LAX | FEBRUARY 2021

PROJECT ID: 5476-00-70
WITH: N/A

COUNTY: VERNON

ORDER OF SHEETS

TOTAL SHEETS = 86

05

N

DESIGN DESIGNATION

A.A.D.T.	2021	=	2565
A.A.D.T.	2041	=	3810
D.H.V.	2041	=	343
D.D.		=	60/40
T.		=	10% (ASSUMED)
DESIGN SPEED		=	60 MPH
ESALS		=	1,163,450

CONVENTIONAL SYMBOLS

PLAN
- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STH 162 - STH 35

(S CHIPMUNK COULEE CR BR B-62-0064)

CTH K

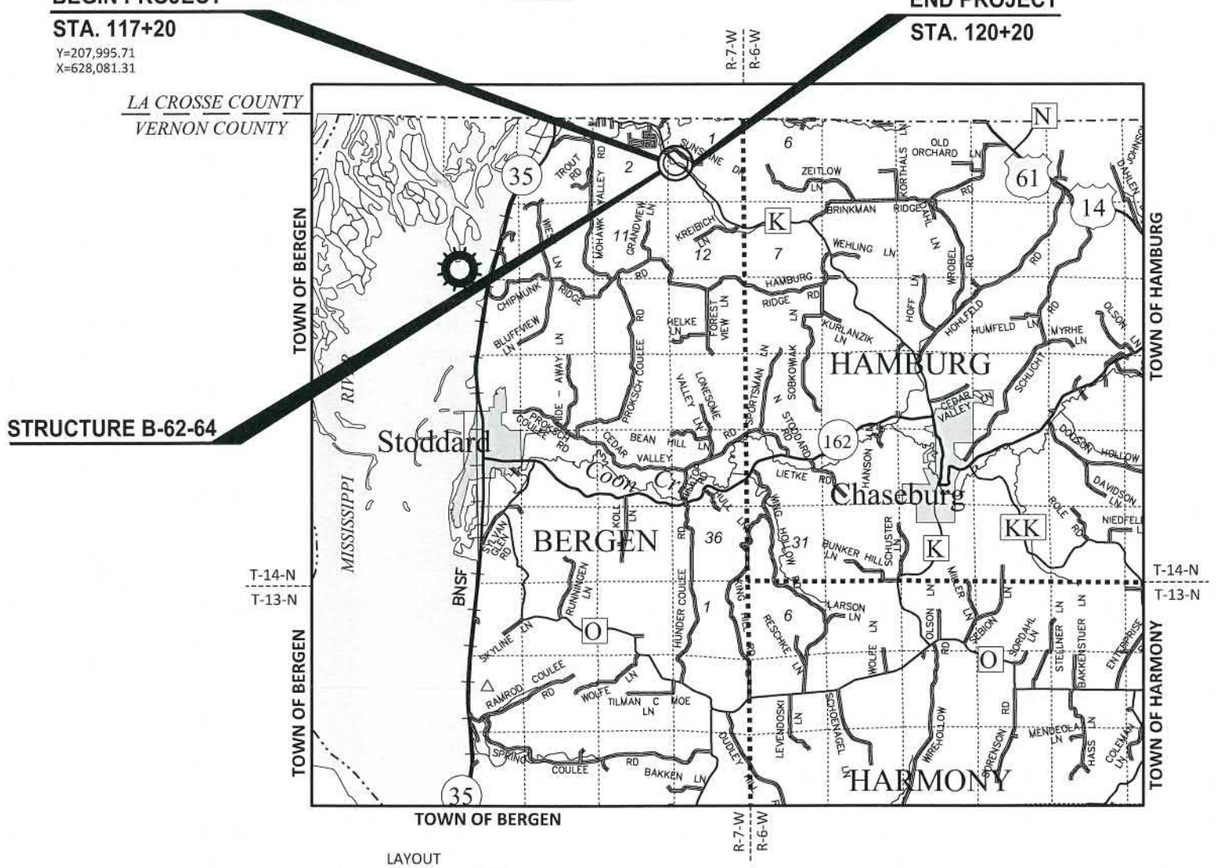
VERNON COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5476-00-70	———	—

STATE PROJECT NUMBER
5476-00-70

BEGIN PROJECT
STA. 117+20
Y=207,995.71
X=628,081.31

END PROJECT
STA. 120+20



LAYOUT
SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 0.057 MILES

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

ELEVATION SHOWN ON THIS PLAN ARE REFERENCE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD (2012).

ACCEPTED FOR

COUNTY of VERNON

10-16-20 (Date) Orin Hewitt (Highway Commissioner)

ORIGINAL PLANS PREPARED BY

JEWELL
associates engineers, inc
Engineers - Architects - Surveyors

WISCONSIN
ROBERT B. HANOLD
E-45655
PRAIRIE DU SAC
WI
PROFESSIONAL ENGINEER
10/8/20

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	JEWELL ASSOCIATES ENGINEERS, INC.
Designer	JEWELL ASSOCIATES ENGINEERS, INC.
Project Manager	ALEIGHA BURG, P.E.
Regional Examiner	SW REGION
Regional Supervisor	OSCAR I. WINGER

APPROVED FOR THE DEPARTMENT

DATE: 10/27/2020 Aleigha Burg, P.E. Digitally signed by Aleigha Burg, P.E. Date: 2020.10.27 06:20:18-05'00' (Signature)

E

GENERAL NOTES

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

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE, AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS COMMON EXCAVATION. EXACT LOCATIONS OF EBS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

UNLESS SHOWN OTHERWISE, DISTURBED AREAS SHOWN WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS ARE TO BE FERTILIZED (TYPE B), SEEDED (USE SEED MIX NO. 20), AND MULCHED/EROSION MATTED AS DIRECTED BY THE ENGINEER. ALL POST CONSTRUCTION WET AREAS SHALL BE SEEDED WITH SEEDING MIXTURE NO. 60.

WHEN THE QUANTITY OF THE ITEM OF BASE AGGREGATE DENSE OR ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE, AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.

SILT FENCE SHALL BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD. SILT FENCE SHALL BE PLACED PRIOR TO CONSTRUCTION AND SHALL BE IN PLACE PRIOR TO STRUCTURE REMOVAL.

MULCH/EROSION MAT ALL MAINLINE SLOPES AS DIRECTED BY THE ENGINEER IN THE FIELD.

FILL EXPANSION IS VARIABLE AND IS ESTIMATED AT 25%.

REMOVAL OF ASPHALTIC SURFACES WHERE AN ABUTTING ASPHALTIC SURFACE IS TO REMAIN IN PLACE SHALL REQUIRE A SAWCUT MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD.

THE LOCATION OF ALL PERMANENT SIGNING SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD PRIOR TO PLACEMENT.

WETLANDS ARE PRESENT IN THE PROJECT LIMITS. THE CONTRACTOR SHALL NOT OPERATE EQUIPMENT OR STOCKPILE MATERIALS BEYOND THE EXISTING SLOPE INTERCEPT FROM STA. 116+80 - STA. 118+18, RT.

4-INCHES OF ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 2¼-INCH LOWER LAYER AND A 1¾-INCH UPPER LAYER. THE NOMINAL SIZE AGGREGATE USED FOR THE LOWER LAYER SHALL BE 12.5 MM.

ADJUST DITCH GRADING AS NECESSARY TO FIT FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER IN THE FIELD.

ASPHALTIC SURFACE QUANTITIES WERE CALCULATED USING 115 LB/SY/IN.

CURVE DATA IS BASED ON THE ARC DEFINITIONS.

CONTACTS

WISDOT
WISCONSIN DEPARTMENT OF TRANSPORTATION
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LA CROSSE, WI 54601
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EMAIL: aleigha.burg@dot.wi.gov

DESIGN CONSULTANT
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560 SUNRISE DRIVE
SPRING GREEN, WI 53588
ATTN: ROBERT HANOLD, P.E.
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CELL: (608) 606-3568
EMAIL: robert.hanold@jewellassoc.com

VERNON COUNTY HIGHWAY DEPARTMENT
VERNON COUNTY HIGHWAY DEPARTMENT
602 N. MAIN ST.
VIROQUA, WI 54665
ATTN: PHIL HEWITT
PH: (608) 637-5452
EMAIL: phil.hewitt@vernoncounty.org

DNR LIAISON
STATE OF WISCONSIN
DNR SERVICE CENTER
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
ATTN: KAREN KALVELAGE
PHONE: (608) 406-7880
EMAIL: karen.kalvelage@wisconsin.gov

UTILITIES

ELECTRIC
VERNON ELECTRIC COOPERATIVE
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110 SAUGSTAD ROAD
WESTBY, WI 54667
PH: (608) 634-3121
EMAIL: msee@vernonelectric.org

TELEPHONE
CENTURYLINK
ATTN: TOM MURRAY
333 N FRONT STREET
LA CROSSE, WI 54601
OFFICE: (608) 615-4169
EMAIL: tom.l.murray@centurylink.com

COMMUNICATION LINE
MEDIACOM WISCONSIN, LLC
ATTN: CRAIG EGGERT
1240 HWY 52 SOUTH
CHATFIELD, MN 55923
OFFICE: (563) 419-5160
EMAIL: ceggert@mediacomcc.com

TELEPHONE
COON VALLEY FARMERS TELEPHONE COMPANY
ATTN: TRAVIS FRONK
105 CENTRAL AVE.
COON VALLEY, WI 54623
OFFICE: (608) 452-3101
EMAIL: cvt@mwt.net

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

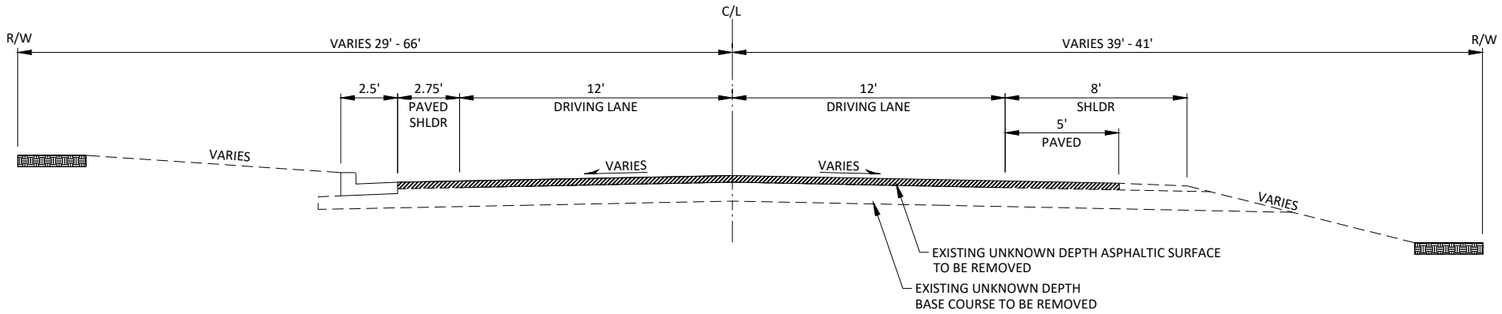
LIST OF STANDARD ABBREVIATIONS

ABUT	Abutment	INV	Invert	RDWY	Roadway
AC	Acre	IP	Iron Pipe or Pin	SALV	Salvaged
AGG	Aggregate	IRS	Iron Rod Set	SAN S	Sanitary Sewer
AH	Ahead	JT	Joint	SEC	Section
<	Angle	JCT	Junction	SHLDR	Shoulder
ASPH	Asphaltic	LHF	Left-Hand Forward	SHR	Shrinkage
AVG	Average	L	Length of Curve	SW	Sidewalk
ADT	Average Daily Traffic	LIN FT or LF	Linear Foot	S	South
BAD	Base Aggregate Dense	LC	Long Chord of Curve	SQ	Square
BK	Back	MH	Manhole	SF or SQ FT	Square Feet
BF	Back Face	MB	Mailbox	SY or SQ YD	Square Yard
BM	Bench Mark	ML or M/L	Match Line	STD	Standard
BR	Bridge	N	North	SDD	Standard Detail Drawings
C or C/L	Center Line	Y	North Grid Coordinate	STH	State Trunk Highways
CC	Center to Center	O.A.L.	Overall Length	STA	Station
CTH	County Trunk Highway	OD	Outside Diameter	SS	Storm Sewer
CR	Creek	PLE	Permanent Limited Easement	SG	Subgrade
CR	Crushed	PT	Point	SE	Superelevation
CY or CU YD	Cubic Yard	PC	Point of Curvature	SL or S/L	Survey Line
CP	Culvert Pipe	PI	Point of Intersection	SV	Septic Vent
C & G	Curb and Gutter	PRC	Point of Reverse Curvature	T	Tangent
D	Degree of Curve	PT	Point of Tangency	TEL	Telephone
DHV	Design Hour Volume	POC	Point On Curve	TEMP	Temporary
DIA	Diameter	POT	Point on Tangent	TI	Temporary Interest
E	East	PVC	Polyvinyl Chloride	TLE	Temporary Limited Easement
X	East Grid Coordinate	PCC	Portland Cement Concrete	t	Ton
ELEC	Electric (al)	LB	Pound	T or TN	Town
EL or ELEV	Elevation	PSI	Pounds Per Square Inch	TRANS	Transition
ESALS	Equivalent Single Axle Loads	PE	Private Entrance	TL or T/L	Transit Line
EBS	Excavation Below Subgrade	R	Radius	T	Trucks (percent of)
ESTR	Existing Sign to Remain	RR	Railroad	TYP	Typical
FF	Face to Face	R	Range	UNCL	Unclassified
FE	Field Entrance	RL or R/L	Reference Line	UG	Underground Cable
F	Fill	RP	Reference Point	USH	United States Highway
FG	Finished Grade	RCCP	Reinforced Concrete Culvert Pipe	VAR	Variable
FL or F/L	Flow Line	REQ'D	Required	V	Velocity or Design Speed
FT	Foot	RES	Residence or Residential	VERT	Vertical
FTG	Footing	RW	Retaining Wall	VC	Vertical Curve
GN	Grid North	RT	Right	VOL	Volume
HT	Height	RHF	Right-Hand Forward	WM	Water Main
CWT	Hundredweight	R/W	Right-of-Way	WV	Water Valve
HYD	Hydrant	R	River	W	West
INL	Inlet	RD	Road	WB	Westbound
ID	Inside Diameter			YD	Yard

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

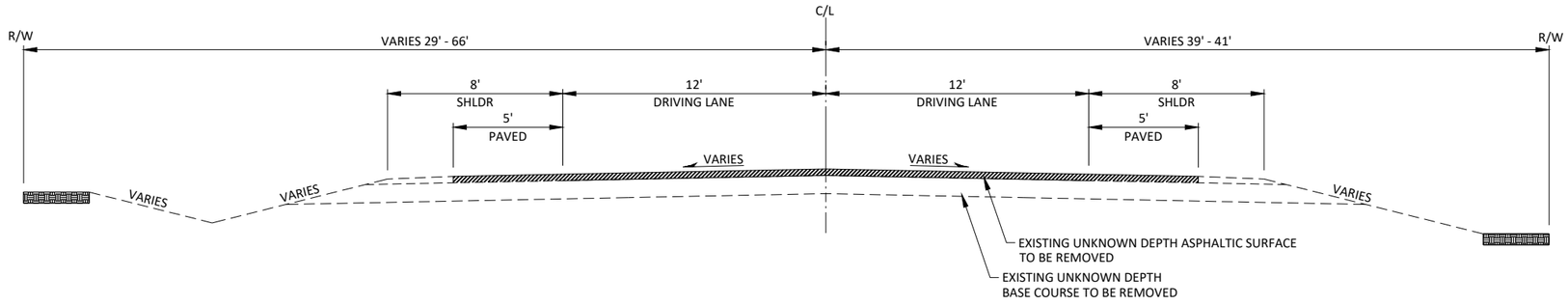
TOTAL PROJECT AREA= 0.80 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.65 ACRES

2



TYPICAL EXISTING SECTION

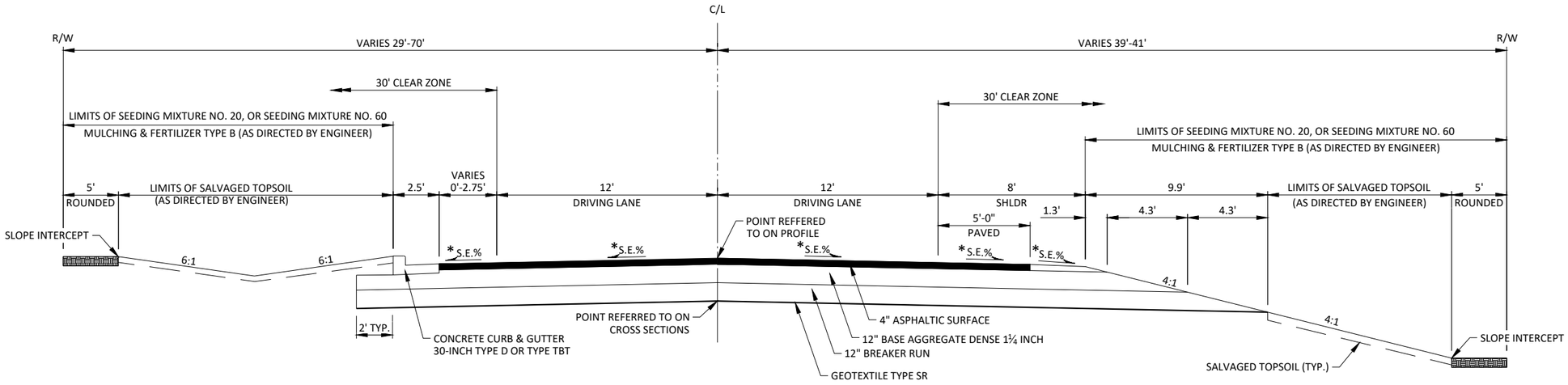
CTH K
STA. 117+20 - STA. 117+70



TYPICAL EXISTING SECTION

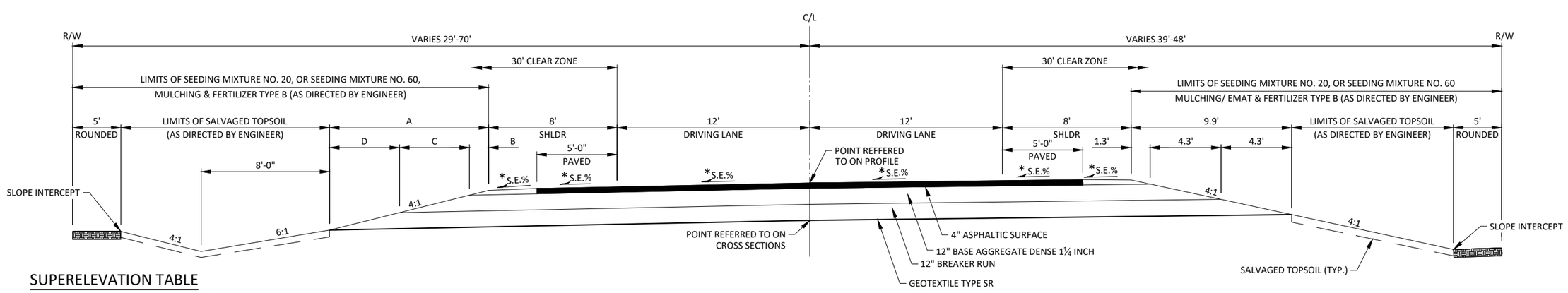
CTH K
STA. 117+70 - STA. 120+20

PROJECT NO: 5476-00-70	HWY: CTH K	COUNTY: VERNON	TYPICAL EXISTING SECTIONS	SHEET 3	E



TYPICAL FINISHED SECTION WITH CURB & GUTTER

CTH K
STA. 117+20 - STA. 118+32
* SEE SUPERELEVATION TABLE



SUPERELEVATION TABLE

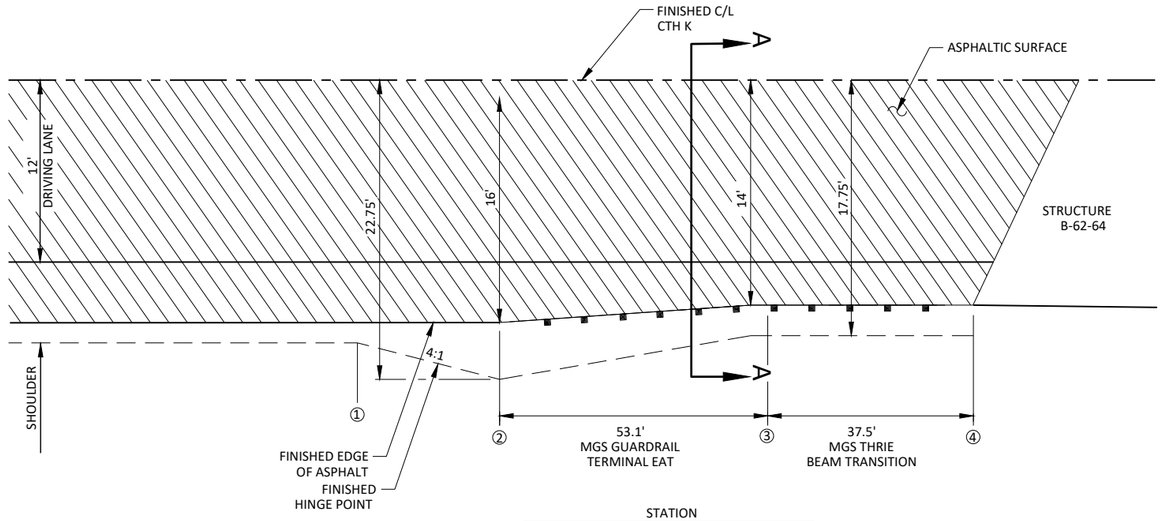
STATION	LEFT	RIGHT	"A" (FT.)	"B" (FT.)	"C" (FT.)	"D" (FT.)
116+51	MATCH EXISTING	MATCH EXISTING	-	-	-	-
117+00	2.0%	2.0%	-	-	-	-
117+20	2.0%	2.0%	-	-	-	-
117+50	2.0%	0.7%	-	-	-	-
118+00	2.0%	1.6%	-	-	-	-
118+10	2.0%	2.0%	-	-	-	-
118+50	2.8%	2.8%	-	-	-	-
119+00	3.9%	3.9%	-	-	-	-
119+07	4.0%	4.0%	11.0	1.6	4.7	4.7
119+50	5.6%	5.6%	11.0	1.6	4.7	4.7
119+60	6.0%	6.0%	12.1	1.7	5.2	5.2
120+00	6.0%	6.0%	12.3	1.7	5.3	5.3
120+50	6.0%	6.0%	12.3	1.7	5.3	5.3
121+00	6.0%	6.0%	12.3	1.7	5.3	5.3
121+50	6.0%	6.0%	12.3	1.7	5.3	5.3
122+00	6.0%	6.0%	12.3	1.7	5.3	5.3
122+10	6.0%	6.0%	12.3	1.7	5.3	5.3
122+50	6.0%	6.0%	12.3	1.7	5.3	5.3
122+71	MATCH EXISTING	MATCH EXISTING	12.3	1.7	5.3	5.3

THE LOW SIDE SHOULDER SLOPE ON SUPERELEVATED SECTIONS EQUALS THE SUPERELEVATION WHEN THE SUPERELEVATION IS GREATER THAN 0.04 FT./FT. IF THE SUPERELEVATION IS LESS THAN OR EQUALS 0.04 FT./FT., THEN THE LOW SIDE SHOULDER SLOPE IS 0.04 FT./FT. THE HIGH SIDE SHOULDER SLOPE ON THE SUPERELEVATED SECTIONS EQUALS THE SUPERELEVATION.

TYPICAL FINISHED SECTION

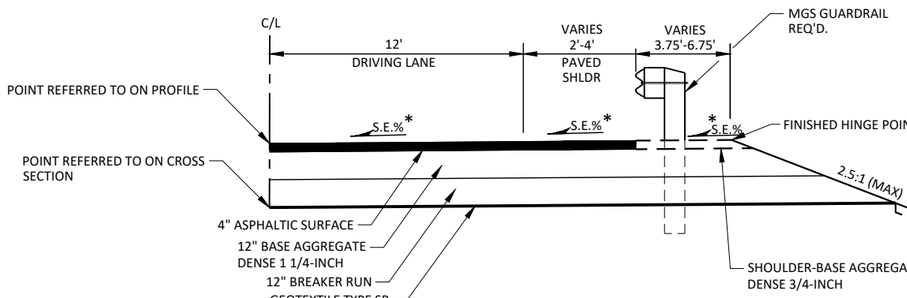
CTH K
STA. 118+32 - STA. 120+20
* SEE SUPERELEVATION TABLE

PROJECT NO: 5476-00-70	HWY: CTH K	COUNTY: VERNON	TYPICAL FINISHED SECTIONS	SHEET 4	E

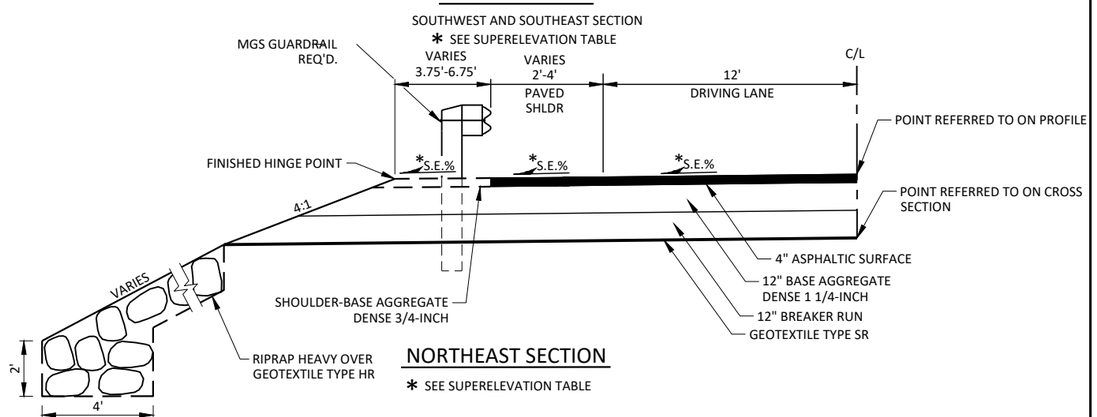


		STATION			
QUADRANT	LOCATION	①	②	③	④
SOUTHWEST	MAINLINE, RT.	117+13	117+25	117+78	118+16
SOUTHEAST	MAINLINE, RT.	120+12	119+92	119+40	119+03
NORTHEAST	MAINLINE, LT.	122+70	122+51	121+98	119+19

BEAMGUARD LAYOUT DETAIL

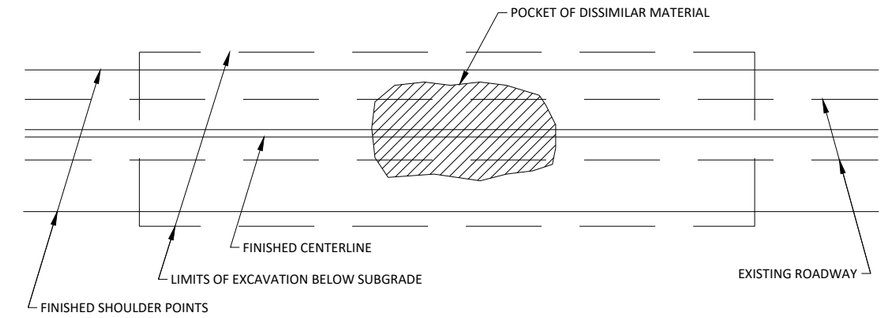


SECTION A-A

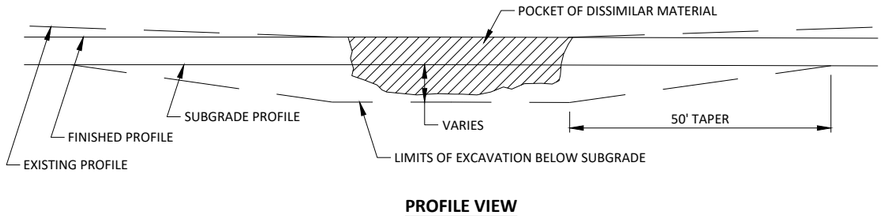


NORTHEAST SECTION

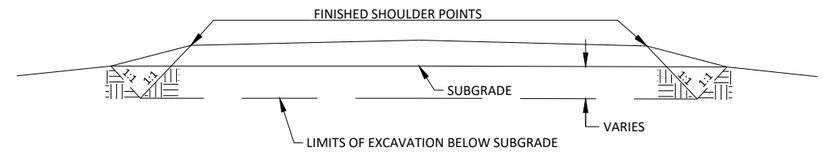
* SEE SUPERELEVATION TABLE



PLAN VIEW



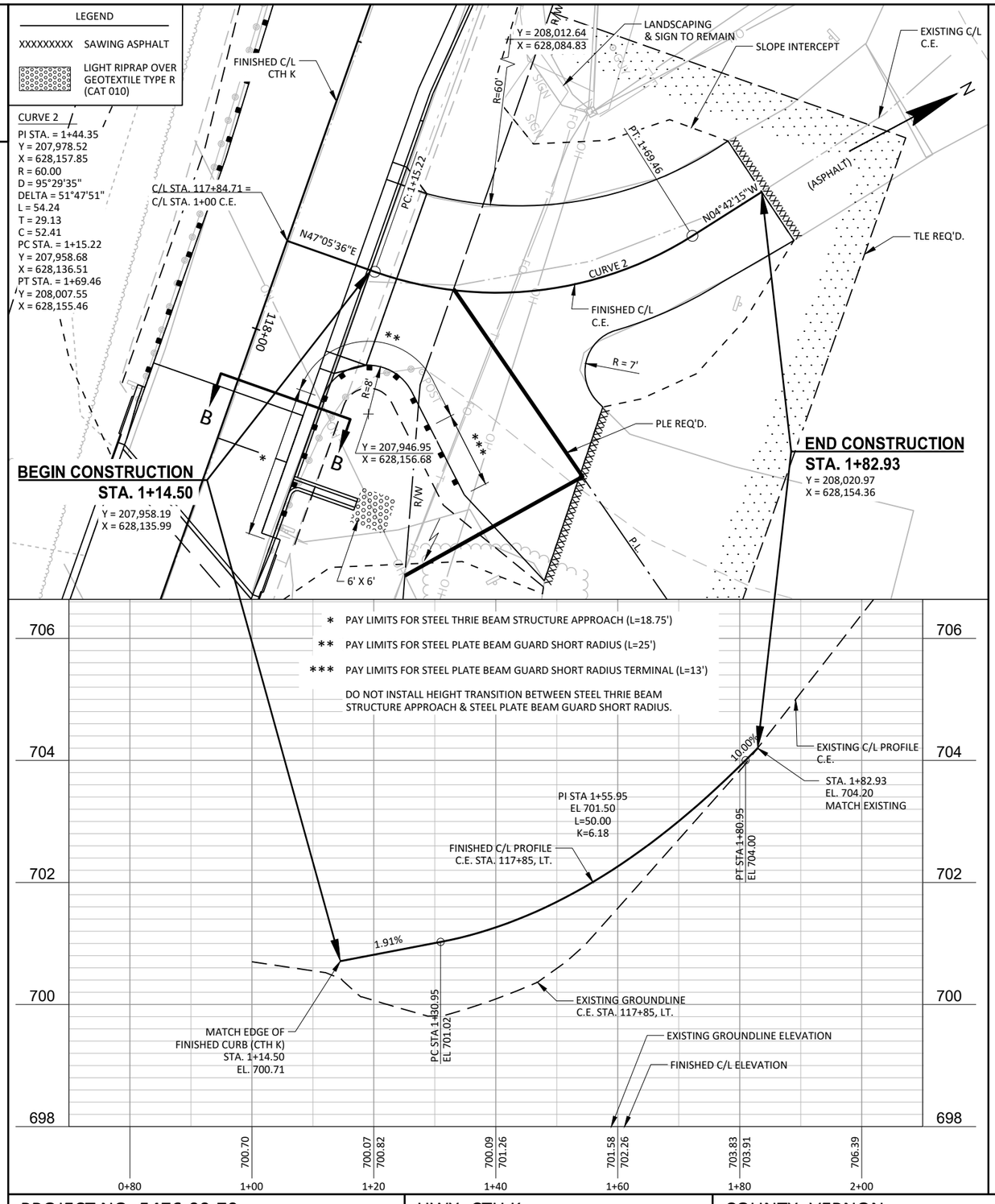
PROFILE VIEW



CROSS SECTION VIEW

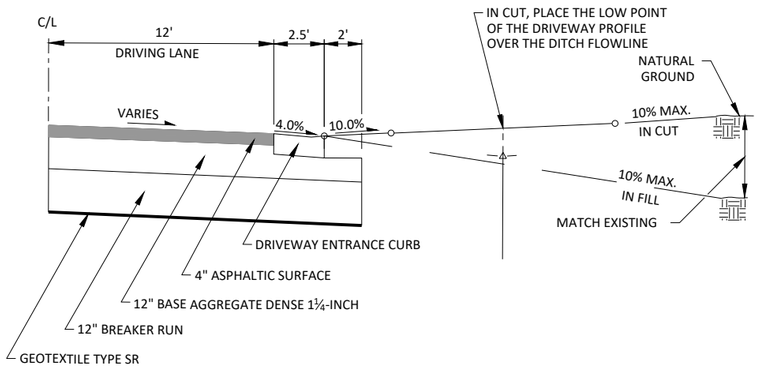
1. EXACT LOCATION OF E.B.S. (EXCAVATION BELOW SUBGRADE) SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. E.B.S. AREA TO BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE ENGINEER. BACKFILL MUST BE HOMOGENEOUS WITH ADJOINING FILL MATERIAL.
3. THE FILL SECTION WITHIN 100' OF THE MOUTH OF THE CUT MUST BE KEPT 2' BELOW SUBGRADE UNTIL E.B.S. IS COMPLETED. LATERAL LIMITS OF EXCAVATION SHALL BE THE SUBGRADE SHOULDER POINTS.

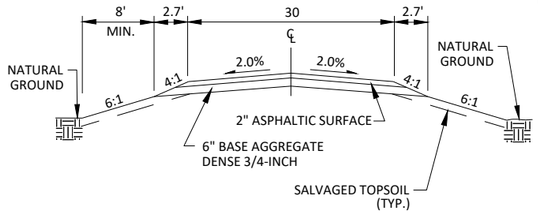
EXCAVATION BELOW SUBGRADE (E.B.S.) DETAIL



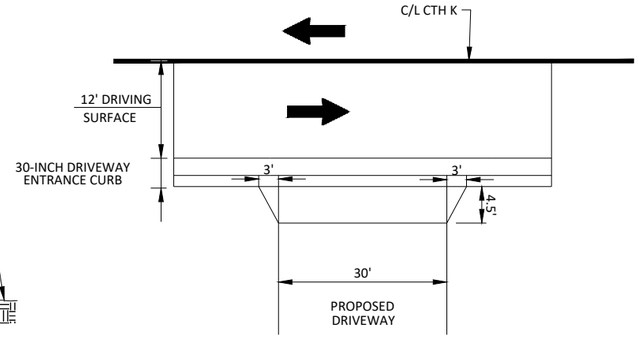
TYPICAL CROSS-SECTION FOR C.E.

C.E. - STA. 117+78, LT.





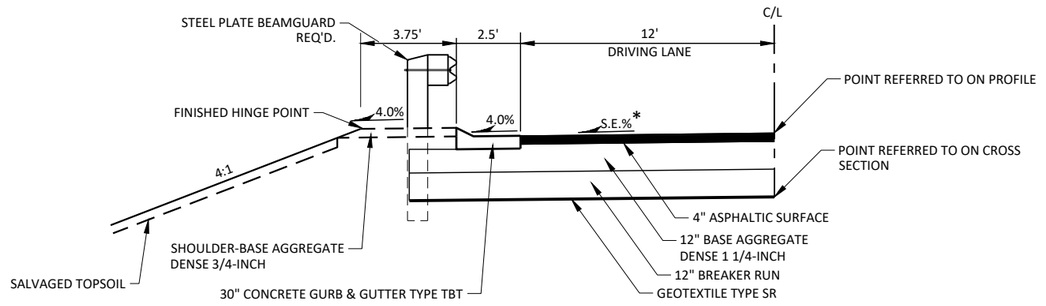
TYPICAL C.E. PROFILE



PLAN VIEW

APPROACH AT C.E.

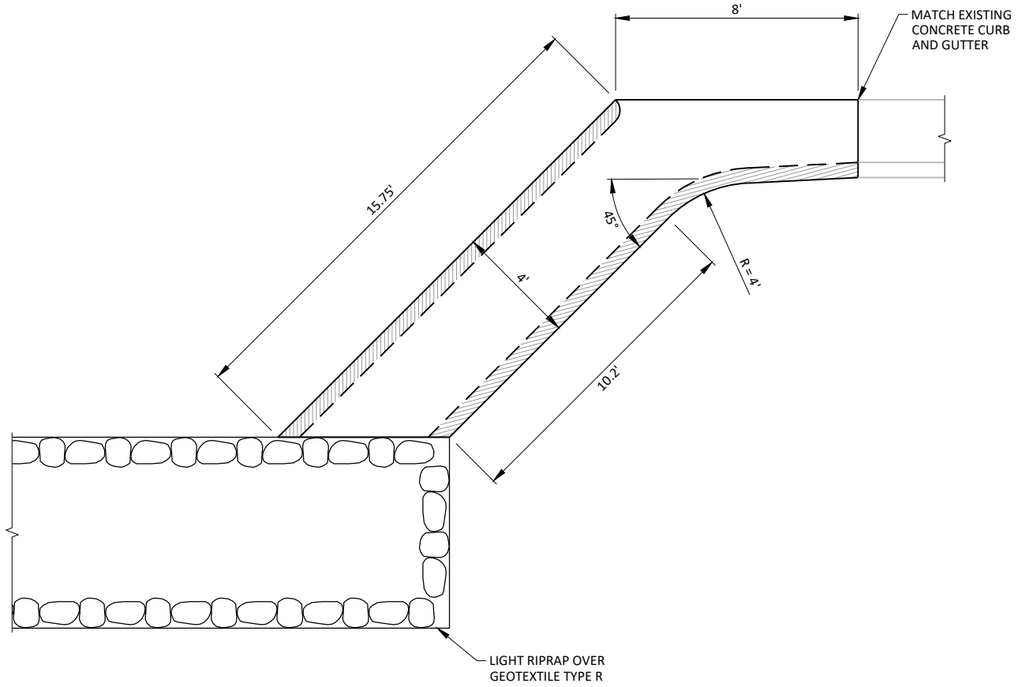
TYPICAL PROPERTY ENTERANCE (C.E.) DETAILS



SECTION B-B - NORTHWEST

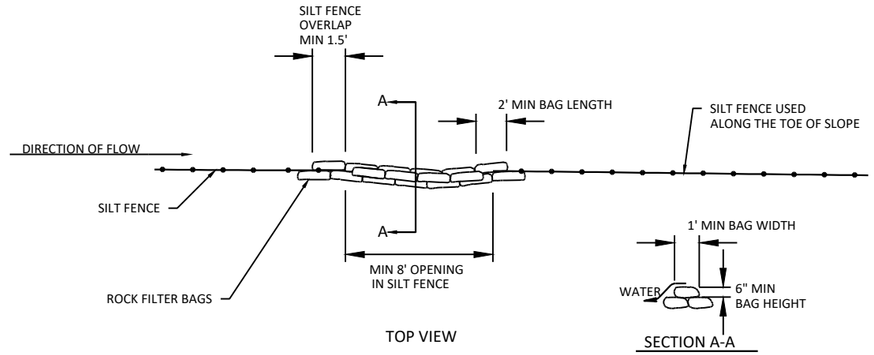
* SEE SUPERELEVATION TABLE

PROJECT NO: 5476-00-70	HWY: CTH K	COUNTY: VERNON	CONSTRUCTION DETAILS	SHEET 6	E



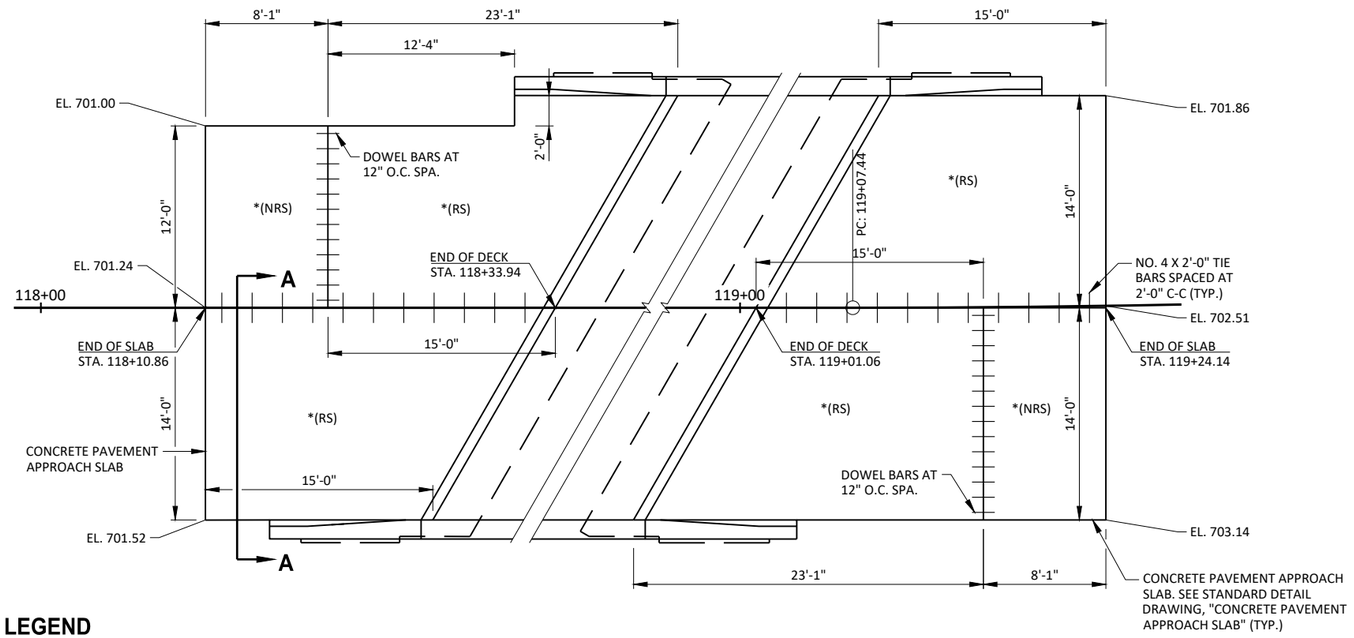
ASPHALTIC FLUME DETAIL

STA 120+20
NOTE: SEE "CONCRETE SURFACE DRAINS AND ASPHALTIC FLUMES"
STANDARD DETAIL FOR MORE DETAIL



ROCK BAGS USED FOR SILT FENCE RELIEF

2



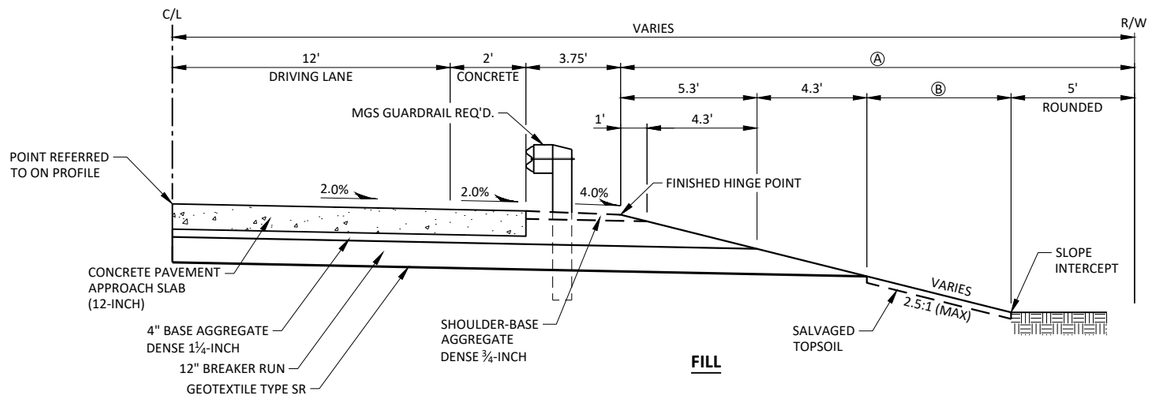
LEGEND

*(RS) = REINFORCED CONCRETE SLAB

*(NRS) = NON-REINFORCED CONCRETE SLAB

STRUCTURE APPROACH DETAILS

NOTE: ELEVATIONS WILL BE FIELD VERIFIED BY ENGINEER

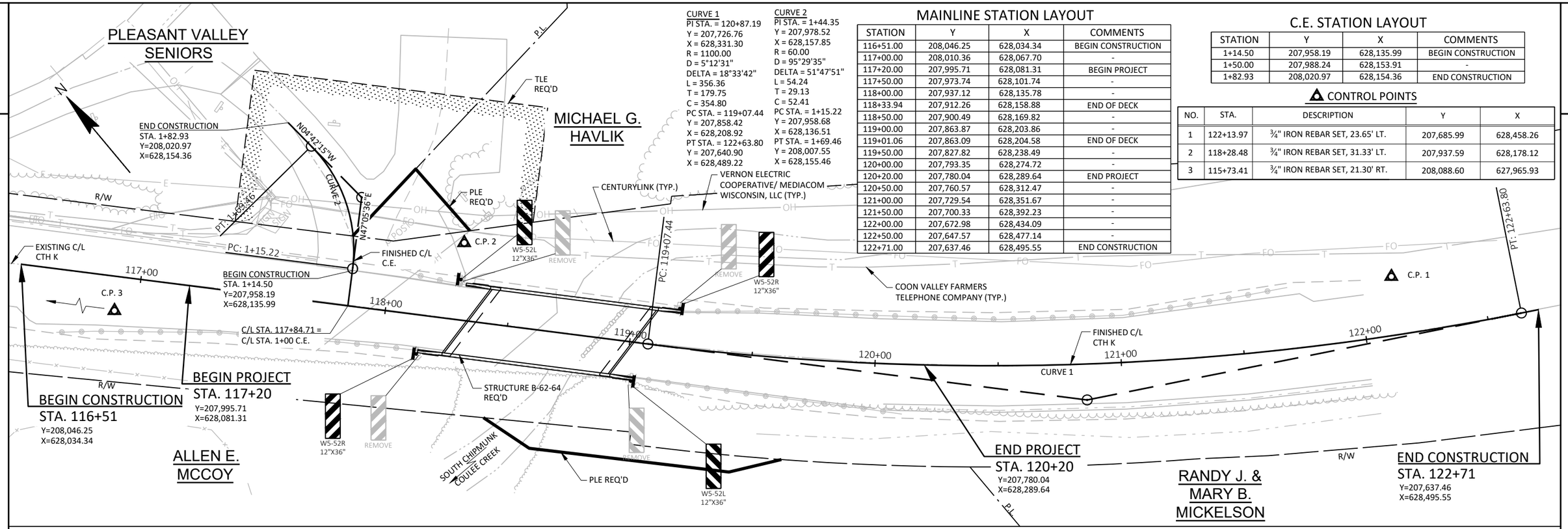


SECTION A-A

Ⓐ LIMITS OF SEEDING MIXTURE NO. 20, OR NO. 60, MULCHING/EROSION MAT, AND FERTILIZER TYPE B (AS DIRECTED BY ENGINEER)

Ⓑ LIMITS OF SALVAGED TOPSOIL (AS DIRECTED BY ENGINEER)

PROJECT NO: 5476-00-70	HWY: CTH K	COUNTY: VERNON	CONCRETE APPROACH SLAB	SHEET 8	E



CURVE 1
PI STA. = 120+87.19
Y = 207,726.76
X = 628,331.30
R = 1100.00
D = 5°12'31"
DELTA = 18°33'42"
L = 356.36
T = 179.75
C = 354.80
PC STA. = 119+07.44
Y = 207,858.42
X = 628,208.92
PT STA. = 122+63.80
Y = 207,640.90
X = 628,489.22

CURVE 2
PI STA. = 1+44.35
Y = 207,978.52
X = 628,157.85
R = 60.00
D = 95°29'35"
DELTA = 51°47'51"
L = 54.24
T = 29.13
C = 52.41
PC STA. = 1+15.22
Y = 207,958.68
X = 628,136.51
PT STA. = 1+69.46
Y = 208,007.55
X = 628,155.46

MAINLINE STATION LAYOUT

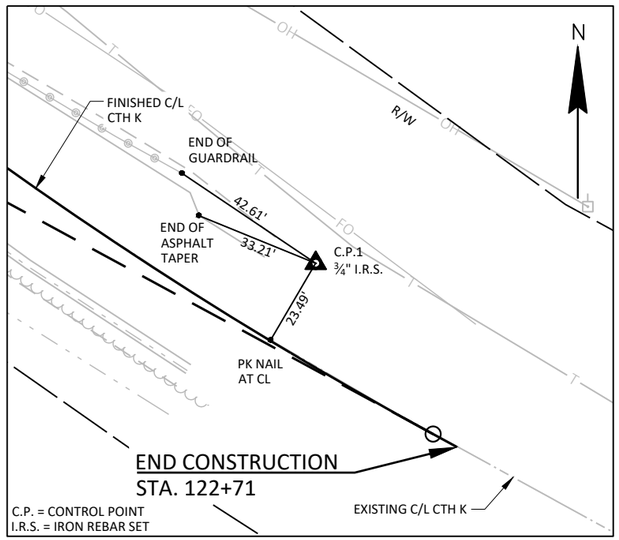
STATION	Y	X	COMMENTS
116+51.00	208,046.25	628,034.34	BEGIN CONSTRUCTION
117+00.00	208,010.36	628,067.70	-
117+20.00	207,995.71	628,081.31	BEGIN PROJECT
117+50.00	207,973.74	628,101.74	-
118+00.00	207,937.12	628,135.78	-
118+33.94	207,912.26	628,158.88	END OF DECK
118+50.00	207,900.49	628,169.82	-
119+00.00	207,863.87	628,203.86	-
119+01.06	207,863.09	628,204.58	END OF DECK
119+50.00	207,827.82	628,238.49	-
120+00.00	207,793.35	628,274.72	-
120+20.00	207,780.04	628,289.64	END PROJECT
120+50.00	207,760.57	628,312.47	-
121+00.00	207,729.54	628,351.67	-
121+50.00	207,700.33	628,392.23	-
122+00.00	207,672.98	628,434.09	-
122+50.00	207,647.57	628,477.14	-
122+71.00	207,637.46	628,495.55	END CONSTRUCTION

C.E. STATION LAYOUT

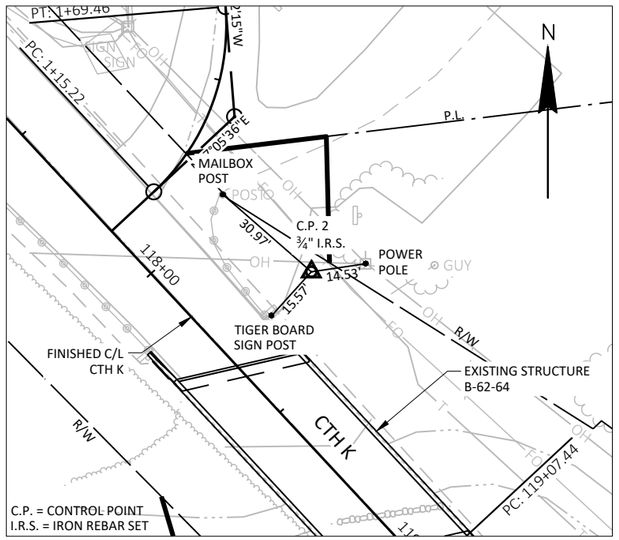
STATION	Y	X	COMMENTS
1+14.50	207,958.19	628,135.99	BEGIN CONSTRUCTION
1+50.00	207,988.24	628,153.91	-
1+82.93	208,020.97	628,154.36	END CONSTRUCTION

CONTROL POINTS

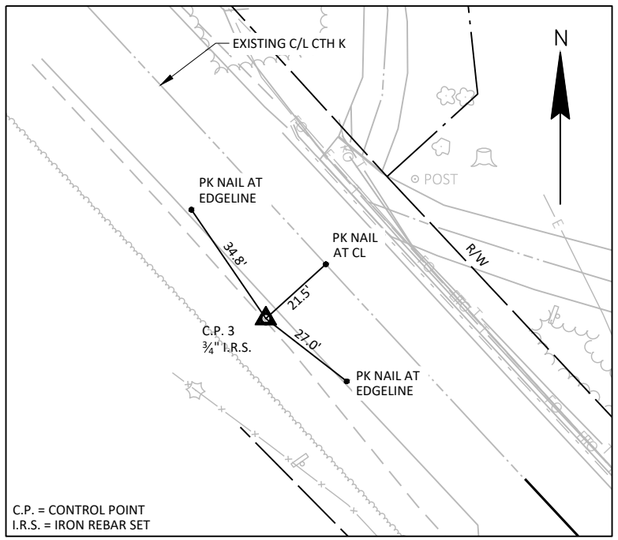
NO.	STA.	DESCRIPTION	Y	X
1	122+13.97	¾" IRON REBAR SET, 23.65' LT.	207,685.99	628,458.26
2	118+28.48	¾" IRON REBAR SET, 31.33' LT.	207,937.59	628,178.12
3	115+73.41	¾" IRON REBAR SET, 21.30' RT.	208,088.60	627,965.93



TIES TO C.P.#1
STA. 122+13.97; 23.65' LT.
Y = 207,685.99
X = 628,458.26



TIES TO C.P.#2
STA. 118+28.48; 31.33' LT.
Y = 207,937.59
X = 628,178.12



TIES TO C.P.#3
STA. 115+73.41; 21.30' RT.
Y = 208,088.60
X = 627,965.93

PROJECT NO: 5476-00-70	HWY: CTH K	COUNTY: VERNON	ALIGNMENT AND TIES	SHEET	E

FILE NAME : S:\PROJECTS\W11593 CTH K DECK REPLACEMENT, VERNON COUNTY\SHEETSPLAN\DETAILS\ALIGN & TIES.DWG PLOT DATE : 8/28/2020 2:31:52 PM PLOT BY : TRACY, DAN PLOT SCALE : 1" = 1' LAYOUT : LAYOUT1

5476-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 118+68	LS	1.000	1.000
0008	204.0110	Removing Asphaltic Surface	SY	28.000	28.000
0010	204.0150	Removing Curb & Gutter	LF	70.000	70.000
0012	205.0100	Excavation Common	CY	1,055.000	1,055.000
0014	206.1000	Excavation for Structures Bridges (structure) 02. B-62-64	LS	1.000	1.000
0016	210.1500	Backfill Structure Type A	TON	40.000	40.000
0018	213.0100	Finishing Roadway (project) 01. 5476-00-70	EACH	1.000	1.000
0020	305.0110	Base Aggregate Dense 3/4-Inch	TON	180.000	180.000
0022	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	980.000	980.000
0024	311.0110	Breaker Run	TON	1,150.000	1,150.000
0026	415.0410	Concrete Pavement Approach Slab	SY	140.000	140.000
0028	416.1010	Concrete Surface Drains	CY	2.000	2.000
0030	455.0605	Tack Coat	GAL	40.000	40.000
0032	465.0105	Asphaltic Surface	TON	155.000	155.000
0034	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	30.000	30.000
0036	465.0315	Asphaltic Flumes	SY	9.000	9.000
0038	502.0100	Concrete Masonry Bridges	CY	110.000	110.000
0040	502.3200	Protective Surface Treatment	SY	210.000	210.000
0042	502.3210	Pigmented Surface Sealer	SY	90.000	90.000
0044	502.4204	Adhesive Anchors No. 4 Bar	EACH	8.000	8.000
0046	502.4205	Adhesive Anchors No. 5 Bar	EACH	76.000	76.000
0048	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	19,100.000	19,100.000
0050	506.4000	Steel Diaphragms (structure) 03. B-62-64	EACH	5.000	5.000
0052	516.0500	Rubberized Membrane Waterproofing	SY	3.000	3.000
0054	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	83.000	83.000
0056	601.0584	Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type TBT	LF	18.000	18.000
0058	606.0100	Riprap Light	CY	45.000	45.000
0060	606.0300	Riprap Heavy	CY	360.000	360.000
0062	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0064	614.0200	Steel Thrie Beam Structure Approach	LF	20.000	20.000
0066	614.0345	Steel Plate Beam Guard Short Radius	LF	25.000	25.000
0068	614.0390	Steel Plate Beam Guard Short Radius Terminal	EACH	1.000	1.000
0070	614.0920	Salvaged Rail	LF	570.000	570.000
0072	614.2300	MGS Guardrail 3	LF	244.000	244.000
0074	614.2500	MGS Thrie Beam Transition	LF	120.000	120.000

5476-00-70

Line	Item	Item Description	Unit	Total	Qty
0076	614.2610	MGS Guardrail Terminal EAT	EACH	3.000	3.000
0078	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5476-00-70	EACH	1.000	1.000
0080	619.1000	Mobilization	EACH	1.000	1.000
0082	624.0100	Water	MGAL	19.000	19.000
0084	625.0500	Salvaged Topsoil	SY	720.000	720.000
0086	627.0200	Mulching	SY	1,830.000	1,830.000
0088	628.1504	Silt Fence	LF	950.000	950.000
0090	628.1520	Silt Fence Maintenance	LF	1,900.000	1,900.000
0092	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0094	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0096	628.2008	Erosion Mat Urban Class I Type B	SY	210.000	210.000
0098	628.7570	Rock Bags	EACH	54.000	54.000
0100	629.0210	Fertilizer Type B	CWT	2.000	2.000
0102	630.0120	Seeding Mixture No. 20	LB	55.000	55.000
0104	630.0160	Seeding Mixture No. 60	LB	2.000	2.000
0106	630.0200	Seeding Temporary	LB	40.000	40.000
0108	630.0500	Seed Water	MGAL	90.000	90.000
0110	633.5100	Markers Row	EACH	13.000	13.000
0112	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0114	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0116	638.2602	Removing Signs Type II	EACH	4.000	4.000
0118	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0120	642.5001	Field Office Type B	EACH	1.000	1.000
0122	643.0420	Traffic Control Barricades Type III	DAY	1,426.000	1,426.000
0124	643.0705	Traffic Control Warning Lights Type A	DAY	2,232.000	2,232.000
0126	643.0900	Traffic Control Signs	DAY	1,116.000	1,116.000
0128	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0130	643.5000	Traffic Control	EACH	1.000	1.000
0132	645.0120	Geotextile Type HR	SY	635.000	635.000
0134	645.0130	Geotextile Type R	SY	200.000	200.000
0136	645.0135	Geotextile Type SR	SY	2,170.000	2,170.000
0138	646.1020	Marking Line Epoxy 4-Inch	LF	1,520.000	1,520.000
0140	650.4500	Construction Staking Subgrade	LF	527.000	527.000
0142	650.5000	Construction Staking Base	LF	527.000	527.000
0144	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	101.000	101.000
0146	650.6500	Construction Staking Structure Layout (structure) 04. B-62-64	LS	1.000	1.000
0148	650.9910	Construction Staking Supplemental Control (project) 02. 5476-00-70	LS	1.000	1.000

5476-00-70

Line	Item	Item Description	Unit	Total	Qty
0150	650.9920	Construction Staking Slope Stakes	LF	527.000	527.000
0152	690.0150	Sawing Asphalt	LF	420.000	420.000
0154	690.0250	Sawing Concrete	LF	6.000	6.000
0156	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0158	715.0502	Incentive Strength Concrete Structures	DOL	660.000	660.000

ALL ITEMS 010 UNLESS OTHERWISE NOTED

3

CLEARING & GRUBBING

STATION-STATION	LOCATION	201.0105 CLEARING (STA)	201.0205 GRUBBING (STA)
118+00 - 120+20	MAINLINE, RT.	2	2
	TOTALS =	2	2

REMOVING ASPHALTIC SURFACE

STATION-STATION	LOCATION	204.0110 (SY)
116+51 - 117+20	MAINLINE, RT.	28
	TOTALS =	28

REMOVING CURB & GUTTER

STATION-STATION	LOCATION	204.0150 (LF)
117+20 - 117+50	MAINLINE, LT.	50
120+04 - 120+25	MAINLINE, RT.	20
	TOTALS =	70

3

EARTHWORK SUMMARY

CATEGORY	FROM/TO STA	LOCATION	205.0100 COMMON EXCAVATION CUT (2) (CY)	AVAILABLE MATERIAL (CY) (1)	UNEXPANDED FILL (CY)	EXPANDED FILL (CY) FACTOR 1.25 (2)	MASS ORDINATE +/- (CY) (3)	WASTE (CY)
010	117+20 - 122+20	MAINLINE	1000	1000	204	255	745	745
010	1+14.50 - 1+82.93	C.E.	55	55	56	70	-15	-15
		TOTALS =	1055	1055	260	325	730	730

NOTES:
1.) AVAILABLE MATERIAL=CUT
2.) EXPANDED FILL FACTOR 1.25: EXPANDED FILL = (UNEXPANDED FILL)*1.25
3.) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE CATEGORY. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE CATEGORY.

