LAX

MARCH 2024

PROJECT ID: 7049-00-70

WITH: N/A

COUNTY: LA CROSSE

ORDER OF SHEETS

TOTAL SHEETS = 90

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T OF ONALASKA - T OF FARMINGTON

HALFWAY CREEK BRIDGE B-32-0240

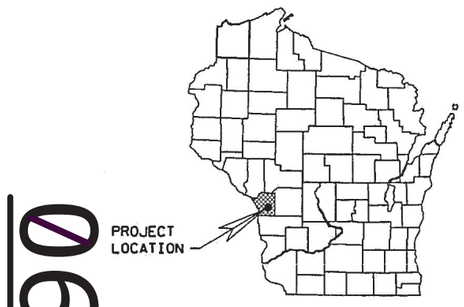
CTH D

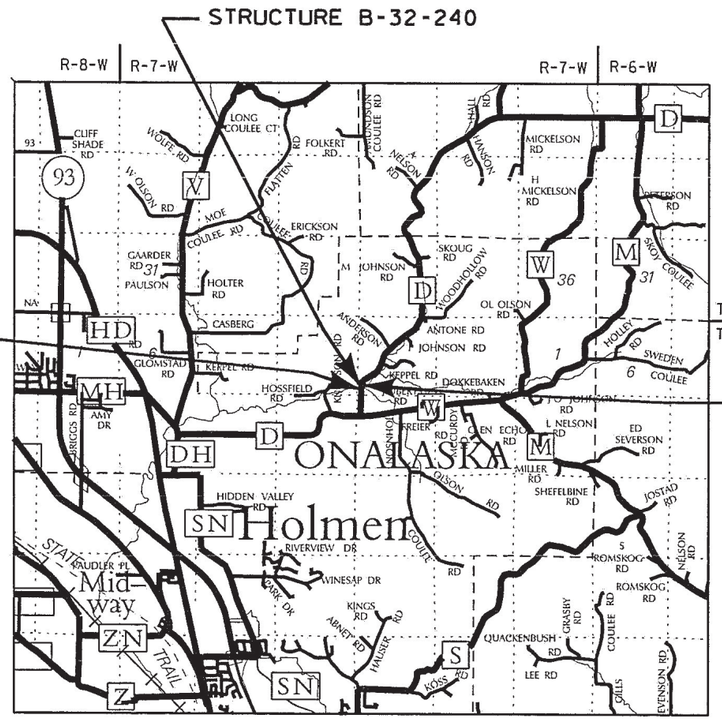
LA CROSSE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7049-00-70	WISC 2024302	1

STATE PROJECT NUMBER

7049-00-70





N

BEGIN PROJECT

STA. 27+11.40

Y = 189654.97

X = 455917.66

END PROJECT

STA. 32+64.81

LAYOUT

SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.105 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORIDINATES, LA CROSSE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USE AS GROUND DISTANCES.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD88 (2012).

DESIGN DESIGNATION

A.A.D.T. (2024)	=	1,170
A.A.D.T. (2044)	=	1,580
D.H.V.	=	120
D.	=	50/50
T.	=	5%
DESIGN SPEED	=	35 MPH
ESALS	=	130,000

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE (PL + 58.1)
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- HIGH VOLTAGE (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- OVERHEAD (OH)
- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

ACCEPTED FOR

County of La Crosse

8-22-23 Date

Highway Commissioner

ORIGINAL PLANS PREPARED BY

AYRES

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

DANIEL N. SYDOW E-38363 WI PROFESSIONAL ENGINEER

08/22/2023

DATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	AYRES ASSOCIATES INC
Designer	AYRES ASSOCIATES INC
PROGRAM MANAGER	DELLA KOENIG, PE
Regional Examiner	SOUTHWEST REGION
Regional Supervisor	KYLE HEMP, PE

APPROVED FOR THE DEPARTMENT

DATE: 8/29/2023 (Signature)

E

I:\42\42-1170.00 - La Crosse Co, CTH D over Halfway Creek\Roadway\421170_title.dgn PENTABLE:Wisdot_shd.tbl walderak 1:200

WISDOT/CADDS SHEET 10

2

GENERAL NOTES

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

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

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

TOPSOIL SHALL BE PLACED ON THE SLOPES, TO THE POINT OF INTERCEPT WITH THE ORIGINAL GROUND SHOWN ON THE CROSS SECTIONS.

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

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

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

UTILITIES

CHARTER COMMUNICATIONS
COMMUNICATIONS
1228 12TH AVENUE SOUTH
ONALASKA, WI 54650
ATTN: PERRY MCCLELLAN
608-317-6213
608-370-7140 (MOBILE)
perry.mcclellan@charter.com

RIVERLAND ENERGY COOPERATIVE
ELECTRIC
1472 STATE ROAD 35
P.O. BOX 276
ONALASKA, WI 54650
ATTN: BILL MASON
608-783-2238 EXT 326
608-769-2880 (MOBILE)
bmason@riverlandenergy.com

BRIGHTSPEED
333 NORTH FRONT STREET
LA CROSSE, WI 54601
ATTN: BRIAN STELPLUGH
608-615-4136
608-780-1238 (MOBILE)
brian.stelplugh@brightspeed.com

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

WISCONSIN DEPARTMENT OF NATURAL RESOURCES CONTACT:

KAREN KALVELAGE
3550 MORMON COULEE RD.
LA CROSSE, WI 54601
608-785-9115
608-406-7880
karen.kalvelage@wisconsin.gov

DESIGNER

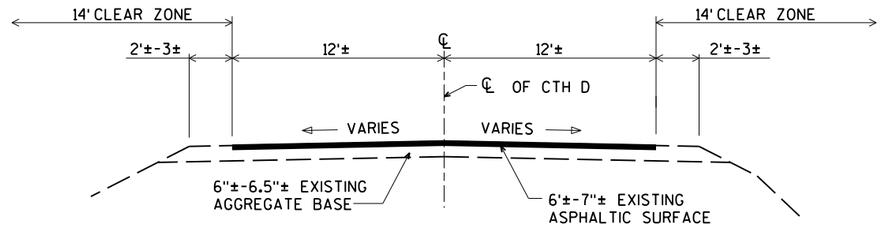
AYRES ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54701
ATTN: DANIEL N. SYDOW
715-834-3161
sydowd@AyresAssociates.com

COUNTY CONTACT:

LA CROSSE COUNTY, HIGHWAY DEPARTMENT
301 CARLSON RD.
WEST SALEM, WI 54669
ATTN: JOE LANGEBERG, PE
605-786-3810
JLangeberg@lacrossecounty.org

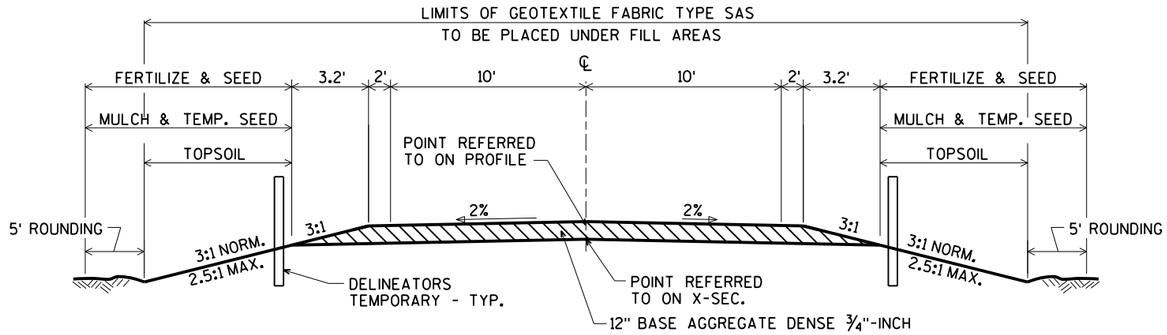
PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	GENERAL NOTES	SHEET 2	E

2



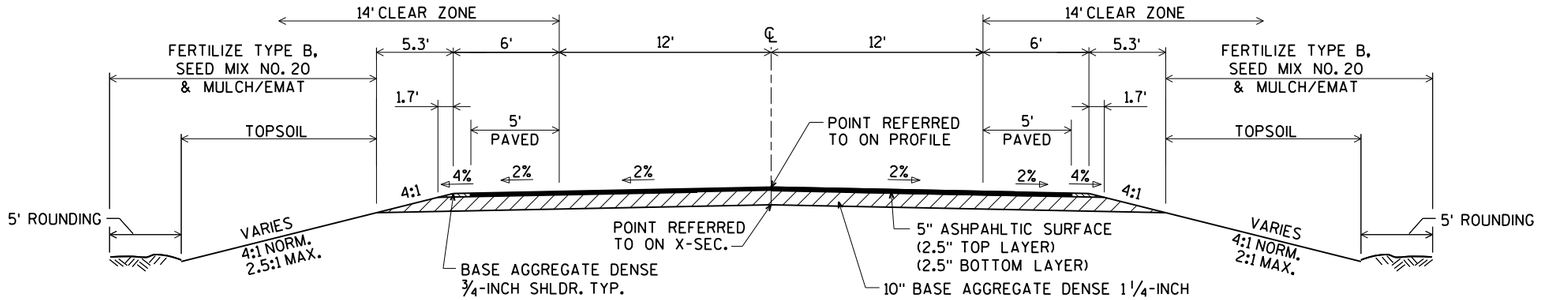
EXISTING TYPICAL SECTION

STA. 27+11.40 - STA. 32+64.81



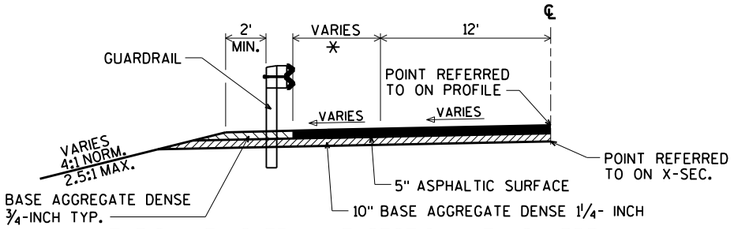
TYPICAL SECTION - TEMPORARY BYPASS

STA. 17+97.55 TO STA. 22+37.01



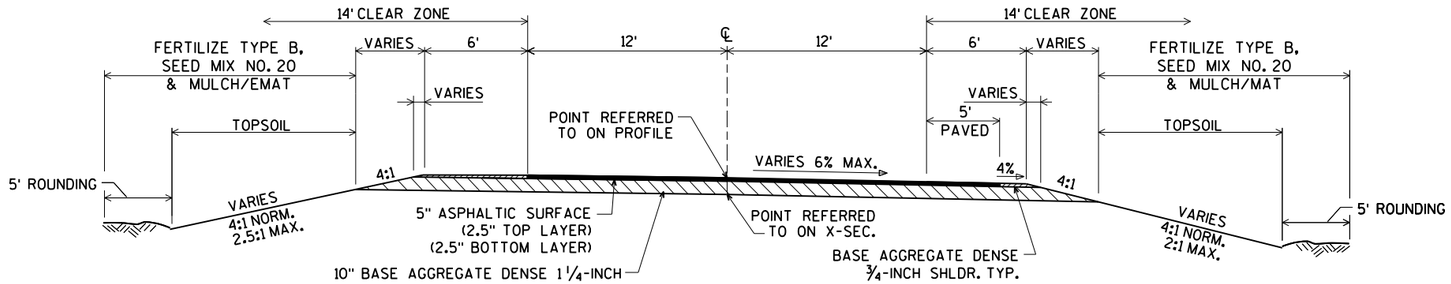
FINISHED TYPICAL SECTION

STA. 27+11.40 - STA. 29+70.75
STA. 30+47.25 - STA. 31+02.15



TYPICAL FINISHED HALF SECTION WITH GUARDRAIL

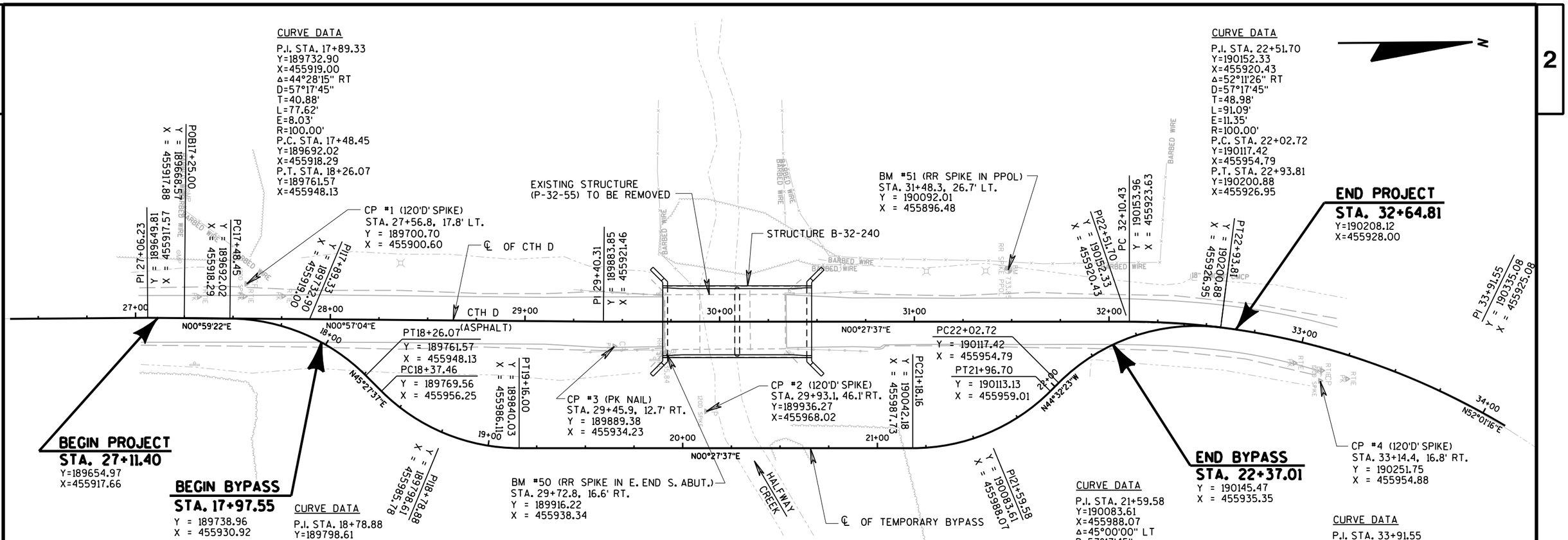
* 5' MIN. (AT ENDS OF BRIDGE)
7' MAX. (AT END TERMINALS)



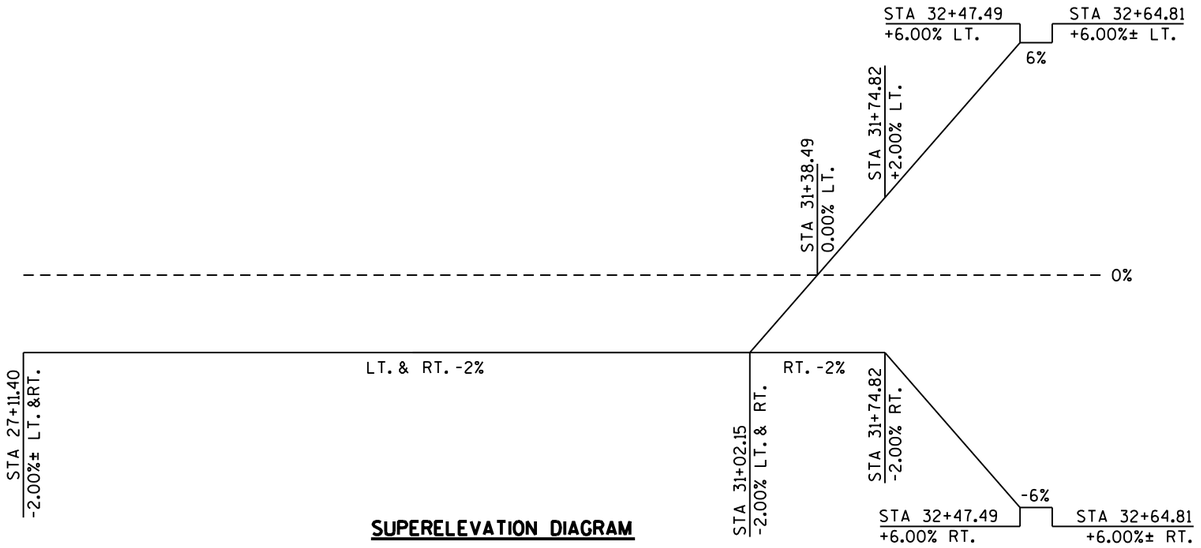
FINISHED TYPICAL SECTION

STA. 31+02.15 - STA. 32+64.81

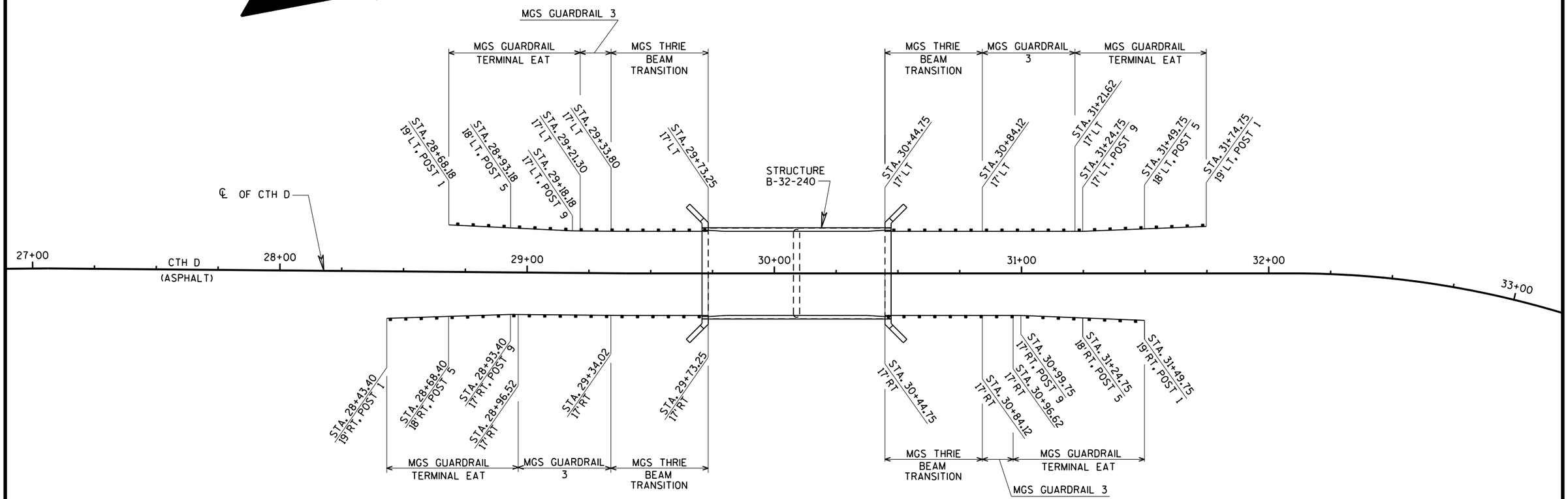
PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	TYPICAL SECTIONS	SHEET 3	E



PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	ALIGNMENT CONTROLS	SCALE, FEET 0 25 50	SHEET 4	E



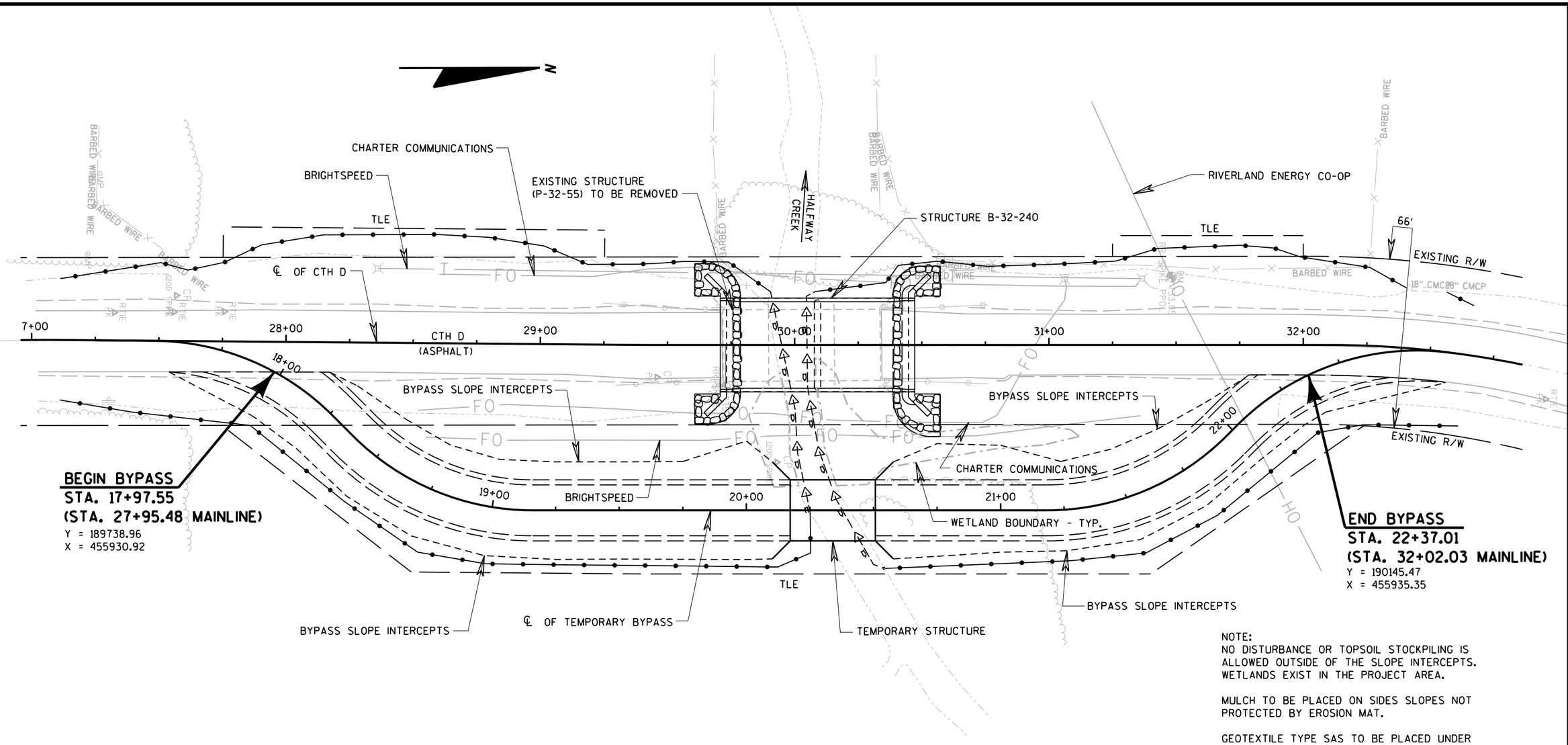
SUPERELEVATION DIAGRAM



GUARDRAIL LAYOUT

PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	CONSTRUCTION DETAILS	SHEET 5	E

2



NOTE:
NO DISTURBANCE OR TOPSOIL STOCKPILING IS ALLOWED OUTSIDE OF THE SLOPE INTERCEPTS. WETLANDS EXIST IN THE PROJECT AREA.

MULCH TO BE PLACED ON SIDES SLOPES NOT PROTECTED BY EROSION MAT.

GEOTEXTILE TYPE SAS TO BE PLACED UNDER THE FILL FOR TEMPORARY BYPASS.

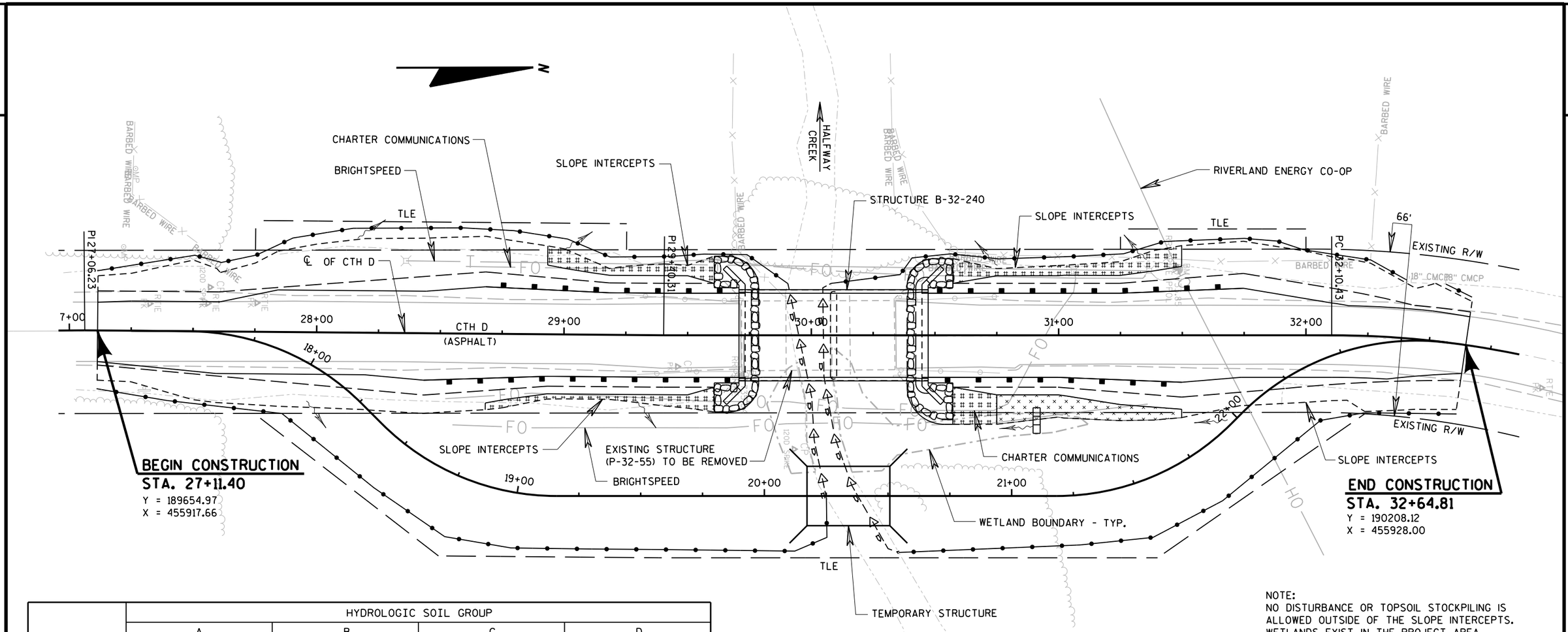
NO GRUBBING TO BE DONE ALONG THE TEMPORARY BYPASS

LEGEND

- SILT FENCE
- RIPRAP HEAVY
- TURBIDITY BARRIER

PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	EROSION CONTROL - BYPASS	SCALE, FEET 0 20 40	SHEET 6	E

2



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

TOTAL PROJECT AREA = 1.39 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 1.06 ACRES

HIGH WATER 2 EL. 730.94

NOTE:
NO DISTURBANCE OR TOPSOIL STOCKPILING IS ALLOWED OUTSIDE OF THE SLOPE INTERCEPTS. WETLANDS EXIST IN THE PROJECT AREA.

MULCH TO BE PLACED ON SIDE SLOPES NOT PROTECTED BY EROSION MAT.

LEGEND

- EROSION MAT URBAN CLASS I TYPE B
- EROSION MAT CLASS II TYPE C
- SILT FENCE
- RIPRAP HEAVY
- TURBIDITY BARRIER
- DRAINAGE ARROW
- TEMPORARY DITCH CHECKS

PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	EROSION CONTROL	SCALE, FEET 0 20 40	SHEET 7	E

Estimate Of Quantities

7049-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	1.000	1.000
0004	201.0205	Grubbing	STA	1.000	1.000
0006	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. P-32-0055	EACH	1.000	1.000
0008	204.0165	Removing Guardrail	LF	172.000	172.000
0010	205.0100	Excavation Common	CY	1,886.000	1,886.000
0012	205.0506.S	Excavation, Hauling, and Disposal of Creosote Contaminated Soil	TON	170.000	170.000
0014	206.1001	Excavation for Structures Bridges (structure) 01. B-32-0240	EACH	1.000	1.000
0016	208.0100	Borrow	CY	1,198.000	1,198.000
0018	210.1500	Backfill Structure Type A	TON	580.000	580.000
0020	213.0100	Finishing Roadway (project) 01. 7049-00-70	EACH	1.000	1.000
0022	305.0110	Base Aggregate Dense 3/4-Inch	TON	755.000	755.000
0024	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,360.000	1,360.000
0026	455.0605	Tack Coat	GAL	127.000	127.000
0028	465.0105	Asphaltic Surface	TON	530.000	530.000
0030	502.0100	Concrete Masonry Bridges	CY	305.000	305.000
0032	502.3200	Protective Surface Treatment	SY	289.000	289.000
0034	502.3210	Pigmented Surface Sealer	SY	76.000	76.000
0036	505.0400	Bar Steel Reinforcement HS Structures	LB	7,570.000	7,570.000
0038	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	36,660.000	36,660.000
0040	516.0500	Rubberized Membrane Waterproofing	SY	14.000	14.000
0042	526.0101	Temporary Structure (station) 01. 20+34	EACH	1.000	1.000
0044	550.2104	Piling CIP Concrete 10 3/4 X 0.25-Inch	LF	2,020.000	2,020.000
0046	606.0300	Riprap Heavy	CY	125.000	125.000
0048	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	180.000	180.000
0050	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0052	614.2300	MGS Guardrail 3	LF	100.000	100.000
0054	614.2500	MGS Thrie Beam Transition	LF	160.000	160.000
0056	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0058	618.0100	Maintenance and Repair of Haul Roads (project) 01. 7049-00-70	EACH	1.000	1.000
0060	619.1000	Mobilization	EACH	1.000	1.000
0062	624.0100	Water	MGAL	54.000	54.000
0064	625.0100	Topsoil	SY	725.000	725.000
0066	627.0200	Mulching	SY	1,705.000	1,705.000
0068	628.1504	Silt Fence	LF	1,400.000	1,400.000
0070	628.1520	Silt Fence Maintenance	LF	2,800.000	2,800.000
0072	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0074	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0076	628.2008	Erosion Mat Urban Class I Type B	SY	40.000	40.000
0078	628.2027	Erosion Mat Class II Type C	SY	270.000	270.000
0080	628.6005	Turbidity Barriers	SY	330.000	330.000
0082	628.7504	Temporary Ditch Checks	LF	50.000	50.000
0084	629.0210	Fertilizer Type B	CWT	1.300	1.300
0086	630.0120	Seeding Mixture No. 20	LB	54.000	54.000
0088	630.0200	Seeding Temporary	LB	54.000	54.000
0090	630.0500	Seed Water	MGAL	46.000	46.000
0092	633.1100	Delineators Temporary	EACH	30.000	30.000
0094	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0096	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0098	638.2602	Removing Signs Type II	EACH	6.000	6.000
0100	638.3000	Removing Small Sign Supports	EACH	6.000	6.000

7049-00-70

Line	Item	Item Description	Unit	Total	Qty
0102	642.5001	Field Office Type B	EACH	1.000	1.000
0104	643.0300	Traffic Control Drums	DAY	2,900.000	2,900.000
0106	643.0420	Traffic Control Barricades Type III	DAY	2,000.000	2,000.000
0108	643.0705	Traffic Control Warning Lights Type A	DAY	800.000	800.000
0110	643.0715	Traffic Control Warning Lights Type C	DAY	1,400.000	1,400.000
0112	643.0900	Traffic Control Signs	DAY	3,400.000	3,400.000
0114	643.5000	Traffic Control	EACH	1.000	1.000
0116	645.0111	Geotextile Type DF Schedule A	SY	120.000	120.000
0118	645.0120	Geotextile Type HR	SY	250.000	250.000
0120	645.0140	Geotextile Type SAS	SY	2,555.000	2,555.000
0122	646.1020	Marking Line Epoxy 4-Inch	LF	1,890.000	1,890.000
0124	650.4500	Construction Staking Subgrade	LF	890.000	890.000
0126	650.5000	Construction Staking Base	LF	890.000	890.000
0128	650.6501	Construction Staking Structure Layout (structure) 01. B-32-0240	EACH	1.000	1.000
0130	650.9911	Construction Staking Supplemental Control (project) 01. 7049-00-70	EACH	1.000	1.000
0132	650.9920	Construction Staking Slope Stakes	LF	890.000	890.000
0134	690.0150	Sawing Asphalt	LF	48.000	48.000
0136	715.0502	Incentive Strength Concrete Structures	DOL	1,830.000	1,830.000
0138	999.2005.S	Maintaining Bird Deterrent System (station) 01. 30+03	EACH	1.000	1.000
0140	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000
0142	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	600.000	600.000

3

CTH D EARTHWORK SUMMARY

From/To Station	Location	Excavation Common (1) (item # 205.0100) Cut	Salvaged / Unuseable Pavement Material (5)	Unexpanded Fill	Expanded Fill (2) Factor 1.30	Mass Ordinate +/- (3)	Waste	Borrow (item #208.0100)	Comment:
27+11.40 - 32+64.81	CTH D	822	230	244	318	275	275	0	
29+65 - 30+42	CREOSOTE AREAS	-	-	250	325	-325	0	325	Backfill Cresote Excavation Areas
17+97.55 - 22+37.01	TEMP. BYPASS	10	-	680	884	-873	0	873	
17+97.55 - 22+37.01	TEMP. BYPASS REMOVAL	1054	-	10	14	1041	1041	0	
	TOTAL	**1886**		**1185**	**1540**			**1198**	

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

3

CLEARING AND GRUBBING

STATION	TO	STATION	OFFSET	201.0105 CLEARING STA	201.0205 GRUBBING STA
27+11.40	-	32+64.81	LT & RT	1	1
TOTALS				1	1

NOTE: CUTTING TREES TO BE DONE BY OTHERS PRIOR TO CONSTRUCTION

EXCAVATION, HAULING, AND DISPOSAL OF CREOSOTE CONTAMINATED SOIL

CATEGORY	STATION	TO	STATION	LOCATION	205.0506.S TON	REMARKS
0020	29+65	-	29+72	S. ABUT.	50	TIMBER ABUTMENT
0020	29+90	-	29+90	PIER 1	35	TIMBER PIER
0020	30+16	-	30+16	PIER 2	35	TIMBER PIER
0020	30+34	-	30+42	N. ABUT.	50	TIMBER ABUTMENT
				TOTAL 0020	170	

EXCAVATE A 2' OFFSET AROUND EACH EXISTING BRIDGE TIMBER SUBSTRUCTURE AND 3' DEEP

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

3

PAVING AND BASE QUANTITIES

STA	TO	STA	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
17+97.55	--	22+37.01	TEMP. BYPASS	620	--	--	--
27+11.4	--	29+70.75	MAINLINE	70	705	67	280
30+47.25	--	32+64.81	MAINLINE	60	590	55	225
UNDISTRIBUTED				5	65	5	25
TOTALS				755	1,360	127	530
CATEGORY 0010				670	520	49	215
CATEGORY 0030				85	840	78	315

NOTE: CATEGORRY 0030 (BASE AGG. DENSE AND ASPHALT OUTSIDE OF STA. 29+10 - STA. 31+50)

MGS GUARDRAIL

STA	TO	STA	LOCATION	204.0165 REMOVING GUARDRAIL LF	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
28+68.18	--	29+21.30	LT	--	--	--	1
28+43.40	--	28+96.52	RT	--	--	--	1
29+21.30	--	29+33.80	LT	--	12.5	--	--
28+96.52	--	29+34.02	RT	--	37.5	--	--
29+33.80	--	29+73.25	LT	--	--	40	--
29+34.02	--	29+73.25	RT	--	--	40	--
29+30	--	29+71	RT	42	--	--	--
29+25	--	29+71	LT	46	--	--	--
30+34	--	30+76	LT	42	--	--	--
30+34	--	30+76	RT	42	--	--	--
30+44.75	--	30+84.12	LT	--	--	40	--
30+44.75	--	30+84.12	RT	--	--	40	--
30+84.12	--	31+21.62	LT	--	37.5	--	--
30+84.12	--	30+96.62	RT	--	12.5	--	--
31+21.62	--	31+74.75	LT	--	--	--	1
30+96.62	--	31+49.75	RT	--	--	--	1
TOTALS				172	100.0	160	4

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

TEMPORARY STRUCTURE

STATION	526.0101 EACH
20+34	1
TOTAL	1

WATER

PURPOSE	624.0100 WATER MGAL
COMPACTION	32
DUST CONTROL	22
TOTAL	54

TURBIDITY BARRIERS

LOCATION	628.6005 SY
EXISTING PIER	115
NEW PIER	150
UNDISTRIBUTED	65
TOTAL	330

TEMPORARY DITCH CHECKS

LOCATION	628.7504 LF
UNDISTRIBUTED	50
TOTAL	50

3

EROSION CONTROL ITEMS

STA	TO	STA	LOCATION	625.0100 TOPSOIL SY	627.0200 MULCHING SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.2027 EROSION MAT CLASS II TYPE C SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL	645.1400 GEOTEXTILE TYPE SAS SY
17+97.55	--	20+17.25	TEMP. BYPASS-RT	115	270	0	0	0	0	0.2	7	--	6	1,140
17+97.55	--	20+17.25	TEMP. BYPASS-LT	95	205	0	0	0	0	0.1	6	--	5	
20+50.75	--	22+37.01	TEMP. BYPASS-RT	40	180	0	0	0	0	0.1	5	--	4	905
20+50.75	--	22+37.01	TEMP. BYPASS-LT	100	190	0	0	0	0	0.1	5	--	4	
17+97.55	--	22+37.01	TEMP. BYPASS REMOVAL	--	1,845	--	--	--	--	1.2	50	--	41	--
27+11.4	--	29+70.75	CTH D-RT	75	185	330	660	0	40	0.1	6	--	5	--
27+11.4	--	29+70.75	CTH D-LT	195	305	290	580	0	45	0.2	9	--	8	--
30+47.25	--	32+64.81	CTH D-RT	120	145	245	490	30	70	0.2	7	--	6	--
30+47.25	--	32+64.81	CTH D-LT	120	190	255	510	0	60	0.2	7	--	6	--
UNDISTRIBUTED				215	880	280	560	10	55	0.6	25	54	21	510
TOTALS				725	1,705	1,400	2,800	40	270	1.3	54	54	46	2,555

3

EROSION CONTROL MOBILIZATION ITEMS

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
7049-00-70	4	4
TOTALS	4	4

SIGNAGE

STATION	LOCATION	634.0614 POSTS WOOD 4X6-INCH X 14-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	SIGNAGE TYPE
29+67	RT	--	--	1	1	WEIGHT LIMIT 35 TONS
29+69	LT	1	3	--	--	W5-52L
29+69	RT	1	3	--	--	W5-52R
29+70	LT	--	--	1	1	W5-52L
20+70	RT	--	--	1	1	W5-52R
30+40	LT	--	--	1	1	WEIGHT LIMIT 35 TONS
30+36	LT	--	--	1	1	W5-52R
30+36	RT	--	--	1	1	W5-52L
30+50	LT	1	3	--	--	W5-52R
30+50	RT	1	3	--	--	W5-52L
TOTALS		4	12	6	6	

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

3

TRAFFIC CONTROL ITEMS

LOCATION	DURATION DAYS	633.1100 DELINEATORS TEMPORARY EACH	643.0300 TRAFFIC CONTROL DRUMS NO.	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 BARRICADES TYPE III NO.	643.0420 BARRICADES TYPE III DAY	643.0705 WARNING LIGHTS TYPE A NO.	643.0705 WARNING LIGHTS TYPE A DAY	643.0715 WARNING LIGHTS TYPE C NO.	643.0715 WARNING LIGHTS TYPE C DAY	643.0900 SIGNS NO.	643.0900 SIGNS DAY	643.5000 TRAFFIC CONTROL EACH
PER SDD 15D31	100	30	29	2,900	20	2,000	8	800	14	1,400	28	2,800	--
PER SDD 15D45	100	--	--	--	--	--	--	--	--	--	6	600	--
CTH D	--		--	--	--	--	--	--	--	--	--	--	1
TOTALS		30		2,900		2,000		800		1,400		3,400	1

TRAFFIC CONTROL PLACEMENT SUBJECT TO ENGINEER APPROVAL

MARKING LINE EPOXY 4-INCH

STA	TO	STA	LOCATION	DESCRIPTION	646.1020 YELLOW LF	646.1020 WHITE LF
27+11.4	-	32+64.81	LT	EDGE LINE	--	553
27+11.4	-	32+64.81	RT	EDGE LINE	--	553
27+11.4	-	32+64.81		SOLID WITH DASH CENTER LINE	691	--
UNDISTRIBUTED					39	54
SUBTOTALS					730	1,160
TOTAL					1,890	

STAKING ITEMS

CATEGORY	LOCATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.6501.01 CONSTRUCTION STAKING STRUCTURE LAYOUT (B-32-240) EACH	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (ID 7049-00-70) EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	17+92.55 - 22+37.01	TEMP. BYPASS	410	410	--	--	410
0010	27+11.40 - 32+64.81	MAINLINE	480	480	--	1	480
0020	29+70.75 - 30+47.25	B-32-240	--	--	1	--	--
TOTALS			890	890	1	1	890

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

3

3

SAWING ASPHALT

		690.0150
STATION	LOCATION	LF
27+11.4	LT & RT	24
32+64.81	LT & RT	24
TOTAL		48

MAINTAINING BIRD DETERRENT SYSTEM

		999.2005.S MAINTAINING BIRD DETERRENT SYSTEM
CATEGORY	STATION	EACH
0010	30+03	1
	TOTAL 0010	1

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

4

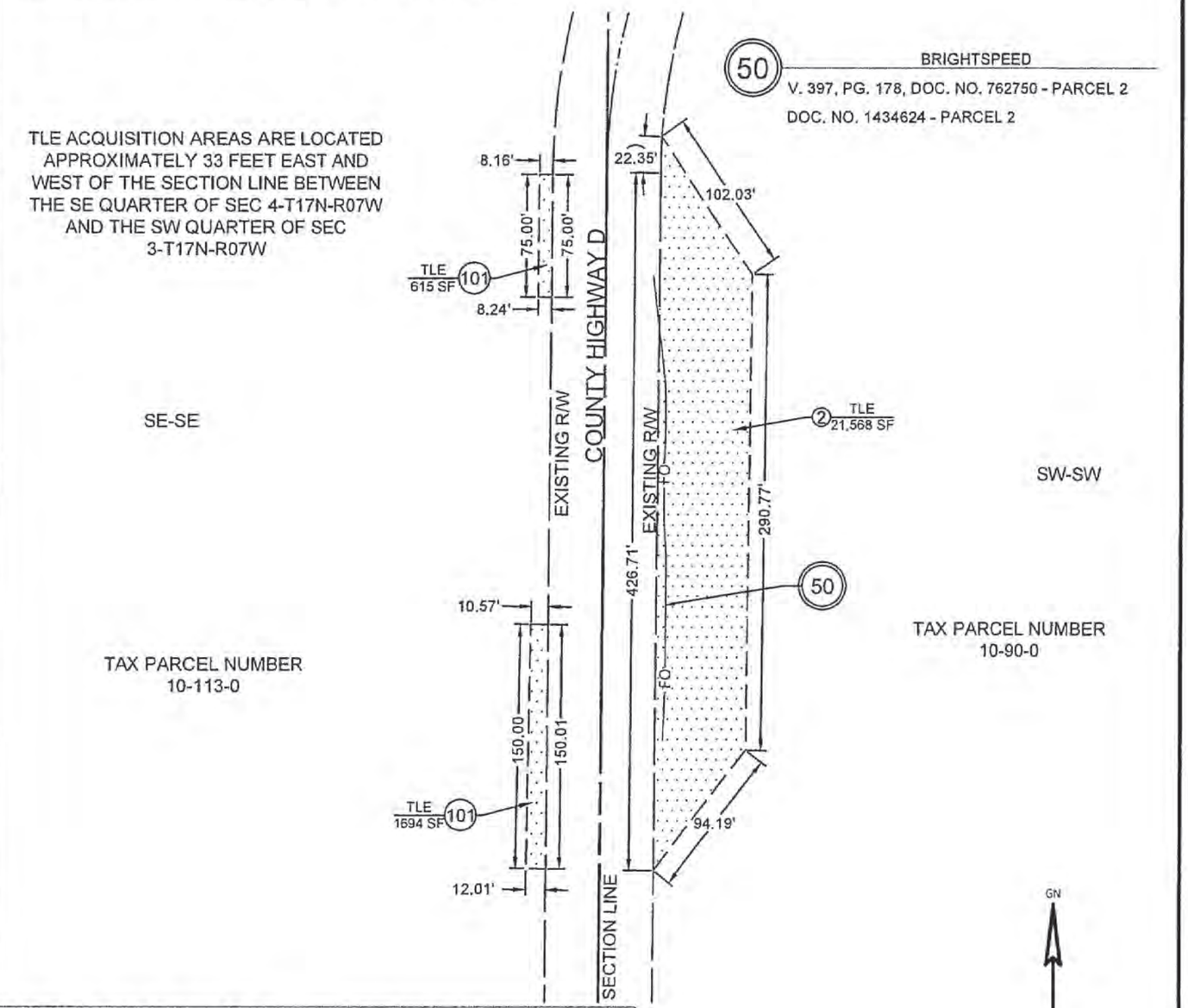
R/W PROJECT NUMBER: 7049-00-00	SHEET NUMBER: 2

TLE ACQUISITION EXHIBIT
T OF ONALASKA - T OF FARMINGTON
HALFWAY CREEK BRIDGE B-32-240
CTH D — LA CROSSE COUNTY

PART OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 3 AND PART OF THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 4, T17N, R07W, TOWN OF ONALASKA, LA CROSSE COUNTY, WISCONSIN

NOTES:
THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY. REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.

THIS TLE IS FOR THE RIGHT TO CONSTRUCT, CUT, AND/OR FILL SLOPES, INCLUDING FOR SUCH PURPOSE THE RIGHT TO OPERATE THE NECESSARY EQUIPMENT THEREON AND 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 DEEM NECESSARY OR DESIRABLE.



SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE COUNTY.

