---	1	---	0010	500+75'D'	-	---	7.5' LT	845.12	---	---	1
0010	500+75'D'	-	---	DRIVEWAY	---	15	---	---	---	---	1	0010	500+75'D'	-	---	7.7' RT	845.05	---	---	1	---	0010	500+75'D'	-	---	7.7' RT	845.05	---	---	1
0010	11+00	-	---	21.0' LT	848.42	---	---	---	1	1	---	0010	11+00	-	---	21.0' LT	848.42	---	---	1	---	0010	11+00	-	---	21.0' LT	848.42	---	---	1
0010	11+00	-	---	CORNELL LANE	---	---	47	---	---	---	1	0010	11+00	-	---	25.7' RT	848.19	---	---	1	---	0010	11+00	-	---	25.7' RT	848.19	---	---	1
0010	11+73	-	---	20.5' RT	848.48	---	---	---	1	1	---	0010	11+73	-	---	20.5' RT	848.48	---	---	1	---	0010	11+73	-	---	20.5' RT	848.48	---	---	1
0010	11+73	-	12+19	CORNELL LANE	---	---	60	---	---	---	1	0010	11+73	-	12+19	CORNELL LANE	---	---	60	---	---	0010	11+73	-	12+19	CORNELL LANE	---	---	60	
0010	12+19	-	---	20.7' LT	849.94	---	---	---	1	1	---	0010	12+19	-	---	20.7' LT	849.94	---	---	1	---	0010	12+19	-	---	20.7' LT	849.94	---	---	1
0010	11+76	-	---	23.9' RT	848.48	---	---	---	1	1	---	0010	11+76	-	---	23.9' RT	848.48	---	---	1	---	0010	11+76	-	---	23.9' RT	848.48	---	---	1
0010	11+76	-	12+22	CORNELL LANE	---	---	60	---	---	---	1	0010	11+76	-	12+22	CORNELL LANE	---	---	60	---	---	0010	11+76	-	12+22	CORNELL LANE	---	---	60	
0010	12+22	-	---	16.5' LT	849.94	---	---	---	1	1	---	0010	12+22	-	---	16.5' LT	849.94	---	---	1	---	0010	12+22	-	---	16.5' LT	849.94	---	---	1
TOTAL 0010						15	167	2	6	8	4	TOTAL 0010						215	7	215	TOTAL 0010									

PROJECT NO:	5378-00-74	HWY: LOCAL STREET	COUNTY: VERNON	MISCELLANEOUS QUANTITIES	SHEET:	E
-------------	------------	-------------------	----------------	--------------------------	--------	---

RESTORATION ITEMS

					625.0500	627.0200	628.2008	629.0210	630.0120	630.0200	630.0500
					SALVAGED	MULCHING	EROSION MAT	FERTILIZER TYPE	SEEDING	SEEDING	
					TOPSOIL		URBAN CLASS I	B	MIXTURE NO. 20	TEMPORARY	SEED WATER
CATEGORY	STATION	TO	STATION	LOCATION	SY	SY	TYPE B	CWT	LB	LB	MGAL
0010	8+20	-	9+35	LT	233	69	233	0.1	8	8	7
0010	8+20	-	9+00	RT	228	98	228	0.1	8	8	7
0010	500+00'D'	-	501+90'D'	RT	222	96	222	0.2	11	11	9
0010	500+00'D'	-	13+00	LT	484	263	484	0.3	26	26	21
0010	9+84	-	13+00	RT	726	197	726	0.4	29	29	24
UNDISTRIBUTED					474	181	474	0.3	21	21	17
TOTAL 0010					2,367	904	2,367	1.4	103	103	85

EROSION CONTROL ITEMS

			606.0200	628.7555	* 645.0120
			RIPRAP MEDIUM	CULVERT PIPE	GEOTEXTILE TYPE
			CY	CHECKS	HR
CATEGORY	STATION	LOCATION		EACH	SY
0010	500+75'D'	LT	---	2	---
0010	500+75'D'	RT	4	---	12
0010	11+00	LT	---	3	---
0010	11+00	RT	5	---	17
0010	11+75	RT	9	---	25
0010	12+20	LT	---	6	---
TOTAL 0010			18	11	54

MOBILIZATIONS EROSION CONTROL

		628.1905	628.1910
		MOBILIZATIONS	MOBILIZATIONS
		EROSION	EMERGENCY
		CONTROL	EROSION
CATEGORY	LOCATION	EACH	EACH
0010	5378-00-74	6	4
TOTAL 0010		6	4

EROSION CONTROL BARRIERS

					628.1504	628.1520	628.6005
					SILT FENCE	SILT FENCE	TURBIDITY
CATEGORY	STATION	TO	STATION	LOCATION	LF	MAINTENANCE	BARRIERS
					LF	LF	SY
0010	8+20	-	8+89	RT	91	91	---
0010	8+20	-	9+29	LT	142	142	---
0010	8+82	-	9+48	BR COON CREEK	---	---	244
0010	9+46	-	9+74	BR COON CREEK	---	---	127
0010	500+00'D'	-	501+57'D'	RT	200	200	---
0010	500+00'D'	-	13+00	LT	478	478	---
0010	9+53	-	13+00	RT	373	373	---
0010	UNDISTRIBUTED			---	321	321	93
TOTAL 0010					1,605	1,605	464

PERMANENT SIGNING ITEMS

			634.0612	634.0614	637.2210	637.2230	638.2102	638.3000	SIGN CODE
			POSTS WOOD	POSTS WOOD	SIGNS TYPE II	SIGNS TYPE II	MOVING SIGNS	REMOVING	
			4X6-INCH X 12-	4X6-INCH X 14-	REFLECTIVE H	REFLECTIVE F	TYPE II	SMALL SIGN	
			FT	FT	SF	SF	EACH	SUPPORTS	
CATEGORY	STATION	LOCATION	EACH	EACH				EACH	
0010	8+34	LT	---	1	---	---	1	1	R1-1
0010	9+08	RT	1	---	---	3.00	---	---	W5-52R
0010	9+13	LT	1	---	---	3.00	---	---	W5-52L
0010	9+75	RT	1	---	---	3.00	---	---	W5-52L
0010	9+80	LT	1	---	---	3.00	---	---	W5-52R
0010	10+00	RT	---	1	5.18	---	---	---	R1-1
0010	10+70	RT	---	1	5.18	---	---	---	R1-1
TOTAL 0010			4	3	10.36	12.00	1	1	

TRAFFIC CONTROL													
CATEGORY	LOCATION	DAYS	643.0300		643.0420		643.0705		643.0715		643.0900		REMARKS
			TRAFFIC CONTROL DRUMS EACH	TRAFFIC CONTROL DRUMS DAY	TRAFFIC CONTROL BARRICADES TYPE III EACH	TRAFFIC CONTROL BARRICADES TYPE III DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE C EACH	TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	TRAFFIC CONTROL SIGNS EACH	TRAFFIC CONTROL SIGNS DAY	
0010	EAST LIMITS	115	---	---	---	---	---	---	---	---	4	460	ADVANCE WARNING
0010	USH 14 / USH 61	115	---	---	---	---	---	---	---	---	8	920	ADVANCE WARNING
0010	BEGINNING OF PROJECT	115	5	575	5	575	6	690	---	---	2	230	
0010	DRIVEWAY	115	20	2,300	5	575	6	690	10	1,150	3	345	
0010	UNDISTRIBUTED	---	---	150	---	60	---	70	---	60	---	100	
TOTAL 0010				3,025		1,210		1,450		1,210		2,055	

CONSTRUCTION STAKING ITEMS									
CATEGORY	STATION	TO	STATION	LOCATION	650.4500		650.5000		650.9920
					CONSTRUCTION STAKING SUBGRADE LF	CONSTRUCTION STAKING BASE LF	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) (01. B-62-0274) EACH	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 5378-00-74) EACH	CONSTRUCTION STAKING SLOPE STAKES LF
0010	8+20	-	9+11	CORNELL LANE	91	91	-	-	91
0010	9+77	-	13+00	CORNELL LANE	323	323	-	-	323
0010	500+00'D'	-	501+90'D'	DRIVEWAY	190	190	-	-	190
0010				5378-00-74	-	-	1	1	-
TOTAL 0010					604	604	1	1	604

SAWING			
CATEGORY	STATION	LOCATION	690.0150 SAWING ASPHALT LF
0010	8+20	PROJECT BEGINNING	102
0010	13+00	PROJECT ENDING	17
TOTAL 0010			119

CONVENTIONAL SYMBOLS

SECTION LINE
QUARTER LINE
SIXTEENTH LINE
NEW REFERENCE LINE
NEW R/W LINE
EXISTING R/W OR HE LINE
PROPERTY LINE
LOT, TIE & OTHER
MINOR LINES
SLOPE INTERCEPT
CORPORATE LIMITS
UNDERGROUND FACILITY
(COMMUNICATIONS, ELECTRIC, ETC.)
NEW R/W (FEE OR HE)
(HATCHING VARIES BY OWNER)
TEMPORARY LIMITED
EASEMENT AREA
EASEMENT AREA
(PERMANENT LIMITED OR
RESTRICTED DEVELOPMENT)
TRANSMISSION STRUCTURES
BUILDING
BRIDGE
TO BE REMOVED
CULVERT

SECTION
CORNER
SYMBOL
SECTION
CORNER
MONUMENT
GEODETIC SURVEY MONUMENT
SIXTEENTH CORNER MONUMENT
SIGN
ELECTRIC POLE
TELEPHONE POLE
PEDESTAL (LABEL TYPE)
(TV, TEL, ELEC, ETC.)
ACCESS RESTRICTED BY ACQUISITION
NO ACCESS (BY STATUTORY AUTHORITY)
ACCESS RESTRICTED (BY PREVIOUS
PROJECT OR CONTROL)
NO ACCESS (NEW HIGHWAY)
PARCEL NUMBER
UTILITY NUMBER
PARALLEL OFFSETS

R/W MONUMENT
(TO BE SET)
NON-MONUMENTED
R/W POINT
FOUND IRON PIN
(1-INCH UNLESS NOTED)
OFF-PREMISE
SIGN
COMPENSABLE
NON-COMPENSABLE

CONVENTIONAL UTILITY SYMBOLS

WATER
GAS
TELEPHONE
OVERHEAD TRANSMISSION LINES
ELECTRIC
CABLE TELEVISION
FIBER OPTIC
SANITARY SEWER
STORM SEWER
ELECTRIC TOWER

CONVENTIONAL ABBREVIATIONS

ACCESS RIGHTS
ACRES
AHEAD
ALUMINUM
AND OTHERS
BACK
BLOCK
CENTERLINE
CERTIFIED SURVEY MAP
CONCRETE
COUNTY
COUNTY TRUNK HIGHWAY
DISTANCE
CORNER
DOCUMENT NUMBER
EASEMENT
EXISTING
GAS VALVE
GRID NORTH
HIGHWAY EASEMENT
IDENTIFICATION
LAND CONTRACT
LEFT
MONUMENT
NATIONAL GEODETIC SURVEY
NUMBER
OUTLOT
PAGE
POINT OF TANGENCY
PERMANENT LIMITED
EASEMENT
POINT OF BEGINNING
POINT OF CURVATURE

AR
AC
AH
ALUM
ET AL
BK
BLK
C/L
CSM
CONC
CO
CTH
DIST
COR
DOC
EASE
EX
GV
GN
HE
ID
LC
LT
MON
NGS
NO
OL
P
PT
PLE
POB
PC

POINT OF COMPOUND CURVE
POINT OF INTERSECTION
PROPERTY LINE
RECORDED AS
REEL / IMAGE
REFERENCE LINE
REMAINING
RESTRICTIVE DEVELOPMENT
EASEMENT
RIGHT
RIGHT OF WAY
SECTION
SEPTIC VENT
SQUARE FEET
STATE TRUNK HIGHWAY
STATION
TELEPHONE PEDESTAL
TEMPORARY LIMITED
EASEMENT
TRANSPORTATION PROJECT PLAT
UNITED STATES HIGHWAY
VOLUME

PCC
PI
PL
[100']
R/I
R/L
REM
RDE
RT
R/W
SEC
SEPV
SF
STH
STA
TP
TLE
TPP
USH
V

CURVE DATA ABBREVIATIONS

LONG CHORD
LONG CHORD BEARING
RADIUS
DEGREE OF CURVE
CENTRAL ANGLE
LENGTH OF CURVE
TANGENT
DIRECTION AHEAD
DIRECTION BACK

LCH
LCB
R
D
Δ/DELTA
L
T
DA
DB

PROJECT LOCATION

STRUCTURE B-62-0274

BEGIN PROJECT
STA 317+25.00
Y = 198,430.143
X = 676,924.844
1,097.35 FEET NORTH OF AND 1,591.66 FEET EAST OF
THE WEST QUARTER CORNER OF SECTION 16,
T-14-N, R-5-W, TOWN OF COON, VERNON COUNTY, WI

END PROJECT
STA 321+32.71
Y = 198,113.631
X = 677,200.620
807.84 FEET NORTH OF AND 1,867.44 FEET EAST OF
THE WEST QUARTER CORNER OF SECTION 16,
T-14-N, R-5-W, TOWN OF COON, VERNON COUNTY, WI

LAYOUT
SCALE 0 1 MILE
TOTAL NET LENGTH OF CENTERLINE = 0.077 MI

R/W PROJECT NUMBER 5378-00-04	SHEET NUMBER 4.01	TOTAL SHEETS 2
CONSTRUCTION PROJECT NUMBER 5378-00-04		
PLAT OF RIGHT OF WAY REQUIRED FOR TOWN OF COON, CORNELL LANE BR COON CREEK BRIDGE B-62-0274		
LOCAL STREET		VERNON COUNTY

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), VERNON COUNTY, NAD83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED AT THE COMPLETION OF THE CONSTRUCTION PROJECT.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS" OF PUBLIC RECORD.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON, THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE. ALL TLES ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPANCY LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

FOR THE CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN LA CROSSE.

PARCEL AND UTILITY IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE DETAIL PAGES.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON TRANSPORTATION PROJECT PLAT NO: 5488-00-20, PLATS OF SURVEY, AND EXISTING IRONS LOCATED IN THE FIELD.

EXISTING ACCESS CONTROL - PREVIOUS PROJECT 1646-07-29, DOCUMENT NO. 380827 AND DOCUMENT NO. 378957.

THIS PLAT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES AND ACCESS RIGHTS.

ACCEPTED FOR
TOWN OF COON

DATE: 3/4/24 *John D. Balthus*
(Signature)

ORIGINAL PLAT PREPARED BY

MSA
ENGINEERING | ARCHITECTURE | SURVEYING
FUNDING | PLANNING | ENVIRONMENTAL
1702 Parkside Street Madison, WI 53704
(608) 242-7779 (608) 445-0979 www.msa-ps.com
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WISCONSIN
BRADLEY L. TISDALE
S-2824
WAUNAKEE
WI
LAND SURVEYOR

DATE: 02/26/2024 *Bradley L. Tisdale*
(Professional Land Surveyor)

RECEIVED
MAR 08 2024
VERNON COUNTY CLERK'S OFFICE

FILE NAME: G:\07\07339\07339038\CADD\RW\DW\G\040101-RP.DWG

PLOT DATE: 3/17/2024 10:26 AM

PLOT BY: BRAD TISDALE

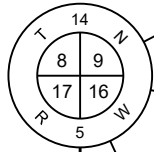
PLOT NAME:

SCHEDULE OF LANDS & INTERESTS REQUIRED		OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE COUNTY.				
PARCEL NUMBER	OWNERS	INTERESTS REQUIRED	R/W ACRES REQUIRED			TLE ACRES
			NEW	EXISTING	TOTAL	
1	HERBERT & HAZEL CORNELL TRUST	FEE & TLE	0.445 AC	---	0.445 AC	0.406 AC

ALL AREAS SHOWN IN ACRES UNLESS OTHERWISE NOTED

EASEMENT TABLE				
UTILITY NUMBER	OWNER(S)	INTEREST REQUIRED	RECORDING INFORMATION	LOCATED IN R/W PARCEL
50	BRIGHTSPEED	RELEASE OF RIGHTS	NO EASEMENT OF RECORD	1
51	NORTHERN STATES POWER COMPANY	RELEASE OF RIGHTS	DOC. 190802 V. 111, P. 638	1
52	COON VALLEY FARMERS TELEPHONE COMPANY	RELEASE OF RIGHTS	NO EASEMENT OF RECORD	1

EXISTING MONUMENTS			
PT. NO.	STATION	OFFSET	DESCRIPTION
IP10	321+32.71	133.80' LT	3/4" REBAR W/DOT CAP
IP11	321+32.71	100.00' LT	3/4" REBAR W/DOT CAP
IP12	320+40.00	180.00' LT	3/4" REBAR W/DOT CAP



LUNDE MONUMENT
Y = 199,929.494
X = 675,348.627

S00°-20'-14"W, 2,623.75'
MON TO MON

SW-NW

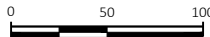
BEGIN RELOCATION ORDER
STA 317+25.00
Y = 198,430.143
X = 676,924.844

N55°-24'-58"E, 1,933.28'
MON TO RL STA 317+25

ALIGNMENT INFORMATION
PI = 316+21.90 STA 317+25 - PT 318+88.10
Y = 198,480.486 L = 155.25'
X = 676,855.742 LCH = 155.25'
Δ = 06° 27' 55" RT LCB = S44° 12' 07"E
D = 01° 15' 00" R = 4,584.00'
T = 258.91'
L = 517.26'
R = 4,584.00'
PC = 313+62.99
PT = 318+88.10
DB = S49°41'50"E

END RELOCATION ORDER
STA 321+32.71
Y = 198,113.631
X = 677,200.620

SCALE, FEET



HWY: LOCAL STREET

COUNTY: VERNON

STATE R/W PROJECT NUMBER

5378-00-04

CONSTRUCTION PROJECT NUMBER

5378-00-74

PLAT SHEET

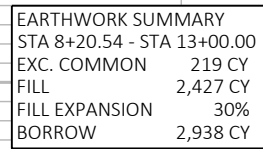
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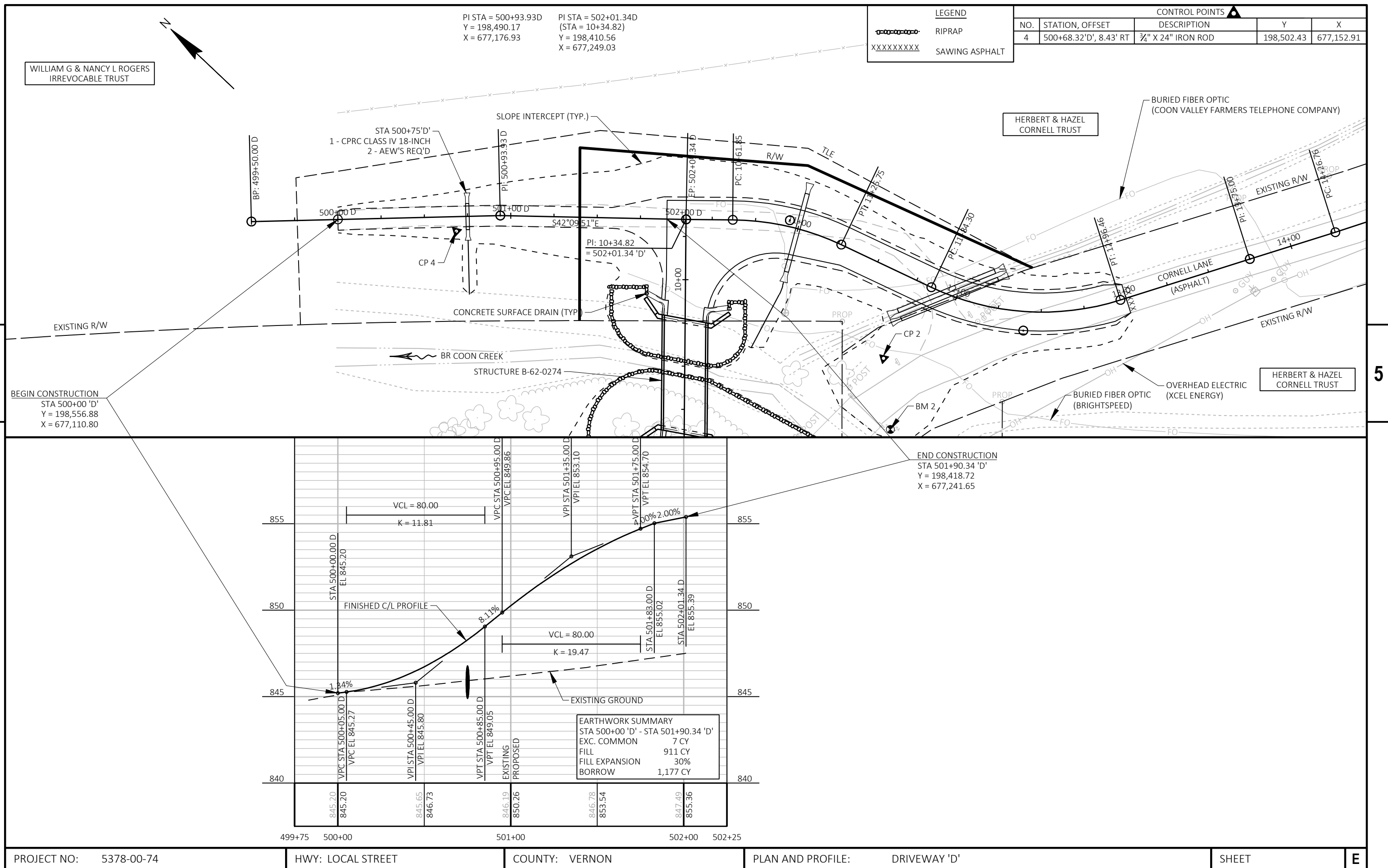
PS&E SHEET

E

PI STA = 12+43.15
Y = 198224.598
X = 677336.208
DELTA = 42°50'31" LT
D = 38°11'50"
T = 58.85'
L = 112.16'
R = 150.00'
PC STA = 11+84.30
Y = 198280.540
X = 677317.945
PT STA = 12+96.46
Y = 198195.998
X = 677387.639
DB = S18°04'49"E
DA = S60°55'20"E
SE = N.C.

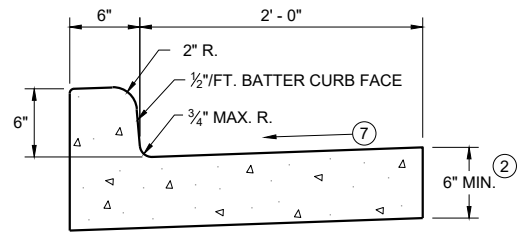
PROJECT	
3+20.54	
,264.78	
,091.99	



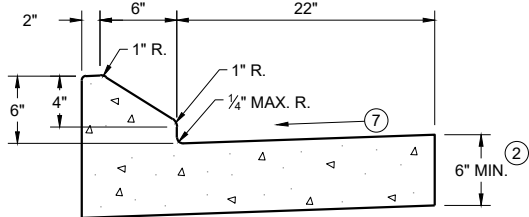


Standard Detail Drawing List

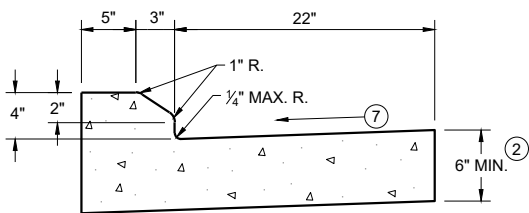
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-08A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D04-07	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09A01-14A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C12-09B	TRAFFIC CONTROL, LANE CLOSURE WITH AUTOMATED FLAGGER ASSISTANCE DEVICE
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D43-02	TRAFFIC CONTROL, SHORT DURATION MOBILE OPERATIONS
15D45-03	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL
15D48-01	TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION
15D51-01	TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY



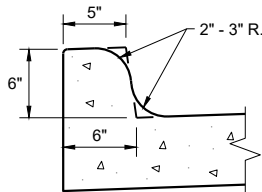
TYPES A^① & D



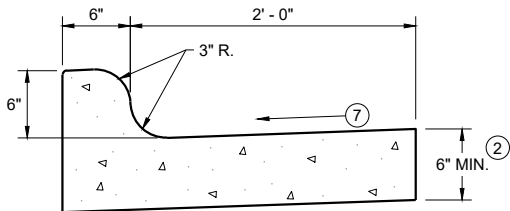
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

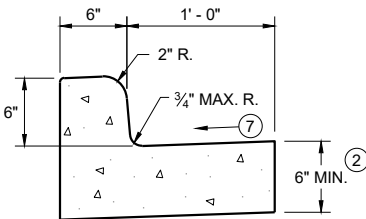


TYPES K^① & L
(OPTIONAL CURB SHAPE)



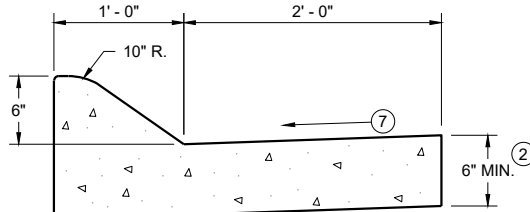
TYPES K^① & L

CONCRETE CURB AND GUTTER 30"

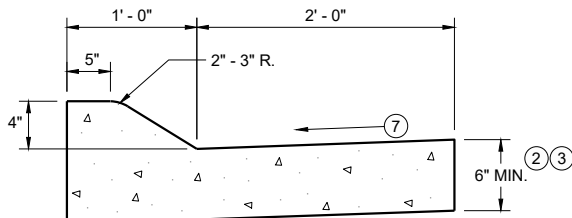


TYPES A^① & D

CONCRETE CURB AND GUTTER 18"

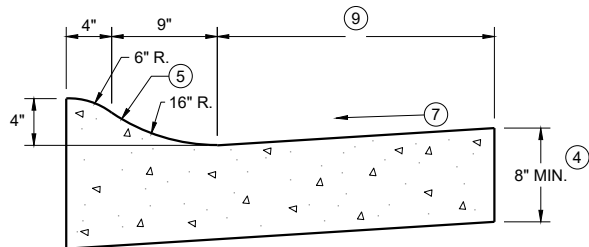


6" SLOPED CURB TYPES A^① & D



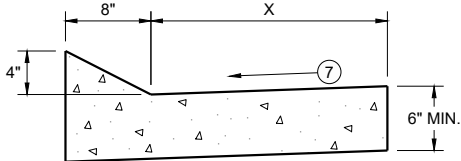
4" SLOPED CURB TYPES A^① & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R^① & T

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

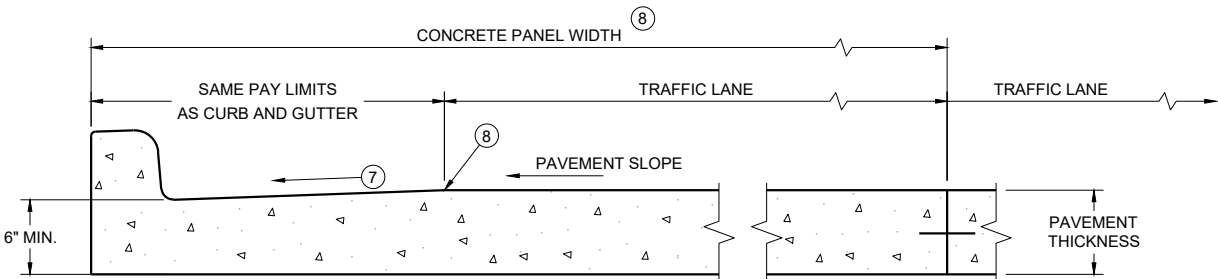


TYPES TBT & TBTT^①

CONCRETE CURB AND GUTTER

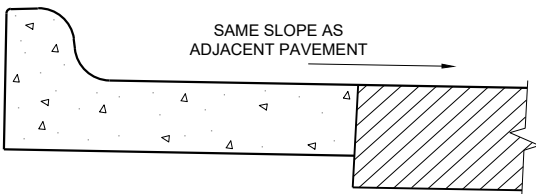
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

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

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

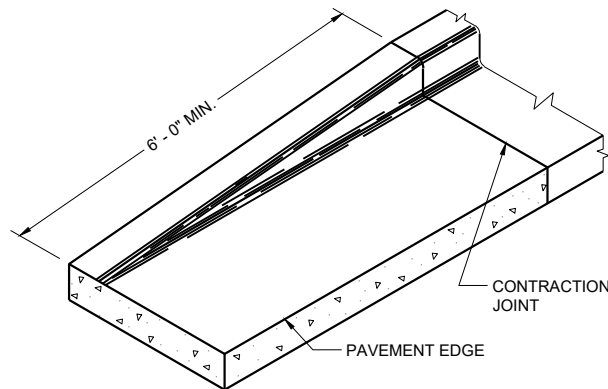
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

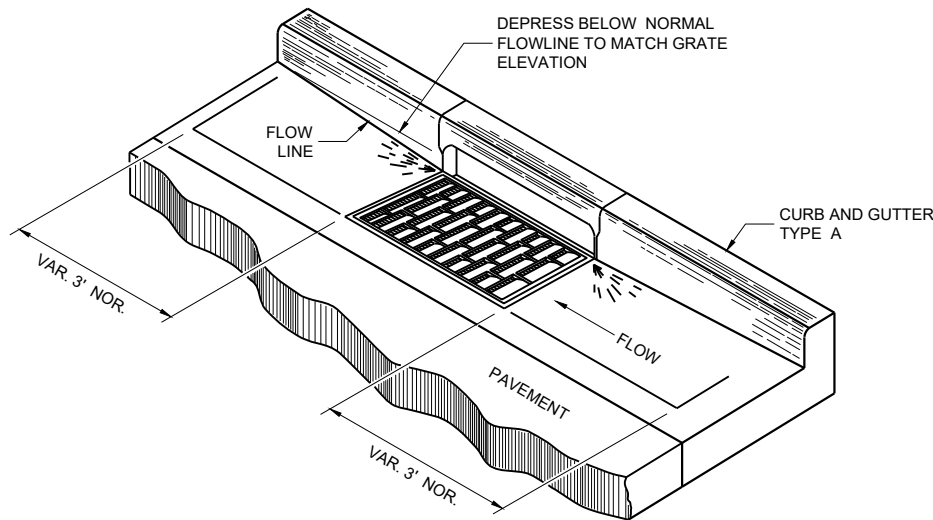
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH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

CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

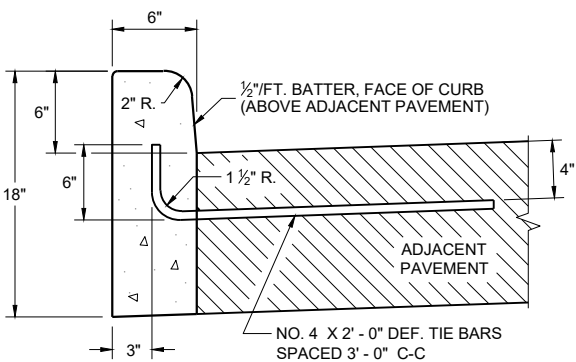


END SECTION CURB AND GUTTER

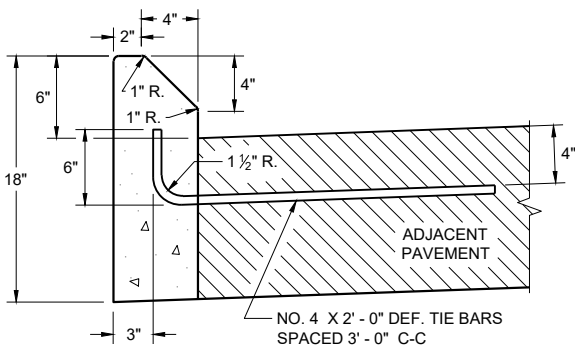


DETAIL OF CURB AND GUTTER AT INLETS

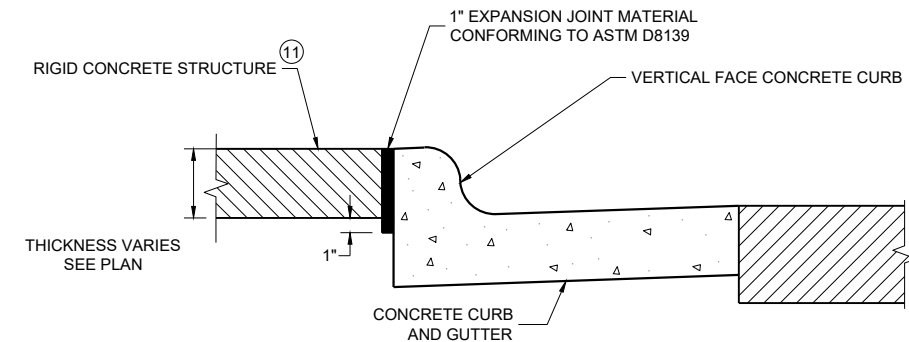
(TYPICAL H INLET COVER SHOWN)



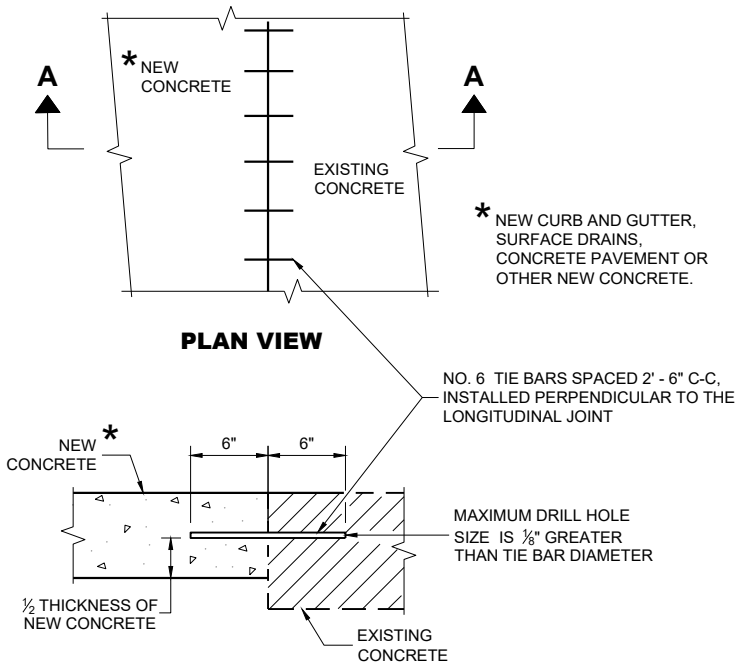
TYPES A^① & D



TYPES G^① & J
CONCRETE CURB



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



SECTION A - A
TIE BARS DRILLED INTO EXISTING PAVEMENT

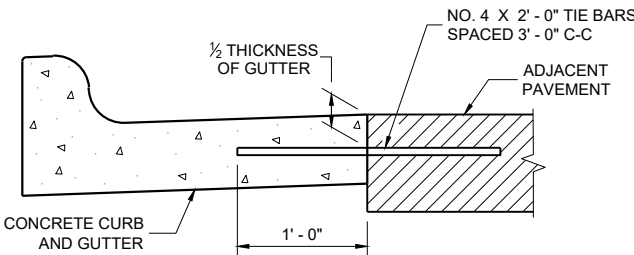
GENERAL NOTES

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

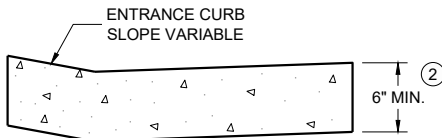
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

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



TYPICAL TIE BAR LOCATION^①



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

CONCRETE CURB, TIES
AND CURB AND GUTTER
APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

FHWA

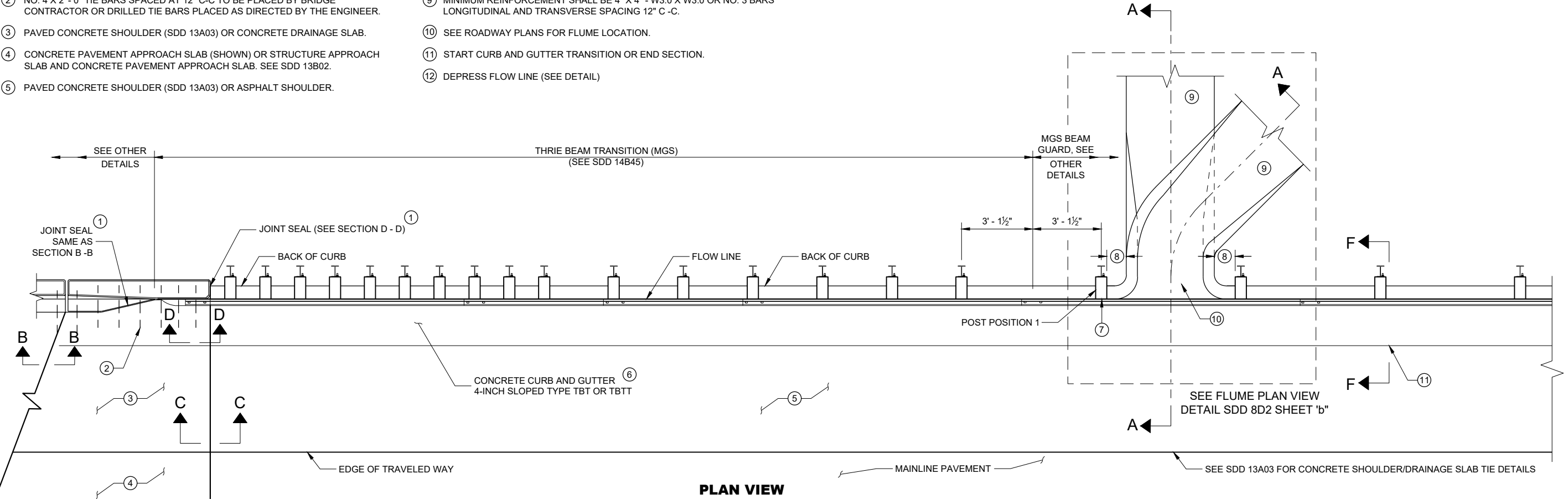
GENERAL NOTES

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

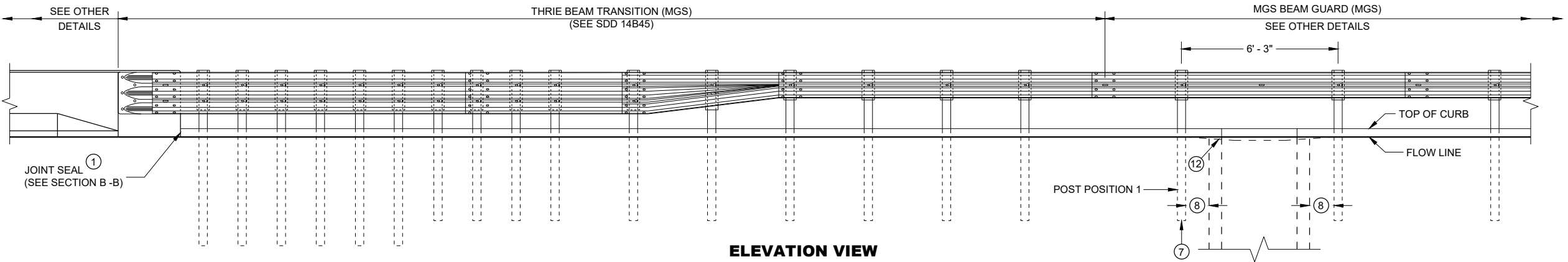
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

- 1 USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- 2 NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- 3 PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
- 4 CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.
- 5 PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

- 6 CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' - 0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
- 7 PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- 8 CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- 9 MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- 10 SEE ROADWAY PLANS FOR FLUME LOCATION.
- 11 START CURB AND GUTTER TRANSITION OR END SECTION.
- 12 DEPRESS FLOW LINE (SEE DETAIL)



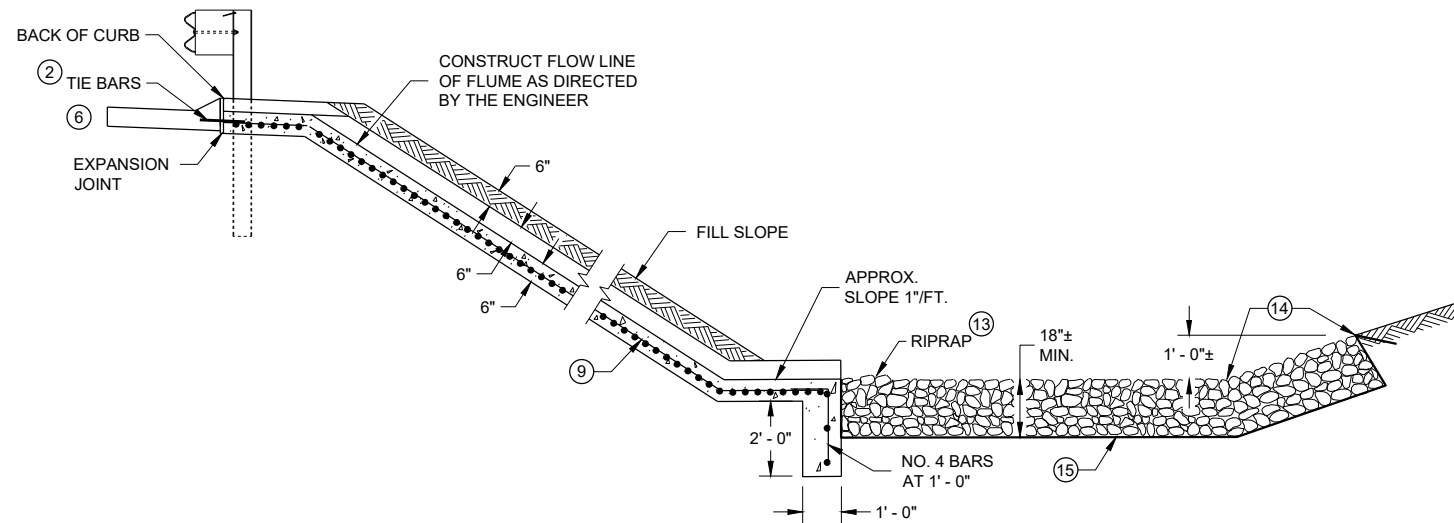
PLAN VIEW



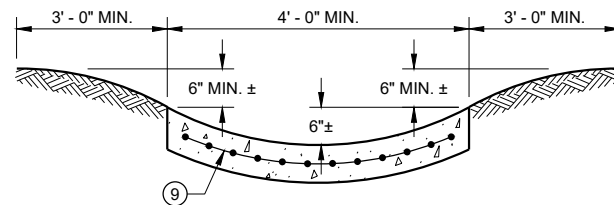
ELEVATION VIEW

CONCRETE SURFACE
DRAINS FLUME TYPE
AT STRUCTURES

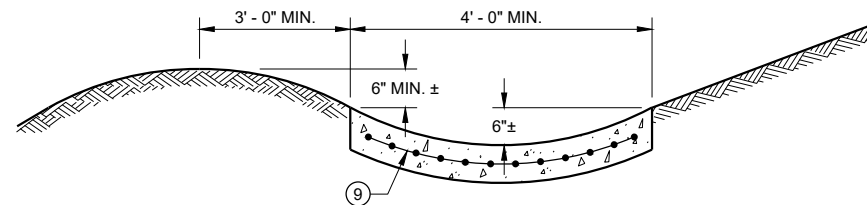
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



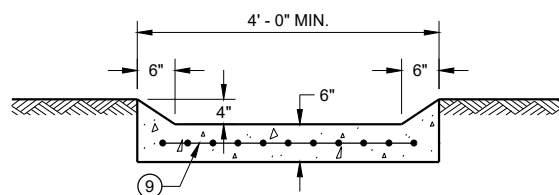
SECTION A - A



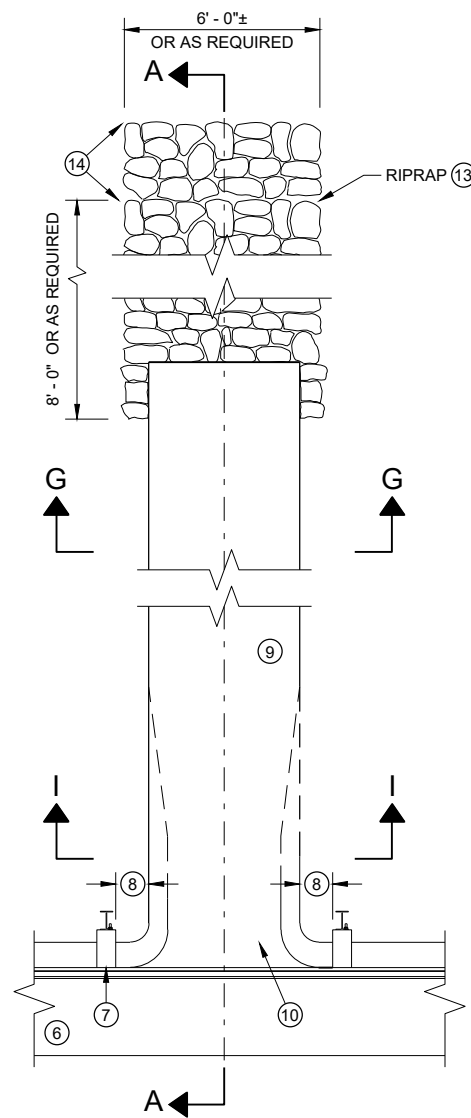
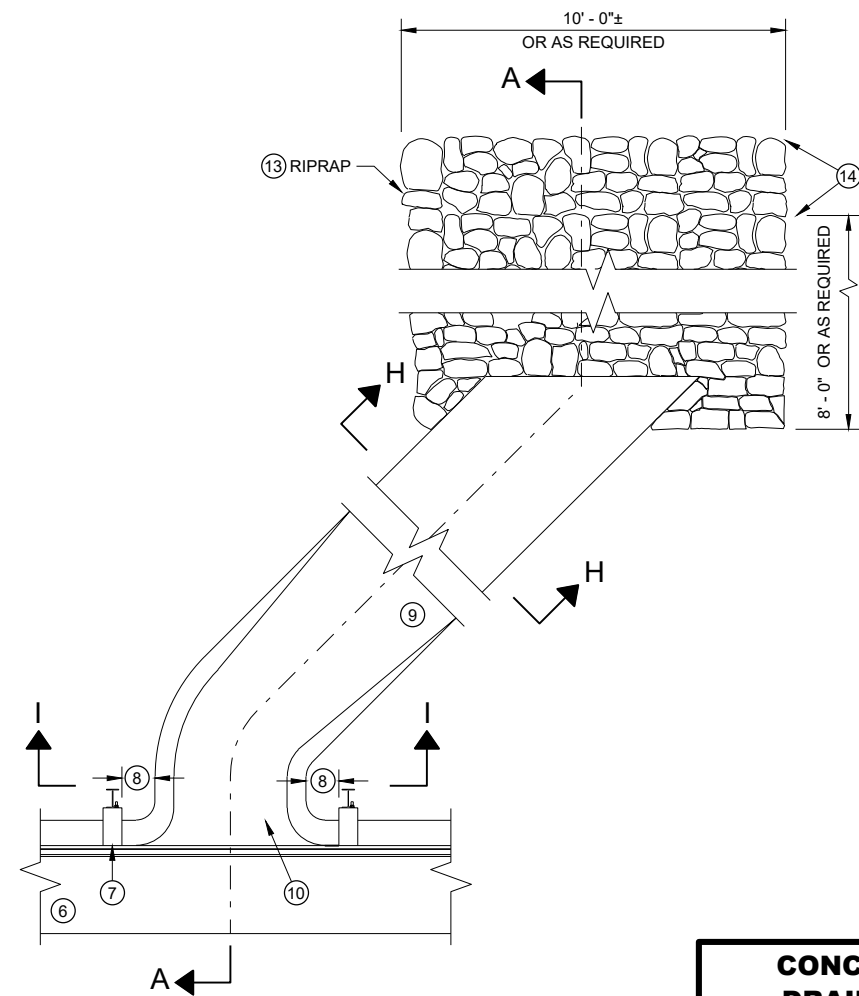
SECTION G - G



SECTION H - H



SECTION I - I

PLAN VIEW
PERPENDICULAR FLUMEPLAN VIEW
SKEWED FLUME

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.