BASE AGGREGATE DENSE / BREAKER RUN

STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH (TON)	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH (TON)	311.0110 BREAKER RUN (TON)
116+51 - 118+34	MAINLINE	41	367	350
118+94 - 122+71	MAINLINE	59	613	800
1+14.50 - 1+82.93	C.E.	80	--	--
	TOTALS =	180	980	1150

CONCRETE PAVEMENT APPROACH SLAB

STATION - STATION	LOCATION	415.0410 (SY)
118+11 - 118+42	MAINLINE	68
118+93 - 119+24	MAINLINE	72
	TOTALS =	140

CONCRETE SURFACE DRAIN/ ASPHALTIC FLUME

STATION	LOCATION	416.1010 CONCRETE SURFACE DRAINS (CY)	465.0315 ASPHALTIC FLUMES (SY)
118+72	MAINLINE, LT.	2	--
120+21	MAINLINE, RT.	--	9
	TOTALS =	2	9

ASPHALTIC SURFACE

STATION - STATION	LOCATION	455.0605 TACK COAT (GAL)	465.0105 ASPHALTIC SURFACE (TON)	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES (TON)
117+20 - 118+11	MAINLINE	17	68	--
119+24 - 122+51	MAINLINE	23	87	--
1+14.50 - 1+82.93	MAINLINE C.E.	--	--	30
	TOTALS =	40	155	30

CONCRETE CURB & GUTTER

STATION - STATION	LOCATION	601.0411 30-INCH TYPE D (LF)	601.0584 4-INCH SLOPED 30-INCH TYPE TBT (LF)
117+20 - 118+03	MAINLINE, LT.	83	--
118+03 - 118+21	MAINLINE, LT.	--	18
	TOTALS =	83	18

RIPRAP

STATION - STATION	LOCATION	606.0100 RIPRAP LIGHT (CY)	*606.0300 RIPRAP HEAVY (CY)
118+15 - 120+12	MAINLINE, RT.	35	--
118+21	MAINLINE, LT.	1	--
119+13 - 120+20	MAINLINE, LT.	--	220
	UNDISTRIBUTED	9	40
	TOTALS =	45	260

*MORE LISTED ELSEWHERE

ALL ITEMS 010 UNLESS OTHERWISE NOTED

SALVAGED GUARDRAIL

STATION-STATION	LOCATION	614.0920 (LF)
116+69 - 118+21	MAINLINE, RT.	153
117+97 - 118+38	MAINLINE, LT.	47
118+98 - 120+12	MAINLINE, RT.	117
119+14 - 121+70	MAINLINE, LT.	253
	TOTALS =	570

STEEL BEAMGUARD/ MGS GUARDRAIL

STATION - STATION	LOCATION	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH (LF)	614.0345 STEEL PLATE BEAM GUARD SHORT RADIUS (LF)	614.0390 STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL (EACH)	614.2300 MGS GUARDRAIL 3 (LF)	614.2500 MGS THRIE BEAM TRANSISITON (LF)	614.2610 MGS GUARDRAIL (EACH)
117+91 - 118+31	NE QUADRANT	--	--	--	244	40	1
119+19 - 122+51	SE QUADRANT	--	--	--	--	40	1
117+25 - 118+15	NW QUADRANT	20	25	1	--	--	--
119+04 - 119+92	SW QUADRANT	--	--	--	--	40	1
	TOTALS =	20	25	1	244	120	3

WATER

PROJECT	624.0100 WATER (MGAL)
5476-00-70	19
TOTAL =	19

3

FINISHING ITEMS

STATION - STATION	LOCATION	625.0500 SALVAGED TOPSOIL (SY)	627.0200 MULCHING (SY)	628.2008 EROSION MAT URBAN CLASS I TYPE B (SY)	629.0210 FERTILIZER TYPE B (CWT)	630.0120 SEEDING MIXTURE NO. 20 (LB)	*630.0160 SEEDING MIXTURE NO. 60 (LB)	630.0200 SEEDING TEMPORARY (LB)	630.0500 SEED WATER (MGAL)
117+20 - 122+71	MAINLINE	580	1,460	--	1.5	42	1.2	--	90
118+83 - 119+75	MAINLINE, RT.	--	--	167	--	--	--	--	--
-	UNDISTRIBUTED	140	370	43	0.5	13	0.8	40	--
	TOTALS =	720	1,830	210	2.0	55	2.0	40	90

*WETLAND AREAS AS NOTED ON GENERAL NOTES SHEET.

SILT FENCE

STATION - STATION	LOCATION	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)
116+47 - 118+28	MAINLINE, RT.	220	440
117+20 - 117+45	MAINLINE, LT.	50	100
118+30 - 118+50	MAINLINE, LT.	50	100
118+69 - 118+86	MAINLINE, RT.	40	80
118+86 - 122+72	MAINLINE, LT.	390	780
-	UNDISTRIBUTED	200	400
TOTALS =		950	1,900

MOBILIZATION EROSION CONTROL

PROJECT	628.1905 MOBILIZATION EROSION CONTROL (EACH)	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL (EACH)
5476-00-70	3	2
TOTALS =	3	2

MARKERS ROW

PT. NO.	STATION	OFFSET FROM FINISHED C/L	633.5100 (EACH)
100	117+20	28.15, LT.	1
101	117+83.05	28.35, LT.	1
102	118+05	58.54, LT.	1
103	118+00	65.00, LT.	1
105	119+09.54	57.60, LT.	1
106	119+09.55	60.67, LT.	1
107	120+00	73.35, LT.	1
108	120+00	41.15, RT.	1
109	119+65	41.19, RT.	1
110	119+45	48.00, RT.	1
111	118+65	48.00, RT.	1
112	118+45	38.04, RT.	1
113	117+20	41.81, RT.	1
		TOTALS =	13

PERMANENT SIGNING

APPROX. STATION	POSITION	SITE ID	SIGN CODE	SIGN DESCRIPTION	SIGN SIZE	634.0612 POSTS WOOD 4X6-INCH X 12-FT (EACH)	637.2230 SIGNS TYPE II REFLECTIVE F (SF)	638.2602 REMOVING SIGNS TYPE II (EACH)	638.3000 REMOVING SMALL SIGN SUPPORTS (EACH)
118+16	RIGHT	MAINLINE	W5-52R	BRIDGE HASH MARKS	12X36	--	--	1	1
118+16	RIGHT	MAINLINE	W5-52R	BRIDGE HASH MARKS	12X36	1	3.00	--	--
118+30	LEFT	MAINLINE	W5-52L	BRIDGE HASH MARKS	12X36	--	--	1	1
118+30	LEFT	MAINLINE	W5-52L	BRIDGE HASH MARKS	12X36	1	3.00	--	--
119+01	RIGHT	MAINLINE	W5-52L	BRIDGE HASH MARKS	12X36	--	--	1	1
119+04	RIGHT	MAINLINE	W5-52L	BRIDGE HASH MARKS	12X36	1	3.00	--	--
119+17	LEFT	MAINLINE	W5-52R	BRIDGE HASH MARKS	12X36	--	--	1	1
119+20	LEFT	MAINLINE	W5-52R	BRIDGE HASH MARKS	12X36	1	3.00	--	--
					TOTALS =	4	12.00	4	4

ROCK BAGS

STATION	LOCATION	628.7570 (EACH)
117+43	MAINLINE, LT.	18
118+43	MAINLINE, LT.	18
	UNDISTRIBUTED	18
	TOTAL =	54

TRAFFIC CONTROL

LOCATION	*643.0420 BARRICADES TYPE III (DAY)	643.0705 WARNING LIGHTS TYPE A (DAY)	643.0900 TRAFFIC CONTROL SIGNS (DAY)	643.1050 TRAFFIC CONTROL SIGNS PCMS (DAY)	643.5000 TRAFFIC CONTROL (EACH)
PROJECT	1,426	2,232	1,116	14	1
TOTALS =	1,426	2,232	1,116	14	1

*ADDITIONAL BARRICADE ACCOUNTED FOR AT PLEASANT VALLEY SENIORS, LLC ENTRANCE. SIGN TO BE MOUNTED ON BARRICADE SUPPLIED BY OTHERS

GEOTEXTILE

STATION - STATION	LOCATION	*645.0120 TYPE HR (SY)	645.0130 TYPE R (SY)	645.0135 TYPE SR (SY)
117+20 - 118+34	MAINLINE	--	--	547
119+01 - 122+52	MAINLINE	--	--	1186
118+19 - 118+25	MAINLINE, LT.	--	10	--
118+65 - 120+12	MAINLINE, RT.	--	150	--
119+13 - 120+00	MAINLINE, LT.	375	--	--
	UNDISTRIBUTED	95	40	437
TOTALS =		470	200	2,170

*MORE LISTED ELSEWHERE

ALL ITEMS 010 UNLESS OTHERWISE NOTED

3

3

PAVEMENT MARKING

STATION - STATION	LOCATION	DESCRIPTION	646.1020 MARKING LINE EPOXY 4-INCH (LF)
116+51 - 120+20	MAINLINE, RT.	WHITE EDGELINE	369
117+20 - 120+20	MAINLINE	DOUBLE YELLOW CENTERLINE	600
117+20 - 122+71	MAINLINE, LT.	WHITE EDGELINE	551
TOTALS =			1520

CONSTRUCTION STAKING

STATION -STATION	LOCATION	650.4500 SUBGRADE (L.F.)	650.5000 BASE (L.F.)	650.5500 CURB AND GUTTER (L.F.)	*650.6500 STRUCTURE LAYOUT (L.S.)	650.9910 SUPPLEMENTAL CONTROL (5921-00-74) (L.S.)	650.9920 SLOPES STAKES (L.F.)
117+20 - 118+30	MAINLINE	110	110	101	--	--	110
119+01 - 120+20	MAINLINE	349	349	--	--	--	349
1+14.50 - 1+82.93	C.E.	68	68	--	--	--	68
-	MAINLINE	--	--	--	1	1	--
	TOTAL =	527	527	101	1	1	527

*CATEGORY 020

SAWING

STATION - STATION	LOCATION	690.0150 ASPHALT (LF)	690.0250 CONCRETE (LF)
116+51 - 117+20	MAINLINE	100	--
117+20	MAINLINE, LT	--	3
120+20	MAINLINE, RT	--	3
120+20 - 122+51	MAINLINE	270	--
1+82.93	C.E.	50	--
	TOTAL =	420	6

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	PROPERTY LINE	PL
ACCESS RIGHTS	AR	RECORDED AS	(100')
ACRES	AC.	REFERENCE LINE	R/L
AND OTHERS	ET.AL.	RELEASE OF RIGHTS	ROR
BARN	B.	REMAINING	REM.
CENTERLINE	C/L	RIGHT-OF-WAY	R/W
CERTIFIED SURVEY MAP	CSM	SECTION	SEC.
CORNER	COR.	SHED	S.
CONVEYANCE OF RIGHTS	CR	STATION	STA.
DOCUMENT	DOC.	TEMPORARY LIMITED EASEMENT	TLE
EASEMENT	EASE.	VOLUME	V.
GARAGE	G.		
HIGHWAY EASEMENT	H.E.		
HOUSE	H.		
HOUSE TRAILER	H.T.		
LAND CONTRACT	LC		
MONUMENT	MON.		
PAGE	P.		
PERMANENT LIMITED EASEMENT	PLE		

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE OR DELTA	DELTA
LENGTH OF CURVE	L
TANGENT	TAN

CONVENTIONAL SYMBOLS

FOUND SURVEY MONUMENT (WITH POINT NUMBER)	○ 1040	PROPOSED R/W LINE	
R/W MONUMENT	○ ● (SET)	EXISTING H.E. LINE	
R/W STANDARD	△ ▲ (SET)	PROPERTY LINE	
SIGN	SIGN	LOT & TIE LINES	
SECTION CORNER MONUMENT		SLOPE INTERCEPTS	
SECTION CORNER SYMBOL		CORPORATE LIMITS	
FEE (HATCH VARIES)		NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL)	
TEMPORARY LIMITED EASEMENT		NO ACCESS (BY ACQUISTION)	
PERMANENT LIMITED EASEMENT		NO ACCESS (BY STATUTORY AUTHORITY)	
R/W BOUNDARY POINT	RWB20	SECTION LINE	
PARCEL NUMBER	8	QUARTER LINE	
UTILITY PARCEL NUMBER	92	SIXTEENTH LINE	
SIGN NUMBER (OFF PREMISE)	21-1	EXISTING CENTERLINE	
BUILDING		PROPOSED REFERENCE LINE	
		PARALLEL OFFSET	
		ENCROACHMENT	E-1 / TYPE
		HIGHWAY EASEMENT	

CONVENTIONAL UTILITY SYMBOLS

WATER	W	SANITARY SEWER	SAN	
GAS	G	STORM SEWER	SS	
TELEPHONE	T		NON COMPENSABLE	COMPENSABLE
OVERHEAD TRANSMISSION LINES	OH	POWER POLE		
ELECTRIC	E	TELEPHONE POLE		
CABLE TELEVISION	TV	TELEPHONE PEDESTAL		
FIBER OPTIC	FO	ELECTRIC TOWER		

NOTES

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), VERNON COUNTY, NAD 83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 3/4" X 24" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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

STRUCTURE B-62-0064

BEGIN RELOCATION ORDER

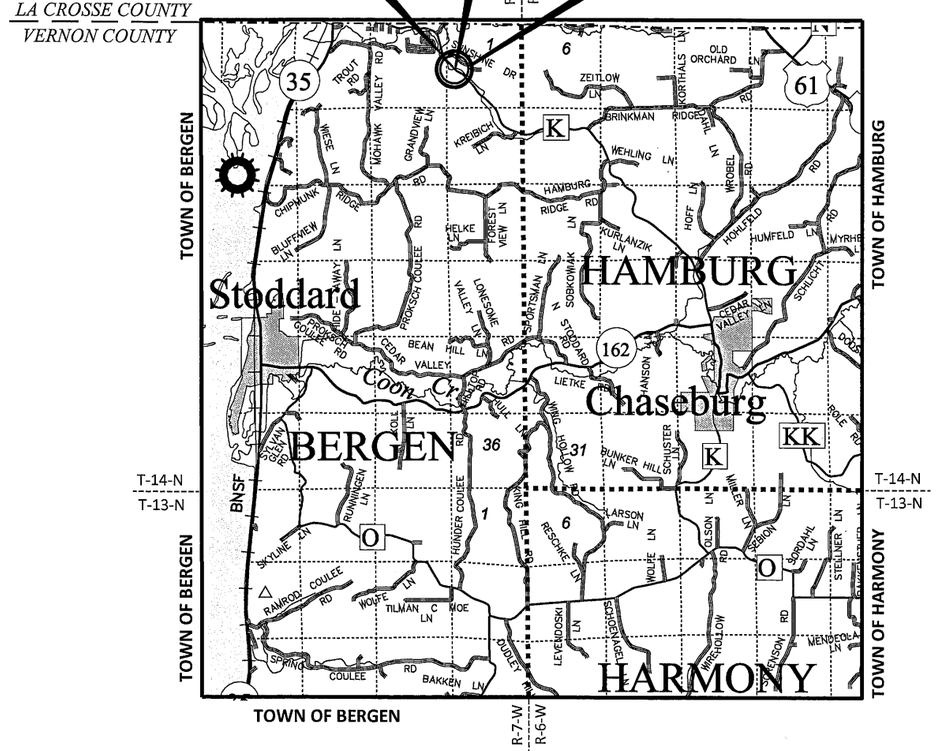
STA. 117+20

250.25' NORTH AND 466.22' EAST OF THE W¼ CORNER OF SECTION 1, T.14N., R.7W., TOWN OF BERGEN, VERNON COUNTY, WI
Y= 207995.71
X= 628081.31

END RELOCATION ORDER

STA. 120+00

47.89' NORTH AND 659.62' EAST OF THE W¼ CORNER OF SECTION 1, T.14N., R.7W., TOWN OF BERGEN, VERNON COUNTY, WI
Y= 207793.35
X= 628274.72



N

LAYOUT

SCALE 0 2 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.053 MI.

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
5476-00-00	4.01	2
FEDERAL PROJECT NUMBER		

PLAT OF RIGHT-OF-WAY REQUIRED FOR

STH 162 - STH 35

(S CHIPMUNK COULEE CR BR B-62-0064)

CTH K — VERNON COUNTY

CONSTRUCTION PROJECT NUMBER

5476-00-70

JEWELL
associates engineers, inc.
Engineers - Architects - Surveyors

560 SUNRISE DRIVE
SPRING GREEN, WI 53588
PHONE : 608.588.7484
www.jewellssoc.com

I HEREBY CERTIFY THAT THIS PLAT WAS MADE FOR VERNON COUNTY, WISCONSIN AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

WISCONSIN
SCOTT D. WARNER
S-2524
RICHLAND CENTER, WI
11-08-2019
LAND SURVEYOR

REVISION DATE
01-28-2020 N.C.

APPROVED FOR VERNON COUNTY

DATE: 11-12-19 (NAME/TITLE) Hwy Com'n

16

E

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	PLE ACRES REQ.	TLE ACRES REQ.
1	PLEASANT VALLEY SENIORS, LLC	TLE	-----	0.10
2	MICHAEL G. HAVLIK, A SINGLE PERSON	PLE, TLE	0.02	0.04
3	ALLEN E. McCOY, A MARRIED PERSON	PLE	0.02	-----
201	VERNON ELECTRIC COOPERATIVE	RELEASE OF RIGHTS		
202	MEDIACOM WISCONSIN LLC	RELEASE OF RIGHTS		
203	CENTURYLINK	RELEASE OF RIGHTS		
204	COON VALLEY FARMERS TELEPHONE COMPANY, INC.	RELEASE OF RIGHTS		

NOTE: AREAS SHOWN IN THE TOTAL ACRES COLUMN MAY BE APPROXIMATE AND ARE DERIVED FROM THE TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED. OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO VERNON COUNTY.

ENCROACHMENT TABLE

ENCROACHMENT	PROPERTY OWNER	LOCATION (STATION/OFFSET)	ENCROACHMENT TYPE	REMARKS
E-1	ALLEN E. McCOY, A MARRIED PERSON	STA. 117+20 - STA. 117+57, 38.4'-38.5' RT.	FENCE	----------
E-2	MICHAEL G. HAVLIK, A SINGLE PERSON	STA. 117+42- STA. 117.54, 25.5'-28.3' LT.	LANDSCAPING	REVOCABLE OCCUPANCY PERMIT

COORDINATE TABLE - NEW R/W POINTS

PT.#	STATION	OFFSET	Y	X
100	117+20.00	28.15' LT.	208014.88	628101.93
101	117+83.05	28.35' LT.	207968.84	628145.00
102	118+05.00	58.54' LT.	207973.32	628182.05
103	118+30.00	36.47' LT.	207939.98	628182.90
105	119+09.54	57.60' LT.	207896.18	628252.47
106	119+09.55	60.67' LT.	207898.26	628254.72
107	120+00.00	73.35' LT.	207847.63	628324.05
108	120+00.00	41.15' RT.	207762.91	628247.03
109	119+65.00	41.19' RT.	207787.72	628220.53
110	119+45.00	48.00' RT.	207797.50	628200.93
111	118+65.00	48.00' RT.	207856.83	628144.87
112	118+45.00	38.04'RT.	207878.25	628138.55
113	117+20.00	41.81'RT.	207967.25	628050.69

COORDINATE TABLE - TEMPORARY LIMITED EASEMENT (TLE) POINTS

PT.#	STATION	OFFSET	Y	X
500	117+35.00	28.20' LT.	208003.93	628112.18
501	117+35.00	90.00' LT.	208046.00	628157.44
502	118+55.00	90.00' LT.	207958.11	628239.14
503	118+55.00	43.12' LT.	207926.19	628204.80

EASEMENT TABLE

OWNER	RECORDING INFORMATION	LOCATED IN R/W PARCEL #
VERNON ELECTRIC COOPERATIVE	NO EASEMENT OF RECORD	1, 2
MEDIACOM WISCONSIN LLC	NO EASEMENT OF RECORD	1, 2
CENTURYLINK	NO EASEMENT OF RECORD	1, 2
COON VALLEY FARMERS TELEPHONE COMPANY, INC.	NO EASEMENT OF RECORD	1, 2

TLE LINE TABLE

POINT TO POINT	BEARING	DISTANCE
100 TO 500	S43°05'26"E	15.00'
500 TO 501	N47°05'36"E	61.80'
501 TO 502	S42°54'24"E	120.00'
502 TO 503	S47°05'36"W	46.88'
503 TO 105	S57°48'13"E	56.32'

RIGHT OF WAY LINE TABLE

POINT TO POINT	BEARING	DISTANCE
100 TO 101	S43°05'26"E	63.05'
101 TO 102	N83°06'32"E	37.32'
102 TO 103	S01°27'56"E	33.35'
103 TO 105	S57°48'13"E	82.19'
105 TO 106	N47°11'10"E	3.07'
106 TO 107	S53°51'32"E	85.85'
107 TO 108	S42°16'19"W	114.50'
109 TO 110	N63°30'01"W	21.90'
110 TO 111	N43°22'35"W	81.63'
111 TO 112	N16°26'41"W	22.34'
112 TO 113	N44°37'54"W	125.06'
113 TO 100	N47°05'36"E	69.96'

NOTE: EXISTING C/L OF CTH K WAS BASED ON CENTERLINE OF EXISTING PAVEMENT.

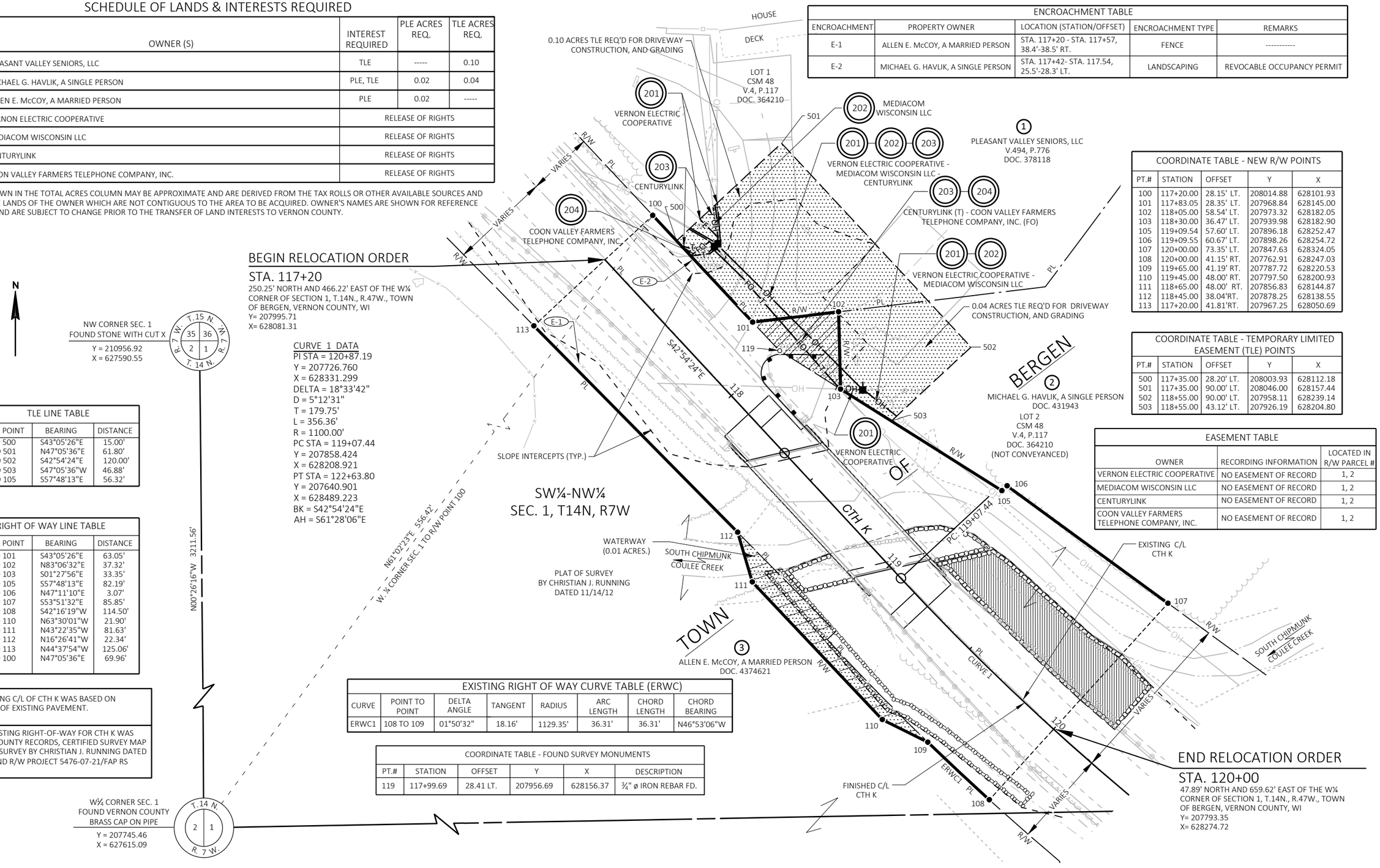
BASIS OF EXISTING RIGHT-OF-WAY FOR CTH K WAS BASED ON COUNTY RECORDS, CERTIFIED SURVEY MAP 48, PLAT OF SURVEY BY CHRISTIAN J. RUNNING DATED 11/14/12, AND R/W PROJECT 5476-07-21/FAP RS 0647(009)

EXISTING RIGHT OF WAY CURVE TABLE (ERWC)

CURVE	POINT TO POINT	DELTA ANGLE	TANGENT	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
ERWC1	108 TO 109	01°50'32"	18.16'	1129.35'	36.31'	36.31'	N46°53'06"W

COORDINATE TABLE - FOUND SURVEY MONUMENTS

PT.#	STATION	OFFSET	Y	X	DESCRIPTION
119	117+99.69	28.41 LT.	207956.69	628156.37	¾" ø IRON REBAR FD.



REVISION DATE 01-28-2020 N.C.	DATE	SCALE, FEET 0 20 40	HWY: CTH K	R/W PROJECT NUMBER: 5476-00-00	PLAT SHEET 4.02
	GRID FACTOR		COUNTY: VERNON	CONSTRUCTION PROJECT NUMBER: 5476-00-70	PS&E SHEET 17 E

CURVE 1 DATA
PI STA. = 120+87.19
Y = 207,726.76
X = 628,331.30
R = 1100.00
D = 5°12'31"
DELTA = 18°33'42"
L = 356.36
T = 179.75
C = 354.80
PC STA. = 119+07.44
Y = 207,858.42
X = 628,208.92
PT STA. = 122+63.80
Y = 207,640.90
X = 628,489.22
SE = *
RO = *
TRANS = *
* SEE SUPERELEVATION TABLE

PLEASANT VALLEY SENIORS, LLC

PROVIDE ACCESS TO PLEASANT VALLEY SENIORS, LLC ENTRANCE AT ALL TIMES. (MIN. 12' WIDE)

VERNON ELECTRIC COOPERATIVE / MEDIACOM WISCONSIN, LLC. / CENTURYLINK (BETWEEN POWER POLES)

STA. 117+78, LT.
CONSTRUCT C.E. (ASPHALT)

STA. 118+21, LT.
CONSTRUCT CONCRETE SURFACE DRAIN

STA. 117+20 - STA. 117+70, RT.
REMOVING CURB AND GUTTER REQ'D

MICHAEL G. HAVLIK

TLE REQ'D.

PLE REQ'D.

SILT FENCE RELIEF REQ'D

VERNON ELECTRIC COOP.

LANDSCAPING & SIGN TO REMAIN

VERNON ELECTRIC COOPERATIVE / MEDIACOM WISCONSIN, LLC.

STEEL PLATE BEAMGUARD SHORT RADIUS

6'X6'

BM 2

SILT FENCE RELIEF REQ'D

CENTURYLINK (TYP.)

COON VALLEY FARMERS TELEPHONE COMPANY (TYP.)

PROPOSED MGS GUARDRAIL

BM 1

PC: 119+07.44

PT: 122+63.80

BEGIN CONSTRUCTION
STA. 116+51
Y=208,046.25
X=628,034.34

END CONSTRUCTION
STA. 122+71
Y=207,637.46
X=628,495.55

700.08 700.35 700.88 701.18

STA. 117+54
O/S = 12.0'
ELEV. = 700.39

S42°54'24"E

117+00 118+00 119+00 120+00 121+00 122+00

CURVE 1

(ASPHALT) CTH K

EXISTING C/L CTH K (ASPHALT)

PROPOSED MGS GUARDRAIL

PROPOSED C/L CTH K

VERNON ELECTRIC COOPERATIVE

SHOULDER HINGE POINT (TYP.)

BEGIN PROJECT
STA. 117+20
Y=207,995.71
X=628,081.31

STA. 116+51 - STA. 117+20, RT.
REMOVING ASPHALTIC SURFACE

ALLEN E. MCCOY

PROPOSED MGS GUARDRAIL

SOUTH CHIPMUNK COULEE CREEK

STA. 117+20 - STA. 117+57, RT.
REMOVING FENCE BY OTHERS

PLE REQ'D.

CONCRETE PAVEMENT APPROACH SLAB (TYP.)

SLOPE INTERCEPT

STA. 120+20, RT.
CONSTRUCT ASPHALTIC FLUME
(SEE CONSTRUCTION DETAIL)

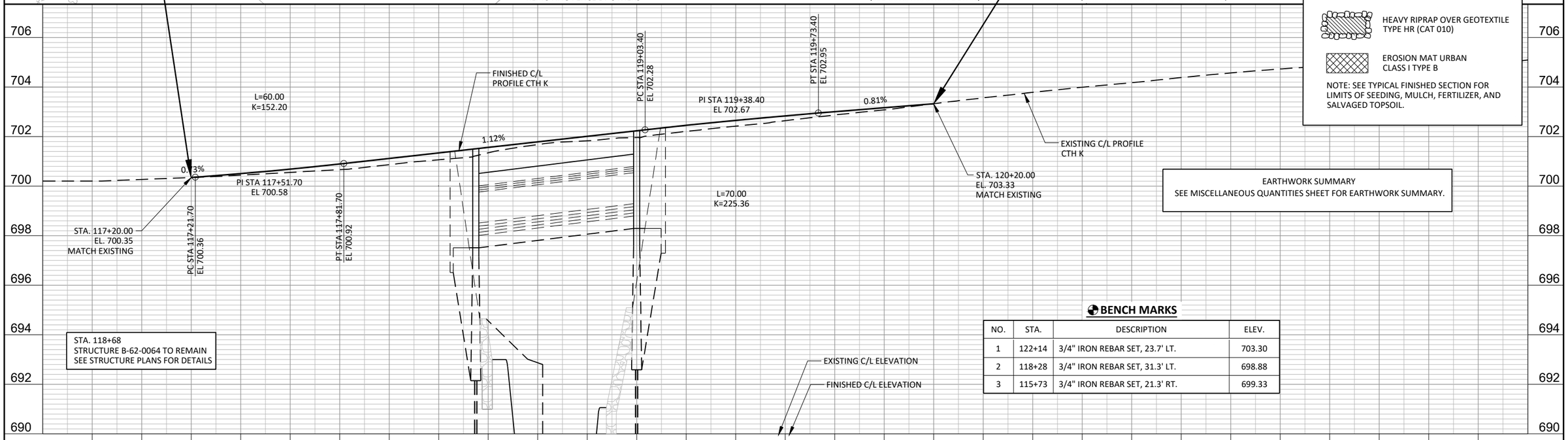
END PROJECT
STA. 120+20
Y=207,780.04
X=628,289.64

RANDY J. & MARY B. MICKELSON

STA. 120+04 - STA. 120+25, RT.
REMOVING CURB AND GUTTER REQ'D

LEGEND
- DIRECTION OF FLOW
- XXXXXXXXX SAWING ASPHALT/ SAWING CONCRETE
- SILT FENCE
- WETLANDS
- HEAVY RIPRAP OVER GEOTEXTILE TYPE HR (CAT 020)
- LIGHT RIPRAP OVER GEOTEXTILE TYPE R (CAT 010)
- HEAVY RIPRAP OVER GEOTEXTILE TYPE HR (CAT 010)
- EROSION MAT URBAN CLASS I TYPE B

NOTE: SEE TYPICAL FINISHED SECTION FOR LIMITS OF SEEDING, MULCH, FERTILIZER, AND SALVAGED TOPSOIL.



STA. 118+68
STRUCTURE B-62-0064 TO REMAIN
SEE STRUCTURE PLANS FOR DETAILS

EARTHWORK SUMMARY
SEE MISCELLANEOUS QUANTITIES SHEET FOR EARTHWORK SUMMARY.

BENCH MARKS

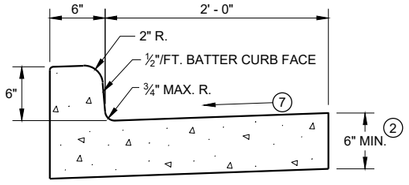
NO.	STA.	DESCRIPTION	ELEV.
1	122+14	3/4" IRON REBAR SET, 23.7' LT.	703.30
2	118+28	3/4" IRON REBAR SET, 31.3' LT.	698.88
3	115+73	3/4" IRON REBAR SET, 21.3' RT.	699.33

PROJECT NO: 5476-00-70	HWY: CTH K	COUNTY: VERNON	PLAN AND PROFILE	SHEET

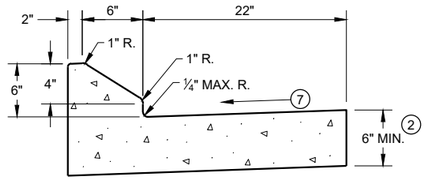
FILE NAME : S:\PROJECTS\W11593 CTH K DECK REPLACEMENT, VERNON COUNTY\SHEETSPLAN\PLAN & PROFILE SHEETS\PLAN & PROFILE.DWG
PLOT DATE : 10/23/2020 10:29:19 AM
PLOT BY : HANOLD, ROBERT
PLOT SCALE : 1" = 1'
LAYOUT : LAYOUT1

Standard Detail Drawing List

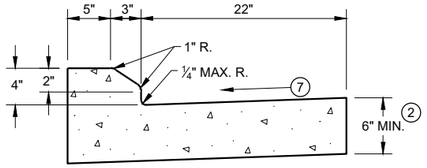
08D01-21A	CONCRETE CURB & GUTTER
08D01-21B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-07A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E09-06	SILT FENCE
12A03-10	NAME PLATE (STRUCTURES)
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11B	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS
14B27-01A	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01B	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01C	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06D	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)
15A01-13A	MARKER POST FOR RIGHT-OF-WAY
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



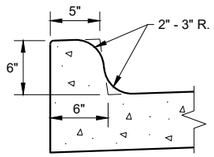
TYPES A[1] & D



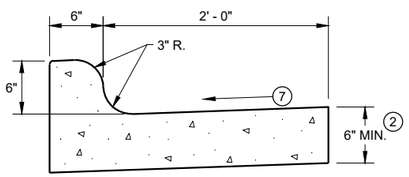
6" SLOPED CURB TYPES G[1] & J



4" SLOPED CURB TYPES G[1] & J

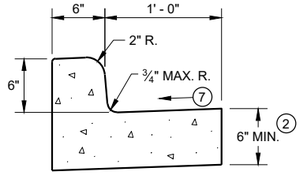


TYPES K[1] & L
(OPTIONAL CURB SHAPE)



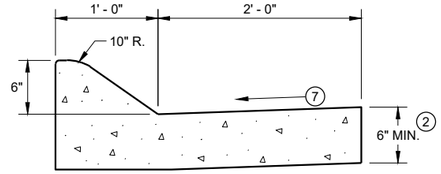
TYPES K[1] & L

CONCRETE CURB AND GUTTER 30"

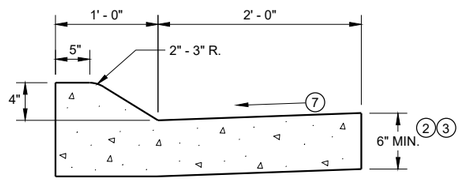


TYPES A[1] & D

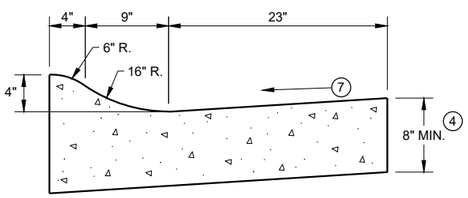
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A[1] & D



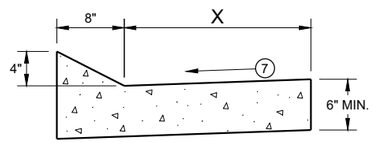
4" SLOPED CURB TYPES A[1] & D



4" SLOPED CURB TYPES R[1] & T[5]

CONCRETE CURB AND GUTTER 36"

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

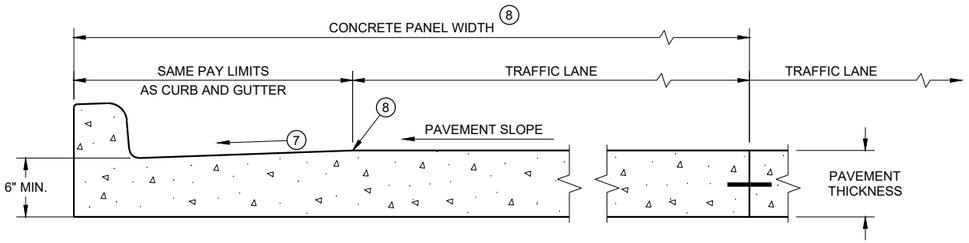


TYPES TBT & TBTT[1]

CONCRETE CURB AND GUTTER

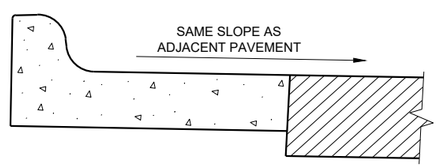
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

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

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

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

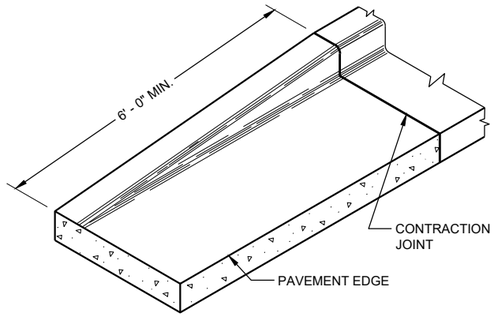
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

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

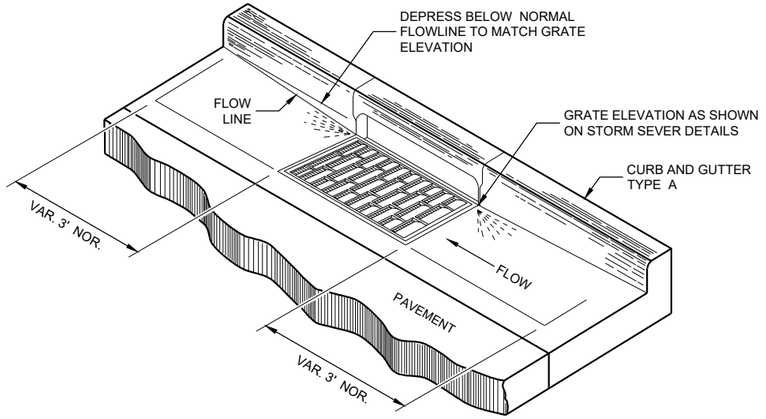
CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 08D01 - 21a



END SECTIONCURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

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

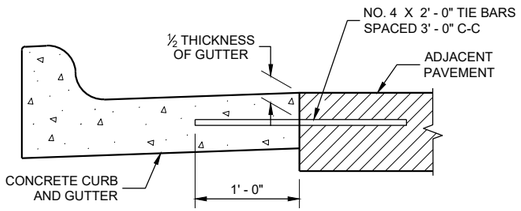
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

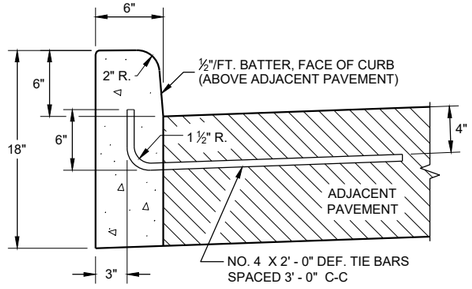
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

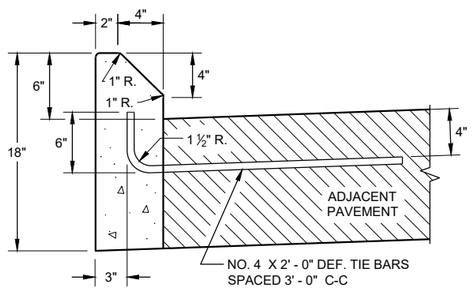
(9) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION (1)

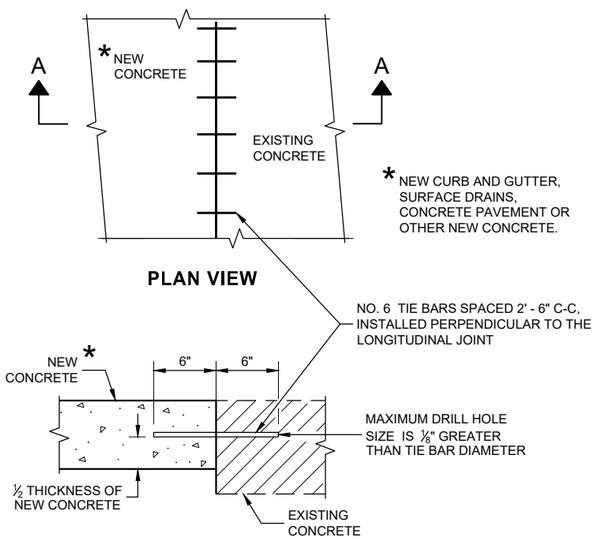


TYPES A (1) & D



TYPES G (1) & J

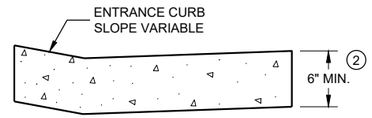
CONCRETE CURB



PLAN VIEW

SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB (9)

(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

6

SDD08D01 - 21b

GENERAL NOTES

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

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

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

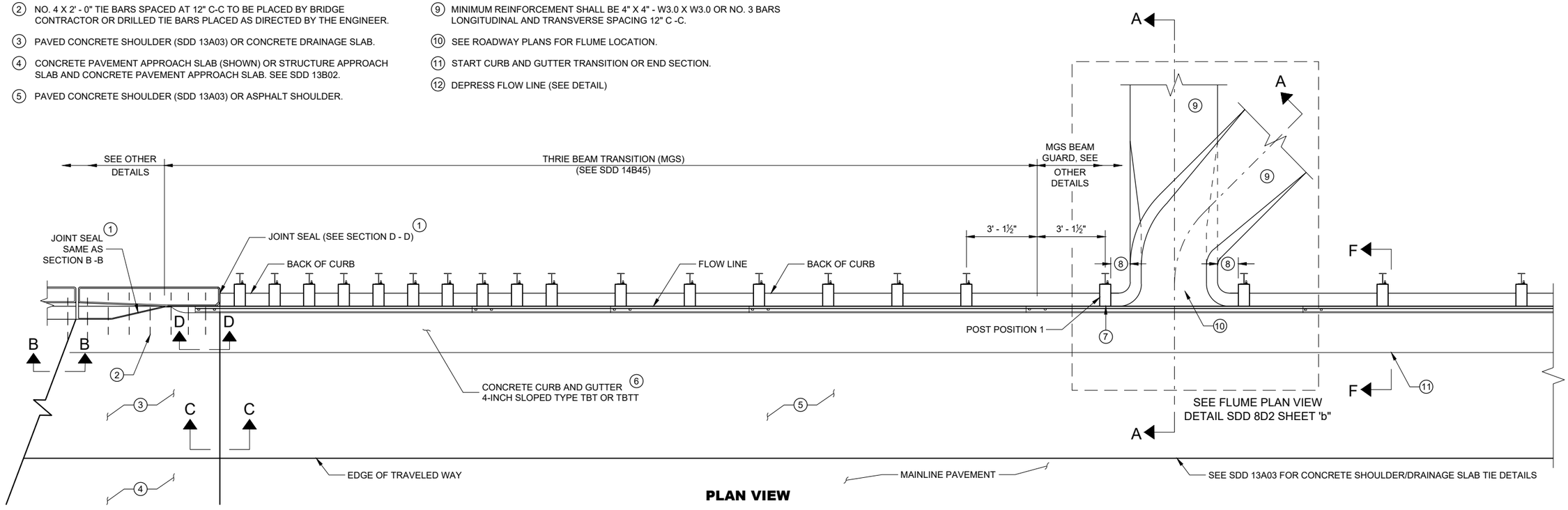
(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

(9) MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

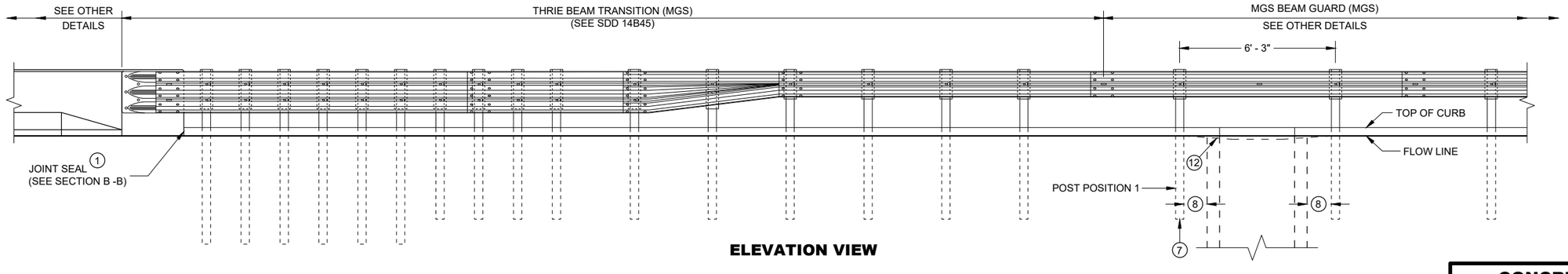
(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)



PLAN VIEW



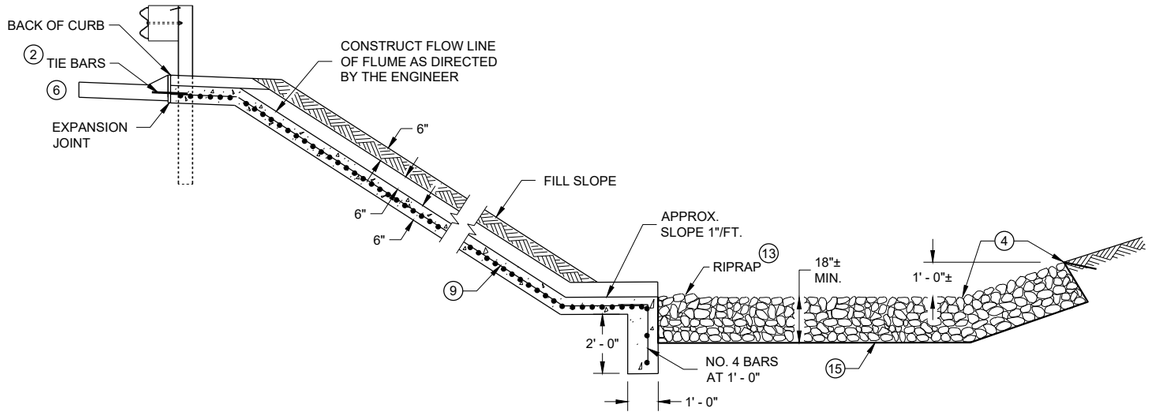
ELEVATION VIEW

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

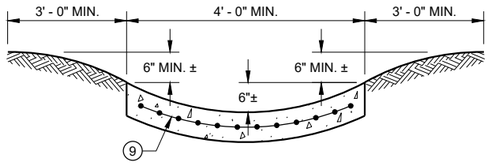
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D02 - 07a

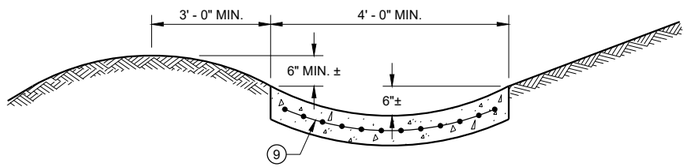
SDD 08D02 - 07a



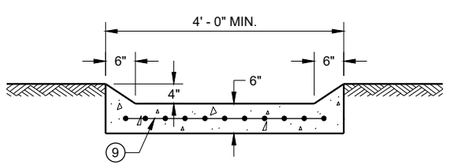
SECTION A - A



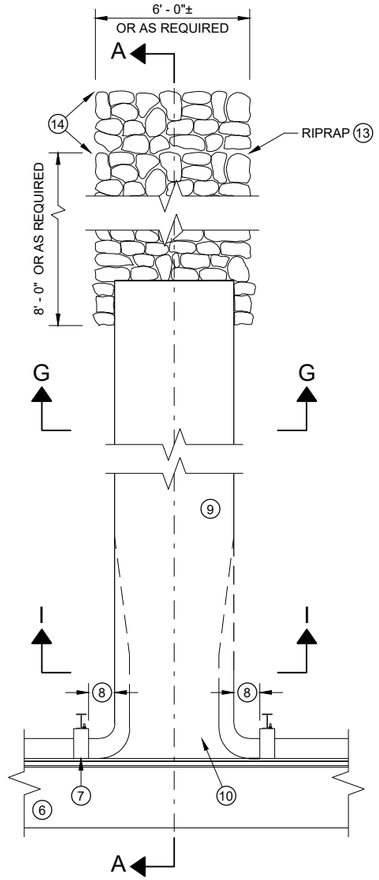
SECTION G - G



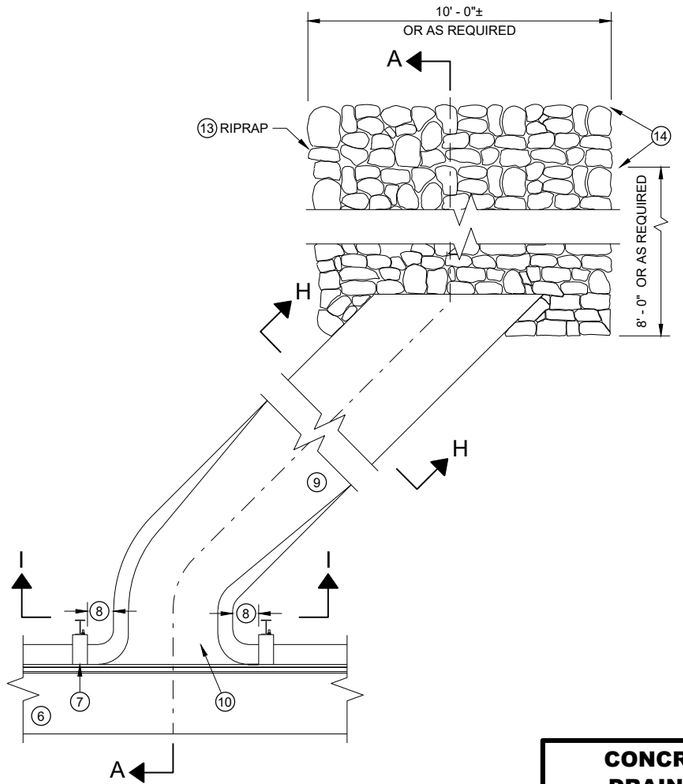
SECTION H - H



SECTION I - I



PLAN VIEW PERPENDICULAR FLUME



PLAN VIEW SKEWED FLUME

GENERAL NOTES

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

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

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

(9) MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)

(13) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

(14) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH AS REQUIRED.