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TLE S.F.
101	DANIEL J. ANDERSON AND KAREN M. ANDERSON	TLE	2,309
2	JORDAN R. HANSON AND BOBBIE JO HANSON	TLE	21,568

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
50	BRIGHTSPEED	TEMPORARY RELEASE OF RIGHTS

THIS MAP IS APPROVED FOR LACROSSE COUNTY

SIGNATURE: _____ DATE: 7-24-23

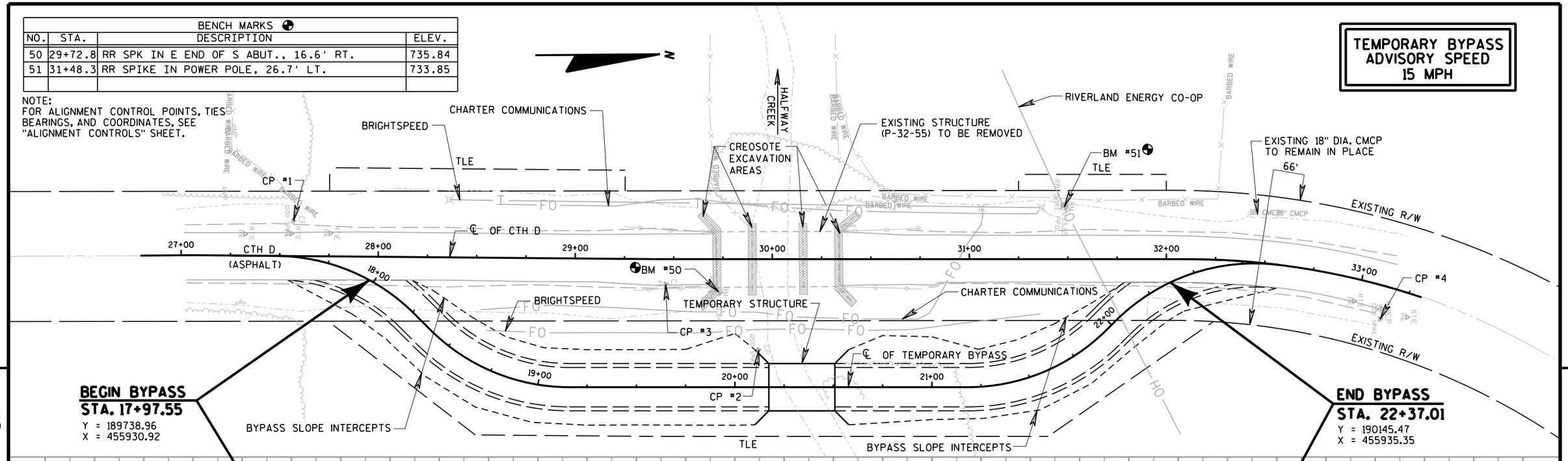
PRINT NAME: Joe Langeberg

FILE NAME : 70490000 TLE EXHIBIT PARCEL 1.DWG PLOT DATE : 5/22/2023 9:41 AM R/W PROJECT: 7049-00-00

BENCH MARKS			
NO.	STA.	DESCRIPTION	ELEV.
50	29+72.8	RR SPK IN E END OF S ABUT., 16.6' RT.	735.84
51	31+48.3	RR SPIKE IN POWER POLE, 26.7' LT.	733.85

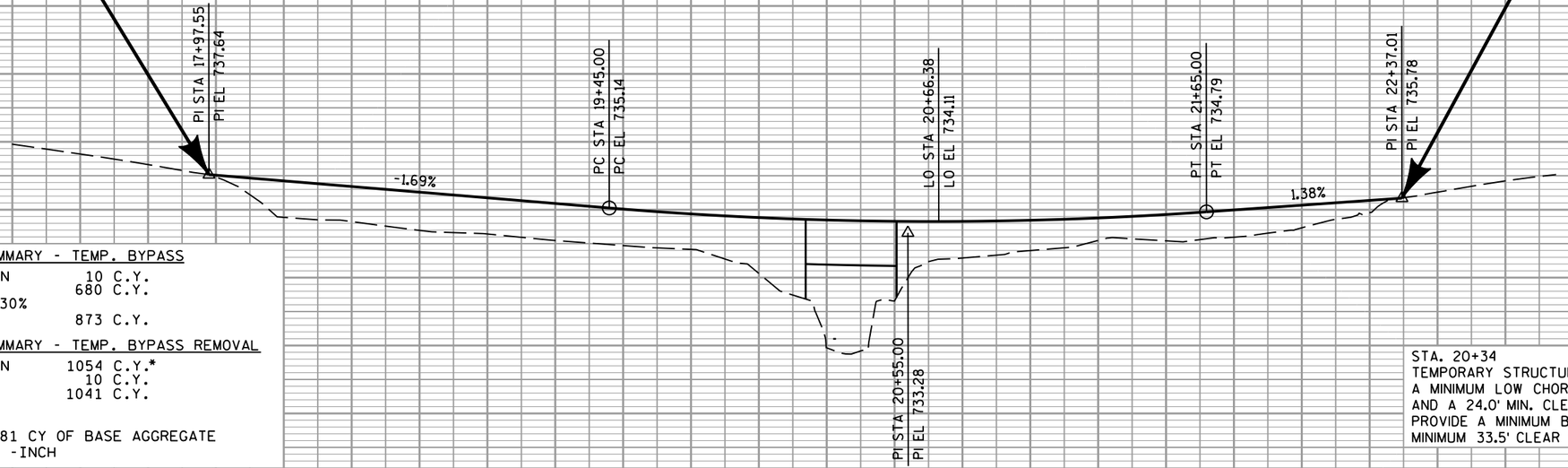
NOTE:
FOR ALIGNMENT CONTROL POINTS, TIES BEARINGS, AND COORDINATES, SEE "ALIGNMENT CONTROLS" SHEET.

TEMPORARY BYPASS ADVISORY SPEED 15 MPH



BEGIN BYPASS
STA. 17+97.55
Y = 189738.96
X = 455930.92

END BYPASS
STA. 22+37.01
Y = 190145.47
X = 455935.35



EARTHWORK SUMMARY - TEMP. BYPASS

EXC. COMMON	10 C.Y.
FILL SHR. = 30%	680 C.Y.
BORROW	873 C.Y.

EARTHWORK SUMMARY - TEMP. BYPASS REMOVAL

EXC. COMMON	1054 C.Y.*
FILL	10 C.Y.
WASTE	1041 C.Y.

*INCLUDES 181 CY OF BASE AGGREGATE DENSE 3/4 -INCH

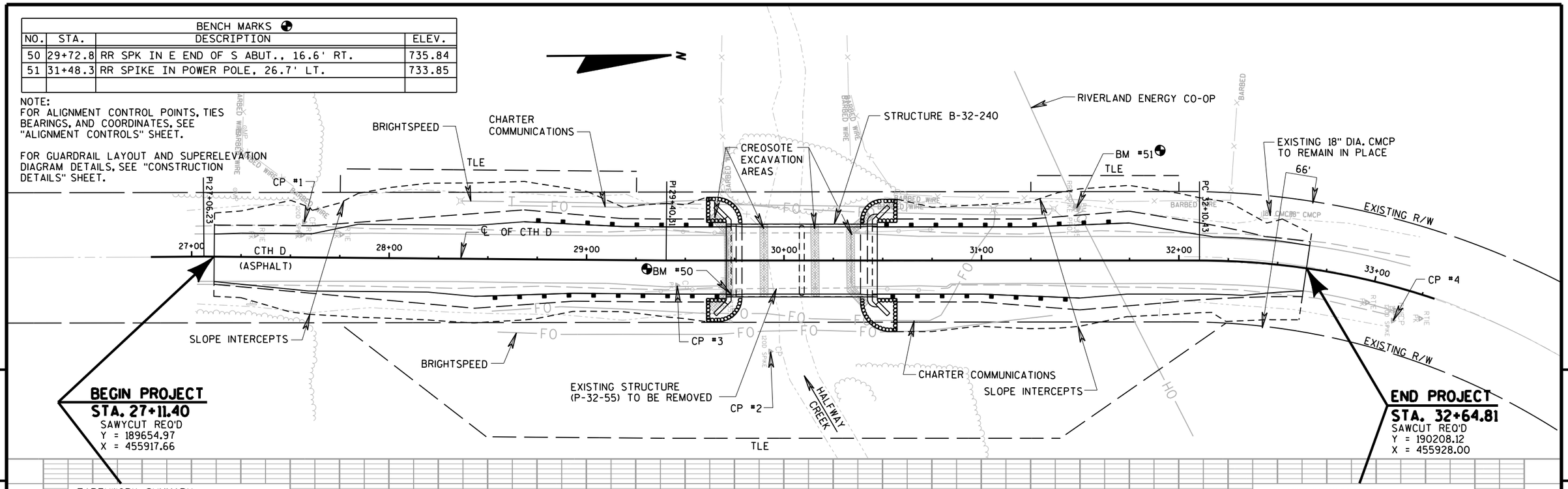
STA. 20+34
TEMPORARY STRUCTURE SHALL HAVE
A MINIMUM LOW CHORD OF 730.86
AND A 24.0' MIN. CLEAR ROADWAY WIDTH
PROVIDE A MINIMUM BRIDGE OPENING OF 147 SQ FT
MINIMUM 33.5' CLEAR SPAN

PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	PLAN AND PROFILE - BYPASS	SCALE, FEET 0 25 50	SHEET 16 E

BENCH MARKS			
NO.	STA.	DESCRIPTION	ELEV.
50	29+72.8	RR SPK IN E END OF S ABUT., 16.6' RT.	735.84
51	31+48.3	RR SPIKE IN POWER POLE, 26.7' LT.	733.85

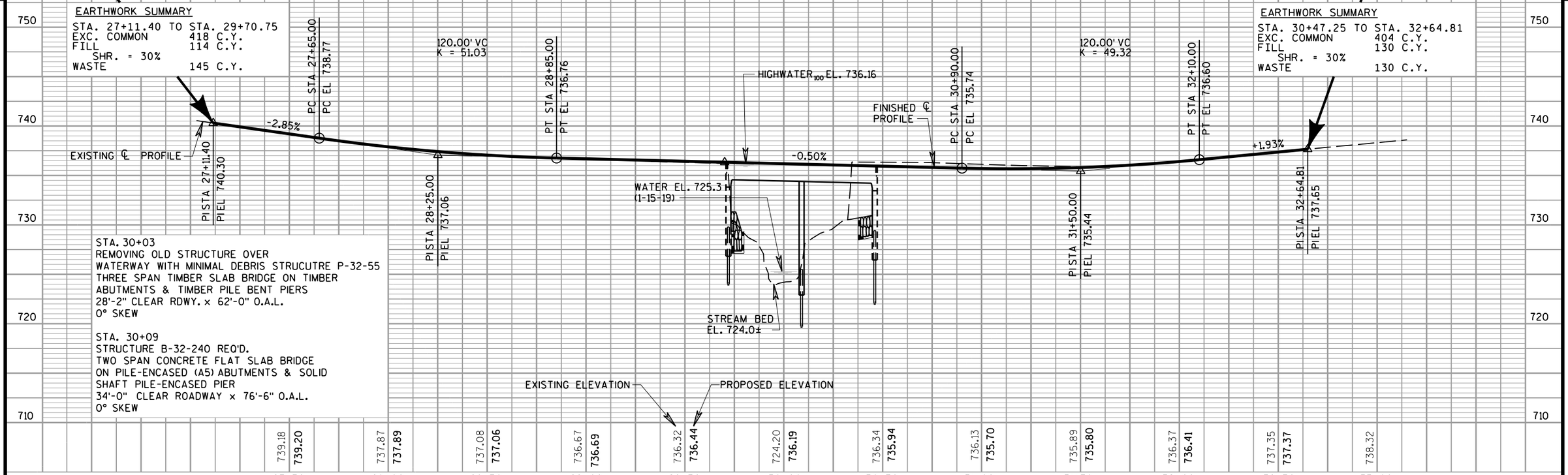
NOTE:
FOR ALIGNMENT CONTROL POINTS, TIES BEARINGS, AND COORDINATES, SEE "ALIGNMENT CONTROLS" SHEET.

FOR GUARDRAIL LAYOUT AND SUPERELEVATION DIAGRAM DETAILS, SEE "CONSTRUCTION DETAILS" SHEET.



EARTHWORK SUMMARY
STA. 27+11.40 TO STA. 29+70.75
EXC. COMMON 418 C.Y.
FILL 114 C.Y.
SHR. = 30%
WASTE 145 C.Y.

EARTHWORK SUMMARY
STA. 30+47.25 TO STA. 32+64.81
EXC. COMMON 404 C.Y.
FILL 130 C.Y.
SHR. = 30%
WASTE 130 C.Y.

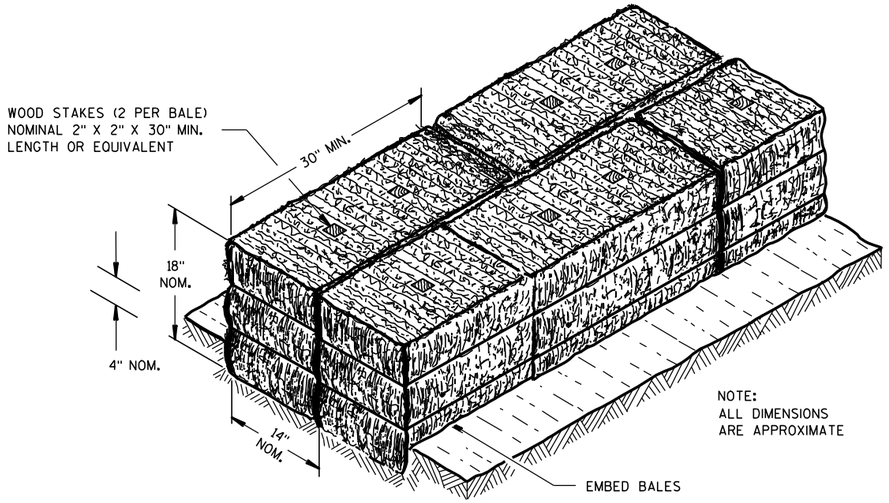


PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	PLAN AND PROFILE	SCALE, FEET 0 25 50	SHEET 17	E

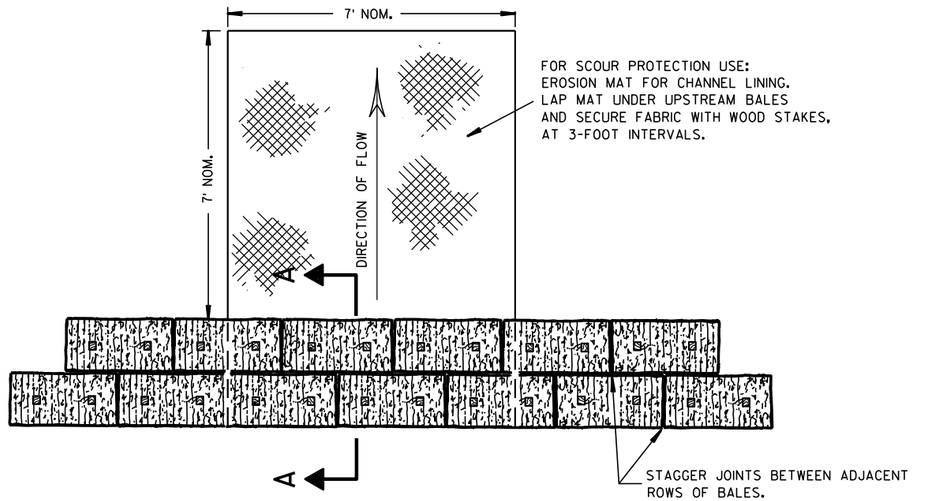
Standard Detail Drawing List

08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D31-05	TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY
15D45-03	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL

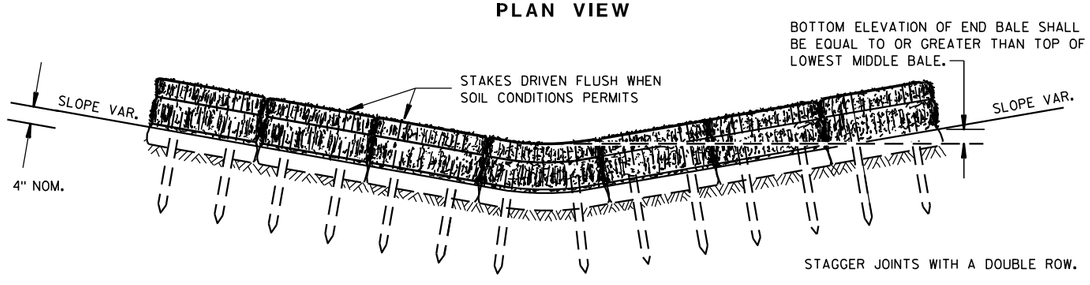
6



SECTION A-A



PLAN VIEW



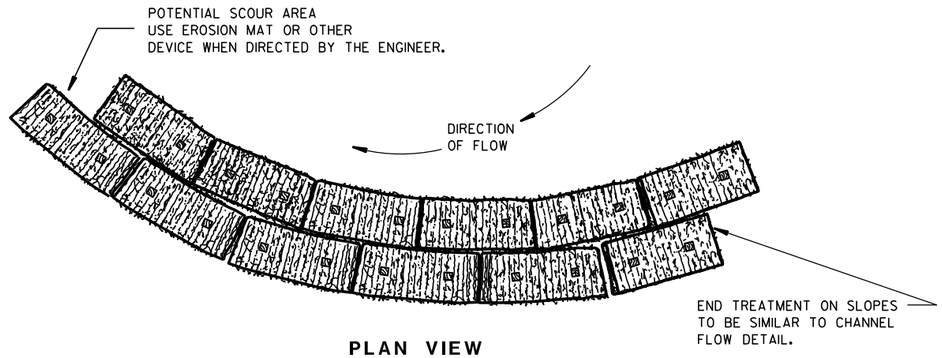
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

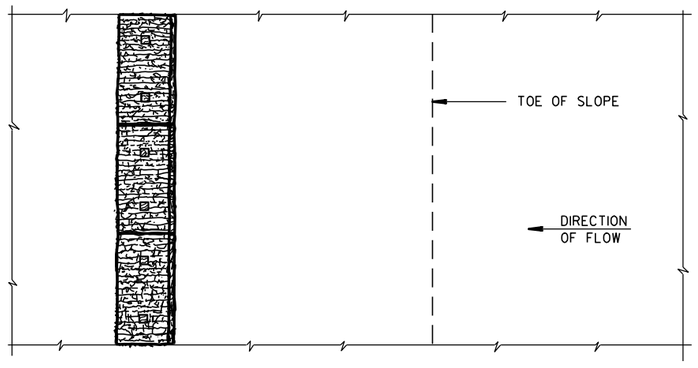
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

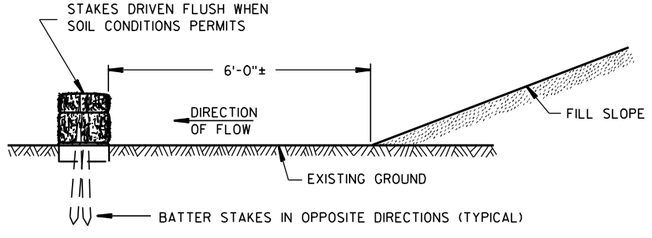


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

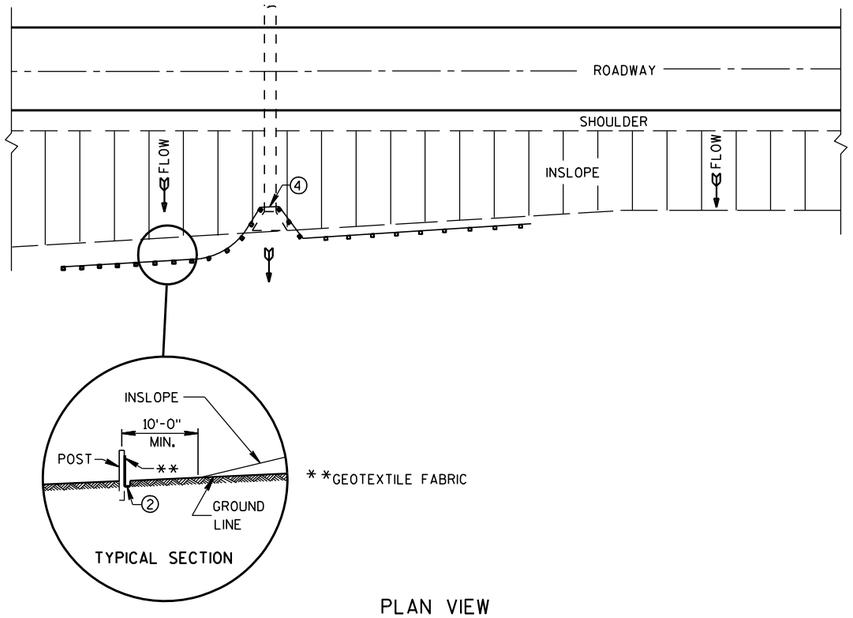
TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

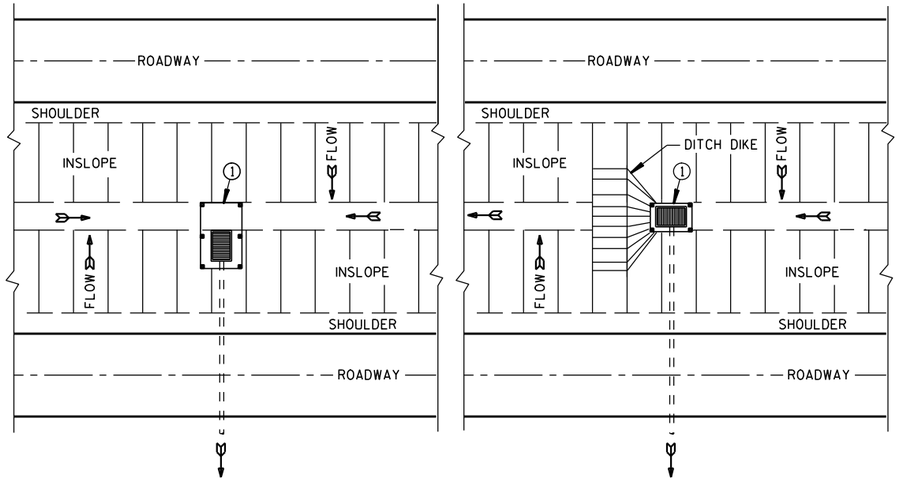
6/04/02 DATE — /S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

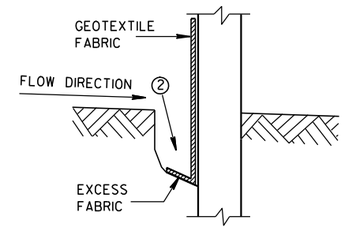
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

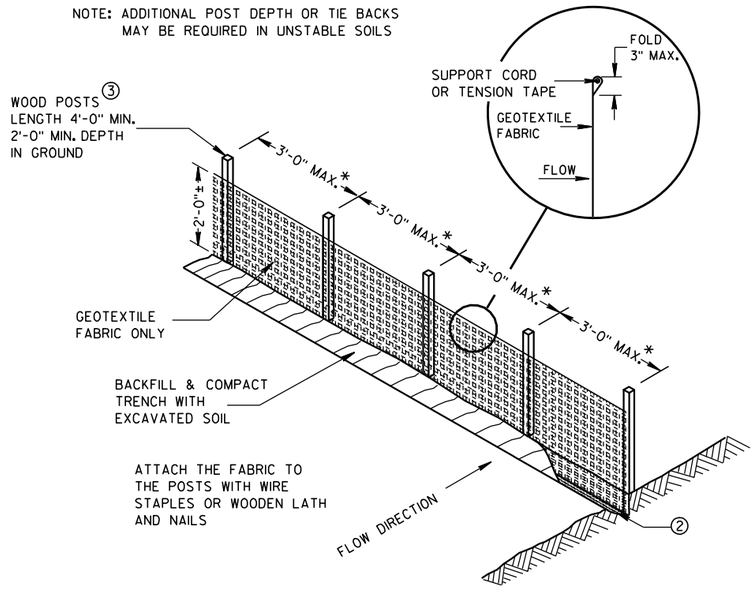
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

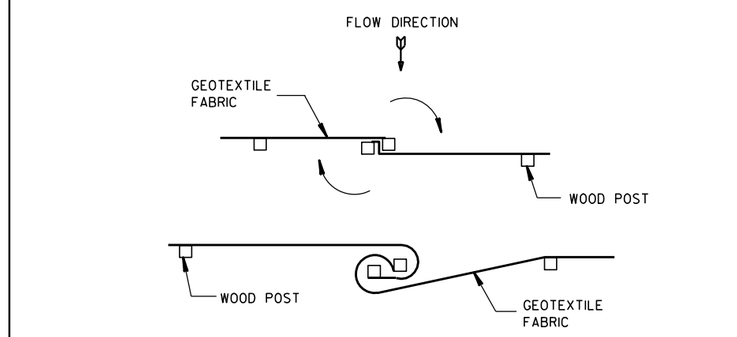


TRENCH DETAIL

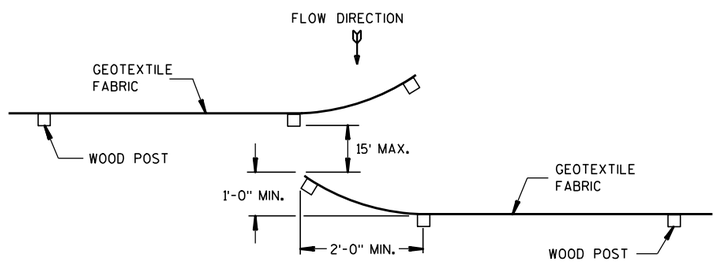


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

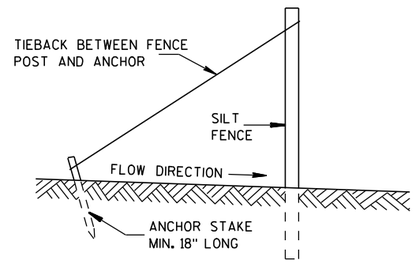


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

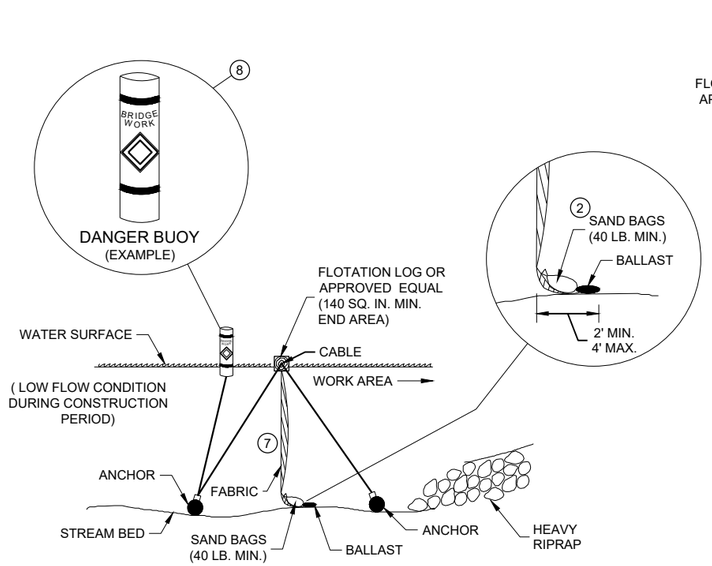
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

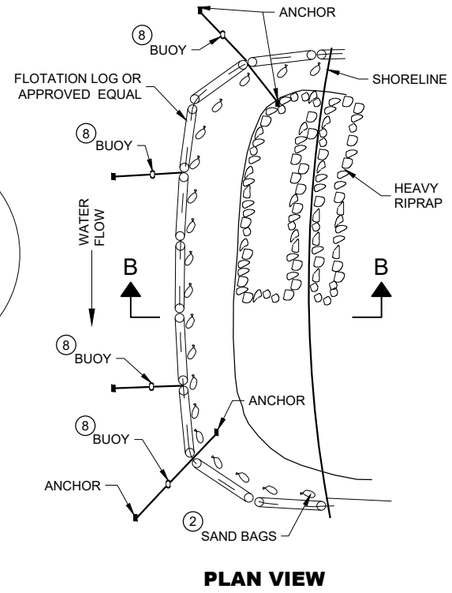
S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

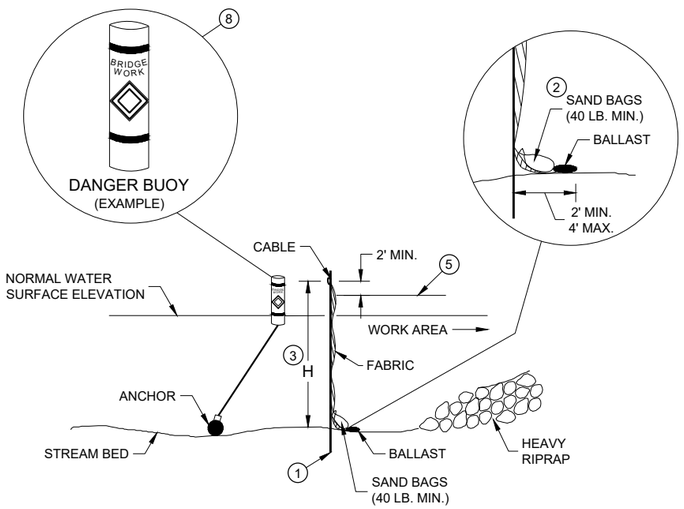


SECTION B - B

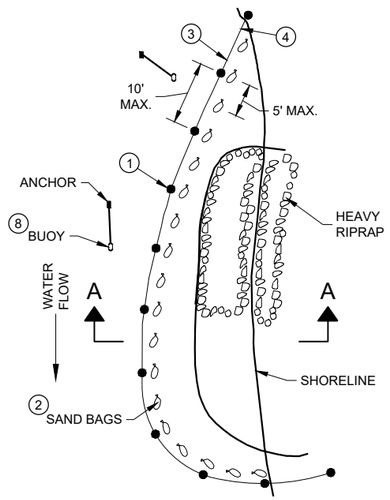


PLAN VIEW

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A - A



PLAN VIEW

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

(1) DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

(2) SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

(3) WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.

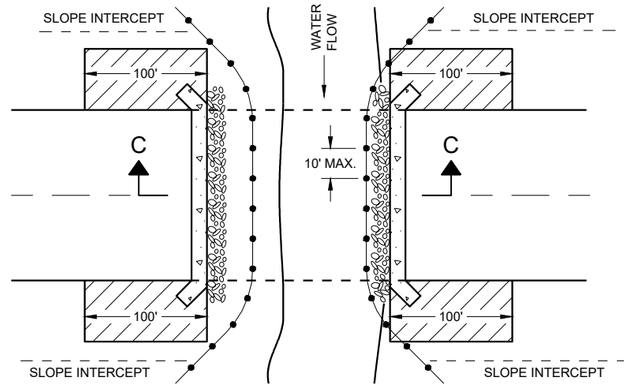
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

(5) ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.

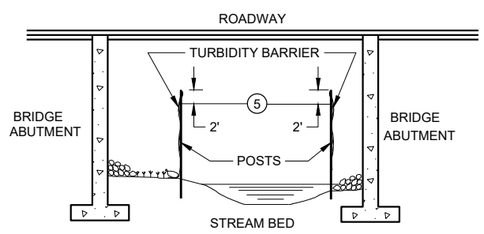
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

(7) ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

(8) USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

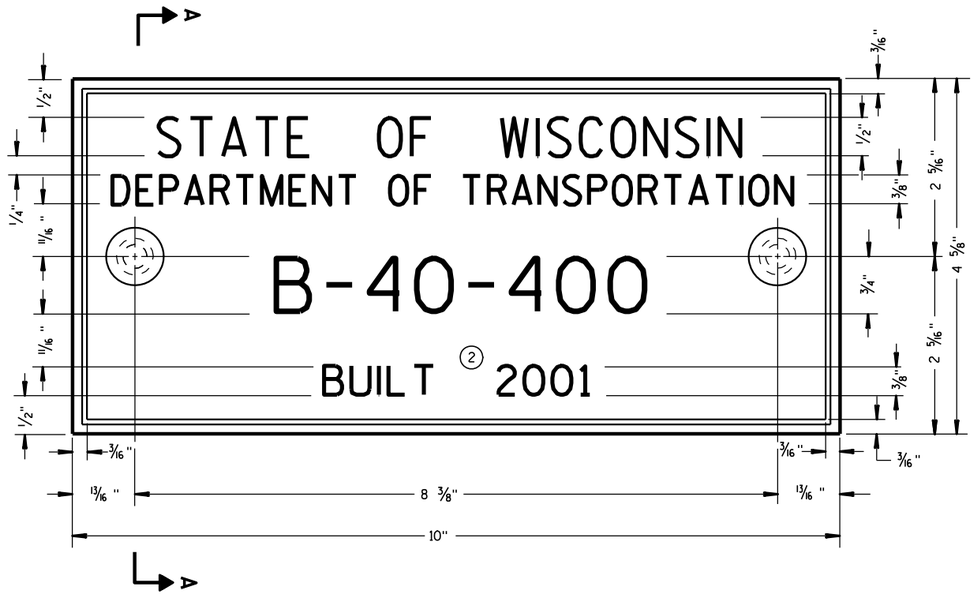
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6
SDD 08E11 - 02



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)

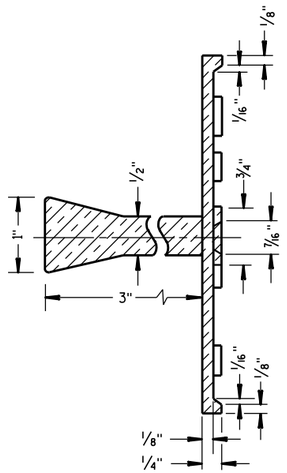
GENERAL NOTES

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

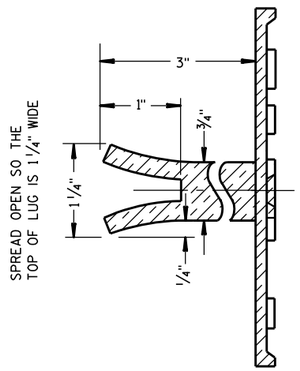
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG

FOR MULTI-UNIT STRUCTURES LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

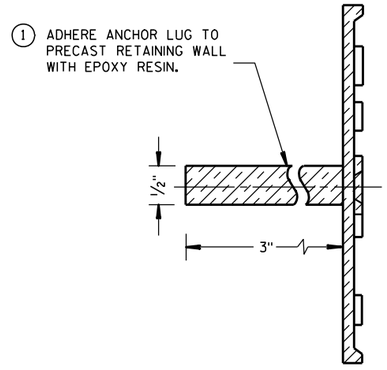
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION MULTI-UNIT STRUCTURES



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

FHWA

6

S.D.D. 12 A 3-10

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

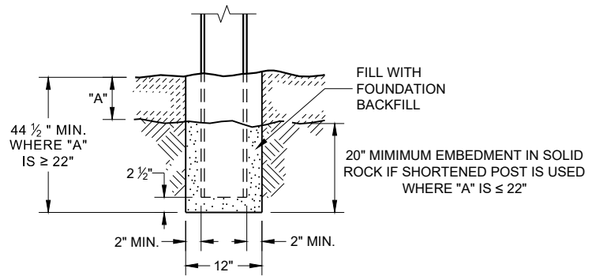
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

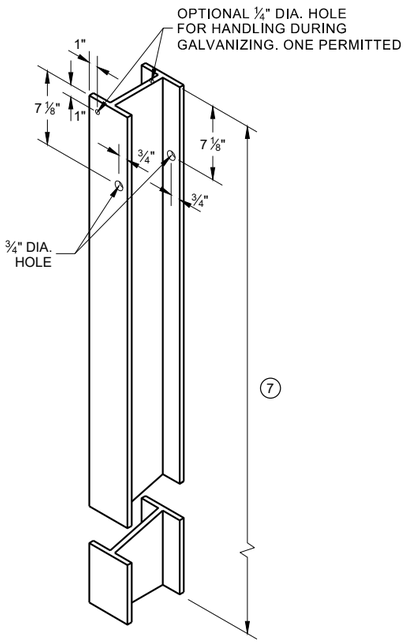
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(6) WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

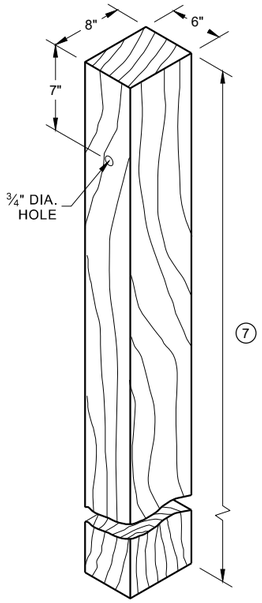
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



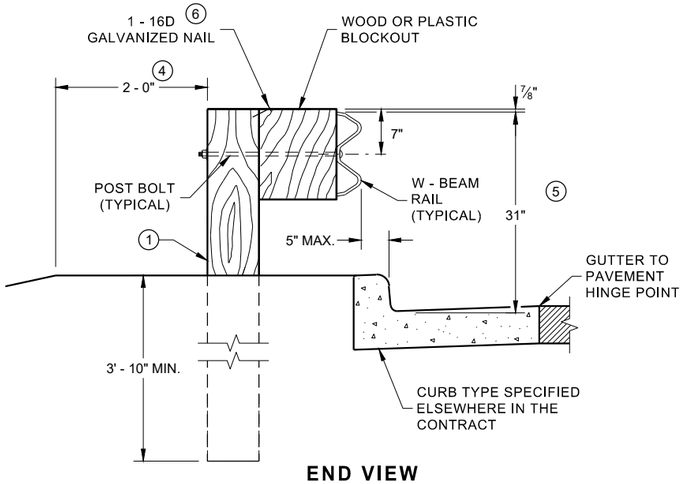
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



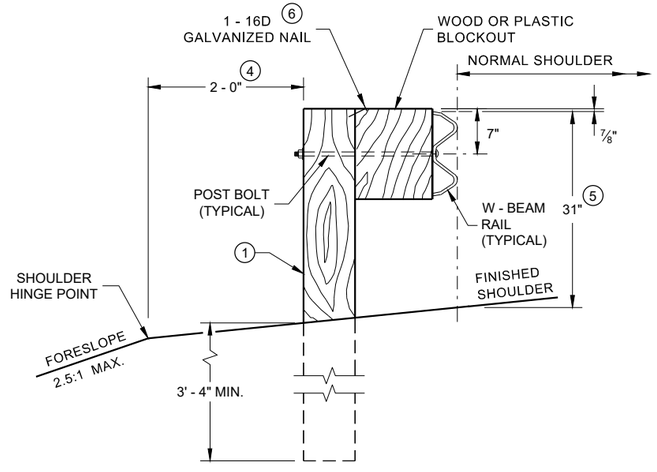
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



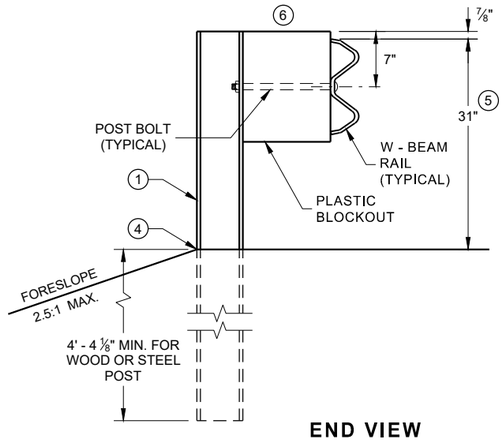
WOOD POST (6" X 8") NOMINAL (1)



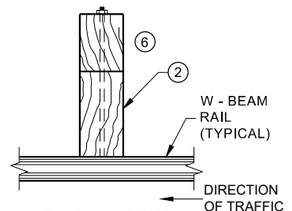
END VIEW
LOCATED ALONG A CURBED ROADWAY



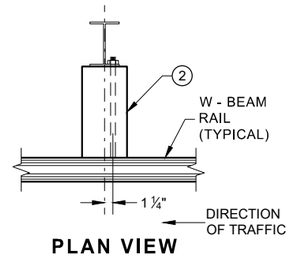
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



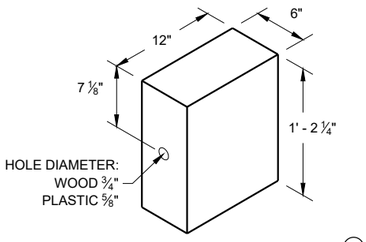
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

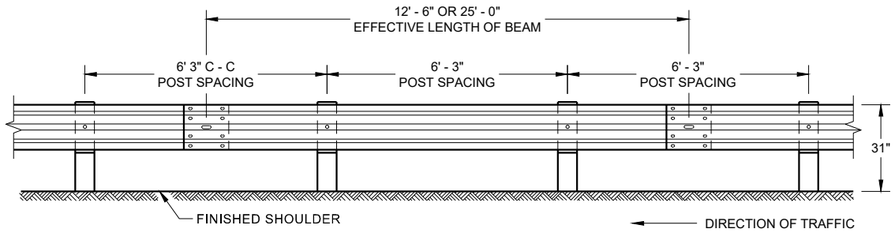
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

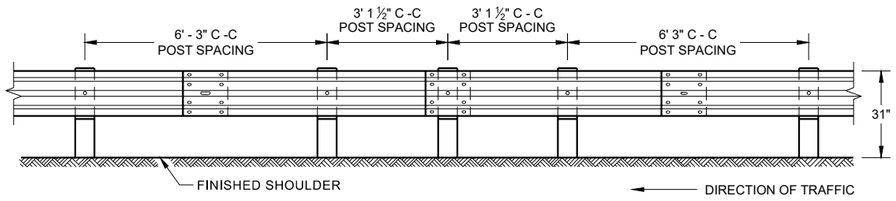
SDD 14B42 - 07a

6

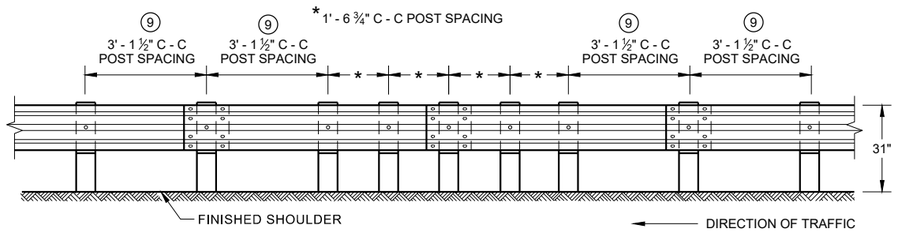
SDD 14B42 - 07a



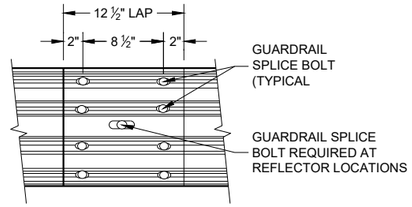
FRONT VIEW
POST SPACING STANDARD INSTALLATION



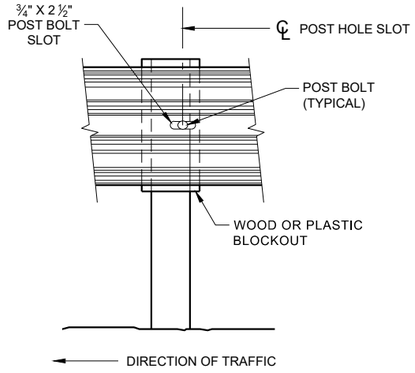
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



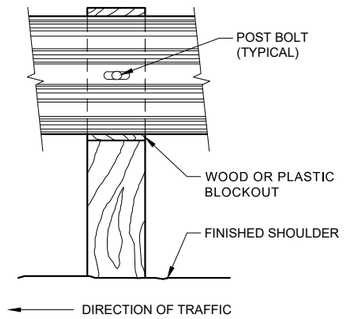
FRONT VIEW
QUARTER POST SPACING (QS)



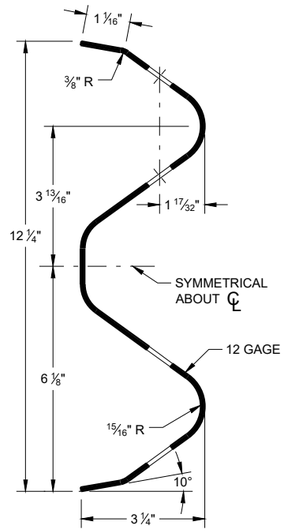
FRONT VIEW
MID-SPAN BEAM SPLICE



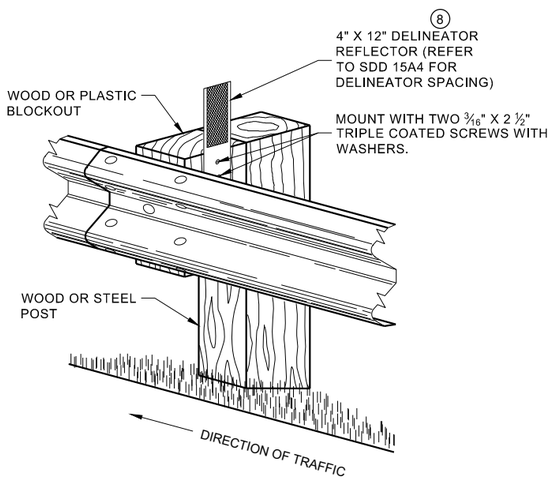
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

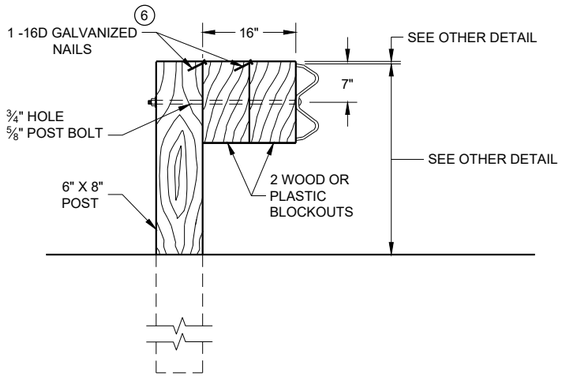
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B42 - 07b
SDD 14B42 - 07b

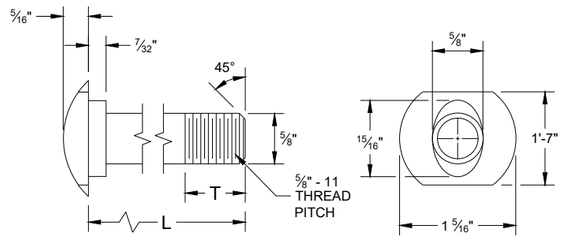


DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

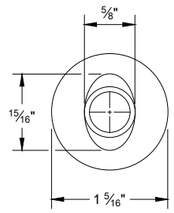
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3⁄16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

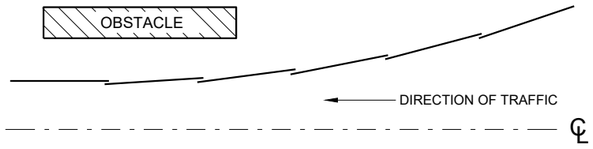


POST BOLT TABLE

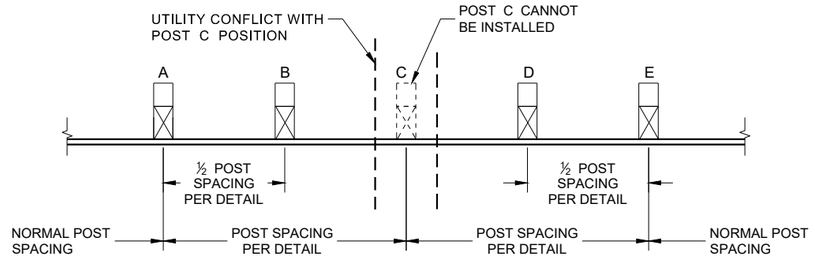
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



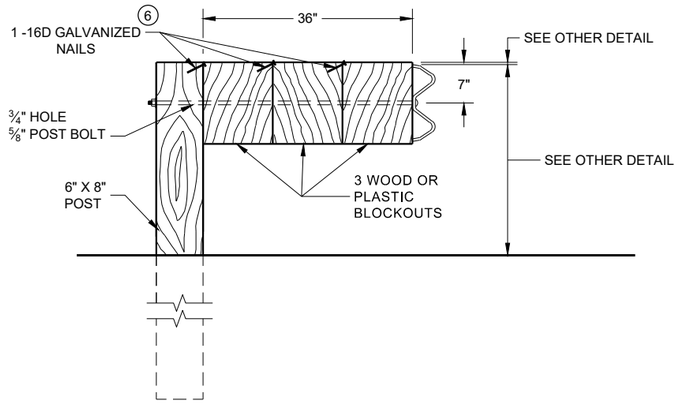
ALTERNATE BOLT HEAD



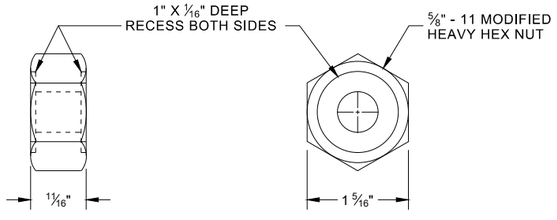
PLAN VIEW
BEAM LAPPING DETAIL



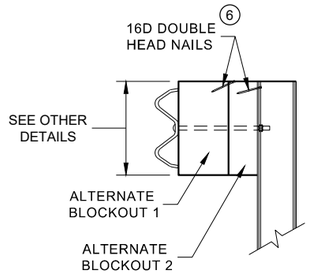
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