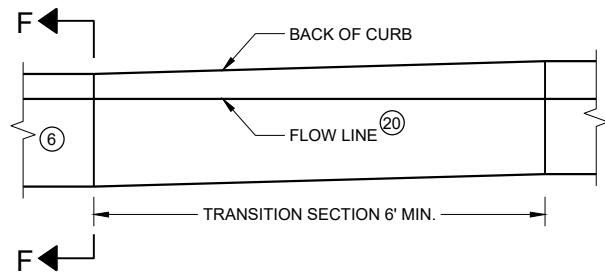
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

- ① USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ② NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
- ④ CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.
- ⑤ PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.
- ⑥ CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBT. USE TYPE TBT CURB WITH NO. 4 X 2' - 0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

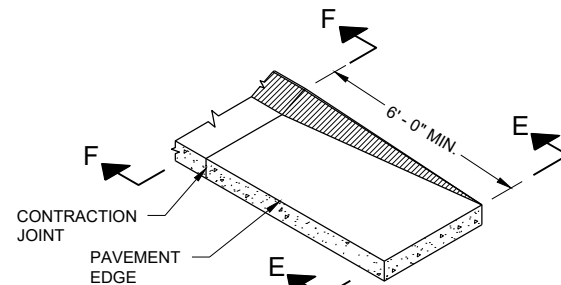
- ⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- ⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.
- ⑩ SEE ROADWAY PLANS FOR FLUME LOCATION.
- ⑪ START CURB AND GUTTER TRANSITION OR END SECTION.
- ⑫ DEPRESS FLOW LINE (SEE DETAIL)
- ⑬ MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
- ⑭ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH AS REQUIRED.
- ⑮ GEOTEXTILE TYPE HR.

**CONCRETE SURFACE
DRAINS FLUME TYPE
AT STRUCTURES**

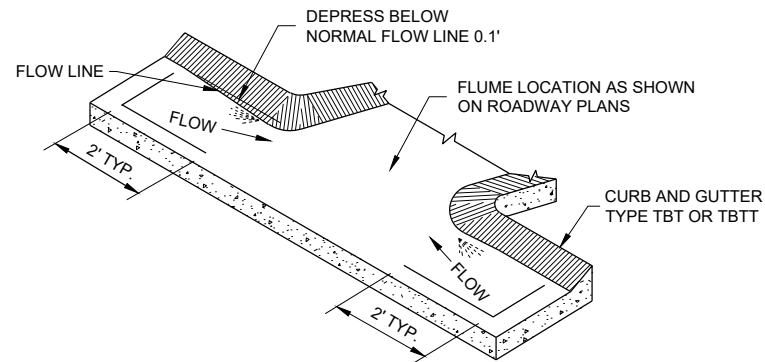
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



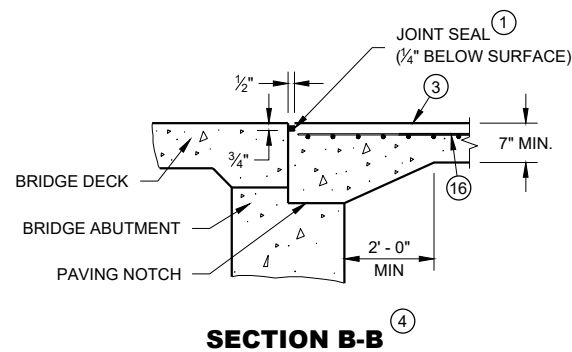
**CURB AND GUTTER TRANSITION SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT**



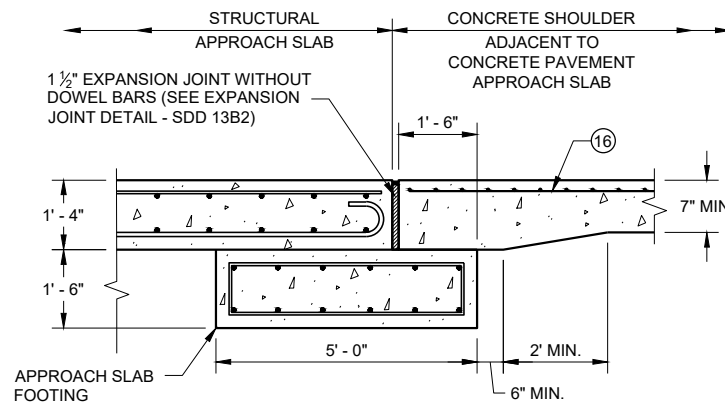
**CURB AND GUTTER END SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT**



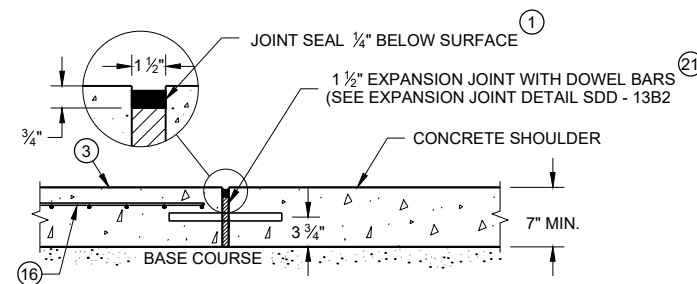
**CURB AND GUTTER FLOW LINE DEPRESSION
AT FLUMES CONCRETE CURB AND GUTTER
4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**



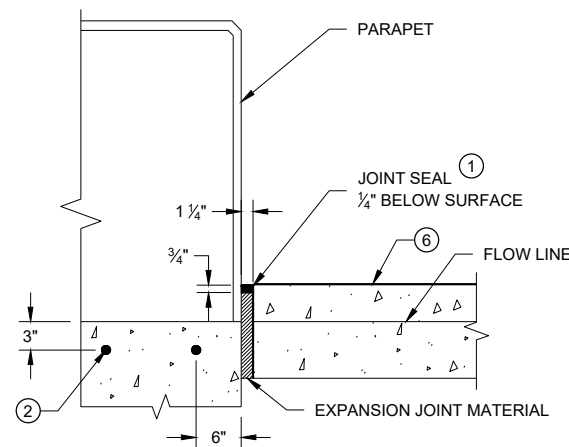
SECTION B-B



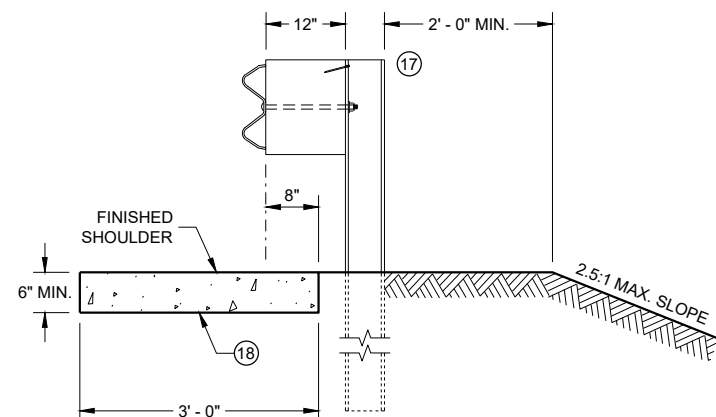
**SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL
APPROACH SLAB AND CONCRETE APPROACH SLAB**



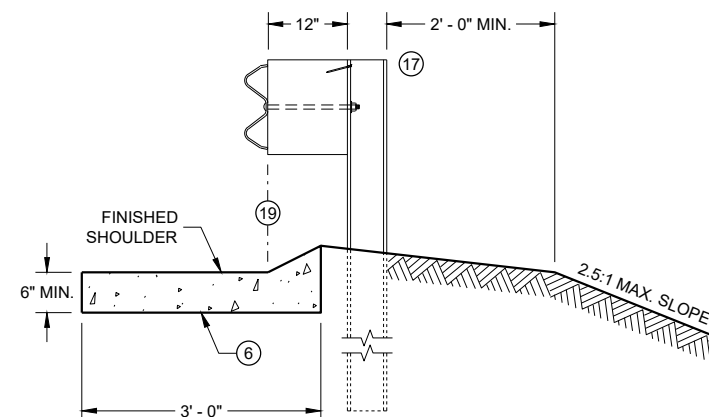
**SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH
WITH CONCRETE SHOULDERS**



SECTION D - D



SECTION E - E



SECTION F - F

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.

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

- ① USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ② NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
- ④ CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.
- ⑤ PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.
- ⑥ CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' - 0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
- ⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- ⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.
- ⑩ SEE ROADWAY PLANS FOR FLUME LOCATION.
- ⑪ START CURB AND GUTTER TRANSITION OR END SECTION.
- ⑫ DEPRESS FLOW LINE (SEE DETAIL)
- ⑬ MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
- ⑭ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.
- ⑮ GEOTEXTILE TYPE HR.
- ⑯ MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.
- ⑰ MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.
- ⑱ MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.
- ⑲ ALIGN FACE OF POST BLOCK WITH FLOW LINE.
- ⑳ MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.
- ㉑ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023

DATE

FHWA

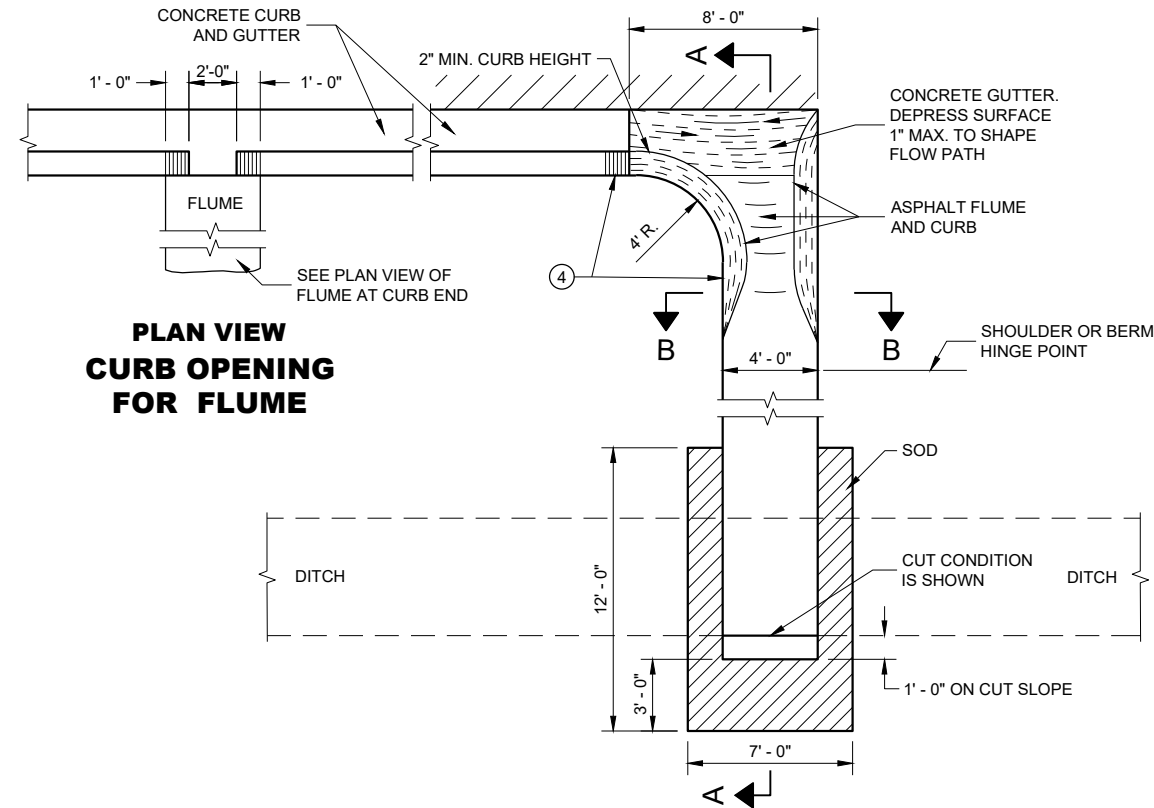
/S/ Rodney Taylor

ROADWAY STANDARDS DEVELOPMENT

ENGINEER

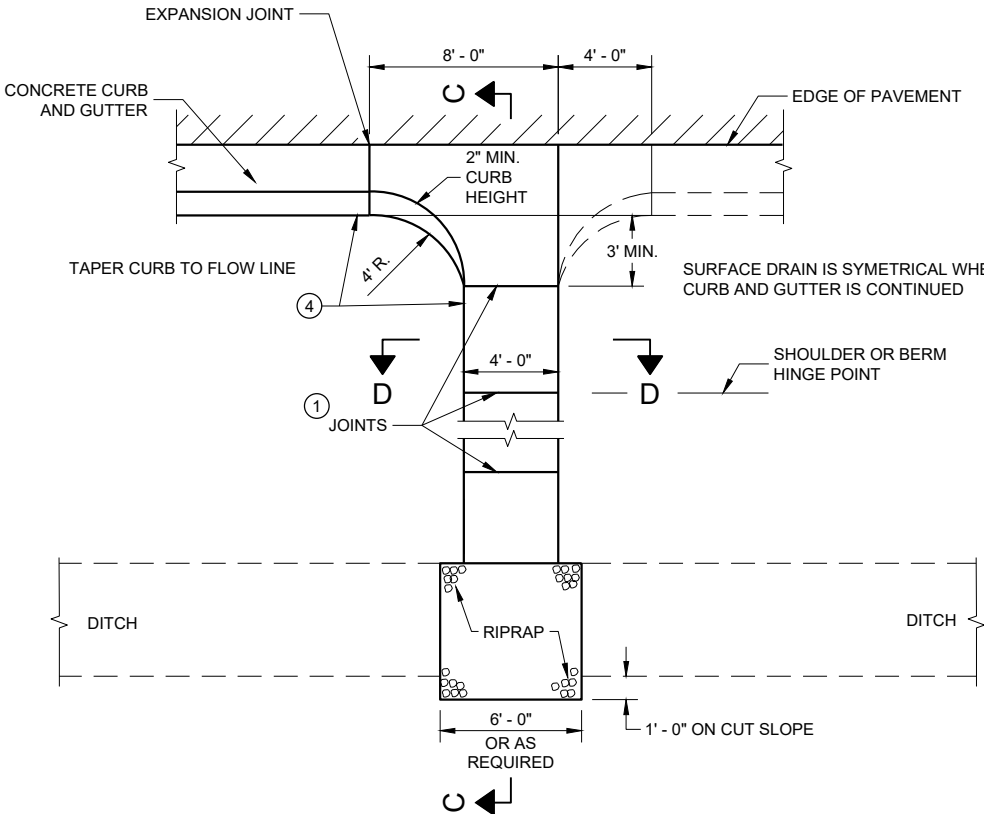
NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

ASPHALTIC FLUME



PLAN VIEW
CURB OPENING
FOR FLUME

PLAN VIEW
FLUME AT CURB END



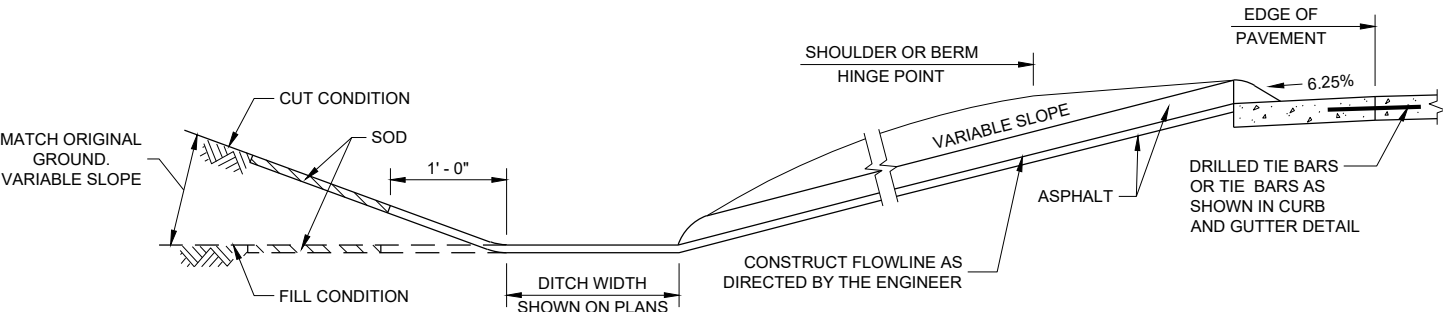
PLAN VIEW
CONCRETE SURFACE DRAIN

GENERAL NOTES

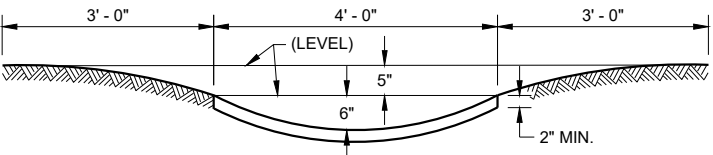
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

4" X 4" - W3.0 X W3.0 CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

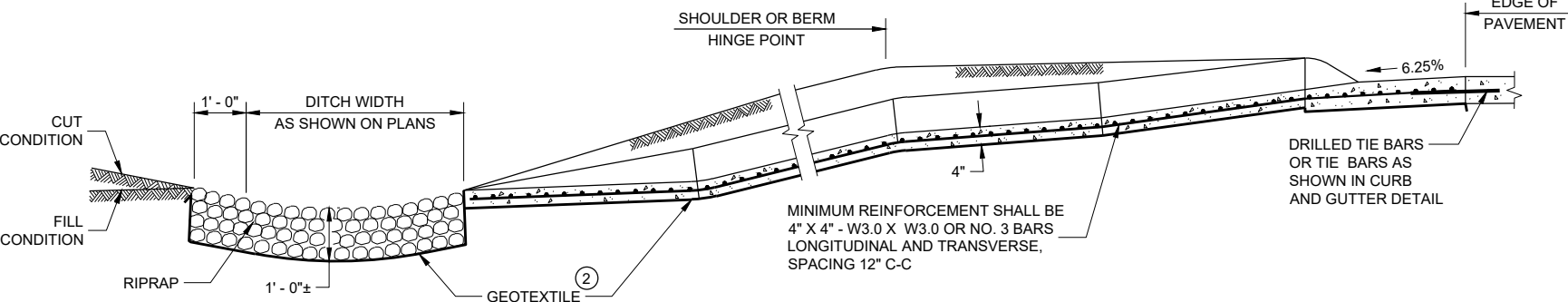
- JOINTS SHALL BE $\frac{1}{8}$ " TO $\frac{1}{4}$ " WIDE BY $\frac{1}{2}$ " DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.
- ANGLE OF FLUME IN RELATION TO BACK OF CURB TO BE CONSTRUCTED PER THE PLAN DETAILS OR AS DIRECTED BY THE ENGINEER. ANGLE OF FLUME MAY BE OTHER THAN 90 DEGREES AS SHOWN.



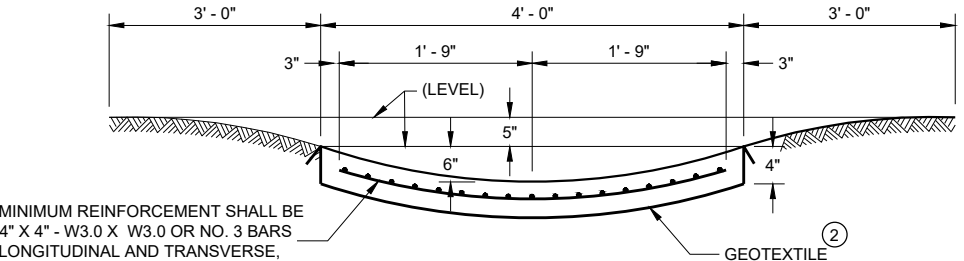
SECTION A - A



SECTION B - B



SECTION C - C



SECTION D - D

CONCRETE SURFACE
DRAINS AND
ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023

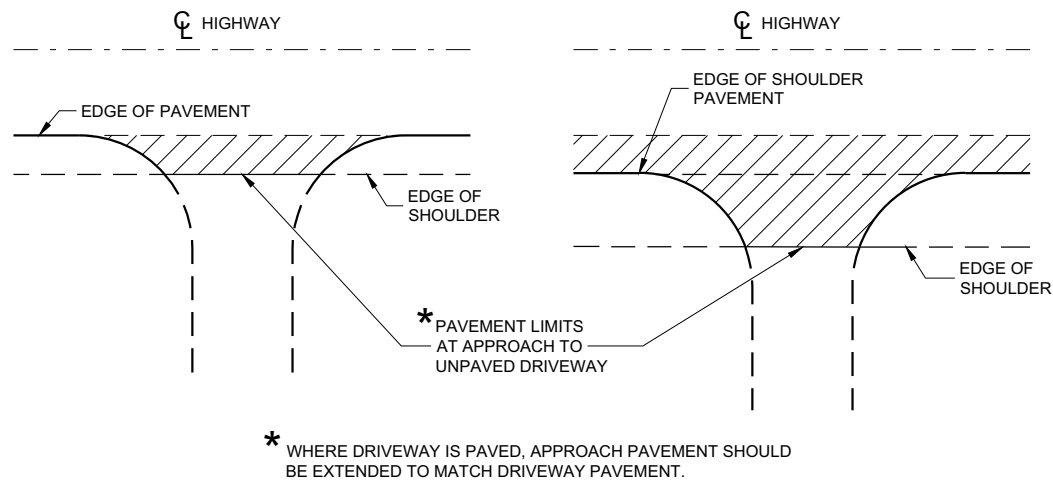
DATE

FHWA

/S/ Rodney Taylor

ROADWAY STANDARDS DEVELOPMENT

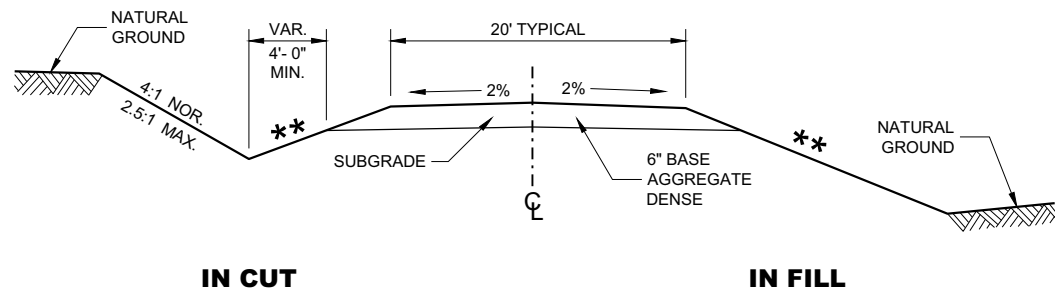
ENGINEER



PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

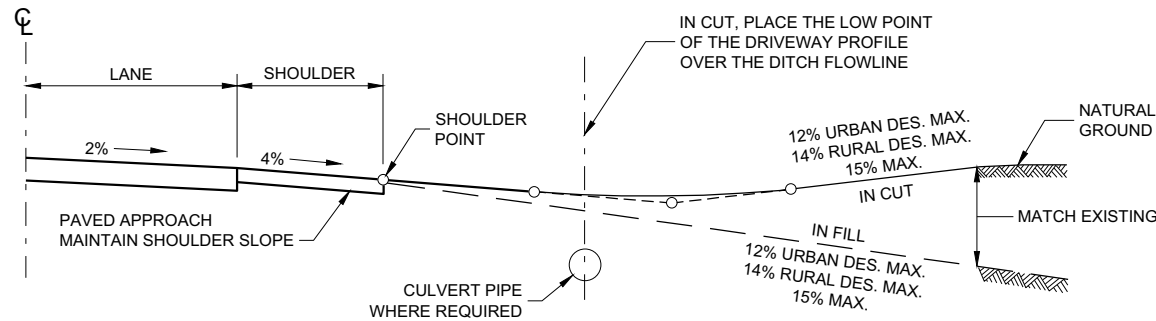
**RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB AND GUTTER OR SIDEWALK)**



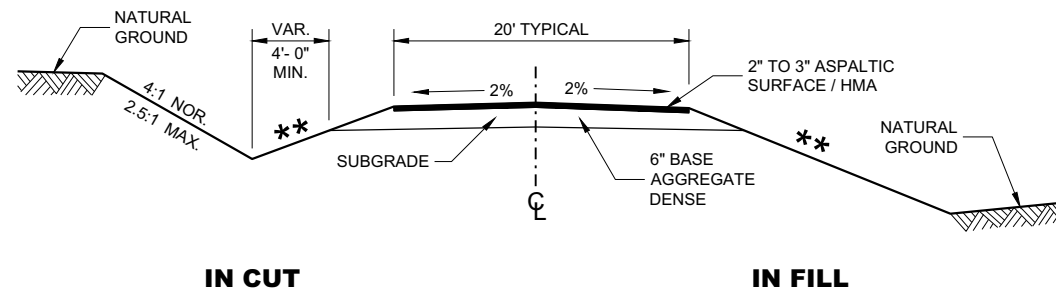
**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
AGGREGATE SURFACE**

****** SLOPE CAN VARY WITH SPEED. SEE 11-45-30.6.2

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



TYPICAL DRIVEWAY PROFILES



**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
ASPHALTIC SURFACE**

**DRIVEWAYS WITHOUT
CURB AND GUTTER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

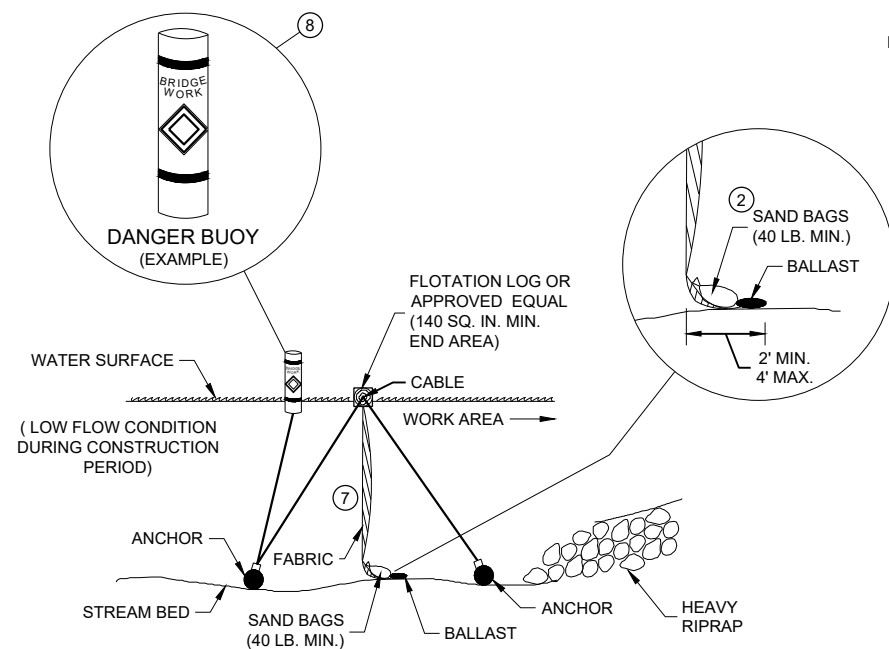
APPROVED
December 2017
DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



- 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 1½" X 1½" 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.

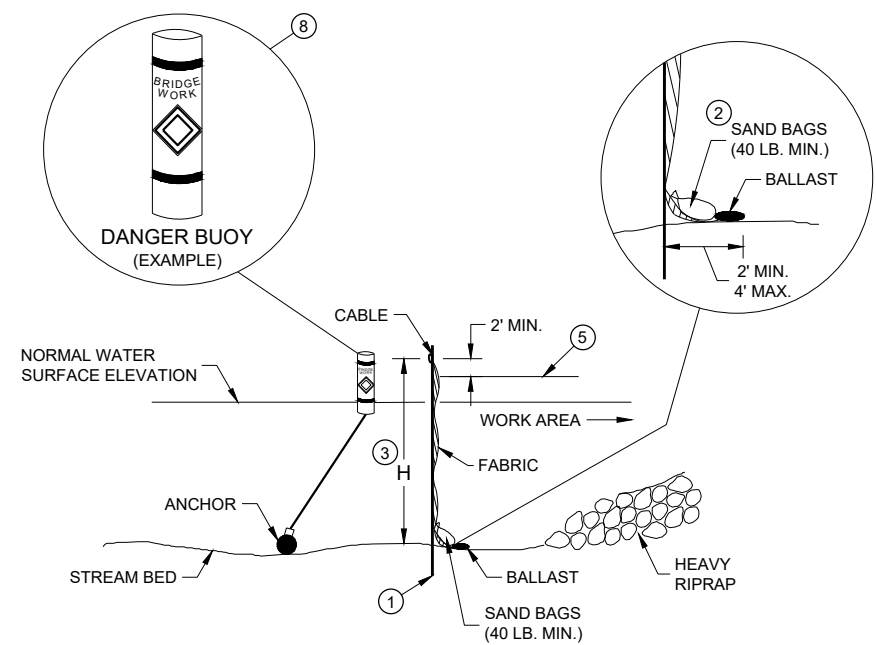


<p>SILT FENCE</p>	
<p>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p>	
<p>APPROVED 4-29-05 DATE</p>	<p>/s/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER</p>



SECTION B - B

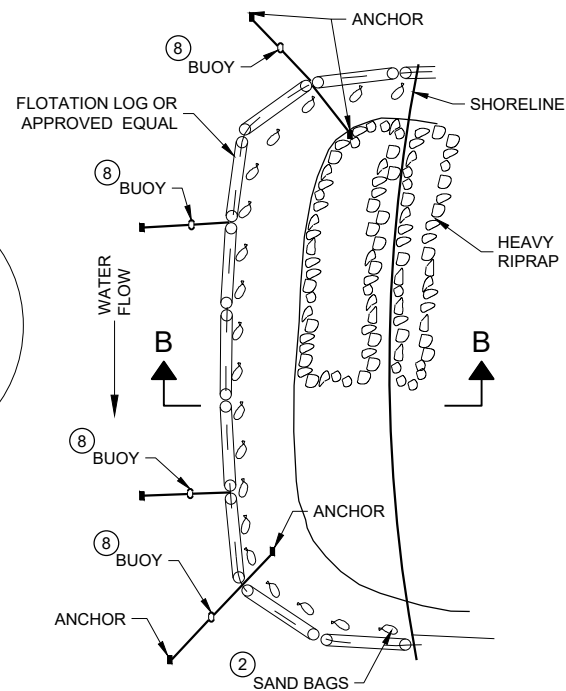
TURBIDITY BARRIER - FLOAT ALTERNATIVE CAUTION - SEE NOTE 6



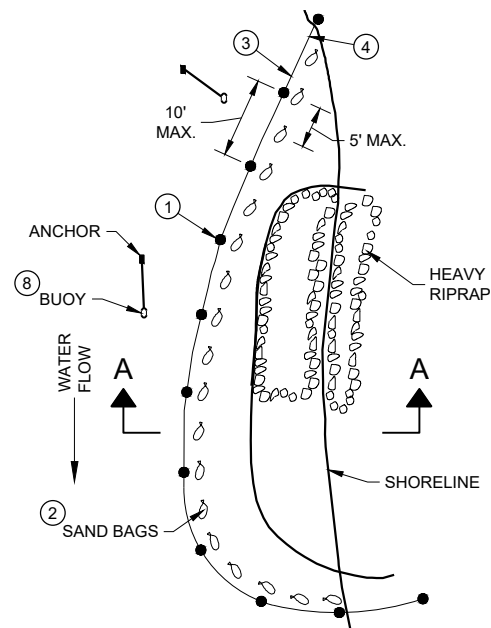
SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS



PLAN VIEW



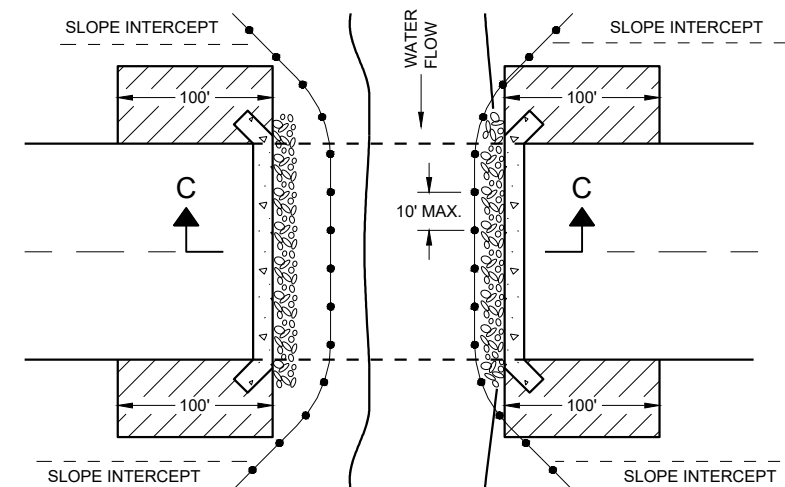
PLAN VIEW

GENERAL NOTES

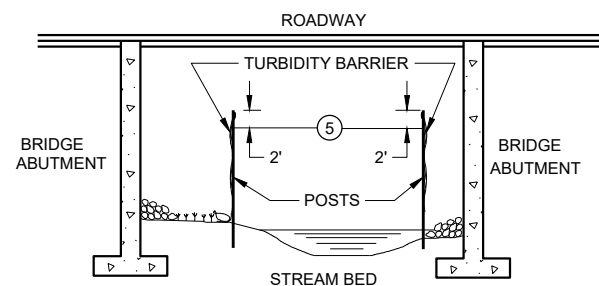
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

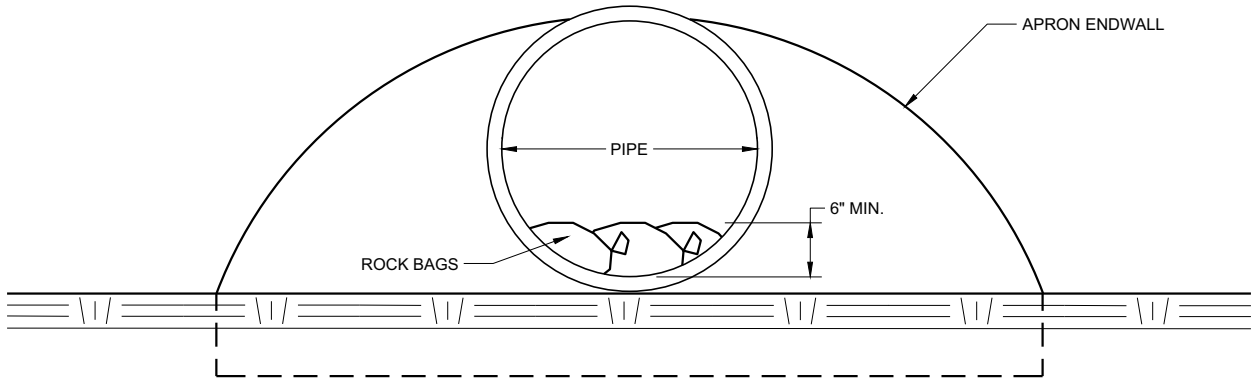
DATE

FHWA

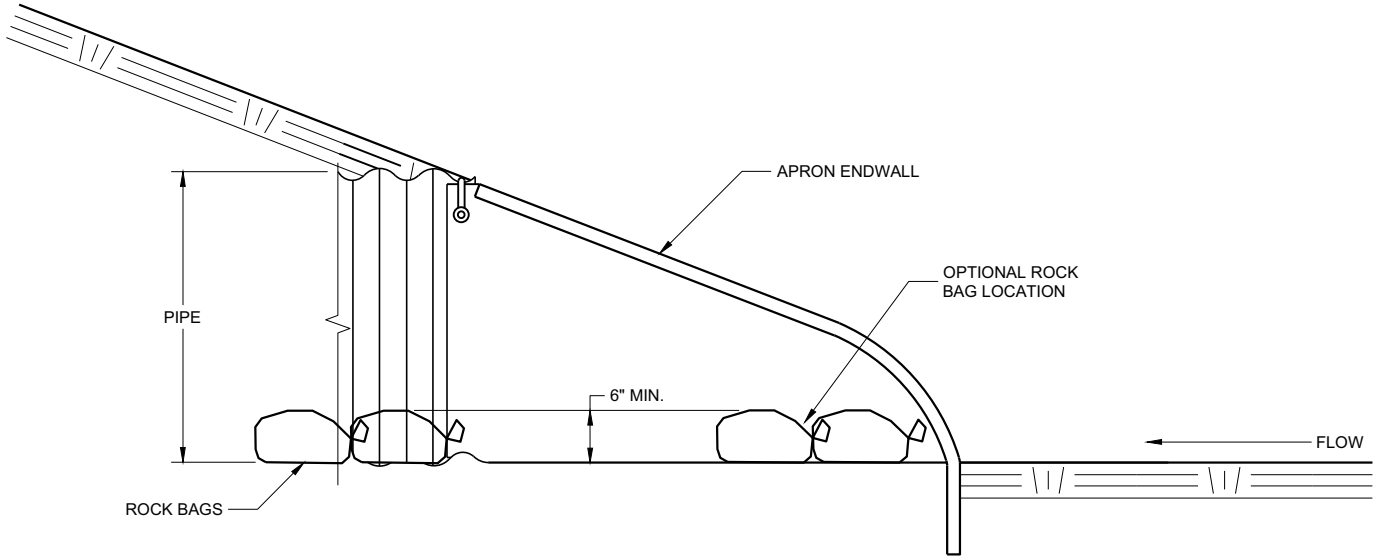
/S/ Beth Cannestra

CHIEF ROADWAY DEVELOPMENT

ENGINEER



END VIEW



SIDE VIEW

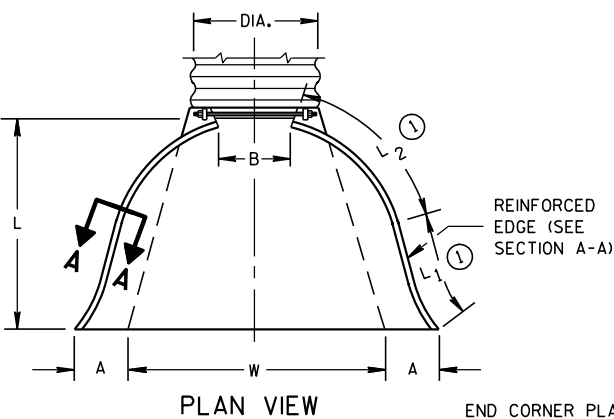
CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGINEER

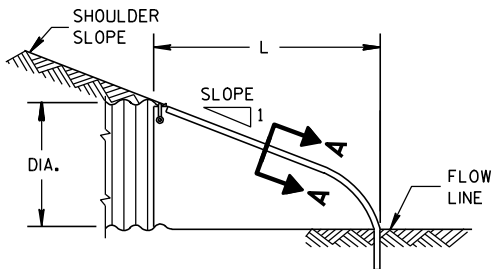
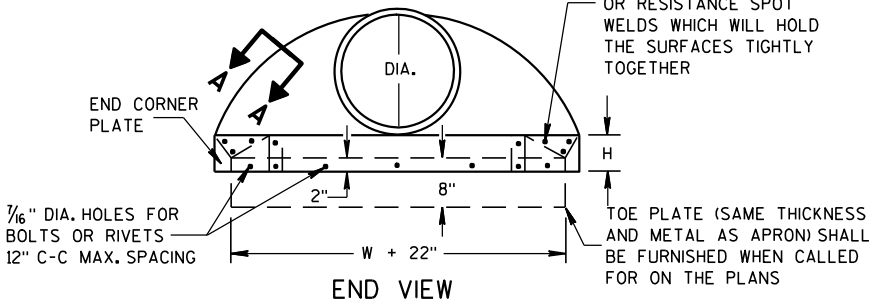
FHWA

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

* EXCEPT CENTER PANEL
SEE GENERAL NOTES



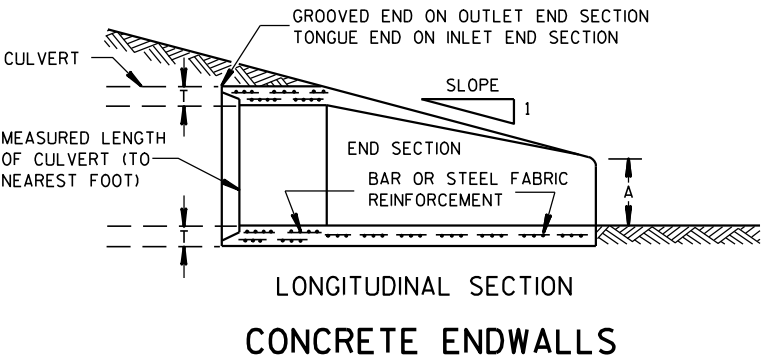
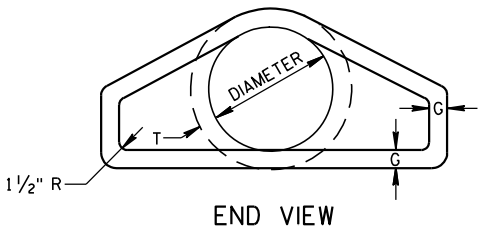
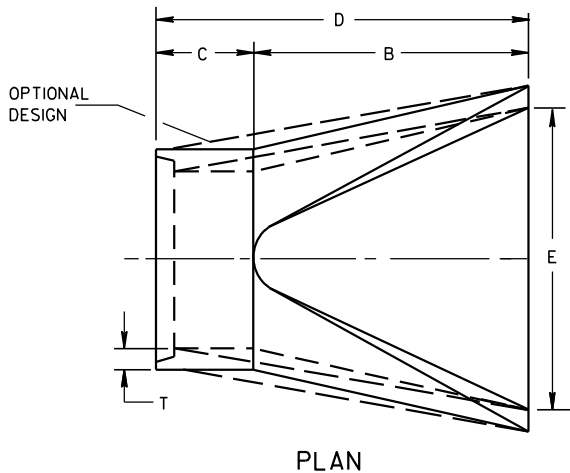
END CORNER PLATES MAY
BE FASTENED TO APRON
PROPER BY BOLTS, RIVETS,
OR RESISTANCE SPOT
WELDS WHICH WILL HOLD
THE SURFACES TIGHTLY
TOGETHER



SIDE ELEVATION
METAL ENDWALLS

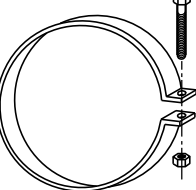
REINFORCED CONCRETE APRON ENDWALLS												
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE				
	T	A	B	C	D	E	G					
12	2	4	24	48 7/8	72 7/8	24	2	3 to 1				
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1				
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1				
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1				
24	3	9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

* MINIMUM
** MAXIMUM

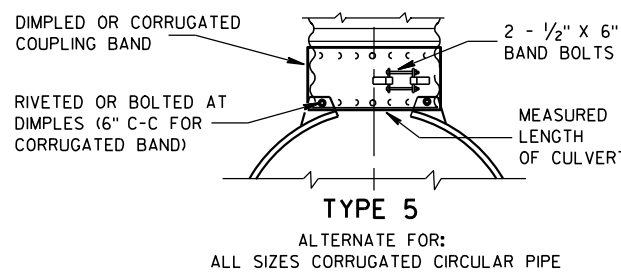
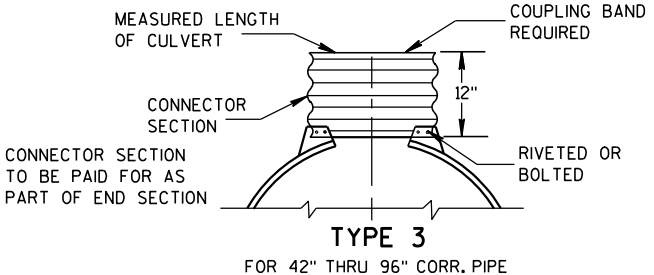
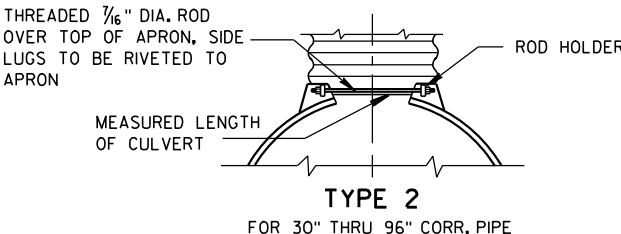
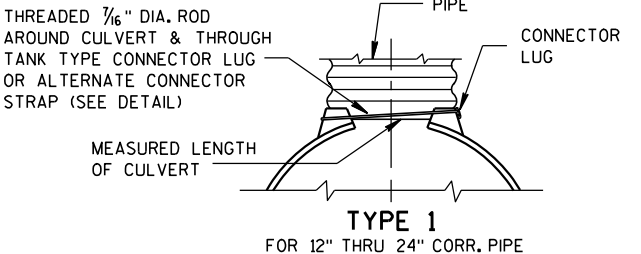


LONGITUDINAL SECTION
CONCRETE ENDWALLS

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



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



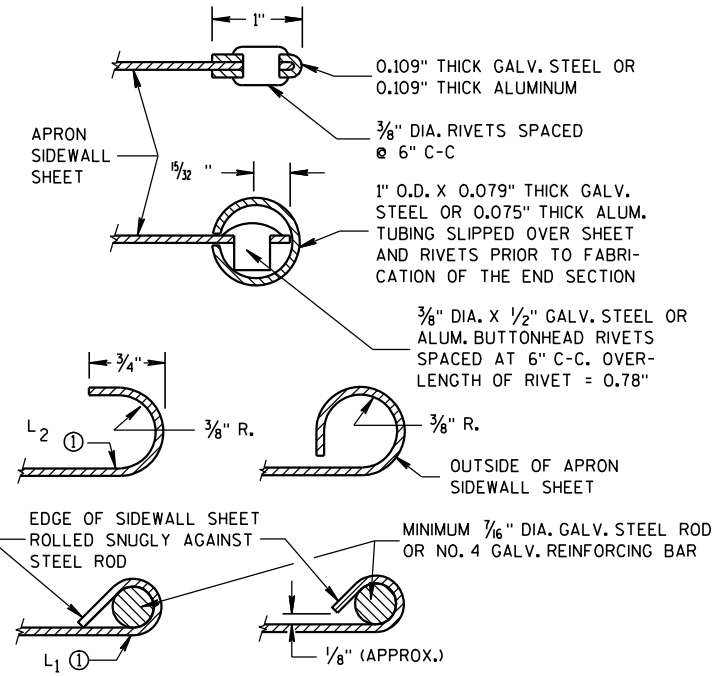
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL,
AND CORRUGATED BAND FITS INSIDE ENDWALL.
DIMPLED BAND MAY BE USED WITH HELICALLY
CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

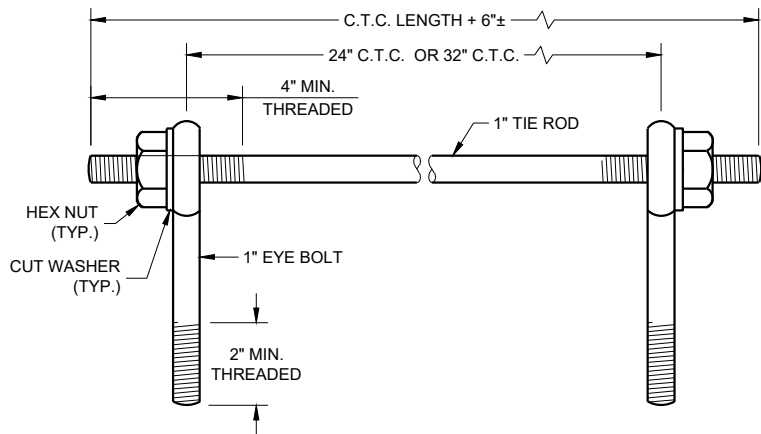
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT
TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT
TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