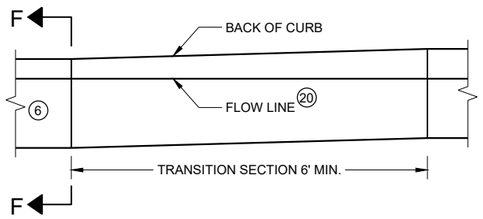
(15) GEOTEXTILE FABRIC TYPE HR.

SDD 08D02 - 07b

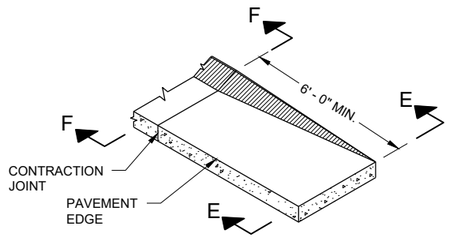
CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

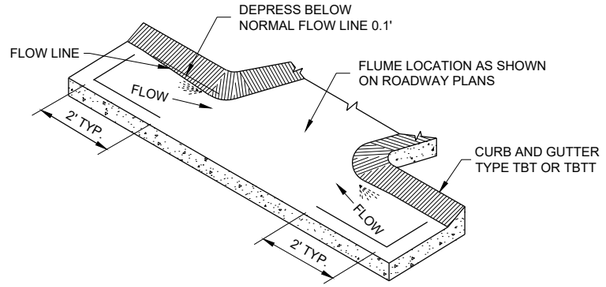
SDD 08D02 - 07b



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



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



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

GENERAL NOTES

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

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

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

(9) MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)

(13) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

(14) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

(15) GEOTEXTILE FABRIC TYPE HR.

(16) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.

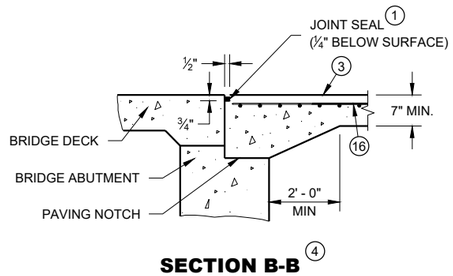
(17) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

(18) MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.

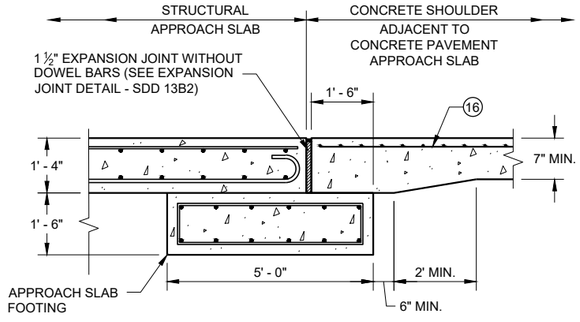
(19) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

(20) MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.

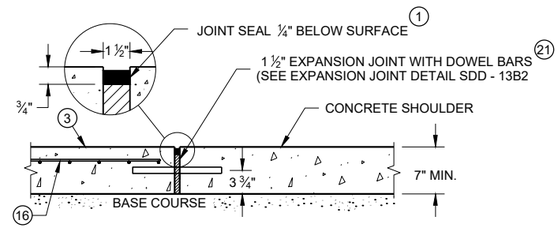
(21) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



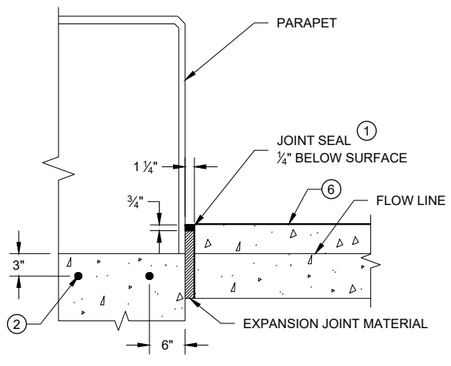
SECTION B-B



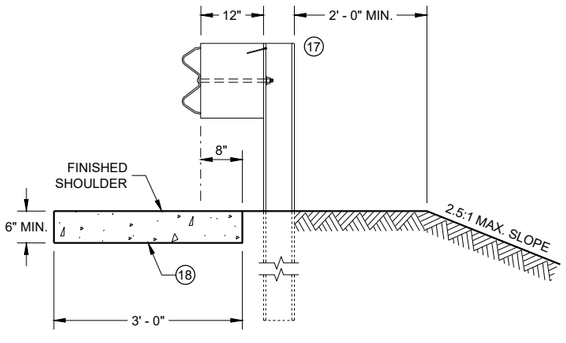
SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



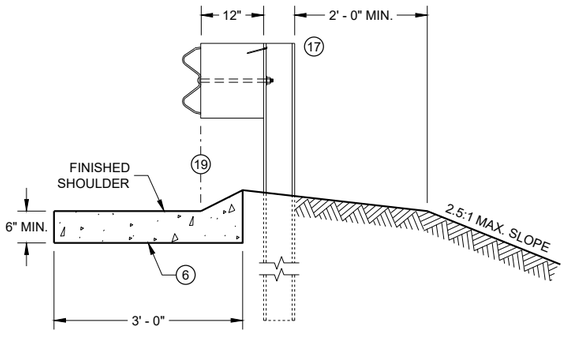
SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS



SECTION D - D



SECTION E - E



SECTION F - F

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

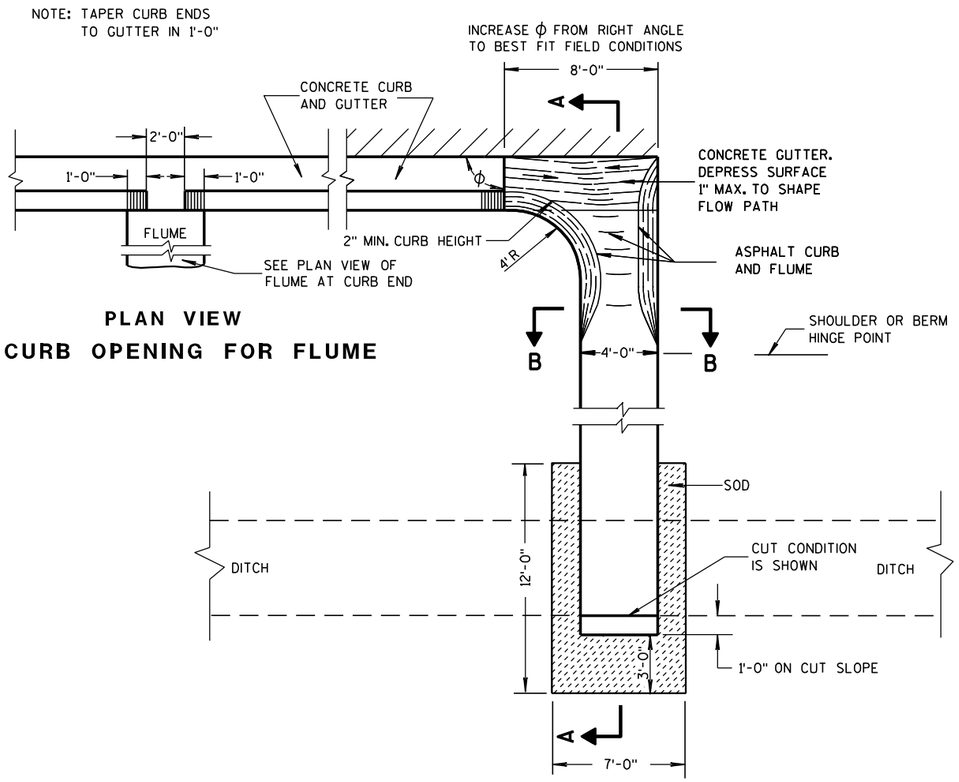
APPROVED
February 2020 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

SDD 08D02 - 07c

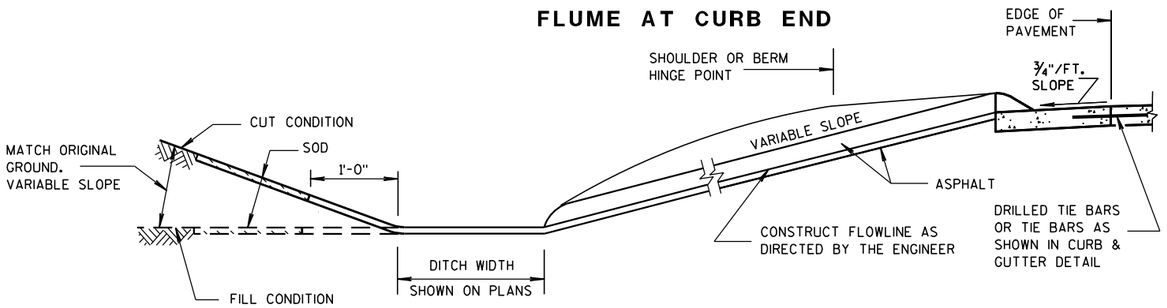
SDD 08D02 - 07c

ASPHALTIC FLUME

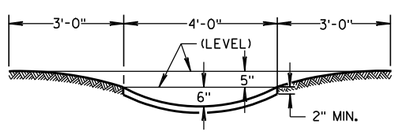


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

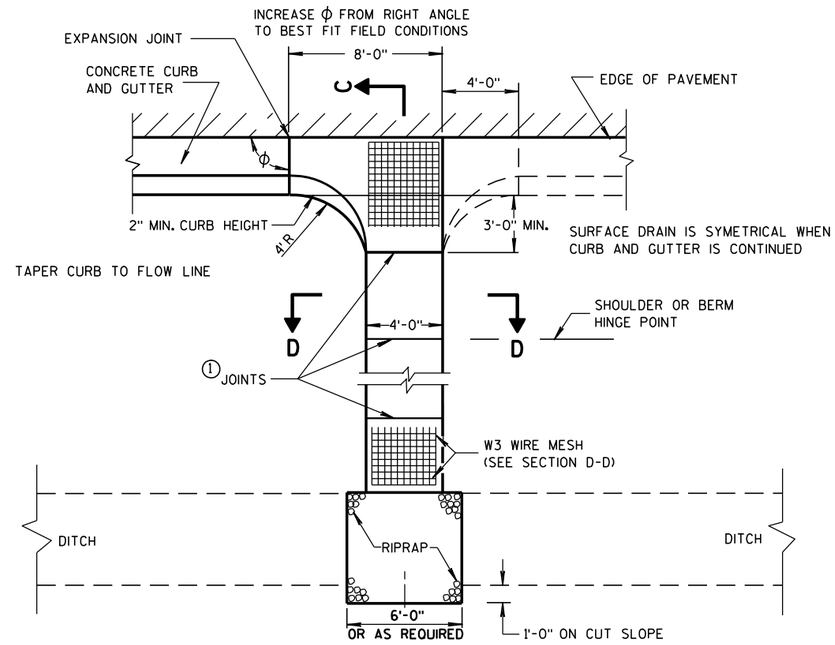
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

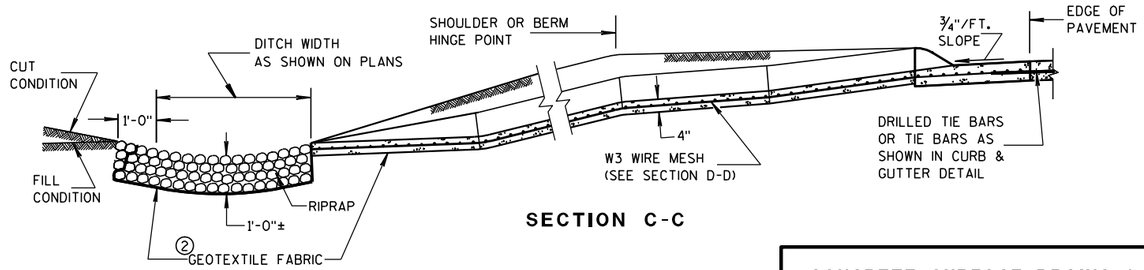
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

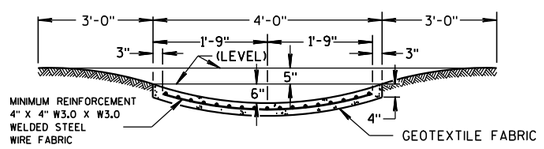
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

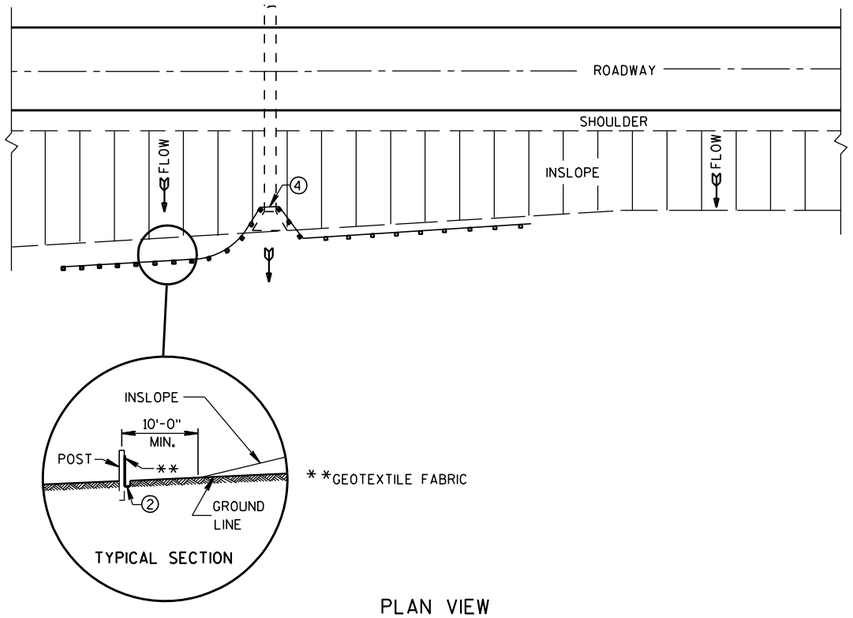
APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
25
MENT
FHWA

6

S.D.D. 8 D 4-5

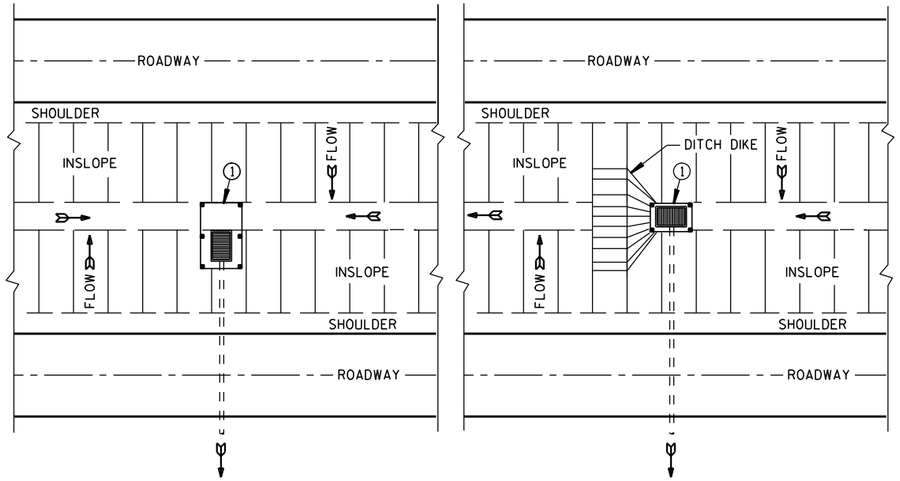
6

S.D.D. 8 D 4-5



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



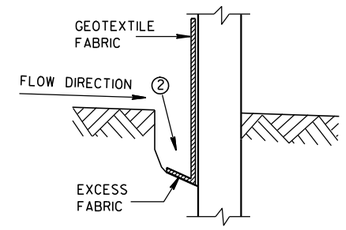
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

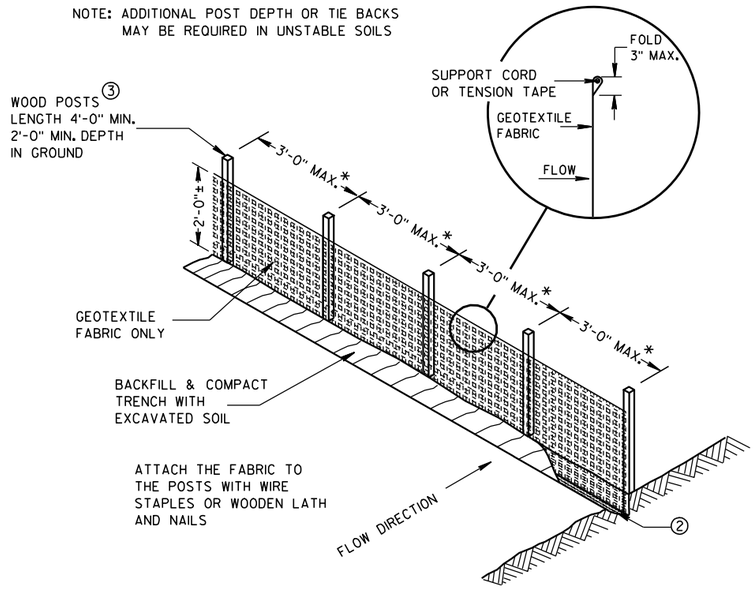
GENERAL NOTES

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

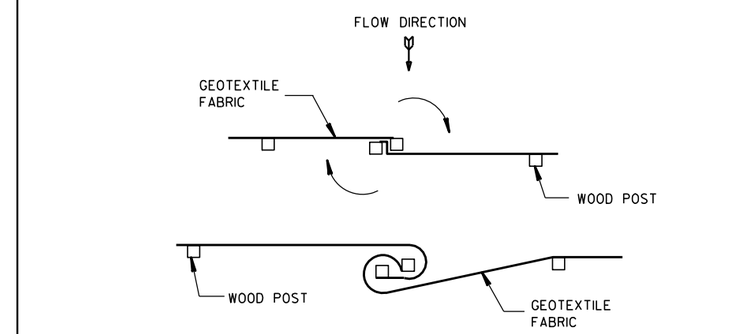
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL 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.



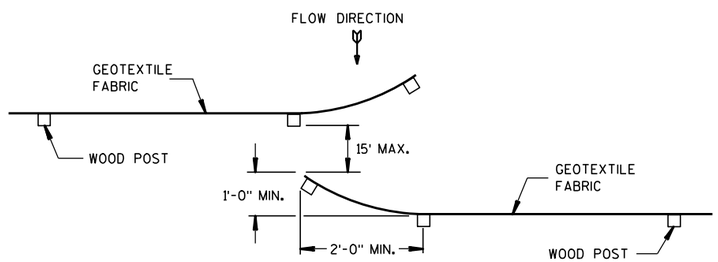
TRENCH DETAIL



SILT FENCE

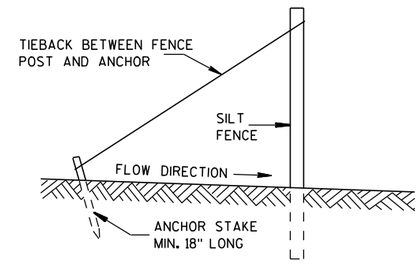


TWIST METHOD



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

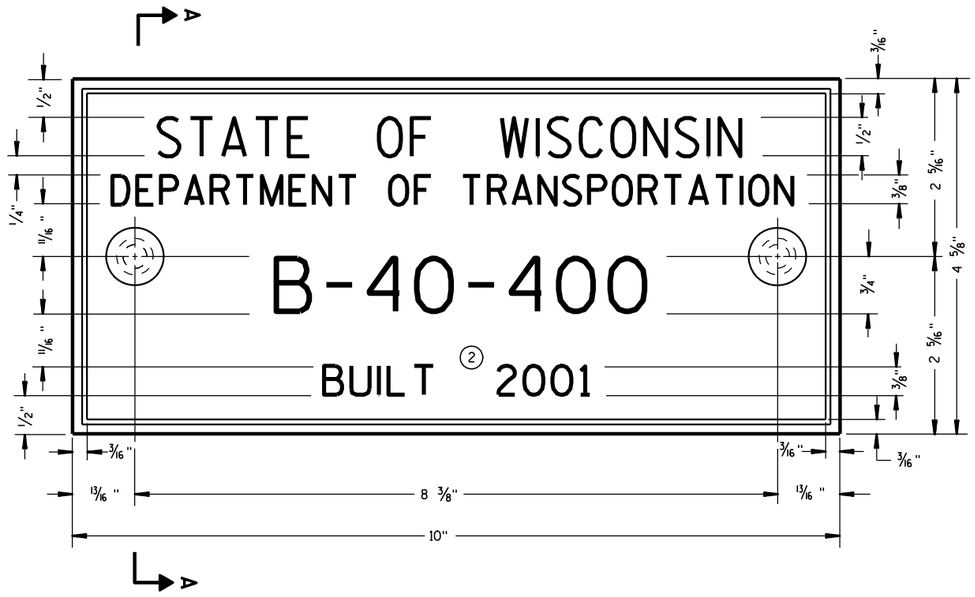
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 9-6

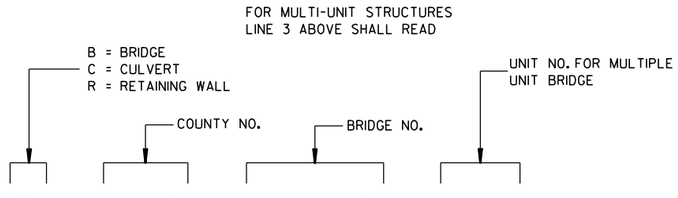
6

S.D.D. 8 E 9-6



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

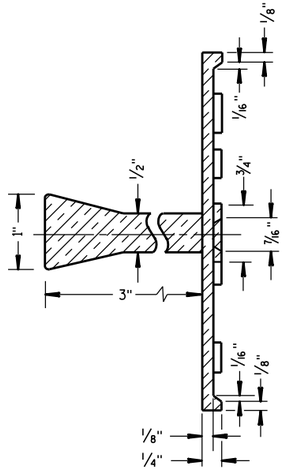
GENERAL NOTES

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

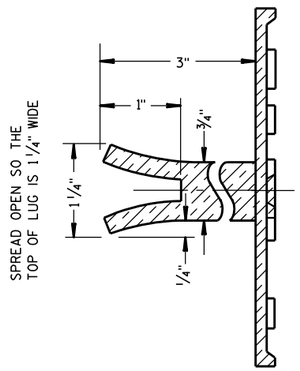
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

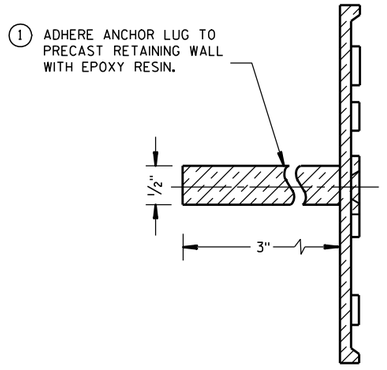
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



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	

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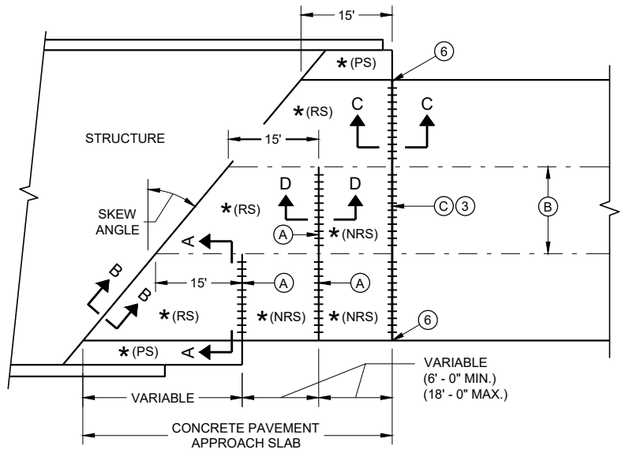
S.D.D. 12 A 3-10

6

S.D.D. 12 A 3-10



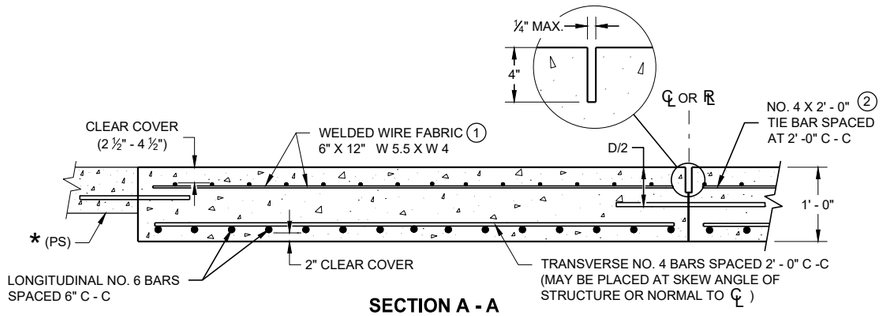
SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)

(RS) = REINFORCED CONCRETE SLAB

(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

(NRS) - NON - REINFORCED CONCRETE SLAB

*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



SECTION A - A
REINFORCEMENT POSITIONING DETAIL

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

(1) THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0 " C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

(2) THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

(3) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

(4) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

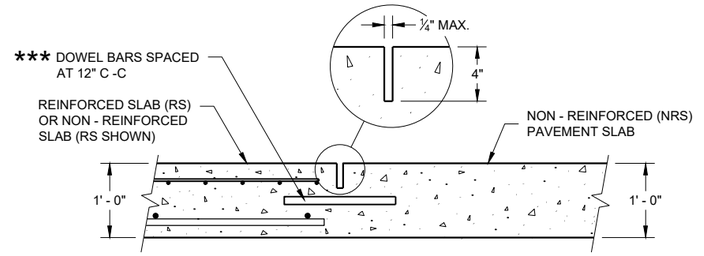
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

(6) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

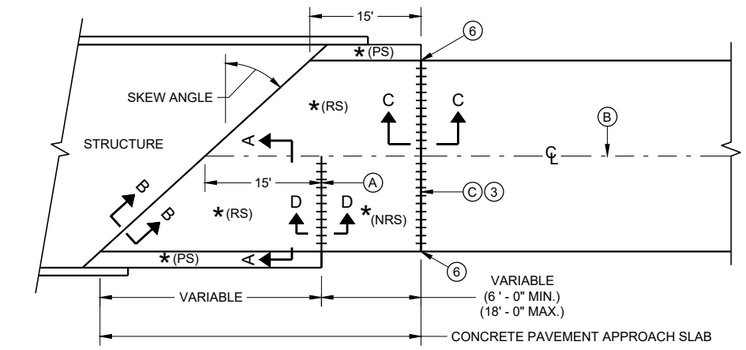
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞ .

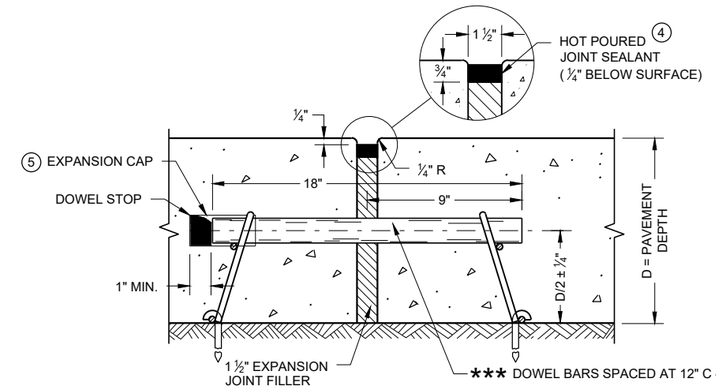


SECTION D - D
CONTRACTION JOINT

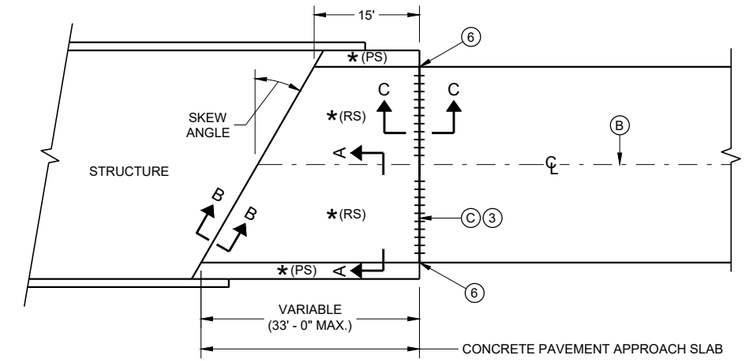


SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')

SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT

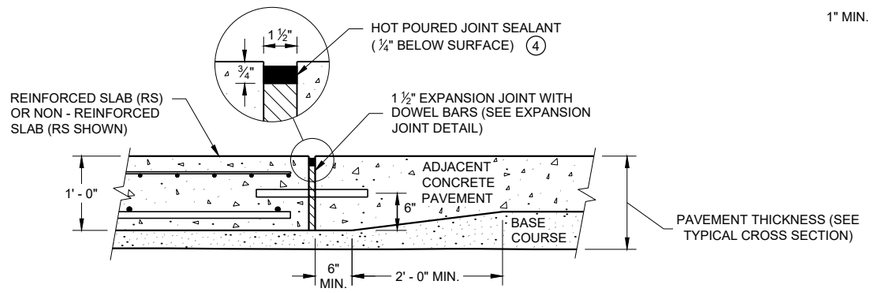


EXPANSION JOINT DETAIL



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

APPROACH SLAB AND ADJACENT PAVEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Peter Kemp, P.E.
PAVEMENT SUPERVISO

FHWA

6

SDD 13B02 - 09a

GENERAL NOTES

(1) W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.

DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.

(2) USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.

(3) INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(4) USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

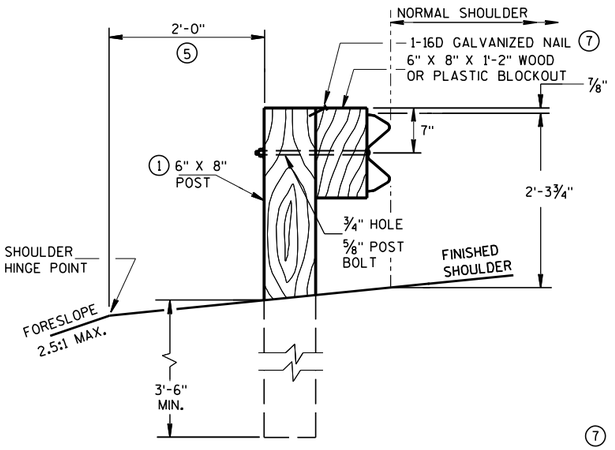
(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

(6) IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2½ INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN YHE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATEY.

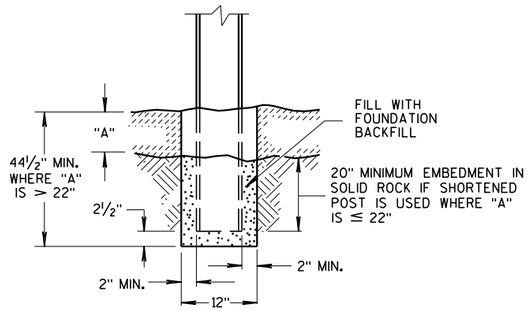
(7) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

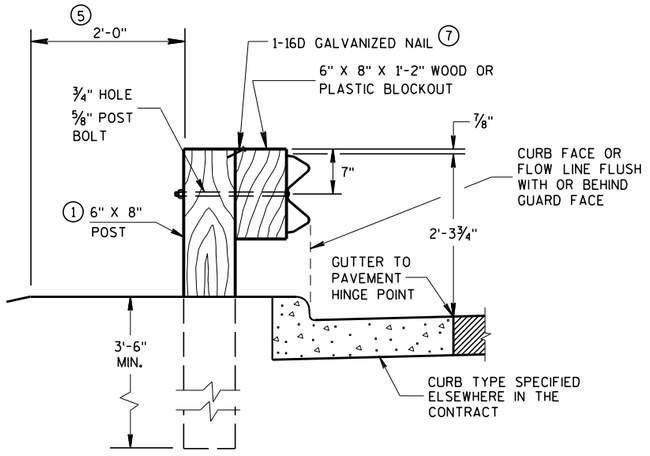
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



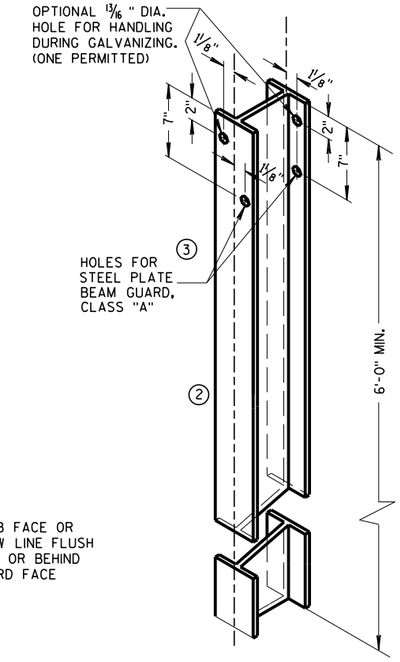
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



END VIEW
SETTING STEEL OR WOOD POST IN ROCK (6)

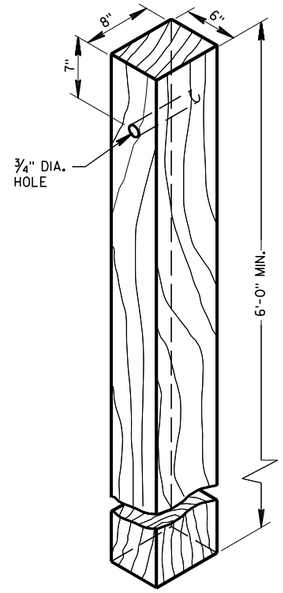


END VIEW
LOCATED ALONG A CURBED ROADWAY

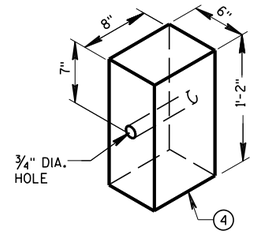


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

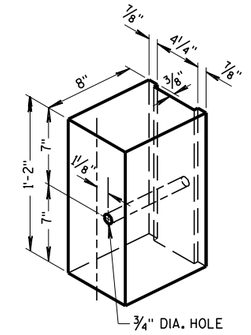
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



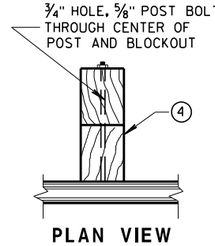
WOOD POST
(6"X8") NOMINAL



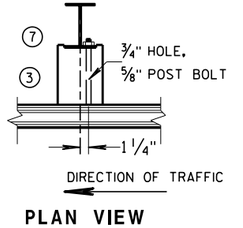
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



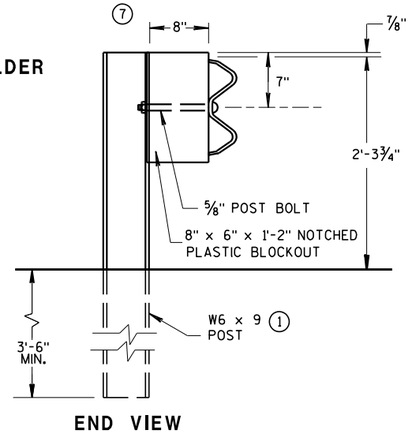
TYPICAL NOTCHED
PLASTIC BLOCKOUT
FOR STEEL POSTS (1)



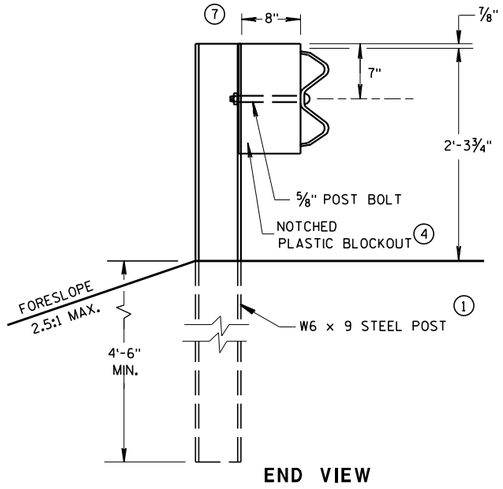
PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



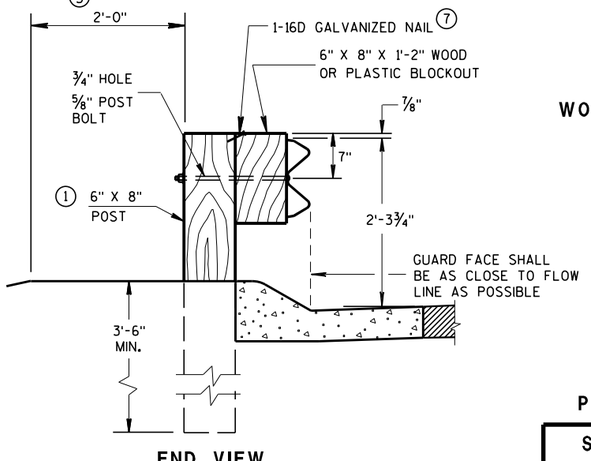
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM



END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)



END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

S.D.D. 14 B 15-11a

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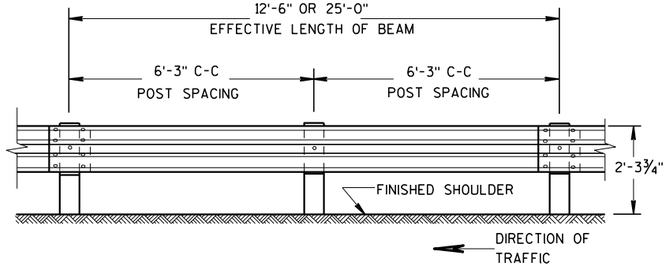
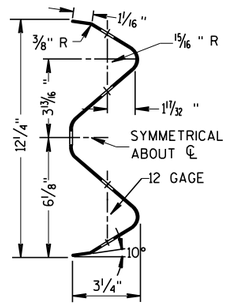
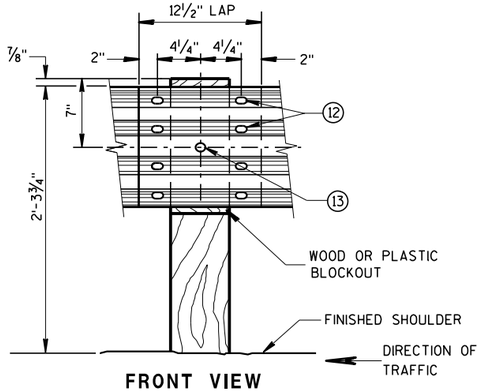


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

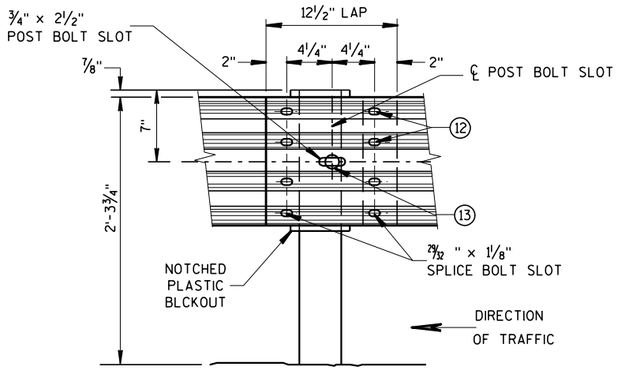
(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.

(12) 8 -5/8" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) 5/8" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH 5/8" DIA. F844 FLAT WASHER UNDER NUT.

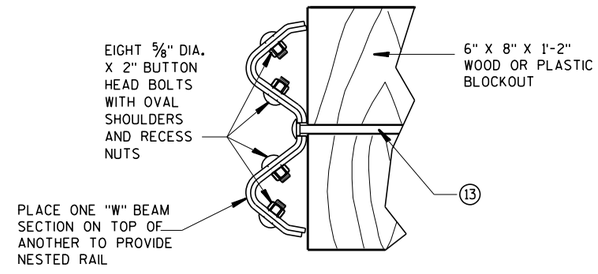
FRONT VIEW

POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

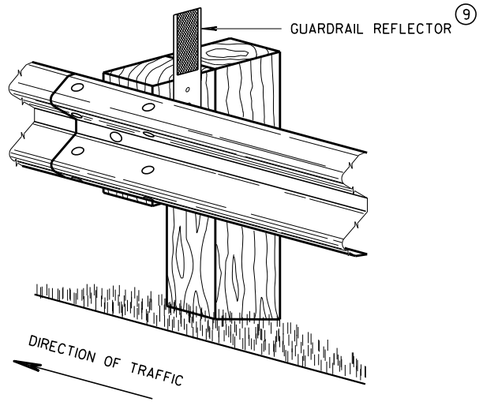


NESTED W BEAM (NW)

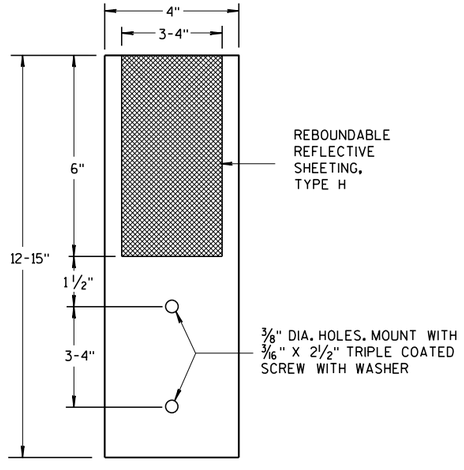
USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

* USE DOUBLE SIDED WHITE GUADRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.



4" X 12" GUARDRAIL REFLECTOR DETAIL AND TYPICAL INSTALLATION *



4"x 12" GUARDRAIL REFLECTOR

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCO 30
DEPARTMENT OF TRANSPORTATION

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S.D.D. 14 B 15-11b

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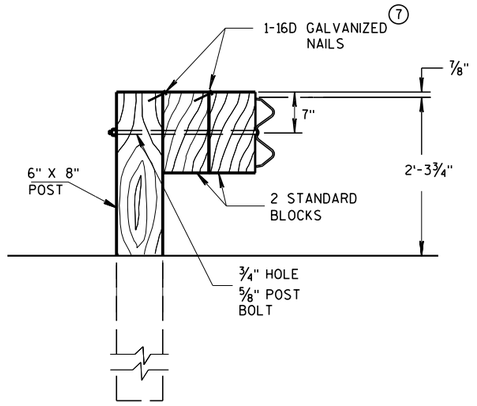
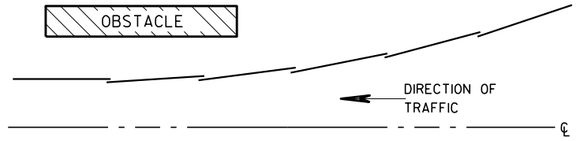
S.D.D. 14 B 15-11b

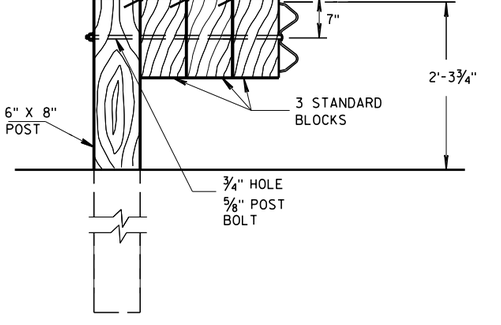


DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED

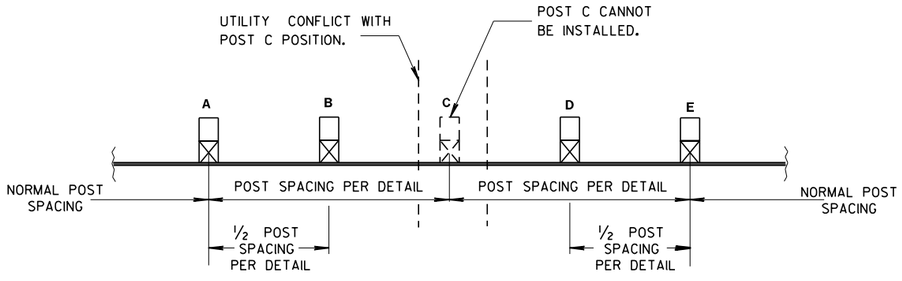


PLAN VIEW
BEAM LAPPING DETAIL



DETAIL FOR TRIPLE BLOCKS

TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

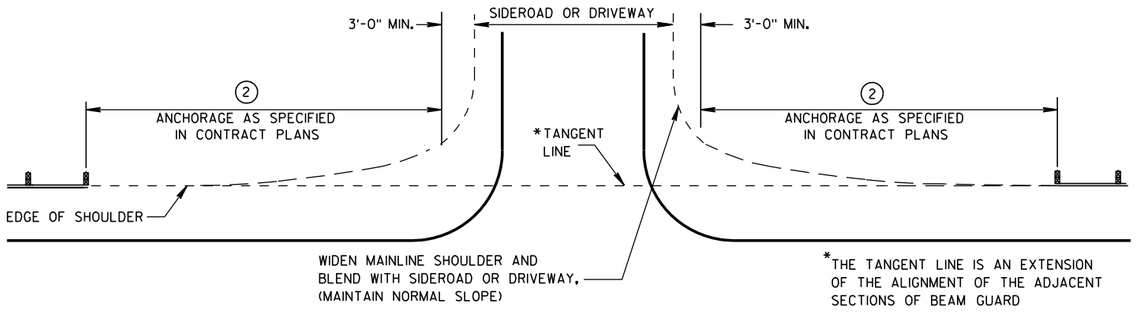
NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA 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.

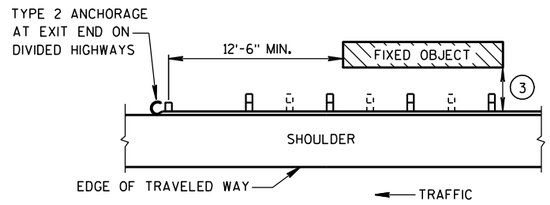
STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

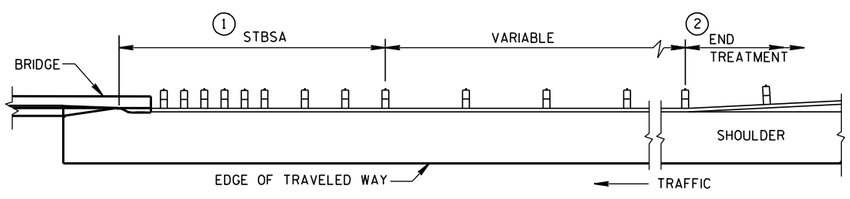
APPROVED
June 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVISOR
FHWA



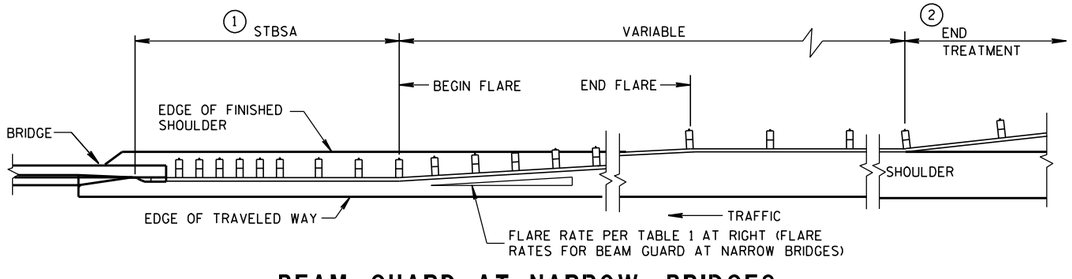
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



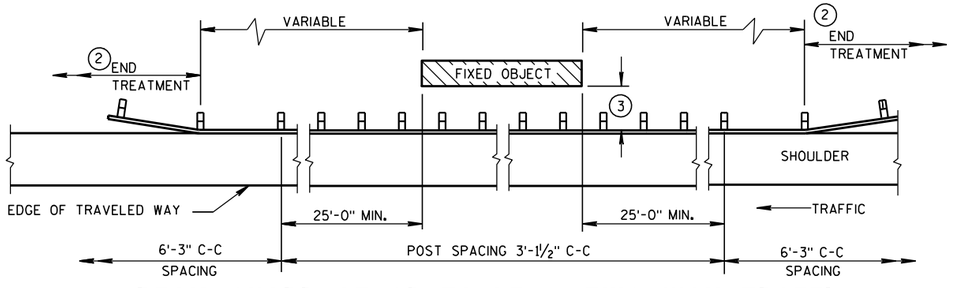
BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC



BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT NARROW BRIDGES
(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC
(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

(1) STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.