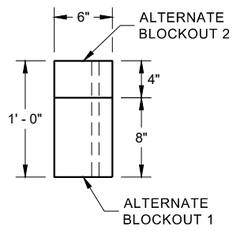
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

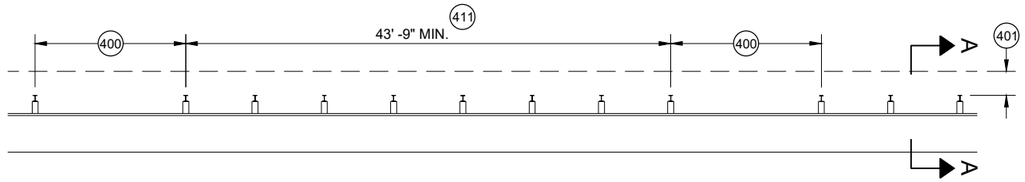
ALTERNATE WOOD BLOCKOUT DETAIL

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

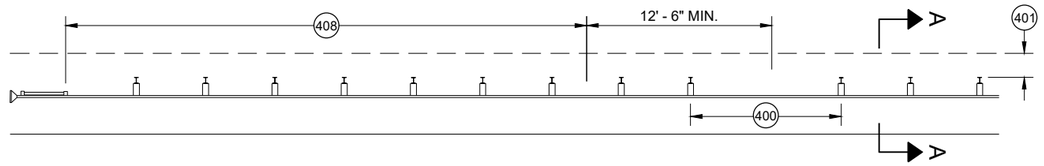
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(6) WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

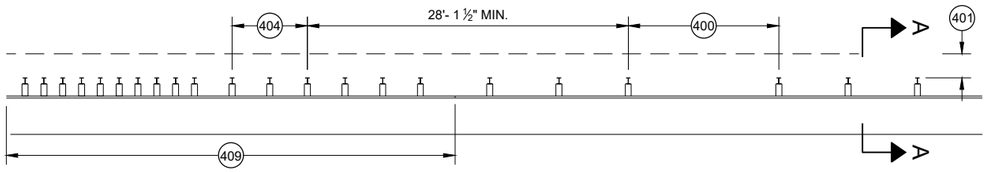
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL



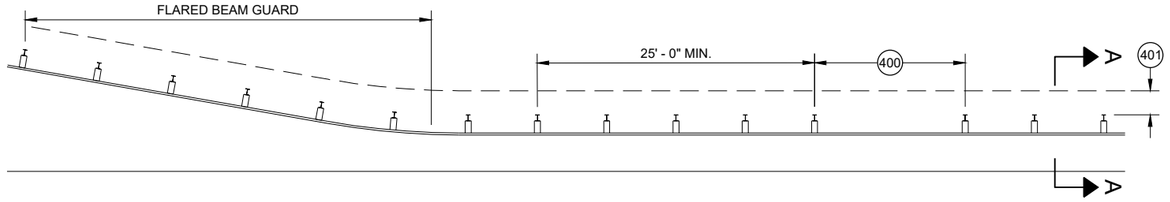
MISSING POST IN MGS GUARDRAIL



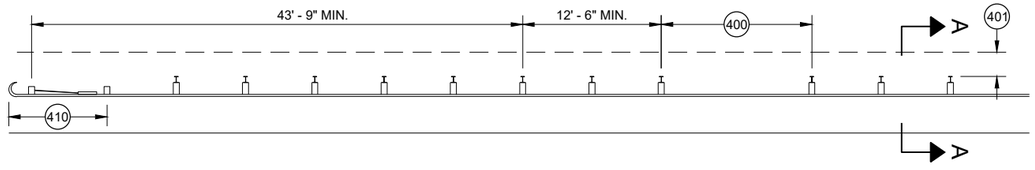
MISSING POST IN MGS GUARDRAIL NEAR EAT



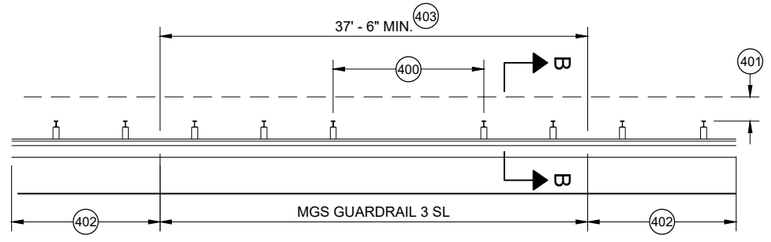
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

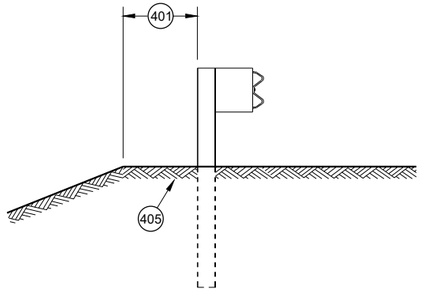


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

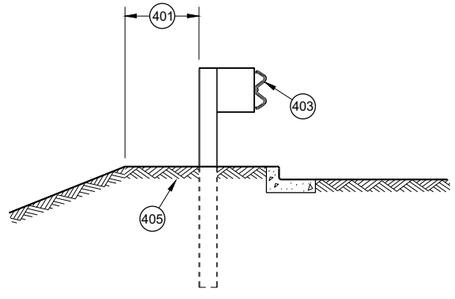


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

(400) MAX SPAN 12' - 6"
(401) 2' MIN.
(402) MGS GUARDRAIL 3
(403) NESTING BEAM GUARD
(404) ASYMMETRIC TRANSITION
(405) SOIL WELL DRAINED AND COMPACTED
(406) SEE OTHER DRAWINGS IN THIS SDD
(407) SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
(408) SEE SDD 14B44
(409) SEE SDD 14B45
(410) SEE SDD 14B47
(411) MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

SDD 14B42 - 07d

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED

(C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

(D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

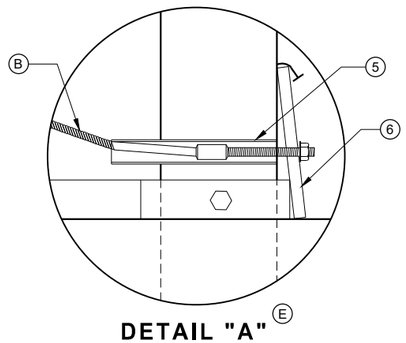
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

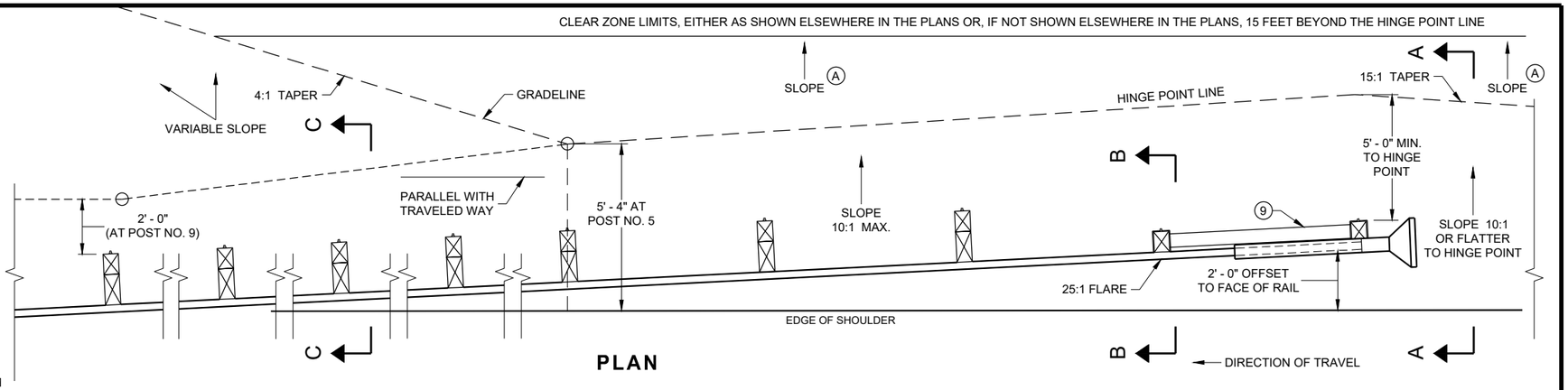
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

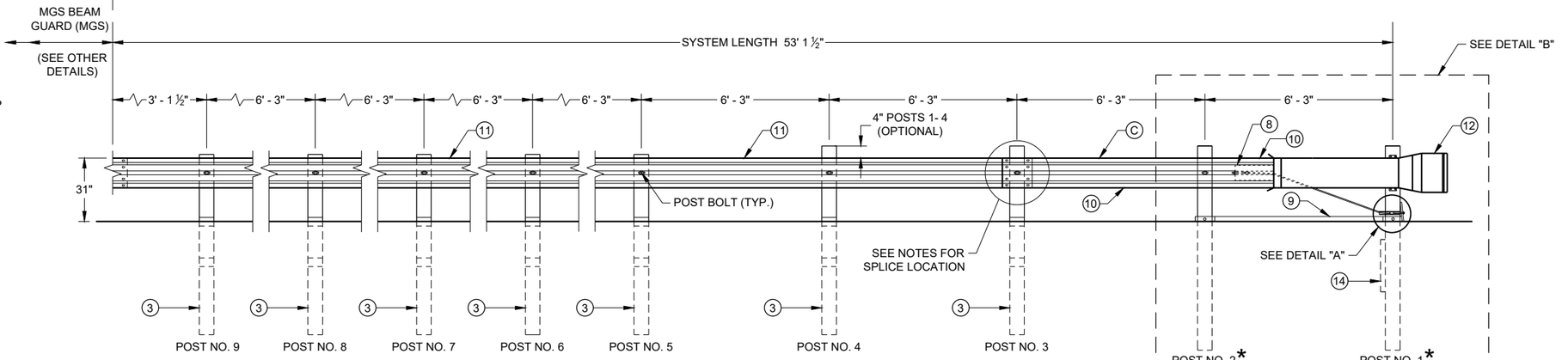
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



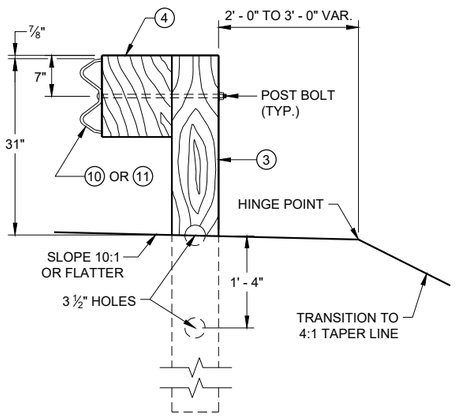
DETAIL "A" (E)



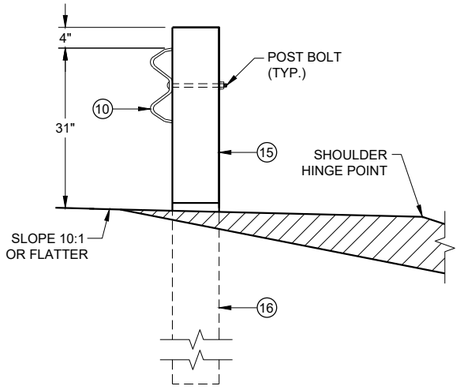
PLAN



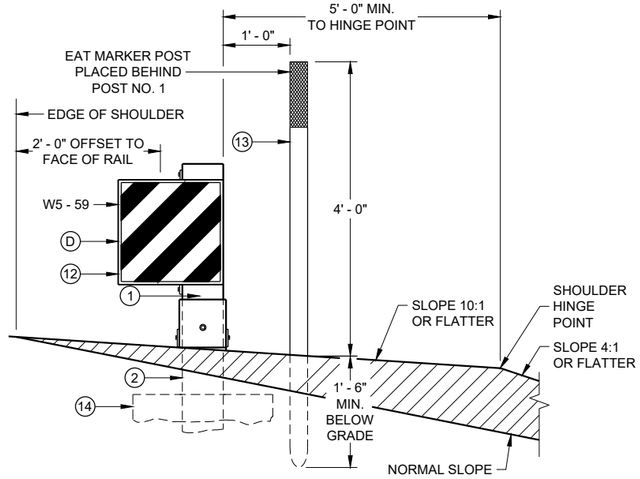
ELEVATION



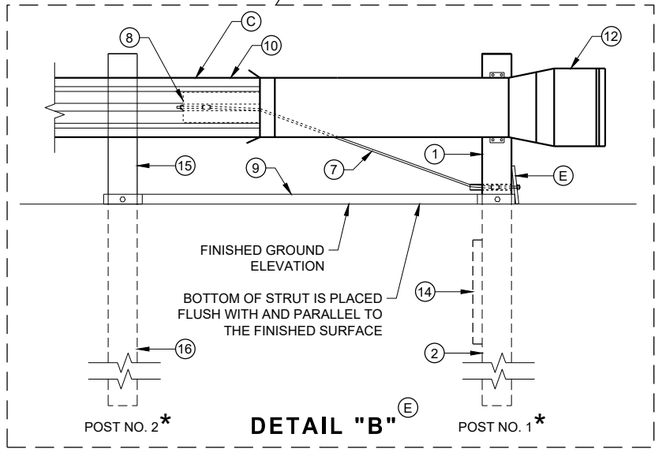
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



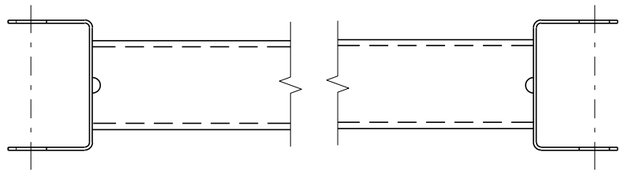
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

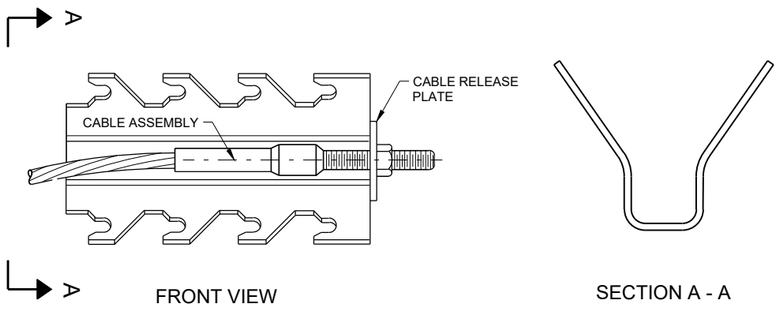
SDD 14B44 - 04a



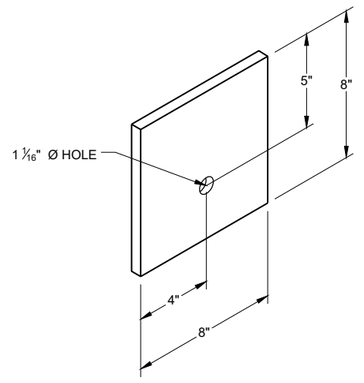
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



GENERIC ANCHOR CABLE BOX ⑧ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

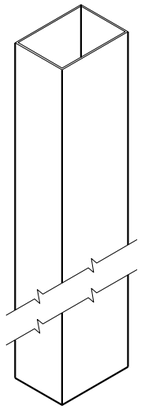
6

SDD 14B44 - 04b

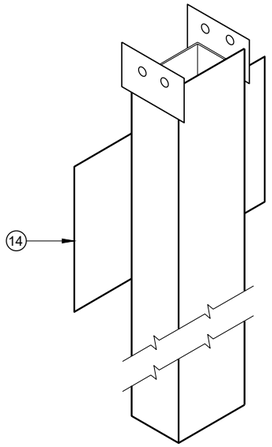
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

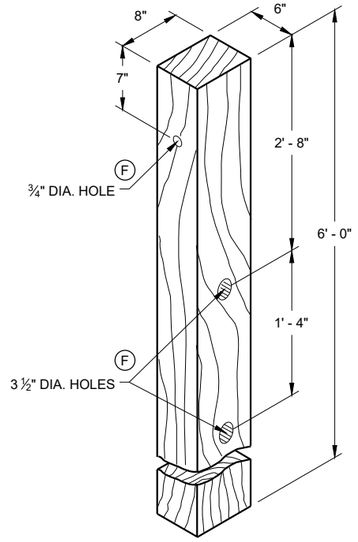
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



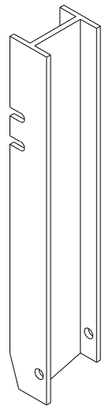
UPPER POST NO. 1 (1) (E)



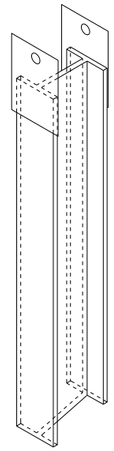
LOWER POST NO. 1 (2) (E)



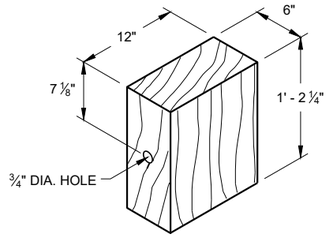
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



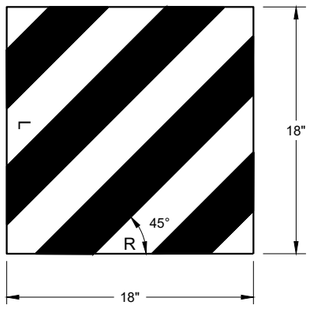
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

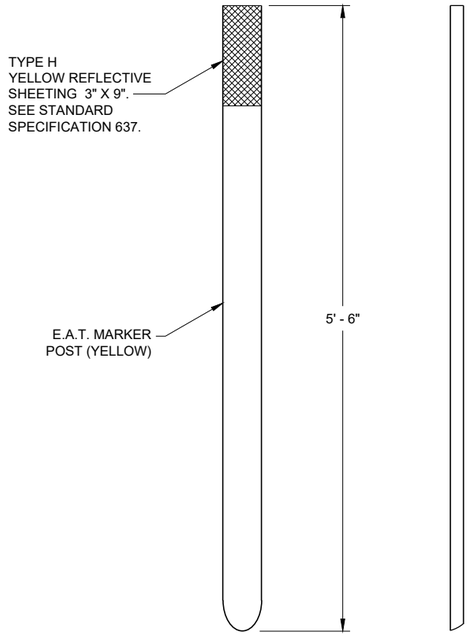


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

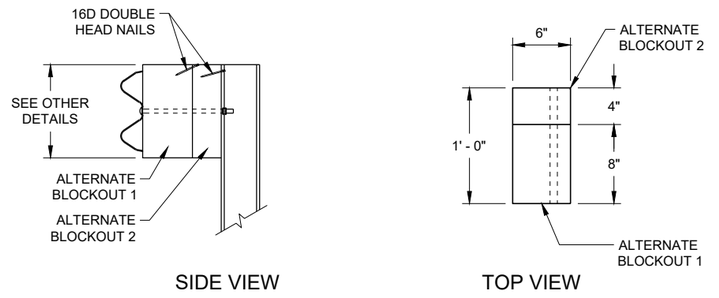


W5 - 59

REFLECTIVE SHEETING DETAIL (E)



E.A.T. MARKER POST (13)



ALTERNATE WOOD BLOCKOUT DETAIL

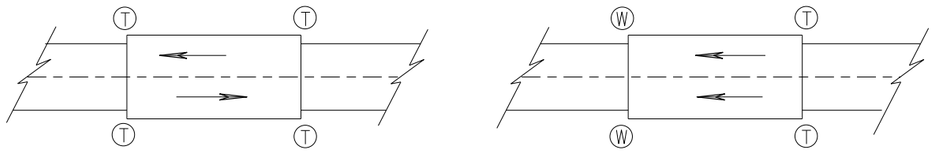
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR
FHWA

6

SDD 14B44 - 04c
SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

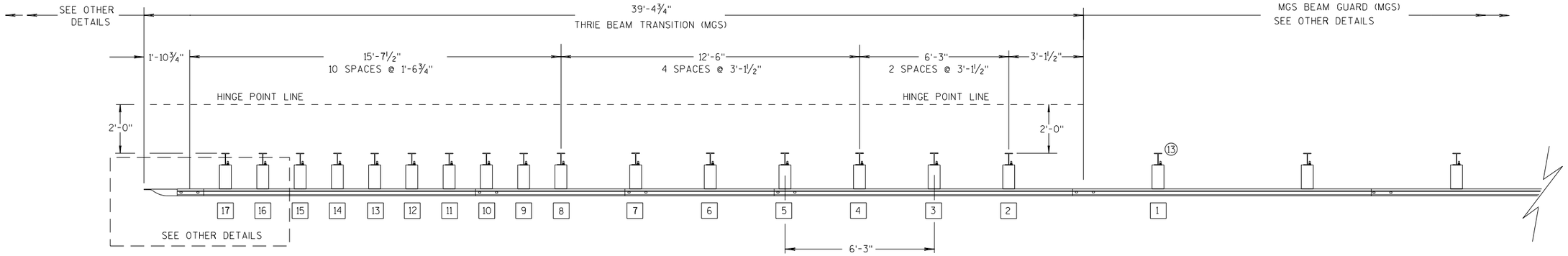
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

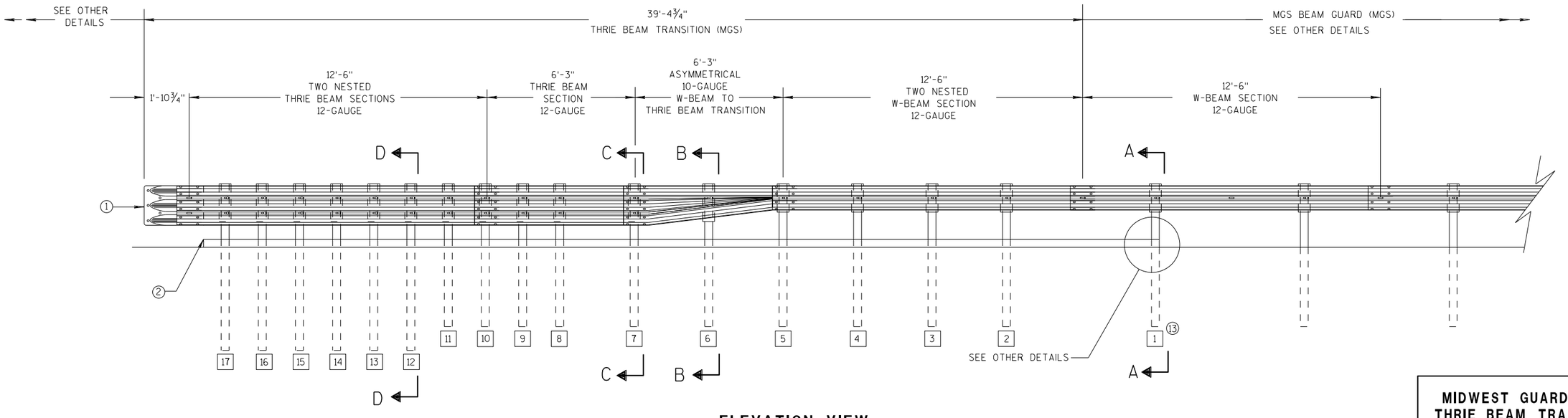
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-5a

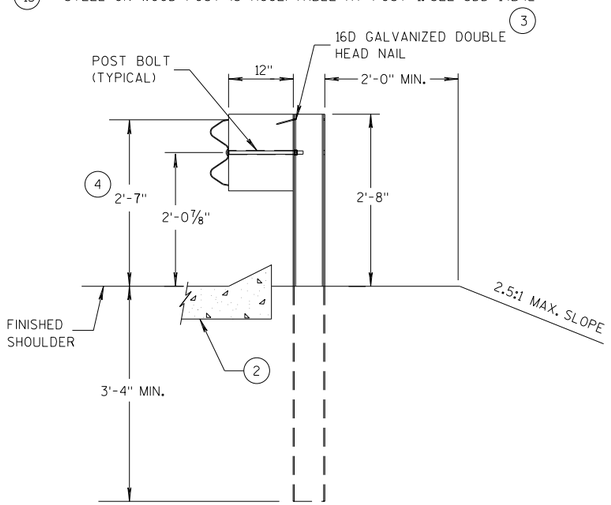
GENERAL NOTES

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

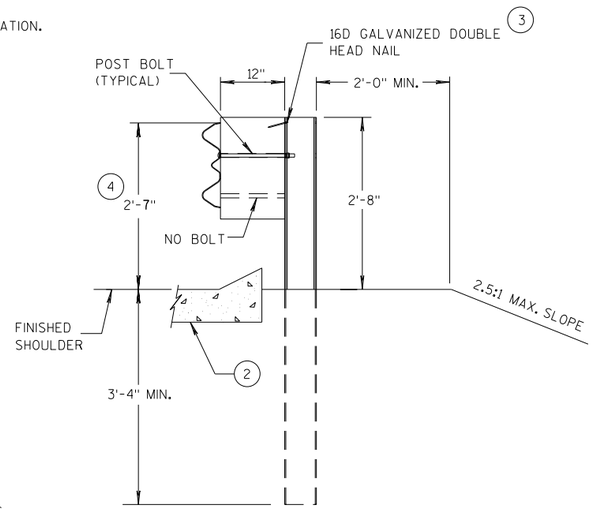
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



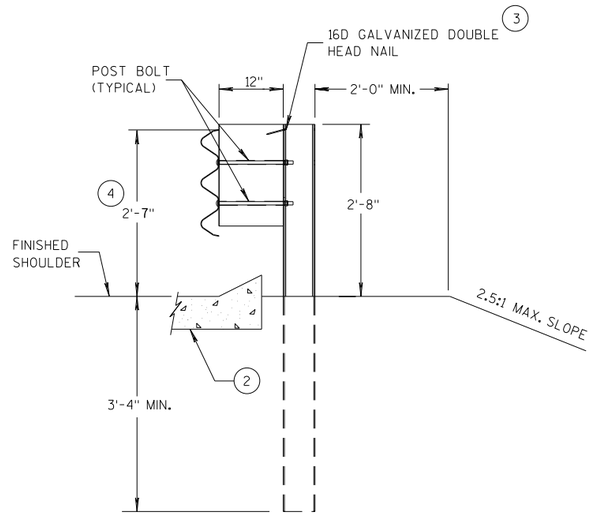
SECTION A-A (13)

POSTS 1-5



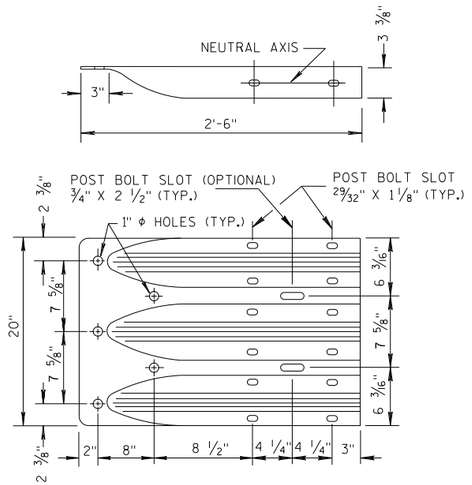
SECTION B-B

POST 6

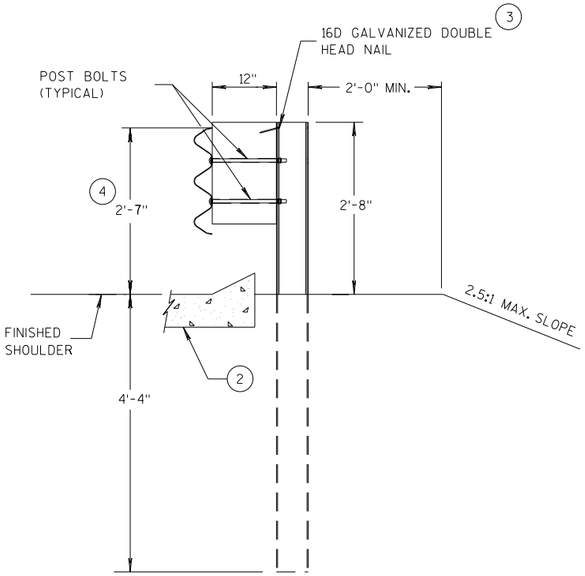


SECTION C-C

POSTS 7-11

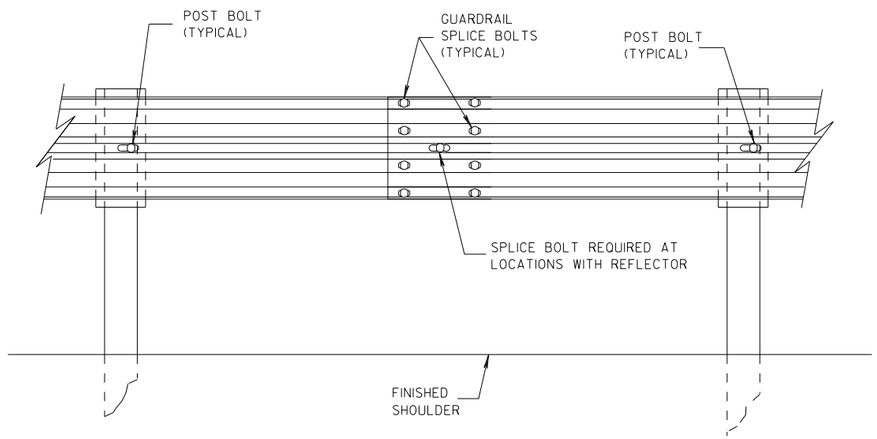


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

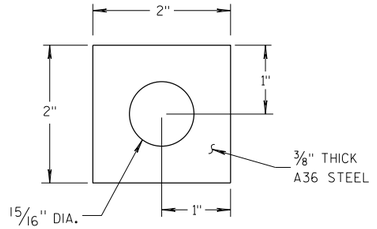
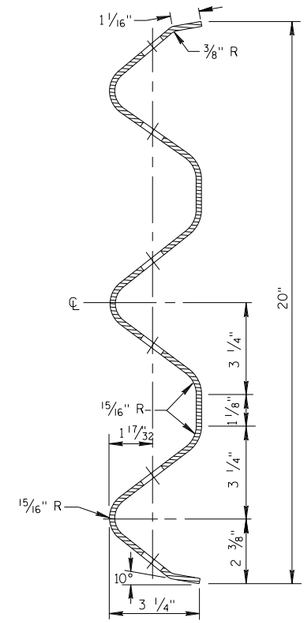


PLATE WASHER DETAIL



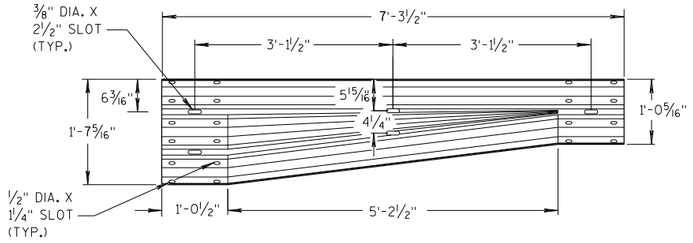
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

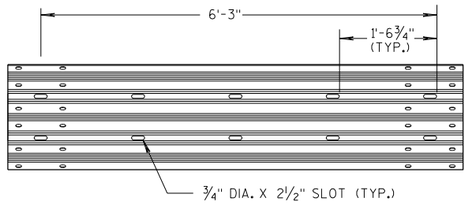
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6

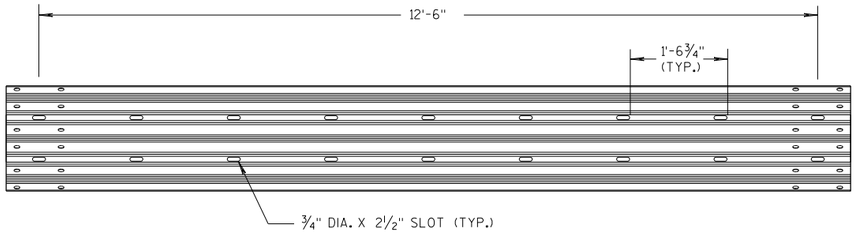
S.D.D. 14 B 45-5b



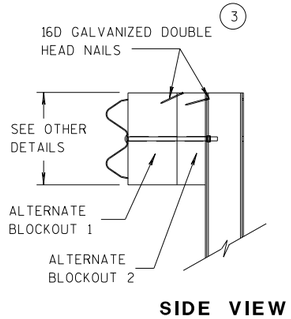
W-BEAM TO THRIE BEAM TRANSITION SECTION



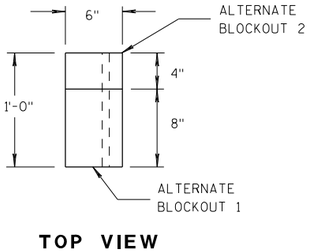
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

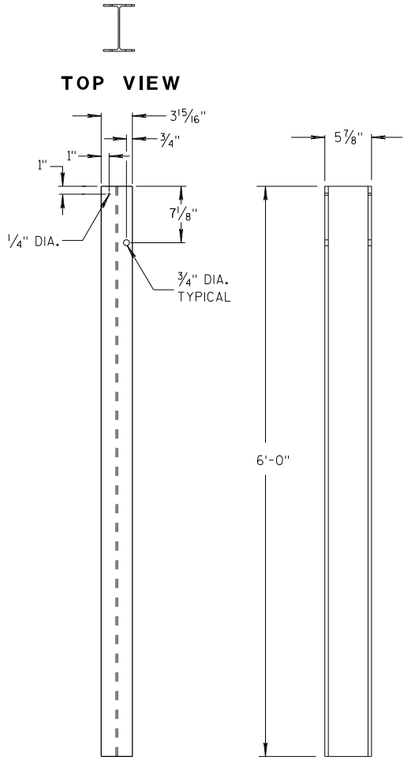


SIDE VIEW



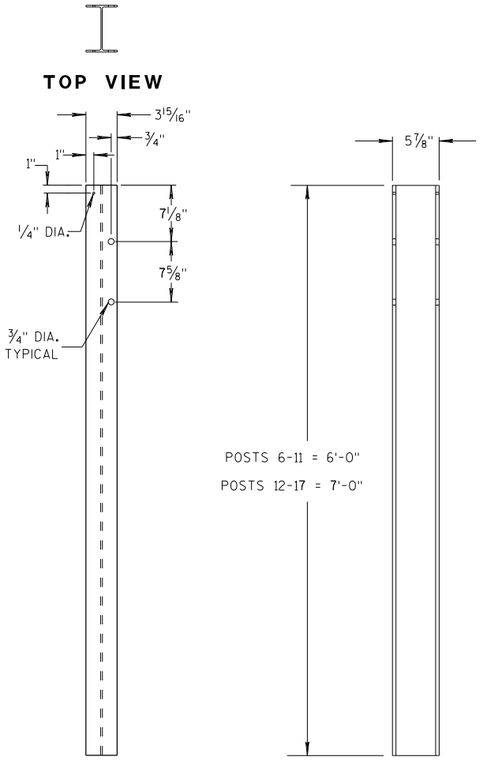
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



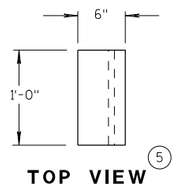
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

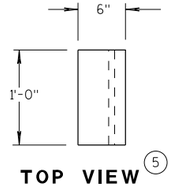


FRONT VIEW SIDE VIEW

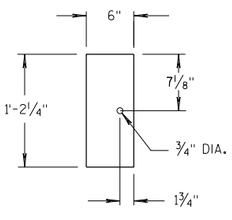
STEEL POSTS 6-17



TOP VIEW (5)

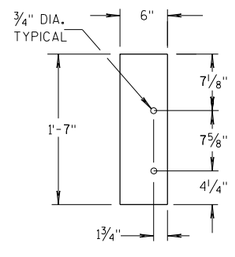


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

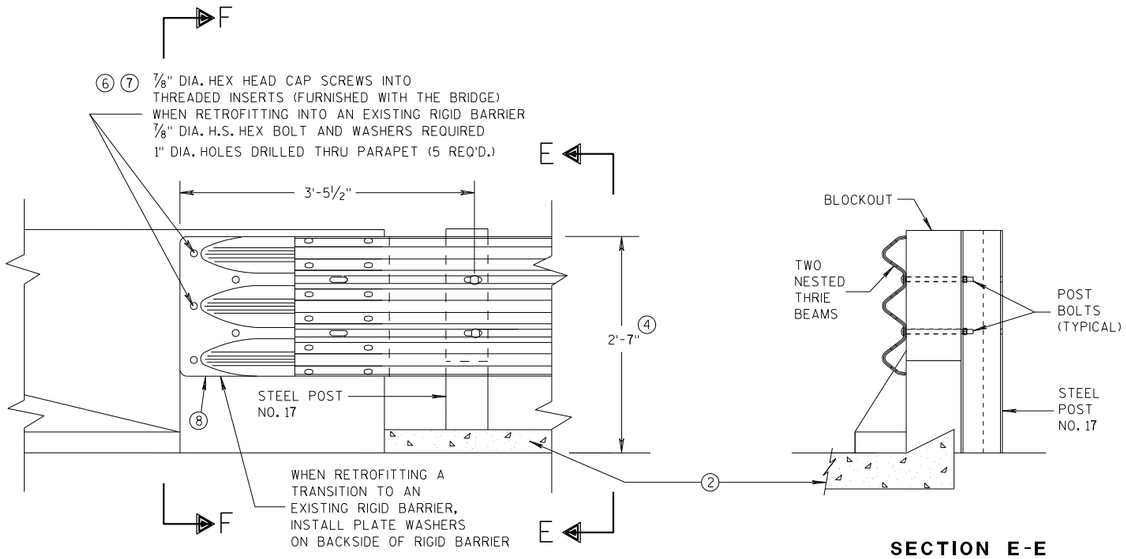
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 14 B 45-5c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

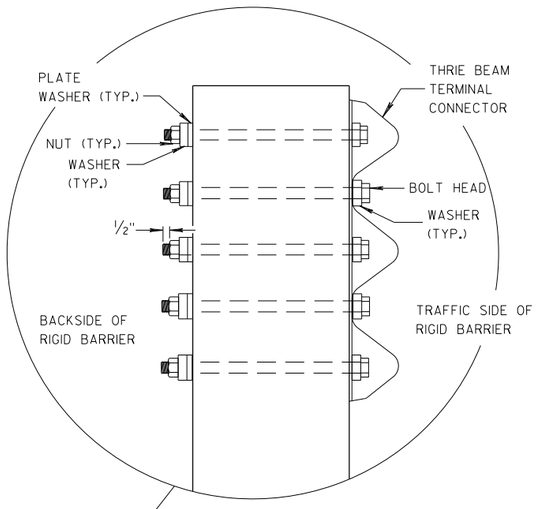
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

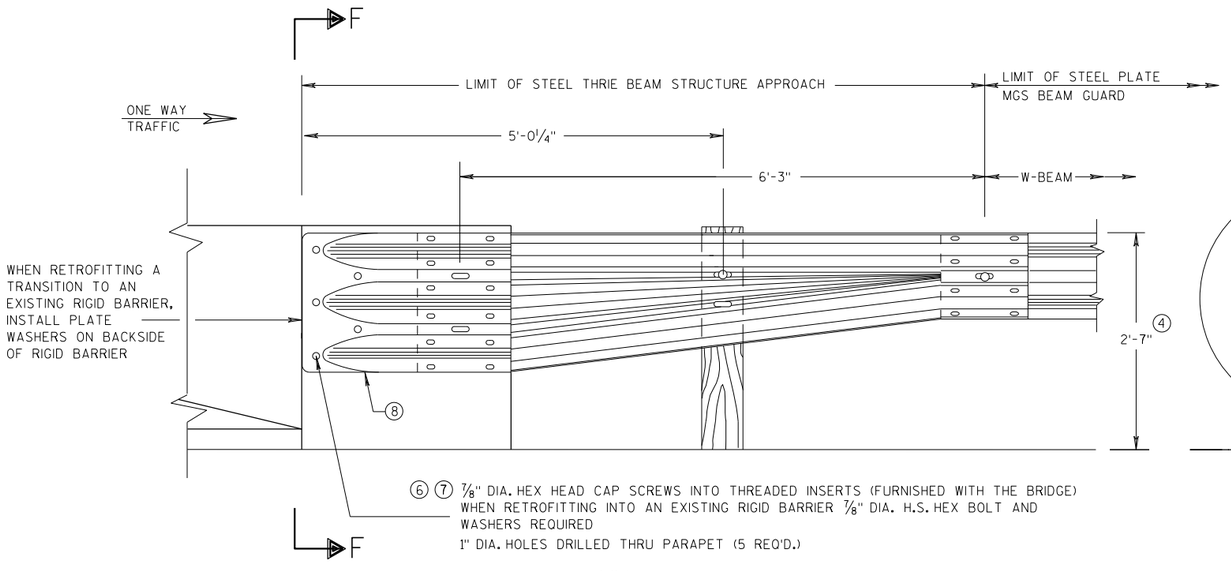
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

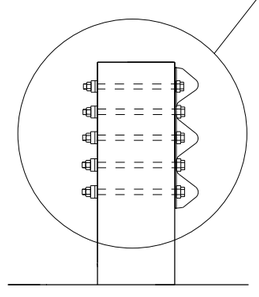
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

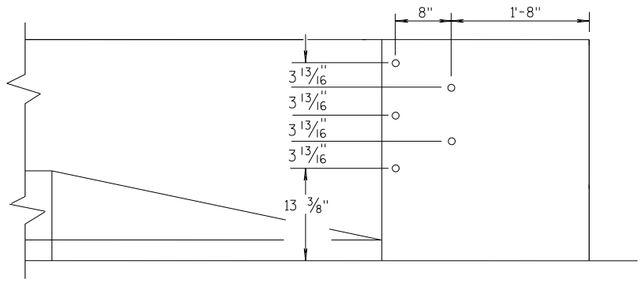




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

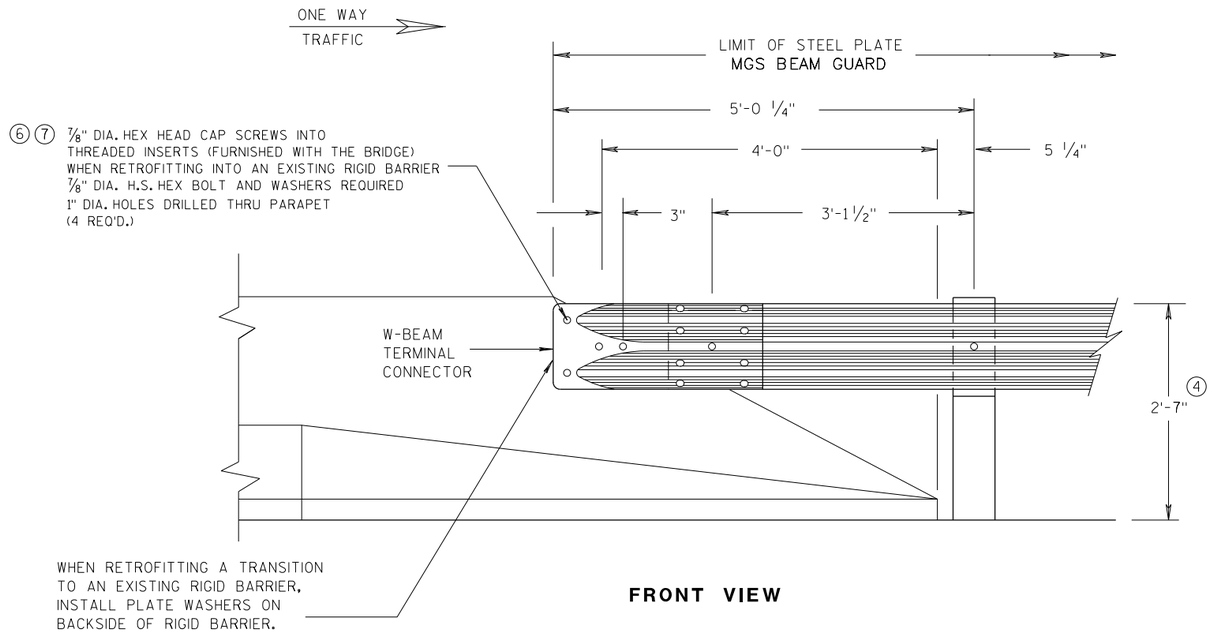
APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS D[UNIT SUPERVI[— NT
FHWA

6

S.D.D. 14 B 45-5d

6

S.D.D. 14 B 45-5d



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

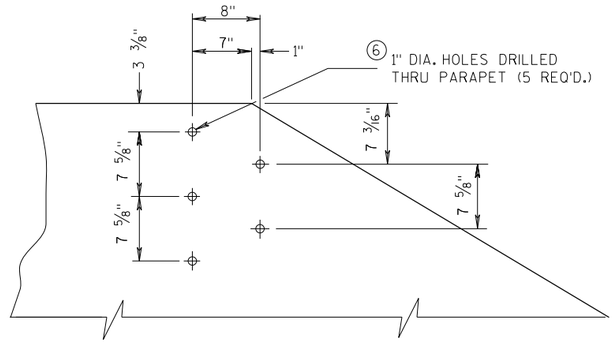
GENERAL NOTES

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

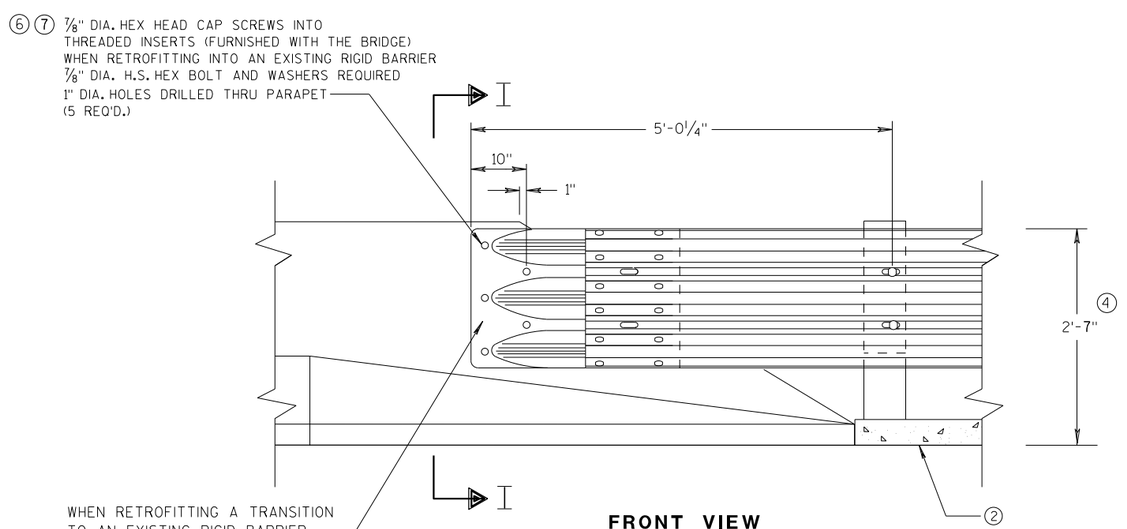
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

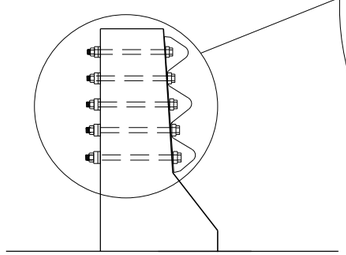
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



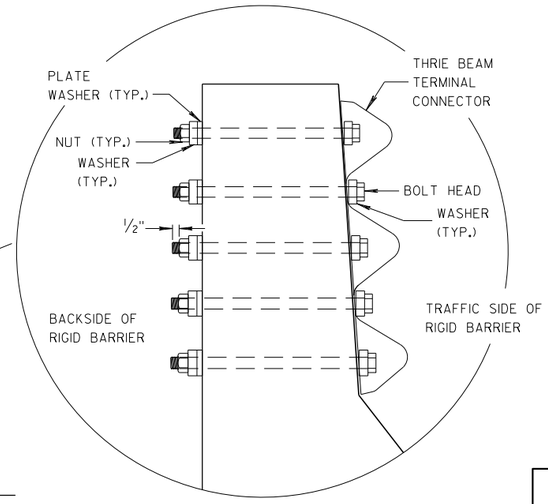
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS [illegible] UNIT SUPERVI[illegible]ENT
FHWA