APRON ENDWALLS FOR
CULVERT PIPE

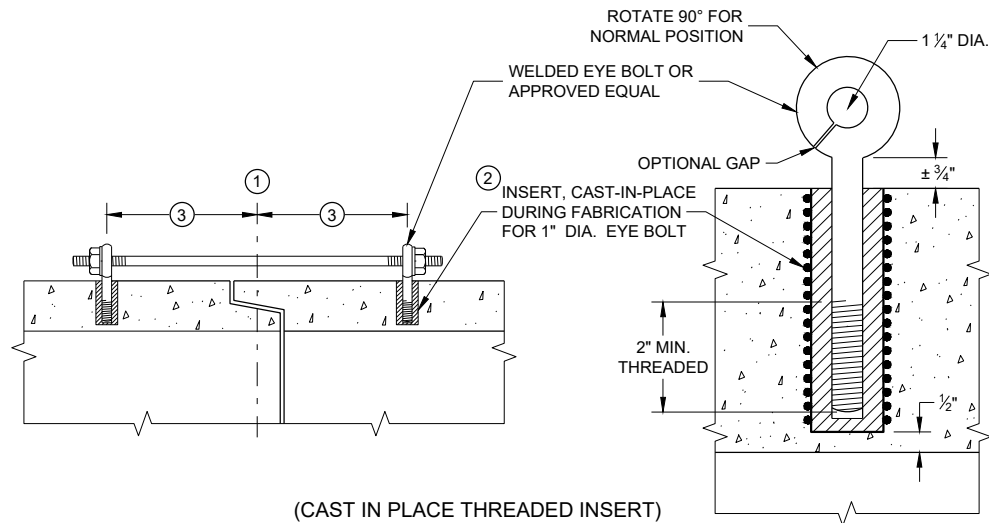
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



EYE BOLTS AND TIE ROD

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



(CAST IN PLACE THREADED INSERT)
LONGITUDINAL SECTIONS

GENERAL NOTES

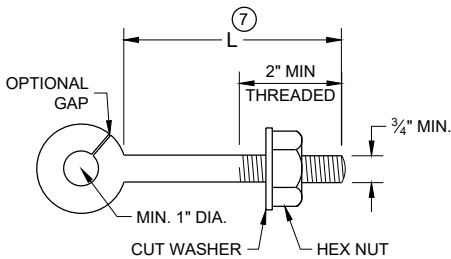
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

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

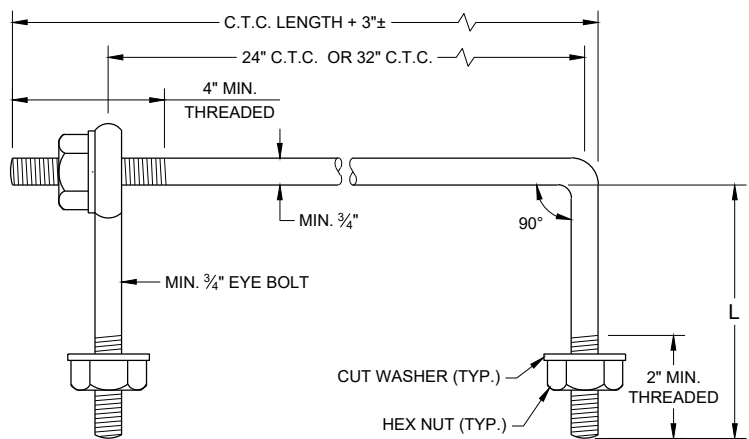
JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- 1 CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- 2 THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- 3 HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.
- 4 BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- 5 OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- 6 LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.
- 7 EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

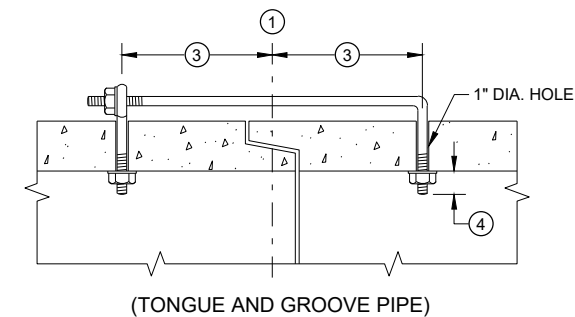


EYE BOLT 7

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

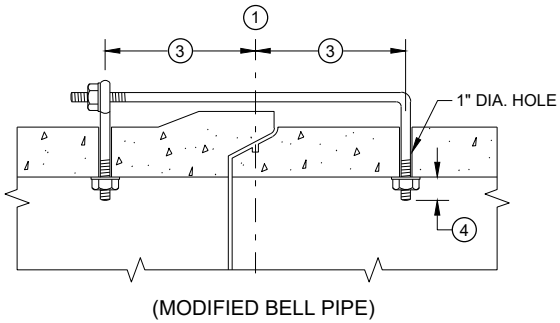


(TONGUE AND GROOVE PIPE)

LONGITUDINAL SECTION

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

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

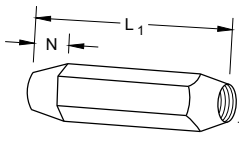


(MODIFIED BELL PIPE)

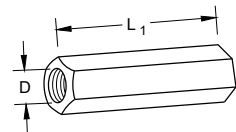
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L ₁	N
12 - 60	5/8	5/8	5	1/2
66 - 84	3/4	3/4	5	1/2
90 - 144	1	1	7	1 1/16

DIMENSIONS SHOWN ARE IN INCHES

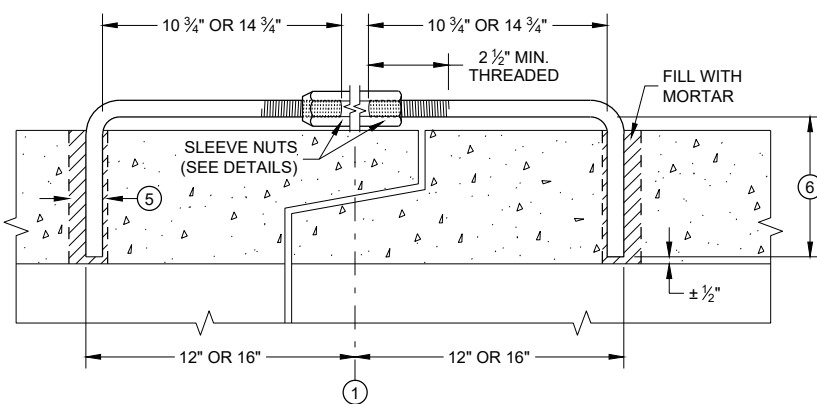


TAPERED



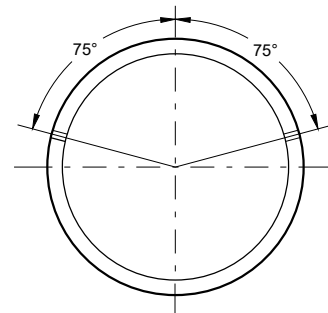
PLAIN

RIGHT AND LEFT THREADS
SLEEVE NUTS



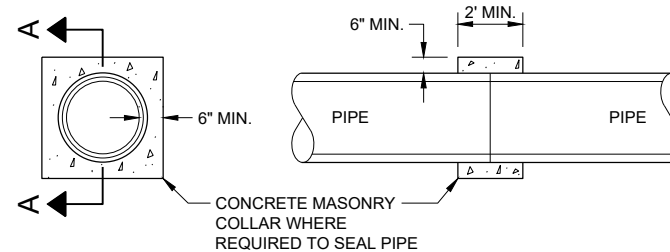
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



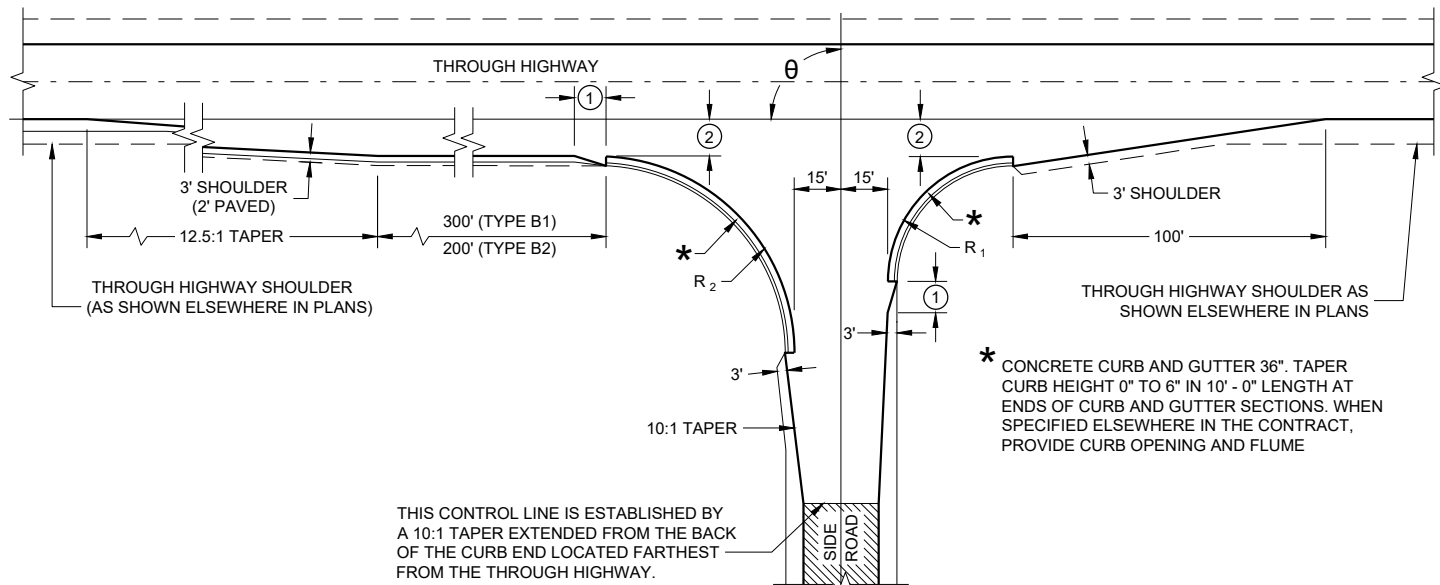
SECTION A - A

CONCRETE COLLAR DETAIL

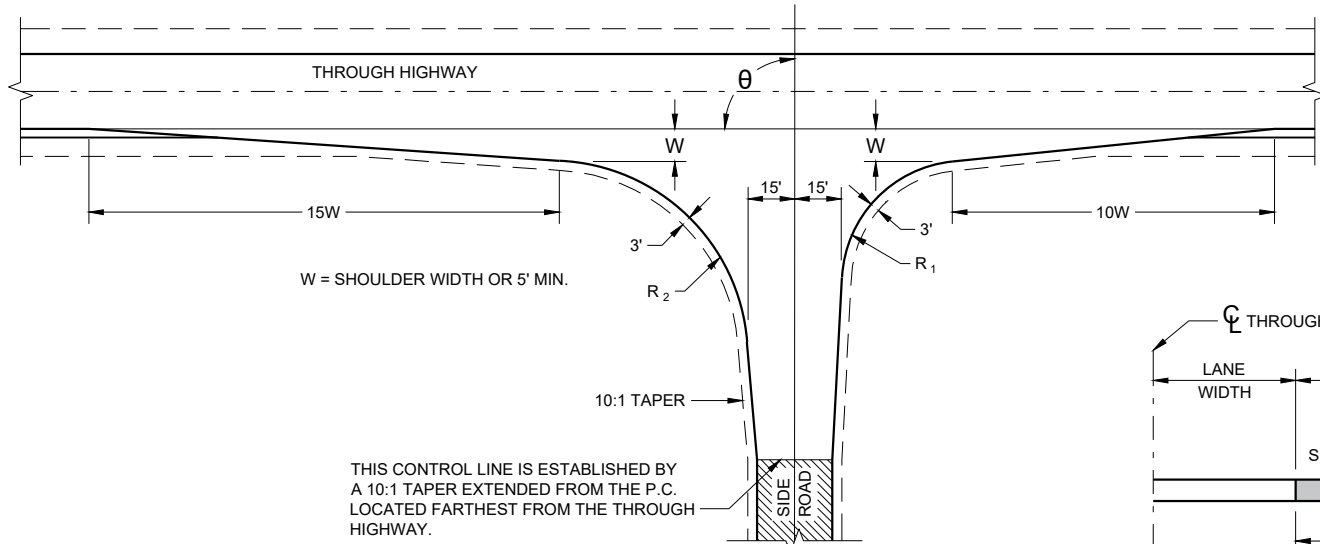
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

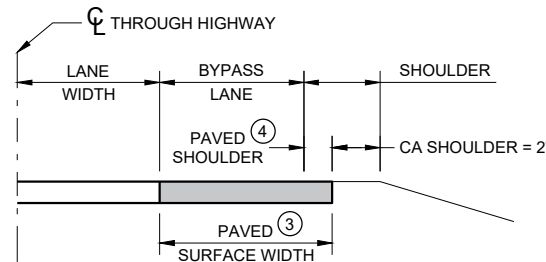
APPROVED
November 2021 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



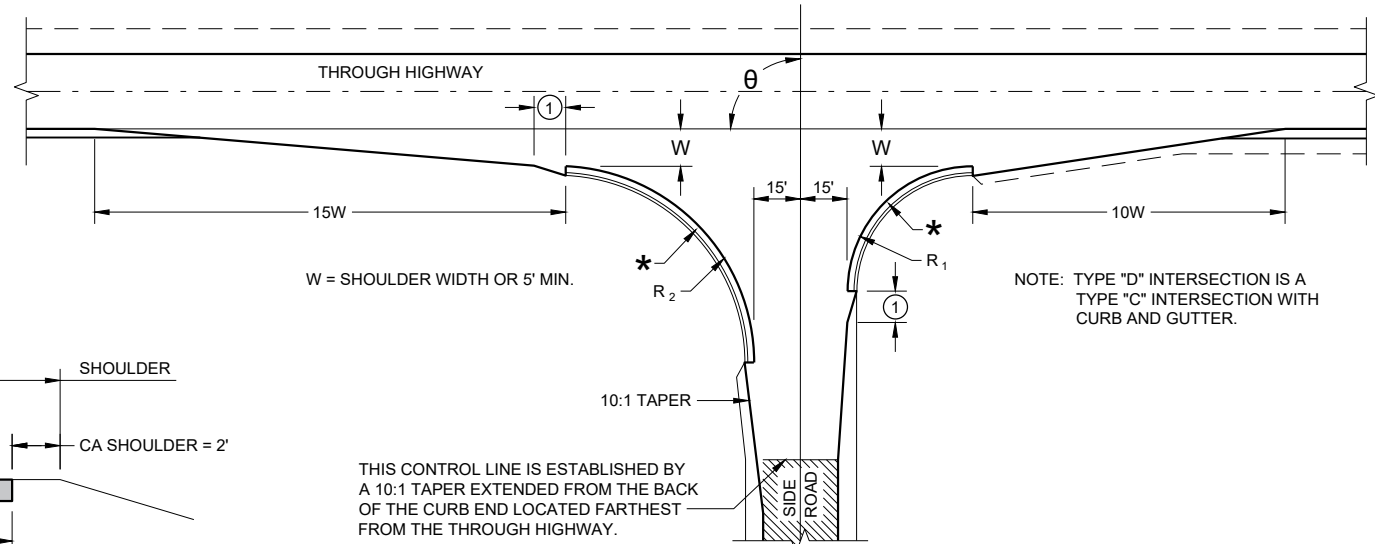
TYPE "B1" AND "B2"



TYPE "C"



SECTION A - A
(SHOWING BYPASS LANE AND SHOULDER)



TYPE "D"

RADII DIMENSIONS FOR TYPES "B1",
"B2", "C" AND "D" INTERSECTIONS

θ	R_1	R_2
65 - 70	35	70
71 - 80	40	70
81 - 90	40	60
91 - 100	50	55
101 - 110	60	45

GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

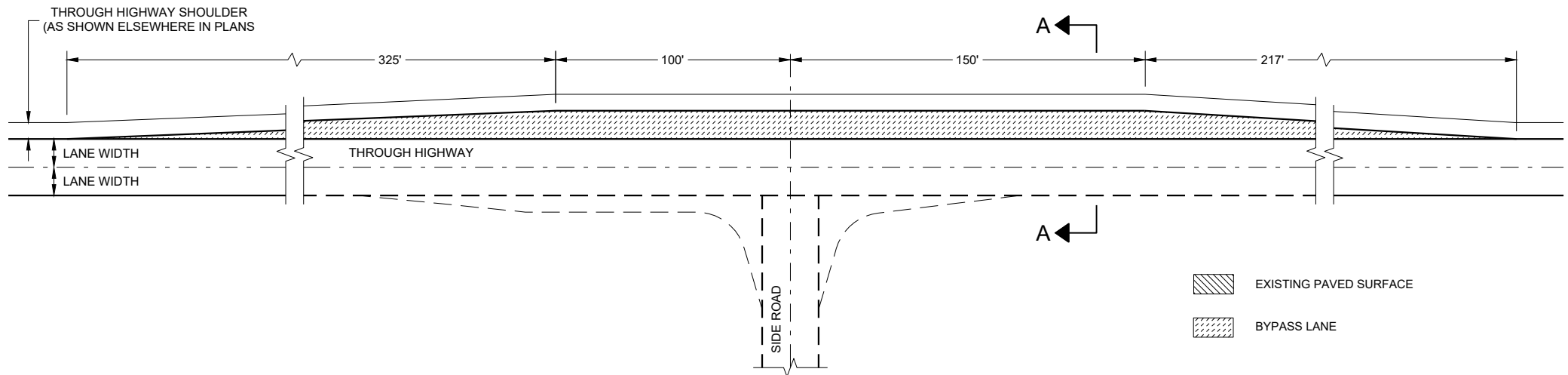
SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

- ① 10-FT TYPICAL.
- ② 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.
** 10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.
- ③ BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
- ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH
- PC CONCRETE = 13-FT PLUS PAVED SHOULDER WIDTH
- ④ BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.

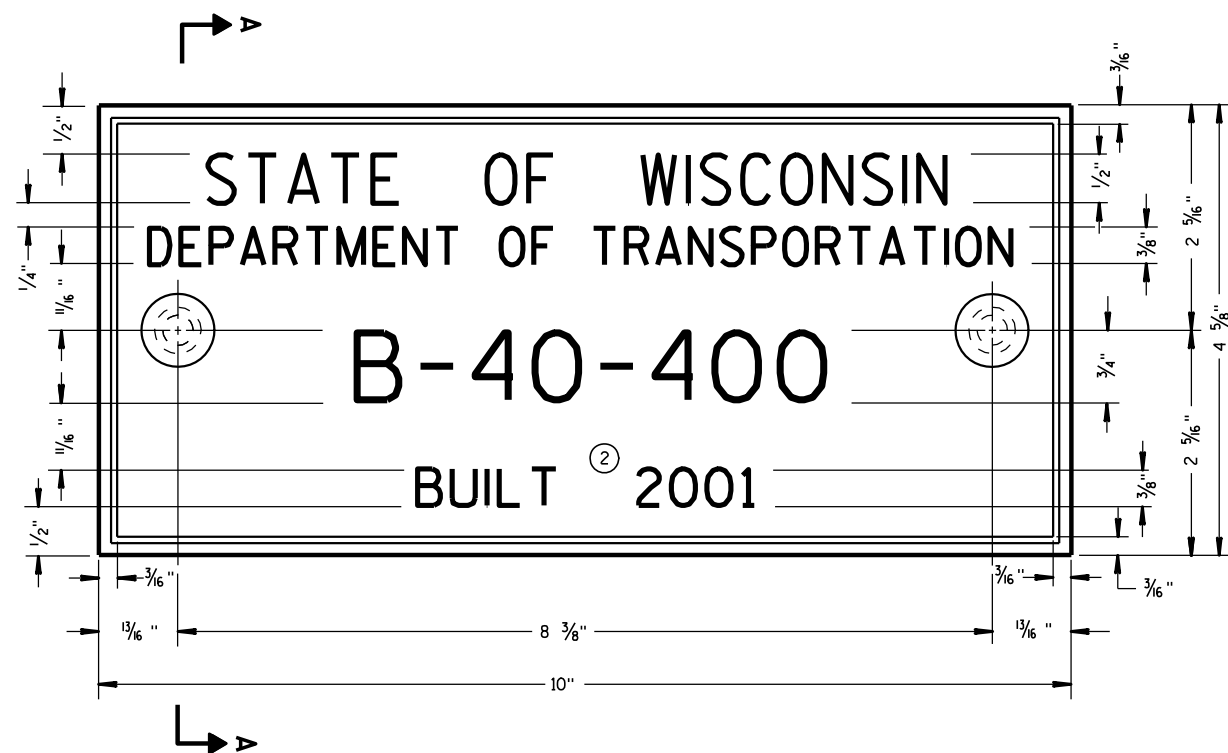


TEE INTERSECTION BYPASS LANE DETAIL

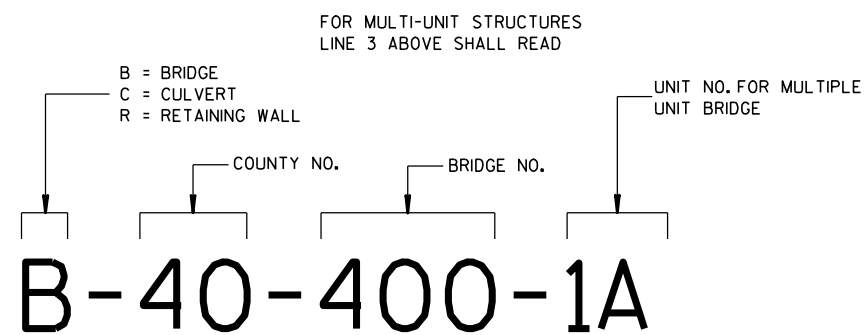
- EXISTING PAVED SURFACE
- BYPASS LANE

AT GRADE SIDE ROAD
INTERSECTION TYPES "B1",
"B2", "C", "D" AND TEE
INTERSECTION BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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



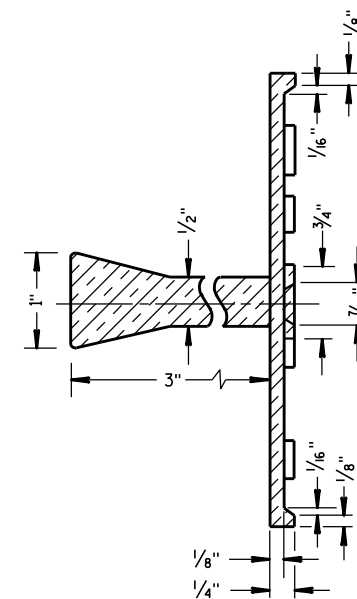
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

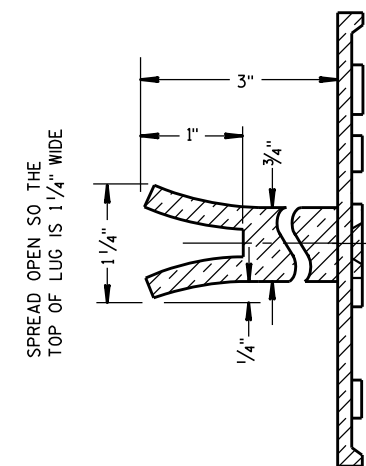
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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.



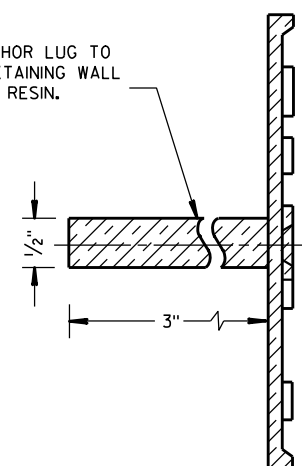
SECTION A-A



SPREAD OPEN SO THE
TOP OF LUG IS 1 1/4" WIDE

ALTERNATE LUG

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



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

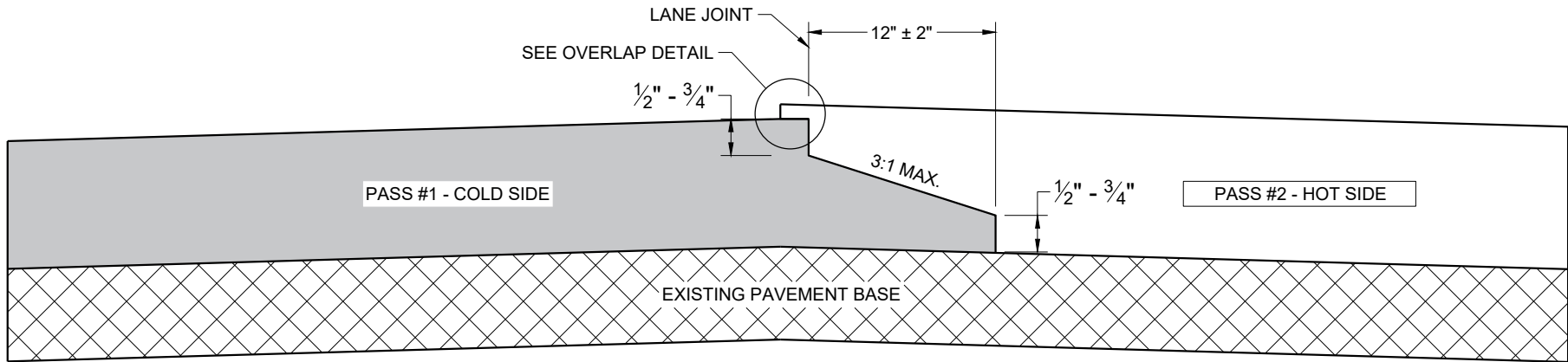
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

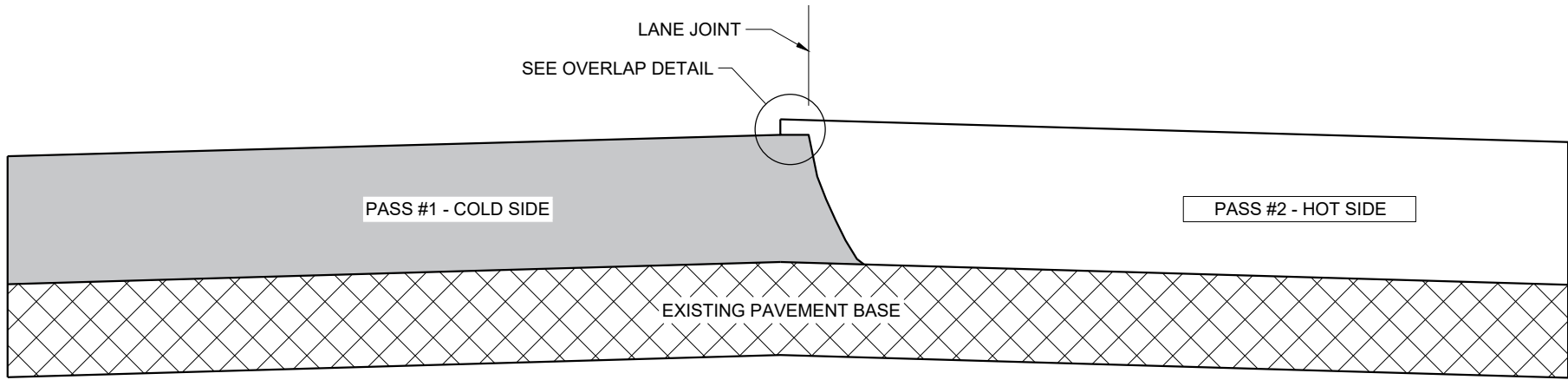
3/26/10
DATE

FHWA

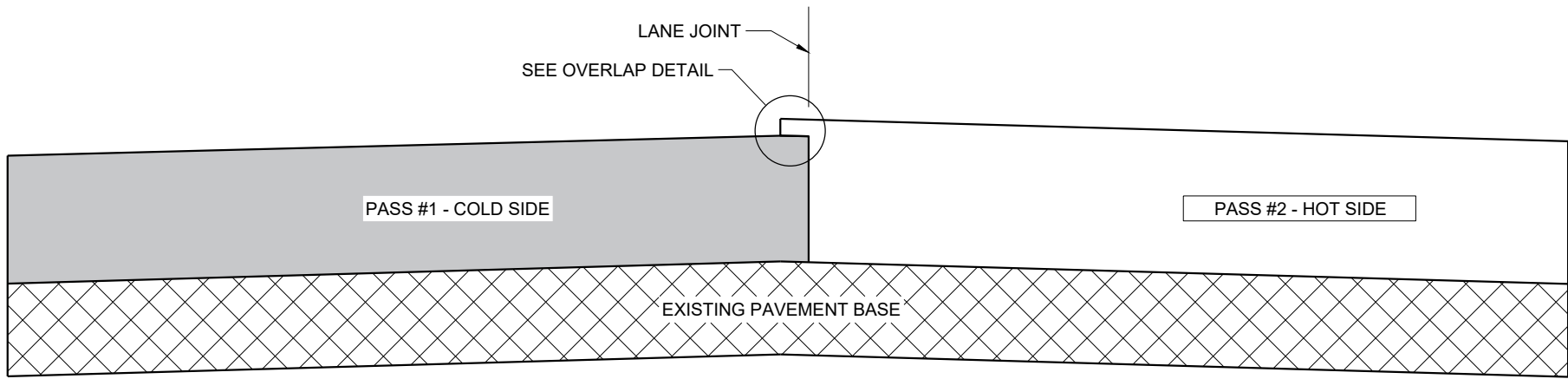
/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



**TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT**



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

GENERAL NOTES

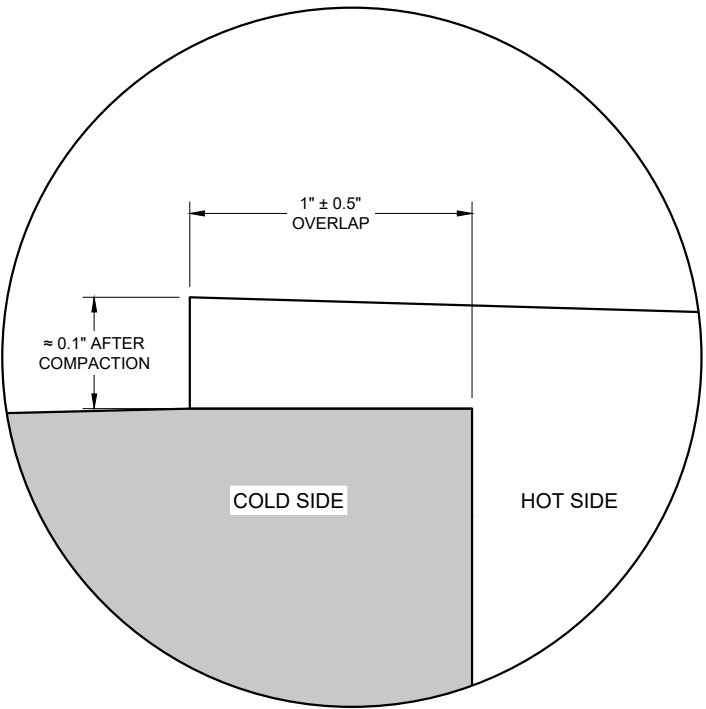
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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.

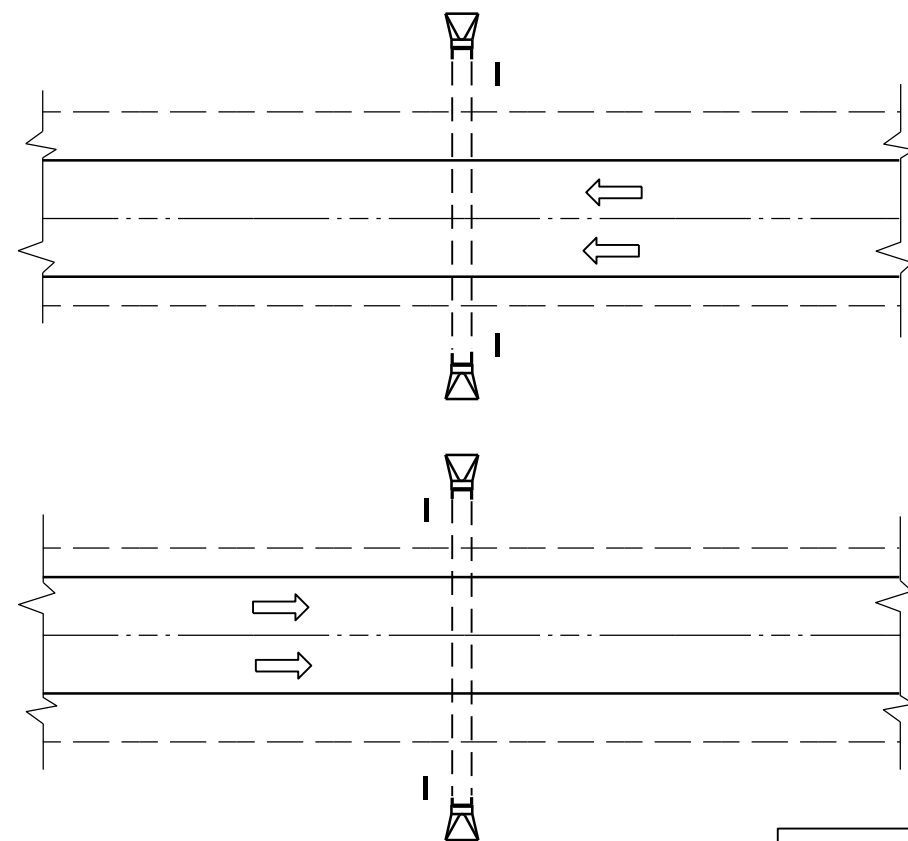


OVERLAP DETAIL (TYPICAL)

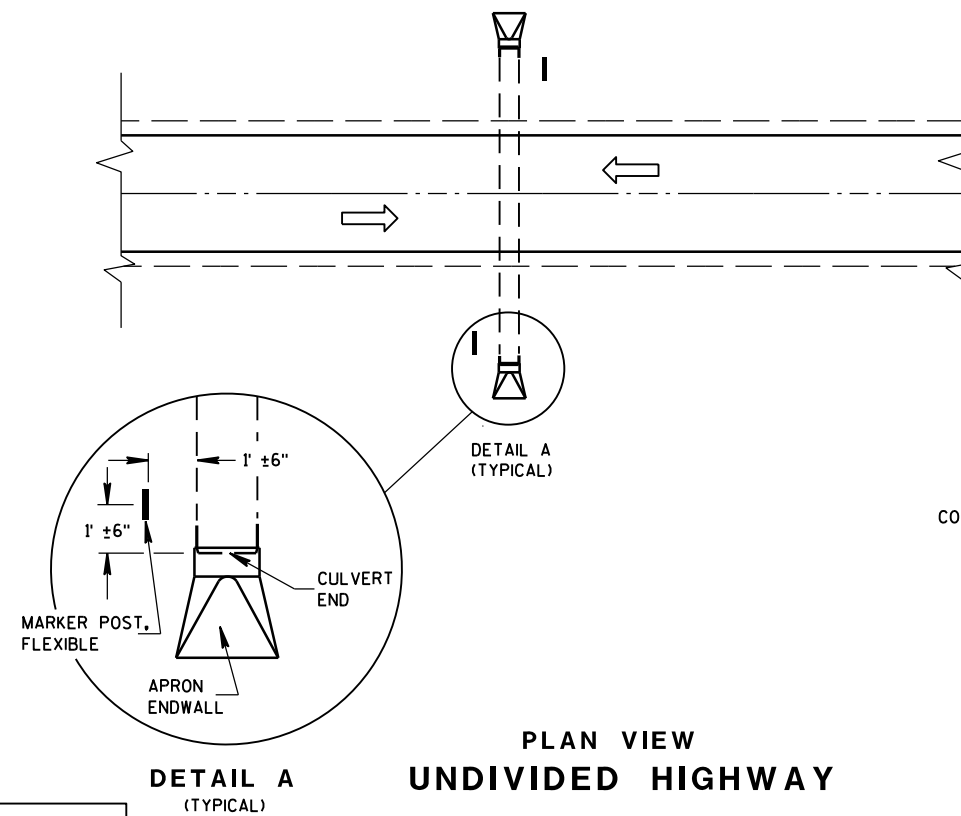
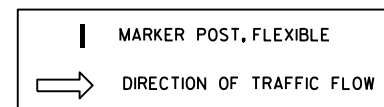
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW
DIVIDED HIGHWAY

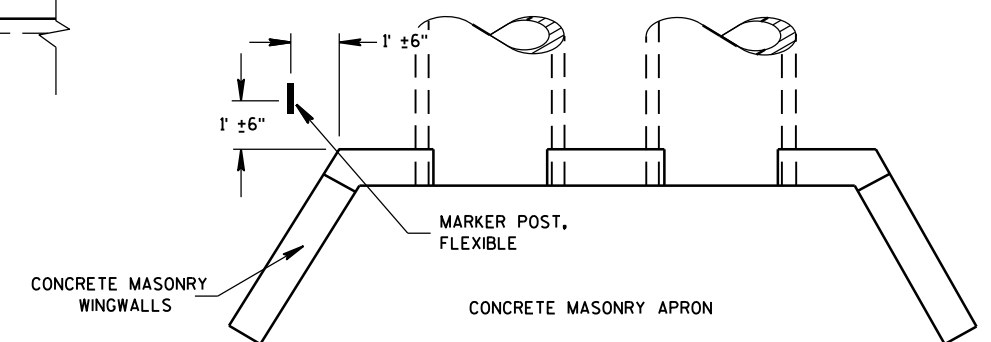


PLAN VIEW
UNDIVIDED HIGHWAY

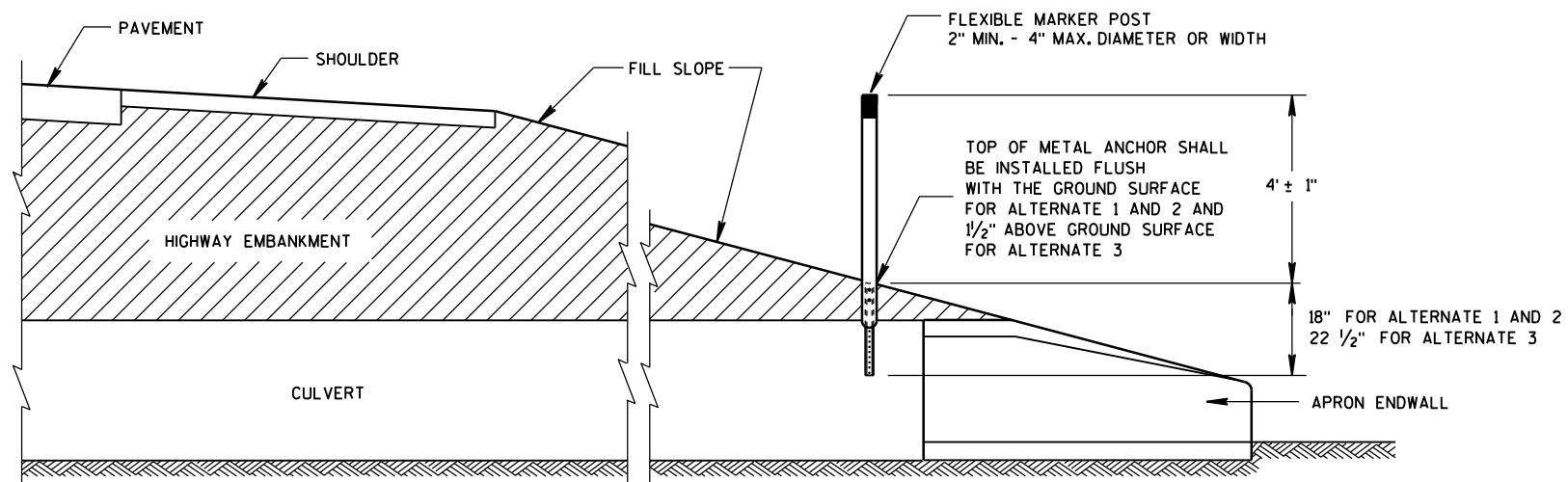
FLEXIBLE MARKER POST LOCATION

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.



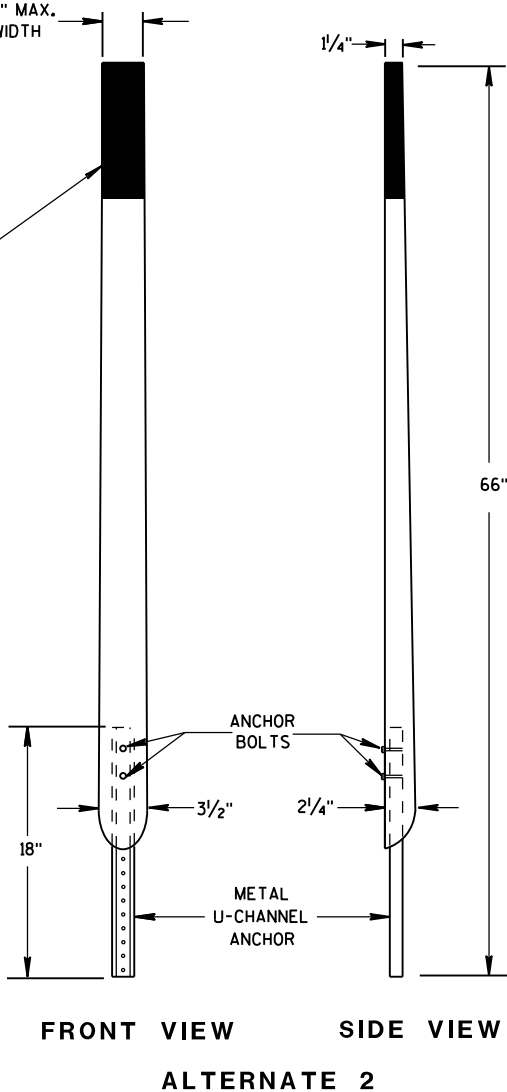
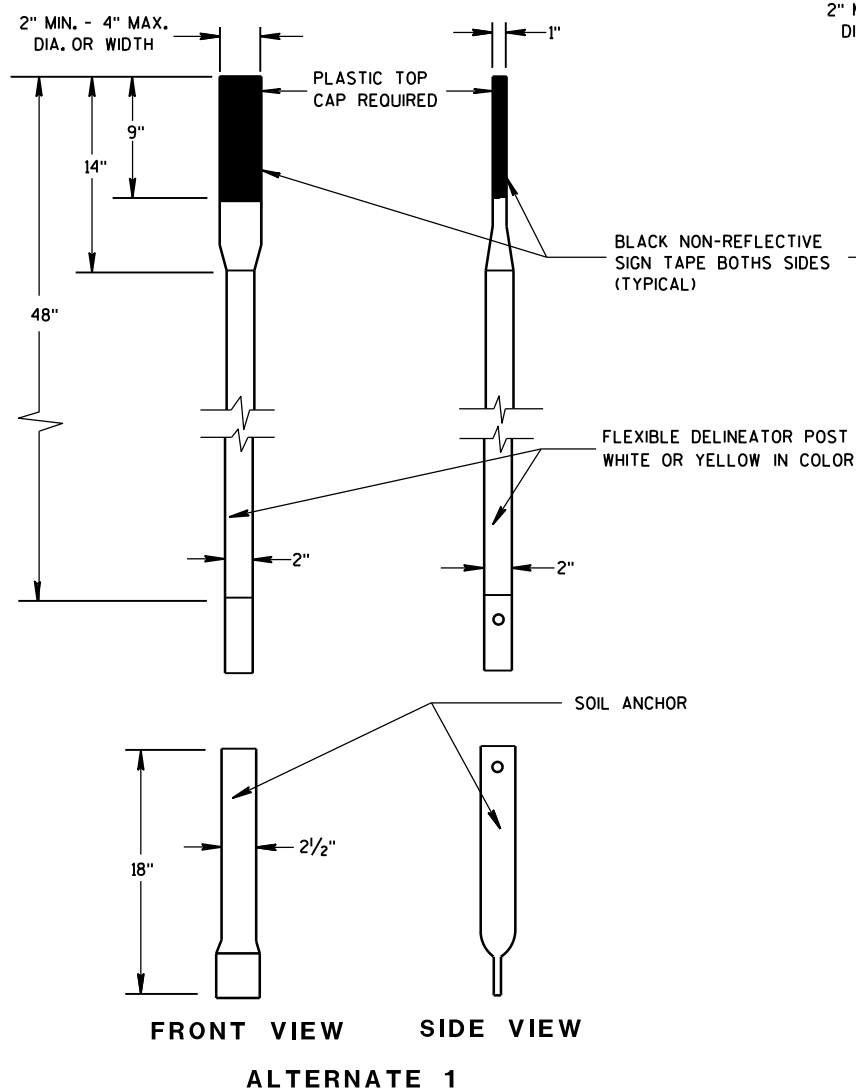
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



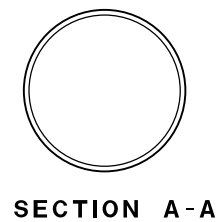
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

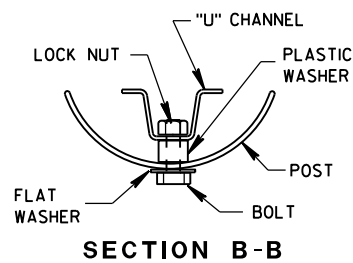
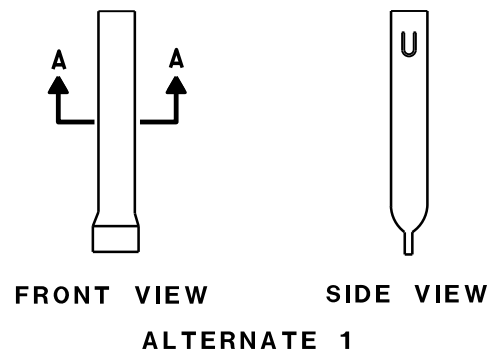
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