(2) USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

(3)

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1½"
4'-6"	6' - 3"

TABLE 1
FLARE RATES FOR BEAM GUARD AT NARROW BRIDGES

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1

STEEL PLATE BEAM GUARD CLASS "A" AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-21-07 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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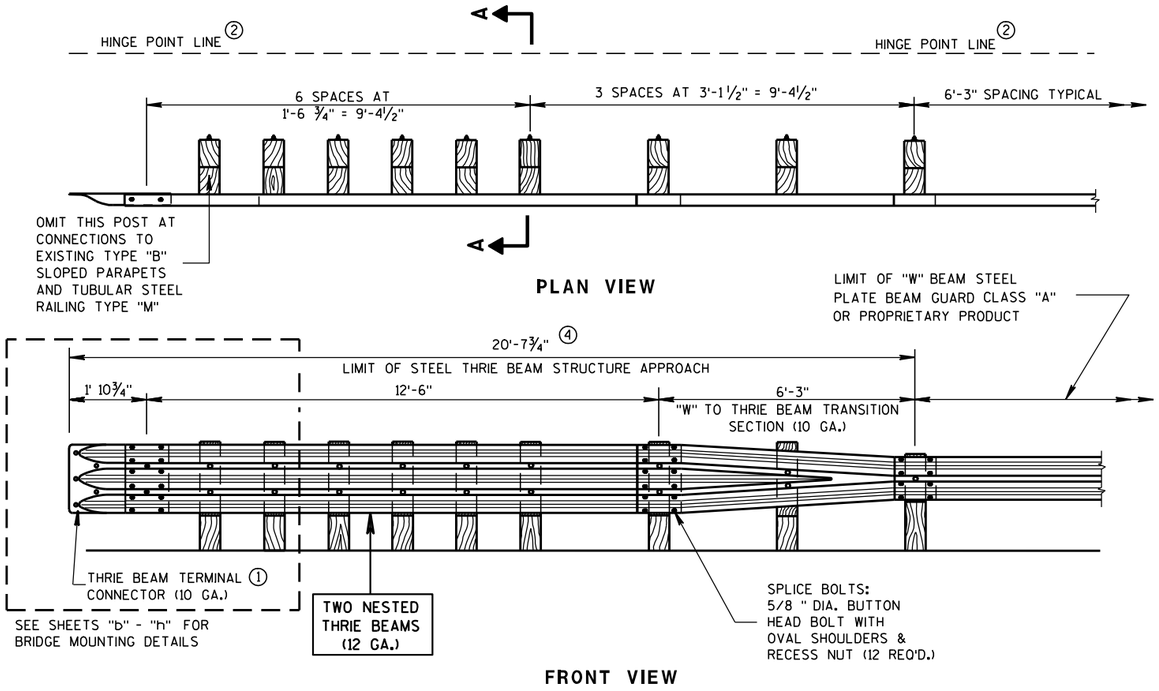
S.D.D. 14 B 18-6a



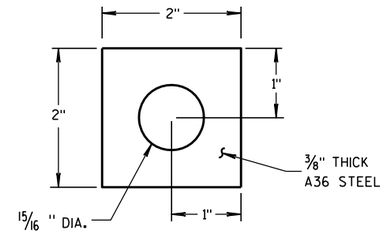


PLATE WASHER DETAIL

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

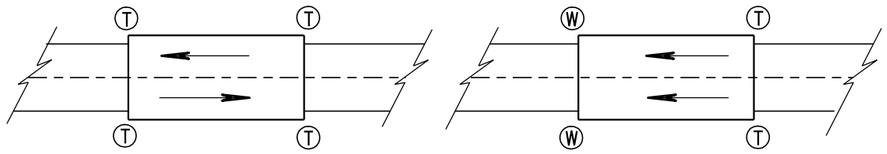
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

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

② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.

③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



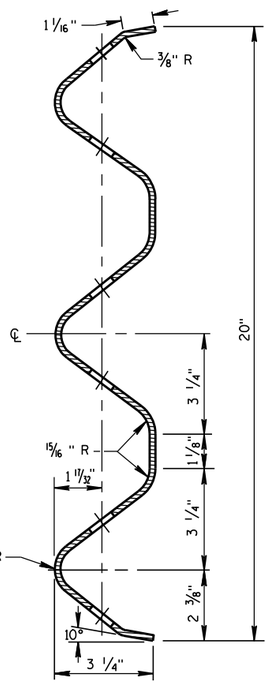
TWO WAY TRAFFIC

ONE WAY TRAFFIC

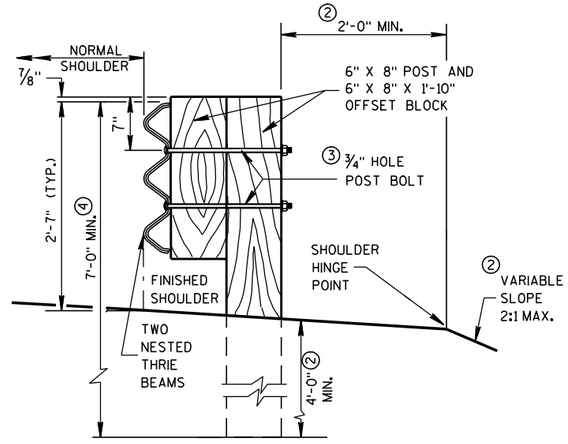
T THRIE BEAM CONNECTION

W W-BEAM CONNECTION WHEN REQUIRED

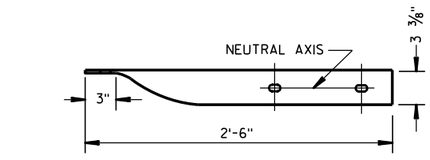
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

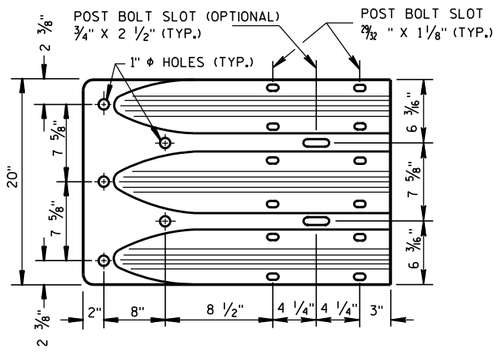


SECTION THRU THRIE BEAM RAIL ELEMENT

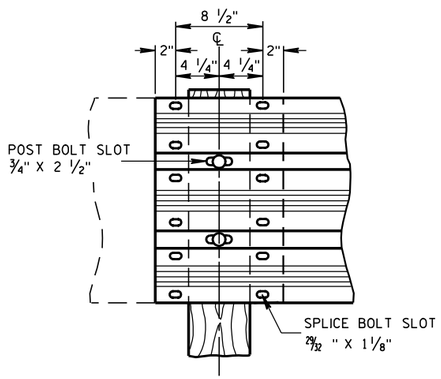


SECTION A-A





THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE

STEEL THRIE BEAM STRUCTURE APPROACH

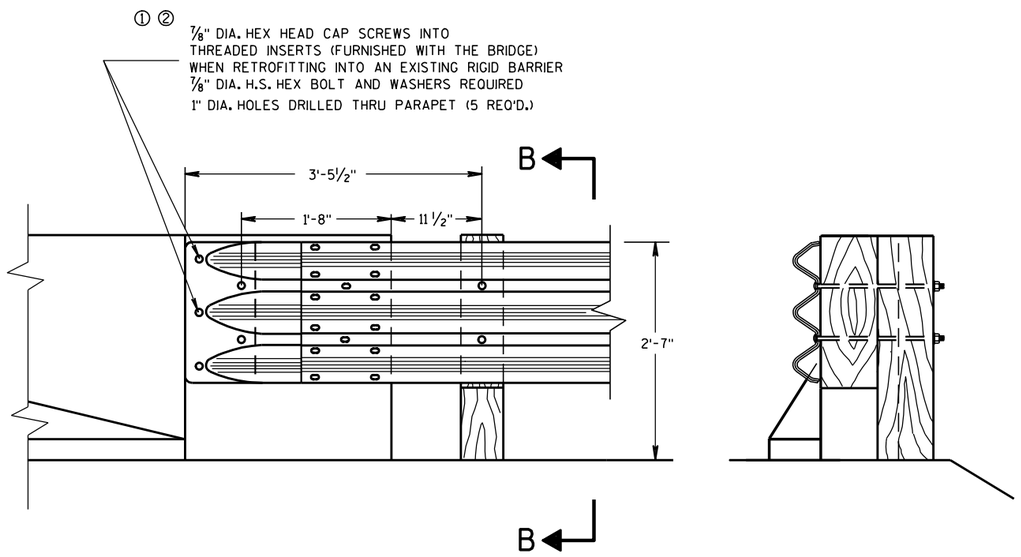
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

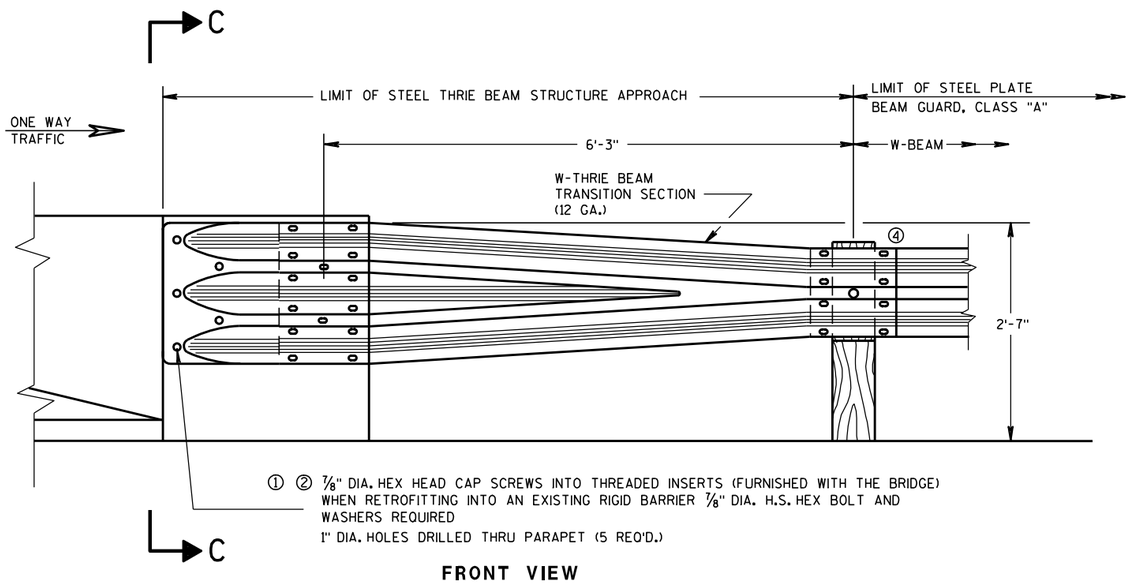
FHWA



FRONT VIEW

SECTION B-B

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (5 REQ'D.)

FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

GENERAL NOTES

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

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

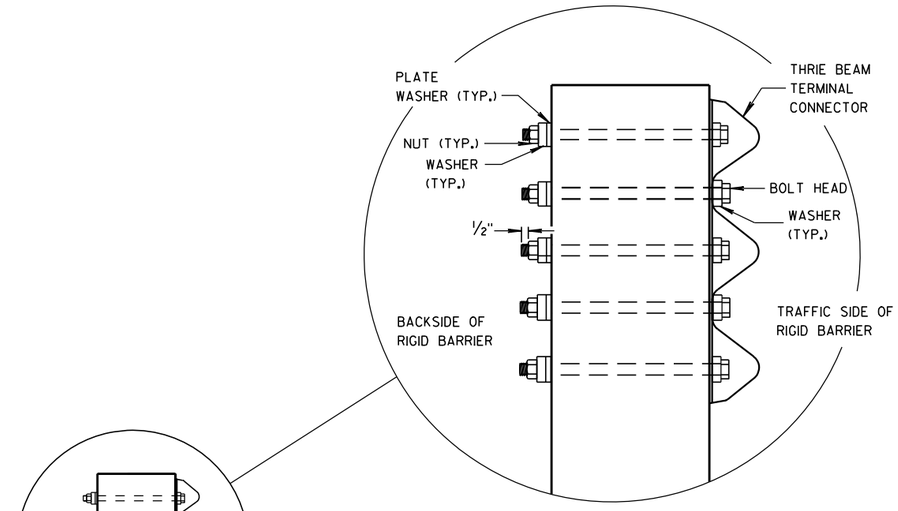
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

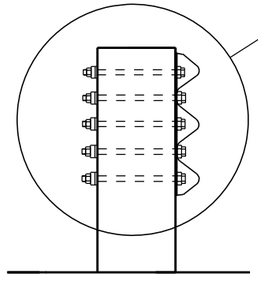
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ 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 ½".

④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



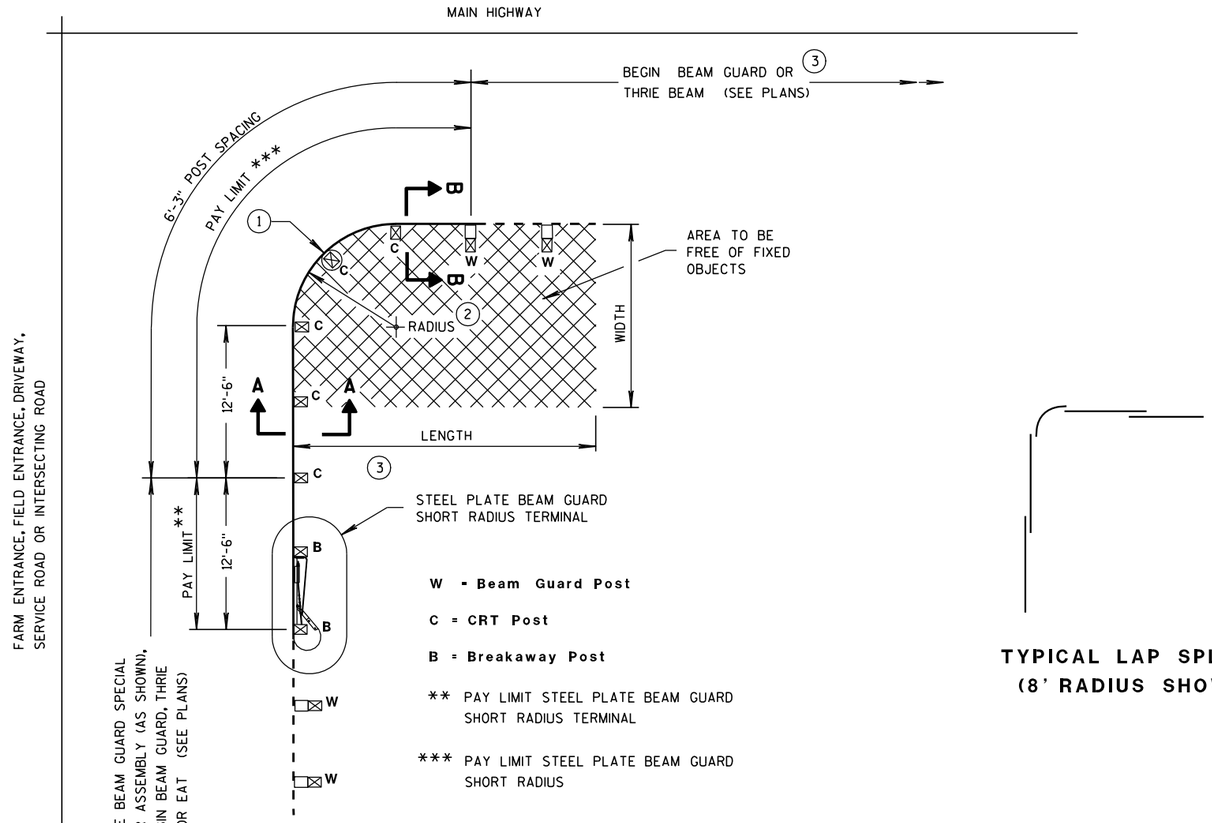


SECTION C-C

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER
FHWA



TYPICAL LAYOUT
(8' RADIUS SHOWN)

TYPICAL LAP SPLICES
(8' RADIUS SHOWN)

GENERAL NOTES

ALL ANGLES, CHANNELS, AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36 AND THE STRUCTURAL TUBING SHALL CONFORM TO ASTM A 500. WELDING SHALL MEET THE CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI/AWS D1.1. ALL STRUCTURAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 123. PUNCHING, DRILLING, CUTTING, OR WELDING WILL NOT BE PERMITTED AFTER GALVANIZING. FURNISH AND INSTALL HARDWARE PER STANDARD SPECIFICATION 614.2. UNLESS NOTED OTHERWISE.

SHOP BEND CURVED RAIL SECTIONS.

SEE STANDARD DETAIL DRAWING 14 B 15 FOR OTHER DETAIL.

(1) ON THE 8 FOOT RADIUS INSTALLATION, DO NOT INSTALL BUTTON HEAD BOLT AT CENTER CRT POST.

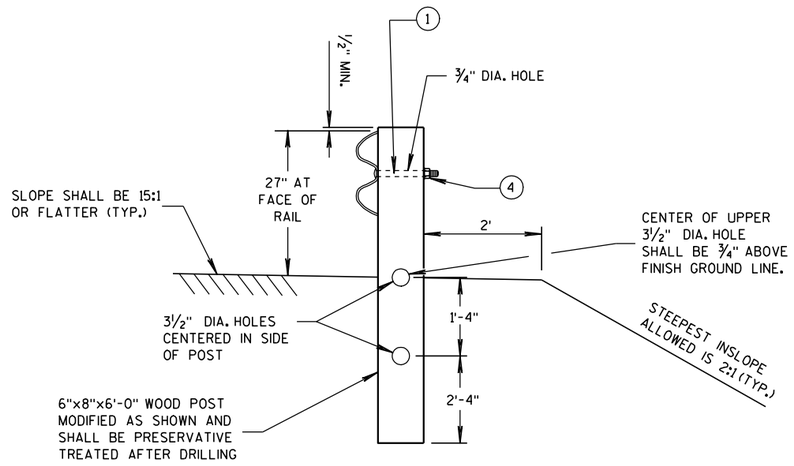
(2) RADIUS FROM 8' - 36'. SEE PLAN.

(3) HEIGHT TRANSITION MAY BE REQUIRED. SEE PLAN OR PROJECT ENGINEER.

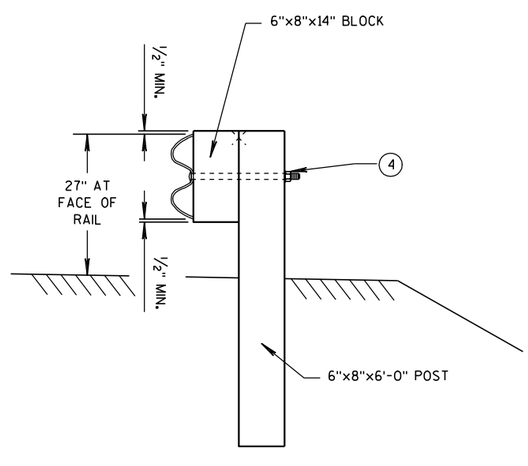
(4) 5/8" ø X 1'-6" BUTTON HEAD BOLT AND RECESS NUT WITH ROUND WASHER UNDER NUT.

RADIUS	NUMBER OF CRT POSTS	*NUMBER AND LENGTH OF CURVED RAILS	REQUIRED AREA FREE OF FIXED OBJECTS (LENGTH x WIDTH)
8'	5	1 at 12.5'	25' x 15'
16'	7	1 at 25'	30' x 15'
24'	9	1 at 25' and 1 at 12.5'	40' x 20'
32'	11	2 at 25'	50' x 20'

* THE NUMBER OF RAILS IS BASED ON A 90° INTERSECTION. SEE PLAN FOR NON 90° INSTALLATIONS.



SECTION A-A
(CRT POST)



SECTION B-B
(BEAM GUARD POST)

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 27-1a

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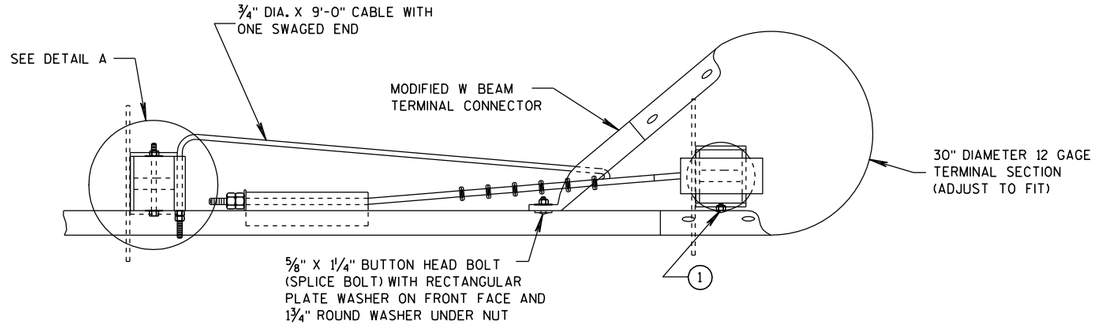
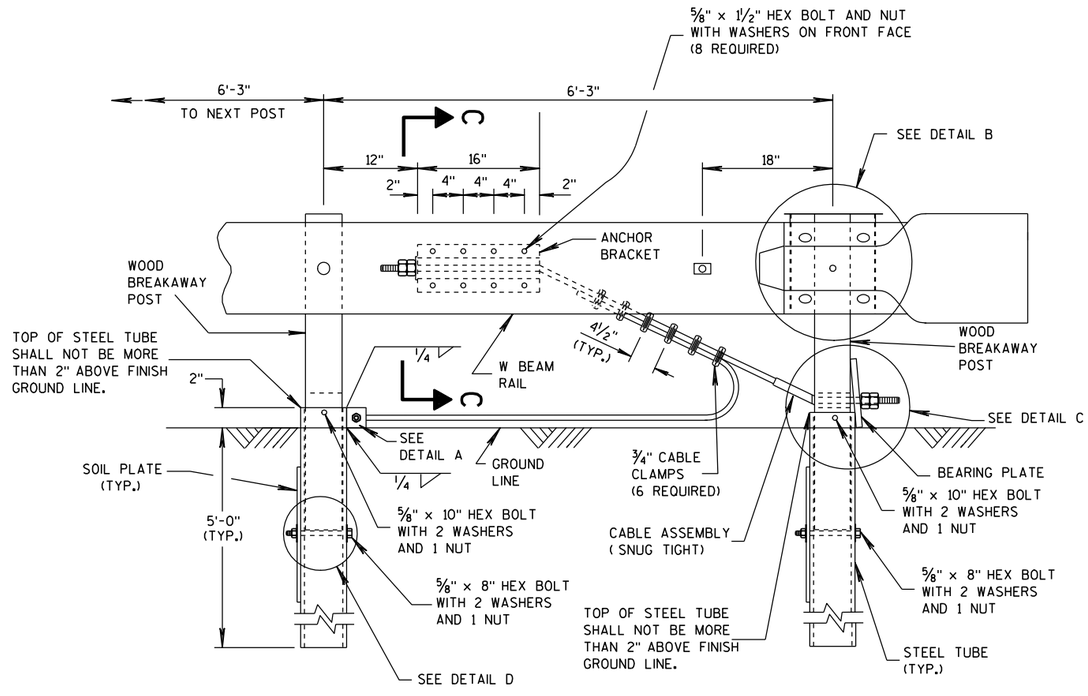
S.D.D. 14 B 27-1a



PLAN VIEW



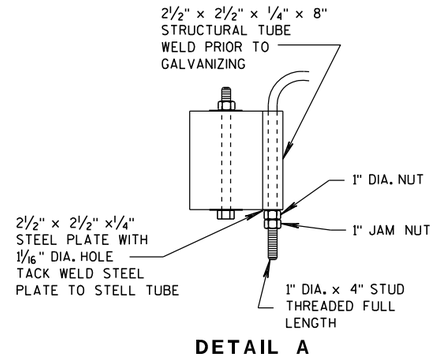
ELEVATION VIEW

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

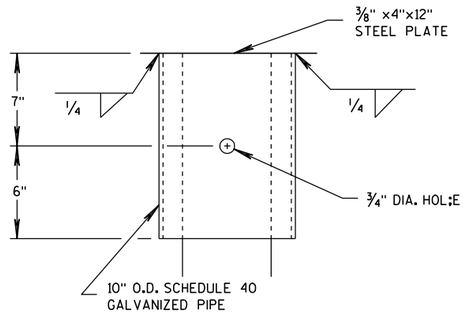
GENERAL NOTES

(1) ATTACH W BEAM RAIL TO THE STEEL PIPE WITH A ⅝" X 2" BUTTON HEAD BOLT WITH NO WASHER. CONNECTION TO THE POST IS NOT REQUIRED.

INSTALL GALVANIZED ¾" (6X19) PREFORMED WIRE OR INDEPENDENT WIRE ROPE CORE CONFORMING TO AASHTO M 30. MANUFACTURE WIRE ROPE OUT OF IMPROVED PLOW STEEL WITH A MINIMUM BREAKING STRENGTH OF 42,800 PSI.



DETAIL A



DETAIL B

(BEAM GUARD AND TERMINAL SECTION NOT SHOWN)

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

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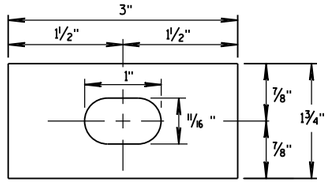
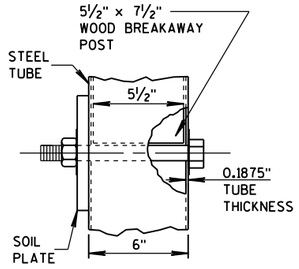
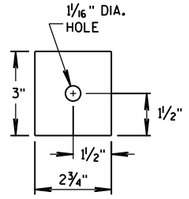
S.D.D. 14 B 27-1b



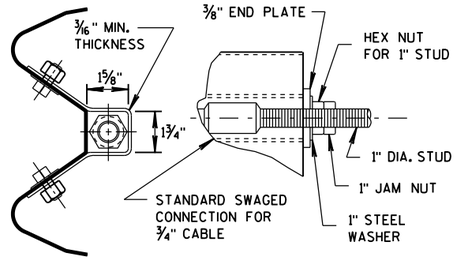
RECTANGULAR PLATE WASHER



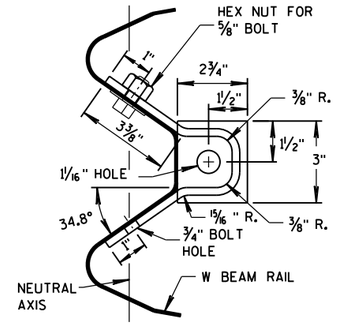
DETAIL D



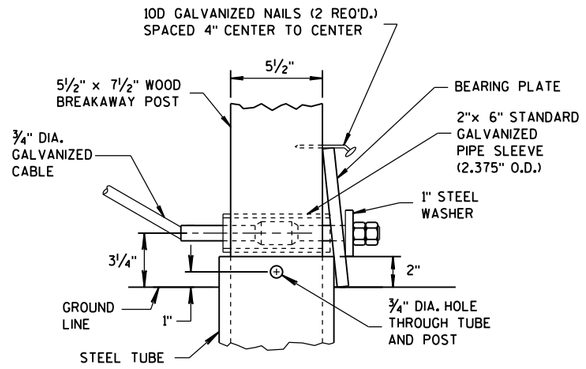
END PLATE



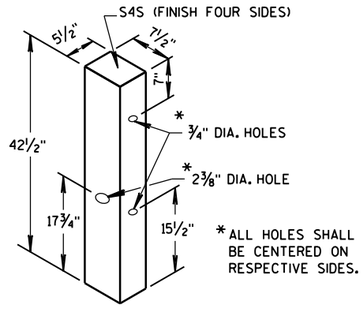
SECTION C-C
(END PLATE REMOVED)



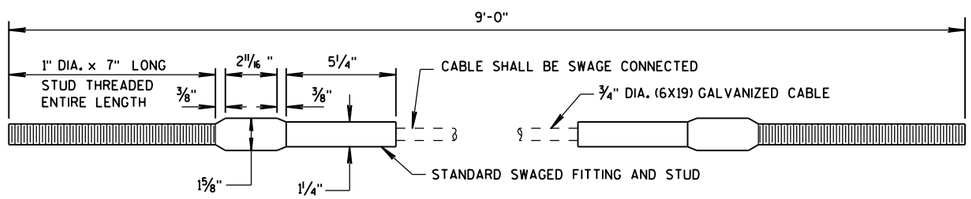
ANCHOR BRACKET



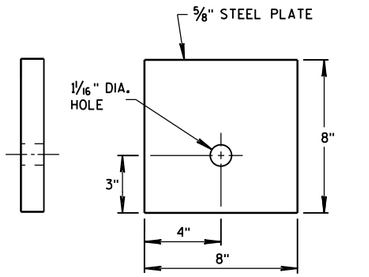
DETAIL C



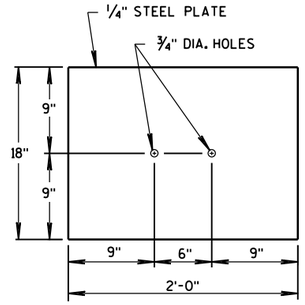
WOOD BREAKAWAY POST



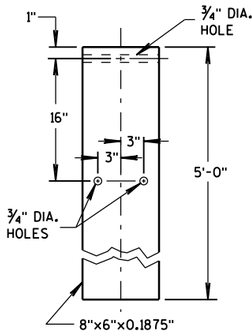
CABLE ASSEMBLY



BEARING PLATE



SOIL PLATE



STEEL TUBE

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/18/08 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 14 B 27-1c

6

S.D.D. 14 B 27-1c

(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.

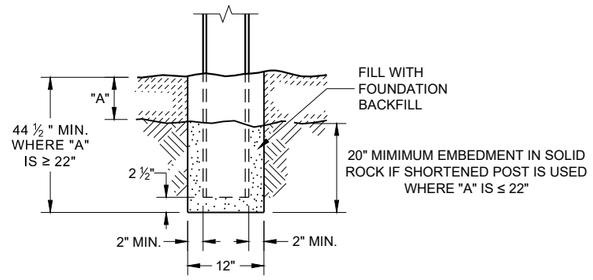
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

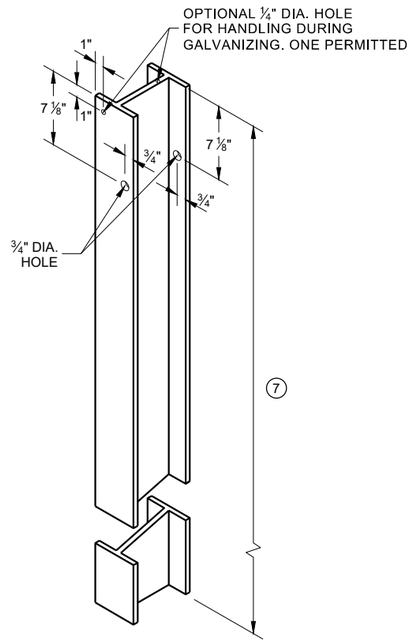
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS +1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

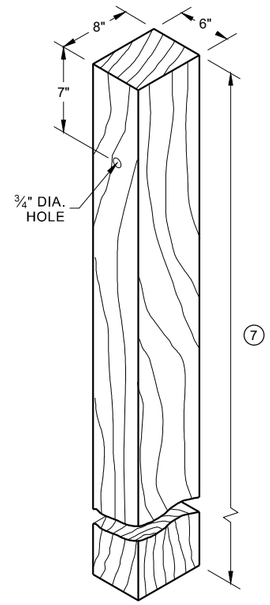
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



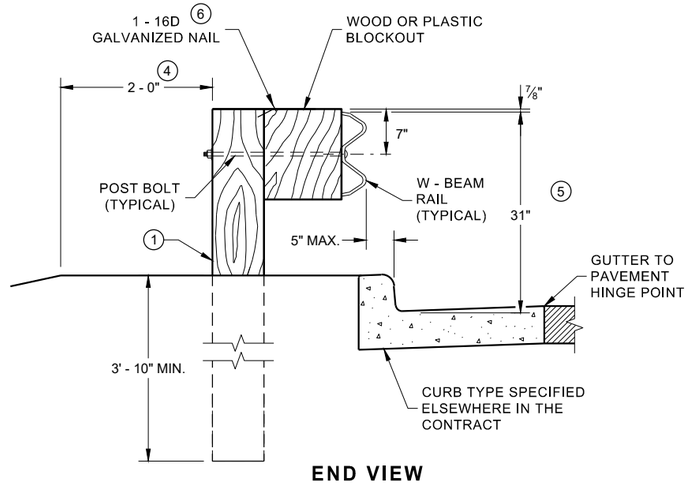
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



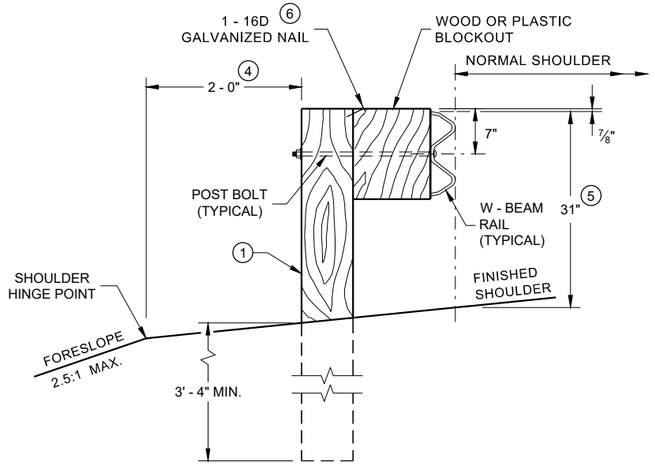
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



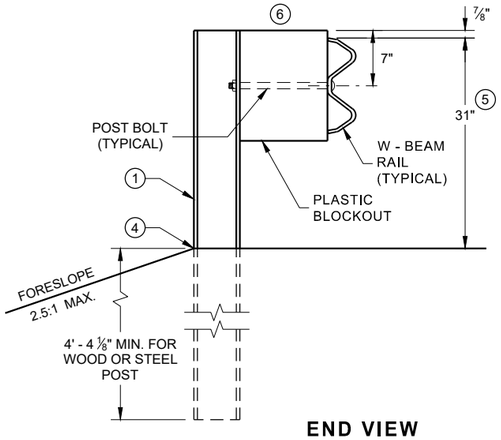
WOOD POST (6" X 8") NOMINAL (1)



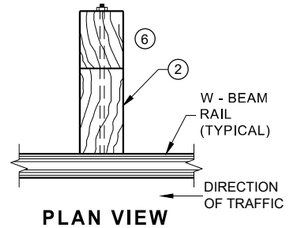
END VIEW
LOCATED ALONG A CURBED ROADWAY



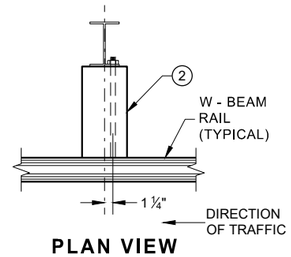
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



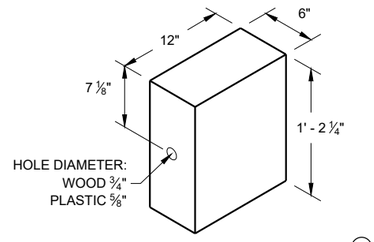
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

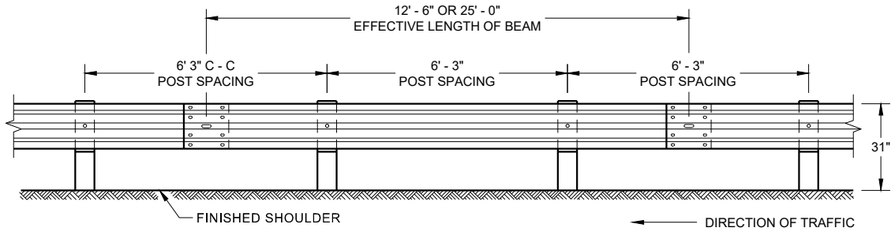
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

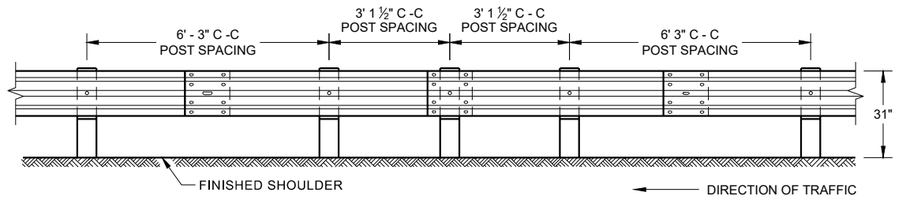
SDD 14B42 - 06a

6

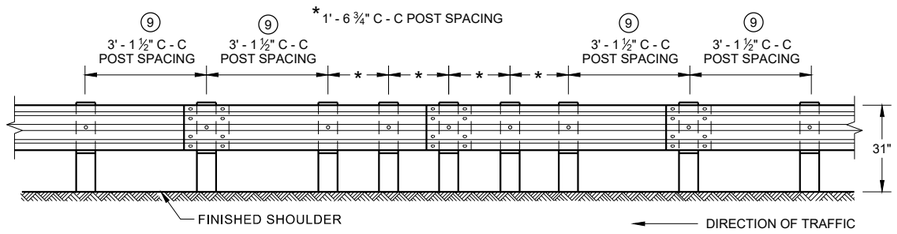
SDD 14B42 - 06a



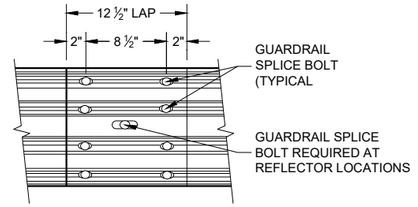
FRONT VIEW
POST SPACING STANDARD INSTALLATION



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

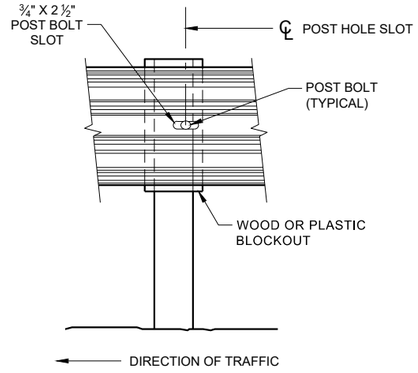
GENERAL NOTES

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

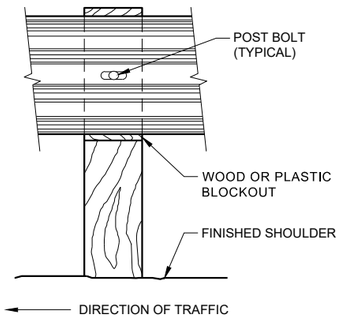
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

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.

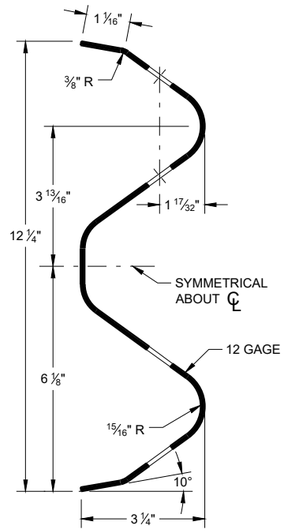
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



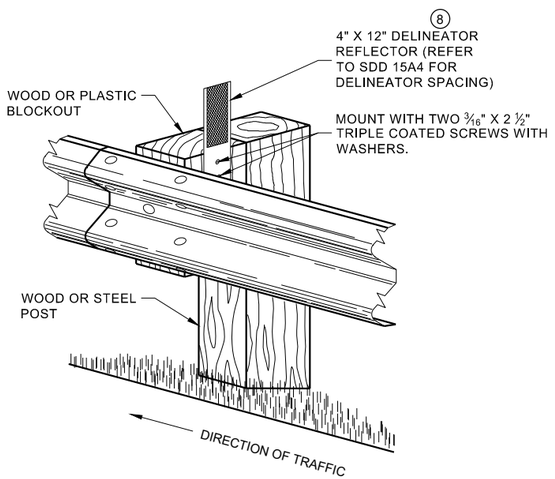
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL

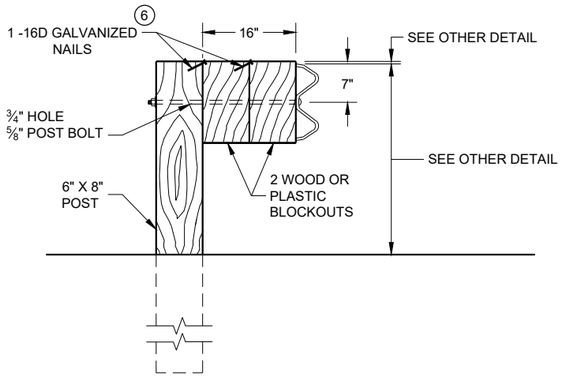


ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 14B42 - 06b

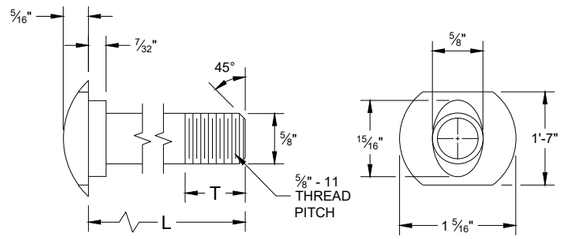


DETAIL FOR 16" BLOCKOUT DEPTH

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.

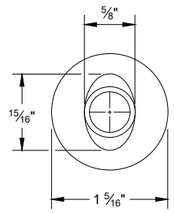
NOTE:

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.

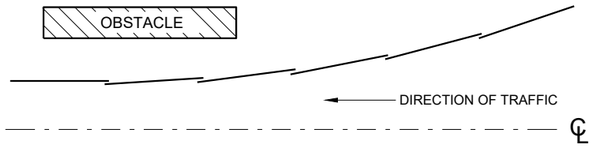


POST BOLT TABLE

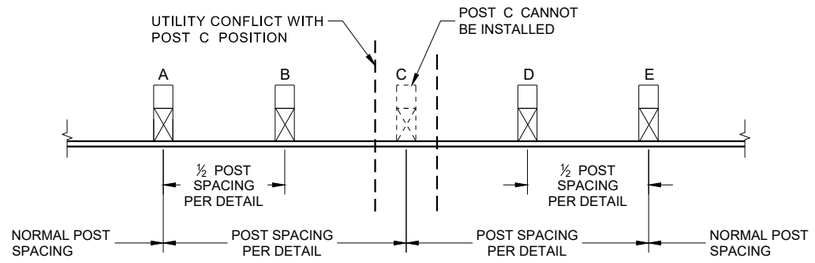
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



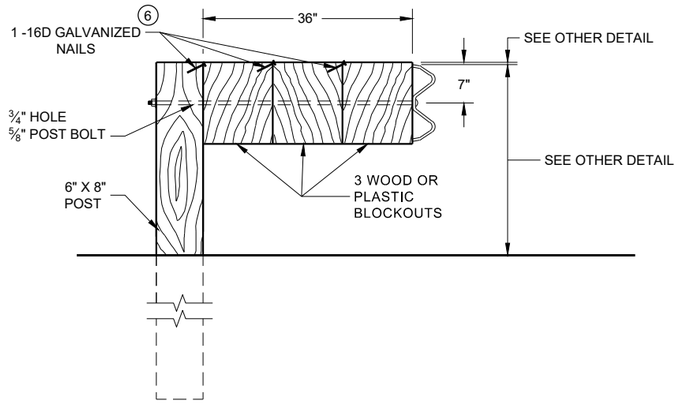
ALTERNATE BOLT HEAD



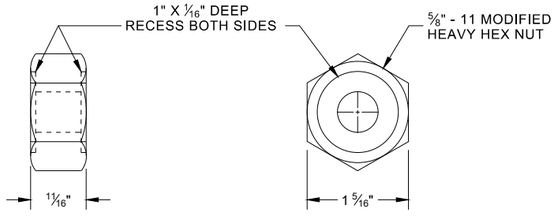
PLAN VIEW
BEAM LAPPING DETAIL



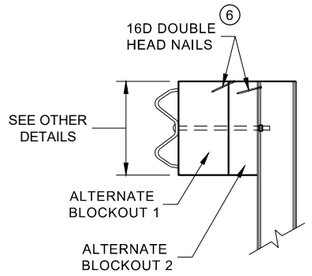
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



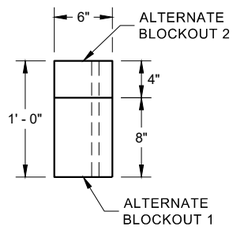
DETAIL FOR 36" BLOCKOUT DEPTH



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.

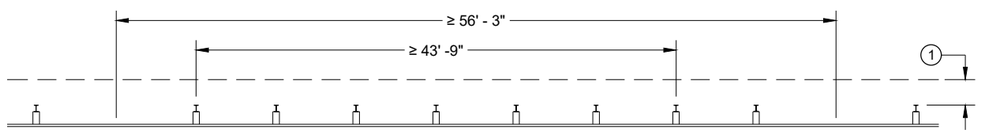
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(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.

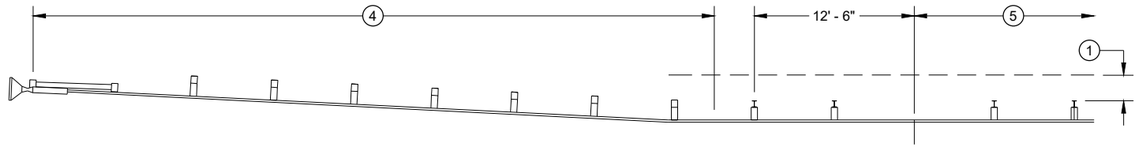
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

6

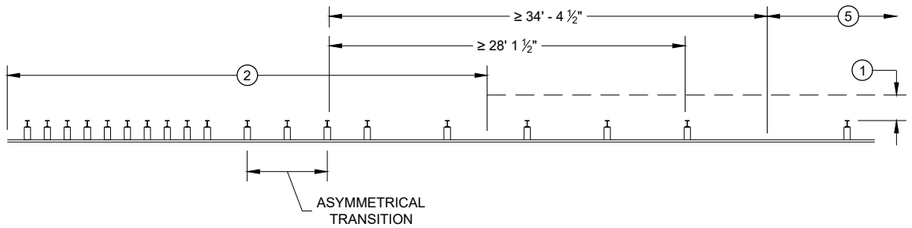
SDD 14B42 - 06c



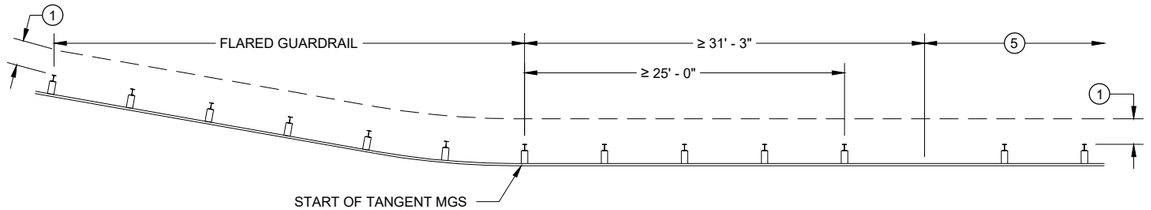
MISSING POST IN NORMAL BEAM GUARD RUN



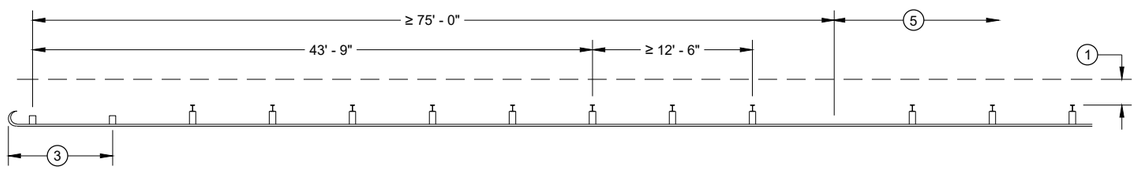
MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



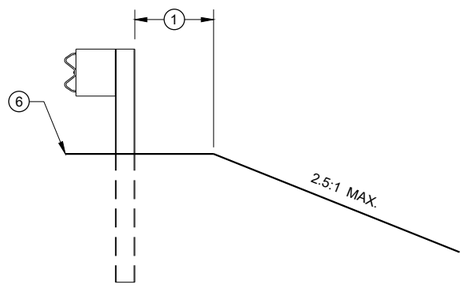
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



MISSING POST IN NORMAL BEAM GUARD RUN NEAR FLARED BEAM GUARD



MISSING POST IN NORMAL BEAM GUARD RUN NEAR TYPE 2 TERMINAL



CROSS SECTION VIEW

1. MINIMUM OF 2 FEET OF GRADING BEHIND POST.
2. SEE SDD 14B45 FOR MORE DETAILS.
3. SEE SDD 14B47 FOR MORE DETAILS.
4. SEE SDD 14B44 FOR MORE DETAILS.
5. SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.
6. SEE PLAN FOR SHOULDER DESIGN.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

SDD 14B42 - 06d

SDD 14B42 - 06d

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.