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S.D.D. 14 B 45-5f

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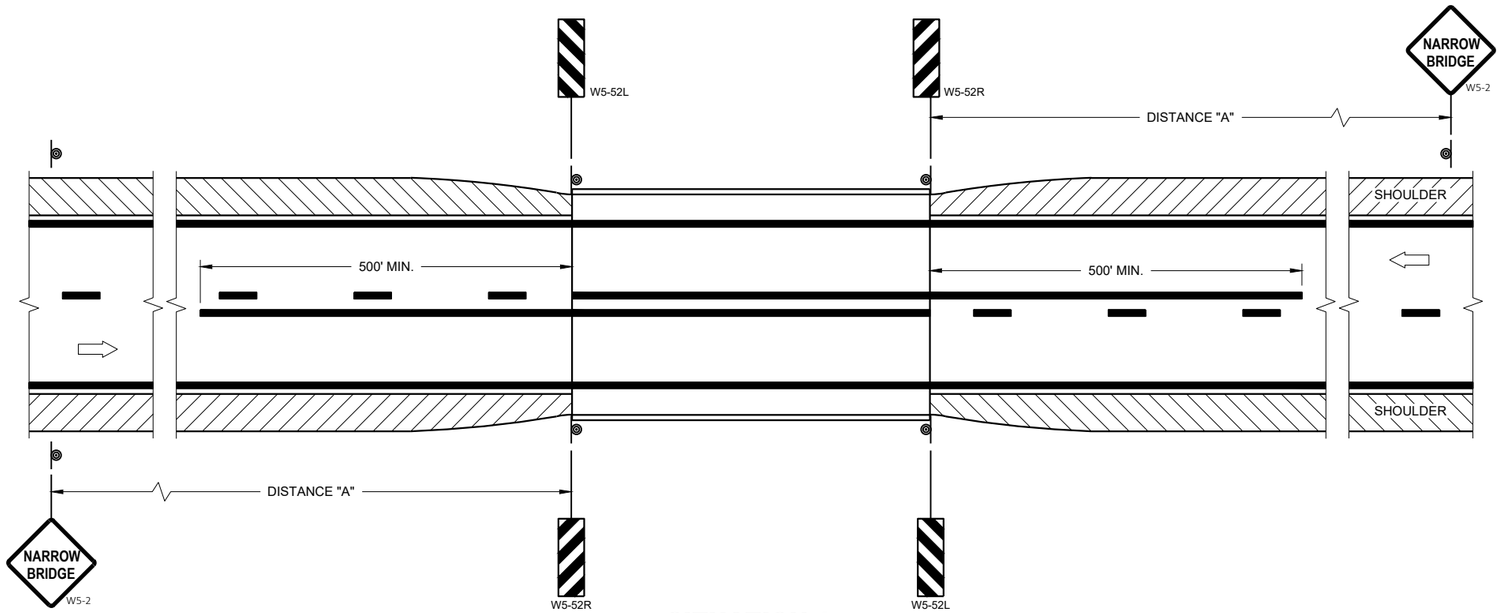
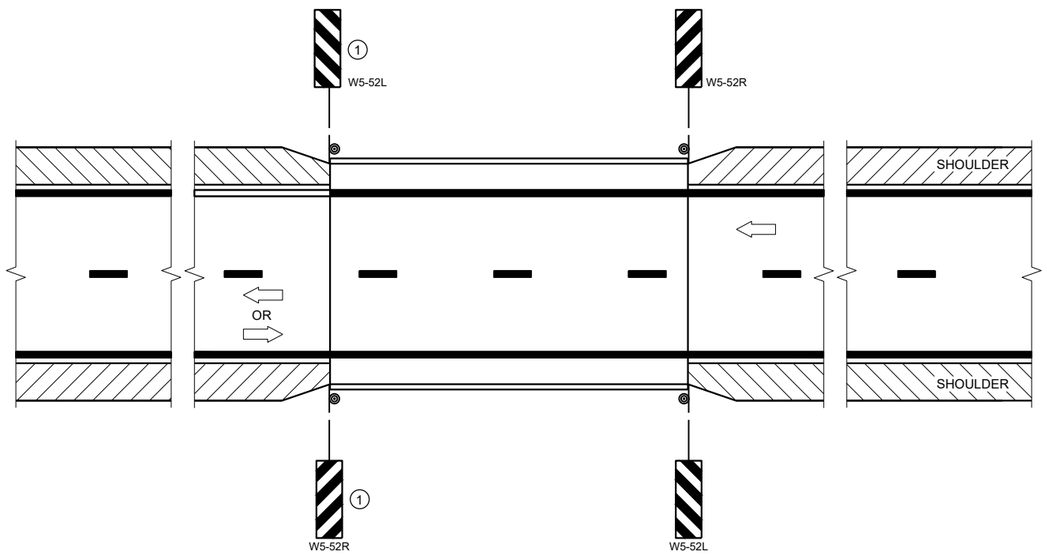
S.D.D. 14 B 45-5f



SITUATION 1

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



SITUATION 2

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

GENERAL NOTES

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

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

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

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

(1) OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

DISTANCE TABLE

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

SIGNING AND MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
SDD 15C06-12

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

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

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING

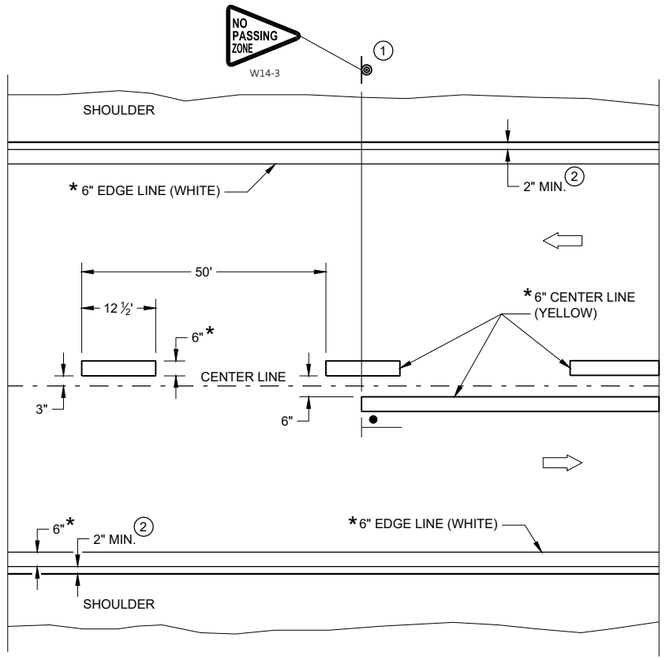
(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

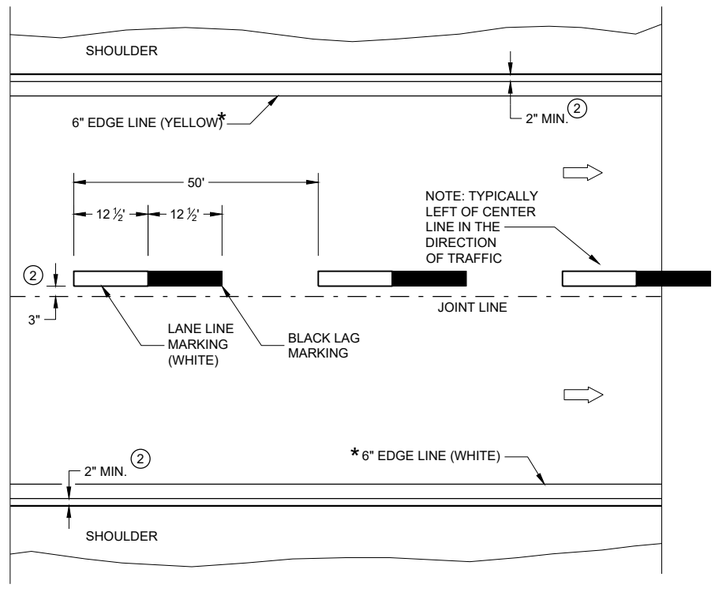
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023
DATE

/S/ Jeannie Silver
STATEWIDE SIGNING AND M
ENGINEER

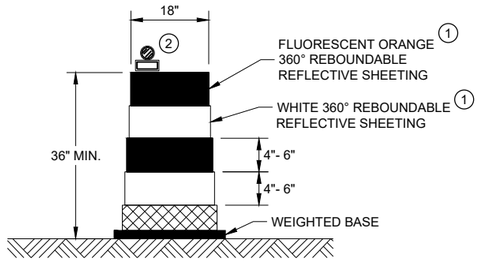
FHWA

6

SDD 15C08-23a

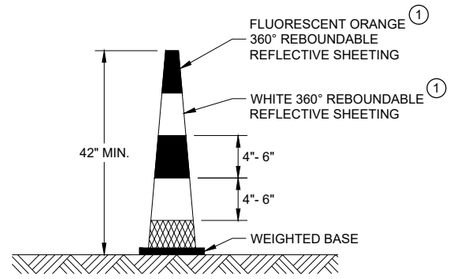
GENERAL NOTES

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.



DRUM

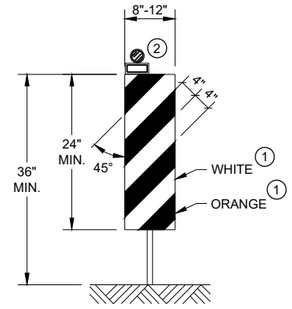
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

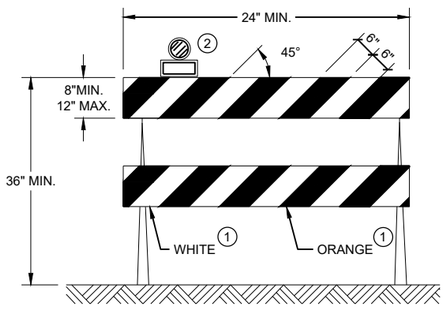
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



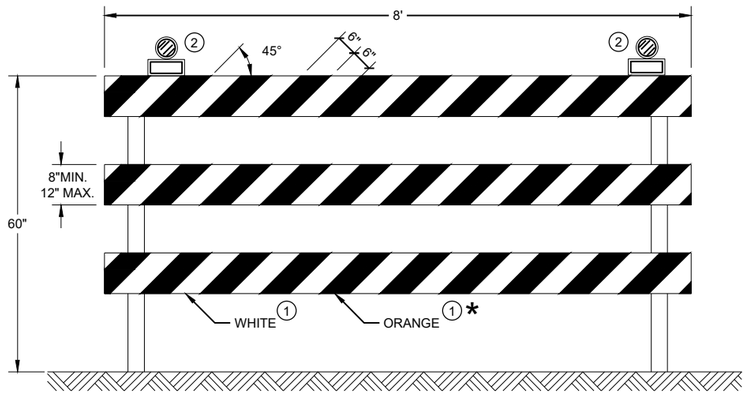
VERTICAL PANEL

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.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C11 - 10b

6

SDD 15C11 - 10b

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TEMPORARY DELINEATOR (WHITE, SINGLE DELINEATOR)
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- TEMPORARY RAISED PAVEMENT MARKERS (TWO WAY YELLOW)
- TEMPORARY STEEL PLATE BEAM GUARD AND END TREATMENT
- DIRECTION OF TRAFFIC
- REMOVE PAVEMENT MARKINGS
- WORK AREA

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" 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.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL ON STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

EQUIPMENT, VEHICLES, OR MATERIAL SHOULD NOT BE STORED IN BUFFER SPACE.

(1) IF ADVISORY SPEED IS GREATER THAN 30 MPH, USE THE WO1-4 SIGN. IF ADVISORY SPEED IS 30 MPH OR LESS, USE THE WO1-3 SIGN.

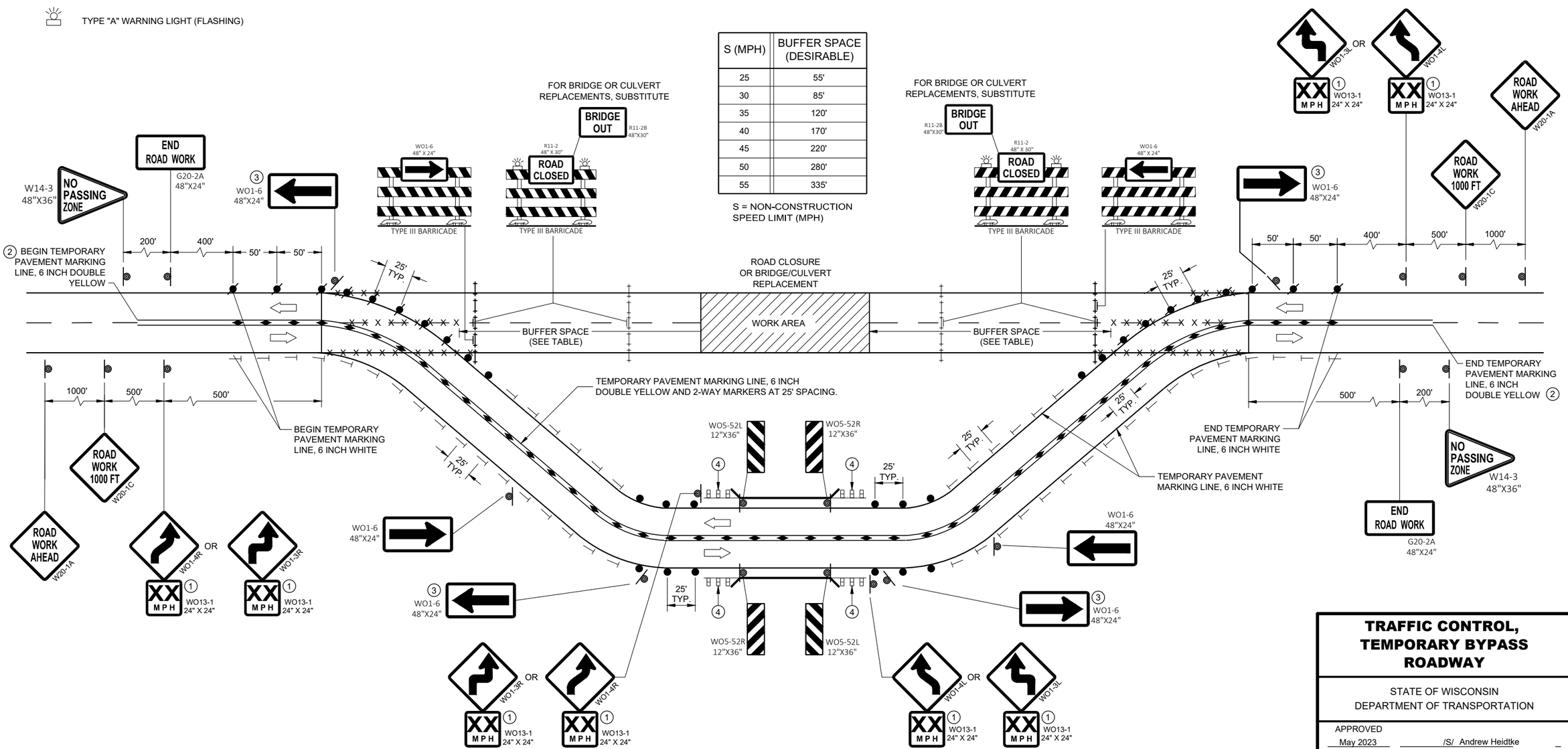
(2) WHEN THE DISTANCE TO / FROM THE NEXT CLOSEST NO-PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.

(3) OMIT THESE W01-6 SIGNS IF THE ADVISORY SPEED OF THE CURVE IS GREATER THAN 30 MPH.

(4) TEMPORARY STEEL PLATE BEAM GUARD AND END TREATMENT WHEN INCLUDED IN THE CONTRACT. FOR LAYOUT, SEE DETAILS ELSEWHERE IN THE PLAN.

S (MPH)	BUFFER SPACE (DESIRABLE)
25	55'
30	85'
35	120'
40	170'
45	220'
50	280'
55	335'

S = NON-CONSTRUCTION SPEED LIMIT (MPH)



TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6 SDD 15D31-05

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.

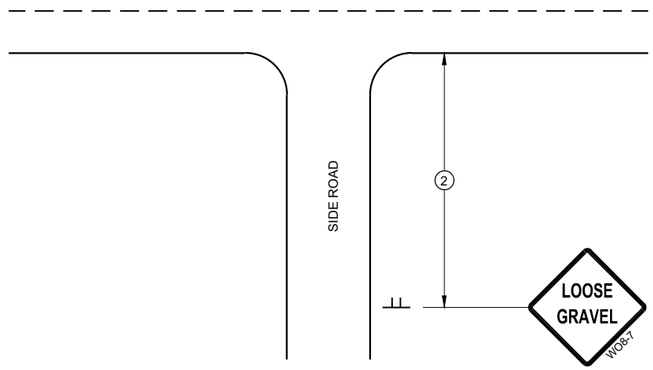
(2) PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

(3) ADD WO8-1 OR WO8-2 SIGN WHEN THE CONDITION IS PRESENT.

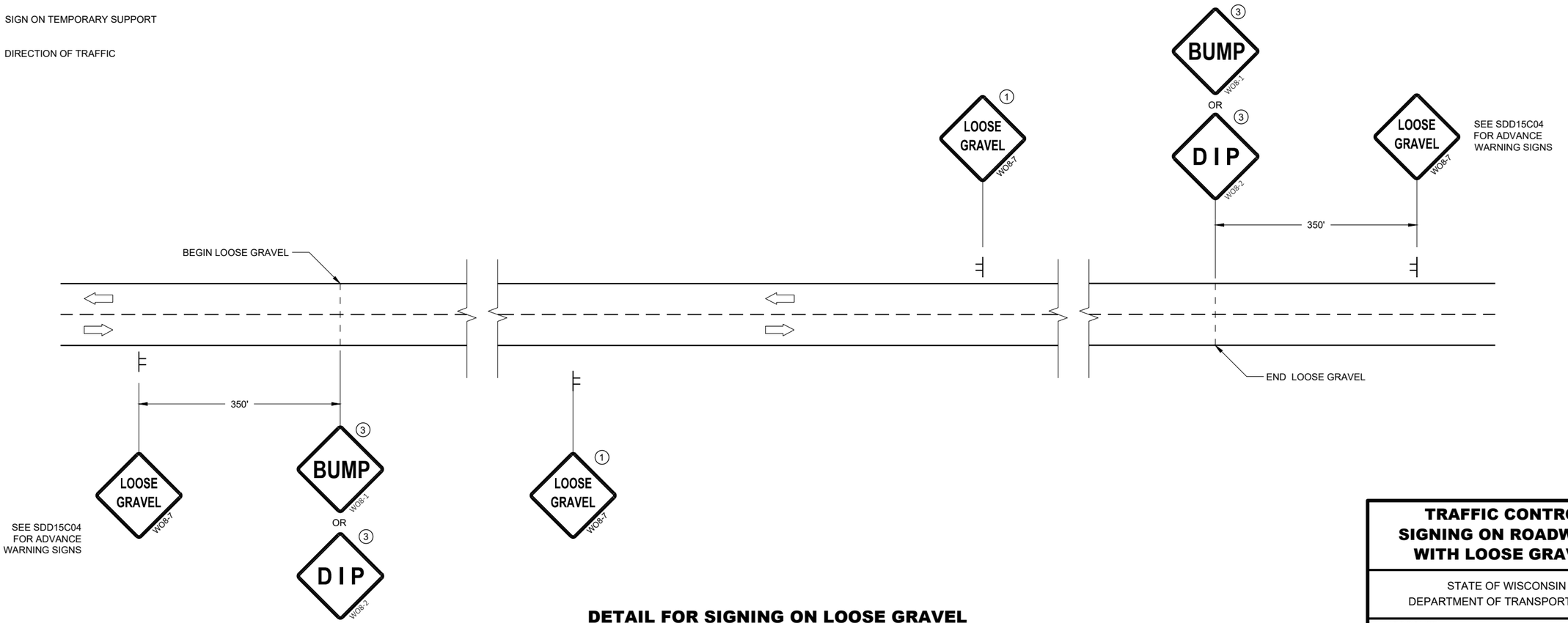
LEGEND

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



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
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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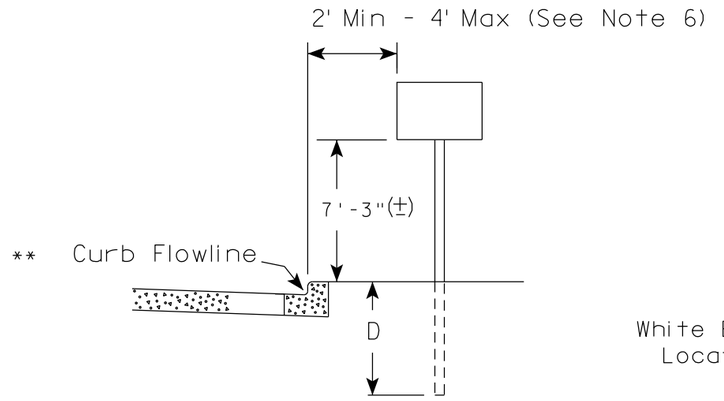
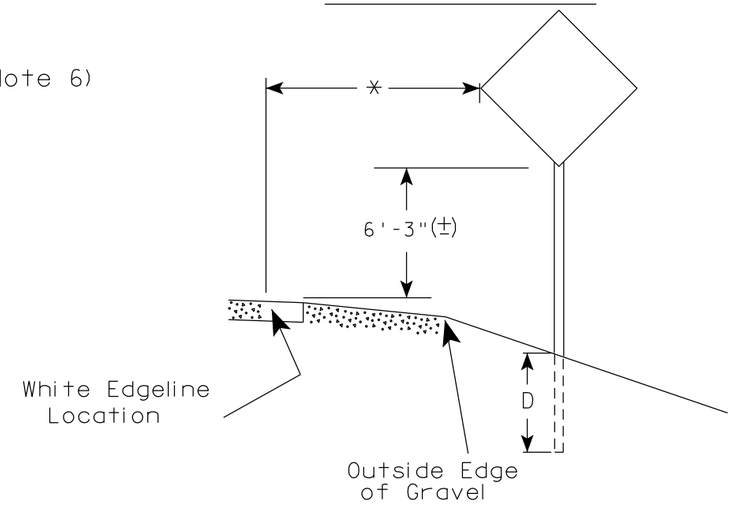
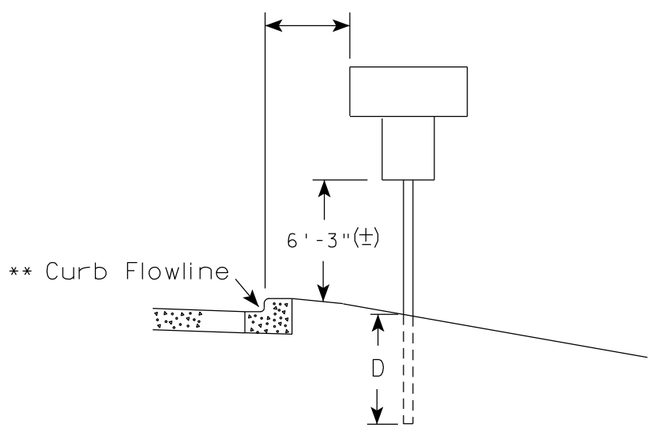
SDD 15D45 - 03

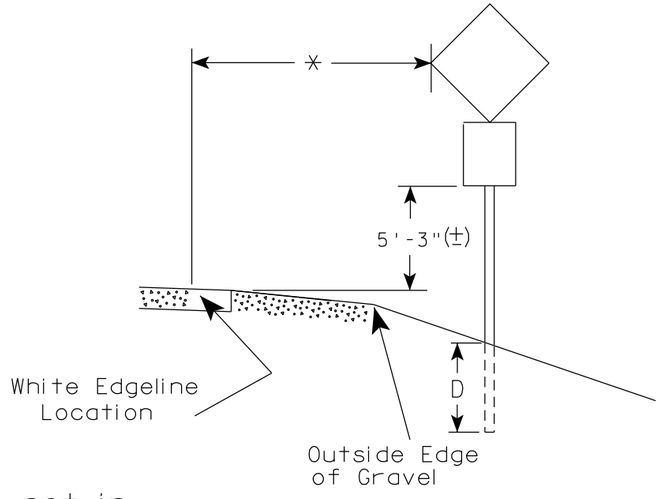
URBAN AREA



RURAL AREA (See Note 2)







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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

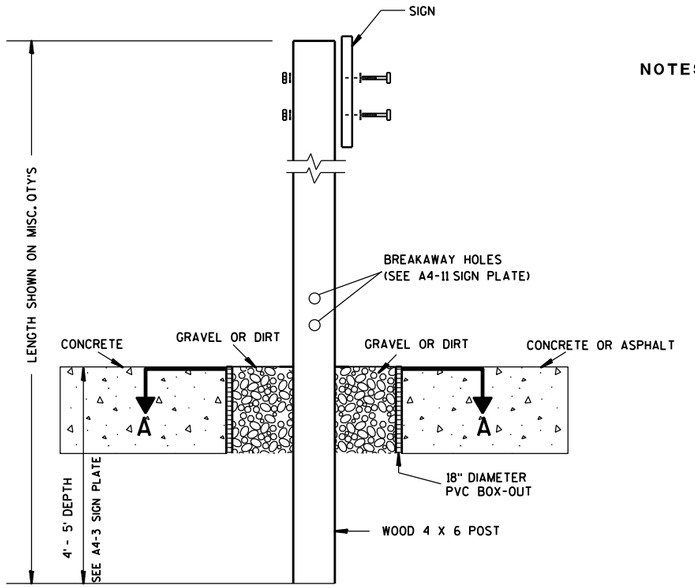
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

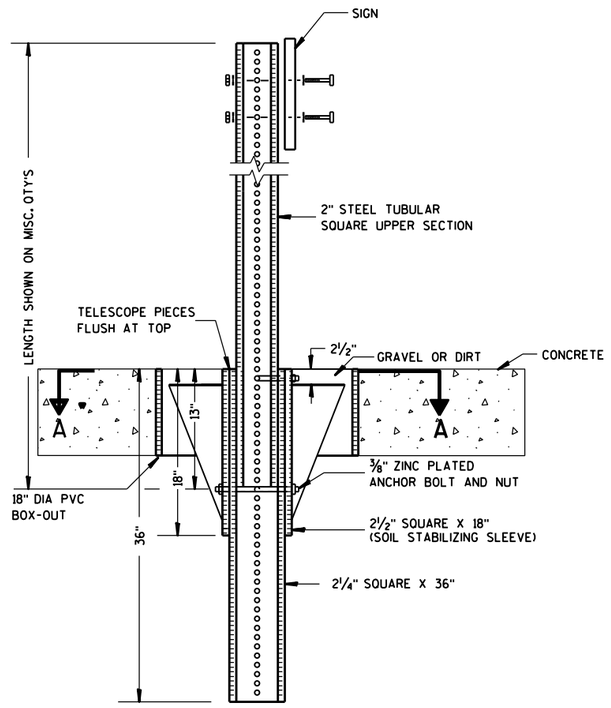
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 40	E



ELEVATION VIEW

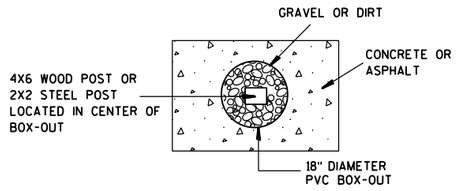
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

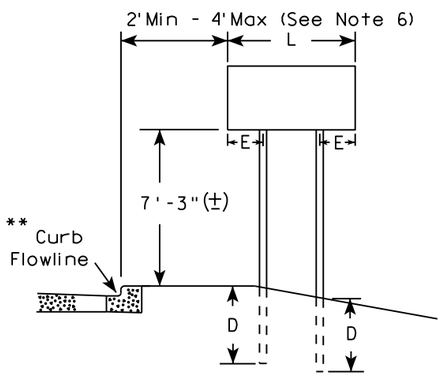
APPROVED Matthew R Rauch
for State Traffic Engineer

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

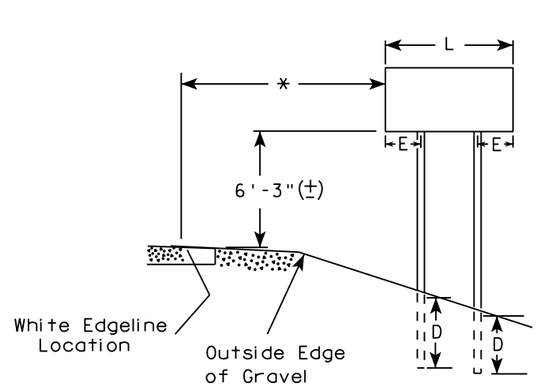
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

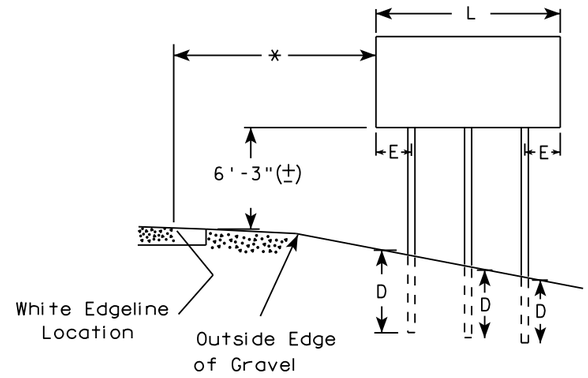
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

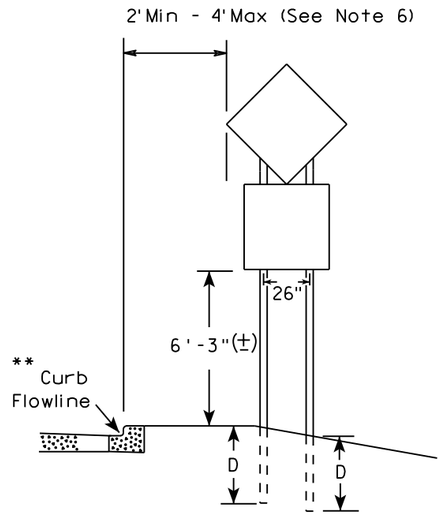
URBAN AREA



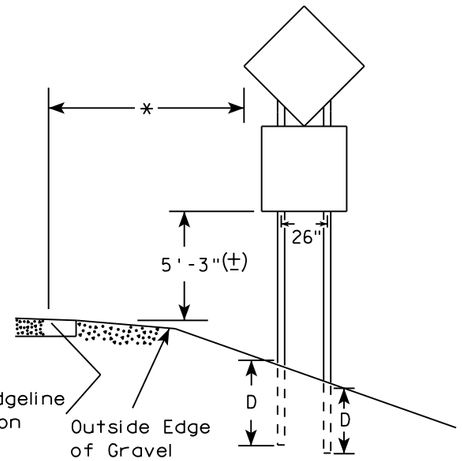
RURAL AREA (See Note 3)







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"

GENERAL NOTES

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

* 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.

POST EMBEDMENT DEPTH

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

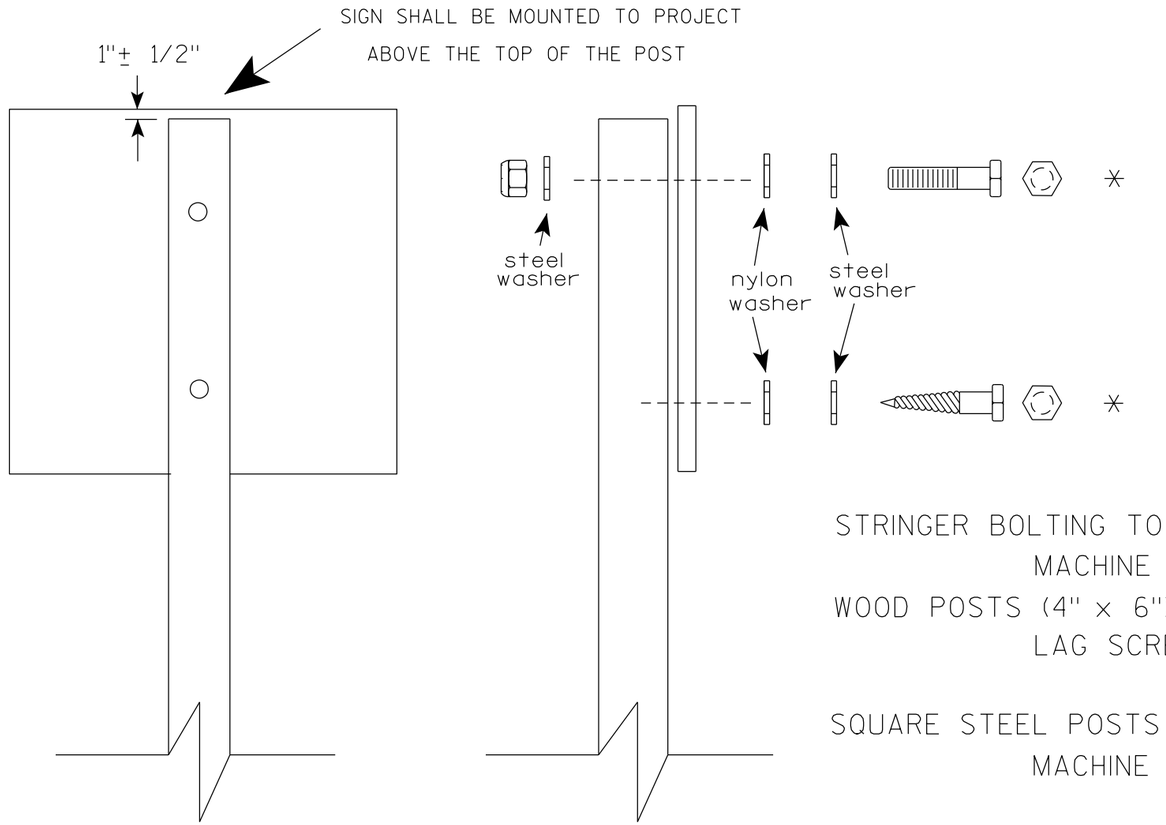
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 42	E



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

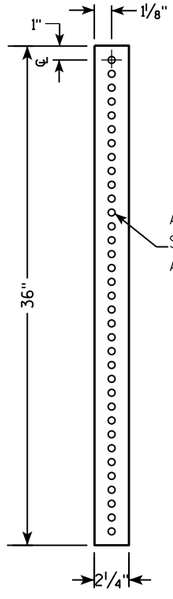
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

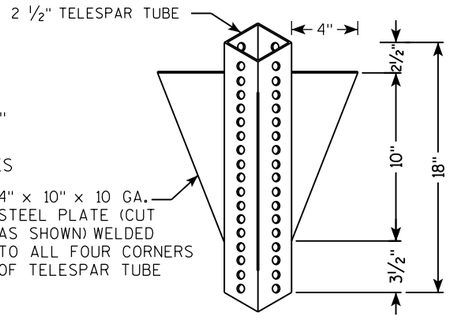
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

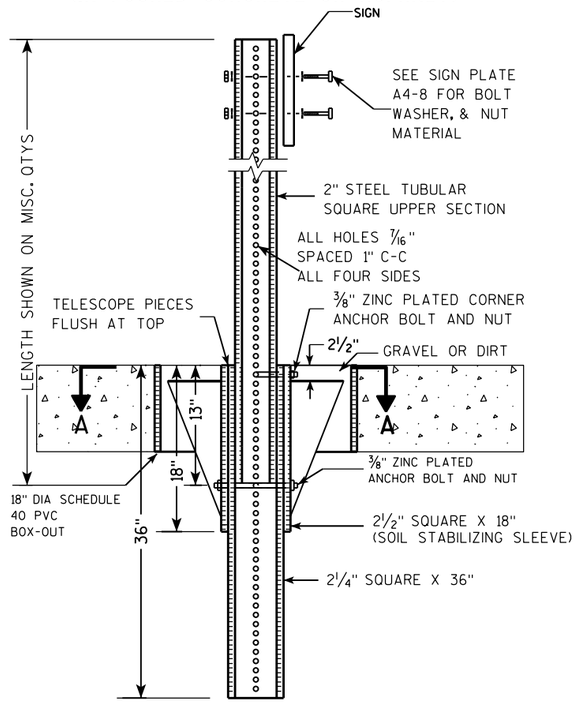
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



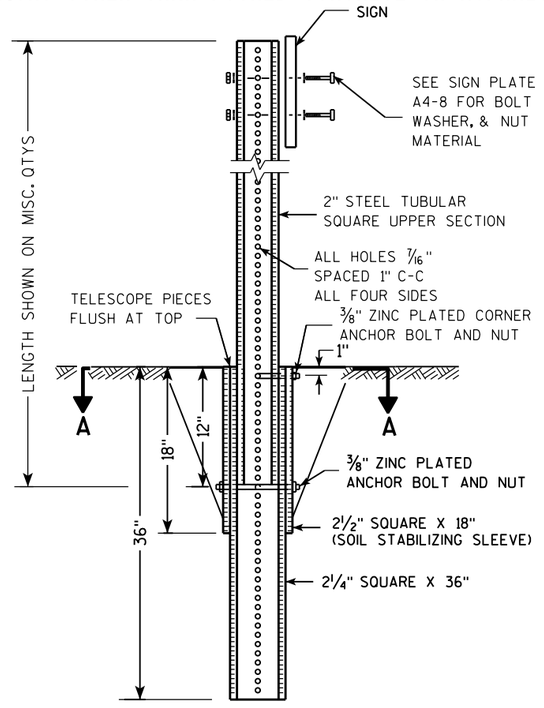
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

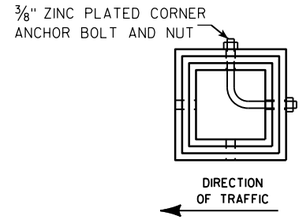


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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).

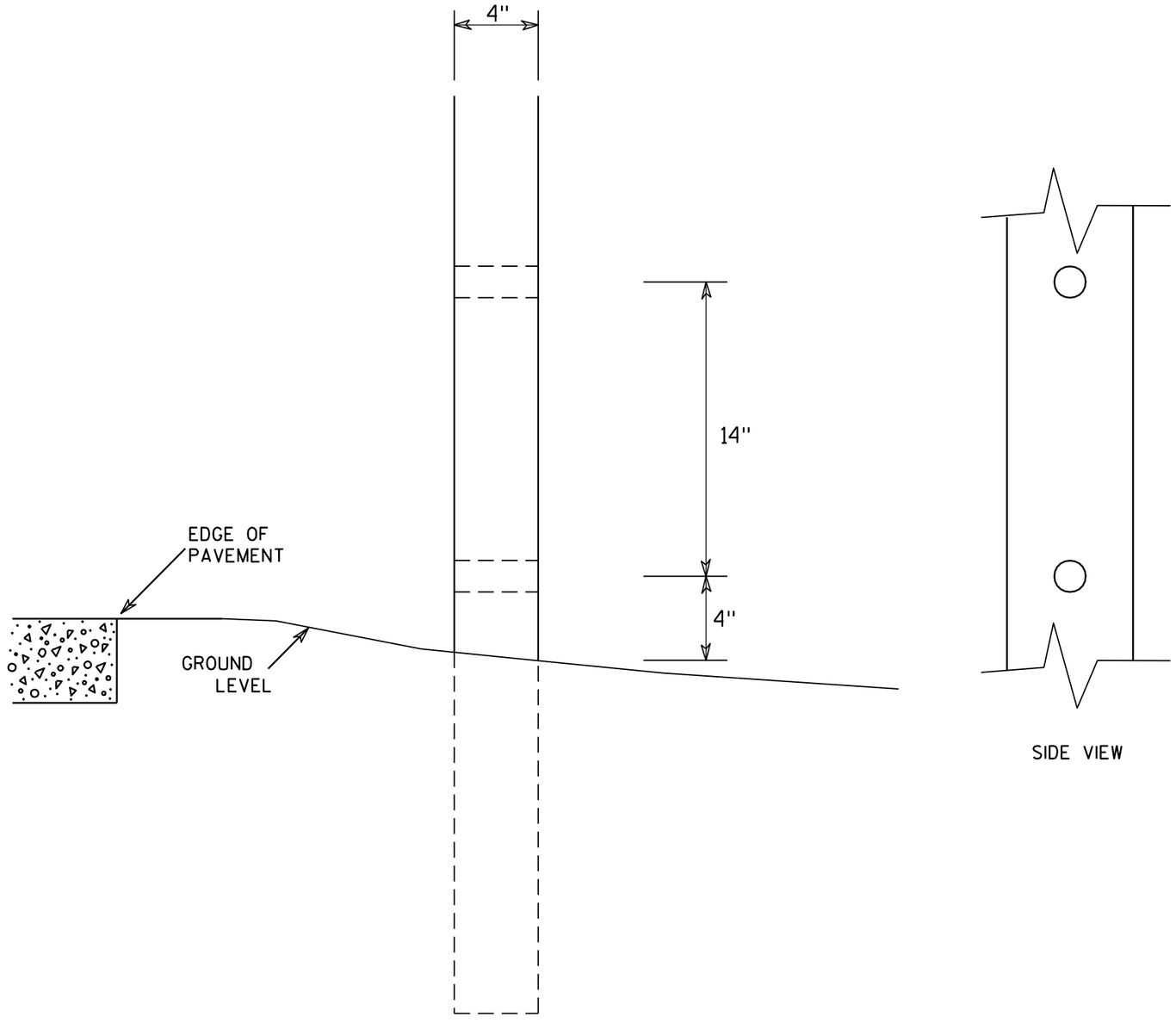
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 44 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

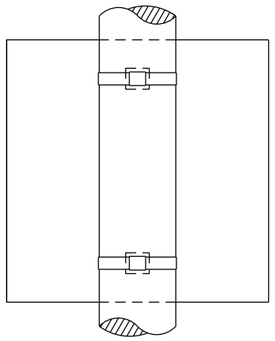
APPROVED Chester J Spang for State Traffic Engineer

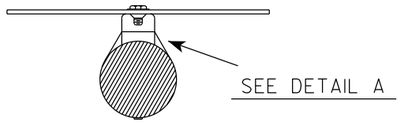
DATE 3/27/97 PLATE NO. A4-11.2

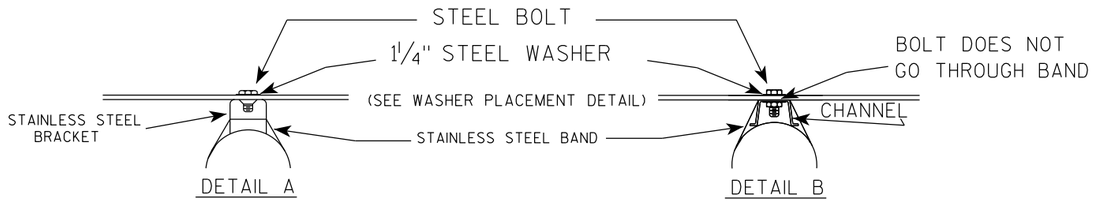
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 45	E

BANDING

SINGLE SIGN



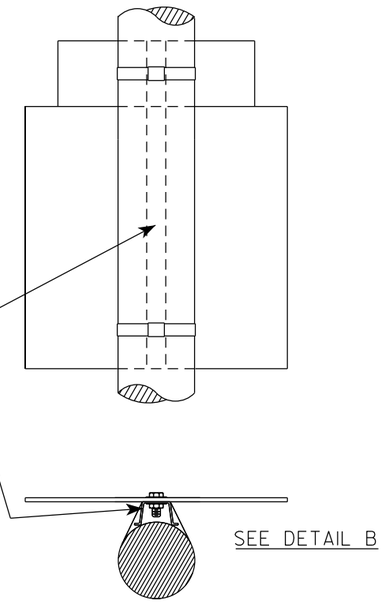




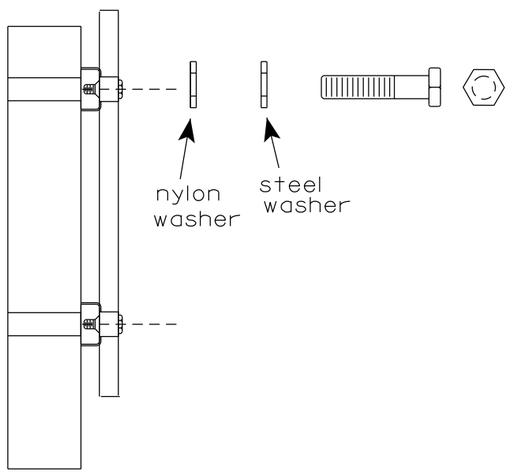
GENERAL NOTES

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 ¾" 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



WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X ⅜" I.D. X 1/16" STEEL
1-1/4" O.D. X ⅜" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

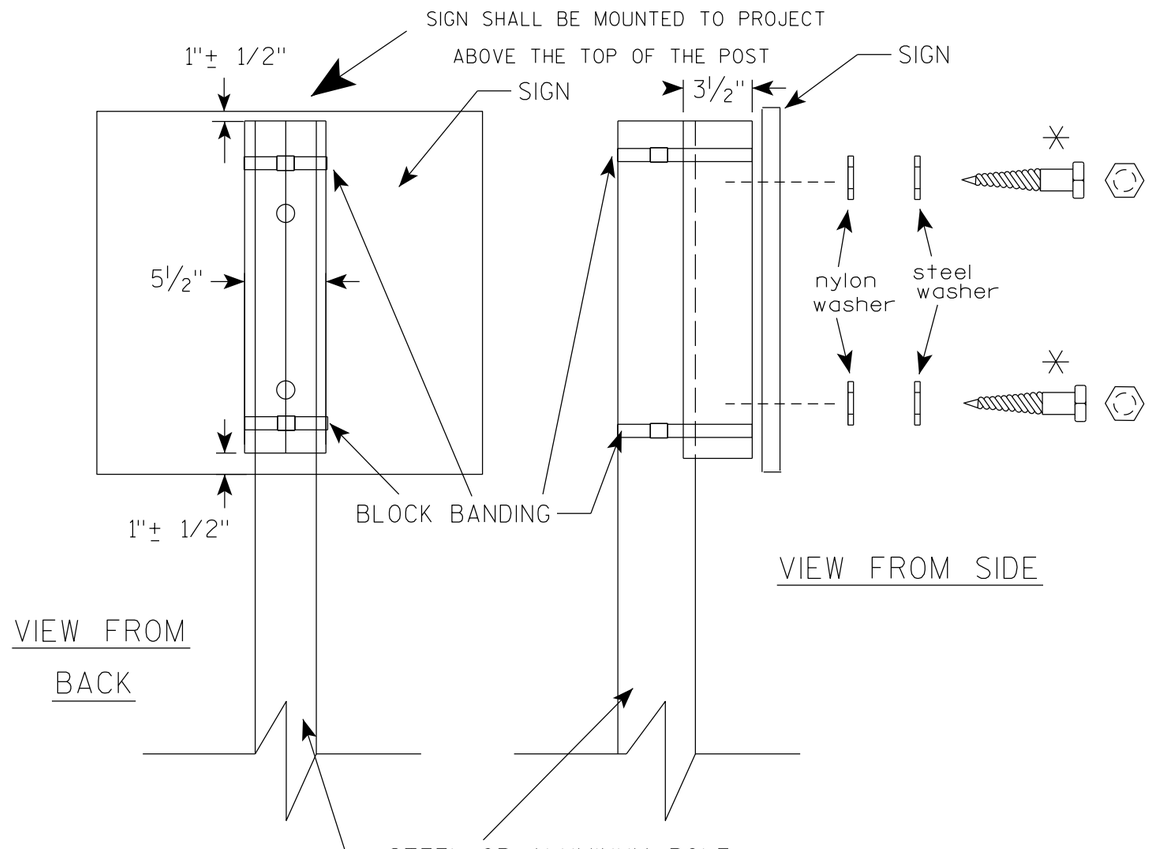
WISCONSIN DEPT OF TRANSPORTATION

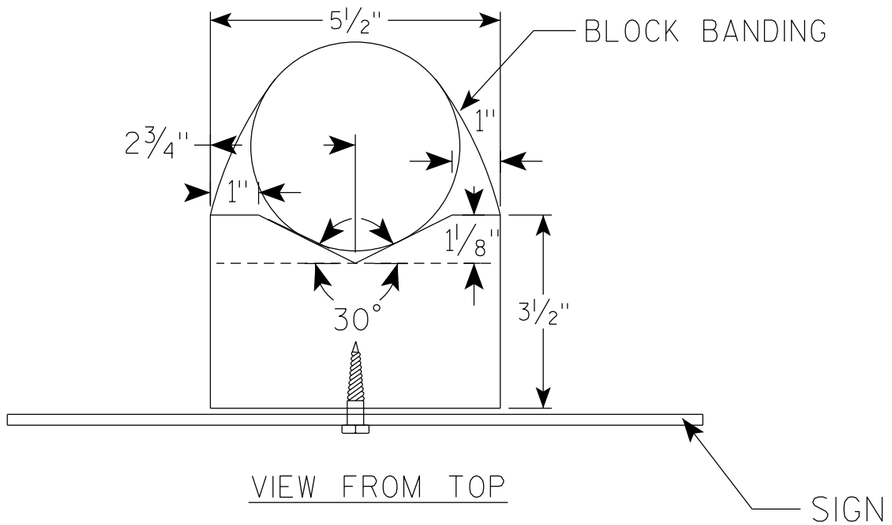
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 46	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$