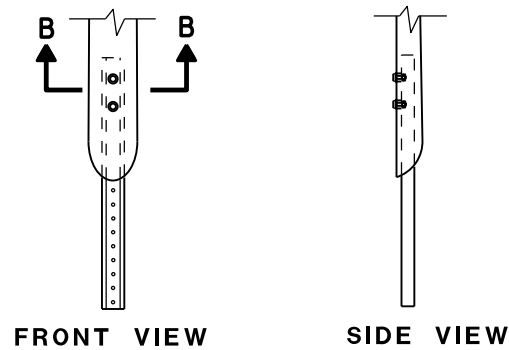
FLEXIBLE MARKER POSTS



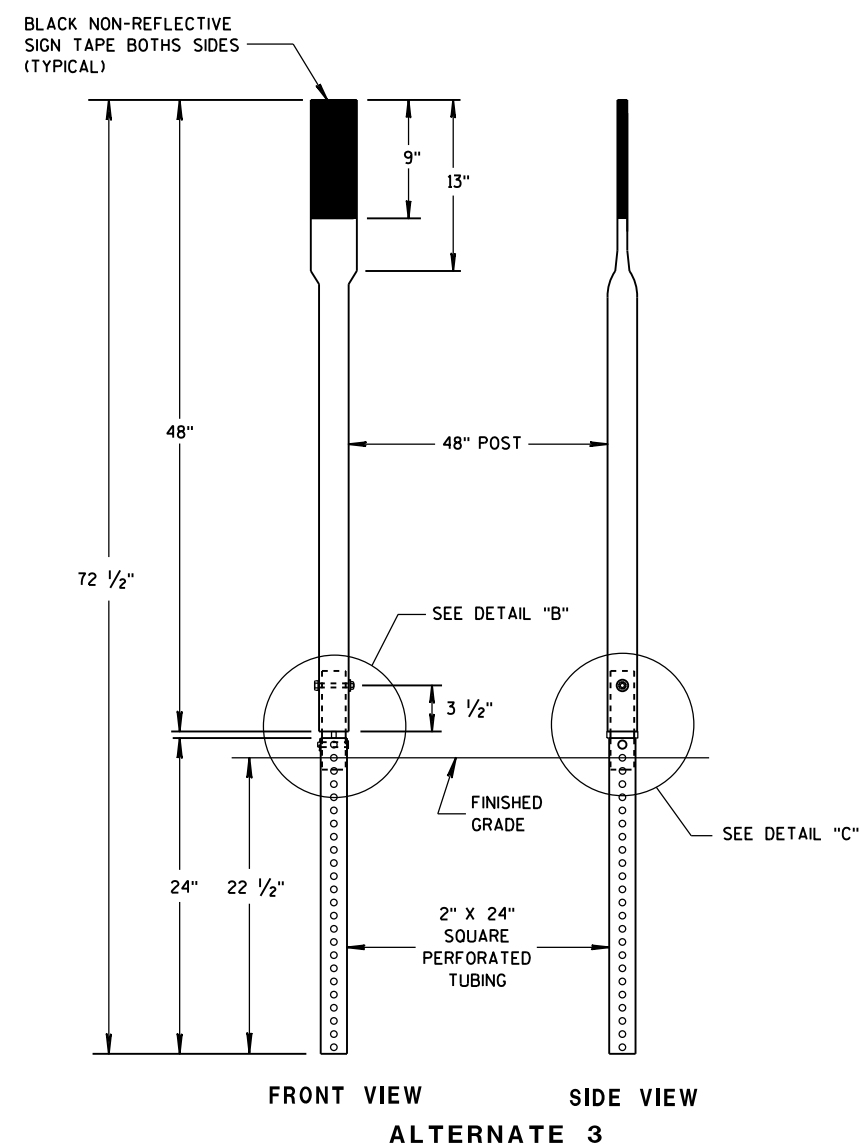
SECTION A-A



SECTION B-B

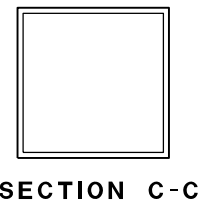


FLEXIBLE MARKER POST ANCHORS

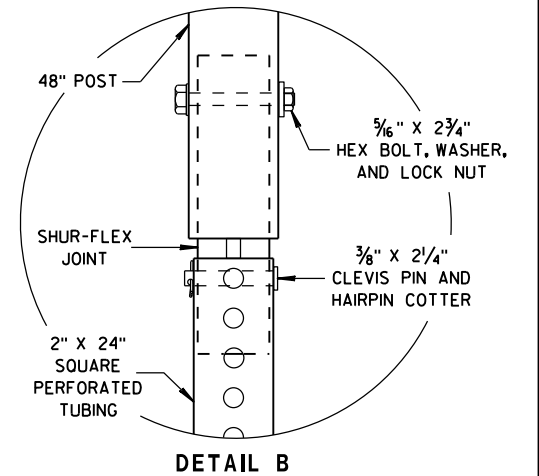
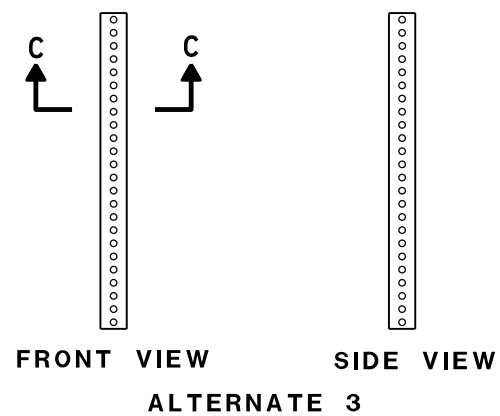


FRONT VIEW SIDE VIEW

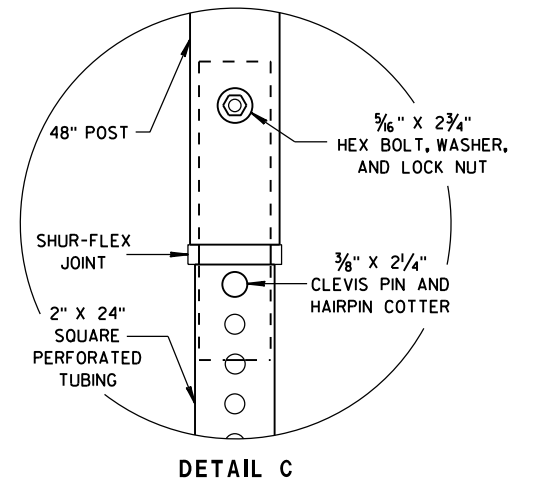
ALTERNATE 3



SECTION C-C



DETAIL B



DETAIL C

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA

GENERAL NOTES

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

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




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

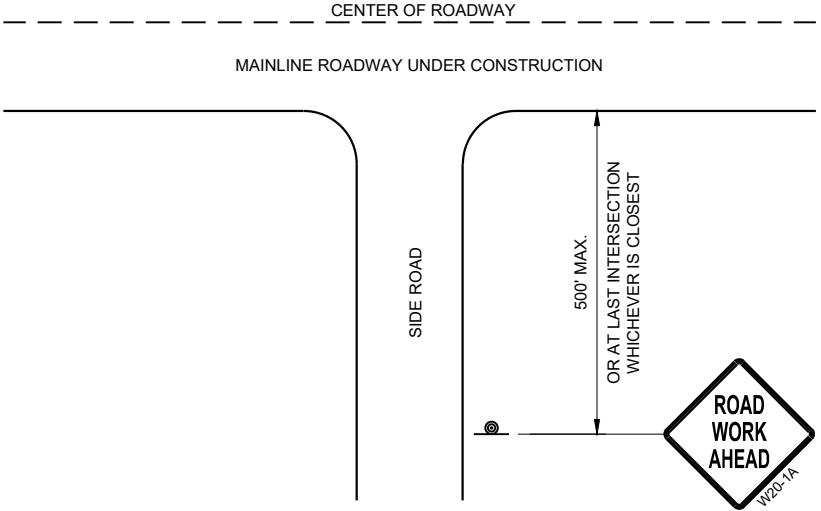
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

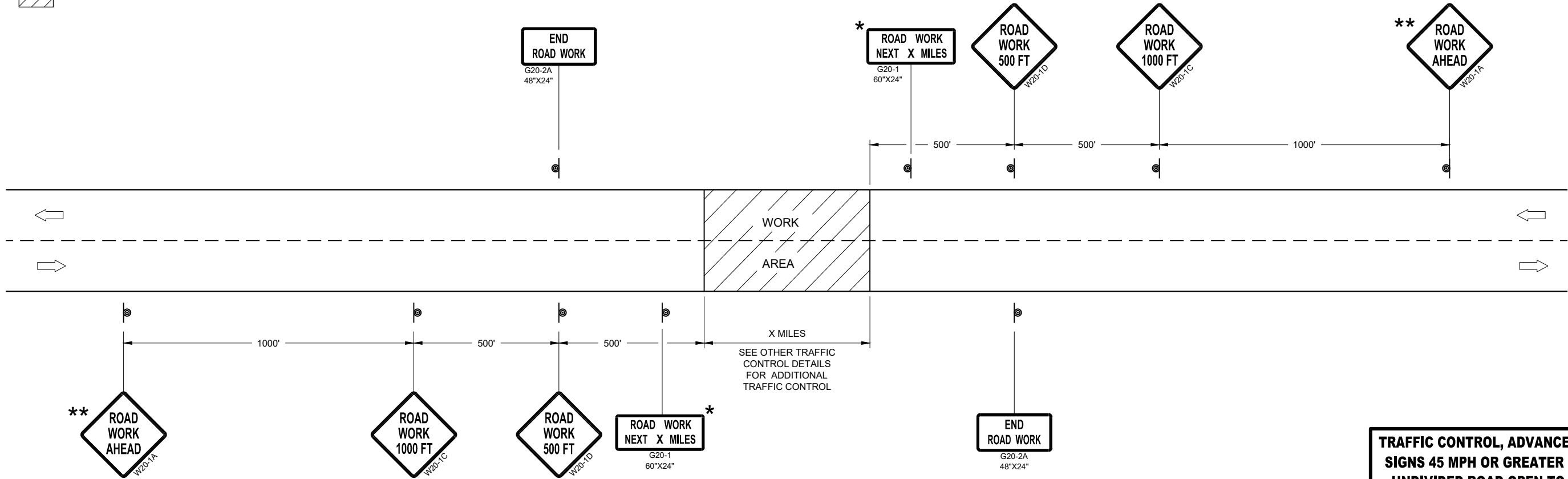
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- ** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

LEGEND

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



TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA

GENERAL NOTES

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

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




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

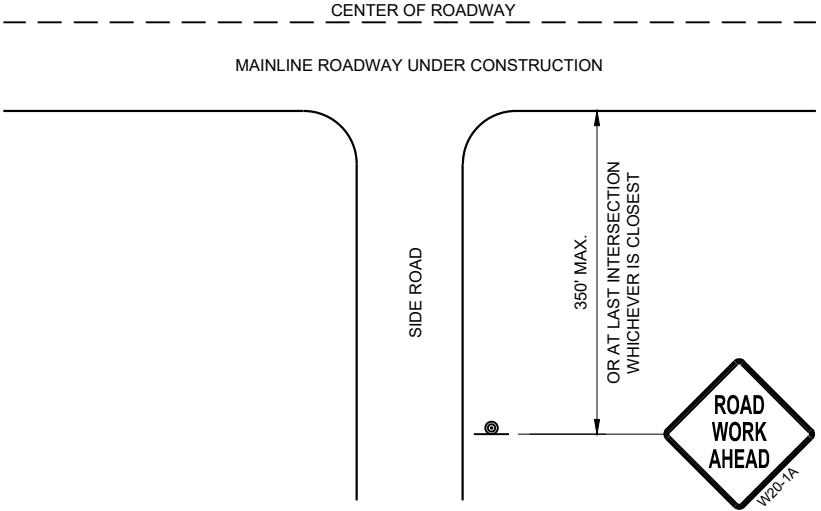
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

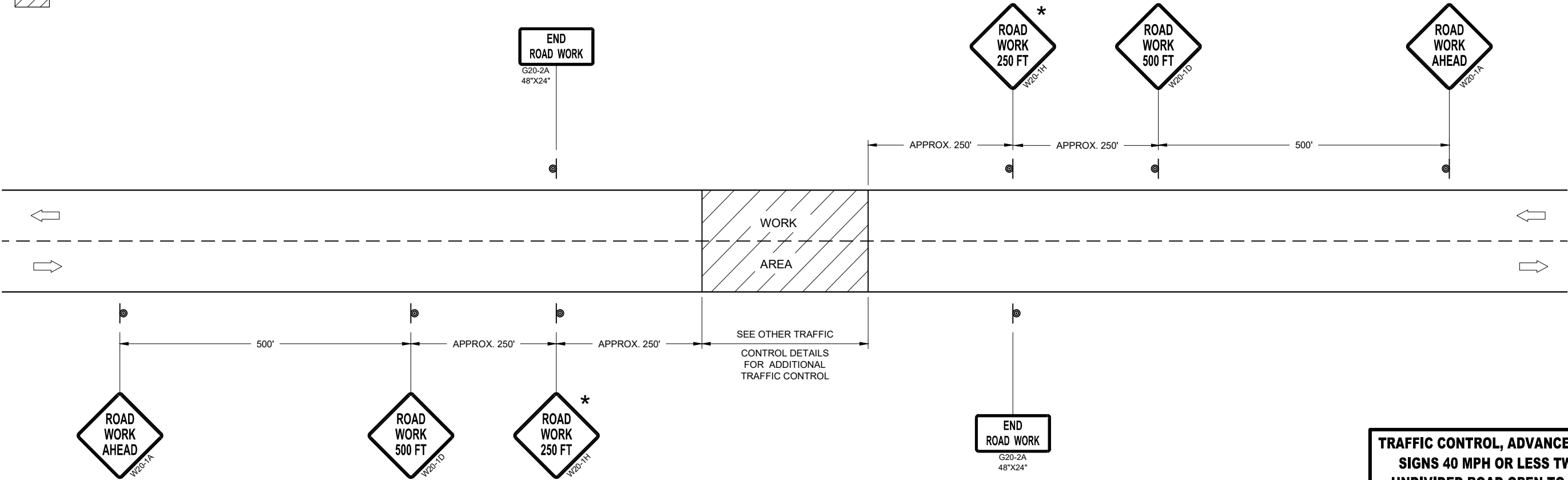
* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

LEGEND

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



TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL

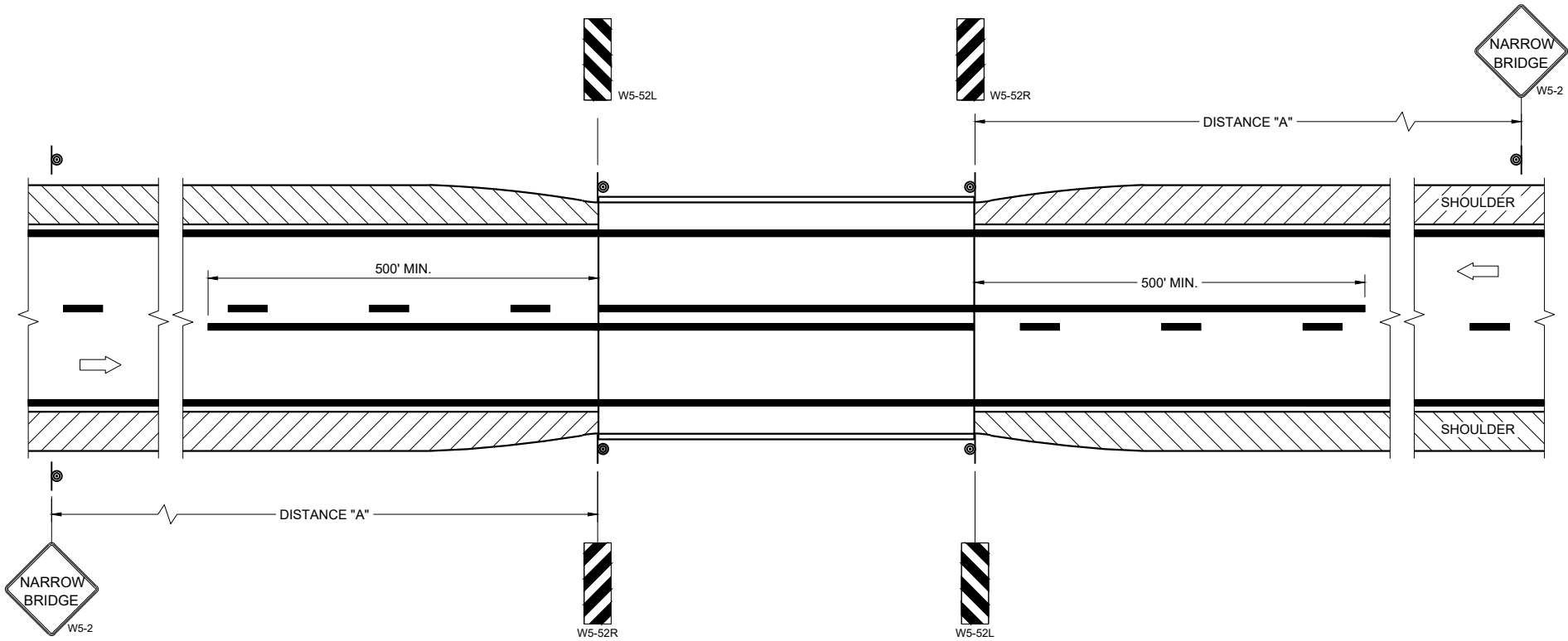


TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

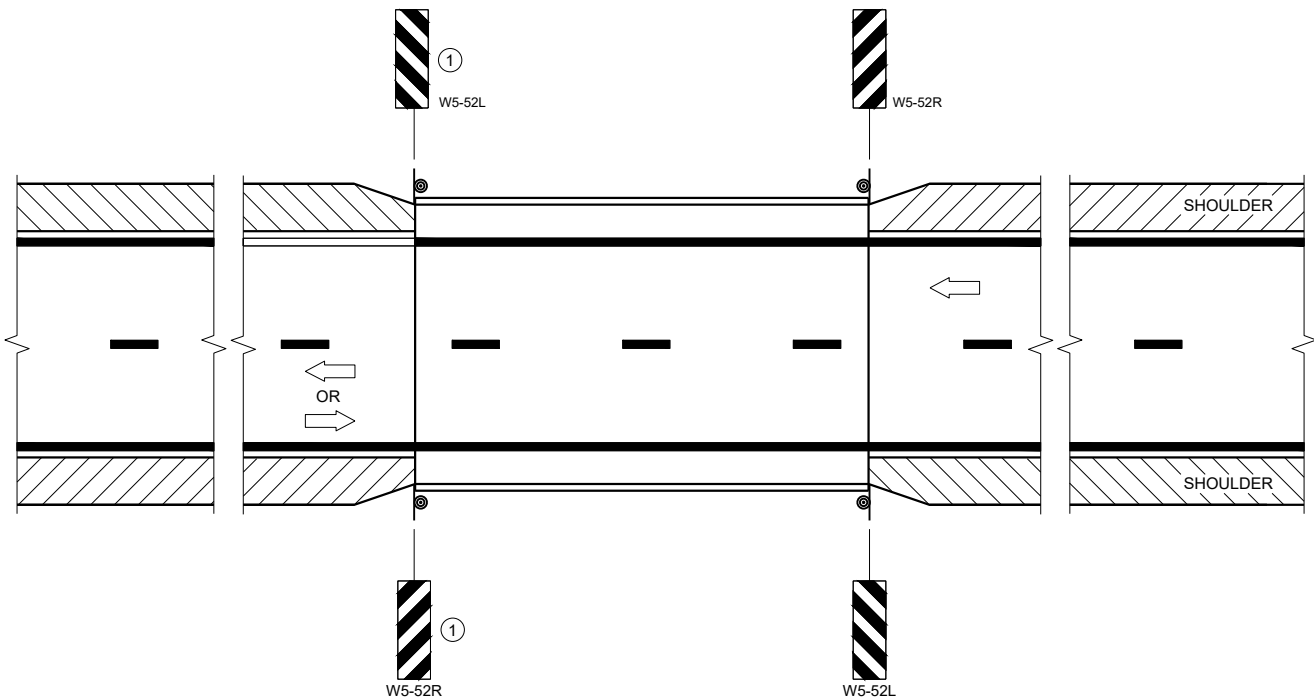
TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 40 MPH OR LESS TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /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'

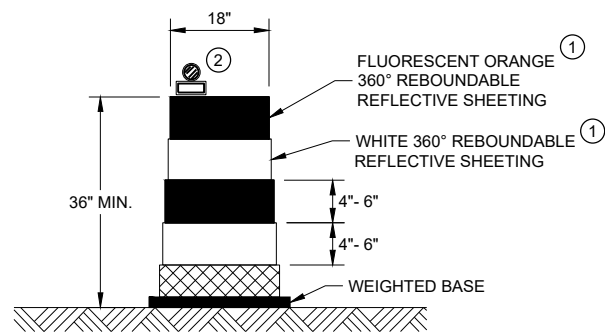
**SIGNING AND MARKING
FOR TWO LANE BRIDGES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

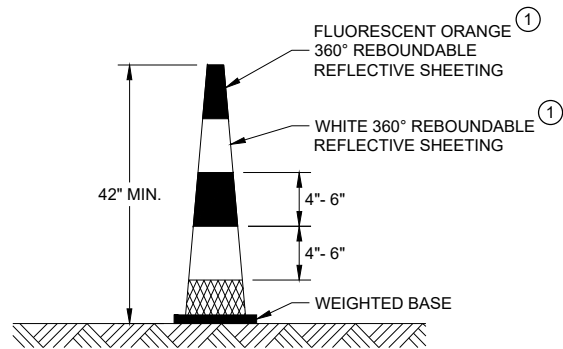
/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA



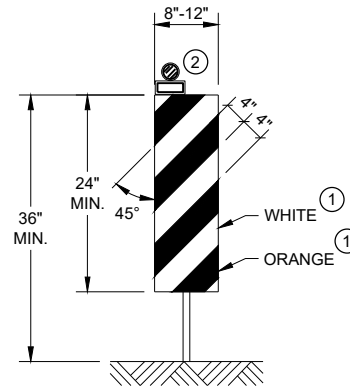
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



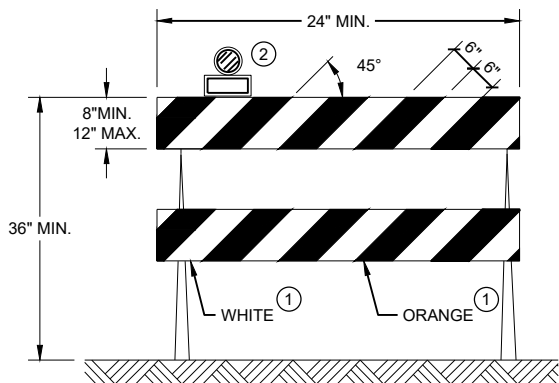
42" CONE

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



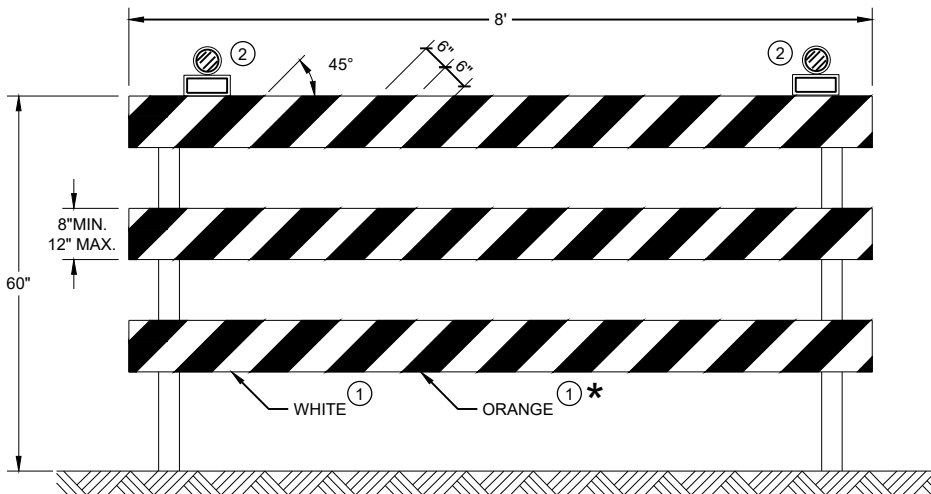
VERTICAL PANEL

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

LEGEND

-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  TEMPORARY PORTABLE RUMBLE STRIP ARRAY
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

GENERAL NOTES

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

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

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGING

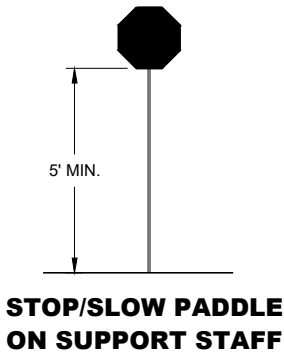
FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

- ① FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

- UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER
- ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.
- INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.
- PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.
- DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

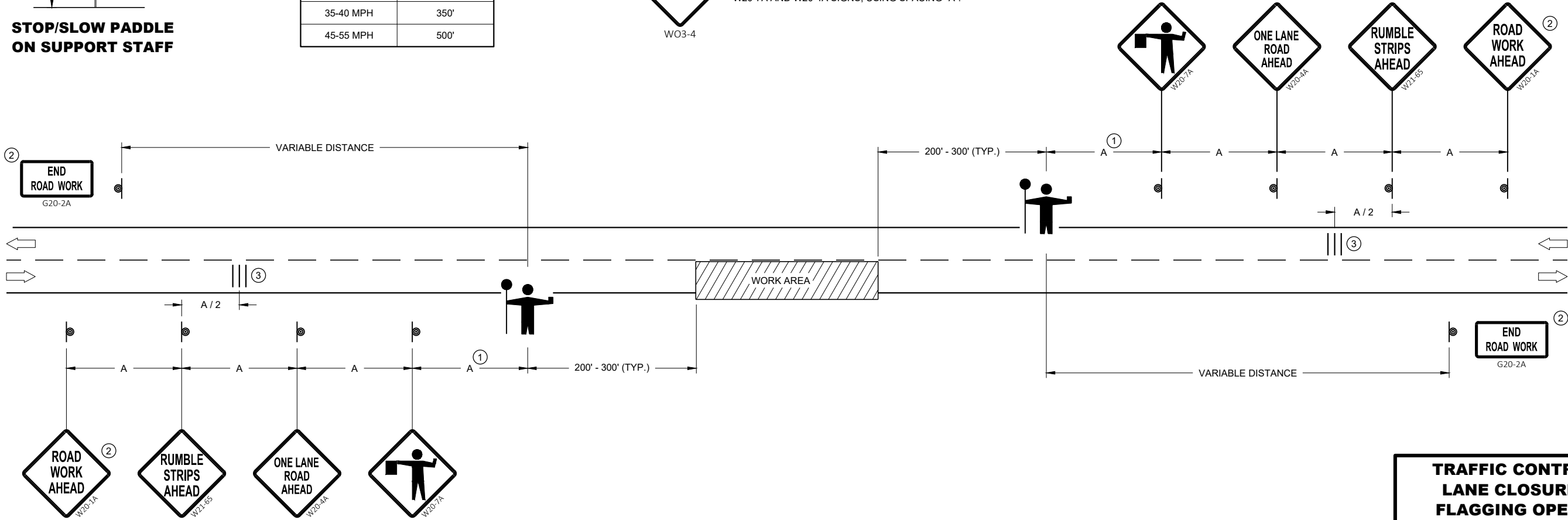


SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'










USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

GENERAL NOTES

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL CONE 42-INCH
-  TRAFFIC CONTROL DRUM
-  TEMPORARY PORTABLE RUMBLE STRIP ARRAY
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD)

GENERAL NOTES

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

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

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGING

IF THE AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) STOPS WORKING, FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

- ① SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.
- ② IF FLAGGERS ARE PHYSICALLY NEEDED TO FLAG, REPLACE WO3-4 SIGNS WITH W20-7A SIGNS.

TEMPORARY PORTABLE RUMBLE STRIPS

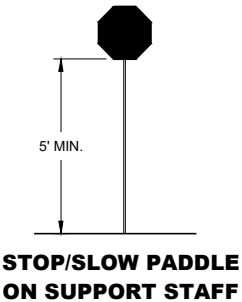
UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

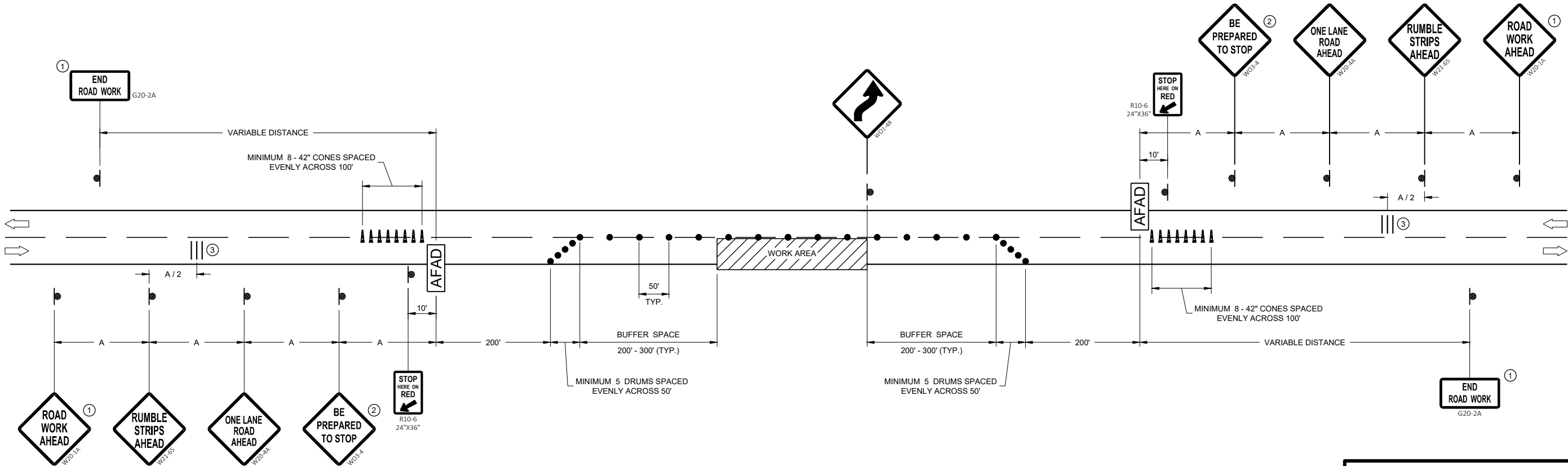
DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSELY AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER.



SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'







TRAFFIC CONTROL, LANE CLOSURE WITH AUTOMATED FLAGGER ASSISTANCE DEVICE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  DIRECTION OF TRAFFIC
-  WORK ZONE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

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

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

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

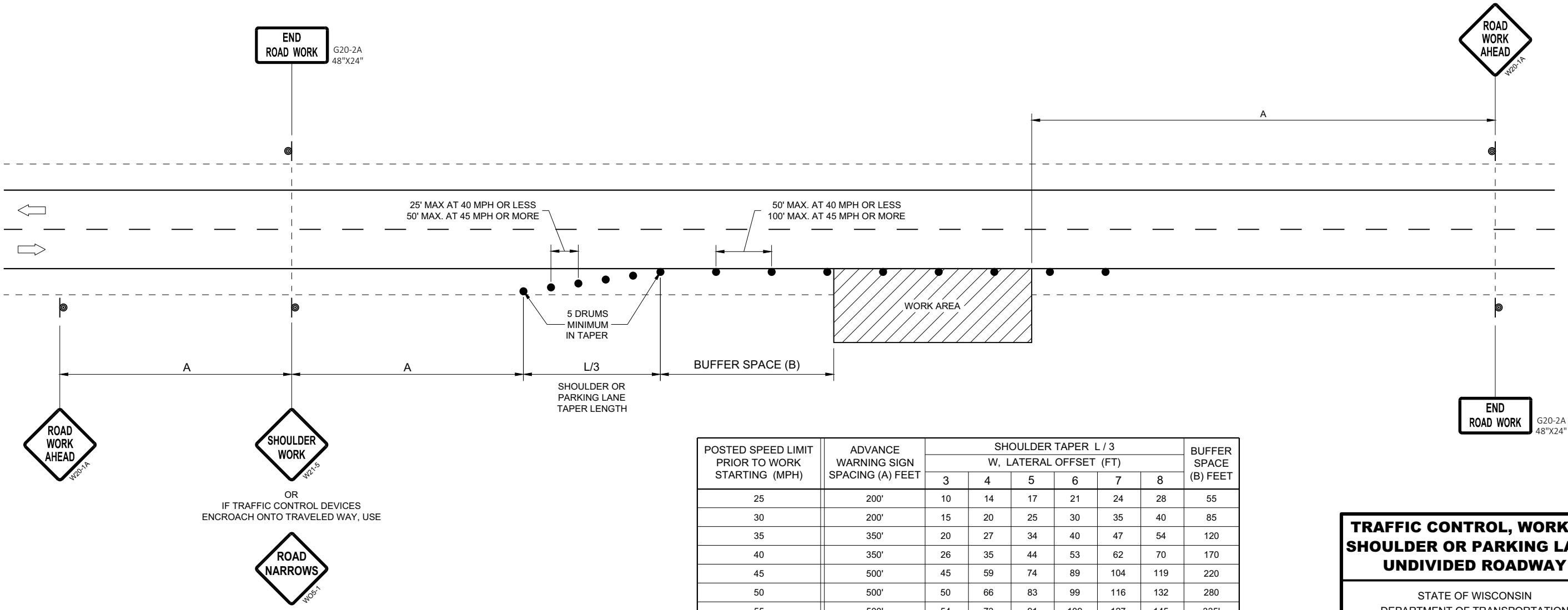
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

6

SDD 15D28 - 04



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

TRAFFIC CONTROL, WORK ON
SHOULDER OR PARKING LANE,
UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020
DATE

/S/ Andrew Heidtke
STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER

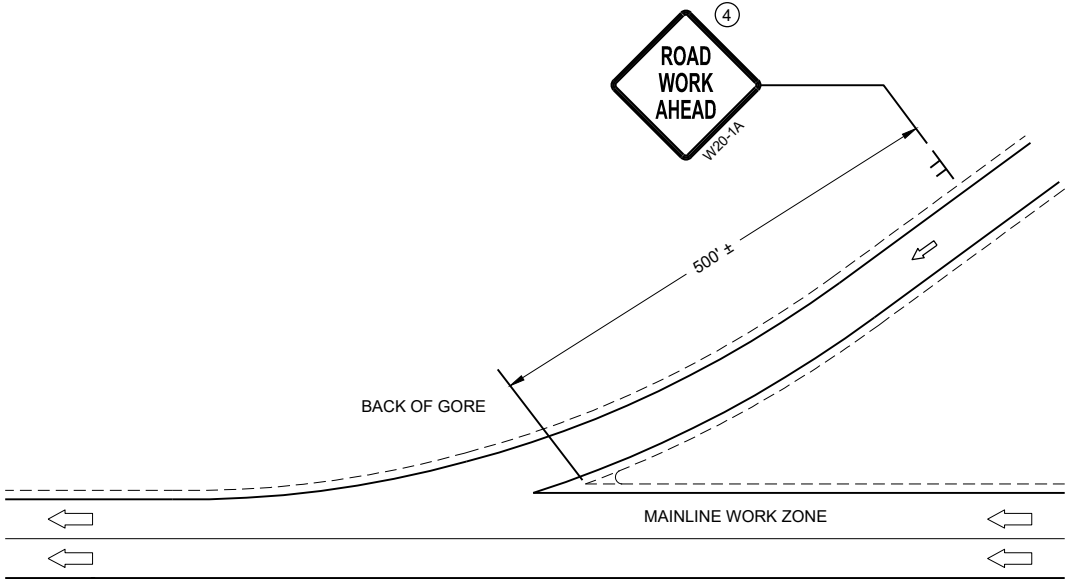
FHWA

6

SDD 15D28 - 04

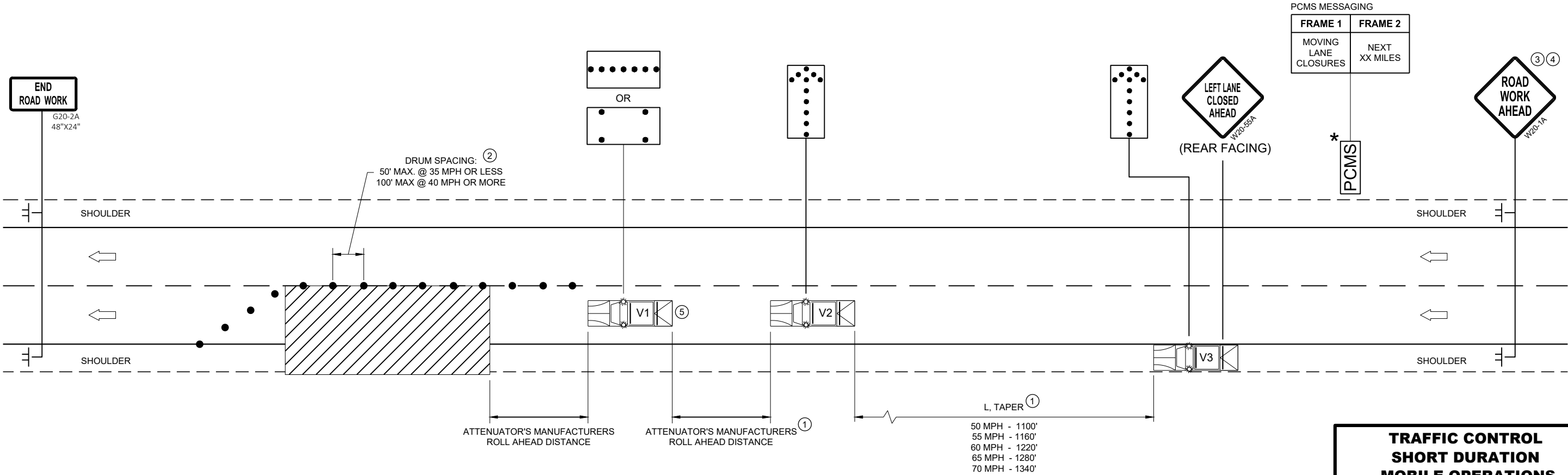
LEGEND

- V1 SHADOW VEHICLE 1
- V2 SHADOW VEHICLE 2
- V3 ADVANCE WARNING TRUCK
- TRAFFIC CONTROL DRUM
- ☐ TRUCK MOUNTED ATTENUATOR (TMA)
- ⊥ SIGN ON TEMPORARY SUPPORT
- ➡ DIRECTION OF TRAFFIC
- FLASHING ARROW PANEL (MERGE)
- FLASHING ARROW PANEL (CAUTION)
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN
- ▨ WORK AREA



GENERAL NOTES

- SHORT DURATION IS WORK THAT OCCUPIES A LOCATION UP TO 1 HOUR.
- MOBILE IS WORK THAT MOVES INTERMITTENTLY OR CONTINUOUSLY.
- ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.
- ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.
- WHEN WORK ACTIVITY BLOCKS THE RIGHT LANE, REVERSE TRAFFIC CONTROL.
- WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.
- USE DOUBLE ARROWS WHEN CONVOY IS IN CENTER LANE ONLY.
- WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC
- ① DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
 - ② DRUMS ARE TO BE USED FOR BRIDGE DECK SEALING AND OTHER PROJECTS THAT REQUIRE DELINEATION.
 - ③ WITHIN 5 MILES, RELOCATE SIGNS AS WORK PROGRESSES AND NECESSARY OR AS DIRECTED BY THE ENGINEER.
 - ④ SIGN NOT REQUIRED IF MOVING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.
 - ⑤ SHADOW VEHICLE 1 (V1) IS OPTIONAL
- * PCMS OPTIONAL



TRAFFIC CONTROL SHORT DURATION MOBILE OPERATIONS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED August 2021 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

GENERAL NOTES

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

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

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

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



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

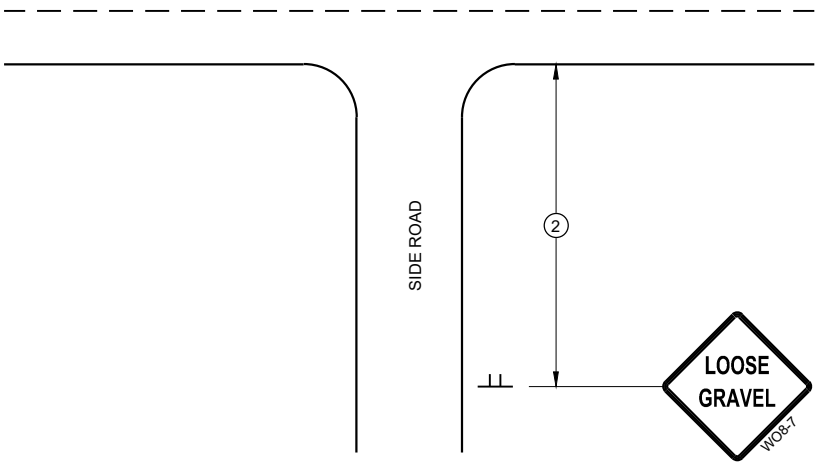
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

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

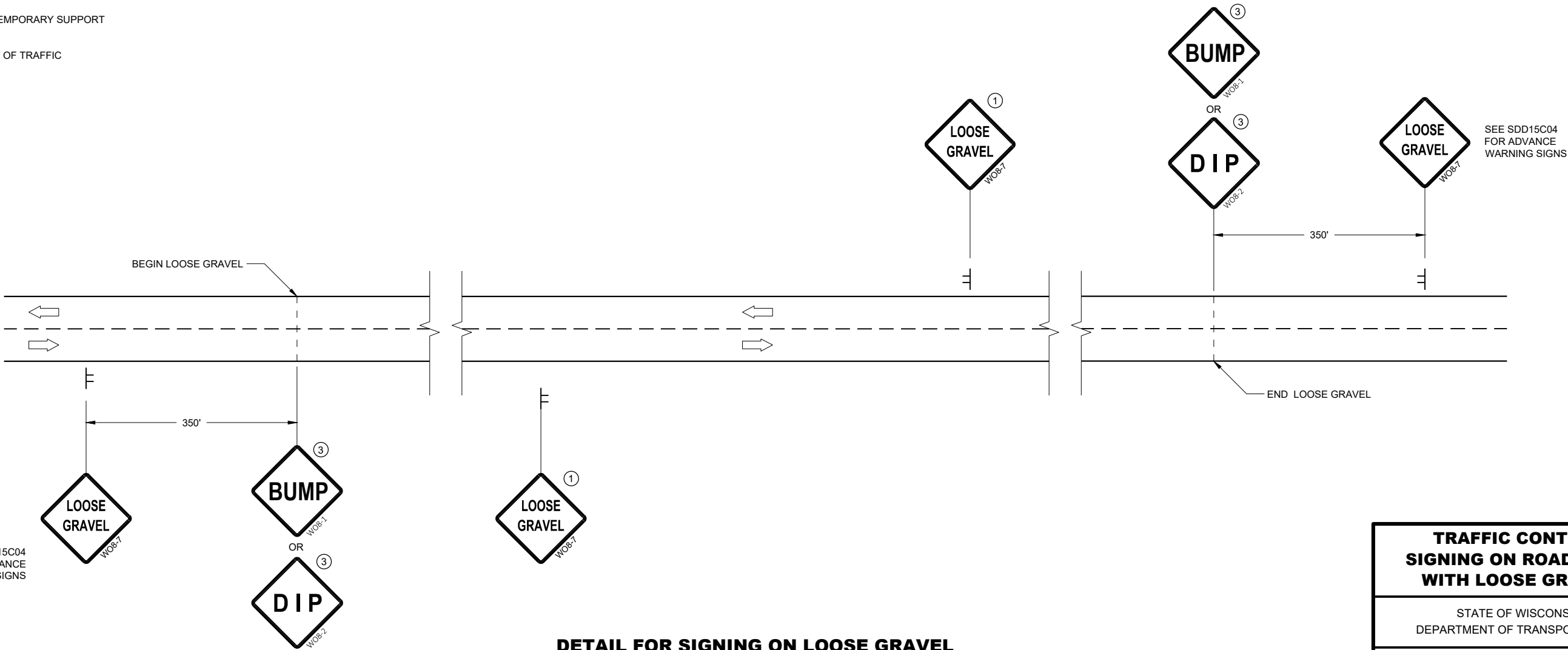
- 1 PLACE SIGNS 350' IN ADVANCE OF CHIP SEALED OR LOOSE GRAVEL SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- 2 PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.
- 3 ADD WO8-1 OR WO8-2 SIGN WHEN THE CONDITION IS PRESENT.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH
SIGN DETAIL



SEE SDD15C04
FOR ADVANCE
WARNING SIGNS

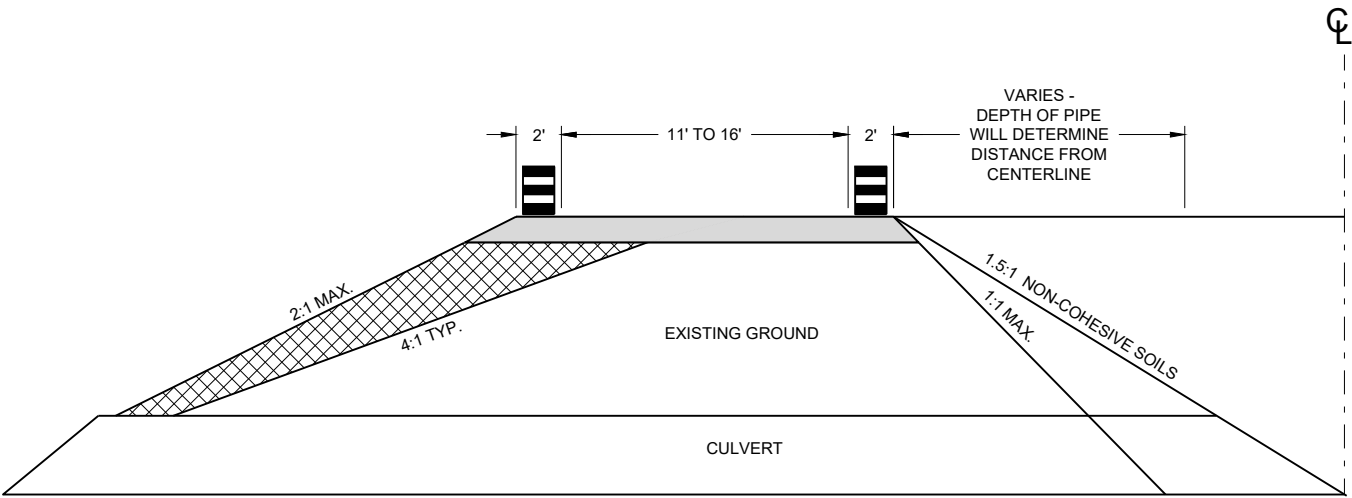
SEE SDD15C04
FOR ADVANCE
WARNING SIGNS

DETAIL FOR SIGNING ON LOOSE GRAVEL
OR CHIP SEALED SURFACES

TRAFFIC CONTROL
SIGNING ON ROADWAYS
WITH LOOSE GRAVEL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



CROSS SECTION

GENERAL NOTES

USE 1:1 FOR COHESIVE CLAYS AND SILTS, LOAMS, SANDY CLAYS AND ANGULAR GRAVEL SOILS.
USE 1.5:1 FOR NON-COHESIVE SOILS.

THE TAPER SHOULD EXTEND ACROSS THE SHOULDER UNLESS DOING SO WOULD GREATLY CONFLICT WITH THE WORK OPERATION.