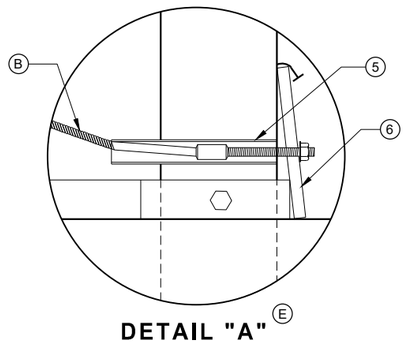
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

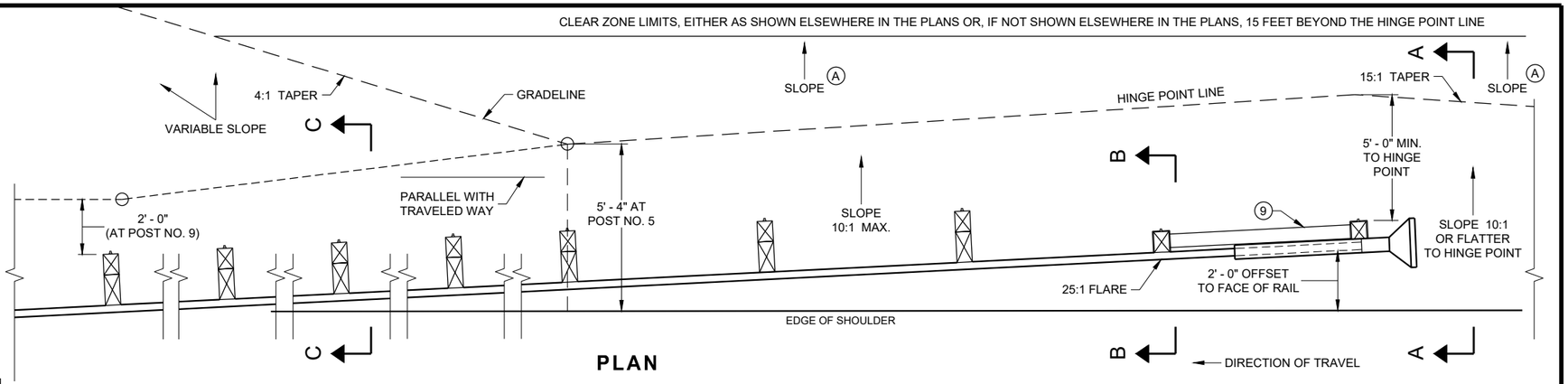
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

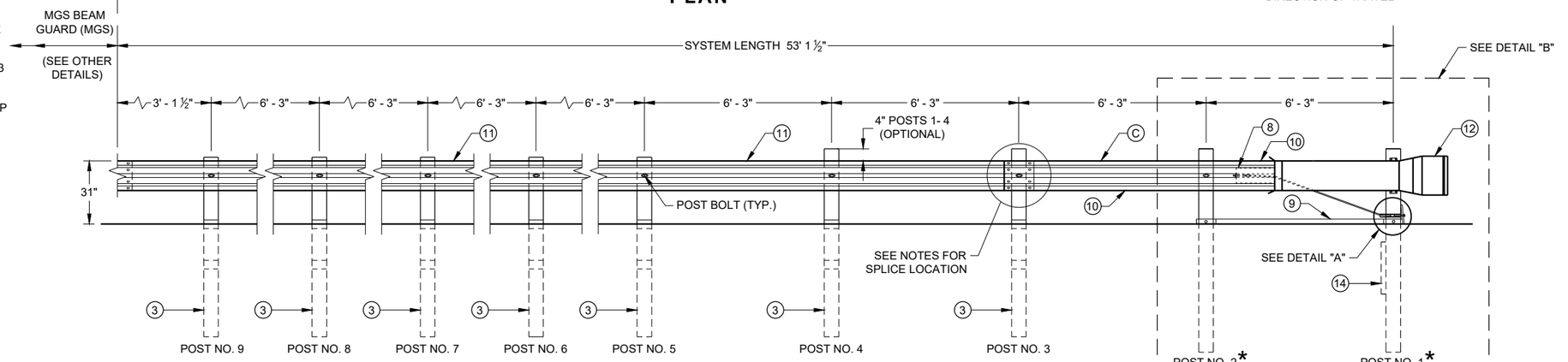
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



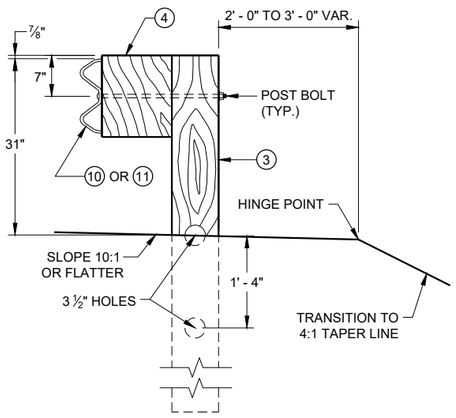
DETAIL "A" (E)



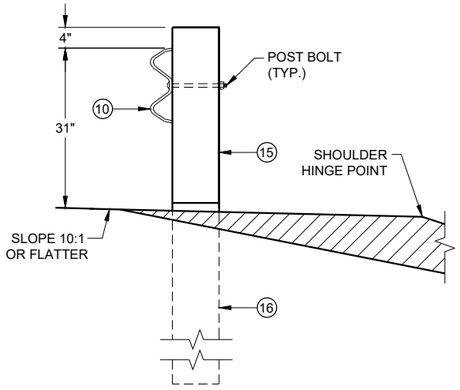
PLAN



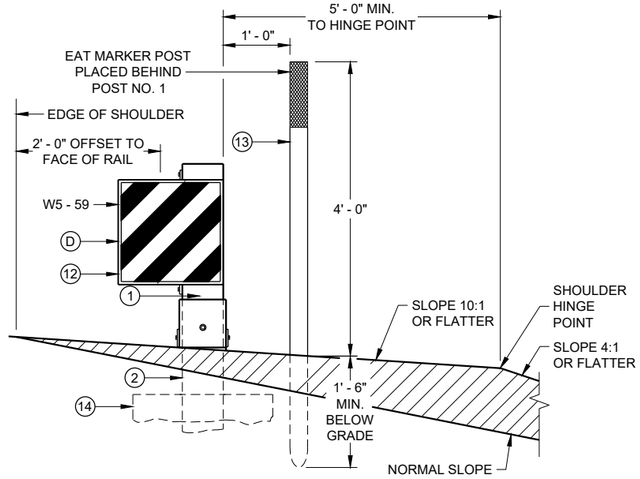
ELEVATION



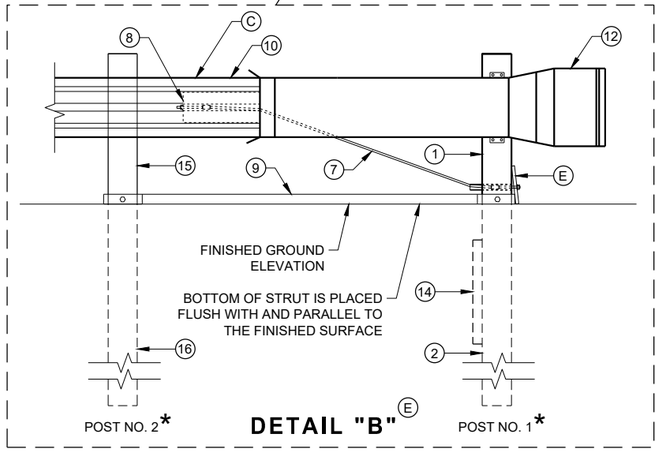
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



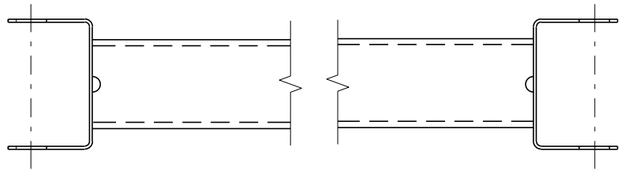
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

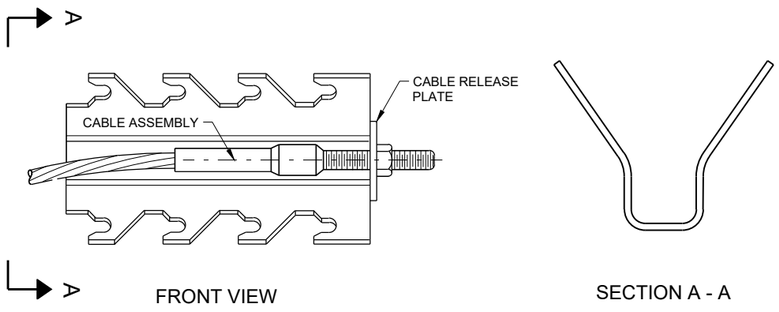
SDD 14B44 - 04a



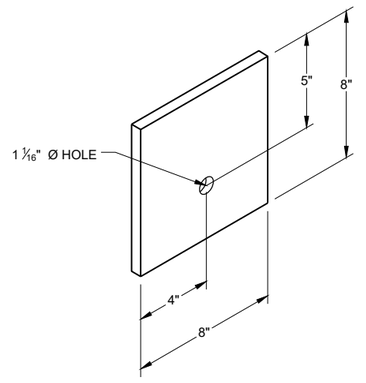
GENERIC GROUND STRUT ⑨ Ⓔ

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 ⑨ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

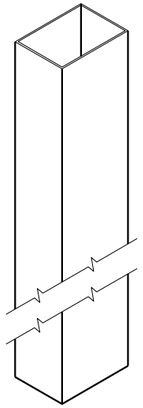
6

SDD 14B44 - 04b

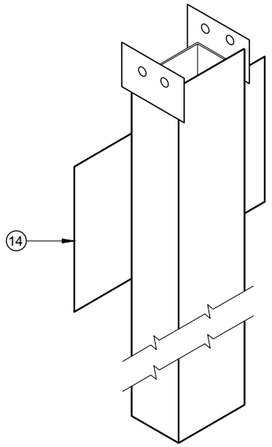
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

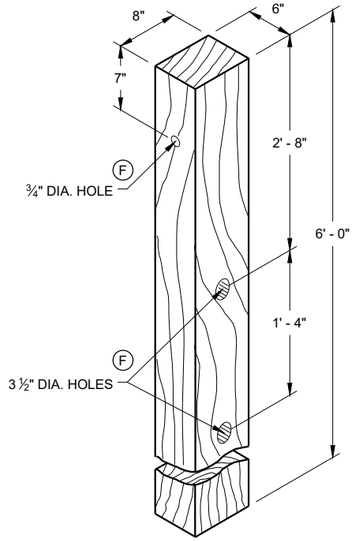
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



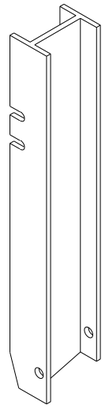
UPPER POST NO. 1 (1) (E)



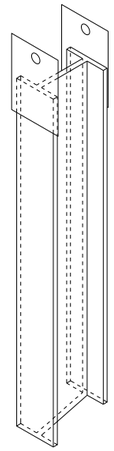
LOWER POST NO. 1 (2) (E)



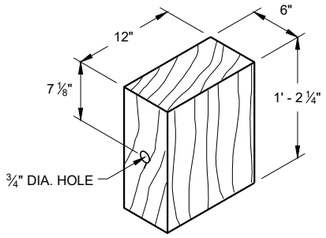
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



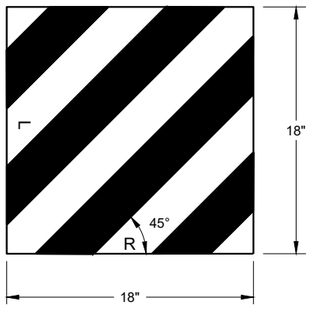
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

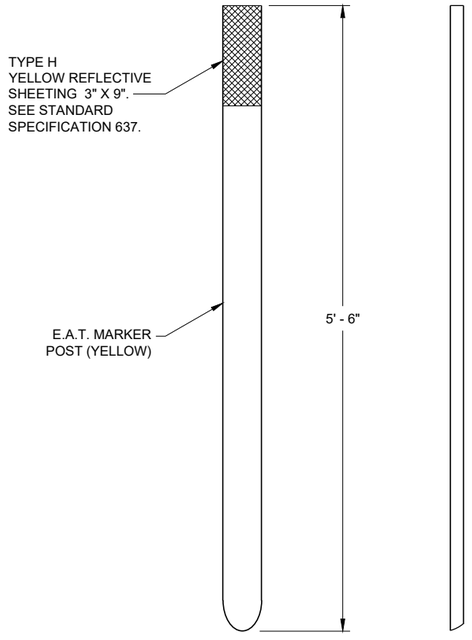


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



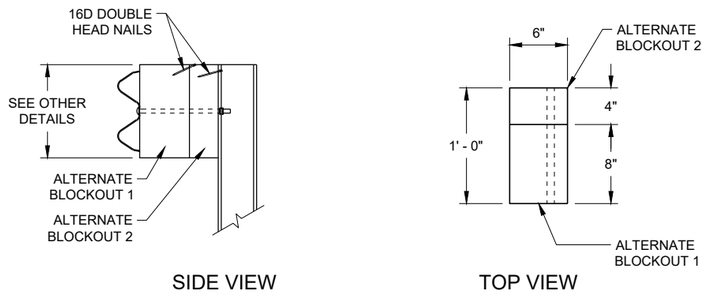
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

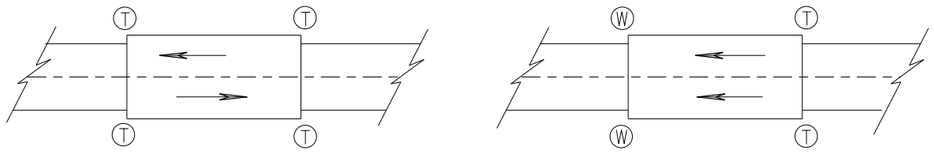
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B44 - 04c



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.

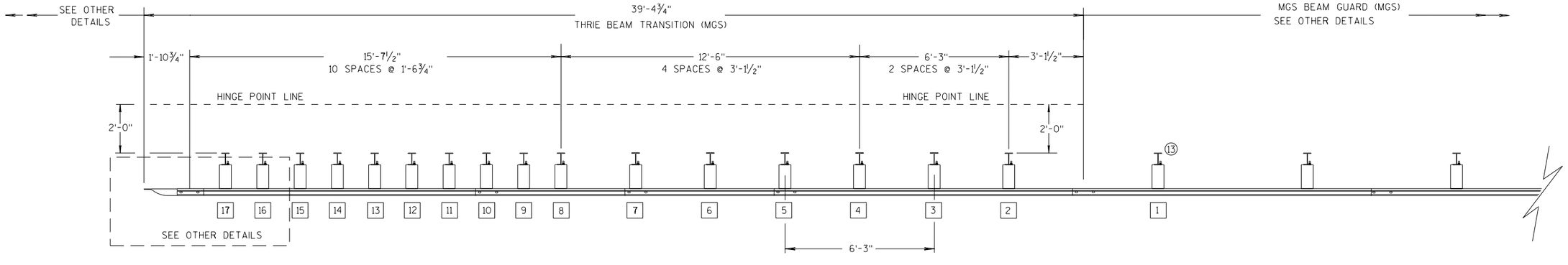
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

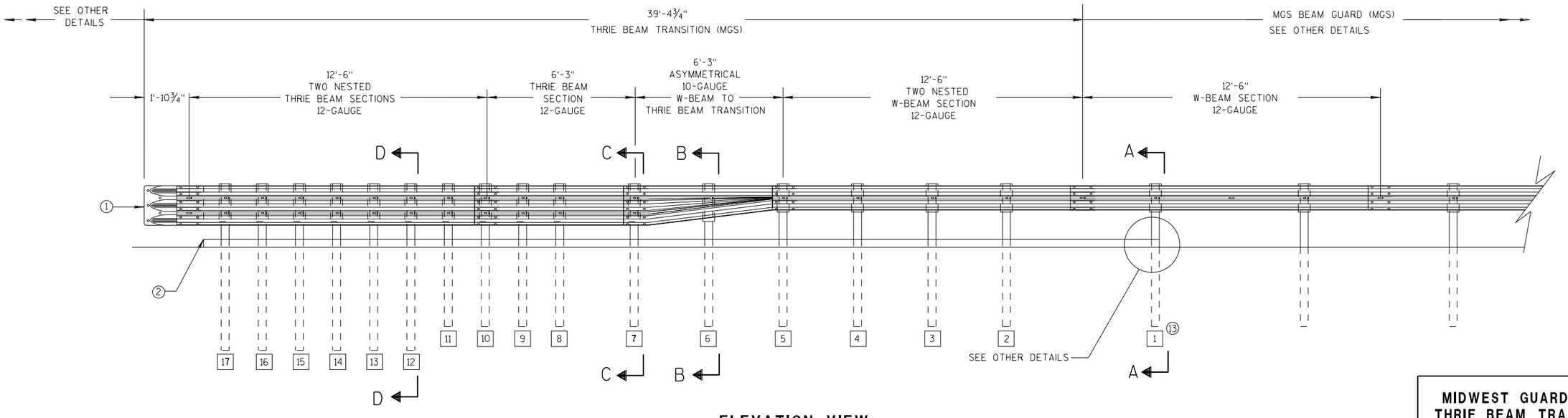
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(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

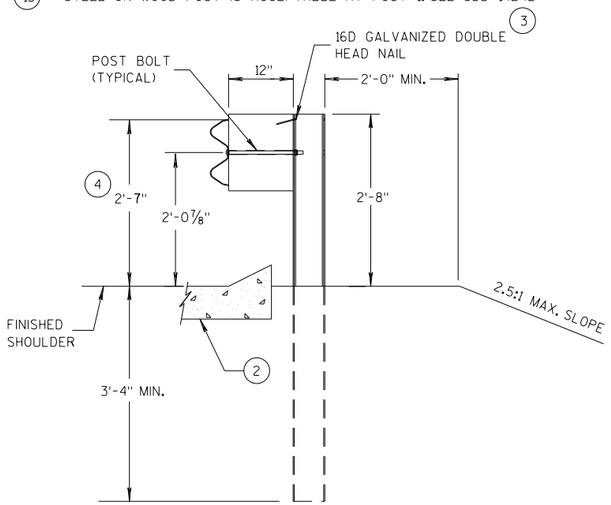
GENERAL NOTES

(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.

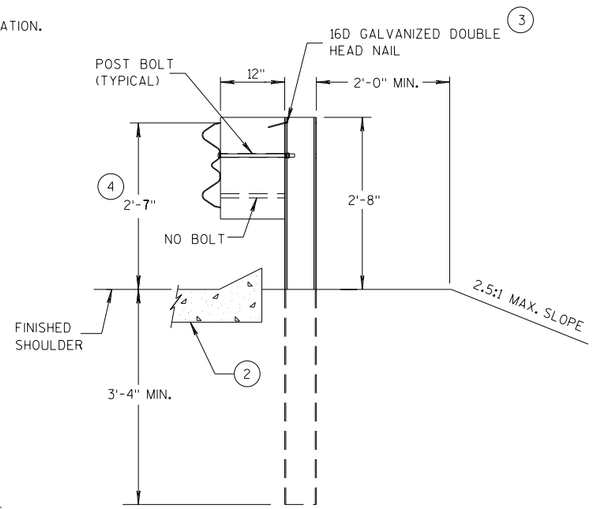
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



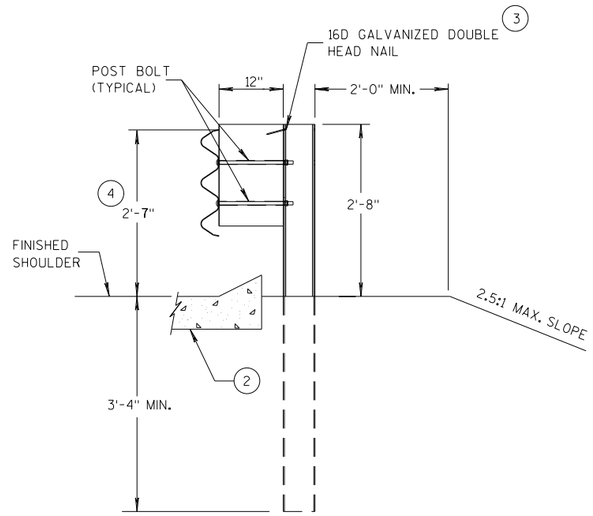
SECTION A-A (13)

POSTS 1-5



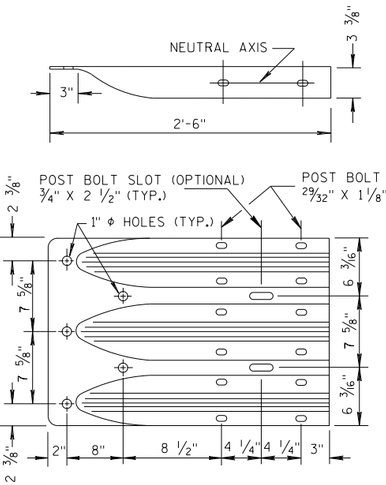
SECTION B-B

POST 6

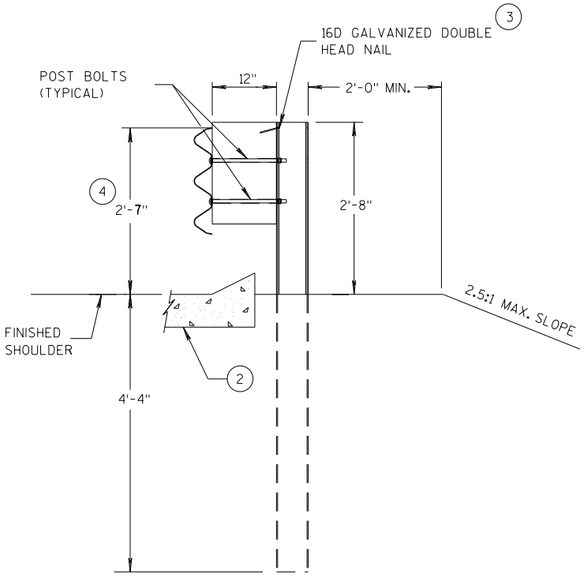


SECTION C-C

POSTS 7-11

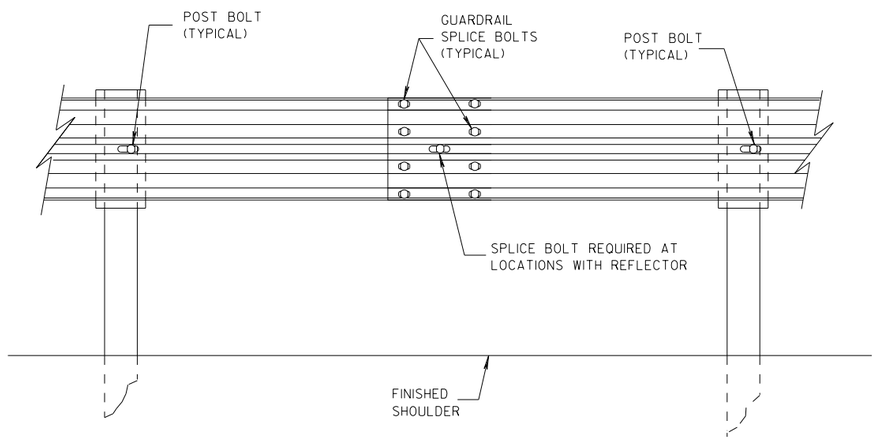


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

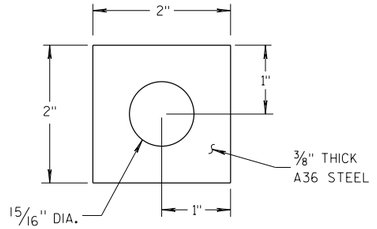
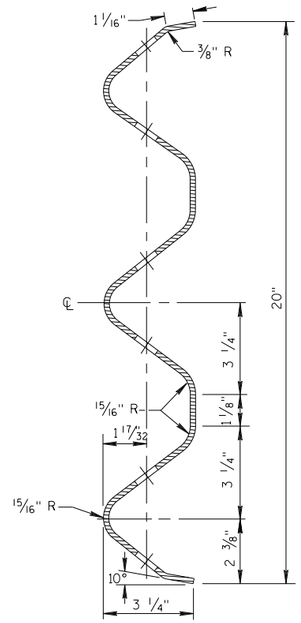


PLATE WASHER DETAIL



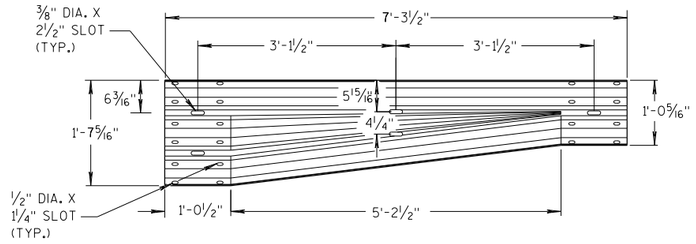
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

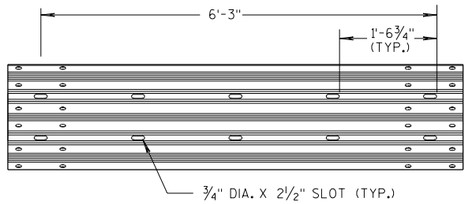
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

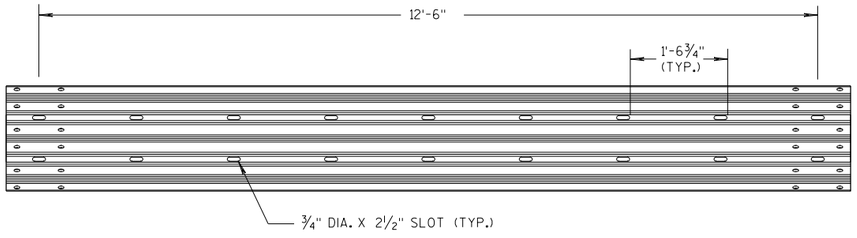
S.D.D. 14 B 45-5b



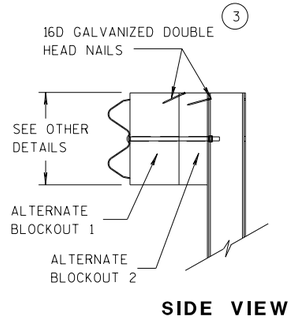
W-BEAM TO THRIE BEAM TRANSITION SECTION



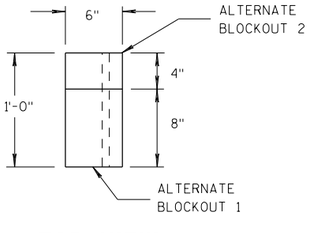
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

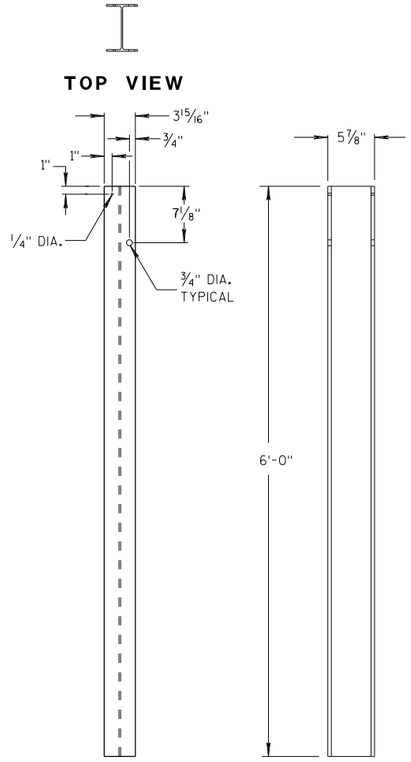


SIDE VIEW



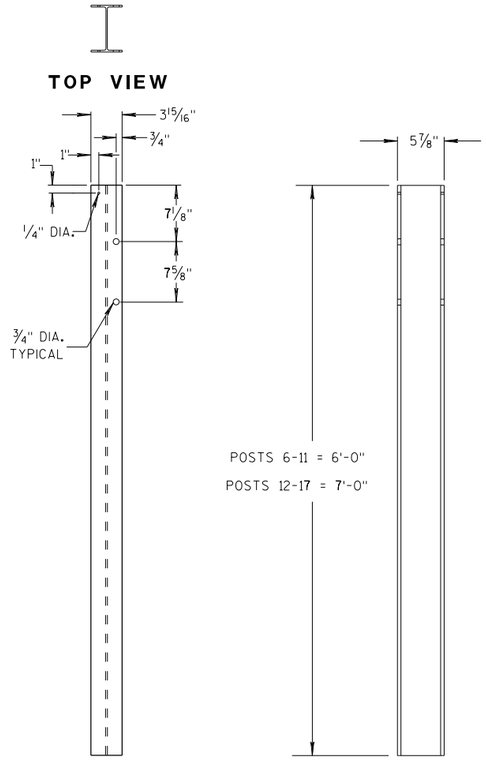
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



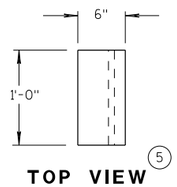
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

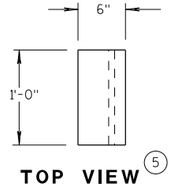


FRONT VIEW SIDE VIEW

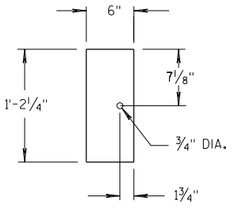
STEEL POSTS 6-17



TOP VIEW (5)

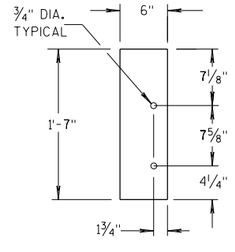


TOP VIEW (5)



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)

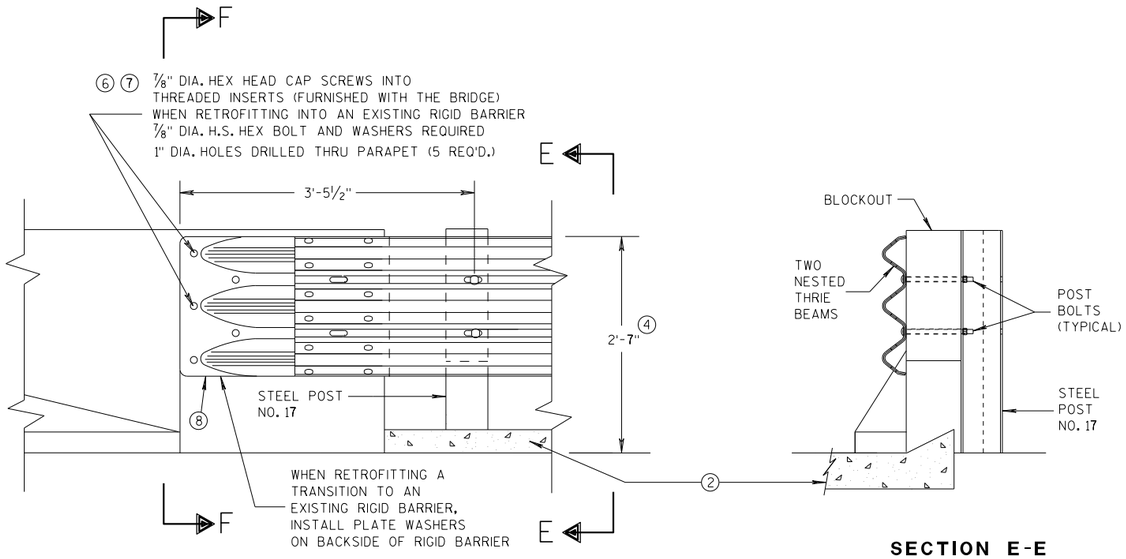
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 47

6

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

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.

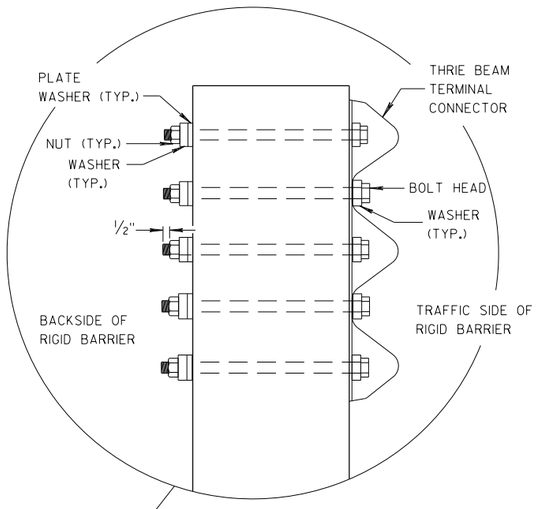
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

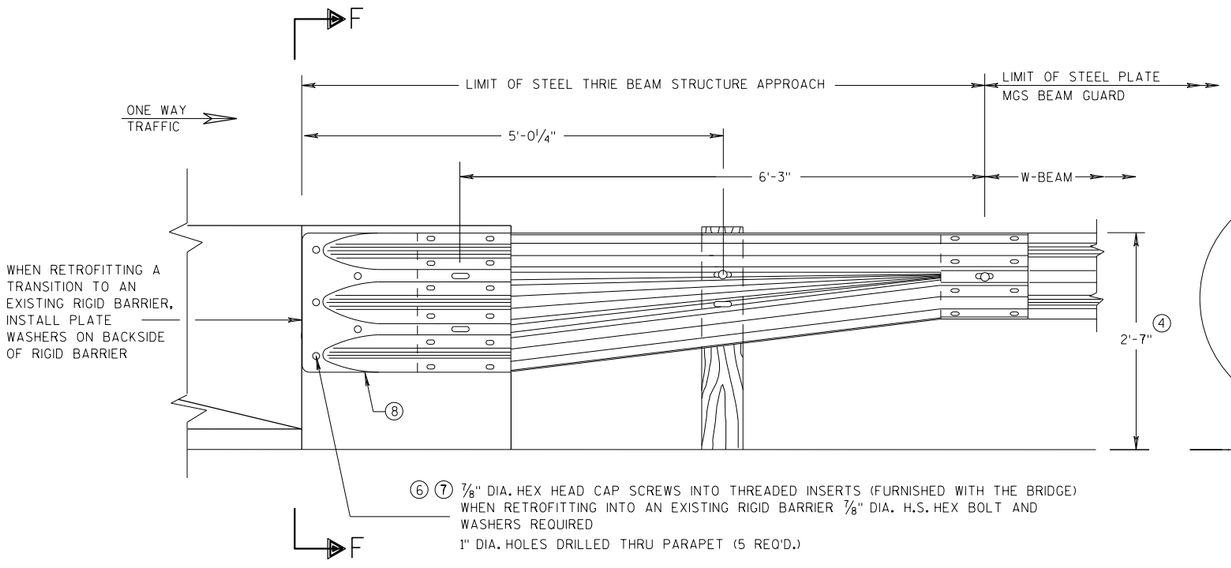
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

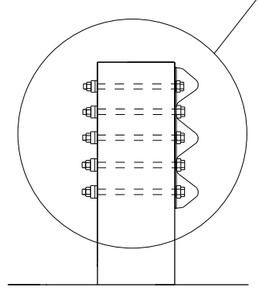
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. 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".

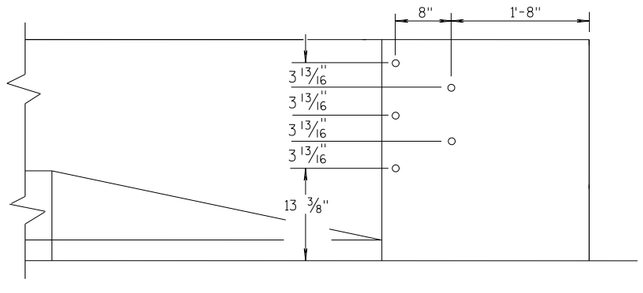




FRONT VIEW



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

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

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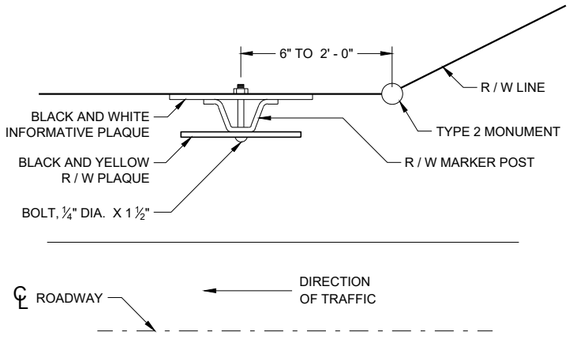
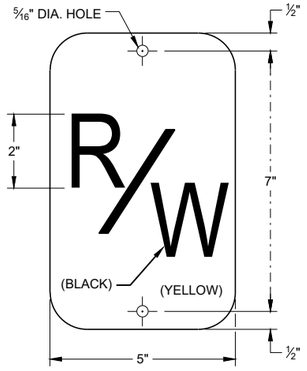
S.D.D. 14 B 45-5d

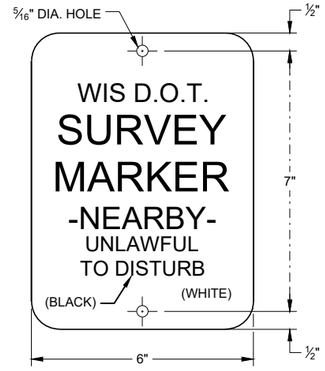


PLAN VIEW
STEEL MARKER POST



R / W PLAQUE

THE RIGHT-OF-WAY PLAQUE AND INFORMATIVE PLAQUE WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.



INFORMATIVE PLAQUE

GENERAL NOTES

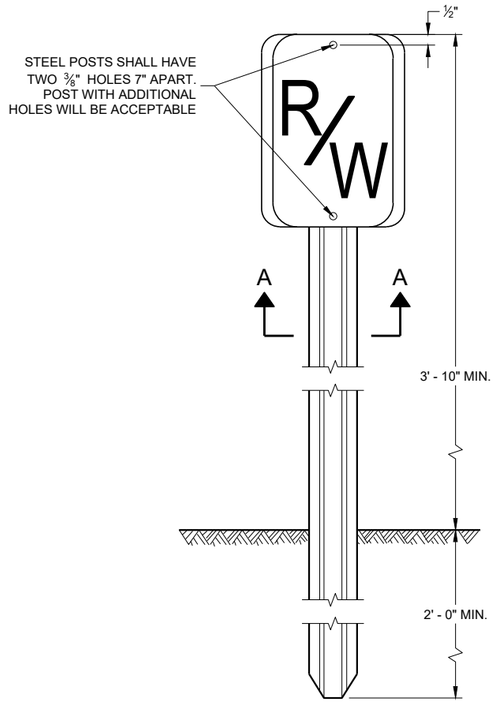
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

A STEEL MARKER POST FOR RIGHT -OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

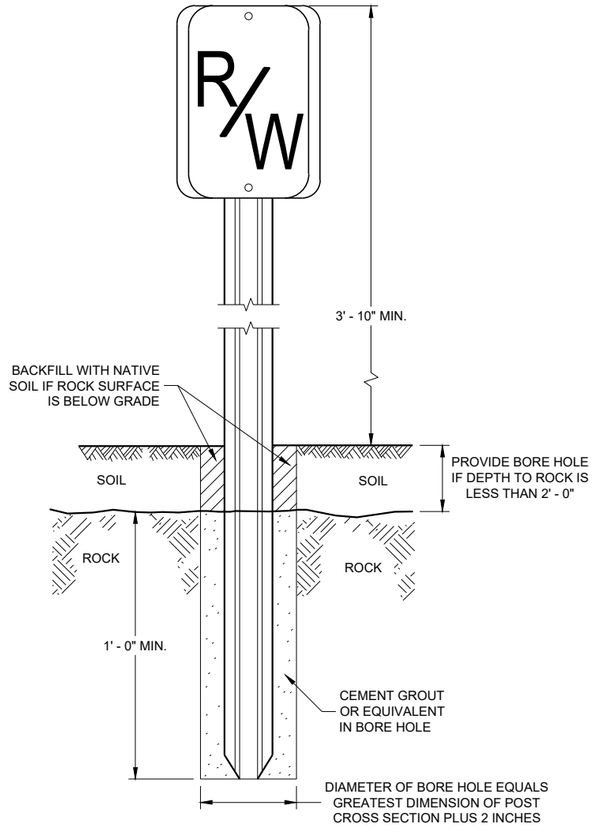
THE "R/W" PLAQUE SHALL FACE THE ROADWAY AND THE INFROMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. "R/W" AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

STEEL MARKER POSTS SHALL MEET THE MINIMUM MATERIAL REQUIREMENTS FOR STEEL DELINEATOR POSTS; EXCEPT POSTS PAINTED WITH FEDERAL YELLOW ENAMEL NEED NOT BE ZINC COATED.

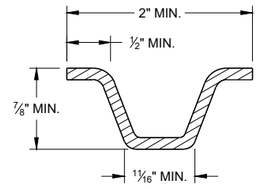
(1) IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3' - 10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR. FILL THE BORE HOLE WITH CEMENT GROUT OR EQUIVALENT, DEPENDING ON THE STABILITY OF THE ROCK.



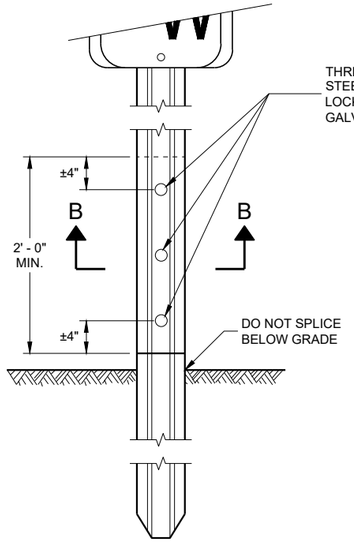
FRONT VIEW
STEEL MARKER POST



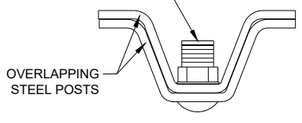
FRONT VIEW
ROCK INSTALLATION (1)



MIN. WEIGHT 1.12 LB./FT.
SECTION A - A



FRONT VIEW
SPLICE DETAIL



SECTION B - B

MARKER POST
FOR RIGHT - OF - WAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/18/2016
DATE
/S/ Ray Kumapayi
CHIEF SURVEYING AND MA
ENGINEER

FHWA

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SDD 15A01 - 13a

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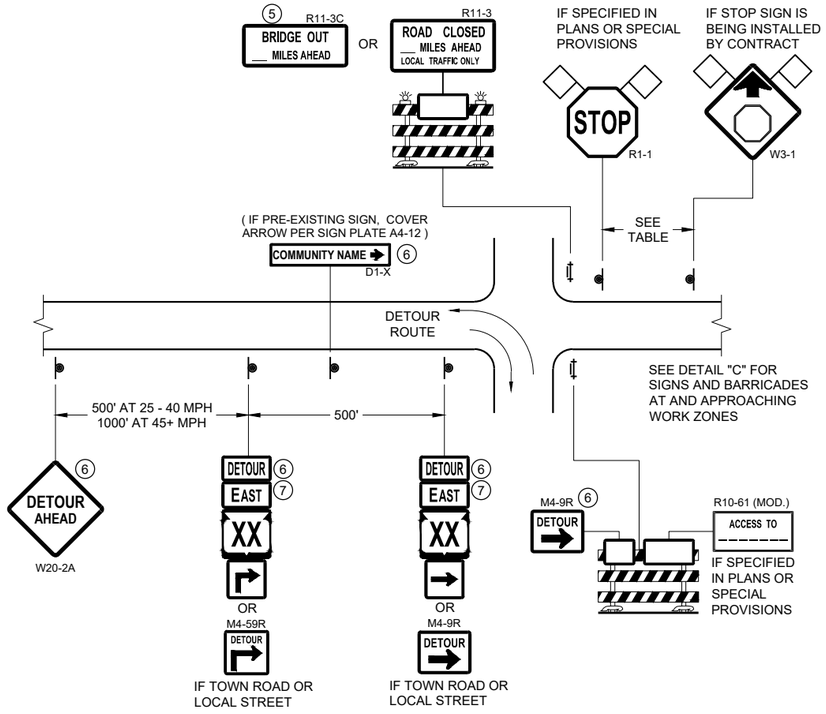
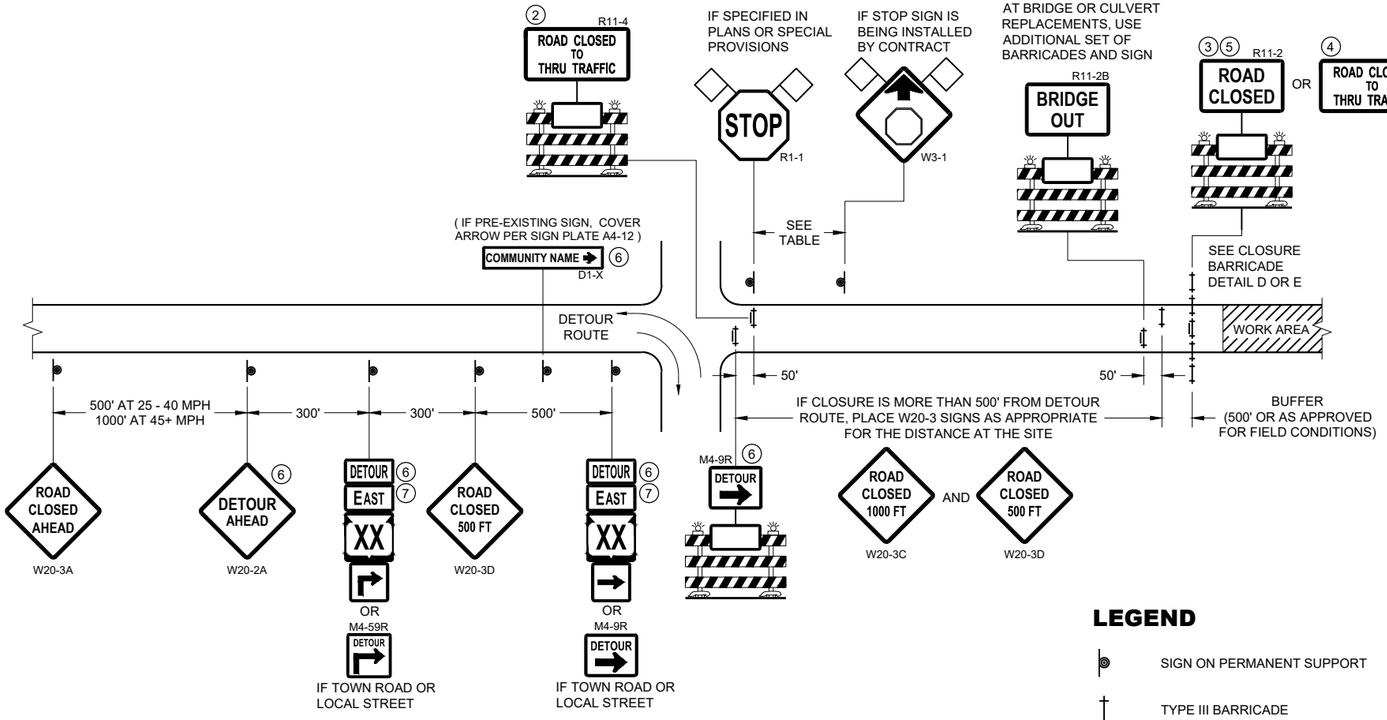
SDD15A01 - 13a



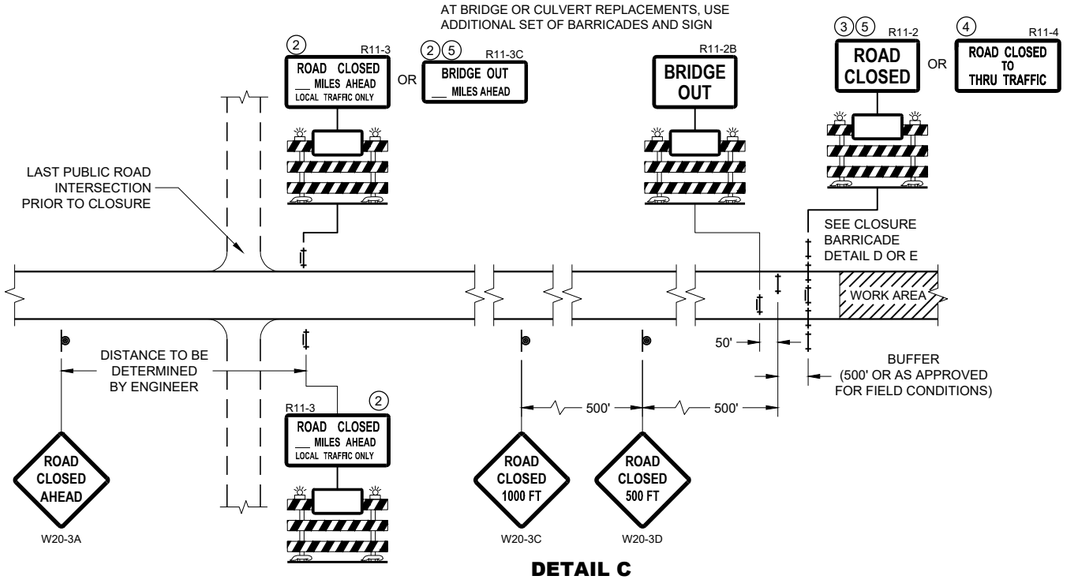
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

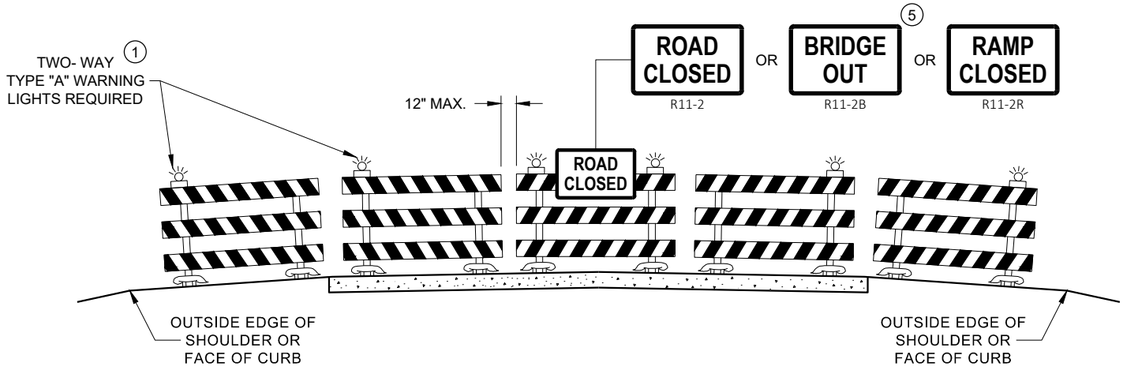
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

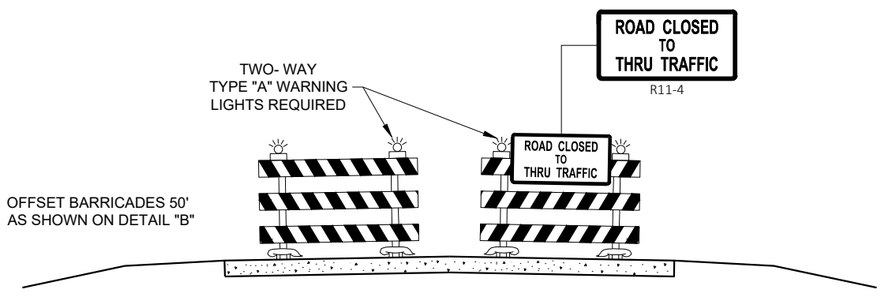
6

SDD 15C02 - 08a

SDD 15C02 - 08a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING.

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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SDD 15C02 - 08b

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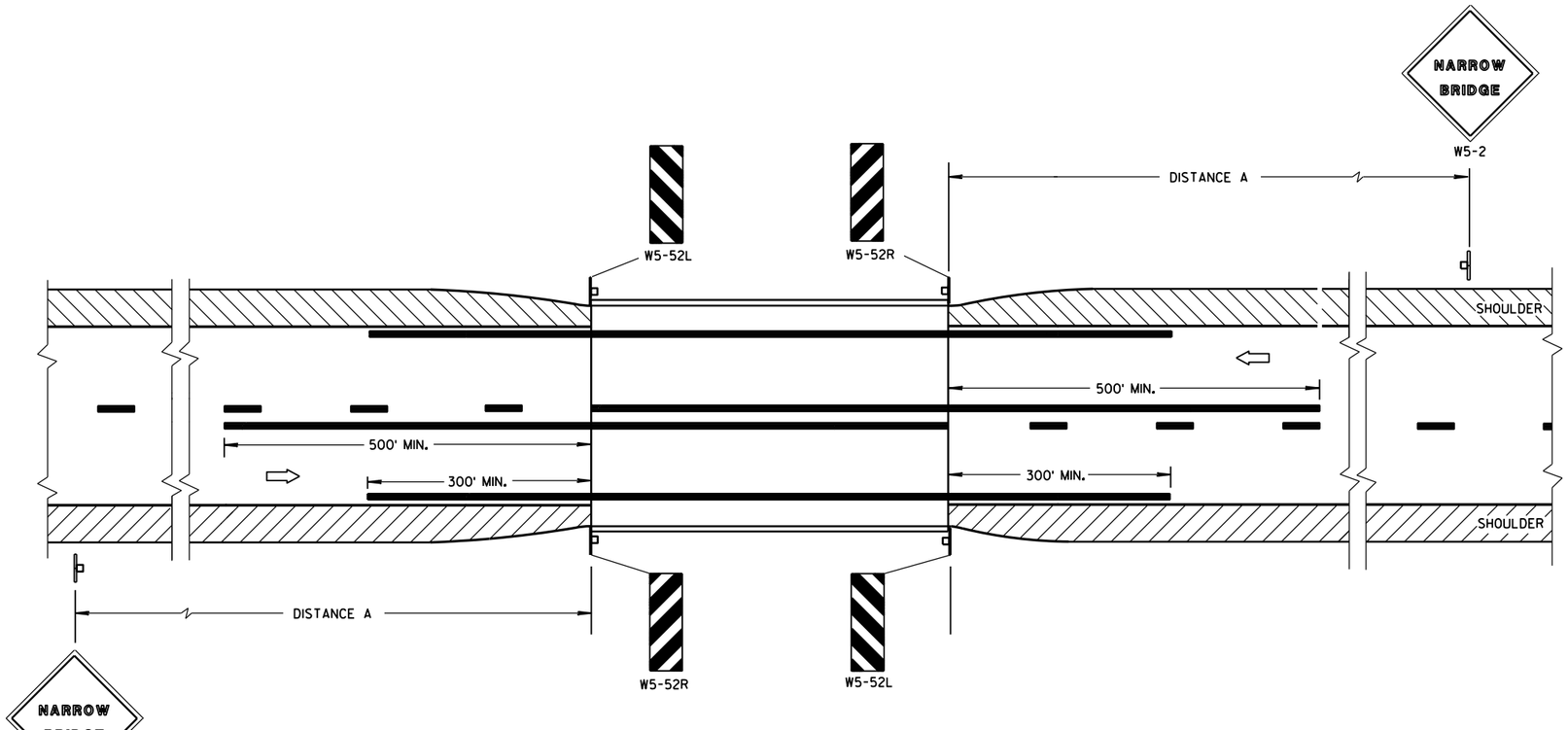
SDD 15C02 - 08b



SITUATION 1

WARRANTING CRITERIA:

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

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'

GENERAL NOTES

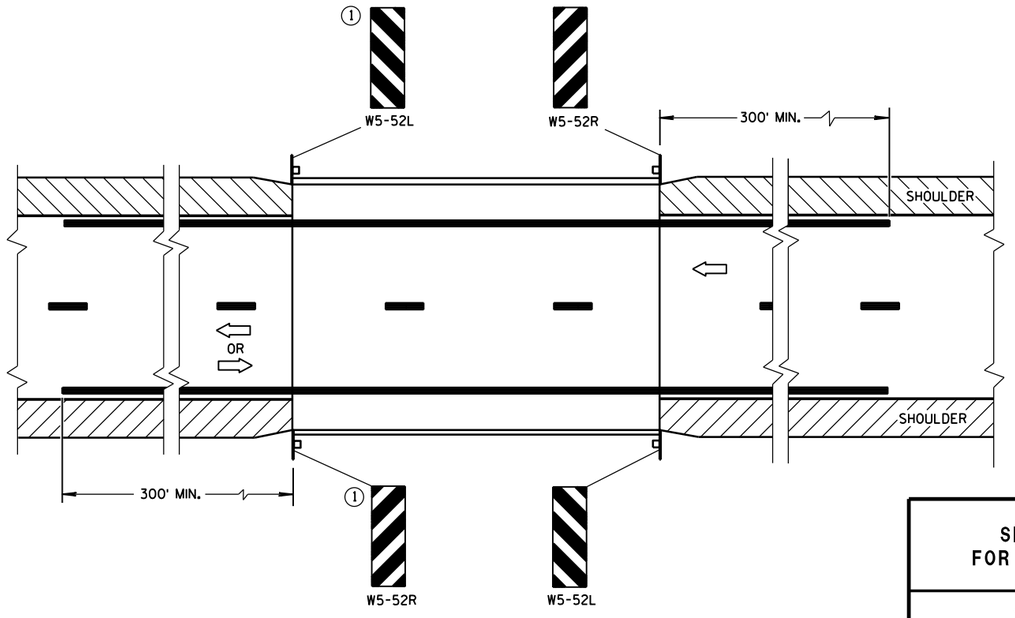
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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.