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, ¾" 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 NORNALLY 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 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

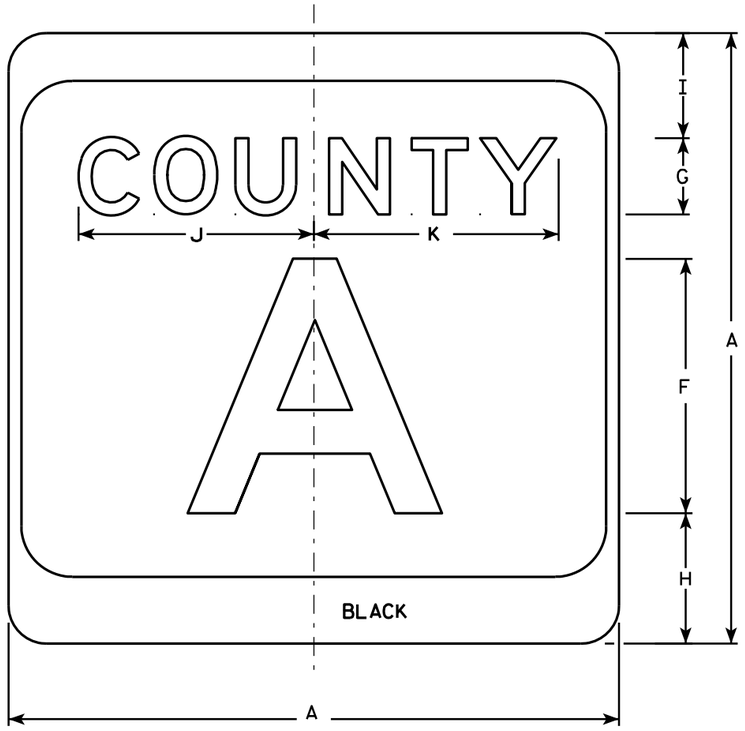
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

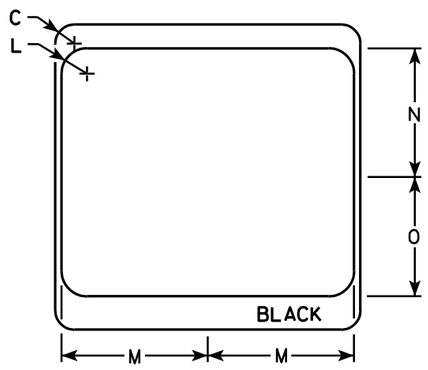
DATE 4/19/2022 PLATE NO. A5-10.3

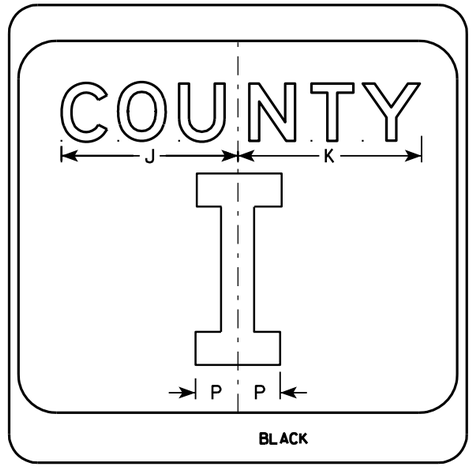
PROJECT NO:

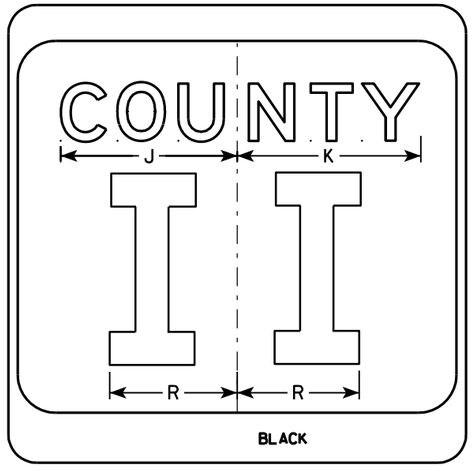
SHEET NO: 47 E



M1-5A







NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 7
   Message - Black
3. Message Series - see Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Message Series E for 1 letter.
   Message Series D for 2 letters unless message is too big then Series C.
   Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective

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																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

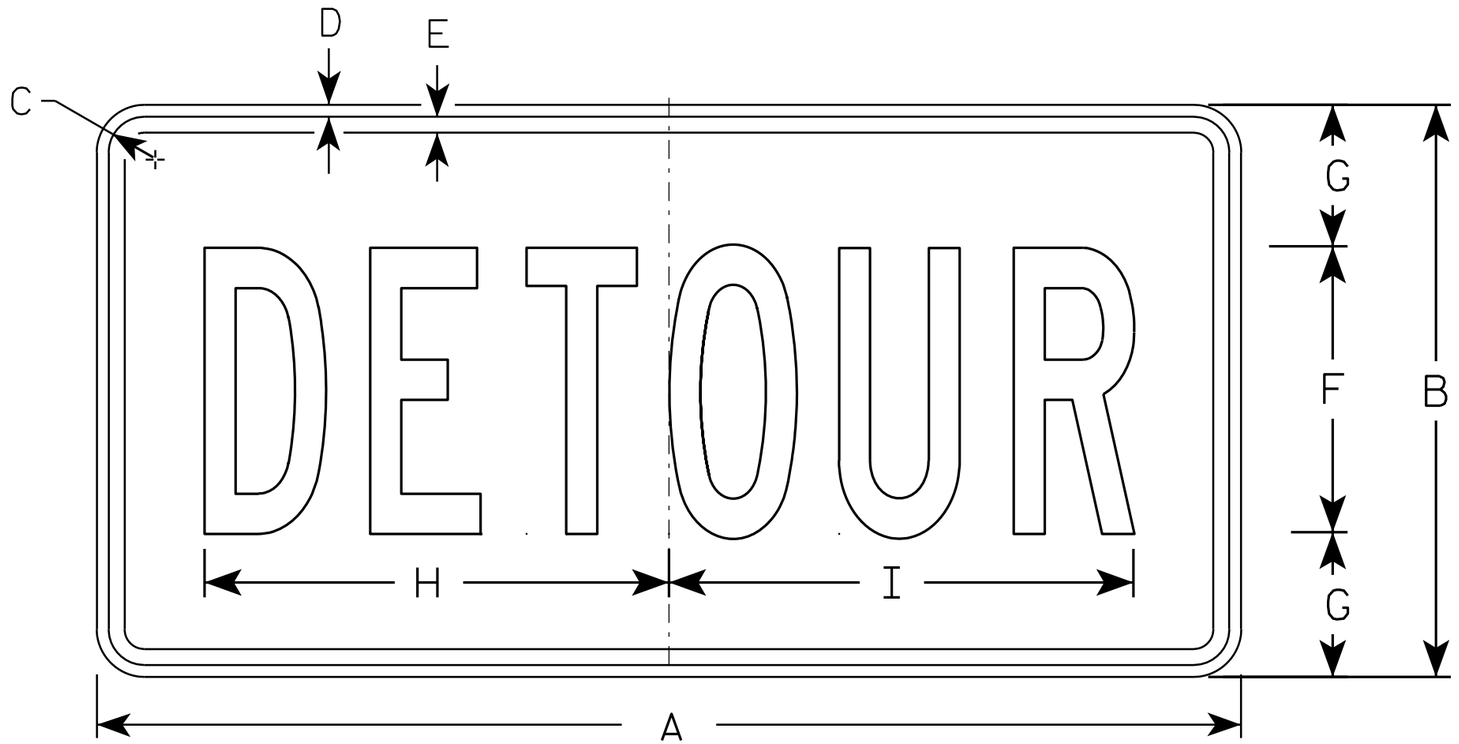
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 48	E



M4-8

NOTES

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

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																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

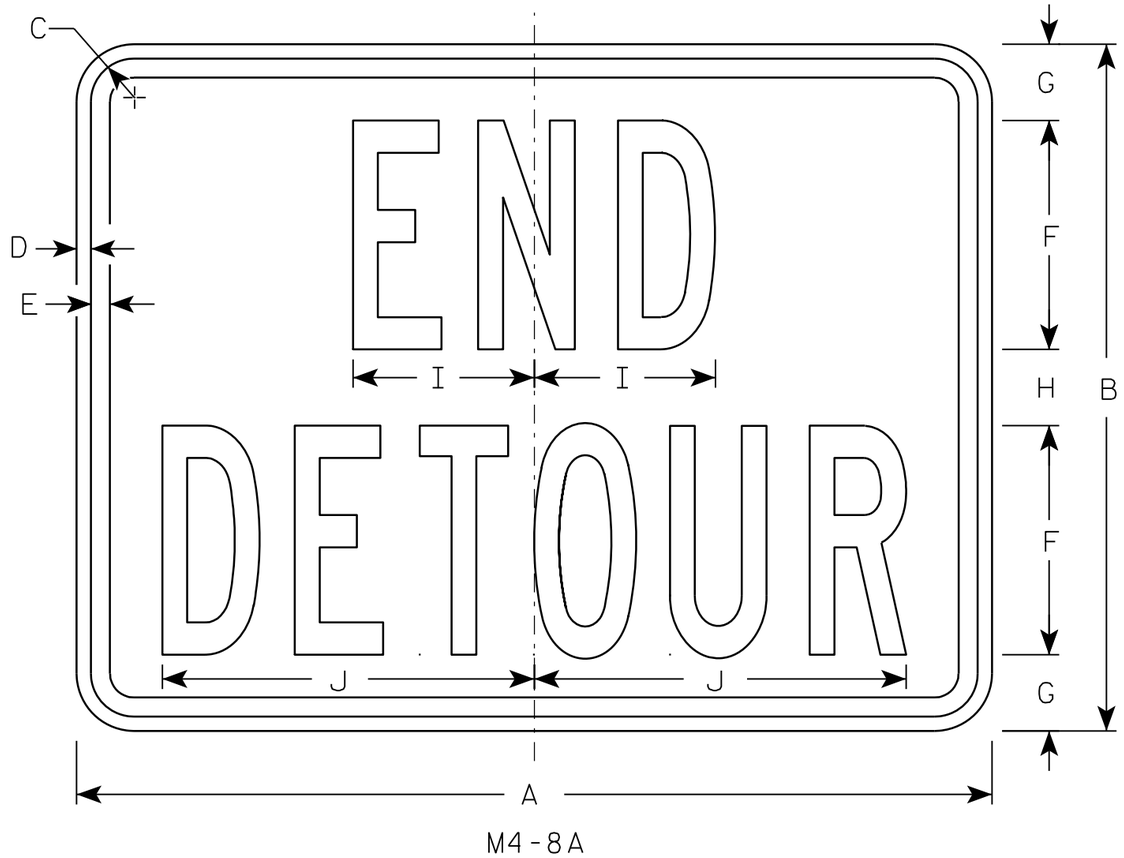
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 49	E



M4-8A

NOTES

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

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																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

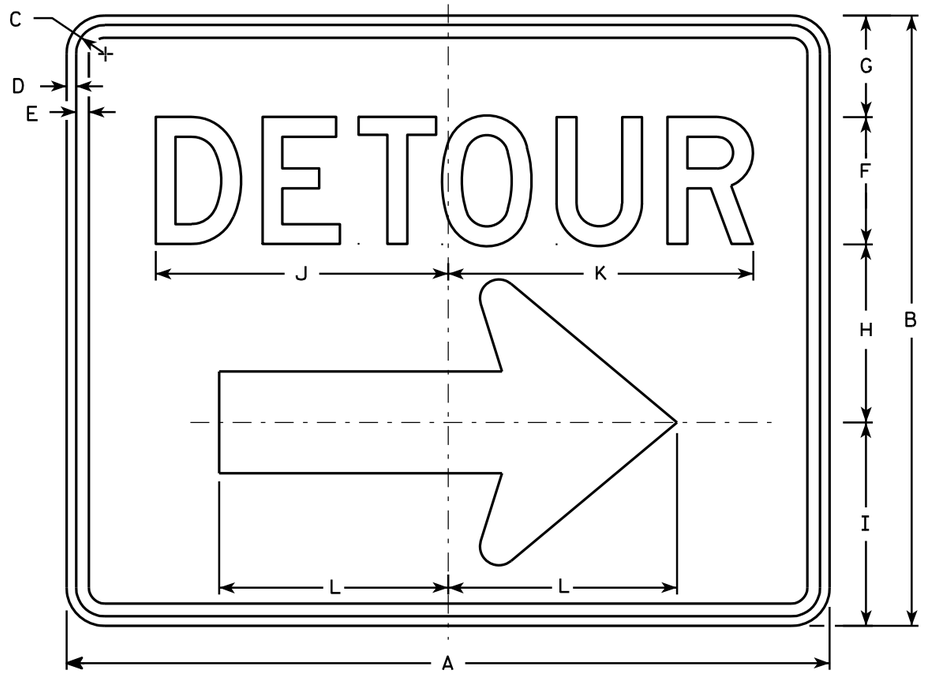
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

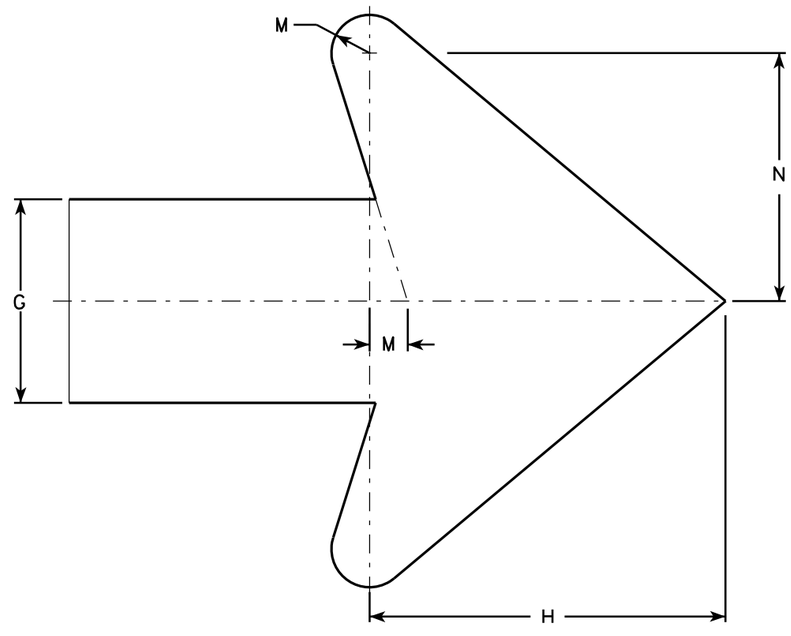
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 50	E



M4-9R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

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																											
2	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

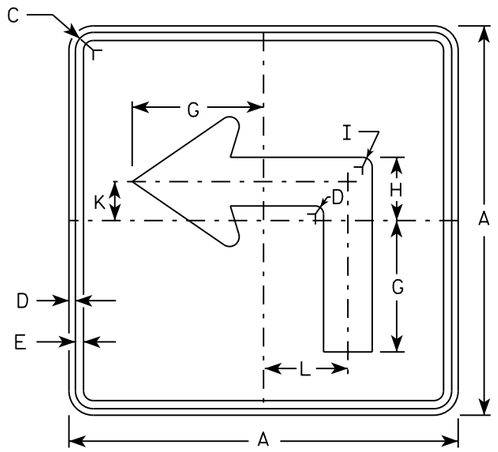
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

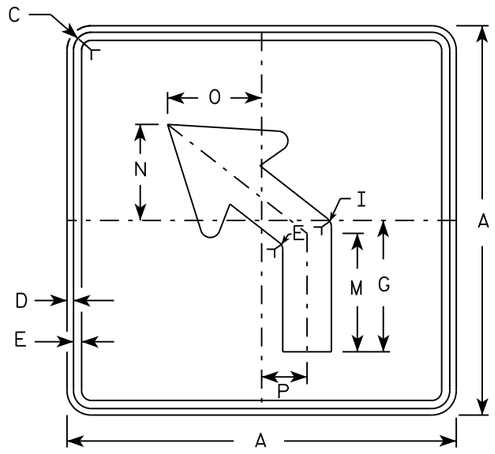
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-9R.4

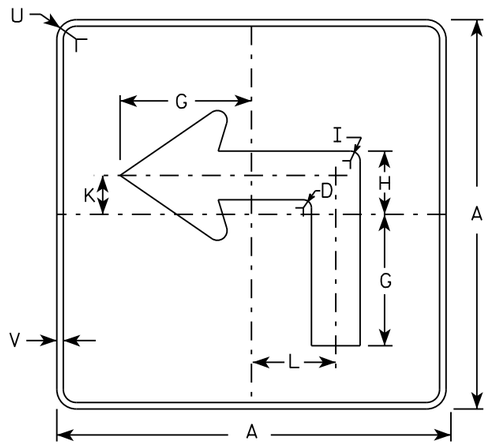
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 51 | E



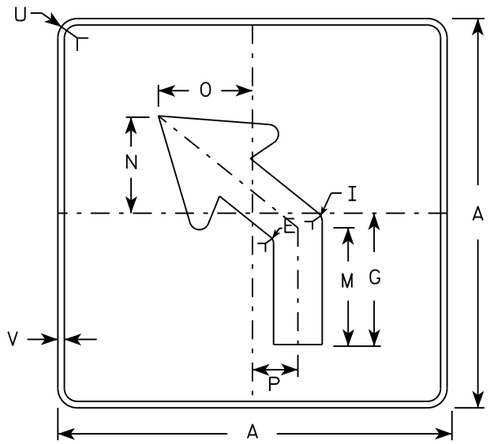
M5-1L
MM5-1L
MO5-1L
MP5-1L



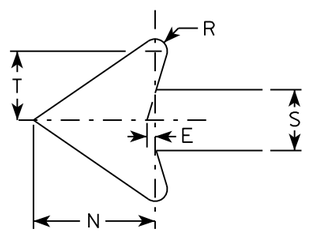
M5-2L
MM5-2L
MO5-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

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																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

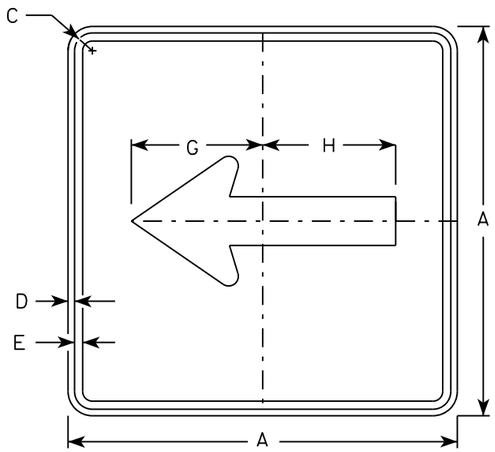
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

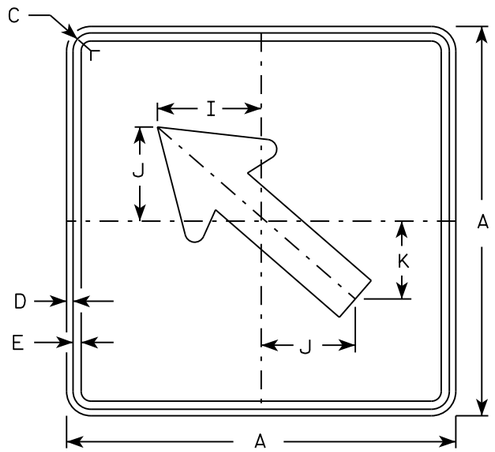
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M5-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E



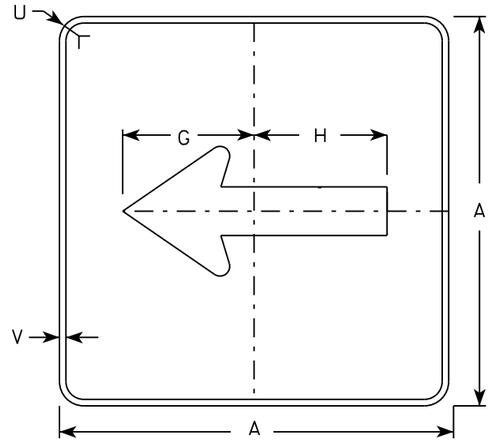
M6-1
MM6-1
MO6-1
MP6-1



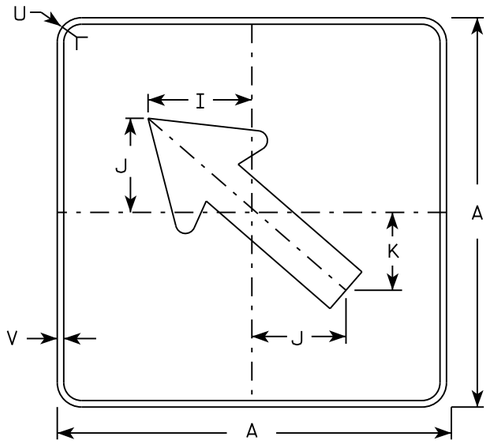
M6-2
MM6-2
MO6-2
MP6-2

NOTES

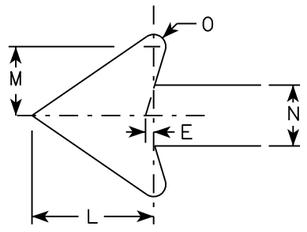
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



MB6-1
MK6-1
MN6-1
MR6-1



MB6-2
MK6-2
MN6-2
MR6-2



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																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2						3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25

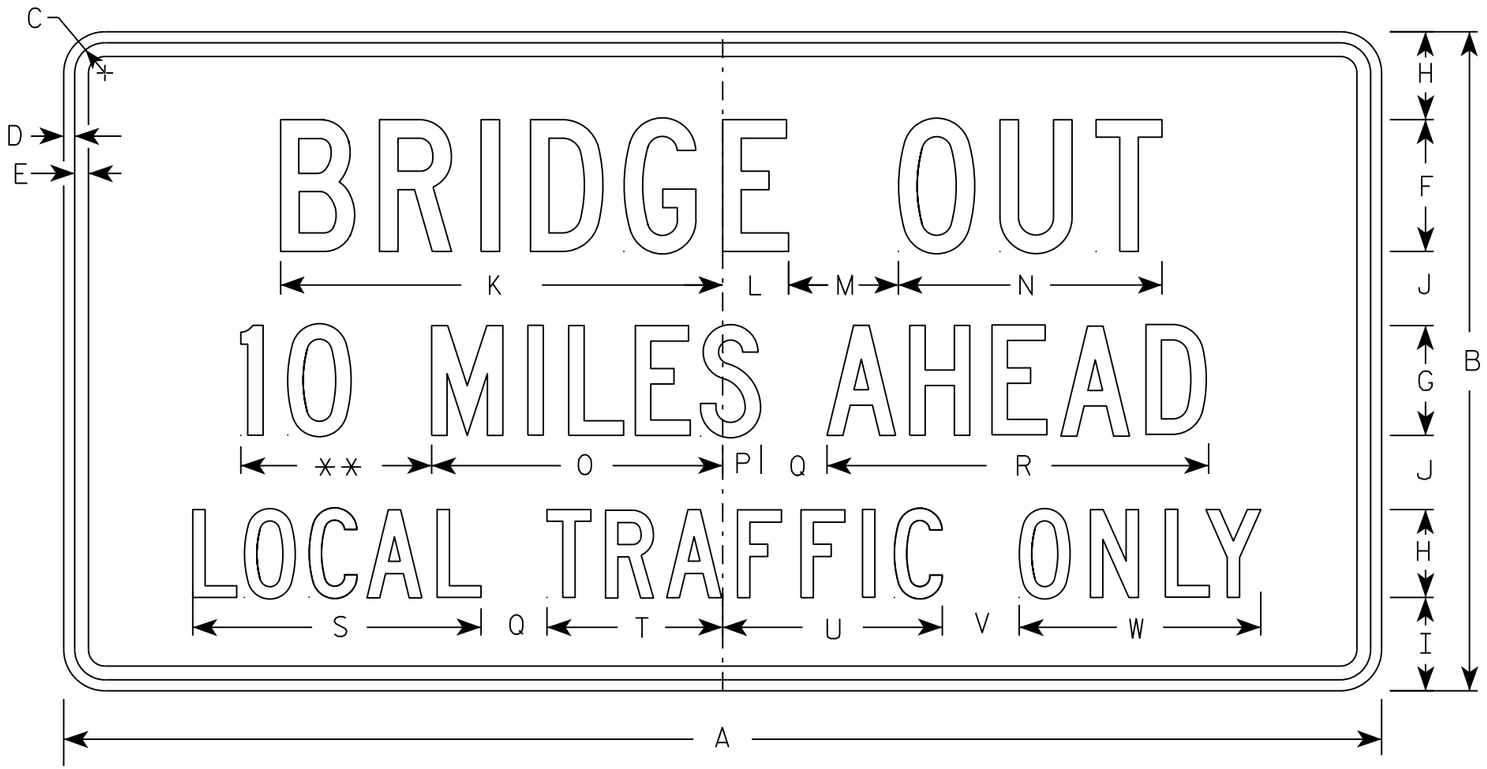
STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

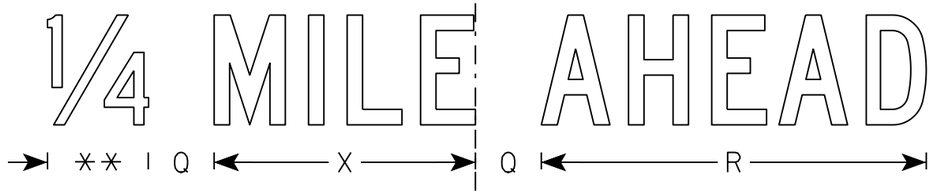
DATE 10/15/15 PLATE 53 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



R11-3B

** See Note 5



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.

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 3/8	1/2	5/8	4	3	2 1/2	2	2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4	7 1/8			4.5
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
3																											
4																											
5																											

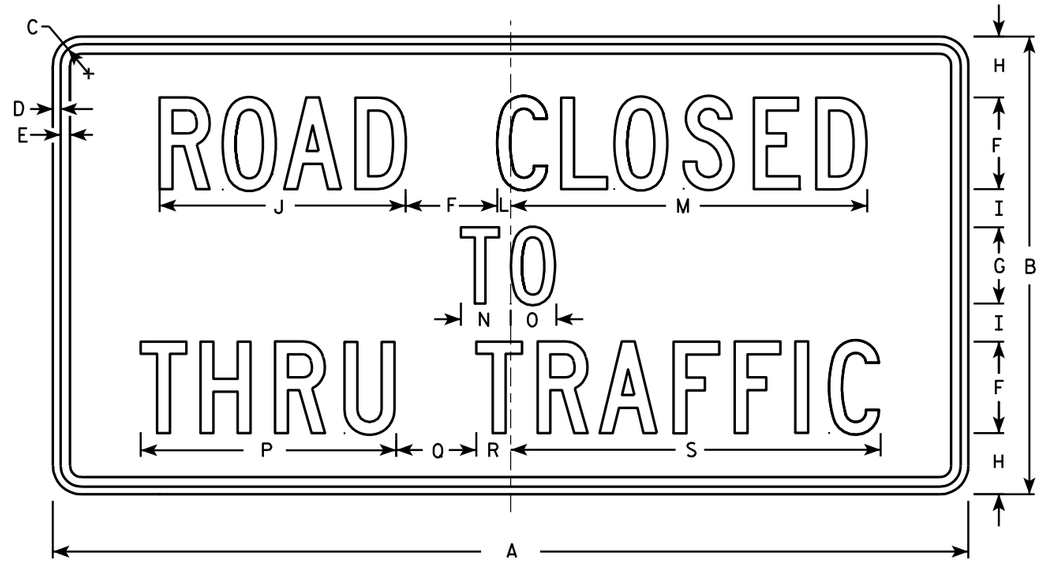
STANDARD SIGN
R11-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/17 PLATE NO. R11-3B.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 54 | E



R11-4

NOTES

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

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	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
3																											
4																											
5																											

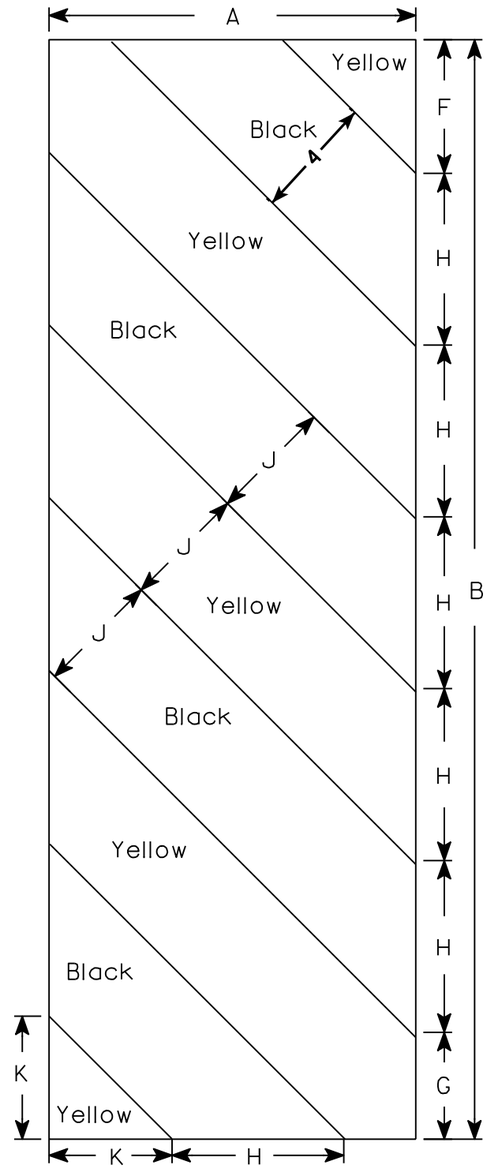
STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

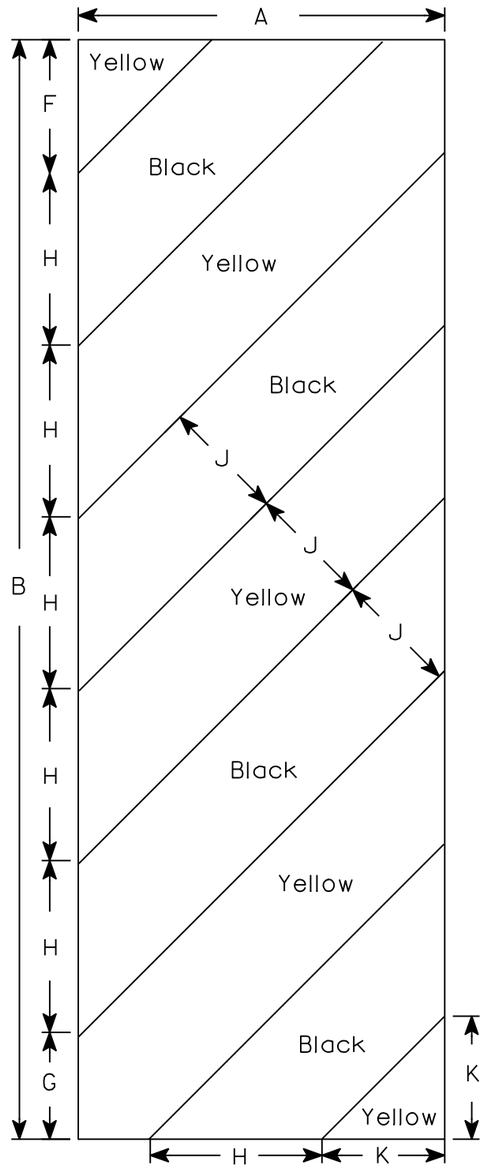
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 55 | E



W5-52L



W5-52R

NOTES

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

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

STANDARD SIGN

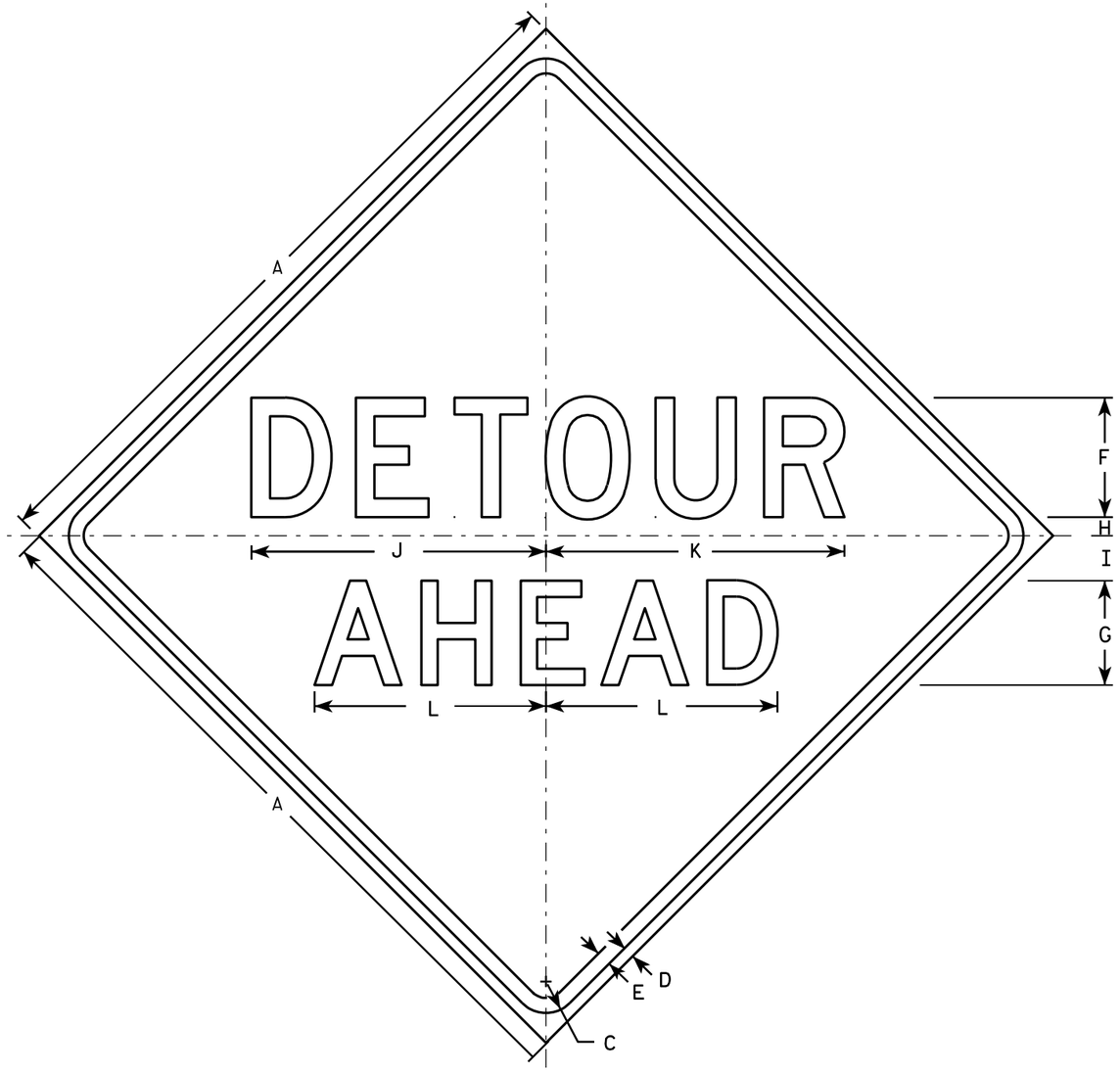
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

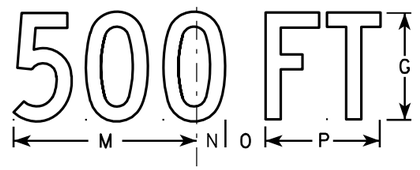
APPROVED Matthew R Rauch
for State Traffic Engineer

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

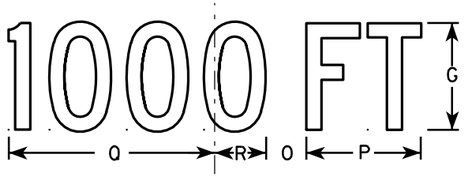
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 56	E



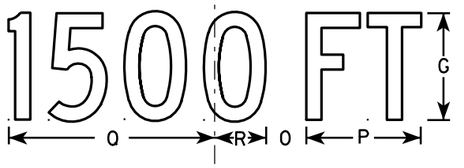
W20-2A



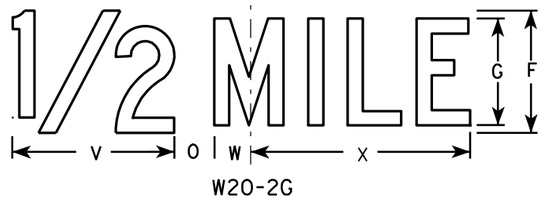
W20-2D



W20-2C



W20-2B



W20-2G

W20-2F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
   Line 2 is Series D for AHEAD and Series C for all other distances.

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		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

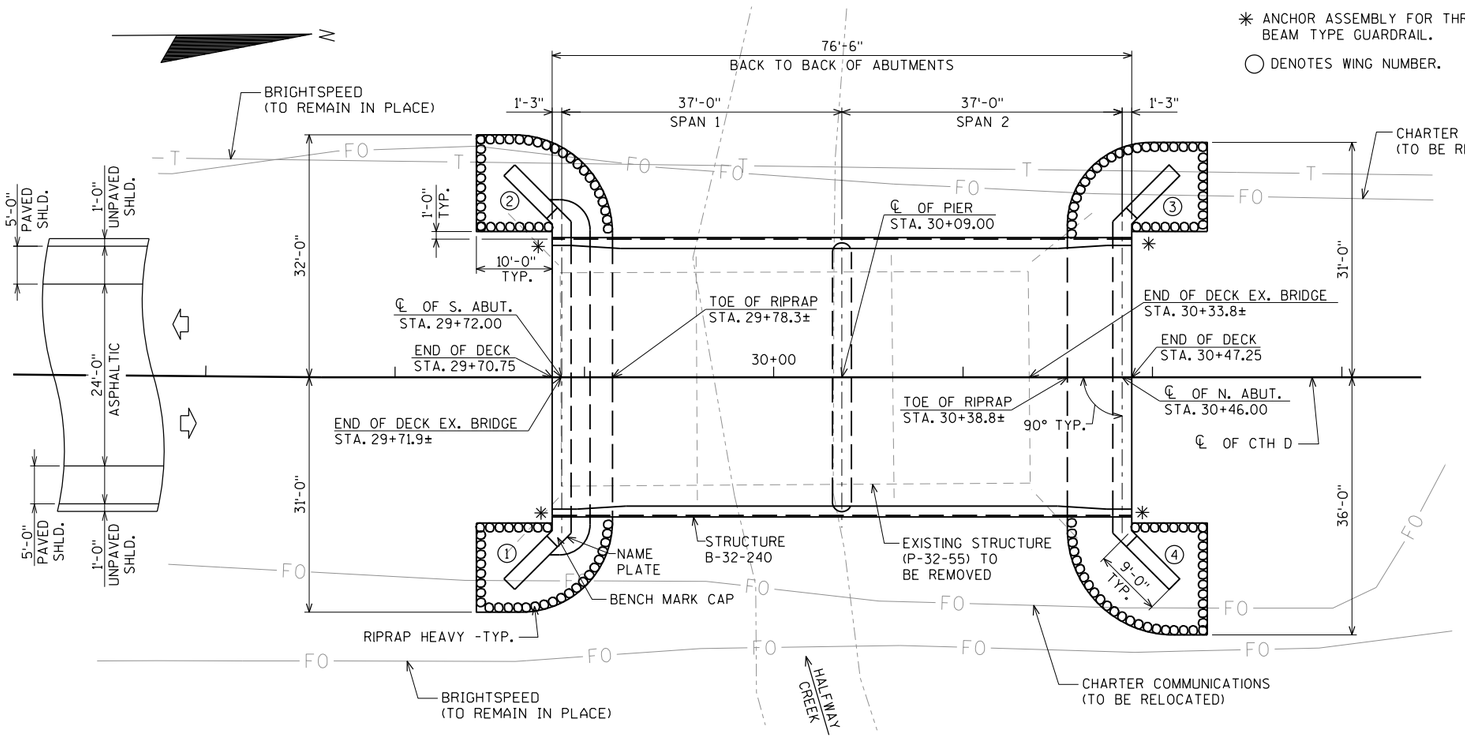
DATE 3/18/11 PLATE NO. W20-2.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 57 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W202.DGN PLOT DATE : 18-MAR-2011 10:00 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000
WISDOT/CADDS SHEET 42

STATE PROJECT NUMBER

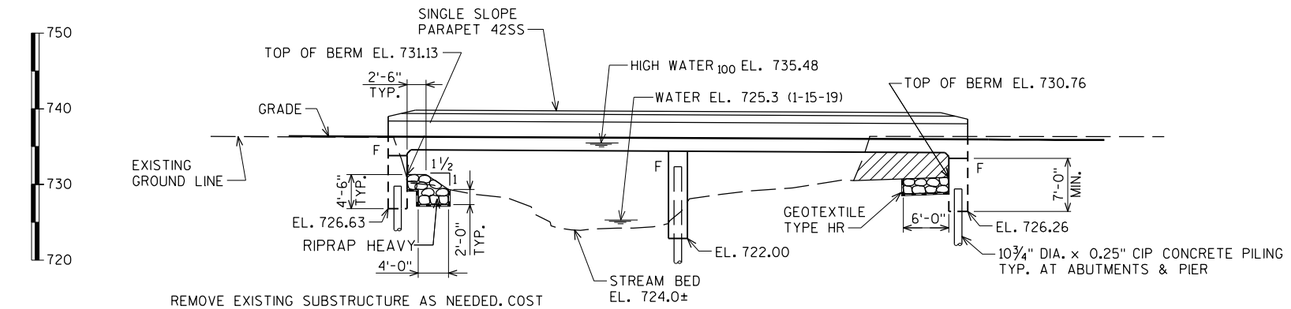
7049-00-70



PLAN

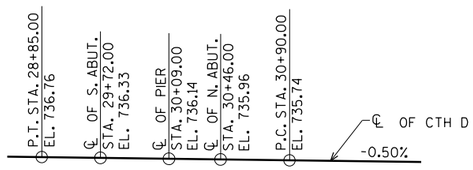
TWO SPAN CONCRETE FLAT SLAB BRIDGE

COST OF EXCAVATION AND FILL IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-32-240".



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

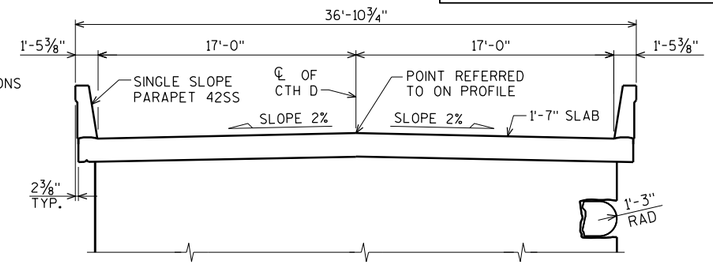
ELEVATION



PROFILE GRADE LINE

(CTH D)

BENCH MARK:
BM #51
RR SPIKE IN PPOL
STA. 31+48.3±, 26.7' LT.
EL. 733.85



TYPICAL SECTION THRU BRIDGE

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.04
OPERATING RATING FACTOR: 1.35
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

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

MATERIAL PROPERTIES:

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

HYDRAULIC DATA:

100 YEAR FREQUENCY	2 YEAR FREQUENCY
Q_{100} = 2,700 c.f.s.	Q_2 = 440 c.f.s.
VEL.= 6.76 f.p.s.	VEL.= 3.12 f.p.s.
HW_{100} = EL. 735.48	HW_2 = EL. 730.94

WATERWAY AREA = 355 sq. ft.
DRAINAGE AREA = 16.6 sq. mi.
SCOUR CRITICAL CODE = 5
DATUM = NAVD88 (2012)

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON 10¾" DIA. x 0.25" CIP CONCRETE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 100 TONS ‡ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 70'-0".

PIER TO BE SUPPORTED ON 10¾" DIA. x 0.25" CIP CONCRETE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130 TONS ‡ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 75'-0".

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

TRAFFIC DATA:

A.A.D.T. = 1,170 (2022)
A.A.D.T. = 1,580 (2042)
R.D.S. = 35 M.P.H.

LIST OF DRAWINGS

WISCONSIN
ARLEN E. BEAUDETTE
E-36829
EAU CLAIRE
PROFESSIONAL ENGINEER

08/22/2023

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

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

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED _____ SDR 08/23/23
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-32-240

CTH D OVER HALFWAY CREEK

COUNTY LA CROSSE | TOWN/~~CITY/VILLAGE~~ ONALASKA

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	ZSS	DESIGN CK'D.	JLB	DRAWN BY	ZSS	PLANS CK'D.	AEB

GENERAL PLAN

SHEET 1 OF 12
58

I.D.

DATE:

8/22/2023
PENTABLE:BReau_shd_util.tbl

DATE:
DATE:
DATE:

CHECKED BY:
BACK CHECKED BY:
CORRECTED BY:

8

8

I:±42±42-1170.00 - La Crosse Co, CTH D over Halfway Creek±Structure±Final±421170 gp.dgn

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	S. ABUT.	PIER	N. ABUT.	SUPER.	TOTAL	CATEGORY 20	CATEGORY 40 *
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS P-32-55	EACH	-----	-----	-----	-----	1	1	-----
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-32-240	EACH	-----	-----	-----	-----	1	1	-----
210.1500	BACKFILL STRUCTURE TYPE A	TON	290	-----	290	-----	580	580	-----
502.0100	CONCRETE MASONRY BRIDGES	CY	39.6	37.1	39.6	188.2	305	273	32
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	-----	289	289	272	17
502.3210	PIGMENTED SURFACE SEALER	SY	-----	-----	-----	76	76	76	-----
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,810	1,950	2,810	-----	7,570	7,155	415
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,480	70	1,480	33,630	36,660	34,651	2,009
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	7	-----	7	-----	14	13	1
550.2104	PILING CIP CONCRETE 10¾ x 0.25-INCH	LF	560	900	560	-----	2,020	2,020	-----
606.0300	RIPRAP HEAVY	CY	65	-----	60	-----	125	125	-----
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	90	-----	90	-----	180	180	-----
614.0150	ANCHOR ASSEMBLY FOR STEEL PLATE BEAM GUARD	EACH	2	-----	2	-----	4	4	-----
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	60	-----	60	-----	120	120	-----
645.0120	GEOTEXTILE TYPE HR	SY	130	-----	120	-----	250	250	-----
	NON-BID ITEMS								
	FILLER	SIZE	-----	-----	-----	-----	½" & ¾"	-----	-----

*2' OF EXTRA BRIDGE WIDTH ADDED PER OWNER PREFERENCE.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

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

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

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-32-240" SHALL BE THE EXISTING GROUNDLINE.