ALL LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL DEVICES REMOVED BEYOND THE SHOULDER WHEN WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

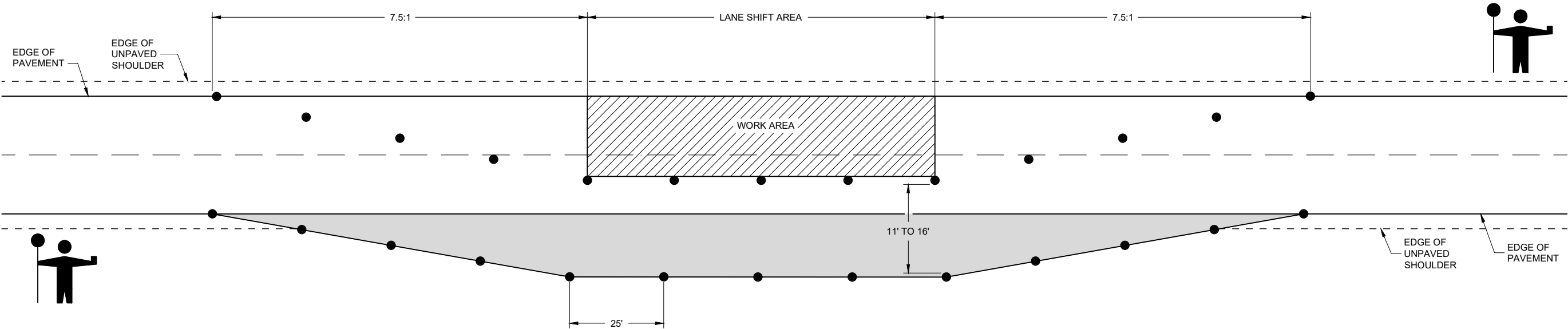
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

USE WITH SDD 15C12 "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATIONS"

USE WITH SDD 15D45 "SIGNING ON ROADWAYS WITH LOOSE GRAVEL"

LEGEND

- DRUM WITHOUT WARNING LIGHT
- 6" BASE AGGREGATE DENSE 1 1/4" - INCIDENTAL TO LANE SHIFT ITEM
- FILL - INCIDENTAL TO LANE SHIFT ITEM
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF



LANE SHIFT IN FLAGGING OPERATION

TRAFFIC CONTROL,
TEMPORARY LANE SHIFT
DURING CULVERT WORK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION


APPROVED
February 2021
DATE /S/ Andrew Heidtke
WORK ZONE ENGINEER


FHWA


LEGEND


- V1

WORK VEHICLE
- V2

SHADOW VEHICLE
- 

TRUCK MOUNTED ATTENUATOR (TMA)
- 

FLASHING ARROW PANEL (CAUTION)
- 

WORK AREA
- 

DIRECTION OF TRAFFIC

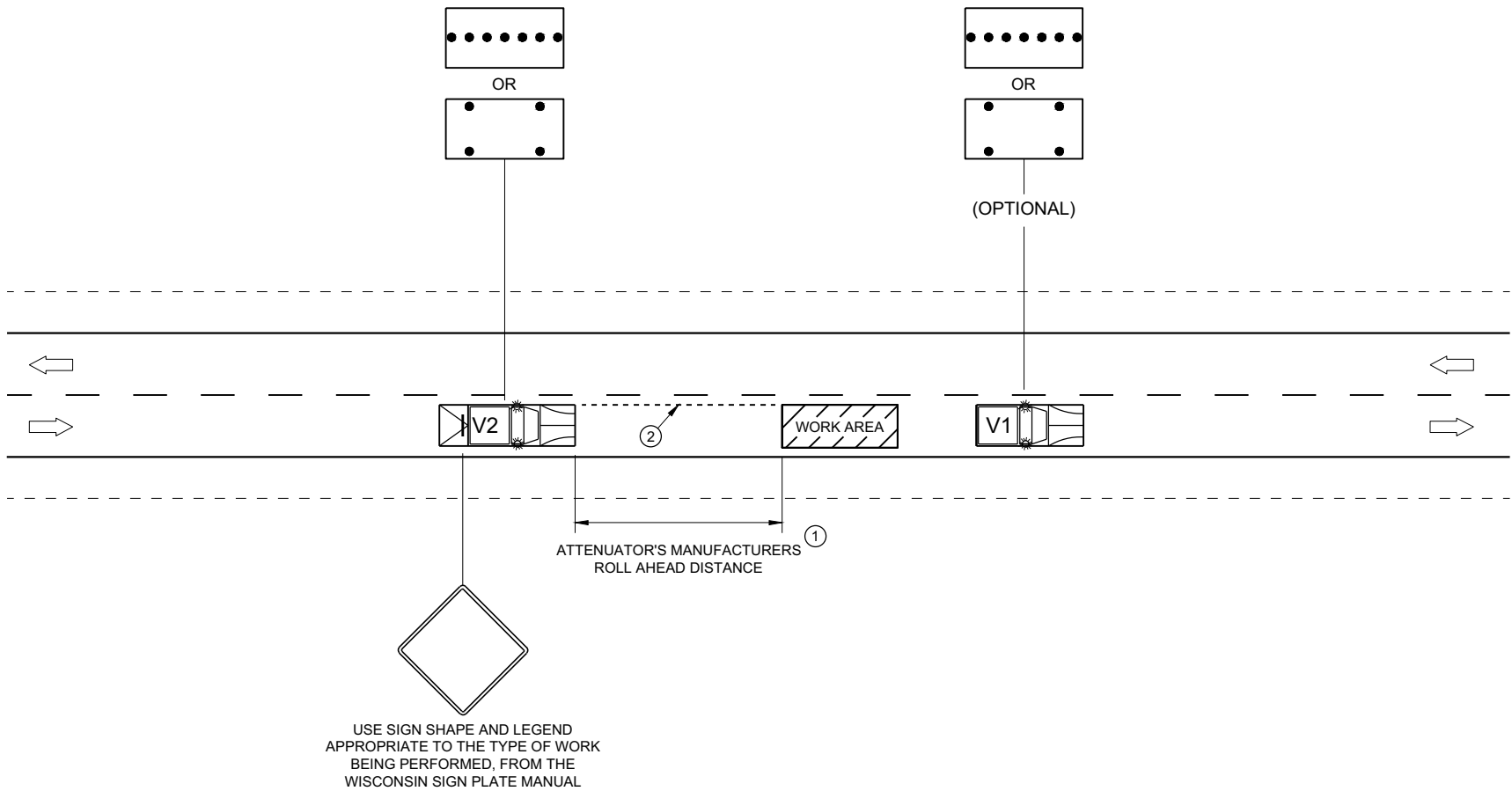
POSTED SPEED PRIOR TO WORK STARTING (MPH)	DECISION SIGHT DISTANCE (D)
0 - 25	550'
30	550'
35	700'
40	700'
45	900'
50	900'
55	1200'

GENERAL NOTES

- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.
- MOBILE IS WORK THAT MOVES CONTINUOUSLY OR MOVES AT LEAST THE DECISION SIGHT DISTANCE EVERY 15 MINUTES.
- ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.
- ALL ARROW PANELS SHALL BE REAR FACING, TYPE "B" OR "C", AND DISPLAYING THE FLASHING CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.
- USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.
- ①

DISTANCE BETWEEN VEHICLES MAY INCREASE FROM THE ATTENUATOR'S ROLL AHEAD BASED ON TERRAIN, SIGHT DISTANCE, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
- ②

ALIGN LEFT SIDE OF SHADOW VEHICLE WITH EDGE OF WORK AREA.



TRAFFIC CONTROL,
MOBILE OPERATIONS ON
AN UNDIVIDED ROADWAY

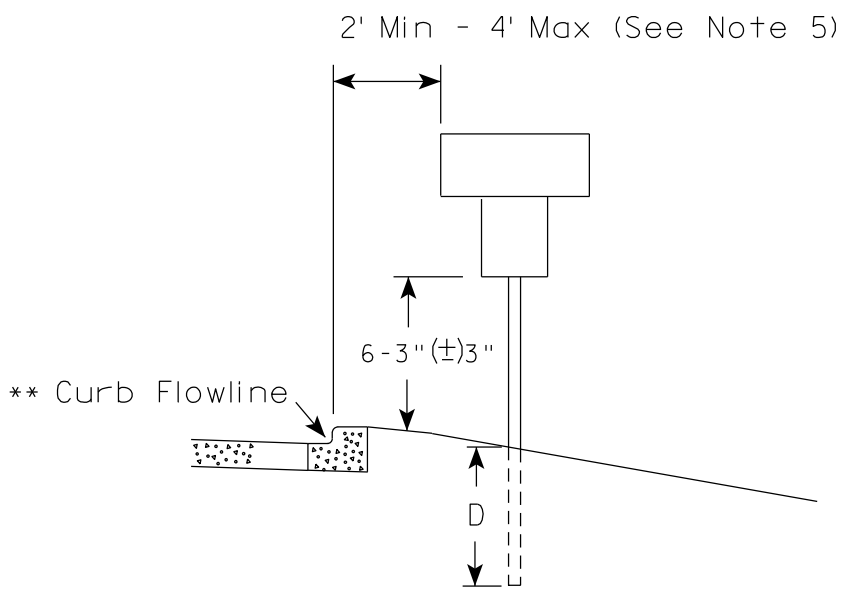
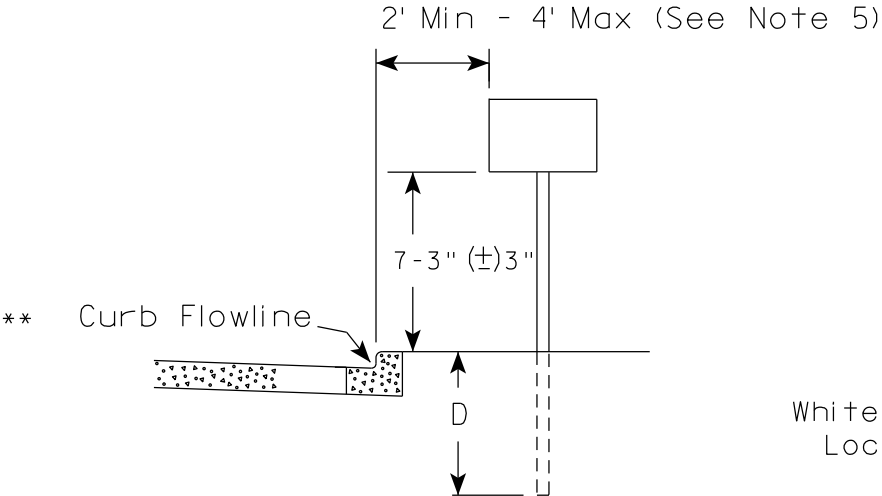
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021
DATE

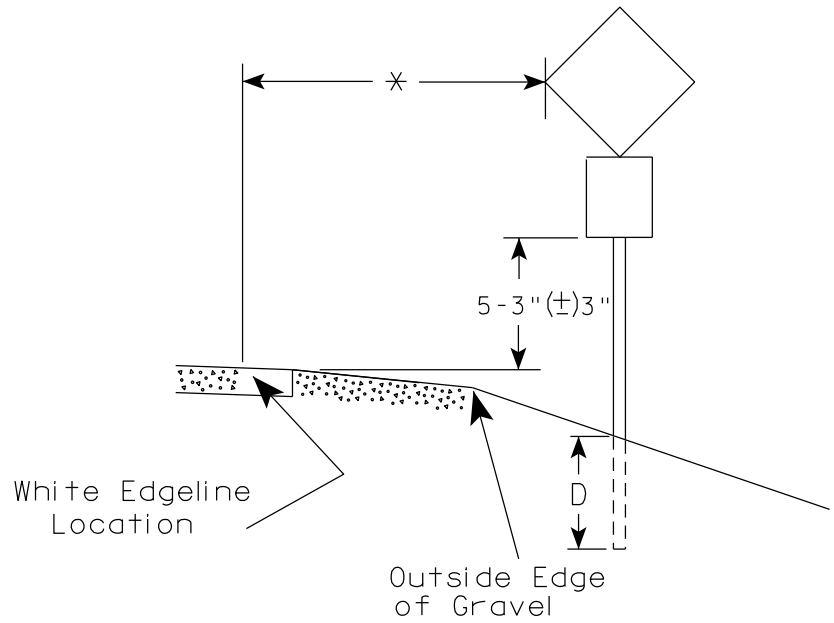
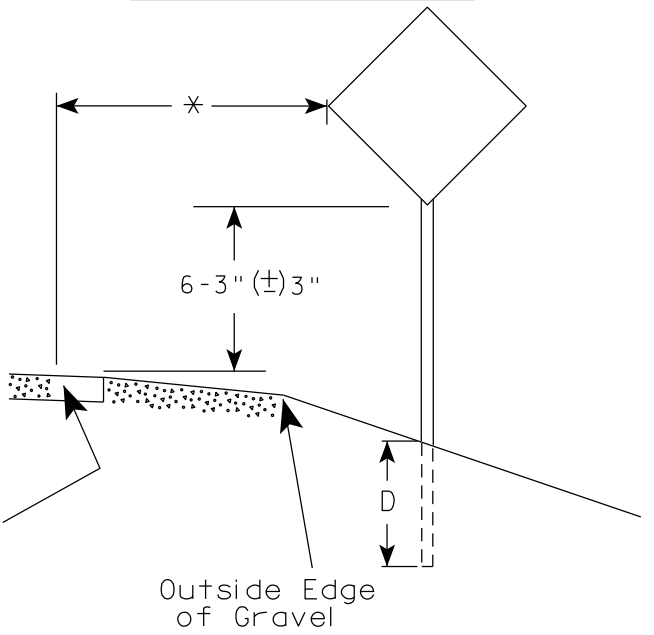
/S/ Andrew Heidtke
STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER

FHWA

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 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".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the Engineer.

POST EMBEDMENT DEPTH

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

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

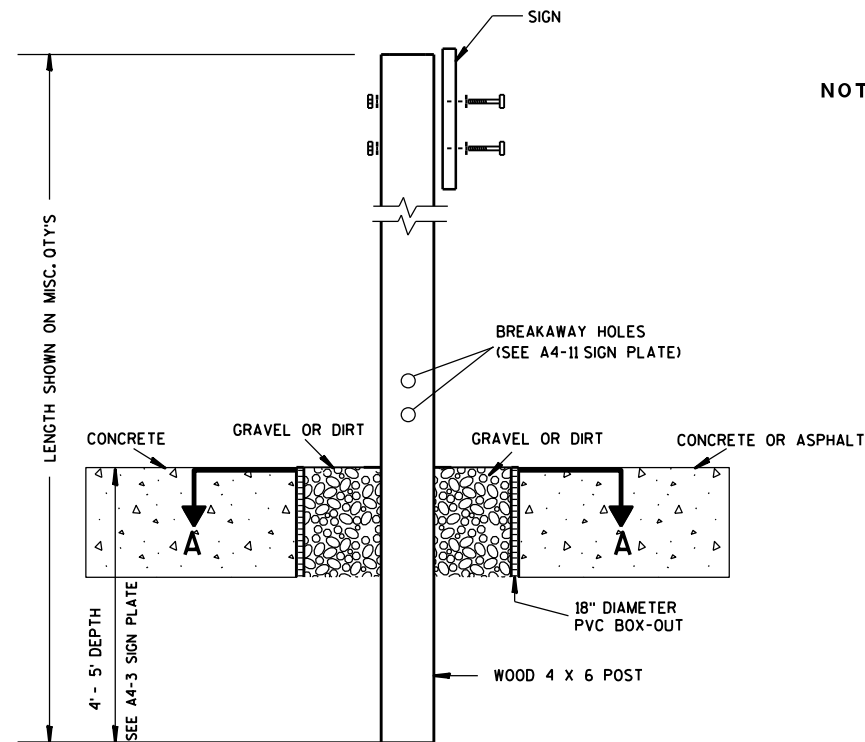
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

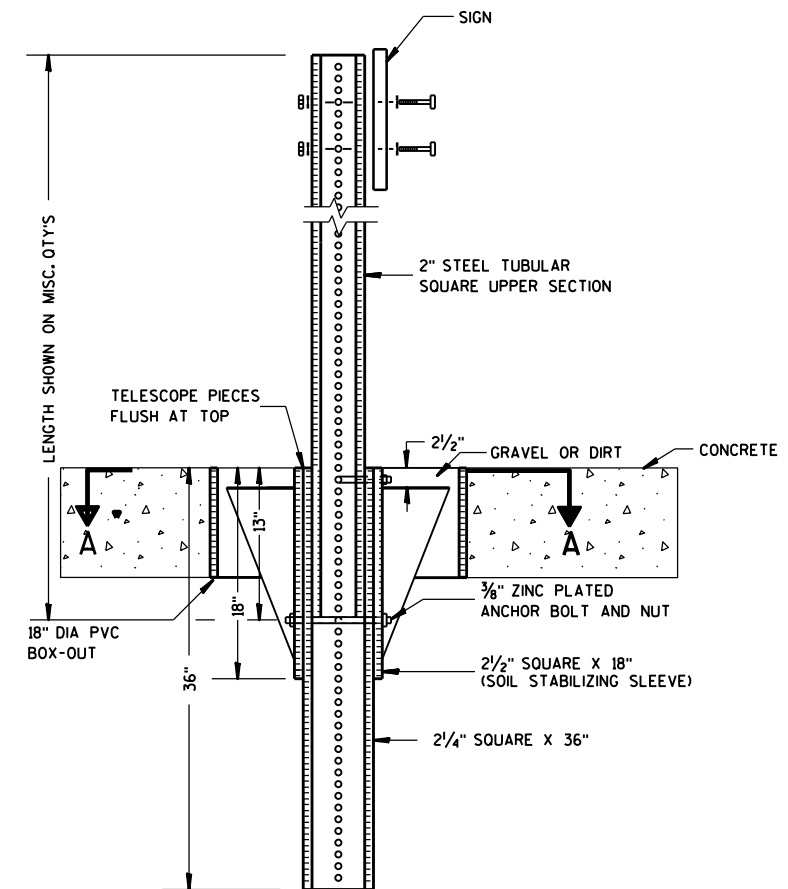
DATE 12/6/23 PLATE NO. A4-3.23



ELEVATION VIEW

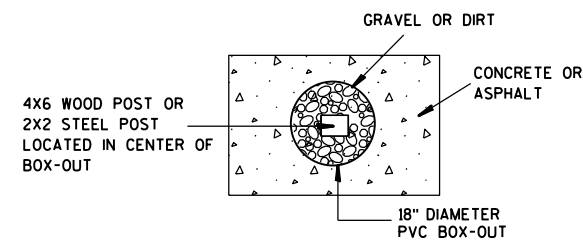
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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:

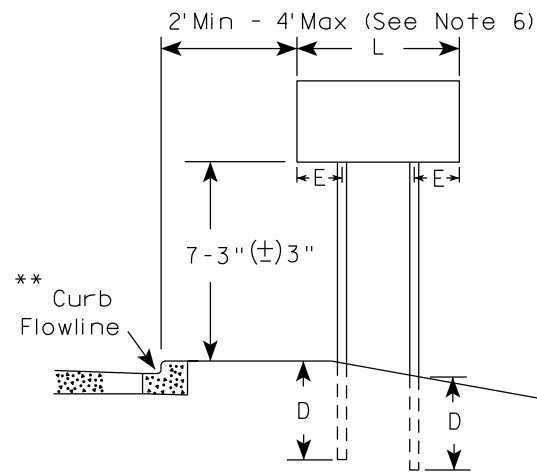
HWY:

COUNTY:

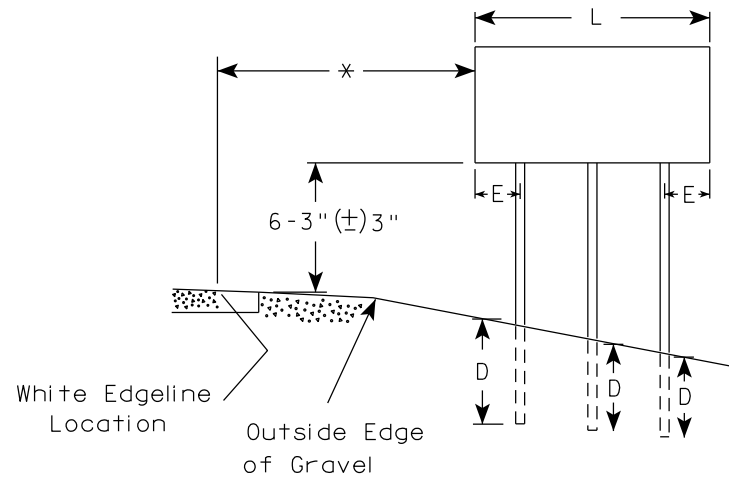
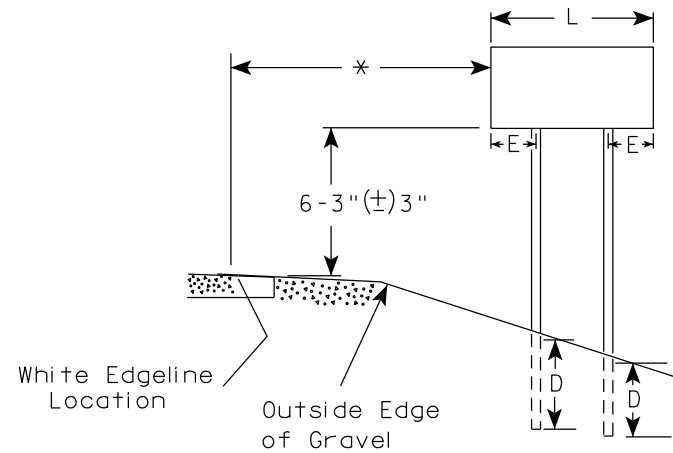
SHEET NO:

E

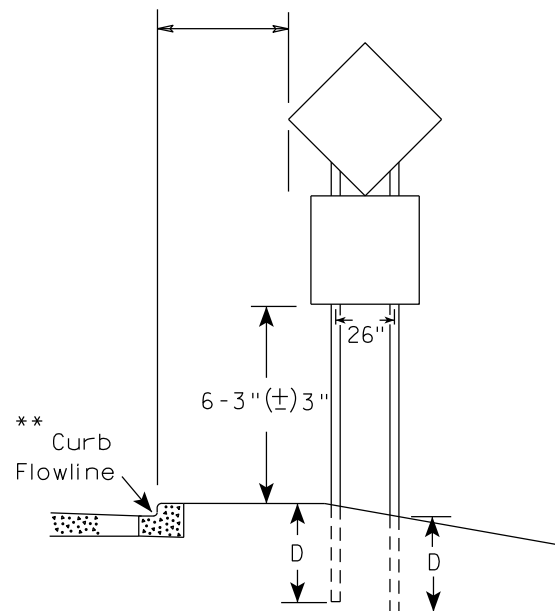
URBAN AREA



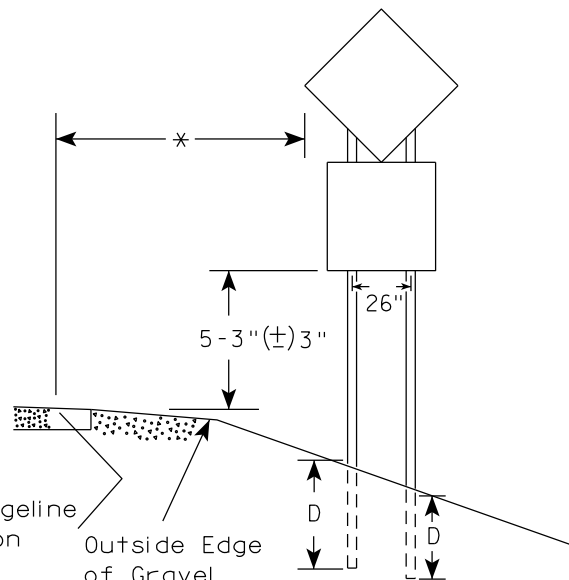
RURAL AREA (See Note 3)



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	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 12/6/23	PLATE NO. A4-4.16

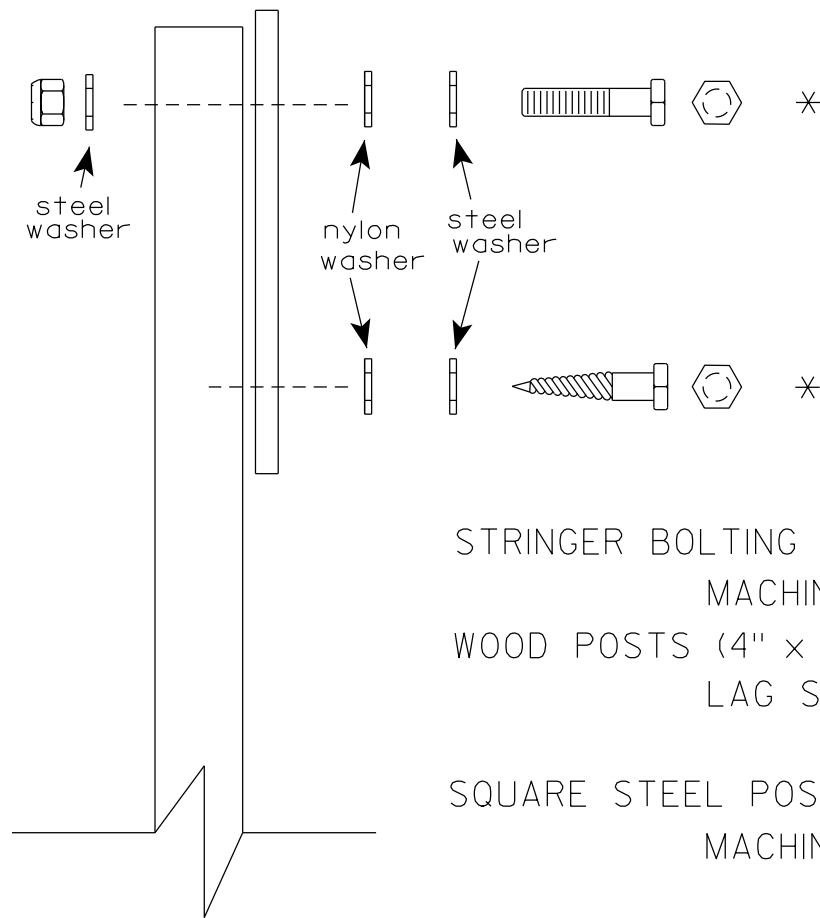
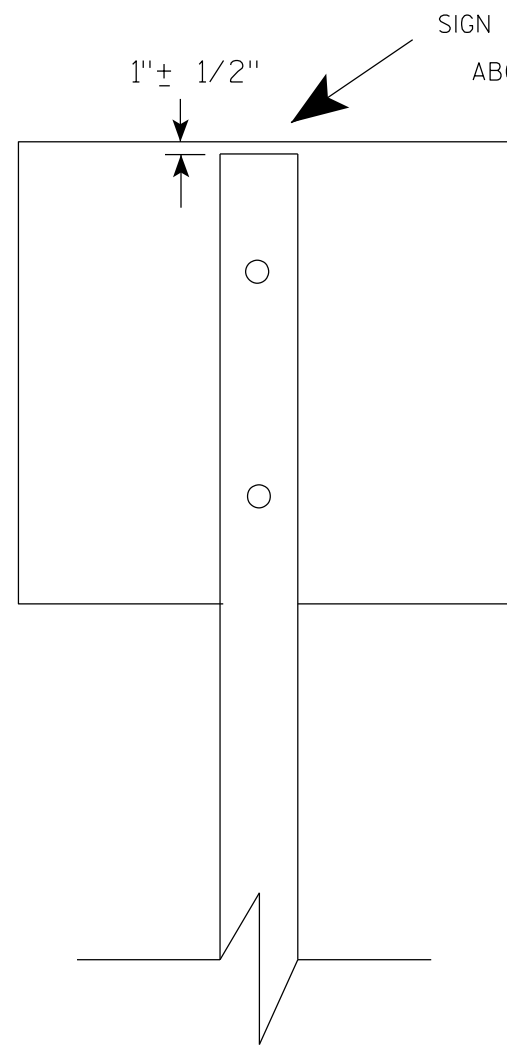
GENERAL NOTES

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

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

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

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



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).

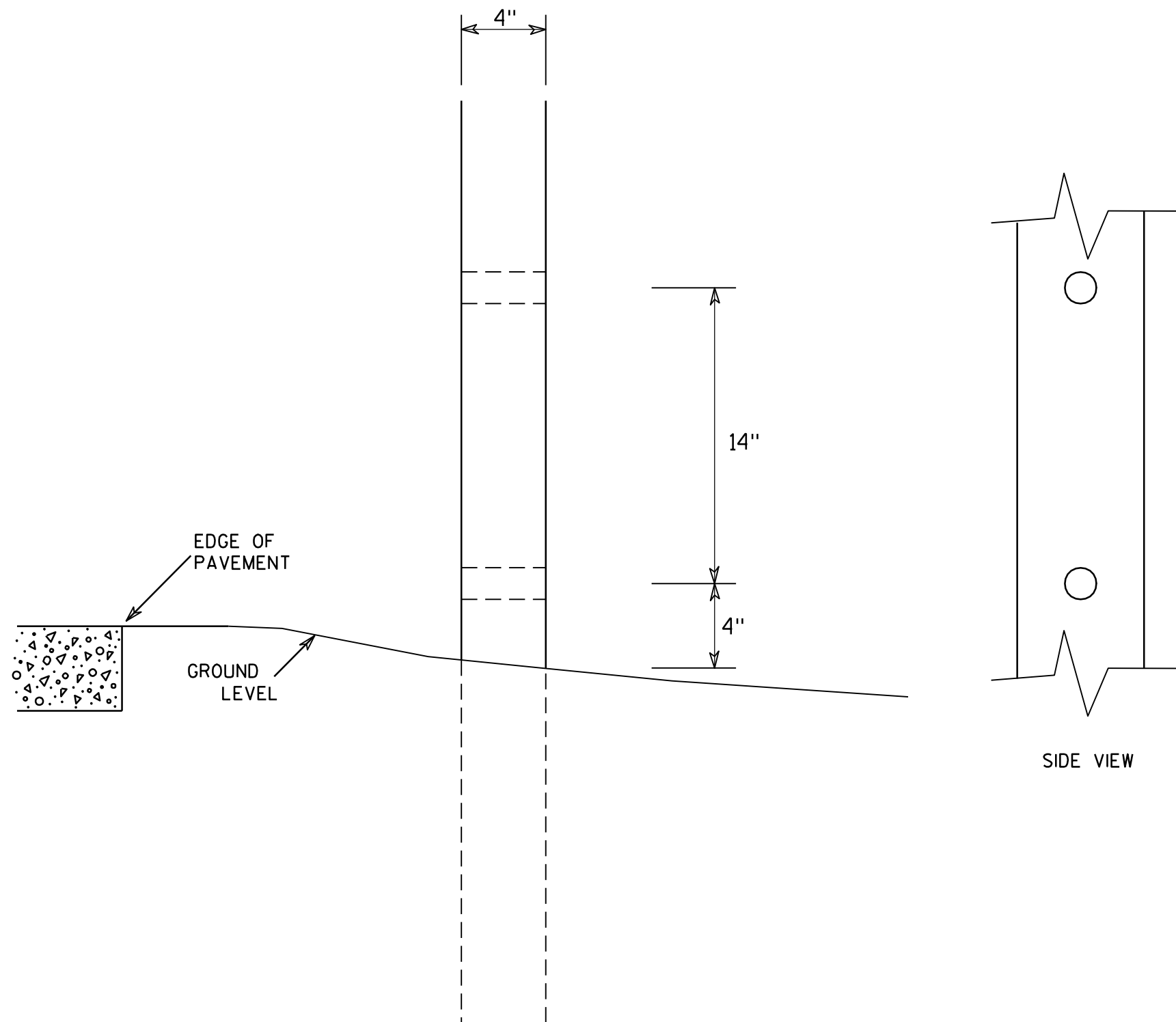
TUBULAR STEEL
SIGN POST
A4-9

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:

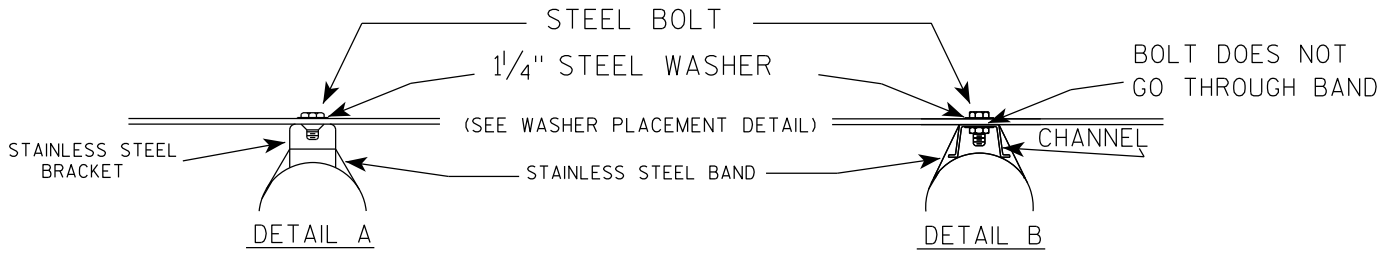
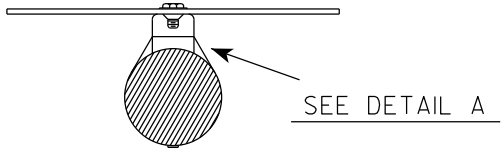
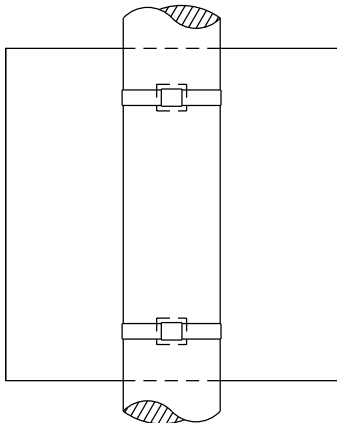
COUNTY:

SHEET NO:

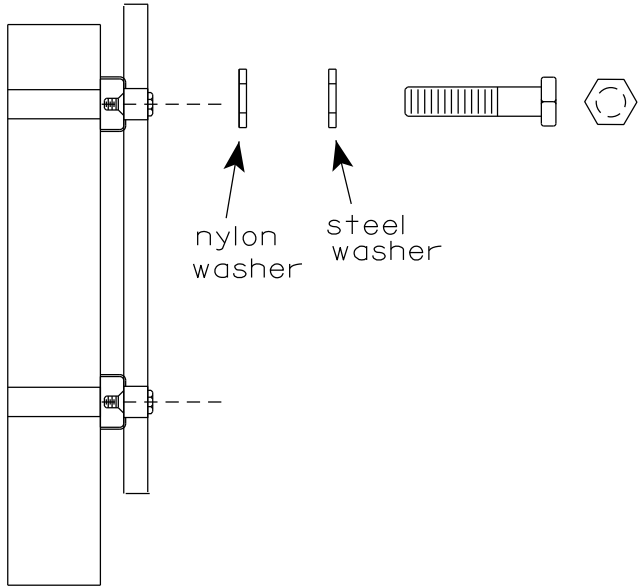
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

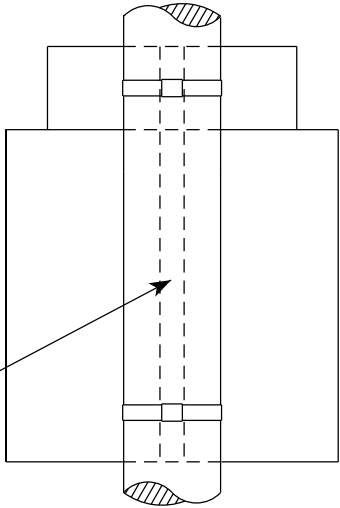


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

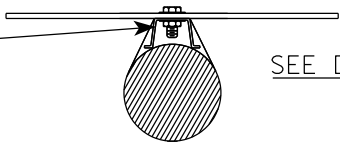
GENERAL NOTES

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



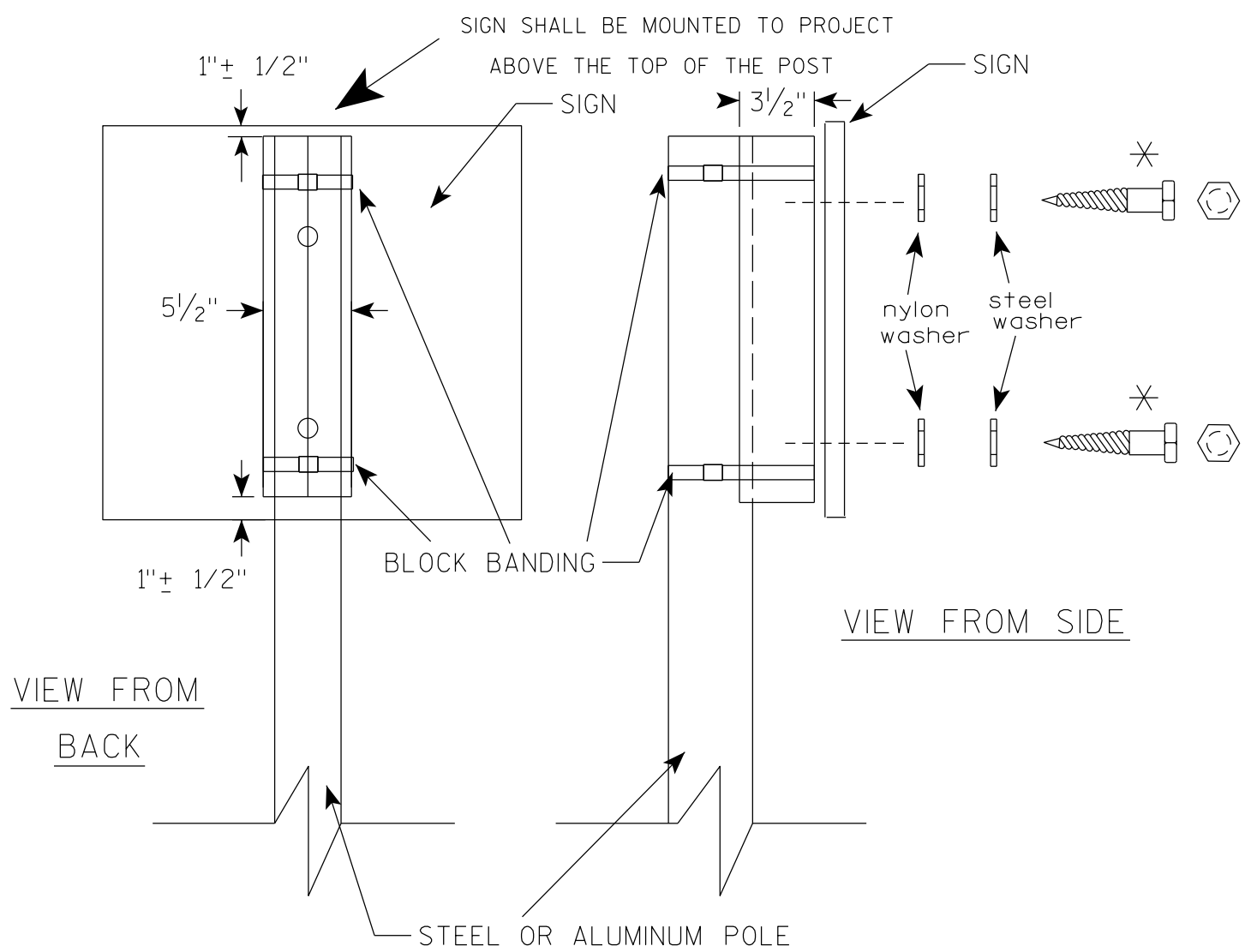
CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



STANDARD SIGN
SIGN BANDING DETAILS

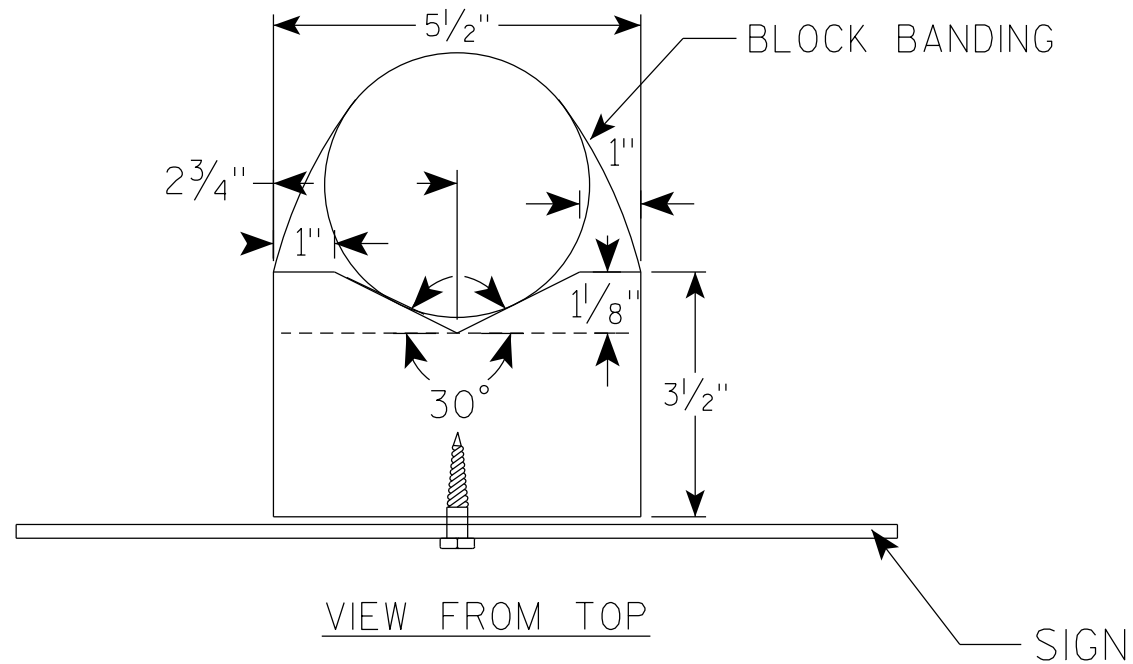
WISCONSIN DEPT OF TRANSPORTATION

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

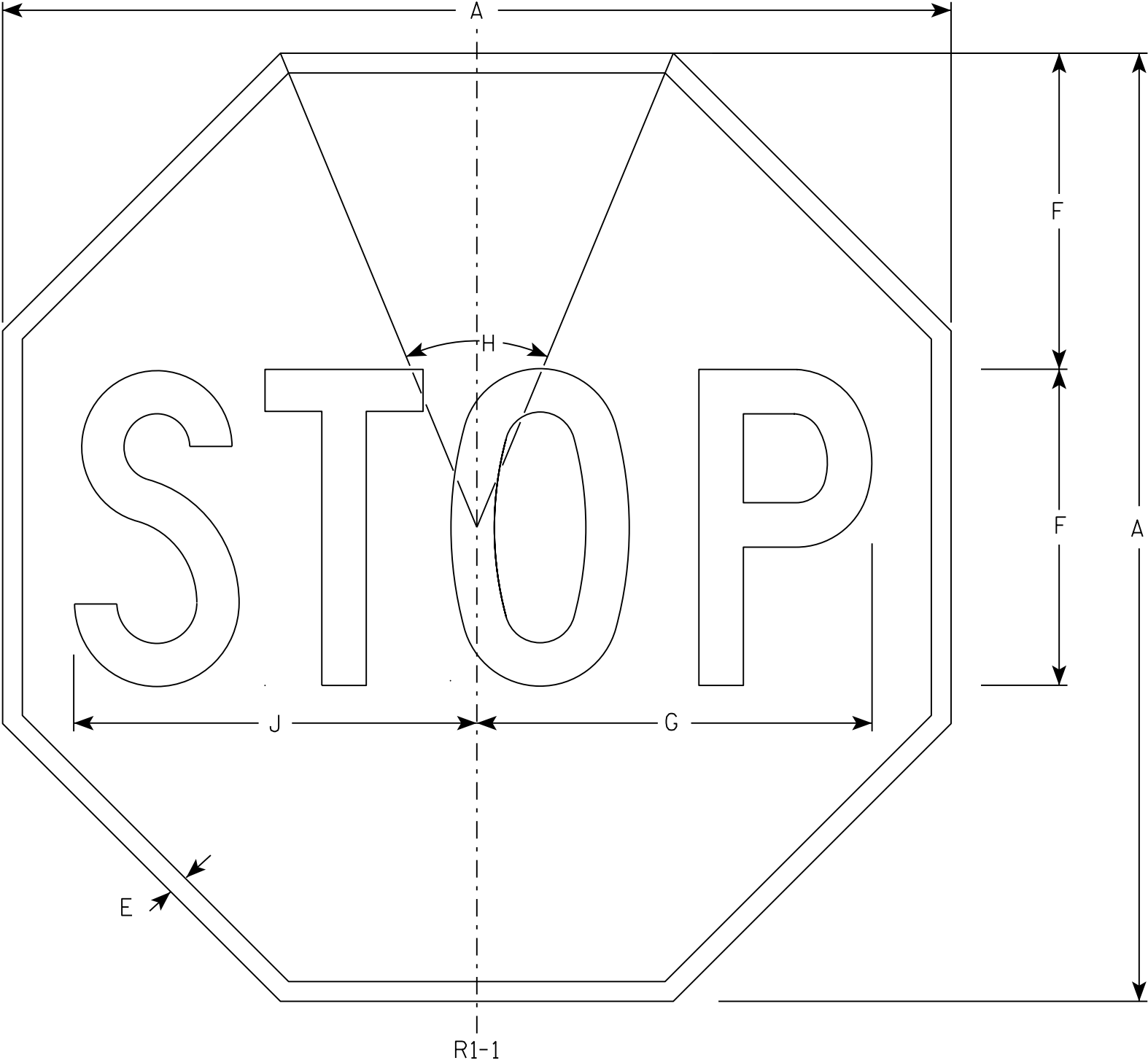
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO:

E

7



NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Red
Message - White
- 3. Message Series - C

7

R1-1

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	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN
R1 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

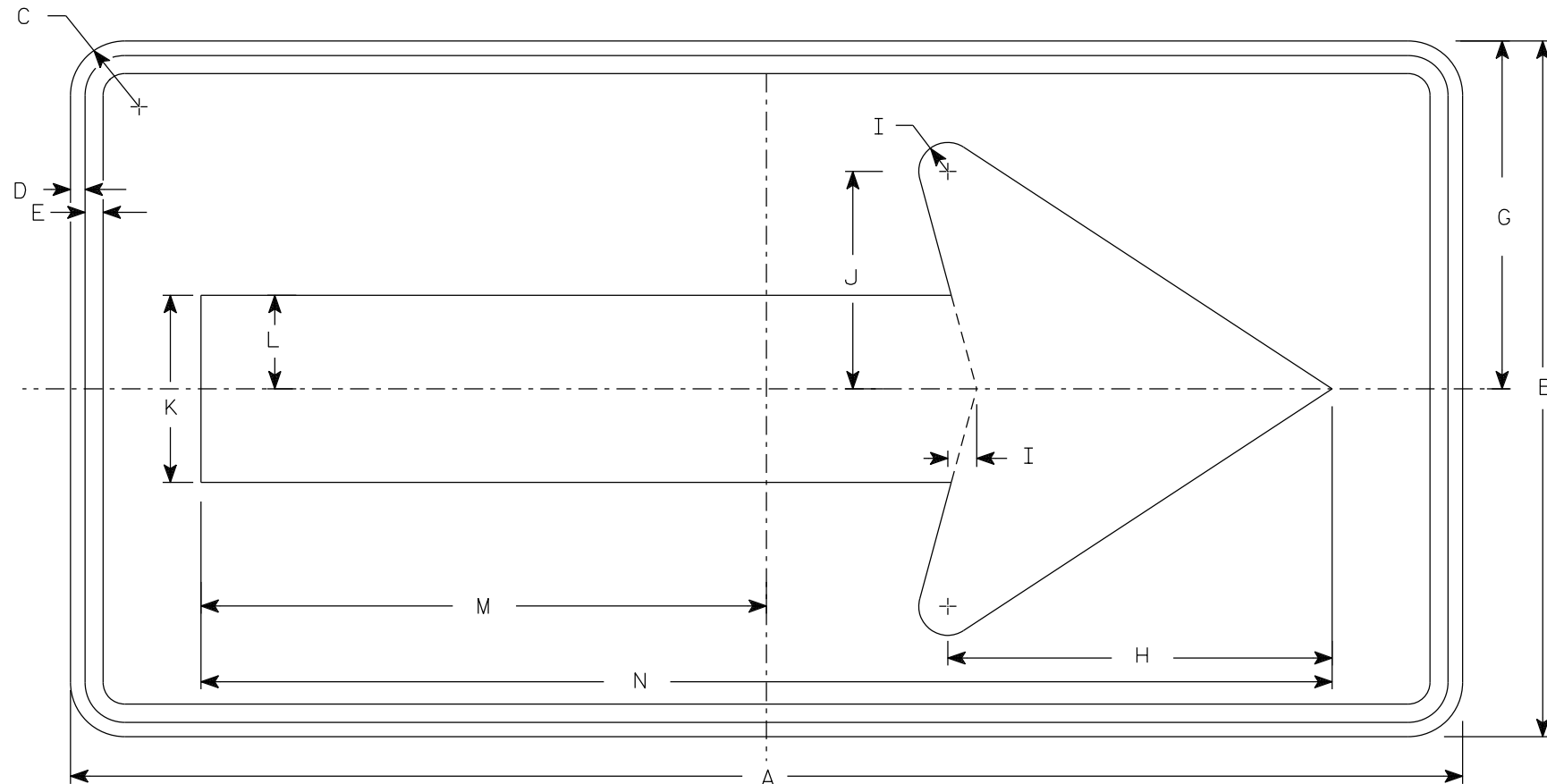
DATE 11/12/15 PLATE NO. R1-1.13

7

7

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
 - Background - Yellow
 - Message - Black



W1-6

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/2	3/8	3/8		9	10	3/4	5 5/8	4 3/4	2 3/8	14 5/8	29 1/4													4.5
2S	48	24	1 7/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 7/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	96	48	3	3/4	1		24	26 1/2	2	15	13	6 1/2	39	78													32.0

STANDARD SIGN

W1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 4/13/2023 PLATE NO. W1-6.9

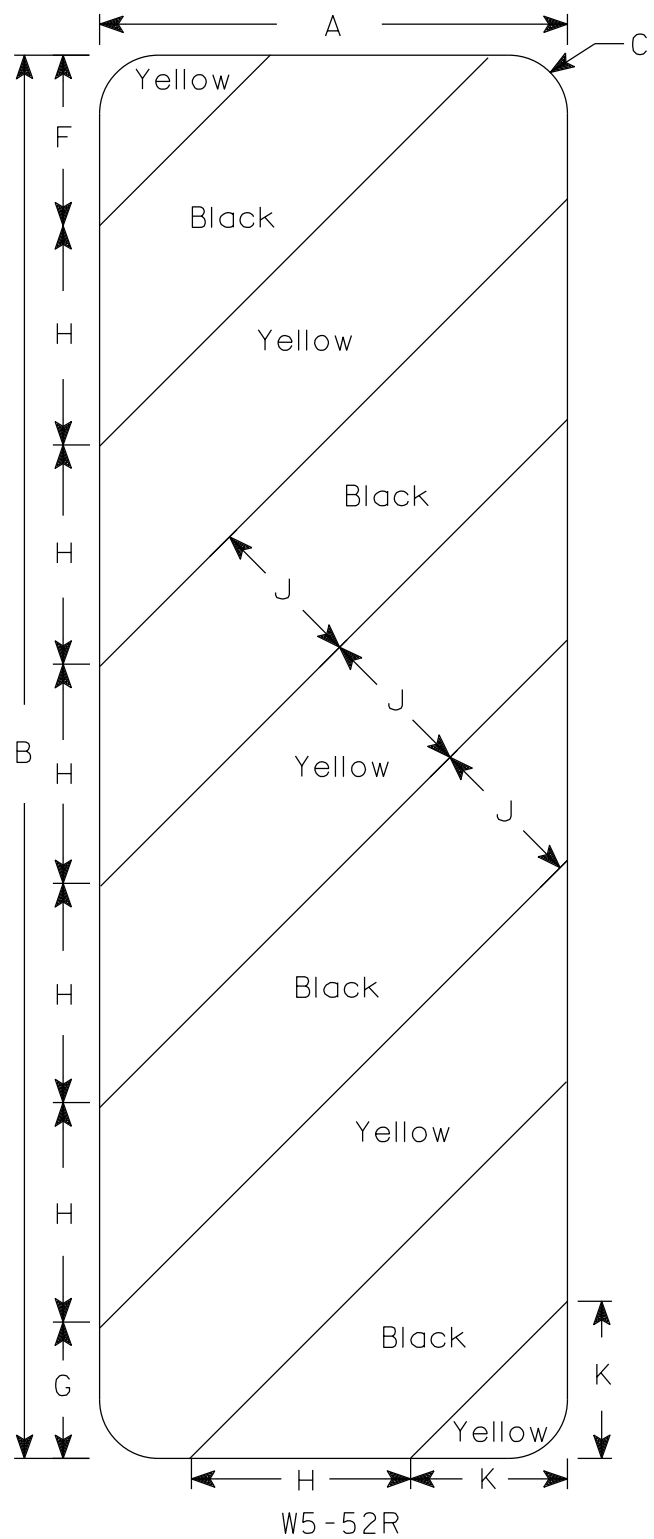
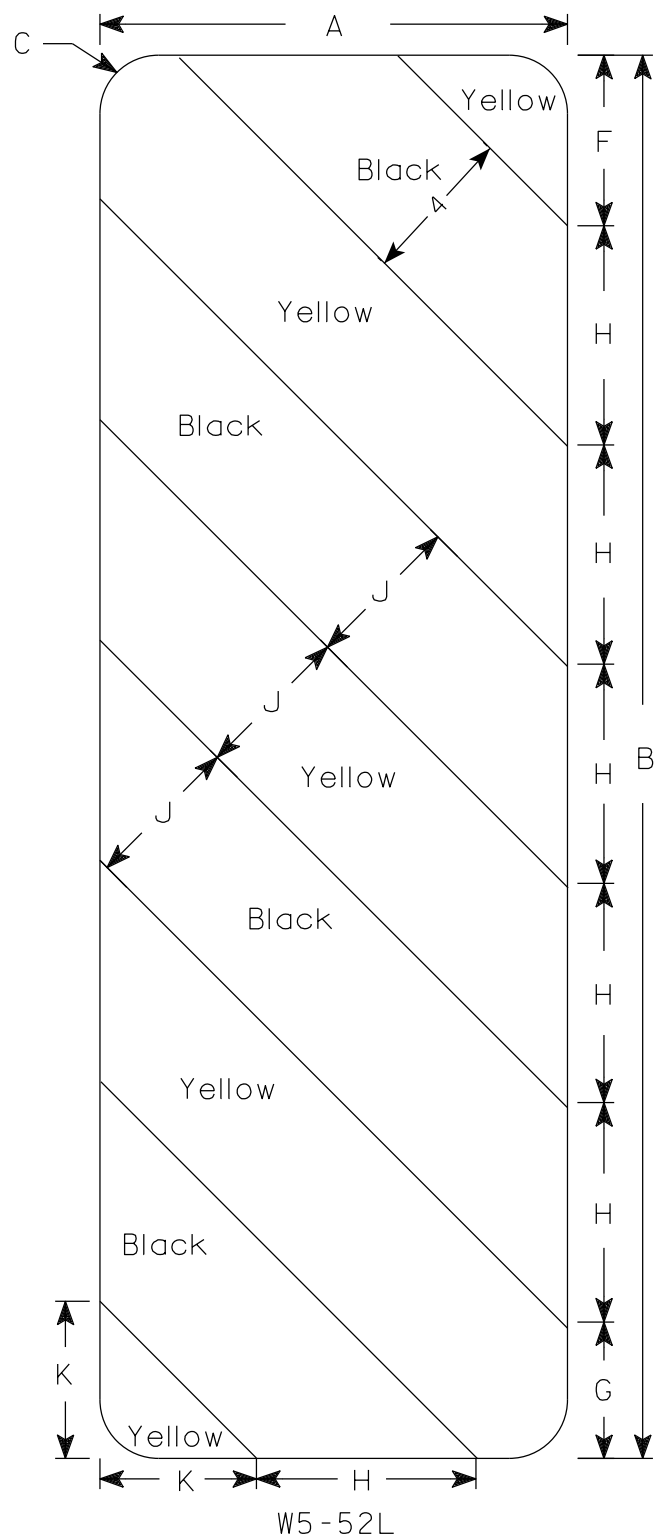
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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

8

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

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

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

DO NOT PLACE FILL ABOVE 3'-0" FROM THE BOTTOM OF ABUTMENT UNTIL THE SUPERSTRUCTURE IS IN PLACE.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-62-274" FOR THE ABUTMENTS.