(1) OMIT ON ONE-WAY TRAVELLED WAYS.

⇨ DIRECTION OF TRAFFIC



SITUATION 2

WARRANTING CRITERIA:

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

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER

FHWA

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S.D.D. 15 C 6-9

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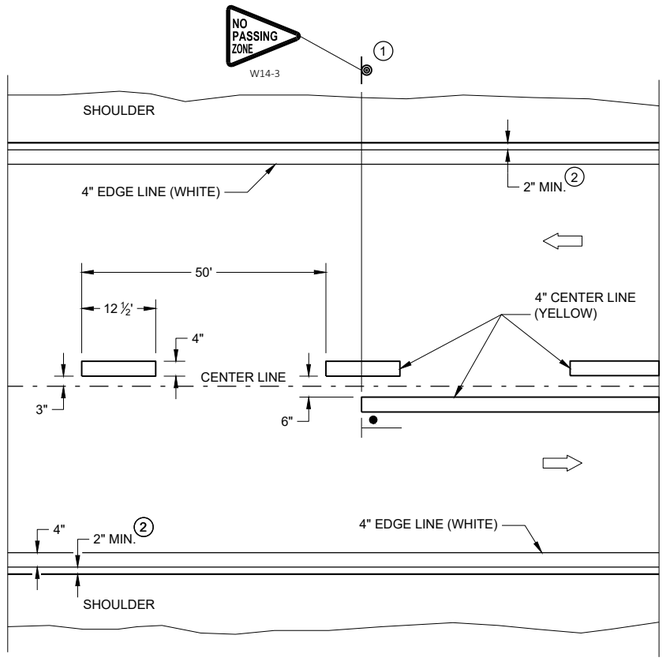
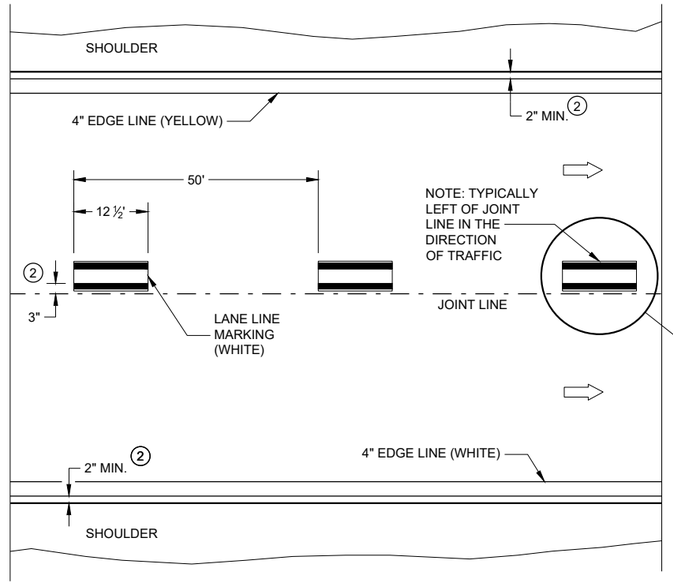
S.D.D. 15 C 6-9

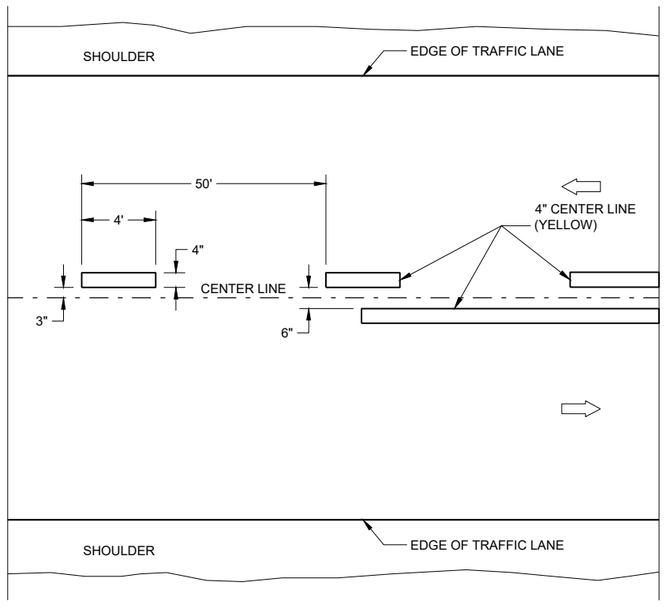


TWO WAY TRAFFIC

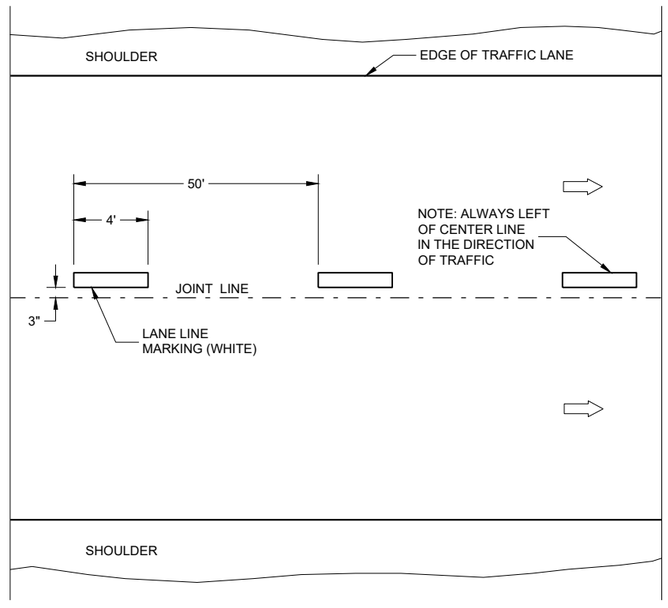


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

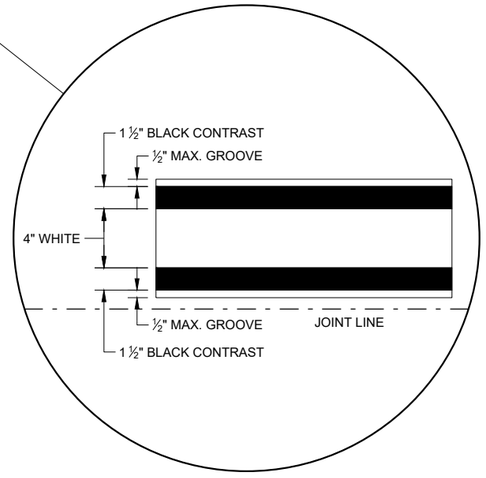
1. LOCATE THE NO PASSING ZONE W14-3 SIGN WITH 50 FEET OF THE "T" MARKING
2. MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Matthew Rauch
STATEWIDE SIGNING AND M ENGINEER

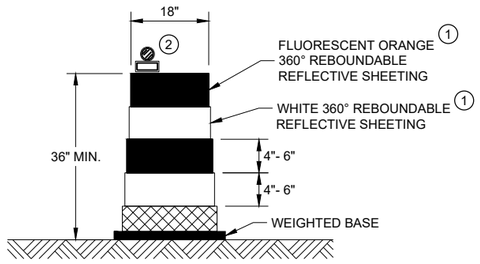
FHWA

SDD 15C08 - 20a

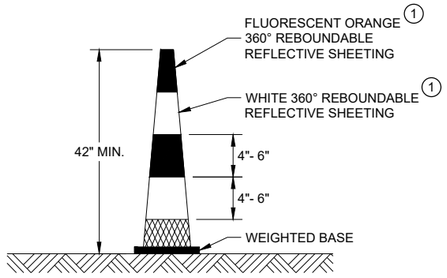
SDD 15C08 - 20a

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.

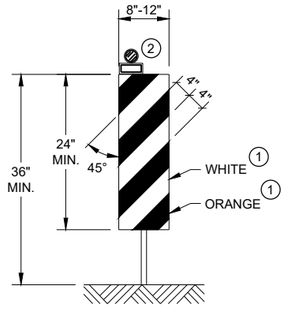


DRUM



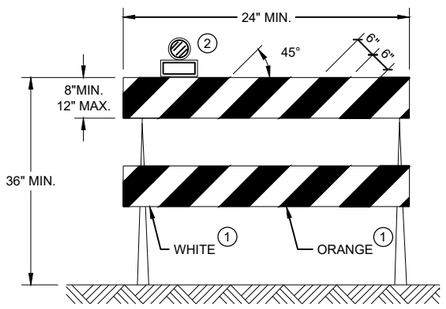
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



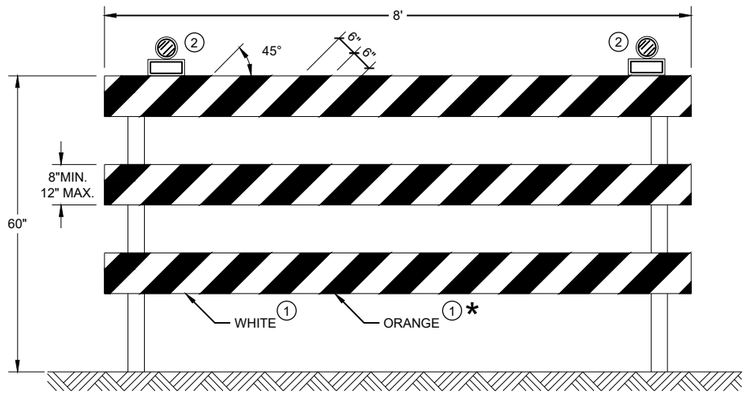
VERTICAL PANEL

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
June 2017
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

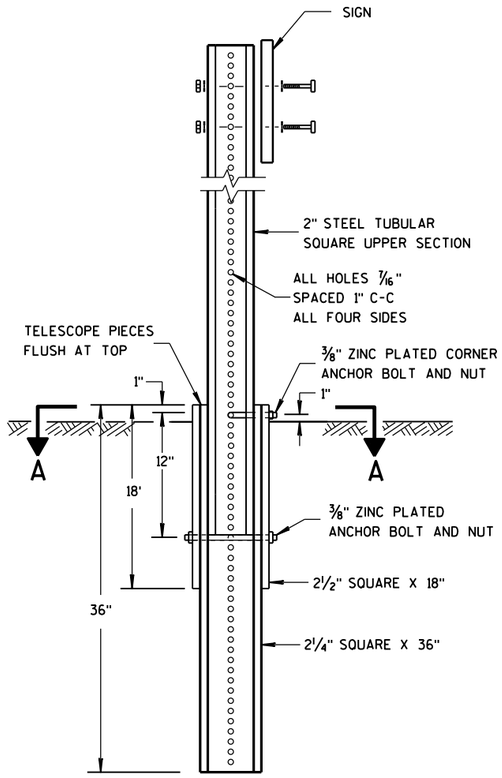
FHWA

6

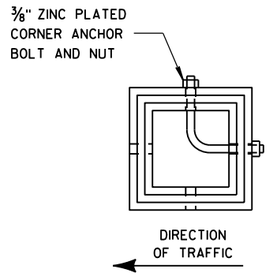
SDD 15C11 - 07b

6

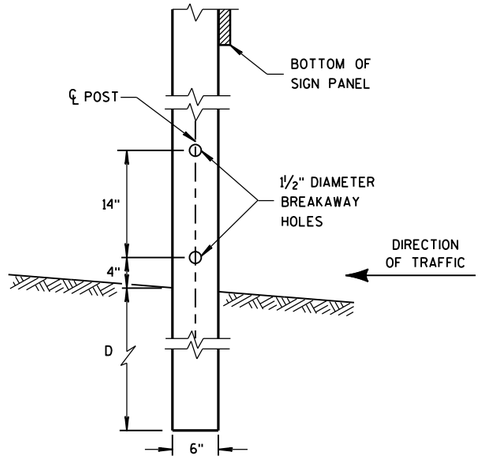
SDD 15C11 - 07b



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



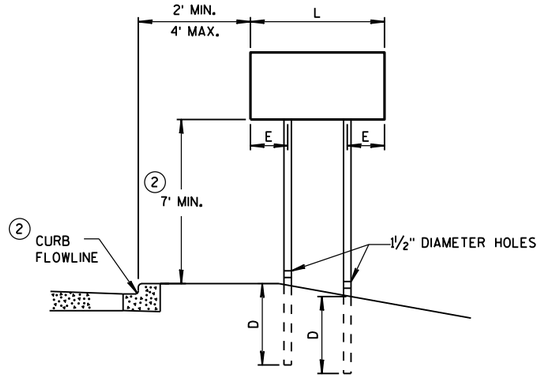
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

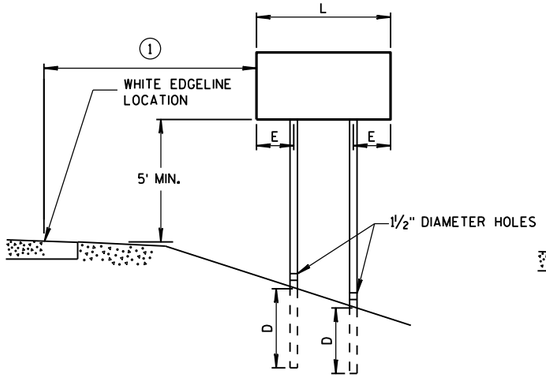
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

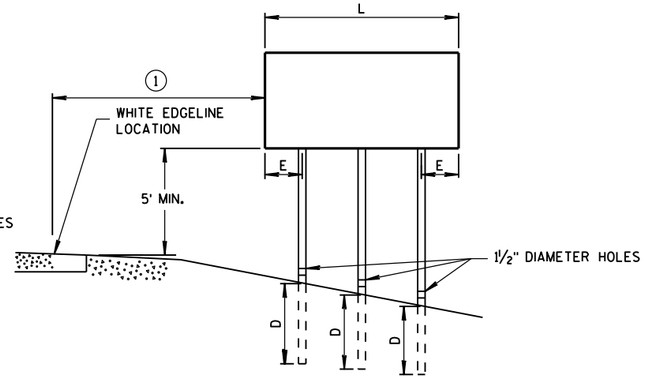
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL 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).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

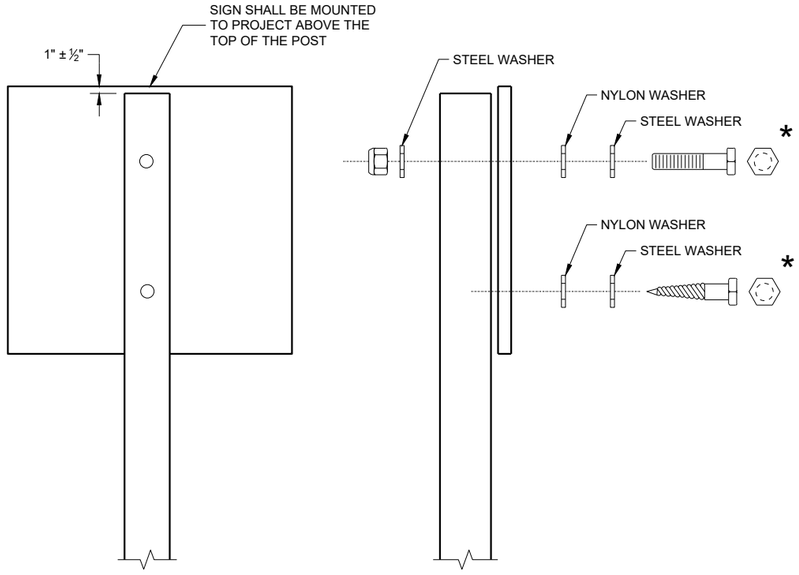
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

S.D.D. 15 D 38-2a
S.D.D. 15 D 38-2a



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.

WOOD POST (4" x 6")
LAG SCREWS - ⅜" x 3"
MACHINE BOLTS - 5/16" x 6 ½" OR 7" LENGTH W/NUTS

SQUARE STEEL POST (2" x 2")
MACHINE BOLTS - ⅜" x 3 ¼" LENGTH W/NUTS
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH, GRIP RANGE 0.042 - 0.375 INCH

WASHERS (ALL POSTS) -
1 ¼" O.D. x ⅜" I.D. x 1/16" STEEL
1 ¼" O.D. x ⅜" I.D. x 0.080 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

6

6

SDD 15D38 - 02b

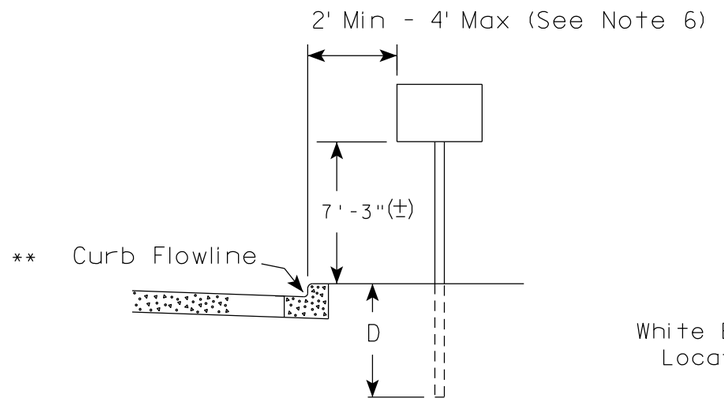
SDD15D38 - 02b

ATTACHMENT OF SIGNS TO POSTS

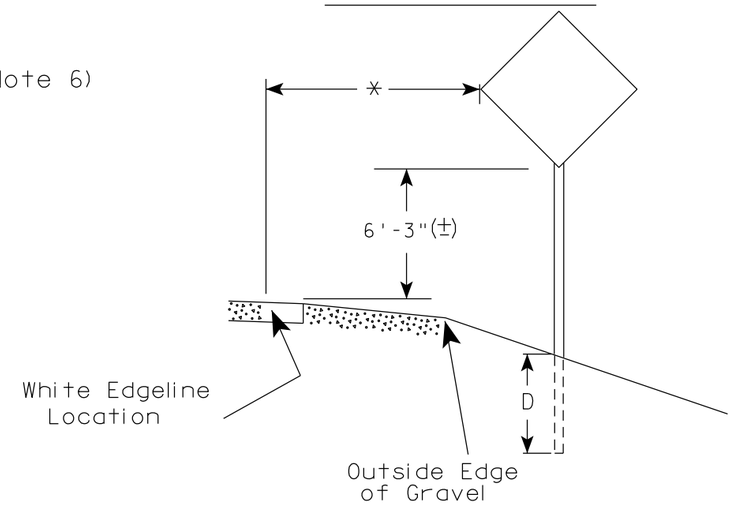
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

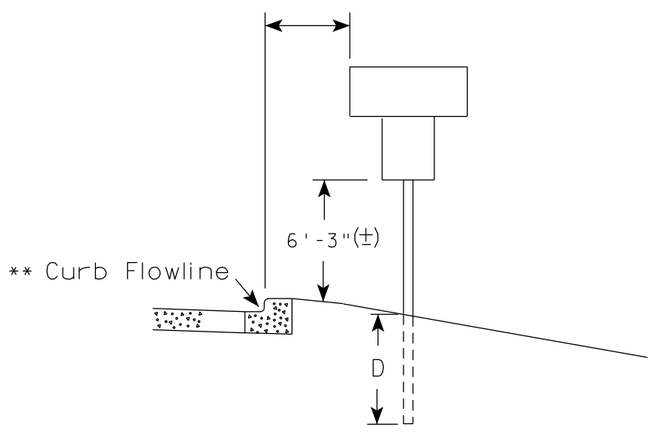
APPROVED
June 2017
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

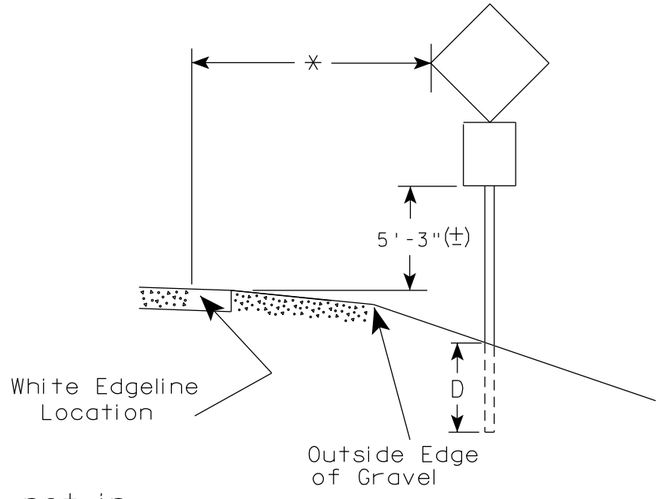
URBAN AREA



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.

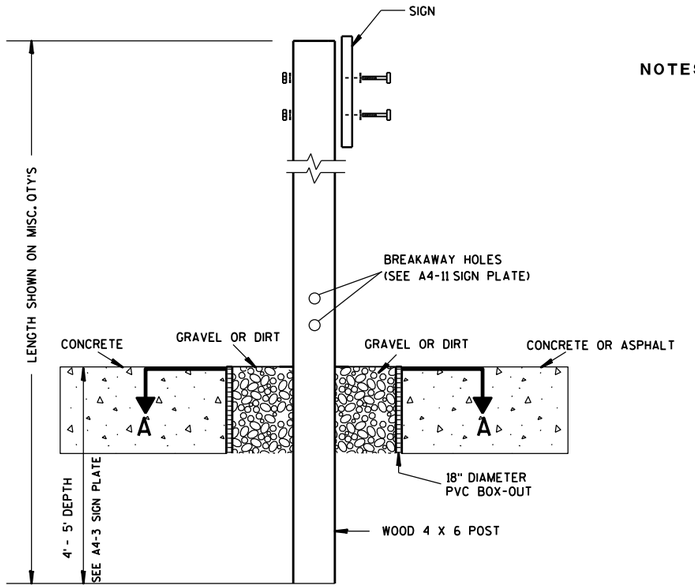
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

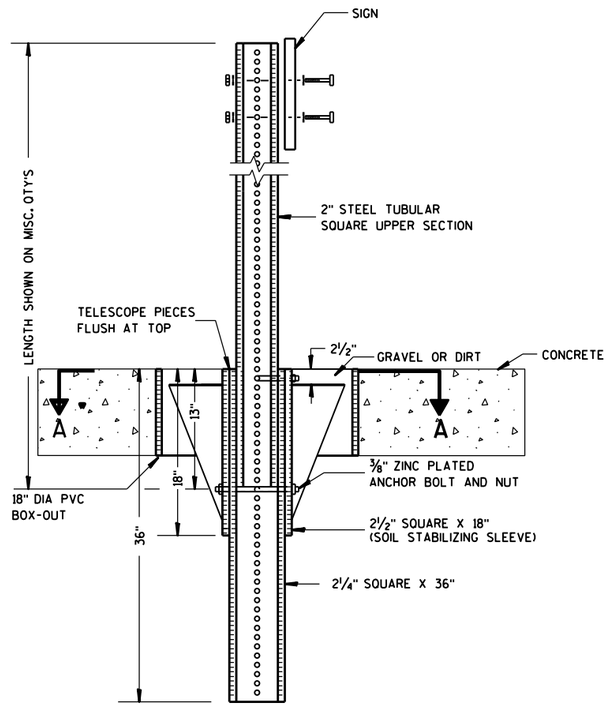
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 57	E



ELEVATION VIEW

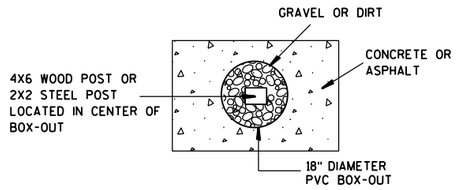
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

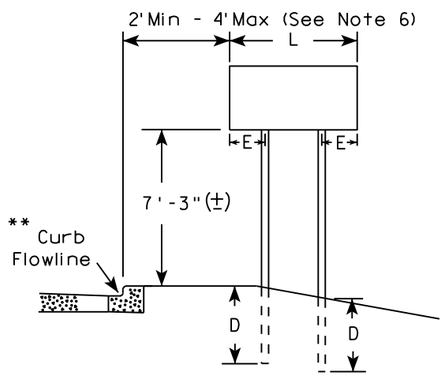
APPROVED Matthew R Rauch
for State Traffic Engineer

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

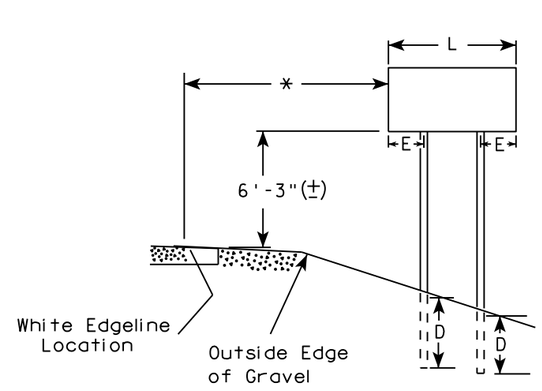
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

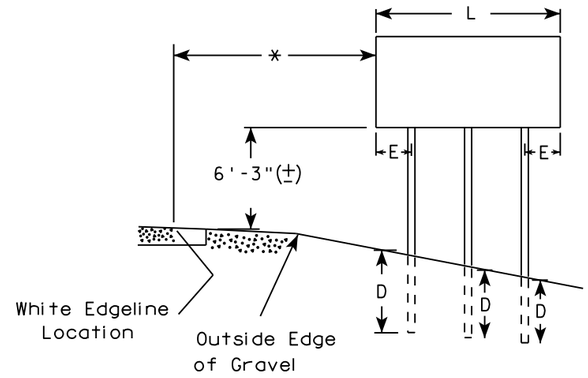
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

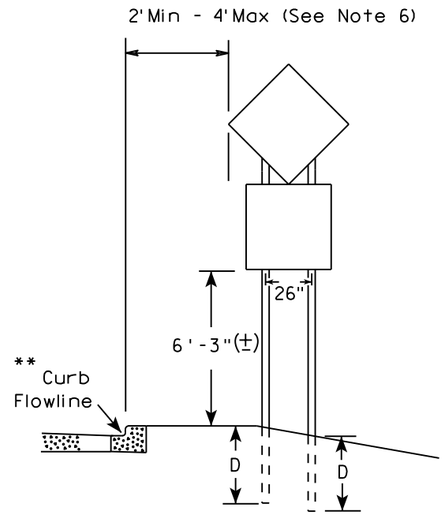
URBAN AREA



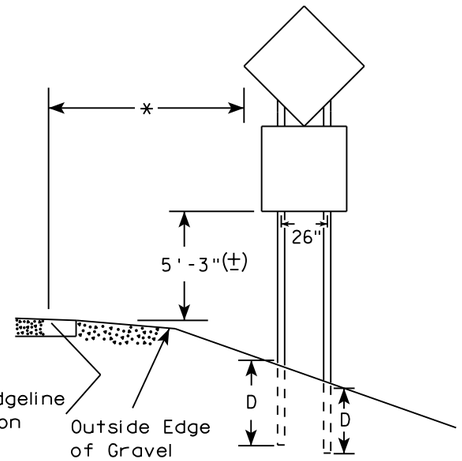
RURAL AREA (See Note 3)







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'

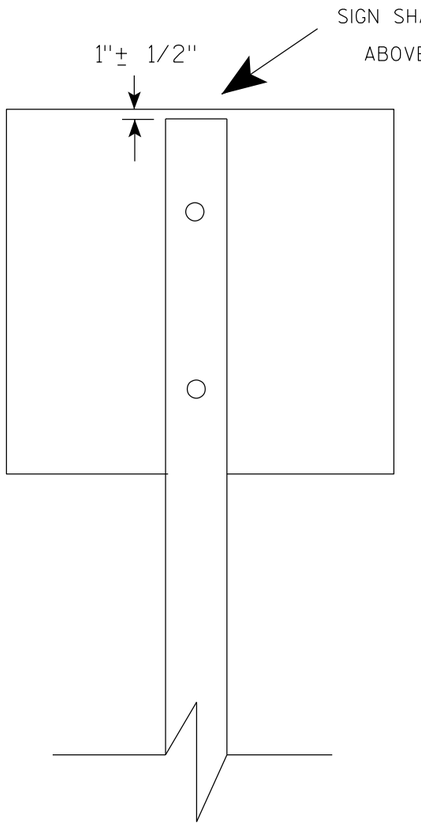
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

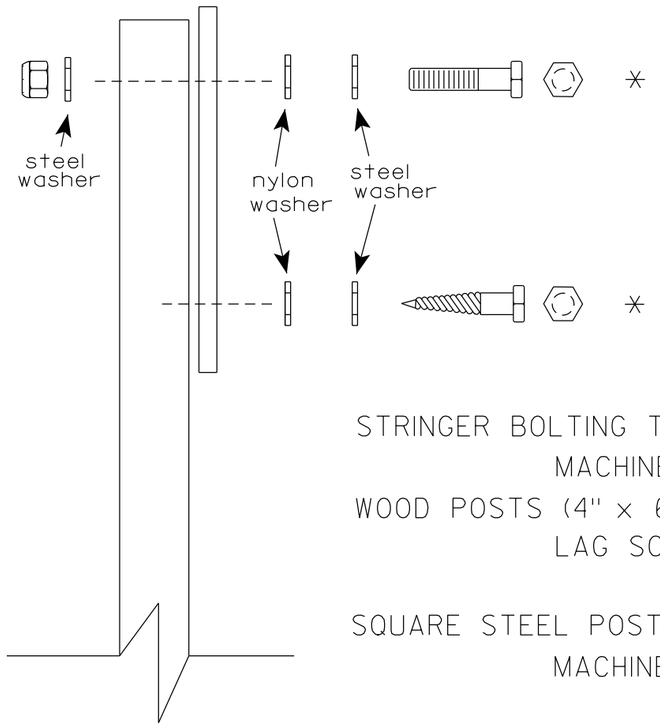
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 59	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

PROJECT NO:

SHEET NO: 60 E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 01-APRIL-2020 PLOT BY : dotc4c

WISDOT/CADDS SHEET 42

7

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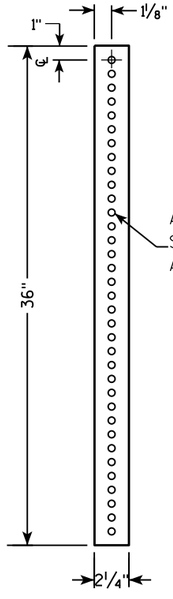
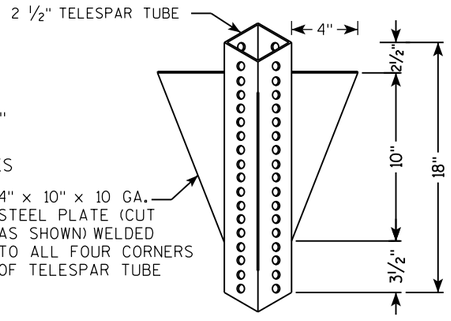
TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

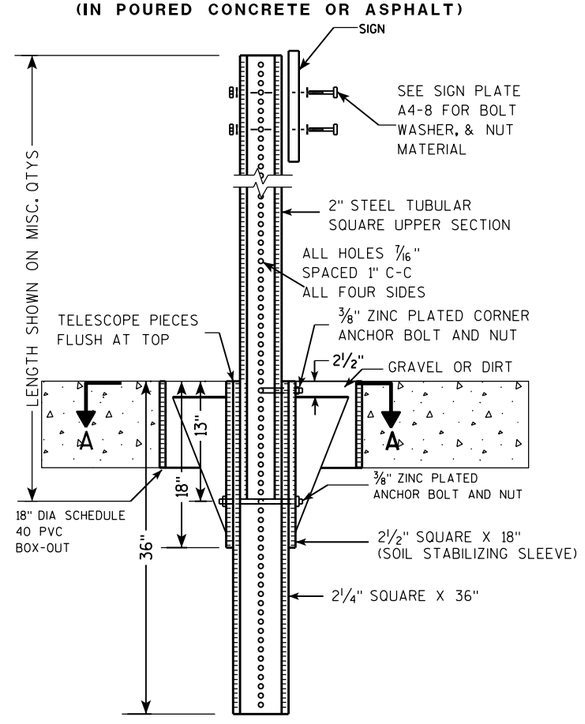
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



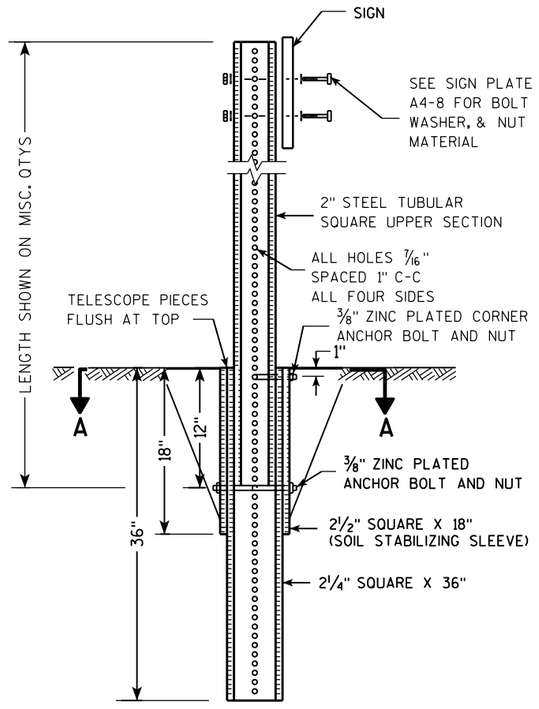
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

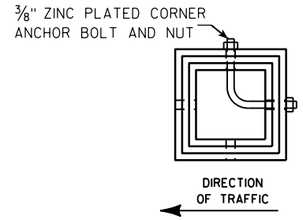


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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

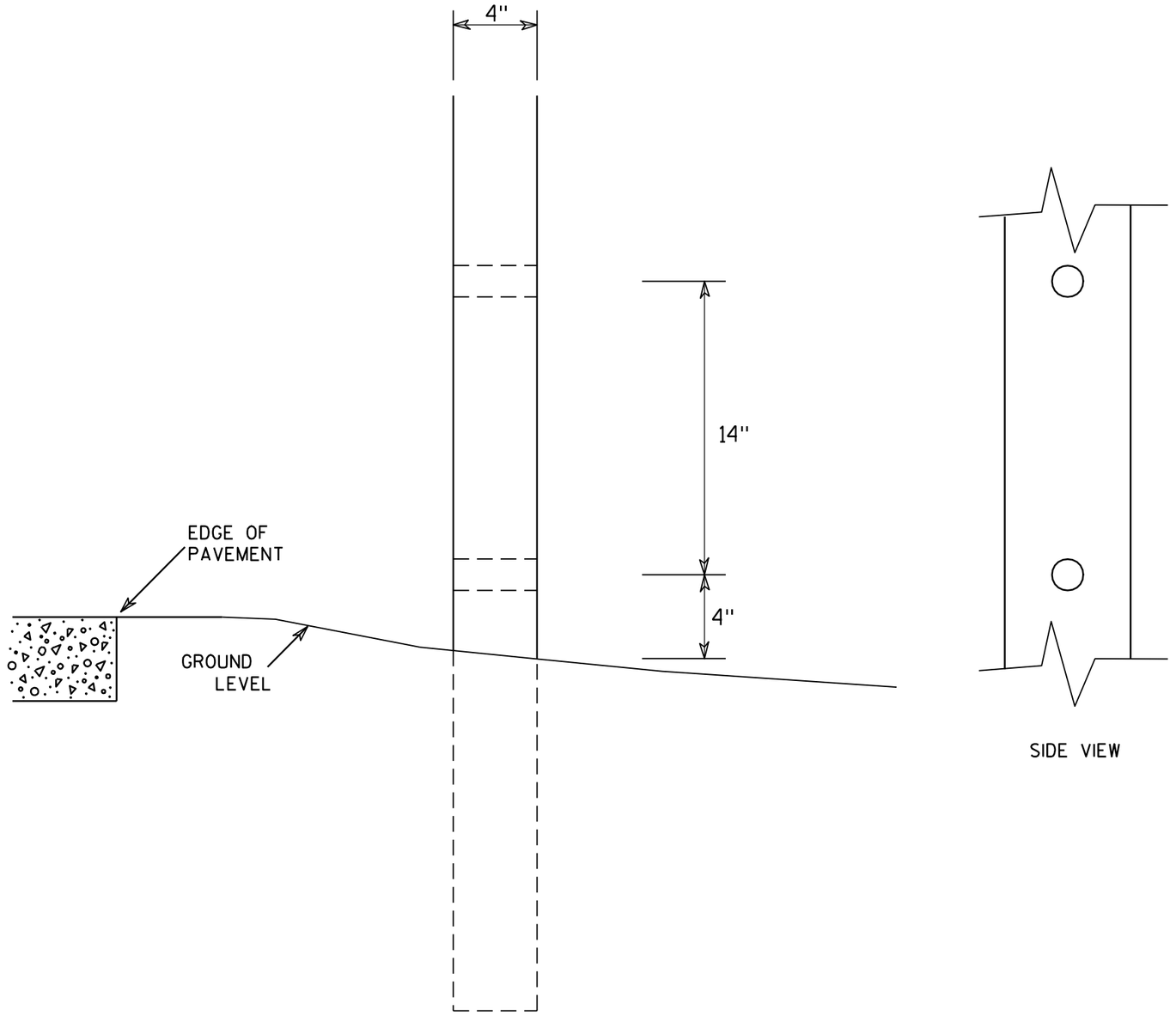
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000
WISDOT/CADDS SHEET 42



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

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4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

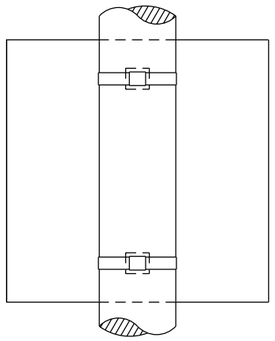
APPROVED Chester J Spang
for State Traffic Engineer

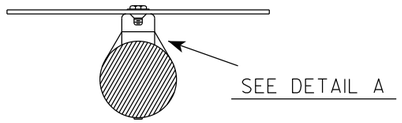
DATE 3/27/97 PLATE NO. A4-11.2

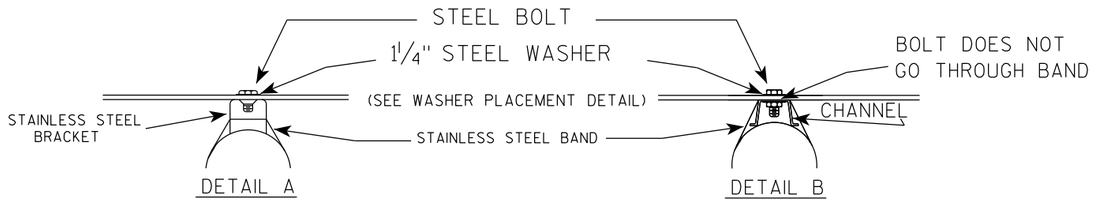
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 62	E

BANDING

SINGLE SIGN



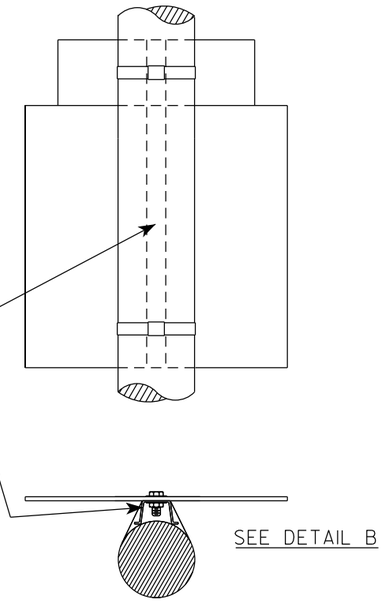




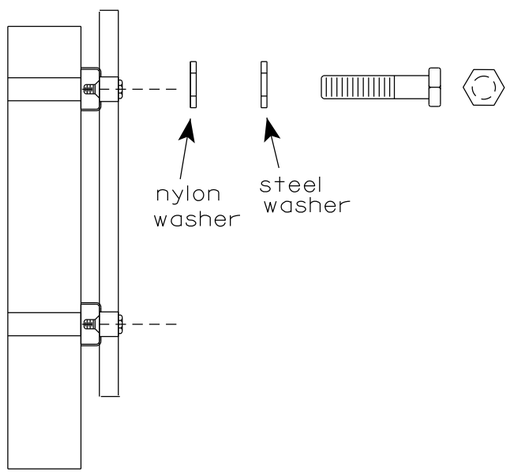
GENERAL NOTES

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

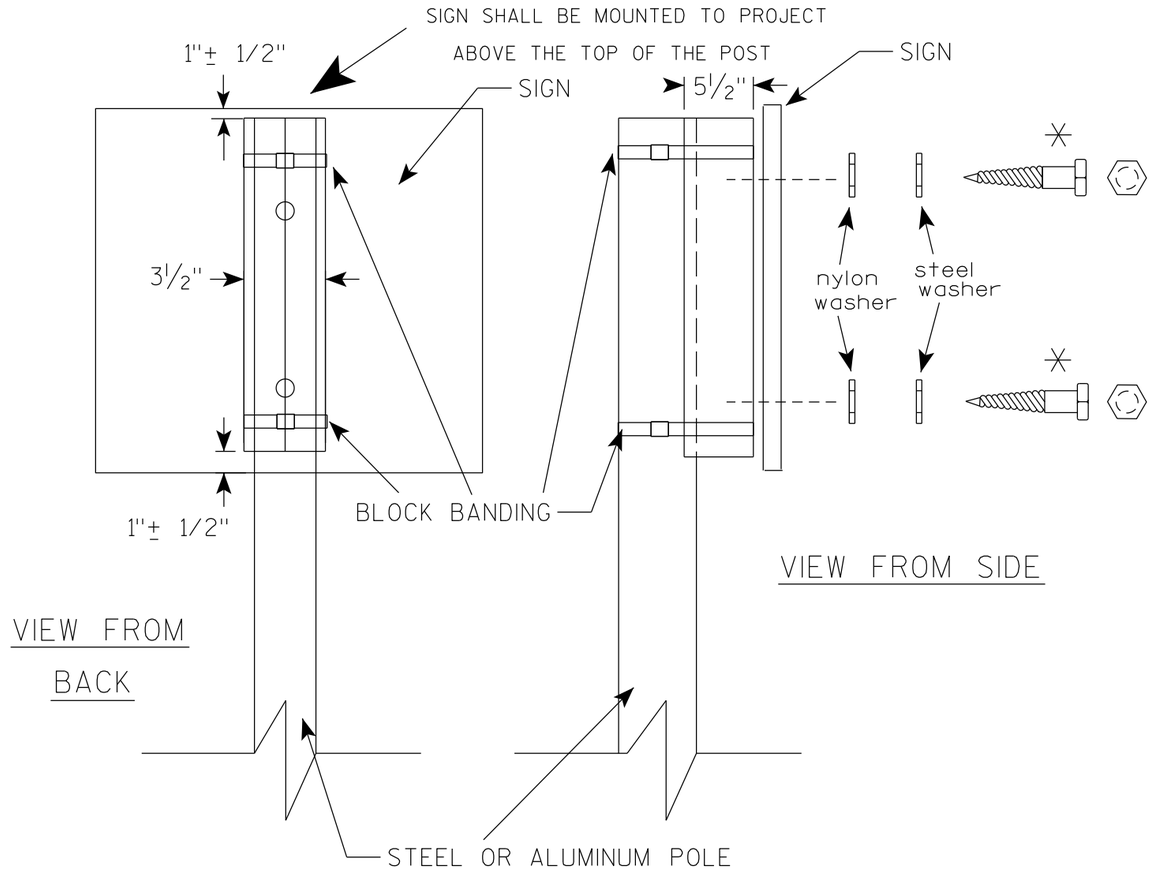
WISCONSIN DEPT OF TRANSPORTATION

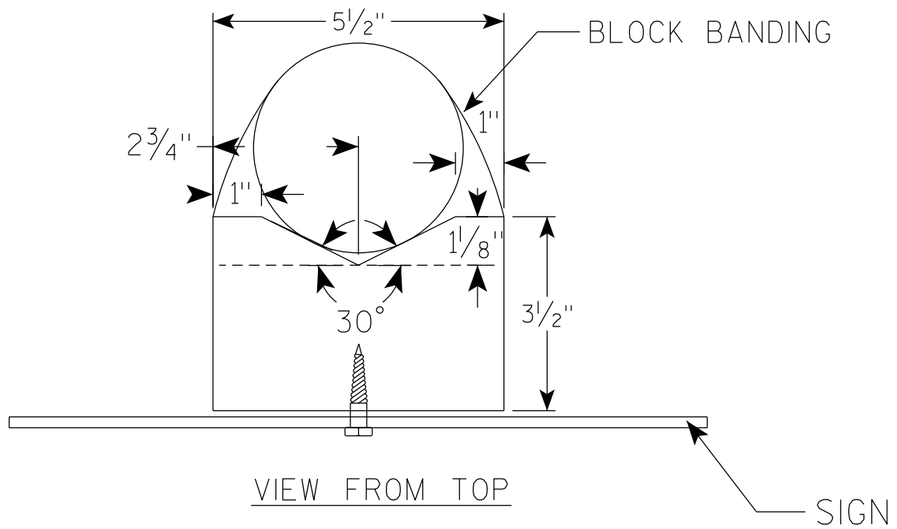
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 63	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"

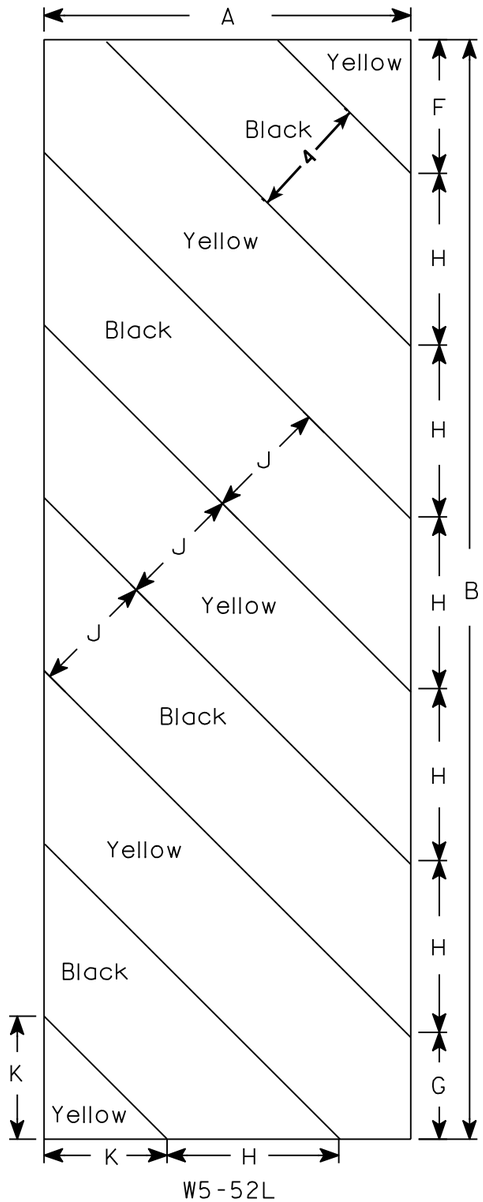
BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

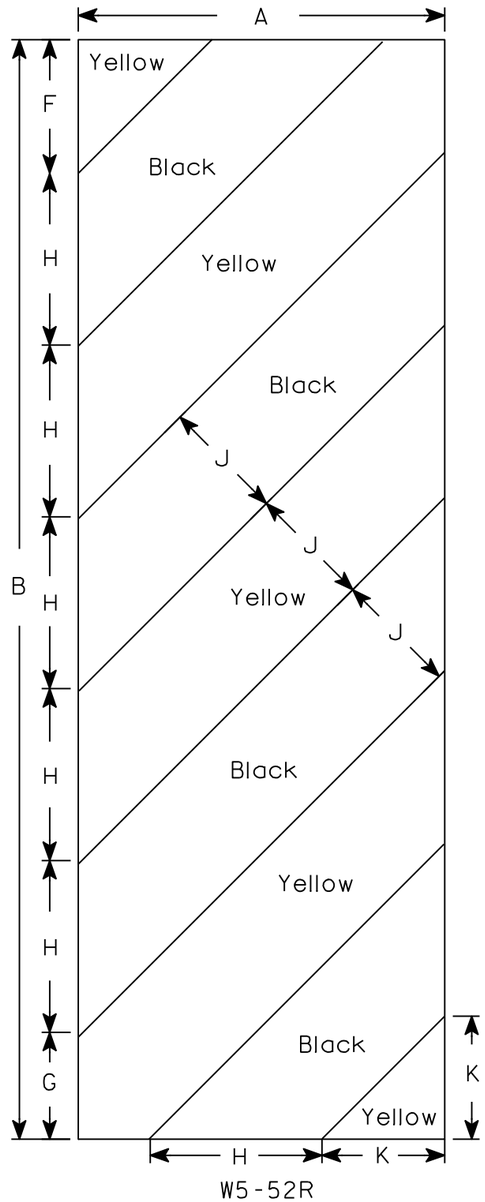
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-10.2

PROJECT NO:				SHEET NO: 64	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

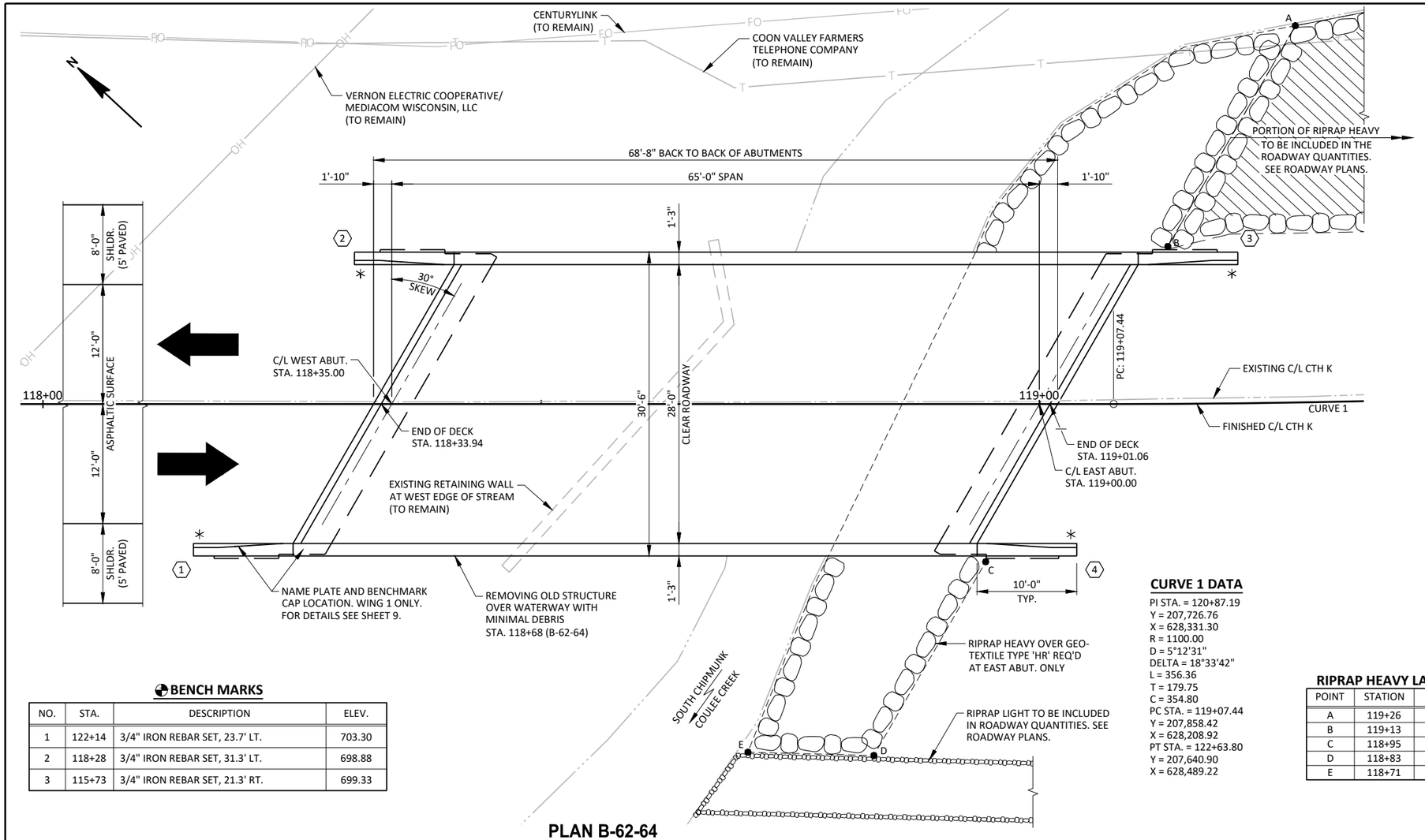
W5-52L & W5-52R

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: 65	E



PLAN B-62-64

(SINGLE-SPAN - 36" PRESTRESSED GIRDER STRUCTURE)
(DECK REPLACEMENT)

BENCH MARKS

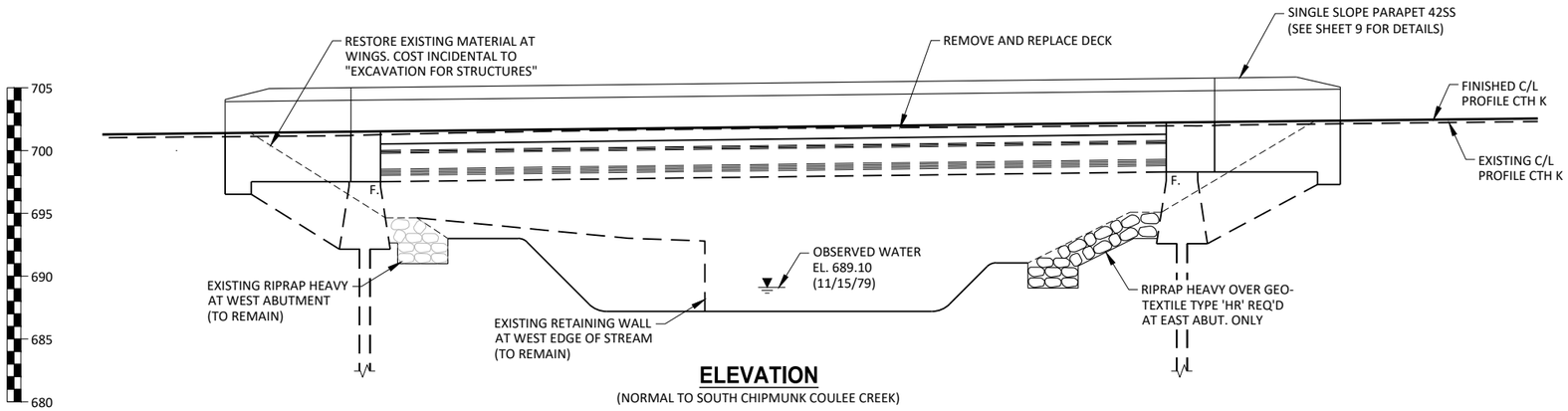
NO.	STA.	DESCRIPTION	ELEV.
1	122+14	3/4" IRON REBAR SET, 23.7' LT.	703.30
2	118+28	3/4" IRON REBAR SET, 31.3' LT.	698.88
3	115+73	3/4" IRON REBAR SET, 21.3' RT.	699.33

CURVE 1 DATA

PI STA. = 120+87.19
Y = 207,726.76
X = 628,331.30
R = 1100.00
D = 5°12'31"
DELTA = 18°33'42"
L = 356.36
T = 179.75
C = 354.80
PC STA. = 119+07.44
Y = 207,858.42
X = 628,208.92
PT STA. = 122+63.80
Y = 207,640.90
X = 628,489.22

RIPRAP HEAVY LAYOUT

POINT	STATION	OFFSET
A	119+26	38' LT.
B	119+13	16' LT.
C	118+95	16' RT.
D	118+83	35' RT.
E	118+71	35' RT.