THE EXISTING STRUCTURE, P-32-55, TO BE REMOVED, IS A THREE SPAN TIMBER SLAB BRIDGE ON TIMBER ABUTMENTS AND TIMBER PILE-BENT PIERS, 62.0 FT. LONG WITH A 28.17 FT. CLEAR ROADWAY WIDTH.

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

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

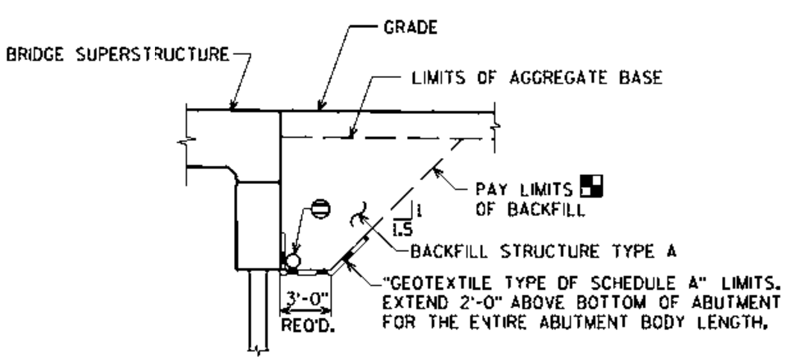
BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

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

EXTENT OF BELOW GRADE SUBSTRUCTURES ARE NOT KNOWN. REMOVE EXISTING SUBSTRUCTURES AS NEEDED TO BUILD NEW SUBSTRUCTURES. COST OF SUBSTRUCTURE REMOVAL IS CONSIDERED INCIDENTAL TO "REMOVING STRUCTURE" BID ITEM.

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 EXCAVATIONS FOR STRUCTURES.

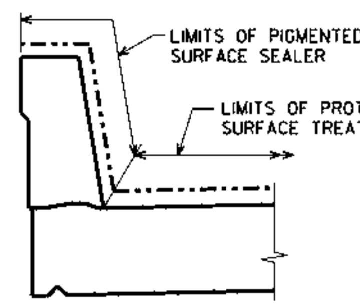
AT ABUTMENTS. CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.



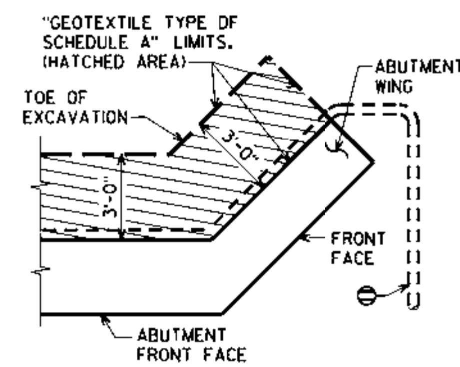
BACKFILL STRUCTURE LIMITS THRU ABUTMENT

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

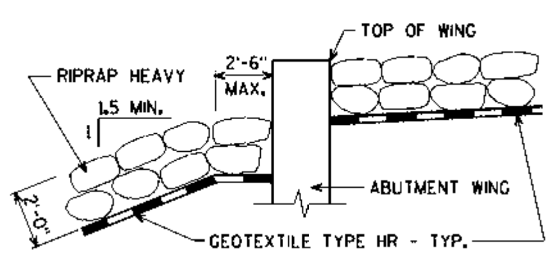
⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 8.



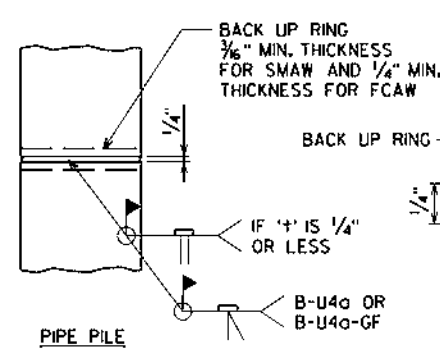
PROTECTIVE SURFACE TREATMENT AND PIGMENTED SURFACE SEALER DETAIL



BACKFILL STRUCTURE LIMITS ABUTMENT PLAN WITH WING

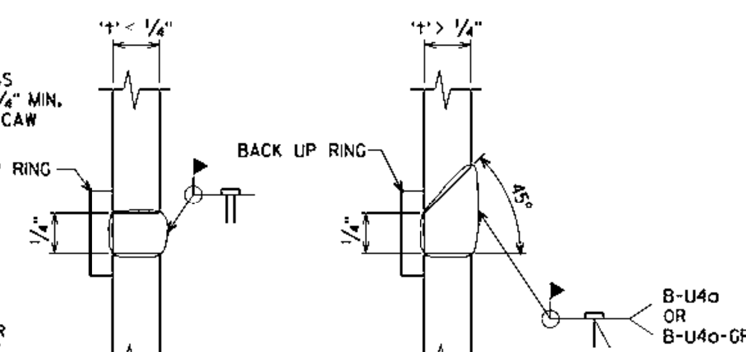


TYPICAL FILL SECTION AT WING TIPS

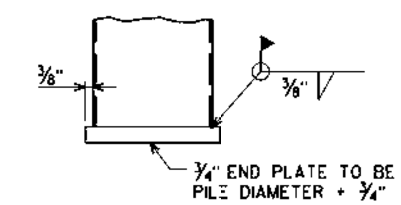


PILE SPLICE DETAIL

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



CIP PILE WELD DETAIL



END PLATE DETAIL FOR CIP PILING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-240

DRAWN BY ZSS | PLANS CK'D. JCK

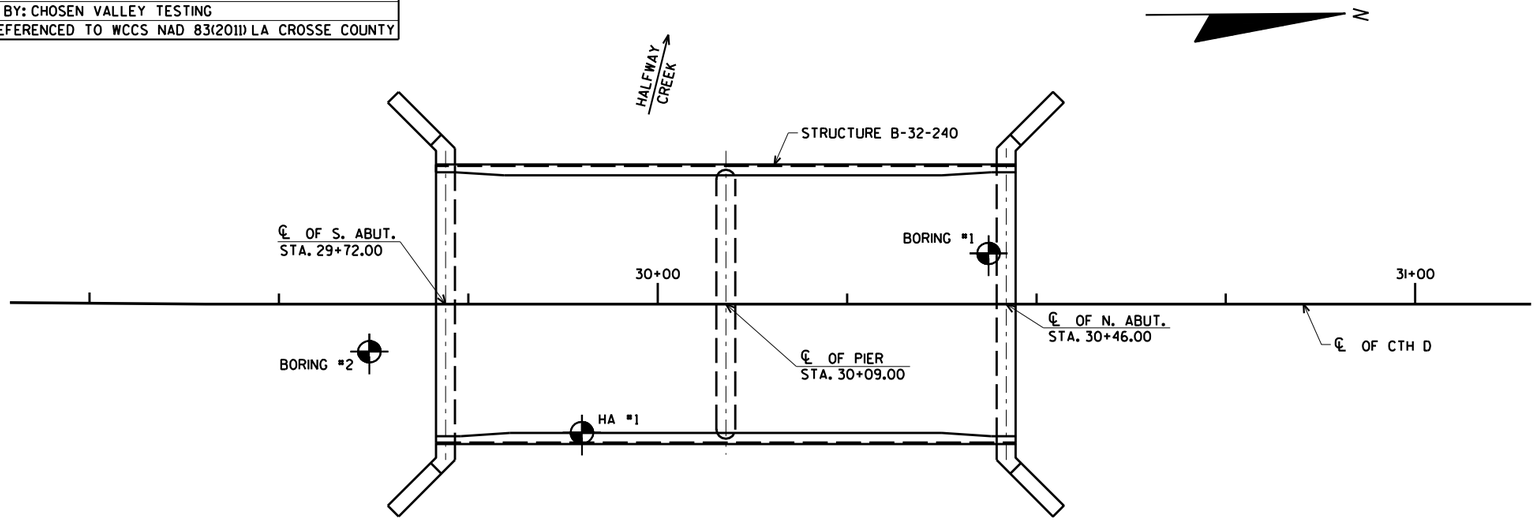
QUANTITIES AND NOTES

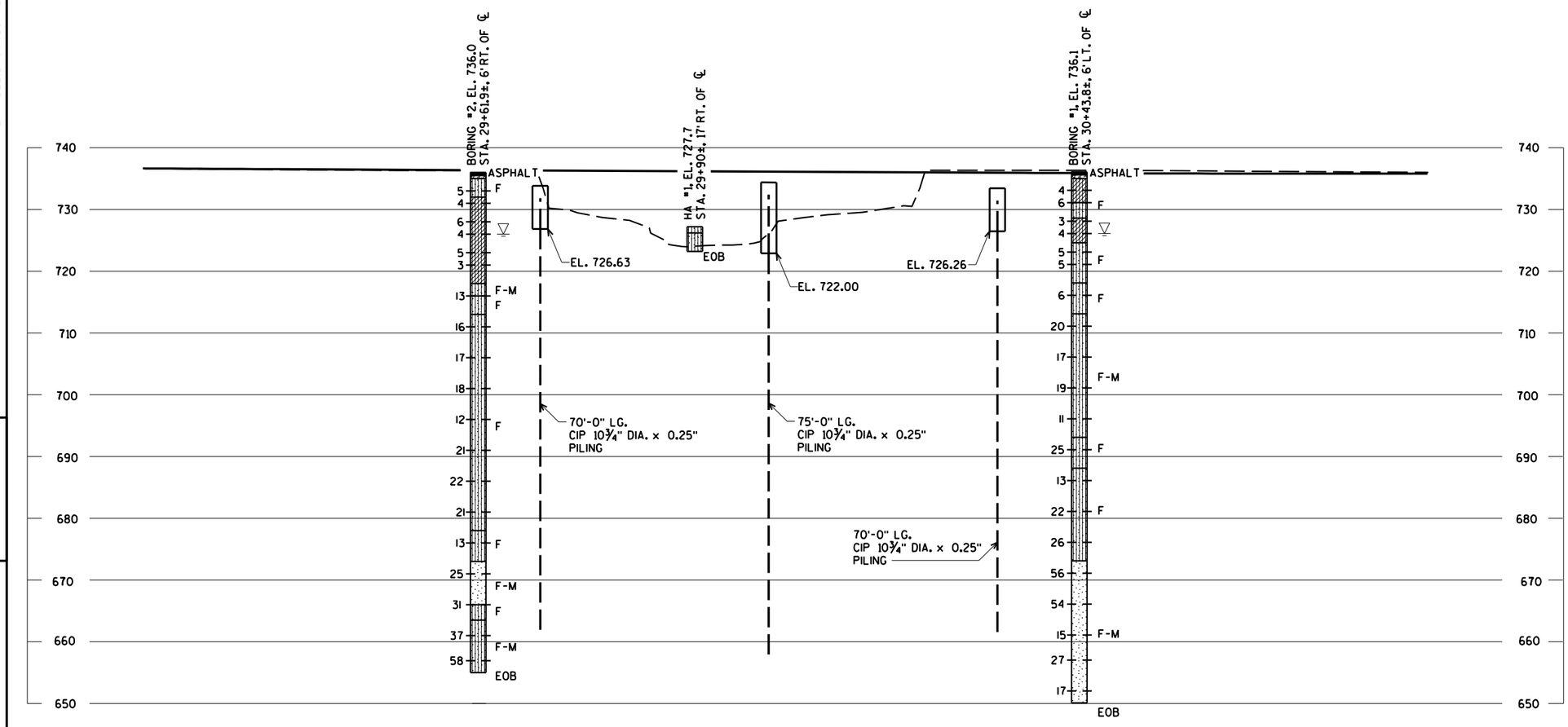
ORIGINAL PLANS PREPARED BY
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

8

5/17/2023
PENTABLE:BReau_shd_util.tbl
I:±42±42-1170.00 - La Crosse Co. CTH D over Halfway Creek±Structure±Final±add 421170 qn.dgn

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	JUNE 24, 2019	189987.34	455916.29
2	JUNE 24, 2019	189905.40	455927.63
HA #1	JUNE 24, 2019	189933.41	455938.86
BORINGS COMPLETED BY: CHOSEN VALLEY TESTING			
REPORT COMPLETED BY: CHOSEN VALLEY TESTING			
ALL COORDINATES REFERENCED TO WCCS NAD 83(2011) LA CROSSE COUNTY			





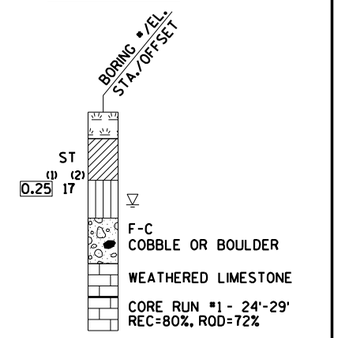
STATE PROJECT NUMBER

7049-00-70

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

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

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-240

DRAWN BY ZSS | PLANS CK'D. JCK

SUBSURFACE EXPLORATION

SHEET 3 OF 12
60

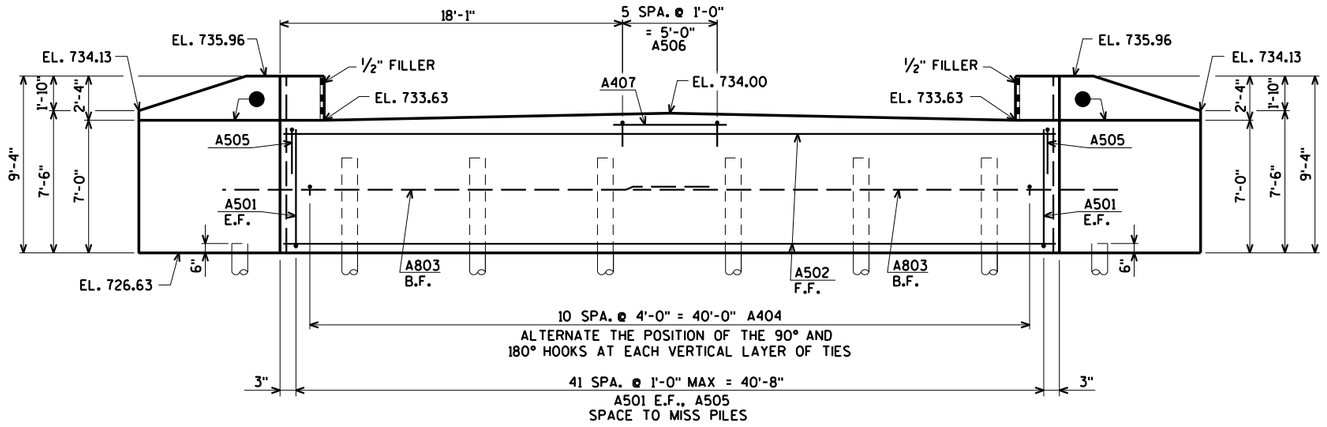
8/18/2021
PENTABLE:BReau_shd_util.tbl

I:±42±42-1170.00 - La Crosse Co, CTH D over Halfway Creek±Structure±Final±421170 soil.dgn

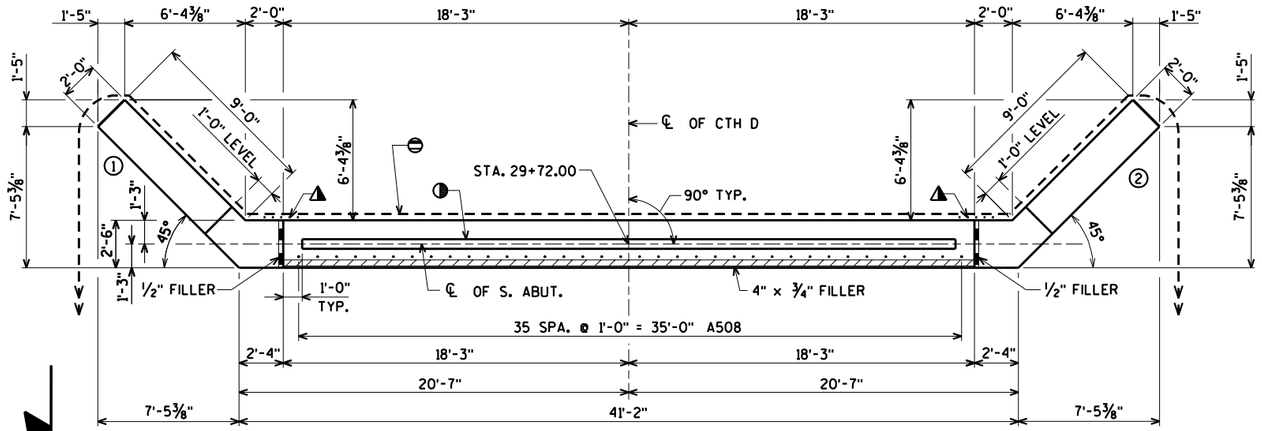
STATE PROJECT NUMBER

7049-00-70

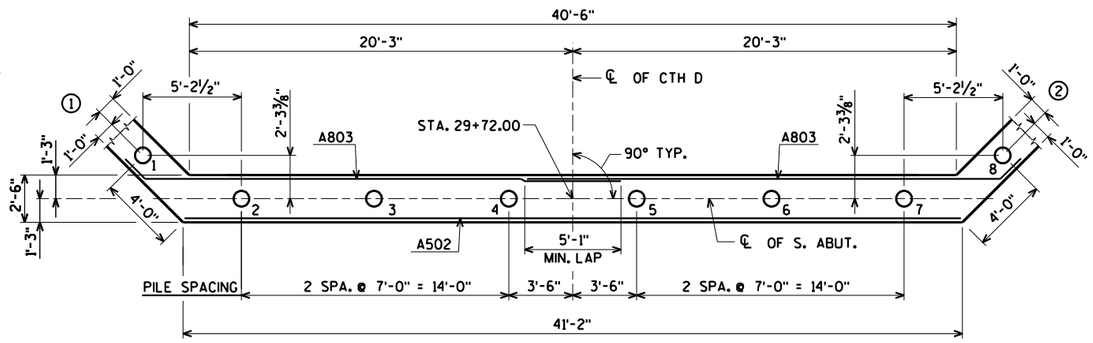
NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)



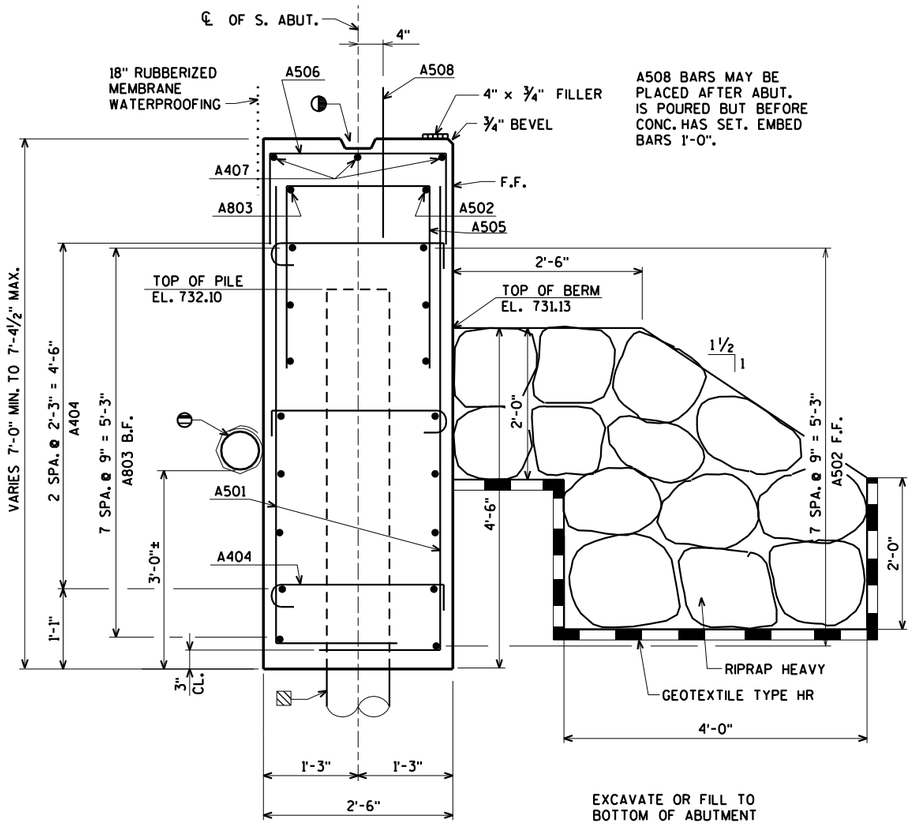
ELEVATION
(LOOKING SOUTH)



PLAN



PILE LAYOUT



TYPICAL SECTION THRU BODY

A508 BARS MAY BE PLACED AFTER ABUT. IS POURED BUT BEFORE CONC. HAS SET. EMBED BARS 1'-0".

EXCAVATE OR FILL TO BOTTOM OF ABUTMENT BEFORE DRIVING PILES.

▨ ABUTMENT TO BE SUPPORTED ON 10¾" DIA. x 0.25" CIP CONCRETE PILING DRIVEN TO A REO'D. DRIVING RESISTANCE OF 100 TONS PER PILE ESTIMATED LENGTH 70'-0".

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

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

⚠ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.

FOR PILE SPLICE DETAIL SEE SHEET 2.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-240

DRAWN BY CLP | PLANS CK'D. JCK

SOUTH ABUTMENT

SHEET 4 OF 12
61

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

8/17/2021
PENTABLE:tBReau_shd_utl1.tbl

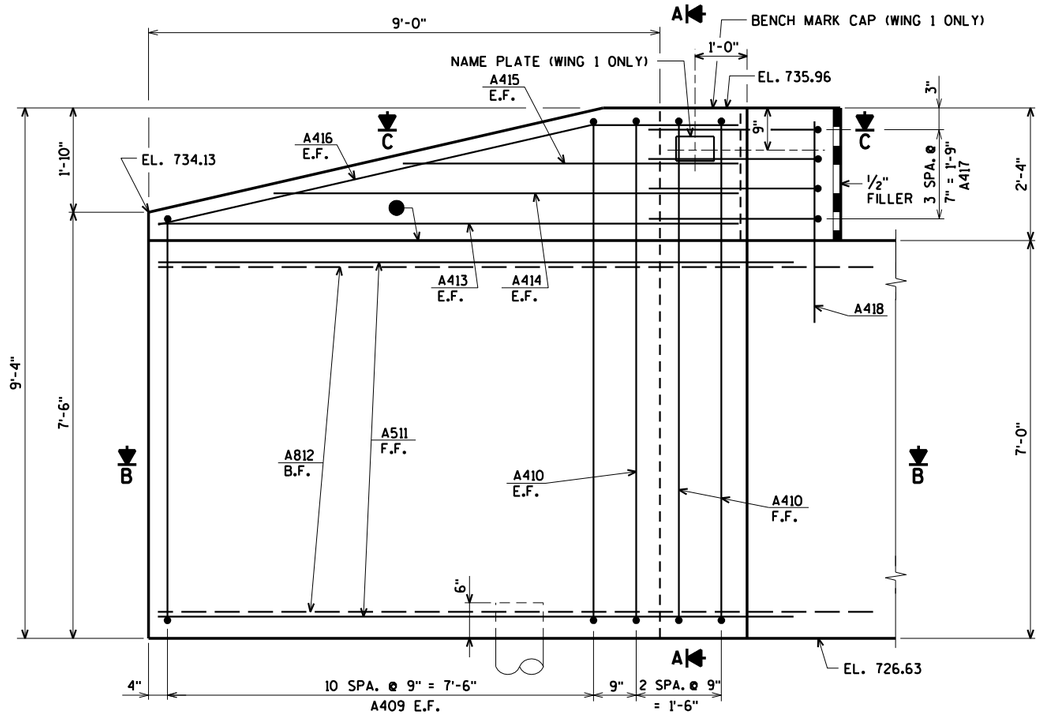
I:±42±42-1170.00 - La Crosse Co, CTH D over Halfway Creek±Structure±Final±421170 sa.dgn

8

8

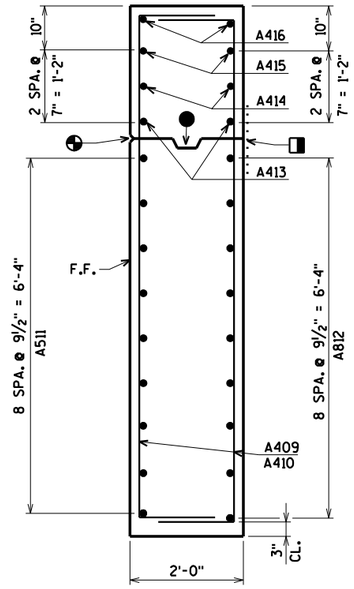
STATE PROJECT NUMBER

7049-00-70



ELEVATION - WING 1

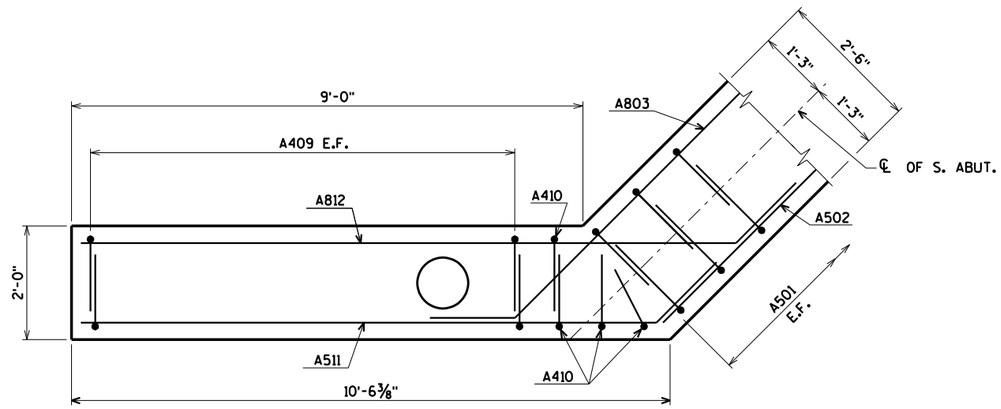
(WING 2 SIMILAR)



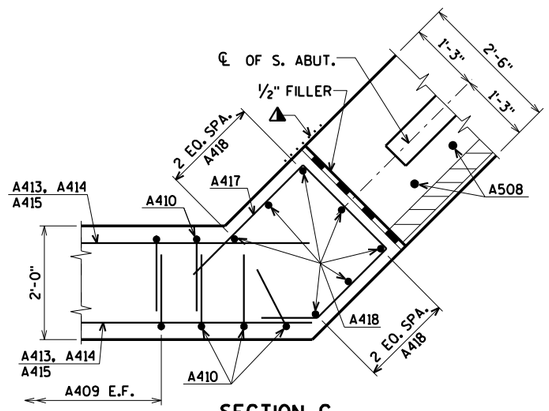
SECTION A

- RUBBERIZED MEMBRANE WATERPROOFING IF CONST. JOINT IS USED (COST INCIDENTAL TO BID ITEM "CONCRETE MANSONRY BRIDGES")
- OPT. KEYED CONST. JOINT - FORMED BY A SURFACED BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F. (RUBBERIZED MEMBRANE WATERPROOFING INCIDENTAL TO BID ITEM "CONCRETE MANSONRY BRIDGES" IF CONST. JOINT IS USED).
- ¾" 'V' GROOVE ON F.F. OF WING WALL NOT REQUIRED IF CONST. JT. IS NOT USED.
- 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.

FOR PILE SPLICE DETAIL SEE SHEET 2.



SECTION B



SECTION C

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-240

DRAWN BY CLP | PLANS CK'D. JCK

SOUTH ABUTMENT WING DETAILS

SHEET 5 OF 12
62

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

8/17/2021
PENTABLE:BRdet_shd_utl.tbl

I:±42±42-1170.00 - La Crosse Co, CTH D over Halfway Creek±Structure±Final±421170 sa.dgn

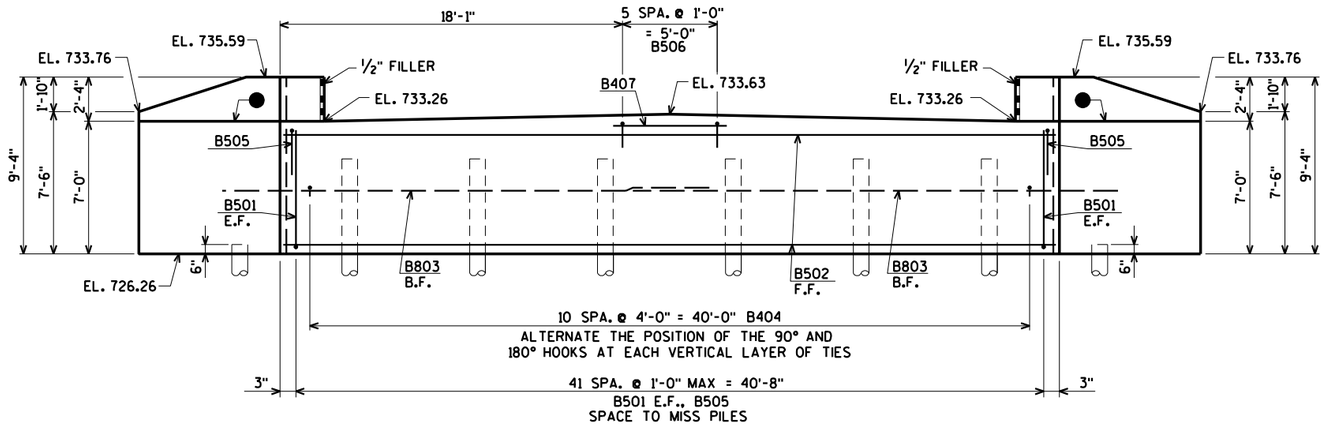
8

8

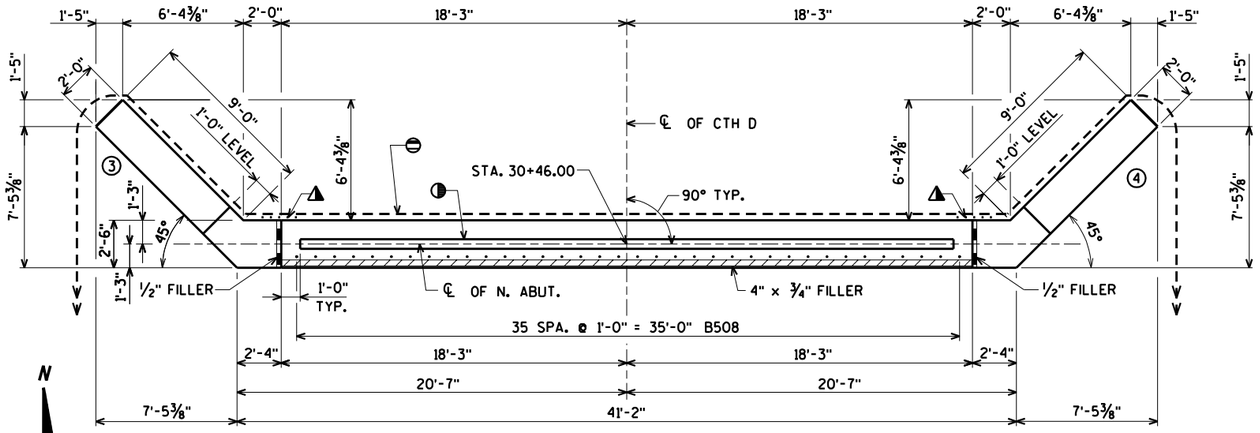
STATE PROJECT NUMBER

7049-00-70

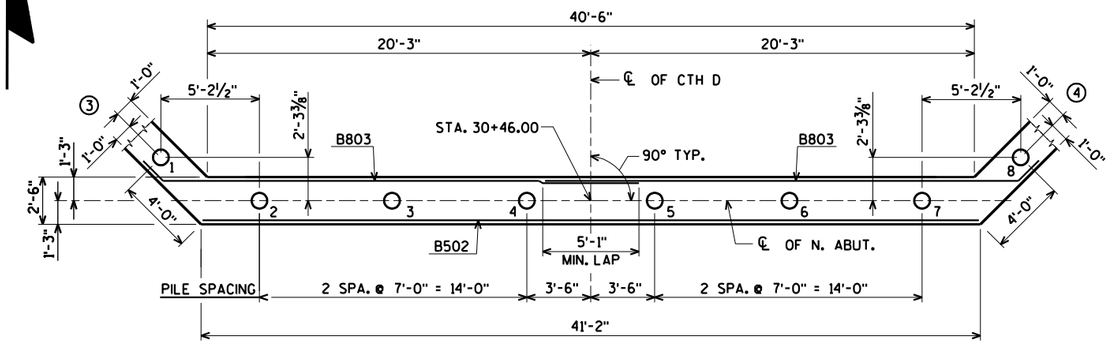
NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)



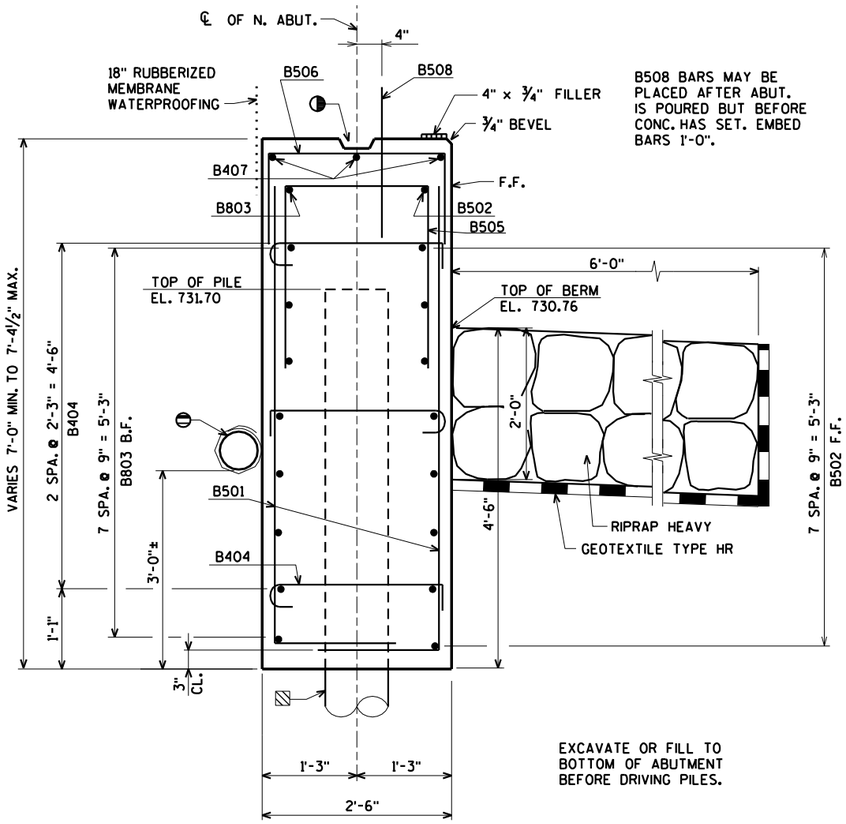
ELEVATION
(LOOKING NORTH)



PLAN



PILE LAYOUT



B508 BARS MAY BE PLACED AFTER ABUT. IS POURED BUT BEFORE CONC. HAS SET. EMBED BARS 1'-0".

EXCAVATE OR FILL TO BOTTOM OF ABUTMENT BEFORE DRIVING PILES.

TYPICAL SECTION THRU BODY

▨ ABUTMENT TO BE SUPPORTED ON 10¾" DIA. x 0.25" CIP CONCRETE PILING DRIVEN TO A REO'D. DRIVING RESISTANCE OF 100 TONS PER PILE ESTIMATED LENGTH 70'-0".

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⚠ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.

FOR PILE SPLICE DETAIL SEE SHEET 2.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-240

DRAWN BY CLP | PLANS CK'D. JCK

NORTH ABUTMENT

SHEET 6 OF 12
63

ORIGINAL PLANS PREPARED BY
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Eau Claire, WI 54701
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8/17/2021
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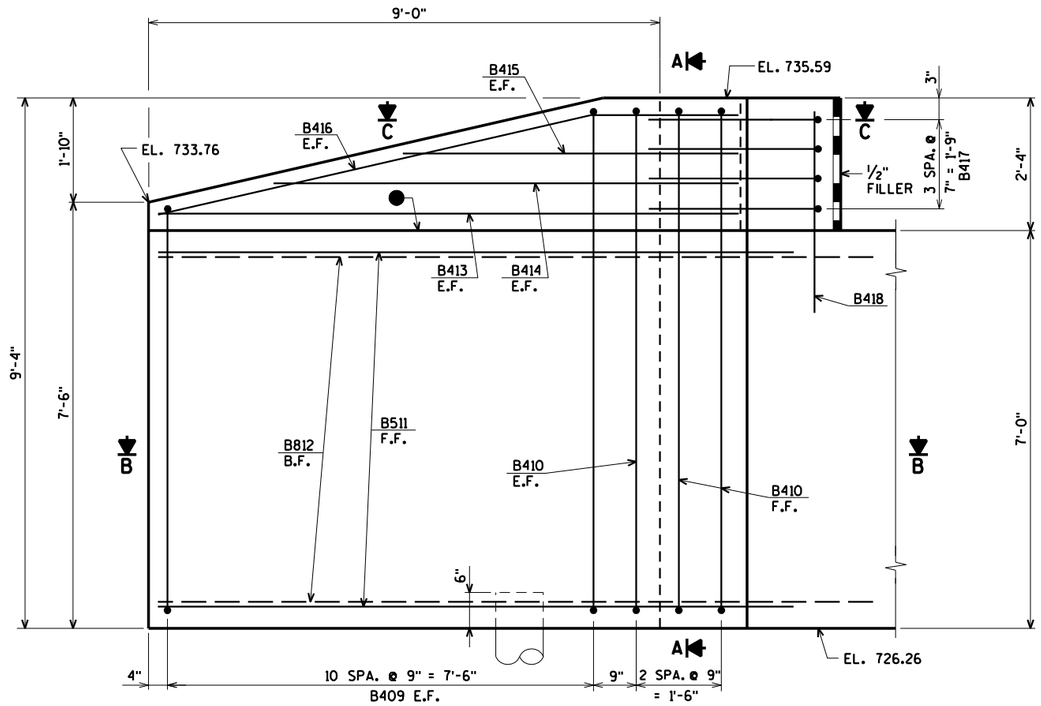
I:±42±42-1170.00 - La Crosse Co, CTH D over Halfway Creek±Structure±Final±421170 na.dgn

8

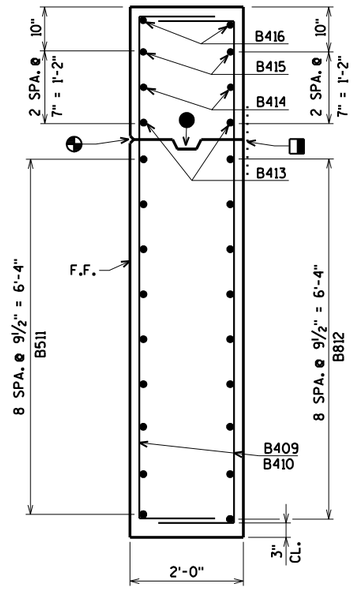
8

STATE PROJECT NUMBER
7049-00-70



ELEVATION - WING 3

(WING 4 SIMILAR)



SECTION A

- RUBBERIZED MEMBRANE WATERPROOFING IF CONST. JOINT IS USED (COST INCIDENTAL TO BID ITEM "CONCRETE MANSONRY BRIDGES")
- OPT. KEYED CONST. JOINT - FORMED BY A SURFACED BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F. (RUBBERIZED MEMBRANE WATERPROOFING INCIDENTAL TO BID ITEM "CONCRETE MANSONRY BRIDGES" IF CONST. JOINT IS USED).
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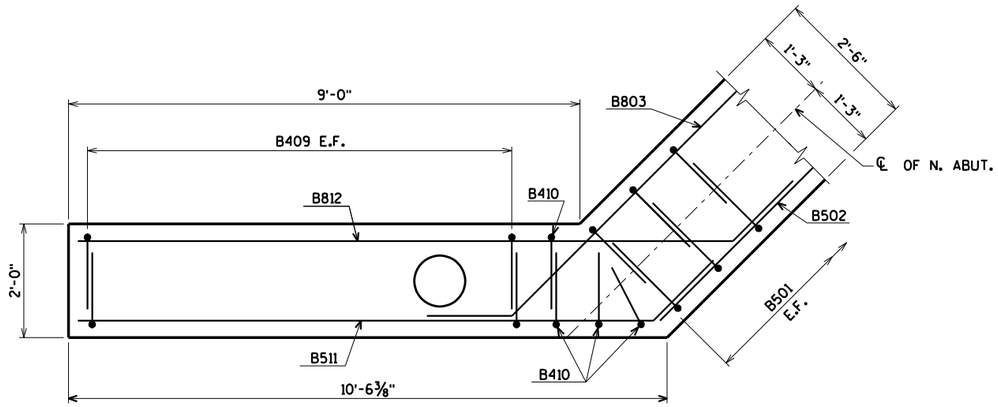
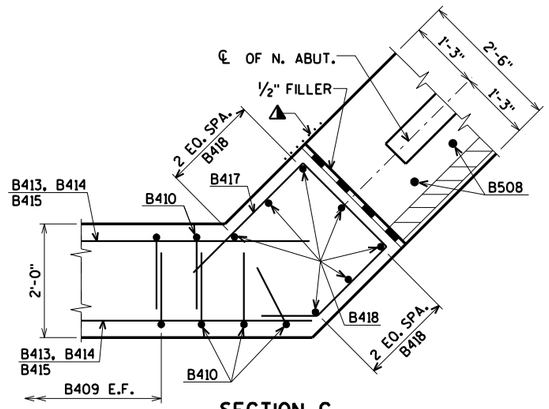
FOR PILE SPLICE DETAIL SEE SHEET 2.



SECTION B



SECTION C

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-240

DRAWN BY CLP | PLANS CK'D. JCK

NORTH ABUTMENT WING DETAILS

SHEET 7 OF 12
64

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

8/17/2021
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STATE PROJECT NUMBER

7049-00-70

BILL OF BARS - SOUTH ABUTMENT

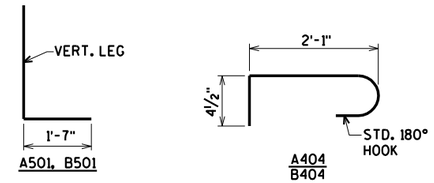
BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	2,810* UNCOATED 1,480* COATED LOCATION
A501		84	7-11	X			BODY VERT. E.F.
A502		9	40-11				BODY HORIZ. F.F.
A803		18	26-11	X			BODY HORIZ. B.F.
A404		33	2-11	X			BODY TIES
A505		42	7-7	X			BODY VERT. TOP
A506		6	4-11	X			BODY VERT. TOP
A407		3	6-0				BODY HORIZ. TOP
A508	X	36	2-0				BODY DOWELS
A409	X	44	10-6	X		⊗	WINGS 1 & 2 VERT. E.F.
A410	X	8	11-5	X			WINGS 1 & 2 VERT. E.F.
A511	X	18	11-7	X			WINGS 1 & 2 HORIZ. F.F.
A812	X	18	13-5	X			WINGS 1 & 2 HORIZ. B.F.
A413	X	4	10-3				WINGS 1 & 2 HORIZ. E.F.
A414	X	4	7-11				WINGS 1 & 2 HORIZ. E.F.
A415	X	4	5-5				WINGS 1 & 2 HORIZ. E.F.
A416	X	4	10-6	X			WINGS 1 & 2 DIAG. E.F.
A417	X	8	8-8	X			WINGS 1 & 2 HORIZ.
A418	X	14	3-11				WINGS 1 & 2 VERT.

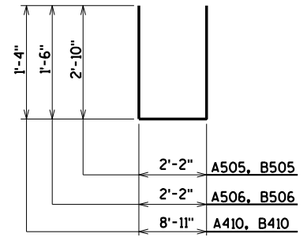
BILL OF BARS - NORTH ABUTMENT

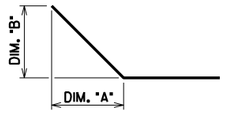
BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	2,810* UNCOATED 1,480* COATED LOCATION
B501		84	7-11	X			BODY VERT. E.F.
B502		9	40-11				BODY HORIZ. F.F.
B803		18	26-11	X			BODY HORIZ. B.F.
B404		33	2-11	X			BODY TIES
B505		42	7-7	X			BODY VERT. TOP
B506		6	4-11	X			BODY VERT. TOP
B407		3	6-0				BODY HORIZ. TOP
B508	X	36	2-0				BODY DOWELS
B409	X	44	10-6	X		⊗	WINGS 3 & 4 VERT. E.F.
B410	X	8	11-5	X			WINGS 3 & 4 VERT. E.F.
B511	X	18	11-7	X			WINGS 3 & 4 HORIZ. F.F.
B812	X	18	13-5	X			WINGS 3 & 4 HORIZ. B.F.
B413	X	4	10-3				WINGS 3 & 4 HORIZ. E.F.
B414	X	4	7-11				WINGS 3 & 4 HORIZ. E.F.
B415	X	4	5-5				WINGS 3 & 4 HORIZ. E.F.
B416	X	4	10-6	X			WINGS 3 & 4 DIAG. E.F.
B417	X	8	8-8	X			WINGS 3 & 4 HORIZ.
B418	X	14	3-11				WINGS 3 & 4 VERT.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

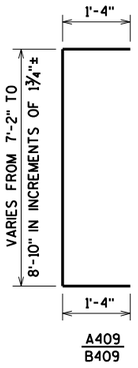
⊗ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



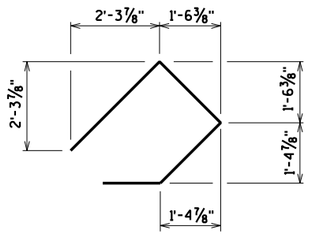




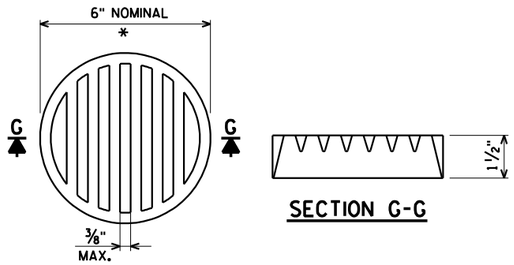
BAR NO.	DIM. "A"	DIM. "B"
A803	1'-0¾"	1'-0¾"
A511	1'-0¾"	1'-0¾"
A812	1'-0¾"	1'-0¾"
A416	7'-10"	1'-10"
B803	1'-0¾"	1'-0¾"
B511	1'-0¾"	1'-0¾"
B812	1'-0¾"	1'-0¾"
B416	7'-10"	1'-10"



A409
B409



A417, B417



SECTION G-G

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

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

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

RODENT SHIELD DETAIL

BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
A409	4 SERIES OF 11	9'-8" TO 11'-4"
B409	4 SERIES OF 11	9'-8" TO 11'-4

BUNDLE AND TAG EACH SERIES SEPARATELY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-240

DRAWN BY CLP | PLANS CK'D. JCK

ABUTMENT
BILL OF BARS

SHEET 8 OF 12
65

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8/17/2021
PENTABLE:tBReau_shd_util.tbl

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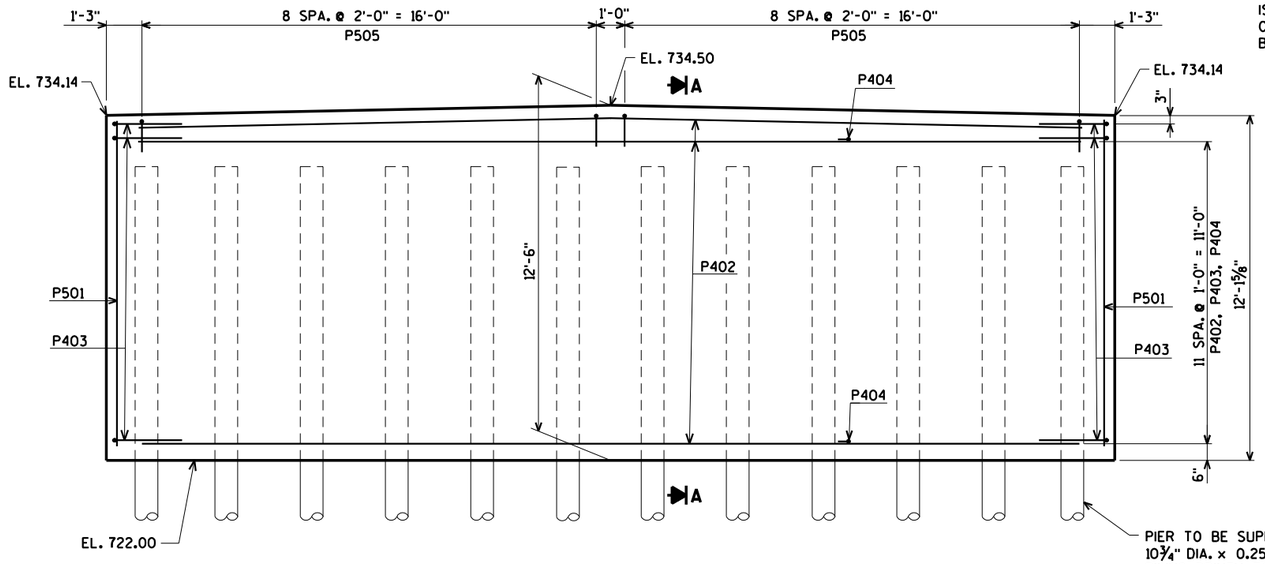
8

STATE PROJECT NUMBER

7049-00-70

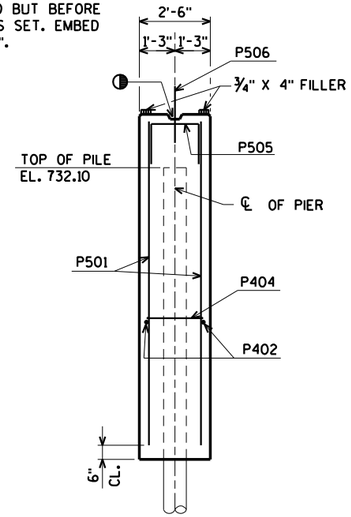


PIER TO BE SUPPORTED ON 10¾" DIA. x 0.25" CIP CONCRETE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE. ESTIMATED LENGTH 75'-0".