THIS STRUCTURE WILL REPLACE THE EXISTING STRUCTURE, P-62-986, A 36.2 FT. LONG, SINGLE SPAN STEEL DECK GIRDER BRIDGE WITH CLEAR ROADWAY WIDTH OF 23.0 FT. SUPPORTED ON FULL RETAINING TIMBER ABUTMENTS WITH TIMBER PILING.

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

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

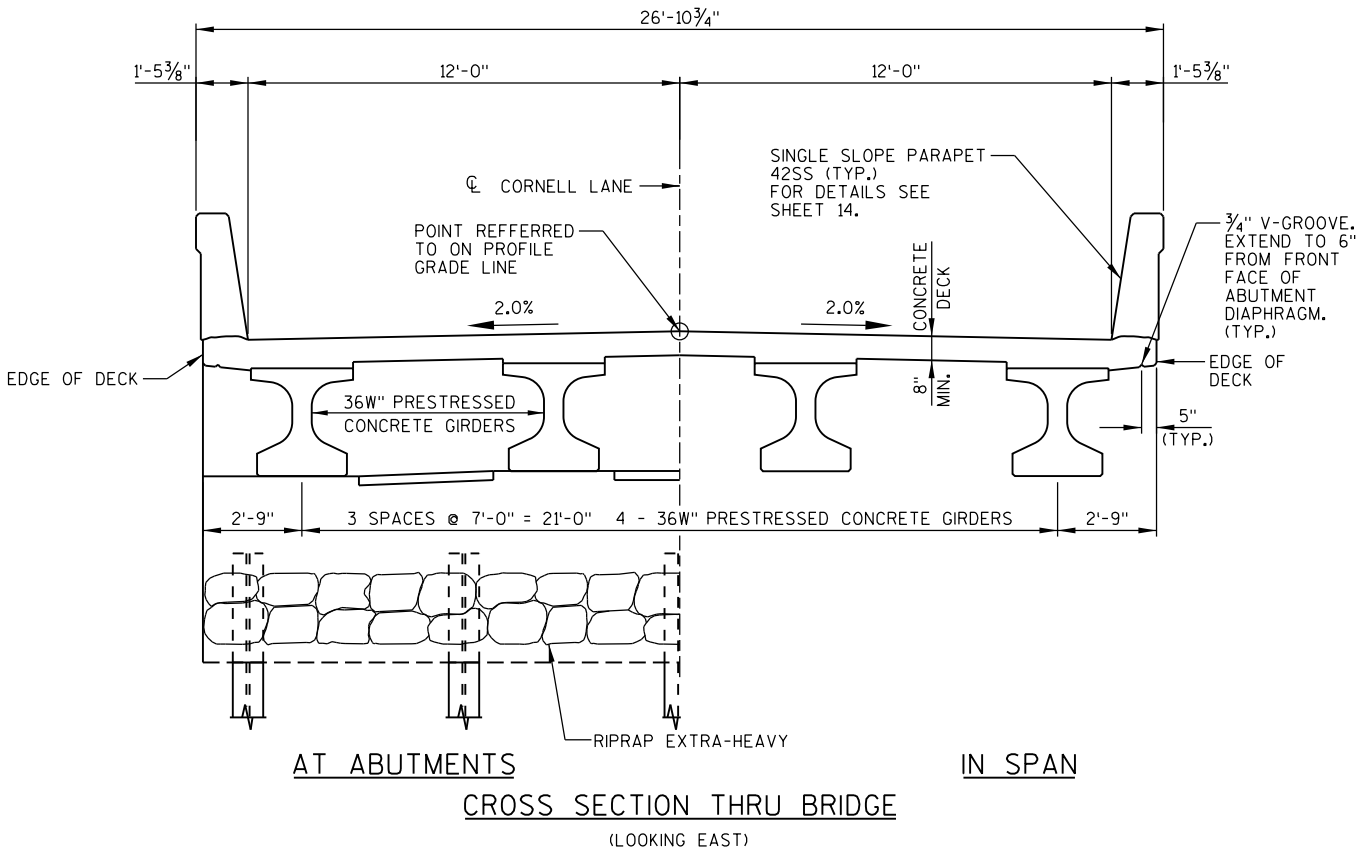
GEOTEXTILE SHALL BE SET AT THE BOTTOM OF ABUTMENT AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF DECK, TO THE TOP AND EXTERIOR EXPOSED FACES OF WINGS, AND TO THE END 1'-0" OF THE FRONT FACE OF ABUTMENTS.

PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE INSIDE FACES, THE TOP FACES, AND THE ENDS OF THE PARAPETS.

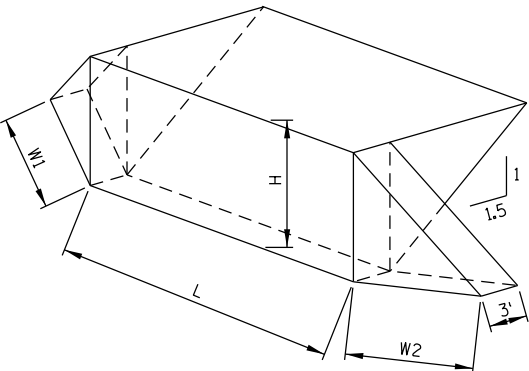
ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO USGS NAVD 88 (2012 ADJUSTED). BENCHMARK REFERENCES AT THE PROJECT SITE WERE SET BY THE CONSULTANT USING GPS TECHNOLOGY.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE GIRDER AND DECK FORMING DETAILS SHEET.

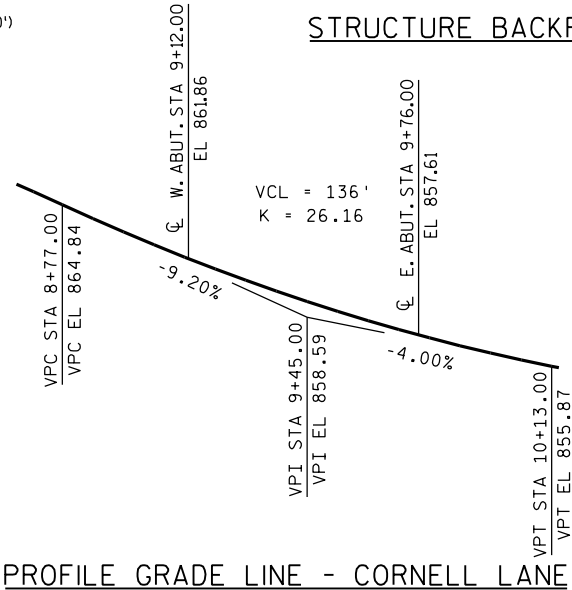
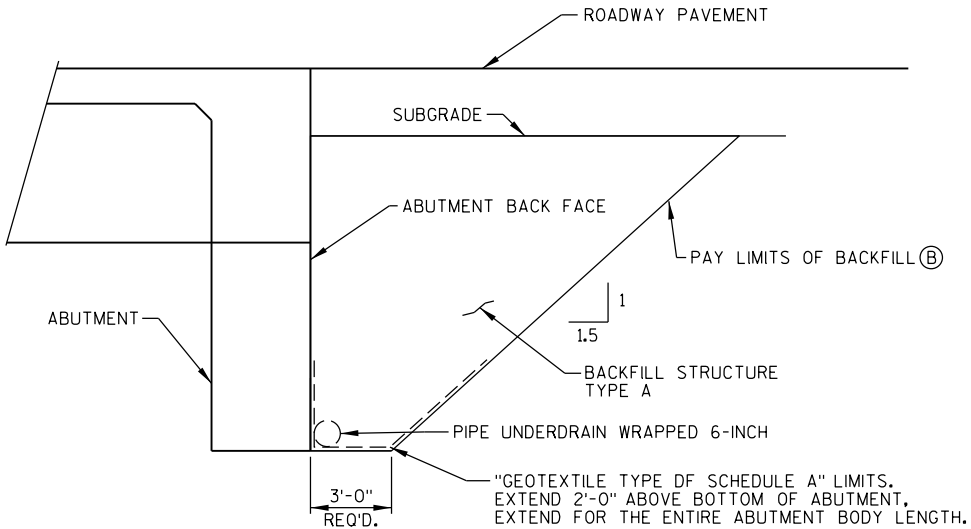


TOTAL ESTIMATED QUANTITIES

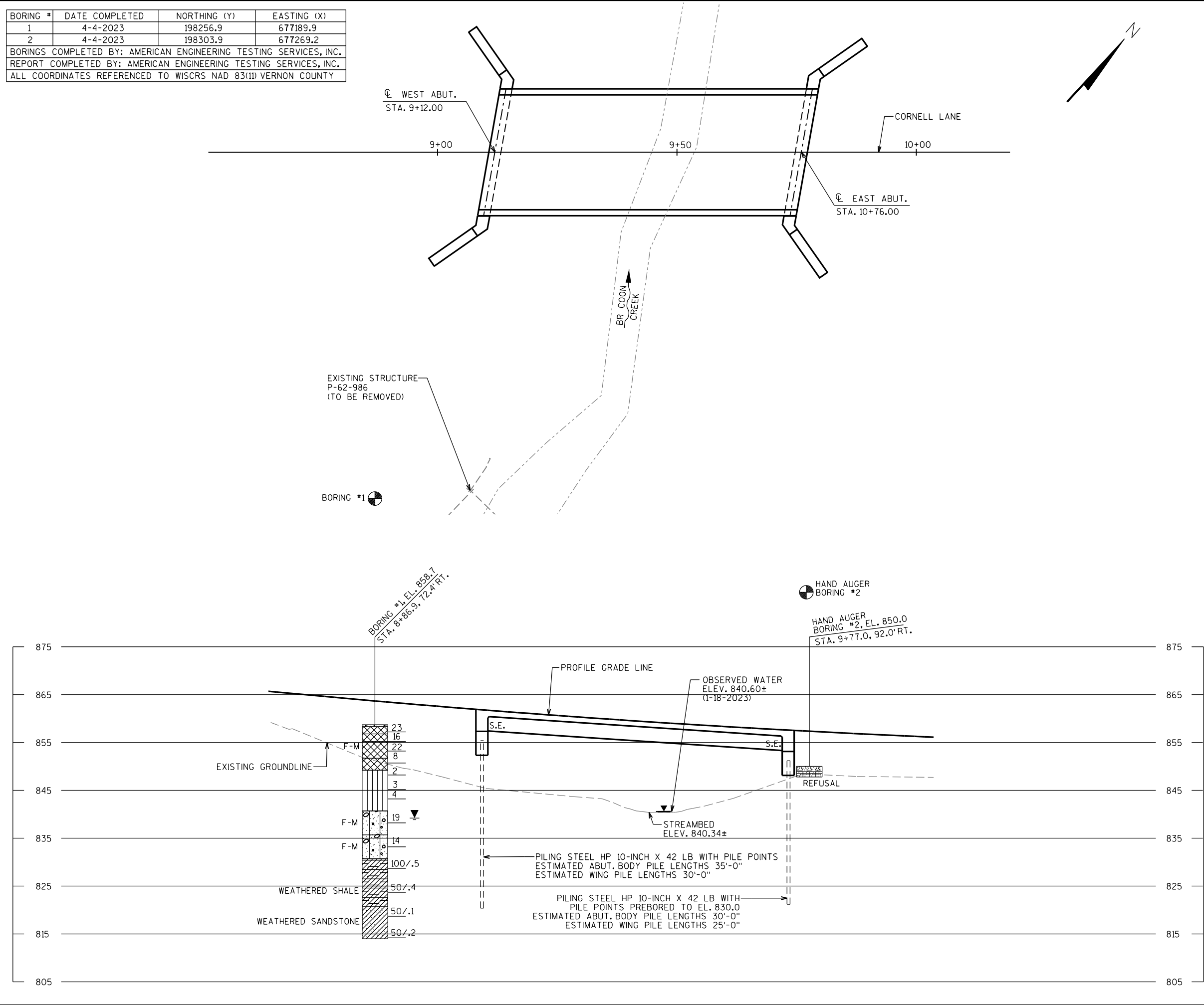
ITEM NUMBER	BID ITEM	UNIT	WEST ABUT.	EAST ABUT.	SUPER	TOTAL
203.0260.01	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS P-62-986	EACH	-	-	-	1
206.1001.01	EXCAVATION FOR STRUCTURES BRIDGES B-62-274	EACH	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	230	220	-	450
502.0100	CONCRETE MASONRY BRIDGES	CY	33.2	31.7	86.5	152
502.3200	PROTECTIVE SURFACE TREATMENT	SY	23	24	178	225
502.3210	PIGMENTED SURFACE SEALER	SY	-	-	68	68
503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH	LF	-	-	260	260
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,060	2,060	-	4,120
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,000	1,975	15,830	19,805
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	-	-	8	8
506.4000.01	STEEL DIAPHRAGMS B-62-274	EACH	-	-	3	3
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	11	11	-	22
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	-	128	-	128
550.0500	PILE POINTS	EACH	7	7	-	14
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	235	200	-	435
606.0400	RIPRAP EXTRA-HEAVY	CY	560	240	-	800
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	90	90	-	180
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	53	53	-	106
645.0120	GEOTEXTILE TYPE HR	SY	845	390	-	1,235
NON-BID ITEMS						
	CORK FILLER	SIZE				3/4"
	PREFORMED FILLER	SIZE				1/2"



$$V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H) + (0.5)(H)(W1+W2)(3.0')$$
$$V_{TON} = V_{CF} (2.0) / 27$$



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-62-274			
DRAWN BY RLR		PLANS CK'D. JRS/JDH	
CROSS SECTION, QUANTITIES & NOTES			SHEET 2 OF 14



STATE PROJECT NUMBER

5378-00-74

MATERIAL SYMBOLS

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

LEGEND OF BORING

BORING #1, EL. 858.7 STA. 8+86.9, 72.4' RT.

ST (1) 0.25 (2) 17

F-C COBBLE OR BOULDER

WEATHERED LIMESTONE

CORE RUN #1 - 24'-29' REC=80%, ROD=72%

GROUND WATER ELEVATION

AT TIME OF DRILLING

END OF DRILLING

AFTER DRILLING

ABBREVIATIONS

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

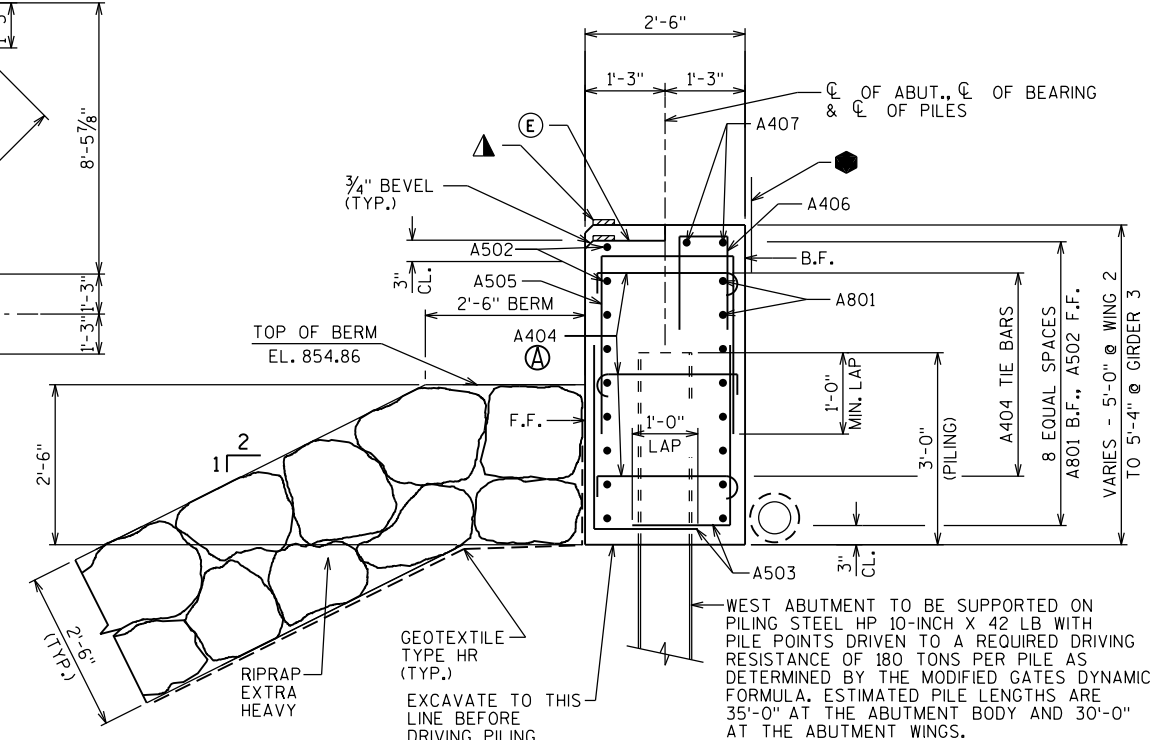
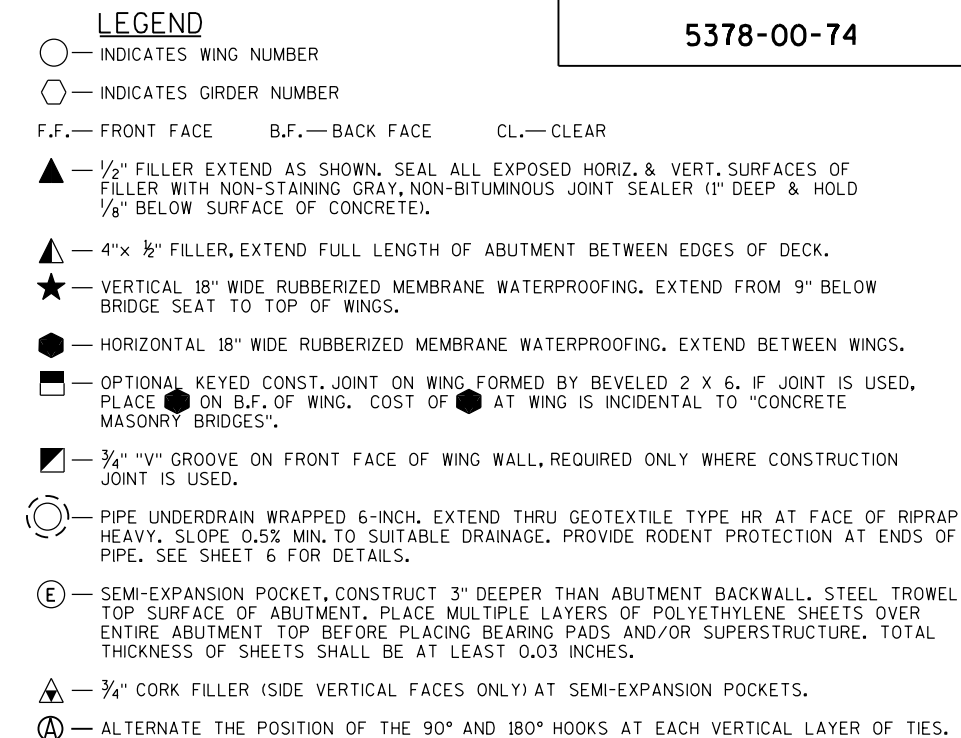
SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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.

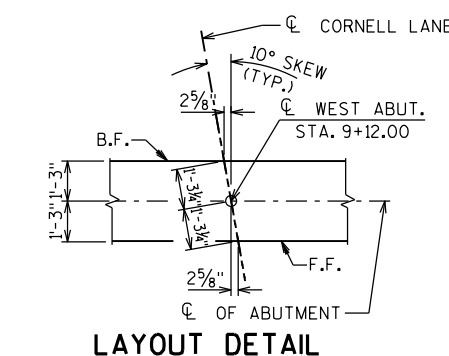
8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-62-274	
DRAWN BY		EKK	PLANS CK'D. JRS/JDH
SUBSURFACE EXPLORATION		SHEET 3 OF 14	

FILE= 07339038 B-62-0274_03.DGN

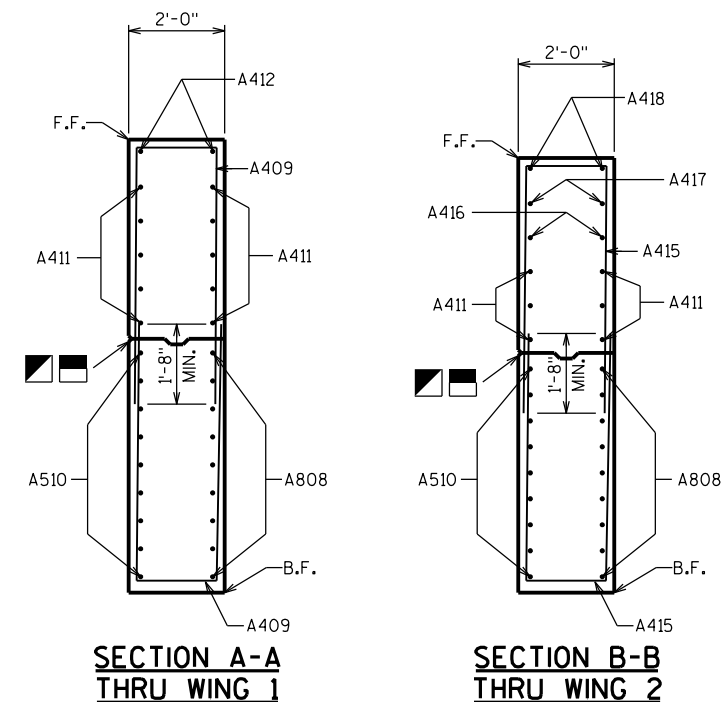


TYPICAL SECTION THRU ABUTMENT



LAYOUT DETAIL

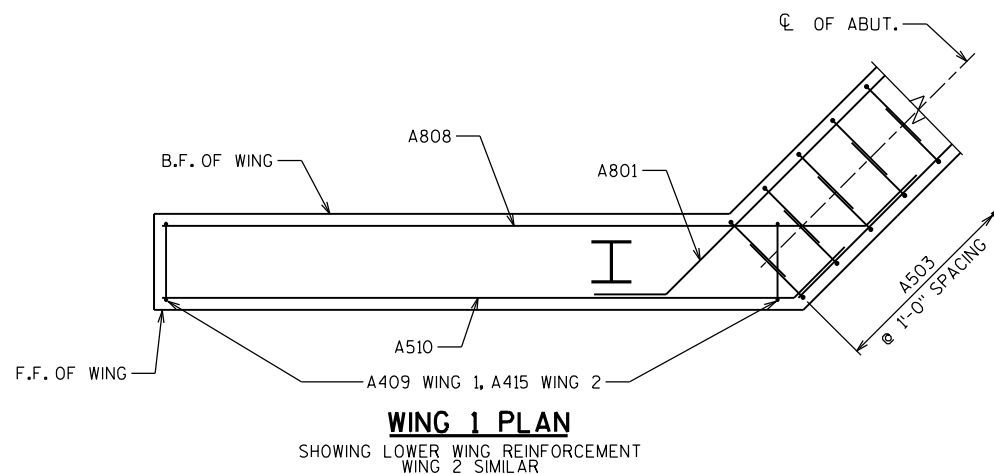
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-62-274	
		DRAWN BY	RLR
		PLANS CK'D.	JDH
WEST ABUTMENT		SHEET 4 OF 1	



SECTION A-A
THRU WING 1

SECTION B-B
THRU WING 2

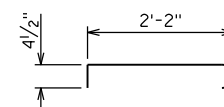
★ ☆ ◻ ◻ ▲



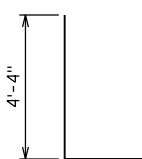
WING 1 PLAN

SHOWING LOWER WING REINFORCEMENT
WING 2 SIMILAR

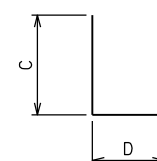
MARK	A	B
A801 A808 A510	1'-6"	45°
A412	2'-5"	3°
A418	2'-5"	12°



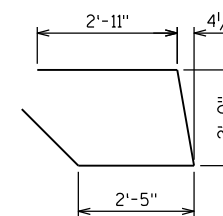
A404
STD. 180° HOOK



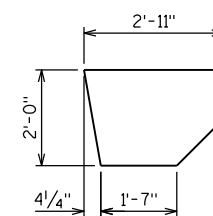
A503



MARK	C	D
A505	3'-2"	2'-2"
A406	1'-6"	11"
A409	5'-4"	1'-8"
A514	7'-7"	2'-2"
A415	5'-2"	1'-8"



A413

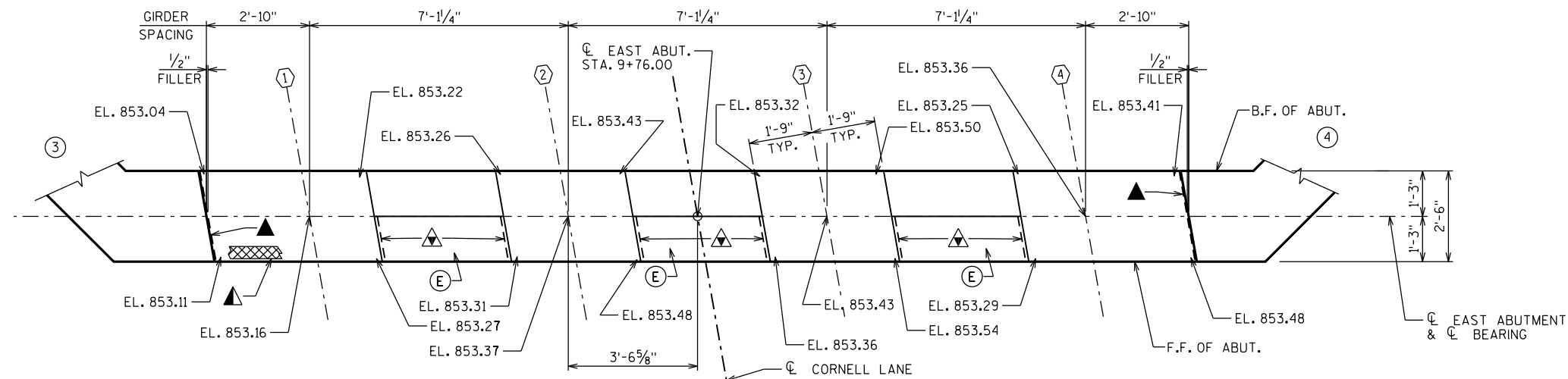


A419

MARK	NUMBER REQUIRED		LENGTH	BENT	LOCATION
	COATED	UNCOATED			
A801	-	18	21'-7"	X	ABUTMENT BODY - B.F. - HORIZ.
A502	-	9	31'-7"		ABUTMENT BODY - F.F. - HORIZ.
A503	-	64	5'-10"	X	ABUTMENT BODY - F.F. & B.F. - VERT.
A404	-	24	3'-0"	X	ABUTMENT BODY - TIES - HORIZ.
A505	-	28	8'-3"	X	ABUTMENT BODY - TOP - VERT.
A406	-	9	3'-9"	X	ABUTMENT BODY - BACKWALL STIRRUP - VERT.
A407	-	6	5'-7"		ABUTMENT BODY - BACKWALL - HORIZ.
A808	18	-	16'-2"	X	WINGS - LOWER - B.F. - HORIZ.
A409	36	-	12'-2"	X	WING 1 - STIRRUP - VERT.
A510	18	-	14'-8"	X	WINGS - LOWER - F.F. - HORIZ.
A411	16	-	13'-3"		WINGS - UPPER - F.F. & B.F. - HORIZ.
A412	2	-	13'-3"	X	WING 1 - TOP - F.F. & B.F. - HORIZ.
A413	6	-	8'-8"	X	WING 1 - UPPER - CORNER - HORIZ.
A514	6	-	17'-1"	X	WINGS - UPPER - CORNER - VERT.
A415	36	-	11'-10"	X	WING 2 - STIRRUP - VERT.
A416	2	-	9'-6"		WING 2 - UPPER - F.F. & B.F. - HORIZ.
A417	2	-	6'-2"		WING 2 - UPPER - F.F. & B.F. - HORIZ.
A418	2	-	13'-7"	X	WING 2 - TOP - F.F. & B.F. - HORIZ.
A419	6	-	7'-10"	X	WING 2 - UPPER - CORNER - HORIZ.

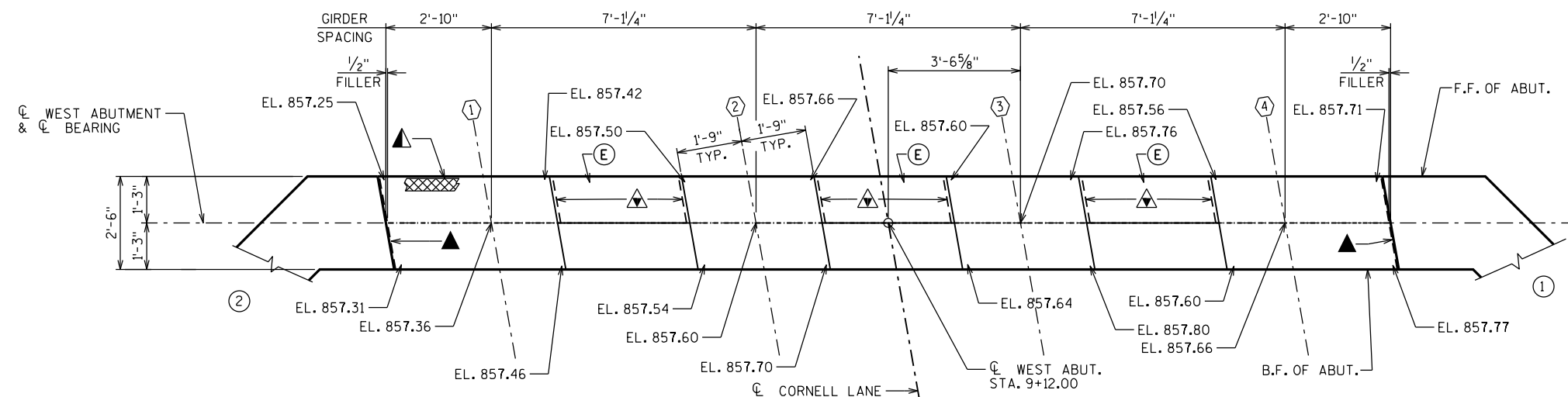
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-62-274	
DRAWN BY		RLR	PLANS CK'D. JDH
WEST ABUTMENT DETAILS		SHEET 5 OF 14	

**EAST ABUTMENT**

NOTE:

SLOPE BETWEEN BEAM SEATS.

**WEST ABUTMENT****LEGEND**

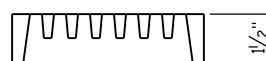
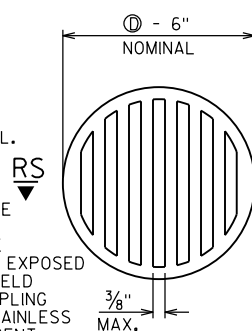
- - INDICATES WING NUMBER.
- ⬡ - INDICATES GIRDER NUMBER.
- ▲ - 4" x 1/2" PREFORMED FILLER BETWEEN WINGWALLS AT ABUTMENTS.
- ▲ - 1/2" JOINT FILLER.
- ⓔ - SEMI-EXPANSION POCKET, CONSTRUCT 3" DEEPER THAN SURROUNDING BEAM SEATS & BACKWALL.
- ▲ - 3/4" CORK FILLER (SIDE VERTICAL FACES ONLY) AT SEMI-EXPANSION POCKETS.

8

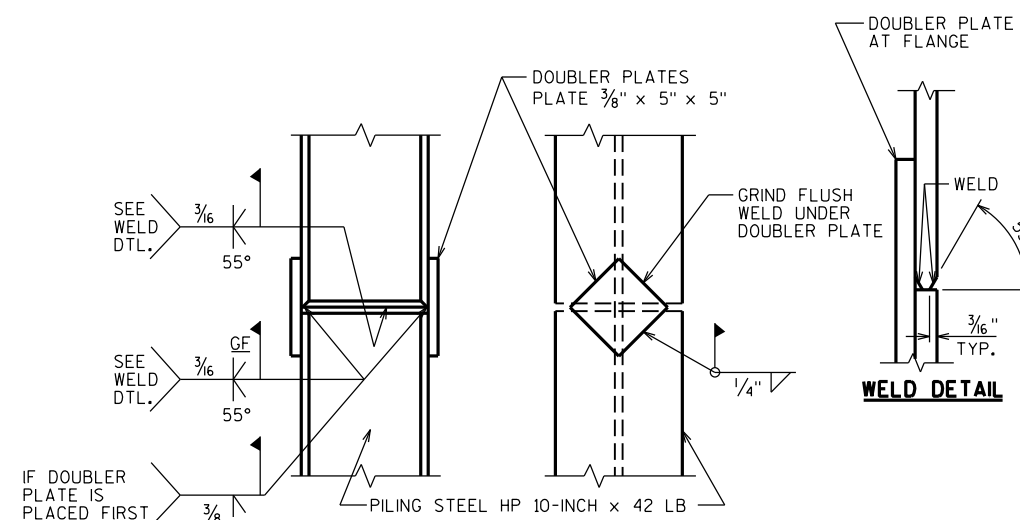
RODENT SHIELD NOTES:

ORIENT SHIELD SO SLOTS ARE VERTICAL.

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

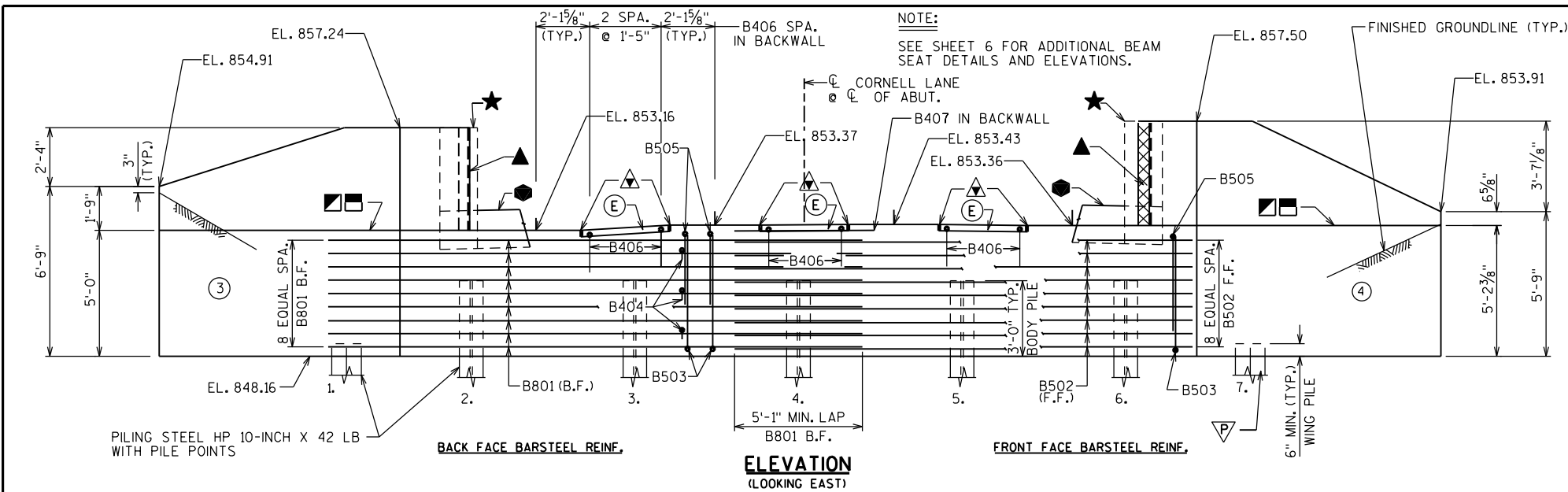
**SECTION RS-RS****RODENT SHIELD**

① - DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

**PILE SPLICE DETAILS**

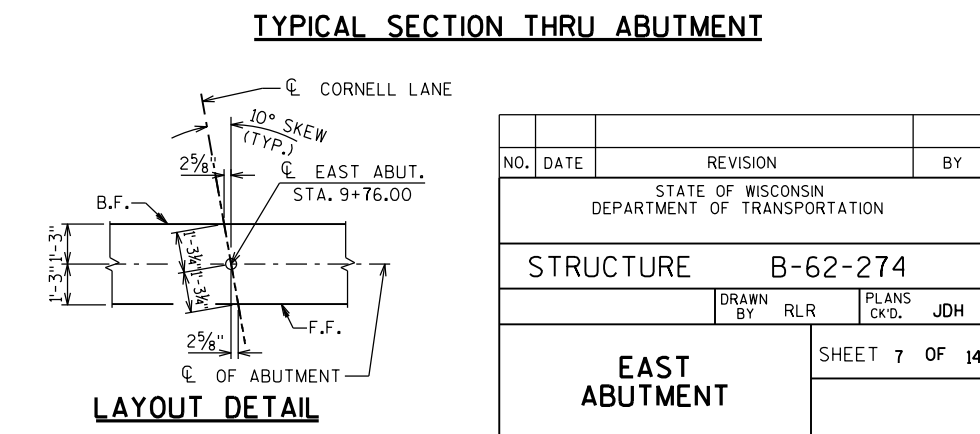
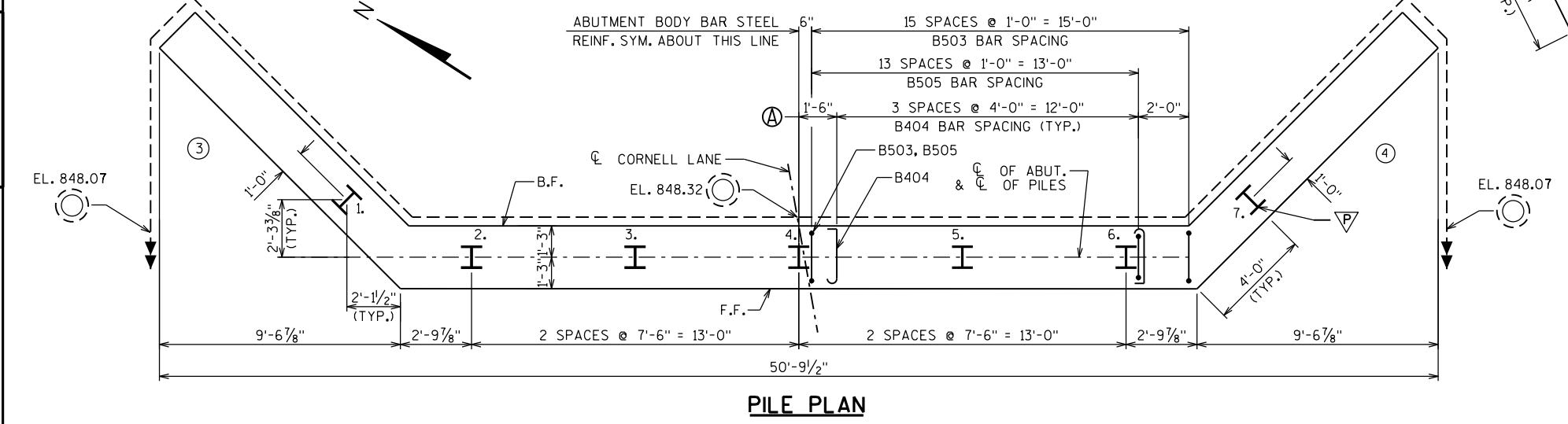
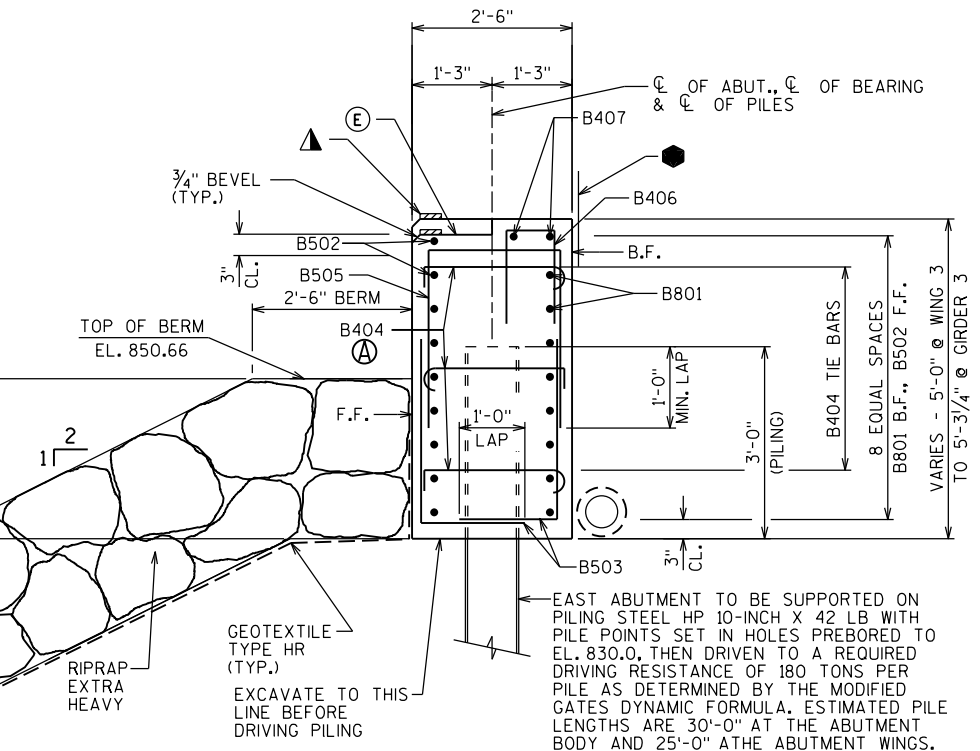
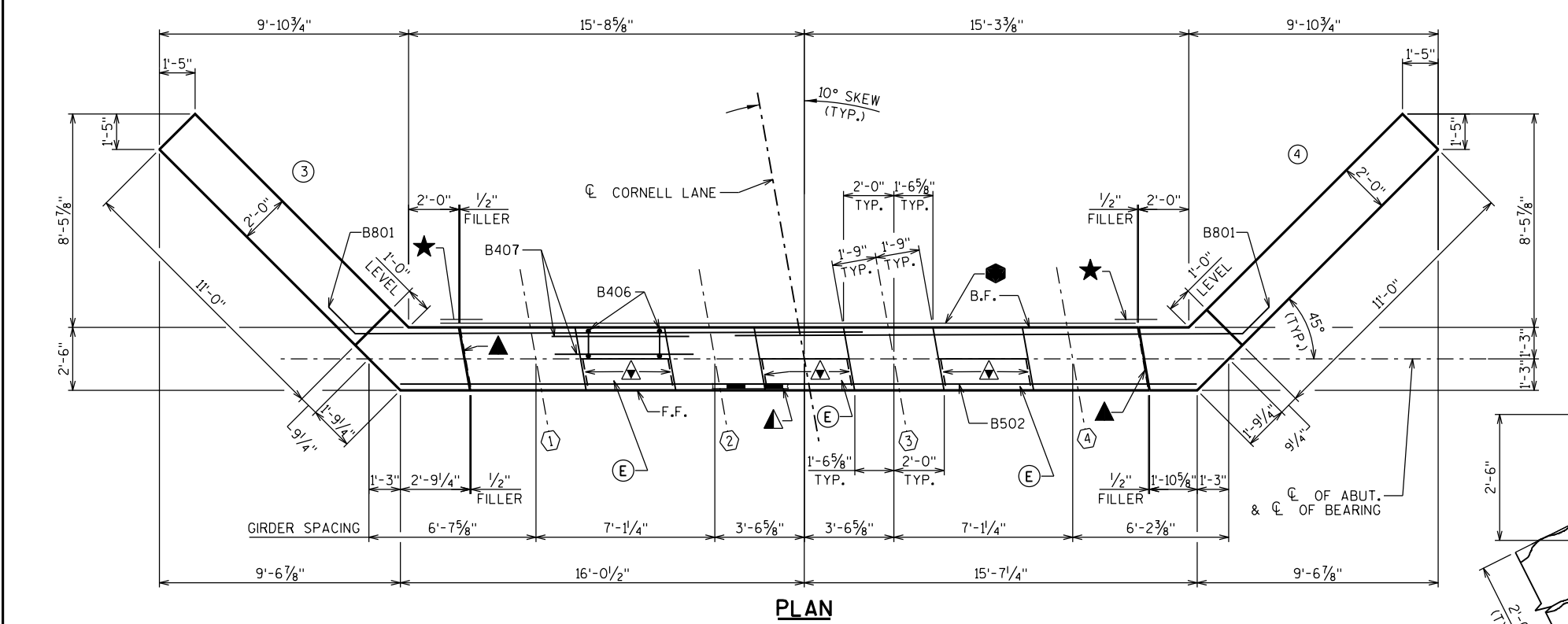
8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-62-274	
DRAWN BY		RLR	PLANS CK'D. JDH
BEARING SEAT LAYOUT		SHEET 6 OF 14	