ELEVATION

(NORMAL TO SOUTH CHIPMUNK COULEE CREEK)

STATE PROJECT NUMBER
5476-00-70

DESIGN DATA

LIVE LOAD:

DESIGN LOADING	HS20
INVENTORY RATING	HS22
OPERATING RATING	HS45
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV)	250 KIPS

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

MATERIAL PROPERTIES:

CONCRETE MASONRY, SUPERSTRUCTURE	f'c = 4,000 P.S.I.
ALL OTHER	f'c = 3,500 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

TRAFFIC DATA

A.D.T. (2021)	2365
A.D.T. (2041)	3810
DESIGN SPEED	60 M.P.H.

LIST OF DRAWINGS

LEGEND

- ✳ ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD
- ⬡ INDICATES WING NUMBER

WISCONSIN PROFESSIONAL ENGINEER
PATRICK T. BOLAND
E-36303
HILLPOINT
WIS.
Patrick Boland 8-31-20

NO.	DATE	REVISION	BY

JEWELL associates engineers, Inc.
Engineers - Architects - Surveyors
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
OFFICE: (608) 588-7484
www.jewellassoc.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED _____ SDR 11/23/20
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-62-64

CTH K OVER SOUTH CHIPMUNK COULEE CREEK

COUNTY	TOWN/~~CITY~~/~~VILLAGE~~
VERNON	BERGEN

DESIGN SPEC. REHABILITATION N/A

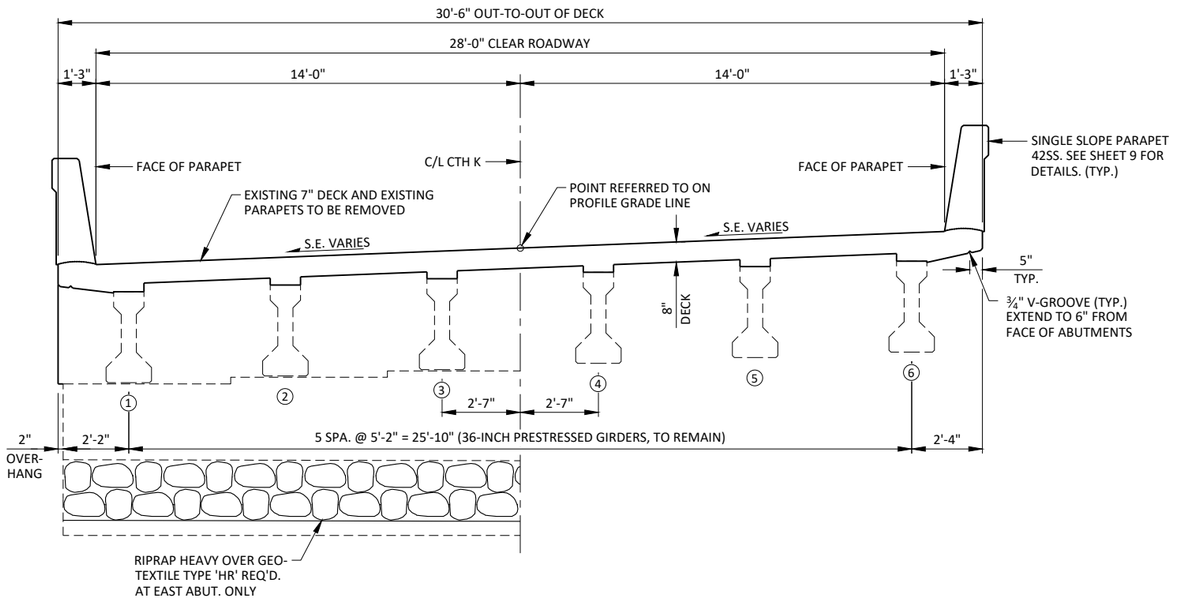
DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
PTB	RBH	PTB	RBH

GENERAL PLAN

SHEET 1 OF 9
66

DESIGN CONSULTANT
PATRICK BOLAND, PE
(608) 588-7484

BRIDGE OFFICE CONTACT
AARON BONK, PE
(608) 261-0261



PROPOSED CROSS-SECTION THROUGH ROADWAY

LOOKING EAST

◆ BACKFILL STRUCTURE TYPE A PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO THE BID ITEM "EXCAVATION FOR STRUCTURES B-62-64". LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

BACKFILL STRUCTURE DETAIL

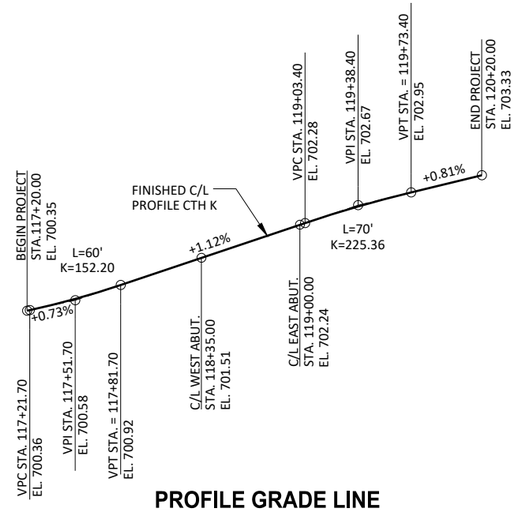
ABUTMENT BODY SHOWN
(TYPICAL AT BOTH ABUTMENTS)

SUPERELEVATION TABLE

STATION	LEFT	RIGHT
118+35.00	2.51% ◀	2.51% ◀
118+50.00	2.82% ◀	2.82% ◀
119+00.00	3.85% ◀	3.85% ◀

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	W. ABUT.	SUPER.	E. ABUT.	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MIN. DEBRIS STA. 118+68	LS	--	--	--	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-62-64	LS	--	--	--	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	20	--	20	40
502.0100	CONCRETE MASONRY BRIDGES	CY	6.6	96.6	6.8	110
502.3200	PROTECTIVE SURFACE TREATMENT	SY	--	210	--	210
502.3210	PIGMENTED SURFACE SEALER	SY	11	68	11	90
502.4204	ADHESIVE ANCHORS NO. 4 BAR	EACH	4	--	4	8
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	30	16	30	76
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	560	17,980	560	19,100
506.4000	STEEL DIAPHRAGMS B-62-64	EACH	--	5	--	5
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	1.5	--	1.5	3
606.0300	RIPRAP HEAVY	CY	--	--	100	100
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	--	2	4
645.0120	GEOTEXTILE TYPE HR	SY	--	--	165	165
	NON-BID ITEMS					
	FILLER	SIZE	--	--	--	½"
	NAME PLATE					



PROFILE GRADE LINE

CTH K

GENERAL NOTES

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988, NAVD (2012).

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

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

JOINT FILLER SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION MI53, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M213.

VARIATION TO THE NEW GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

AT THE BACK FACE OF ABUTMENT DIAPHRAGMS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE CONCRETE PLACEMENT AND IS NOT OCCUPIED BY THE DIAPHRAGMS SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A. SEE THIS SHEET FOR DETAIL.

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF THE DECK (FINISHED AREAS ONLY).

APPLY PIGMENTED SURFACE SEALER TO THE INSIDE, TOP, AND END FACES OF PARAPETS (CONCRETE MATERIAL ONLY), INCLUDING PARAPETS ON ABUTMENT WINGS.

THE EXISTING STRUCTURE IS A SINGLE-SPAN CONCRETE DECK GIRDER STRUCTURE WITH A CONCRETE DECK SUPPORTED ON FULL RETAINING CONCRETE ABUTMENTS. THE STRUCTURE HAS A 30.5' OVERALL WIDTH AND IS 67.5' LONG. THE DECK, PARAPETS, AND ABUTMENT DIAPHRAGMS SHALL BE REMOVED. INTERMEDIATE CONCRETE DIAPHRAGMS SHALL BE REMOVED AND REPLACED WITH STEEL DIAPHRAGMS.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1-INCH DEEP SAW CUT.

DURING REMOVAL OF THE ABUTMENT DIAPHRAGMS, TAKE CARE TO PRESERVE THE EXISTING DOWEL BARS FOR INCORPORATION INTO THE NEW WORK. ANY DOWEL BARS THAT ARE DAMAGED DURING CONCRETE REMOVAL SUCH THAT THEY CANNOT BE SALVAGED SHALL BE REPLACED WITH ADHESIVE ANCHORED BARS AS DETAILED ON SHEET 7.

DURING REMOVAL OF THE DECK, TAKE CARE TO PRESERVE THE EXISTING GIRDER STIRRUP BARS FOR INCORPORATION INTO THE NEW WORK.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR (1983).

ALL STATIONS AND ELEVATIONS SHOWN ARE IN FEET.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-62-64" SHALL BE THE EXISTING GROUNDLINE.

HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON SHEET 8, SUPER-STRUCTURE DETAILS (2 OF 2), WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.

STATE PROJECT NUMBER

5476-00-70

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-62-64

DRAWN BY PTB | PLANS CK'D. RBH

CROSS SECTION AND QUANTITIES

SHEET 2 OF 9

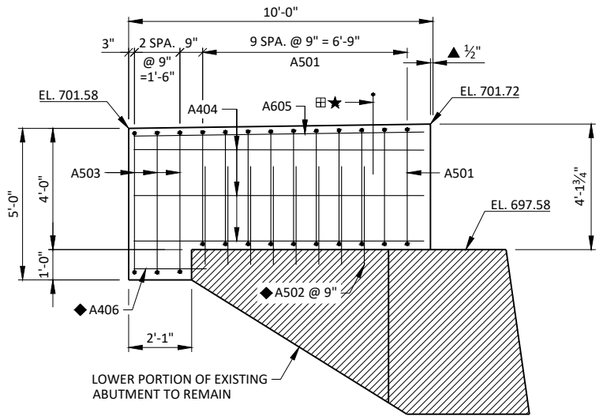
67

8

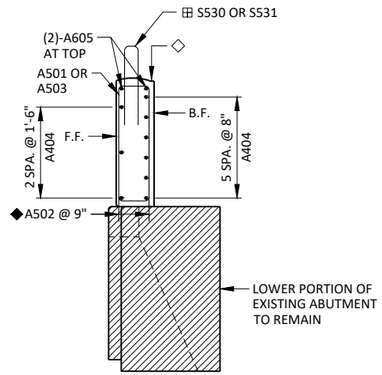
8

STATE PROJECT NUMBER

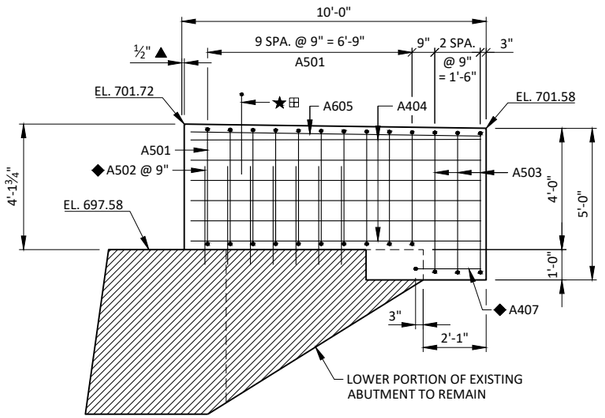
5476-00-70



F.F. ELEVATION - WING 1



SECTION A-A



B.F. ELEVATION - WING 1

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

BILL OF BARS
WEST ABUTMENT

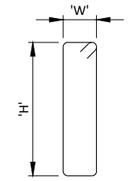
560 LB (COATED)

	BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
	A501	10	9-9	X	X	WING 1 - VERT.
◆	A502	15	3-3		X	WING 1 - VERT. - BOTTOM
	A503	3	11-9	X	X	WING 1 - VERT. - ENDS
	A404	9	9-7		X	WING 1 - HORIZ.
	A605	2	9-7		X	WING 1 - HORIZ. - TOP
◆	A406	1	2-5		X	WING 1 - HORIZ. - BOTTOM - B.F.
◆	A407	1	2-10	X	X	WING 1 - HORIZ. - BOTTOM - F.F.
	A508	10	9-7	X	X	WING 2 - VERT.
◆	A509	15	3-3		X	WING 2 - VERT. - BOTTOM
	A510	3	11-7	X	X	WING 2 - ENDS
	A411	9	9-7		X	WING 2 - HORIZ.
	A612	2	9-7		X	WING 2 - HORIZ. - TOP
◆	A413	1	2-11		X	WING 2 - HORIZ. - BOTTOM - B.F.
◆	A414	1	3-4	X	X	WING 2 - HORIZ. - BOTTOM - F.F.

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

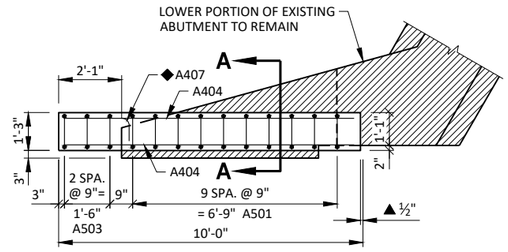
◆ ADHESIVE ANCHORS NO. 4 BAR OR ADHESIVE ANCHORS NO. 5 BAR REQ'D. EMBED BARS 6" MINIMUM INTO EXISTING CONCRETE.



A407, A414

MARK	'W'	'H'
A501	0-11	3-8
A503	0-11	4-8
A508	0-11	3-7
A510	0-11	4-7

A501, A503, A508, A510



PLAN VIEW - WING 1

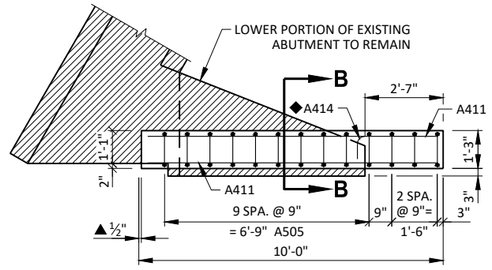
LEGEND

▲ ½" FILLER EXTEND AS SHOWN. AT INSIDE FACE USE VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BRIDGE SEAT TO BOTTOM OF PAVING NOTCH. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING, GRAY, NON- BITUMINUOS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

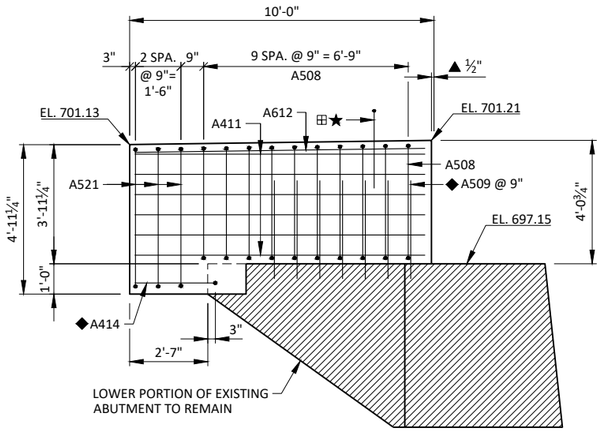
◇ STRIKE OFF AS SHOWN AND LEAVE ROUGH. FINISH SURFACE NOT COVERED BY PARAPET SAME AS ROADWAY.

⊞ S530 AND S531 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

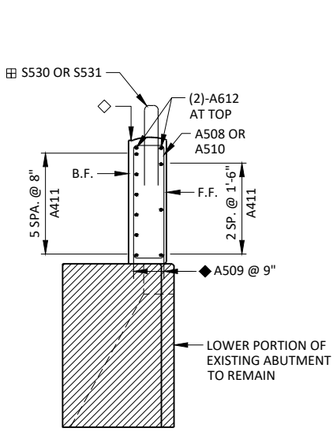
★ S532 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE S532 BARS CORRECTLY ALONG TRANSITION OF PARAPET.



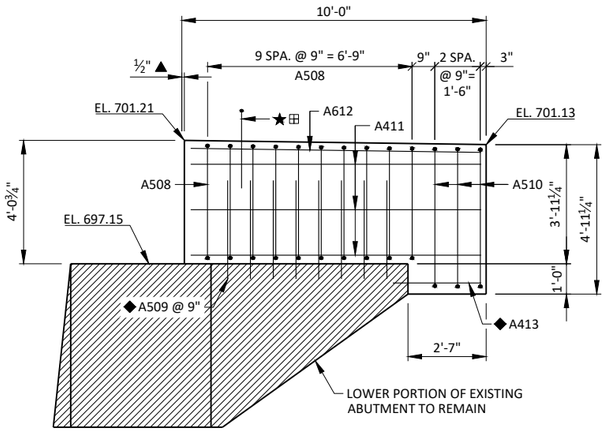
PLAN VIEW - WING 2



B.F. ELEVATION - WING 2



SECTION B-B



F.F. ELEVATION - WING 2

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-62-64

DRAWN BY PTB | PLANS CK'D. RBH

WEST ABUTMENT

SHEET 3 OF 9

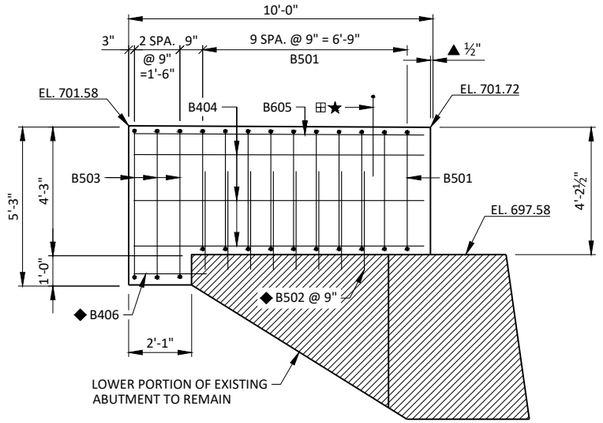
68

8

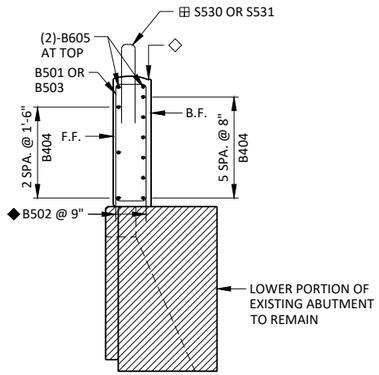
8

STATE PROJECT NUMBER

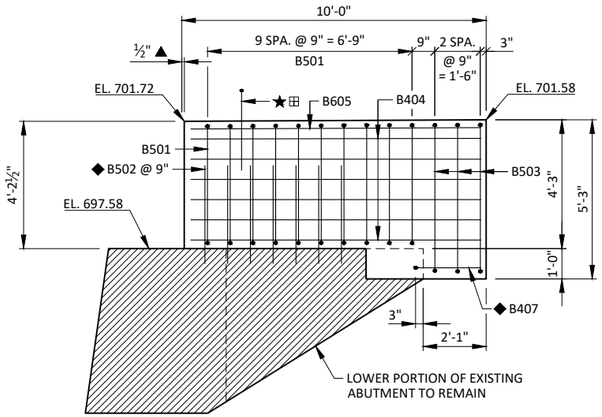
5476-00-70



F.F. ELEVATION - WING 3



SECTION A-A



B.F. ELEVATION - WING 3

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

BILL OF BARS
EAST ABUTMENT

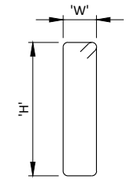
560 LB (COATED)

	BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
	B501	10	10-0	X	X	WING 3 - VERT.
◆	B502	15	3-3		X	WING 3 - VERT. - BOTTOM
	B503	3	12-0	X	X	WING 3 - VERT. - ENDS
	B404	9	9-7		X	WING 3 - HORIZ.
	B605	2	9-7		X	WING 3 - HORIZ. - TOP
◆	B406	1	2-5		X	WING 3 - HORIZ. - BOTTOM - F.F.
◆	B407	1	2-10	X	X	WING 3 - HORIZ. - BOTTOM - B.F.
	B508	10	9-10	X	X	WING 4 - VERT.
◆	B509	15	3-3		X	WING 4 - VERT. - BOTTOM
	B510	3	11-10	X	X	WING 4 - VERT. - ENDS
	B411	9	9-7		X	WING 4 - HORIZ.
	B612	2	9-7		X	WING 4 - HORIZ. - TOP
◆	B413	1	2-11		X	WING 4 - HORIZ. - BOTTOM - F.F.
◆	B414	1	3-4	X	X	WING 4 - HORIZ. - BOTTOM - B.F.

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

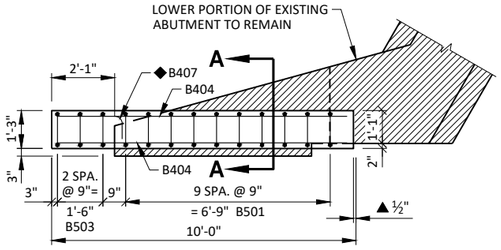
◆ ADHESIVE ANCHORS NO. 4 BAR OR ADHESIVE ANCHORS NO. 5 BAR REQ'D. EMBED BARS 6" MINIMUM INTO EXISTING CONCRETE.



B407, B414

MARK	'W'	'H'
B501	0-11	3-10
B503	0-11	4-10
B508	0-11	3-9
B510	0-11	4-9

B501, B503, B508, B510



PLAN VIEW - WING 3

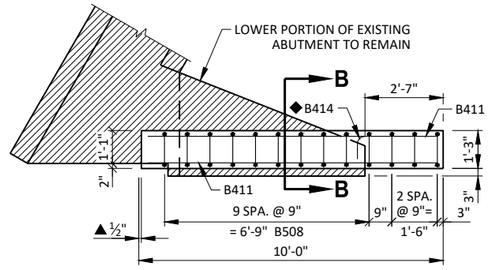
LEGEND

▲ ½" FILLER EXTEND AS SHOWN. AT INSIDE FACE USE VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BRIDGE SEAT TO BOTTOM OF PAVING NOTCH. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING, GRAY, NON- BITUMINUOS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

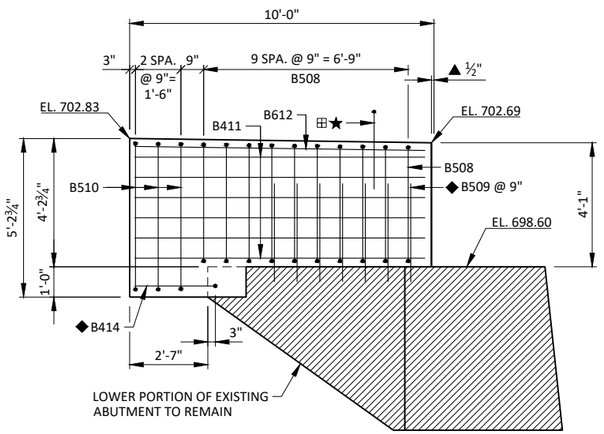
◇ STRIKE OFF AS SHOWN AND LEAVE ROUGH. FINISH SURFACE NOT COVERED BY PARAPET SAME AS ROADWAY.

⊞ S530 AND S531 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

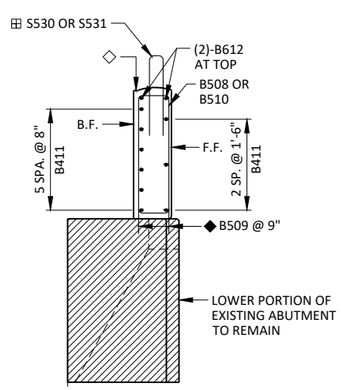
★ S532 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE S532 BARS CORRECTLY ALONG TRANSITION OF PARAPET.



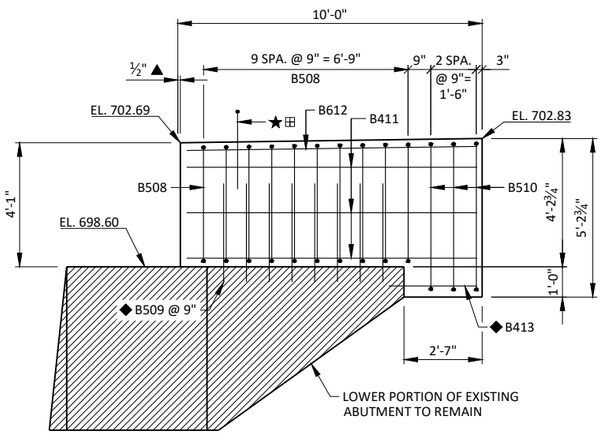
PLAN VIEW - WING 4



B.F. ELEVATION - WING 4



SECTION B-B



F.F. ELEVATION - WING 4

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-62-64

DRAWN BY PTB | PLANS CK'D. RBH

EAST ABUTMENT

SHEET 4 OF 9

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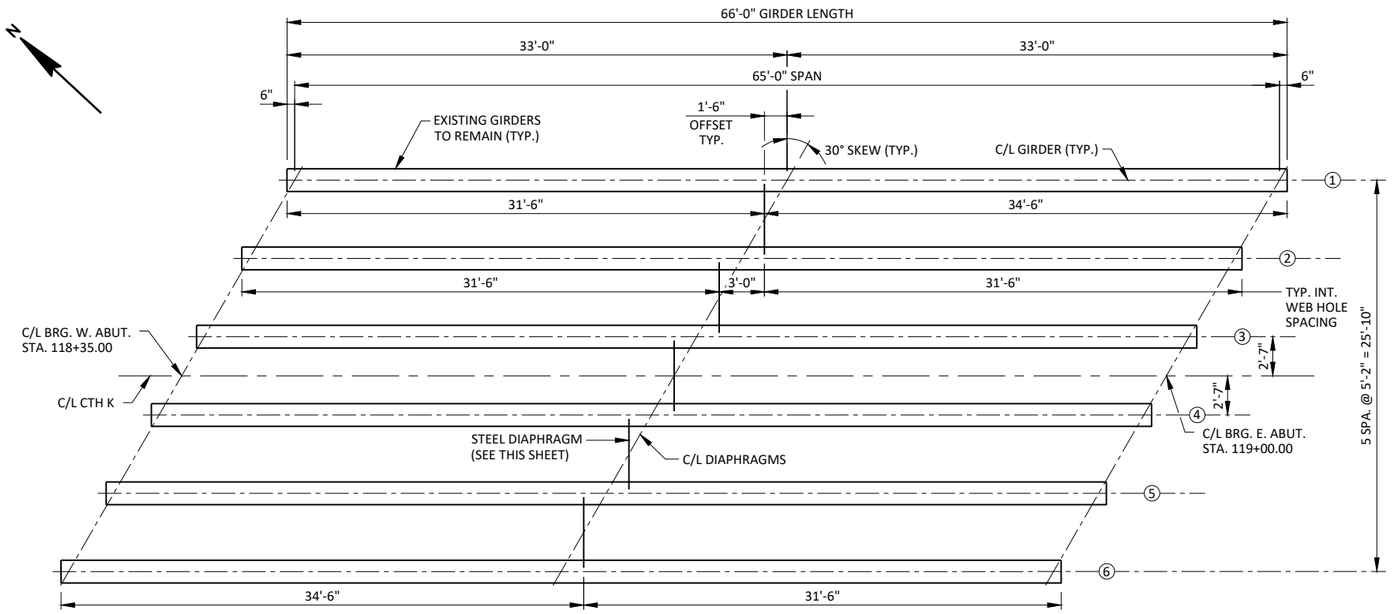
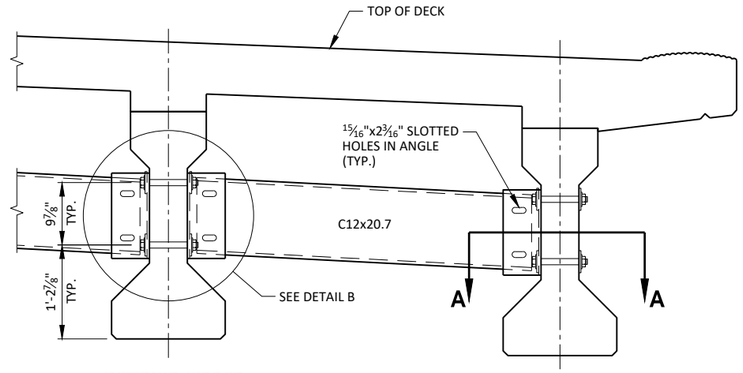
STATE PROJECT NUMBER

5476-00-70



GIRDER LAYOUT



INTERIOR GIRDER — EXTERIOR GIRDER

PART TRANSVERSE SECTION AT DIAPHRAGM

NOTES

ALL DIAPHRAGM MATERIAL SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-62-64", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

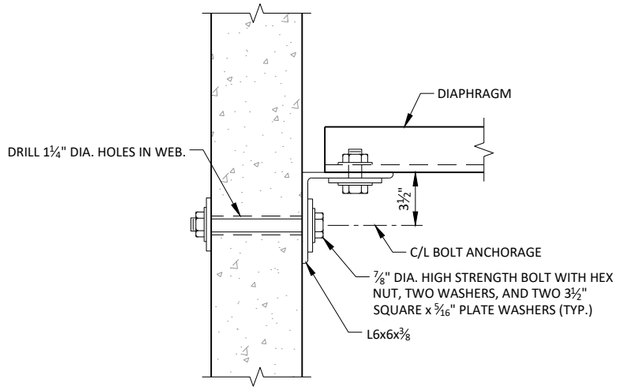
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

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

THE COST OF DRILLING HOLES THROUGH THE EXISTING CONCRETE GIRDER WEBS SHALL BE INCLUDED IN THE BID ITEM "STEEL DIAPHRAGMS B-62-64".

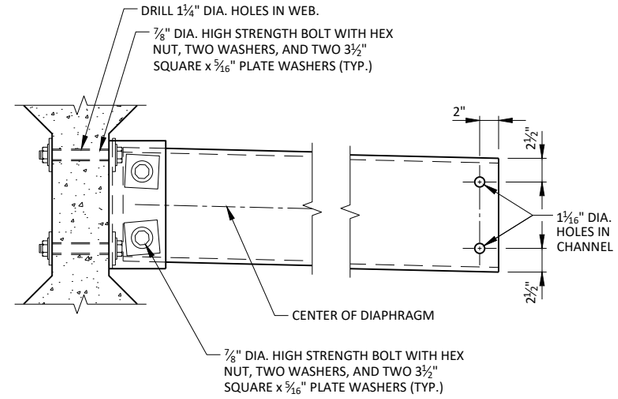
STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS ¼ TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.

PLACE ONE DIAPHRAGM AT MID-LENGTH OF GIRDER AS INDICATED ON THIS SHEET.



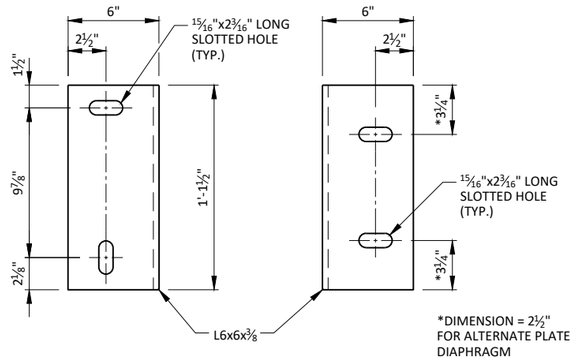
SECTION A-A

(FOR EXTERIOR ATTACHMENT)



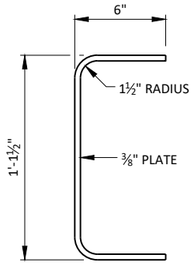
DETAIL B

(FOR STAGGERED DIAPHRAGMS)



GIRDER FACE — DIAPHRAGM FACE

DIAPHRAGM SUPPORT



SECTION THROUGH ALTERNATE DIAPHRAGM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-62-64

DRAWN BY: PTB | PLANS CK'D.: RBH

STEEL DIAPHRAGM

SHEET 5 OF 9

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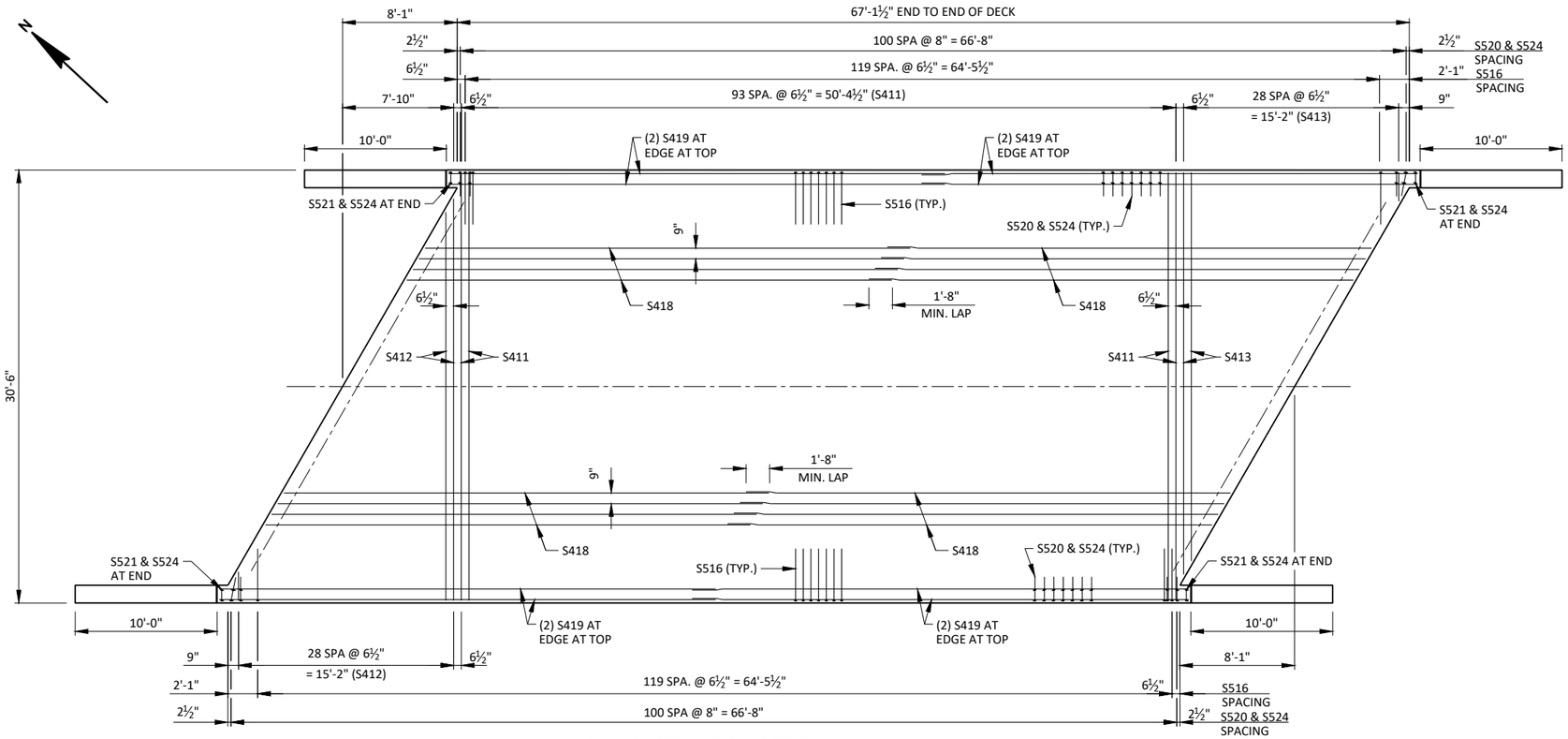
STATE PROJECT NUMBER

5476-00-70

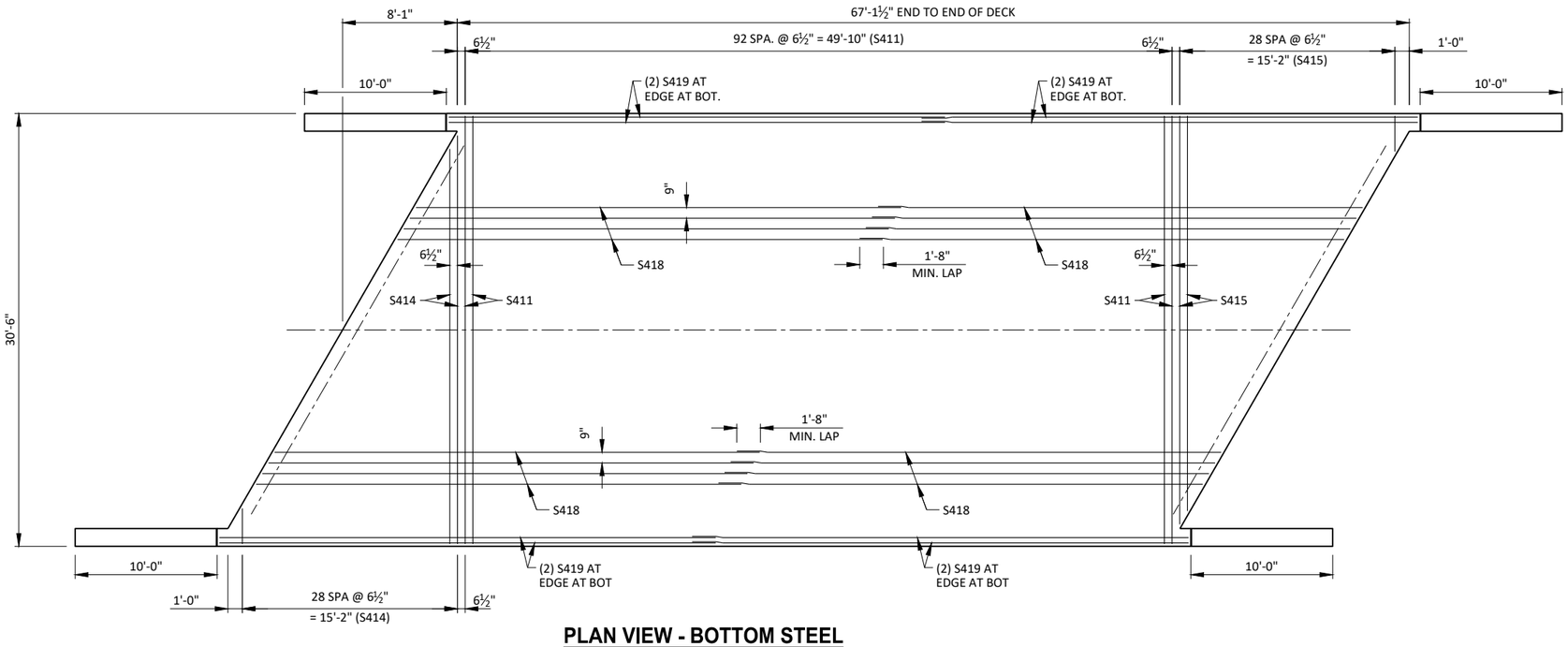
NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY.
SEE SHEET 7 FOR BAR SPACING IN THE DECK
AND SHEET 8 FOR BILL OF BARS.

T.D. - TOP OF DECK



PLAN VIEW - TOP STEEL



PLAN VIEW - BOTTOM STEEL

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-62-64

DRAWN BY PTB | PLANS CK'D. RBH

SUPERSTRUCTURE

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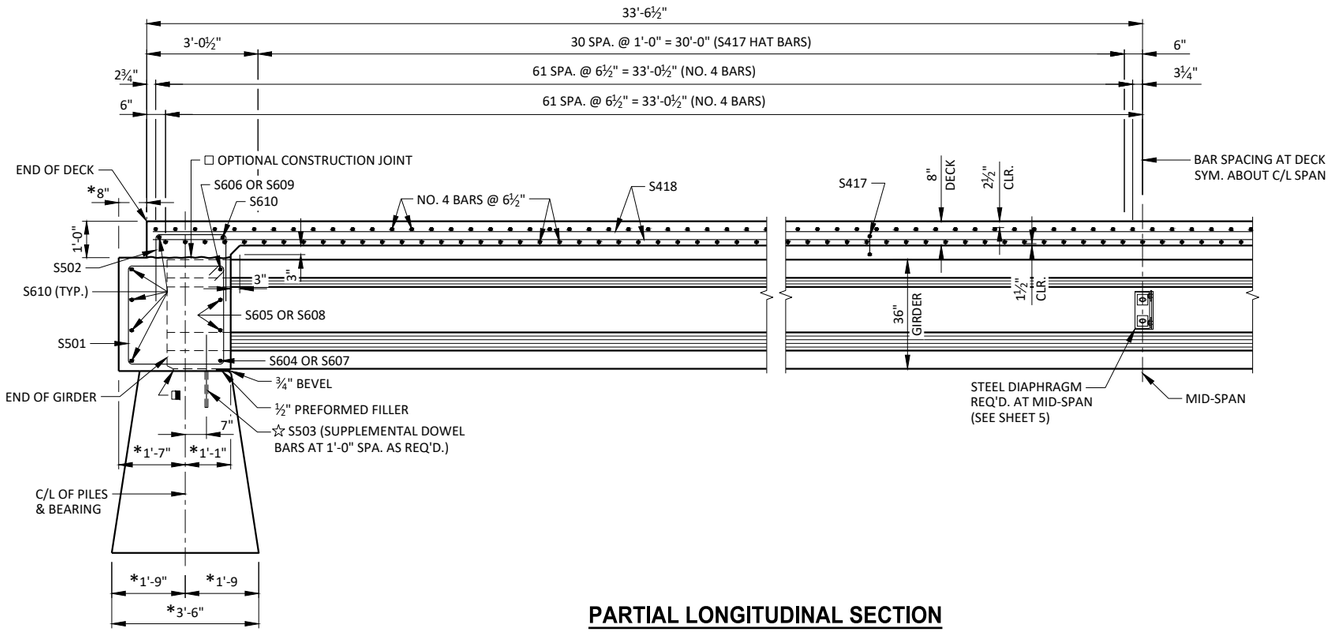


PARTIAL LONGITUDINAL SECTION

NOTES

SEE SHEET 6 FOR TRANSVERSE BAR STEEL DETAILS AND LOCATIONS NOT SHOWN ON THIS SHEET.

ALL TRANSVERSE BAR STEEL CROSSING THE LONGITUDINAL CONSTRUCTION JOINT WILL REQUIRE BAR COUPLERS. SEE SHEET 8 FOR DETAILS, LOCATIONS, AND QUANTITIES.

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 8 FOR BILL OF BARS.

LEGEND

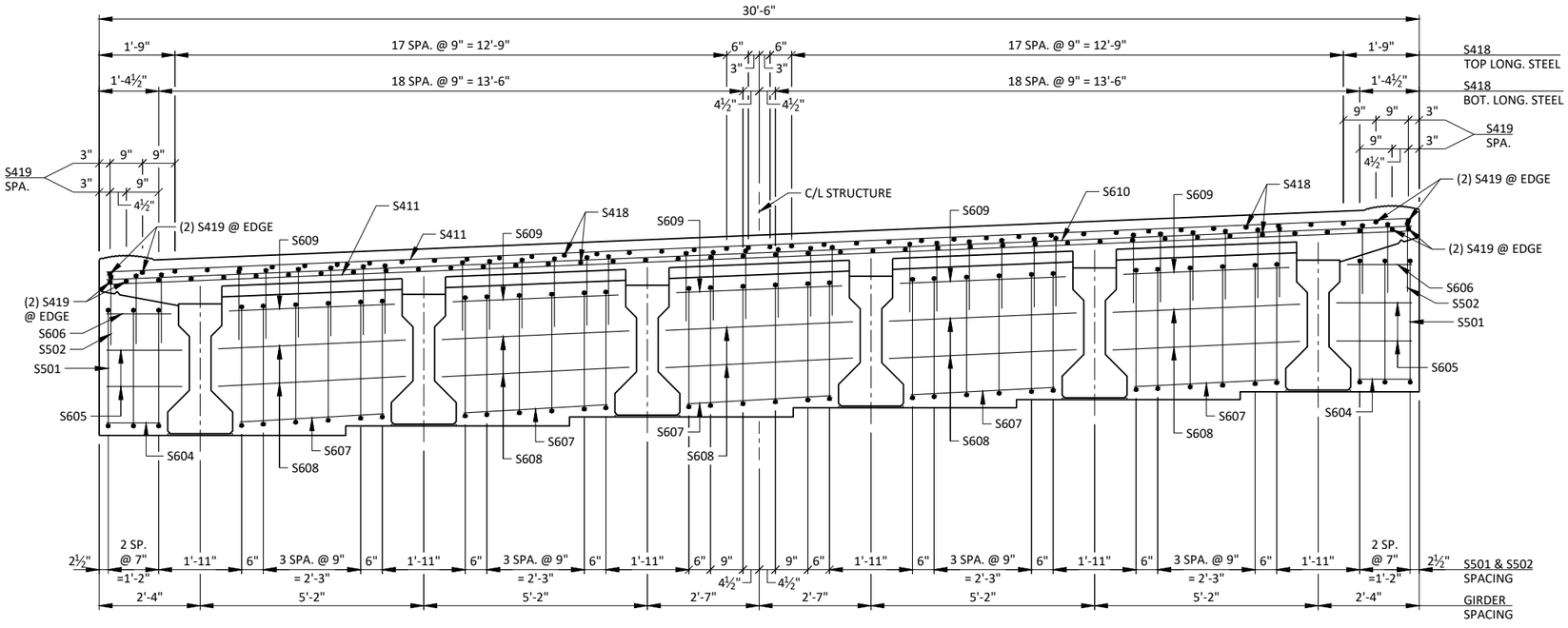
◨ ½" NON-LAMINATED ELASTOMERIC BEARING PAD AND PREFORMED FILLER UNDER GIRDERS TO REMAIN.

◭ 4"x½" PREFORMED FILLER REQ'D., EXTEND FULL LENGTH OF ABUTMENTS.

☐ OPTIONAL CONSTRUCTION JOINT. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

∗ DIMENSION IS TAKEN NORMAL TO C/L OF SUBSTRUCTURE.

☆ DURING REMOVAL OF THE EXISTING ABUTMENT DIAPHRAGMS, PRESERVE AS MUCH OF THE EXISTING DOWEL BARS AS PRACTICAL FOR INCORPORATION INTO THE NEW WORK. DOWEL BARS THAT ARE DAMAGED SUCH THAT THEY CANNOT BE SALVAGED SHALL BE REPLACED WITH SUPPLEMENTAL S503 BARS AND ADHESIVE ANCHORS. EMBED SUPPLEMENTAL DOWEL BARS 1'-0" INTO CONCRETE WITH 1'-0" MAX. SPACING AS REQ'D.



CROSS SECTION THROUGH ROADWAY

BAR SPACING IN DIAPHRAGM SYM. ABOUT C/L STRUCTURE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-62-64

DRAWN BY PTB | PLANS CK'D. RBH

SUPERSTRUCTURE DETAILS (1 OF 2)

SHEET 7 OF 9

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8

FILE NAME : S:\PROJECTS\W11593 CTH K DECK REPLACEMENT, VERNON COUNTY\STRUCTURE\CAD FILES\FINALS\04 SUPERSTRUCTURE.DWG
PLOT DATE : 8/31/2020 11:02:23 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'
LAYOUT : SUPERSTRUCTURE DETAILS

STATE PROJECT NUMBER

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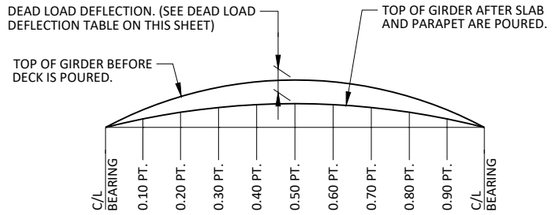
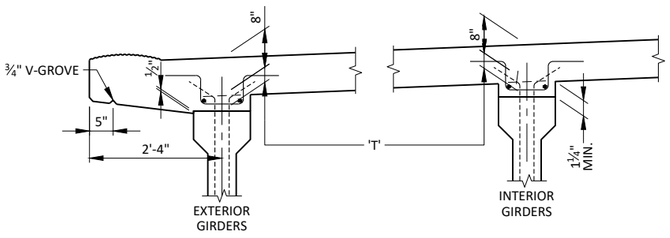
ELEVATIONS AT TOP OF DECK

GIRDER LINE		C/L BRG. W. ABUT.	0.10 PT.	0.20 PT.	0.30 PT.	0.40 PT.	0.50 PT.	0.60 PT.	0.70 PT.	0.80 PT.	0.90 PT.	C/L BRG. E. ABUT.
N. EDGE	T.D.	701.23	701.28	701.34	701.39	701.44	701.50	701.55	701.61	701.66	702.71	701.77
①	T.D.	701.25	701.31	701.36	701.42	704.47	701.53	701.59	701.64	701.70	701.75	701.81
②	T.D.	701.36	701.42	701.49	701.55	701.61	701.67	701.74	701.80	701.86	701.92	701.99
③	T.D.	701.46	701.53	701.60	701.67	701.74	701.81	701.88	701.95	702.02	702.09	702.16
C/L	T.D.	701.51	701.59	701.66	701.73	701.80	701.88	701.95	702.02	702.09	702.17	702.24
④	T.D.	701.56	701.64	701.71	701.79	701.87	701.94	702.02	702.09	702.17	702.24	702.32
⑤	T.D.	701.65	701.73	701.82	701.90	701.98	702.07	702.15	702.23	702.31	702.40	702.48
⑥	T.D.	701.73	701.82	701.91	702.00	702.09	702.18	702.27	702.36	702.45	702.54	702.63
S. EDGE	T.D.	701.75	701.84	701.93	702.03	702.12	702.21	702.30	702.39	702.48	702.57	702.66

	0.10 PT.	0.20 PT.	0.30 PT.	0.40 PT.	0.50 PT.	0.60 PT.	0.70 PT.	0.80 PT.	0.90 PT.
DEAD LOAD DEFL.	0.3"	0.5"	0.7"	0.8"	0.9"	0.8"	0.7"	0.5"	0.3"



DEAD LOAD DEFLECTION DIAGRAM



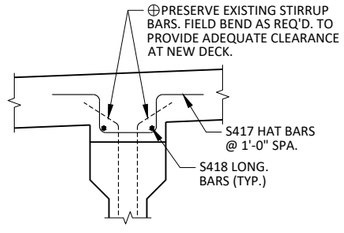
SLAB HAUNCH DETAIL

IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½".

TO DETERMINE 'T'. ELEVATION OF TOP OF GIRDERS AT THE C/L OF SUBSTRUCTURE UNITS AND AT THE 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

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

NOTE: AN AVERAGE HAUNCH HEIGHT ('T') OF 5⅜" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



HAUNCH REINFORCING DETAIL

⊕ DURING REMOVAL OF THE DECK, TAKE CARE TO PRESERVE THE EXISTING GIRDER STIRRUP BARS FOR INCORPORATION INTO THE NEW WORK.

BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
S412	1 SERIES OF 29	28-4 TO 2-0
S413	1 SERIES OF 29	28-4 TO 2-0
S414	1 SERIES OF 29	28-10 TO 2-6
S415	1 SERIES OF 29	28-10 TO 2-6
S527	4 SERIES OF 6	6-1 TO 4-9

BUNDLE AND TAG EACH SERIES SEPARATELY.