ELEVATION

(LOOKING NORTH

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

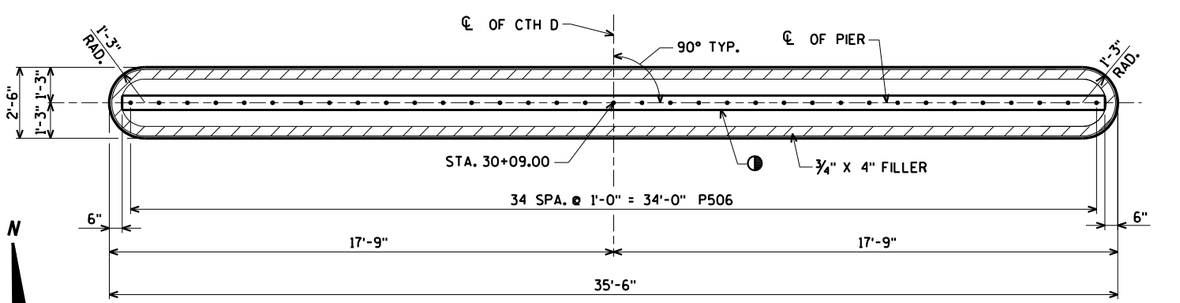


SECTION A

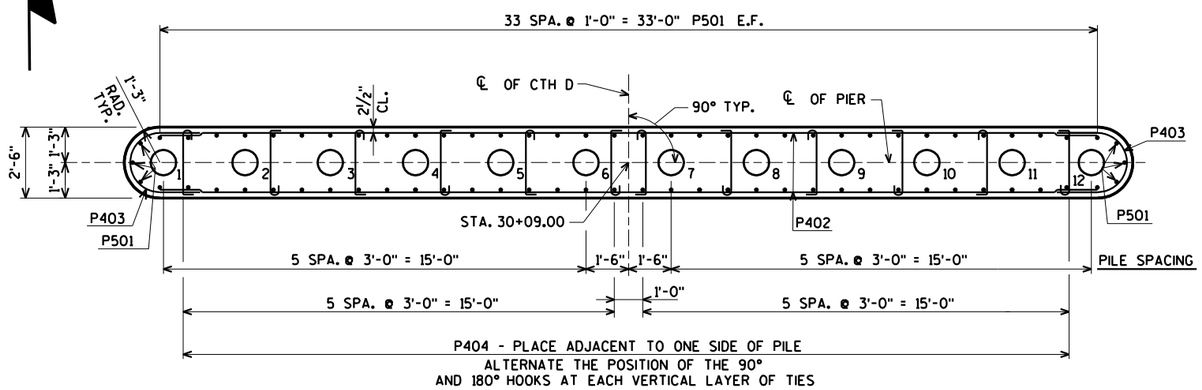
BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	70# COATED 1,950# UNCOATED LOCATION
P501		74	11-5			COLUMN VERT.
P402		26	33-0			COLUMN HORIZ.
P403		26	6-1	X		COLUMN HORIZ. @ ENDS
P404		156	2-11	X		COLUMN TIES
P505		18	4-7	X		COLUMN TOP
P506	X	35	2-0			COLUMN DOWELS

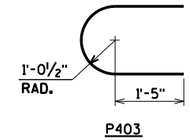
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



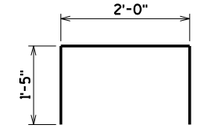
PLAN



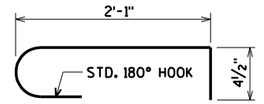
PILE LAYOUT



P403



P505



P404

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

FOR PILE SPLICE DETAIL SEE SHEET 2.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-240

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PIER

SHEET 9 OF 12
66

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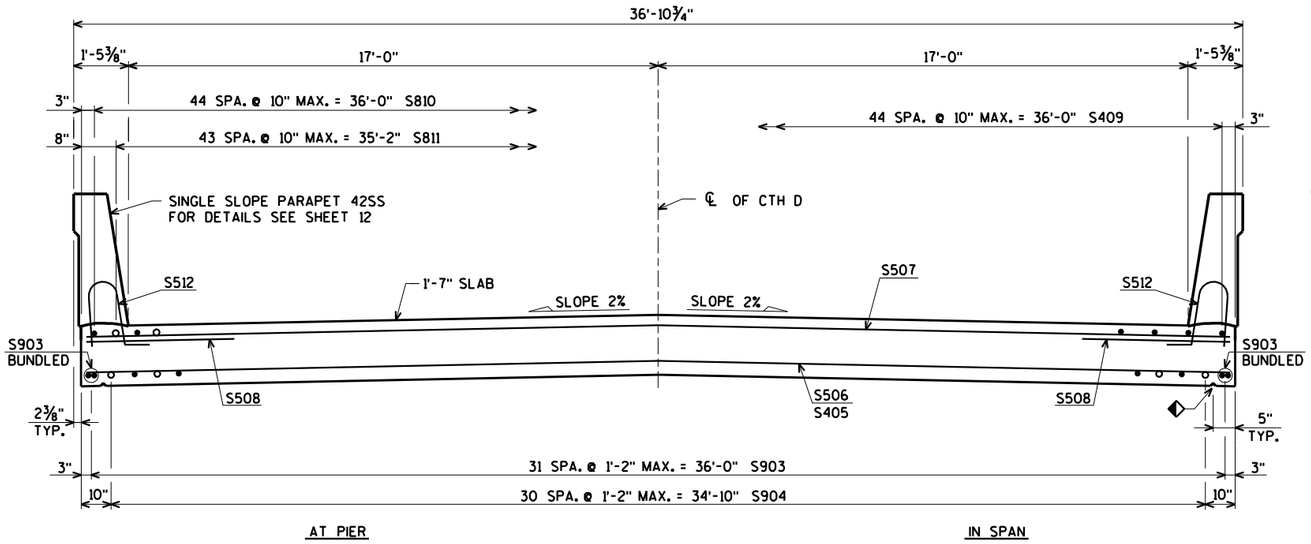
STATE PROJECT NUMBER
7049-00-70

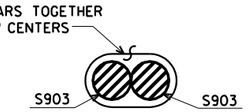


TYPICAL SECTION THRU BRIDGE

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

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

◆ ¾" V - GROOVE. EXTEND V - GROOVE TO 6" FROM FRONT FACE OF ABUTMENTS - TYP.



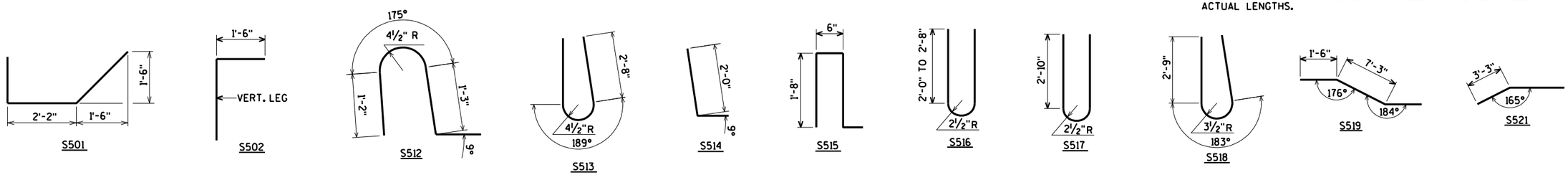
BUNDLING DETAIL

BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR	SERIES	33,630# COATED LOCATION
S501	X	74	5-8	X			SLAB @ ABUT.
S502	X	74	3-3	X			SLAB @ ABUT.
S903	X	68	41-4		X		SLAB LONG. BOT.
S904	X	62	25-8				SLAB LONG. BOT.
S405	X	49	36-2				SLAB TRANS. BOT.
S506	X	32	36-2				SLAB TRANS. BOT.
S507	X	77	36-2				SLAB TRANS. TOP
S508	X	76	5-0				SLAB TRANS. TOP @ EDGES
S409	X	90	19-0				SLAB LONG. TOP
S810	X	45	42-10				SLAB LONG. TOP @ PIER
S811	X	44	14-6				SLAB LONG. TOP @ PIER
S512	X	178	4-5	X			SLAB @ PARAPET VERT.
S513	X	178	6-8	X			PARAPET VERT.
S514	X	44	2-9	X			SLAB @ PARAPET VERT.
S515	X	68	4-4	X			SLAB @ PARAPET VERT.
S516	X	24	5-5	X		⊗	SLAB @ PARAPET VERT.
S517	X	20	6-5	X			SLAB @ PARAPET VERT.
S518	X	24	6-6	X			SLAB @ PARAPET VERT.
S519	X	4	14-4	X			PARAPET HORIZ. @ ENDS OF SLAB
S520	X	20	14-4				PARAPET HORIZ. @ ENDS OF SLAB
S521	X	8	14-4	X			PARAPET HORIZ. @ ENDS OF SLAB
S522	X	32	28-2				PARAPET HORIZ.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

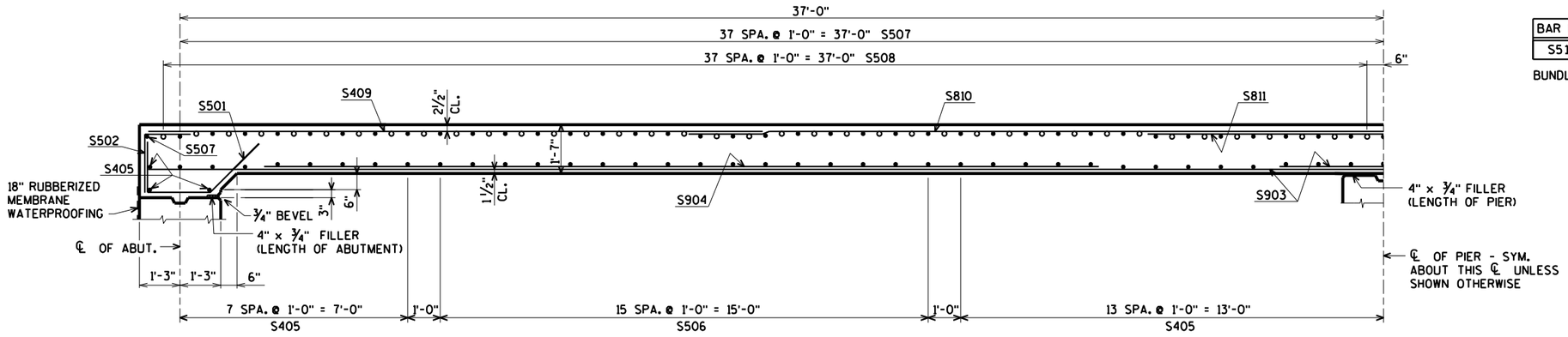
⊗ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
S516	4 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.



PART LONGITUDINAL SECTION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-240

DRAWN BY CLP | PLANS CK'D. JCK

SUPERSTRUCTURE

SHEET 10 OF 12
67

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

8/31/2021
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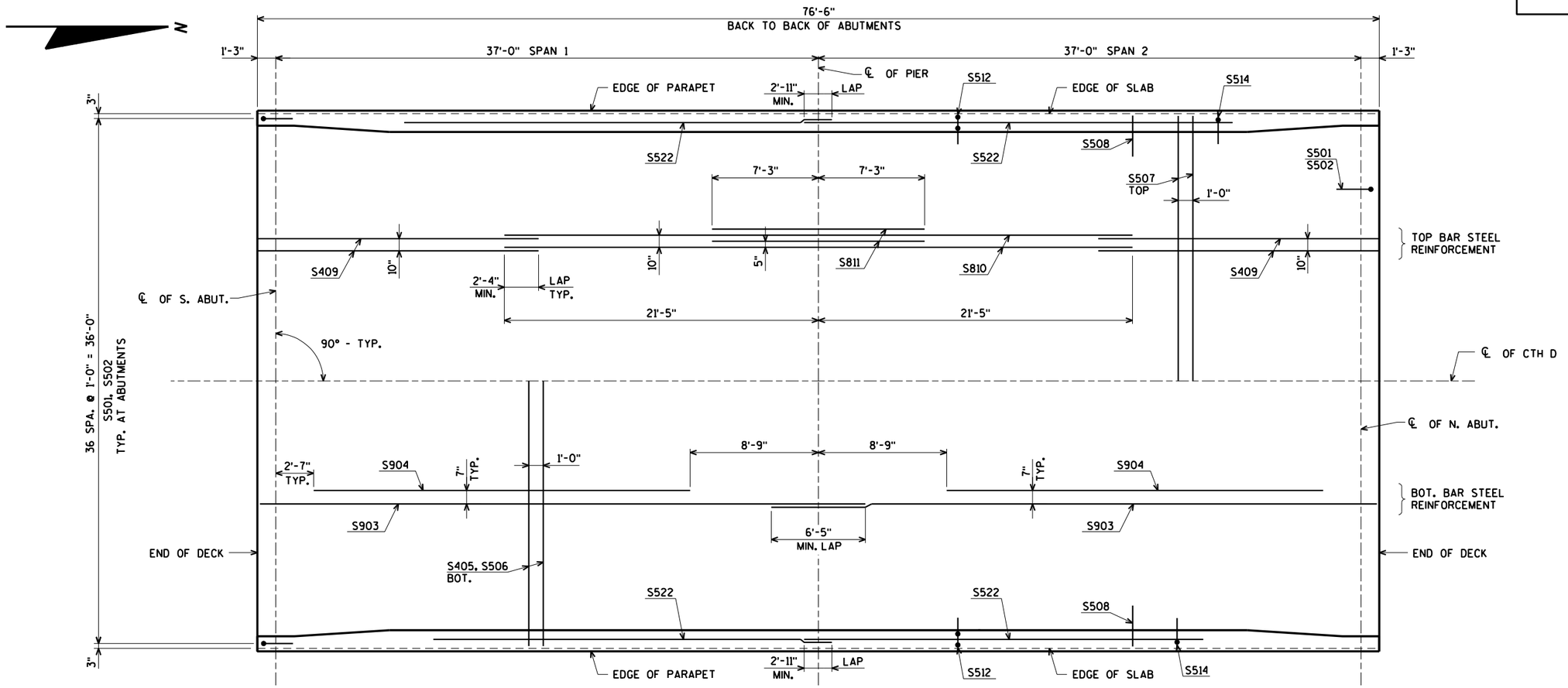
I:±42±42-1170.00 - La Crosse Co, CTH D over Halfway Creek±Structure±Final±421170 sup.dgn

STATE PROJECT NUMBER

7049-00-70



PLAN

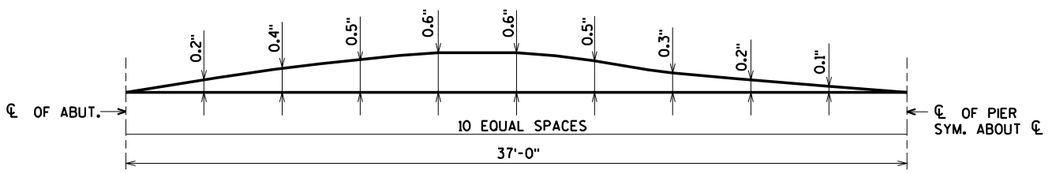
TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR REFERENCE LINE, FOLLOW THIS PROCEDURE:

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

TOP OF DECK ELEVATIONS

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

LOCATION	℄ OF S. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ OF PIER	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ OF N. ABUT.
W. EDGE OF SLAB	735.96	735.95	735.93	735.91	735.89	735.87	735.85	735.83	735.82	735.80	735.78	735.76	735.74	735.72	735.70	735.68	735.67	735.65	735.63	735.61	735.59
℄ OF CTH D	736.33	736.31	736.29	736.27	736.26	736.24	736.22	736.20	736.18	736.16	736.14	736.12	736.11	736.09	736.07	736.05	736.03	736.01	735.99	735.97	735.96
E. EDGE OF SLAB	735.96	735.95	735.93	735.91	735.89	735.87	735.85	735.83	735.82	735.80	735.78	735.76	735.74	735.72	735.70	735.68	735.67	735.65	735.63	735.61	735.59



CAMBER DIAGRAM

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

SURVEY TOP OF SLAB ELEVATIONS

LOCATION	℄ OF S. ABUT.	5/10 PT. SPAN 1	℄ OF PIER	5/10 PT. SPAN 2	℄ OF N. ABUT.
W. EDGE OF SLAB					
℄ OF STRUCTURE					
E. EDGE OF SLAB					

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

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-240

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SUPERSTRUCTURE PLAN

SHEET 11 OF 12
68

8/18/2021
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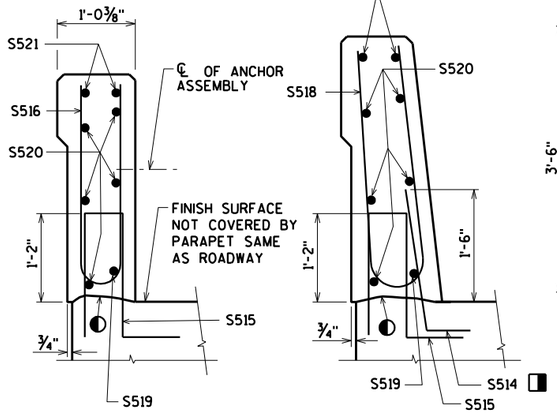
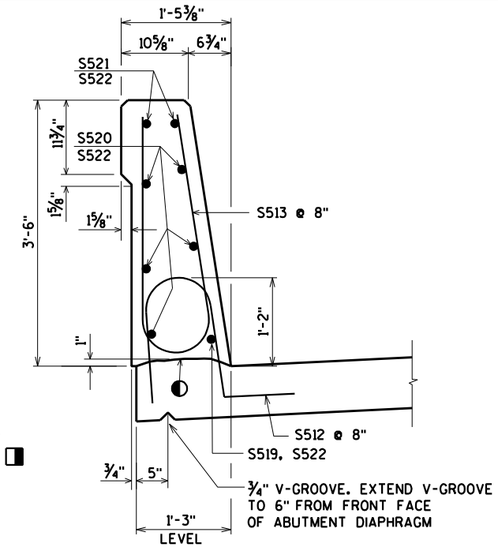
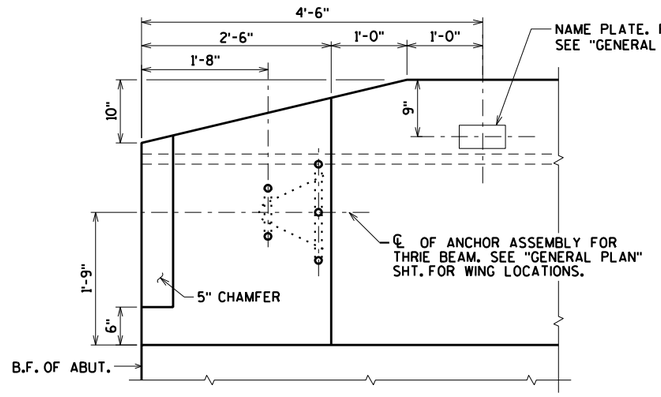


SECTION A

SECTION B

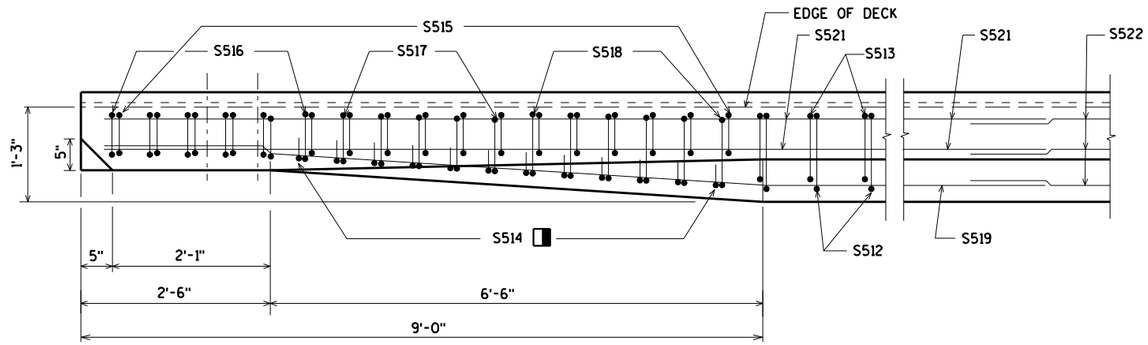


SECTION C



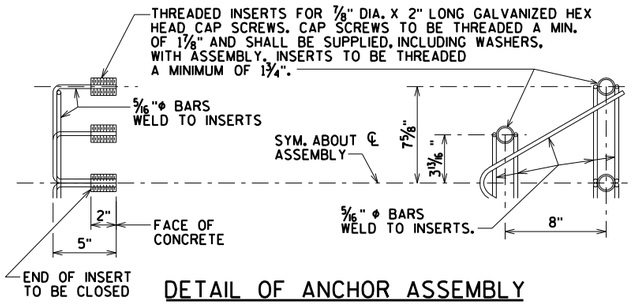
PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET



PLAN

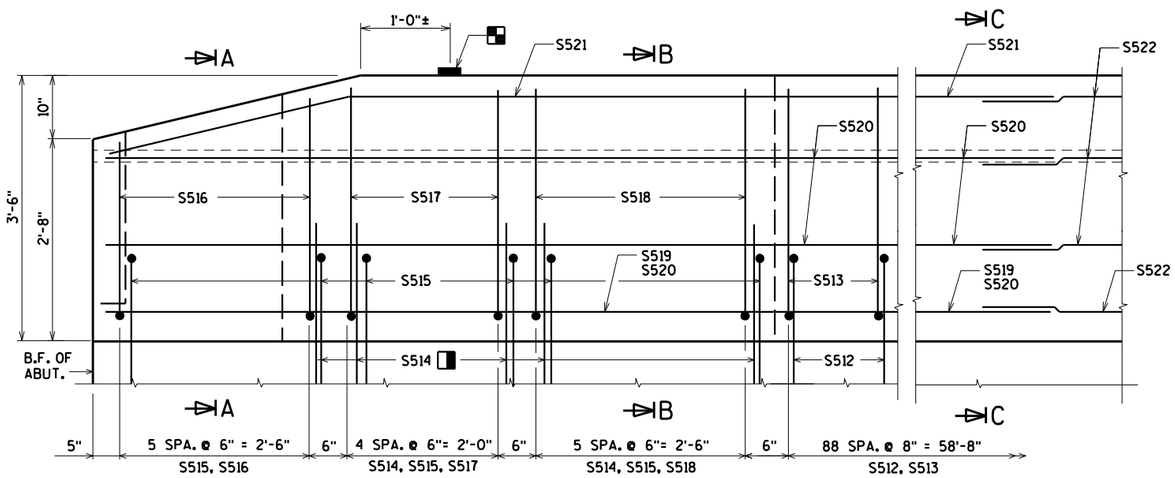
(SW & NE ENDS SHOWN, NW & SE ENDS SIMILAR)



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.



INSIDE ELEVATION

(SW & NE ENDS SHOWN, NW & SE ENDS SIMILAR)

■ BENCH MARK CAP - LOCATION AS SHOWN ON GENERAL PLAN SHEET

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◨ S514 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE S514 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

LAP LONG. BARS A MIN. OF 2'-11".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-240

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SINGLE SLOPE PARAPET 42SS

SHEET 12 OF 12
69

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8

8

CTH D TEMPORARY BYPASS COMPUTER EARTHWORK

Station	Distance	Area (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Unuseable Pavement Material	Fill	Cut	Salvaged / Unuseable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.30	
					Note 1	Note 4	Note 2	Note 5		Note 3
17+97.55	--	5.2	0.0	7.3						
18+00	2.45	5.1	0.0	9.3	0	0	1	0	1	-1
18+25	25.00	1.2	0.0	35.8	3	0	21	3	28	-25
18+50	25.00	0.0	0.0	48.6	1	0	39	4	79	-75
18+75	25.00	0.0	0.0	56.1	0	0	48	4	142	-138
19+00	25.00	0.0	0.0	51.5	0	0	50	4	207	-203
19+25	25.00	0.0	0.0	52.8	0	0	48	4	269	-265
19+50	25.00	0.0	0.0	51.8	0	0	48	4	332	-328
19+75	25.00	0.0	0.0	49.8	0	0	47	4	393	-389
20+00	25.00	0.0	0.0	113.0	0	0	75	4	491	-487
20+17.25	17.25	0.0	0.0	113.0	0	0	72	4	585	-581
TEMP. STRUCTURE	--	--	--	--	--	--	--	--	--	--
20+50.75	--	0.0	0.0	72.0	--	--	--	--	--	--
20+75	24.25	0.0	0.0	72.0	0	0	65	4	669	-665
21+00	25.00	0.0	0.0	44.8	0	0	54	4	740	-736
21+25	25.00	0.0	0.0	22.0	0	0	31	4	780	-776
21+50	25.00	0.0	0.0	28.9	0	0	24	4	810	-806
21+75	25.00	0.0	0.0	29.8	0	0	27	4	846	-842
22+00	25.00	2.1	0.0	11.3	1	0	19	5	870	-865
22+25	25.00	4.8	0.0	6.6	3	0	8	8	881	-873
22+37.01	12.01	5.6	0.0	2.4	2	0	2	10	884	-873
					10	0	680			

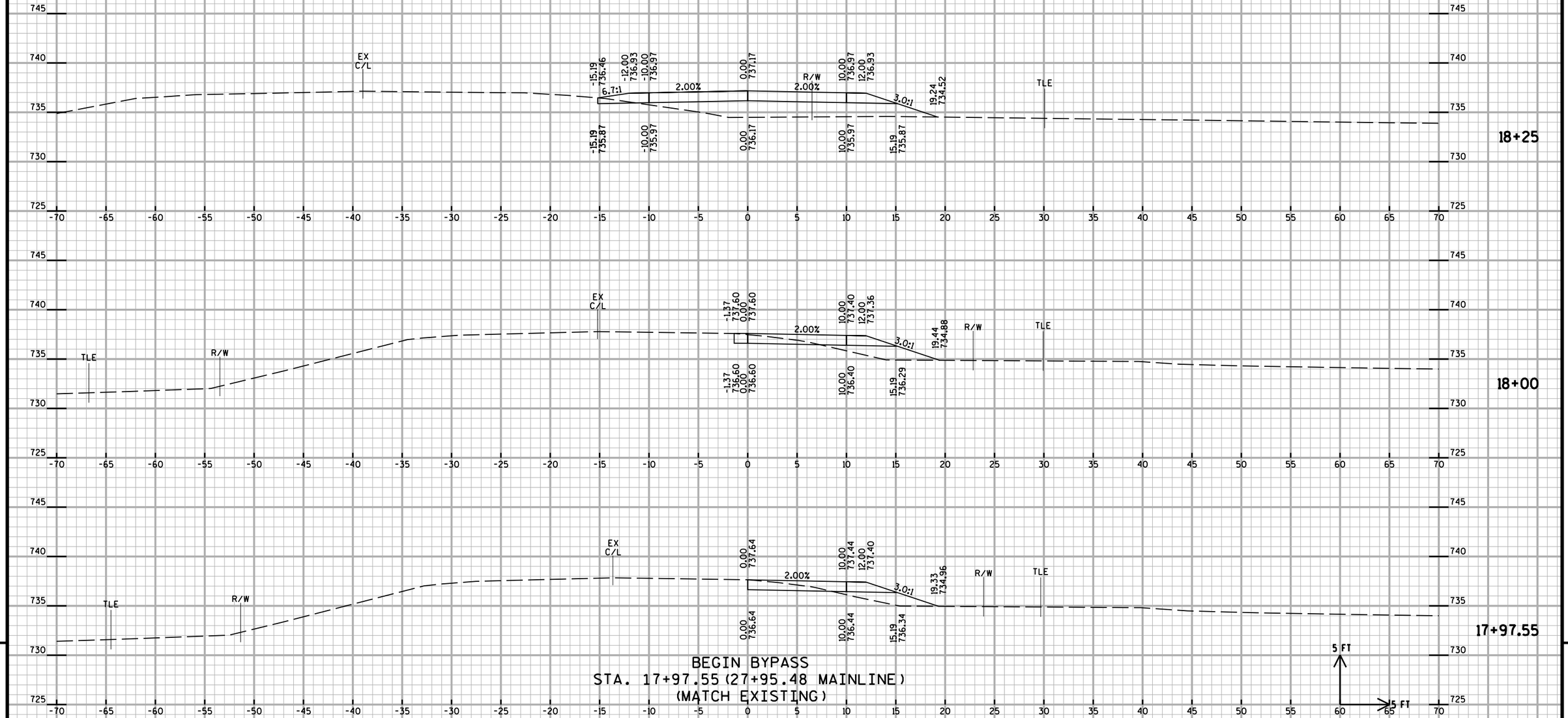
CTH D REMOVAL OF TEMPORARY BYPASS COMPUTER EARTHWORK

Station	Distance	Area (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Unuseable Pavement Material	Fill	Cut	Salvaged / Unuseable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.30	
					Note 1	Note 4	Note 2	Note 5		Note 3
17+97.55	--	--	--	--						
22+37.01	439.46	--	--	--	1054	0	10	1054	14	1041

Base Aggregate Dense **181** CY

Note 1 - Cut	Cut includes existing asphalt pavement.
Note 2 - Fill	Volume needed to be filled.
Note 3 - Mass Ordinate	(Cut) - (Fill * 1.30)
Note 4 - Salvaged / Unuseable Pavement Material	Existing asphalt pavement to be removed from Cut.
Note 5 - Cut	Cut reduced by salvaged/unuseable asphaltic pavement

STA. 17+97.55 TO 18+25



BEGIN BYPASS
STA. 17+97.55 (27+95.48 MAINLINE)
(MATCH EXISTING)

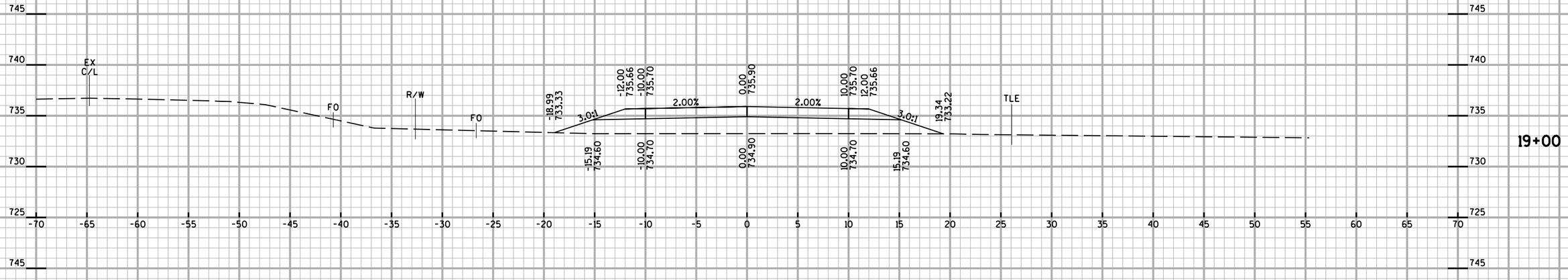
9 9

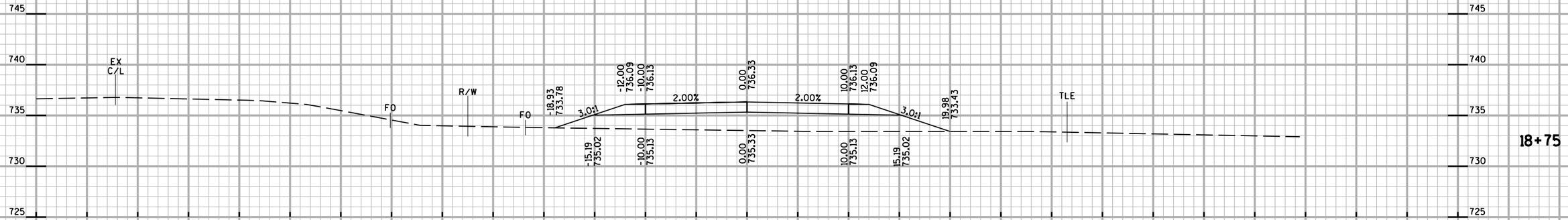
PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	CROSS SECTIONS - TEMPOARY BYPASS	SHEET	E

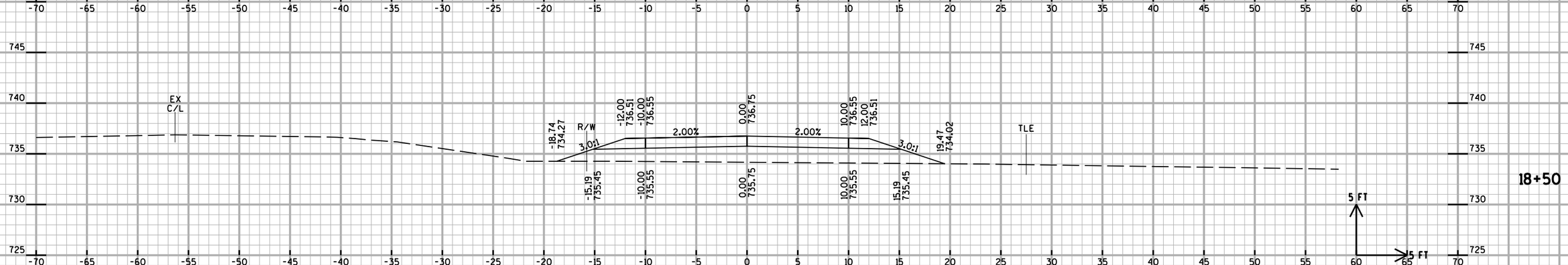
FILE NAME : I:\42\42-1170.00 - La Crosse Co, CTH D over Halfway Creek\Roadway\421170_xs bypass.dgn PLOT DATE : 11/3/2022 PLOT BY : walderak PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 18+50 TO 19+00







9

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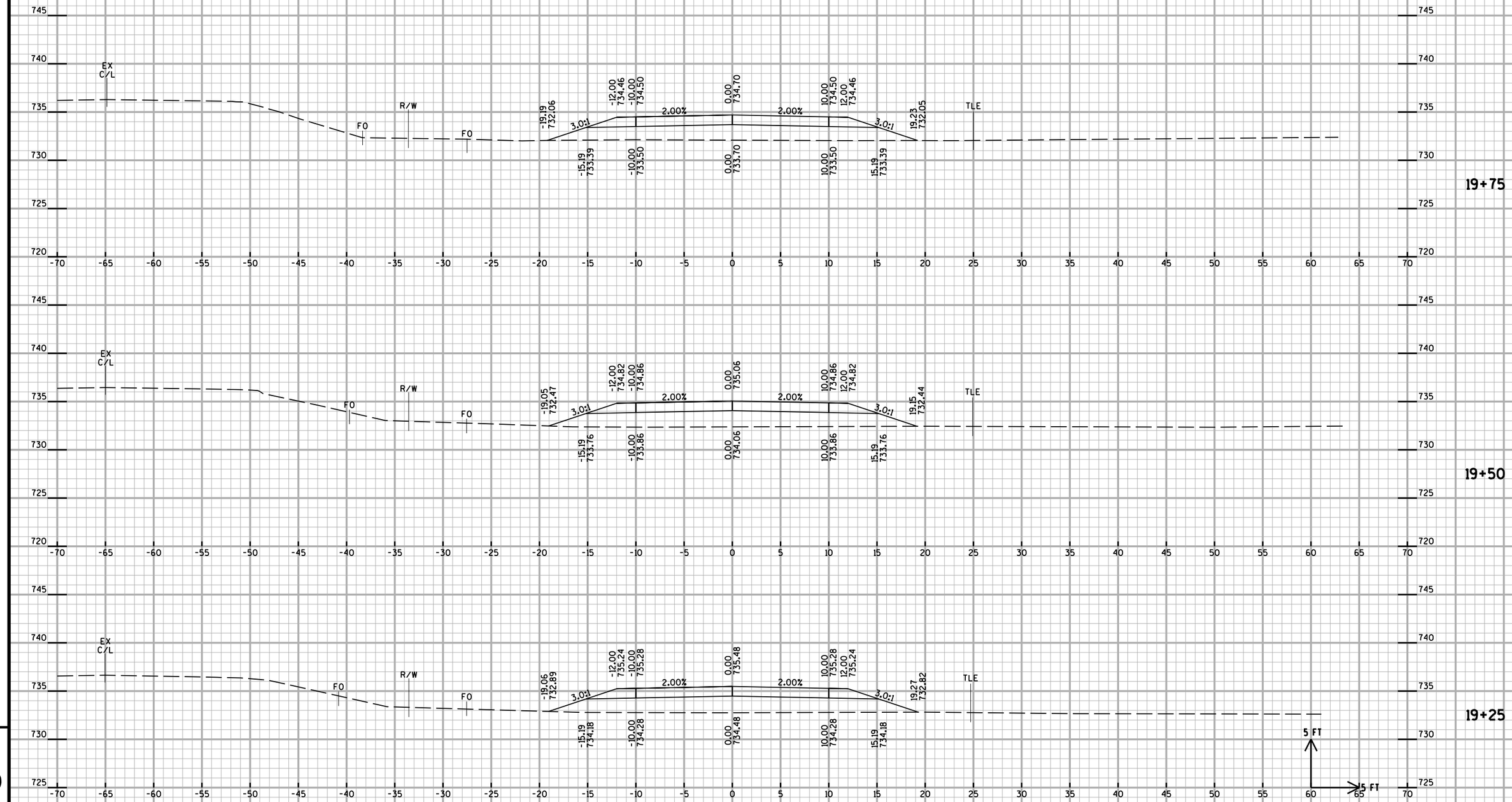
PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	CROSS SECTIONS - TEMPOARY BYPASS	SHEET	E

FILE NAME : I:\42\42-1170.00 - La Crosse Co, CTH D over Halfway Creek\Roadway\421170_xs bypass.dgn PLOT DATE : 11/3/2022 PLOT BY : walderak PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 19+25 TO 19+75



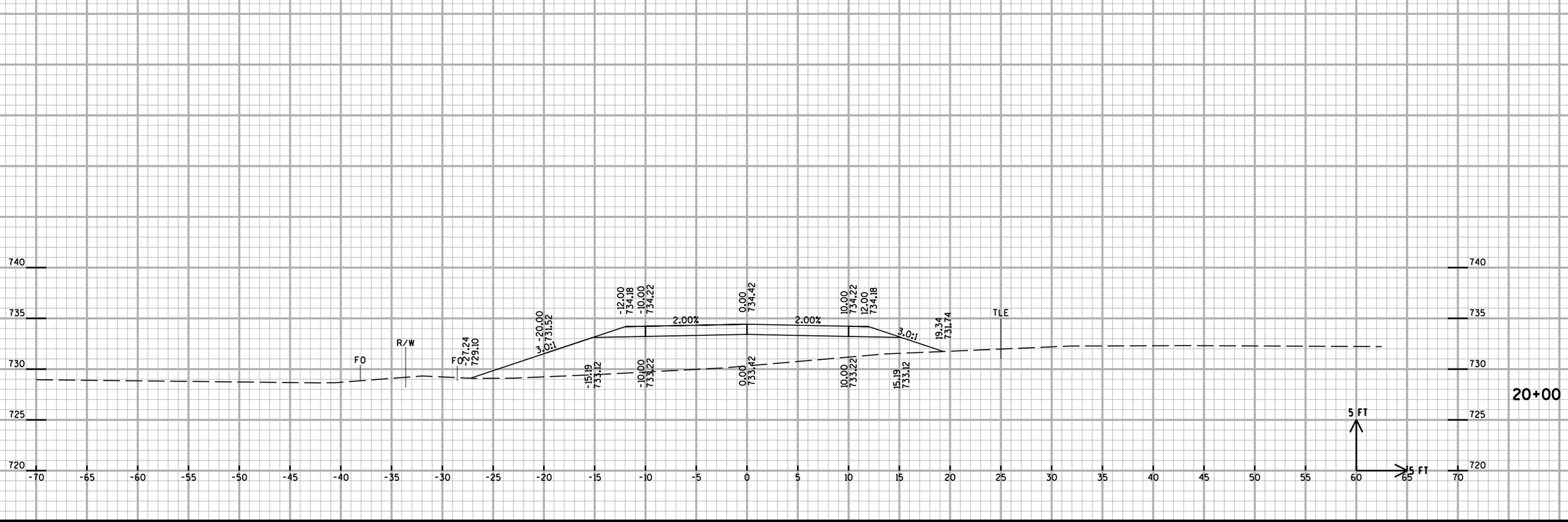
PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	CROSS SECTIONS - TEMPOARY BYPASS	SHEET	E

FILE NAME : I:\42\42-1170.00 - La Crosse Co, CTH D over Halfway Creek\Roadway\421170_xs bypass.dgn PLOT DATE : 11/3/2022 PLOT BY : walderak PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 20+00 TO 20+00

TEMPORARY STRUCTURE
STA. 20+34



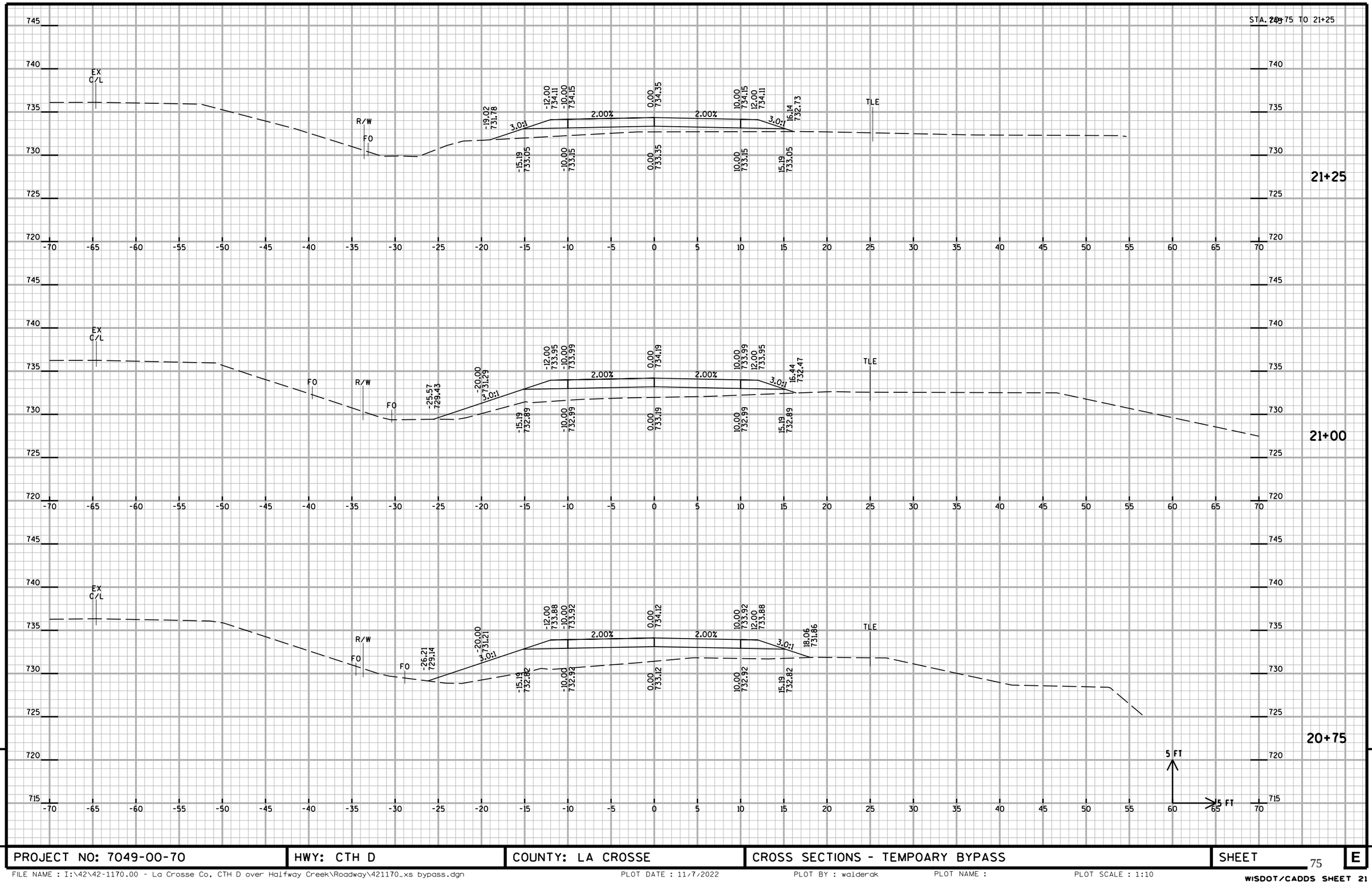
9 9

PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	CROSS SECTIONS - TEMPOARY BYPASS	SHEET 74	E

FILE NAME : I:\42\42-1170.00 - La Crosse Co, CTH D over Halfway Creek\Roadway\421170_xs bypass.dgn PLOT DATE : 11/7/2022 PLOT BY : walderak PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 20+75 TO 21+25