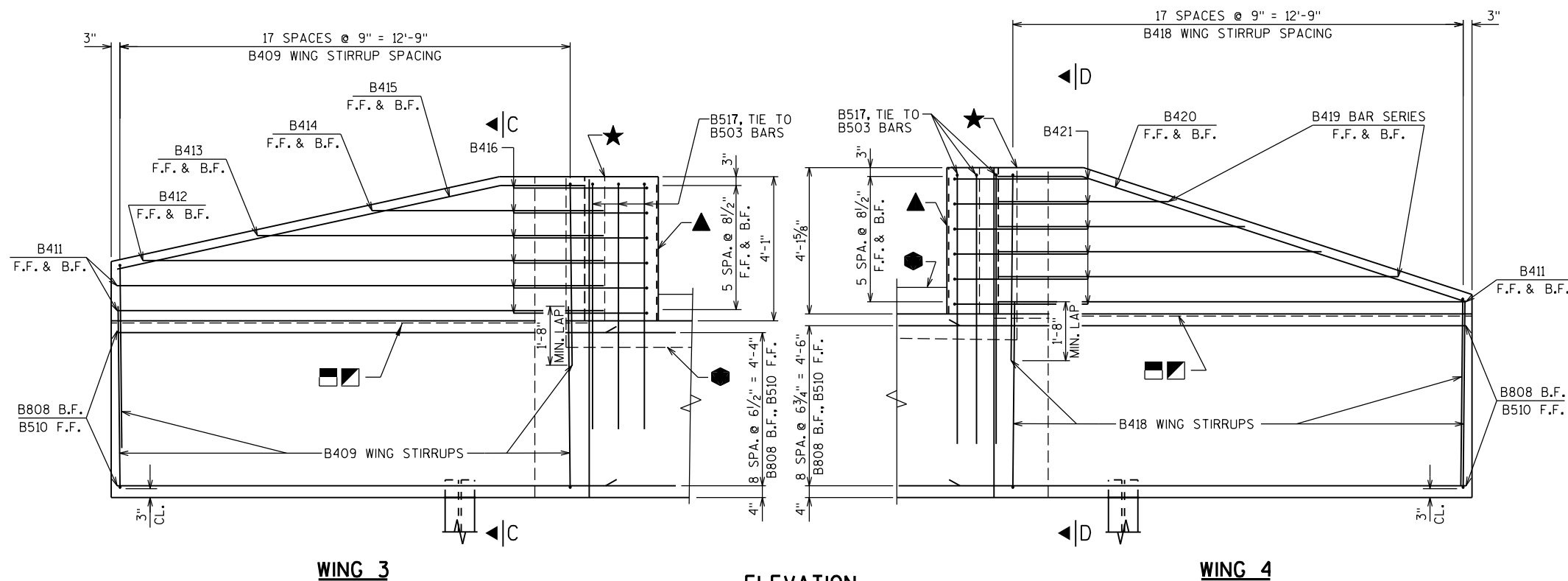


- LEGEND**
- INDICATES WING NUMBER
 - ⬡ INDICATES GIRDER NUMBER
 - F.F.— FRONT FACE B.F.— BACK FACE CL.— CLEAR
 - ▲ 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE).
 - ▲ 4"x 1/2" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF DECK.
 - ★ VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.
 - ⬢ HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS.
 - ◻ OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2 X 6, IF JOINT IS USED, PLACE ⬢ ON B.F. OF WING. COST OF ⬢ AT WING IS INCIDENTAL TO "CONCRETE MASONRY BRIDGES".
 - ◻ 3/4" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONSTRUCTION JOINT IS USED.
 - ⊙ PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE TYPE HR AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE. SEE SHEET 6 FOR DETAILS.
 - (E) SEMI-EXPANSION POCKET, CONSTRUCT 3" DEEPER THAN ABUTMENT BACKWALL. STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03 INCHES.
 - ▲ 3/4" CORK FILLER (SIDE VERTICAL FACES ONLY) AT SEMI-EXPANSION POCKETS.
 - (A) ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.
 - ▽ LOCATION OF WING PILE IN WING 4 TO BE ADJUSTED IF IN CONFLICT WITH BURIED FIBER OPTIC LINE. SEE "UTILITIES" AND "UTILITY LINE OPENING (ULO)" SPECIAL PROVISIONS.

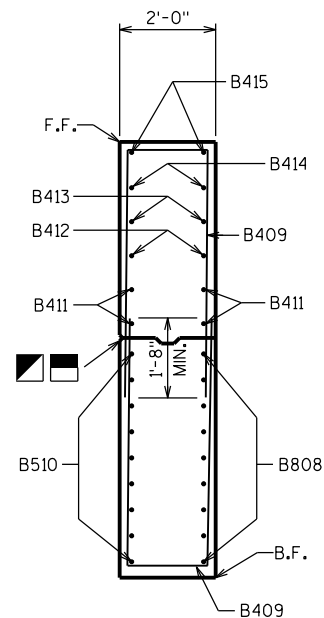
STATE PROJECT NUMBER
5378-00-74



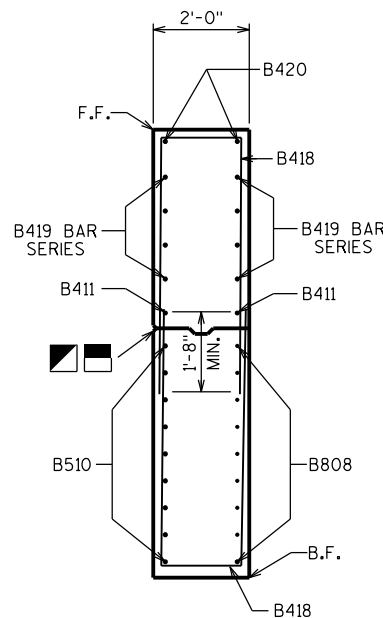
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-62-274	
DRAWN BY		RLR	PLANS CK'D. JDH
EAST ABUTMENT		SHEET 7 OF 14	



ELEVATION
(LOOKING AT F.F. OF WINGS)

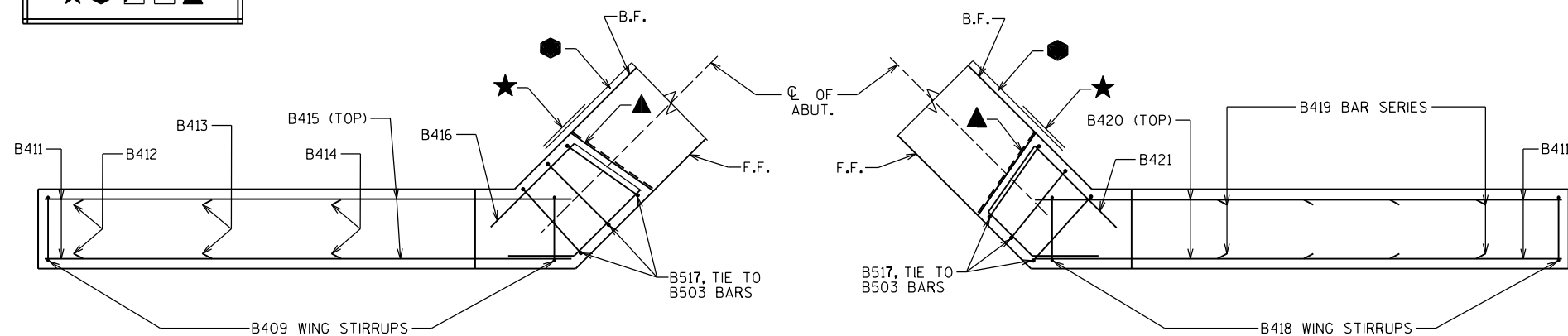


**SECTION C-C
THRU WING 3**



**SECTION D-D
THRU WING 4**

SEE LEGEND ON SHEET
7 FOR DESCRIPTION OF

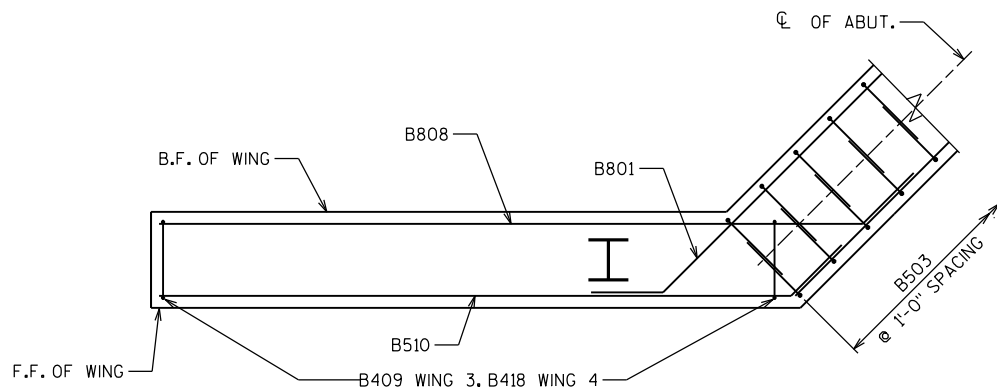


WING 3

PLAN

SHOWING UPPER WING REINFORCEMENT

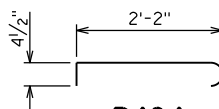
WING 4



WING 3 PLAN

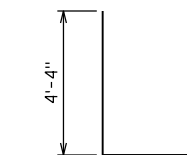
SHOWING LOWER WING REINFORCEMENT
WING 4 SIMILAR

MARK	A	B
B801 B808 B510	1'-6"	45°
B415	2'-5"	12°
B420	2'-5"	18°

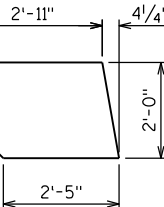
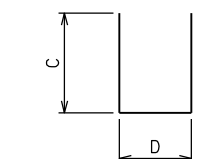


B404

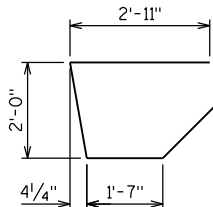
STD. 180° HOOK



B503



B416



B421

BILL OF BARS (EAST ABUT.)

MARK	NUMBER COATED	REQUIRED UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION
B801	-	18	21'-7"	X		ABUTMENT BODY - B.F. - HORIZ.
B502	-	9	31'-7"			ABUTMENT BODY - F.F. - HORIZ.
B503	-	64	5'-10"	X		ABUTMENT BODY - F.F. & B.F. - VERT.
B404	-	24	3'-0"	X		ABUTMENT BODY - TIES - HORIZ.
B505	-	28	8'-3"	X		ABUTMENT BODY - TOP - VERT.
B406	-	9	3'-9"	X		ABUTMENT BODY - BACKWALL STIRRUP - VERT.
B407	-	6	5'-7"			ABUTMENT BODY - BACKWALL - HORIZ.
B808	18	-	16'-2"	X		WINGS - LOWER - B.F. - HORIZ.
B409	36	-	11'-10"	X		WING 3 - STIRRUP - VERT.
B510	18	-	14'-8"	X		WINGS - LOWER - F.F. - HORIZ.
B411	6	-	13'-3"			WINGS - UPPER - F.F. & B.F. - HORIZ.
B412	2	-	12'-6"			WING 3 - UPPER - F.F. & B.F. - HORIZ.
B413	2	-	9'-3"			WING 3 - UPPER - F.F. & B.F. - HORIZ.
B414	2	-	6'-0"			WING 3 - UPPER - F.F. & B.F. - HORIZ.
B415	2	-	13'-7"	X		WING 3 - TOP - F.F. & B.F. - HORIZ.
B416	6	-	8'-8"	X		WING 3 - UPPER - CORNER - HORIZ.
B517	6	-	17'-1"	X		WINGS - UPPER - CORNER - VERT.
B418	36	-	12'-2"	X		WING 4 - STIRRUP - VERT.
B419	8	-	8'-1"			WING 4 - UPPER - F.F. & B.F. - HORIZ.
B420	2	-	13'-10"	X		WING 4 - TOP - F.F. & B.F. - HORIZ.
B421	6	-	7'-10"	X		WING 4 - UPPER - CORNER - HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

◇ - LENGTH SHOWN FOR BAR IS AN AVERAGE
AND SHOULD ONLY BE USED FOR BAR
WEIGHT CALCULATIONS. SEE BAR SERIES
TABLE FOR ACTUAL LENGTHS.

BAR MARK	NO. REQ'D.	LENGTH
B419	2 SERIES OF 4	4'-10" TO 11'-4"

BAR SERIES TABLE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-62-274	
DRAWN BY		RLR	PLANS CK'D. JDH
EAST ABUTMENT DETAILS		SHEET 8 OF 14	

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE SECTION 503.3.4 OF THE STANDARD SPECIFICATIONS FOR GUIDANCE.

PRESTRESSING STRANDS SHALL BE 0.6" DIA. - 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER.

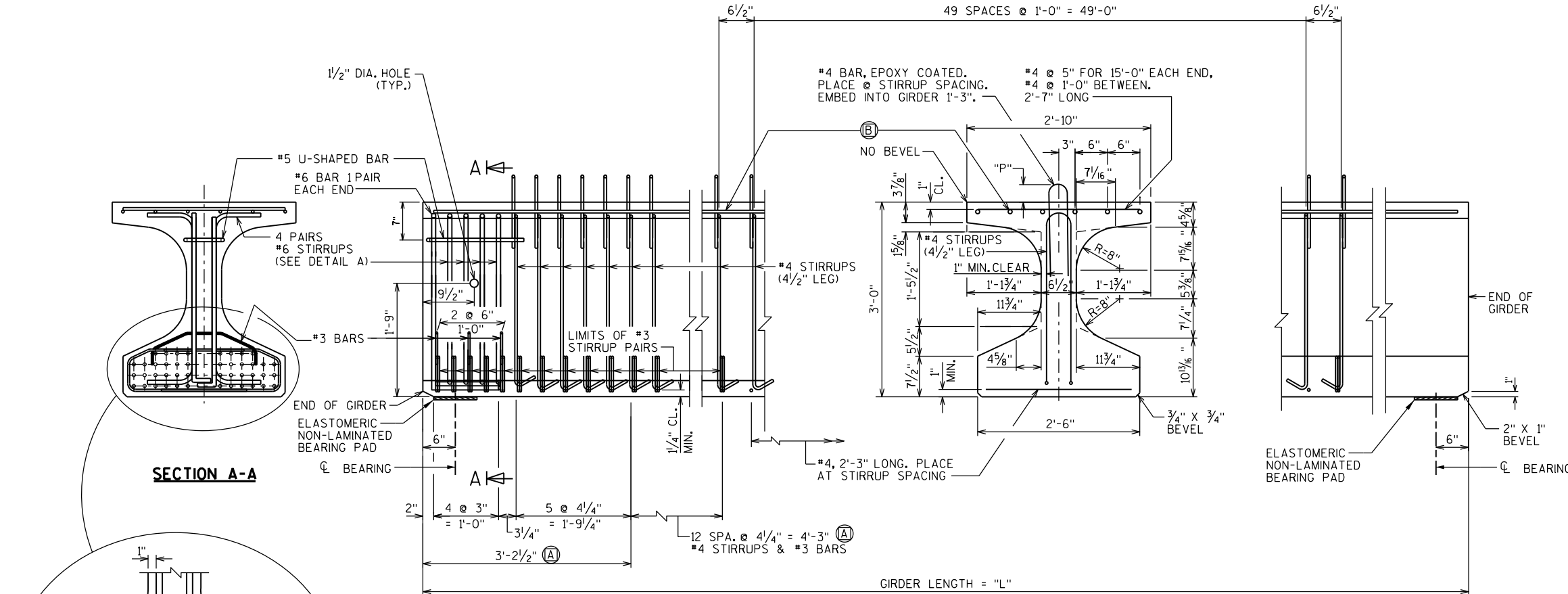
FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE SHEET 10.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DESIGN SECTION.

IF USED, WWF SUBSTITUTION DETAILS SHALL BE SUBMITTED ELECTRONICALLY TO THE WISDOT FABRICATION LIBRARY AND ACCEPTED PRIOR TO SHOP DRAWING SUBMITTAL.

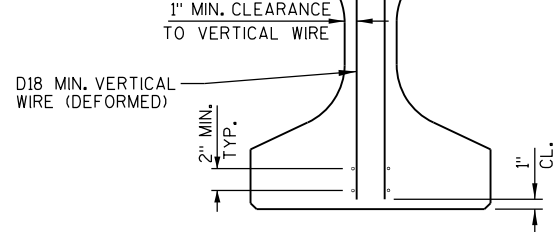


SIDE VIEW & TYP. SECTION

- (A) DETAIL TYP. AT EACH END
- (B) 6 #5 BARS, FULL LENGTH, MIN. LAP = 2'-5"

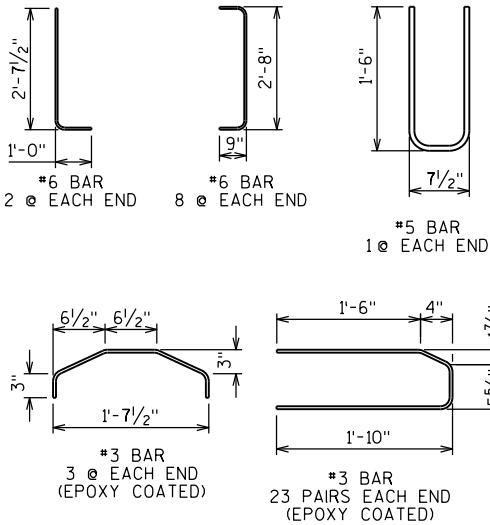
NO. 4 BAR, EPOXY COATED. PLACE AT STIRRUP SPACING REQUIRED FOR NON WWF STIRRUPS. EMBED INTO GIRDER 1'-3".

AREA OF HORIZ. WIRE SHALL BE ≥ 40% OF VERT. WIRE AREA (ASTM A1064)
HORIZ. WIRES SHALL BE LOCATED IN TOP AND BOTTOM FLANGES AND NOT IN THE WEB.

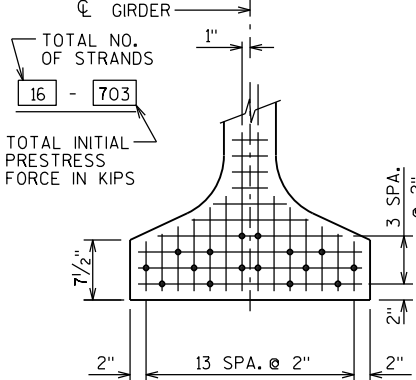


SECTION THRU GIRDER

SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS
ASTM A1064 (Fy = 70 Ksi)



ALL PATTERNS ARE SYM. ABOUT CL GIRDER

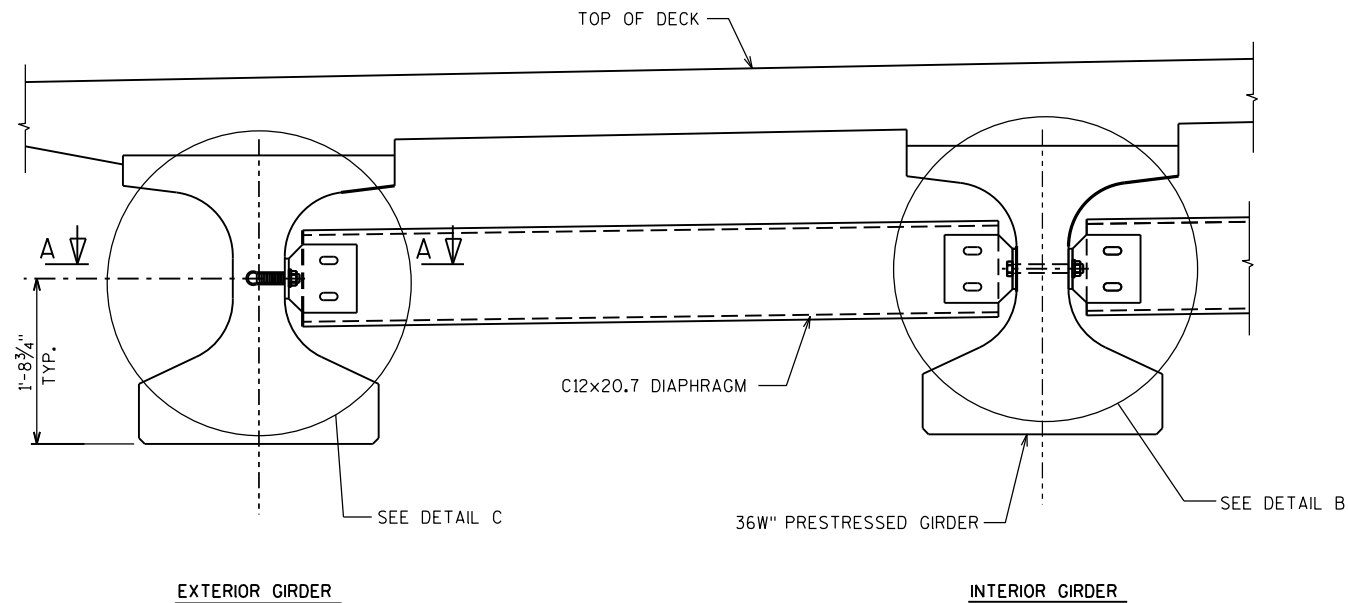
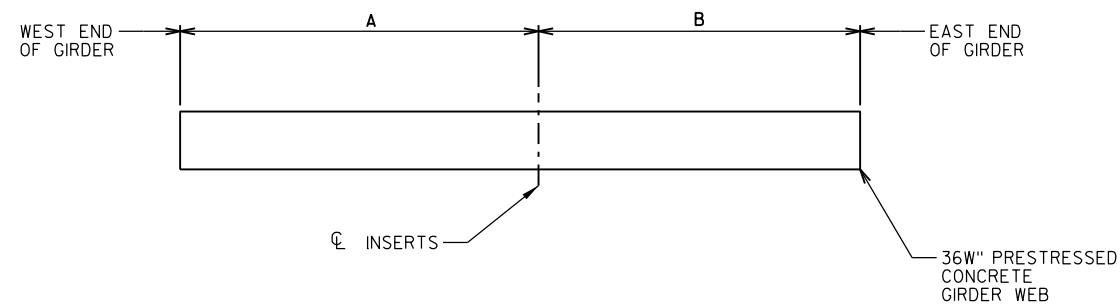


TYP. STRAND PATTERN

* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA																					
SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.)									CONC. STRGTH. f' (p.s.i.)	"P" 1ST 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN				
			1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10						TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.)		
																	"A"	"B" MIN.	"B" MAX.	"C"	
1	1-4	65'-0"	0.18	0.35	0.49	0.57	0.60	0.57	0.49	0.35	0.18	8000	9.25"	6.50"	9.25"	0.6	-	-	-	-	

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-62-274	
DRAWN BY		EKK	PLANS CK'D. JDH
36W" PRESTRESSED GIRDER DETAILS			SHEET 9 OF 14

**PART TRANSVERSE SECTION AT DIAPHRAGM****DIAPHRAGM INSERT LOCATION PLAN**

SEE PLAN, SHEET 12

DIAPHRAGM INSERT LOCATION TABLE

SPAN	GIRDER NUMBER	A	B	INSERT TYPE
1	1	30'-7 $\frac{3}{4}$ "	34'-4 $\frac{1}{4}$ "	FERRULE LOOPS
	2	31'-10 $\frac{5}{8}$ "	33'-1 $\frac{3}{8}$ "	PIPE SLEEVES
	3	33'-1 $\frac{3}{8}$ "	31'-10 $\frac{5}{8}$ "	PIPE SLEEVES
	4	34'-4 $\frac{1}{4}$ "	30'-7 $\frac{3}{4}$ "	FERRULE LOOPS

NOTES

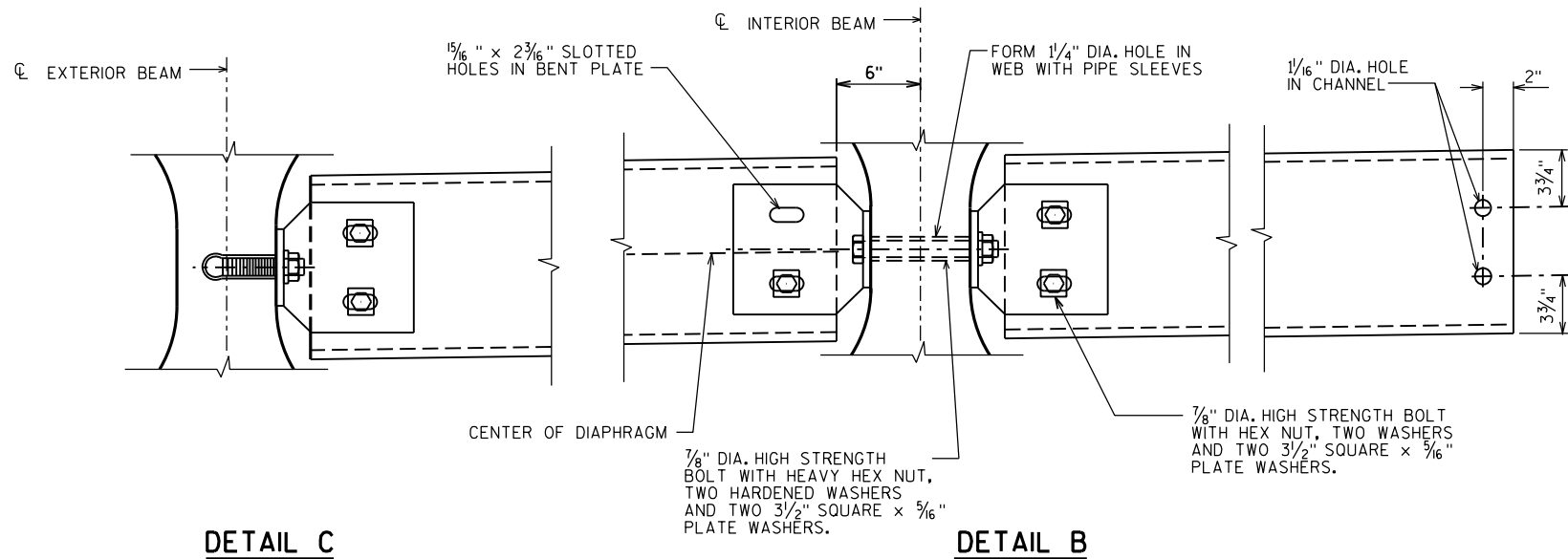
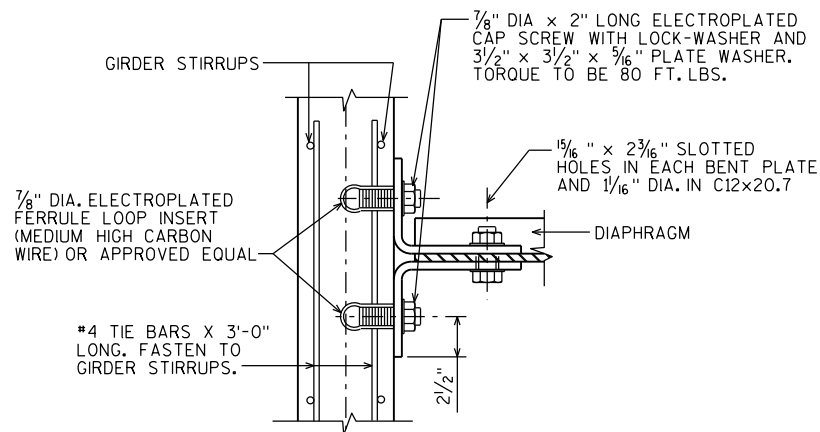
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-62-274", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

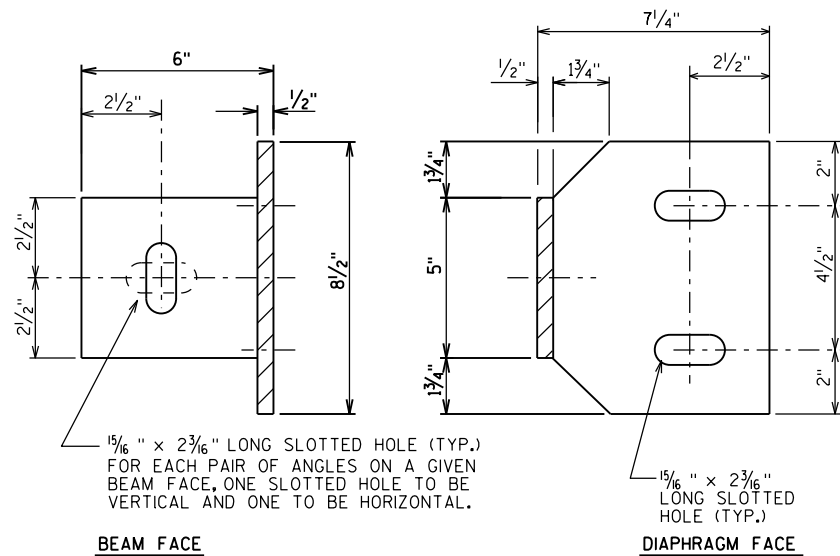
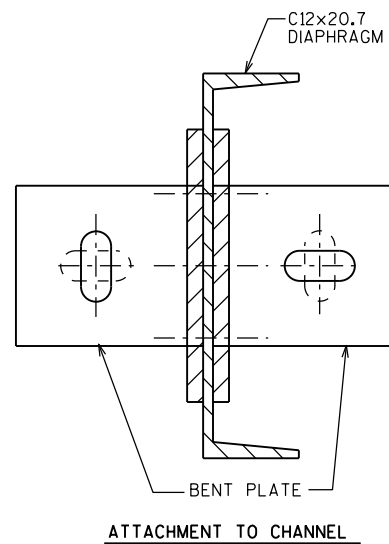
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS $\frac{1}{4}$ TURN. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS OF ASTM A325 OR ASTM A449.

**DETAIL C****DETAIL B****SECTION A-A**

(FOR EXTERIOR ATTACHMENT)

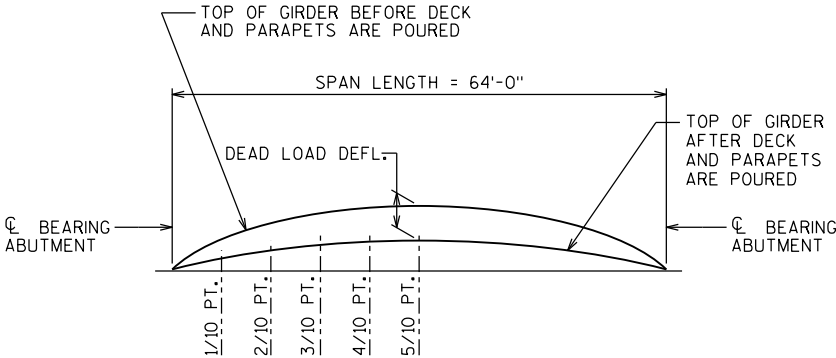
**BEAM FACE****DIAPHRAGM FACE****ATTACHMENT TO CHANNEL**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-62-274	
DRAWN BY EKK		PLANS CK'D. JDH	
STEEL DIAPHRAGM		SHEET 10 OF 14	

THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN. VALUES INCLUDE A MAGNIFICATION FACTOR OF 1.4 TO ACCOUNT FOR CREEP BETWEEN RELEASE AND INSTALLATION.

SPAN	CAMBER (IN.)
1	1

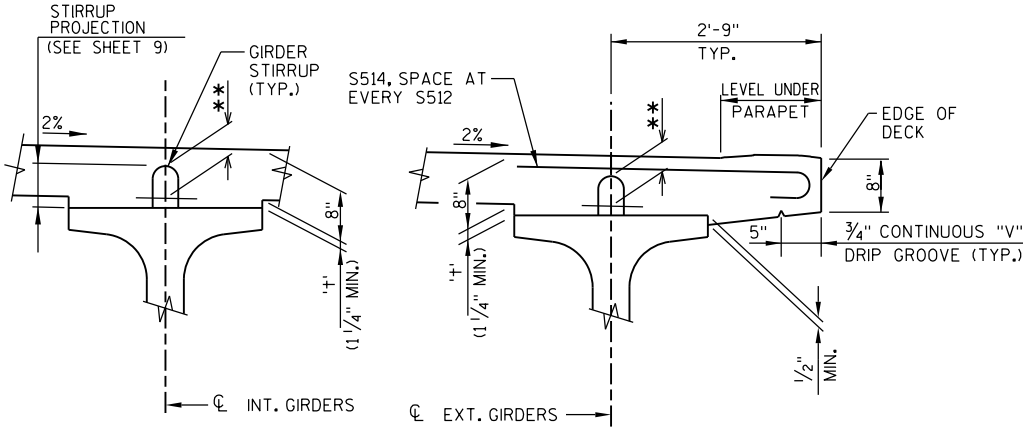
THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T'. USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



DEAD LOAD DEFLECTION DIAGRAM

TOP OF DECK ELEVATIONS

	SPAN	SOUTH	C/L	C/L	C/L	C/L	C/L	NORTH
LOCATION	POINT	DECK EDGE	GIRDER 4	GIRDER 3	DECK	GIRDER 2	GIRDER 1	DECK EDGE
W. ABUT.	1	861.80	861.79	861.83	861.86	861.74	861.50	861.43
	1.1	861.30	861.29	861.34	861.36	861.24	861.01	860.94
	1.2	860.81	860.81	860.86	860.88	860.77	860.53	860.47
	1.3	860.34	860.34	860.39	860.42	860.30	860.08	860.01
	1.4	859.89	859.89	859.94	859.97	859.86	859.63	859.57
	1.5	859.45	859.45	859.51	859.54	859.43	859.20	859.14
	1.6	859.03	859.03	859.09	859.12	859.01	858.79	858.73
	1.7	858.62	858.62	858.69	858.72	858.61	858.39	858.34
	1.8	858.23	858.23	858.30	858.33	858.23	858.01	857.96
	1.9	857.86	857.86	857.93	857.96	857.86	857.65	857.59
E. ABUT.	2	857.50	857.50	857.57	857.61	857.50	857.30	857.24



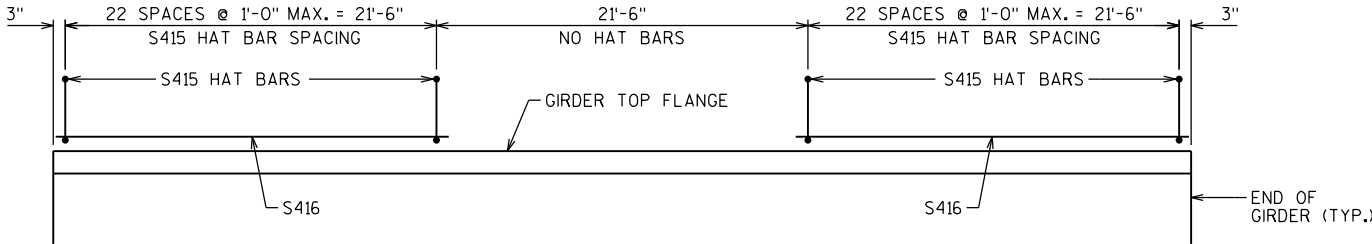
DECK HAUNCH DETAIL

IF 1/4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2" OR, ** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

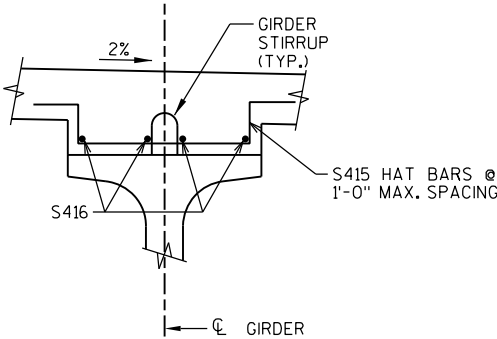
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT CL OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3 3/4" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



HAT BAR SPACING
(TYPICAL ALL GIRDERS)



HAT BAR DETAIL
(TYPICAL ALL GIRDERS)

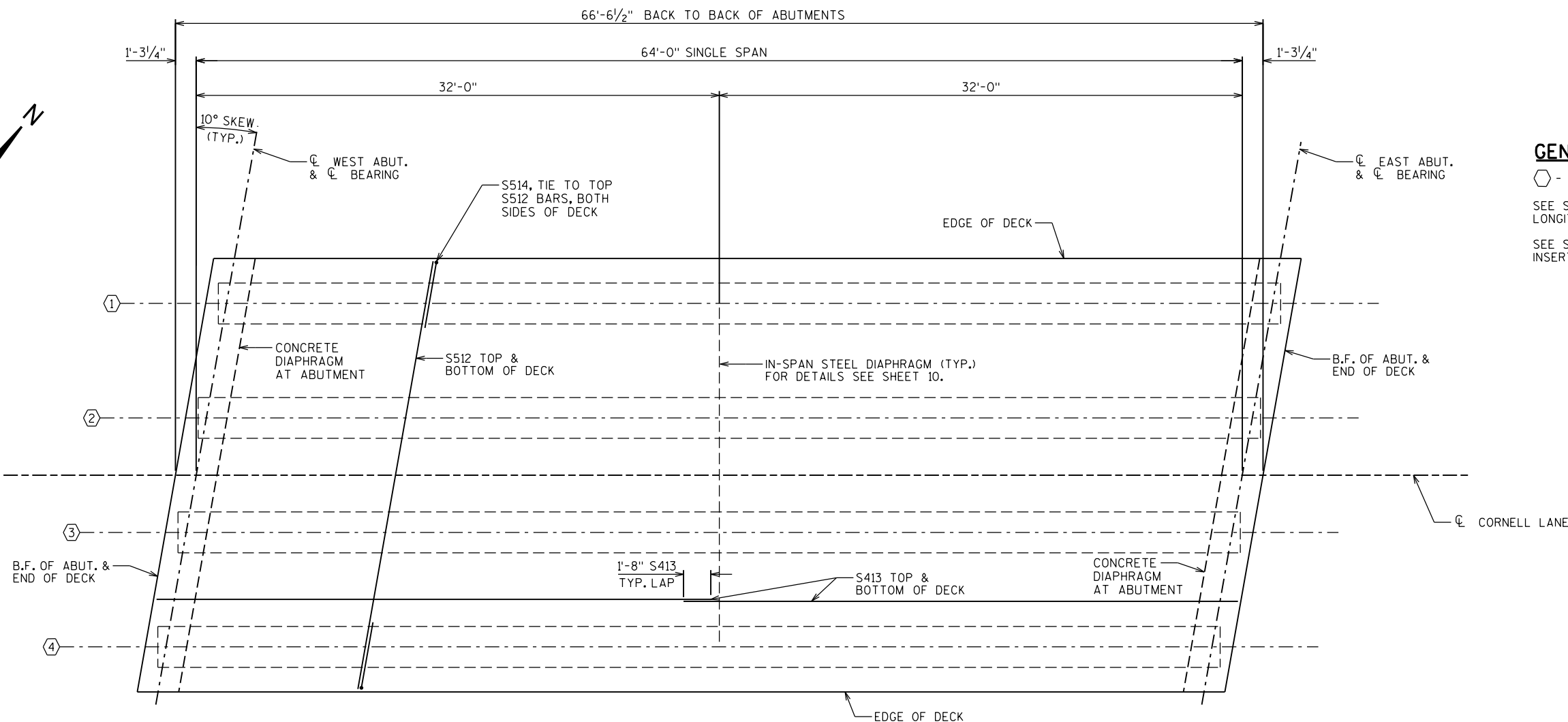
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-62-274	
DRAWN BY EKK		PLANS CK'D. JDH	
GIRDER AND DECK FORMING DETAILS		SHEET 11 OF 14	

GENERAL NOTES

◊ - INDICATES GIRDER NUMBER

SEE SHEET 13 FOR TRANSVERSE AND LONGITUDINAL BAR SPACING.

SEE SHEET 10 FOR LOCATION OF DIAPHRAGM INSERTS ON GIRDERS.



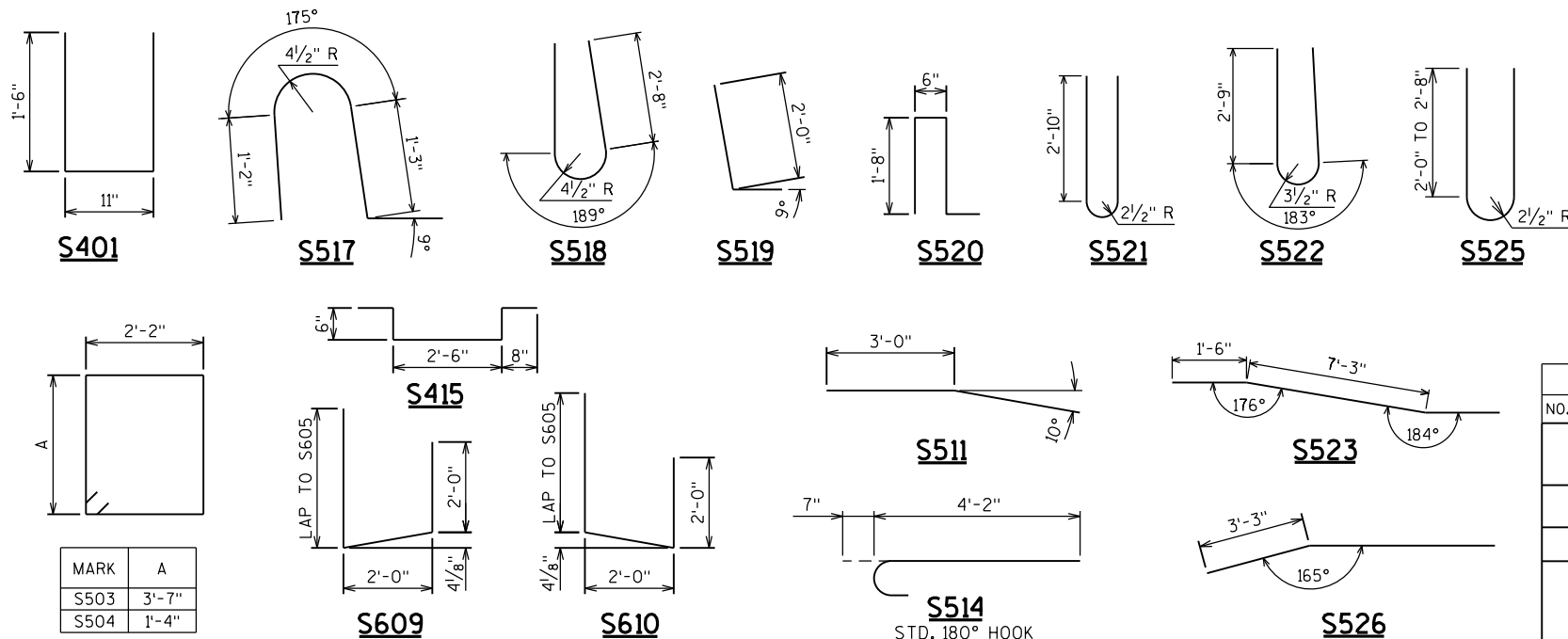
BILL OF BARS (COATED)

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S401	24	3'-9"	X		DIAPH. @ ABUT. - S.E. POCKET - STIRRUP - VERT.
S402	12	3'-2"			DIAPH. @ ABUT. - S.E. POCKET - HORIZ.
S503	48	12'-2"	X		DIAPH. @ ABUT. - STIRRUP - VERT.
S504	16	7'-8"	X		DIAPH. @ ABUT. - STIRRUP - VERT.
S605	10	26'-6"			DIAPH. @ ABUT. - B.F. & TOP - HORIZ.
S606	6	4'-2"			DIAPH. @ ABUT. - F.F. - INTERIOR BAYS - HORIZ.
S607	12	5'-10"			DIAPH. @ ABUT. - F.F. - INTERIOR BAYS - HORIZ.
S608	4	1'-2"			DIAPH. @ ABUT. - F.F. @ ENDS - HORIZ.
S609	4	7'-2"	X		DIAPH. @ ABUT. - END @ WINGS 1 & 3 - HORIZ.
S610	4	7'-2"	X		DIAPH. @ ABUT. - END @ WINGS 2 & 4 - HORIZ.
S511	16	6'-0"	X		DIAPH. @ ABUT. - THRU GIRDER WEB - HORIZ.
S512	189	26'-6"			DECK - TOP & BOTTOM - TRANS.
S413	146	33'-11"			DECK - TOP & BOTTOM - LONGIT.
S514	190	4'-9"	X		DECK - TOP - EDGE - TRANS.
S415	184	4'-6"	X		DECK - HAT BARS - GIRDER TOP - VERT.
S416	32	21'-9"			DECK - GIRDER TOP - LONGIT.
S517	148	4'-5"	X		DECK & PARAPET - STIRRUP - VERT.
S518	148	6'-8"	X		PARAPET - STIRRUP - VERT.
S519	48	2'-9"	X		PARAPET & DECK - END - VERT.
S520	68	4'-4"	X		PARAPET & DECK - END - STIRRUP - VERT.
S521	20	6'-5"	X		PARAPET - END - STIRRUP - VERT.
S522	24	6'-6"	X		PARAPET - END - STIRRUP - VERT.
S523	4	11'-11"	X		PARAPET - END - BOTTOM - LONGIT.
S524	20	11'-10"			PARAPET - END - LONGIT.
S525	24	5'-5"	X	◊	PARAPET - END - STIRRUP - VERT.
S526	8	11'-11"	X		PARAPET - END - TOP - LONGIT.
S527	32	23'-10"			PARAPET - LONGIT.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
EPOXY COAT ALL SUPERSTRUCTURE BAR STEEL REINFORCEMENT.

◊ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS. BEND BAR AFTER CUTTING.

PLAN

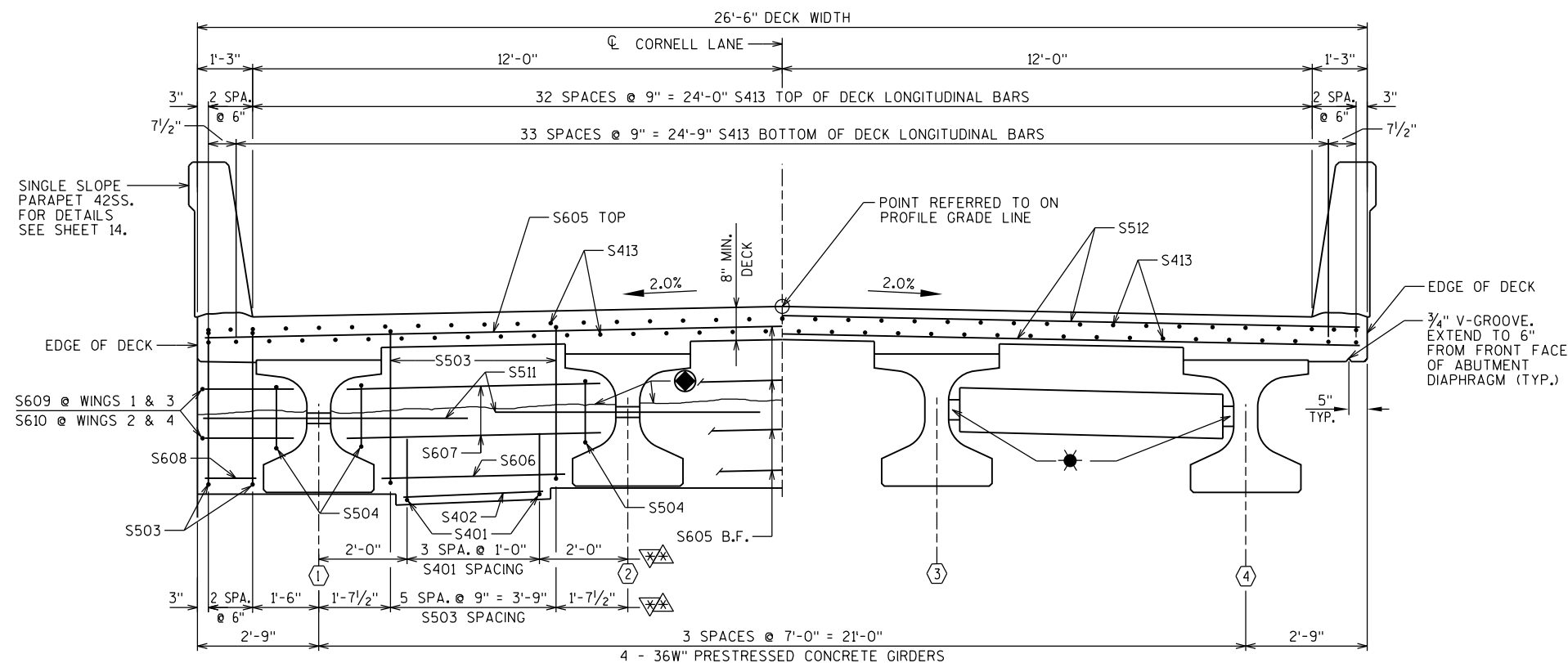


BAR SERIES TABLE

MARK	NO. REQ'D.	LENGTH
S525	4 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-62-274	
DRAWN BY RLR		PLANS CK'D. JDH	
SUPERSTRUCTURE		SHEET 12 OF 14	

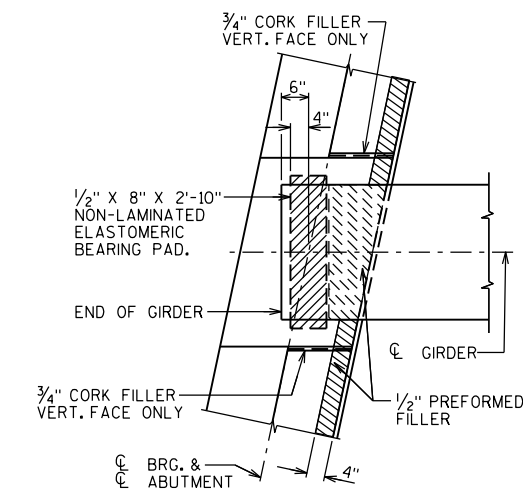


AT ABUTMENTS

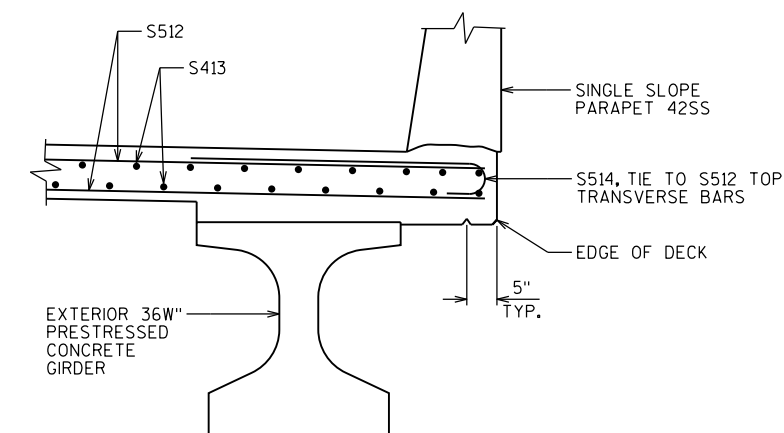
IN SPAN

CROSS SECTION THRU BRIDGE

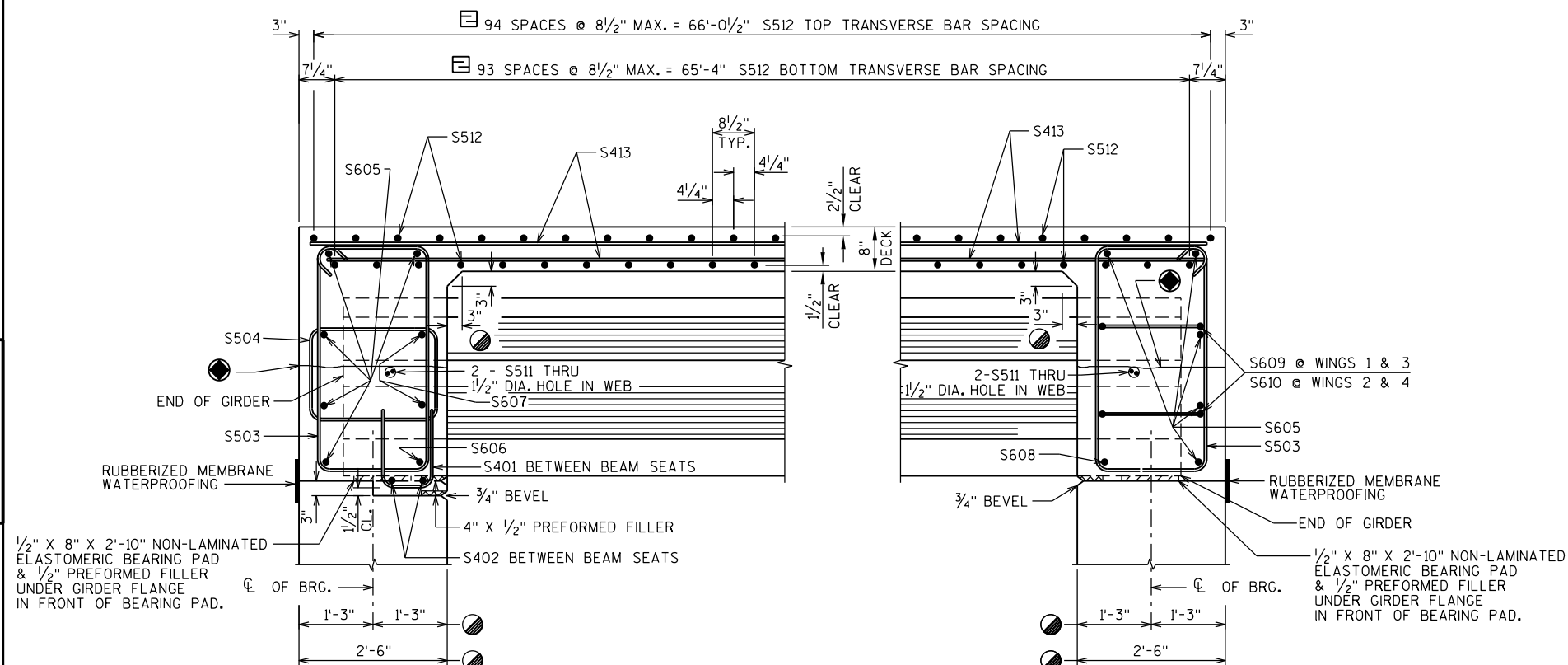
(LOOKING EAST)



BEARING PAD DETAIL



EDGE OF DECK DETAIL



AT ABUTMENT INTERIOR BAYS

AT ABUTMENT ENDS

PART LONGITUDINAL SECTION

LEGEND

○ - INDICATES GIRDER NUMBER

● - OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR. (TYP. ALL BAYS)

✱ - FOR LAYOUT, SPACING AND DETAILS OF STEEL DIAPHRAGMS, SEE SHEET 10.

● - DIMENSION IS TAKEN NORMAL TO CL SUBSTRUCTURE UNITS.

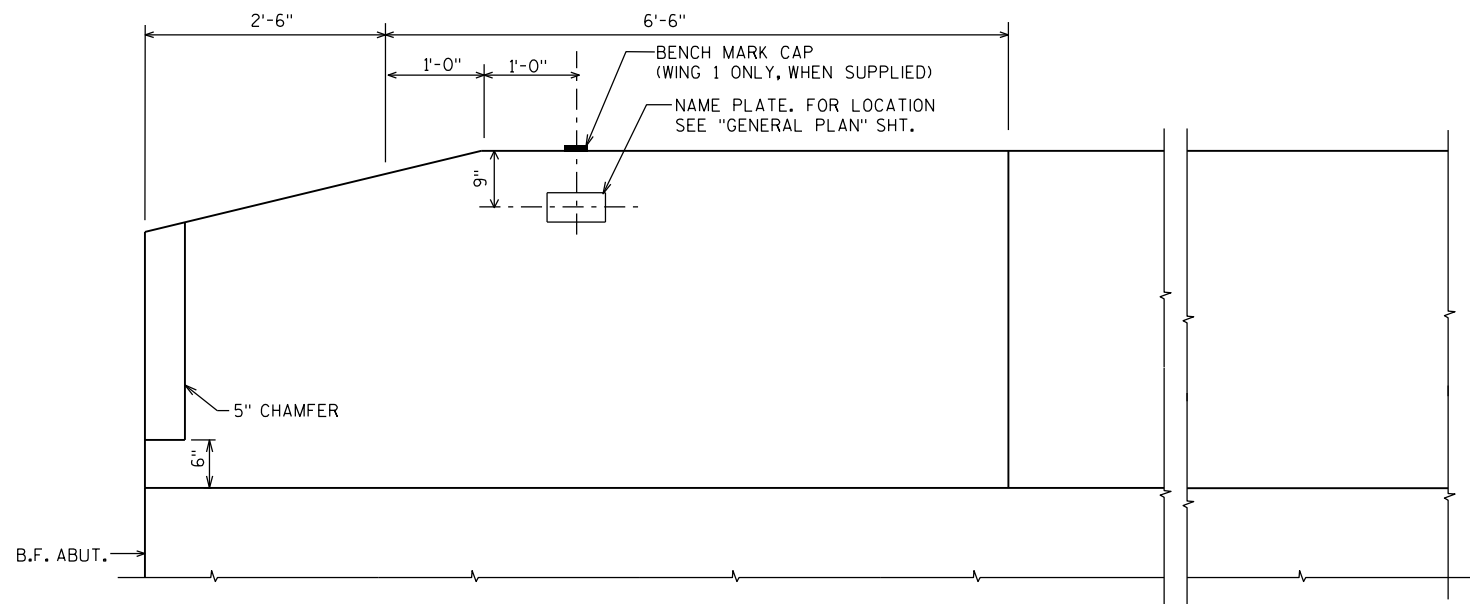
✱ - DIMENSION IS TAKEN NORMAL TO CL GIRDER.

☐ - DIMENSION IS TAKEN PARALLEL TO CL GIRDER.

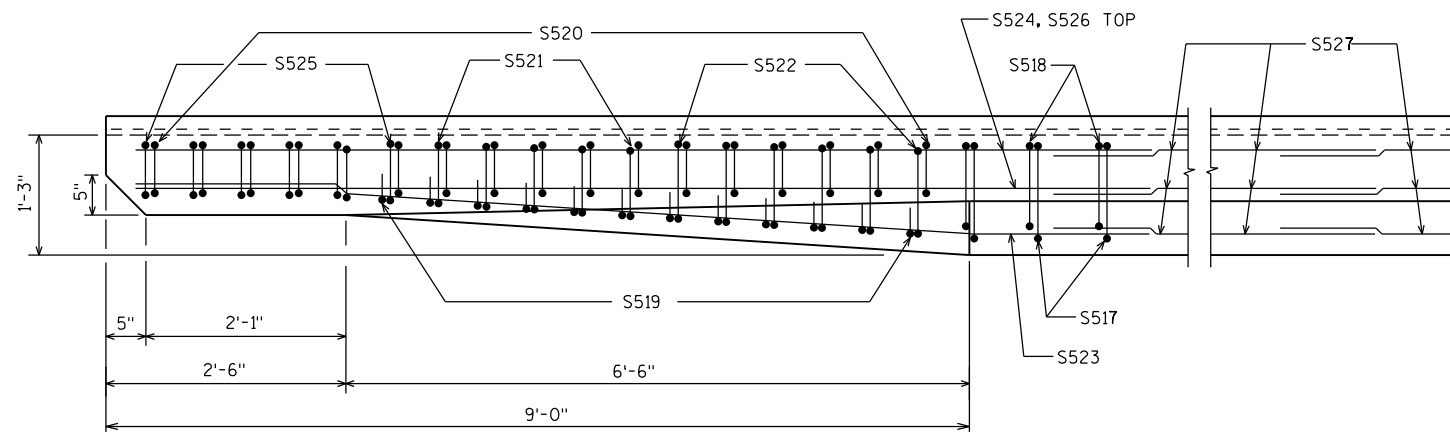
F.F. - FRONT FACE

B.F. - BACK FACE

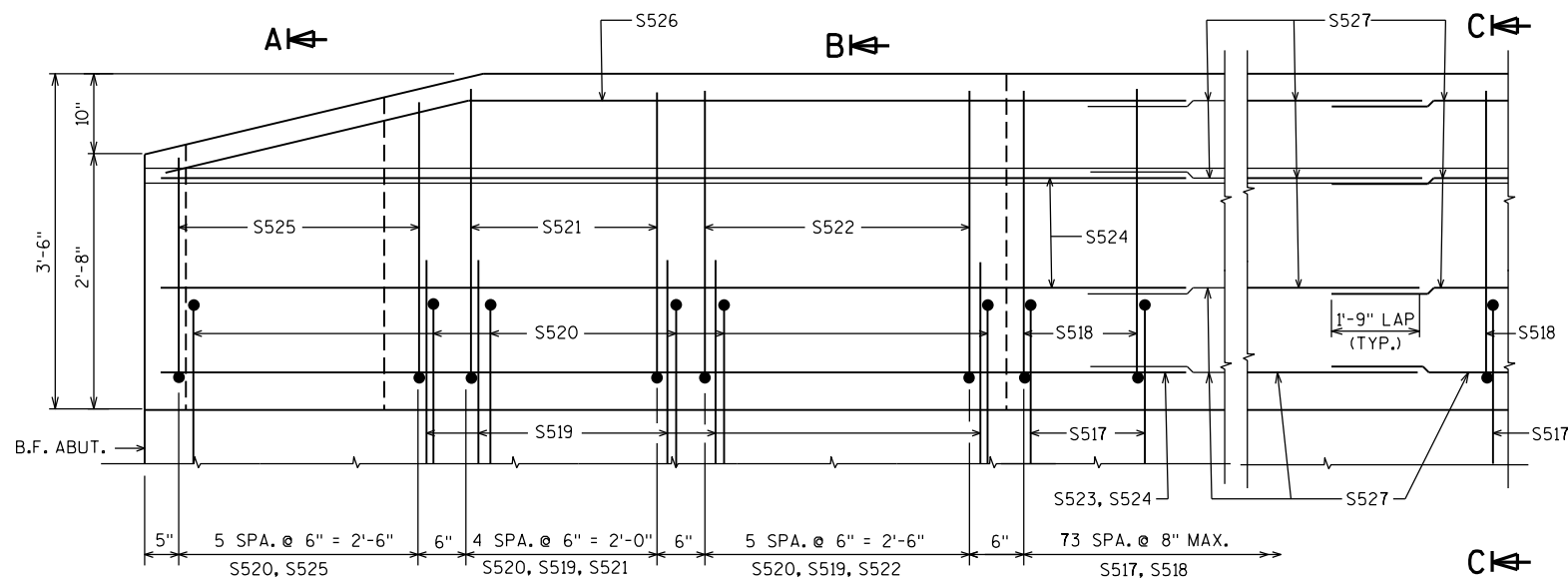
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-62-274			
DRAWN BY RLR		PLANS CK'D. JDH	
SUPERSTRUCTURE SECTIONS & DETAILS			SHEET 13 OF 14



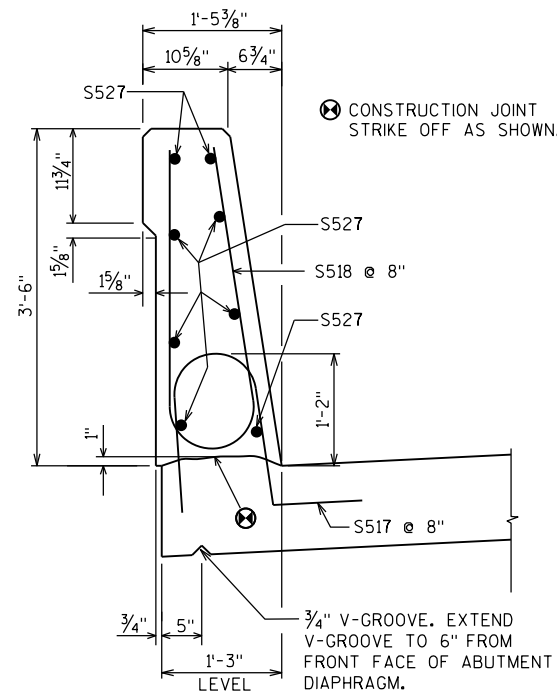
INSIDE ELEVATION



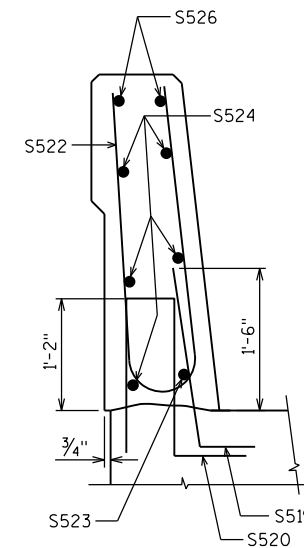
PLAN



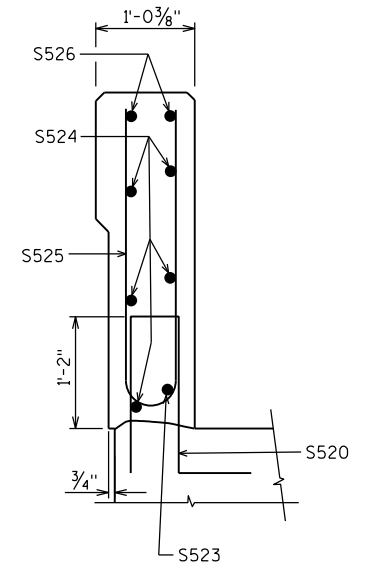
OUTSIDE ELEVATION



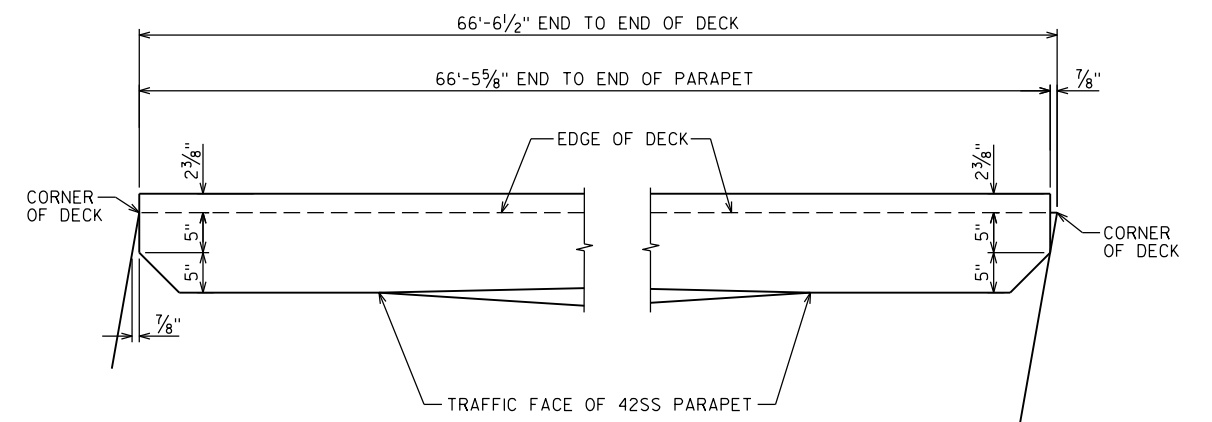
SECTION C-C
THRU PARAPET



SECTION B-B
AT END OF PARAPET



SECTION A-A
AT END OF PARAPET



PLAN AT WINGS 2 & 4

PLAN AT WINGS 1 & 3

PARAPET/CORNER OF DECK DETAILS

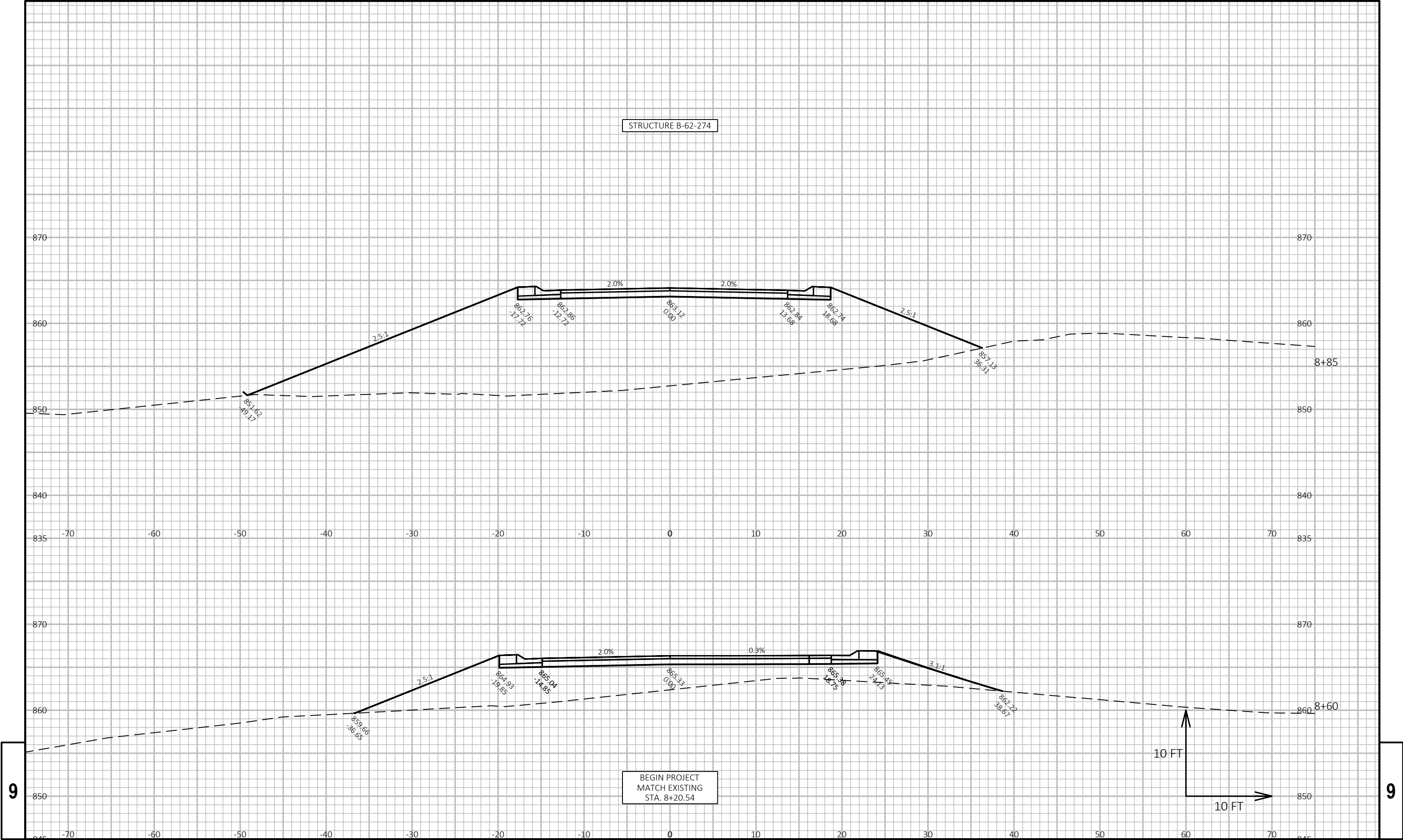
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-62-274	
DRAWN BY EKK		PLANS CK'D. JDH	
SINGLE SLOPE PARAPET 42SS		SHEET 14 OF 14	

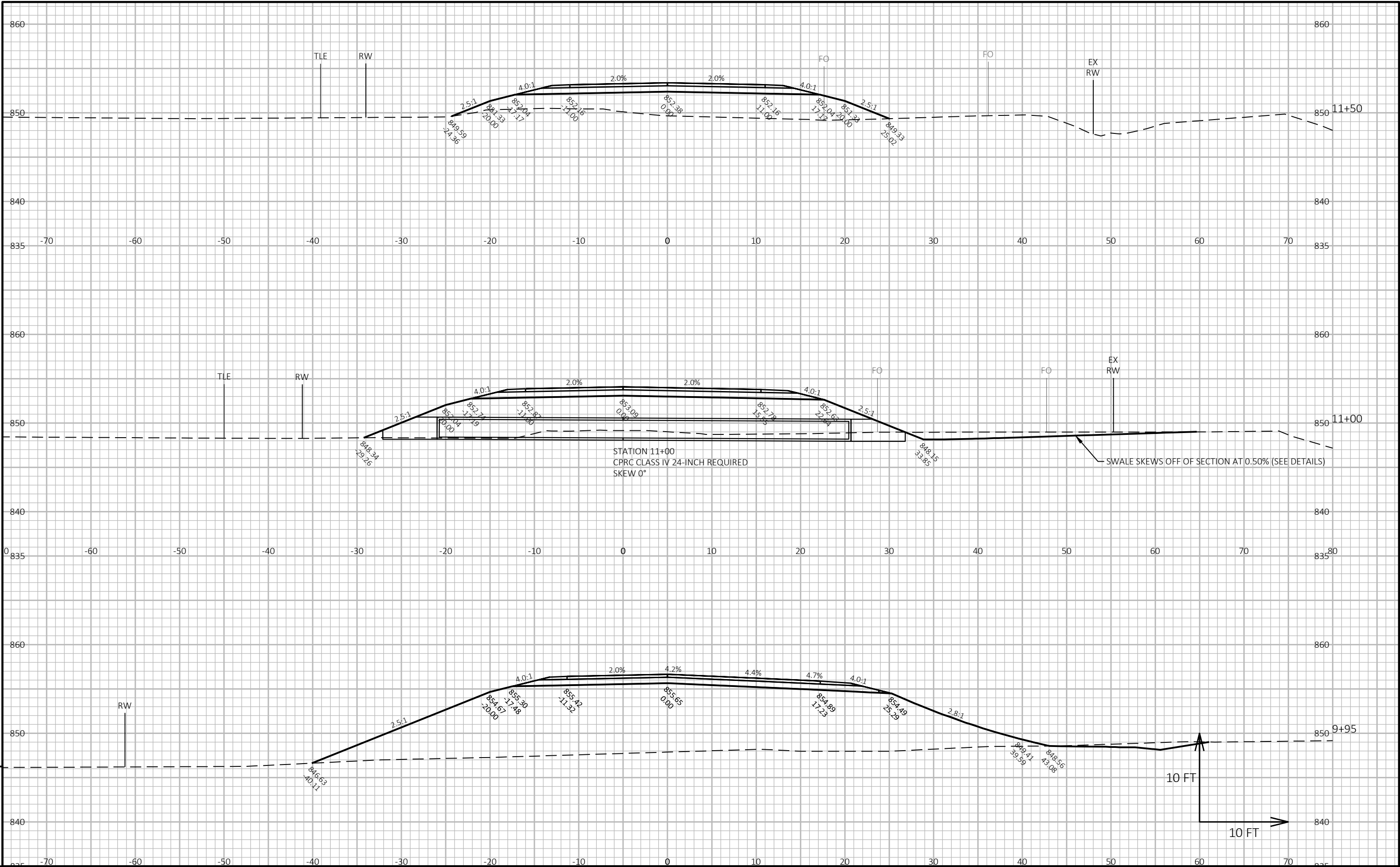
PROJECT I.D. 5378-00-74 EARTHWORK SUMMARY
CORNELL LANE

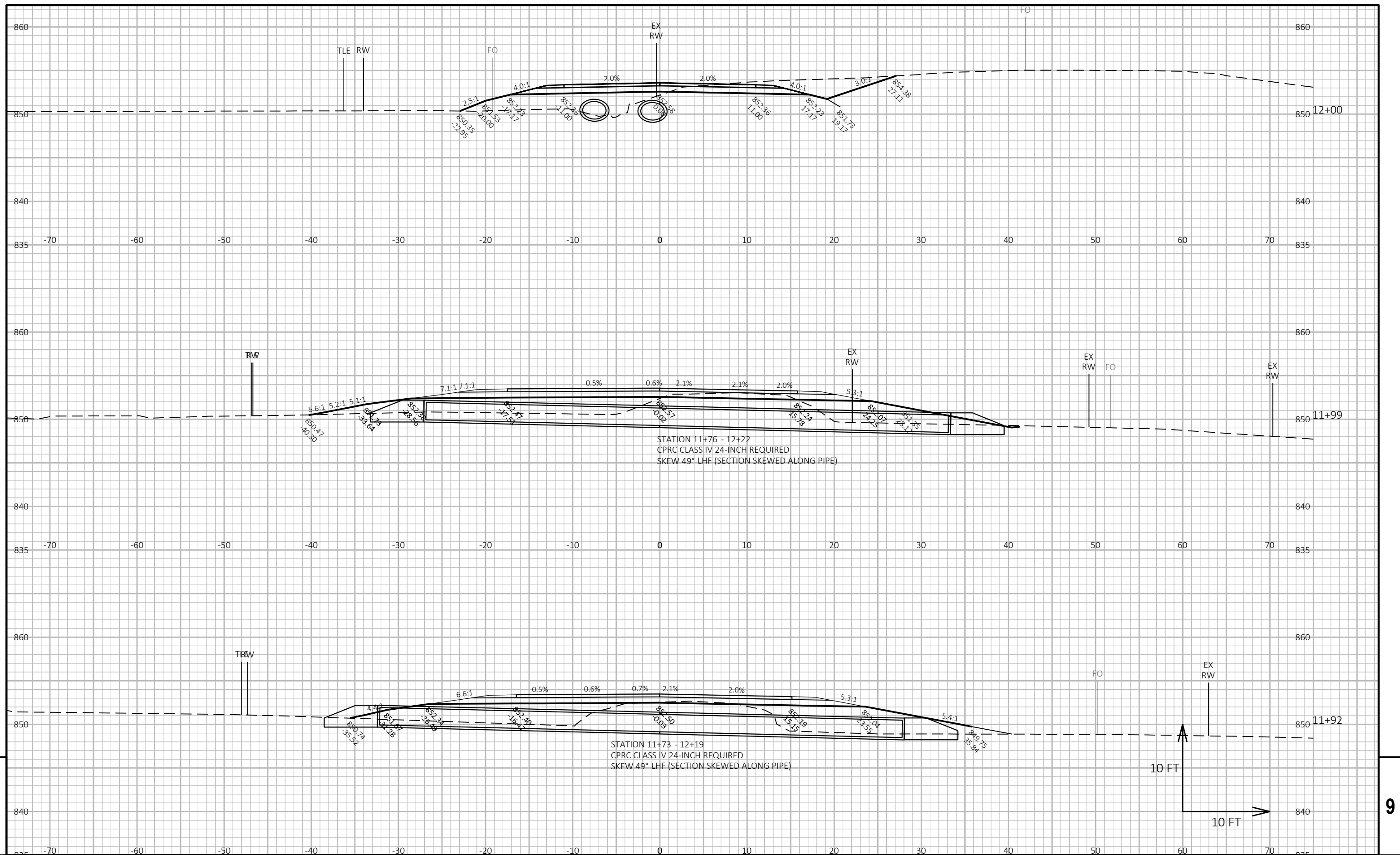
STA	EXCAVATION COMMON CY	FILL (1) CY	EXPANDED FILL (2) CY	WASTE CY	BORROW CY
8+20.54	67	151	196	-129	129
8+60.03	0	399	519	-519	519
8+85.00	0	383	498	-498	498
8+98.21					
STRUCTURE B-62-0274					
9+89.79	0	127	165	-165	165
9+97.53	0	34	44	-44	44
10+00.00	0	161	209	-209	209
10+17.02	0	95	124	-124	124
10+34.33	0	2	3	-3	3
10+35.23	0	79	103	-103	103
10+50.00	0	235	306	-306	306
10+70.00	0	171	222	-222	222
10+85.00	4	132	172	-168	168
11+00.00	5	132	172	-167	167
11+20.00	0	139	181	-181	181
11+50.00	29	128	166	-137	137
12+00.00	63	47	61	2	-2
12+50.00	51	12	16	35	-35
13+00.00					
SUBTOTALS					
WEST APPROACH	67	933	1213	-1146	1146
EAST APPROACH	152	1494	1944	-1792	1792
TOTALS	219	2427	3157	-2938	2938
(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY. (2) - FILL EXPANSION 30%					

PROJECT I.D. 5378-00-74 EARTHWORK SUMMARY
DRIVEWAY 'D'

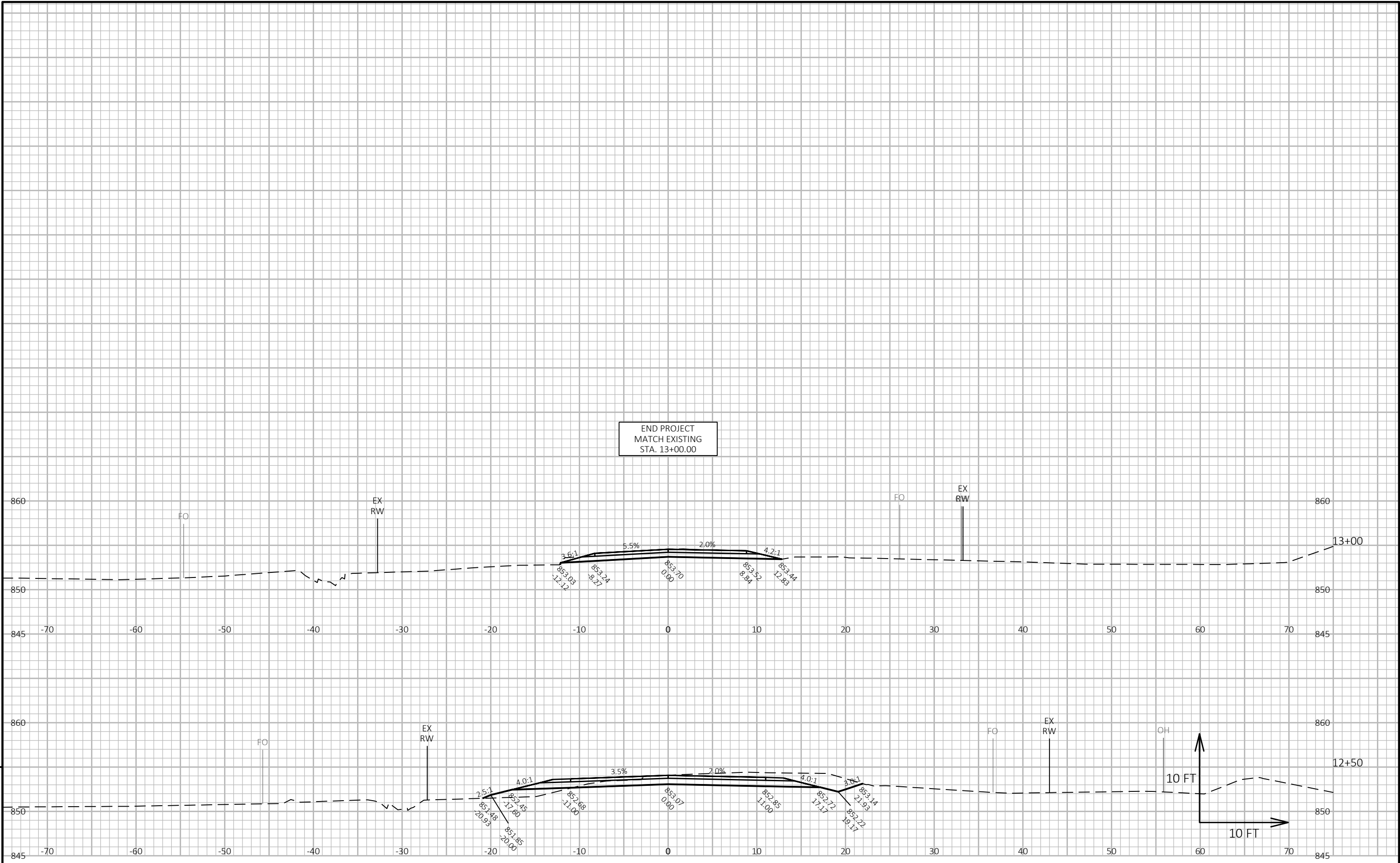
STA	EXCAVATION COMMON CY	FILL (1) CY	EXPANDED FILL (2) CY	WASTE CY	BORROW CY
500+00.00	3	13	17	-14	14
500+50.00	0	19	25	-25	25
500+70.00	2	8	10	-8	8
500+75.00	2	10	13	-11	11
500+80.00	0	60	78	-78	78
501+00.00	0	307	399	-399	399
501+50.00	0	494	642	-642	642
501+88.18					
TOTALS	7	911	1184	-1177	1177
(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY. (2) - FILL EXPANSION 30%					

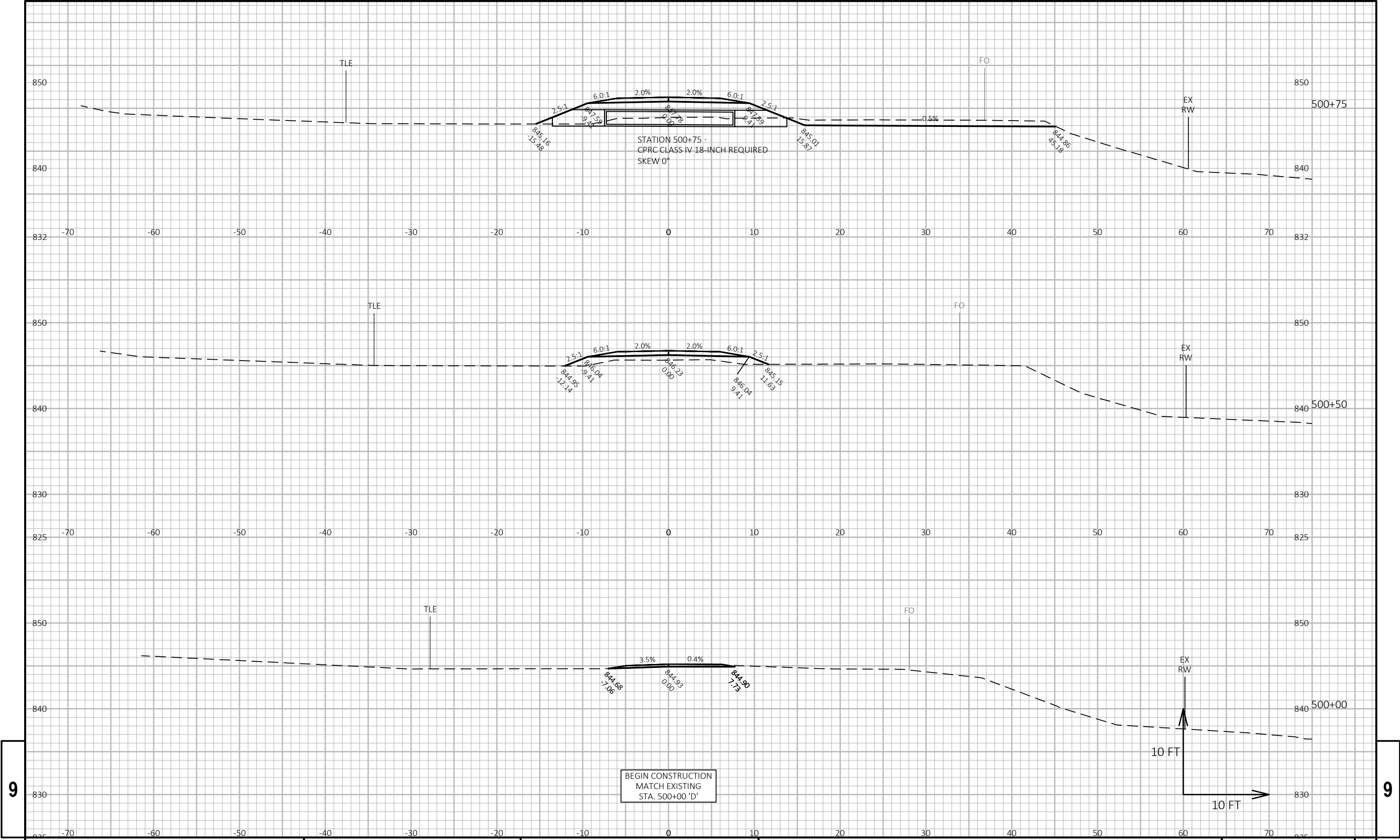






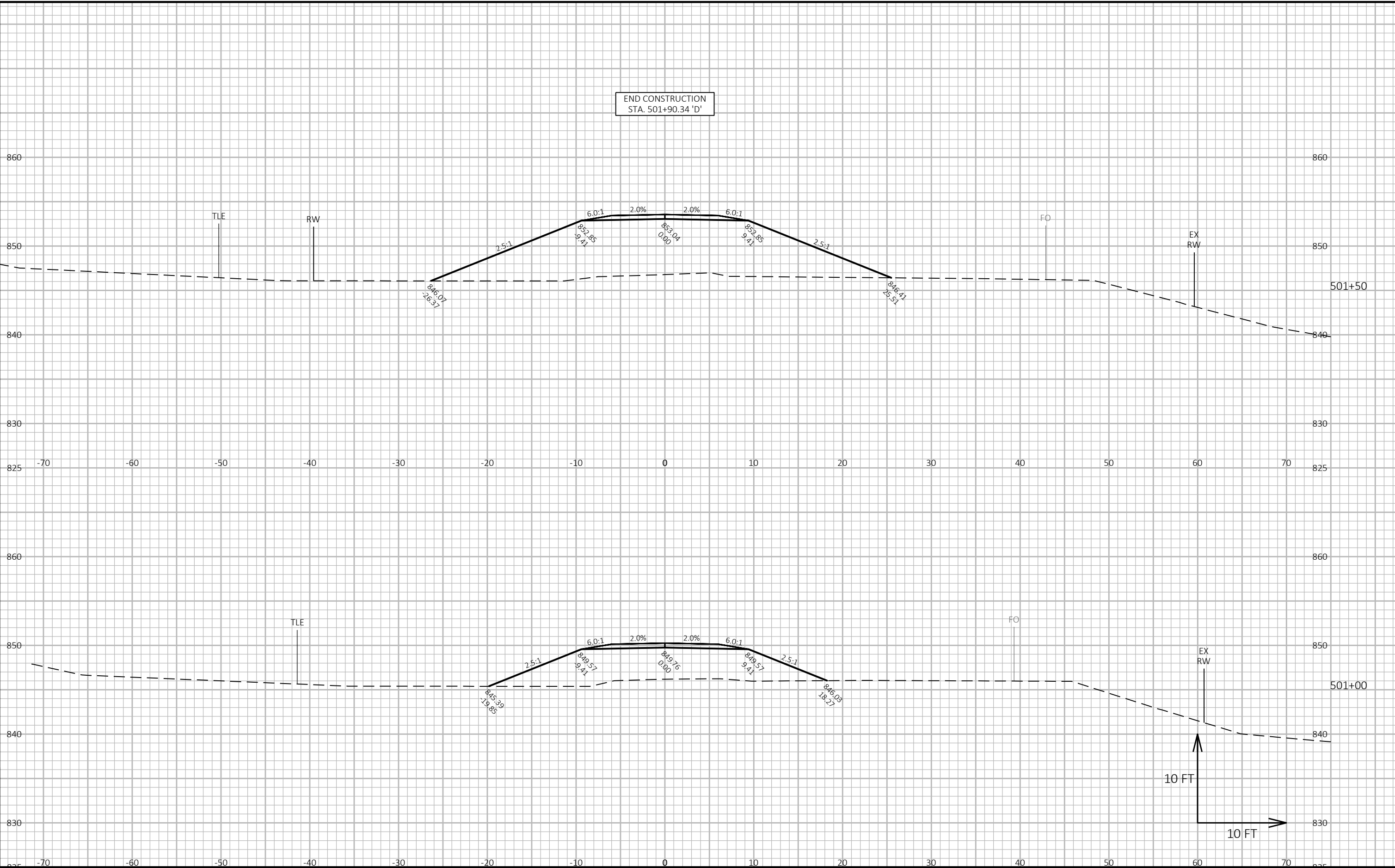
PROJECT NO: 5378-00-74	HWY: LOCAL STREET	COUNTY: VERNON	CROSS SECTIONS: CORNELL LANE	SHEET	E
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