BILL OF BARS
SUPERSTRUCTURE

17,980 LB (COATED)

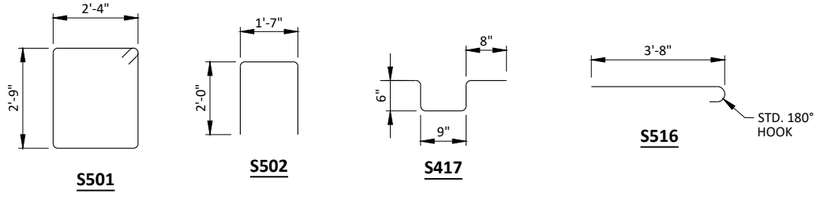
BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	BAR SERIES	LOCATION
S501	72	10-9	X	X		ABUT. DIAPHRAGM - VERT. STIRRUP
S502	72	5-4	X	X		ABUT. DIAPHRAGM - VERT. - TOP
◆ S503	16	2-0		X		SUPPLEMENTAL DOWEL BARS
S604	4	1-5		X		ABUT. DIAPHRAGM - HORIZ. - FRONT - ENDS
S605	8	2-0		X		ABUT. DIAPHRAGM - HORIZ. - FRONT - ENDS
S606	4	1-9		X		ABUT. DIAPHRAGM - HORIZ. - FRONT - ENDS
S607	10	3-10		X		ABUT. DIAPHRAGM - HORIZ. - FRONT
S608	20	5-0		X		ABUT. DIAPHRAGM - HORIZ. - FRONT
S609	10	4-5		X		ABUT. DIAPHRAGM - HORIZ. - FRONT
S610	12	17-5		X		ABUT. DIAPHRAGM - HORIZ. - BACK
S411	187	30-2		X		DECK - TOP & BOT. - TRANSVERSE
S412	29	15-2		X	✳	DECK - TOP - TRANSVERSE AT END
S413	29	15-2		X	✳	DECK - TOP - TRANSVERSE AT END
S414	29	15-8		X	✳	DECK - BOT. - TRANSVERSE AT END
S415	29	15-8		X	✳	DECK - BOT. - TRANSVERSE AT END
S516	240	4-4	X	X		DECK - TOP - TRANSVERSE AT EDGES
S417	372	2-9	X	X		DECK - HAT BARS
S418	176	34-3		X		DECK - TOP & BOT. - LONG. / LONG. AT HAT BARS
S419	16	35-0		X		DECK - TOP & BOT. - LONGITUDINAL AT EDGE
S520	202	4-5		X		PARAPET - VERT. AT DECK
S521	12	5-10		X	✳	PARAPET - VERT.
S522	68	5-7		X	✳	PARAPET - VERT.
S523	48	3-0		X		PARAPET - VERT. - TRANSITION
S524	214	6-8	X	X		PARAPET - VERT.
S525	24	6-6	X	X		PARAPET - VERT.
S526	20	6-5	X	X		PARAPET - VERT.
S527	24	5-5	X	X	✳	PARAPET - VERT.
S528	32	35-8		X		PARAPET - HORIZ.
S529	4	9-5	X	X		PARAPET - HORIZ. - WINGWALLS - TRANSITION
S530	20	9-4		X		PARAPET - HORIZ. - WINGWALLS
S531	8	9-8	X	X		PARAPET - HORIZ. - WINGWALLS - TOP

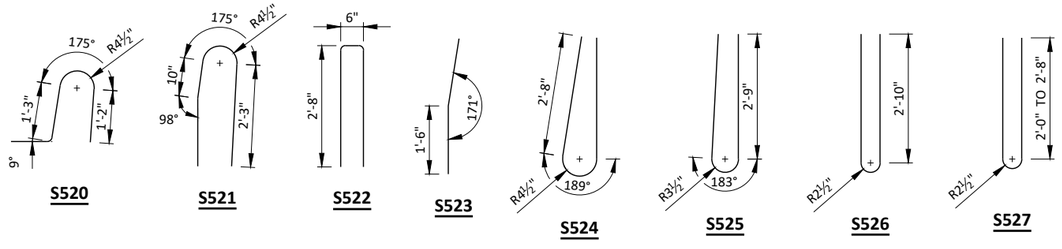
NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

✳ LENGTH SHOWN IS AN AVERAGE LENGTH ONLY. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

◆ ADHESIVE ANCHORS NO. 5 BAR REQ'D. EMBED BARS 6" MINIMUM INTO EXISTING CONCRETE.





NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-62-64

DRAWN BY PTB | PLANS CK'D. RBH

SUPERSTRUCTURE DETAILS (2 OF 2)

SHEET 8 OF 9

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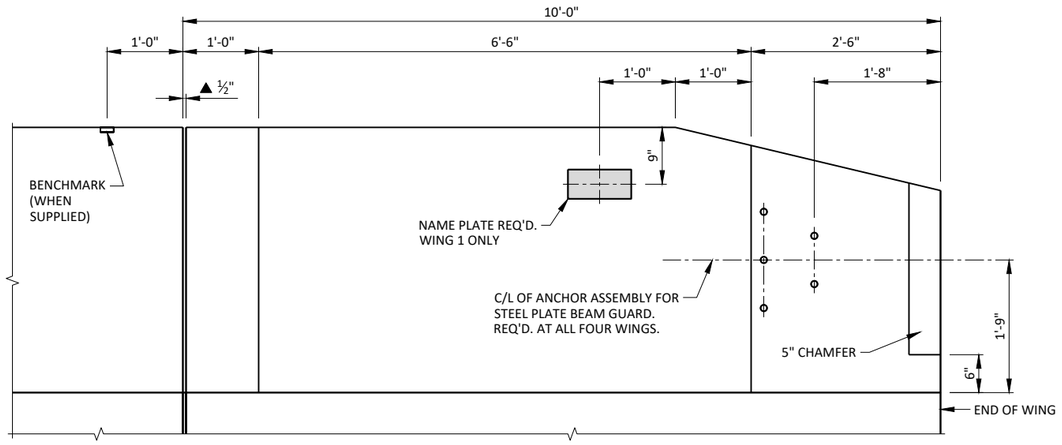
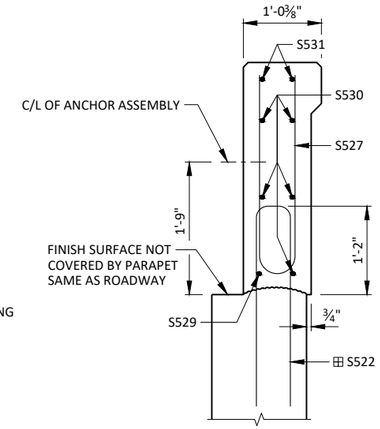
STATE PROJECT NUMBER

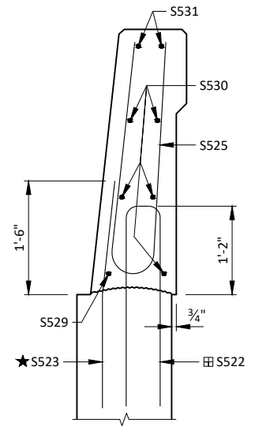
5476-00-70



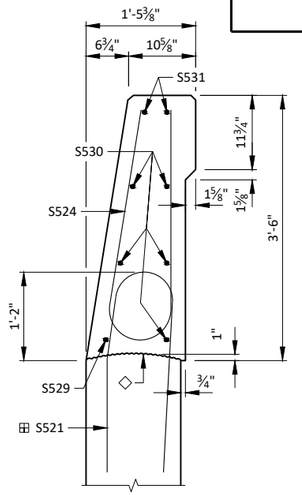
INSIDE ELEVATION



SECTION A



SECTION B



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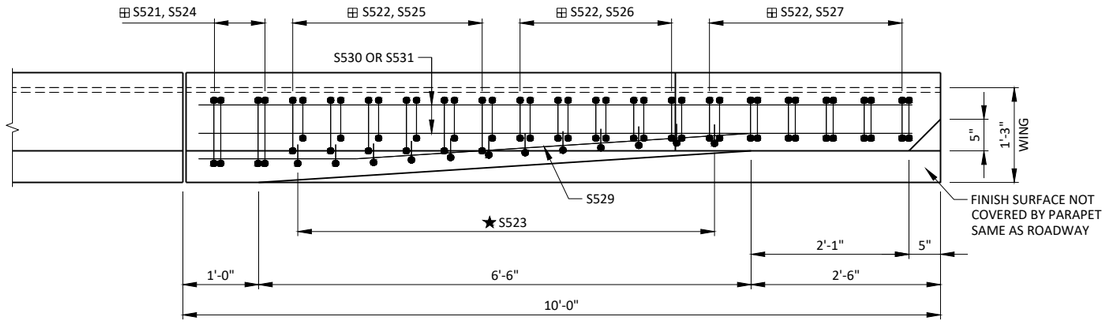
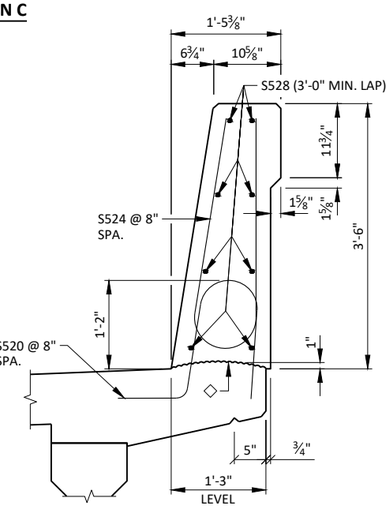


PLAN

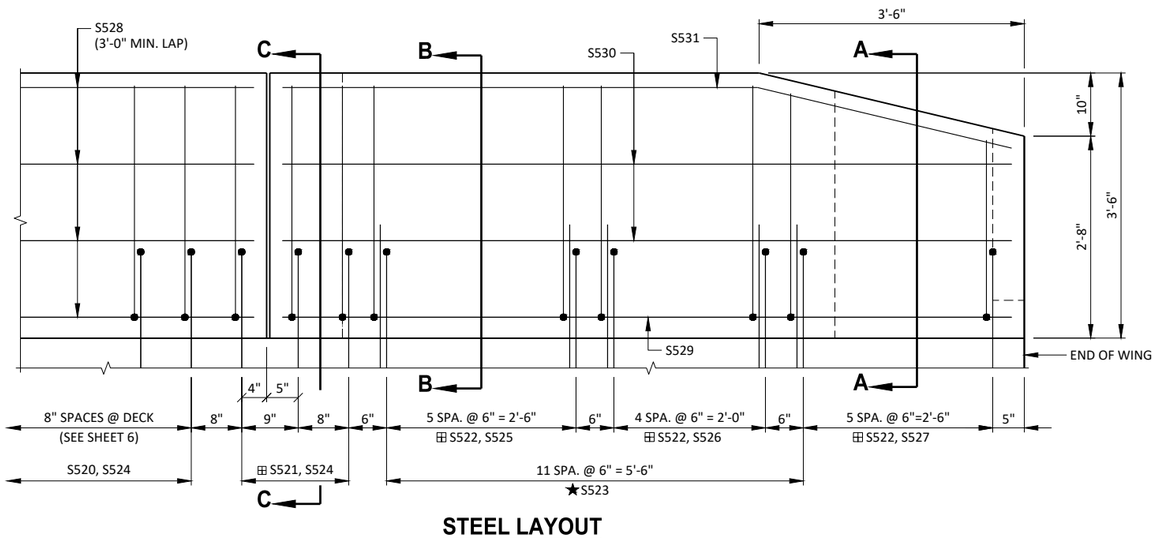
DETAIL OF ANCHOR ASSEMBLY

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

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



SECTION THROUGH PARAPET ON BRIDGE



STEEL LAYOUT

LEGEND

- ◇ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN.
- ▲ ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING, GRAY, NON-BITUMINUOS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE).
- ★ S523 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE S523 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ⊞ S521 AND S522 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 8 FOR BILL OF BARS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-62-64

DRAWN BY PTB | PLANS CK'D. RBH

SINGLE SLOPE PARAPET 42SS

SHEET 9 OF 9

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FILE NAME : S:\PROJECTS\W11593 CTH K DECK REPLACEMENT, VERNON COUNTY\STRUCTURE\CAD FILES\FINALS\04 SUPERSTRUCTURE.DWG PLOT DATE : 8/31/2020 11:02:25 AM PLOT BY : BOLAND, PATRICK PLOT SCALE : 1" = 1' LAYOUT : PARAPET

EARTHWORK - MAINLINE

	AREA (SF)		INCREMENTAL VOLUME (CY)			CUMMULATIVE VOLUME (CY)			
STATION	CUT	FILL	CUT NOTE 1	FILL NOTE 2	FILL (25%) NOTE 3	CUT 1.00 NOTE 1	FILL	FILL (25%) NOTE 3	MASS ORDINATE NOTE 4
117+20	2	3	0	0	0	0	0	0	0
117+50	94	5	53	4	5	53	4	5	48
118+00	76	17	157	20	25	210	24	30	180
118+34	76	11	96	18	23	306	42	53	253
118+34	0	0	0	0	0	306	42	53	253
118+50	0	0	0	0	0	306	42	53	253
119+00	0	0	0	0	0	306	42	53	253
119+01	0	0	0	0	0	306	42	53	253
119+01	83	46	0	0	0	306	42	53	253
119+50	82	46	150	83	104	456	125	157	299
120+00	96	2	165	44	55	621	169	212	409
120+20	50	27	54	11	14	675	180	226	449
120+20	28	27	0	0	0	675	180	226	449
120+50	29	4	32	17	21	707	197	247	460
121+00	29	1	54	5	6	761	202	253	508
121+50	41	1	65	1	1	826	203	254	572
122+00	43	0	78	1	1	904	204	255	649
122+50	43	0	79	0	0	983	204	255	728
122+71	0	0	17	0	0	1000	204	255	745
COLUMN SUBTOTALS =			1000	204	255				
C.E. =			55	56	70	1055	260	325	730
TOTALS =			1055	260	325				

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
3 - FILL (25%)	FILL 25%: (UNEXPANDED FILL)*1.25
4 - MASS ORDINATE	(CUT - FILL (25%))

9

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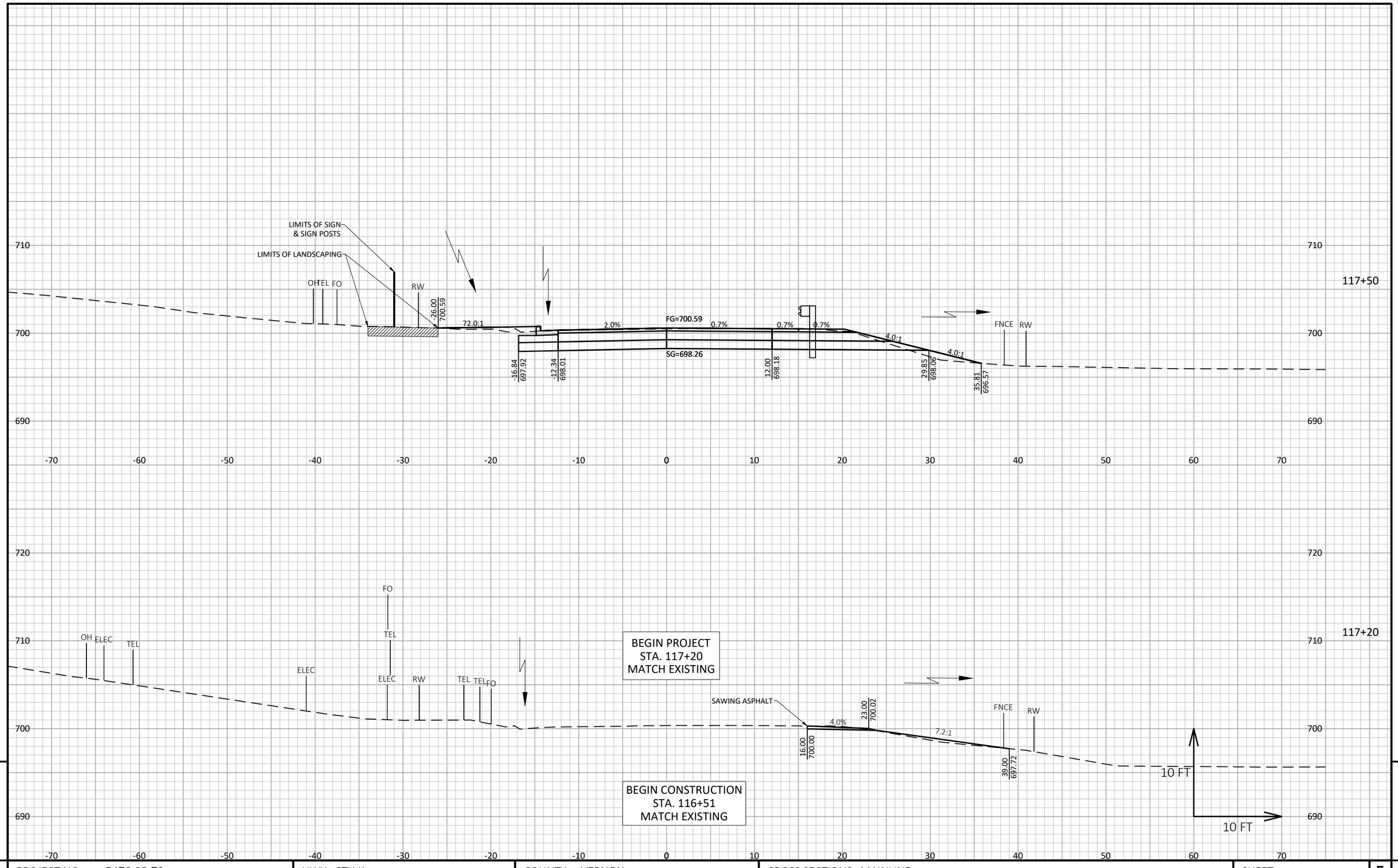
PROJECT NO: 5476-00-70	HWY: CTH K	COUNTY: VERNON	EARTHWORK	SHEET 75	E



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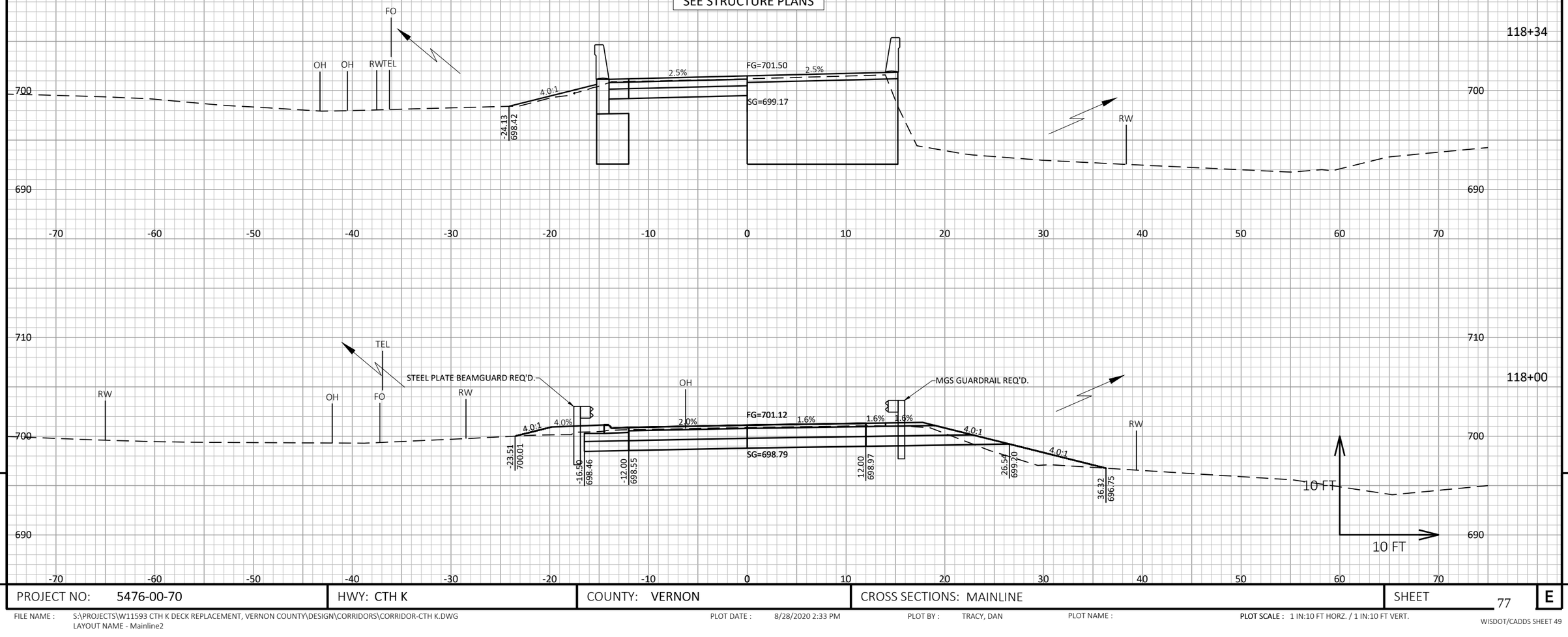
PROJECT NO: 5476-00-70	HWY: CTH K	COUNTY: VERNON	CROSS SECTIONS: MAINLINE	SHEET 76	E

FILE NAME : S:\PROJECTS\W11593 CTH K DECK REPLACEMENT, VERNON COUNTY\DESIGN\CORRIDORS\CORRIDOR-CTH K.DWG
LAYOUT NAME - Mainline1

PLOT DATE : 8/28/2020 2:33 PM PLOT BY : TRACY, DAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

STRUCTURE B-62-0064
TO REMAIN
SEE STRUCTURE PLANS



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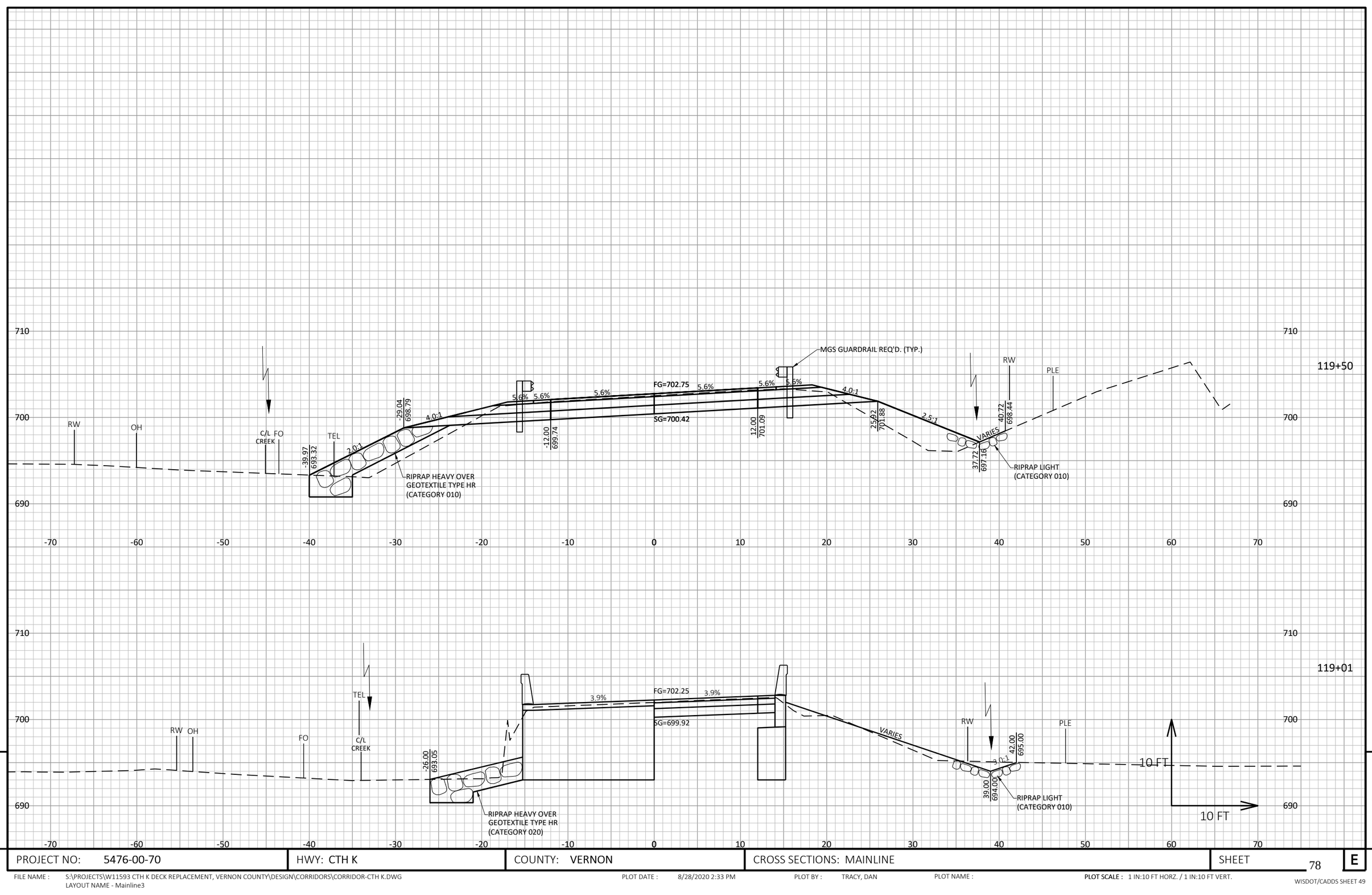
PROJECT NO: 5476-00-70	HWY: CTH K	COUNTY: VERNON	CROSS SECTIONS: MAINLINE	SHEET 77	E

FILE NAME : S:\PROJECTS\W11593 CTH K DECK REPLACEMENT, VERNON COUNTY\DESIGN\CORRIDORS\CORRIDOR-CTH K.DWG
LAYOUT NAME - Mainline2

PLOT DATE : 8/28/2020 2:33 PM PLOT BY : TRACY, DAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 5476-00-70	HWY: CTH K	COUNTY: VERNON	CROSS SECTIONS: MAINLINE	SHEET 78	E

FILE NAME : S:\PROJECTS\W11593 CTH K DECK REPLACEMENT, VERNON COUNTY\DESIGN\CORRIDORS\CORRIDOR-CTH K.DWG
LAYOUT NAME - Mainline3

PLOT DATE : 8/28/2020 2:33 PM PLOT BY : TRACY, DAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

END PROJECT
STA. 120+20
MATCH EXISTING

120+20

OH
C/L CREEK
FO
TEL
-48.19
693.00
3.0:1
-29.66
699.18
4.0:1
MGS GUARDRAIL REQ'D.
6.0%
6.0%
FG=702.57
-12.00
700.57
RIPRAP HEAVY OVER GEOTEXTILE TYPE HR (CATEGORY 010)
RW

120+00

OH
C/L CREEK
FO
TEL
-44.86
691.29
2.0:1
-29.29
699.08
4.0:1
MGS GUARDRAIL REQ'D.
6.0%
6.0%
6.0%
FG=703.17
6.0%
6.0%
6.0%
4.0:1
SG=700.83
-12.00
700.11
12.00
701.55
29.41
702.60
3.0:1
VARIES
31.05
702.05
34.05
704.06
RIPRAP LIGHT (CATEGORY 010)
RW
10 FT
10 FT

730 720 710 700 690
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

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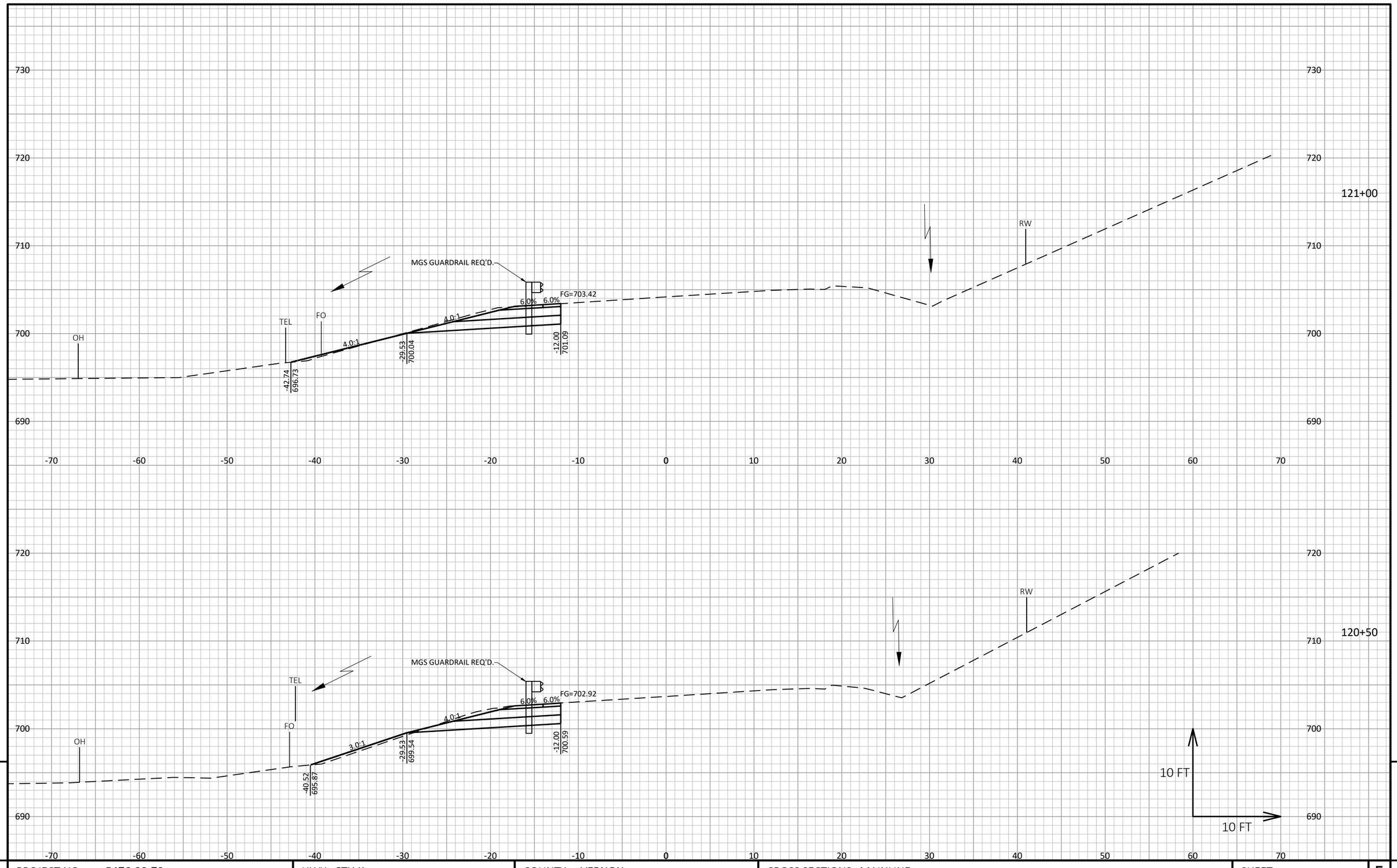
PROJECT NO: 5476-00-70	HWY: CTH K	COUNTY: VERNON	CROSS SECTIONS: MAINLINE	SHEET 79	E

FILE NAME : S:\PROJECTS\W11593 CTH K DECK REPLACEMENT, VERNON COUNTY\DESIGN\CORRIDORS\CORRIDOR-CTH K.DWG
LAYOUT NAME - Mainline4

PLOT DATE : 8/28/2020 2:33 PM PLOT BY : TRACY, DAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

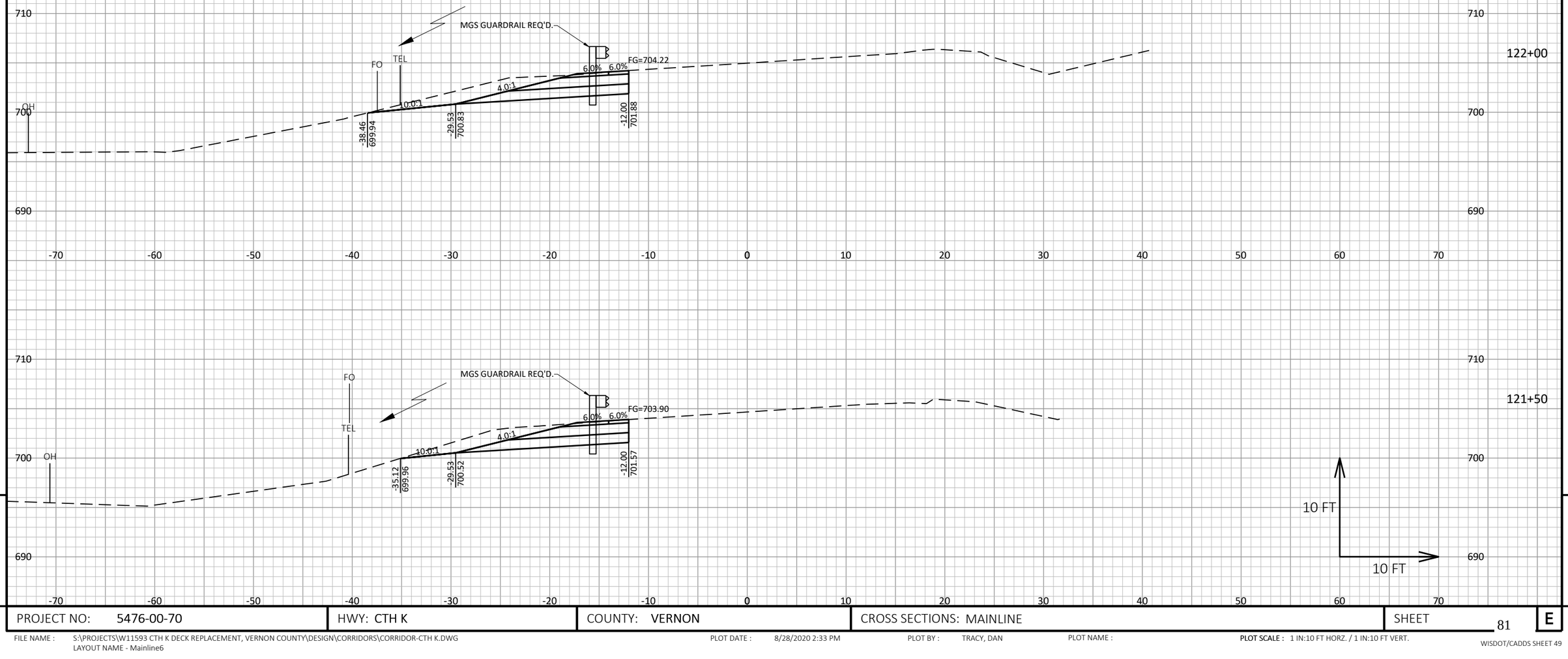


PROJECT NO: 5476-00-70	HWY: CTH K	COUNTY: VERNON	CROSS SECTIONS: MAINLINE	SHEET 80	E

FILE NAME : S:\PROJECTS\W11593 CTH K DECK REPLACEMENT, VERNON COUNTY\DESIGN\CORRIDORS\CORRIDOR-CTH K.DWG
LAYOUT NAME - Mainline5

PLOT DATE : 8/28/2020 2:33 PM PLOT BY : TRACY, DAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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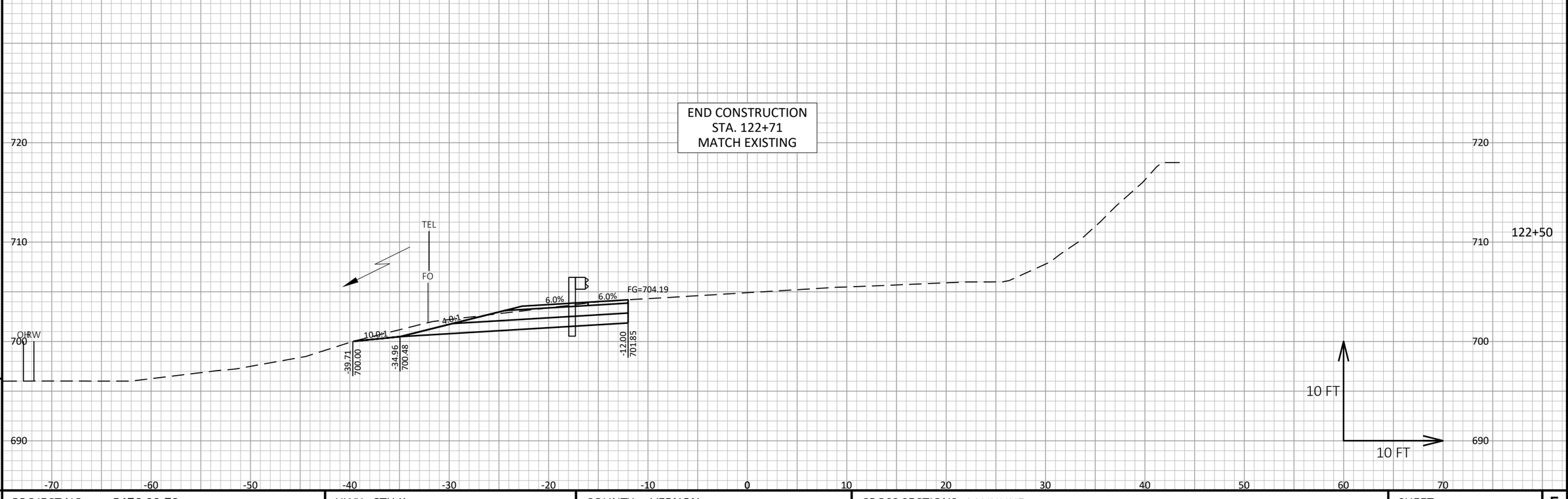
PROJECT NO: 5476-00-70	HWY: CTH K	COUNTY: VERNON	CROSS SECTIONS: MAINLINE	SHEET 81	E

FILE NAME : S:\PROJECTS\W11593 CTH K DECK REPLACEMENT, VERNON COUNTY\DESIGN\CORRIDORS\CORRIDOR-CTH K.DWG
LAYOUT NAME - Mainline6

PLOT DATE : 8/28/2020 2:33 PM PLOT BY : TRACY, DAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

END CONSTRUCTION
STA. 122+71
MATCH EXISTING



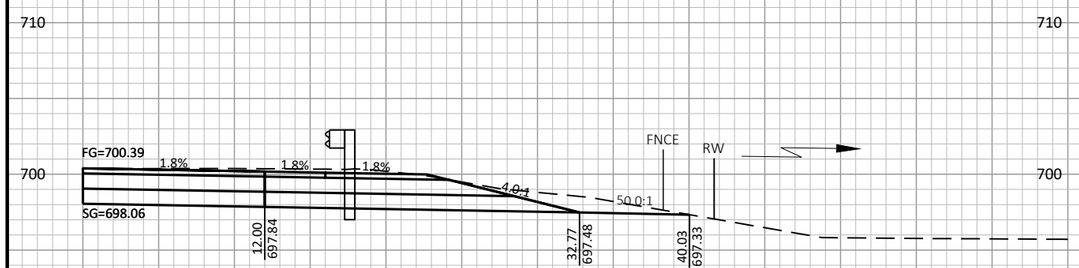
PROJECT NO: 5476-00-70	HWY: CTH K	COUNTY: VERNON	CROSS SECTIONS: MAINLINE	SHEET 82	E

FILE NAME : S:\PROJECTS\W11593 CTH K DECK REPLACEMENT, VERNON COUNTY\DESIGN\CORRIDORS\CORRIDOR-CTH K.DWG
LAYOUT NAME - Mainline7

PLOT DATE : 8/28/2020 2:33 PM PLOT BY : TRACY, DAN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

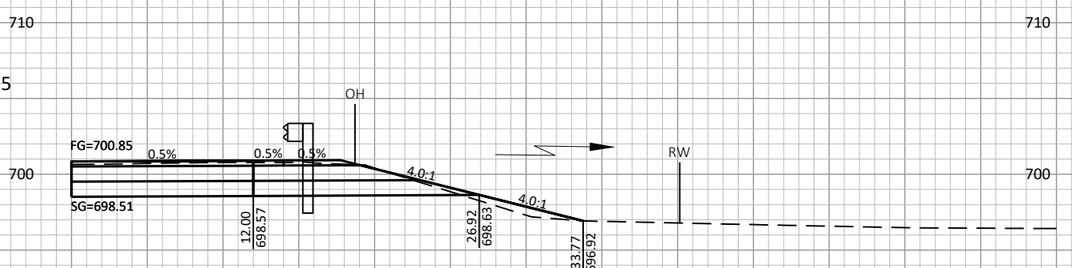
WISDOT/CADDS SHEET 49

POST 1



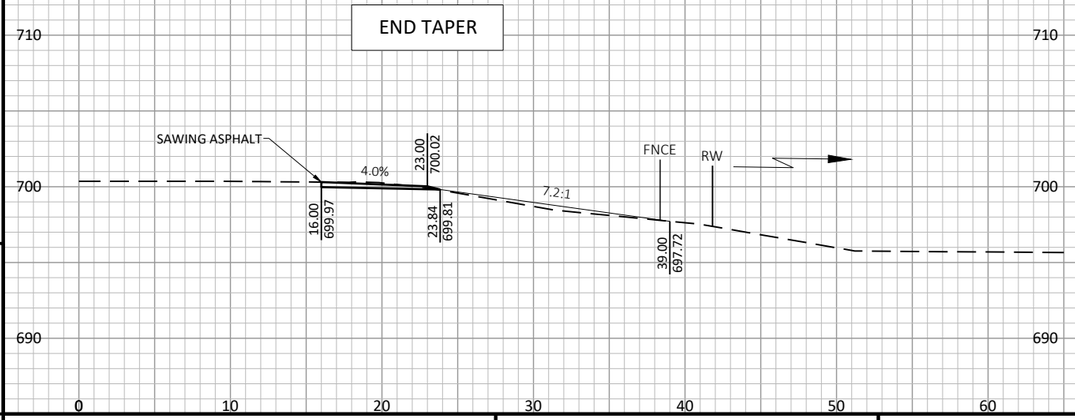
117+25

POST 9



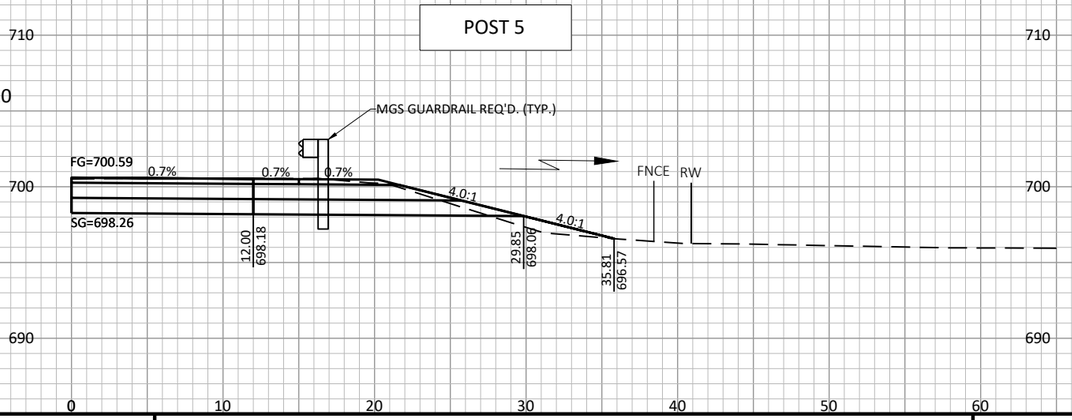
117+75

END TAPER



117+20

POST 5



117+50

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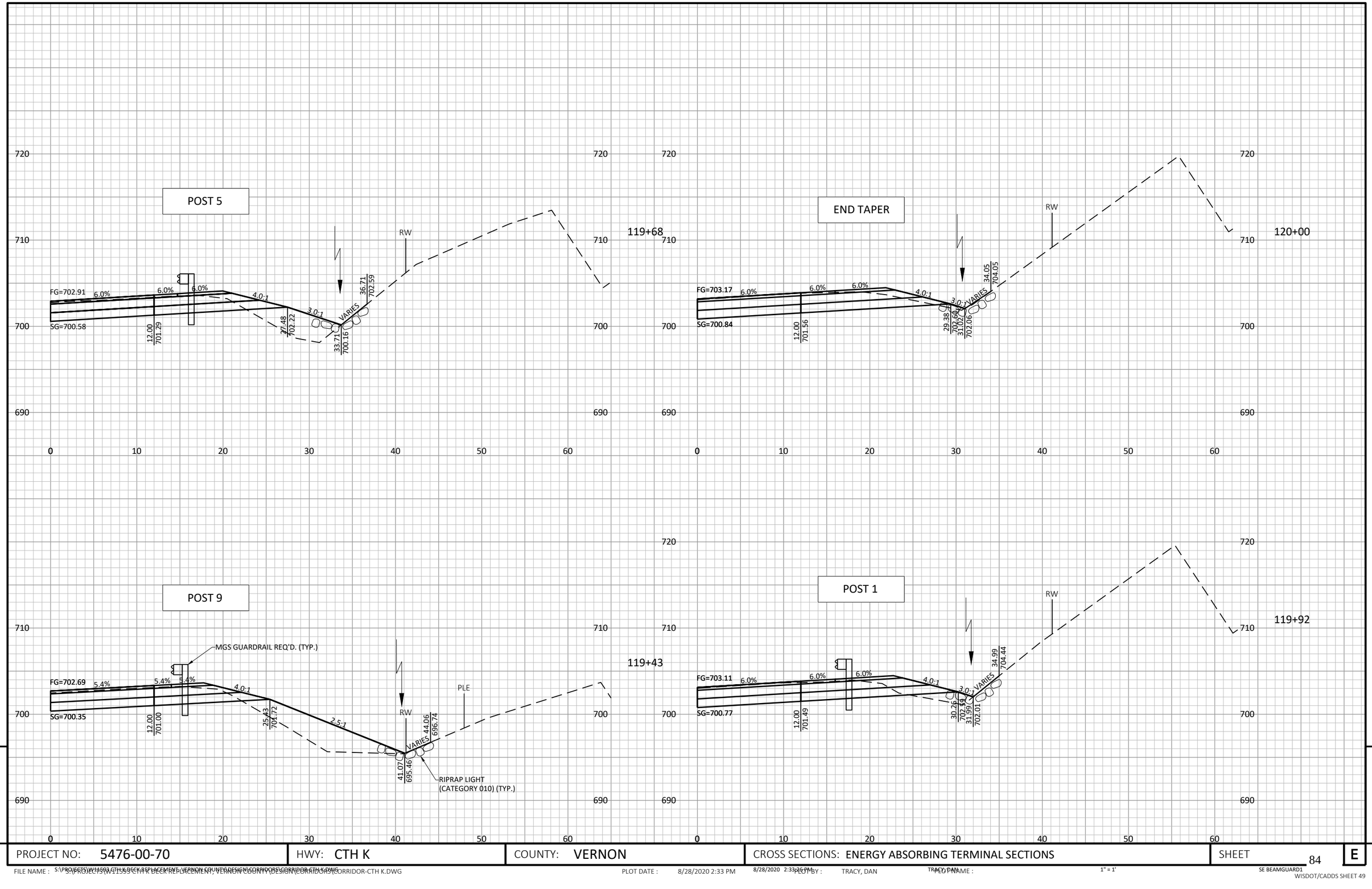
PROJECT NO: 5476-00-70	HWY: CTH K	COUNTY: VERNON	CROSS SECTIONS: ENERGY ABSORBING TERMINAL SECTIONS	SHEET 83	E



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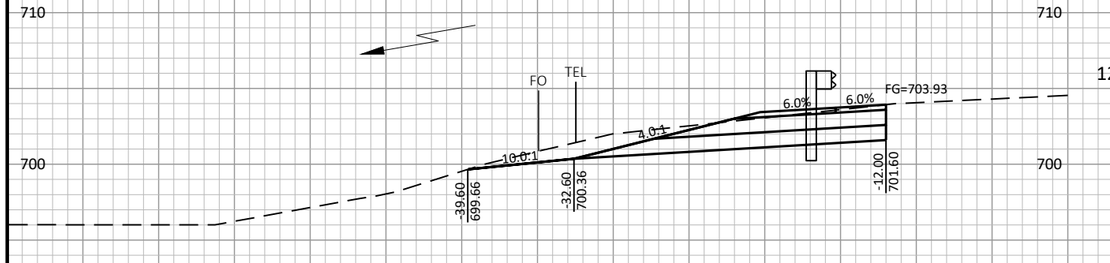
PROJECT NO: 5476-00-70	HWY: CTH K	COUNTY: VERNON	CROSS SECTIONS: ENERGY ABSORBING TERMINAL SECTIONS	SHEET 84	E

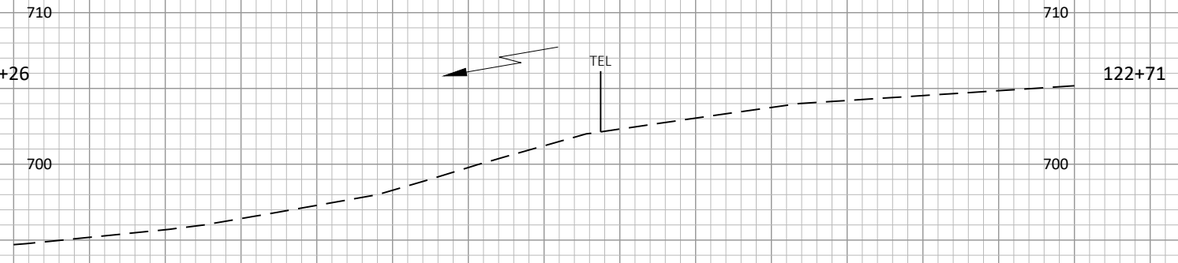
FILE NAME : S:\PROJECTS\W41503 CTH K DECK REPLACEMENT, VERNON COUNTY\DESIGN\CORRIDORS\CORRIDOR-CTH K.DWG
PLOT DATE : 8/28/2020 2:33 PM
8/28/2020 2:33:26 PM PLOT BY : TRACY, DAN
PLOT NAME : 1" = 1'
SE BEAMGUARD1
WISDOT/CADDS SHEET 49

POST 5

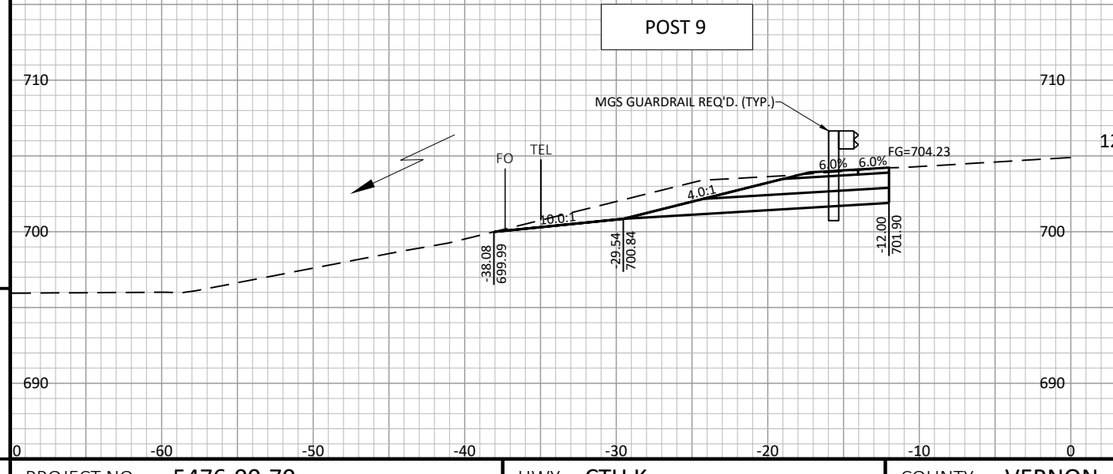


END CONSTRUCTION
STA. 122+71
MATCH EXISTING

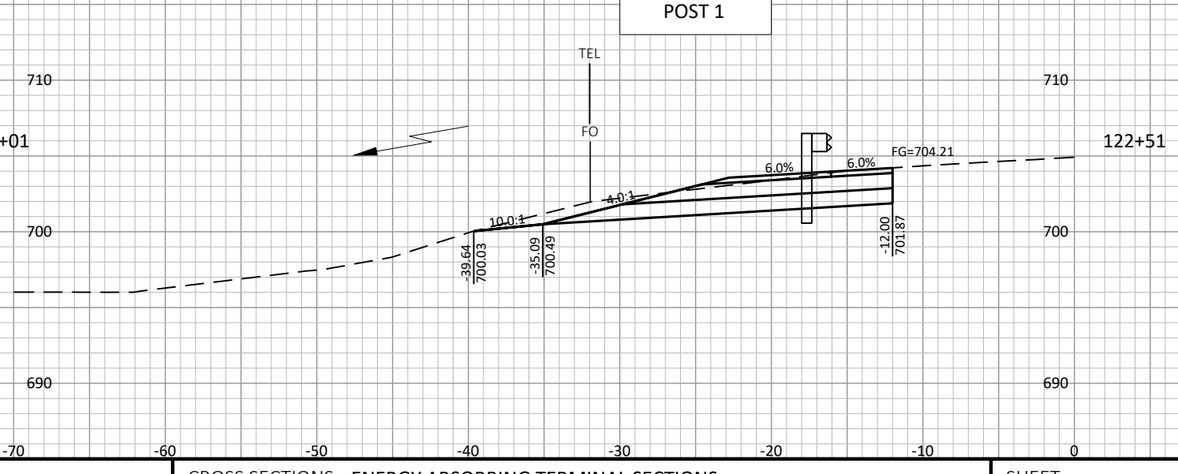
END TAPER



POST 9



POST 1



9

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PROJECT NO: 5476-00-70	HWY: CTH K	COUNTY: VERNON	CROSS SECTIONS: ENERGY ABSORBING TERMINAL SECTIONS	SHEET 85	E

FILE NAME : S:\PROJECTS\W1503 CTH K DECK REPLACEMENT, VERNON COUNTY\DESIGN\CORRIDOR\CORRIDOR-CTH K.DWG
PLOT DATE : 8/28/2020 2:33 PM
8/28/2020 2:33:38 PM
PLOT BY : TRACY, DAN
TRACY, DAN
1" = 1'
CELL NAME : NE BEAMGUARD1
WISDOT/CADDS SHEET 49

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