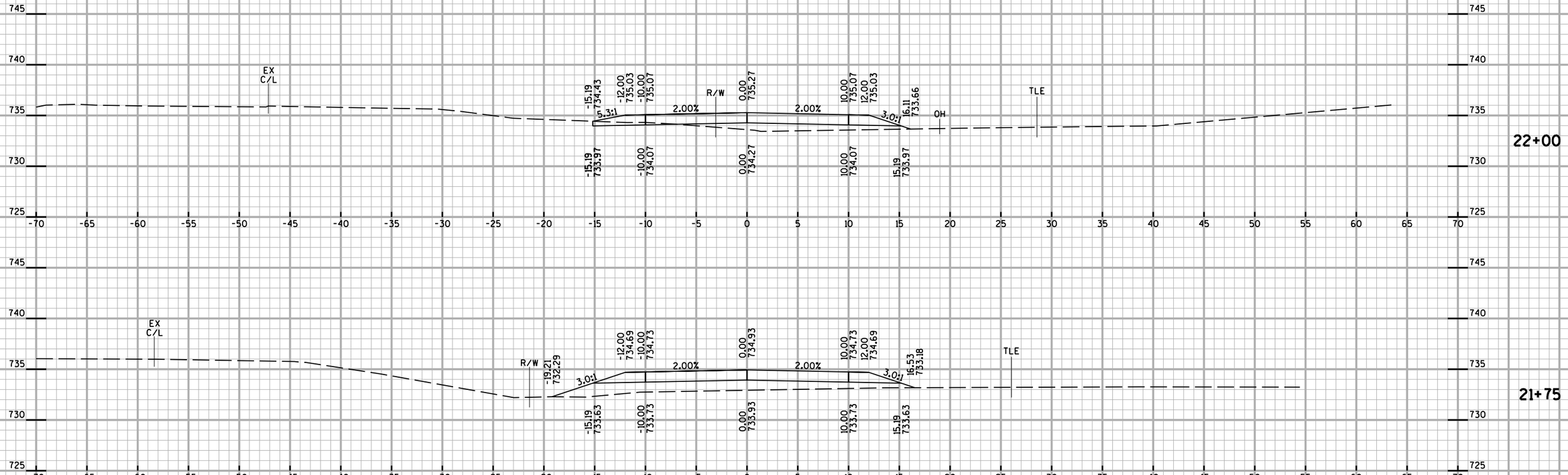


PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	CROSS SECTIONS - TEMPOARY BYPASS	SHEET	E

FILE NAME : I:\42\42-1170.00 - La Crosse Co, CTH D over Halfway Creek\Roadway\421170_xs bypass.dgn PLOT DATE : 11/7/2022 PLOT BY : walderak PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 21+50 TO 22+00



9

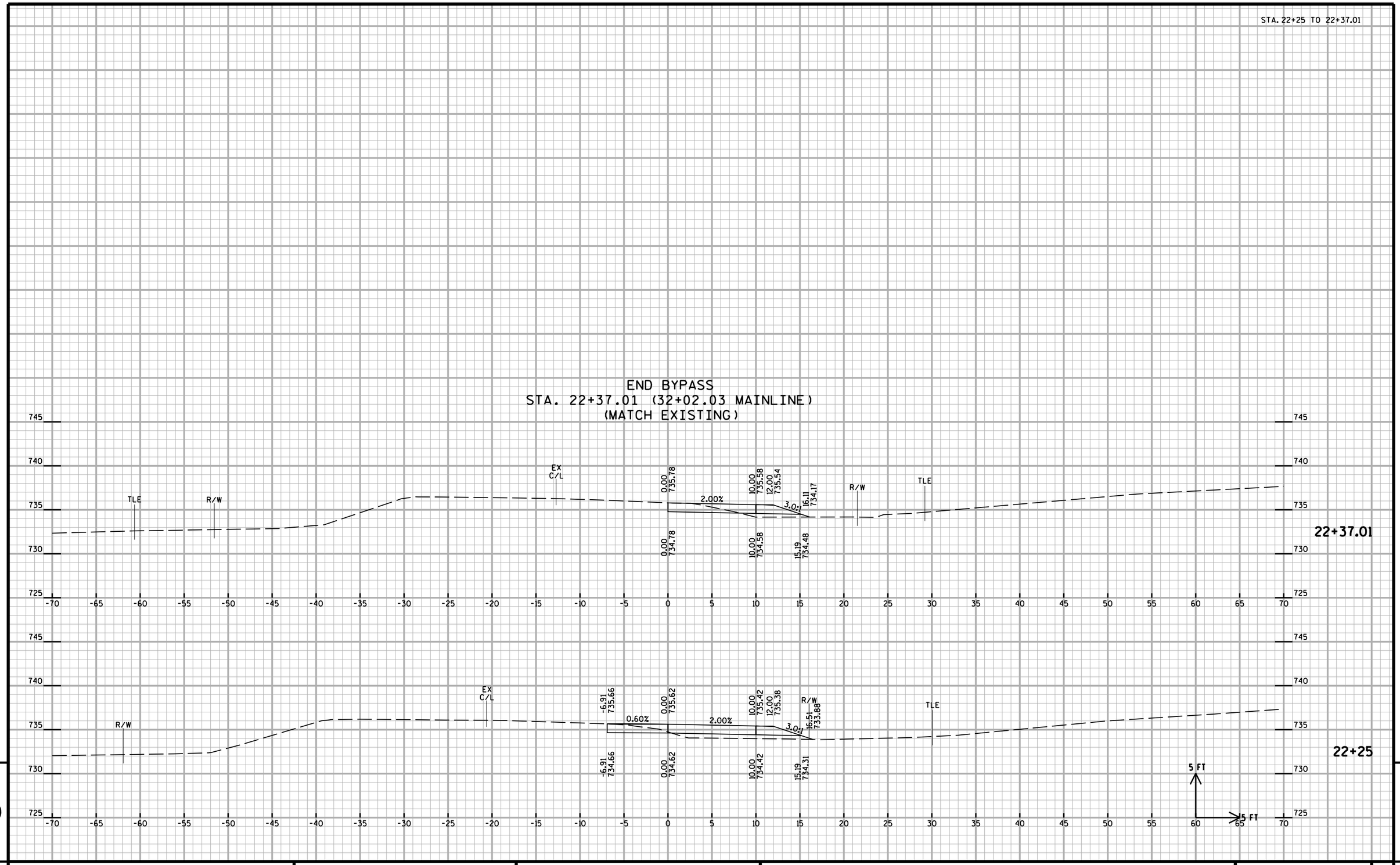
9

PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	CROSS SECTIONS - TEMPOARY BYPASS	SHEET	E

FILE NAME : I:\42\42-1170.00 - La Crosse Co, CTH D over Halfway Creek\Roadway\421170_xs bypass.dgn PLOT DATE : 5/16/2023 PLOT BY : walderak PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

END BYPASS
STA. 22+37.01 (32+02.03 MAINLINE)
(MATCH EXISTING)



745 745

9 9

PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	CROSS SECTIONS - TEMPOARY BYPASS	SHEET 77	E

FILE NAME : I:\42\42-1170.00 - La Crosse Co, CTH D over Halfway Creek\Roadway\421170_xs bypass.dgn PLOT DATE : 11/3/2022 PLOT BY : walderak PLOT NAME : PLOT SCALE : 1:10

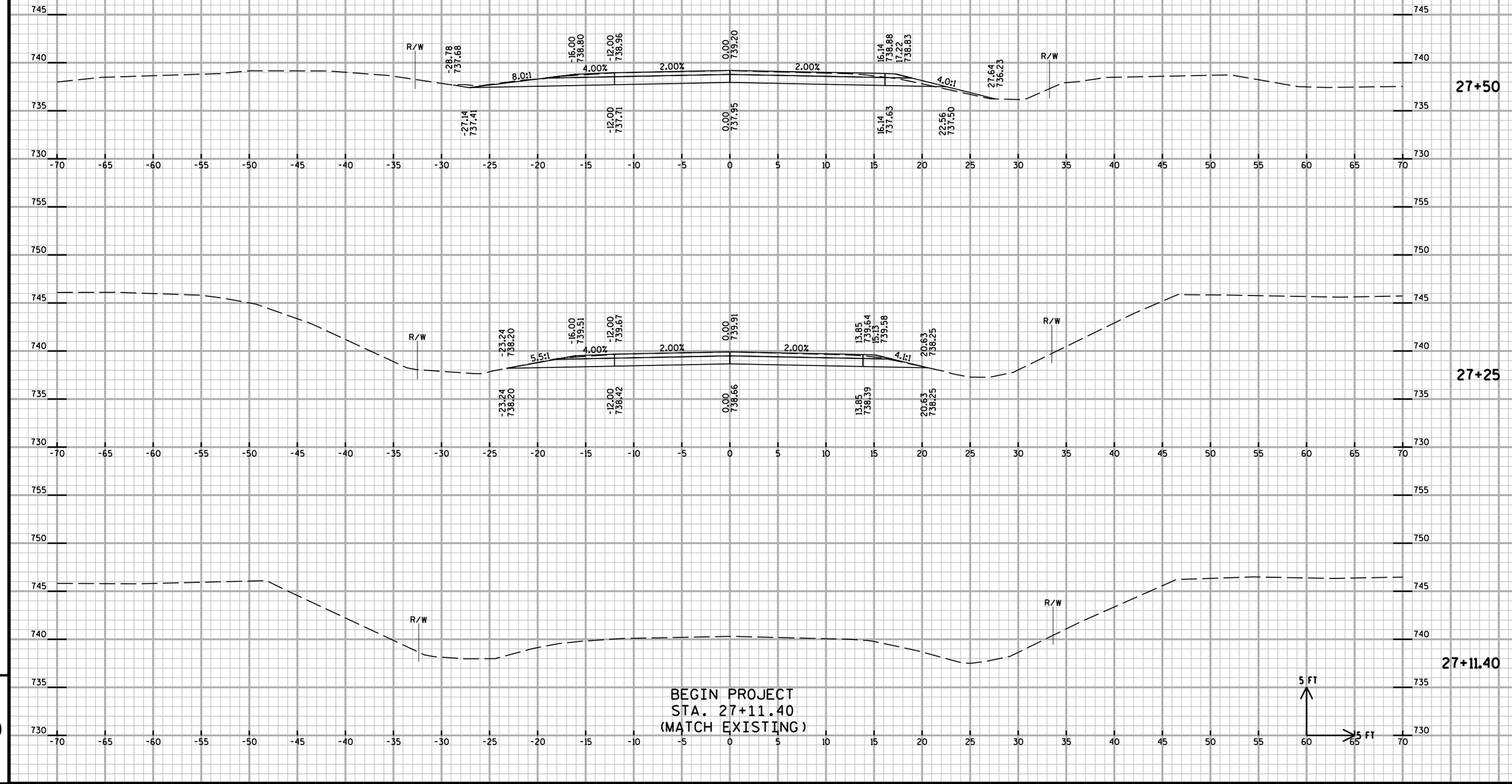
WISDOT/CADDS SHEET 21

CTH D COMPUTER EARTHWORK

Station	Distance	Area (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Unuseable Pavement Material	Fill	Cut	Salvaged / Unuseable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.30	
					Note 1	Note 4	Note 2	Note 5		Note 3
27+11.4	--	0.0	13.0	0.0						
27+25	13.60	44.8	13.0	0.0	11	7	0	5	0	5
27+50	25.00	47.7	13.0	1.1	43	12	0	36	1	35
27+75	25.00	44.2	13.0	4.8	43	12	3	66	4	62
28+00	25.00	42.1	13.0	18.7	40	12	11	94	18	76
28+25	25.00	43.2	13.0	25.1	40	12	20	121	45	77
28+43.4	18.40	44.0	13.0	25.7	30	9	17	142	67	75
28+50	6.60	45.0	13.0	24.8	11	3	6	150	75	75
28+68.18	18.18	46.0	13.0	25.6	31	9	17	172	97	75
28+68.4	0.22	46.0	13.0	25.5	0	0	0	172	97	75
28+75	6.60	45.6	13.0	22.4	11	3	6	180	105	75
28+93.18	18.18	46.1	13.0	14.1	31	9	12	202	121	81
28+93.4	0.22	46.2	13.0	14.0	0	0	0	203	121	81
29+00	6.60	46.4	13.0	10.9	11	3	3	211	125	86
29+18.18	18.18	45.7	13.0	2.4	31	9	4	233	131	102
29+25	6.82	44.8	13.0	3.8	11	3	1	241	132	109
29+50	25.00	43.2	13.0	8.8	41	12	6	270	140	130
29+70.75	20.75	43.2	13.0	8.8	33	10	7	293	148	145
B-32-240	--	--	--	--	--	--	--	--	--	--
30+47.25	--	66.6	13.0	11.0	--	--	--	--	--	--
30+75	27.75	66.6	13.0	11.0	68	13	11	348	163	185
30+99.75	24.75	62.7	13.0	10.8	59	12	10	395	176	219
31+00	0.25	62.7	13.0	10.9	1	0	0	396	176	220
31+24.75	24.75	56.5	13.0	15.1	55	12	12	439	192	247
31+25	0.25	56.4	13.0	15.1	1	0	0	439	192	247
31+49.75	24.75	45.9	13.0	28.0	47	12	20	474	218	256
31+50	0.25	45.8	13.0	28.0	0	0	0	474	218	256
31+74.75	24.75	41.4	13.0	32.2	40	12	28	502	254	249
31+75	0.25	41.3	13.0	32.1	0	0	0	503	254	248
32+00	25.00	36.8	13.0	24.8	36	12	26	527	288	238
32+25	25.00	37.1	13.0	11.9	34	12	17	549	310	238
32+50	25.00	45.9	13.0	0.0	38	12	6	575	318	258
32+64.81	14.81	42.8	13.0	0.0	24	7	0	592	318	275
					822	230	244			

Note 1 - Cut	Cut includes existing asphalt pavement.
Note 2 - Fill	Volume needed to be filled.
Note 3 - Mass Ordinate	(Cut) - (Fill * 1.30)
Note 4 - Salvaged / Unuseable Pavement Material	Existing asphalt pavement to be removed from Cut.
Note 5 - Cut	Cut reduced by salvaged/unuseable asphaltic pavement

STA. 27+11.40 TO 27+50

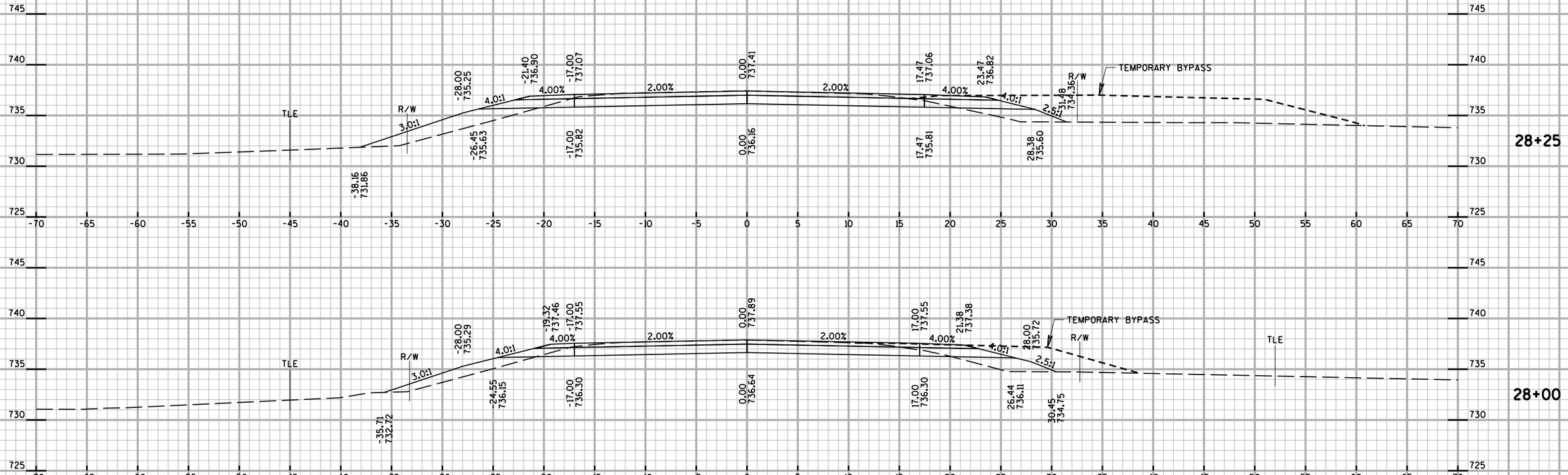


PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1170.00 - La Crosse Co, CTH D over Halfway Creek\Roadway\421170_xs rev2.dgn PLOT DATE : 11/3/2022 PLOT BY : walderak PLOT NAME : PLOT SCALE : 1:10

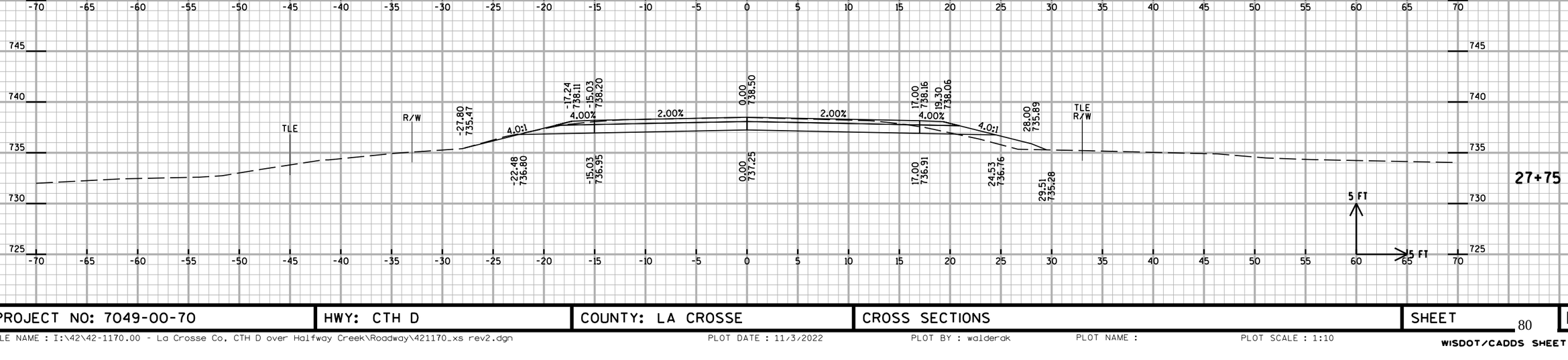
WISDOT/CADDS SHEET 21

STA. 27+75 TO 28+25



28+25

28+00



27+75

9

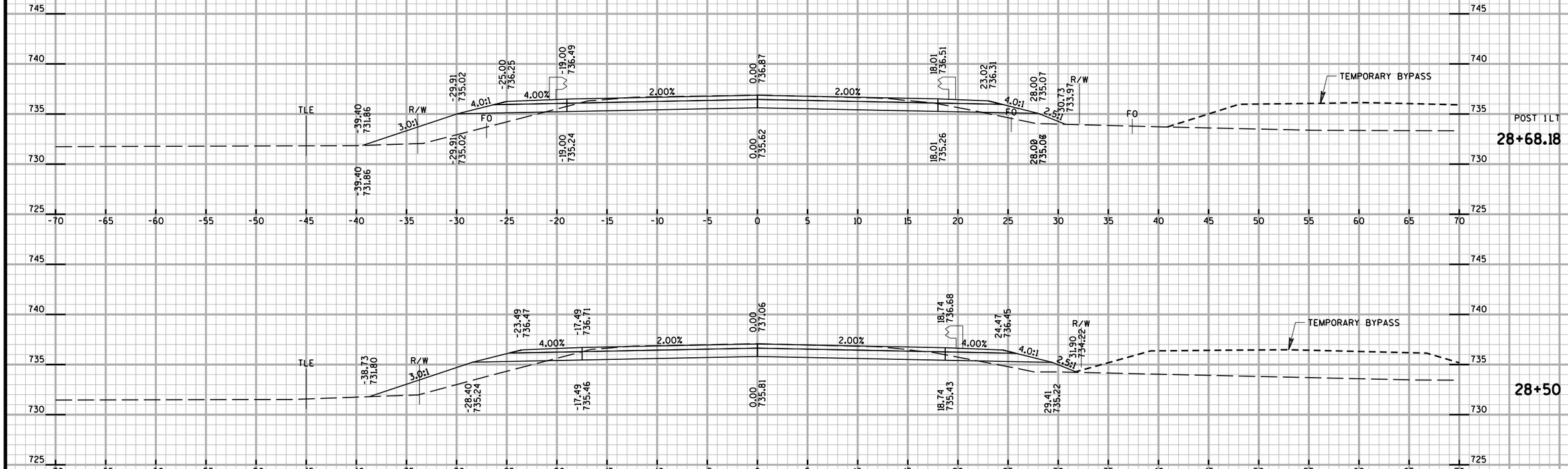
9

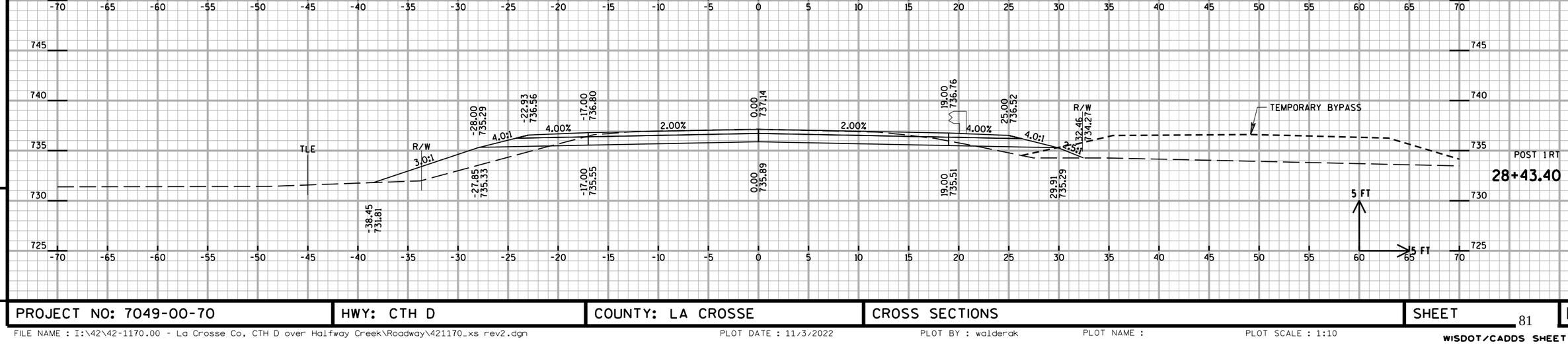
PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1170.00 - La Crosse Co, CTH D over Halfway Creek\Roadway\421170_xs rev2.dgn PLOT DATE : 11/3/2022 PLOT BY : walderak PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 28+43.40 TO 28+68.18





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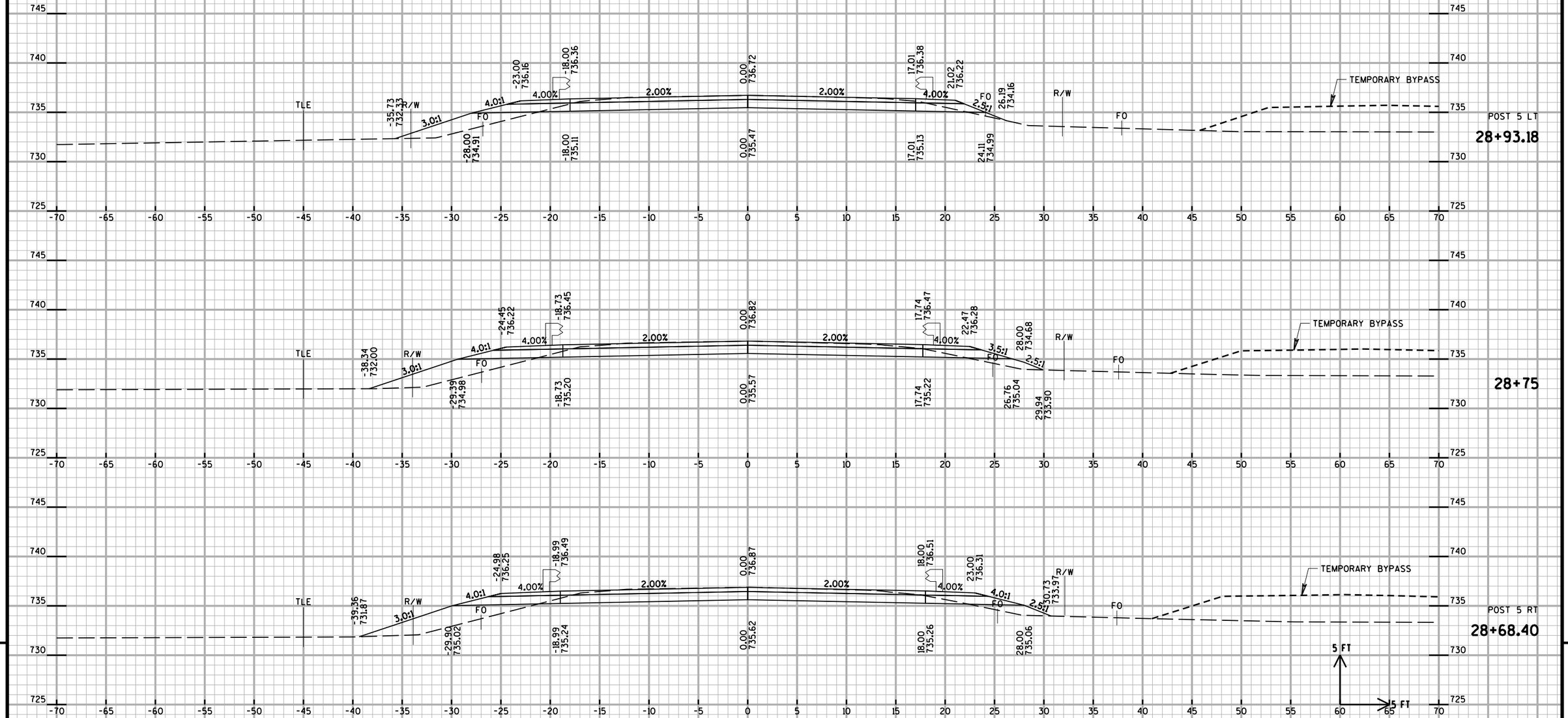
PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1170.00 - La Crosse Co, CTH D over Halfway Creek\Roadway\421170_xs rev2.dgn PLOT DATE : 11/3/2022 PLOT BY : walderak PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 28+68.40 TO 28+93.18



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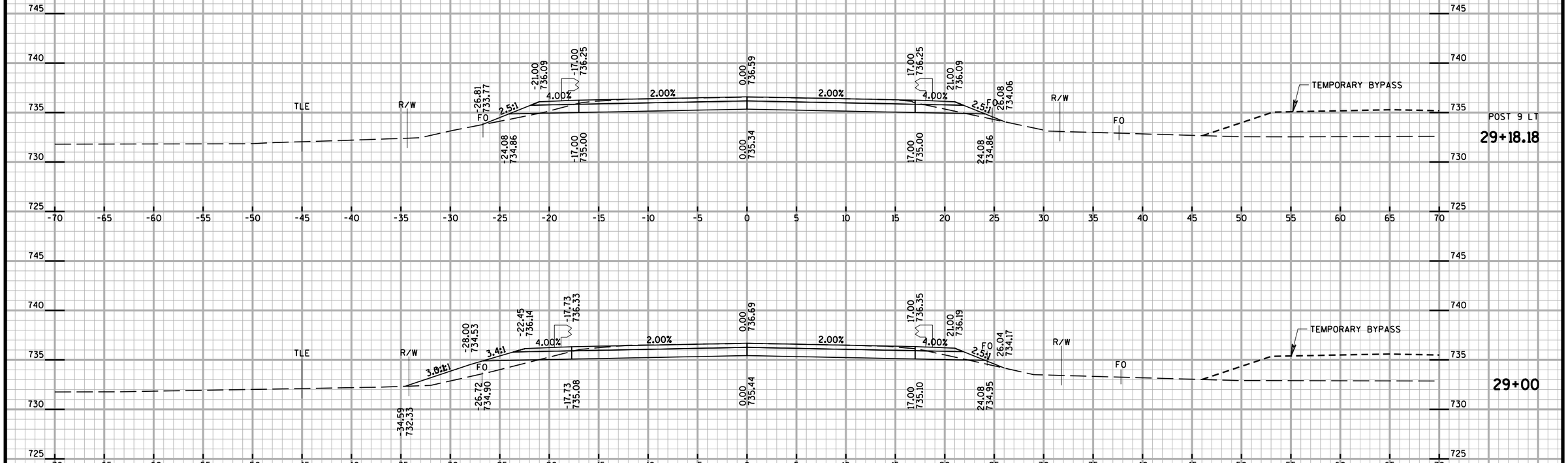
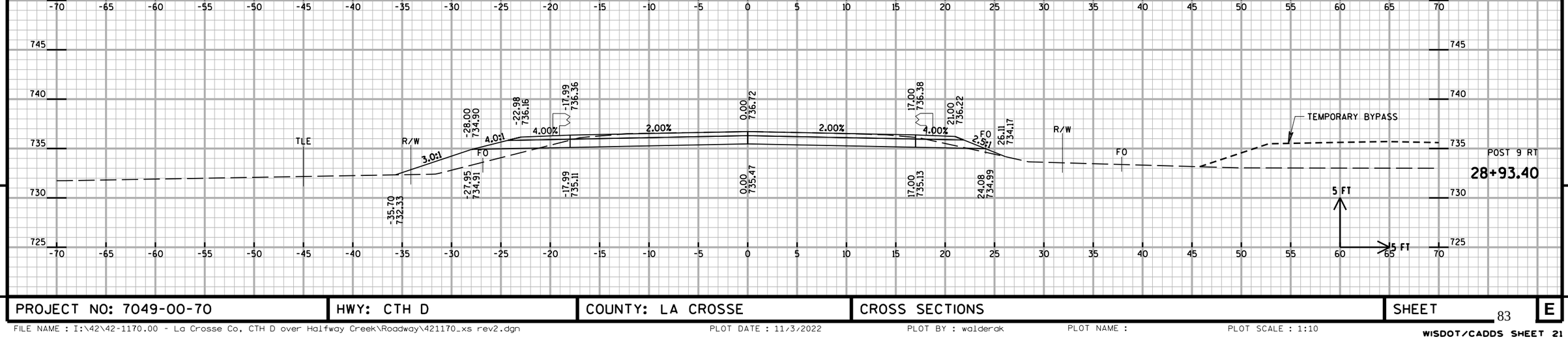
PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1170.00 - La Crosse Co, CTH D over Halfway Creek\Roadway\421170_xs rev2.dgn PLOT DATE : 11/3/2022 PLOT BY : walderak PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 28+93.40 TO 29+18.18





9 9

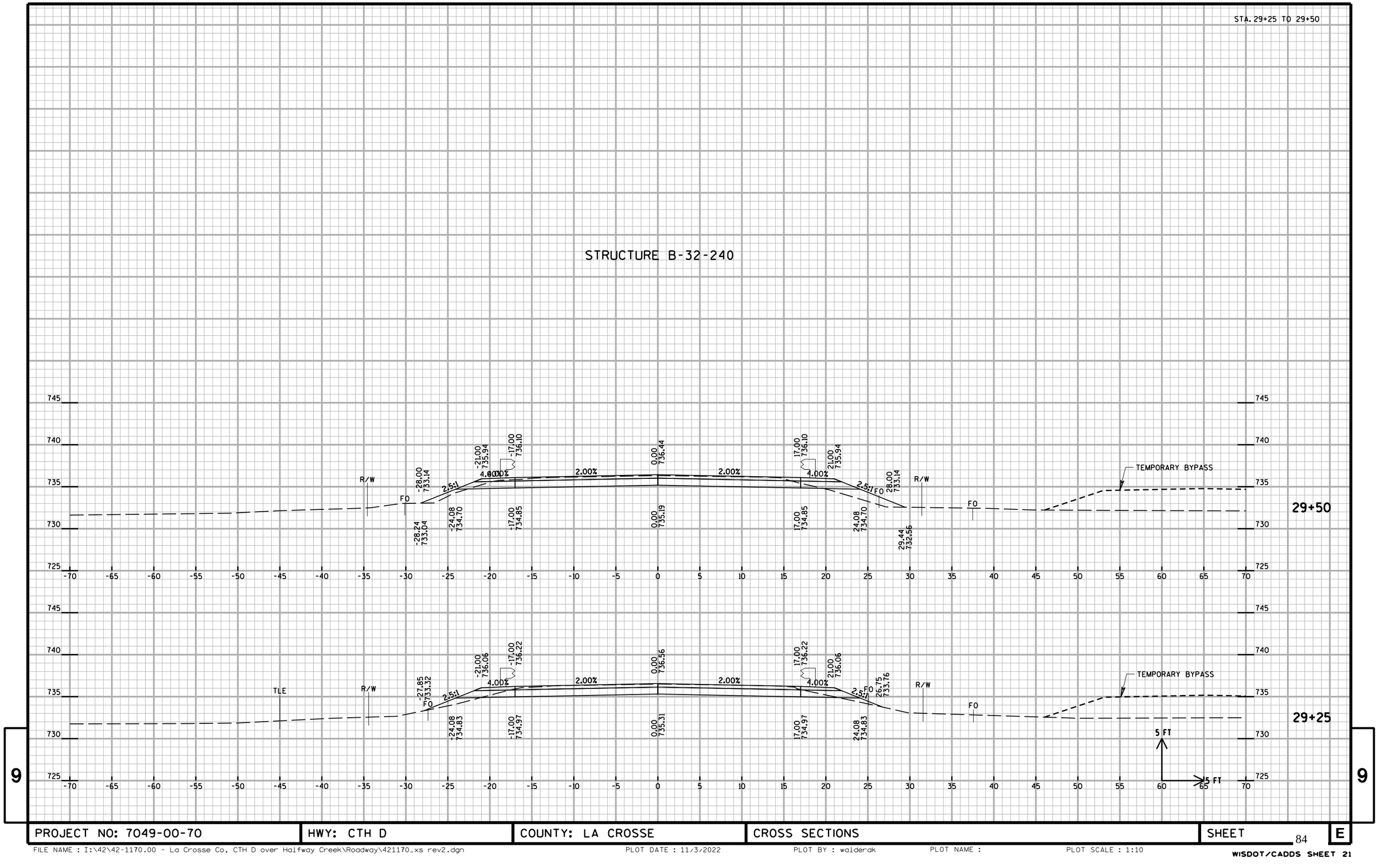
PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1170.00 - La Crosse Co, CTH D over Halfway Creek\Roadway\421170_xs rev2.dgn PLOT DATE : 11/3/2022 PLOT BY : walderak PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 29+25 TO 29+50

STRUCTURE B-32-240

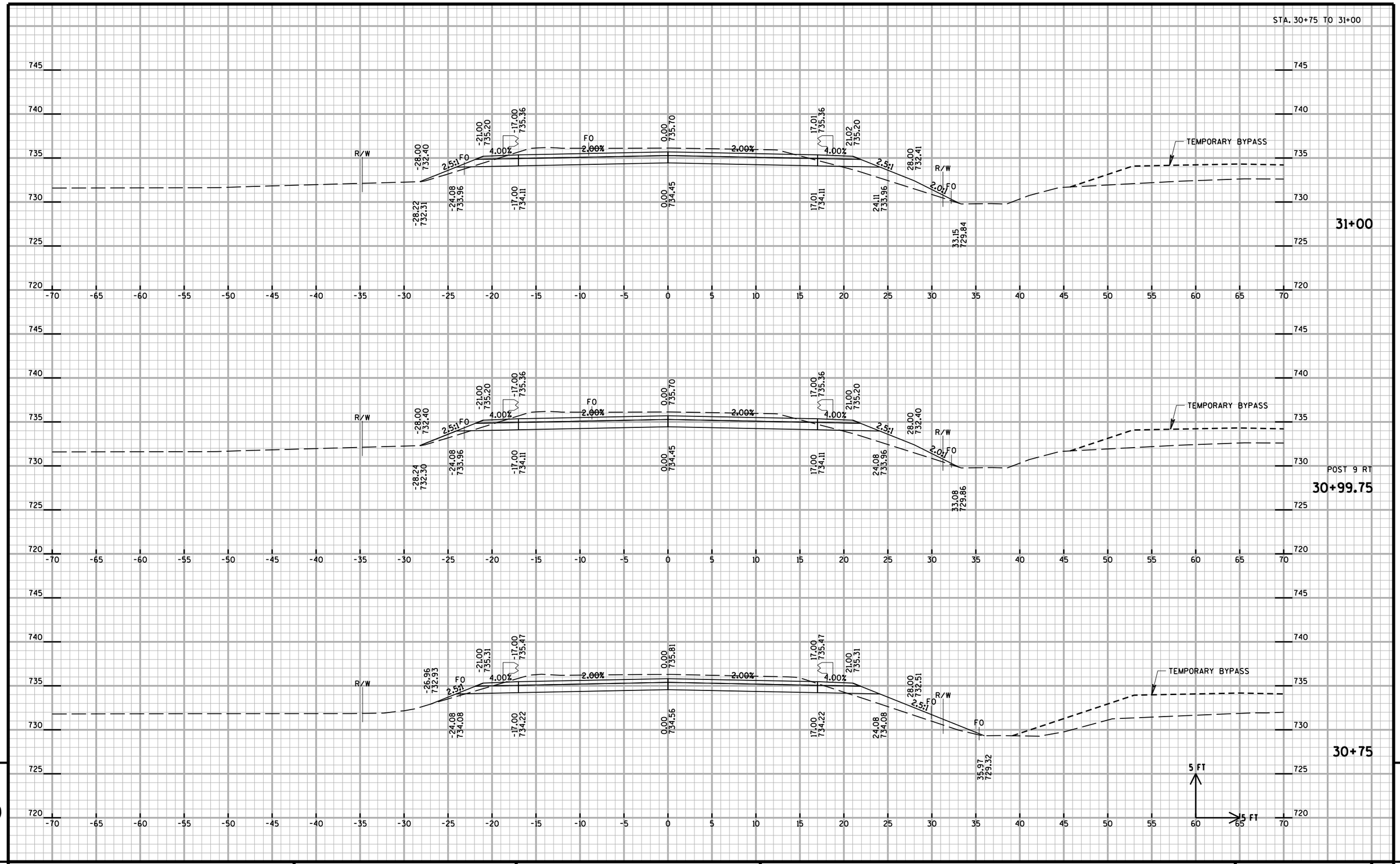


PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1170.00 - La Crosse Co, CTH D over Halfway Creek\Roadway\421170_xs rev2.dgn PLOT DATE : 11/3/2022 PLOT BY : walderak PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 30+75 TO 31+00



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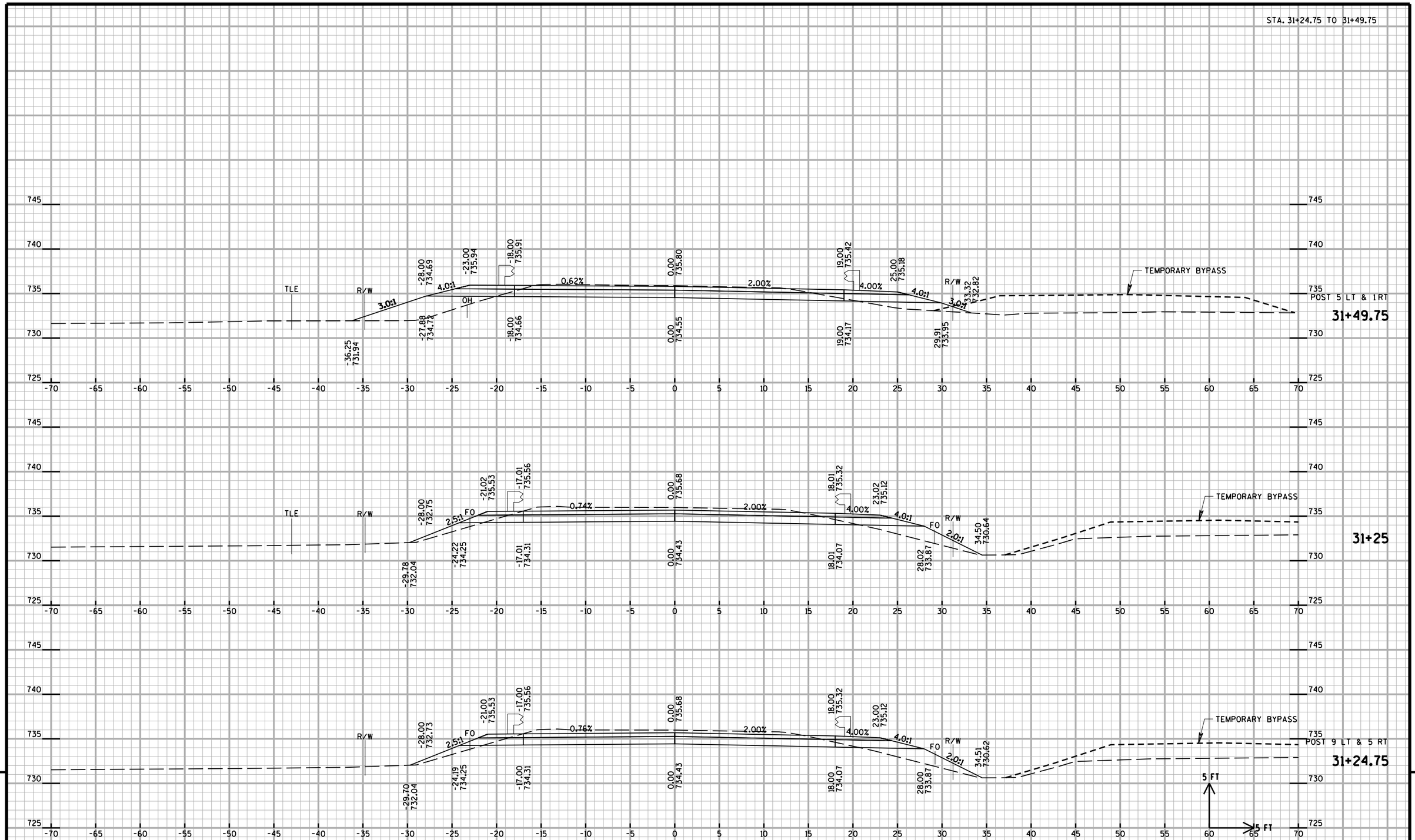
PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1170.00 - La Crosse Co, CTH D over Halfway Creek\Roadway\421170_xs rev2.dgn | PLOT DATE : 11/3/2022 | PLOT BY : walderak | PLOT NAME : | PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 31+24.75 TO 31+49.75

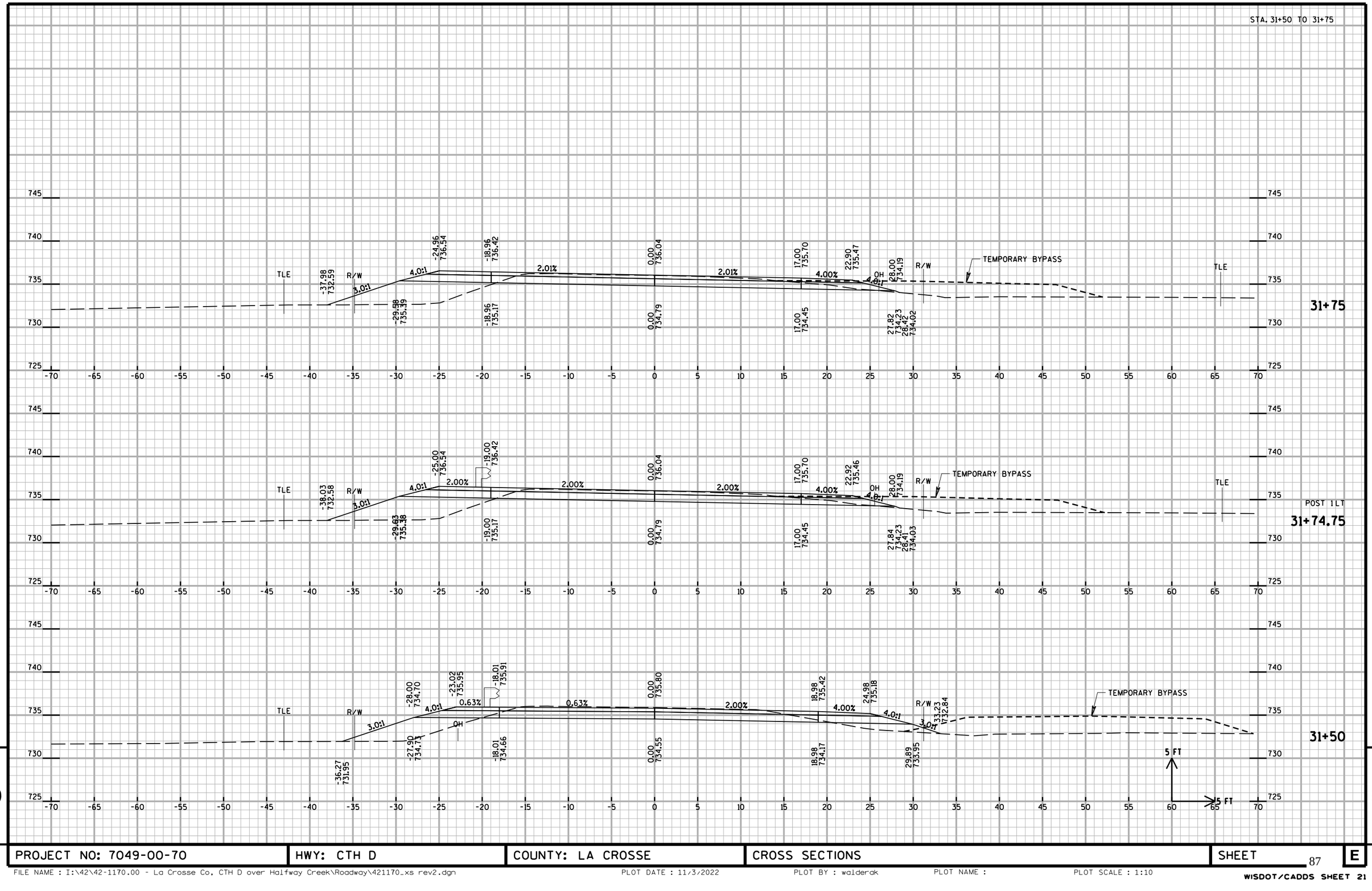


PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1170.00 - La Crosse Co, CTH D over Halfway Creek\Roadway\421170_xs rev2.dgn PLOT DATE : 11/3/2022 PLOT BY : walderak PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 31+50 TO 31+75



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PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1170.00 - La Crosse Co, CTH D over Halfway Creek\Roadway\421170_xs rev2.dgn PLOT DATE : 11/3/2022 PLOT BY : walderak PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 32+00 TO 32+64.81

END PROJECT
STA. 32+64.81
(MATCH EXISTING)

32+64.81

R/W
R/W

32+50

R/W
EXISTING 18" DIA. CMCP
TO REMAIN IN PLACE
-23.23 737.51
-23.23 737.51
-13.50 738.18
-12.00 738.09
-12.00 736.84
0.00 737.37
0.00 736.12
14.20 736.52
16.33 736.43
14.20 735.27
23.13 734.73
28.06 735.18
6.85%
6.00%
6.00%
4.00%
4.0:1
9.00%
R/W

32+25

TLE
R/W
-28.00 734.81
-29.45 734.33
-16.55 737.67
-20.75 736.62
-12.00 737.46
-12.00 736.21
0.00 736.89
0.00 735.64
17.00 736.08
18.81 736.00
17.00 734.83
25.05 734.44
30.58 734.40
4.0:1
4.76%
4.76%
4.0:1
0.83%
TLE
R/W

32+00

TLE
R/W
-28.00 735.31
-34.03 733.30
-20.79 737.12
-25.19 736.02
-14.79 736.91
-14.79 735.66
0.00 736.41
0.00 735.16
17.00 735.84
20.73 735.69
17.00 734.59
26.41 734.27
P7.10 734.10
3.0:1
4.0:1
3.39%
3.39%
4.00%
4.0:1
TEMPORARY BYPASS
R/W
TLE

5 FT
5 FT

9
9

PROJECT NO: 7049-00-70	HWY: CTH D	COUNTY: LA CROSSE	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1170.00 - La Crosse Co, CTH D over Halfway Creek\Roadway\421170_xs rev2.dgn PLOT DATE : 11/3/2022 PLOT BY : walderak PLOT NAME : PLOT SCALE : 1:10
WISDOT/CADDS SHEET 21

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov